



Crown Castle  
3 Corporate Park Drive, Suite 101  
Clifton Park, NY 12065

May 23, 2022

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

RE: **Notice of Exempt Modification for ATT  
Crown #823530; ATT Site ID CT11364B  
580 Chapel Street, Thomaston, CT 06787  
Latitude: 41° 39' 48.48" Longitude: -73° 4' 27.41"**

Dear Ms. Bachman:

AT&T currently maintains twelve (12) antennas at the 141-foot level of the existing 175-foot monopole tower at 580 Chapel Street, Thomaston, CT. The tower is owned by Crown Castle USA Inc. and the property is owned by the Town of Thomaston. AT&T now intends to replace six (6) antennas, install nine (9) new antennas and ancillary equipment at the 141-foot level. This modification may include B2, B5, B17, B14, B29, B30, B66 & n77 hardware that is 4G(LTE) and/or 5GNR capable through remote software configuration and either or both services may be turned on or off at various times.

**Panned Modification:**

**Tower:**

Installed New:

- (6) Ericsson-AIR6449 B77D + AIR6419 B77G Stacked Antennas
- (2) CCI-TPA-65R-BU6DA-K Antennas
- (1) CCI-TPA-65R-BU4DA-K Antennas
- (1) RAYCAP-DC6-48-60-18-8F Squid
- (6) Dual Radio Mounts
- (1) ROSENBERGER LEONI-FB-L98B-034 (3/8") FIBER CABLES
- (6) Y CABLES
- Mount modifications

Remove:

- (3) POWERWAVE-7770 Antennas
- (2) KATHREIN-800-10965 Antennas
- (1) KATHREIN-800-10964 Antenna
- (6) POWERWAVE TECH-LGP21401 TMAs
- (1) RAYCAP-DC6-48-60-18-8F DC-only SQUID
- UNISTRUT

Melanie A. Bachman

Page 2

**Ground:**

Install New:

- (3) Rectifiers in existing power plant
- (6) Up-Converters in existing power plant
- (1) 6648 (+XCEDE)
- 4-way GPS splitter

Remove:

UNISTRUT

The Facility was approved by the Thomaston Planning and Zoning commission by Special permit dated November 9, 2000.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Edmond V. Mone, First Selectman, as both the municipality and property owner, Stacey Sefcik, Zoning Enforcement Officer, and Crown Castle is the tower owner.

1. The proposed modifications will not result in an increase in the height of the existing tower.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modification 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 emissions at the facility to a level at or above the Federal Communication Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, ATT respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Domenica Tatasciore.

Sincerely,



Domenica Tatasciore  
Site Acquisition Specialist  
1800 W. Park Drive  
Westborough, MA 01581  
(508) 621-9161/ Domenica.Tatasciore@crowncastle.com

Melanie A. Bachman

Page 3

Attachments

cc:

Edmond V. Mone, First Selectman  
Town of Thomaston  
158 Main Street  
Thomaston, CT 06787  
(860) 283-4421

Stacey Sefcik, Zoning Enforcement Officer  
Town of Thomaston  
158 Main Street  
Thomaston, CT 06787  
(860) 283-8411

Crown Castle, Tower Owner

**From:** [TrackingUpdates@fedex.com](mailto:TrackingUpdates@fedex.com)  
**To:** [Tatasciore, Domenica](#)  
**Subject:** FedEx Shipment 776930768235: Your package has been delivered  
**Date:** Tuesday, May 24, 2022 9:54:19 AM

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**CAUTION:** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.



Hi. Your package was  
delivered Tue, 05/24/2022 at  
9:52am.



Delivered to 158 MAIN ST, THOMASTON, CT 06787

**OBTAIN PROOF OF DELIVERY**

TRACKING NUMBER [776930768235](#)

FROM Domenica Tatasciore  
1800 West Park Drive  
Suite 200

WESTBOROUGH, MA, US, 01581

**TO** Town of Thomaston  
Edmond V. Mone, First Selectman  
158 Main Street  
THOMASTON, CT, US, 06787

**REFERENCE** 799001.7680

**SHIPPER REFERENCE** 799001.7680

**SHIP DATE** Mon 5/23/2022 05:23 PM

**DELIVERED TO** Residence

**PACKAGING TYPE** FedEx Envelope

**ORIGIN** WESTBOROUGH, MA, US, 01581

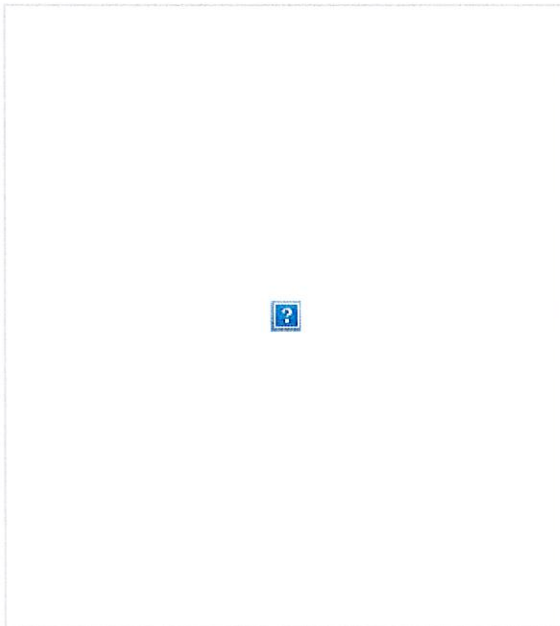
**DESTINATION** THOMASTON, CT, US, 06787

**SPECIAL HANDLING** Deliver Weekday

**NUMBER OF PIECES** 1

**TOTAL SHIPMENT WEIGHT** 0.50 LB

**SERVICE TYPE** FedEx Priority Overnight



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**To:** [Tatasciore, Domenica](#)  
**Subject:** FedEx Shipment 776930799462: Your package has been delivered  
**Date:** Tuesday, May 24, 2022 9:54:08 AM

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Hi. Your package was  
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9:52am.



Delivered to 158 MAIN ST, THOMASTON, CT 06787

**OBTAIN PROOF OF DELIVERY**

TRACKING NUMBER [776930799462](#)

FROM Domenica Tatasciore  
1800 West Park Drive  
Suite 200

WESTBOROUGH, MA, US, 01581

**TO** Town of Thomaston  
Stacey Sefcik, Zoning Enforcement  
158 Main Street  
THOMASTON, CT, US, 06787

**REFERENCE** 799001.7680

**SHIPPER REFERENCE** 799001.7680

**SHIP DATE** Mon 5/23/2022 05:23 PM

**DELIVERED TO** Residence

**PACKAGING TYPE** FedEx Envelope

**ORIGIN** WESTBOROUGH, MA, US, 01581

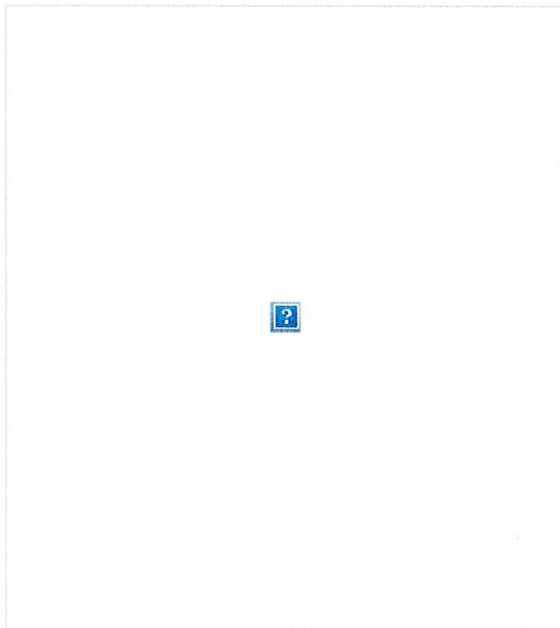
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THOMASTON ZONING BOARD OF APPEALS  
TOWN HALL  
THOMASTON, CT 06787

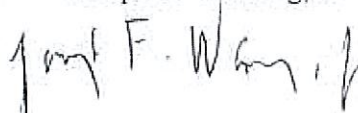
CERTIFICATE OF VARIANCE

This is to certify that the Thomaston Zoning Board of Appeals held a public hearing on July 18, 2000, at 7:45 pm in Meeting Room 1 of the Town Hall on an application from Voice Stream Wireless Corporation of 100 Filley St., Bloomfield, CT. The applicants sought a variance to permit their locating a ground mounted tower for a wireless communications facility on the west side of Chapel Street, approximately 1,000 feet distant from the intersection of Chapel Street with Prospect Street. The proposed tower is 175 feet in height. The applicants requested permission to locate the tower 201 feet from the property line. The property is owned by the Town of Thomaston and is located in an RA-40 zone.

Sec. 27.4.e of the Zoning Regulations of the Town of Thomaston provides that: "...the minimum distance from the base of any proposed ground mounted regulated facility to any property line, roadway, habitable dwelling, business or industrial use, public recreational areas, or public pathway shall be the height of the facility and mount, including any antennas or other appurtenances plus fifty per cent." Thus, 262.5 feet was the required setback.

With quorum present, the Board voted unanimously to grant the variance. The reasons were: topographic considerations; soil conditions on other parts of the site; and concerns over elevation on the site.

ATTEST: Joseph F. Wassong, Jr.

  
Chairman, TZBA



Town of Thomaston  
Planning & Zoning Board  
158 Main Street  
Thomaston, Connecticut 06787

Return Receipt Requested

November 9, 2000

Voice Stream Wireless  
100 Filley Street  
Bloomfield, CT 06002

Re: Special Permit Approval for a Commercial  
Cellular Telecommunications Tower  
Chapel Street, Thomaston, Conn.  
-----

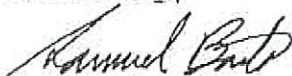
Dear Sirs:

At its meeting on Wednesday, November 1, 2000, the Thomaston Planning and Zoning Commission approved your Special Permit Application to construct a commercial cellular communications tower on municipal property at the end of Chapel Street.

The application was approved with the following conditions:

1. Conduct an annual RF inspection and submit the results to the Commission.
2. Regrade the driveway as noted in Land Tech's letter dated October 6, 2000.
3. Agreed to the terms and conditions as noted in a FAX from Planimetrics dated November 1, 2000, regarding items 12-15.
4. If the Town decides not to have the tower removed, then the site plan and mylar must be revised. Any undertaking regarding the Town's tower shall be done in accordance with the conditions of the signed contract.

Sincerely,



Samuel Barto  
Staff, TPZC  
Land Use Officer / ZEO

580 chapel

Search Results

Parcel Details

**STREET ADDRESS** 580 CHAPEL ST

**IMAGE** 00717901.jpg

**MAP BLK LOT** 55-03-08

**OWNER** THOMASTON TOWN OF

**OWNER 2** CELL TOWER

**MAILING ADDRESS** 158 MAIN ST

**CITY** THOMASTON

**STATE OR COUNTRY** CT

**ZIP CODE** 06787

**DEED BOOK** 56

**DEED PAGE** 664

**SALE DATE** 19660504

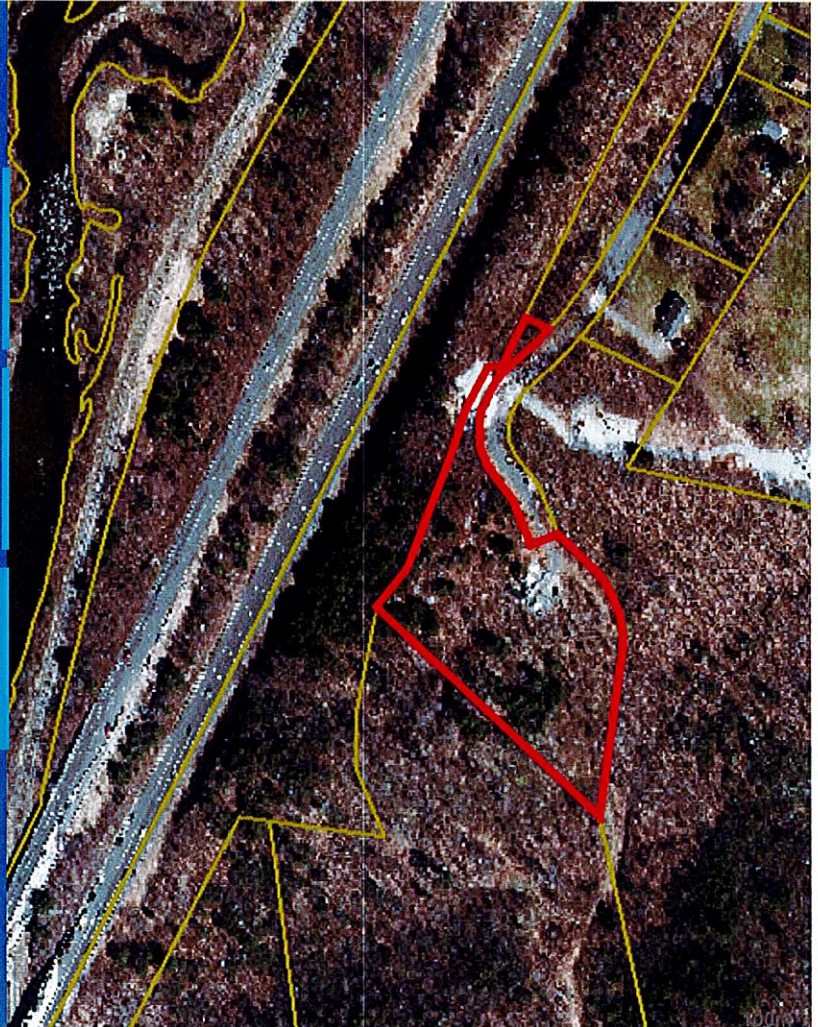
**TOTAL ACRES** 6.54

**CLASS** E

About

Layers

Identify





## 580 Chapel Street

5/23/2022 11:14:05 AM

Scale: 1"=100'

Scale is approximate

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.



RADIO FREQUENCY EMISSIONS ANALYSIS REPORT  
EVALUATION OF HUMAN EXPOSURE POTENTIAL  
TO NON-IONIZING EMISSIONS

AT&T Existing Facility

Site ID: CTL01062

823530

580 Chapel Street  
Thomaston, Connecticut 06488

**April 29, 2022**

**EBI Project Number: 6222001773**

Site Compliance Summary	
Compliance Status:	<b>COMPLIANT</b>
Site total MPE% of FCC general population allowable limit:	<b>32.34%</b>

April 29, 2022

AT&T

Emissions Analysis for Site: CTL01062 - 823530

EBI Consulting was directed to analyze the proposed AT&T facility located at **580 Chapel Street** in **Thomaston, Connecticut** for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ). The number of  $\mu\text{W}/\text{cm}^2$  calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits; therefore, it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately  $400 \mu\text{W}/\text{cm}^2$  and  $467 \mu\text{W}/\text{cm}^2$ , respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is  $1000 \mu\text{W}/\text{cm}^2$ . Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

## **CALCULATIONS**

Calculations were done for the proposed AT&T Wireless antenna facility located at 580 Chapel Street in Thomaston, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower. For power density calculations, the broadcast footprint of the AIR6449 antenna has been considered. Due to the beamforming nature of this antenna, the actual beam locations vary depending on demand and are narrow in nature. Using the broadcast footprint accounts for the potential location of beams at any given time.

For all calculations, all equipment was calculated using the following assumptions:

- 1) 4 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 2) 4 LTE FN channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 3) 4 5G channels (850 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 4) 4 LTE / 5G channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 5) 4 LTE / 5G channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 6) 4 LTE channels (WCS Band – 2300 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 25 Watts per Channel.

- 7) 1 C-Band Channel (3700 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 108.48 Watts per Channel.
- 8) 1 DoD Channel (3450 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 108.48 Watts per Channel.
- 9) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 10) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 11) The antennas used in this modeling are the CCI TPA65R-BU6D for the 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6419 for the 3450 MHz channel(s), the Ericsson AIR 6449 for the 3700 MHz channel(s), the Kathrein 800-10965 for the 700 MHz / 850 MHz / 2300 MHz channel(s) in Sector A, the CCI TPA65R-BU4D for the 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6419 for the 3450 MHz channel(s), the Ericsson AIR 6449 for the 3700 MHz channel(s), the Kathrein 800-10965 for the 700 MHz / 850 MHz / 2300 MHz channel(s) in Sector B, the CCI TPA65R-BU6D for the 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6419 for the 3450 MHz channel(s), the Ericsson AIR 6449 for the 3700 MHz channel(s), the Kathrein 800-10965 for the 700 MHz / 850 MHz / 2300 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 12) The antenna mounting height centerlines of the proposed antennas are 138, 141, and 142 feet above ground level (AGL).

- 13) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 14) All calculations were done with respect to uncontrolled / general population threshold limits.



## AT&T Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	CCI TPA65R-BU6D	Make / Model:	CCI TPA65R-BU4D	Make / Model:	CCI TPA65R-BU6D
Frequency Bands:	700 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	700 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	700 MHz / 1900 MHz / 2100 MHz
Gain:	12.35 dBd / 15.95 dBd / 16.25 dBd	Gain:	10.75 dBd / 13.95 dBd / 14.45 dBd	Gain:	12.35 dBd / 15.95 dBd / 16.25 dBd
Height (AGL):	141 feet	Height (AGL):	141 feet	Height (AGL):	141 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	480.00 Watts	Total TX Power (W):	480.00 Watts	Total TX Power (W):	480.00 Watts
ERP (W):	15,792.60	ERP (W):	10,332.41	ERP (W):	15,792.60
Antenna A1 MPE %:	<b>3.73%</b>	Antenna B1 MPE %:	<b>2.47%</b>	Antenna C1 MPE %:	<b>3.73%</b>
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419
Frequency Bands:	3450 MHz	Frequency Bands:	3450 MHz	Frequency Bands:	3450 MHz
Gain:	22.95 dBd	Gain:	22.95 dBd	Gain:	22.95 dBd
Height (AGL):	142 feet	Height (AGL):	142 feet	Height (AGL):	142 feet
Channel Count:	1	Channel Count:	1	Channel Count:	1
Total TX Power (W):	108.48 Watts	Total TX Power (W):	108.48 Watts	Total TX Power (W):	108.48 Watts
ERP (W):	21,396.84	ERP (W):	21,396.84	ERP (W):	21,396.84
Antenna A2 MPE %:	<b>4.16%</b>	Antenna B2 MPE %:	<b>4.16%</b>	Antenna C2 MPE %:	<b>4.16%</b>
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	3700 MHz	Frequency Bands:	3700 MHz	Frequency Bands:	3700 MHz
Gain:	23.45 dBd	Gain:	23.45 dBd	Gain:	23.45 dBd
Height (AGL):	138 feet	Height (AGL):	138 feet	Height (AGL):	138 feet
Channel Count:	1	Channel Count:	1	Channel Count:	1
Total TX Power (W):	108.48 Watts	Total TX Power (W):	108.48 Watts	Total TX Power (W):	108.48 Watts
ERP (W):	24,007.65	ERP (W):	24,007.65	ERP (W):	24,007.65
Antenna A3 MPE %:	<b>4.95%</b>	Antenna B3 MPE %:	<b>4.95%</b>	Antenna C3 MPE %:	<b>4.95%</b>
Antenna #:	4	Antenna #:	4	Antenna #:	4
Make / Model:	Kathrein 800-10965	Make / Model:	Kathrein 800-10965	Make / Model:	Kathrein 800-10965
Frequency Bands:	700 MHz / 850 MHz / 2300 MHz	Frequency Bands:	700 MHz / 850 MHz / 2300 MHz	Frequency Bands:	700 MHz / 850 MHz / 2300 MHz
Gain:	12.65 dBd / 13.45 dBd / 15.85 dBd	Gain:	11.45 dBd / 12.15 dBd / 15.55 dBd	Gain:	12.65 dBd / 13.45 dBd / 15.85 dBd
Height (AGL):	141 feet	Height (AGL):	141 feet	Height (AGL):	141 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	420.00 Watts	Total TX Power (W):	420.00 Watts	Total TX Power (W):	420.00 Watts
ERP (W):	10,332.10	ERP (W):	8,448.35	ERP (W):	10,332.10
Antenna A4 MPE %:	<b>3.23%</b>	Antenna B4 MPE %:	<b>2.57%</b>	Antenna C4 MPE %:	<b>3.23%</b>

- A 75% duty cycle was applied to NR technologies.
- An adjusted power reduction factor of 0.32 was applied to the AIR 6449 and AIR 6419 antennas per guidance from AT&T.

Site Composite MPE %	
Carrier	MPE %
AT&T (Max at Sector A):	16.08%
Dish	1.03%
Various Others	0.46%
Sprint	2.18%
T-Mobile	7.84%
Metro PCS	0.57%
Verizon	4.18%
<b>Site Total MPE % :</b>	<b>32.34%</b>

AT&T MPE % Per Sector	
AT&T Sector A Total:	16.08%
AT&T Sector B Total:	14.14%
AT&T Sector C Total:	16.08%
Site Total MPE % :	32.34%

AT&T Maximum MPE Power Values (Sector A)							
AT&T Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ( $\mu\text{W}/\text{cm}^2$ )	Frequency (MHz)	Allowable MPE ( $\mu\text{W}/\text{cm}^2$ )	Calculated % MPE
AT&T 700 MHz LTE FN	4	687.16	141.0	5.42	700 MHz LTE FN	467	1.16%
AT&T 1900 MHz LTE/5G	4	1574.20	141.0	12.42	1900 MHz LTE/5G	1000	1.24%
AT&T 2100 MHz LTE/5G	4	1686.79	141.0	13.31	2100 MHz LTE/5G	1000	1.33%
AT&T 3450 MHz DoD	1	21396.84	142.0	41.59	3450 MHz DoD	1000	4.16%
AT&T 3700 MHz C-Band	1	24007.65	138.0	49.54	3700 MHz C-Band	1000	4.95%
AT&T 700 MHz LTE	4	736.31	141.0	5.81	700 MHz LTE	467	1.24%
AT&T 850 MHz 5G	4	885.24	141.0	6.99	850 MHz 5G	567	1.23%
AT&T 2300 MHz LTE	4	961.48	141.0	7.59	2300 MHz LTE	1000	0.76%
						<b>Total:</b>	<b>16.08%</b>

• NOTE: Totals may vary by approximately 0.01% due to summation of remainders in calculations.

## Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A:	16.08%
Sector B:	14.14%
Sector C:	16.08%
AT&T Maximum MPE % (Sector A):	16.08%
Site Total:	32.34%
Site Compliance Status:	<b>COMPLIANT</b>

The anticipated composite MPE value for this site assuming all carriers present is **32.34%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

Date: **February 21, 2022**

**Subject:** **Mount Analysis Report**

**Carrier Designation:** **AT&T Mobility Equipment Change-Out**  
**Carrier Site Number:** CTL01062  
**Carrier Site Name:** THOMASTON – CHAPEL STREET  
**Carrier FA Number:** 10107966

**Crown Castle Designation:** **Crown Castle BU Number:** 823530  
**Crown Castle Site Name:** CT364/Chapel St. Monopole  
**Crown Castle JDE Job Number:** 686217  
**Crown Castle Order Number:** 586315 Rev. 0

**Engineering Firm Designation:** **Infinigy Engineering, PLLC Report Designation:** 1039-Z0001-B

**Site Data:** **580 Chapel Street, Thomaston, Litchfield County, CT, 06787**  
**Latitude 41°39'48.48" Longitude -73°04'27.41"**

**Structure Information:** **Tower Height & Type:** **175.0 ft Monopole**  
**Mount Elevation:** **140.0 ft**  
**Mount Type:** **14.0 ft Platform**

Infinigy Engineering, PLLC is pleased to submit this “**Mount Analysis Report**” to determine the structural integrity of AT&T Mobility’s antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

The purpose of the analysis is to determine acceptability of the mount stress level. Based on our analysis we have determined the mount stress level to be:

**Platform**

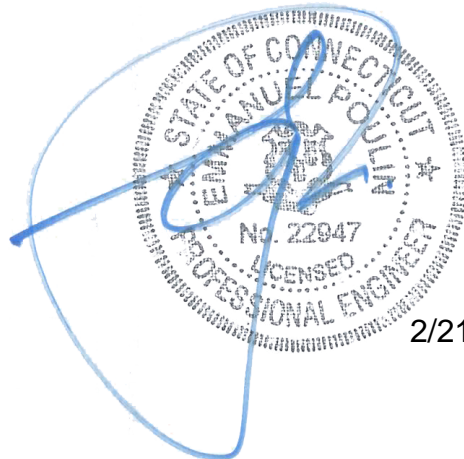
**Sufficient**

**\*See Section 4.1 of this report for the loading and structural modifications required in order for the mount to support the loading listed in Table 1.**

This analysis has been performed in accordance with the 2018 International Building Code based upon an ultimate 3-second gust wind speed of 116 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Pradin Suinyal Magar

Respectfully Submitted by:  
Emmanuel Poulin, P.E.  
(518) 690-0790  
structural@infinigy.com  
CT PE License No. 22947



2/21/22

## TABLE OF CONTENTS

### 1) INTRODUCTION

### 2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

### 3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

### 4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity

4.1) Recommendations

### 5) APPENDIX A

Wire Frame and Rendered Models

### 6) APPENDIX B

Software Input Calculations

### 7) APPENDIX C

Software Analysis Output

### 8) APPENDIX D

Additional Calculations

**1) INTRODUCTION**

This is an existing 3 sector 14.0 ft Platform, designed by Commscope.

**2) ANALYSIS CRITERIA**

**Building Code:** 2018 IBC  
**TIA-222 Revision:** TIA-222-H  
**Risk Category:** II  
**Ultimate Wind Speed:** 116 mph  
**Exposure Category:** B  
**Topographic Factor at Base:** 1.0  
**Topographic Factor at Mount:** 1.0  
**Ice Thickness:** 1.0 in  
**Wind Speed with Ice:** 50 mph  
**Seismic S<sub>s</sub>:** 0.185  
**Seismic S<sub>1</sub>:** 0.054  
**Live Loading Wind Speed:** 30 mph  
**Man Live Load at Mid/End-Points:** 250 lb  
**Man Live Load at Mount Pipes:** 500 lb

**Table 1 - Proposed Equipment Configuration**

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
140.0	142.0	3	ERICSSON	AIR 6419 B77G_CCIV3	14.0 ft Platform [Commscope MC-PK14L]
		3	ERICSSON	RADIO 4415 B30	
		3	ERICSSON	RRUS 4449 B5/B12	
		3	ERICSSON	RRUS 4478 B14	
		3	ERICSSON	RRUS 8843 B2/B66A	
		3	RAYCAP	DC6-48-60-18-8F	
	141.0	1	CCI ANTENNAS	TPA65R-BU4D	
		2	CCI ANTENNAS	TPA65R-BU6D_CCIV2	
		1	KATHREIN	80010964	
		2	KATHREIN	80010965	
	138.0	3	ERICSSON	AIR 6449 B77D	

**3) ANALYSIS PROCEDURE**

**Table 2 - Documents Provided**

Document	Remarks	Reference	Source
Crown Application	AT&T Mobility Application	586315 Rev 0	CCI Sites
Loading Documents	AT&T Mobility	RFDS ID: 4783634	TSA
Mount Manufacturer Drawings	Commscope	MC-PK14L	Infinigy

### 3.1) Analysis Method

RISA-3D (Version 17.0.4), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

Infinigy Load Calculator V2.1.7, a tool internally developed by Infinigy, was used to calculate wind, ice and seismic loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B "Software Input Calculations".

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 *Mount Analysis* (Revision D).

### 3.2) Assumptions

- 1) The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer's specifications.
- 2) The configuration of antennas, mounts, and other appurtenances are as specified in Table 1 and the referenced drawings.
- 3) All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
- 4) The analysis will be required to be revised if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
- 5) Prior structural modifications to the tower mounting system are assumed to be installed as shown per available data.
- 6) Steel grades have been assumed as follows, unless noted otherwise:
 

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular/Square)	ASTM A500 (GR B-46)
Pipe	ASTM A53 (GR 35)
Connection Bolts	ASTM A325

This analysis may be affected if any assumptions are not valid or have been made in error. Infinigy Engineering, PLLC should be notified to determine the effect on the structural integrity of the antenna mounting system.

## 4) ANALYSIS RESULTS

**Table 3 - Mount Component Stresses vs. Capacity (Platform, All Sectors)**

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1,2	Mount Pipe(s)	MP12	140.0	45.0	Pass
	Horizontal(s)	H1		19.8	Pass
	Handrail(s)	HR3		22.3	Pass
	Standoff(s)	S2		10.9	Pass
	Mount Connection(s)	-		19.7	Pass

<b>Structure Rating (max from all components) =</b>	<b>45.0%</b>
---	--------------

Notes:

- 1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
- 2) See additional documentation in "Appendix D – Additional Calculations" for detailed mount connection calculations.

#### 4.1) Recommendations

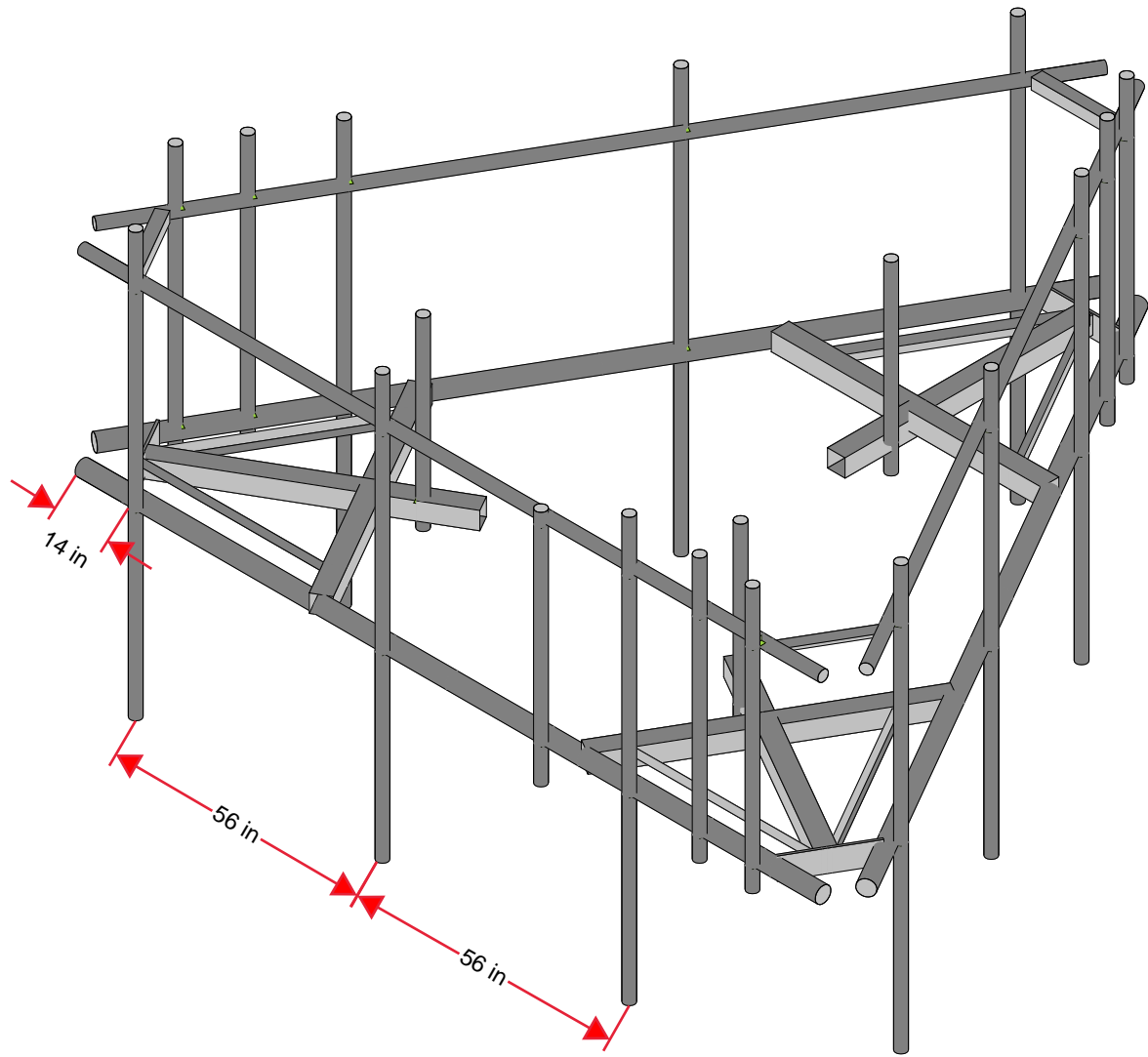
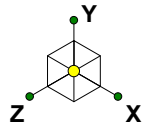
The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the structural modifications listed below must be completed.

1. Install (3) 2.0" std mount pipes on standoffs, for Raycaps.
2. Move existing mount pipes, in each sector, such that the minimum spacing between them is 56 inches.
3. Minimum distance of the outermost mount pipe, with antenna installed, from the edge should be 14 inches.

No structural modifications are required at this time, provided that the above-listed changes are implemented.



**APPENDIX A**  
**WIRE FRAME AND RENDERED MODELS**



Envelope Only Solution

Infinigy Engineering, PLLC

PSM

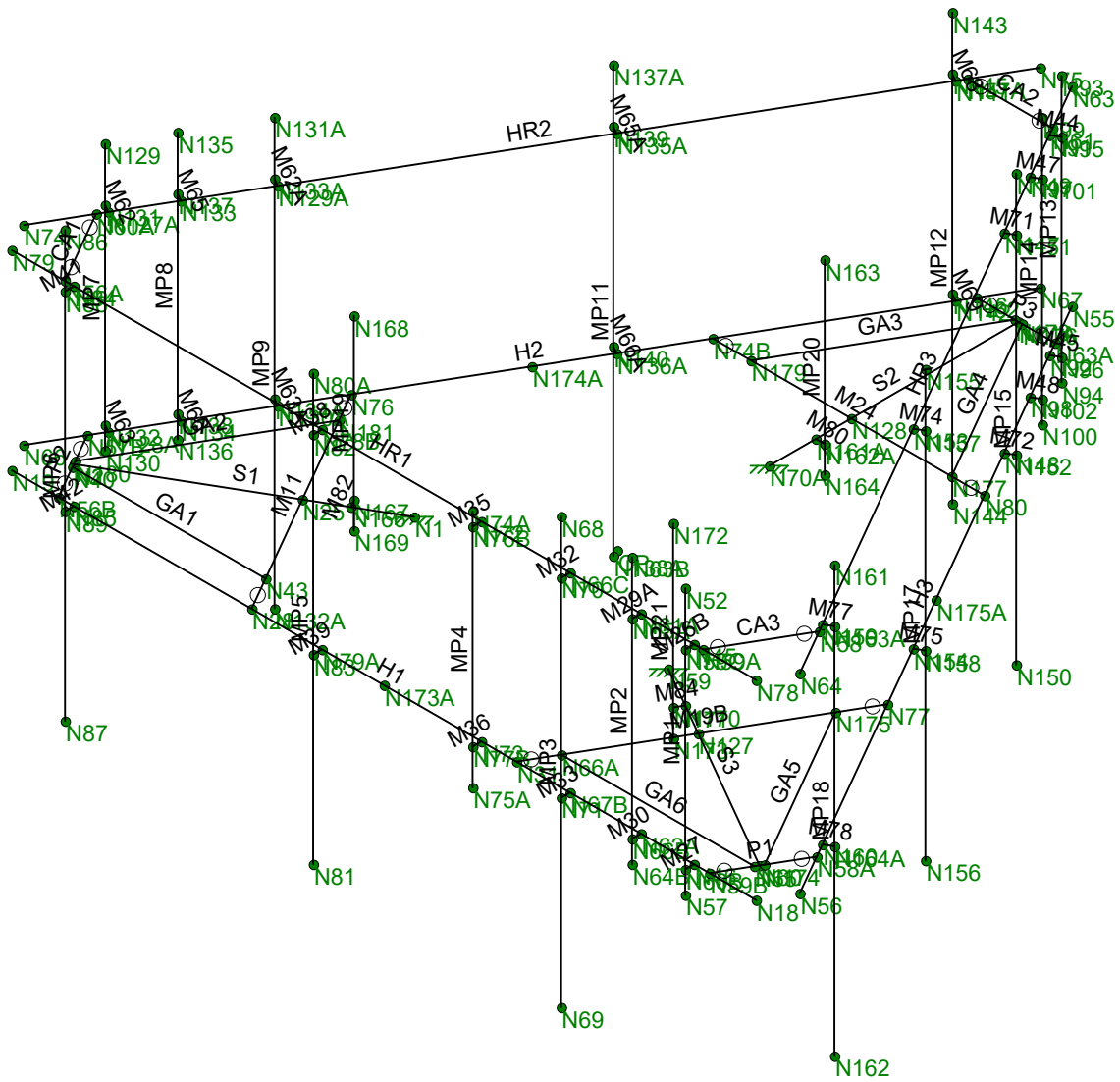
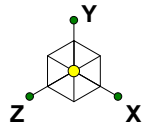
1039-Z0001-B

CT364/Chapel St. Monopole

Rendered

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Envelope Only Solution

Infinigy Engineering, PLLC

PSM

1039-Z0001-B

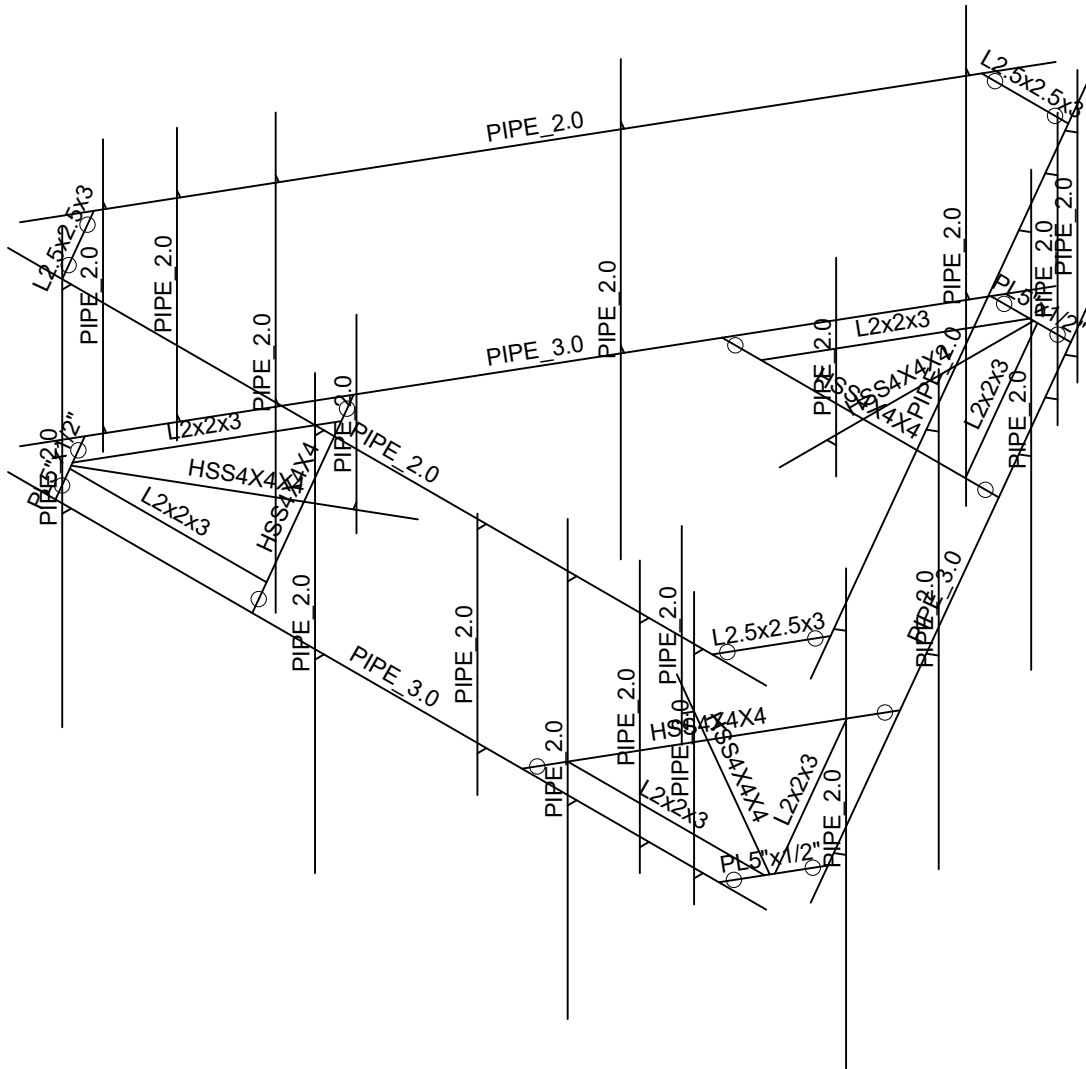
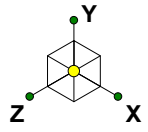
CT364/Chapel St. Monopole

WireFrame

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Envelope Only Solution

Infinigy Engineering, PLLC

PSM

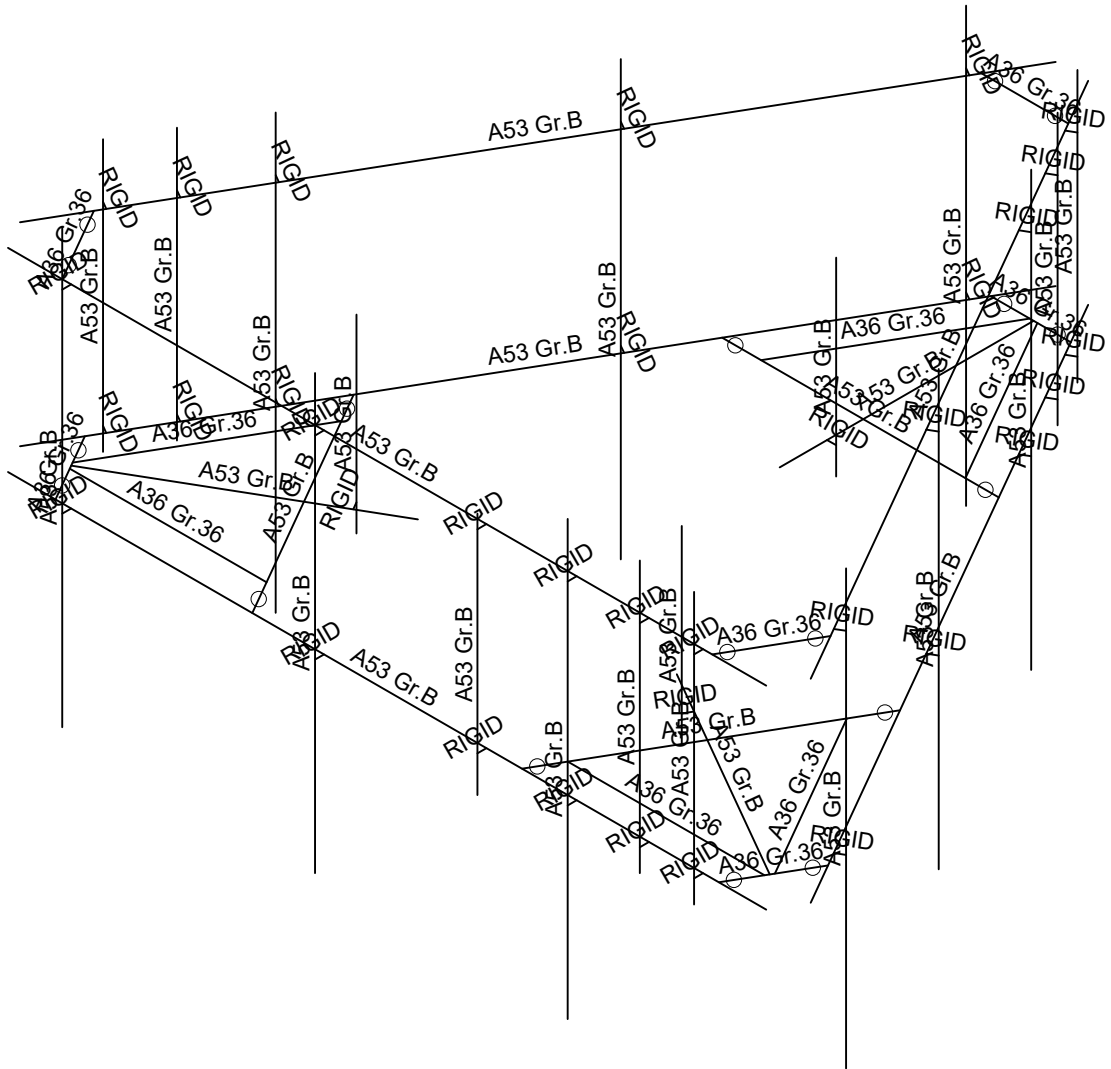
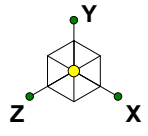
1039-Z0001-B

CT364/Chapel St. Monopole

Member Shapes

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Envelope Only Solution

Infinigy Engineering, PLLC

PSM

1039-Z0001-B

CT364/Chapel St. Monopole

Material Sets

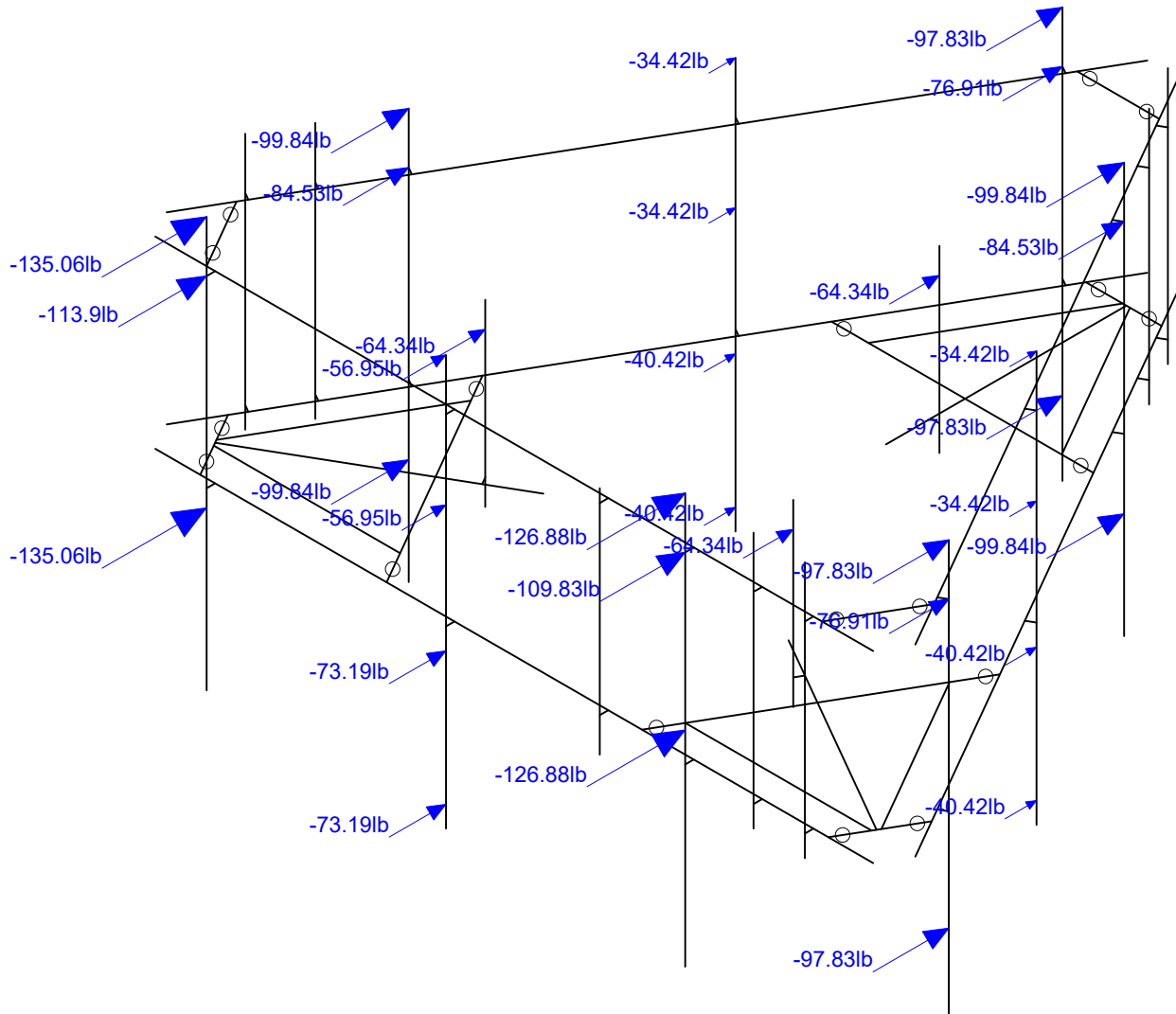
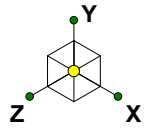
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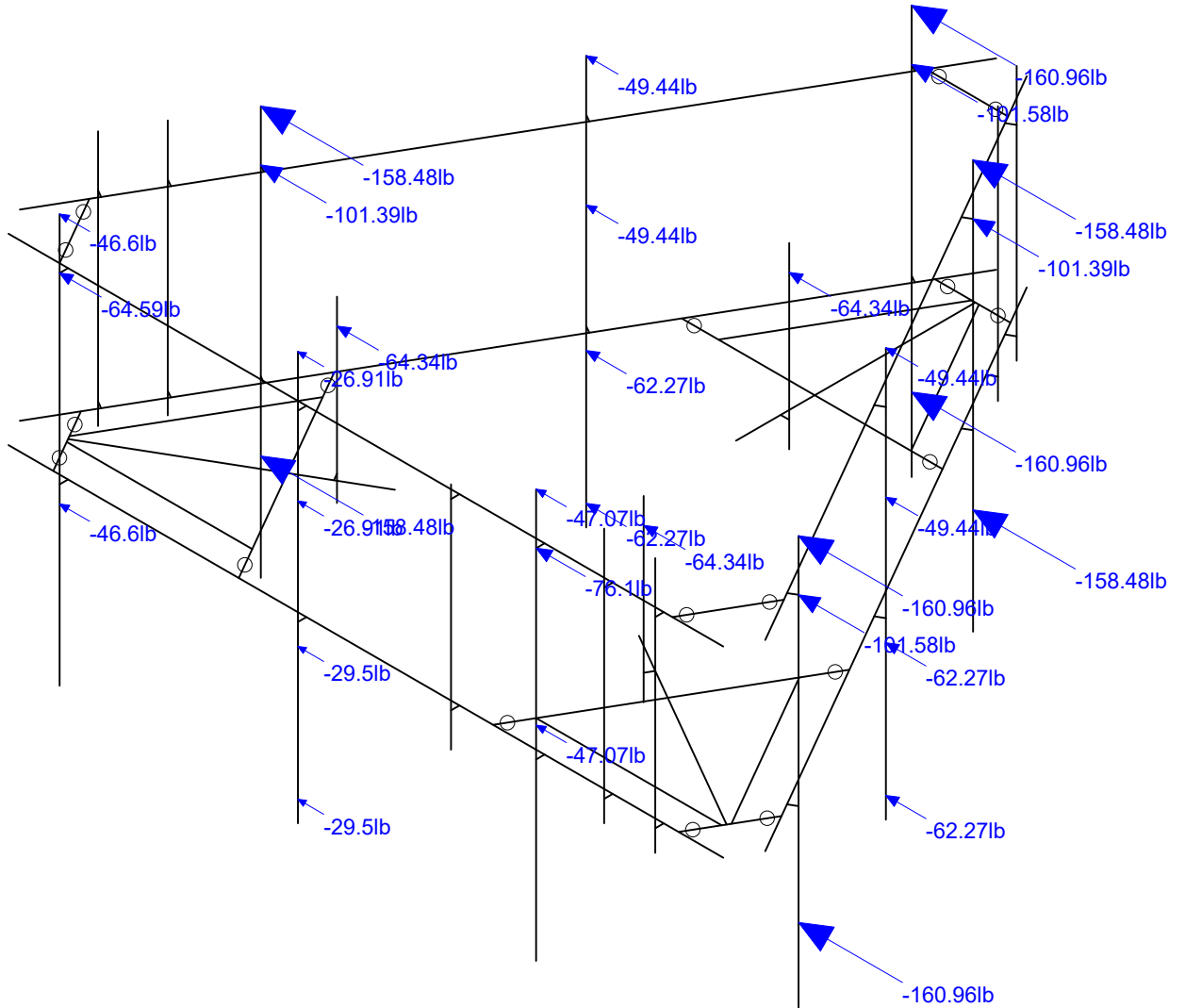
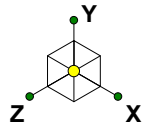


Loads: BLC 2, Wind Load AZI 0  
Envelope Only Solution

Infinigy Engineering, PLLC  
PSM  
1039-Z0001-B

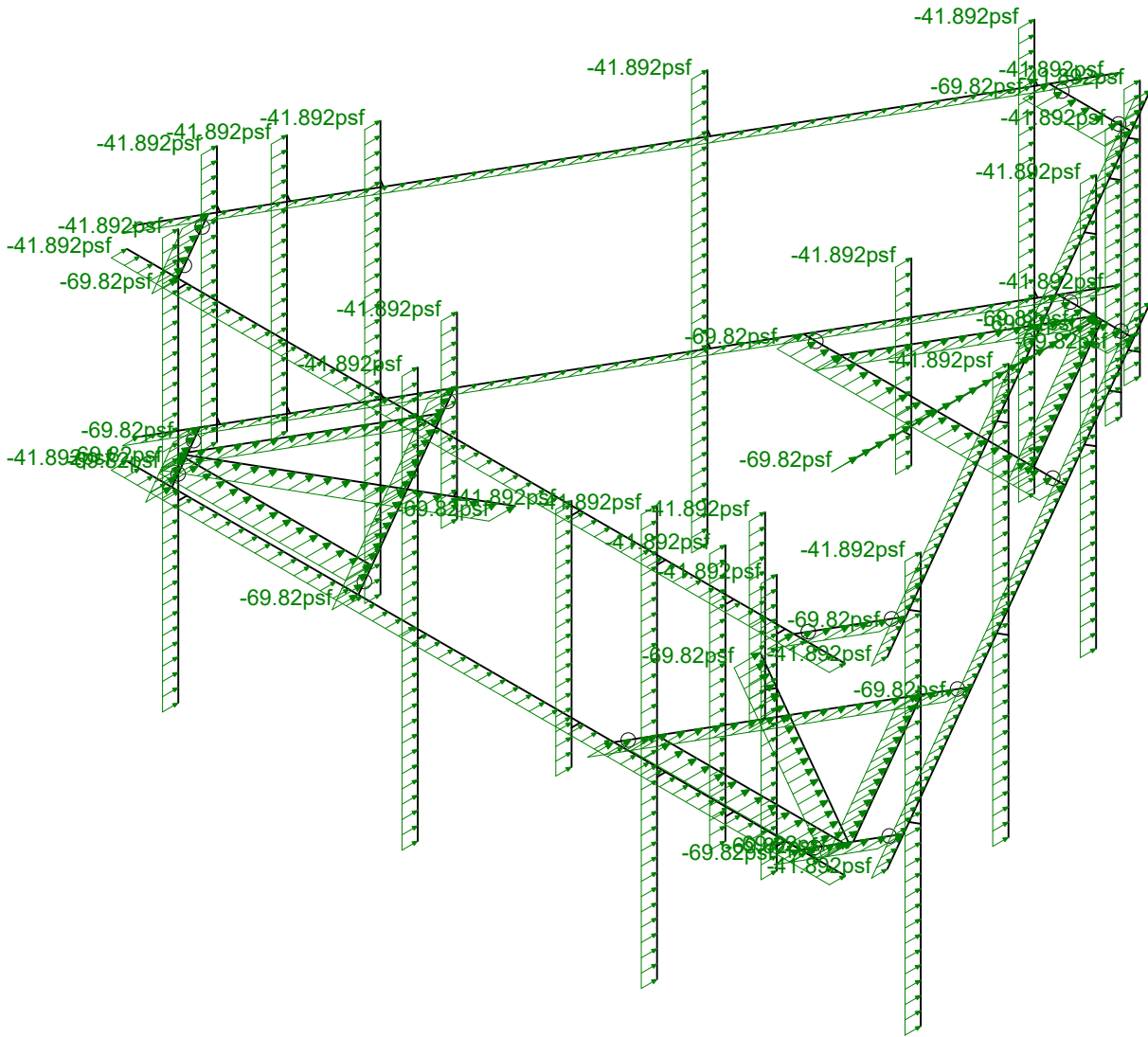
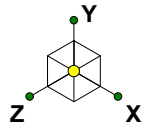
CT364/Chapel St. Monopole

Wind Load AZI 000  
Feb 21, 2022 at 4:35 PM  
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Loads: BLC 5, Wind Load AZI 90  
Envelope Only Solution

Infinigy Engineering, PLLC	CT364/Chapel St. Monopole	Wind Load AZI 090
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Loads: BLC 14, Distr. Wind Load Z  
Envelope Only Solution

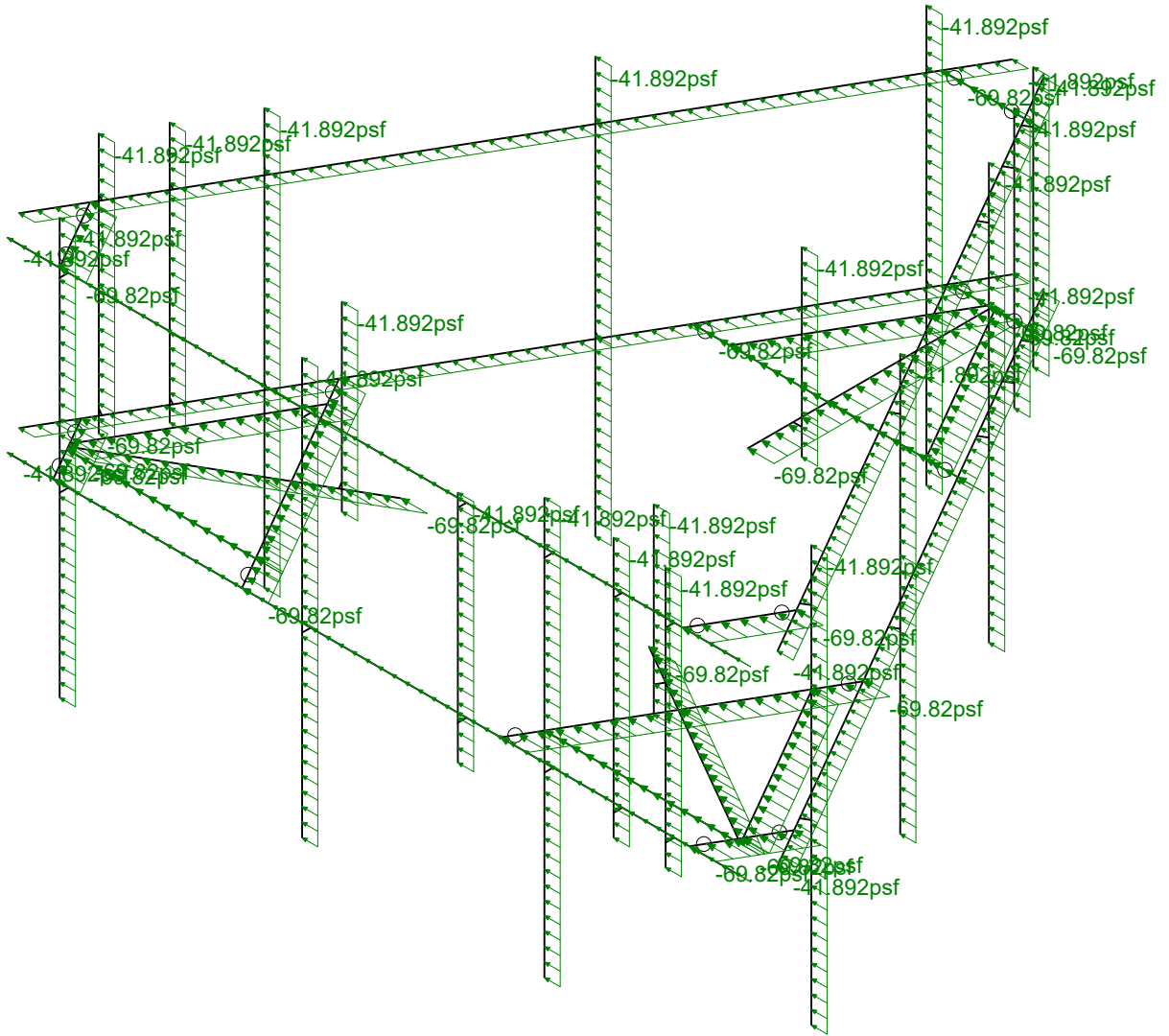
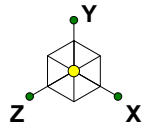
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PSM  
1039-Z0001-B

