



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

September 12, 2022

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

RE: **Notice of Exempt Modification for ATT
Crown #876381; ATT Site ID CTL05640
2381 Long Hill Road, Guilford, CT 06437
Latitude: 41° 20' 47.34" / Longitude: -72° 43' 23.15"**

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 167-foot level of the existing 176-foot monopole tower at 2381 Long Hill Road, Guilford, CT. The tower is owned by Crown Castle USA Inc. and the property is owned by James J. Ward Family & Janice M. Ward Family. AT&T now intends to replace three (3) antennas with six (6) new antennas and ancillary equipment at the 167-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 w/integrated RRHs
- (1) RAYCAP-DC6-48-60-18-8F Squid
- (1) 18-Pair Fiber Cable (3/8")
- (3) 6AWG DC Cable (7/8")
- (6) Y Cables for dual band radios

Remove:

- (3) CCI-HPA-65R-BU6AA Antennas
- (1) RAYCAP-DC6-48-60-0-8F Squid
- (6) POWERWAVE-LGP 21901 Diplexers
- (3) 8AWG-DC Cables (13/16")

Ground:

Install New:

- (1) Battery Cabinet
- (5) 170AH Battery Strings
- (3) Rectifiers inside power plant
- (1) 6648 w/XCEDE Cable
- (1) RAYCAP-DC12-48-60-0-25E

The Foundation for a Wireless World.

CrownCastle.com

Remove:

- (3) 180AH Battery Strings
- (6) POWERWAVE Diplexers
- (1) RAYCAP-OD DC6

The facility was approved by the CT Siting Council, Docket No. 238 on May 6, 2003. AT&T's proposed exempt modification complies with the conditions of approval.

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 First Selectman Matthew T. Hoey III, Town Planner George Kral for the municipality and James J. Ward Family & Janice M. Ward Family as the property owner. 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

Attachments

Melanie A. Bachman

Page 3

cc:

First Selectman Matthew T. Hoey III
Town of Guilford
31 Park Street
Guilford, CT 06437
203-453-8015

George Kral, Town Planner
Town of Guilford
50 Boston Street
Guilford, CT 06437
203-453-8039

James J. Ward Family & Janice M. Ward Family
2365 Long Hill Road
Guilford, CT 06437
203-457-1949

Crown Castle, Tower Owner

From: TrackingUpdates@fedex.com
To: [Tatasciore, Domenica](#)
Subject: FedEx Shipment 777902795658: Your package has been delivered
Date: Tuesday, September 13, 2022 10:15:57 AM

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Hi. Your package was
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10:09am.



Delivered to 31 PARK ST, GUILFORD, CT 06437
Received by K.QUCERIA

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [777902795658](#)

FROM Domenica Tatasciore
1800 West Park Drive

Suite 200
WESTBOROUGH, MA, US, 01581

TO Town of Guilford
First Selectman Matthew T. Hoey III
31 Park Street
GUILFORD, CT, US, 06437

REFERENCE 799001 7680

SHIPPER REFERENCE 799001 7680

SHIP DATE Mon 9/12/2022 05:14 PM

DELIVERED TO Receptionist/Front Desk

PACKAGING TYPE FedEx Pak

ORIGIN WESTBOROUGH, MA, US, 01581

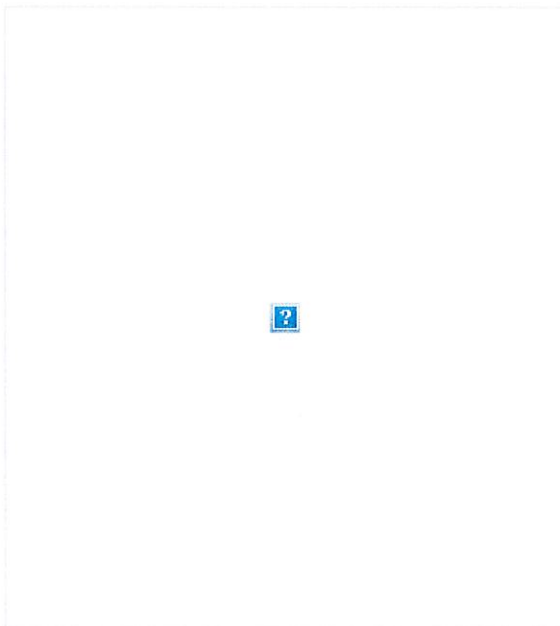
DESTINATION GUILFORD, CT, US, 06437

SPECIAL HANDLING Deliver Weekday

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 1.00 LB

SERVICE TYPE FedEx Priority Overnight



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FedEx



Hi. Your package was
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10:05am.