CT364/Chapel St. Monopole

Distr Wind Load AZI 000

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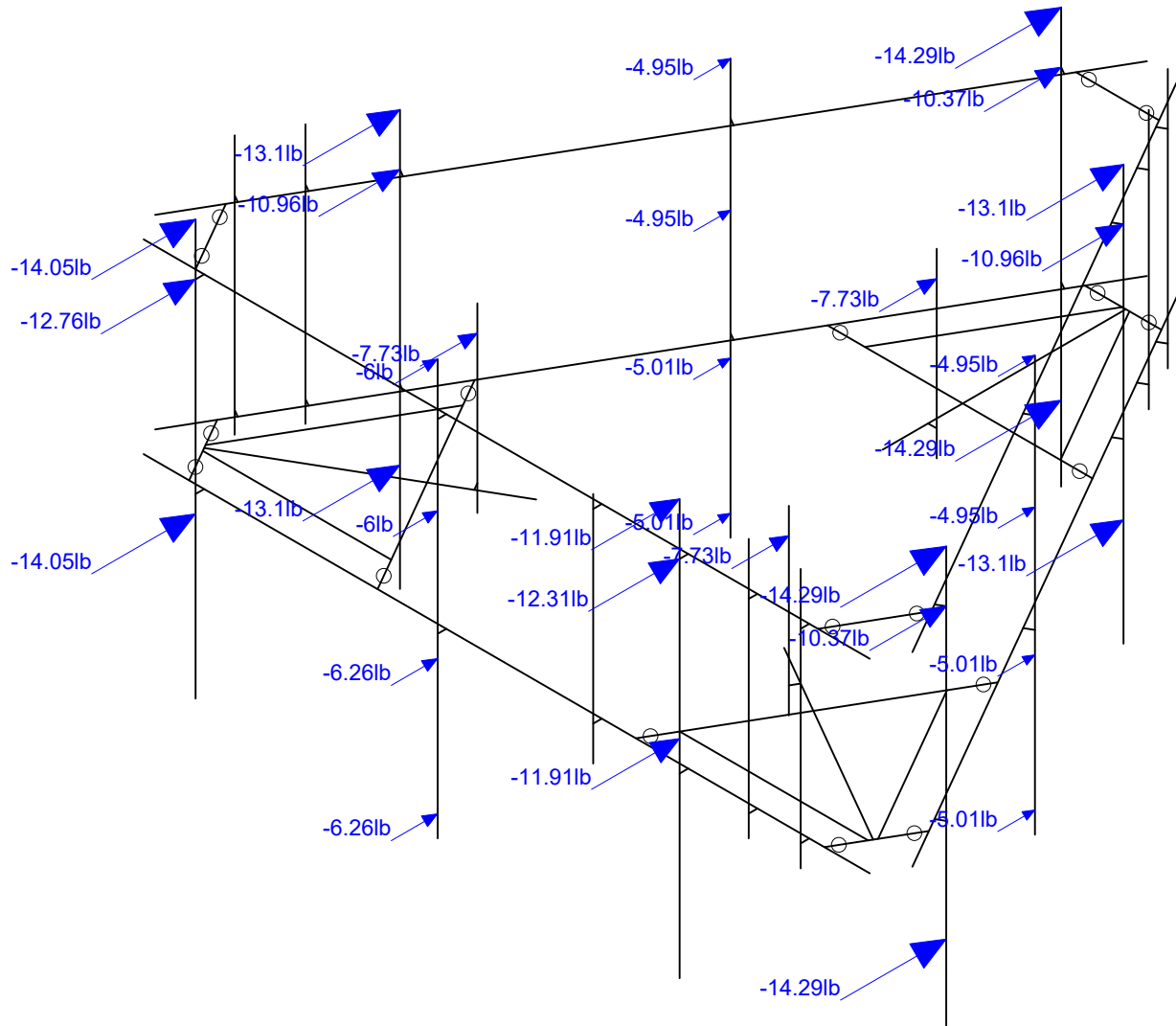
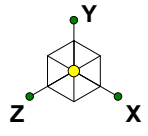
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Loads: BLC 15, Distr. Wind Load X  
Envelope Only Solution

Infinigy Engineering, PLLC	CT364/Chapel St. Monopole	Distr Wind Load AZI 090
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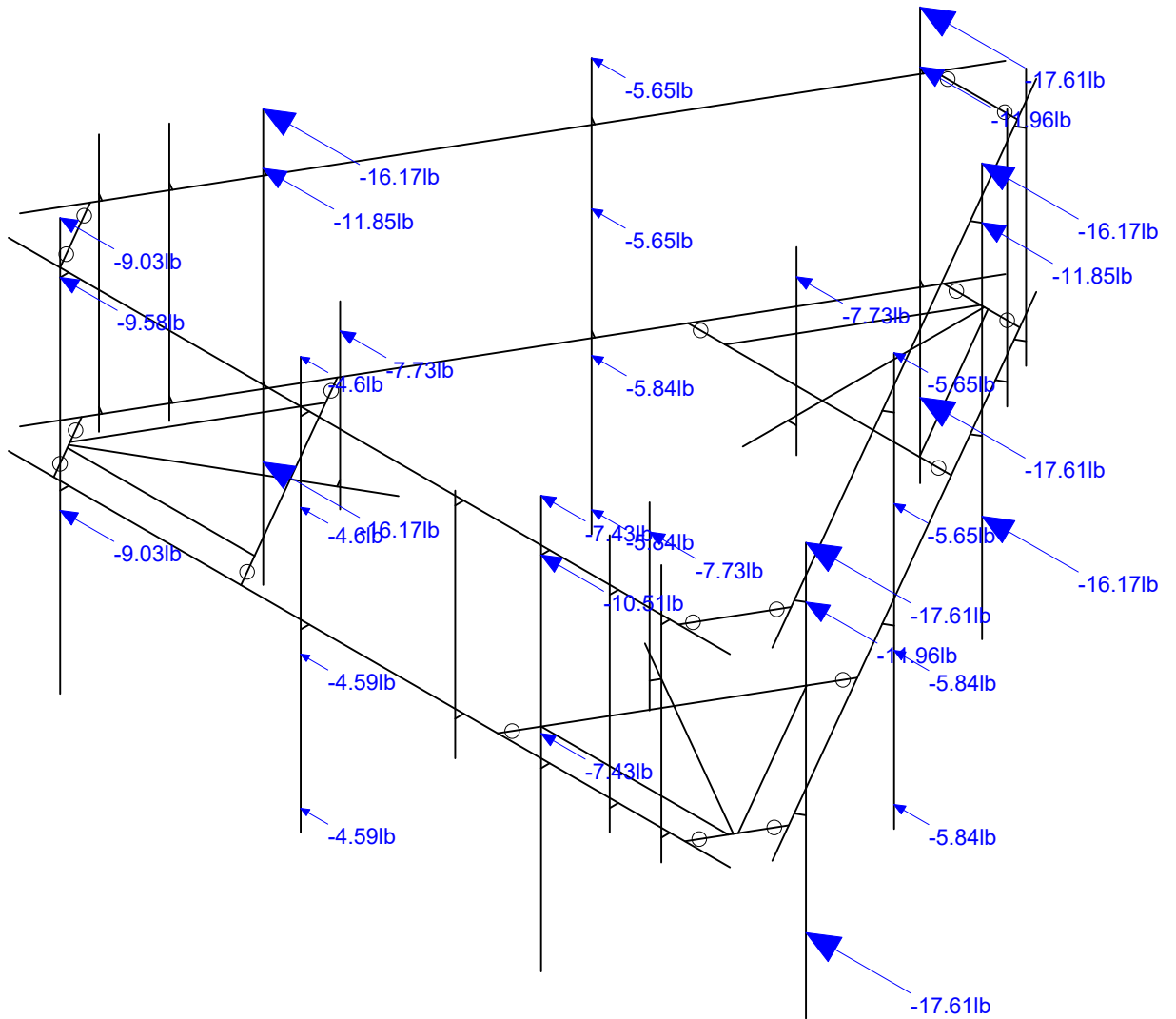
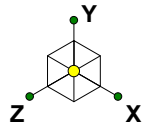


Loads: BLC 17, Ice Wind Load AZI 0  
Envelope Only Solution

Infinigy Engineering, PLLC  
PSM  
1039-Z0001-B

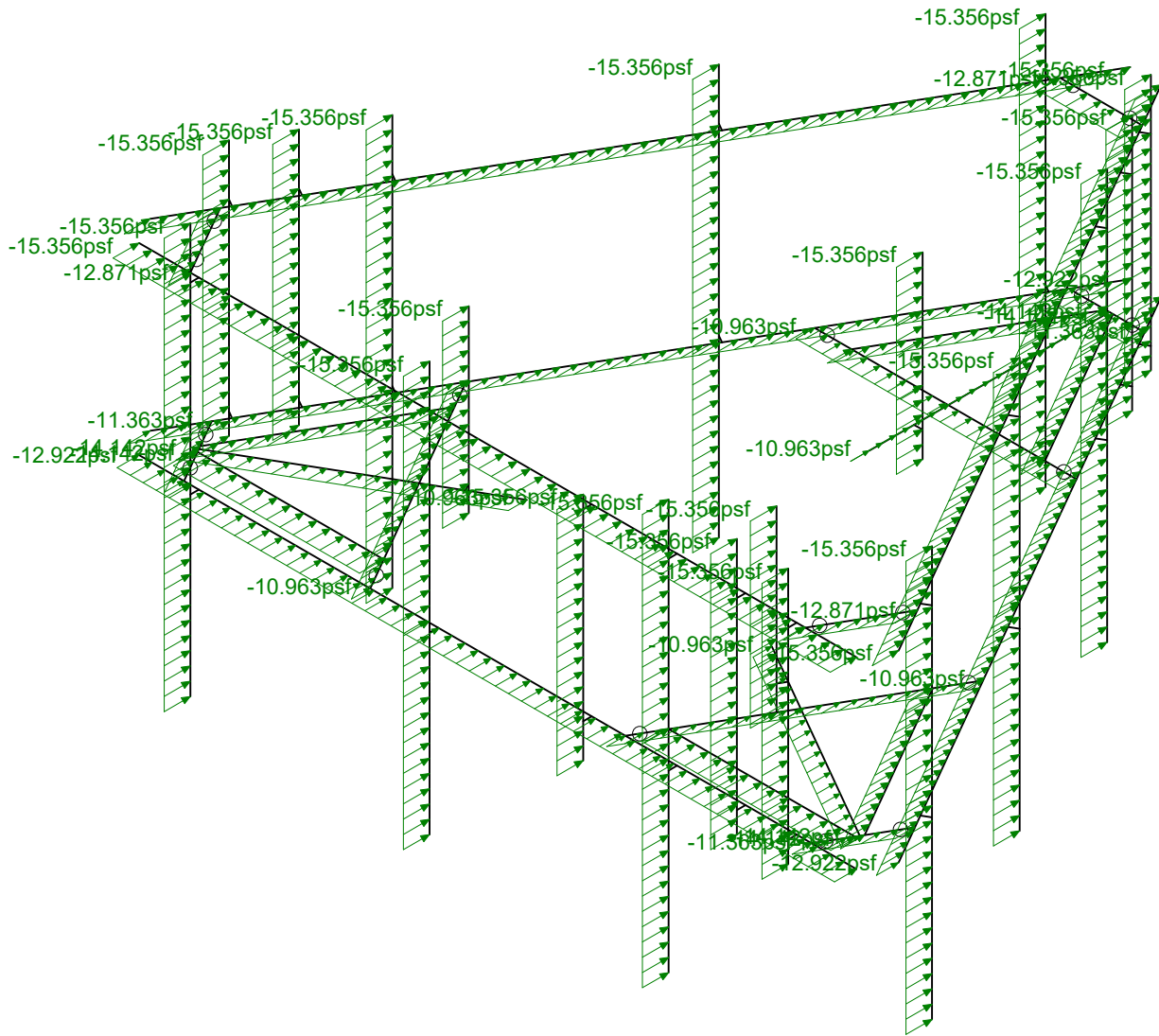
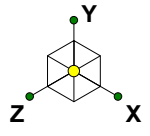
CT364/Chapel St. Monopole

Wind + Ice Load AZI 000  
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Loads: BLC 20, Ice Wind Load AZI 90  
Envelope Only Solution

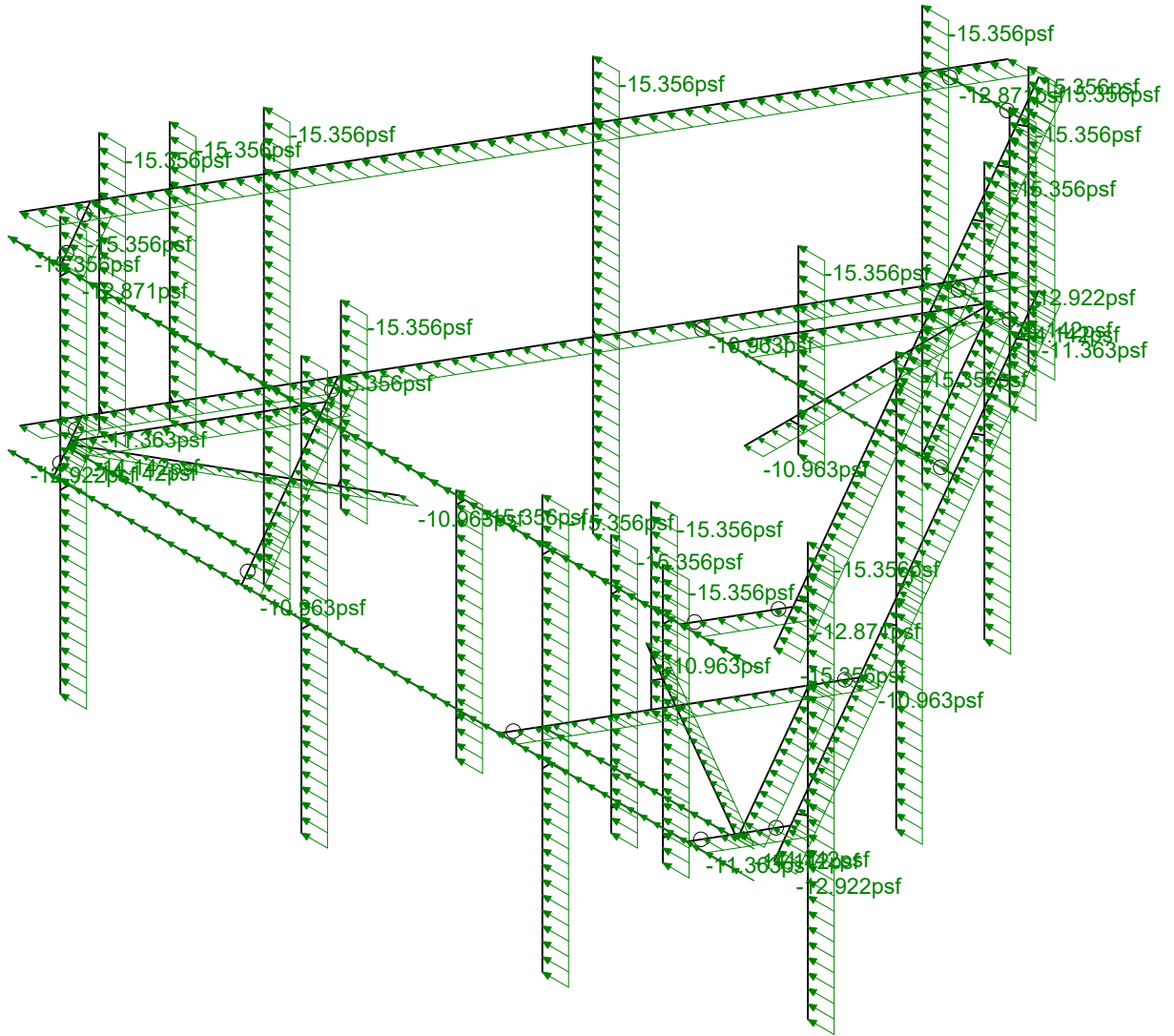
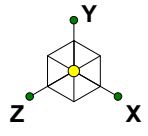
Infinigy Engineering, PLLC	CT364/Chapel St. Monopole	Wind + Ice Load AZI 090
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1039-Z0001-B		823530_CTL01062_loaded.r3d



Loads: BLC 29, Distr. Ice Wind Load Z  
Envelope Only Solution

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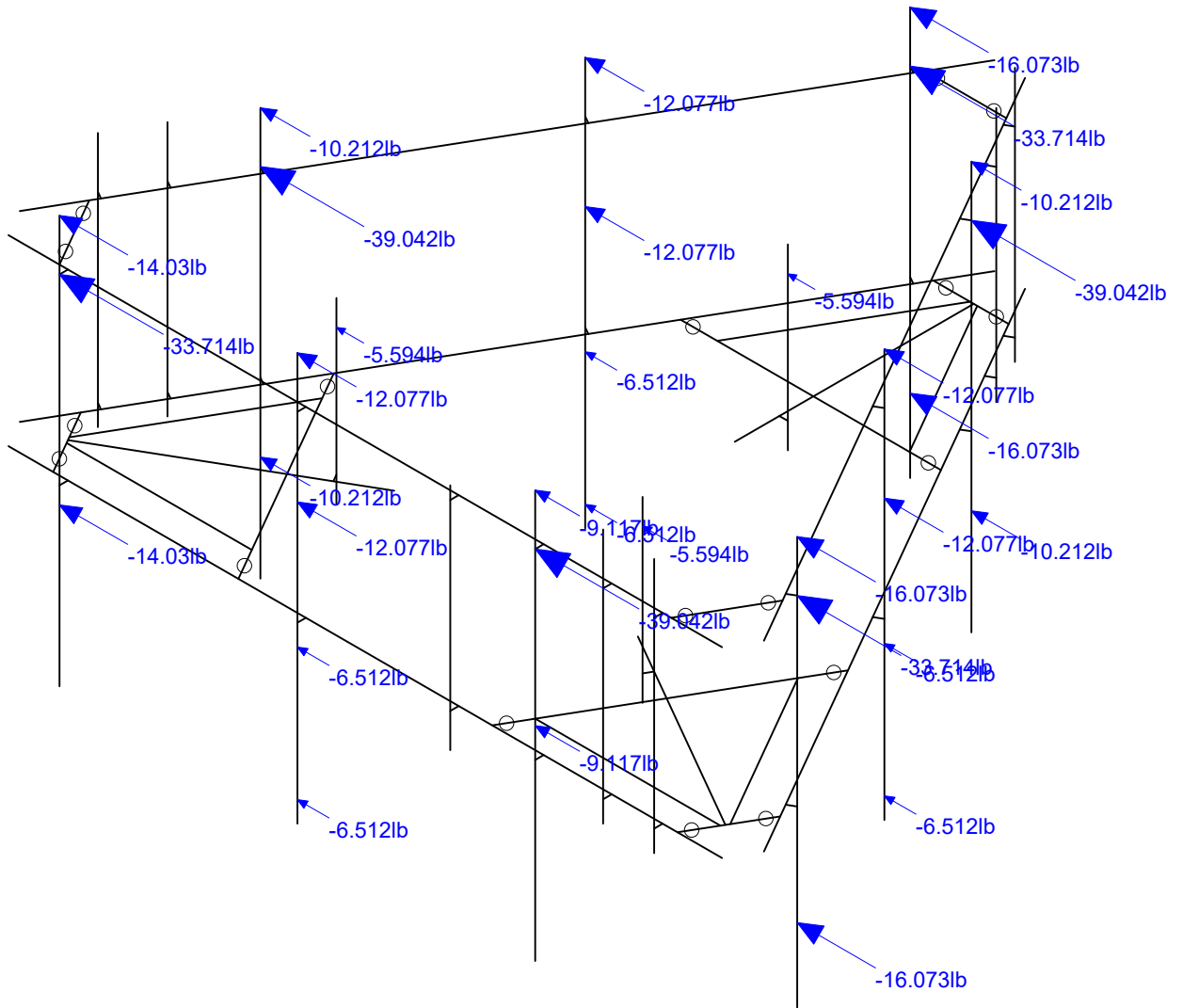
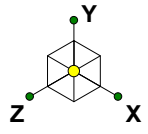




Loads: BLC 30, Distr. Ice Wind Load X  
Envelope Only Solution

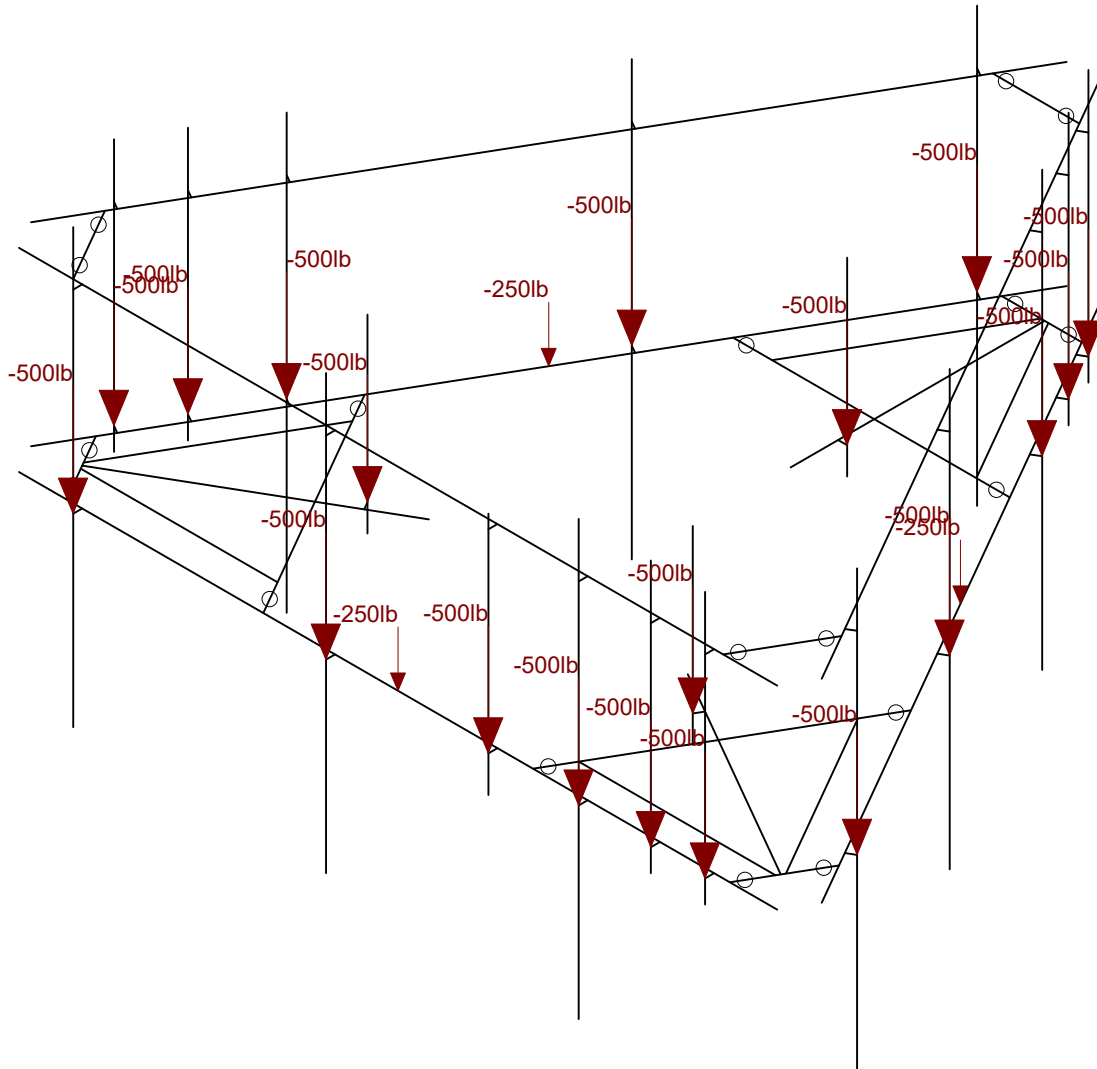
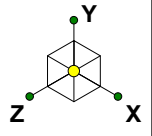
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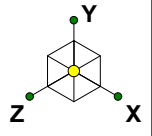
Loads: BLC 32, Seismic Load X  
Envelope Only Solution

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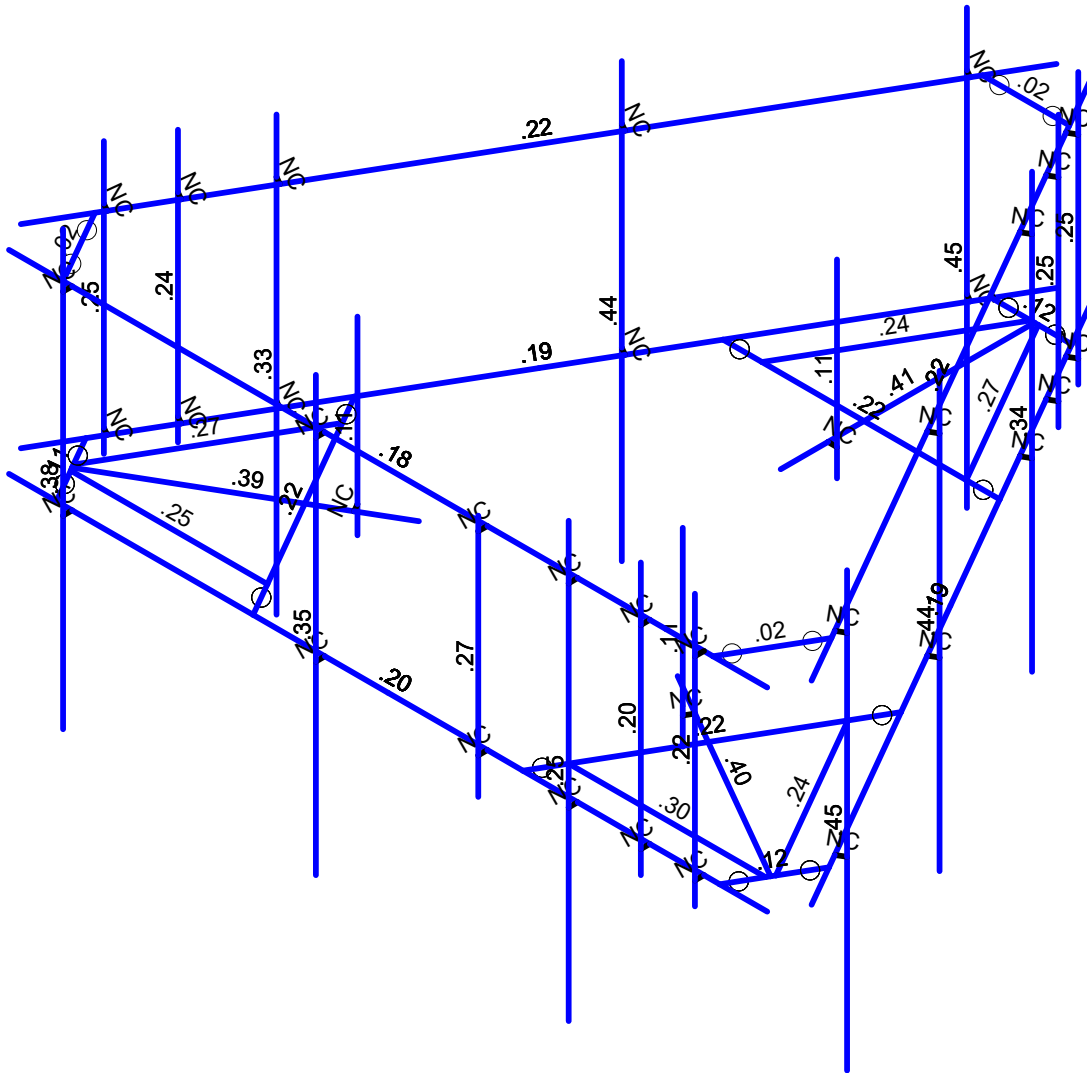


Loads: LL - Live Load  
Envelope Only Solution

Infinigy Engineering, PLLC	CT364/Chapel St. Monopole	Non-concurrent Live Loads
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Code Check (Env)	
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	> 1.0
	.90-1.0
	.75-90
	.50-75
	0-.50



Member Code Checks Displayed (Enveloped)  
Envelope Only Solution

Infinigy Engineering, PLLC  
PSM  
1039-Z0001-B

CT364/Chapel St. Monopole

Bending Check

Feb 21, 2022 at 4:39 PM

823530\_CTL01062\_loaded.r3d



**APPENDIX B**  
**SOFTWARE INPUT CALCULATIONS**

## Program Inputs

PROJECT INFORMATION		
Client:	Crown Castle	
Carrier:	AT&T Mobility	
Engineer:	Pradin Suyinal Magar, M.S	

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	B	
Topo Factor Procedure:	Method 1, Category 1	
Site Class:	D - Stiff Soil (Assumed)	
Ground Elevation:	543.00	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Platform	
Num Sectors:	3	
Centerline AGL:	140.00	ft
Tower Height AGL:	175.00	ft

TOPOGRAPHIC DATA		
Topo Feature:	N/A	
Slope Distance:	N/A	ft
Crest Distance:	N/A	ft
Crest Height:	N/A	ft

FACTORS		
Directionality Fact. ( $K_d$ ):	0.950	
Ground Ele. Factor ( $K_e$ ):	0.981	*Rev H Only
Rooftop Speed-Up ( $K_s$ ):	1.000	*Rev H Only
Topographic Factor ( $K_{zt}$ ):	1.000	
Gust Effect Factor ( $G_h$ ):	1.000	

CODE STANDARDS		
Building Code:	2018 IBC	
TIA Standard:	TIA-222-H	
ASCE Standard:	ASCE 7-16	

WIND AND ICE DATA		
Ultimate Wind ( $V_{ult}$ ):	116	mph
Design Wind ( $V$ ):	N/A	mph
Ice Wind ( $V_{ice}$ ):	50	mph
Base Ice Thickness ( $t_i$ ):	1	in
Flat Pressure:	69.820	psf
Round Pressure:	41.892	psf
Ice Wind Pressure:	7.783	psf

SEISMIC DATA		
Short-Period Accel. ( $S_s$ ):	0.185	g
1-Second Accel. ( $S_1$ ):	0.054	g
Short-Period Design ( $S_{DS}$ ):	0.197	
1-Second Design ( $S_{D1}$ ):	0.086	
Short-Period Coeff. ( $F_a$ ):	1.600	
1-Second Coeff. ( $F_v$ ):	2.400	
Amplification Factor ( $A_s$ ):	3.000	
Response Mod. Coeff. ( $R$ ):	2.000	



Infinigy Load Calculator V2.1.7



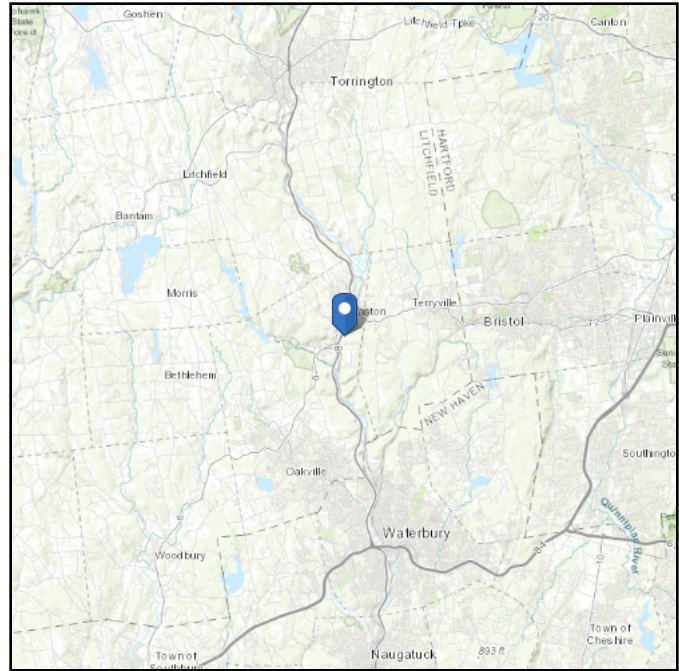


# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-16  
**Risk Category:** II  
**Soil Class:** D - Default (see  
Section 11.4.3)

**Elevation:** 543 ft (NAVD 88)  
**Latitude:** 41.663467  
**Longitude:** -73.074281



## Wind

### Results:

Wind Speed	116 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	89 Vmph
100-year MRI	96 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2  
Date Accessed: Mon Feb 21 2022

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

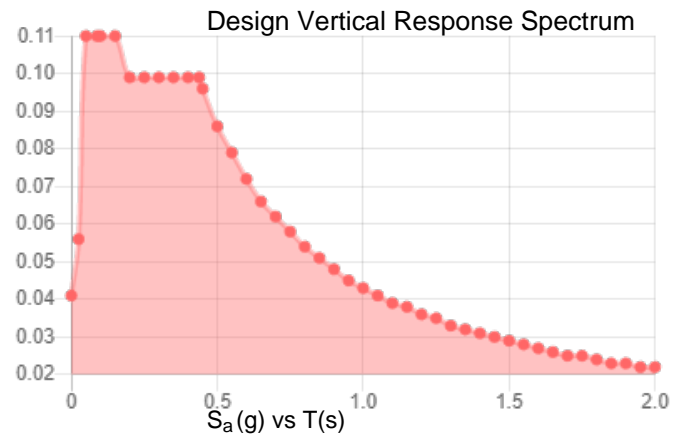
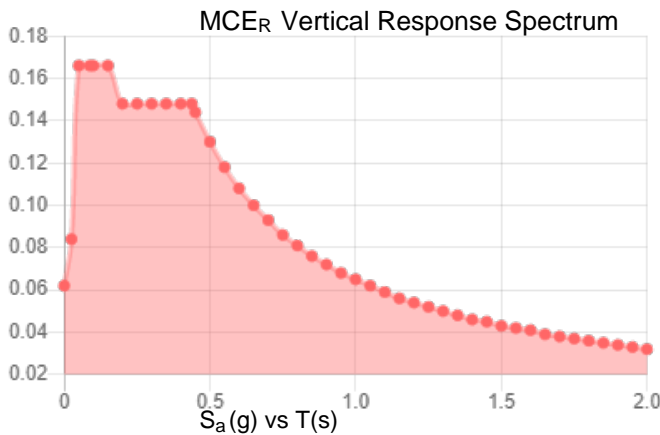
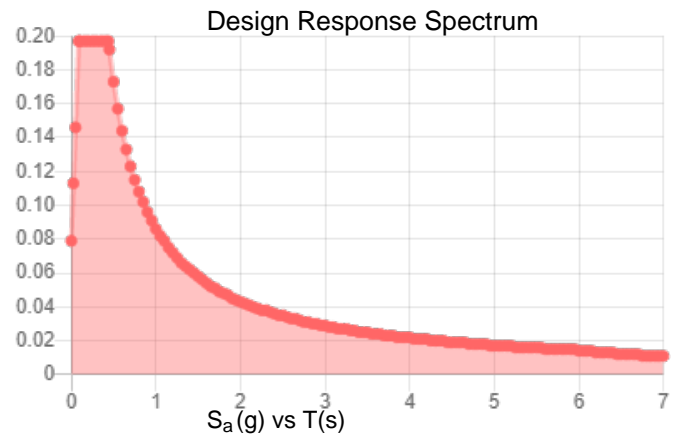
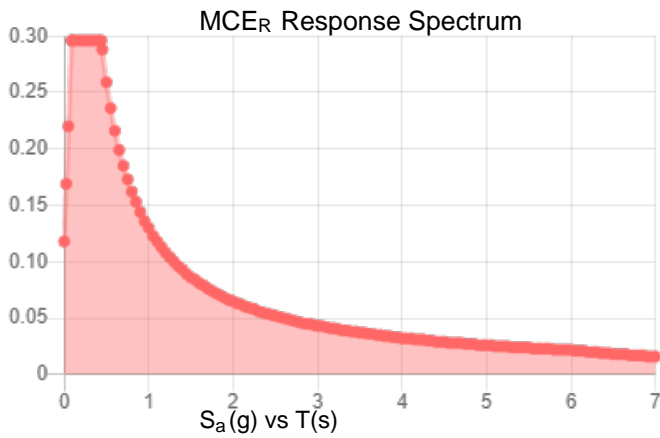
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

**Site Soil Class:** D - Default (see Section 11.4.3)

**Results:**

$S_s$ :	0.185	$S_{D1}$ :	0.086
$S_1$ :	0.054	$T_L$ :	6
$F_a$ :	1.6	PGA :	0.1
$F_v$ :	2.4	PGA <sub>M</sub> :	0.16
$S_{MS}$ :	0.296	$F_{PGA}$ :	1.6
$S_{M1}$ :	0.13	$I_e$ :	1
$S_{DS}$ :	0.197	$C_v$ :	0.7

**Seismic Design Category** B



**Data Accessed:** Mon Feb 21 2022

**Date Source:**

**USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.**

## Ice

---

### Results:

Ice Thickness: 1.00 in.

Concurrent Temperature: 15 F

Gust Speed 50 mph

**Data Source:** Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

**Date Accessed:** Mon Feb 21 2022

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

---

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**APPENDIX C**  
**SOFTWARE ANALYSIS OUTPUT**



**Member Primary Data**

	Label	I Joint	J Joint	K Joint	Rotate(...)	Section/Shape	Type	Design List	Material	Design Rules
1	S1	N1	N2			Standoffs	Beam	SquareTu...	A53 Gr.B	Typical
2	H1	N19	N18			Horizontals	Beam	Pipe	A53 Gr.B	Typical
3	M11	N28	N76			Standoffs	Beam	SquareTu...	A53 Gr.B	Typical
4	GA1	N40	N43		270	Gratings	Beam	Single An...	A36 Gr.36	Typical
5	HR1	N79	N78			Handrails	Beam	Pipe	A53 Gr.B	Typical
6	H3	N56	N55			Horizontals	Beam	Pipe	A53 Gr.B	Typical
7	HR3	N64	N63			Handrails	Beam	Pipe	A53 Gr.B	Typical
8	H2	N67	N66			Horizontals	Beam	Pipe	A53 Gr.B	Typical
9	HR2	N75	N74			Handrails	Beam	Pipe	A53 Gr.B	Typical
10	MP1	N52	N57			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
11	GA2	N180	N181			Gratings	Beam	Single An...	A36 Gr.36	Typical
12	S3	N59	N60			Standoffs	Beam	SquareTu...	A53 Gr.B	Typical
13	M19B	N77	N31			Standoffs	Beam	SquareTu...	A53 Gr.B	Typical
14	GA5	N174	N175		270	Gratings	Beam	Single An...	A36 Gr.36	Typical
15	GA6	N65	N66A			Gratings	Beam	Single An...	A36 Gr.36	Typical
16	S2	N70A	N71A			Standoffs	Beam	SquareTu...	A53 Gr.B	Typical
17	M24	N74B	N80			Standoffs	Beam	SquareTu...	A53 Gr.B	Typical
18	GA3	N178	N179		270	Gratings	Beam	Single An...	A36 Gr.36	Typical
19	GA4	N176	N177			Gratings	Beam	Single An...	A36 Gr.36	Typical
20	CA1	N56A	N60A		180	Corner Angle	Beam	Single An...	A36 Gr.36	Typical
21	CA2	N57A	N61		180	Corner Angle	Beam	Single An...	A36 Gr.36	Typical
22	CA3	N58	N59A		180	Corner Angle	Beam	Single An...	A36 Gr.36	Typical
23	P3	N63A	N62			Corner Plate	Beam	RECT	A36 Gr.36	Typical
24	P2	N57B	N56B			Corner Plate	Beam	RECT	A36 Gr.36	Typical
25	P1	N59B	N58A			Corner Plate	Beam	RECT	A36 Gr.36	Typical
26	M26B	N45	N59C			RIGID	None	None	RIGID	Typical
27	M27	N46	N60B			RIGID	None	None	RIGID	Typical
28	MP2	N63B	N64B			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
29	M29A	N61A	N65A			RIGID	None	None	RIGID	Typical
30	M30	N62A	N66B			RIGID	None	None	RIGID	Typical
31	MP3	N68	N69			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
32	M32	N66C	N70			RIGID	None	None	RIGID	Typical
33	M33	N67B	N71			RIGID	None	None	RIGID	Typical
34	MP4	N74A	N75A			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
35	M35	N72	N76B			RIGID	None	None	RIGID	Typical
36	M36	N73	N77B			RIGID	None	None	RIGID	Typical
37	MP5	N80A	N81			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
38	M38	N78B	N82			RIGID	None	None	RIGID	Typical
39	M39	N79A	N83			RIGID	None	None	RIGID	Typical
40	MP6	N86	N87			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
41	M41	N84	N88			RIGID	None	None	RIGID	Typical



**Member Primary Data (Continued)**

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design Rules
42	M42	N85	N89			RIGID	None	None	RIGID	Typical
43	MP13	N93	N94			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
44	M44	N91	N95			RIGID	None	None	RIGID	Typical
45	M45	N92	N96			RIGID	None	None	RIGID	Typical
46	MP14	N99	N100			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
47	M47	N97	N101			RIGID	None	None	RIGID	Typical
48	M48	N98	N102			RIGID	None	None	RIGID	Typical
49	MP7	N129	N130			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
50	M62	N127A	N131			RIGID	None	None	RIGID	Typical
51	M63	N128A	N132			RIGID	None	None	RIGID	Typical
52	MP8	N135	N136			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
53	M65	N133	N137			RIGID	None	None	RIGID	Typical
54	M66	N134	N138			RIGID	None	None	RIGID	Typical
55	MP20	N163	N164			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
56	M80	N161A	N162A			RIGID	None	None	RIGID	Typical
57	MP19	N168	N169			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
58	M82	N166	N167			RIGID	None	None	RIGID	Typical
59	MP21	N172	N173			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
60	M84	N170	N171			RIGID	None	None	RIGID	Typical
61	MP9	N131A	N132A			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
62	M62A	N129A	N133A			RIGID	None	None	RIGID	Typical
63	M63A	N130A	N134A			RIGID	None	None	RIGID	Typical
64	MP11	N137A	N138A			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
65	M65A	N135A	N139			RIGID	None	None	RIGID	Typical
66	M66A	N136A	N140			RIGID	None	None	RIGID	Typical
67	MP12	N143	N144			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
68	M68	N141	N145			RIGID	None	None	RIGID	Typical
69	M69	N142	N146			RIGID	None	None	RIGID	Typical
70	MP15	N149	N150			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
71	M71	N147	N151			RIGID	None	None	RIGID	Typical
72	M72	N148	N152			RIGID	None	None	RIGID	Typical
73	MP17	N155	N156			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
74	M74	N153	N157			RIGID	None	None	RIGID	Typical
75	M75	N154	N158			RIGID	None	None	RIGID	Typical
76	MP18	N161	N162			Mount Pipe	Colu...	Pipe	A53 Gr.B	Typical
77	M77	N159	N163A			RIGID	None	None	RIGID	Typical
78	M78	N160	N164A			RIGID	None	None	RIGID	Typical



**Hot Rolled Steel Design Parameters**

	Label	Shape	Lengt...	Lbyy[in]	Lbzz[in]	Lcomp t...	Lcomp b...	L-tor...	Kyy	Kzz	Cb	Func...
1	S1	Standoffs	56.25			Lbyy						Late...
2	H1	Horizontals	168			Lbyy						Late...
3	M11	Standoffs	61.314			Lbyy						Late...
4	GA1	Gratings	43.592			Lbyy						Late...
5	HR1	Handrails	168			Lbyy						Late...
6	H3	Horizontals	168			Lbyy						Late...
7	HR3	Handrails	168			Lbyy						Late...
8	H2	Horizontals	168			Lbyy						Late...
9	HR2	Handrails	168			Lbyy						Late...
10	MP1	Mount Pipe	60			Lbyy						Late...
11	GA2	Gratings	43.592			Lbyy						Late...
12	S3	Standoffs	56.25			Lbyy						Late...
13	M19B	Standoffs	61.314			Lbyy						Late...
14	GA5	Gratings	43.592			Lbyy						Late...
15	GA6	Gratings	43.592			Lbyy						Late...
16	S2	Standoffs	56.25			Lbyy						Late...
17	M24	Standoffs	61.314			Lbyy						Late...
18	GA3	Gratings	43.592			Lbyy						Late...
19	GA4	Gratings	43.592			Lbyy						Late...
20	CA1	Corner Angle	19.206			Lbyy						Late...
21	CA2	Corner Angle	19.206			Lbyy						Late...
22	CA3	Corner Angle	19.206			Lbyy						Late...
23	P3	Corner Plate	17.722			Lbyy						Late...
24	P2	Corner Plate	17.722			Lbyy						Late...
25	P1	Corner Plate	17.722			Lbyy						Late...
26	MP2	Mount Pipe	60			Lbyy						Late...
27	MP3	Mount Pipe	96			Lbyy						Late...
28	MP4	Mount Pipe	54			Lbyy						Late...
29	MP5	Mount Pipe	96			Lbyy						Late...
30	MP6	Mount Pipe	96			Lbyy						Late...
31	MP13	Mount Pipe	60			Lbyy						Late...
32	MP14	Mount Pipe	60			Lbyy						Late...
33	MP7	Mount Pipe	60			Lbyy						Late...
34	MP8	Mount Pipe	60			Lbyy						Late...
35	MP20	Mount Pipe	42									Late...
36	MP19	Mount Pipe	42									Late...
37	MP21	Mount Pipe	42									Late...
38	MP9	Mount Pipe	96			Lbyy						Late...
39	MP11	Mount Pipe	96			Lbyy						Late...
40	MP12	Mount Pipe	96			Lbyy						Late...
41	MP15	Mount Pipe	96			Lbyy						Late...





**Hot Rolled Steel Design Parameters (Continued)**

	Label	Shape	Lengt...	Lbyy[in]	Lbzz[in]	Lcomp t...	Lcomp b...	L-tor...	Kyy	Kzz	Cb	Func...
42	MP17	Mount Pipe	96			Lbyy						Late...
43	MP18	Mount Pipe	96			Lbyy						Late...

**Member Advanced Data**

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra...	Analysis ...	Inactive	Seismi...
1	S1						Yes				None
2	H1						Yes				None
3	M11	BenPIN	BenPIN				Yes				None
4	GA1						Yes				None
5	HR1						Yes				None
6	H3						Yes				None
7	HR3						Yes				None
8	H2						Yes				None
9	HR2						Yes				None
10	MP1						Yes	** NA **			None
11	GA2						Yes				None
12	S3						Yes				None
13	M19B	BenPIN	BenPIN				Yes				None
14	GA5						Yes				None
15	GA6						Yes				None
16	S2						Yes				None
17	M24	BenPIN	BenPIN				Yes				None
18	GA3						Yes				None
19	GA4						Yes				None
20	CA1	BenPIN	BenPIN				Yes				None
21	CA2	BenPIN	BenPIN				Yes				None
22	CA3	BenPIN	BenPIN				Yes				None
23	P3	BenPIN	BenPIN				Yes				None
24	P2	BenPIN	BenPIN				Yes				None
25	P1	BenPIN	BenPIN				Yes				None
26	M26B						Yes	** NA **			None
27	M27						Yes	** NA **			None
28	MP2						Yes	** NA **			None
29	M29A						Yes	** NA **			None
30	M30						Yes	** NA **			None
31	MP3						Yes	** NA **			None
32	M32						Yes	** NA **			None
33	M33						Yes	** NA **			None
34	MP4						Yes	** NA **			None
35	M35						Yes	** NA **			None
36	M36						Yes	** NA **			None



**Member Advanced Data (Continued)**

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra..	Analysis ...	Inactive	Seismi...
37	MP5						Yes	** NA **			None
38	M38						Yes	** NA **			None
39	M39						Yes	** NA **			None
40	MP6						Yes	** NA **			None
41	M41						Yes	** NA **			None
42	M42						Yes	** NA **			None
43	MP13						Yes	** NA **			None
44	M44						Yes	** NA **			None
45	M45						Yes	** NA **			None
46	MP14						Yes	** NA **			None
47	M47						Yes	** NA **			None
48	M48						Yes	** NA **			None
49	MP7						Yes	** NA **			None
50	M62						Yes	** NA **			None
51	M63						Yes	** NA **			None
52	MP8						Yes	** NA **			None
53	M65						Yes	** NA **			None
54	M66						Yes	** NA **			None
55	MP20						Yes	** NA **			None
56	M80						Yes	** NA **			None
57	MP19						Yes	** NA **			None
58	M82						Yes	** NA **			None
59	MP21						Yes	** NA **			None
60	M84						Yes	** NA **			None
61	MP9						Yes	** NA **			None
62	M62A						Yes	** NA **			None
63	M63A						Yes	** NA **			None
64	MP11						Yes	** NA **			None
65	M65A						Yes	** NA **			None
66	M66A						Yes	** NA **			None
67	MP12						Yes	** NA **			None
68	M68						Yes	** NA **			None
69	M69						Yes	** NA **			None
70	MP15						Yes	** NA **			None
71	M71						Yes	** NA **			None
72	M72						Yes	** NA **			None
73	MP17						Yes	** NA **			None
74	M74						Yes	** NA **			None
75	M75						Yes	** NA **			None
76	MP18						Yes	** NA **			None
77	M77						Yes	** NA **			None
78	M78						Yes	** NA **			None



### Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		35	70	0
3	Total General		35	70	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	L2x2x3	6	261.5	53.548
7	A36 Gr.36	L2.5x2.5x3	3	57.6	14.721
8	A36 Gr.36	PL5"x1/2"	3	53.2	37.691
9	A53 Gr.B	HSS4X4X4	6	352.7	337.037
10	A53 Gr.B	PIPE 2.0	22	1908	551.862
11	A53 Gr.B	PIPE 3.0	3	504	295.837
12	Total HR Steel		43	3137	1290.697

### Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design...	A [in2]	Iyy [in...]	Izz [in...]	J [in4]
1	Standoffs	HSS4X4X4	Beam	SquareTube	A53 Gr.B	Typical	3.37	7.8	7.8	12.8
2	Horizontals	PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
3	Gratings	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical	.722	.271	.271	.009
4	Mount Pipe	PIPE 2.0	Colu...	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
5	Corner Angle	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical	.901	.535	.535	.011
6	Corner Plate	PL5"x1/2"	Beam	RECT	A36 Gr.36	Typical	2.5	.052	5.208	.195
7	Handrails	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25

### Basic Load Cases

	BLC Description	Category	X Gr...	Y Gr...	Z Gr...	Joint	Point	Distributed	Area(Memb...	Surface(Plate/Wall)
1	Self Weight	DL		-1			39		3	
2	Wind Load AZI 0	WLZ					78			
3	Wind Load AZI 30	None					78			
4	Wind Load AZI 60	None					78			
5	Wind Load AZI 90	WLX					78			
6	Wind Load AZI 1...	None					78			
7	Wind Load AZI 1...	None					78			
8	Wind Load AZI 1...	None					78			
9	Wind Load AZI 2...	None					78			
10	Wind Load AZI 2...	None					78			
11	Wind Load AZI 2...	None					78			
12	Wind Load AZI 3...	None					78			
13	Wind Load AZI 3...	None					78			



**Basic Load Cases (Continued)**

	BLC Description	Category	X Gr...	Y Gr...	Z Gr...	Joint	Point	Distributed	Area(Memb...	Surface(Plate/Wall)
14	Distr. Wind Load Z	WLZ						78		
15	Distr. Wind Load X	WLX						78		
16	Ice Weight	OL1					39	78	3	
17	Ice Wind Load A...	OL2					78			
18	Ice Wind Load A...	None					78			
19	Ice Wind Load A...	None					78			
20	Ice Wind Load A...	OL3					78			
21	Ice Wind Load A...	None					78			
22	Ice Wind Load A...	None					78			
23	Ice Wind Load A...	None					78			
24	Ice Wind Load A...	None					78			
25	Ice Wind Load A...	None					78			
26	Ice Wind Load A...	None					78			
27	Ice Wind Load A...	None					78			
28	Ice Wind Load A...	None					78			
29	Distr. Ice Wind L...	OL2						78		
30	Distr. Ice Wind L...	OL3						78		
31	Seismic Load Z	ELZ			-.296		39			
32	Seismic Load X	ELX	-.296				39			
33	Service Live Loa...	LL				3				
34	Maintenance Loa...	LL				1				
35	Maintenance Loa...	LL				1				
36	Maintenance Loa...	LL				1				
37	Maintenance Loa...	LL				1				
38	Maintenance Loa...	LL				1				
39	Maintenance Loa...	LL				1				
40	Maintenance Loa...	LL				1				
41	Maintenance Loa...	LL				1				
42	Maintenance Loa...	LL				1				
43	Maintenance Loa...	LL				1				
44	Maintenance Loa...	LL				1				
45	Maintenance Loa...	LL				1				
46	Maintenance Loa...	LL				1				
47	Maintenance Loa...	LL				1				
48	Maintenance Loa...	LL				1				
49	Maintenance Loa...	LL				1				
50	Maintenance Loa...	LL				1				
51	Maintenance Loa...	LL				1				
52	Maintenance Loa...	LL				1				
53	BLC 1 Transient ...	None						51		
54	BLC 16 Transien...	None						51		





**Load Combinations (Continued)**

Description	S...	P...	S...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...
42 (1.2 + 0.2Sds)DL + 1.0E AZI 90	Y...	Y	1	1.2	.31		32	1									
43 (1.2 + 0.2Sds)DL + 1.0E AZI 1	Y...	Y	1	1.2	.31	-.5	32	.866									
44 (1.2 + 0.2Sds)DL + 1.0E AZI 1	Y...	Y	1	1.2	.31	-.8	32	.5									
45 (1.2 + 0.2Sds)DL + 1.0E AZI 1	Y...	Y	1	1.2	.31	-.1	32										
46 (1.2 + 0.2Sds)DL + 1.0E AZI 2	Y...	Y	1	1.2	.31	-.8	32	-.5									
47 (1.2 + 0.2Sds)DL + 1.0E AZI 2	Y...	Y	1	1.2	.31	-.5	32	-.8									
48 (1.2 + 0.2Sds)DL + 1.0E AZI 2	Y...	Y	1	1.2	.31		32	-.1									
49 (1.2 + 0.2Sds)DL + 1.0E AZI 3	Y...	Y	1	1.2	.31	.5	32	-.8									
50 (1.2 + 0.2Sds)DL + 1.0E AZI 3	Y...	Y	1	1.2	.31	.866	32	-.5									
51 (0.9 - 0.2Sds)DL + 1.0E AZI 0	Y...	Y	1	.861	.31	1	32										
52 (0.9 - 0.2Sds)DL + 1.0E AZI 30	Y...	Y	1	.861	.31	.866	32	.5									
53 (0.9 - 0.2Sds)DL + 1.0E AZI 60	Y...	Y	1	.861	.31	.5	32	.866									
54 (0.9 - 0.2Sds)DL + 1.0E AZI 90	Y...	Y	1	.861	.31		32	1									
55 (0.9 - 0.2Sds)DL + 1.0E AZI 1	Y...	Y	1	.861	.31	-.5	32	.866									
56 (0.9 - 0.2Sds)DL + 1.0E AZI 1	Y...	Y	1	.861	.31	-.8	32	.5									
57 (0.9 - 0.2Sds)DL + 1.0E AZI 1	Y...	Y	1	.861	.31	-.1	32										
58 (0.9 - 0.2Sds)DL + 1.0E AZI 2	Y...	Y	1	.861	.31	-.8	32	-.5									
59 (0.9 - 0.2Sds)DL + 1.0E AZI 2	Y...	Y	1	.861	.31	-.5	32	-.8									
60 (0.9 - 0.2Sds)DL + 1.0E AZI 2	Y...	Y	1	.861	.31		32	-.1									
61 (0.9 - 0.2Sds)DL + 1.0E AZI 3	Y...	Y	1	.861	.31	.5	32	-.8									
62 (0.9 - 0.2Sds)DL + 1.0E AZI 3	Y...	Y	1	.861	.31	.866	32	-.5									
63 1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	2	.268	14	.268	15		33	1.5					
64 1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	3	.268	14	.232	15	.134	33	1.5					
65 1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	4	.268	14	.134	15	.232	33	1.5					
66 1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	5	.268	14		15	.268	33	1.5					
67 1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	6	.268	14	-.1	15	.232	33	1.5					
68 1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	7	.268	14	-.2	15	.134	33	1.5					
69 1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	8	.268	14	-.2	15		33	1.5					
70 1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	9	.268	14	-.2	15	-.1	33	1.5					
71 1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	10	.268	14	-.1	15	-.2	33	1.5					
72 1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	11	.268	14		15	-.2	33	1.5					
73 1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	12	.268	14	.134	15	-.2	33	1.5					
74 1.0DL + 1.5LL + 1.0SWL (60 ...	Y...	Y	1	1	13	.268	14	.232	15	-.1	33	1.5					
75 1.2DL + 1.5LL	Y...	Y	1	1.2	33	1.5											
76 1.2DL + 1.5LM-MP1 + 1SWL (...)	Y...	Y	1	1.2	34	1.5	2	.067	14	.067	15						
77 1.2DL + 1.5LM-MP1 + 1SWL (...)	Y...	Y	1	1.2	34	1.5	3	.067	14	.058	15	.033					
78 1.2DL + 1.5LM-MP1 + 1SWL (...)	Y...	Y	1	1.2	34	1.5	4	.067	14	.033	15	.058					
79 1.2DL + 1.5LM-MP1 + 1SWL (...)	Y...	Y	1	1.2	34	1.5	5	.067	14		15	.067					
80 1.2DL + 1.5LM-MP1 + 1SWL (...)	Y...	Y	1	1.2	34	1.5	6	.067	14	-.0	15	.058					
81 1.2DL + 1.5LM-MP1 + 1SWL (...)	Y...	Y	1	1.2	34	1.5	7	.067	14	-.0	15	.033					
82 1.2DL + 1.5LM-MP1 + 1SWL (...)	Y...	Y	1	1.2	34	1.5	8	.067	14	-.0	15						
83 1.2DL + 1.5LM-MP1 + 1SWL (...)	Y...	Y	1	1.2	34	1.5	9	.067	14	-.0	15	-.0					



**Load Combinations (Continued)**

	Description	S...	P...	S...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...
84	1.2DL + 1.5LM-MP1 + 1SWL (...Y...Y		Y	1	1.2	34	1.5	10	.067	14	-0...	15	-0...						
85	1.2DL + 1.5LM-MP1 + 1SWL (...Y...Y		Y	1	1.2	34	1.5	11	.067	14		15	-0...						
86	1.2DL + 1.5LM-MP1 + 1SWL (...Y...Y		Y	1	1.2	34	1.5	12	.067	14	.033	15	-0...						
87	1.2DL + 1.5LM-MP1 + 1SWL (...Y...Y		Y	1	1.2	34	1.5	13	.067	14	.058	15	-0...						
88	1.2DL + 1.5LM-MP2 + 1SWL (...Y...Y		Y	1	1.2	35	1.5	2	.067	14	.067	15							
89	1.2DL + 1.5LM-MP2 + 1SWL (...Y...Y		Y	1	1.2	35	1.5	3	.067	14	.058	15	.033						
90	1.2DL + 1.5LM-MP2 + 1SWL (...Y...Y		Y	1	1.2	35	1.5	4	.067	14	.033	15	.058						
91	1.2DL + 1.5LM-MP2 + 1SWL (...Y...Y		Y	1	1.2	35	1.5	5	.067	14		15	.067						
92	1.2DL + 1.5LM-MP2 + 1SWL (...Y...Y		Y	1	1.2	35	1.5	6	.067	14	-0...	15	.058						
93	1.2DL + 1.5LM-MP2 + 1SWL (...Y...Y		Y	1	1.2	35	1.5	7	.067	14	-0...	15	.033						
94	1.2DL + 1.5LM-MP2 + 1SWL (...Y...Y		Y	1	1.2	35	1.5	8	.067	14	-0...	15							
95	1.2DL + 1.5LM-MP2 + 1SWL (...Y...Y		Y	1	1.2	35	1.5	9	.067	14	-0...	15	-0...						
96	1.2DL + 1.5LM-MP2 + 1SWL (...Y...Y		Y	1	1.2	35	1.5	10	.067	14	-0...	15	-0...						
97	1.2DL + 1.5LM-MP2 + 1SWL (...Y...Y		Y	1	1.2	35	1.5	11	.067	14		15	-0...						
98	1.2DL + 1.5LM-MP2 + 1SWL (...Y...Y		Y	1	1.2	35	1.5	12	.067	14	.033	15	-0...						
99	1.2DL + 1.5LM-MP2 + 1SWL (...Y...Y		Y	1	1.2	35	1.5	13	.067	14	.058	15	-0...						
100	1.2DL + 1.5LM-MP3 + 1SWL (...Y...Y		Y	1	1.2	36	1.5	2	.067	14	.067	15							
101	1.2DL + 1.5LM-MP3 + 1SWL (...Y...Y		Y	1	1.2	36	1.5	3	.067	14	.058	15	.033						
102	1.2DL + 1.5LM-MP3 + 1SWL (...Y...Y		Y	1	1.2	36	1.5	4	.067	14	.033	15	.058						
103	1.2DL + 1.5LM-MP3 + 1SWL (...Y...Y		Y	1	1.2	36	1.5	5	.067	14		15	.067						
104	1.2DL + 1.5LM-MP3 + 1SWL (...Y...Y		Y	1	1.2	36	1.5	6	.067	14	-0...	15	.058						
105	1.2DL + 1.5LM-MP3 + 1SWL (...Y...Y		Y	1	1.2	36	1.5	7	.067	14	-0...	15	.033						
106	1.2DL + 1.5LM-MP3 + 1SWL (...Y...Y		Y	1	1.2	36	1.5	8	.067	14	-0...	15							
107	1.2DL + 1.5LM-MP3 + 1SWL (...Y...Y		Y	1	1.2	36	1.5	9	.067	14	-0...	15	-0...						
108	1.2DL + 1.5LM-MP3 + 1SWL (...Y...Y		Y	1	1.2	36	1.5	10	.067	14	-0...	15	-0...						
109	1.2DL + 1.5LM-MP3 + 1SWL (...Y...Y		Y	1	1.2	36	1.5	11	.067	14		15	-0...						
110	1.2DL + 1.5LM-MP3 + 1SWL (...Y...Y		Y	1	1.2	36	1.5	12	.067	14	.033	15	-0...						
111	1.2DL + 1.5LM-MP3 + 1SWL (...Y...Y		Y	1	1.2	36	1.5	13	.067	14	.058	15	-0...						
112	1.2DL + 1.5LM-MP4 + 1SWL (...Y...Y		Y	1	1.2	37	1.5	2	.067	14	.067	15							
113	1.2DL + 1.5LM-MP4 + 1SWL (...Y...Y		Y	1	1.2	37	1.5	3	.067	14	.058	15	.033						
114	1.2DL + 1.5LM-MP4 + 1SWL (...Y...Y		Y	1	1.2	37	1.5	4	.067	14	.033	15	.058						
115	1.2DL + 1.5LM-MP4 + 1SWL (...Y...Y		Y	1	1.2	37	1.5	5	.067	14		15	.067						
116	1.2DL + 1.5LM-MP4 + 1SWL (...Y...Y		Y	1	1.2	37	1.5	6	.067	14	-0...	15	.058						
117	1.2DL + 1.5LM-MP4 + 1SWL (...Y...Y		Y	1	1.2	37	1.5	7	.067	14	-0...	15	.033						
118	1.2DL + 1.5LM-MP4 + 1SWL (...Y...Y		Y	1	1.2	37	1.5	8	.067	14	-0...	15							
119	1.2DL + 1.5LM-MP4 + 1SWL (...Y...Y		Y	1	1.2	37	1.5	9	.067	14	-0...	15	-0...						
120	1.2DL + 1.5LM-MP4 + 1SWL (...Y...Y		Y	1	1.2	37	1.5	10	.067	14	-0...	15	-0...						
121	1.2DL + 1.5LM-MP4 + 1SWL (...Y...Y		Y	1	1.2	37	1.5	11	.067	14		15	-0...						
122	1.2DL + 1.5LM-MP4 + 1SWL (...Y...Y		Y	1	1.2	37	1.5	12	.067	14	.033	15	-0...						
123	1.2DL + 1.5LM-MP4 + 1SWL (...Y...Y		Y	1	1.2	37	1.5	13	.067	14	.058	15	-0...						
124	1.2DL + 1.5LM-MP5 + 1SWL (...Y...Y		Y	1	1.2	38	1.5	2	.067	14	.067	15							
125	1.2DL + 1.5LM-MP5 + 1SWL (...Y...Y		Y	1	1.2	38	1.5	3	.067	14	.058	15	.033						



**Load Combinations (Continued)**

	Description	S...	P...	S...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...
126	1.2DL + 1.5LM-MP5 + 1SWL (...Y...)	Y		1	1.2	38	1.5	4	.067	14	.033	15	.058						
127	1.2DL + 1.5LM-MP5 + 1SWL (...Y...)	Y		1	1.2	38	1.5	5	.067	14		15	.067						
128	1.2DL + 1.5LM-MP5 + 1SWL (...Y...)	Y		1	1.2	38	1.5	6	.067	14	-0...	15	.058						
129	1.2DL + 1.5LM-MP5 + 1SWL (...Y...)	Y		1	1.2	38	1.5	7	.067	14	-0...	15	.033						
130	1.2DL + 1.5LM-MP5 + 1SWL (...Y...)	Y		1	1.2	38	1.5	8	.067	14	-0...	15							
131	1.2DL + 1.5LM-MP5 + 1SWL (...Y...)	Y		1	1.2	38	1.5	9	.067	14	-0...	15	-0...						
132	1.2DL + 1.5LM-MP5 + 1SWL (...Y...)	Y		1	1.2	38	1.5	10	.067	14	-0...	15	-0...						
133	1.2DL + 1.5LM-MP5 + 1SWL (...Y...)	Y		1	1.2	38	1.5	11	.067	14		15	-0...						
134	1.2DL + 1.5LM-MP5 + 1SWL (...Y...)	Y		1	1.2	38	1.5	12	.067	14	.033	15	-0...						
135	1.2DL + 1.5LM-MP5 + 1SWL (...Y...)	Y		1	1.2	38	1.5	13	.067	14	.058	15	-0...						
136	1.2DL + 1.5LM-MP6 + 1SWL (...Y...)	Y		1	1.2	39	1.5	2	.067	14	.067	15							
137	1.2DL + 1.5LM-MP6 + 1SWL (...Y...)	Y		1	1.2	39	1.5	3	.067	14	.058	15	.033						
138	1.2DL + 1.5LM-MP6 + 1SWL (...Y...)	Y		1	1.2	39	1.5	4	.067	14	.033	15	.058						
139	1.2DL + 1.5LM-MP6 + 1SWL (...Y...)	Y		1	1.2	39	1.5	5	.067	14		15	.067						
140	1.2DL + 1.5LM-MP6 + 1SWL (...Y...)	Y		1	1.2	39	1.5	6	.067	14	-0...	15	.058						
141	1.2DL + 1.5LM-MP6 + 1SWL (...Y...)	Y		1	1.2	39	1.5	7	.067	14	-0...	15	.033						
142	1.2DL + 1.5LM-MP6 + 1SWL (...Y...)	Y		1	1.2	39	1.5	8	.067	14	-0...	15							
143	1.2DL + 1.5LM-MP6 + 1SWL (...Y...)	Y		1	1.2	39	1.5	9	.067	14	-0...	15	-0...						
144	1.2DL + 1.5LM-MP6 + 1SWL (...Y...)	Y		1	1.2	39	1.5	10	.067	14	-0...	15	-0...						
145	1.2DL + 1.5LM-MP6 + 1SWL (...Y...)	Y		1	1.2	39	1.5	11	.067	14		15	-0...						
146	1.2DL + 1.5LM-MP6 + 1SWL (...Y...)	Y		1	1.2	39	1.5	12	.067	14	.033	15	-0...						
147	1.2DL + 1.5LM-MP6 + 1SWL (...Y...)	Y		1	1.2	39	1.5	13	.067	14	.058	15	-0...						
148	1.2DL + 1.5LM-MP7 + 1SWL (...Y...)	Y		1	1.2	40	1.5	2	.067	14	.067	15							
149	1.2DL + 1.5LM-MP7 + 1SWL (...Y...)	Y		1	1.2	40	1.5	3	.067	14	.058	15	.033						
150	1.2DL + 1.5LM-MP7 + 1SWL (...Y...)	Y		1	1.2	40	1.5	4	.067	14	.033	15	.058						
151	1.2DL + 1.5LM-MP7 + 1SWL (...Y...)	Y		1	1.2	40	1.5	5	.067	14		15	.067						
152	1.2DL + 1.5LM-MP7 + 1SWL (...Y...)	Y		1	1.2	40	1.5	6	.067	14	-0...	15	.058						
153	1.2DL + 1.5LM-MP7 + 1SWL (...Y...)	Y		1	1.2	40	1.5	7	.067	14	-0...	15	.033						
154	1.2DL + 1.5LM-MP7 + 1SWL (...Y...)	Y		1	1.2	40	1.5	8	.067	14	-0...	15							
155	1.2DL + 1.5LM-MP7 + 1SWL (...Y...)	Y		1	1.2	40	1.5	9	.067	14	-0...	15	-0...						
156	1.2DL + 1.5LM-MP7 + 1SWL (...Y...)	Y		1	1.2	40	1.5	10	.067	14	-0...	15	-0...						
157	1.2DL + 1.5LM-MP7 + 1SWL (...Y...)	Y		1	1.2	40	1.5	11	.067	14		15	-0...						
158	1.2DL + 1.5LM-MP7 + 1SWL (...Y...)	Y		1	1.2	40	1.5	12	.067	14	.033	15	-0...						
159	1.2DL + 1.5LM-MP7 + 1SWL (...Y...)	Y		1	1.2	40	1.5	13	.067	14	.058	15	-0...						
160	1.2DL + 1.5LM-MP8 + 1SWL (...Y...)	Y		1	1.2	41	1.5	2	.067	14	.067	15							
161	1.2DL + 1.5LM-MP8 + 1SWL (...Y...)	Y		1	1.2	41	1.5	3	.067	14	.058	15	.033						
162	1.2DL + 1.5LM-MP8 + 1SWL (...Y...)	Y		1	1.2	41	1.5	4	.067	14	.033	15	.058						
163	1.2DL + 1.5LM-MP8 + 1SWL (...Y...)	Y		1	1.2	41	1.5	5	.067	14		15	.067						
164	1.2DL + 1.5LM-MP8 + 1SWL (...Y...)	Y		1	1.2	41	1.5	6	.067	14	-0...	15	.058						
165	1.2DL + 1.5LM-MP8 + 1SWL (...Y...)	Y		1	1.2	41	1.5	7	.067	14	-0...	15	.033						
166	1.2DL + 1.5LM-MP8 + 1SWL (...Y...)	Y		1	1.2	41	1.5	8	.067	14	-0...	15							
167	1.2DL + 1.5LM-MP8 + 1SWL (...Y...)	Y		1	1.2	41	1.5	9	.067	14	-0...	15	-0...						