Delivered to 50 BOSTON ST, GUILFORD, CT 06437
Received by D.PIOMBINO

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [777902804531](#)

FROM Domenica Tatasciore
1800 West Park Drive

Suite 200
WESTBOROUGH, MA, US, 01581

TO Town of Guilford
George Kral, Town Planner
50 Boston Street
GUILFORD, CT, US, 06437

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Mon 9/12/2022 05:14 PM

DELIVERED TO Receptionist/Front Desk

PACKAGING TYPE FedEx Pak

ORIGIN WESTBOROUGH, MA, US, 01581

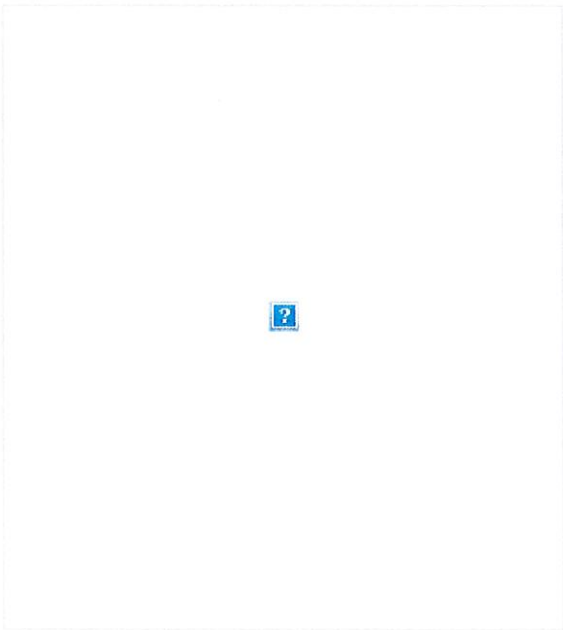
DESTINATION GUILFORD, CT, US, 06437

SPECIAL HANDLING Deliver Weekday

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 1.00 LB

SERVICE TYPE FedEx Priority Overnight



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Subject: FedEx Shipment 777902813433: Your package has been delivered
Date: Tuesday, September 13, 2022 10:31:52 AM

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Hi. Your package was
delivered Tue, 09/13/2022 at
10:25am.



Delivered to 2365 LONG HILL RD, GUILFORD, CT 06437

[OBTAIN PROOF OF DELIVERY](#)



Delivery picture not showing? [View](#) in browser.

TRACKING NUMBER	777902813433
FROM	Domenica Tatasciore 1800 West Park Drive Suite 200 WESTBOROUGH, MA, US, 01581
TO	James & Janice Ward Family 2365 Long Hill Road GUILFORD, CT, US, 06437
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Mon 9/12/2022 05:14 PM
DELIVERED TO	Residence
PACKAGING TYPE	FedEx Pak
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	GUILFORD, CT, US, 06437
SPECIAL HANDLING	Deliver Weekday Residential Delivery
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

Connecticut Siting Council ^(/CSC)

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[Pending Matters \(/CSC/1_Applications-and-Other-Pending-Matters/Pending-Matters\)](#) >

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DOCKET NO. 238 - Sprint Spectrum, L.P. d/b/a Sprint PCS } Connecticut
application for a Certificate of Environmental Compatibility and } Siting
Public Need for the construction, maintenance and operation of a } Council
wireless telecommunications facility located at 2381 Long Hill Road, }
Guilford, Connecticut. }
} May 6, 2003

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a wireless telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Sprint Spectrum L. P. (Sprint) for the construction, maintenance and operation of a wireless telecommunications facility at 2381 Long Hill Road, Guilford, Connecticut with the tower relocated

approximately 430 feet to the northwest to keep the tower radius within the property boundaries. The Council will not approve the proposed locations of the tower or access road as proposed in the application.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Sprint and other entities, both public and private, but such tower shall not exceed a height of 180 feet above ground level including all appurtenances.
2. The access road shall avoid Wetland 7 and minimize impacts to other wetlands.
3. The Certificate Holder shall prepare a D&M Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include: a final site plan(s) for site development to include the location of the tower and the access road and specifications for the tower foundation, placement of carrier antennas, tower height, equipment buildings, security fence, access road, and utility line; construction plans for site clearing, tree trimming, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended; landscaping and provisions to protect the existing vegetative buffer that would extend around the facility compound; a tower finish that may include painting; and provisions for the prevention and containment of spills and/or other discharge into surface water and groundwater bodies.
4. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power densities of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall provide a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
5. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
6. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

7. If the facility does not initially provide, or permanently ceases to provide wireless services following completion of construction, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
8. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antenna becomes obsolete and ceases to function.
9. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The Hartford Courant, The New Haven Register, The Guilford Courier, and the Shore Line Times.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant

Sprint Spectrum, L.P.
d/b/a Sprint PCS

Its Representative

Thomas J. Regan, Esquire
Brown Rudnick Berlack Israels LLP
CityPlace I, 38th Floor
185 Asylum Street
Hartford, CT 06103-3402

Intervenor

AT&T Wireless PCS, LLC
d/b/a AT&T Wireless

Its Representative

Daniel F. Leary, Esq.
Cuddy & Feder & Worby
90 Maple Avenue
White Plains, NY 10601



Town of Guilford, CT

Property Listing Report

Map Block Lot

101023B

Building # 1

Unique Identifier

9786

Property Information

Property Location	2365 LONG HILL RD
Mailing Address	2365 LONG HILL RD GUILFORD CT 06437
Land Use	SINGLE FAMILY
Zoning Code	R-5
Neighborhood	N050

Owner	WARD JAMES J FAMILY & JANICE M FAMILY
Co-Owner	TRUSTS
Book / Page	0689/933+
Land Class	Residential
Census Tract	1903
Acreage	12.96

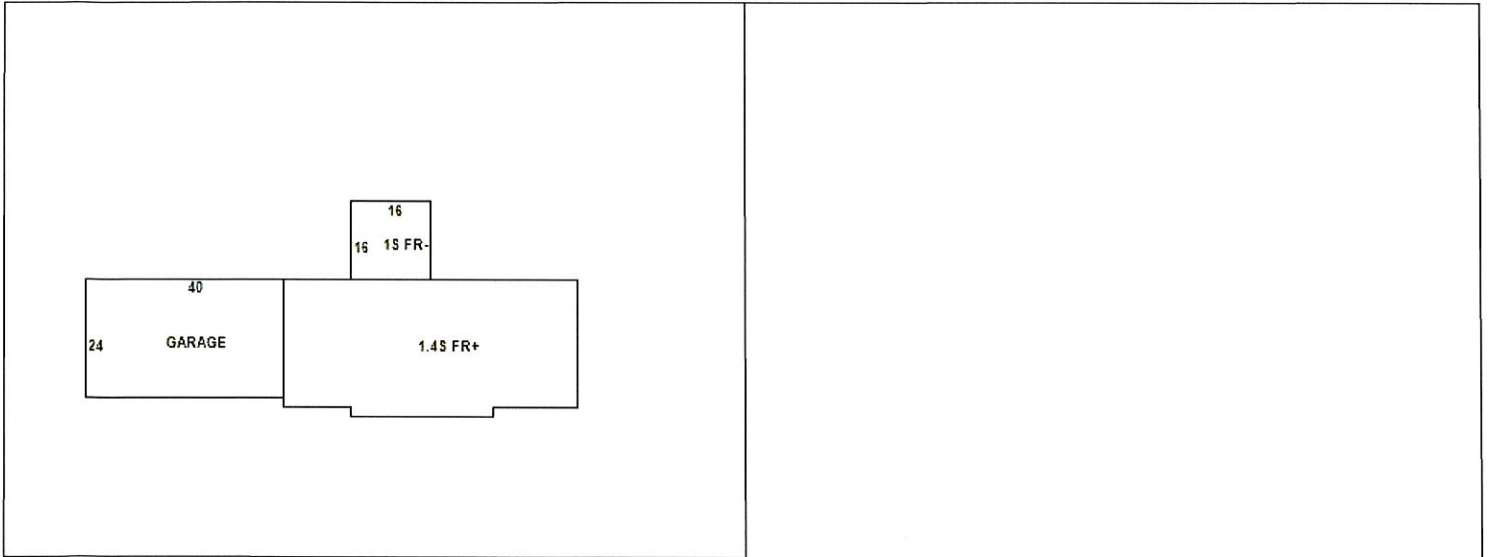
Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	231380	161970
Outbuildings	18775	13140
Land	1.10629e+006	712270
Total	1356445	887380

Utility Information

Electric	
Gas	
Sewer	
Public Water	
Well	



Primary Construction Details

Year Built	2004
Building Desc.	RESIDENTIAL
Building Style	1.4
Stories	1.4
Exterior Walls	VINYL
Exterior Walls 2	
Interior Walls	DRYWALL
Interior Walls 2	OTHER
Interior Floors 1	OTHER
Interior Floors 2	