**Load Combinations (Continued)**

	Description	S...	P...	S...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...	Fa...B...
168	1.2DL + 1.5LM-MP8 + 1SWL (...Y...)	Y		1	1.2	41	1.5	10	.067	14	-0...	15	-0...						
169	1.2DL + 1.5LM-MP8 + 1SWL (...Y...)	Y		1	1.2	41	1.5	11	.067	14		15	-0...						
170	1.2DL + 1.5LM-MP8 + 1SWL (...Y...)	Y		1	1.2	41	1.5	12	.067	14	.033	15	-0...						
171	1.2DL + 1.5LM-MP8 + 1SWL (...Y...)	Y		1	1.2	41	1.5	13	.067	14	.058	15	-0...						
172	1.2DL + 1.5LM-MP9 + 1SWL (...Y...)	Y		1	1.2	42	1.5	2	.067	14	.067	15							
173	1.2DL + 1.5LM-MP9 + 1SWL (...Y...)	Y		1	1.2	42	1.5	3	.067	14	.058	15	.033						
174	1.2DL + 1.5LM-MP9 + 1SWL (...Y...)	Y		1	1.2	42	1.5	4	.067	14	.033	15	.058						
175	1.2DL + 1.5LM-MP9 + 1SWL (...Y...)	Y		1	1.2	42	1.5	5	.067	14		15	.067						
176	1.2DL + 1.5LM-MP9 + 1SWL (...Y...)	Y		1	1.2	42	1.5	6	.067	14	-0...	15	.058						
177	1.2DL + 1.5LM-MP9 + 1SWL (...Y...)	Y		1	1.2	42	1.5	7	.067	14	-0...	15	.033						
178	1.2DL + 1.5LM-MP9 + 1SWL (...Y...)	Y		1	1.2	42	1.5	8	.067	14	-0...	15							
179	1.2DL + 1.5LM-MP9 + 1SWL (...Y...)	Y		1	1.2	42	1.5	9	.067	14	-0...	15	-0...						
180	1.2DL + 1.5LM-MP9 + 1SWL (...Y...)	Y		1	1.2	42	1.5	10	.067	14	-0...	15	-0...						
181	1.2DL + 1.5LM-MP9 + 1SWL (...Y...)	Y		1	1.2	42	1.5	11	.067	14		15	-0...						
182	1.2DL + 1.5LM-MP9 + 1SWL (...Y...)	Y		1	1.2	42	1.5	12	.067	14	.033	15	-0...						
183	1.2DL + 1.5LM-MP9 + 1SWL (...Y...)	Y		1	1.2	42	1.5	13	.067	14	.058	15	-0...						
184	1.2DL + 1.5LM-MP10 + 1SWL (...Y...)	Y		1	1.2	43	1.5	2	.067	14	.067	15							
185	1.2DL + 1.5LM-MP10 + 1SWL (...Y...)	Y		1	1.2	43	1.5	3	.067	14	.058	15	.033						
186	1.2DL + 1.5LM-MP10 + 1SWL (...Y...)	Y		1	1.2	43	1.5	4	.067	14	.033	15	.058						
187	1.2DL + 1.5LM-MP10 + 1SWL (...Y...)	Y		1	1.2	43	1.5	5	.067	14		15	.067						
188	1.2DL + 1.5LM-MP10 + 1SWL (...Y...)	Y		1	1.2	43	1.5	6	.067	14	-0...	15	.058						
189	1.2DL + 1.5LM-MP10 + 1SWL (...Y...)	Y		1	1.2	43	1.5	7	.067	14	-0...	15	.033						
190	1.2DL + 1.5LM-MP10 + 1SWL (...Y...)	Y		1	1.2	43	1.5	8	.067	14	-0...	15							
191	1.2DL + 1.5LM-MP10 + 1SWL (...Y...)	Y		1	1.2	43	1.5	9	.067	14	-0...	15	-0...						
192	1.2DL + 1.5LM-MP10 + 1SWL (...Y...)	Y		1	1.2	43	1.5	10	.067	14	-0...	15	-0...						
193	1.2DL + 1.5LM-MP10 + 1SWL (...Y...)	Y		1	1.2	43	1.5	11	.067	14		15	-0...						
194	1.2DL + 1.5LM-MP10 + 1SWL (...Y...)	Y		1	1.2	43	1.5	12	.067	14	.033	15	-0...						
195	1.2DL + 1.5LM-MP10 + 1SWL (...Y...)	Y		1	1.2	43	1.5	13	.067	14	.058	15	-0...						
196	1.2DL + 1.5LM-MP11 + 1SWL (...Y...)	Y		1	1.2	44	1.5	2	.067	14	.067	15							
197	1.2DL + 1.5LM-MP11 + 1SWL (...Y...)	Y		1	1.2	44	1.5	3	.067	14	.058	15	.033						
198	1.2DL + 1.5LM-MP11 + 1SWL (...Y...)	Y		1	1.2	44	1.5	4	.067	14	.033	15	.058						
199	1.2DL + 1.5LM-MP11 + 1SWL (...Y...)	Y		1	1.2	44	1.5	5	.067	14		15	.067						
200	1.2DL + 1.5LM-MP11 + 1SWL (...Y...)	Y		1	1.2	44	1.5	6	.067	14	-0...	15	.058						
201	1.2DL + 1.5LM-MP11 + 1SWL (...Y...)	Y		1	1.2	44	1.5	7	.067	14	-0...	15	.033						
202	1.2DL + 1.5LM-MP11 + 1SWL (...Y...)	Y		1	1.2	44	1.5	8	.067	14	-0...	15							
203	1.2DL + 1.5LM-MP11 + 1SWL (...Y...)	Y		1	1.2	44	1.5	9	.067	14	-0...	15	-0...						
204	1.2DL + 1.5LM-MP11 + 1SWL (...Y...)	Y		1	1.2	44	1.5	10	.067	14	-0...	15	-0...						
205	1.2DL + 1.5LM-MP11 + 1SWL (...Y...)	Y		1	1.2	44	1.5	11	.067	14		15	-0...						
206	1.2DL + 1.5LM-MP11 + 1SWL (...Y...)	Y		1	1.2	44	1.5	12	.067	14	.033	15	-0...						
207	1.2DL + 1.5LM-MP11 + 1SWL (...Y...)	Y		1	1.2	44	1.5	13	.067	14	.058	15	-0...						
208	1.2DL + 1.5LM-MP12 + 1SWL (...Y...)	Y		1	1.2	45	1.5	2	.067	14	.067	15							
209	1.2DL + 1.5LM-MP12 + 1SWL (...Y...)	Y		1	1.2	45	1.5	3	.067	14	.058	15	.033						



**Load Combinations (Continued)**

Description	S...	P...	S...B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...
210	1.2DL + 1.5LM-MP12 + 1SWL...	Y...	Y	1	1.2	45	1.5	4	.067	14	.033	15	.058								
211	1.2DL + 1.5LM-MP12 + 1SWL...	Y...	Y	1	1.2	45	1.5	5	.067	14		15	.067								
212	1.2DL + 1.5LM-MP12 + 1SWL...	Y...	Y	1	1.2	45	1.5	6	.067	14	-.0...	15	.058								
213	1.2DL + 1.5LM-MP12 + 1SWL...	Y...	Y	1	1.2	45	1.5	7	.067	14	-.0...	15	.033								
214	1.2DL + 1.5LM-MP12 + 1SWL...	Y...	Y	1	1.2	45	1.5	8	.067	14	-.0...	15									
215	1.2DL + 1.5LM-MP12 + 1SWL...	Y...	Y	1	1.2	45	1.5	9	.067	14	-.0...	15	-.0...								
216	1.2DL + 1.5LM-MP12 + 1SWL...	Y...	Y	1	1.2	45	1.5	10	.067	14	-.0...	15	-.0...								
217	1.2DL + 1.5LM-MP12 + 1SWL...	Y...	Y	1	1.2	45	1.5	11	.067	14		15	-.0...								
218	1.2DL + 1.5LM-MP12 + 1SWL...	Y...	Y	1	1.2	45	1.5	12	.067	14	.033	15	-.0...								
219	1.2DL + 1.5LM-MP12 + 1SWL...	Y...	Y	1	1.2	45	1.5	13	.067	14	.058	15	-.0...								
220	1.2DL + 1.5LM-MP13 + 1SWL...	Y...	Y	1	1.2	46	1.5	2	.067	14	.067	15									
221	1.2DL + 1.5LM-MP13 + 1SWL...	Y...	Y	1	1.2	46	1.5	3	.067	14	.058	15	.033								
222	1.2DL + 1.5LM-MP13 + 1SWL...	Y...	Y	1	1.2	46	1.5	4	.067	14	.033	15	.058								
223	1.2DL + 1.5LM-MP13 + 1SWL...	Y...	Y	1	1.2	46	1.5	5	.067	14		15	.067								
224	1.2DL + 1.5LM-MP13 + 1SWL...	Y...	Y	1	1.2	46	1.5	6	.067	14	-.0...	15	.058								
225	1.2DL + 1.5LM-MP13 + 1SWL...	Y...	Y	1	1.2	46	1.5	7	.067	14	-.0...	15	.033								
226	1.2DL + 1.5LM-MP13 + 1SWL...	Y...	Y	1	1.2	46	1.5	8	.067	14	-.0...	15									
227	1.2DL + 1.5LM-MP13 + 1SWL...	Y...	Y	1	1.2	46	1.5	9	.067	14	-.0...	15	-.0...								
228	1.2DL + 1.5LM-MP13 + 1SWL...	Y...	Y	1	1.2	46	1.5	10	.067	14	-.0...	15	-.0...								
229	1.2DL + 1.5LM-MP13 + 1SWL...	Y...	Y	1	1.2	46	1.5	11	.067	14		15	-.0...								
230	1.2DL + 1.5LM-MP13 + 1SWL...	Y...	Y	1	1.2	46	1.5	12	.067	14	.033	15	-.0...								
231	1.2DL + 1.5LM-MP13 + 1SWL...	Y...	Y	1	1.2	46	1.5	13	.067	14	.058	15	-.0...								
232	1.2DL + 1.5LM-MP14 + 1SWL...	Y...	Y	1	1.2	47	1.5	2	.067	14	.067	15									
233	1.2DL + 1.5LM-MP14 + 1SWL...	Y...	Y	1	1.2	47	1.5	3	.067	14	.058	15	.033								
234	1.2DL + 1.5LM-MP14 + 1SWL...	Y...	Y	1	1.2	47	1.5	4	.067	14	.033	15	.058								
235	1.2DL + 1.5LM-MP14 + 1SWL...	Y...	Y	1	1.2	47	1.5	5	.067	14		15	.067								
236	1.2DL + 1.5LM-MP14 + 1SWL...	Y...	Y	1	1.2	47	1.5	6	.067	14	-.0...	15	.058								
237	1.2DL + 1.5LM-MP14 + 1SWL...	Y...	Y	1	1.2	47	1.5	7	.067	14	-.0...	15	.033								
238	1.2DL + 1.5LM-MP14 + 1SWL...	Y...	Y	1	1.2	47	1.5	8	.067	14	-.0...	15									
239	1.2DL + 1.5LM-MP14 + 1SWL...	Y...	Y	1	1.2	47	1.5	9	.067	14	-.0...	15	-.0...								
240	1.2DL + 1.5LM-MP14 + 1SWL...	Y...	Y	1	1.2	47	1.5	10	.067	14	-.0...	15	-.0...								
241	1.2DL + 1.5LM-MP14 + 1SWL...	Y...	Y	1	1.2	47	1.5	11	.067	14		15	-.0...								
242	1.2DL + 1.5LM-MP14 + 1SWL...	Y...	Y	1	1.2	47	1.5	12	.067	14	.033	15	-.0...								
243	1.2DL + 1.5LM-MP14 + 1SWL...	Y...	Y	1	1.2	47	1.5	13	.067	14	.058	15	-.0...								
244	1.2DL + 1.5LM-MP15 + 1SWL...	Y...	Y	1	1.2	48	1.5	2	.067	14	.067	15									
245	1.2DL + 1.5LM-MP15 + 1SWL...	Y...	Y	1	1.2	48	1.5	3	.067	14	.058	15	.033								
246	1.2DL + 1.5LM-MP15 + 1SWL...	Y...	Y	1	1.2	48	1.5	4	.067	14	.033	15	.058								
247	1.2DL + 1.5LM-MP15 + 1SWL...	Y...	Y	1	1.2	48	1.5	5	.067	14		15	.067								
248	1.2DL + 1.5LM-MP15 + 1SWL...	Y...	Y	1	1.2	48	1.5	6	.067	14	-.0...	15	.058								
249	1.2DL + 1.5LM-MP15 + 1SWL...	Y...	Y	1	1.2	48	1.5	7	.067	14	-.0...	15	.033								
250	1.2DL + 1.5LM-MP15 + 1SWL...	Y...	Y	1	1.2	48	1.5	8	.067	14	-.0...	15									
251	1.2DL + 1.5LM-MP15 + 1SWL...	Y...	Y	1	1.2	48	1.5	9	.067	14	-.0...	15	-.0...								



**Load Combinations (Continued)**

Description	S...	P...	S...B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...
252	1.2DL + 1.5LM-MP15 + 1SWL...	Y...	Y	1	1.2	48	1.5	10	.067	14	-0...	15	-0...								
253	1.2DL + 1.5LM-MP15 + 1SWL...	Y...	Y	1	1.2	48	1.5	11	.067	14		15	-0...								
254	1.2DL + 1.5LM-MP15 + 1SWL...	Y...	Y	1	1.2	48	1.5	12	.067	14	.033	15	-0...								
255	1.2DL + 1.5LM-MP15 + 1SWL...	Y...	Y	1	1.2	48	1.5	13	.067	14	.058	15	-0...								
256	1.2DL + 1.5LM-MP16 + 1SWL...	Y...	Y	1	1.2	49	1.5	2	.067	14	.067	15									
257	1.2DL + 1.5LM-MP16 + 1SWL...	Y...	Y	1	1.2	49	1.5	3	.067	14	.058	15	.033								
258	1.2DL + 1.5LM-MP16 + 1SWL...	Y...	Y	1	1.2	49	1.5	4	.067	14	.033	15	.058								
259	1.2DL + 1.5LM-MP16 + 1SWL...	Y...	Y	1	1.2	49	1.5	5	.067	14		15	.067								
260	1.2DL + 1.5LM-MP16 + 1SWL...	Y...	Y	1	1.2	49	1.5	6	.067	14	-0...	15	.058								
261	1.2DL + 1.5LM-MP16 + 1SWL...	Y...	Y	1	1.2	49	1.5	7	.067	14	-0...	15	.033								
262	1.2DL + 1.5LM-MP16 + 1SWL...	Y...	Y	1	1.2	49	1.5	8	.067	14	-0...	15									
263	1.2DL + 1.5LM-MP16 + 1SWL...	Y...	Y	1	1.2	49	1.5	9	.067	14	-0...	15	-0...								
264	1.2DL + 1.5LM-MP16 + 1SWL...	Y...	Y	1	1.2	49	1.5	10	.067	14	-0...	15	-0...								
265	1.2DL + 1.5LM-MP16 + 1SWL...	Y...	Y	1	1.2	49	1.5	11	.067	14		15	-0...								
266	1.2DL + 1.5LM-MP16 + 1SWL...	Y...	Y	1	1.2	49	1.5	12	.067	14	.033	15	-0...								
267	1.2DL + 1.5LM-MP16 + 1SWL...	Y...	Y	1	1.2	49	1.5	13	.067	14	.058	15	-0...								
268	1.2DL + 1.5LM-MP17 + 1SWL...	Y...	Y	1	1.2	50	1.5	2	.067	14	.067	15									
269	1.2DL + 1.5LM-MP17 + 1SWL...	Y...	Y	1	1.2	50	1.5	3	.067	14	.058	15	.033								
270	1.2DL + 1.5LM-MP17 + 1SWL...	Y...	Y	1	1.2	50	1.5	4	.067	14	.033	15	.058								
271	1.2DL + 1.5LM-MP17 + 1SWL...	Y...	Y	1	1.2	50	1.5	5	.067	14		15	.067								
272	1.2DL + 1.5LM-MP17 + 1SWL...	Y...	Y	1	1.2	50	1.5	6	.067	14	-0...	15	.058								
273	1.2DL + 1.5LM-MP17 + 1SWL...	Y...	Y	1	1.2	50	1.5	7	.067	14	-0...	15	.033								
274	1.2DL + 1.5LM-MP17 + 1SWL...	Y...	Y	1	1.2	50	1.5	8	.067	14	-0...	15									
275	1.2DL + 1.5LM-MP17 + 1SWL...	Y...	Y	1	1.2	50	1.5	9	.067	14	-0...	15	-0...								
276	1.2DL + 1.5LM-MP17 + 1SWL...	Y...	Y	1	1.2	50	1.5	10	.067	14	-0...	15	-0...								
277	1.2DL + 1.5LM-MP17 + 1SWL...	Y...	Y	1	1.2	50	1.5	11	.067	14		15	-0...								
278	1.2DL + 1.5LM-MP17 + 1SWL...	Y...	Y	1	1.2	50	1.5	12	.067	14	.033	15	-0...								
279	1.2DL + 1.5LM-MP17 + 1SWL...	Y...	Y	1	1.2	50	1.5	13	.067	14	.058	15	-0...								
280	1.2DL + 1.5LM-MP18 + 1SWL...	Y...	Y	1	1.2	51	1.5	2	.067	14	.067	15									
281	1.2DL + 1.5LM-MP18 + 1SWL...	Y...	Y	1	1.2	51	1.5	3	.067	14	.058	15	.033								
282	1.2DL + 1.5LM-MP18 + 1SWL...	Y...	Y	1	1.2	51	1.5	4	.067	14	.033	15	.058								
283	1.2DL + 1.5LM-MP18 + 1SWL...	Y...	Y	1	1.2	51	1.5	5	.067	14		15	.067								
284	1.2DL + 1.5LM-MP18 + 1SWL...	Y...	Y	1	1.2	51	1.5	6	.067	14	-0...	15	.058								
285	1.2DL + 1.5LM-MP18 + 1SWL...	Y...	Y	1	1.2	51	1.5	7	.067	14	-0...	15	.033								
286	1.2DL + 1.5LM-MP18 + 1SWL...	Y...	Y	1	1.2	51	1.5	8	.067	14	-0...	15									
287	1.2DL + 1.5LM-MP18 + 1SWL...	Y...	Y	1	1.2	51	1.5	9	.067	14	-0...	15	-0...								
288	1.2DL + 1.5LM-MP18 + 1SWL...	Y...	Y	1	1.2	51	1.5	10	.067	14	-0...	15	-0...								
289	1.2DL + 1.5LM-MP18 + 1SWL...	Y...	Y	1	1.2	51	1.5	11	.067	14		15	-0...								
290	1.2DL + 1.5LM-MP18 + 1SWL...	Y...	Y	1	1.2	51	1.5	12	.067	14	.033	15	-0...								
291	1.2DL + 1.5LM-MP18 + 1SWL...	Y...	Y	1	1.2	51	1.5	13	.067	14	.058	15	-0...								
292	1.2DL + 1.5LM-MP19 + 1SWL...	Y...	Y	1	1.2	52	1.5	2	.067	14	.067	15									
293	1.2DL + 1.5LM-MP19 + 1SWL...	Y...	Y	1	1.2	52	1.5	3	.067	14	.058	15	.033								

**Load Combinations (Continued)**

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...
294	1.2DL + 1.5LM-MP19 + 1SWL...	Y...	Y		1	1.2	52	1.5	4	.067	14	.033	15	.058							
295	1.2DL + 1.5LM-MP19 + 1SWL...	Y...	Y		1	1.2	52	1.5	5	.067	14		15	.067							
296	1.2DL + 1.5LM-MP19 + 1SWL...	Y...	Y		1	1.2	52	1.5	6	.067	14	-.0...	15	.058							
297	1.2DL + 1.5LM-MP19 + 1SWL...	Y...	Y		1	1.2	52	1.5	7	.067	14	-.0...	15	.033							
298	1.2DL + 1.5LM-MP19 + 1SWL...	Y...	Y		1	1.2	52	1.5	8	.067	14	-.0...	15								
299	1.2DL + 1.5LM-MP19 + 1SWL...	Y...	Y		1	1.2	52	1.5	9	.067	14	-.0...	15	-.0...							
300	1.2DL + 1.5LM-MP19 + 1SWL...	Y...	Y		1	1.2	52	1.5	10	.067	14	-.0...	15	-.0...							
301	1.2DL + 1.5LM-MP19 + 1SWL...	Y...	Y		1	1.2	52	1.5	11	.067	14		15	-.0...							
302	1.2DL + 1.5LM-MP19 + 1SWL...	Y...	Y		1	1.2	52	1.5	12	.067	14	.033	15	-.0...							

**Joint Boundary Conditions**

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N59	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N70A	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

**Envelope Joint Reactions**

Joint	X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N1 ... 1775.298	17	2578.7...	31	1448.72	2	800.822	25	1422.086	15	367.758	24
2	... -1818.43	11	180.029	24	-1426.2...	20	-2618.9...	141	-1426.379	21	-4239.632	176
3	N59 ... 1669.62	4	2626.8...	35	1467.2...	2	220.805	15	1485.478	19	4166.422	300
4	... -1627.004	22	205.99	16	-1439.9...	20	-2827.6...	83	-1490.716	25	-682.202	16
5	N70A ... 1491.446	17	2659.24	27	1976.2...	14	4937.04	27	1776.338	23	851.432	276
6	... -1489.249	23	216.453	20	-2026.78	8	-579.237	20	-1780.806	17	-758.662	246
7	Totals: ... 4917.049	17	7467.55	28	4885.9...	2						
8	... -4917.051	23	2586.3...	58	-4885.9...	20						

**Member Point Loads (BLC 1 : Self Weight)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	Y	-30.8	0
2	MP3	Y	-30.8	48
3	MP5	Y	-22	60
4	MP5	Y	-22	91.1
5	MP5	Y	-40.8	0
6	MP5	Y	-40.8	30.39
7	MP6	Y	-47.4	0
8	MP6	Y	-47.4	59
9	MP6	Y	-42.9	12



**Member Point Loads (BLC 1 : Self Weight) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
10	MP6	Y	-71	12
11	MP3	Y	-59.9	12
12	MP3	Y	-72	12
13	MP19	Y	-18.9	6
14	MP9	Y	-34.5	0
15	MP9	Y	-34.5	71.2
16	MP11	Y	-22	60
17	MP11	Y	-22	91.1
18	MP11	Y	-40.8	0
19	MP11	Y	-40.8	30.39
20	MP12	Y	-54.3	0
21	MP12	Y	-54.3	78.7
22	MP12	Y	-42.9	12
23	MP12	Y	-71	12
24	MP9	Y	-59.9	12
25	MP9	Y	-72	12
26	MP20	Y	-18.9	6
27	MP15	Y	-34.5	0
28	MP15	Y	-34.5	71.2
29	MP17	Y	-22	60
30	MP17	Y	-22	91.1
31	MP17	Y	-40.8	0
32	MP17	Y	-40.8	30.39
33	MP18	Y	-54.3	0
34	MP18	Y	-54.3	78.7
35	MP18	Y	-42.9	12
36	MP18	Y	-71	12
37	MP15	Y	-59.9	12
38	MP15	Y	-72	12
39	MP21	Y	-18.9	6

**Member Point Loads (BLC 2 : Wind Load AZI 0)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	0	0
2	MP3	Z	-126.88	0
3	MP3	X	0	48
4	MP3	Z	-126.88	48
5	MP5	X	0	60
6	MP5	Z	-73.19	60
7	MP5	X	0	91.1
8	MP5	Z	-73.19	91.1
9	MP5	X	0	0



**Member Point Loads (BLC 2 : Wind Load AZI 0) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
10	MP5	Z	-56.95	0
11	MP5	X	0	30.39
12	MP5	Z	-56.95	30.39
13	MP6	X	0	0
14	MP6	Z	-135.06	0
15	MP6	X	0	59
16	MP6	Z	-135.06	59
17	MP6	X	0	12
18	MP6	Z	-51.83	12
19	MP6	X	0	12
20	MP6	Z	-62.07	12
21	MP3	X	0	12
22	MP3	Z	-58.12	12
23	MP3	X	0	12
24	MP3	Z	-51.71	12
25	MP19	X	0	6
26	MP19	Z	-64.34	6
27	MP9	X	0	0
28	MP9	Z	-99.84	0
29	MP9	X	0	71.2
30	MP9	Z	-99.84	71.2
31	MP11	X	0	60
32	MP11	Z	-40.42	60
33	MP11	X	0	91.1
34	MP11	Z	-40.42	91.1
35	MP11	X	0	0
36	MP11	Z	-34.42	0
37	MP11	X	0	30.39
38	MP11	Z	-34.42	30.39
39	MP12	X	0	0
40	MP12	Z	-97.83	0
41	MP12	X	0	78.7
42	MP12	Z	-97.83	78.7
43	MP12	X	0	12
44	MP12	Z	-28.08	12
45	MP12	X	0	12
46	MP12	Z	-48.83	12
47	MP9	X	0	12
48	MP9	Z	-39.58	12
49	MP9	X	0	12
50	MP9	Z	-44.95	12
51	MP20	X	0	6



**Member Point Loads (BLC 2 : Wind Load AZI 0) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
52	MP20	Z	-64.34	6
53	MP15	X	0	0
54	MP15	Z	-99.84	0
55	MP15	X	0	71.2
56	MP15	Z	-99.84	71.2
57	MP17	X	0	60
58	MP17	Z	-40.42	60
59	MP17	X	0	91.1
60	MP17	Z	-40.42	91.1
61	MP17	X	0	0
62	MP17	Z	-34.42	0
63	MP17	X	0	30.39
64	MP17	Z	-34.42	30.39
65	MP18	X	0	0
66	MP18	Z	-97.83	0
67	MP18	X	0	78.7
68	MP18	Z	-97.83	78.7
69	MP18	X	0	12
70	MP18	Z	-28.08	12
71	MP18	X	0	12
72	MP18	Z	-48.83	12
73	MP15	X	0	12
74	MP15	Z	-39.58	12
75	MP15	X	0	12
76	MP15	Z	-44.95	12
77	MP21	X	0	6
78	MP21	Z	-64.34	6

**Member Point Loads (BLC 3 : Wind Load AZI 30)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	-53.46	0
2	MP3	Z	-92.6	0
3	MP3	X	-53.46	48
4	MP3	Z	-92.6	48
5	MP5	X	-31.13	60
6	MP5	Z	-53.92	60
7	MP5	X	-31.13	91.1
8	MP5	Z	-53.92	91.1
9	MP5	X	-24.72	0
10	MP5	Z	-42.82	0
11	MP5	X	-24.72	30.39
12	MP5	Z	-42.82	30.39



**Member Point Loads (BLC 3 : Wind Load AZI 30) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
13	MP6	X	-56.47	0
14	MP6	Z	-97.81	0
15	MP6	X	-56.47	59
16	MP6	Z	-97.81	59
17	MP6	X	-21.96	12
18	MP6	Z	-38.03	12
19	MP6	X	-28.83	12
20	MP6	Z	-49.93	12
21	MP3	X	-25.97	12
22	MP3	Z	-44.98	12
23	MP3	X	-24.73	12
24	MP3	Z	-42.83	12
25	MP19	X	-32.17	6
26	MP19	Z	-55.72	6
27	MP9	X	-79.24	0
28	MP9	Z	-137.25	0
29	MP9	X	-79.24	71.2
30	MP9	Z	-137.25	71.2
31	MP11	X	-31.13	60
32	MP11	Z	-53.92	60
33	MP11	X	-31.13	91.1
34	MP11	Z	-53.92	91.1
35	MP11	X	-24.72	0
36	MP11	Z	-42.82	0
37	MP11	X	-24.72	30.39
38	MP11	Z	-42.82	30.39
39	MP12	X	-80.48	0
40	MP12	Z	-139.39	0
41	MP12	X	-80.48	78.7
42	MP12	Z	-139.39	78.7
43	MP12	X	-21.96	12
44	MP12	Z	-38.03	12
45	MP12	X	-28.83	12
46	MP12	Z	-49.93	12
47	MP9	X	-25.97	12
48	MP9	Z	-44.98	12
49	MP9	X	-24.73	12
50	MP9	Z	-42.83	12
51	MP20	X	-32.17	6
52	MP20	Z	-55.72	6
53	MP15	X	-35.26	0
54	MP15	Z	-61.07	0





**Member Point Loads (BLC 3 : Wind Load AZI 30) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
55	MP15	X	-35.26	71.2
56	MP15	Z	-61.07	71.2
57	MP17	X	-14.75	60
58	MP17	Z	-25.54	60
59	MP17	X	-14.75	91.1
60	MP17	Z	-25.54	91.1
61	MP17	X	-13.45	0
62	MP17	Z	-23.3	0
63	MP17	X	-13.45	30.39
64	MP17	Z	-23.3	30.39
65	MP18	X	-33.14	0
66	MP18	Z	-57.39	0
67	MP18	X	-33.14	78.7
68	MP18	Z	-57.39	78.7
69	MP18	X	-10.08	12
70	MP18	Z	-17.46	12
71	MP18	X	-22.21	12
72	MP18	Z	-38.47	12
73	MP15	X	-16.7	12
74	MP15	Z	-28.93	12
75	MP15	X	-21.35	12
76	MP15	Z	-36.98	12
77	MP21	X	-32.17	6
78	MP21	Z	-55.72	6

**Member Point Loads (BLC 4 : Wind Load AZI 60)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	-58.04	0
2	MP3	Z	-33.51	0
3	MP3	X	-58.04	48
4	MP3	Z	-33.51	48
5	MP5	X	-35	60
6	MP5	Z	-20.21	60
7	MP5	X	-35	91.1
8	MP5	Z	-20.21	91.1
9	MP5	X	-29.81	0
10	MP5	Z	-17.21	0
11	MP5	X	-29.81	30.39
12	MP5	Z	-17.21	30.39
13	MP6	X	-59.51	0
14	MP6	Z	-34.36	0
15	MP6	X	-59.51	59



**Member Point Loads (BLC 4 : Wind Load AZI 60) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
16	MP6	Z	-34.36	59
17	MP6	X	-24.32	12
18	MP6	Z	-14.04	12
19	MP6	X	-42.29	12
20	MP6	Z	-24.42	12
21	MP3	X	-34.28	12
22	MP3	Z	-19.79	12
23	MP3	X	-38.93	12
24	MP3	Z	-22.47	12
25	MP19	X	-55.72	6
26	MP19	Z	-32.17	6
27	MP9	X	-162.64	0
28	MP9	Z	-93.9	0
29	MP9	X	-162.64	71.2
30	MP9	Z	-93.9	71.2
31	MP11	X	-63.38	60
32	MP11	Z	-36.59	60
33	MP11	X	-63.38	91.1
34	MP11	Z	-36.59	91.1
35	MP11	X	-49.32	0
36	MP11	Z	-28.47	0
37	MP11	X	-49.32	30.39
38	MP11	Z	-28.47	30.39
39	MP12	X	-166.73	0
40	MP12	Z	-96.26	0
41	MP12	X	-166.73	78.7
42	MP12	Z	-96.26	78.7
43	MP12	X	-44.89	12
44	MP12	Z	-25.92	12
45	MP12	X	-53.75	12
46	MP12	Z	-31.03	12
47	MP9	X	-50.34	12
48	MP9	Z	-29.06	12
49	MP9	X	-44.78	12
50	MP9	Z	-25.85	12
51	MP20	X	-55.72	6
52	MP20	Z	-32.17	6
53	MP15	X	-86.46	0
54	MP15	Z	-49.92	0
55	MP15	X	-86.46	71.2
56	MP15	Z	-49.92	71.2
57	MP17	X	-35	60



**Member Point Loads (BLC 4 : Wind Load AZI 60) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
58	MP17	Z	-20.21	60
59	MP17	X	-35	91.1
60	MP17	Z	-20.21	91.1
61	MP17	X	-29.81	0
62	MP17	Z	-17.21	0
63	MP17	X	-29.81	30.39
64	MP17	Z	-17.21	30.39
65	MP18	X	-84.73	0
66	MP18	Z	-48.92	0
67	MP18	X	-84.73	78.7
68	MP18	Z	-48.92	78.7
69	MP18	X	-24.32	12
70	MP18	Z	-14.04	12
71	MP18	X	-42.29	12
72	MP18	Z	-24.42	12
73	MP15	X	-34.28	12
74	MP15	Z	-19.79	12
75	MP15	X	-38.93	12
76	MP15	Z	-22.47	12
77	MP21	X	-55.72	6
78	MP21	Z	-32.17	6

**Member Point Loads (BLC 5 : Wind Load AZI 90)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	-47.07	0
2	MP3	Z	0	0
3	MP3	X	-47.07	48
4	MP3	Z	0	48
5	MP5	X	-29.5	60
6	MP5	Z	0	60
7	MP5	X	-29.5	91.1
8	MP5	Z	0	91.1
9	MP5	X	-26.91	0
10	MP5	Z	0	0
11	MP5	X	-26.91	30.39
12	MP5	Z	0	30.39
13	MP6	X	-46.6	0
14	MP6	Z	0	0
15	MP6	X	-46.6	59
16	MP6	Z	0	59
17	MP6	X	-20.17	12
18	MP6	Z	0	12



**Member Point Loads (BLC 5 : Wind Load AZI 90) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
19	MP6	X	-44.42	12
20	MP6	Z	0	12
21	MP3	X	-33.4	12
22	MP3	Z	0	12
23	MP3	X	-42.7	12
24	MP3	Z	0	12
25	MP19	X	-64.34	6
26	MP19	Z	0	6
27	MP9	X	-158.48	0
28	MP9	Z	0	0
29	MP9	X	-158.48	71.2
30	MP9	Z	0	71.2
31	MP11	X	-62.27	60
32	MP11	Z	0	60
33	MP11	X	-62.27	91.1
34	MP11	Z	0	91.1
35	MP11	X	-49.44	0
36	MP11	Z	0	0
37	MP11	X	-49.44	30.39
38	MP11	Z	0	30.39
39	MP12	X	-160.96	0
40	MP12	Z	0	0
41	MP12	X	-160.96	78.7
42	MP12	Z	0	78.7
43	MP12	X	-43.92	12
44	MP12	Z	0	12
45	MP12	X	-57.66	12
46	MP12	Z	0	12
47	MP9	X	-51.94	12
48	MP9	Z	0	12
49	MP9	X	-49.45	12
50	MP9	Z	0	12
51	MP20	X	-64.34	6
52	MP20	Z	0	6
53	MP15	X	-158.48	0
54	MP15	Z	0	0
55	MP15	X	-158.48	71.2
56	MP15	Z	0	71.2
57	MP17	X	-62.27	60
58	MP17	Z	0	60
59	MP17	X	-62.27	91.1
60	MP17	Z	0	91.1



**Member Point Loads (BLC 5 : Wind Load AZI 90) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
61	MP17	X	-49.44	0
62	MP17	Z	0	0
63	MP17	X	-49.44	30.39
64	MP17	Z	0	30.39
65	MP18	X	-160.96	0
66	MP18	Z	0	0
67	MP18	X	-160.96	78.7
68	MP18	Z	0	78.7
69	MP18	X	-43.92	12
70	MP18	Z	0	12
71	MP18	X	-57.66	12
72	MP18	Z	0	12
73	MP15	X	-51.94	12
74	MP15	Z	0	12
75	MP15	X	-49.45	12
76	MP15	Z	0	12
77	MP21	X	-64.34	6
78	MP21	Z	0	6

**Member Point Loads (BLC 6 : Wind Load AZI 120)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-58.04	0
2	MP3	Z	33.51	0
3	MP3	X	-58.04	48
4	MP3	Z	33.51	48
5	MP5	X	-35	60
6	MP5	Z	20.21	60
7	MP5	X	-35	91.1
8	MP5	Z	20.21	91.1
9	MP5	X	-29.81	0
10	MP5	Z	17.21	0
11	MP5	X	-29.81	30.39
12	MP5	Z	17.21	30.39
13	MP6	X	-59.51	0
14	MP6	Z	34.36	0
15	MP6	X	-59.51	59
16	MP6	Z	34.36	59
17	MP6	X	-24.32	12
18	MP6	Z	14.04	12
19	MP6	X	-42.29	12
20	MP6	Z	24.42	12
21	MP3	X	-34.28	12



**Member Point Loads (BLC 6 : Wind Load AZI 120) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
22	MP3	Z	19.79	12
23	MP3	X	-38.93	12
24	MP3	Z	22.47	12
25	MP19	X	-55.72	6
26	MP19	Z	32.17	6
27	MP9	X	-86.46	0
28	MP9	Z	49.92	0
29	MP9	X	-86.46	71.2
30	MP9	Z	49.92	71.2
31	MP11	X	-35	60
32	MP11	Z	20.21	60
33	MP11	X	-35	91.1
34	MP11	Z	20.21	91.1
35	MP11	X	-29.81	0
36	MP11	Z	17.21	0
37	MP11	X	-29.81	30.39
38	MP11	Z	17.21	30.39
39	MP12	X	-84.73	0
40	MP12	Z	48.92	0
41	MP12	X	-84.73	78.7
42	MP12	Z	48.92	78.7
43	MP12	X	-24.32	12
44	MP12	Z	14.04	12
45	MP12	X	-42.29	12
46	MP12	Z	24.42	12
47	MP9	X	-34.28	12
48	MP9	Z	19.79	12
49	MP9	X	-38.93	12
50	MP9	Z	22.47	12
51	MP20	X	-55.72	6
52	MP20	Z	32.17	6
53	MP15	X	-162.64	0
54	MP15	Z	93.9	0
55	MP15	X	-162.64	71.2
56	MP15	Z	93.9	71.2
57	MP17	X	-63.38	60
58	MP17	Z	36.59	60
59	MP17	X	-63.38	91.1
60	MP17	Z	36.59	91.1
61	MP17	X	-49.32	0
62	MP17	Z	28.47	0
63	MP17	X	-49.32	30.39



**Member Point Loads (BLC 6 : Wind Load AZI 120) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
64	MP17	Z	28.47	30.39
65	MP18	X	-166.73	0
66	MP18	Z	96.26	0
67	MP18	X	-166.73	78.7
68	MP18	Z	96.26	78.7
69	MP18	X	-44.89	12
70	MP18	Z	25.92	12
71	MP18	X	-53.75	12
72	MP18	Z	31.03	12
73	MP15	X	-50.34	12
74	MP15	Z	29.06	12
75	MP15	X	-44.78	12
76	MP15	Z	25.85	12
77	MP21	X	-55.72	6
78	MP21	Z	32.17	6

**Member Point Loads (BLC 7 : Wind Load AZI 150)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	-53.46	0
2	MP3	Z	92.6	0
3	MP3	X	-53.46	48
4	MP3	Z	92.6	48
5	MP5	X	-31.13	60
6	MP5	Z	53.92	60
7	MP5	X	-31.13	91.1
8	MP5	Z	53.92	91.1
9	MP5	X	-24.72	0
10	MP5	Z	42.82	0
11	MP5	X	-24.72	30.39
12	MP5	Z	42.82	30.39
13	MP6	X	-56.47	0
14	MP6	Z	97.81	0
15	MP6	X	-56.47	59
16	MP6	Z	97.81	59
17	MP6	X	-21.96	12
18	MP6	Z	38.03	12
19	MP6	X	-28.83	12
20	MP6	Z	49.93	12
21	MP3	X	-25.97	12
22	MP3	Z	44.98	12
23	MP3	X	-24.73	12
24	MP3	Z	42.83	12



**Member Point Loads (BLC 7 : Wind Load AZI 150) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
25	MP19	X	-32.17	6
26	MP19	Z	55.72	6
27	MP9	X	-35.26	0
28	MP9	Z	61.07	0
29	MP9	X	-35.26	71.2
30	MP9	Z	61.07	71.2
31	MP11	X	-14.75	60
32	MP11	Z	25.54	60
33	MP11	X	-14.75	91.1
34	MP11	Z	25.54	91.1
35	MP11	X	-13.45	0
36	MP11	Z	23.3	0
37	MP11	X	-13.45	30.39
38	MP11	Z	23.3	30.39
39	MP12	X	-33.14	0
40	MP12	Z	57.39	0
41	MP12	X	-33.14	78.7
42	MP12	Z	57.39	78.7
43	MP12	X	-10.08	12
44	MP12	Z	17.46	12
45	MP12	X	-22.21	12
46	MP12	Z	38.47	12
47	MP9	X	-16.7	12
48	MP9	Z	28.93	12
49	MP9	X	-21.35	12
50	MP9	Z	36.98	12
51	MP20	X	-32.17	6
52	MP20	Z	55.72	6
53	MP15	X	-79.24	0
54	MP15	Z	137.25	0
55	MP15	X	-79.24	71.2
56	MP15	Z	137.25	71.2
57	MP17	X	-31.13	60
58	MP17	Z	53.92	60
59	MP17	X	-31.13	91.1
60	MP17	Z	53.92	91.1
61	MP17	X	-24.72	0
62	MP17	Z	42.82	0
63	MP17	X	-24.72	30.39
64	MP17	Z	42.82	30.39
65	MP18	X	-80.48	0
66	MP18	Z	139.39	0





**Member Point Loads (BLC 7 : Wind Load AZI 150) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
67	MP18	X	-80.48	78.7
68	MP18	Z	139.39	78.7
69	MP18	X	-21.96	12
70	MP18	Z	38.03	12
71	MP18	X	-28.83	12
72	MP18	Z	49.93	12
73	MP15	X	-25.97	12
74	MP15	Z	44.98	12
75	MP15	X	-24.73	12
76	MP15	Z	42.83	12
77	MP21	X	-32.17	6
78	MP21	Z	55.72	6

**Member Point Loads (BLC 8 : Wind Load AZI 180)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	0	0
2	MP3	Z	126.88	0
3	MP3	X	0	48
4	MP3	Z	126.88	48
5	MP5	X	0	60
6	MP5	Z	73.19	60
7	MP5	X	0	91.1
8	MP5	Z	73.19	91.1
9	MP5	X	0	0
10	MP5	Z	56.95	0
11	MP5	X	0	30.39
12	MP5	Z	56.95	30.39
13	MP6	X	0	0
14	MP6	Z	135.06	0
15	MP6	X	0	59
16	MP6	Z	135.06	59
17	MP6	X	0	12
18	MP6	Z	51.83	12
19	MP6	X	0	12
20	MP6	Z	62.07	12
21	MP3	X	0	12
22	MP3	Z	58.12	12
23	MP3	X	0	12
24	MP3	Z	51.71	12
25	MP19	X	0	6
26	MP19	Z	64.34	6
27	MP9	X	0	0



**Member Point Loads (BLC 8 : Wind Load AZI 180) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
28	MP9	Z	99.84	0
29	MP9	X	0	71.2
30	MP9	Z	99.84	71.2
31	MP11	X	0	60
32	MP11	Z	40.42	60
33	MP11	X	0	91.1
34	MP11	Z	40.42	91.1
35	MP11	X	0	0
36	MP11	Z	34.42	0
37	MP11	X	0	30.39
38	MP11	Z	34.42	30.39
39	MP12	X	0	0
40	MP12	Z	97.83	0
41	MP12	X	0	78.7
42	MP12	Z	97.83	78.7
43	MP12	X	0	12
44	MP12	Z	28.08	12
45	MP12	X	0	12
46	MP12	Z	48.83	12
47	MP9	X	0	12
48	MP9	Z	39.58	12
49	MP9	X	0	12
50	MP9	Z	44.95	12
51	MP20	X	0	6
52	MP20	Z	64.34	6
53	MP15	X	0	0
54	MP15	Z	99.84	0
55	MP15	X	0	71.2
56	MP15	Z	99.84	71.2
57	MP17	X	0	60
58	MP17	Z	40.42	60
59	MP17	X	0	91.1
60	MP17	Z	40.42	91.1
61	MP17	X	0	0
62	MP17	Z	34.42	0
63	MP17	X	0	30.39
64	MP17	Z	34.42	30.39
65	MP18	X	0	0
66	MP18	Z	97.83	0
67	MP18	X	0	78.7
68	MP18	Z	97.83	78.7
69	MP18	X	0	12



**Member Point Loads (BLC 8 : Wind Load AZI 180) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
70	MP18	Z	28.08	12
71	MP18	X	0	12
72	MP18	Z	48.83	12
73	MP15	X	0	12
74	MP15	Z	39.58	12
75	MP15	X	0	12
76	MP15	Z	44.95	12
77	MP21	X	0	6
78	MP21	Z	64.34	6

**Member Point Loads (BLC 9 : Wind Load AZI 210)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	53.46	0
2	MP3	Z	92.6	0
3	MP3	X	53.46	48
4	MP3	Z	92.6	48
5	MP5	X	31.13	60
6	MP5	Z	53.92	60
7	MP5	X	31.13	91.1
8	MP5	Z	53.92	91.1
9	MP5	X	24.72	0
10	MP5	Z	42.82	0
11	MP5	X	24.72	30.39
12	MP5	Z	42.82	30.39
13	MP6	X	56.47	0
14	MP6	Z	97.81	0
15	MP6	X	56.47	59
16	MP6	Z	97.81	59
17	MP6	X	21.96	12
18	MP6	Z	38.03	12
19	MP6	X	28.83	12
20	MP6	Z	49.93	12
21	MP3	X	25.97	12
22	MP3	Z	44.98	12
23	MP3	X	24.73	12
24	MP3	Z	42.83	12
25	MP19	X	32.17	6
26	MP19	Z	55.72	6
27	MP9	X	79.24	0
28	MP9	Z	137.25	0
29	MP9	X	79.24	71.2
30	MP9	Z	137.25	71.2



**Member Point Loads (BLC 9 : Wind Load AZI 210) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
31	MP11	X	31.13	60
32	MP11	Z	53.92	60
33	MP11	X	31.13	91.1
34	MP11	Z	53.92	91.1
35	MP11	X	24.72	0
36	MP11	Z	42.82	0
37	MP11	X	24.72	30.39
38	MP11	Z	42.82	30.39
39	MP12	X	80.48	0
40	MP12	Z	139.39	0
41	MP12	X	80.48	78.7
42	MP12	Z	139.39	78.7
43	MP12	X	21.96	12
44	MP12	Z	38.03	12
45	MP12	X	28.83	12
46	MP12	Z	49.93	12
47	MP9	X	25.97	12
48	MP9	Z	44.98	12
49	MP9	X	24.73	12
50	MP9	Z	42.83	12
51	MP20	X	32.17	6
52	MP20	Z	55.72	6
53	MP15	X	35.26	0
54	MP15	Z	61.07	0
55	MP15	X	35.26	71.2
56	MP15	Z	61.07	71.2
57	MP17	X	14.75	60
58	MP17	Z	25.54	60
59	MP17	X	14.75	91.1
60	MP17	Z	25.54	91.1
61	MP17	X	13.45	0
62	MP17	Z	23.3	0
63	MP17	X	13.45	30.39
64	MP17	Z	23.3	30.39
65	MP18	X	33.14	0
66	MP18	Z	57.39	0
67	MP18	X	33.14	78.7
68	MP18	Z	57.39	78.7
69	MP18	X	10.08	12
70	MP18	Z	17.46	12
71	MP18	X	22.21	12
72	MP18	Z	38.47	12



**Member Point Loads (BLC 9 : Wind Load AZI 210) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
73	MP15	X	16.7	12
74	MP15	Z	28.93	12
75	MP15	X	21.35	12
76	MP15	Z	36.98	12
77	MP21	X	32.17	6
78	MP21	Z	55.72	6

**Member Point Loads (BLC 10 : Wind Load AZI 240)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	58.04	0
2	MP3	Z	33.51	0
3	MP3	X	58.04	48
4	MP3	Z	33.51	48
5	MP5	X	35	60
6	MP5	Z	20.21	60
7	MP5	X	35	91.1
8	MP5	Z	20.21	91.1
9	MP5	X	29.81	0
10	MP5	Z	17.21	0
11	MP5	X	29.81	30.39
12	MP5	Z	17.21	30.39
13	MP6	X	59.51	0
14	MP6	Z	34.36	0
15	MP6	X	59.51	59
16	MP6	Z	34.36	59
17	MP6	X	24.32	12
18	MP6	Z	14.04	12
19	MP6	X	42.29	12
20	MP6	Z	24.42	12
21	MP3	X	34.28	12
22	MP3	Z	19.79	12
23	MP3	X	38.93	12
24	MP3	Z	22.47	12
25	MP19	X	55.72	6
26	MP19	Z	32.17	6
27	MP9	X	162.64	0
28	MP9	Z	93.9	0
29	MP9	X	162.64	71.2
30	MP9	Z	93.9	71.2
31	MP11	X	63.38	60
32	MP11	Z	36.59	60
33	MP11	X	63.38	91.1



**Member Point Loads (BLC 10 : Wind Load AZI 240) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
34	MP11	Z	36.59	91.1
35	MP11	X	49.32	0
36	MP11	Z	28.47	0
37	MP11	X	49.32	30.39
38	MP11	Z	28.47	30.39
39	MP12	X	166.73	0
40	MP12	Z	96.26	0
41	MP12	X	166.73	78.7
42	MP12	Z	96.26	78.7
43	MP12	X	44.89	12
44	MP12	Z	25.92	12
45	MP12	X	53.75	12
46	MP12	Z	31.03	12
47	MP9	X	50.34	12
48	MP9	Z	29.06	12
49	MP9	X	44.78	12
50	MP9	Z	25.85	12
51	MP20	X	55.72	6
52	MP20	Z	32.17	6
53	MP15	X	86.46	0
54	MP15	Z	49.92	0
55	MP15	X	86.46	71.2
56	MP15	Z	49.92	71.2
57	MP17	X	35	60
58	MP17	Z	20.21	60
59	MP17	X	35	91.1
60	MP17	Z	20.21	91.1
61	MP17	X	29.81	0
62	MP17	Z	17.21	0
63	MP17	X	29.81	30.39
64	MP17	Z	17.21	30.39
65	MP18	X	84.73	0
66	MP18	Z	48.92	0
67	MP18	X	84.73	78.7
68	MP18	Z	48.92	78.7
69	MP18	X	24.32	12
70	MP18	Z	14.04	12
71	MP18	X	42.29	12
72	MP18	Z	24.42	12
73	MP15	X	34.28	12
74	MP15	Z	19.79	12
75	MP15	X	38.93	12



**Member Point Loads (BLC 10 : Wind Load AZI 240) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
76	MP15	Z	22.47	12
77	MP21	X	55.72	6
78	MP21	Z	32.17	6

**Member Point Loads (BLC 11 : Wind Load AZI 270)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	47.07	0
2	MP3	Z	0	0
3	MP3	X	47.07	48
4	MP3	Z	0	48
5	MP5	X	29.5	60
6	MP5	Z	0	60
7	MP5	X	29.5	91.1
8	MP5	Z	0	91.1
9	MP5	X	26.91	0
10	MP5	Z	0	0
11	MP5	X	26.91	30.39
12	MP5	Z	0	30.39
13	MP6	X	46.6	0
14	MP6	Z	0	0
15	MP6	X	46.6	59
16	MP6	Z	0	59
17	MP6	X	20.17	12
18	MP6	Z	0	12
19	MP6	X	44.42	12
20	MP6	Z	0	12
21	MP3	X	33.4	12
22	MP3	Z	0	12
23	MP3	X	42.7	12
24	MP3	Z	0	12
25	MP19	X	64.34	6
26	MP19	Z	0	6
27	MP9	X	158.48	0
28	MP9	Z	0	0
29	MP9	X	158.48	71.2
30	MP9	Z	0	71.2
31	MP11	X	62.27	60
32	MP11	Z	0	60
33	MP11	X	62.27	91.1
34	MP11	Z	0	91.1
35	MP11	X	49.44	0
36	MP11	Z	0	0



**Member Point Loads (BLC 11 : Wind Load AZI 270) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
37	MP11	X	49.44	30.39
38	MP11	Z	0	30.39
39	MP12	X	160.96	0
40	MP12	Z	0	0
41	MP12	X	160.96	78.7
42	MP12	Z	0	78.7
43	MP12	X	43.92	12
44	MP12	Z	0	12
45	MP12	X	57.66	12
46	MP12	Z	0	12
47	MP9	X	51.94	12
48	MP9	Z	0	12
49	MP9	X	49.45	12
50	MP9	Z	0	12
51	MP20	X	64.34	6
52	MP20	Z	0	6
53	MP15	X	158.48	0
54	MP15	Z	0	0
55	MP15	X	158.48	71.2
56	MP15	Z	0	71.2
57	MP17	X	62.27	60
58	MP17	Z	0	60
59	MP17	X	62.27	91.1
60	MP17	Z	0	91.1
61	MP17	X	49.44	0
62	MP17	Z	0	0
63	MP17	X	49.44	30.39
64	MP17	Z	0	30.39
65	MP18	X	160.96	0
66	MP18	Z	0	0
67	MP18	X	160.96	78.7
68	MP18	Z	0	78.7
69	MP18	X	43.92	12
70	MP18	Z	0	12
71	MP18	X	57.66	12
72	MP18	Z	0	12
73	MP15	X	51.94	12
74	MP15	Z	0	12
75	MP15	X	49.45	12
76	MP15	Z	0	12
77	MP21	X	64.34	6
78	MP21	Z	0	6





**Member Point Loads (BLC 12 : Wind Load AZI 300)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	58.04	0
2	MP3	Z	-33.51	0
3	MP3	X	58.04	48
4	MP3	Z	-33.51	48
5	MP5	X	35	60
6	MP5	Z	-20.21	60
7	MP5	X	35	91.1
8	MP5	Z	-20.21	91.1
9	MP5	X	29.81	0
10	MP5	Z	-17.21	0
11	MP5	X	29.81	30.39
12	MP5	Z	-17.21	30.39
13	MP6	X	59.51	0
14	MP6	Z	-34.36	0
15	MP6	X	59.51	59
16	MP6	Z	-34.36	59
17	MP6	X	24.32	12
18	MP6	Z	-14.04	12
19	MP6	X	42.29	12
20	MP6	Z	-24.42	12
21	MP3	X	34.28	12
22	MP3	Z	-19.79	12
23	MP3	X	38.93	12
24	MP3	Z	-22.47	12
25	MP19	X	55.72	6
26	MP19	Z	-32.17	6
27	MP9	X	86.46	0
28	MP9	Z	-49.92	0
29	MP9	X	86.46	71.2
30	MP9	Z	-49.92	71.2
31	MP11	X	35	60
32	MP11	Z	-20.21	60
33	MP11	X	35	91.1
34	MP11	Z	-20.21	91.1
35	MP11	X	29.81	0
36	MP11	Z	-17.21	0
37	MP11	X	29.81	30.39
38	MP11	Z	-17.21	30.39
39	MP12	X	84.73	0
40	MP12	Z	-48.92	0
41	MP12	X	84.73	78.7
42	MP12	Z	-48.92	78.7



**Member Point Loads (BLC 12 : Wind Load AZI 300) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
43	MP12	X	24.32	12
44	MP12	Z	-14.04	12
45	MP12	X	42.29	12
46	MP12	Z	-24.42	12
47	MP9	X	34.28	12
48	MP9	Z	-19.79	12
49	MP9	X	38.93	12
50	MP9	Z	-22.47	12
51	MP20	X	55.72	6
52	MP20	Z	-32.17	6
53	MP15	X	162.64	0
54	MP15	Z	-93.9	0
55	MP15	X	162.64	71.2
56	MP15	Z	-93.9	71.2
57	MP17	X	63.38	60
58	MP17	Z	-36.59	60
59	MP17	X	63.38	91.1
60	MP17	Z	-36.59	91.1
61	MP17	X	49.32	0
62	MP17	Z	-28.47	0
63	MP17	X	49.32	30.39
64	MP17	Z	-28.47	30.39
65	MP18	X	166.73	0
66	MP18	Z	-96.26	0
67	MP18	X	166.73	78.7
68	MP18	Z	-96.26	78.7
69	MP18	X	44.89	12
70	MP18	Z	-25.92	12
71	MP18	X	53.75	12
72	MP18	Z	-31.03	12
73	MP15	X	50.34	12
74	MP15	Z	-29.06	12
75	MP15	X	44.78	12
76	MP15	Z	-25.85	12
77	MP21	X	55.72	6
78	MP21	Z	-32.17	6

**Member Point Loads (BLC 13 : Wind Load AZI 330)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	53.46	0
2	MP3	Z	-92.6	0
3	MP3	X	53.46	48



**Member Point Loads (BLC 13 : Wind Load AZI 330) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
4	MP3	Z	-92.6	48
5	MP5	X	31.13	60
6	MP5	Z	-53.92	60
7	MP5	X	31.13	91.1
8	MP5	Z	-53.92	91.1
9	MP5	X	24.72	0
10	MP5	Z	-42.82	0
11	MP5	X	24.72	30.39
12	MP5	Z	-42.82	30.39
13	MP6	X	56.47	0
14	MP6	Z	-97.81	0
15	MP6	X	56.47	59
16	MP6	Z	-97.81	59
17	MP6	X	21.96	12
18	MP6	Z	-38.03	12
19	MP6	X	28.83	12
20	MP6	Z	-49.93	12
21	MP3	X	25.97	12
22	MP3	Z	-44.98	12
23	MP3	X	24.73	12
24	MP3	Z	-42.83	12
25	MP19	X	32.17	6
26	MP19	Z	-55.72	6
27	MP9	X	35.26	0
28	MP9	Z	-61.07	0
29	MP9	X	35.26	71.2
30	MP9	Z	-61.07	71.2
31	MP11	X	14.75	60
32	MP11	Z	-25.54	60
33	MP11	X	14.75	91.1
34	MP11	Z	-25.54	91.1
35	MP11	X	13.45	0
36	MP11	Z	-23.3	0
37	MP11	X	13.45	30.39
38	MP11	Z	-23.3	30.39
39	MP12	X	33.14	0
40	MP12	Z	-57.39	0
41	MP12	X	33.14	78.7
42	MP12	Z	-57.39	78.7
43	MP12	X	10.08	12
44	MP12	Z	-17.46	12
45	MP12	X	22.21	12



**Member Point Loads (BLC 13 : Wind Load AZI 330) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
46	MP12	Z	-38.47	12
47	MP9	X	16.7	12
48	MP9	Z	-28.93	12
49	MP9	X	21.35	12
50	MP9	Z	-36.98	12
51	MP20	X	32.17	6
52	MP20	Z	-55.72	6
53	MP15	X	79.24	0
54	MP15	Z	-137.25	0
55	MP15	X	79.24	71.2
56	MP15	Z	-137.25	71.2
57	MP17	X	31.13	60
58	MP17	Z	-53.92	60
59	MP17	X	31.13	91.1
60	MP17	Z	-53.92	91.1
61	MP17	X	24.72	0
62	MP17	Z	-42.82	0
63	MP17	X	24.72	30.39
64	MP17	Z	-42.82	30.39
65	MP18	X	80.48	0
66	MP18	Z	-139.39	0
67	MP18	X	80.48	78.7
68	MP18	Z	-139.39	78.7
69	MP18	X	21.96	12
70	MP18	Z	-38.03	12
71	MP18	X	28.83	12
72	MP18	Z	-49.93	12
73	MP15	X	25.97	12
74	MP15	Z	-44.98	12
75	MP15	X	24.73	12
76	MP15	Z	-42.83	12
77	MP21	X	32.17	6
78	MP21	Z	-55.72	6

**Member Point Loads (BLC 16 : Ice Weight)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	Y	-64.796	0
2	MP3	Y	-64.796	48
3	MP5	Y	-36.627	60
4	MP5	Y	-36.627	91.1
5	MP5	Y	-36.88	0
6	MP5	Y	-36.88	30.39



**Member Point Loads (BLC 16 : Ice Weight) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
7	MP6	Y	-72.289	0
8	MP6	Y	-72.289	59
9	MP6	Y	-31.585	12
10	MP6	Y	-47.155	12
11	MP3	Y	-40.777	12
12	MP3	Y	-44.893	12
13	MP19	Y	-53.868	6
14	MP9	Y	-90.577	0
15	MP9	Y	-90.577	71.2
16	MP11	Y	-36.627	60
17	MP11	Y	-36.627	91.1
18	MP11	Y	-36.88	0
19	MP11	Y	-36.88	30.39
20	MP12	Y	-93.854	0
21	MP12	Y	-93.854	78.7
22	MP12	Y	-31.585	12
23	MP12	Y	-47.155	12
24	MP9	Y	-40.777	12
25	MP9	Y	-44.893	12
26	MP20	Y	-53.868	6
27	MP15	Y	-90.577	0
28	MP15	Y	-90.577	71.2
29	MP17	Y	-36.627	60
30	MP17	Y	-36.627	91.1
31	MP17	Y	-36.88	0
32	MP17	Y	-36.88	30.39
33	MP18	Y	-93.854	0
34	MP18	Y	-93.854	78.7
35	MP18	Y	-31.585	12
36	MP18	Y	-47.155	12
37	MP15	Y	-40.777	12
38	MP15	Y	-44.893	12
39	MP21	Y	-53.868	6

**Member Point Loads (BLC 17 : Ice Wind Load AZI 0)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	0	0
2	MP3	Z	-11.91	0
3	MP3	X	0	48
4	MP3	Z	-11.91	48
5	MP5	X	0	60
6	MP5	Z	-6.26	60



**Member Point Loads (BLC 17 : Ice Wind Load AZI 0) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
7	MP5	X	0	91.1
8	MP5	Z	-6.26	91.1
9	MP5	X	0	0
10	MP5	Z	-6	0
11	MP5	X	0	30.39
12	MP5	Z	-6	30.39
13	MP6	X	0	0
14	MP6	Z	-14.05	0
15	MP6	X	0	59
16	MP6	Z	-14.05	59
17	MP6	X	0	12
18	MP6	Z	-5.88	12
19	MP6	X	0	12
20	MP6	Z	-6.88	12
21	MP3	X	0	12
22	MP3	Z	-6.45	12
23	MP3	X	0	12
24	MP3	Z	-5.86	12
25	MP19	X	0	6
26	MP19	Z	-7.73	6
27	MP9	X	0	0
28	MP9	Z	-13.1	0
29	MP9	X	0	71.2
30	MP9	Z	-13.1	71.2
31	MP11	X	0	60
32	MP11	Z	-5.01	60
33	MP11	X	0	91.1
34	MP11	Z	-5.01	91.1
35	MP11	X	0	0
36	MP11	Z	-4.95	0
37	MP11	X	0	30.39
38	MP11	Z	-4.95	30.39
39	MP12	X	0	0
40	MP12	Z	-14.29	0
41	MP12	X	0	78.7
42	MP12	Z	-14.29	78.7
43	MP12	X	0	12
44	MP12	Z	-4.18	12
45	MP12	X	0	12
46	MP12	Z	-6.19	12
47	MP9	X	0	12
48	MP9	Z	-5.45	12



**Member Point Loads (BLC 17 : Ice Wind Load AZI 0) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
49	MP9	X	0	12
50	MP9	Z	-5.51	12
51	MP20	X	0	6
52	MP20	Z	-7.73	6
53	MP15	X	0	0
54	MP15	Z	-13.1	0
55	MP15	X	0	71.2
56	MP15	Z	-13.1	71.2
57	MP17	X	0	60
58	MP17	Z	-5.01	60
59	MP17	X	0	91.1
60	MP17	Z	-5.01	91.1
61	MP17	X	0	0
62	MP17	Z	-4.95	0
63	MP17	X	0	30.39
64	MP17	Z	-4.95	30.39
65	MP18	X	0	0
66	MP18	Z	-14.29	0
67	MP18	X	0	78.7
68	MP18	Z	-14.29	78.7
69	MP18	X	0	12
70	MP18	Z	-4.18	12
71	MP18	X	0	12
72	MP18	Z	-6.19	12
73	MP15	X	0	12
74	MP15	Z	-5.45	12
75	MP15	X	0	12
76	MP15	Z	-5.51	12
77	MP21	X	0	6
78	MP21	Z	-7.73	6

**Member Point Loads (BLC 18 : Ice Wind Load AZI 30)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	-5.4	0
2	MP3	Z	-9.35	0
3	MP3	X	-5.4	48
4	MP3	Z	-9.35	48
5	MP5	X	-2.92	60
6	MP5	Z	-5.06	60
7	MP5	X	-2.92	91.1
8	MP5	Z	-5.06	91.1
9	MP5	X	-2.83	0



**Member Point Loads (BLC 18 : Ice Wind Load AZI 30) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
10	MP5	Z	-4.89	0
11	MP5	X	-2.83	30.39
12	MP5	Z	-4.89	30.39
13	MP6	X	-6.4	0
14	MP6	Z	-11.08	0
15	MP6	X	-6.4	59
16	MP6	Z	-11.08	59
17	MP6	X	-2.66	12
18	MP6	Z	-4.6	12
19	MP6	X	-3.33	12
20	MP6	Z	-5.76	12
21	MP3	X	-3.06	12
22	MP3	Z	-5.29	12
23	MP3	X	-2.87	12
24	MP3	Z	-4.97	12
25	MP19	X	-3.86	6
26	MP19	Z	-6.69	6
27	MP9	X	-8.09	0
28	MP9	Z	-14.01	0
29	MP9	X	-8.09	71.2
30	MP9	Z	-14.01	71.2
31	MP11	X	-2.92	60
32	MP11	Z	-5.06	60
33	MP11	X	-2.92	91.1
34	MP11	Z	-5.06	91.1
35	MP11	X	-2.83	0
36	MP11	Z	-4.89	0
37	MP11	X	-2.83	30.39
38	MP11	Z	-4.89	30.39
39	MP12	X	-8.81	0
40	MP12	Z	-15.25	0
41	MP12	X	-8.81	78.7
42	MP12	Z	-15.25	78.7
43	MP12	X	-2.66	12
44	MP12	Z	-4.6	12
45	MP12	X	-3.33	12
46	MP12	Z	-5.76	12
47	MP9	X	-3.06	12
48	MP9	Z	-5.29	12
49	MP9	X	-2.87	12
50	MP9	Z	-4.97	12
51	MP20	X	-3.86	6





**Member Point Loads (BLC 18 : Ice Wind Load AZI 30) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
52	MP20	Z	-6.69	6
53	MP15	X	-5.78	0
54	MP15	Z	-10.01	0
55	MP15	X	-5.78	71.2
56	MP15	Z	-10.01	71.2
57	MP17	X	-2.29	60
58	MP17	Z	-3.97	60
59	MP17	X	-2.29	91.1
60	MP17	Z	-3.97	91.1
61	MP17	X	-2.3	0
62	MP17	Z	-3.98	0
63	MP17	X	-2.3	30.39
64	MP17	Z	-3.98	30.39
65	MP18	X	-6.31	0
66	MP18	Z	-10.93	0
67	MP18	X	-6.31	78.7
68	MP18	Z	-10.93	78.7
69	MP18	X	-1.81	12
70	MP18	Z	-3.13	12
71	MP18	X	-2.98	12
72	MP18	Z	-5.17	12
73	MP15	X	-2.56	12
74	MP15	Z	-4.43	12
75	MP15	X	-2.7	12
76	MP15	Z	-4.67	12
77	MP21	X	-3.86	6
78	MP21	Z	-6.69	6

**Member Point Loads (BLC 19 : Ice Wind Load AZI 60)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	-7.4	0
2	MP3	Z	-4.28	0
3	MP3	X	-7.4	48
4	MP3	Z	-4.28	48
5	MP5	X	-4.34	60
6	MP5	Z	-2.5	60
7	MP5	X	-4.34	91.1
8	MP5	Z	-2.5	91.1
9	MP5	X	-4.28	0
10	MP5	Z	-2.47	0
11	MP5	X	-4.28	30.39
12	MP5	Z	-2.47	30.39



**Member Point Loads (BLC 19 : Ice Wind Load AZI 60) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
13	MP6	X	-8.9	0
14	MP6	Z	-5.14	0
15	MP6	X	-8.9	59
16	MP6	Z	-5.14	59
17	MP6	X	-3.62	12
18	MP6	Z	-2.09	12
19	MP6	X	-5.36	12
20	MP6	Z	-3.1	12
21	MP3	X	-4.72	12
22	MP3	Z	-2.72	12
23	MP3	X	-4.77	12
24	MP3	Z	-2.76	12
25	MP19	X	-6.69	6
26	MP19	Z	-3.86	6
27	MP9	X	-15.34	0
28	MP9	Z	-8.85	0
29	MP9	X	-15.34	71.2
30	MP9	Z	-8.85	71.2
31	MP11	X	-5.42	60
32	MP11	Z	-3.13	60
33	MP11	X	-5.42	91.1
34	MP11	Z	-3.13	91.1
35	MP11	X	-5.2	0
36	MP11	Z	-3	0
37	MP11	X	-5.2	30.39
38	MP11	Z	-3	30.39
39	MP12	X	-16.7	0
40	MP12	Z	-9.64	0
41	MP12	X	-16.7	78.7
42	MP12	Z	-9.64	78.7
43	MP12	X	-5.09	12
44	MP12	Z	-2.94	12
45	MP12	X	-5.96	12
46	MP12	Z	-3.44	12
47	MP9	X	-5.58	12
48	MP9	Z	-3.22	12
49	MP9	X	-5.07	12
50	MP9	Z	-2.93	12
51	MP20	X	-6.69	6
52	MP20	Z	-3.86	6
53	MP15	X	-11.34	0
54	MP15	Z	-6.55	0



**Member Point Loads (BLC 19 : Ice Wind Load AZI 60) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
55	MP15	X	-11.34	71.2
56	MP15	Z	-6.55	71.2
57	MP17	X	-4.34	60
58	MP17	Z	-2.5	60
59	MP17	X	-4.34	91.1
60	MP17	Z	-2.5	91.1
61	MP17	X	-4.28	0
62	MP17	Z	-2.47	0
63	MP17	X	-4.28	30.39
64	MP17	Z	-2.47	30.39
65	MP18	X	-12.37	0
66	MP18	Z	-7.14	0
67	MP18	X	-12.37	78.7
68	MP18	Z	-7.14	78.7
69	MP18	X	-3.62	12
70	MP18	Z	-2.09	12
71	MP18	X	-5.36	12
72	MP18	Z	-3.1	12
73	MP15	X	-4.72	12
74	MP15	Z	-2.72	12
75	MP15	X	-4.77	12
76	MP15	Z	-2.76	12
77	MP21	X	-6.69	6
78	MP21	Z	-3.86	6

**Member Point Loads (BLC 20 : Ice Wind Load AZI 90)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	-7.43	0
2	MP3	Z	0	0
3	MP3	X	-7.43	48
4	MP3	Z	0	48
5	MP5	X	-4.59	60
6	MP5	Z	0	60
7	MP5	X	-4.59	91.1
8	MP5	Z	0	91.1
9	MP5	X	-4.6	0
10	MP5	Z	0	0
11	MP5	X	-4.6	30.39
12	MP5	Z	0	30.39
13	MP6	X	-9.03	0
14	MP6	Z	0	0
15	MP6	X	-9.03	59



**Member Point Loads (BLC 20 : Ice Wind Load AZI 90) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
16	MP6	Z	0	59
17	MP6	X	-3.62	12
18	MP6	Z	0	12
19	MP6	X	-5.96	12
20	MP6	Z	0	12
21	MP3	X	-5.11	12
22	MP3	Z	0	12
23	MP3	X	-5.4	12
24	MP3	Z	0	12
25	MP19	X	-7.73	6
26	MP19	Z	0	6
27	MP9	X	-16.17	0
28	MP9	Z	0	0
29	MP9	X	-16.17	71.2
30	MP9	Z	0	71.2
31	MP11	X	-5.84	60
32	MP11	Z	0	60
33	MP11	X	-5.84	91.1
34	MP11	Z	0	91.1
35	MP11	X	-5.65	0
36	MP11	Z	0	0
37	MP11	X	-5.65	30.39
38	MP11	Z	0	30.39
39	MP12	X	-17.61	0
40	MP12	Z	0	0
41	MP12	X	-17.61	78.7
42	MP12	Z	0	78.7
43	MP12	X	-5.31	12
44	MP12	Z	0	12
45	MP12	X	-6.65	12
46	MP12	Z	0	12
47	MP9	X	-6.11	12
48	MP9	Z	0	12
49	MP9	X	-5.74	12
50	MP9	Z	0	12
51	MP20	X	-7.73	6
52	MP20	Z	0	6
53	MP15	X	-16.17	0
54	MP15	Z	0	0
55	MP15	X	-16.17	71.2
56	MP15	Z	0	71.2
57	MP17	X	-5.84	60



**Member Point Loads (BLC 20 : Ice Wind Load AZI 90) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
58	MP17	Z	0	60
59	MP17	X	-5.84	91.1
60	MP17	Z	0	91.1
61	MP17	X	-5.65	0
62	MP17	Z	0	0
63	MP17	X	-5.65	30.39
64	MP17	Z	0	30.39
65	MP18	X	-17.61	0
66	MP18	Z	0	0
67	MP18	X	-17.61	78.7
68	MP18	Z	0	78.7
69	MP18	X	-5.31	12
70	MP18	Z	0	12
71	MP18	X	-6.65	12
72	MP18	Z	0	12
73	MP15	X	-6.11	12
74	MP15	Z	0	12
75	MP15	X	-5.74	12
76	MP15	Z	0	12
77	MP21	X	-7.73	6
78	MP21	Z	0	6

**Member Point Loads (BLC 21 : Ice Wind Load AZI 120)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-7.4	0
2	MP3	Z	4.28	0
3	MP3	X	-7.4	48
4	MP3	Z	4.28	48
5	MP5	X	-4.34	60
6	MP5	Z	2.5	60
7	MP5	X	-4.34	91.1
8	MP5	Z	2.5	91.1
9	MP5	X	-4.28	0
10	MP5	Z	2.47	0
11	MP5	X	-4.28	30.39
12	MP5	Z	2.47	30.39
13	MP6	X	-8.9	0
14	MP6	Z	5.14	0
15	MP6	X	-8.9	59
16	MP6	Z	5.14	59
17	MP6	X	-3.62	12
18	MP6	Z	2.09	12



**Member Point Loads (BLC 21 : Ice Wind Load AZI 120) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
19	MP6	X	-5.36	12
20	MP6	Z	3.1	12
21	MP3	X	-4.72	12
22	MP3	Z	2.72	12
23	MP3	X	-4.77	12
24	MP3	Z	2.76	12
25	MP19	X	-6.69	6
26	MP19	Z	3.86	6
27	MP9	X	-11.34	0
28	MP9	Z	6.55	0
29	MP9	X	-11.34	71.2
30	MP9	Z	6.55	71.2
31	MP11	X	-4.34	60
32	MP11	Z	2.5	60
33	MP11	X	-4.34	91.1
34	MP11	Z	2.5	91.1
35	MP11	X	-4.28	0
36	MP11	Z	2.47	0
37	MP11	X	-4.28	30.39
38	MP11	Z	2.47	30.39
39	MP12	X	-12.37	0
40	MP12	Z	7.14	0
41	MP12	X	-12.37	78.7
42	MP12	Z	7.14	78.7
43	MP12	X	-3.62	12
44	MP12	Z	2.09	12
45	MP12	X	-5.36	12
46	MP12	Z	3.1	12
47	MP9	X	-4.72	12
48	MP9	Z	2.72	12
49	MP9	X	-4.77	12
50	MP9	Z	2.76	12
51	MP20	X	-6.69	6
52	MP20	Z	3.86	6
53	MP15	X	-15.34	0
54	MP15	Z	8.85	0
55	MP15	X	-15.34	71.2
56	MP15	Z	8.85	71.2
57	MP17	X	-5.42	60
58	MP17	Z	3.13	60
59	MP17	X	-5.42	91.1
60	MP17	Z	3.13	91.1



**Member Point Loads (BLC 21 : Ice Wind Load AZI 120) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
61	MP17	X	-5.2	0
62	MP17	Z	3	0
63	MP17	X	-5.2	30.39
64	MP17	Z	3	30.39
65	MP18	X	-16.7	0
66	MP18	Z	9.64	0
67	MP18	X	-16.7	78.7
68	MP18	Z	9.64	78.7
69	MP18	X	-5.09	12
70	MP18	Z	2.94	12
71	MP18	X	-5.96	12
72	MP18	Z	3.44	12
73	MP15	X	-5.58	12
74	MP15	Z	3.22	12
75	MP15	X	-5.07	12
76	MP15	Z	2.93	12
77	MP21	X	-6.69	6
78	MP21	Z	3.86	6

**Member Point Loads (BLC 22 : Ice Wind Load AZI 150)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	-5.4	0
2	MP3	Z	9.35	0
3	MP3	X	-5.4	48
4	MP3	Z	9.35	48
5	MP5	X	-2.92	60
6	MP5	Z	5.06	60
7	MP5	X	-2.92	91.1
8	MP5	Z	5.06	91.1
9	MP5	X	-2.83	0
10	MP5	Z	4.89	0
11	MP5	X	-2.83	30.39
12	MP5	Z	4.89	30.39
13	MP6	X	-6.4	0
14	MP6	Z	11.08	0
15	MP6	X	-6.4	59
16	MP6	Z	11.08	59
17	MP6	X	-2.66	12
18	MP6	Z	4.6	12
19	MP6	X	-3.33	12
20	MP6	Z	5.76	12
21	MP3	X	-3.06	12



**Member Point Loads (BLC 22 : Ice Wind Load AZI 150) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
22	MP3	Z	5.29	12
23	MP3	X	-2.87	12
24	MP3	Z	4.97	12
25	MP19	X	-3.86	6
26	MP19	Z	6.69	6
27	MP9	X	-5.78	0
28	MP9	Z	10.01	0
29	MP9	X	-5.78	71.2
30	MP9	Z	10.01	71.2
31	MP11	X	-2.29	60
32	MP11	Z	3.97	60
33	MP11	X	-2.29	91.1
34	MP11	Z	3.97	91.1
35	MP11	X	-2.3	0
36	MP11	Z	3.98	0
37	MP11	X	-2.3	30.39
38	MP11	Z	3.98	30.39
39	MP12	X	-6.31	0
40	MP12	Z	10.93	0
41	MP12	X	-6.31	78.7
42	MP12	Z	10.93	78.7
43	MP12	X	-1.81	12
44	MP12	Z	3.13	12
45	MP12	X	-2.98	12
46	MP12	Z	5.17	12
47	MP9	X	-2.56	12
48	MP9	Z	4.43	12
49	MP9	X	-2.7	12
50	MP9	Z	4.67	12
51	MP20	X	-3.86	6
52	MP20	Z	6.69	6
53	MP15	X	-8.09	0
54	MP15	Z	14.01	0
55	MP15	X	-8.09	71.2
56	MP15	Z	14.01	71.2
57	MP17	X	-2.92	60
58	MP17	Z	5.06	60
59	MP17	X	-2.92	91.1
60	MP17	Z	5.06	91.1
61	MP17	X	-2.83	0
62	MP17	Z	4.89	0
63	MP17	X	-2.83	30.39





**Member Point Loads (BLC 22 : Ice Wind Load AZI 150) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
64	MP17	Z	4.89	30.39
65	MP18	X	-8.81	0
66	MP18	Z	15.25	0
67	MP18	X	-8.81	78.7
68	MP18	Z	15.25	78.7
69	MP18	X	-2.66	12
70	MP18	Z	4.6	12
71	MP18	X	-3.33	12
72	MP18	Z	5.76	12
73	MP15	X	-3.06	12
74	MP15	Z	5.29	12
75	MP15	X	-2.87	12
76	MP15	Z	4.97	12
77	MP21	X	-3.86	6
78	MP21	Z	6.69	6

**Member Point Loads (BLC 23 : Ice Wind Load AZI 180)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	0	0
2	MP3	Z	11.91	0
3	MP3	X	0	48
4	MP3	Z	11.91	48
5	MP5	X	0	60
6	MP5	Z	6.26	60
7	MP5	X	0	91.1
8	MP5	Z	6.26	91.1
9	MP5	X	0	0
10	MP5	Z	6	0
11	MP5	X	0	30.39
12	MP5	Z	6	30.39
13	MP6	X	0	0
14	MP6	Z	14.05	0
15	MP6	X	0	59
16	MP6	Z	14.05	59
17	MP6	X	0	12
18	MP6	Z	5.88	12
19	MP6	X	0	12
20	MP6	Z	6.88	12
21	MP3	X	0	12
22	MP3	Z	6.45	12
23	MP3	X	0	12
24	MP3	Z	5.86	12



**Member Point Loads (BLC 23 : Ice Wind Load AZI 180) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
25	MP19	X	0	6
26	MP19	Z	7.73	6
27	MP9	X	0	0
28	MP9	Z	13.1	0
29	MP9	X	0	71.2
30	MP9	Z	13.1	71.2
31	MP11	X	0	60
32	MP11	Z	5.01	60
33	MP11	X	0	91.1
34	MP11	Z	5.01	91.1
35	MP11	X	0	0
36	MP11	Z	4.95	0
37	MP11	X	0	30.39
38	MP11	Z	4.95	30.39
39	MP12	X	0	0
40	MP12	Z	14.29	0
41	MP12	X	0	78.7
42	MP12	Z	14.29	78.7
43	MP12	X	0	12
44	MP12	Z	4.18	12
45	MP12	X	0	12
46	MP12	Z	6.19	12
47	MP9	X	0	12
48	MP9	Z	5.45	12
49	MP9	X	0	12
50	MP9	Z	5.51	12
51	MP20	X	0	6
52	MP20	Z	7.73	6
53	MP15	X	0	0
54	MP15	Z	13.1	0
55	MP15	X	0	71.2
56	MP15	Z	13.1	71.2
57	MP17	X	0	60
58	MP17	Z	5.01	60
59	MP17	X	0	91.1
60	MP17	Z	5.01	91.1
61	MP17	X	0	0
62	MP17	Z	4.95	0
63	MP17	X	0	30.39
64	MP17	Z	4.95	30.39
65	MP18	X	0	0
66	MP18	Z	14.29	0



**Member Point Loads (BLC 23 : Ice Wind Load AZI 180) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
67	MP18	X	0	78.7
68	MP18	Z	14.29	78.7
69	MP18	X	0	12
70	MP18	Z	4.18	12
71	MP18	X	0	12
72	MP18	Z	6.19	12
73	MP15	X	0	12
74	MP15	Z	5.45	12
75	MP15	X	0	12
76	MP15	Z	5.51	12
77	MP21	X	0	6
78	MP21	Z	7.73	6

**Member Point Loads (BLC 24 : Ice Wind Load AZI 210)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	5.4	0
2	MP3	Z	9.35	0
3	MP3	X	5.4	48
4	MP3	Z	9.35	48
5	MP5	X	2.92	60
6	MP5	Z	5.06	60
7	MP5	X	2.92	91.1
8	MP5	Z	5.06	91.1
9	MP5	X	2.83	0
10	MP5	Z	4.89	0
11	MP5	X	2.83	30.39
12	MP5	Z	4.89	30.39
13	MP6	X	6.4	0
14	MP6	Z	11.08	0
15	MP6	X	6.4	59
16	MP6	Z	11.08	59
17	MP6	X	2.66	12
18	MP6	Z	4.6	12
19	MP6	X	3.33	12
20	MP6	Z	5.76	12
21	MP3	X	3.06	12
22	MP3	Z	5.29	12
23	MP3	X	2.87	12
24	MP3	Z	4.97	12
25	MP19	X	3.86	6
26	MP19	Z	6.69	6
27	MP9	X	8.09	0



**Member Point Loads (BLC 24 : Ice Wind Load AZI 210) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
28	MP9	Z	14.01	0
29	MP9	X	8.09	71.2
30	MP9	Z	14.01	71.2
31	MP11	X	2.92	60
32	MP11	Z	5.06	60
33	MP11	X	2.92	91.1
34	MP11	Z	5.06	91.1
35	MP11	X	2.83	0
36	MP11	Z	4.89	0
37	MP11	X	2.83	30.39
38	MP11	Z	4.89	30.39
39	MP12	X	8.81	0
40	MP12	Z	15.25	0
41	MP12	X	8.81	78.7
42	MP12	Z	15.25	78.7
43	MP12	X	2.66	12
44	MP12	Z	4.6	12
45	MP12	X	3.33	12
46	MP12	Z	5.76	12
47	MP9	X	3.06	12
48	MP9	Z	5.29	12
49	MP9	X	2.87	12
50	MP9	Z	4.97	12
51	MP20	X	3.86	6
52	MP20	Z	6.69	6
53	MP15	X	5.78	0
54	MP15	Z	10.01	0
55	MP15	X	5.78	71.2
56	MP15	Z	10.01	71.2
57	MP17	X	2.29	60
58	MP17	Z	3.97	60
59	MP17	X	2.29	91.1
60	MP17	Z	3.97	91.1
61	MP17	X	2.3	0
62	MP17	Z	3.98	0
63	MP17	X	2.3	30.39
64	MP17	Z	3.98	30.39
65	MP18	X	6.31	0
66	MP18	Z	10.93	0
67	MP18	X	6.31	78.7
68	MP18	Z	10.93	78.7
69	MP18	X	1.81	12



**Member Point Loads (BLC 24 : Ice Wind Load AZI 210) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
70	MP18	Z	3.13	12
71	MP18	X	2.98	12
72	MP18	Z	5.17	12
73	MP15	X	2.56	12
74	MP15	Z	4.43	12
75	MP15	X	2.7	12
76	MP15	Z	4.67	12
77	MP21	X	3.86	6
78	MP21	Z	6.69	6

**Member Point Loads (BLC 25 : Ice Wind Load AZI 240)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	7.4	0
2	MP3	Z	4.28	0
3	MP3	X	7.4	48
4	MP3	Z	4.28	48
5	MP5	X	4.34	60
6	MP5	Z	2.5	60
7	MP5	X	4.34	91.1
8	MP5	Z	2.5	91.1
9	MP5	X	4.28	0
10	MP5	Z	2.47	0
11	MP5	X	4.28	30.39
12	MP5	Z	2.47	30.39
13	MP6	X	8.9	0
14	MP6	Z	5.14	0
15	MP6	X	8.9	59
16	MP6	Z	5.14	59
17	MP6	X	3.62	12
18	MP6	Z	2.09	12
19	MP6	X	5.36	12
20	MP6	Z	3.1	12
21	MP3	X	4.72	12
22	MP3	Z	2.72	12
23	MP3	X	4.77	12
24	MP3	Z	2.76	12
25	MP19	X	6.69	6
26	MP19	Z	3.86	6
27	MP9	X	15.34	0
28	MP9	Z	8.85	0
29	MP9	X	15.34	71.2
30	MP9	Z	8.85	71.2



**Member Point Loads (BLC 25 : Ice Wind Load AZI 240) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
31	MP11	X	5.42	60
32	MP11	Z	3.13	60
33	MP11	X	5.42	91.1
34	MP11	Z	3.13	91.1
35	MP11	X	5.2	0
36	MP11	Z	3	0
37	MP11	X	5.2	30.39
38	MP11	Z	3	30.39
39	MP12	X	16.7	0
40	MP12	Z	9.64	0
41	MP12	X	16.7	78.7
42	MP12	Z	9.64	78.7
43	MP12	X	5.09	12
44	MP12	Z	2.94	12
45	MP12	X	5.96	12
46	MP12	Z	3.44	12
47	MP9	X	5.58	12
48	MP9	Z	3.22	12
49	MP9	X	5.07	12
50	MP9	Z	2.93	12
51	MP20	X	6.69	6
52	MP20	Z	3.86	6
53	MP15	X	11.34	0
54	MP15	Z	6.55	0
55	MP15	X	11.34	71.2
56	MP15	Z	6.55	71.2
57	MP17	X	4.34	60
58	MP17	Z	2.5	60
59	MP17	X	4.34	91.1
60	MP17	Z	2.5	91.1
61	MP17	X	4.28	0
62	MP17	Z	2.47	0
63	MP17	X	4.28	30.39
64	MP17	Z	2.47	30.39
65	MP18	X	12.37	0
66	MP18	Z	7.14	0
67	MP18	X	12.37	78.7
68	MP18	Z	7.14	78.7
69	MP18	X	3.62	12
70	MP18	Z	2.09	12
71	MP18	X	5.36	12
72	MP18	Z	3.1	12



**Member Point Loads (BLC 25 : Ice Wind Load AZI 240) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
73	MP15	X	4.72	12
74	MP15	Z	2.72	12
75	MP15	X	4.77	12
76	MP15	Z	2.76	12
77	MP21	X	6.69	6
78	MP21	Z	3.86	6

**Member Point Loads (BLC 26 : Ice Wind Load AZI 270)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	7.43	0
2	MP3	Z	0	0
3	MP3	X	7.43	48
4	MP3	Z	0	48
5	MP5	X	4.59	60
6	MP5	Z	0	60
7	MP5	X	4.59	91.1
8	MP5	Z	0	91.1
9	MP5	X	4.6	0
10	MP5	Z	0	0
11	MP5	X	4.6	30.39
12	MP5	Z	0	30.39
13	MP6	X	9.03	0
14	MP6	Z	0	0
15	MP6	X	9.03	59
16	MP6	Z	0	59
17	MP6	X	3.62	12
18	MP6	Z	0	12
19	MP6	X	5.96	12
20	MP6	Z	0	12
21	MP3	X	5.11	12
22	MP3	Z	0	12
23	MP3	X	5.4	12
24	MP3	Z	0	12
25	MP19	X	7.73	6
26	MP19	Z	0	6
27	MP9	X	16.17	0
28	MP9	Z	0	0
29	MP9	X	16.17	71.2
30	MP9	Z	0	71.2
31	MP11	X	5.84	60
32	MP11	Z	0	60
33	MP11	X	5.84	91.1



**Member Point Loads (BLC 26 : Ice Wind Load AZI 270) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
34	MP11	Z	0	91.1
35	MP11	X	5.65	0
36	MP11	Z	0	0
37	MP11	X	5.65	30.39
38	MP11	Z	0	30.39
39	MP12	X	17.61	0
40	MP12	Z	0	0
41	MP12	X	17.61	78.7
42	MP12	Z	0	78.7
43	MP12	X	5.31	12
44	MP12	Z	0	12
45	MP12	X	6.65	12
46	MP12	Z	0	12
47	MP9	X	6.11	12
48	MP9	Z	0	12
49	MP9	X	5.74	12
50	MP9	Z	0	12
51	MP20	X	7.73	6
52	MP20	Z	0	6
53	MP15	X	16.17	0
54	MP15	Z	0	0
55	MP15	X	16.17	71.2
56	MP15	Z	0	71.2
57	MP17	X	5.84	60
58	MP17	Z	0	60
59	MP17	X	5.84	91.1
60	MP17	Z	0	91.1
61	MP17	X	5.65	0
62	MP17	Z	0	0
63	MP17	X	5.65	30.39
64	MP17	Z	0	30.39
65	MP18	X	17.61	0
66	MP18	Z	0	0
67	MP18	X	17.61	78.7
68	MP18	Z	0	78.7
69	MP18	X	5.31	12
70	MP18	Z	0	12
71	MP18	X	6.65	12
72	MP18	Z	0	12
73	MP15	X	6.11	12
74	MP15	Z	0	12
75	MP15	X	5.74	12





**Member Point Loads (BLC 26 : Ice Wind Load AZI 270) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
76	MP15	Z	0	12
77	MP21	X	7.73	6
78	MP21	Z	0	6

**Member Point Loads (BLC 27 : Ice Wind Load AZI 300)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	7.4	0
2	MP3	Z	-4.28	0
3	MP3	X	7.4	48
4	MP3	Z	-4.28	48
5	MP5	X	4.34	60
6	MP5	Z	-2.5	60
7	MP5	X	4.34	91.1
8	MP5	Z	-2.5	91.1
9	MP5	X	4.28	0
10	MP5	Z	-2.47	0
11	MP5	X	4.28	30.39
12	MP5	Z	-2.47	30.39
13	MP6	X	8.9	0
14	MP6	Z	-5.14	0
15	MP6	X	8.9	59
16	MP6	Z	-5.14	59
17	MP6	X	3.62	12
18	MP6	Z	-2.09	12
19	MP6	X	5.36	12
20	MP6	Z	-3.1	12
21	MP3	X	4.72	12
22	MP3	Z	-2.72	12
23	MP3	X	4.77	12
24	MP3	Z	-2.76	12
25	MP19	X	6.69	6
26	MP19	Z	-3.86	6
27	MP9	X	11.34	0
28	MP9	Z	-6.55	0
29	MP9	X	11.34	71.2
30	MP9	Z	-6.55	71.2
31	MP11	X	4.34	60
32	MP11	Z	-2.5	60
33	MP11	X	4.34	91.1
34	MP11	Z	-2.5	91.1
35	MP11	X	4.28	0
36	MP11	Z	-2.47	0



**Member Point Loads (BLC 27 : Ice Wind Load AZI 300) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
37	MP11	X	4.28	30.39
38	MP11	Z	-2.47	30.39
39	MP12	X	12.37	0
40	MP12	Z	-7.14	0
41	MP12	X	12.37	78.7
42	MP12	Z	-7.14	78.7
43	MP12	X	3.62	12
44	MP12	Z	-2.09	12
45	MP12	X	5.36	12
46	MP12	Z	-3.1	12
47	MP9	X	4.72	12
48	MP9	Z	-2.72	12
49	MP9	X	4.77	12
50	MP9	Z	-2.76	12
51	MP20	X	6.69	6
52	MP20	Z	-3.86	6
53	MP15	X	15.34	0
54	MP15	Z	-8.85	0
55	MP15	X	15.34	71.2
56	MP15	Z	-8.85	71.2
57	MP17	X	5.42	60
58	MP17	Z	-3.13	60
59	MP17	X	5.42	91.1
60	MP17	Z	-3.13	91.1
61	MP17	X	5.2	0
62	MP17	Z	-3	0
63	MP17	X	5.2	30.39
64	MP17	Z	-3	30.39
65	MP18	X	16.7	0
66	MP18	Z	-9.64	0
67	MP18	X	16.7	78.7
68	MP18	Z	-9.64	78.7
69	MP18	X	5.09	12
70	MP18	Z	-2.94	12
71	MP18	X	5.96	12
72	MP18	Z	-3.44	12
73	MP15	X	5.58	12
74	MP15	Z	-3.22	12
75	MP15	X	5.07	12
76	MP15	Z	-2.93	12
77	MP21	X	6.69	6
78	MP21	Z	-3.86	6



**Member Point Loads (BLC 28 : Ice Wind Load AZI 330)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	X	5.4	0
2	MP3	Z	-9.35	0
3	MP3	X	5.4	48
4	MP3	Z	-9.35	48
5	MP5	X	2.92	60
6	MP5	Z	-5.06	60
7	MP5	X	2.92	91.1
8	MP5	Z	-5.06	91.1
9	MP5	X	2.83	0
10	MP5	Z	-4.89	0
11	MP5	X	2.83	30.39
12	MP5	Z	-4.89	30.39
13	MP6	X	6.4	0
14	MP6	Z	-11.08	0
15	MP6	X	6.4	59
16	MP6	Z	-11.08	59
17	MP6	X	2.66	12
18	MP6	Z	-4.6	12
19	MP6	X	3.33	12
20	MP6	Z	-5.76	12
21	MP3	X	3.06	12
22	MP3	Z	-5.29	12
23	MP3	X	2.87	12
24	MP3	Z	-4.97	12
25	MP19	X	3.86	6
26	MP19	Z	-6.69	6
27	MP9	X	5.78	0
28	MP9	Z	-10.01	0
29	MP9	X	5.78	71.2
30	MP9	Z	-10.01	71.2
31	MP11	X	2.29	60
32	MP11	Z	-3.97	60
33	MP11	X	2.29	91.1
34	MP11	Z	-3.97	91.1
35	MP11	X	2.3	0
36	MP11	Z	-3.98	0
37	MP11	X	2.3	30.39
38	MP11	Z	-3.98	30.39
39	MP12	X	6.31	0
40	MP12	Z	-10.93	0
41	MP12	X	6.31	78.7
42	MP12	Z	-10.93	78.7



**Member Point Loads (BLC 28 : Ice Wind Load AZI 330) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
43	MP12	X	1.81	12
44	MP12	Z	-3.13	12
45	MP12	X	2.98	12
46	MP12	Z	-5.17	12
47	MP9	X	2.56	12
48	MP9	Z	-4.43	12
49	MP9	X	2.7	12
50	MP9	Z	-4.67	12
51	MP20	X	3.86	6
52	MP20	Z	-6.69	6
53	MP15	X	8.09	0
54	MP15	Z	-14.01	0
55	MP15	X	8.09	71.2
56	MP15	Z	-14.01	71.2
57	MP17	X	2.92	60
58	MP17	Z	-5.06	60
59	MP17	X	2.92	91.1
60	MP17	Z	-5.06	91.1
61	MP17	X	2.83	0
62	MP17	Z	-4.89	0
63	MP17	X	2.83	30.39
64	MP17	Z	-4.89	30.39
65	MP18	X	8.81	0
66	MP18	Z	-15.25	0
67	MP18	X	8.81	78.7
68	MP18	Z	-15.25	78.7
69	MP18	X	2.66	12
70	MP18	Z	-4.6	12
71	MP18	X	3.33	12
72	MP18	Z	-5.76	12
73	MP15	X	3.06	12
74	MP15	Z	-5.29	12
75	MP15	X	2.87	12
76	MP15	Z	-4.97	12
77	MP21	X	3.86	6
78	MP21	Z	-6.69	6

**Member Point Loads (BLC 31 : Seismic Load Z)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	Z	-9.117	0
2	MP3	Z	-9.117	48
3	MP5	Z	-6.512	60



**Member Point Loads (BLC 31 : Seismic Load Z) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
4	MP5	Z	-6.512	91.1
5	MP5	Z	-12.077	0
6	MP5	Z	-12.077	30.39
7	MP6	Z	-14.03	0
8	MP6	Z	-14.03	59
9	MP6	Z	-12.698	12
10	MP6	Z	-21.016	12
11	MP3	Z	-17.73	12
12	MP3	Z	-21.312	12
13	MP19	Z	-5.594	6
14	MP9	Z	-10.212	0
15	MP9	Z	-10.212	71.2
16	MP11	Z	-6.512	60
17	MP11	Z	-6.512	91.1
18	MP11	Z	-12.077	0
19	MP11	Z	-12.077	30.39
20	MP12	Z	-16.073	0
21	MP12	Z	-16.073	78.7
22	MP12	Z	-12.698	12
23	MP12	Z	-21.016	12
24	MP9	Z	-17.73	12
25	MP9	Z	-21.312	12
26	MP20	Z	-5.594	6
27	MP15	Z	-10.212	0
28	MP15	Z	-10.212	71.2
29	MP17	Z	-6.512	60
30	MP17	Z	-6.512	91.1
31	MP17	Z	-12.077	0
32	MP17	Z	-12.077	30.39
33	MP18	Z	-16.073	0
34	MP18	Z	-16.073	78.7
35	MP18	Z	-12.698	12
36	MP18	Z	-21.016	12
37	MP15	Z	-17.73	12
38	MP15	Z	-21.312	12
39	MP21	Z	-5.594	6

**Member Point Loads (BLC 32 : Seismic Load X)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	X	-9.117	0
2	MP3	X	-9.117	48
3	MP5	X	-6.512	60



**Member Point Loads (BLC 32 : Seismic Load X) (Continued)**

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP5	X	-6.512	91.1
5	MP5	X	-12.077	0
6	MP5	X	-12.077	30.39
7	MP6	X	-14.03	0
8	MP6	X	-14.03	59
9	MP6	X	-12.698	12
10	MP6	X	-21.016	12
11	MP3	X	-17.73	12
12	MP3	X	-21.312	12
13	MP19	X	-5.594	6
14	MP9	X	-10.212	0
15	MP9	X	-10.212	71.2
16	MP11	X	-6.512	60
17	MP11	X	-6.512	91.1
18	MP11	X	-12.077	0
19	MP11	X	-12.077	30.39
20	MP12	X	-16.073	0
21	MP12	X	-16.073	78.7
22	MP12	X	-12.698	12
23	MP12	X	-21.016	12
24	MP9	X	-17.73	12
25	MP9	X	-21.312	12
26	MP20	X	-5.594	6
27	MP15	X	-10.212	0
28	MP15	X	-10.212	71.2
29	MP17	X	-6.512	60
30	MP17	X	-6.512	91.1
31	MP17	X	-12.077	0
32	MP17	X	-12.077	30.39
33	MP18	X	-16.073	0
34	MP18	X	-16.073	78.7
35	MP18	X	-12.698	12
36	MP18	X	-21.016	12
37	MP15	X	-17.73	12
38	MP15	X	-21.312	12
39	MP21	X	-5.594	6

**Joint Loads and Enforced Displacements (BLC 33 : Service Live Loads)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N173A	L	Y	-250
2	N174A	L	Y	-250



**Joint Loads and Enforced Displacements (BLC 33 : Service Live Loads) (Continued)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
3	N175A	L	Y	-250

**Joint Loads and Enforced Displacements (BLC 34 : Maintenance Load 1)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N60B	L	Y	-500

**Joint Loads and Enforced Displacements (BLC 35 : Maintenance Load 2)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N66B	L	Y	-500

**Joint Loads and Enforced Displacements (BLC 36 : Maintenance Load 3)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N71	L	Y	-500

**Joint Loads and Enforced Displacements (BLC 37 : Maintenance Load 4)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N77B	L	Y	-500

**Joint Loads and Enforced Displacements (BLC 38 : Maintenance Load 5)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N83	L	Y	-500

**Joint Loads and Enforced Displacements (BLC 39 : Maintenance Load 6)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N89	L	Y	-500

**Joint Loads and Enforced Displacements (BLC 40 : Maintenance Load 7)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N96	L	Y	-500

**Joint Loads and Enforced Displacements (BLC 41 : Maintenance Load 8)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N102	L	Y	-500

**Joint Loads and Enforced Displacements (BLC 42 : Maintenance Load 9)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N132	L	Y	-500



**Joint Loads and Enforced Displacements (BLC 43 : Maintenance Load 10)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N138	L	Y	-500

**Joint Loads and Enforced Displacements (BLC 44 : Maintenance Load 11)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N162A	L	Y	-500

**Joint Loads and Enforced Displacements (BLC 45 : Maintenance Load 12)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N167	L	Y	-500

**Joint Loads and Enforced Displacements (BLC 46 : Maintenance Load 13)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N171	L	Y	-500

**Joint Loads and Enforced Displacements (BLC 47 : Maintenance Load 14)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N134A	L	Y	-500

**Joint Loads and Enforced Displacements (BLC 48 : Maintenance Load 15)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N140	L	Y	-500

**Joint Loads and Enforced Displacements (BLC 49 : Maintenance Load 16)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N146	L	Y	-500

**Joint Loads and Enforced Displacements (BLC 50 : Maintenance Load 17)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N152	L	Y	-500

**Joint Loads and Enforced Displacements (BLC 51 : Maintenance Load 18)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N158	L	Y	-500

**Joint Loads and Enforced Displacements (BLC 52 : Maintenance Load 19)**

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N164A	L	Y	-500





**Member Distributed Loads (BLC 14 : Distr. Wind Load Z)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location..	End Location[in,%]
1	S1	SZ	-69.82	-69.82	0	%100
2	H1	SZ	-41.892	-41.892	0	%100
3	M11	SZ	-69.82	-69.82	0	%100
4	GA1	SZ	-69.82	-69.82	0	%100
5	HR1	SZ	-41.892	-41.892	0	%100
6	H3	SZ	-41.892	-41.892	0	%100
7	HR3	SZ	-41.892	-41.892	0	%100
8	H2	SZ	-41.892	-41.892	0	%100
9	HR2	SZ	-41.892	-41.892	0	%100
10	MP1	SZ	-41.892	-41.892	0	%100
11	GA2	SZ	-69.82	-69.82	0	%100
12	S3	SZ	-69.82	-69.82	0	%100
13	M19B	SZ	-69.82	-69.82	0	%100
14	GA5	SZ	-69.82	-69.82	0	%100
15	GA6	SZ	-69.82	-69.82	0	%100
16	S2	SZ	-69.82	-69.82	0	%100
17	M24	SZ	-69.82	-69.82	0	%100
18	GA3	SZ	-69.82	-69.82	0	%100
19	GA4	SZ	-69.82	-69.82	0	%100
20	CA1	SZ	-69.82	-69.82	0	%100
21	CA2	SZ	-69.82	-69.82	0	%100
22	CA3	SZ	-69.82	-69.82	0	%100
23	P3	SZ	-69.82	-69.82	0	%100
24	P2	SZ	-69.82	-69.82	0	%100
25	P1	SZ	-69.82	-69.82	0	%100
26	M26B	SZ	0	0	0	%100
27	M27	SZ	0	0	0	%100
28	MP2	SZ	-41.892	-41.892	0	%100
29	M29A	SZ	0	0	0	%100
30	M30	SZ	0	0	0	%100
31	MP3	SZ	-41.892	-41.892	0	%100
32	M32	SZ	0	0	0	%100
33	M33	SZ	0	0	0	%100
34	MP4	SZ	-41.892	-41.892	0	%100
35	M35	SZ	0	0	0	%100
36	M36	SZ	0	0	0	%100
37	MP5	SZ	-41.892	-41.892	0	%100
38	M38	SZ	0	0	0	%100
39	M39	SZ	0	0	0	%100
40	MP6	SZ	-41.892	-41.892	0	%100
41	M41	SZ	0	0	0	%100



**Member Distributed Loads (BLC 14 : Distr. Wind Load Z) (Continued)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in, %]
42	M42	SZ	0	0	0	%100
43	MP13	SZ	-41.892	-41.892	0	%100
44	M44	SZ	0	0	0	%100
45	M45	SZ	0	0	0	%100
46	MP14	SZ	-41.892	-41.892	0	%100
47	M47	SZ	0	0	0	%100
48	M48	SZ	0	0	0	%100
49	MP7	SZ	-41.892	-41.892	0	%100
50	M62	SZ	0	0	0	%100
51	M63	SZ	0	0	0	%100
52	MP8	SZ	-41.892	-41.892	0	%100
53	M65	SZ	0	0	0	%100
54	M66	SZ	0	0	0	%100
55	MP20	SZ	-41.892	-41.892	0	%100
56	M80	SZ	0	0	0	%100
57	MP19	SZ	-41.892	-41.892	0	%100
58	M82	SZ	0	0	0	%100
59	MP21	SZ	-41.892	-41.892	0	%100
60	M84	SZ	0	0	0	%100
61	MP9	SZ	-41.892	-41.892	0	%100
62	M62A	SZ	0	0	0	%100
63	M63A	SZ	0	0	0	%100
64	MP11	SZ	-41.892	-41.892	0	%100
65	M65A	SZ	0	0	0	%100
66	M66A	SZ	0	0	0	%100
67	MP12	SZ	-41.892	-41.892	0	%100
68	M68	SZ	0	0	0	%100
69	M69	SZ	0	0	0	%100
70	MP15	SZ	-41.892	-41.892	0	%100
71	M71	SZ	0	0	0	%100
72	M72	SZ	0	0	0	%100
73	MP17	SZ	-41.892	-41.892	0	%100
74	M74	SZ	0	0	0	%100
75	M75	SZ	0	0	0	%100
76	MP18	SZ	-41.892	-41.892	0	%100
77	M77	SZ	0	0	0	%100
78	M78	SZ	0	0	0	%100

**Member Distributed Loads (BLC 15 : Distr. Wind Load X)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in, %]
1	S1	SX	-69.82	-69.82	0	%100
2	H1	SX	-41.892	-41.892	0	%100



**Member Distributed Loads (BLC 15 : Distr. Wind Load X) (Continued)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
3	M11	SX	-69.82	-69.82	0	%100
4	GA1	SX	-69.82	-69.82	0	%100
5	HR1	SX	-41.892	-41.892	0	%100
6	H3	SX	-41.892	-41.892	0	%100
7	HR3	SX	-41.892	-41.892	0	%100
8	H2	SX	-41.892	-41.892	0	%100
9	HR2	SX	-41.892	-41.892	0	%100
10	MP1	SX	-41.892	-41.892	0	%100
11	GA2	SX	-69.82	-69.82	0	%100
12	S3	SX	-69.82	-69.82	0	%100
13	M19B	SX	-69.82	-69.82	0	%100
14	GA5	SX	-69.82	-69.82	0	%100
15	GA6	SX	-69.82	-69.82	0	%100
16	S2	SX	-69.82	-69.82	0	%100
17	M24	SX	-69.82	-69.82	0	%100
18	GA3	SX	-69.82	-69.82	0	%100
19	GA4	SX	-69.82	-69.82	0	%100
20	CA1	SX	-69.82	-69.82	0	%100
21	CA2	SX	-69.82	-69.82	0	%100
22	CA3	SX	-69.82	-69.82	0	%100
23	P3	SX	-69.82	-69.82	0	%100
24	P2	SX	-69.82	-69.82	0	%100
25	P1	SX	-69.82	-69.82	0	%100
26	M26B	SX	0	0	0	%100
27	M27	SX	0	0	0	%100
28	MP2	SX	-41.892	-41.892	0	%100
29	M29A	SX	0	0	0	%100
30	M30	SX	0	0	0	%100
31	MP3	SX	-41.892	-41.892	0	%100
32	M32	SX	0	0	0	%100
33	M33	SX	0	0	0	%100
34	MP4	SX	-41.892	-41.892	0	%100
35	M35	SX	0	0	0	%100
36	M36	SX	0	0	0	%100
37	MP5	SX	-41.892	-41.892	0	%100
38	M38	SX	0	0	0	%100
39	M39	SX	0	0	0	%100
40	MP6	SX	-41.892	-41.892	0	%100
41	M41	SX	0	0	0	%100
42	M42	SX	0	0	0	%100
43	MP13	SX	-41.892	-41.892	0	%100
44	M44	SX	0	0	0	%100



**Member Distributed Loads (BLC 15 : Distr. Wind Load X) (Continued)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
45	M45	SX	0	0	0	%100
46	MP14	SX	-41.892	-41.892	0	%100
47	M47	SX	0	0	0	%100
48	M48	SX	0	0	0	%100
49	MP7	SX	-41.892	-41.892	0	%100
50	M62	SX	0	0	0	%100
51	M63	SX	0	0	0	%100
52	MP8	SX	-41.892	-41.892	0	%100
53	M65	SX	0	0	0	%100
54	M66	SX	0	0	0	%100
55	MP20	SX	-41.892	-41.892	0	%100
56	M80	SX	0	0	0	%100
57	MP19	SX	-41.892	-41.892	0	%100
58	M82	SX	0	0	0	%100
59	MP21	SX	-41.892	-41.892	0	%100
60	M84	SX	0	0	0	%100
61	MP9	SX	-41.892	-41.892	0	%100
62	M62A	SX	0	0	0	%100
63	M63A	SX	0	0	0	%100
64	MP11	SX	-41.892	-41.892	0	%100
65	M65A	SX	0	0	0	%100
66	M66A	SX	0	0	0	%100
67	MP12	SX	-41.892	-41.892	0	%100
68	M68	SX	0	0	0	%100
69	M69	SX	0	0	0	%100
70	MP15	SX	-41.892	-41.892	0	%100
71	M71	SX	0	0	0	%100
72	M72	SX	0	0	0	%100
73	MP17	SX	-41.892	-41.892	0	%100
74	M74	SX	0	0	0	%100
75	M75	SX	0	0	0	%100
76	MP18	SX	-41.892	-41.892	0	%100
77	M77	SX	0	0	0	%100
78	M78	SX	0	0	0	%100

**Member Distributed Loads (BLC 16 : Ice Weight)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
1	S1	Y	-9.617	-9.617	0	%100
2	H1	Y	-6.572	-6.572	0	%100
3	M11	Y	-9.617	-9.617	0	%100
4	GA1	Y	-5.624	-5.624	0	%100
5	HR1	Y	-4.984	-4.984	0	%100



**Member Distributed Loads (BLC 16 : Ice Weight) (Continued)**

Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
6	H3	Y	-6.572	-6.572	0 %100
7	HR3	Y	-4.984	-4.984	0 %100
8	H2	Y	-6.572	-6.572	0 %100
9	HR2	Y	-4.984	-4.984	0 %100
10	MP1	Y	-4.984	-4.984	0 %100
11	GA2	Y	-5.624	-5.624	0 %100
12	S3	Y	-9.617	-9.617	0 %100
13	M19B	Y	-9.617	-9.617	0 %100
14	GA5	Y	-5.624	-5.624	0 %100
15	GA6	Y	-5.624	-5.624	0 %100
16	S2	Y	-9.617	-9.617	0 %100
17	M24	Y	-9.617	-9.617	0 %100
18	GA3	Y	-5.624	-5.624	0 %100
19	GA4	Y	-5.624	-5.624	0 %100
20	CA1	Y	-6.622	-6.622	0 %100
21	CA2	Y	-6.622	-6.622	0 %100
22	CA3	Y	-6.622	-6.622	0 %100
23	P3	Y	-8.725	-8.725	0 %100
24	P2	Y	-8.725	-8.725	0 %100
25	P1	Y	-8.725	-8.725	0 %100
26	M26B	Y	-1.631	-1.631	0 %100
27	M27	Y	-1.631	-1.631	0 %100
28	MP2	Y	-4.984	-4.984	0 %100
29	M29A	Y	-1.631	-1.631	0 %100
30	M30	Y	-1.631	-1.631	0 %100
31	MP3	Y	-4.984	-4.984	0 %100
32	M32	Y	-1.631	-1.631	0 %100
33	M33	Y	-1.631	-1.631	0 %100
34	MP4	Y	-4.984	-4.984	0 %100
35	M35	Y	-1.631	-1.631	0 %100
36	M36	Y	-1.631	-1.631	0 %100
37	MP5	Y	-4.984	-4.984	0 %100
38	M38	Y	-1.631	-1.631	0 %100
39	M39	Y	-1.631	-1.631	0 %100
40	MP6	Y	-4.984	-4.984	0 %100
41	M41	Y	-1.631	-1.631	0 %100
42	M42	Y	-1.631	-1.631	0 %100
43	MP13	Y	-4.984	-4.984	0 %100
44	M44	Y	-1.631	-1.631	0 %100
45	M45	Y	-1.631	-1.631	0 %100
46	MP14	Y	-4.984	-4.984	0 %100
47	M47	Y	-1.631	-1.631	0 %100