Heating Fuel	OIL
Heating Type	HWBB
AC Type	CENTRAL
Bedrooms	1
Full Bathrooms	2
Half Bathrooms	0
Extra Fixtures	
Total Rooms	5
Bath Style	
Kitchen Style	
Occupancy	

Building Use	SINGLE FAMILY
Building Condition	GOOD
Frame Type	
Fireplaces	
Bsmt Gar	
Fin Bsmt Area	
Fin Bsmt Quality	
Building Grade	
Roof Style	GABLE
Roof Cover	ARCH SHINGLES

Report Created On

9/8/2022

Town of Guilford, CT

Property Listing Report

Map Block Lot 101023B

Building # 1

Unique Identifier 9786

Detached Outbuildings

Type	Description	Area (sq ft)	Condition	Year Built
GARAGE	GARAGE	960	GOOD	2004
BARN	BARN	1152	AVERAGE	2004
SHED	SHED	264	AVERAGE	2004

Attached Extra Features

Type	Description	Area (sq ft)	Condition	Year Built

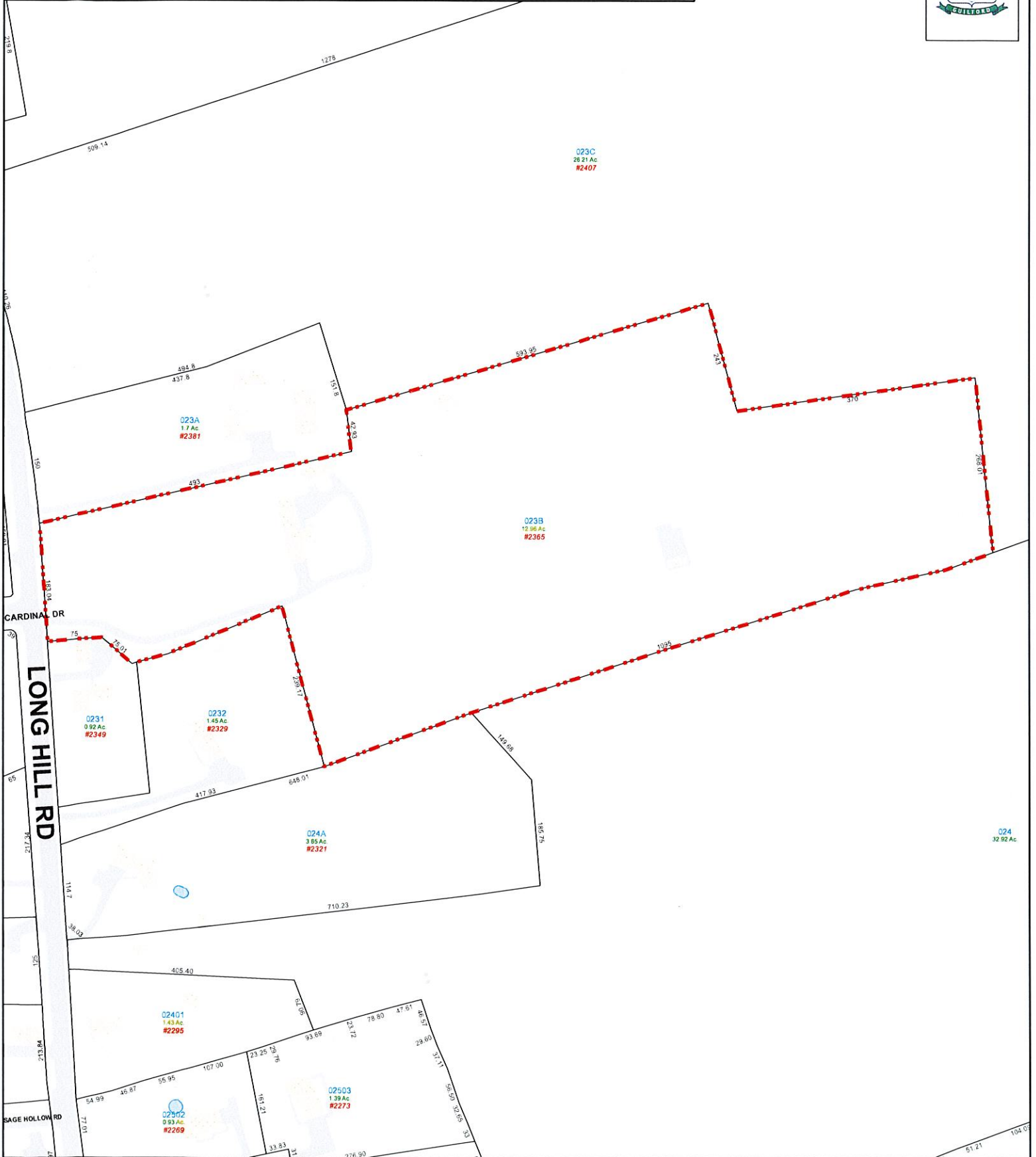
Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
WARD JAMES J FAMILY & JANICE M FAMILY	0689/933+	3/17/2005	0
WARD JAMES J & JANICE M	0643/1009	9/19/2003	0

Town of Guilford, Connecticut - Assessment Parcel Map

Unique ID: 9786

Address: 2365 LONG HILL RD



Approximate Scale: 1 inch = 200 feet



Map Produced:
July 2022

Disclaimer:
This map is for informational purposes only.
All information is subject to verification by any user.
The Town of Guilford and its mapping contractors
assume no legal responsibility
for the information contained herein.

September 08, 2022

Emissions Analysis for Site: **CTL05640– GUILDFORD**

MobileComm Professionals, Inc was directed to analyze the proposed AT&T facility located at **2381 LONG HILL ROAD, GUILDFORD, CT 06437**, 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 milliwatts per square centimeter (mW/cm^2). The number of mW/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 public 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 public 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 milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the 700 and 850 MHz Bands are approximately $0.467 mW/cm^2$ and $0.567 mW/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS), 2300 MHz (WCS), 3450 MHz (DoD Band) and 3840 MHz (C Band) bands is $1 mW/cm^2$. 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.

1. Theoretical Calculations

Calculations were done for the proposed AT&T Wireless antenna facility located at **2381 LONG HILL ROAD, GUILFORD, CT 06437** 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 all calculations, all equipment was calculated using the following assumptions:

- 1) 4 LTE channels (700 MHz Band 14) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 2) 4 LTE/5G channels (1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 3) 1 NR channel (DoD Band - 3450 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 108.44 Watts per Channel.
- 4) 1 NR channel (C Band - 3840 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 108.44 Watts per Channel.
- 5) 4 LTE channels (700 MHz Band 12) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 6) 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.
- 7) 4 LTE/5G channels (2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 8) 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.

- 9) 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.
- 10) The antennas used in this modeling are the CCI OPA65R-BU6DA for the 700 MHz(Band 14) / 1900 MHz channel(s), the Ericsson AIR6419 for the DoD Band (3450 MHz) channel(s), the Ericsson AIR6449 for the C Band (3840 MHz) channel(s), the Kathrein 80010965 for the 700 MHz(B12) / 850 MHz / 2100 MHz channel(s) in Sector A, CCI OPA65R-BU6DA for the 700 MHz(Band 14) / 1900 MHz channel(s), the Ericsson AIR6419 for the DoD Band (3450 MHz) channel(s), the Ericsson AIR6449 for the C Band (3840 MHz) channel(s), the Kathrein 80010965 for the 700 MHz(B12) / 850 MHz / 2100 MHz channel(s) in Sector B, CCI OPA65R-BU6DA for the 700 MHz(Band 14) / 1900 MHz channel(s), the Ericsson AIR6419 for the DoD Band (3450 MHz) channel(s), the Ericsson AIR6449 for the C Band (3840 MHz) channel(s), the Kathrein 80010965 for the 700 MHz(B12) / 850 MHz / 2100 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.
- 11) The antenna mounting height centerline of the proposed antennas is 167 feet above ground level (AGL).
- 12) 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.
- 13) All calculations were done with respect to uncontrolled / general population threshold limits.