**Member Distributed Loads (BLC 16 : Ice Weight) (Continued)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in, %]
48	M48	Y	-1.631	-1.631	0	%100
49	MP7	Y	-4.984	-4.984	0	%100
50	M62	Y	-1.631	-1.631	0	%100
51	M63	Y	-1.631	-1.631	0	%100
52	MP8	Y	-4.984	-4.984	0	%100
53	M65	Y	-1.631	-1.631	0	%100
54	M66	Y	-1.631	-1.631	0	%100
55	MP20	Y	-4.984	-4.984	0	%100
56	M80	Y	-1.631	-1.631	0	%100
57	MP19	Y	-4.984	-4.984	0	%100
58	M82	Y	-1.631	-1.631	0	%100
59	MP21	Y	-4.984	-4.984	0	%100
60	M84	Y	-1.631	-1.631	0	%100
61	MP9	Y	-4.984	-4.984	0	%100
62	M62A	Y	-1.631	-1.631	0	%100
63	M63A	Y	-1.631	-1.631	0	%100
64	MP11	Y	-4.984	-4.984	0	%100
65	M65A	Y	-1.631	-1.631	0	%100
66	M66A	Y	-1.631	-1.631	0	%100
67	MP12	Y	-4.984	-4.984	0	%100
68	M68	Y	-1.631	-1.631	0	%100
69	M69	Y	-1.631	-1.631	0	%100
70	MP15	Y	-4.984	-4.984	0	%100
71	M71	Y	-1.631	-1.631	0	%100
72	M72	Y	-1.631	-1.631	0	%100
73	MP17	Y	-4.984	-4.984	0	%100
74	M74	Y	-1.631	-1.631	0	%100
75	M75	Y	-1.631	-1.631	0	%100
76	MP18	Y	-4.984	-4.984	0	%100
77	M77	Y	-1.631	-1.631	0	%100
78	M78	Y	-1.631	-1.631	0	%100

**Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in, %]
1	S1	SZ	-10.963	-10.963	0	%100
2	H1	SZ	-12.922	-12.922	0	%100
3	M11	SZ	-10.963	-10.963	0	%100
4	GA1	SZ	-14.142	-14.142	0	%100
5	HR1	SZ	-15.356	-15.356	0	%100
6	H3	SZ	-12.922	-12.922	0	%100
7	HR3	SZ	-15.356	-15.356	0	%100
8	H2	SZ	-12.922	-12.922	0	%100



**Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z) (Continued)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
9	HR2	SZ	-15.356	-15.356	0	%100
10	MP1	SZ	-15.356	-15.356	0	%100
11	GA2	SZ	-14.142	-14.142	0	%100
12	S3	SZ	-10.963	-10.963	0	%100
13	M19B	SZ	-10.963	-10.963	0	%100
14	GA5	SZ	-14.142	-14.142	0	%100
15	GA6	SZ	-14.142	-14.142	0	%100
16	S2	SZ	-10.963	-10.963	0	%100
17	M24	SZ	-10.963	-10.963	0	%100
18	GA3	SZ	-14.142	-14.142	0	%100
19	GA4	SZ	-14.142	-14.142	0	%100
20	CA1	SZ	-12.871	-12.871	0	%100
21	CA2	SZ	-12.871	-12.871	0	%100
22	CA3	SZ	-12.871	-12.871	0	%100
23	P3	SZ	-11.363	-11.363	0	%100
24	P2	SZ	-11.363	-11.363	0	%100
25	P1	SZ	-11.363	-11.363	0	%100
26	M26B	SZ	0	0	0	%100
27	M27	SZ	0	0	0	%100
28	MP2	SZ	-15.356	-15.356	0	%100
29	M29A	SZ	0	0	0	%100
30	M30	SZ	0	0	0	%100
31	MP3	SZ	-15.356	-15.356	0	%100
32	M32	SZ	0	0	0	%100
33	M33	SZ	0	0	0	%100
34	MP4	SZ	-15.356	-15.356	0	%100
35	M35	SZ	0	0	0	%100
36	M36	SZ	0	0	0	%100
37	MP5	SZ	-15.356	-15.356	0	%100
38	M38	SZ	0	0	0	%100
39	M39	SZ	0	0	0	%100
40	MP6	SZ	-15.356	-15.356	0	%100
41	M41	SZ	0	0	0	%100
42	M42	SZ	0	0	0	%100
43	MP13	SZ	-15.356	-15.356	0	%100
44	M44	SZ	0	0	0	%100
45	M45	SZ	0	0	0	%100
46	MP14	SZ	-15.356	-15.356	0	%100
47	M47	SZ	0	0	0	%100
48	M48	SZ	0	0	0	%100
49	MP7	SZ	-15.356	-15.356	0	%100
50	M62	SZ	0	0	0	%100



**Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z) (Continued)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in, %]
51	M63	SZ	0	0	0	%100
52	MP8	SZ	-15.356	-15.356	0	%100
53	M65	SZ	0	0	0	%100
54	M66	SZ	0	0	0	%100
55	MP20	SZ	-15.356	-15.356	0	%100
56	M80	SZ	0	0	0	%100
57	MP19	SZ	-15.356	-15.356	0	%100
58	M82	SZ	0	0	0	%100
59	MP21	SZ	-15.356	-15.356	0	%100
60	M84	SZ	0	0	0	%100
61	MP9	SZ	-15.356	-15.356	0	%100
62	M62A	SZ	0	0	0	%100
63	M63A	SZ	0	0	0	%100
64	MP11	SZ	-15.356	-15.356	0	%100
65	M65A	SZ	0	0	0	%100
66	M66A	SZ	0	0	0	%100
67	MP12	SZ	-15.356	-15.356	0	%100
68	M68	SZ	0	0	0	%100
69	M69	SZ	0	0	0	%100
70	MP15	SZ	-15.356	-15.356	0	%100
71	M71	SZ	0	0	0	%100
72	M72	SZ	0	0	0	%100
73	MP17	SZ	-15.356	-15.356	0	%100
74	M74	SZ	0	0	0	%100
75	M75	SZ	0	0	0	%100
76	MP18	SZ	-15.356	-15.356	0	%100
77	M77	SZ	0	0	0	%100
78	M78	SZ	0	0	0	%100

**Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in, %]
1	S1	SX	-10.963	-10.963	0	%100
2	H1	SX	-12.922	-12.922	0	%100
3	M11	SX	-10.963	-10.963	0	%100
4	GA1	SX	-14.142	-14.142	0	%100
5	HR1	SX	-15.356	-15.356	0	%100
6	H3	SX	-12.922	-12.922	0	%100
7	HR3	SX	-15.356	-15.356	0	%100
8	H2	SX	-12.922	-12.922	0	%100
9	HR2	SX	-15.356	-15.356	0	%100
10	MP1	SX	-15.356	-15.356	0	%100
11	GA2	SX	-14.142	-14.142	0	%100





**Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X) (Continued)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
12	S3	SX	-10.963	-10.963	0	%100
13	M19B	SX	-10.963	-10.963	0	%100
14	GA5	SX	-14.142	-14.142	0	%100
15	GA6	SX	-14.142	-14.142	0	%100
16	S2	SX	-10.963	-10.963	0	%100
17	M24	SX	-10.963	-10.963	0	%100
18	GA3	SX	-14.142	-14.142	0	%100
19	GA4	SX	-14.142	-14.142	0	%100
20	CA1	SX	-12.871	-12.871	0	%100
21	CA2	SX	-12.871	-12.871	0	%100
22	CA3	SX	-12.871	-12.871	0	%100
23	P3	SX	-11.363	-11.363	0	%100
24	P2	SX	-11.363	-11.363	0	%100
25	P1	SX	-11.363	-11.363	0	%100
26	M26B	SX	0	0	0	%100
27	M27	SX	0	0	0	%100
28	MP2	SX	-15.356	-15.356	0	%100
29	M29A	SX	0	0	0	%100
30	M30	SX	0	0	0	%100
31	MP3	SX	-15.356	-15.356	0	%100
32	M32	SX	0	0	0	%100
33	M33	SX	0	0	0	%100
34	MP4	SX	-15.356	-15.356	0	%100
35	M35	SX	0	0	0	%100
36	M36	SX	0	0	0	%100
37	MP5	SX	-15.356	-15.356	0	%100
38	M38	SX	0	0	0	%100
39	M39	SX	0	0	0	%100
40	MP6	SX	-15.356	-15.356	0	%100
41	M41	SX	0	0	0	%100
42	M42	SX	0	0	0	%100
43	MP13	SX	-15.356	-15.356	0	%100
44	M44	SX	0	0	0	%100
45	M45	SX	0	0	0	%100
46	MP14	SX	-15.356	-15.356	0	%100
47	M47	SX	0	0	0	%100
48	M48	SX	0	0	0	%100
49	MP7	SX	-15.356	-15.356	0	%100
50	M62	SX	0	0	0	%100
51	M63	SX	0	0	0	%100
52	MP8	SX	-15.356	-15.356	0	%100
53	M65	SX	0	0	0	%100



**Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X) (Continued)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in, %]
54	M66	SX	0	0	0	%100
55	MP20	SX	-15.356	-15.356	0	%100
56	M80	SX	0	0	0	%100
57	MP19	SX	-15.356	-15.356	0	%100
58	M82	SX	0	0	0	%100
59	MP21	SX	-15.356	-15.356	0	%100
60	M84	SX	0	0	0	%100
61	MP9	SX	-15.356	-15.356	0	%100
62	M62A	SX	0	0	0	%100
63	M63A	SX	0	0	0	%100
64	MP11	SX	-15.356	-15.356	0	%100
65	M65A	SX	0	0	0	%100
66	M66A	SX	0	0	0	%100
67	MP12	SX	-15.356	-15.356	0	%100
68	M68	SX	0	0	0	%100
69	M69	SX	0	0	0	%100
70	MP15	SX	-15.356	-15.356	0	%100
71	M71	SX	0	0	0	%100
72	M72	SX	0	0	0	%100
73	MP17	SX	-15.356	-15.356	0	%100
74	M74	SX	0	0	0	%100
75	M75	SX	0	0	0	%100
76	MP18	SX	-15.356	-15.356	0	%100
77	M77	SX	0	0	0	%100
78	M78	SX	0	0	0	%100

**Member Distributed Loads (BLC 53 : BLC 1 Transient Area Loads)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in, %]
1	S1	Y	-.034	-.791	16.875	24.75
2	S1	Y	-.791	-1.679	24.75	32.625
3	S1	Y	-1.679	-1.567	32.625	40.5
4	S1	Y	-1.567	-.851	40.5	48.375
5	S1	Y	-.851	-.034	48.375	56.25
6	M11	Y	-1.006	-1.006	10.761	51.759
7	GA1	Y	-.124	-.414	0	7.846
8	GA1	Y	-.414	-.692	7.846	15.693
9	GA1	Y	-.692	-.882	15.693	23.539
10	GA1	Y	-.882	-.809	23.539	31.386
11	GA1	Y	-.809	-.55	31.386	39.232
12	GA2	Y	-.124	-.414	0	7.846
13	GA2	Y	-.414	-.692	7.846	15.693
14	GA2	Y	-.692	-.881	15.693	23.539



**Member Distributed Loads (BLC 53 : BLC 1 Transient Area Loads) (Continued)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in, %]
15	GA2	Y	-0.881	-0.808	23.539	31.386
16	GA2	Y	-0.808	-0.552	31.386	39.232
17	P2	Y	-0.066	-0.066	7.3	9.217
18	S3	Y	-0.034	-0.791	16.875	24.75
19	S3	Y	-0.791	-1.679	24.75	32.625
20	S3	Y	-1.679	-1.567	32.625	40.5
21	S3	Y	-1.567	-0.851	40.5	48.375
22	S3	Y	-0.851	-0.034	48.375	56.25
23	M19B	Y	-1.006	-1.006	10.761	51.759
24	GA5	Y	-0.124	-0.414	0	7.846
25	GA5	Y	-0.414	-0.692	7.846	15.693
26	GA5	Y	-0.692	-0.882	15.693	23.539
27	GA5	Y	-0.882	-0.809	23.539	31.386
28	GA5	Y	-0.809	-0.55	31.386	39.232
29	GA6	Y	-0.124	-0.414	0	7.846
30	GA6	Y	-0.414	-0.692	7.846	15.693
31	GA6	Y	-0.692	-0.881	15.693	23.539
32	GA6	Y	-0.881	-0.808	23.539	31.386
33	GA6	Y	-0.808	-0.552	31.386	39.232
34	P1	Y	-0.066	-0.066	7.3	9.217
35	S2	Y	-0.034	-0.791	16.875	24.75
36	S2	Y	-0.791	-1.679	24.75	32.625
37	S2	Y	-1.679	-1.567	32.625	40.5
38	S2	Y	-1.567	-0.851	40.5	48.375
39	S2	Y	-0.851	-0.034	48.375	56.25
40	M24	Y	-1.006	-1.006	10.761	51.759
41	GA3	Y	-0.124	-0.414	0	7.846
42	GA3	Y	-0.414	-0.692	7.846	15.693
43	GA3	Y	-0.692	-0.881	15.693	23.539
44	GA3	Y	-0.881	-0.808	23.539	31.386
45	GA3	Y	-0.808	-0.552	31.386	39.232
46	GA4	Y	-0.124	-0.414	0	7.846
47	GA4	Y	-0.414	-0.692	7.846	15.693
48	GA4	Y	-0.692	-0.882	15.693	23.539
49	GA4	Y	-0.882	-0.809	23.539	31.386
50	GA4	Y	-0.809	-0.55	31.386	39.232
51	P3	Y	-0.066	-0.066	7.3	9.217

**Member Distributed Loads (BLC 54 : BLC 16 Transient Area Loads)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in, %]
1	S1	Y	-0.212	-4.884	16.875	24.75
2	S1	Y	-4.884	-10.363	24.75	32.625



**Member Distributed Loads (BLC 54 : BLC 16 Transient Area Loads) (Continued)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
3	S1	Y	-10.363	-9.671	32.625	40.5
4	S1	Y	-9.671	-5.253	40.5	48.375
5	S1	Y	-5.253	-.212	48.375	56.25
6	M11	Y	-6.206	-6.206	10.761	51.759
7	GA1	Y	-.768	-2.557	0	7.846
8	GA1	Y	-2.557	-4.273	7.846	15.693
9	GA1	Y	-4.273	-5.443	15.693	23.539
10	GA1	Y	-5.443	-4.993	23.539	31.386
11	GA1	Y	-4.993	-3.394	31.386	39.232
12	GA2	Y	-.767	-2.556	0	7.846
13	GA2	Y	-2.556	-4.269	7.846	15.693
14	GA2	Y	-4.269	-5.434	15.693	23.539
15	GA2	Y	-5.434	-4.988	23.539	31.386
16	GA2	Y	-4.988	-3.405	31.386	39.232
17	P2	Y	-.41	-.41	7.3	9.217
18	S3	Y	-.212	-4.884	16.875	24.75
19	S3	Y	-4.884	-10.363	24.75	32.625
20	S3	Y	-10.363	-9.671	32.625	40.5
21	S3	Y	-9.671	-5.253	40.5	48.375
22	S3	Y	-5.253	-.212	48.375	56.25
23	M19B	Y	-6.206	-6.206	10.761	51.759
24	GA5	Y	-.768	-2.557	0	7.846
25	GA5	Y	-2.557	-4.273	7.846	15.693
26	GA5	Y	-4.273	-5.443	15.693	23.539
27	GA5	Y	-5.443	-4.993	23.539	31.386
28	GA5	Y	-4.993	-3.394	31.386	39.232
29	GA6	Y	-.767	-2.556	0	7.846
30	GA6	Y	-2.556	-4.269	7.846	15.693
31	GA6	Y	-4.269	-5.434	15.693	23.539
32	GA6	Y	-5.434	-4.988	23.539	31.386
33	GA6	Y	-4.988	-3.405	31.386	39.232
34	P1	Y	-.41	-.41	7.3	9.217
35	S2	Y	-.212	-4.884	16.875	24.75
36	S2	Y	-4.884	-10.363	24.75	32.625
37	S2	Y	-10.363	-9.671	32.625	40.5
38	S2	Y	-9.671	-5.253	40.5	48.375
39	S2	Y	-5.253	-.212	48.375	56.25
40	M24	Y	-6.206	-6.206	10.761	51.759
41	GA3	Y	-.767	-2.556	0	7.846
42	GA3	Y	-2.556	-4.269	7.846	15.693
43	GA3	Y	-4.269	-5.434	15.693	23.539
44	GA3	Y	-5.434	-4.988	23.539	31.386



**Member Distributed Loads (BLC 54 : BLC 16 Transient Area Loads) (Continued)**

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magn...	Start Location...	End Location[in,%]
45	GA3	Y	-4.988	-3.405	31.386	39.232
46	GA4	Y	-.768	-2.557	0	7.846
47	GA4	Y	-2.557	-4.273	7.846	15.693
48	GA4	Y	-4.273	-5.443	15.693	23.539
49	GA4	Y	-5.443	-4.993	23.539	31.386
50	GA4	Y	-4.993	-3.394	31.386	39.232
51	P3	Y	-.41	-.41	7.3	9.217

**Member Area Loads (BLC 1 : Self Weight)**

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N40	N43	N181	N180	Y	Two Way	-1.75
2	N66A	N65	N174	N175	Y	Two Way	-1.75
3	N179	N178	N176	N177	Y	Two Way	-1.75

**Member Area Loads (BLC 16 : Ice Weight)**

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N40	N43	N181	N180	Y	Two Way	-10.8
2	N66A	N65	N174	N175	Y	Two Way	-10.8
3	N179	N178	N176	N177	Y	Two Way	-10.8

**Envelope AISC 15th(360-16): LRFD Steel Code Checks**

	Member	Shape	Code Check	Loc[in]	LC	She...	Loc[in]	Dir	LC	phi*P...	phi*P...	phi*M...	phi*Mn z-z [lb...	Cb	Eqn
1	MP12	PIPE 2.0	.450	55	11	.105	55		13	1491...	32130	1871...	1871.625	1....	H1-1b
2	MP18	PIPE 2.0	.449	55	7	.112	55		9	1491...	32130	1871...	1871.625	1....	H1-1b
3	MP11	PIPE 2.0	.439	55	10	.103	55		7	1491...	32130	1871...	1871.625	1....	H1-1b
4	MP17	PIPE 2.0	.438	55	6	.104	55		9	1491...	32130	1871...	1871.625	1....	H1-1b
5	S2	HSS4X4X4	.409	0	28	.150	0	y	277	9898...	1061...	1231...	12311.25	2....	H1-1b
6	S3	HSS4X4X4	.400	0	34	.150	0	y	105	9898...	1061...	1231...	12311.25	2....	H1-1b
7	S1	HSS4X4X4	.393	0	32	.148	0	y	233	9898...	1061...	1231...	12311.25	2....	H1-1b
8	MP6	PIPE 2.0	.376	55	4	.118	55		5	1491...	32130	1871...	1871.625	2....	H1-1b
9	MP5	PIPE 2.0	.351	55	13	.099	55		11	1491...	32130	1871...	1871.625	1....	H1-1b
10	MP15	PIPE 2.0	.343	55	11	.088	55		3	1491...	32130	1871...	1871.625	2....	H1-1b
11	MP9	PIPE 2.0	.331	55	10	.093	55		7	1491...	32130	1871...	1871.625	1....	H1-1b
12	GA6	L2x2x3	.304	43.592	13	.022	0	y	7	1207...	2339...	557.7...	1239.29	2....	H2-1
13	MP4	PIPE 2.0	.273	45.563	2	.085	45.563		11	2520...	32130	1871...	1871.625	1....	H1-1b
14	GA4	L2x2x3	.272	43.592	5	.021	0	y	11	1207...	2339...	557.7...	1239.29	2....	H2-1
15	GA2	L2x2x3	.266	43.592	9	.020	0	y	3	1207...	2339...	557.7...	1239.29	2....	H2-1
16	GA1	L2x2x3	.252	0	8	.016	43.592	y	2	1207...	2339...	557.7...	1239.29	2....	H2-1
17	MP14	PIPE 2.0	.249	55	11	.087	55		3	2380...	32130	1871...	1871.625	2....	H1-1b



**Envelope AISC 15th(360-16): LRFD Steel Code Checks (Continued)**

Member	Shape	Code Check	Loc[in]	LC	She...	Loc[in]	Dir	LC	phi*P...	phi*P...	phi*M...	phi*Mn z-z	lb...	Cb	Eqn
18	MP3	PIPE 2.0	.248	55	7	.092	55		11	1491...	32130	1871...	1871.625	2...	H1-1b
19	MP13	PIPE 2.0	.246	55	4	.089	55		3	2380...	32130	1871...	1871.625	2...	H1-1b
20	MP7	PIPE 2.0	.245	55	8	.095	55		7	2380...	32130	1871...	1871.625	1...	H1-1b
21	GA3	L2x2x3	.238	0	4	.014	43.592	z	10	1207...	2339...	557.7...	1237.506	2...	H2-1
22	MP8	PIPE 2.0	.238	55	3	.092	55		7	2380...	32130	1871...	1871.625	1...	H1-1b
23	GA5	L2x2x3	.236	0	12	.014	43.592	z	6	1207...	2339...	557.7...	1238.852	2...	H2-1
24	M24	HSS4X4X4	.225	31.296	37	.179	54.289	z	5	9768...	1061...	1231...	12311.25	1...	H1-1b
25	MP1	PIPE 2.0	.224	55	12	.099	55		11	2380...	32130	1871...	1871.625	1.94	H1-1b
26	M19B	HSS4X4X4	.223	31.296	33	.211	54.289	z	2	9768...	1061...	1231...	12311.25	1...	H1-1b
27	HR3	PIPE 2.0	.223	14	4	.137	126		7	5018...	32130	1871...	1871.625	2...	H1-1b
28	HR2	PIPE 2.0	.220	14	8	.140	141.75		11	5018...	32130	1871...	1871.625	2...	H1-1b
29	M11	HSS4X4X4	.219	31.296	29	.176	54.289	z	9	9768...	1061...	1231...	12311.25	1...	H1-1b
30	H1	PIPE 3.0	.198	115.5	8	.206	115.5		7	2281...	65205	5748...	5748.75	2...	H1-1b
31	MP2	PIPE 2.0	.198	55	6	.095	55		11	2380...	32130	1871...	1871.625	1...	H1-1b
32	H3	PIPE 3.0	.194	113.75	4	.233	115.5		11	2281...	65205	5748...	5748.75	2...	H1-1b
33	H2	PIPE 3.0	.190	113.75	8	.224	115.5		3	2281...	65205	5748...	5748.75	2...	H1-1b
34	HR1	PIPE 2.0	.184	14	12	.134	14		5	5018...	32130	1871...	1871.625	2...	H1-1b
35	P1	PL5"x1/2"	.119	8.307	10	.356	7.384	y	13	3662...	81000	843.75	8437.5	1...	H1-1b
36	P3	PL5"x1/2"	.117	8.307	2	.336	7.384	y	5	3662...	81000	843.75	8437.5	1...	H1-1b
37	P2	PL5"x1/2"	.107	8.307	6	.329	7.384	y	9	3662...	81000	843.75	8437.5	1...	H1-1b
38	MP21	PIPE 2.0	.106	35.875	10	.009	35.875		10	2774...	32130	1871...	1871.625	1...	H1-1b
39	MP20	PIPE 2.0	.106	35.875	2	.009	35.875		2	2774...	32130	1871...	1871.625	1...	H1-1b
40	MP19	PIPE 2.0	.106	35.875	6	.009	35.875		6	2774...	32130	1871...	1871.625	1...	H1-1b
41	CA2	L2.5x2.5x3	.018	9.603	3	.099	0	y	11	2685...	2919...	872.5...	1971.83	1...	H2-1
42	CA3	L2.5x2.5x3	.018	9.803	11	.099	19.206	y	7	2685...	2919...	872.5...	1971.83	1...	H2-1
43	CA1	L2.5x2.5x3	.017	9.603	6	.098	0	y	3	2685...	2919...	872.5...	1971.83	1...	H2-1

**APPENDIX D**  
**ADDITIONAL CALCUATIONS**

**Bolt Calculation Tool, V1.5.1**

PROJECT DATA	
Site Name:	THOMASTON-CHAPEL STREET
Site Number:	CTL01062
Connection Description:	Platform to Pole

MAXIMUM BOLT LOADS		
Bolt Tension:	4000.06	lbs
Bolt Shear:	884.33	lbs

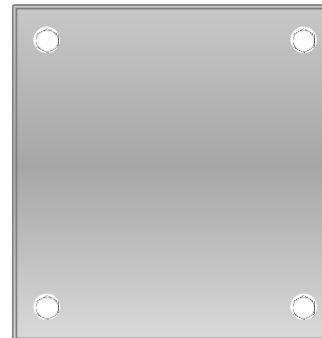
WORST CASE BOLT LOADS <sup>1</sup>		
Bolt Tension:	4000.06	lbs
Bolt Shear:	534.66	lbs

BOLT PROPERTIES		
Bolt Type:	Bolt	-
Bolt Diameter:	0.625	in
Bolt Grade:	A325	-
# of Bolts:	4	-
Threads Excluded?	No	-

<sup>1</sup> Worst case bolt loads correspond to Load combination #10 on member S3 in RISA-3D, which causes the maximum demand on the bolts.

Member Information
I nodes of S1, S3, S2

BOLT CHECK		
Tensile Strength	20340.15	
Shear Strength	13805.83	
Max Tensile Usage	19.7%	
Max Shear Usage	6.4%	
Interaction Check (Worst Case)	0.04	≤1.05
Result	Pass	







Date: **March 1, 2022**

B+T Group  
1717 S. Boulder, Suite 300  
Tulsa, OK 74119  
(918) 587-4630

**Subject:** **Structural Analysis Report**

**Carrier Designation:** **AT&T Mobility Co-Locate**  
**Site Number:** CTL01062  
**Site Name:** THOMASTON - CHAPEL STREET  
**FA Number:** 10107966

**Crown Castle Designation:** **BU Number:** 823530  
**Site Name:** CT364/Chapel St. Monopole  
**JDE Job Number:** 686217  
**Work Order Number:** 2061511  
**Order Number:** 586315 Rev. 0

**Engineering Firm Designation:** **B+T Group Project Number:** 137170.007.01

**Site Data:** **580 Chapel Street, Thomaston, Litchfield County, CT**  
**Latitude 41° 39' 48.48", Longitude -73° 4' 27.41"**  
**175 Foot - Monopole Tower**

B+T Group is pleased to submit this “**Structural Analysis Report**” to determine the structural integrity of the above-mentioned tower.

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:

LC7: Proposed Equipment Configuration **Sufficient Capacity – 73.7%**

This analysis utilizes an ultimate 3-second gust wind speed of 116 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Dominique E. Jones

Respectfully submitted by: B+T Engineering, Inc.  
COA: PEC.0001564; Expires: 02/01/2023



Chad E. Tuttle, P.E.

## TABLE OF CONTENTS

### 1) INTRODUCTION

### 2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

Table 2 - Other Considered Equipment

### 3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

### 4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Table 5 – Tower Component Stresses vs. Capacity – LC7

4.1) Recommendations

### 5) APPENDIX A

tnxTower Output

### 6) APPENDIX B

Base Level Drawing

### 7) APPENDIX C

Additional Calculations

## 1) INTRODUCTION

This tower is a 175 ft. Monopole tower designed by Pirod Inc.

## 2) ANALYSIS CRITERIA

<b>TIA-222 Revision:</b>	TIA-222-H
<b>Risk Category:</b>	II
<b>Wind Speed:</b>	116 mph
<b>Exposure Category:</b>	B
<b>Topographic Factor:</b>	1
<b>Ice Thickness:</b>	1 in
<b>Wind Speed with Ice:</b>	50 mph
<b>Service Wind Speed:</b>	60 mph

**Table 1 - Proposed Equipment Configuration**

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
140.0	142.0	3	Ericsson	AIR 6419 B77G_CCIV3	6 6 3	1-5/8 13/16 3/8
		3	Ericsson	RADIO 4415 B30		
		3	Ericsson	RRUS 4449 B5/B12		
		3	Ericsson	RRUS 4478 B14		
		3	Ericsson	RRUS 8843 B2/B66A		
		3	Raycap	DC6-48-60-18-8F		
	141.0	1	CCI Antennas	TPA65R-BU4D		
		2	CCI Antennas	TPA65R-BU6D_CCIV2		
		1	Kathrein	80010964		
		2	Kathrein	80010965		
	140.0	3	--	2.0" Std. Raycap Mount Pipe		
		1	--	Platform Mount [LP 304-1_HR-1]		
138.0	3	Ericsson	AIR 6449 B77D			

**Table 2 - Other Considered Equipment**

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
172.0	175.0	2	Andrew	VHLP2.6	2 3	1-5/8 7/8
	172.0	3	Ericsson	AIR6449 B41_T-MOBILE		
		3	Ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		3	Ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	RFS Celwave	APXVAARR24_43-U-NA20		
		1	Site Pro 1	F4P-HRK14 Handrail Kit		
		1	--	Platform Mount [LP 701-1]		
	168.0	1	Bird Tech.Group	OA20-67-DIN		
		1	Lone Star Electronics	LS-230C		
	168.0	171.0	1	Lone Star Electronics		
168.0		1	--	Side Arm Mount [SO 701-1]		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
162.0	162.0	3	Alcatel Lucent	800MHZ 2X50W RRH W/FILTER	4	1-1/4
		3	Alcatel Lucent	PCS 1900MHZ 2X40W		
		3	Alcatel Lucent	TD-RRH8X20-25		
		3	RFS Celwave	APXVSP18-C-A20		
		3	RFS Celwave	APXVTM14-C-120		
		1	--	Platform Mount [LP 1201-1]		
152.0	152.0	3	Antel	LPA-80080/4CF	6 1	1-5/8 1-3/8
		6	Commscope	NNHH-65B-R4		
		1	Raycap	RVZDC-6600-PF-48		
		3	Samsung Telecomm.	MT6407-77A		
		3	Samsung Telecomm.	RFV01U-D1A		
		6	Samsung Telecomm.	RFV01U-D2A		
		1	--	Platform Mount [LP 402-1_KCKR]		
130.0	130.0	1	Raycap	RDIDC-9181-PF-48	1	1-1/2
		3	Fujitsu	TA08025-B604		
		3	Fujitsu	TA08025-B605		
		3	JMA Wireless	MX08FRO665-21		
		1	Commscope	MC-PK8-DSH (1)		
115.0	115.0	3	RFS Celwave	APXV18-206517S-C	6	1-5/8
50.0	50.0	1	Pctel	GPS-TMG-HR-26NCM	1	1/2
		1	--	Side Arm Mount [SO 701-1]		

### 3) ANALYSIS PROCEDURE

**Table 3 - Documents Provided**

Document	Reference	Source
Tower Manufacturer Drawing	3462695	CCI Sites
Mount Analysis Report	10207424	CCI Sites
Foundation Drawing	3464631	CCI Sites
Geotech Report	3462674	CCI Sites
Crown CAD Package	Date: 01/03/2022	CCI Sites

### 3.1) Analysis Method

tnxTower (version 8.1.1.0), 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. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

### 3.2) Assumptions

- 1) The tower and structures were maintained in accordance with the - TIA-222 standard.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 3) Base plate design methodology of the manufacturer has been reviewed and found to be an acceptable means of designing to resist the full capacity of the bolts and shaft.

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group 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	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	175 - 164.25	Pole	TP26x22x0.25	1	-6.028	1202.113	4.4	Pass
L2	164.25 - 129.67	Pole	TP34.063x24.413x0.313	2	-24.308	1996.207	30.2	Pass
L3	129.67 - 96	Pole	TP41.75x32.452x0.375	3	-35.913	2940.315	44.4	Pass
L4	96 - 63.17	Pole	TP49.063x39.842x0.375	4	-45.979	3460.726	56.4	Pass
L5	63.17 - 31.17	Pole	TP56.125x46.96x0.375	5	-57.425	3964.264	64.5	Pass
L6	31.17 - 0	Pole	TP62.938x53.848x0.375	6	-72.620	4574.010	71.5	Pass
							Summary	
						Pole (L6)	71.5	Pass
						Rating =	71.5	Pass

**Table 5 - Tower Component Stresses vs. Capacity – LC7**

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2	Anchor Rods	Base	68.9	Pass
1,2,3	Base Plate	Base	71.5	Pass
1,2	Base Foundation (Structure)	Base	69.9	Pass
1,2	Base Foundation (Soil Interaction)	Base	73.7	Pass

<b>Structure Rating (max from all components) =</b>	<b>73.7%</b>
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Notes:

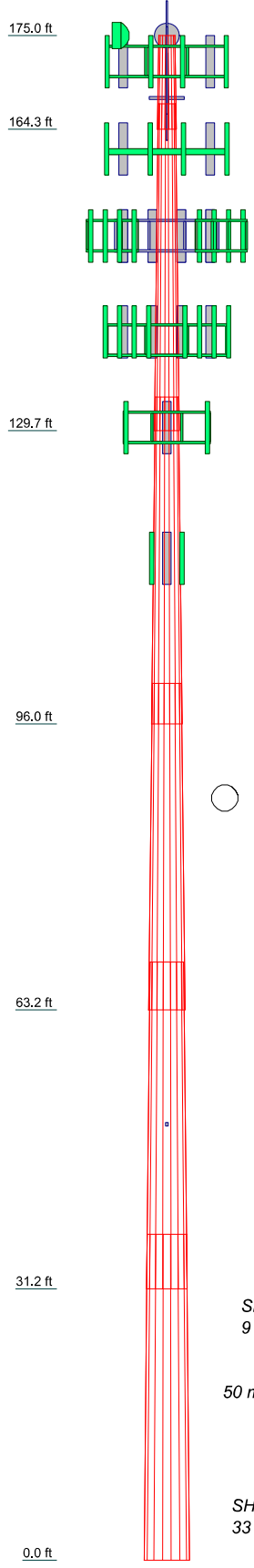
- 1) See additional documentation in "Appendix C - Additional Calculations" for calculations supporting the % capacity consumed.
- 2) Rating per TIA-222-H Section 15.5.
- 3) Base plate has the same capacity as its respective shaft.

### 4.1) Recommendations

The tower and its foundations have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

**APPENDIX A**  
**TNXTOWER OUTPUT**

Section	1	2	3	4	5	6	
Length (ft)	10.750	37.500	37.500	37.500	37.500	37.420	
Number of Sides	18	18	18	18	18	18	
Thickness (in)	0.250	0.313	0.375	0.375	0.375	0.375	
Socket Length (ft)	2.920	3.830	4.670	5.500	6.250	53.848	
Top Dia (in)	22.000	24.413	32.452	39.842	46.980	62.938	
Bot Dia (in)	26.000	34.063	41.750	49.063	56.125		
Grade				A572-65			
Weight (K)	0.7	3.7	5.6	6.7	7.8	8.8	33.2

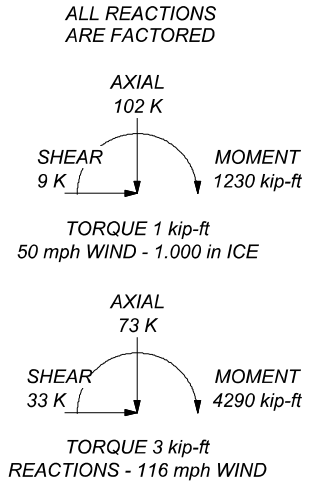


**MATERIAL STRENGTH**

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

**TOWER DESIGN NOTES**

1. Tower is located in Litchfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 116 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TIA-222-H Annex S
9. TOWER RATING: 71.5%



**B+T Group**  
 1717 S. Boulder, Suite 300  
 Tulsa, OK 74119  
 Phone: (918) 587-4630  
 FAX: (918) 295-0265

Job: <b>137170.007.01 - CT364/Chapel St. Monopole, CT (BU# 82353)</b>		
Project:	Client: Crown Castle	Drawn by: R AITHAL
Code: TIA-222-H	Date: 02/26/22	App'd:
Path:	Scale: NTS	Dwg No. E-1

Vx

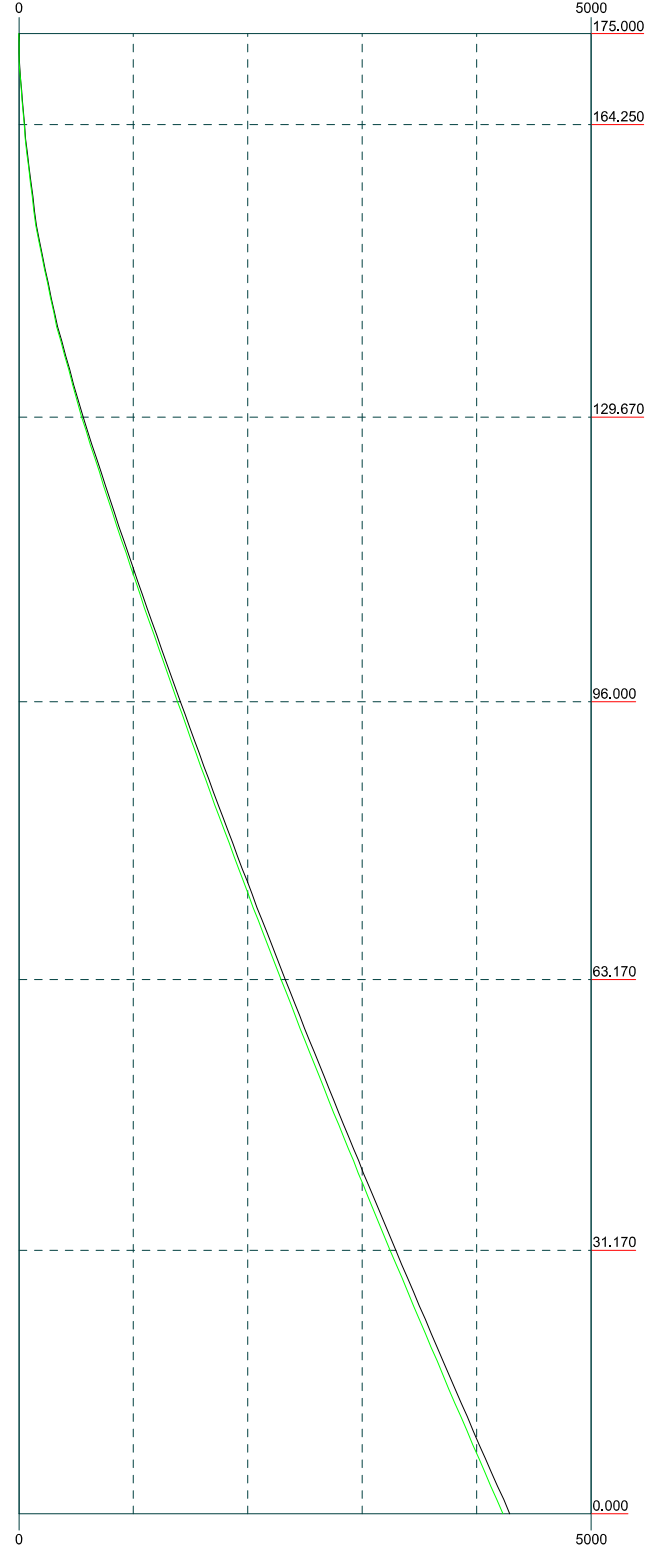
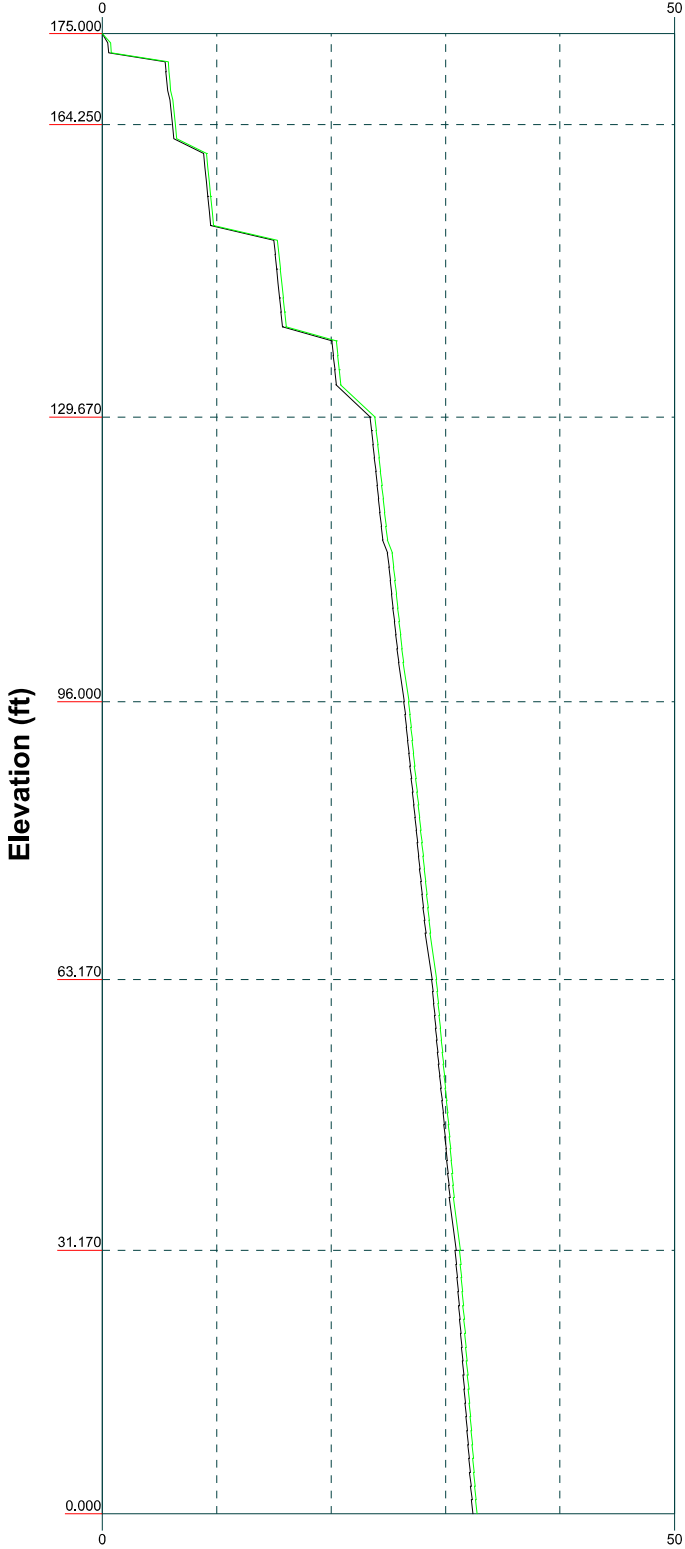
Vz

Mx

Mz

Global Mast Shear (K)

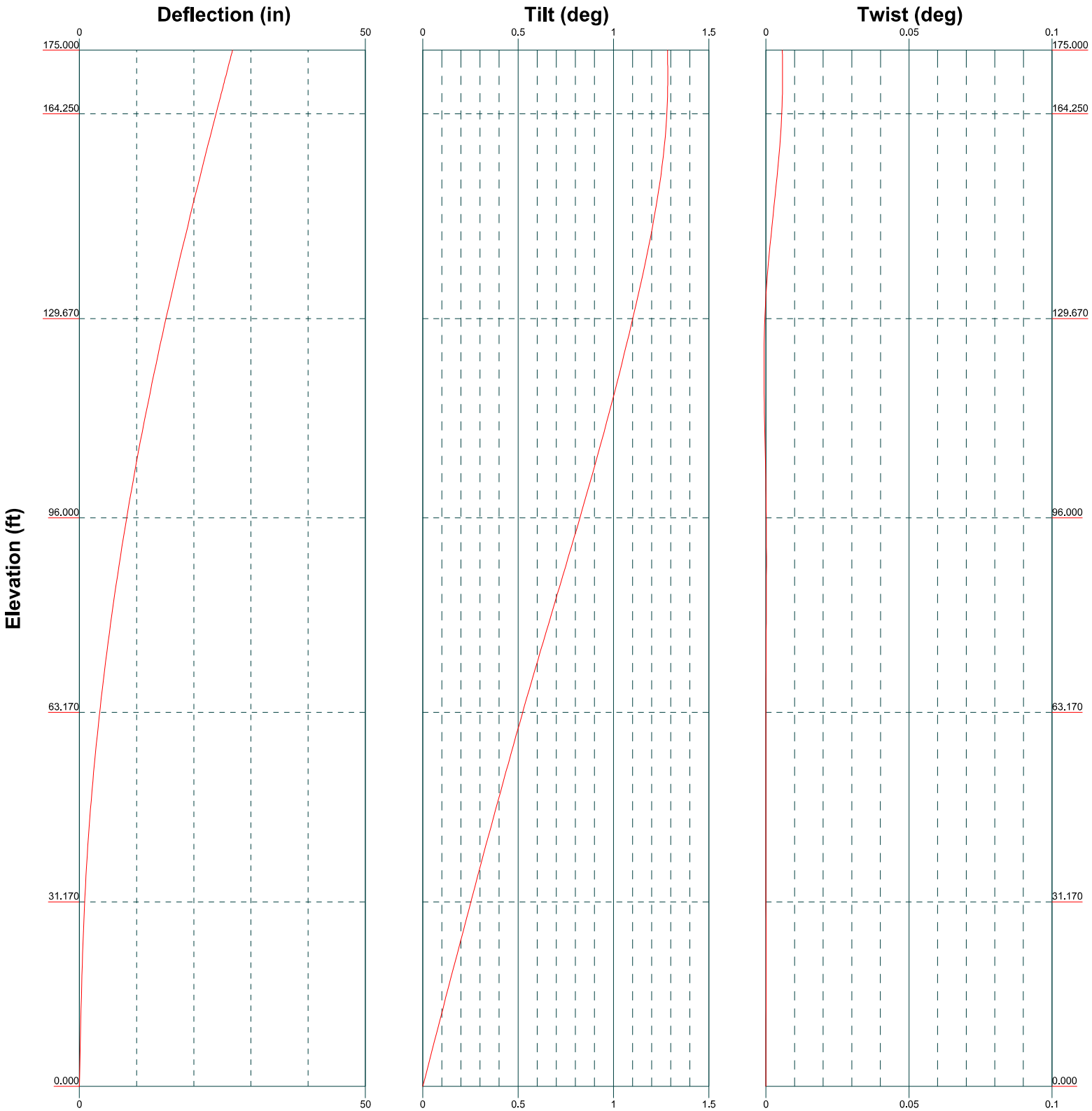
Global Mast Moment (kip-ft)



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Project:		
Client: Crown Castle	Drawn by: R AITHAL	App'd:
Code: TIA-222-H	Date: 02/26/22	Scale: NTS
Path:		Dwg No. E-4



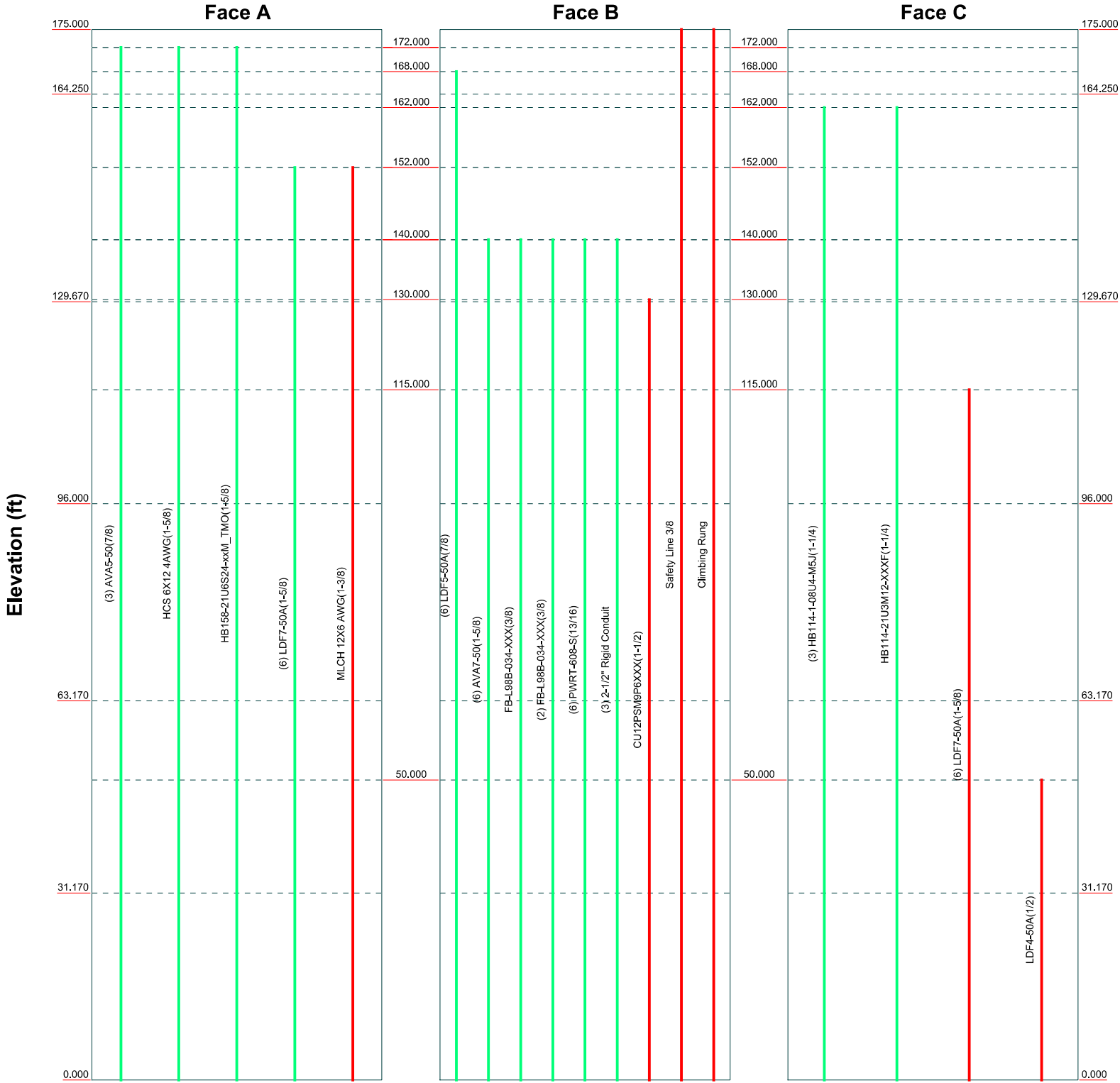


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Project:		
Client: Crown Castle	Drawn by: R AITHAL	App'd:
Code: TIA-222-H	Date: 02/26/22	Scale: NTS
Path:		Dwg No. E-5

# Feed Line Distribution Chart 0' - 175'

— Round   
 — Flat   
 — App In Face   
 — App Out Face   
 — Truss Leg



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Project:		
Client: Crown Castle	Drawn by: R AITHAL	App'd:
Code: TIA-222-H	Date: 02/26/22	Scale: NTS
Path:		Dwg No. E-7

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	<b>Project</b>	<b>Date</b> 12:10:16 02/26/22
	<b>Client</b> Crown Castle	<b>Designed by</b> R AITHAL

## Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

Tower is located in Litchfield County, Connecticut.

Tower base elevation above sea level: 543.000 ft.

Basic wind speed of 116 mph.

Risk Category II.

Exposure Category B.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1.

Crest Height: 0.000 ft.

Nominal ice thickness of 1.000 in.

Ice thickness is considered to increase with height.

Ice density of 56.000 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50.000 °F.

Deflections calculated using a wind speed of 60 mph.

TIA-222-H Annex S.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Tower analysis based on target reliabilities in accordance with Annex S.

Load Modification Factors used:  $K_{es}(F_w) = 0.95$ ,  $K_{es}(t_i) = 0.85$ .

Maximum demand-capacity ratio is: 1.05.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

## Options

<ul style="list-style-type: none"> <li>Consider Moments - Legs</li> <li>Consider Moments - Horizontals</li> <li>Consider Moments - Diagonals</li> <li>Use Moment Magnification</li> <li>√ Use Code Stress Ratios</li> <li>√ Use Code Safety Factors - Guys</li> <li>Escalate Ice</li> <li>Always Use Max Kz</li> <li>Use Special Wind Profile</li> <li>Include Bolts In Member Capacity</li> <li>Leg Bolts Are At Top Of Section</li> <li>Secondary Horizontal Braces Leg</li> <li>Use Diamond Inner Bracing (4 Sided)</li> <li>SR Members Have Cut Ends</li> <li>SR Members Are Concentric</li> </ul>	<ul style="list-style-type: none"> <li>Distribute Leg Loads As Uniform</li> <li>Assume Legs Pinned</li> <li>√ Assume Rigid Index Plate</li> <li>√ Use Clear Spans For Wind Area</li> <li>Use Clear Spans For KL/r</li> <li>Retension Guys To Initial Tension</li> <li>√ Bypass Mast Stability Checks</li> <li>√ Use Azimuth Dish Coefficients</li> <li>√ Project Wind Area of Appurt.</li> <li>Autocalc Torque Arm Areas</li> <li>Add IBC .6D+W Combination</li> <li>Sort Capacity Reports By Component</li> <li>Triangulate Diamond Inner Bracing</li> <li>Treat Feed Line Bundles As Cylinder</li> <li>Ignore KL/ry For 60 Deg. Angle Legs</li> </ul>	<ul style="list-style-type: none"> <li>Use ASCE 10 X-Brace Ly Rules</li> <li>Calculate Redundant Bracing Forces</li> <li>Ignore Redundant Members in FEA</li> <li>SR Leg Bolts Resist Compression</li> <li>All Leg Panels Have Same Allowable</li> <li>Offset Girt At Foundation</li> <li>√ Consider Feed Line Torque</li> <li>Include Angle Block Shear Check</li> <li>Use TIA-222-H Bracing Resist. Exemption</li> <li>Use TIA-222-H Tension Splice Exemption</li> <li style="text-align: center;">Poles</li> <li>√ Include Shear-Torsion Interaction</li> <li>Always Use Sub-Critical Flow</li> <li>Use Top Mounted Sockets</li> <li>Pole Without Linear Attachments</li> <li>Pole With Shroud Or No Appurtenances</li> <li>Outside and Inside Corner Radii Are Known</li> </ul>
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	<b>Project</b>	<b>Date</b> 12:10:16 02/26/22
	<b>Client</b> Crown Castle	<b>Designed by</b> R AITHAL

### 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	175.000-164.250	10.750	2.920	18	22.000	26.000	0.250	1.000	A572-65 (65 ksi)
L2	164.250-129.670	37.500	3.830	18	24.413	34.063	0.313	1.250	A572-65 (65 ksi)
L3	129.670-96.000	37.500	4.670	18	32.452	41.750	0.375	1.500	A572-65 (65 ksi)
L4	96.000-63.170	37.500	5.500	18	39.842	49.063	0.375	1.500	A572-65 (65 ksi)
L5	63.170-31.170	37.500	6.250	18	46.960	56.125	0.375	1.500	A572-65 (65 ksi)
L6	31.170-0.000	37.420		18	53.848	62.938	0.375	1.500	A572-65 (65 ksi)

### Tapered Pole Properties

Section	Tip Dia. in	Area in <sup>2</sup>	I in <sup>4</sup>	r in	C in	I/C in <sup>3</sup>	J in <sup>4</sup>	It/Q in <sup>2</sup>	w in	w/t
L1	22.301	17.259	1031.483	7.721	11.176	92.294	2064.324	8.631	3.432	13.728
	26.363	20.433	1711.654	9.141	13.208	129.592	3425.561	10.218	4.136	16.544
L2	25.505	23.905	1754.280	8.556	12.402	141.451	3510.869	11.955	3.747	11.99
	34.540	33.476	4817.433	11.981	17.304	278.404	9641.206	16.741	5.445	17.424
L3	33.859	38.180	4963.150	11.387	16.486	301.059	9932.832	19.093	5.052	13.471
	42.336	49.247	10650.982	14.688	21.209	502.192	21315.979	24.628	6.688	17.835
L4	41.565	46.976	9244.448	14.011	20.240	456.746	18501.060	23.492	6.352	16.939
	49.762	57.950	17355.138	17.284	24.924	696.329	34733.112	28.981	7.975	21.267
L5	48.992	55.448	15202.632	16.538	23.856	637.273	30425.268	27.729	7.605	20.28
	56.933	66.356	26056.151	19.791	28.511	913.882	52146.587	33.185	9.218	24.581
L6	56.162	63.646	22991.527	18.983	27.355	840.501	46013.307	31.829	8.817	23.512
	63.851	74.465	36822.895	22.210	31.972	1151.714	73694.242	37.240	10.417	27.779

Tower Elevation ft	Gusset Area (per face) ft <sup>2</sup>	Gusset Thickness in	Gusset Grade	Adjust. Factor A <sub>f</sub>	Adjust. Factor A <sub>r</sub>	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontal in	Double Angle Stitch Bolt Spacing Redundants in
L1 175.000-164.250				1	1	1			
L2 164.250-129.670				1	1	1			
L3 129.670-96.000				1	1	1			
L4 96.000-63.170				1	1	1			
L5 63.170-31.170				1	1	1			
L6 31.170-0.000				1	1	1			

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	<b>Project</b>	<b>Date</b> 12:10:16 02/26/22
	<b>Client</b> Crown Castle	<b>Designed by</b> R AITHAL

**Feed Line/Linear Appurtenances - Entered As Round Or Flat**

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight klf
MLCH 12X6 AWG(1-3/8) *	A	No	Surface Ar (CaAa)	152.000 - 0.000	1	1	-0.250 -0.220	1.430		0.002
CU12PSM9P6XXX(1-1/2) *	B	No	Surface Ar (CaAa)	130.000 - 0.000	1	1	-0.480 -0.450	1.600		0.002
LDF7-50A(1-5/8) *	C	No	Surface Ar (CaAa)	115.000 - 0.000	6	6	-0.250 0.000	1.980		0.001
LDF4-50A(1/2) *	C	No	Surface Ar (CaAa)	50.000 - 0.000	1	1	-0.375 -0.350	0.630		0.000
Safety Line 3/8	B	No	Surface Ar (CaAa)	175.000 - 0.000	1	1	0.050 0.060	0.375		0.000
Climbing Rung *	B	No	Surface Ar (CaAa)	175.000 - 0.000	1	1	0.000 0.100	1.000		0.008

**Feed Line/Linear Appurtenances - Entered As Area**

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C <sub>AA</sub> ft <sup>2</sup> /ft	Weight klf
AVA5-50(7/8) *	A	No	No	Inside Pole	172.000 - 0.000	3	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000
HCS 6X12 4AWG(1-5/8) *	A	No	No	Inside Pole	172.000 - 0.000	1	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.002 0.002 0.002
HB158-21U6S24-xx M_TMO(1-5/8) *	A	No	No	Inside Pole	172.000 - 0.000	1	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.003 0.003 0.003
LDF5-50A(7/8) *	B	No	No	Inside Pole	168.000 - 0.000	6	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000
HB114-1-08U4-M5J (1-1/4) *	C	No	No	Inside Pole	162.000 - 0.000	3	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001
HB114-21U3M12-XXF(1-1/4) *	C	No	No	Inside Pole	162.000 - 0.000	1	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001
LDF7-50A(1-5/8) *	A	No	No	Inside Pole	152.000 - 0.000	6	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001
AVA7-50(1-5/8)	B	No	No	Inside Pole	140.000 - 0.000	6	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001

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	<b>Project</b>	<b>Date</b> 12:10:16 02/26/22
	<b>Client</b> Crown Castle	<b>Designed by</b> R AITHAL

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		$C_{AA}$ $ft^2/ft$	Weight $klf$
FB-L98B-034-XXX(3/8)	B	No	No	Inside Pole	140.000 - 0.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
FB-L98B-034-XXX(3/8)	B	No	No	Inside Pole	140.000 - 0.000	2	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
PWRT-608-S(13/16)	B	No	No	Inside Pole	140.000 - 0.000	6	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
2-1/2" Rigid Conduit	B	No	No	Inside Pole	140.000 - 0.000	3	No Ice	0.000	0.003
							1/2" Ice	0.000	0.003
							1" Ice	0.000	0.003

\*

### Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	$A_R$ $ft^2$	$A_F$ $ft^2$	$C_{AA}$ In Face $ft^2$	$C_{AA}$ Out Face $ft^2$	Weight $K$
L1	175.000-164.250	A	0.000	0.000	0.000	0.000	0.045
		B	0.000	0.000	1.478	0.000	0.100
		C	0.000	0.000	0.000	0.000	0.000
L2	164.250-129.670	A	0.000	0.000	3.193	0.000	0.349
		B	0.000	0.000	4.808	0.000	0.544
		C	0.000	0.000	0.000	0.000	0.144
L3	129.670-96.000	A	0.000	0.000	4.815	0.000	0.419
		B	0.000	0.000	10.017	0.000	1.011
		C	0.000	0.000	22.572	0.000	0.244
L4	96.000-63.170	A	0.000	0.000	4.695	0.000	0.408
		B	0.000	0.000	9.767	0.000	0.986
		C	0.000	0.000	39.002	0.000	0.308
L5	63.170-31.170	A	0.000	0.000	4.576	0.000	0.398
		B	0.000	0.000	9.520	0.000	0.961
		C	0.000	0.000	39.202	0.000	0.303
L6	31.170-0.000	A	0.000	0.000	4.457	0.000	0.388
		B	0.000	0.000	9.273	0.000	0.936
		C	0.000	0.000	38.994	0.000	0.297

### Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	$A_R$ $ft^2$	$A_F$ $ft^2$	$C_{AA}$ In Face $ft^2$	$C_{AA}$ Out Face $ft^2$	Weight $K$
L1	175.000-164.250	A	1.001	0.000	0.000	0.000	0.000	0.045
		B		0.000	0.000	5.783	0.000	0.144
		C		0.000	0.000	0.000	0.000	0.000
L2	164.250-129.670	A	0.986	0.000	0.000	7.664	0.000	0.415
		B		0.000	0.000	18.721	0.000	0.688
		C		0.000	0.000	0.000	0.000	0.144
L3	129.670-96.000	A	0.961	0.000	0.000	11.458	0.000	0.517
		B		0.000	0.000	29.945	0.000	1.252