2. Antenna Inventory & Power Data

Sector	Ant ID	Operator	Antenna Mfg	Antenna Model	Antenna Type	FREQ. (MHz)	TECH.	AZ. (°)	H B W (°)	Antenna Gain (dBd)	Antenna Aperture (ft)	#of Channels	Transmitter Power (Watts)	Total ERP (Watts)	Total EIRP (Watts)	Total Ant Transmitter Power (Watts)	Total Ant ERP(Watts)	Ant MPE%
A	1	AT&T	CCI	OPA65R-BU6DA	Panel	700	LTE(FN)	30	73	12.15	6	4	160.00	2625.89	4306.46	320	8924.95	1.54%
A	1	AT&T	CCI	OPA65R-BU6DA	Panel	1900	LTE/5G	30	68	15.95	6	4	160.00	6299.07	10330.47			
A	2-1	AT&T	Ericsson	AIR 6419 B77G	Panel	3450	5G	30	11	23.5	2.55	1	108.44	24277.05	39828.68	108.44	24277.05	3.07%
A	2-2	AT&T	Ericsson	AIR 6449 B77D	Panel	3840	5G	30	11	23.5	2.55	1	108.44	24277.05	39828.68	108.44	24277.05	3.20%
A	3	AT&T	Kathrein	80010965	Panel	700	LTE(B12)	30	62	12.65	6.5	4	160.00	2946.29	4831.92	480	13084.45	2.47%
A	3	AT&T	Kathrein	80010965	Panel	850	5G	30	60	13.45	6.5	4	160.00	3542.22	5809.25			
A	3	AT&T	Kathrein	80010965	Panel	2100	LTE/5G	30	62	16.15	6.5	4	160.00	6595.93	10817.33			
B	4	AT&T	CCI	OPA65R-BU6DA	Panel	700	LTE(FN)	160	73	12.15	6	4	160.00	2625.89	4306.46	320	8924.95	1.54%
B	4	AT&T	CCI	OPA65R-BU6DA	Panel	1900	LTE/5G	160	68	15.95	6	4	160.00	6299.07	10330.47			
B	5-1	AT&T	Ericsson	AIR 6419 B77G	Panel	3450	5G	160	11	23.5	2.55	1	108.44	24277.05	39828.68	108.44	24277.05	3.07%
B	5-2	AT&T	Ericsson	AIR 6449 B77D	Panel	3840	5G	160	11	23.5	2.55	1	108.44	24277.05	39828.68	108.44	24277.05	3.20%
B	6	AT&T	Kathrein	80010965	Panel	700	LTE(B12)	160	62	12.65	6.5	4	160.00	2946.29	4831.92	480	13084.45	2.47%
B	6	AT&T	Kathrein	80010965	Panel	850	5G	160	60	13.45	6.5	4	160.00	3542.22	5809.25			
B	6	AT&T	Kathrein	80010965	Panel	2100	LTE/5G	160	62	16.15	6.5	4	160.00	6595.93	10817.33			
C	7	AT&T	CCI	OPA65R-BU6DA	Panel	700	LTE(FN)	280	73	12.15	6	4	160.00	2625.89	4306.46	320	8924.95	1.54%
C	7	AT&T	CCI	OPA65R-BU6DA	Panel	1900	LTE/5G	280	68	15.95	6	4	160.00	6299.07	10330.47			
C	8-1	AT&T	Ericsson	AIR 6419 B77G	Panel	3450	5G	280	11	23.5	2.55	1	108.44	24277.05	39828.68	108.44	24277.05	3.07%
C	8-2	AT&T	Ericsson	AIR 6449 B77D	Panel	3840	5G	280	11	23.5	2.55	1	108.44	24277.05	39828.68	108.44	24277.05	3.20%
C	9	AT&T	Kathrein	80010965	Panel	700	LTE(B12)	280	62	12.65	6.5	4	160.00	2946.29	4831.92	480	13084.45	2.47%
C	9	AT&T	Kathrein	80010965	Panel	850	5G	280	60	13.45	6.5	4	160.00	3542.22	5809.25			
C	9	AT&T	Kathrein	80010965	Panel	2100	LTE/5G	280	62	16.15	6.5	4	160.00	6595.93	10817.33			

Table 2.1: Antenna Inventory & Power Data

*NOTE: 75% Duty Cycle and adjusted power reduction factor of 0.32 was applied to the AIR6449 & AIR6419 antennas per guidance from AT&T. Specifications were not available for the Ericsson AIR 6419 antenna. Per AT&T, specifications for the AIR 6449 antenna were used to model the 6419 due to its similarity.