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	<b>Project</b>	<b>Date</b> 12:10:16 02/26/22
	<b>Client</b> Crown Castle	<b>Designed by</b> R AITHAL

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	$A_R$ ft <sup>2</sup>	$A_F$ ft <sup>2</sup>	$C_{AA}$ In Face ft <sup>2</sup>	$C_{AA}$ Out Face ft <sup>2</sup>	Weight K
L4	96.000-63.170	C		0.000	0.000	32.901	0.000	0.487
		A	0.928	0.000	0.000	11.003	0.000	0.501
		B		0.000	0.000	28.693	0.000	1.212
L5	63.170-31.170	C		0.000	0.000	56.638	0.000	0.718
		A	0.881	0.000	0.000	10.515	0.000	0.484
		B		0.000	0.000	27.336	0.000	1.170
L6	31.170-0.000	C		0.000	0.000	59.624	0.000	0.723
		A	0.787	0.000	0.000	9.949	0.000	0.465
		B		0.000	0.000	25.748	0.000	1.125
		C		0.000	0.000	60.607	0.000	0.706

### Feed Line Center of Pressure

Section	Elevation ft	$CP_X$ in	$CP_Z$ in	$CP_X$ Ice in	$CP_Z$ Ice in
L1	175.000-164.250	0.965	-0.426	1.919	-0.844
L2	164.250-129.670	0.200	-0.447	0.974	-0.873
L3	129.670-96.000	1.005	2.659	1.301	1.269
L4	96.000-63.170	1.603	4.964	1.742	3.172
L5	63.170-31.170	1.810	5.307	2.109	3.652
L6	31.170-0.000	1.964	5.577	2.359	4.029

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

### Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	$K_a$ No Ice	$K_a$ Ice
L1	33	Safety Line 3/8	164.25 - 175.00	1.0000	1.0000
L1	34	Climbing Rung	164.25 - 175.00	1.0000	1.0000
L2	13	MLCH 12X6 AWG(1-3/8)	129.67 - 152.00	1.0000	1.0000
L2	27	CU12PSM9P6XXX(1-1/2)	129.67 - 130.00	1.0000	1.0000
L2	33	Safety Line 3/8	129.67 - 164.25	1.0000	1.0000
L2	34	Climbing Rung	129.67 - 164.25	1.0000	1.0000
L3	13	MLCH 12X6 AWG(1-3/8)	96.00 - 129.67	1.0000	1.0000
L3	27	CU12PSM9P6XXX(1-1/2)	96.00 - 129.67	1.0000	1.0000
L3	29	LDF7-50A(1-5/8)	96.00 - 115.00	1.0000	1.0000
L3	33	Safety Line 3/8	96.00 - 129.67	1.0000	1.0000
L3	34	Climbing Rung	96.00 - 129.67	1.0000	1.0000
L4	13	MLCH 12X6 AWG(1-3/8)	63.17 - 96.00	1.0000	1.0000
L4	27	CU12PSM9P6XXX(1-1/2)	63.17 - 96.00	1.0000	1.0000
L4	29	LDF7-50A(1-5/8)	63.17 - 96.00	1.0000	1.0000

<b>tnxTower</b>  <b>B+T Group</b> 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	<b>Job</b> 137170.007.01 - CT364/Chapel St. Monopole, CT (BU# 823530)	<b>Page</b> 6 of 21
	<b>Project</b>	<b>Date</b> 12:10:16 02/26/22
	<b>Client</b> Crown Castle	<b>Designed by</b> R AITHAL

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
L4	33	Safety Line 3/8	63.17 - 96.00	1.0000	1.0000
L4	34	Climbing Rung	63.17 - 96.00	1.0000	1.0000
L5	13	MLCH 12X6 AWG(1-3/8)	31.17 - 63.17	1.0000	1.0000
L5	27	CU12PSM9P6XXX(1-1/2)	31.17 - 63.17	1.0000	1.0000
L5	29	LDF7-50A(1-5/8)	31.17 - 63.17	1.0000	1.0000
L5	31	LDF4-50A(1/2)	31.17 - 50.00	1.0000	1.0000
L5	33	Safety Line 3/8	31.17 - 63.17	1.0000	1.0000
L5	34	Climbing Rung	31.17 - 63.17	1.0000	1.0000
L6	13	MLCH 12X6 AWG(1-3/8)	0.00 - 31.17	1.0000	1.0000
L6	27	CU12PSM9P6XXX(1-1/2)	0.00 - 31.17	1.0000	1.0000
L6	29	LDF7-50A(1-5/8)	0.00 - 31.17	1.0000	1.0000
L6	31	LDF4-50A(1/2)	0.00 - 31.17	1.0000	1.0000
L6	33	Safety Line 3/8	0.00 - 31.17	1.0000	1.0000
L6	34	Climbing Rung	0.00 - 31.17	1.0000	1.0000

### Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C <sub>AA</sub> Front ft <sup>2</sup>	C <sub>AA</sub> Side ft <sup>2</sup>	Weight K	
Lightning Rod 5/8" x 6'	A	From Leg	4.000	0.000	174.000	No Ice	0.375	0.375	0.006
			0.000			1/2" Ice	0.989	0.989	0.010
			3.000			1" Ice	1.619	1.619	0.019
* LS-230C	A	From Leg	4.000	0.000	172.000	No Ice	1.610	1.610	0.011
			0.000			1/2" Ice	2.337	2.337	0.023
			-4.000			1" Ice	2.796	2.796	0.040
OA20-67-DIN	A	From Leg	4.000	0.000	172.000	No Ice	5.020	4.400	0.009
			0.000			1/2" Ice	7.960	6.800	0.043
			-4.000			1" Ice	10.930	9.200	0.080
* APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.000	0.000	172.000	No Ice	14.690	6.870	0.186
			0.000			1/2" Ice	15.460	7.550	0.315
			0.000			1" Ice	16.230	8.250	0.458
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.000	0.000	172.000	No Ice	14.690	6.870	0.186
			0.000			1/2" Ice	15.460	7.550	0.315
			0.000			1" Ice	16.230	8.250	0.458
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.000	0.000	172.000	No Ice	14.690	6.870	0.186
			0.000			1/2" Ice	15.460	7.550	0.315
			0.000			1" Ice	16.230	8.250	0.458
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.000	0.000	172.000	No Ice	5.190	2.710	0.128
			0.000			1/2" Ice	5.590	3.040	0.174
			0.000			1" Ice	6.020	3.380	0.227
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.000	0.000	172.000	No Ice	5.190	2.710	0.128
			0.000			1/2" Ice	5.590	3.040	0.174
			0.000			1" Ice	6.020	3.380	0.227
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.000	0.000	172.000	No Ice	5.190	2.710	0.128
			0.000			1/2" Ice	5.590	3.040	0.174
			0.000			1" Ice	6.020	3.380	0.227
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.000	0.000	172.000	No Ice	2.139	1.686	0.109
			0.000			1/2" Ice	2.321	1.850	0.131
			0.000			1" Ice	2.321	1.850	0.131



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	<b>Project</b>	<b>Date</b> 12:10:16 02/26/22
	<b>Client</b> Crown Castle	<b>Designed by</b> R AITHAL

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C <sub>A</sub> A <sub>1</sub> Front ft <sup>2</sup>	C <sub>A</sub> A <sub>1</sub> Side ft <sup>2</sup>	Weight K
			Horz Lateral ft	Vert ft					
RADIO 4460 B2/B25 B66_TMO	B	From Leg	0.000	0.000	0.000	172.000	1" Ice 2.511	2.022	0.156
			4.000	0.000			No Ice 2.139	1.686	0.109
			0.000	0.000			1/2" Ice 2.321	1.850	0.131
RADIO 4460 B2/B25 B66_TMO	C	From Leg	0.000	0.000	0.000	172.000	1" Ice 2.511	2.022	0.156
			4.000	0.000			No Ice 2.139	1.686	0.109
			0.000	0.000			1/2" Ice 2.321	1.850	0.131
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	0.000	0.000	0.000	172.000	1" Ice 2.511	2.022	0.156
			4.000	0.000			No Ice 1.970	1.587	0.073
			0.000	0.000			1/2" Ice 2.147	1.749	0.093
RADIO 4449 B71 B85A_T-MOBILE	B	From Leg	0.000	0.000	0.000	172.000	1" Ice 2.331	1.918	0.116
			4.000	0.000			No Ice 1.970	1.587	0.073
			0.000	0.000			1/2" Ice 2.147	1.749	0.093
RADIO 4449 B71 B85A_T-MOBILE	C	From Leg	0.000	0.000	0.000	172.000	1" Ice 2.331	1.918	0.116
			4.000	0.000			No Ice 1.970	1.587	0.073
			0.000	0.000			1/2" Ice 2.147	1.749	0.093
(2) 6' x 2" Mount Pipe	A	From Leg	0.000	0.000	0.000	172.000	1" Ice 2.331	1.918	0.116
			4.000	0.000			No Ice 1.425	1.425	0.022
			0.000	0.000			1/2" Ice 1.925	1.925	0.033
(2) 6' x 2" Mount Pipe	C	From Leg	0.000	0.000	0.000	172.000	1" Ice 2.294	2.294	0.048
			4.000	0.000			No Ice 1.425	1.425	0.022
			0.000	0.000			1/2" Ice 1.925	1.925	0.033
Platform Mount [LP 701-1_HR-1]	C	None	0.000	0.000	0.000	172.000	1" Ice 2.294	2.294	0.048
			4.000	0.000			No Ice 55.580	55.580	3.082
			0.000	0.000			1/2" Ice 62.440	62.440	4.291
* LS-230C	A	From Leg	0.000	0.000	0.000	168.000	1" Ice 69.140	69.140	5.677
			3.000	0.000			No Ice 1.610	1.610	0.011
			0.000	0.000			1/2" Ice 2.337	2.337	0.023
Side Arm Mount [SO 701-1]	A	From Leg	3.000	0.000	0.000	168.000	1" Ice 2.796	2.796	0.040
			1.500	0.000			No Ice 0.850	1.670	0.065
			0.000	0.000			1/2" Ice 1.140	2.340	0.079
* APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	0.000	0.000	0.000	162.000	1" Ice 1.430	3.010	0.093
			4.000	0.000			No Ice 4.600	4.010	0.095
			0.000	0.000			1/2" Ice 5.050	4.450	0.160
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	0.000	0.000	0.000	162.000	1" Ice 5.500	4.890	0.235
			4.000	0.000			No Ice 4.600	4.010	0.095
			0.000	0.000			1/2" Ice 5.050	4.450	0.160
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	0.000	0.000	0.000	162.000	1" Ice 5.500	4.890	0.235
			4.000	0.000			No Ice 4.600	4.010	0.095
			0.000	0.000			1/2" Ice 5.050	4.450	0.160
PCS 1900MHZ 2X40W	A	From Leg	0.000	0.000	0.000	162.000	1" Ice 5.500	4.890	0.235
			4.000	0.000			No Ice 2.351	1.278	0.044
			0.000	0.000			1/2" Ice 2.547	1.434	0.062
PCS 1900MHZ 2X40W	B	From Leg	0.000	0.000	0.000	162.000	1" Ice 2.751	1.598	0.084
			4.000	0.000			No Ice 2.351	1.278	0.044
			0.000	0.000			1/2" Ice 2.547	1.434	0.062
PCS 1900MHZ 2X40W	C	From Leg	0.000	0.000	0.000	162.000	1" Ice 2.751	1.598	0.084
			4.000	0.000			No Ice 2.351	1.278	0.044
			0.000	0.000			1/2" Ice 2.547	1.434	0.062
800MHZ 2X50W RRH W/FILTER	A	From Leg	0.000	0.000	0.000	162.000	1" Ice 2.751	1.598	0.084
			4.000	0.000			No Ice 2.058	1.932	0.064
			0.000	0.000			1/2" Ice 2.240	2.109	0.086
800MHZ 2X50W RRH W/FILTER	B	From Leg	0.000	0.000	0.000	162.000	1" Ice 2.429	2.293	0.111
			4.000	0.000			No Ice 2.058	1.932	0.064
			0.000	0.000			1/2" Ice 2.240	2.109	0.086
			0.000				1" Ice 2.429	2.293	0.111

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	<b>Project</b>	<b>Date</b> 12:10:16 02/26/22
	<b>Client</b> Crown Castle	<b>Designed by</b> R AITHAL

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C <sub>AA</sub> Front	C <sub>AA</sub> Side	Weight
			Horz Lateral ft	Vert ft					
800MHZ 2X50W RRH W/FILTER	C	From Leg	4.000	0.000	0.000	162.000	No Ice 2.058	1.932	0.064
			0.000				1/2" Ice 2.240	2.109	0.086
			0.000				1" Ice 2.429	2.293	0.111
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	162.000	No Ice 4.090	2.860	0.077
			0.000				1/2" Ice 4.480	3.230	0.127
			0.000				1" Ice 4.880	3.610	0.185
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	162.000	No Ice 4.090	2.860	0.077
			0.000				1/2" Ice 4.480	3.230	0.127
			0.000				1" Ice 4.880	3.610	0.185
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	162.000	No Ice 4.090	2.860	0.077
			0.000				1/2" Ice 4.480	3.230	0.127
			0.000				1" Ice 4.880	3.610	0.185
TD-RRH8X20-25	A	From Leg	4.000	0.000	0.000	162.000	No Ice 4.045	1.535	0.070
			0.000				1/2" Ice 4.298	1.714	0.097
			0.000				1" Ice 4.557	1.901	0.128
TD-RRH8X20-25	B	From Leg	4.000	0.000	0.000	162.000	No Ice 4.045	1.535	0.070
			0.000				1/2" Ice 4.298	1.714	0.097
			0.000				1" Ice 4.557	1.901	0.128
TD-RRH8X20-25	C	From Leg	4.000	0.000	0.000	162.000	No Ice 4.045	1.535	0.070
			0.000				1/2" Ice 4.298	1.714	0.097
			0.000				1" Ice 4.557	1.901	0.128
6' x 2" Mount Pipe	A	From Leg	4.000	0.000	0.000	162.000	No Ice 1.425	1.425	0.022
			0.000				1/2" Ice 1.925	1.925	0.033
			0.000				1" Ice 2.294	2.294	0.048
6' x 2" Mount Pipe	B	From Leg	4.000	0.000	0.000	162.000	No Ice 1.425	1.425	0.022
			0.000				1/2" Ice 1.925	1.925	0.033
			0.000				1" Ice 2.294	2.294	0.048
6' x 2" Mount Pipe	C	From Leg	4.000	0.000	0.000	162.000	No Ice 1.425	1.425	0.022
			0.000				1/2" Ice 1.925	1.925	0.033
			0.000				1" Ice 2.294	2.294	0.048
Platform Mount [LP 1201-1]	C	None		0.000	0.000	162.000	No Ice 18.380	18.380	2.100
							1/2" Ice 22.110	22.110	2.652
							1" Ice 25.870	25.870	3.263
*									
LPA-80080/4CF w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	152.000	No Ice 2.856	6.569	0.030
			0.000				1/2" Ice 3.220	7.195	0.076
			0.000				1" Ice 3.592	7.837	0.128
LPA-80080/4CF w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	152.000	No Ice 2.856	6.569	0.030
			0.000				1/2" Ice 3.220	7.195	0.076
			0.000				1" Ice 3.592	7.837	0.128
LPA-80080/4CF w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	152.000	No Ice 2.856	6.569	0.030
			0.000				1/2" Ice 3.220	7.195	0.076
			0.000				1" Ice 3.592	7.837	0.128
(2) NNHH-65B-R4 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	152.000	No Ice 7.550	4.230	0.110
			0.000				1/2" Ice 8.040	4.670	0.197
			0.000				1" Ice 8.530	5.120	0.296
(2) NNHH-65B-R4 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	152.000	No Ice 7.550	4.230	0.110
			0.000				1/2" Ice 8.040	4.670	0.197
			0.000				1" Ice 8.530	5.120	0.296
(2) NNHH-65B-R4 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	152.000	No Ice 7.550	4.230	0.110
			0.000				1/2" Ice 8.040	4.670	0.197
			0.000				1" Ice 8.530	5.120	0.296
(3) RFV01U-D2A	A	From Leg	4.000	0.000	0.000	152.000	No Ice 1.875	1.013	0.070
			0.000				1/2" Ice 2.045	1.145	0.087
			0.000				1" Ice 2.223	1.284	0.106
RFV01U-D1A	A	From Leg	4.000	0.000	0.000	152.000	No Ice 1.875	1.250	0.084
			0.000				1/2" Ice 2.045	1.393	0.103

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	<b>Project</b>	<b>Date</b> 12:10:16 02/26/22
	<b>Client</b> Crown Castle	<b>Designed by</b> R AITHAL

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C <sub>A</sub> A <sub>1</sub> Front ft <sup>2</sup>	C <sub>A</sub> A <sub>2</sub> Side ft <sup>2</sup>	Weight K
			Horz Lateral ft	Vert ft					
(2) RFV01U-D1A	B	From Leg	0.000	0.000	0.000	152.000	1" Ice 2.223	1.543	0.124
			4.000				No Ice 1.875	1.250	0.084
			0.000				1/2" Ice 2.045	1.393	0.103
			0.000				1" Ice 2.223	1.543	0.124
RVZDC-6600-PF-48	B	From Leg	4.000	0.000	0.000	152.000	No Ice 4.056	3.098	0.032
			0.000				1/2" Ice 4.316	3.335	0.068
			0.000				1" Ice 4.582	3.580	0.108
MT6407-77A w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	152.000	No Ice 4.907	2.682	0.096
			0.000				1/2" Ice 5.256	3.145	0.136
			0.000				1" Ice 5.615	3.624	0.180
MT6407-77A w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	152.000	No Ice 4.907	2.682	0.096
			0.000				1/2" Ice 5.256	3.145	0.136
			0.000				1" Ice 5.615	3.624	0.180
MT6407-77A w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	152.000	No Ice 4.907	2.682	0.096
			0.000				1/2" Ice 5.256	3.145	0.136
			0.000				1" Ice 5.615	3.624	0.180
RFV01U-D2A	A	From Leg	4.000	0.000	0.000	152.000	No Ice 1.875	1.013	0.070
			0.000				1/2" Ice 2.045	1.145	0.087
			0.000				1" Ice 2.223	1.284	0.106
RFV01U-D2A	B	From Leg	4.000	0.000	0.000	152.000	No Ice 1.875	1.013	0.070
			0.000				1/2" Ice 2.045	1.145	0.087
			0.000				1" Ice 2.223	1.284	0.106
RFV01U-D2A	C	From Leg	4.000	0.000	0.000	152.000	No Ice 1.875	1.013	0.070
			0.000				1/2" Ice 2.045	1.145	0.087
			0.000				1" Ice 2.223	1.284	0.106
6' x 2" Mount Pipe	A	From Leg	4.000	0.000	0.000	152.000	No Ice 1.425	1.425	0.022
			0.000				1/2" Ice 1.925	1.925	0.033
			0.000				1" Ice 2.294	2.294	0.048
6' x 2" Mount Pipe	B	From Leg	4.000	0.000	0.000	152.000	No Ice 1.425	1.425	0.022
			0.000				1/2" Ice 1.925	1.925	0.033
			0.000				1" Ice 2.294	2.294	0.048
6' x 2" Mount Pipe	C	From Leg	4.000	0.000	0.000	152.000	No Ice 1.425	1.425	0.022
			0.000				1/2" Ice 1.925	1.925	0.033
			0.000				1" Ice 2.294	2.294	0.048
Platform Mount [LP 402-1_KCKR]	C	None		0.000	0.000	152.000	No Ice 38.870	38.870	2.441
							1/2" Ice 48.960	48.960	3.251
							1" Ice 59.000	59.000	4.228
Mount Reinforcement Specifications	C	None		0.000	0.000	152.000	No Ice 28.630	28.630	0.280
							1/2" Ice 37.310	37.310	0.670
							1" Ice 45.800	45.800	0.940
*									
80010965 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	140.000	No Ice 12.260	5.790	0.136
			0.000				1/2" Ice 13.030	6.470	0.226
			1.000				1" Ice 13.800	7.170	0.328
80010964 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	140.000	No Ice 8.610	4.100	0.116
			0.000				1/2" Ice 9.180	4.590	0.186
			1.000				1" Ice 9.770	5.100	0.265
80010965 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	140.000	No Ice 12.260	5.790	0.136
			0.000				1/2" Ice 13.030	6.470	0.226
			1.000				1" Ice 13.800	7.170	0.328
RRUS 4478 B14	A	From Leg	4.000	0.000	0.000	140.000	No Ice 1.843	1.059	0.060
			0.000				1/2" Ice 2.012	1.197	0.076
			2.000				1" Ice 2.190	1.342	0.094
RRUS 4478 B14	B	From Leg	4.000	0.000	0.000	140.000	No Ice 1.843	1.059	0.060
			0.000				1/2" Ice 2.012	1.197	0.076
			2.000				1" Ice 2.190	1.342	0.094
RRUS 4478 B14	C	From Leg	4.000	0.000	0.000	140.000	No Ice 1.843	1.059	0.060

<b>tnxTower</b>  <b>B+T Group</b> 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	<b>Job</b> 137170.007.01 - CT364/Chapel St. Monopole, CT (BU# 823530)	<b>Page</b> 10 of 21
	<b>Project</b>	<b>Date</b> 12:10:16 02/26/22
	<b>Client</b> Crown Castle	<b>Designed by</b> R AITHAL

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C <sub>A</sub> A <sub>1</sub> Front ft <sup>2</sup>	C <sub>A</sub> A <sub>2</sub> Side ft <sup>2</sup>	Weight K	
			Horz Lateral ft	Vert ft						
			0.000				1/2" Ice	2.012	1.197	0.076
			2.000				1" Ice	2.190	1.342	0.094
RADIO 4415 B30	A	From Leg	4.000	0.000	140.000		No Ice	1.643	0.639	0.043
			0.000				1/2" Ice	1.803	0.750	0.055
			2.000				1" Ice	1.971	0.867	0.069
RADIO 4415 B30	B	From Leg	4.000	0.000	140.000		No Ice	1.643	0.639	0.043
			0.000				1/2" Ice	1.803	0.750	0.055
			2.000				1" Ice	1.971	0.867	0.069
RADIO 4415 B30	C	From Leg	4.000	0.000	140.000		No Ice	1.643	0.639	0.043
			0.000				1/2" Ice	1.803	0.750	0.055
			2.000				1" Ice	1.971	0.867	0.069
RRUS 4449 B5/B12	A	From Leg	4.000	0.000	140.000		No Ice	1.968	1.408	0.071
			0.000				1/2" Ice	2.144	1.564	0.090
			2.000				1" Ice	2.328	1.727	0.111
RRUS 4449 B5/B12	B	From Leg	4.000	0.000	140.000		No Ice	1.968	1.408	0.071
			0.000				1/2" Ice	2.144	1.564	0.090
			2.000				1" Ice	2.328	1.727	0.111
RRUS 4449 B5/B12	C	From Leg	4.000	0.000	140.000		No Ice	1.968	1.408	0.071
			0.000				1/2" Ice	2.144	1.564	0.090
			2.000				1" Ice	2.328	1.727	0.111
RRUS 8843 B2/B66A	A	From Leg	4.000	0.000	140.000		No Ice	1.639	1.353	0.072
			0.000				1/2" Ice	1.799	1.500	0.090
			2.000				1" Ice	1.966	1.655	0.110
RRUS 8843 B2/B66A	B	From Leg	4.000	0.000	140.000		No Ice	1.639	1.353	0.072
			0.000				1/2" Ice	1.799	1.500	0.090
			2.000				1" Ice	1.966	1.655	0.110
RRUS 8843 B2/B66A	C	From Leg	4.000	0.000	140.000		No Ice	1.639	1.353	0.072
			0.000				1/2" Ice	1.799	1.500	0.090
			2.000				1" Ice	1.966	1.655	0.110
DC6-48-60-18-8F	A	From Leg	4.000	0.000	140.000		No Ice	1.212	1.212	0.033
			0.000				1/2" Ice	1.892	1.892	0.055
			2.000				1" Ice	2.105	2.105	0.080
DC6-48-60-18-8F	B	From Leg	4.000	0.000	140.000		No Ice	1.212	1.212	0.033
			0.000				1/2" Ice	1.892	1.892	0.055
			2.000				1" Ice	2.105	2.105	0.080
DC6-48-60-18-8F	C	From Leg	4.000	0.000	140.000		No Ice	1.212	1.212	0.033
			0.000				1/2" Ice	1.892	1.892	0.055
			2.000				1" Ice	2.105	2.105	0.080
AIR 6419 B77G_CCIV3	A	From Leg	4.000	0.000	140.000		No Ice	4.173	2.015	0.044
			0.000				1/2" Ice	4.439	2.225	0.073
			2.000				1" Ice	4.712	2.442	0.106
AIR 6419 B77G_CCIV3	B	From Leg	4.000	0.000	140.000		No Ice	4.173	2.015	0.044
			0.000				1/2" Ice	4.439	2.225	0.073
			2.000				1" Ice	4.712	2.442	0.106
AIR 6419 B77G_CCIV3	C	From Leg	4.000	0.000	140.000		No Ice	4.173	2.015	0.044
			0.000				1/2" Ice	4.439	2.225	0.073
			2.000				1" Ice	4.712	2.442	0.106
AIR 6449 B77D	A	From Leg	4.000	0.000	140.000		No Ice	3.640	1.720	0.082
			0.000				1/2" Ice	4.000	2.020	0.111
			-2.000				1" Ice	4.370	2.330	0.145
AIR 6449 B77D	B	From Leg	4.000	0.000	140.000		No Ice	3.640	1.720	0.082
			0.000				1/2" Ice	4.000	2.020	0.111
			-2.000				1" Ice	4.370	2.330	0.145
AIR 6449 B77D	C	From Leg	4.000	0.000	140.000		No Ice	3.640	1.720	0.082
			0.000				1/2" Ice	4.000	2.020	0.111
			-2.000				1" Ice	4.370	2.330	0.145
TPA65R-BU6D_CCIV2 w/	A	From Leg	4.000	0.000	140.000		No Ice	11.960	5.970	0.094

<b>tnxTower</b>  <b>B+T Group</b> 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	<b>Job</b>		137170.007.01 - CT364/Chapel St. Monopole, CT (BU# 823530)		<b>Page</b>		11 of 21	
	<b>Project</b>				<b>Date</b>		12:10:16 02/26/22	
	<b>Client</b>		Crown Castle		<b>Designed by</b>		R AITHAL	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C <sub>A</sub> A <sub>1</sub> Front	C <sub>A</sub> A <sub>1</sub> Side	Weight
			Horz	Lateral					
Mount Pipe			0.000						
			1.000			1/2" Ice	12.700	6.630	0.181
			1.000			1" Ice	13.460	7.300	0.278
TPA65R-BU4D w/ Mount Pipe	B	From Leg	4.000	0.000	140.000	No Ice	8.100	4.030	0.080
			0.000			1/2" Ice	8.650	4.500	0.141
			1.000			1" Ice	9.210	4.980	0.212
TPA65R-BU6D_CCIV2 w/ Mount Pipe	C	From Leg	4.000	0.000	140.000	No Ice	11.960	5.970	0.094
			0.000			1/2" Ice	12.700	6.630	0.181
			1.000			1" Ice	13.460	7.300	0.278
(2) 8' x 2.375" Mount Pipe	A	From Leg	4.000	0.000	140.000	No Ice	1.900	1.900	0.061
			0.000			1/2" Ice	2.728	2.728	0.075
			0.000			1" Ice	3.401	3.401	0.095
(2) 8' x 2.375" Mount Pipe	B	From Leg	4.000	0.000	140.000	No Ice	1.900	1.900	0.061
			0.000			1/2" Ice	2.728	2.728	0.075
			0.000			1" Ice	3.401	3.401	0.095
(2) 8' x 2.375" Mount Pipe	C	From Leg	4.000	0.000	140.000	No Ice	1.900	1.900	0.061
			0.000			1/2" Ice	2.728	2.728	0.075
			0.000			1" Ice	3.401	3.401	0.095
5' x 2" Pipe Mount	A	From Leg	4.000	0.000	140.000	No Ice	1.188	1.188	0.018
			0.000			1/2" Ice	1.496	1.496	0.027
			0.000			1" Ice	1.807	1.807	0.040
5' x 2" Pipe Mount	B	From Leg	4.000	0.000	140.000	No Ice	1.188	1.188	0.018
			0.000			1/2" Ice	1.496	1.496	0.027
			0.000			1" Ice	1.807	1.807	0.040
5' x 2" Pipe Mount	C	From Leg	4.000	0.000	140.000	No Ice	1.188	1.188	0.018
			0.000			1/2" Ice	1.496	1.496	0.027
			0.000			1" Ice	1.807	1.807	0.040
4.5' x 2" Mount Pipe	A	From Leg	4.000	0.000	140.000	No Ice	1.024	1.024	0.002
			0.000			1/2" Ice	1.298	1.298	0.010
			0.000			1" Ice	1.580	1.580	0.021
3.5' x 2" Pipe Mount	A	From Leg	2.000	0.000	140.000	No Ice	0.785	0.785	0.029
			0.000			1/2" Ice	1.028	1.028	0.035
			0.000			1" Ice	1.281	1.281	0.044
3.5' x 2" Pipe Mount	B	From Leg	2.000	0.000	140.000	No Ice	0.785	0.785	0.029
			0.000			1/2" Ice	1.028	1.028	0.035
			0.000			1" Ice	1.281	1.281	0.044
3.5' x 2" Pipe Mount	C	From Leg	2.000	0.000	140.000	No Ice	0.785	0.785	0.029
			0.000			1/2" Ice	1.028	1.028	0.035
			0.000			1" Ice	1.281	1.281	0.044
Platform Mount [LP 304-1_HR-1]	C	None		0.000	140.000	No Ice	21.410	21.410	1.605
						1/2" Ice	26.620	26.620	2.056
						1" Ice	31.660	31.660	2.598
*									
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.000	0.000	130.000	No Ice	8.010	4.230	0.108
			0.000			1/2" Ice	8.520	4.690	0.194
			0.000			1" Ice	9.040	5.160	0.292
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.000	0.000	130.000	No Ice	8.010	4.230	0.108
			0.000			1/2" Ice	8.520	4.690	0.194
			0.000			1" Ice	9.040	5.160	0.292
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.000	0.000	130.000	No Ice	8.010	4.230	0.108
			0.000			1/2" Ice	8.520	4.690	0.194
			0.000			1" Ice	9.040	5.160	0.292
TA08025-B604	A	From Leg	4.000	0.000	130.000	No Ice	1.964	0.981	0.064
			0.000			1/2" Ice	2.138	1.112	0.081
			0.000			1" Ice	2.320	1.250	0.100
TA08025-B604	B	From Leg	4.000	0.000	130.000	No Ice	1.964	0.981	0.064
			0.000			1/2" Ice	2.138	1.112	0.081
			0.000			1" Ice	2.320	1.250	0.100

<b>tnxTower</b>  <b>B+T Group</b> 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	<b>Job</b> 137170.007.01 - CT364/Chapel St. Monopole, CT (BU# 823530)	<b>Page</b> 12 of 21
	<b>Project</b>	<b>Date</b> 12:10:16 02/26/22
	<b>Client</b> Crown Castle	<b>Designed by</b> R AITHAL

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C <sub>A</sub> A <sub>1</sub> Front ft <sup>2</sup>	C <sub>A</sub> A <sub>2</sub> Side ft <sup>2</sup>	Weight K
			Horz Lateral ft	Vert ft					
TA08025-B604	C	From Leg	4.000	0.000	0.000	130.000	No Ice 1.964	0.981	0.064
			0.000				1/2" Ice 2.138	1.112	0.081
			0.000				1" Ice 2.320	1.250	0.100
TA08025-B605	A	From Leg	4.000	0.000	0.000	130.000	No Ice 1.964	1.129	0.075
			0.000				1/2" Ice 2.138	1.267	0.093
			0.000				1" Ice 2.320	1.411	0.114
TA08025-B605	B	From Leg	4.000	0.000	0.000	130.000	No Ice 1.964	1.129	0.075
			0.000				1/2" Ice 2.138	1.267	0.093
			0.000				1" Ice 2.320	1.411	0.114
TA08025-B605	C	From Leg	4.000	0.000	0.000	130.000	No Ice 1.964	1.129	0.075
			0.000				1/2" Ice 2.138	1.267	0.093
			0.000				1" Ice 2.320	1.411	0.114
RDIDC-9181-PF-48	A	From Leg	4.000	0.000	0.000	130.000	No Ice 2.012	1.168	0.022
			0.000				1/2" Ice 2.189	1.311	0.040
			0.000				1" Ice 2.373	1.461	0.060
(2) 8' x 2" Mount Pipe	A	From Leg	4.000	0.000	0.000	130.000	No Ice 1.900	1.900	0.029
			0.000				1/2" Ice 2.728	2.728	0.044
			0.000				1" Ice 3.401	3.401	0.063
(2) 8' x 2" Mount Pipe	B	From Leg	4.000	0.000	0.000	130.000	No Ice 1.900	1.900	0.029
			0.000				1/2" Ice 2.728	2.728	0.044
			0.000				1" Ice 3.401	3.401	0.063
(2) 8' x 2" Mount Pipe	C	From Leg	4.000	0.000	0.000	130.000	No Ice 1.900	1.900	0.029
			0.000				1/2" Ice 2.728	2.728	0.044
			0.000				1" Ice 3.401	3.401	0.063
Commscope MC-PK8-DSH	C	None		0.000	0.000	130.000	No Ice 34.240	34.240	1.749
							1/2" Ice 62.950	62.950	2.099
							1" Ice 91.660	91.660	2.450
*									
APXV18-206517S-C w/ Mount Pipe	A	From Leg	0.500	0.000	0.000	115.000	No Ice 3.790	3.160	0.053
			0.000				1/2" Ice 4.380	3.750	0.094
			0.000				1" Ice 4.990	4.350	0.145
APXV18-206517S-C w/ Mount Pipe	B	From Leg	0.500	0.000	0.000	115.000	No Ice 3.790	3.160	0.053
			0.000				1/2" Ice 4.380	3.750	0.094
			0.000				1" Ice 4.990	4.350	0.145
APXV18-206517S-C w/ Mount Pipe	C	From Leg	0.500	0.000	0.000	115.000	No Ice 3.790	3.160	0.053
			0.000				1/2" Ice 4.380	3.750	0.094
			0.000				1" Ice 4.990	4.350	0.145
*									
GPS-TMG-HR-26NCM	A	From Leg	3.000	0.000	0.000	50.000	No Ice 0.133	0.133	0.001
			0.000				1/2" Ice 0.183	0.183	0.002
			0.000				1" Ice 0.239	0.239	0.005
Side Arm Mount [SO 701-1]	A	From Leg	0.500	0.000	0.000	50.000	No Ice 0.850	1.670	0.065
			1.500				1/2" Ice 1.140	2.340	0.079
			0.000				1" Ice 1.430	3.010	0.093
*									

## Dishes

<b>tnxTower</b>  <b>B+T Group</b> 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	<b>Job</b> 137170.007.01 - CT364/Chapel St. Monopole, CT (BU# 823530)	<b>Page</b> 13 of 21
	<b>Project</b>	<b>Date</b> 12:10:16 02/26/22
	<b>Client</b> Crown Castle	<b>Designed by</b> R AITHAL

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft <sup>2</sup>	Weight K	
VHLP2.6	A	Paraboloid w/Shroud (HP)	From Leg	4.000 0.000 3.000	-20.000		172.000	2.917	No Ice 1/2" Ice 1" Ice	6.680 7.070 7.460	0.048 0.080 0.120
VHLP2.6	C	Paraboloid w/Shroud (HP)	From Leg	4.000 0.000 3.000	90.000		172.000	2.917	No Ice 1/2" Ice 1" Ice	6.680 7.070 7.460	0.048 0.080 0.120
*											

## Load Combinations

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

<b>tnxTower</b>  <b>B+T Group</b> 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	<b>Job</b> 137170.007.01 - CT364/Chapel St. Monopole, CT (BU# 823530)	<b>Page</b> 14 of 21
	<b>Project</b>	<b>Date</b> 12:10:16 02/26/22
	<b>Client</b> Crown Castle	<b>Designed by</b> R AITHAL

Comb. No.	Description
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	175 - 164.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-11.224	0.895	1.813
			Max. Mx	20	-6.049	28.313	2.062
			Max. My	2	-6.031	1.352	29.604
			Max. Vy	8	5.909	-27.623	-1.693
			Max. Vx	14	6.151	-1.116	-29.230
			Max. Torque	6			2.664
L2	164.25 - 129.67	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-42.304	-0.762	4.496
			Max. Mx	8	-24.362	-469.445	-10.579
			Max. My	14	-24.309	-8.743	-478.413
			Max. Vy	8	20.454	-469.445	-10.579
			Max. Vx	14	20.838	-8.743	-478.413
			Max. Torque	6			3.119
L3	129.67 - 96	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-57.977	-1.566	5.245
			Max. Mx	8	-35.959	-1264.575	-19.898
			Max. My	14	-35.912	-14.915	-1286.115
			Max. Vy	8	25.913	-1264.575	-19.898
			Max. Vx	14	26.324	-14.915	-1286.115
			Max. Torque	6			3.279
L4	96 - 63.17	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-70.217	-2.431	5.055
			Max. Mx	8	-46.011	-2133.806	-29.119
			Max. My	14	-45.979	-20.955	-2167.738
			Max. Vy	8	28.300	-2133.806	-29.119
			Max. Vx	14	28.705	-20.955	-2167.738
			Max. Torque	6			3.273
L5	63.17 - 31.17	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-84.001	-3.463	4.871
			Max. Mx	8	-57.442	-3053.654	-37.720
			Max. My	14	-57.425	-26.902	-3098.764
			Max. Vy	8	30.403	-3053.654	-37.720
			Max. Vx	14	30.777	-26.902	-3098.764
			Max. Torque	6			3.368
L6	31.17 - 0	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-101.912	-4.635	4.179
			Max. Mx	8	-72.620	-4231.370	-47.851
			Max. My	14	-72.620	-33.698	-4289.148
			Max. Vy	8	32.409	-4231.370	-47.851
			Max. Vx	14	32.766	-33.698	-4289.148
			Max. Torque	6			3.366



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	<p><b>Project</b></p>	<p><b>Date</b> 12:10:16 02/26/22</p>
	<p><b>Client</b> Crown Castle</p>	<p><b>Designed by</b> R AITHAL</p>

**Maximum Reactions**

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	27	101.912	0.025	9.318
	Max. H <sub>x</sub>	20	72.635	32.362	0.167
	Max. H <sub>z</sub>	2	72.635	0.114	32.596
	Max. M <sub>x</sub>	2	4270.901	0.114	32.596
	Max. M <sub>z</sub>	8	4231.370	-32.375	-0.266
	Max. Torsion	6	3.365	-27.960	16.315
	Min. Vert	19	54.477	27.990	-16.247
	Min. H <sub>x</sub>	8	72.635	-32.375	-0.266
	Min. H <sub>z</sub>	14	72.635	-0.152	-32.731
	Min. M <sub>x</sub>	14	-4289.148	-0.152	-32.731
	Min. M <sub>z</sub>	20	-4221.337	32.362	0.167
	Min. Torsion	18	-3.061	27.990	-16.247

**Tower Mast Reaction Summary**

Load Combination	Vertical K	Shear <sub>x</sub> K	Shear <sub>z</sub> K	Overturning Moment, M <sub>x</sub> kip-ft	Overturning Moment, M <sub>z</sub> kip-ft	Torque kip-ft
Dead Only	60.530	0.000	-0.000	-2.794	-3.010	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	72.635	-0.114	-32.596	-4270.901	18.935	-1.129
0.9 Dead+1.0 Wind 0 deg - No Ice	54.477	-0.114	-32.596	-4197.862	19.474	-1.129
1.2 Dead+1.0 Wind 30 deg - No Ice	72.635	16.021	-28.270	-3706.464	-2085.076	-2.540
0.9 Dead+1.0 Wind 30 deg - No Ice	54.477	16.021	-28.270	-3642.937	-2049.063	-2.537
1.2 Dead+1.0 Wind 60 deg - No Ice	72.635	27.960	-16.315	-2139.412	-3649.842	-3.365
0.9 Dead+1.0 Wind 60 deg - No Ice	54.477	27.960	-16.315	-2102.378	-3587.368	-3.360
1.2 Dead+1.0 Wind 90 deg - No Ice	72.635	32.375	0.266	47.851	-4231.370	-2.510
0.9 Dead+1.0 Wind 90 deg - No Ice	54.477	32.375	0.266	47.773	-4159.043	-2.504
1.2 Dead+1.0 Wind 120 deg - No Ice	72.635	28.078	16.535	2175.862	-3673.155	-1.642
0.9 Dead+1.0 Wind 120 deg - No Ice	54.477	28.078	16.535	2139.864	-3610.215	-1.637
1.2 Dead+1.0 Wind 150 deg - No Ice	72.635	16.279	28.379	3720.804	-2135.731	-0.392
0.9 Dead+1.0 Wind 150 deg - No Ice	54.477	16.279	28.379	3658.774	-2098.693	-0.389
1.2 Dead+1.0 Wind 180 deg - No Ice	72.635	0.152	32.731	4289.148	-33.698	1.208
0.9 Dead+1.0 Wind 180 deg - No Ice	54.477	0.152	32.731	4217.541	-32.080	1.208
1.2 Dead+1.0 Wind 210 deg - No Ice	72.635	-15.952	28.369	3717.882	2064.519	2.545
0.9 Dead+1.0 Wind 210 deg - No Ice	54.477	-15.952	28.369	3655.910	2030.783	2.543
1.2 Dead+1.0 Wind 240 deg - No Ice	72.635	-27.990	16.247	2119.471	3647.882	3.061
0.9 Dead+1.0 Wind 240 deg - No Ice	54.477	-27.990	16.247	2084.611	3587.304	3.056

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	<p><b>Project</b></p>	<p><b>Date</b> 12:10:16 02/26/22</p>
	<p><b>Client</b> Crown Castle</p>	<p><b>Designed by</b> R AITHAL</p>

Load Combination	Vertical K	Shear <sub>x</sub> K	Shear <sub>z</sub> K	Overturning Moment, M <sub>x</sub> kip-ft	Overturning Moment, M <sub>z</sub> kip-ft	Torque kip-ft
No Ice						
1.2 Dead+1.0 Wind 270 deg - No Ice	72.635	-32.362	-0.167	-36.225	4221.337	2.970
0.9 Dead+1.0 Wind 270 deg - No Ice	54.477	-32.362	-0.167	-34.598	4151.057	2.964
1.2 Dead+1.0 Wind 300 deg - No Ice	72.635	-28.000	-16.436	-2164.268	3650.854	1.991
0.9 Dead+1.0 Wind 300 deg - No Ice	54.477	-28.000	-16.436	-2126.709	3590.201	1.986
1.2 Dead+1.0 Wind 330 deg - No Ice	72.635	-16.223	-28.259	-3705.325	2117.684	0.628
0.9 Dead+1.0 Wind 330 deg - No Ice	54.477	-16.223	-28.259	-3641.805	2082.857	0.626
1.2 Dead+1.0 Ice+1.0 Temp	101.912	0.000	-0.000	-4.179	-4.635	-0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	101.912	-0.025	-9.318	-1230.469	0.268	-0.271
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	101.912	4.602	-8.078	-1067.717	-606.276	-0.738
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	101.912	8.015	-4.662	-617.788	-1055.664	-1.027
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	101.912	9.274	0.056	6.926	-1222.120	-0.879
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	101.912	8.041	4.709	618.711	-1060.897	-0.633
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	101.912	4.657	8.101	1063.742	-617.550	-0.229
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	101.912	0.032	9.346	1227.208	-11.455	0.287
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	101.912	-4.588	8.098	1062.954	593.830	0.740
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	101.912	-8.021	4.648	606.185	1047.262	0.964
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	101.912	-9.272	-0.035	-11.648	1211.956	0.975
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	101.912	-8.024	-4.688	-623.430	1048.050	0.705
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	101.912	-4.645	-8.076	-1067.607	605.637	0.278
Dead+Wind 0 deg - Service	60.530	-0.029	-8.218	-1067.914	2.532	-0.287
Dead+Wind 30 deg - Service	60.530	4.039	-7.127	-927.051	-522.567	-0.645
Dead+Wind 60 deg - Service	60.530	7.049	-4.113	-535.969	-913.061	-0.854
Dead+Wind 90 deg - Service	60.530	8.162	0.067	9.857	-1058.173	-0.637
Dead+Wind 120 deg - Service	60.530	7.079	4.169	540.949	-918.897	-0.417
Dead+Wind 150 deg - Service	60.530	4.104	7.155	926.545	-535.198	-0.099
Dead+Wind 180 deg - Service	60.530	0.038	8.252	1068.374	-10.569	0.308
Dead+Wind 210 deg - Service	60.530	-4.022	7.152	925.790	513.093	0.647
Dead+Wind 240 deg - Service	60.530	-7.057	4.096	526.888	908.208	0.777
Dead+Wind 270 deg - Service	60.530	-8.159	-0.042	-11.073	1051.301	0.753
Dead+Wind 300 deg - Service	60.530	-7.059	-4.144	-542.158	908.957	0.505
Dead+Wind 330 deg - Service	60.530	-4.090	-7.124	-926.774	526.327	0.159

## Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.000	-60.530	0.000	-0.000	60.530	0.000	0.000%
2	-0.114	-72.635	-32.596	0.114	72.635	32.596	0.000%

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	<b>Project</b>	<b>Date</b> 12:10:16 02/26/22
	<b>Client</b> Crown Castle	<b>Designed by</b> R AITHAL

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
3	-0.114	-54.477	-32.596	0.114	54.477	32.596	0.000%
4	16.021	-72.635	-28.270	-16.021	72.635	28.270	0.000%
5	16.021	-54.477	-28.270	-16.021	54.477	28.270	0.000%
6	27.960	-72.635	-16.315	-27.960	72.635	16.315	0.000%
7	27.960	-54.477	-16.315	-27.960	54.477	16.315	0.000%
8	32.375	-72.635	0.266	-32.375	72.635	-0.266	0.000%
9	32.375	-54.477	0.266	-32.375	54.477	-0.266	0.000%
10	28.078	-72.635	16.535	-28.078	72.635	-16.535	0.000%
11	28.078	-54.477	16.535	-28.078	54.477	-16.535	0.000%
12	16.279	-72.635	28.379	-16.279	72.635	-28.379	0.000%
13	16.279	-54.477	28.379	-16.279	54.477	-28.379	0.000%
14	0.152	-72.635	32.731	-0.152	72.635	-32.731	0.000%
15	0.152	-54.477	32.731	-0.152	54.477	-32.731	0.000%
16	-15.952	-72.635	28.369	15.952	72.635	-28.369	0.000%
17	-15.952	-54.477	28.369	15.952	54.477	-28.369	0.000%
18	-27.990	-72.635	16.247	27.990	72.635	-16.247	0.000%
19	-27.990	-54.477	16.247	27.990	54.477	-16.247	0.000%
20	-32.362	-72.635	-0.167	32.362	72.635	0.167	0.000%
21	-32.362	-54.477	-0.167	32.362	54.477	0.167	0.000%
22	-28.000	-72.635	-16.436	28.000	72.635	16.436	0.000%
23	-28.000	-54.477	-16.436	28.000	54.477	16.436	0.000%
24	-16.223	-72.635	-28.259	16.223	72.635	28.259	0.000%
25	-16.223	-54.477	-28.259	16.223	54.477	28.259	0.000%
26	0.000	-101.912	0.000	-0.000	101.912	0.000	0.000%
27	-0.025	-101.912	-9.318	0.025	101.912	9.318	0.000%
28	4.602	-101.912	-8.078	-4.602	101.912	8.078	0.000%
29	8.015	-101.912	-4.662	-8.015	101.912	4.662	0.000%
30	9.274	-101.912	0.056	-9.274	101.912	-0.056	0.000%
31	8.041	-101.912	4.709	-8.041	101.912	-4.709	0.000%
32	4.657	-101.912	8.101	-4.657	101.912	-8.101	0.000%
33	0.032	-101.912	9.346	-0.032	101.912	-9.346	0.000%
34	-4.588	-101.912	8.098	4.588	101.912	-8.098	0.000%
35	-8.021	-101.912	4.648	8.021	101.912	-4.648	0.000%
36	-9.271	-101.912	-0.035	9.272	101.912	0.035	0.000%
37	-8.024	-101.912	-4.688	8.024	101.912	4.688	0.000%
38	-4.645	-101.912	-8.076	4.645	101.912	8.076	0.000%
39	-0.029	-60.530	-8.218	0.029	60.530	8.218	0.000%
40	4.039	-60.530	-7.127	-4.039	60.530	7.127	0.000%
41	7.049	-60.530	-4.113	-7.049	60.530	4.113	0.000%
42	8.162	-60.530	0.067	-8.162	60.530	-0.067	0.000%
43	7.079	-60.530	4.169	-7.079	60.530	-4.169	0.000%
44	4.104	-60.530	7.155	-4.104	60.530	-7.155	0.000%
45	0.038	-60.530	8.252	-0.038	60.530	-8.252	0.000%
46	-4.022	-60.530	7.152	4.022	60.530	-7.152	0.000%
47	-7.057	-60.530	4.096	7.057	60.530	-4.096	0.000%
48	-8.159	-60.530	-0.042	8.159	60.530	0.042	0.000%
49	-7.059	-60.530	-4.144	7.059	60.530	4.144	0.000%
50	-4.090	-60.530	-7.124	4.090	60.530	7.124	0.000%

### Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00025905
3	Yes	5	0.00000001	0.00012892

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	<p><b>Project</b></p>	<p><b>Date</b> 12:10:16 02/26/22</p>
	<p><b>Client</b> Crown Castle</p>	<p><b>Designed by</b> R AITHAL</p>

4	Yes	6	0.00000001	0.00041002
5	Yes	6	0.00000001	0.00014515
6	Yes	6	0.00000001	0.00044703
7	Yes	6	0.00000001	0.00015955
8	Yes	5	0.00000001	0.00020006
9	Yes	5	0.00000001	0.00009884
10	Yes	6	0.00000001	0.00043218
11	Yes	6	0.00000001	0.00015301
12	Yes	6	0.00000001	0.00044108
13	Yes	6	0.00000001	0.00015641
14	Yes	5	0.00000001	0.00012523
15	Yes	5	0.00000001	0.00005748
16	Yes	6	0.00000001	0.00043782
17	Yes	6	0.00000001	0.00015652
18	Yes	6	0.00000001	0.00040501
19	Yes	6	0.00000001	0.00014383
20	Yes	5	0.00000001	0.00053590
21	Yes	5	0.00000001	0.00026901
22	Yes	6	0.00000001	0.00044438
23	Yes	6	0.00000001	0.00015813
24	Yes	6	0.00000001	0.00043001
25	Yes	6	0.00000001	0.00015251
26	Yes	4	0.00000001	0.00008328
27	Yes	6	0.00000001	0.00016001
28	Yes	6	0.00000001	0.00019747
29	Yes	6	0.00000001	0.00020129
30	Yes	6	0.00000001	0.00015836
31	Yes	6	0.00000001	0.00019718
32	Yes	6	0.00000001	0.00019885
33	Yes	6	0.00000001	0.00015800
34	Yes	6	0.00000001	0.00019535
35	Yes	6	0.00000001	0.00019168
36	Yes	6	0.00000001	0.00015737
37	Yes	6	0.00000001	0.00020025
38	Yes	6	0.00000001	0.00019843
39	Yes	4	0.00000001	0.00030532
40	Yes	5	0.00000001	0.00008098
41	Yes	5	0.00000001	0.00010162
42	Yes	4	0.00000001	0.00035698
43	Yes	5	0.00000001	0.00008593
44	Yes	5	0.00000001	0.00009101
45	Yes	4	0.00000001	0.00029374
46	Yes	5	0.00000001	0.00009558
47	Yes	5	0.00000001	0.00007804
48	Yes	4	0.00000001	0.00043440
49	Yes	5	0.00000001	0.00009579
50	Yes	5	0.00000001	0.00008718

### Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	175 - 164.25	26.762	39	1.285	0.006
L2	167.17 - 129.67	24.656	39	1.281	0.005
L3	133.5 - 96	16.025	44	1.130	0.003
L4	100.67 - 63.17	9.083	44	0.866	0.001
L5	68.67 - 31.17	4.189	44	0.576	0.001
L6	37.42 - 0	1.254	44	0.303	0.000

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	<b>Project</b>	<b>Date</b> 12:10:16 02/26/22
	<b>Client</b> Crown Castle	<b>Designed by</b> R AITHAL

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
-------------	-----------------	------------------------	-----------------	-----------	------------

### Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
175.000	VHLP2.6	39	26.762	1.285	0.007	63966
174.000	Lightning Rod 5/8" x 6'	39	26.492	1.285	0.007	63966
172.000	LS-230C	39	25.954	1.284	0.006	63966
168.000	LS-230C	39	24.879	1.282	0.006	45848
162.000	APXVSPP18-C-A20 w/ Mount Pipe	39	23.275	1.271	0.005	25205
152.000	LPA-80080/4CF w/ Mount Pipe	39	20.643	1.237	0.004	14488
140.000	80010965 w/ Mount Pipe	44	17.600	1.173	0.003	9565
130.000	MX08FRO665-21 w/ Mount Pipe	44	15.201	1.105	0.003	7844
115.000	APXV18-206517S-C w/ Mount Pipe	44	11.889	0.989	0.002	6971
50.000	GPS-TMG-HR-26NCM	44	2.199	0.410	0.001	5861

### Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	175 - 164.25	107.519	12	5.164	0.024
L2	167.17 - 129.67	99.077	12	5.149	0.020
L3	133.5 - 96	64.409	12	4.548	0.010
L4	100.67 - 63.17	36.494	12	3.485	0.006
L5	68.67 - 31.17	16.822	12	2.314	0.003
L6	37.42 - 0	5.033	12	1.216	0.001

### Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
175.000	VHLP2.6	12	107.519	5.164	0.026	17058
174.000	Lightning Rod 5/8" x 6'	12	106.440	5.163	0.025	17058
172.000	LS-230C	12	104.281	5.161	0.024	17058
168.000	LS-230C	12	99.970	5.152	0.022	12187
162.000	APXVSPP18-C-A20 w/ Mount Pipe	12	93.536	5.112	0.020	6570
152.000	LPA-80080/4CF w/ Mount Pipe	12	82.975	4.975	0.016	3703
140.000	80010965 w/ Mount Pipe	12	70.748	4.719	0.013	2428
130.000	MX08FRO665-21 w/ Mount Pipe	12	61.097	4.449	0.010	1984
115.000	APXV18-206517S-C w/ Mount Pipe	12	47.774	3.981	0.008	1753
50.000	GPS-TMG-HR-26NCM	12	8.827	1.648	0.002	1460

<b>tnxTower</b>  <b>B+T Group</b> 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	<b>Job</b> 137170.007.01 - CT364/Chapel St. Monopole, CT (BU# 823530)	<b>Page</b> 20 of 21
	<b>Project</b>	<b>Date</b> 12:10:16 02/26/22
	<b>Client</b> Crown Castle	<b>Designed by</b> R AITHAL

## Compression Checks

### Pole Design Data

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	A in <sup>2</sup>	P <sub>u</sub> K	φP <sub>n</sub> K	Ratio $\frac{P_u}{\phi P_n}$
L1	175 - 164.25 (1)	TP26x22x0.25	10.750	0.000	0.0	19.570	-6.028	1144.870	0.005
L2	164.25 - 129.67 (2)	TP34.063x24.413x0.313	37.500	0.000	0.0	32.498	-24.308	1901.150	0.013
L3	129.67 - 96 (3)	TP41.75x32.452x0.375	37.500	0.000	0.0	47.868	-35.913	2800.300	0.013
L4	96 - 63.17 (4)	TP49.063x39.842x0.375	37.500	0.000	0.0	56.341	-45.979	3295.930	0.014
L5	63.17 - 31.17 (5)	TP56.125x46.96x0.375	37.500	0.000	0.0	64.538	-57.425	3775.490	0.015
L6	31.17 - 0 (6)	TP62.938x53.848x0.375	37.420	0.000	0.0	74.465	-72.620	4356.200	0.017

### Pole Bending Design Data

Section No.	Elevation ft	Size	M <sub>ux</sub> kip-ft	φM <sub>ux</sub> kip-ft	Ratio $\frac{M_{ux}}{\phi M_{ux}}$	M <sub>uy</sub> kip-ft	φM <sub>uy</sub> kip-ft	Ratio $\frac{M_{uy}}{\phi M_{uy}}$
L1	175 - 164.25 (1)	TP26x22x0.25	29.977	729.119	0.041	0.000	729.119	0.000
L2	164.25 - 129.67 (2)	TP34.063x24.413x0.313	480.290	1584.183	0.303	0.000	1584.183	0.000
L3	129.67 - 96 (3)	TP41.75x32.452x0.375	1287.683	2847.117	0.452	0.000	2847.117	0.000
L4	96 - 63.17 (4)	TP49.063x39.842x0.375	2168.992	3755.708	0.578	0.000	3755.708	0.000
L5	63.17 - 31.17 (5)	TP56.125x46.96x0.375	3099.892	4686.617	0.661	0.000	4686.617	0.000
L6	31.17 - 0 (6)	TP62.938x53.848x0.375	4290.192	5847.241	0.734	0.000	5847.241	0.000

### Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V <sub>u</sub> K	φV <sub>n</sub> K	Ratio $\frac{V_u}{\phi V_n}$	Actual T <sub>u</sub> kip-ft	φT <sub>n</sub> kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	175 - 164.25 (1)	TP26x22x0.25	6.053	343.462	0.018	0.345	741.845	0.000
L2	164.25 - 129.67 (2)	TP34.063x24.413x0.313	20.827	570.345	0.037	0.201	1636.525	0.000
L3	129.67 - 96 (3)	TP41.75x32.452x0.375	26.307	840.090	0.031	0.293	2958.808	0.000
L4	96 - 63.17 (4)	TP49.063x39.842x0.375	28.686	988.779	0.029	0.293	4098.858	0.000
L5	63.17 - 31.17 (5)	TP56.125x46.96x0.375	30.762	1132.650	0.027	0.392	5378.425	0.000
L6	31.17 - 0 (6)	TP62.938x53.848x0.375	32.751	1306.860	0.025	0.392	7160.175	0.000

<b>tnxTower</b>  <b>B+T Group</b> 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	<b>Job</b> 137170.007.01 - CT364/Chapel St. Monopole, CT (BU# 823530)	<b>Page</b> 21 of 21
	<b>Project</b>	<b>Date</b> 12:10:16 02/26/22
	<b>Client</b> Crown Castle	<b>Designed by</b> R AITHAL

### Pole Interaction Design Data

Section No.	Elevation ft	Ratio $P_u$	Ratio $M_{ux}$	Ratio $M_{uy}$	Ratio $V_u$	Ratio $T_u$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	175 - 164.25 (1)	0.005	0.041	0.000	0.018	0.000	0.047	1.050	4.8.2 ✓
L2	164.25 - 129.67 (2)	0.013	0.303	0.000	0.037	0.000	0.317	1.050	4.8.2 ✓
L3	129.67 - 96 (3)	0.013	0.452	0.000	0.031	0.000	0.466	1.050	4.8.2 ✓
L4	96 - 63.17 (4)	0.014	0.578	0.000	0.029	0.000	0.592	1.050	4.8.2 ✓
L5	63.17 - 31.17 (5)	0.015	0.661	0.000	0.027	0.000	0.677	1.050	4.8.2 ✓
L6	31.17 - 0 (6)	0.017	0.734	0.000	0.025	0.000	0.751	1.050	4.8.2 ✓

### Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$\phi P_{allow}$ K	% Capacity	Pass Fail
L1	175 - 164.25	Pole	TP26x22x0.25	1	-6.028	1202.113	4.4	Pass
L2	164.25 - 129.67	Pole	TP34.063x24.413x0.313	2	-24.308	1996.207	30.2	Pass
L3	129.67 - 96	Pole	TP41.75x32.452x0.375	3	-35.913	2940.315	44.4	Pass
L4	96 - 63.17	Pole	TP49.063x39.842x0.375	4	-45.979	3460.726	56.4	Pass
L5	63.17 - 31.17	Pole	TP56.125x46.96x0.375	5	-57.425	3964.264	64.5	Pass
L6	31.17 - 0	Pole	TP62.938x53.848x0.375	6	-72.620	4574.010	71.5	Pass
						Summary		
						Pole (L6)	71.5	Pass
						<b>RATING =</b>	<b>71.5</b>	<b>Pass</b>

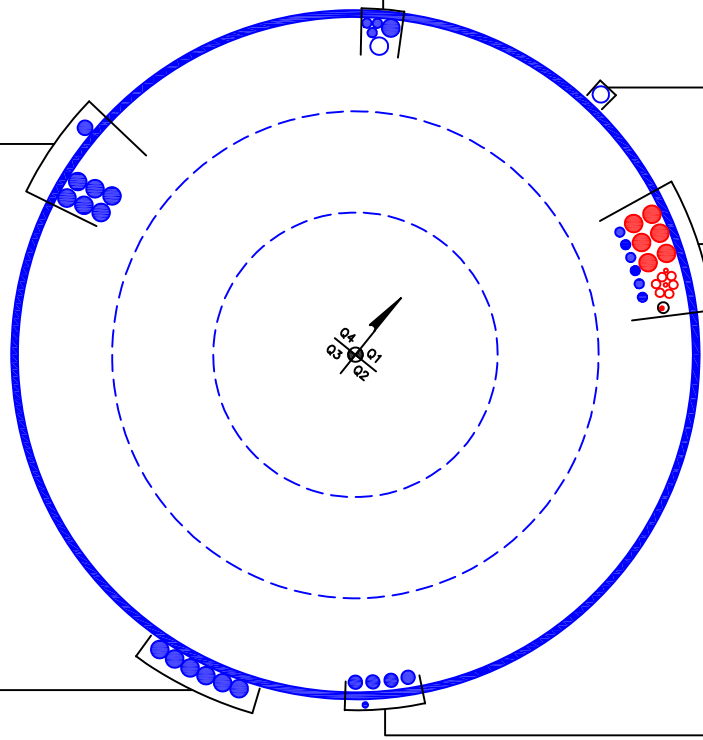
**APPENDIX B**  
**BASE LEVEL DRAWING**



(OTHER CONSIDERED EQUIPMENT)  
(3) 7/8" TO 172 FT LEVEL  
(OTHER CONSIDERED EQUIPMENT)  
(2) 1-5/8" TO 172 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)  
(1) 1-3/8" TO 152 FT LEVEL  
(6) 1-5/8" TO 152 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)  
(6) 1-5/8" TO 115 FT LEVEL