Cumulative Site MPE%	
Carrier	MPE%
AT&T (Max MPE% at Sector A)	10.28%
T-Mobile	3.20%
Sprint	1.80%
Verizon	20.21%
Site Total MPE%	35.49%

Table 2.2: Cumulative Site MPE%

AT&T Max MPE% Per Sector	
AT&T Sector A Total	10.28%
AT&T Sector B Total	10.28%
AT&T Sector C Total	10.28%
Site Total MPE%	35.49%

Table 2.3: AT&T MPE% Per Sector

Sector	Ant ID	Operator	Antenna Mfg	Antenna Model	FREQ. (MHz)	TECH.	#of Channels	Transmitter Power (Watts)	Total ERP (Watts)	Total EIRP (Watts)	Height (ft)	Total Power Density (mW/cm ²)	Allowable MPE (mW/cm ²)	Calculated MPE%
A	1	AT&T	CCI	OPA65R-BU6DA	700	LTE(FN)	4	160.00	2625.89	4306.46	167.00	0.003387	0.467	0.73%
A	1	AT&T	CCI	OPA65R-BU6DA	1900	LTE/5G	4	160.00	6299.07	10330.47	167.00	0.008126	1.000	0.81%
A	2-1	AT&T	Ericsson	AIR 6419 B77G	3450	5G	1	108.44	24277.05	39828.68	168.75	0.030674	1.000	3.07%
A	2-2	AT&T	Ericsson	AIR 6449 B77D	3840	5G	1	108.44	24277.05	39828.68	165.25	0.032006	1.000	3.20%
A	3	AT&T	Kathrein	80010965	700	LTE(B12)	4	160.00	2946.29	4831.92	167.00	0.003801	0.467	0.81%
A	3	AT&T	Kathrein	80010965	850	5G	4	160.00	3542.22	5809.25	167.00	0.004569	0.567	0.81%
A	3	AT&T	Kathrein	80010965	2100	LTE/5G	4	160.00	6595.93	10817.33	167.00	0.008508	1.000	0.85%
													Total	10.28%

Table 2.4: Detailed MPE% at AT&T Sector A

3. Compliance Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general public 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 public exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A	10.28%
Sector B	10.28%
Sector C	10.28%
AT&T Maximum Total (per sector)	10.28%
Site Total MPE%	
	35.49%
Site Compliance Status	
	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is 35.49% of the allowable FCC established general public 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 within the allowable 100% threshold standard per the federal government.

Date: **September 7, 2022**

INFINIGY

Infinigy
500 West Office Center Drive, Suite 150
Fort Washington, PA 19034
(518) 690-0790
structural@infinigy.com

Subject: **Mount Analysis Report**

Carrier Designation: **AT&T Mobility Equipment Change Out**
Carrier Site Number: CT5640
Carrier Site Name: WARD
Carrier FA Number: 10071056

Crown Castle Designation: **Crown Castle BU Number:** 876381
Crown Castle Site Name: WARD
Crown Castle JDE Job Number: 686299
Crown Castle Order Number: 586337 Rev. 0

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

Site Data: **2381 Long Hill Rd, Guilford, New Haven County, CT, 06437**
Latitude 41°20'47.34" Longitude -72°43'23.15"

Structure Information: **Tower Height & Type:** **176.0 ft Monopole**
Mount Elevation: **167.0 ft**
Mount Type: **14.5 ft Platform**

Infinigy 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

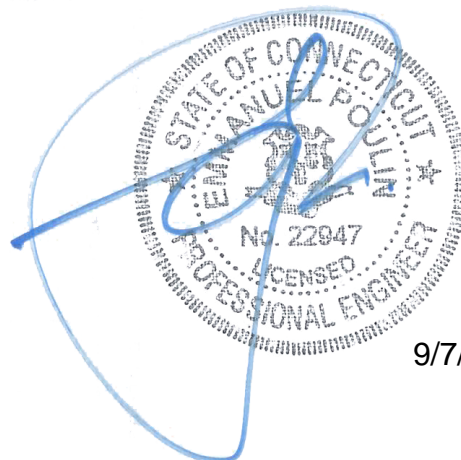
***See Section 4.1 of this report for the loading and structural modifications required in order for the mount to support the loading listed in Table 1.**

This analysis has been performed in accordance with the 2018 International Building Code based upon an ultimate 3-second gust wind speed of 121 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Ian Geery

Respectfully Submitted by: Emmanuel Poulin, P.E.

structural@infinigy.com



9/7/22

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1) INTRODUCTION

This is an existing 3 sector 14.5 ft Platform, designed by Commscope.

The mount has been modified per reinforcement drawings prepared by Infinigy in December of 2020. Reinforcement consists of installation of a platform handrail kit (Site Pro 1 Part No. HRK12) for all sectors.