(OTHER CONSIDERED EQUIPMENT)  
(1) 1-1/2" TO 130 FT LEVEL

(PROPOSED EQUIPMENT CONFIGURATION-IN CONDUIT)  
(3) 3/8" TO 140 FT LEVEL  
(6) 13/16" TO 140 FT LEVEL  
(PROPOSED EQUIPMENT CONFIGURATION)  
(6) 1-5/8" TO 140 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)  
(6) 7/8" TO 168 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)  
(4) 1-1/4" TO 162 FT LEVEL  
(OTHER CONSIDERED EQUIPMENT)  
(1) 1/2" TO 50 FT LEVEL

BUSINESS UNIT: 823530

**APPENDIX C**  
**ADDITIONAL CALCULATIONS**

# Monopole Base Plate Connection

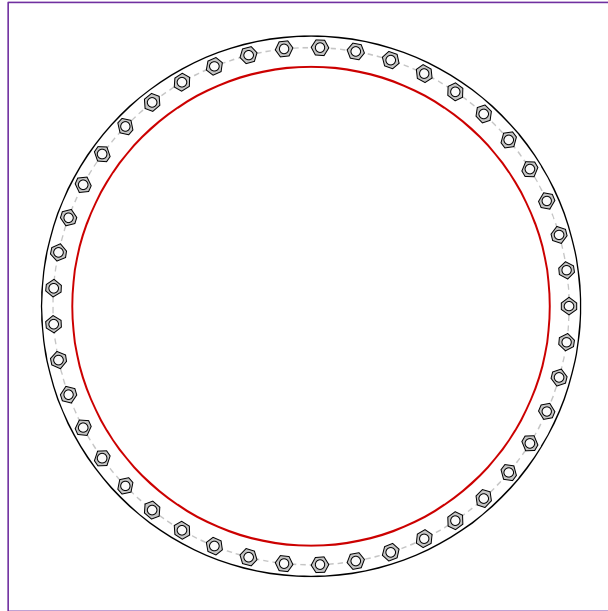


Site Info	
BU #	823530
Site Name	4/Chapel St. Monopol
Order #	586315, Rev# 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
$I_{gr}$ (in)	1.25

Applied Loads	
Moment (kip-ft)	4290.19
Axial Force (kips)	72.62
Shear Force (kips)	32.75

\*TIA-222-H Section 15.5 Applied



Connection Properties	Analysis Results
-----------------------	------------------

Anchor Rod Data
(45) 1-1/4" $\phi$ bolts (A687 N; Fy=105 ksi, Fu=125 ksi) on 68" BC
Base Plate Data
71" OD x 1.5" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)
Stiffener Data
N/A
Pole Data
62.9375" x 0.375" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Anchor Rod Summary	<i>(units of kips, kip-in)</i>	
$Pu_t = 65.67$	$\phi Pn_t = 90.84$	<b>Stress Rating</b>
$Vu = 0.73$	$\phi Vn = 57.52$	<b>68.9%</b>
$Mu = n/a$	$\phi Mn = n/a$	<b>Pass</b>
Base Plate Summary		
Max Stress (ksi):	-	
Allowable Stress (ksi):	-	
Stress Rating:	<b>Pi rod OK</b>	

# Pier and Pad Foundation



BU #: 823530  
 Site Name: CT364/Chapel St. I  
 App. Number: 586315, Rev# 0

TIA-222 Revision: H  
 Tower Type: Monopole

Top & Bot. Pad Rein. Different?:   
 Block Foundation?:   
 Rectangular Pad?:

Superstructure Analysis Reactions		
Compression, $P_{comp}$ :	72.64	kips
Base Shear, $V_{u\_comp}$ :	32.72	kips
Moment, $M_u$ :	4290.19	ft-kips
Tower Height, $H$ :	175	ft
BP Dist. Above Fdn, $bp_{dist}$ :	2.5	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
<i>Lateral (Sliding) (kips)</i>	279.69	32.72	11.1%	Pass
<i>Bearing Pressure (ksf)</i>	23.16	4.17	18.0%	Pass
<i>Overturning (kip*ft)</i>	6206.34	4575.13	73.7%	Pass
<i>Pier Flexure (Comp.) (kip*ft)</i>	6253.38	4478.33	68.2%	Pass
<i>Pier Compression (kip)</i>	21089.12	118.36	0.5%	Pass
<i>Pad Flexure (kip*ft)</i>	2826.15	2072.99	69.9%	Pass
<i>Pad Shear - 1-way (kips)</i>	627.95	371.67	56.4%	Pass
<i>Pad Shear - 2-way (Comp) (ksi)</i>	0.164	0.000	0.0%	Pass
<i>Flexural 2-way (Comp) (kip*ft)</i>	3889.71	2687.00	65.8%	Pass

Pier Properties		
Pier Shape:	Circular	
Pier Diameter, $dpier$ :	7.5	ft
Ext. Above Grade, $E$ :	0.5	ft
Pier Rebar Size, $Sc$ :	9	
Pier Rebar Quantity, $mc$ :	36	
Pier Tie/Spiral Size, $St$ :	4	
Pier Tie/Spiral Quantity, $mt$ :	10	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, $cc_{pier}$ :	3	in

\*Rating per TIA-222-H Section 15.5

Structural Rating*:	69.9%
Soil Rating*:	73.7%

Pad Properties		
Depth, $D$ :	8	ft
Pad Width, $W_1$ :	22.5	ft
Pad Thickness, $T$ :	2.75	ft
Pad Rebar Size (Bottom dir. 2), $Sp_2$ :	9	
Pad Rebar Quantity (Bottom dir. 2), $mp_2$ :	23	
Pad Clear Cover, $cc_{pad}$ :	3	in

Material Properties		
Rebar Grade, $F_y$ :	60	ksi
Concrete Compressive Strength, $F'_c$ :	3	ksi
Dry Concrete Density, $\delta_c$ :	150	pcf

Soil Properties		
Total Soil Unit Weight, $\gamma$ :	110	pcf
Ultimate Net Bearing, $Q_{net}$ :	30,000	ksf
Cohesion, $C_u$ :	0.000	ksf
Friction Angle, $\phi$ :	28	degrees
SPT Blow Count, $N_{blows}$ :	56	
Base Friction, $\mu$ :	0.45	
Neglected Depth, $N$ :	3.75	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, $gw$ :	12	ft

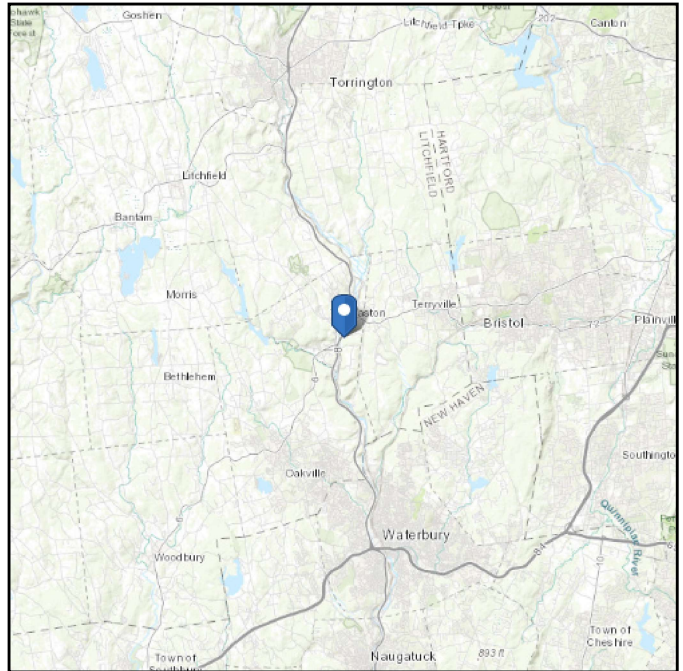
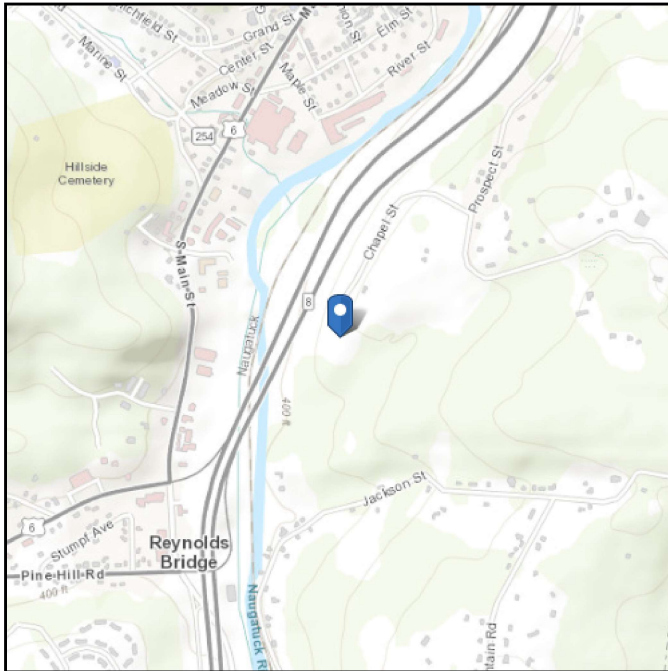
<--Toggle between Gross and Net

# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-16  
**Risk Category:** II  
**Soil Class:** D - Default (see  
Section 11.4.3)

**Elevation:** 543 ft (NAVD 88)  
**Latitude:** 41.663467  
**Longitude:** -73.074281



## Wind

### Results:

Wind Speed	116 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	89 Vmph
100-year MRI	96 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2  
Date Accessed: Sat Feb 26 2022

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

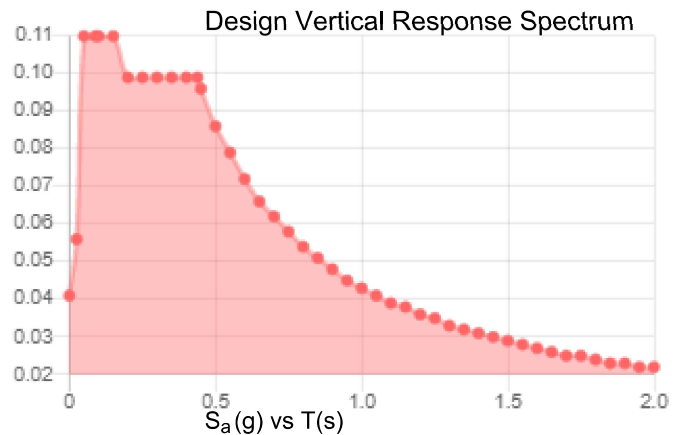
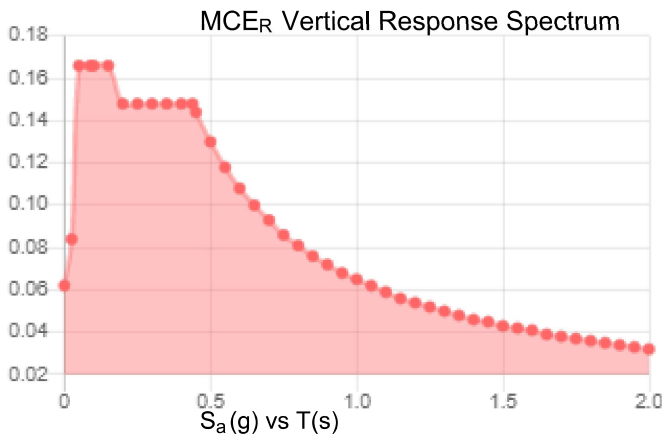
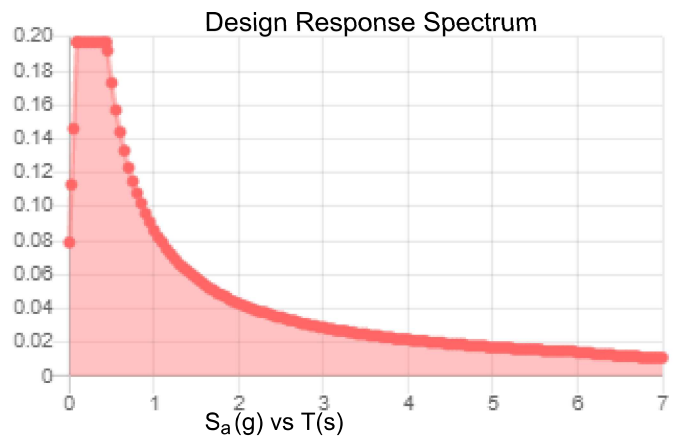
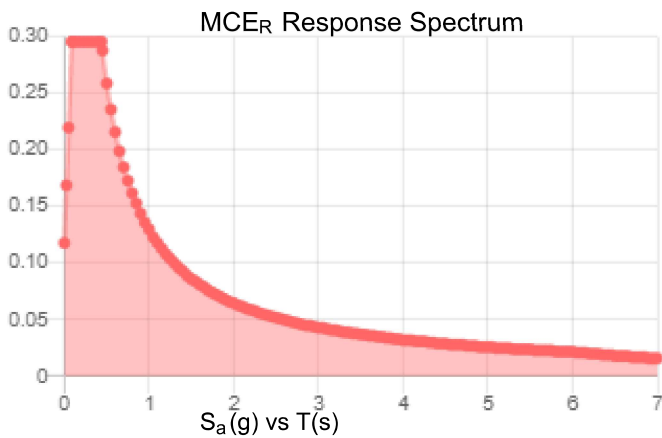
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

**Site Soil Class:** D - Default (see Section 11.4.3)

**Results:**

$S_s$ :	0.185	$S_{D1}$ :	0.086
$S_1$ :	0.054	$T_L$ :	6
$F_a$ :	1.6	PGA :	0.1
$F_v$ :	2.4	PGA <sub>M</sub> :	0.16
$S_{MS}$ :	0.296	$F_{PGA}$ :	1.6
$S_{M1}$ :	0.13	$I_e$ :	1
$S_{DS}$ :	0.197	$C_v$ :	0.7

**Seismic Design Category** B



**Data Accessed:** Sat Feb 26 2022

**Date Source:**

**USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.**

## Ice

---

### Results:

Ice Thickness: 1.00 in.  
Concurrent Temperature: 15 F  
Gust Speed 50 mph

**Data Source:** Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

**Date Accessed:** Sat Feb 26 2022

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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**AT&T SITE NUMBER:** CTL01062  
**AT&T SITE NAME:** THOMASTON - CHAPEL STREET  
**AT&T FA CODE:** 10107966  
**AT&T PACE NUMBER:** MRCTB056840, MRCTB056708, MRCTB053683, MRCTB053755, MRCTB056073  
**AT&T PROJECT:** 5G NR 1SR CBAND , 5G NR ACTIVATION , BBU RECONFIGURATION WITH NEW IDS

**BUSINESS UNIT #:** 823530  
**SITE ADDRESS:** 580 CHAPEL STREET THOMASTON, CT 06787  
**COUNTY:** LITCHFIELD  
**SITE TYPE:** MONOPOLE  
**TOWER HEIGHT:** 175'-0"



**AT&T SITE NUMBER:** CTL01062

**BU #:** 823530  
**CT364/CHAPEL ST. MONOPOLE**

580 CHAPEL STREET  
 THOMASTON, CT 06787

EXISTING  
 175'-0" MONOPOLE

**ISSUED FOR:**

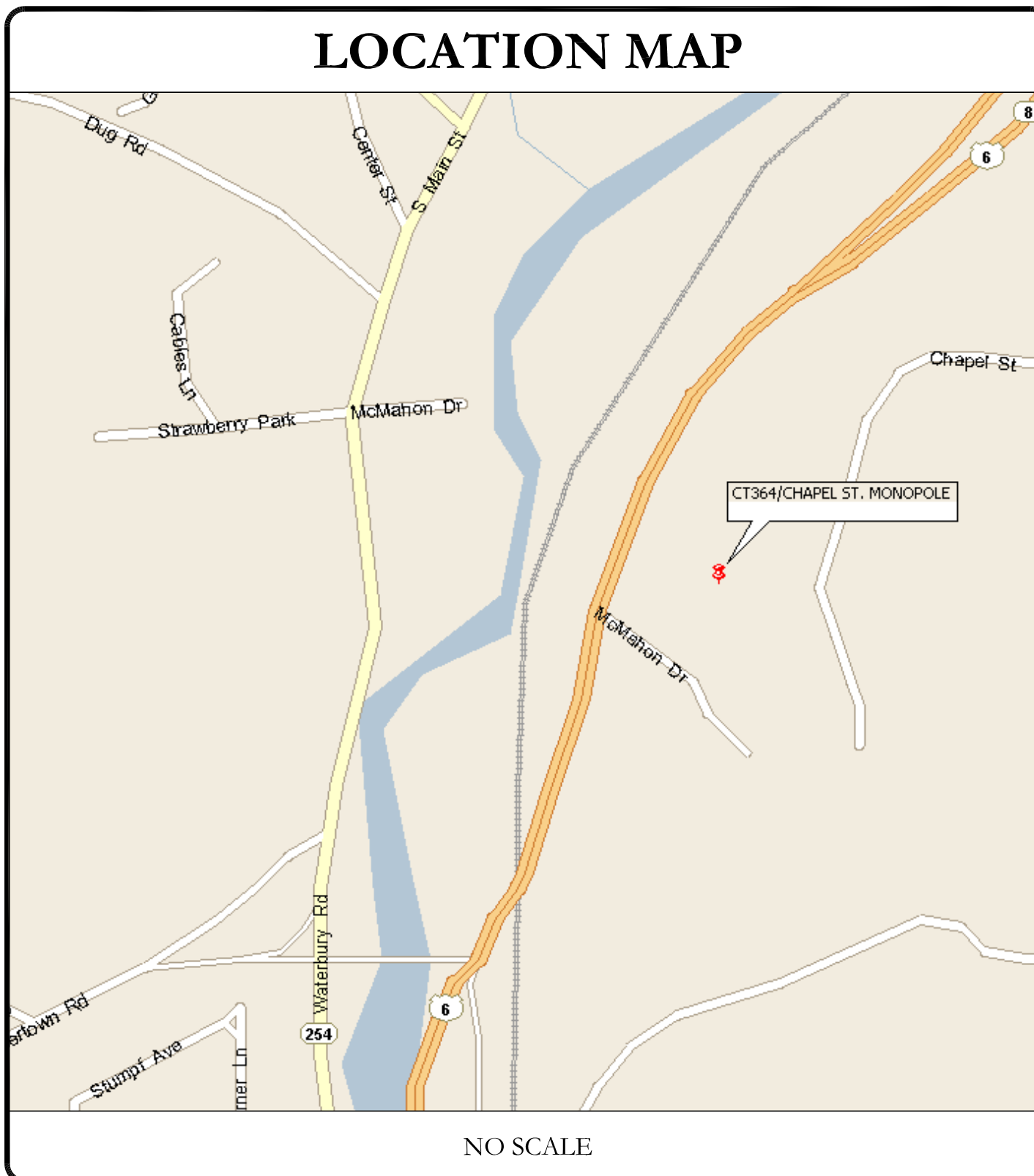
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	3/2/22	GAC	PRELIMINARY REVIEW	KT
0	3/18/22	GAC	CONSTRUCTION	KT
1	5/3/22	GAC	CONSTRUCTION	KT

SITE INFORMATION	
CROWN CASTLE USA INC. SITE NAME:	CT364/CHAPEL ST. MONOPOLE
SITE ADDRESS:	580 CHAPEL STREET THOMASTON, CT 06787
COUNTY:	LITCHFIELD
MAP/PARCEL #:	55-03-08
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41° 39' 48.48"
LONGITUDE:	-73° 4' 27.41"
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	545'
CURRENT ZONING:	RA-80 (RESIDENCE DISTRICT A-80 2 ACRE)
JURISDICTION:	CONNECTICUT SITING COUNCIL
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	TOWN OF THOMASTON 158 MAIN ST THOMASTON, CT 06787
TOWER OWNER:	CROWN CASTLE USA INC 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	AT&T TOWER ASSET GROUP 575 MOROSGO DRIVE ATLANTA, GA 30324-3300
ELECTRIC PROVIDER:	CONNECTICUT LIGHT & POWER CO 800-286-2000
TELCO PROVIDER:	LIGHTOWER

DRAWING INDEX	
SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	SITE PLAN
C-1.2	EXISTING & FINAL EQUIPMENT PLANS
C-2	FINAL ELEVATION & ANTENNA PLANS
C-3	FINAL EQUIPMENT SCHEDULE
C-4	EQUIPMENT MOUNTING DETAILS
C-5	EQUIPMENT SPECS
G-1	GROUNDING SCHEMATIC
G-2	GROUNDING DETAILS
ATTACHED	PLUMBING DIAGRAM

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR FULL SIZE. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

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 CALL 2 WORKING DAYS BEFORE YOU DIG!



PROJECT TEAM	
A&E FIRM:	B+T GROUP 1717 S. BOULDER AVE. TULSA, OK 74119 MARVIN PHILLIPS marvin.phillips@btgrp.com
CROWN CASTLE USA INC. DISTRICT CONTACTS:	3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065
	WILLIAM GATES - PROJECT MANAGER WILLIAM.GATES@CROWNCastle.COM
	JASON D'AMICO - CONSTRUCTION MANAGER JASON.DAMICO@CROWNCastle.COM

**NOTE:**  
 PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER.

PROJECT DESCRIPTION
THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.
TOWER SCOPE OF WORK:
<ul style="list-style-type: none"> <li>REMOVE (3) POWERWAVE - 7770 ANTENNAS</li> <li>REMOVE (2) KATHREIN - 800-10965 ANTENNAS</li> <li>REMOVE (1) KATHREIN - 800-10964 ANTENNAS</li> <li>REMOVE (6) POWERWAVE TECH - LGP21401 TMA's</li> <li>REMOVE (1) RAYCAP - DC6-48-60-18-8F DC ONLY SQUID</li> <li>REMOVE (E) UNISTRUT</li> <li>INSTALL MOUNT MODIFICATIONS PER MOUNT ANALYSIS BYINFINIGY ENGINEERING, PLLC DATED 2-21-22</li> <li>INSTALL (6) ERICSSON - AIR6449 B77D+AIR6419 B77G STACKED ANTENNAS</li> <li>INSTALL (2) CCI - TPA-65R-BU6DA-K ANTENNAS</li> <li>INSTALL (1) CCI - TPA-65R-BU4DA-K ANTENNA</li> <li>INSTALL (1) RAYCAP - DC6-48-60-18-8F SQUID</li> <li>INSTALL (6) DUAL RADIO MOUNTS</li> <li>INSTALL (1) ROSENBERGER LEONI - FB-L98B-034 FIBER CABLE (3/8")</li> <li>INSTALL (6) Y CABLES</li> </ul>
GROUND SCOPE OF WORK:
<ul style="list-style-type: none"> <li>REMOVE UNISTRUT</li> <li>INSTALL (3) RECTIFIERS IN EXISTING POWER PLANT</li> <li>INSTALL (6) UP-CONVERTERS IN EXISTING POWER PLANT</li> <li>INSTALL (1) 6648(+XCEDE)</li> <li>INSTALL 4 WAY GPS SPLITTER</li> </ul>
<b>NOTE:</b> THE POWER DESIGN FOR ANY AC ELECTRICAL POWER CHANGES IS TO BE PERFORMED BY OTHERS AND IS SHOWN HERE FOR REFERENCE PURPOSES ONLY. AT&T IS SOLELY RESPONSIBLE FOR THE ELECTRICAL POWER DESIGN.

APPLICABLE CODES/REFERENCE DOCUMENTS								
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:								
<table border="0"> <tr> <td>CODE TYPE</td> <td>CODE</td> </tr> <tr> <td>BUILDING</td> <td>2018 CONNECTICUT SBC/2015 IBC</td> </tr> <tr> <td>MECHANICAL</td> <td>2018 CONNECTICUT SBC/2015 IMC</td> </tr> <tr> <td>ELECTRICAL</td> <td>2018 CONNECTICUT SBC/2017 NEC</td> </tr> </table>	CODE TYPE	CODE	BUILDING	2018 CONNECTICUT SBC/2015 IBC	MECHANICAL	2018 CONNECTICUT SBC/2015 IMC	ELECTRICAL	2018 CONNECTICUT SBC/2017 NEC
CODE TYPE	CODE							
BUILDING	2018 CONNECTICUT SBC/2015 IBC							
MECHANICAL	2018 CONNECTICUT SBC/2015 IMC							
ELECTRICAL	2018 CONNECTICUT SBC/2017 NEC							
<b>REFERENCE DOCUMENTS:</b>								
STRUCTURAL ANALYSIS: BY OTHERS DATED:								
MOUNT ANALYSIS: INFINIGY ENGINEERING, PLLC DATED: 2/21/22								
AC ELECTRICAL POWER DESIGN: N/A DATED: N/A								
RFDS REVISION: PRELIMINARY DATED: 2/19/22								
ORDER ID: 586315 REVISION: 0								

B&T ENGINEERING, INC.  
 PEC.0001564  
 Expires 2/10/23

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<b>SHEET NUMBER:</b> <b>T-1</b>	<b>REVISION:</b> <b>1</b>
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1:37170.006.01\_CT364CHAPEL.dwg - SheetT-1 - User: m.jones - May 03, 2022 - 9:08am



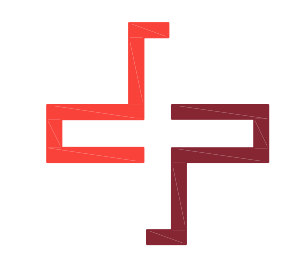




**AT&T**  
575 MOROSGO DRIVE  
ATLANTA, GA 30324-3300



**CROWN CASTLE**  
3 CORPORATE PARK DRIVE, SUITE 101  
CLIFTON PARK, NY 12065



**B+T GRP**  
1717 S. BOULDER  
SUITE 300  
TULSA, OK 74119  
PH: (918) 587-4630  
www.blgrp.com

AT&T SITE NUMBER:  
**CTL01062**

BU #: 823530  
**CT364/CHAPEL ST.  
MONOPOLE**

580 CHAPEL STREET  
THOMASTON, CT 06787

EXISTING  
175'-0" MONOPOLE

**ISSUED FOR:**

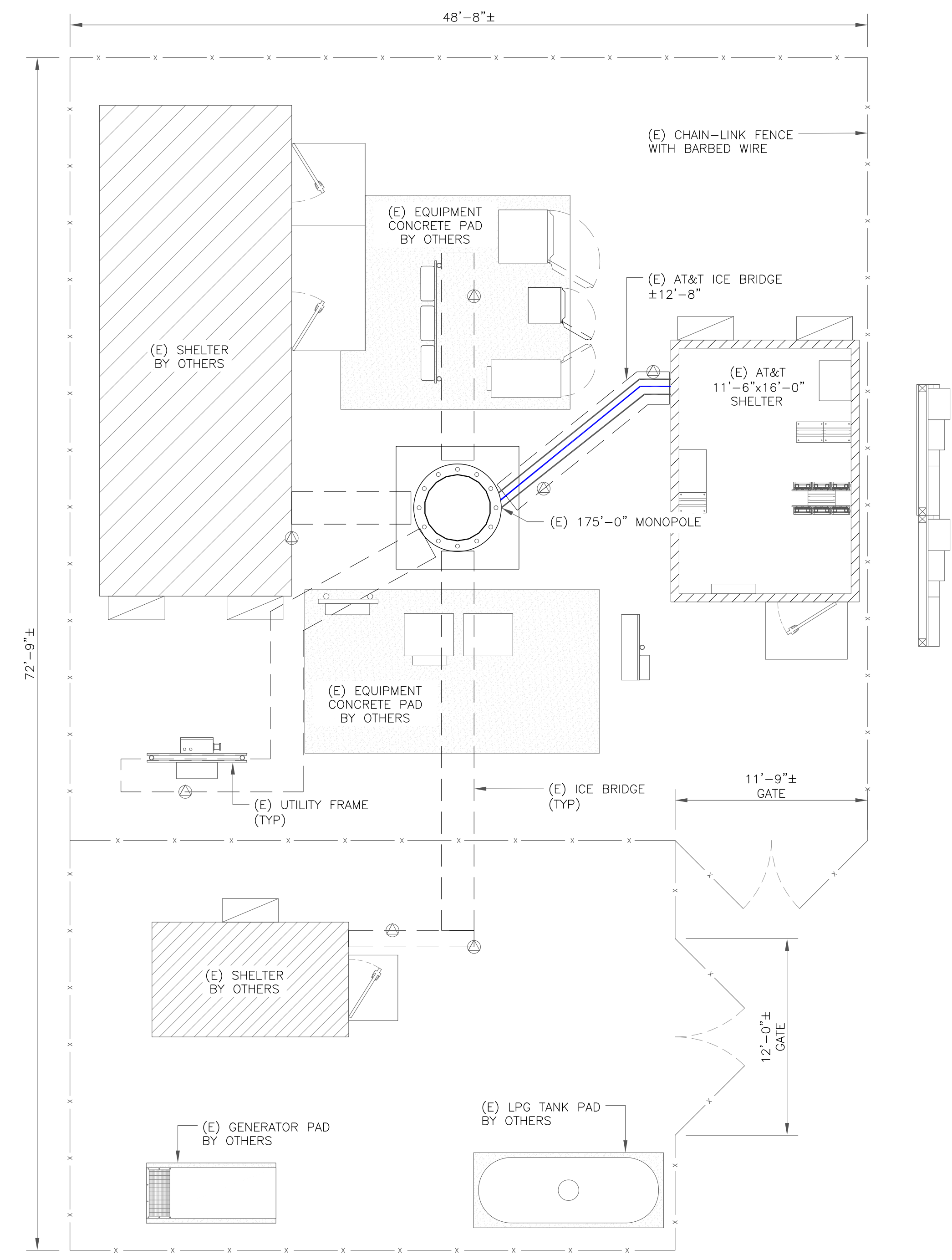
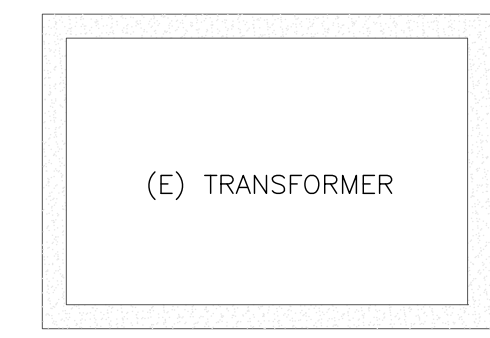
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0	3/18/22	GAC	CONSTRUCTION	KT
1	5/3/22	GAC	CONSTRUCTION	KT



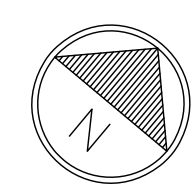
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SHEET NUMBER: **C-1.1** REVISION: **1**



1 SITE PLAN  
SCALE: 3/16"=1'-0" (FULL SIZE)  
3/32"=1'-0" (11x17)



1:37170.006.01\_CT364CHAPEL.dwg - SheetC-1.1 - User: mjonas - May 03, 2022 - 9:11am



575 MOROSGO DRIVE  
ATLANTA, GA 30324-3300



3 CORPORATE PARK DRIVE, SUITE 101  
CLIFTON PARK, NY 12065



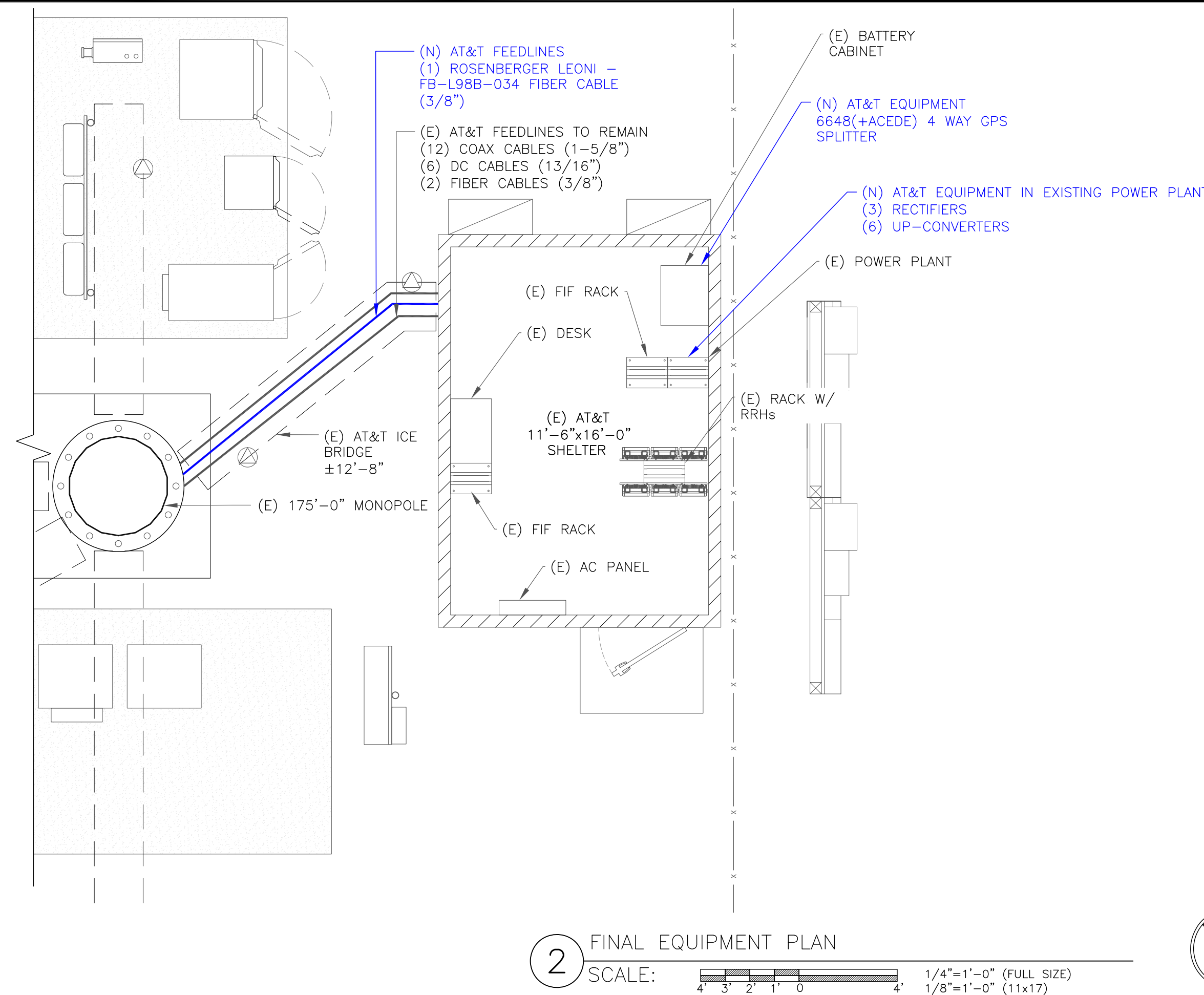
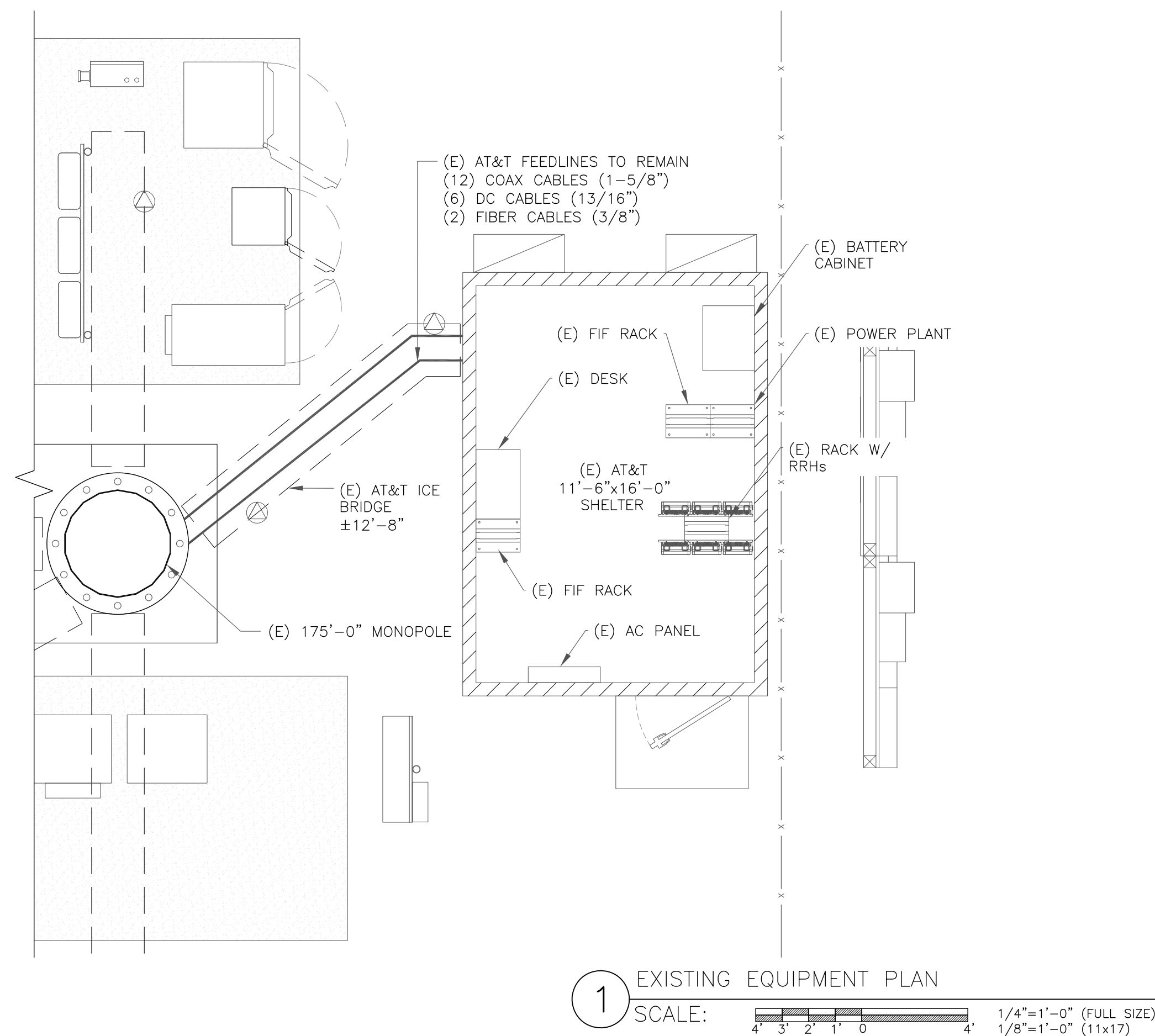
1717 S. BOULDER  
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**CT364/CHAPEL ST.**  
**MONOPOLE**

580 CHAPEL STREET  
THOMASTON, CT 06787

EXISTING  
175'-0" MONOPOLE



- GROUND SCOPE OF WORK:**
- REMOVE UNISTRUT
  - INSTALL (3) RECTIFIERS IN EXISTING POWER PLANT
  - INSTALL (6) UP-CONVERTERS IN EXISTING POWER PLANT
  - INSTALL (1) 6648(+ACEDE)
  - INSTALL 4 WAY GPS SPLITTER

**NOTE:**

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**ISSUED FOR:**

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0	3/18/22	GAC	CONSTRUCTION	KT
1	5/3/22	GAC	CONSTRUCTION	KT



5/3/22

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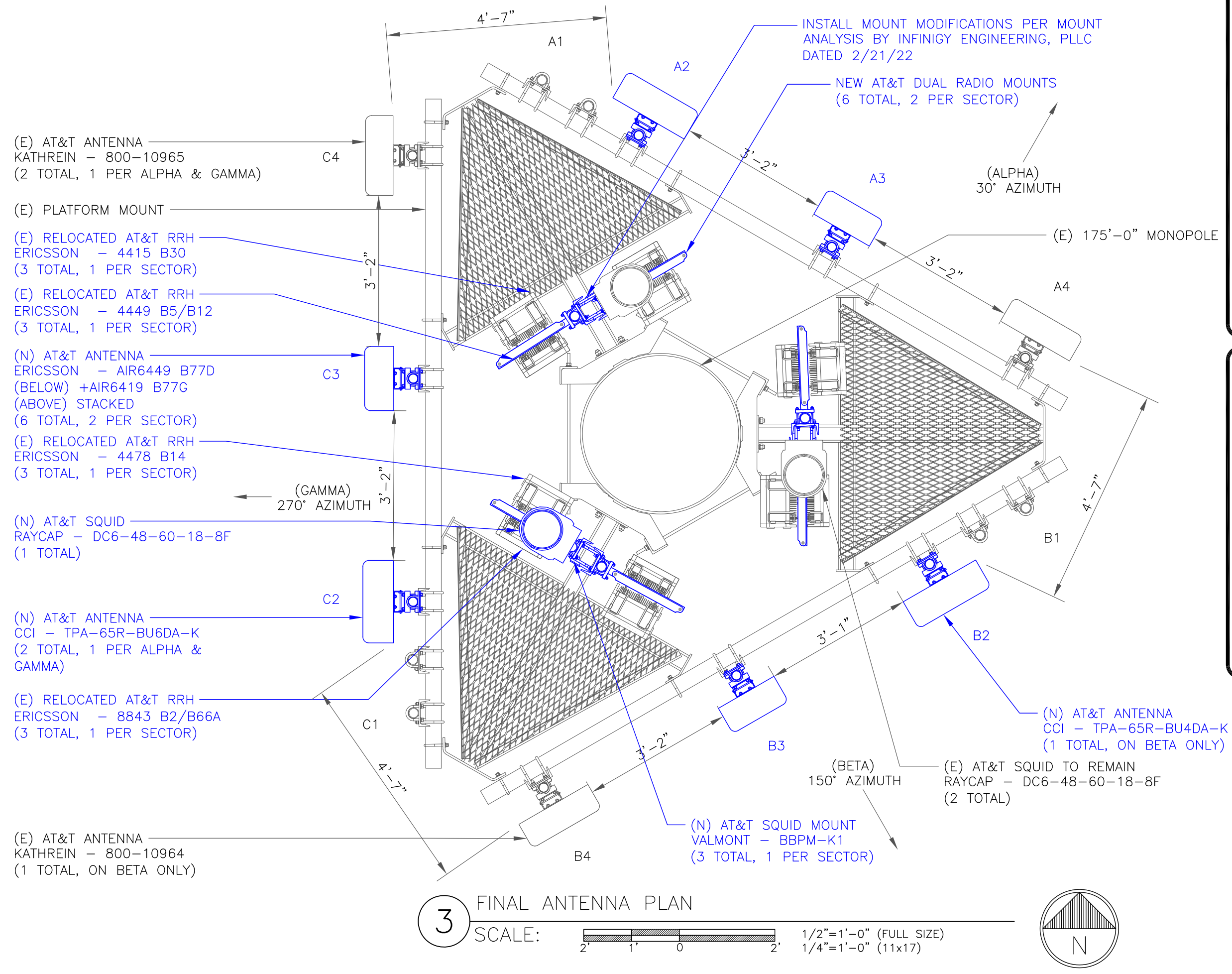
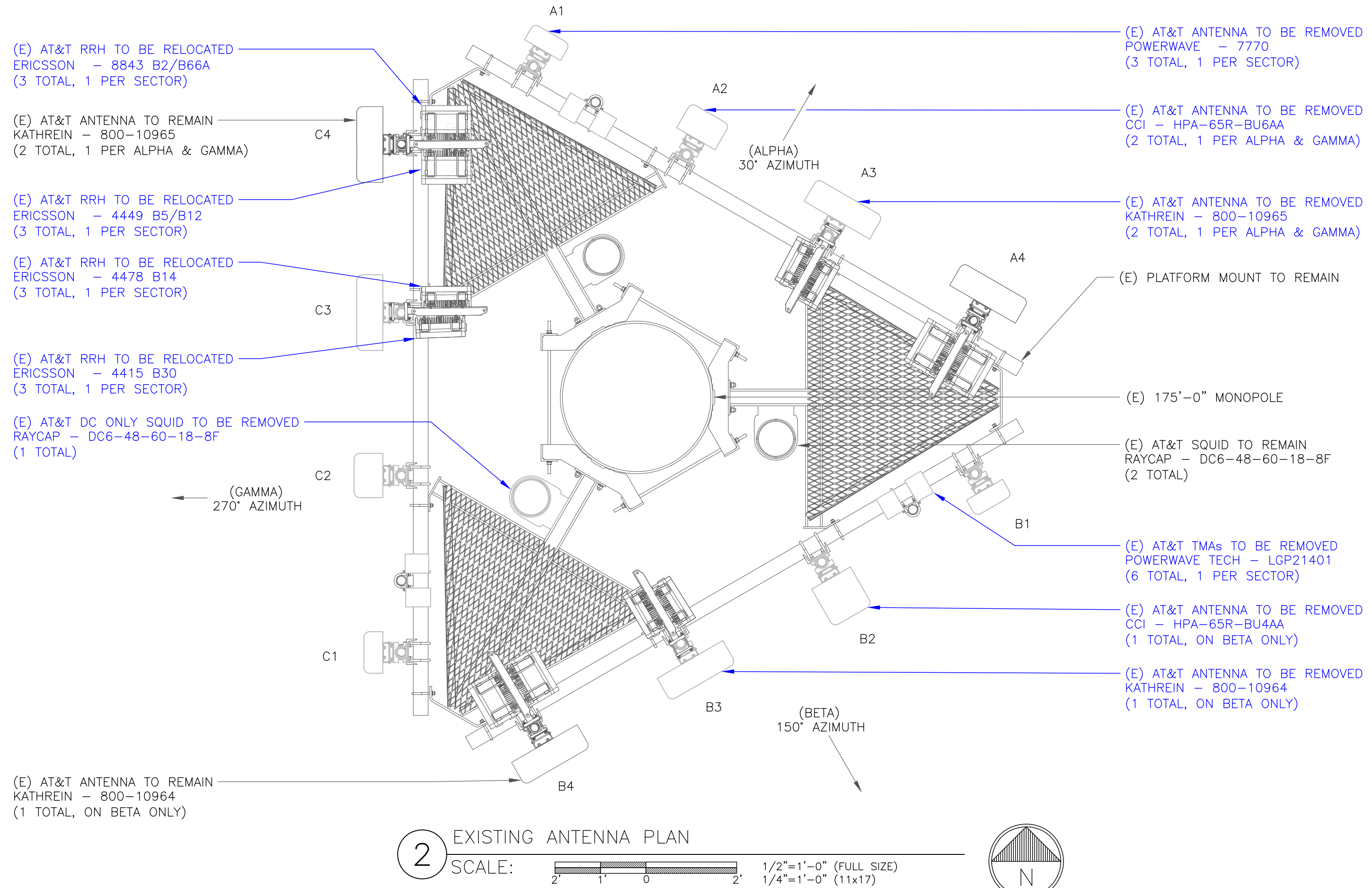
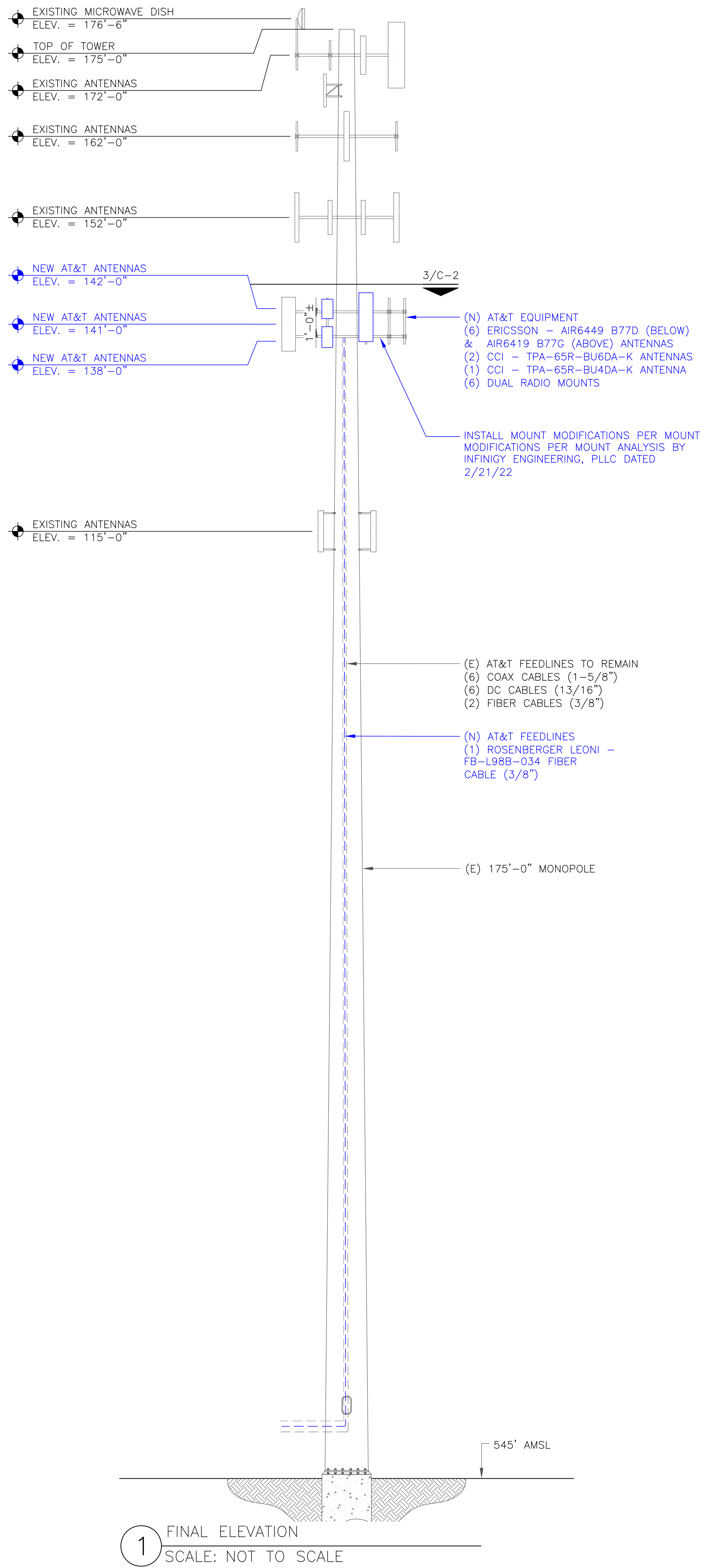
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SHEET NUMBER:

**C-1.2**

REVISION:

**1**



"LOOK UP" - CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT:

THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.

- INSTALLER NOTES:
- REFERENCE C-3 FOR FINAL EQUIPMENT SCHEDULE.
  - REFERENCE C-4 FOR NEW EQUIPMENT SPECIFICATIONS.
  - CONTRACTOR TO VERIFY ALL ANTENNA TIP HEIGHTS DO NOT EXCEED BEACON BASE HEIGHT.
  - 3'-0" MINIMUM DISTANCE REQUIRED BETWEEN LTE ANTENNAS ON SAME SECTOR.
  - 6'-0" MINIMUM DISTANCE REQUIRED BETWEEN 700BC & 700DE ANTENNAS ON SAME SECTOR.
  - 4'-0" MINIMUM DISTANCE REQUIRED BETWEEN LTE 700 ANTENNAS ON OPPOSING SECTORS.
  - ALL ANTENNA MEASUREMENT DISTANCES MUST BE EDGE TO EDGE (RELOCATE ANTENNAS AS NEEDED).
  - 8" MINIMUM DISTANCE REQUIRED BETWEEN ANTENNA & RADIO. SEE GENERIC EXAMPLE DETAIL ON SHEET C-4.

575 MOROSGO DRIVE  
ATLANTA, GA 30324-3300

3 CORPORATE PARK DRIVE, SUITE 101  
CLIFTON PARK, NY 12065

1717 S. BOULDER  
SUITE 300  
TULSA, OK 74119  
PH: (918) 587-4630  
www.blgrp.com

AT&T SITE NUMBER:  
**CTL01062**

BU #: **823530**  
**CT364/CHAPEL ST. MONOPOLE**

580 CHAPEL STREET  
THOMASTON, CT 06787

EXISTING  
175'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	3/2/22	GAC	PRELIMINARY REVIEW	KT
0	3/18/22	GAC	CONSTRUCTION	KT
1	5/3/22	GAC	CONSTRUCTION	KT

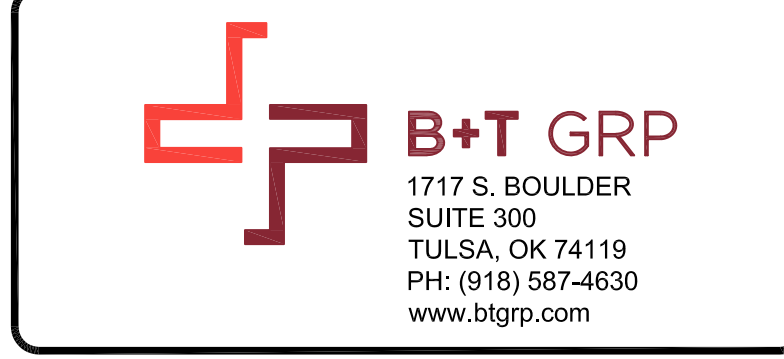
5/3/22

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SHEET NUMBER: **C-2** REVISION: **1**

1:37170.006.01\_CT364CHAPEL.dwg - SheetC-2 - User: mjones - May 03, 2022 - 9:11am



AT&T SITE NUMBER:  
**CTL01062**

BU #: **823530**  
**CT364/CHAPEL ST. MONOPOLE**

580 CHAPEL STREET  
THOMASTON, CT 06787

EXISTING  
175'-0" MONOPOLE

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### FINAL ANTENNA AND FEEDLINE SCHEDULE

POS.	TECH	STATUS	AZIMUTH	ANTENNA TYPE	ANTENNA RAD CENTER	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	MAIN COAX SIZE	MAIN COAX LENGTH	COAX QTY	TMA QTY AND MODEL	SURGE PROTECTION	DC/FIBER CABLES	RRHs QTY & MODEL ON TOWER	LOCATION	DIPLEXER ON TOWER	DIPLEXER ON GROUND	RET CABLE	
ALPHA SECTOR																			
A1	-	-	-	-	-	-	-	-	-	-	-	(1) (E) DC6-48-60-18-8F SQUID	(1) 3/8" FIBER (2) 13/16" DC LINES	-	-	N	N	N	
A2	LTE 700 / LTE 1900 / LTE AWS	NEW	30°	CCI - TPA65R-BU6DA-K	141'-0"	0°	3°/ 3°/ 3° / 5°/ 5°/ 5°	1-5/8"	191'-0"	2	-			(1) ERICSSON - 8843 B2/B66A (1) ERICSSON - 4478 B14	TOWER	-	-	-	-
A3	5G CBAND/5G DOD/5G 3.5GHZ	NEW	30°	ERICSSON - AIR6449 B77D+AIR6419 B77G STACKED	141'-0"	0°	0°/0°/0°	-	-	-	-			-	-	N	N	N	N
A4	LTE 700 / LTE WCS / 5G 850	EXISTING	30°	KATHREIN - 800-10965	141'-0"	0°	8°/ 3°/ 4°	-	-	-	-			(1) ERICSSON - 4449 B5/B12 (1) ERICSSON - 4415 B30	TOWER	N	Y	N	N
BETA SECTOR																			
B1	-	-	-	-	-	-	-	-	-	-	-	(1) (E) DC6-48-60-18-8F SQUID	(1) 3/8" FIBER (2) 13/16" DC LINES	-	-	N	N	N	
B2	LTE 700 / LTE 1900 / LTE AWS	NEW	150°	CCI - TPA65R-BU4DA-K	141'-0"	0°	3°/ 3°/ 3° / 5°/ 5°/ 5°	1-5/8"	191'-0"	2	-			(1) ERICSSON - 8843 B2/B66A (1) ERICSSON - 4478 B14	TOWER	-	-	-	-
B3	5G CBAND/5G DOD/5G 3.5GHZ	NEW	150°	ERICSSON - AIR6449 B77D+AIR6419 B77G STACKED	141'-0"	0°	0°/0°/0°	-	-	-	-			-	-	N	N	N	N
B4	LTE 700 / LTE WCS / 5G 850	EXISTING	150°	KATHREIN - 800-10964	141'-0"	0°	8°/ 3°/ 4°	-	-	-	-			(1) ERICSSON - 4449 B5/B12 (1) ERICSSON - 4415 B30	TOWER	N	Y	N	N
GAMMA SECTOR																			
C1	-	-	-	-	-	-	-	-	-	-	-	(1) (N) DC6-48-60-18-8F SQUID	(1) (N) 3/8" FIBER (2) 13/16" DC LINES	-	-	N	N	N	
C2	LTE 700 / LTE 1900 / LTE AWS	NEW	270°	CCI - TPA65R-BU6DA-K	141'-0"	0°	3°/ 3°/ 3° / 5°/ 5°/ 5°	1-5/8"	191'-0"	2	-			(1) ERICSSON - 8843 B2/B66A (1) ERICSSON - 4478 B14	TOWER	-	-	-	-
C3	5G CBAND/5G DOD/5G 3.5GHZ	NEW	270°	ERICSSON - AIR6449 B77D+AIR6419 B77G STACKED	141'-0"	0°	0°/0°/0°	-	-	-	-			-	-	N	N	N	N
C4	LTE 700 / LTE WCS / 5G 850	EXISTING	270°	KATHREIN - 800-10965	141'-0"	0°	8°/ 3°/ 4°	-	-	-	-			(1) ERICSSON - 4449 B5/B12 (1) ERICSSON - 4415 B30	TOWER	N	Y	N	N

NOTE: BLUE DENOTES NEW EQUIPMENT

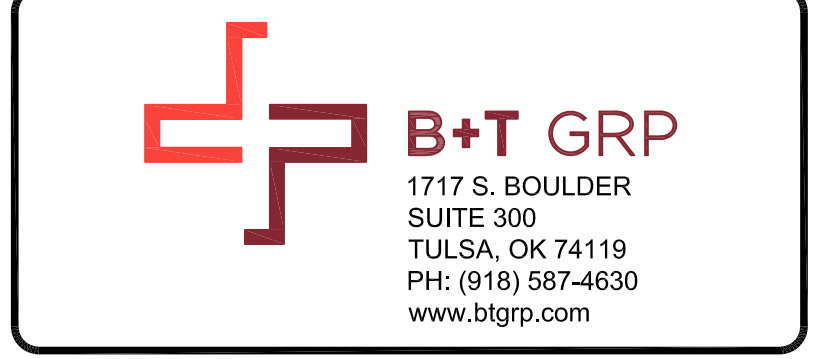
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575 MOROSGO DRIVE  
ATLANTA, GA 30324-3300



3 CORPORATE PARK DRIVE, SUITE 101  
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1717 S. BOULDER  
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AT&T SITE NUMBER:  
**CTL01062**

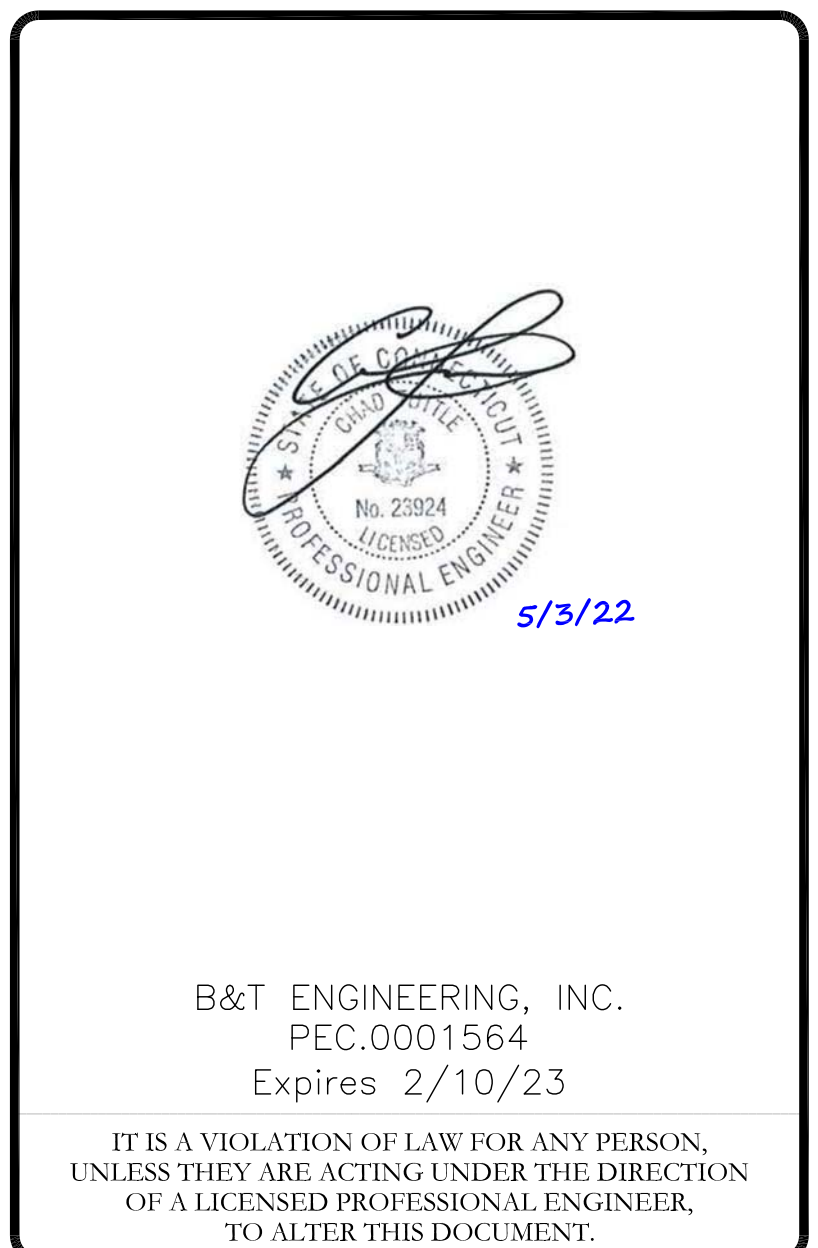
BU #: **823530**  
**CT364/CHAPEL ST.**  
**MONOPOLE**

580 CHAPEL STREET  
THOMASTON, CT 06787

EXISTING  
175'-0" MONOPOLE

ISSUED FOR:

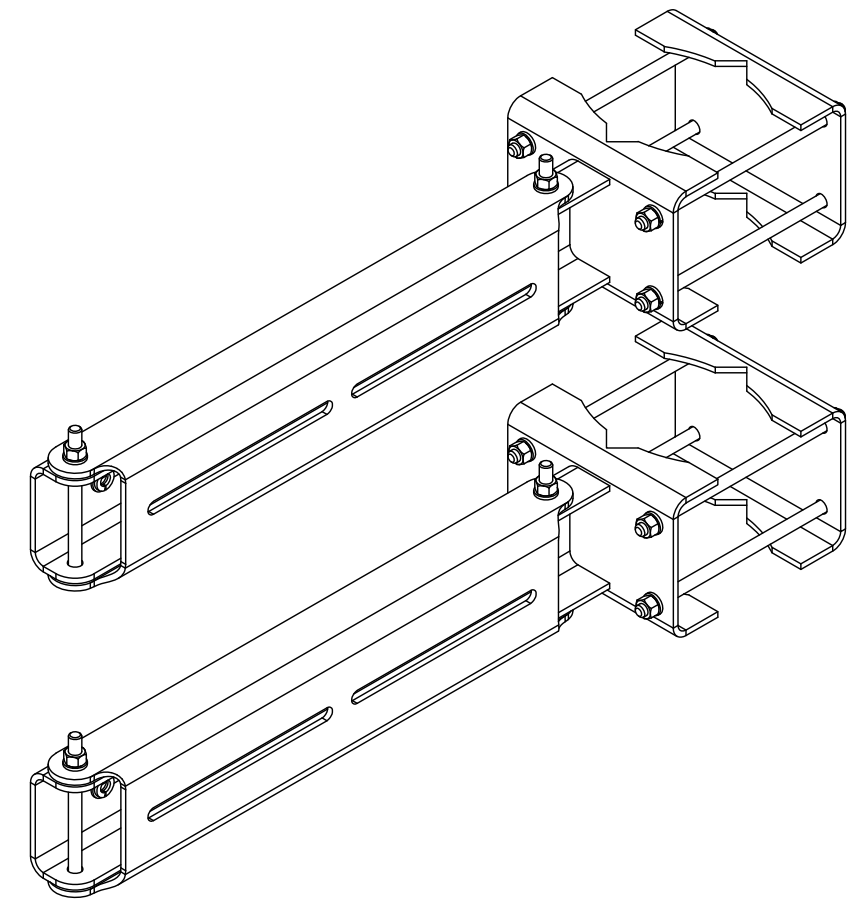
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A	3/2/22	GAC	PRELIMINARY REVIEW	KT
0	3/18/22	GAC	CONSTRUCTION	KT
1	5/3/22	GAC	CONSTRUCTION	KT



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DUAL RADIO MOUNT

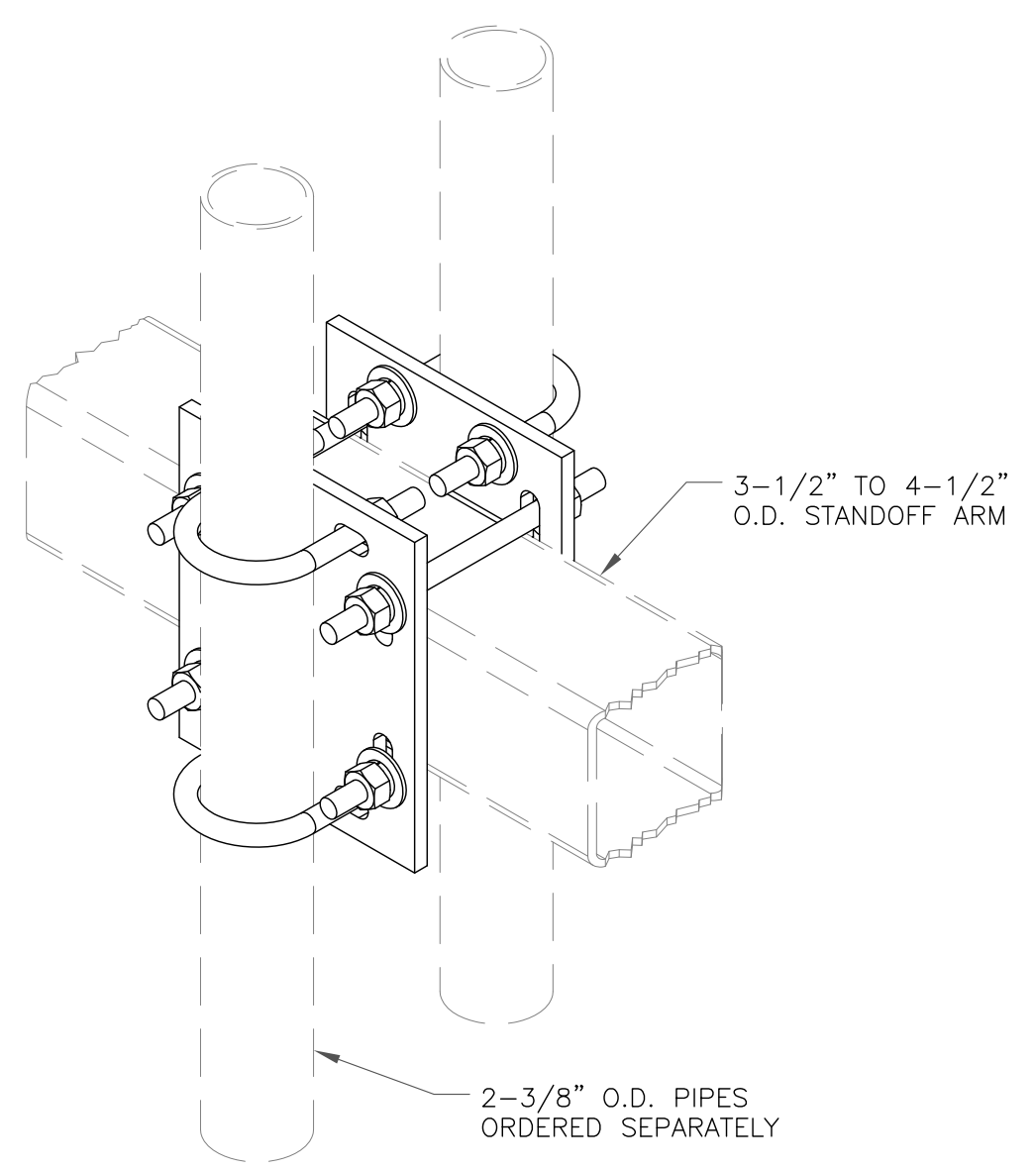
2 DUAL RADIO MOUNT  
SCALE: NOT TO SCALE

1 NOT USED  
SCALE: NOT TO SCALE

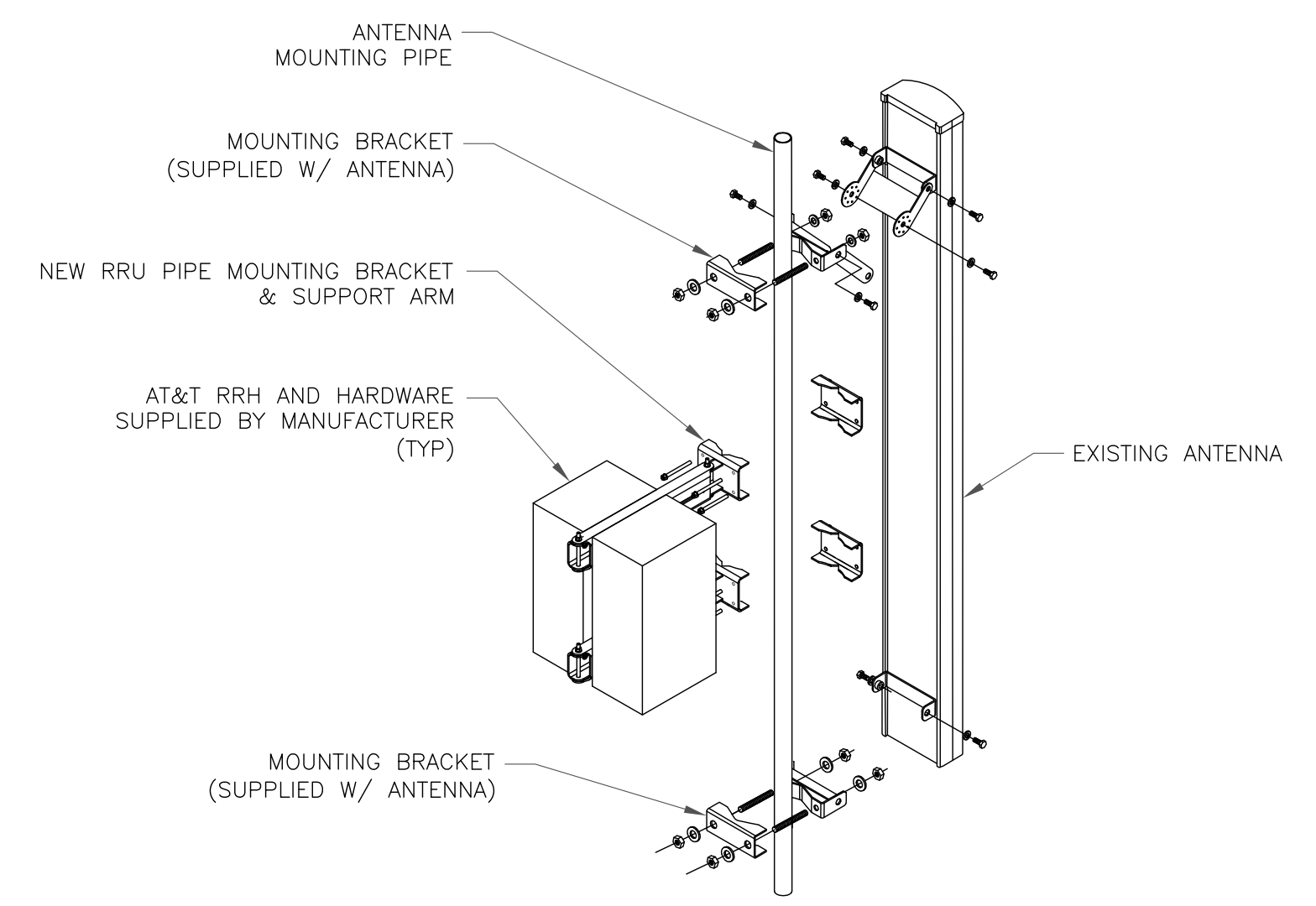
3 NOT USED  
SCALE: NOT TO SCALE

INSTALLER NOTES:

1. COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRHS RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.
2. DO NOT OPEN RRH PACKAGES IN THE RAIN.
3. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.



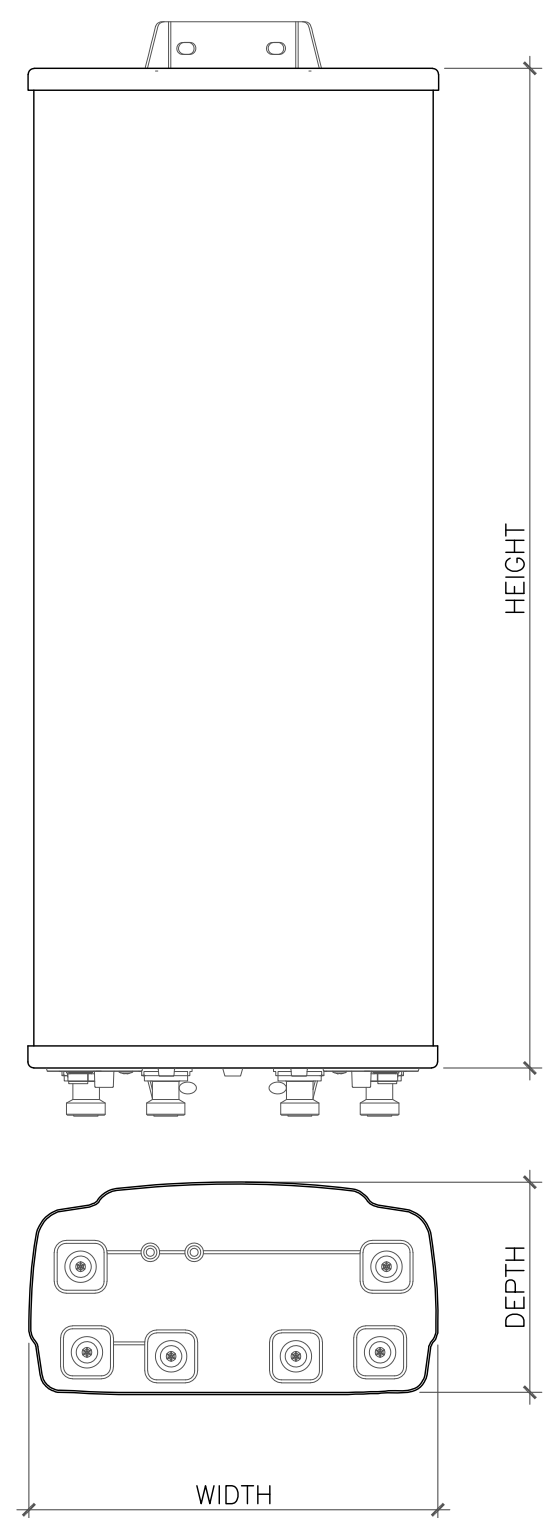
4 VALMONT - BBPM-K1  
SCALE: NOT TO SCALE



5 ANTENNA WITH DUAL RRH MOUNTING DETAIL  
SCALE: NOT TO SCALE

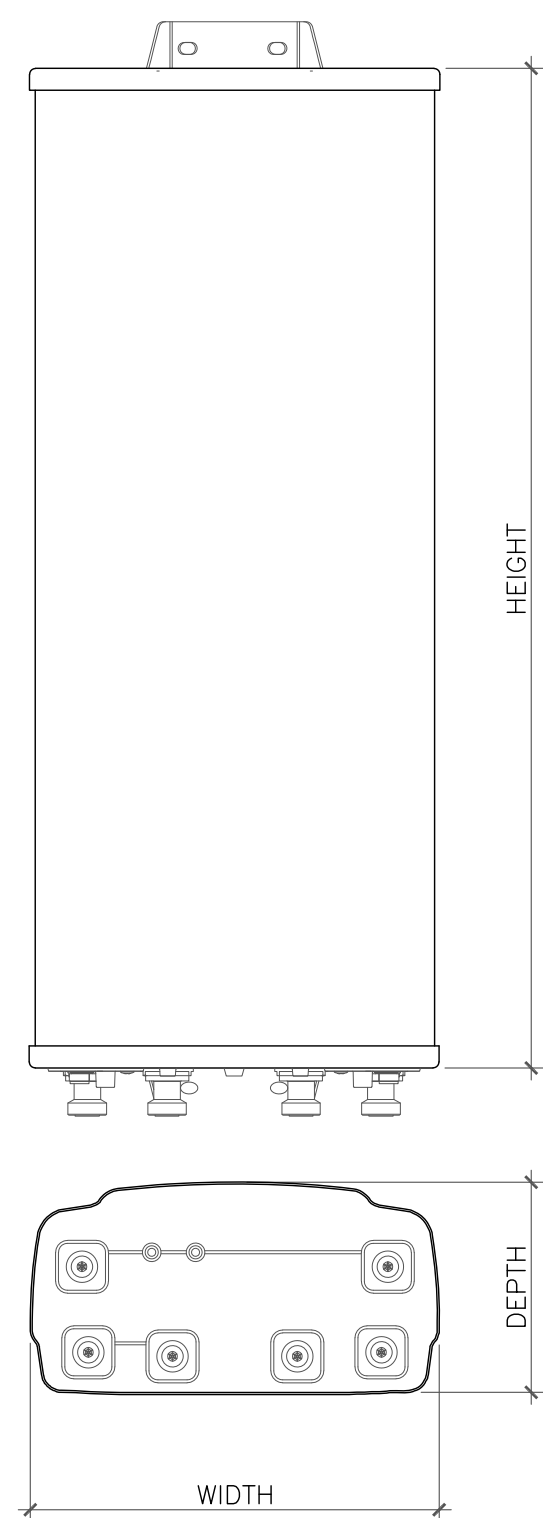
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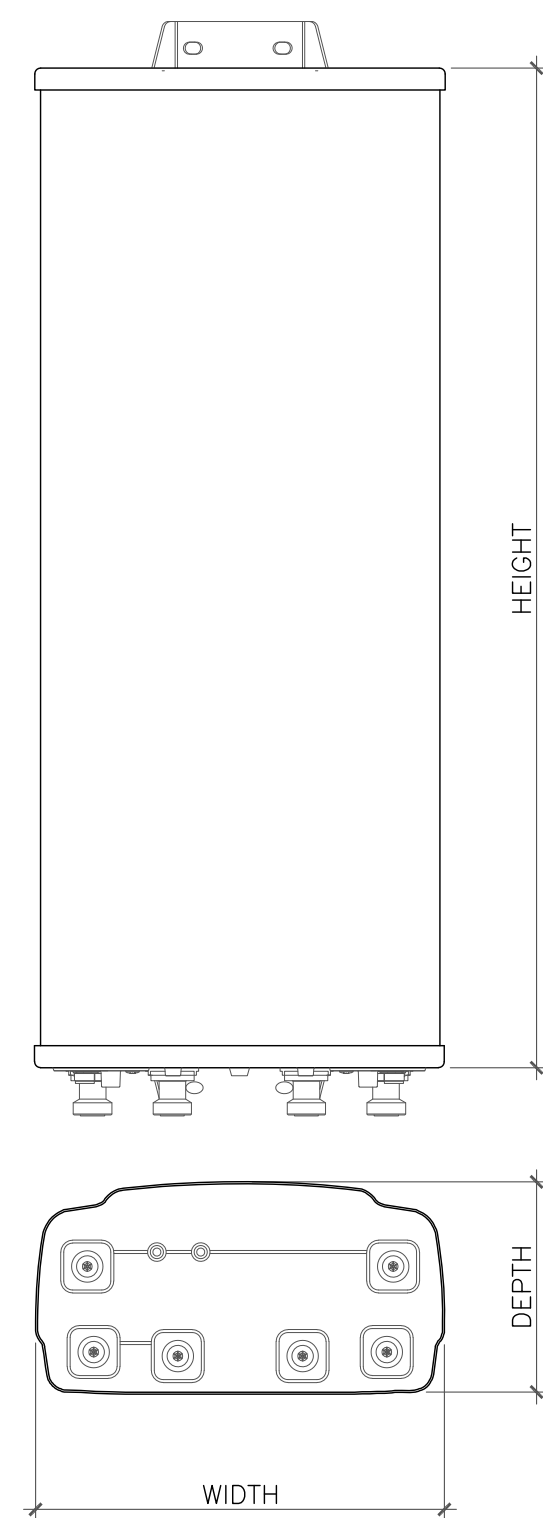
ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
CCI - TPA65R-BU4DA	48"	21"	7.8"	61.6 lbs

1 ANTENNA DETAIL  
SCALE: NOT TO SCALE



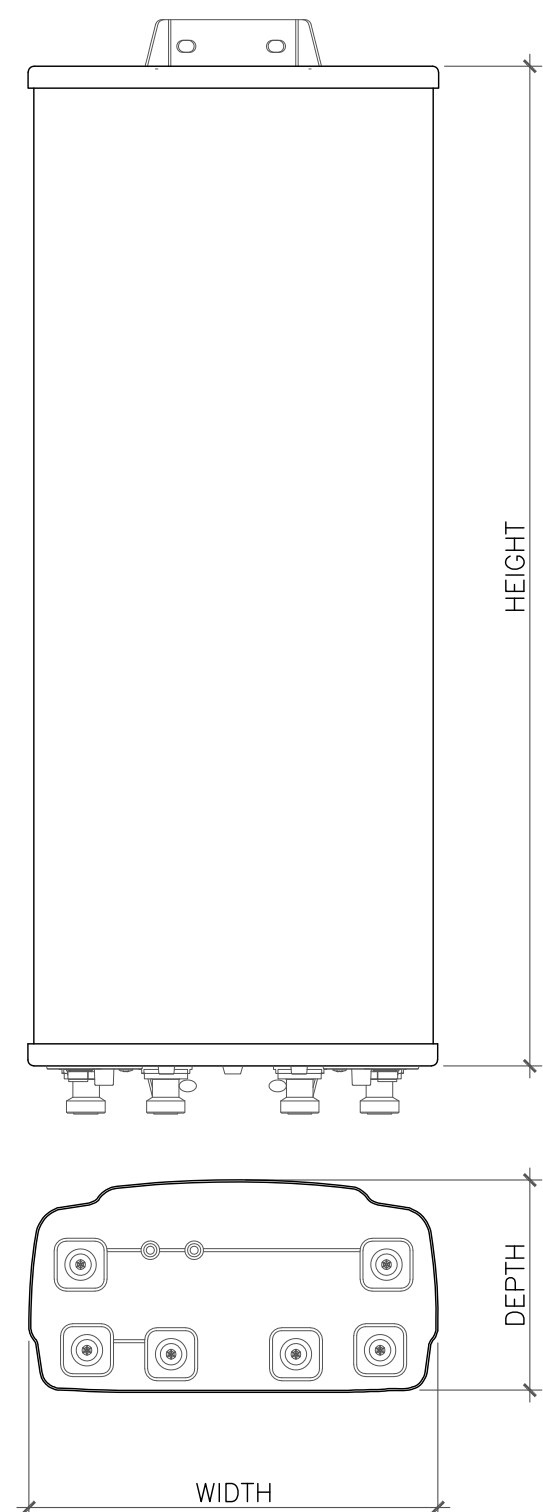
ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
CCI - TPA65R-BU6DA	71.2"	20.7"	7.7"	69 lbs

2 ANTENNA DETAIL  
SCALE: NOT TO SCALE



ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
ERICSSON - AIR6449 B77D	30.39"	15.87"	8.07"	81.60 lbs

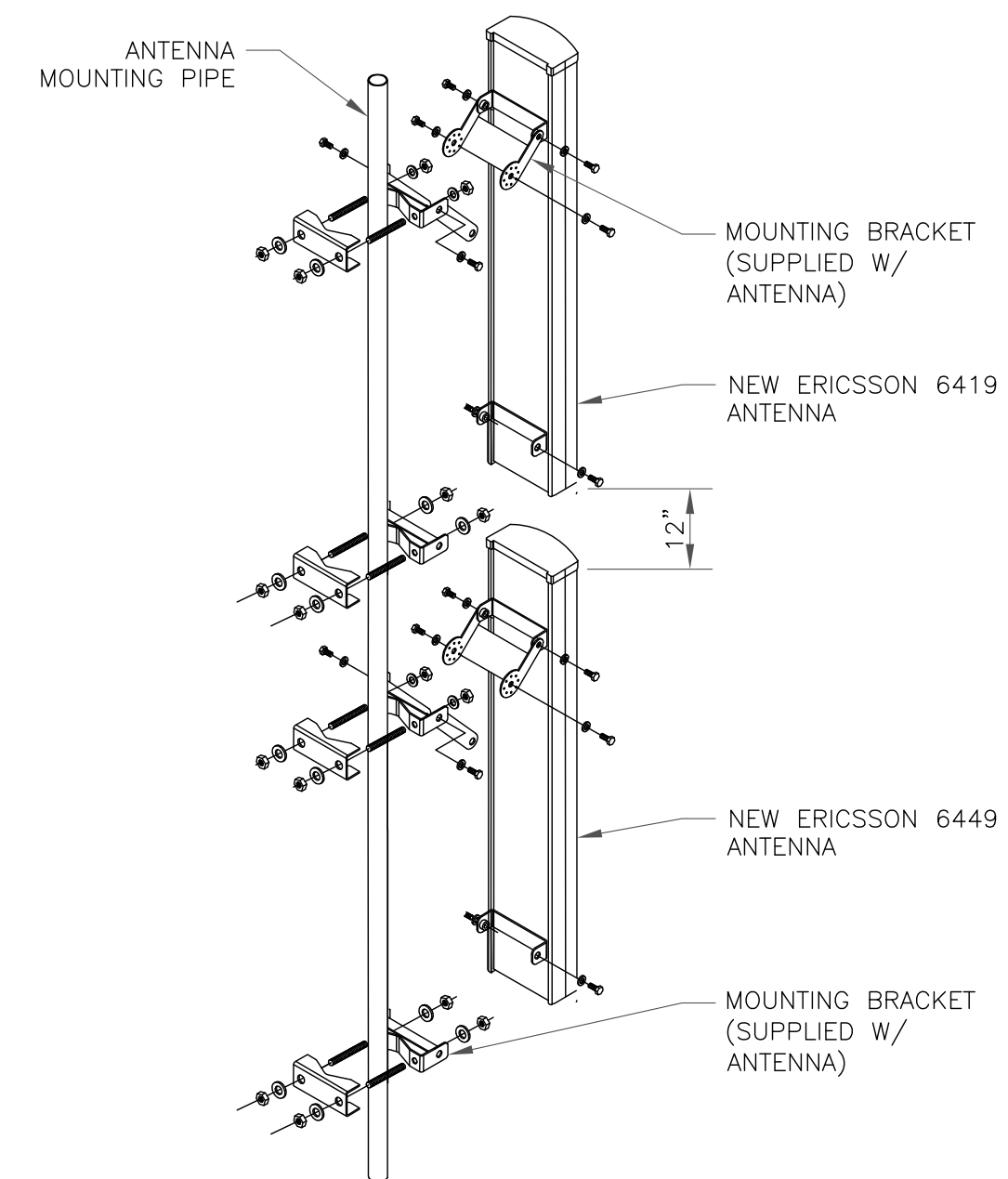
3 ANTENNA DETAIL  
SCALE: NOT TO SCALE



ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
ERICSSON - AIR6419 B77G	28.30"	16.10"	7.90"	66.10 lbs

4 ANTENNA DETAIL  
SCALE: NOT TO SCALE

5 NOT USED  
SCALE: NOT TO SCALE



6 ANTENNA MOUNTING DETAIL  
SCALE: NOT TO SCALE

575 MOROSGO DRIVE  
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Expires 2/10/23

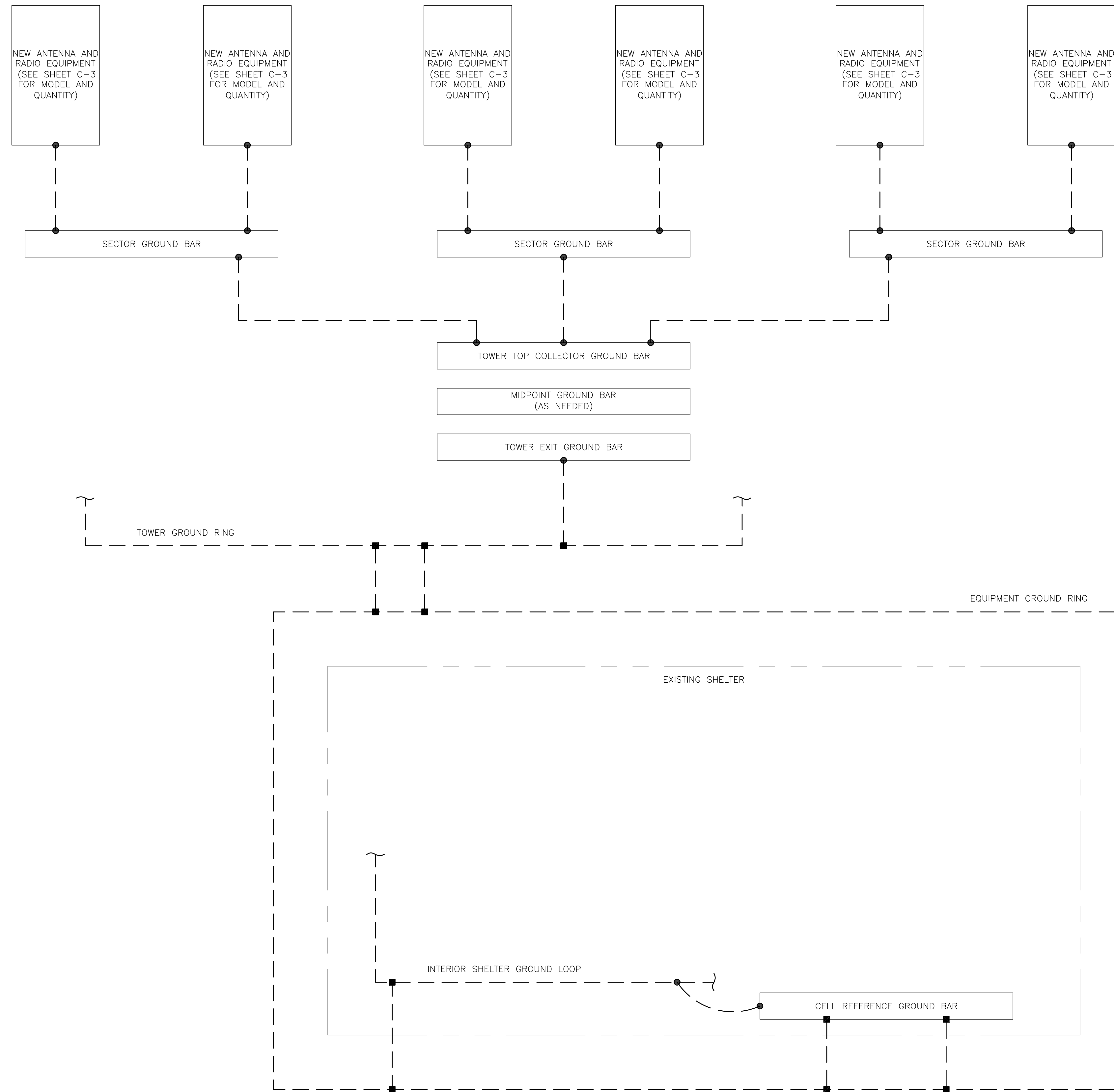
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TO ALTER THIS DOCUMENT.

SHEET NUMBER:

**C-5**

REVISION:

**1**



**GROUNDING PLAN LEGEND:**

- GROUND WIRE
- EXOTHERMIC WELD
- MECHANICAL CONNECTION
- ⊙ COPPER GROUND ROD
- ⊗ GROUND ROD W/ TEST WELL

**CELL REFERENCE GROUND BAR:** POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUITS (ATT-TP-76416 7.6.7).

**HATCH PLATE GROUND BAR:** BOND TO THE INTERIOR GROUND RING WITH (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CELL SITE REFERENCE GROUND BAR MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS.

**EXTERIOR CABLE ENTRY PORT GROUND BARS:** LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC WELD AND INSPECTION SLEEVE (ATT-TP-76416 7.6.7.2).

DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICES CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR PER TP76300 SECTION H.6 AND TP76416 FIGURE 7-11 REQUIREMENTS.

575 MOROSGO DRIVE  
ATLANTA, GA 30324-3300

3 CORPORATE PARK DRIVE, SUITE 101  
CLIFTON PARK, NY 12065

1717 S. BOULDER  
SUITE 300  
TULSA, OK 74119  
PH: (918) 587-4630  
www.blgrp.com

**AT&T SITE NUMBER:**  
**CTL01062**

**BU #: 823530**  
**CT364/CHAPEL ST.**  
**MONOPOLE**

580 CHAPEL STREET  
THOMASTON, CT 06787

EXISTING  
175'-0" MONOPOLE

**ISSUED FOR:**

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	3/2/22	GAC	PRELIMINARY REVIEW	KT
0	3/18/22	GAC	CONSTRUCTION	KT
1	5/3/22	GAC	CONSTRUCTION	KT

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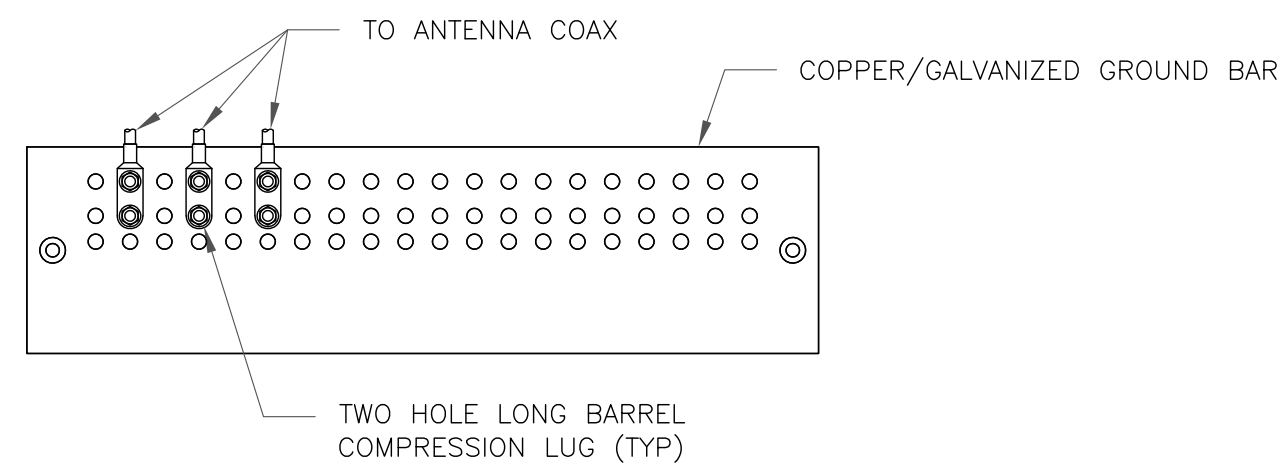
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**SHEET NUMBER:** **G-1**      **REVISION:** **1**

**1** GROUNDING SCHEMATIC  
SCALE: NOT TO SCALE

1:37170.006.01\_CT364CHAPEL.dwg - Sheet:G-1 - User: m.jones - May 03, 2022 - 9:12am

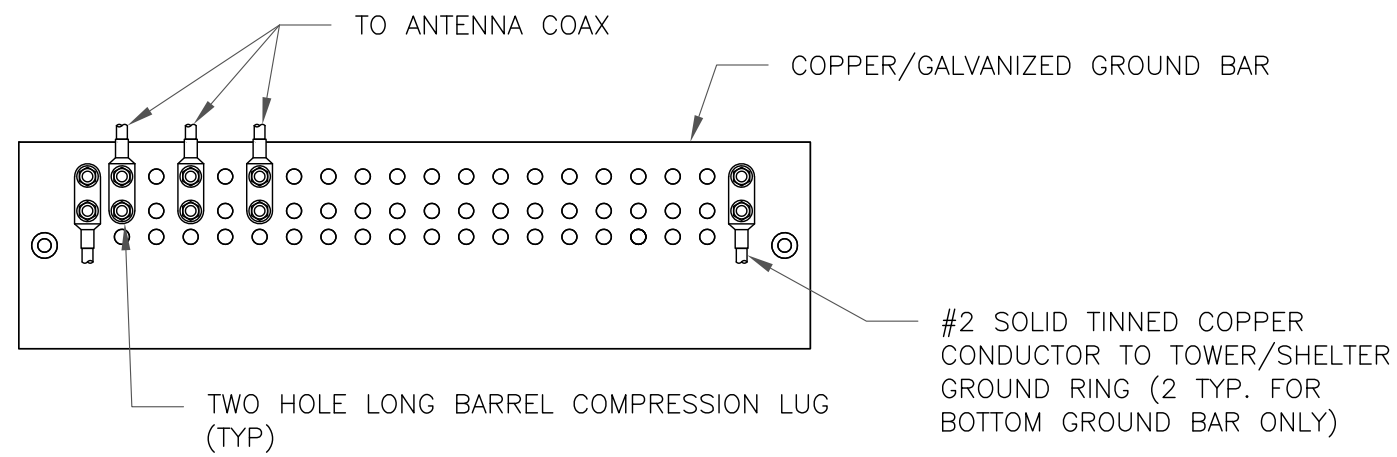




NOTES:

1. DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
3. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO ANTENNA MOUNT STEEL.

1 ANTENNA SECTOR GROUND BAR DETAIL  
SCALE: NOT TO SCALE

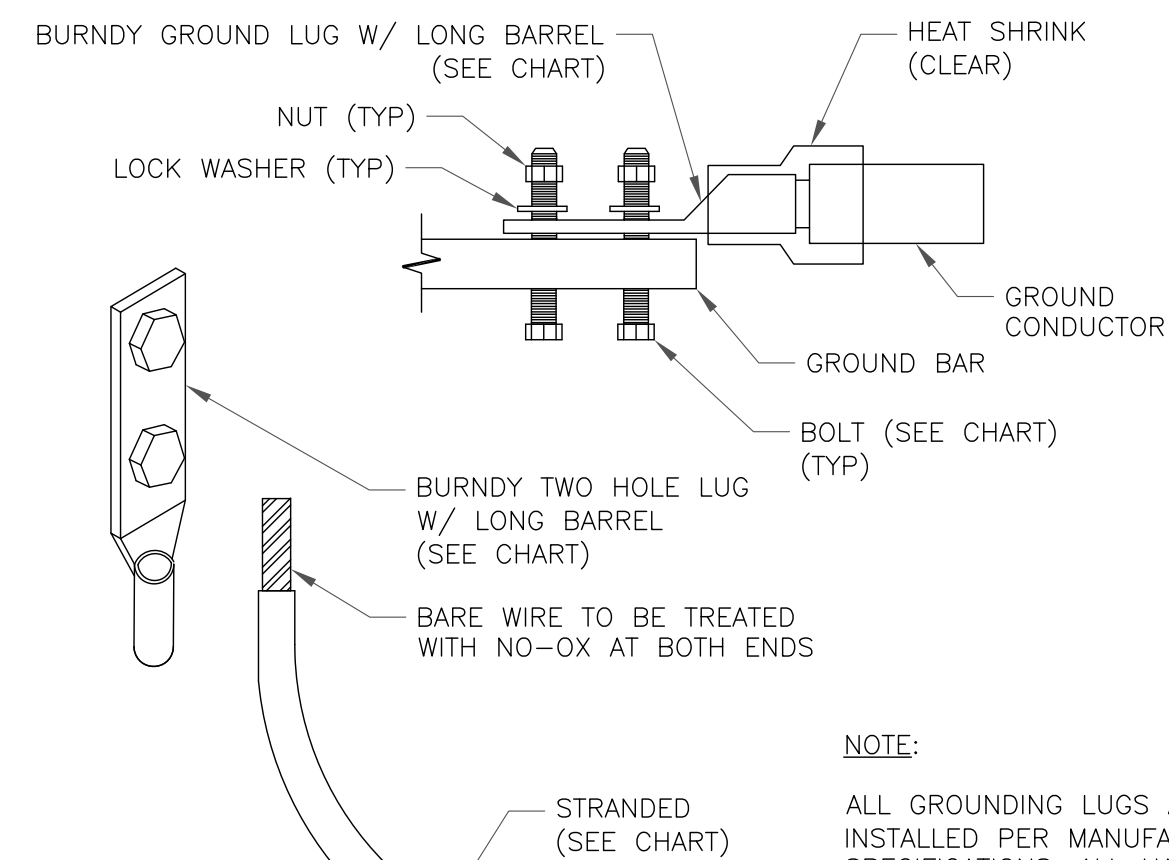


NOTES:

1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

2 TOWER/SHELTER GROUND BAR DETAIL  
SCALE: NOT TO SCALE

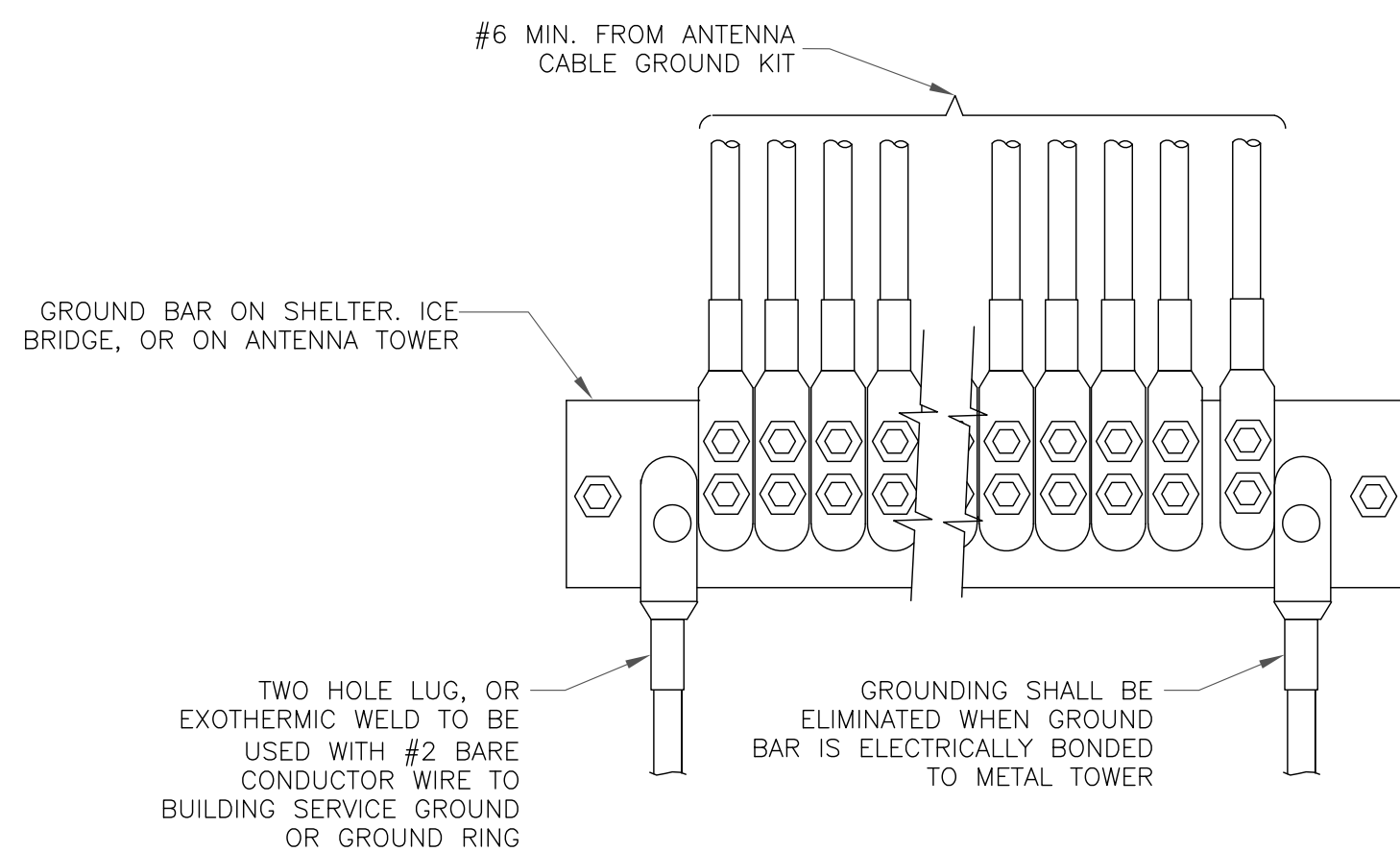
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



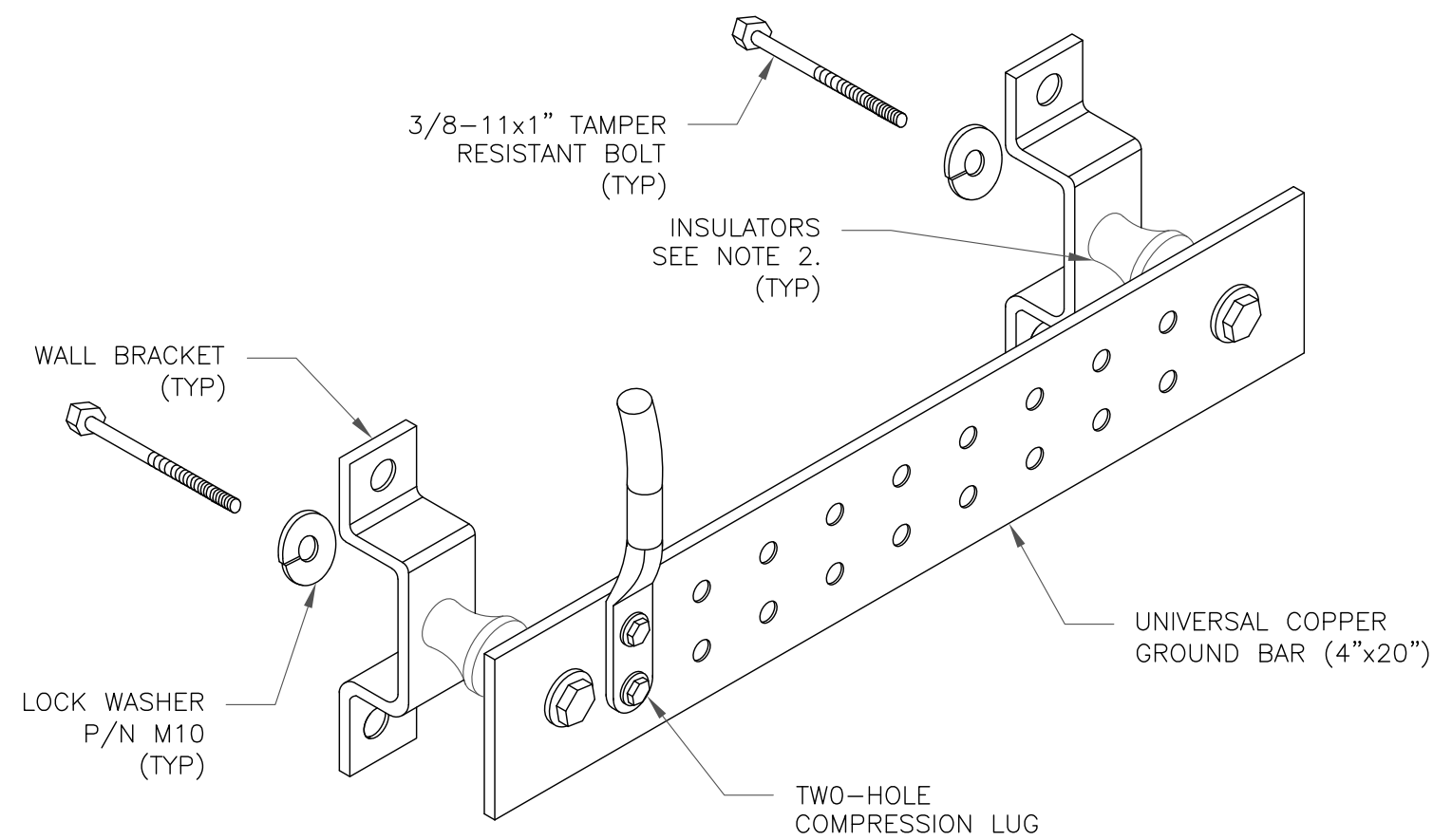
NOTE:

ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

3 MECHANICAL LUG CONNECTION  
SCALE: NOT TO SCALE



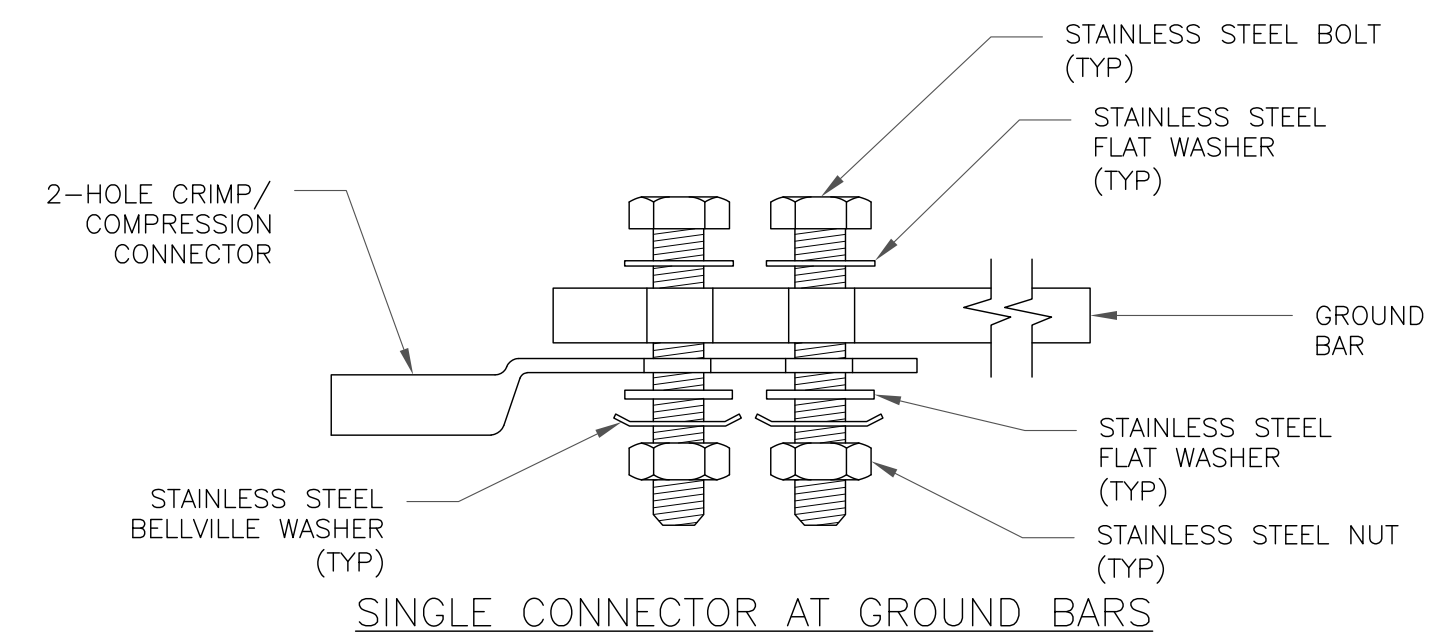
4 GROUNDWIRE INSTALLATION  
SCALE: NOT TO SCALE



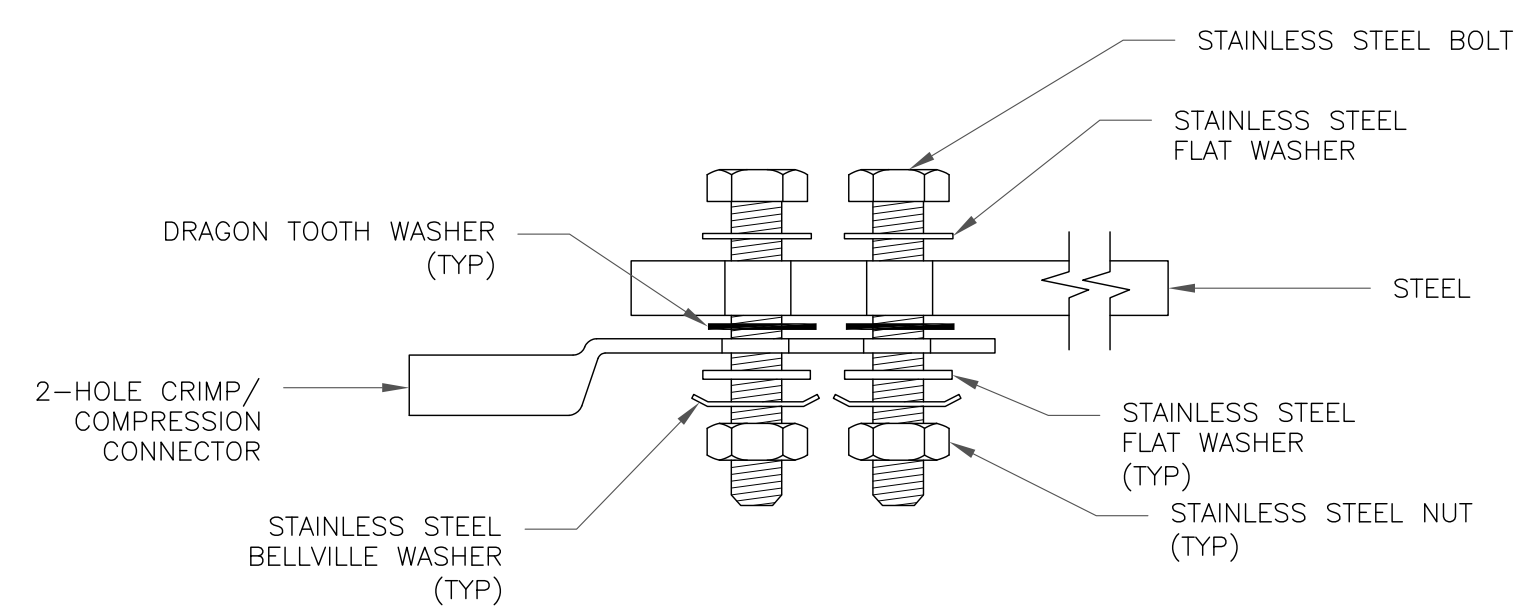
NOTES:

1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL. USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

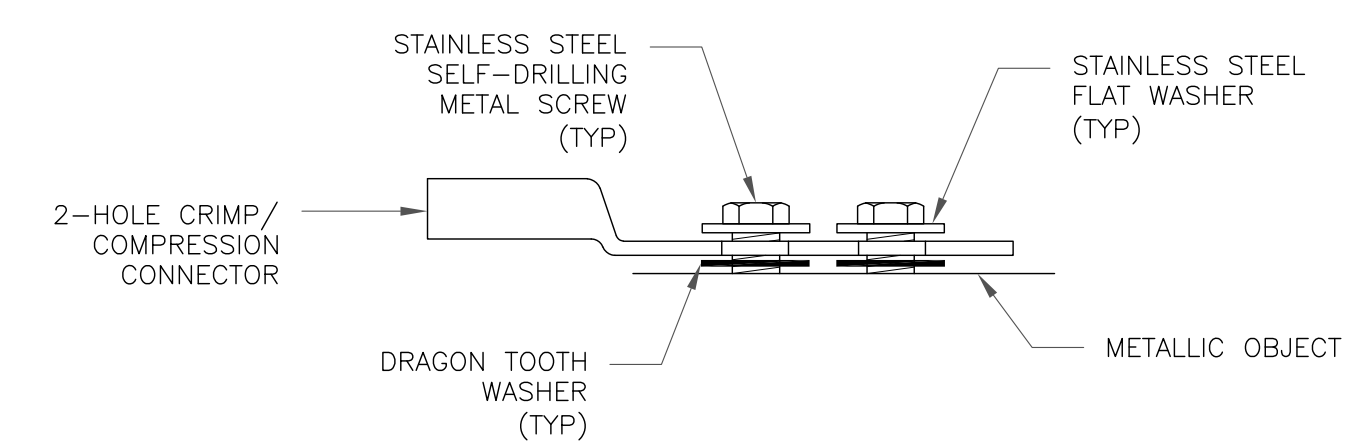
5 GROUND BAR DETAIL  
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

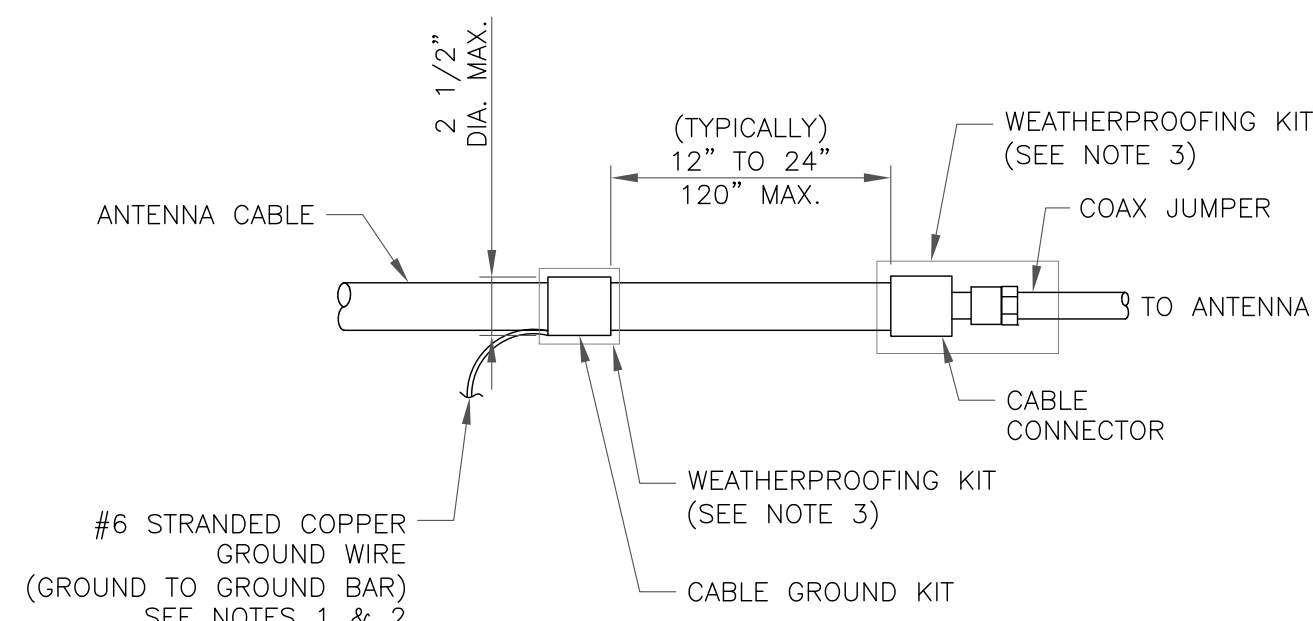


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

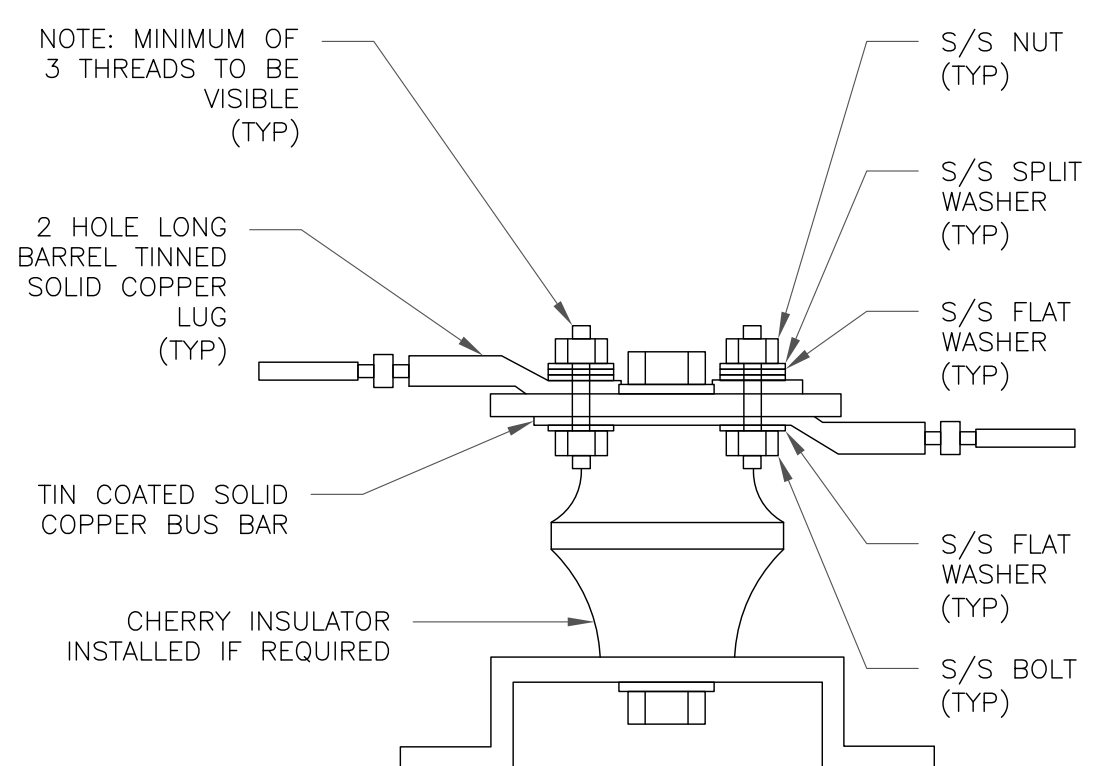
8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS  
SCALE: NOT TO SCALE



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

6 CABLE GROUND KIT CONNECTION  
SCALE: NOT TO SCALE



7 LUG DETAIL  
SCALE: NOT TO SCALE

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5/3/22

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SHEET NUMBER: **G-2** REVISION: **1**