2) ANALYSIS CRITERIA

Building Code:	2018 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	121 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_s:	0.206
Seismic S_1:	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
167.0	168.0	3	Ericsson	AIR 6449 B77D_CCVI2	14.5 ft Platform
	167.0	3	CCI Antennas	OPA65R-BU6D	
		3	Kathrein	80010965	
		3	Ericsson	RRUS 4449 B5/B12	
		3	Ericsson	RRUS 4478 B14	
		3	Ericsson	RRUS 8843 B2/B66A	
		3	Raycap	DC6-48-60-18-8F	
	166.0	3	Ericsson	AIR 6419 B77G	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	AT&T Mobility Application	586337 Rev. 0	CCI Sites
Previous Mount Analysis	Infinigy	10261797	CCI Sites

3.1) Analysis Method

RISA-3D (Version 20.0.3), 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 Mount Analysis Tool V2.3.2, a tool internally developed by Infinigy, was used to calculate wind 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 E).

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)	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 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	Standoffs	MS1	167.0	72.1	Pass
	Platform Brace	M1		59.7	Pass
	Mount Pipe	MP5		67.7	Pass
	Horizontals	MH3		28.8	Pass
	Corner Plate	M30		29.1	Pass
	Handrail	MR2		31.2	Pass
	Handrail L	MR4		10.5	Pass
	Platform Angle	M38		33.7	Pass
	Mount Connection(s)	-		27.1	Pass

Structure Rating (max from all components) =	72.1%
---	--------------

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.

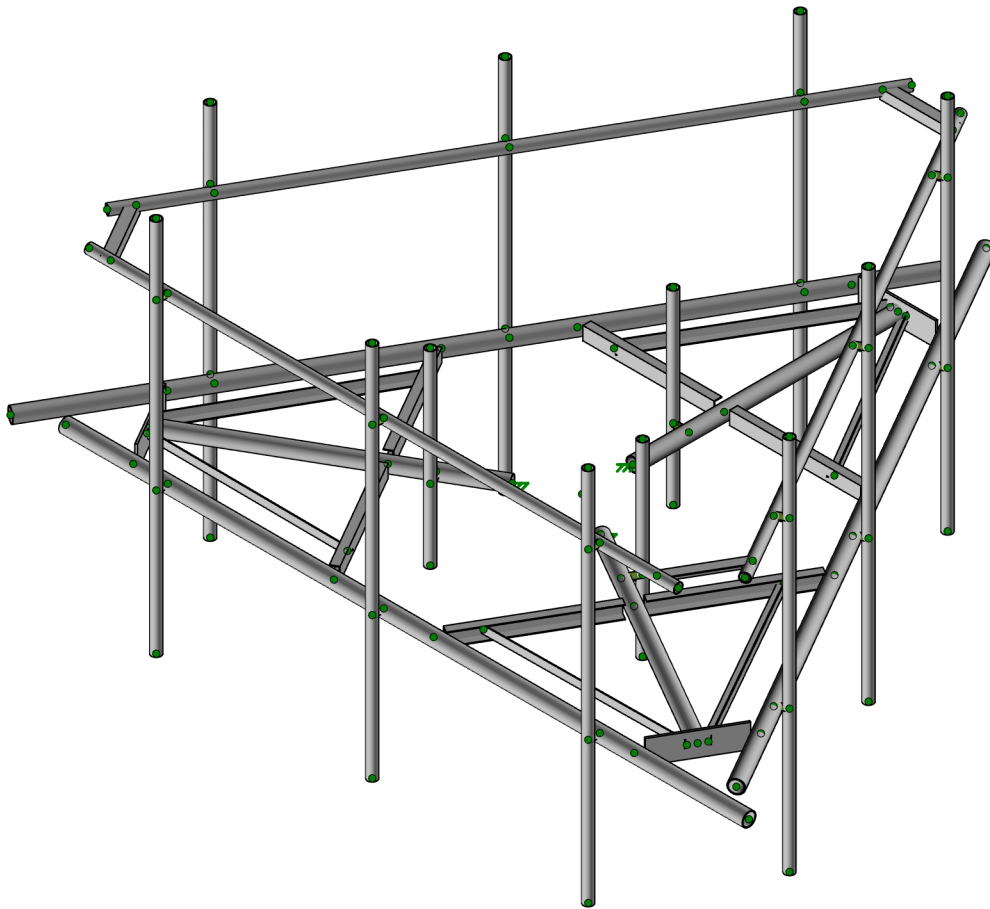
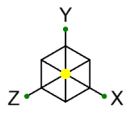
4.1) Recommendations

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

1. Position 2 shall be centered on the mount face for all sectors.
2. The spacing between Position 1 and Position 2 as well as the spacing between Position 2 and Position 3 mount pipes shall be adjusted to 55", center to center, for all sectors.

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

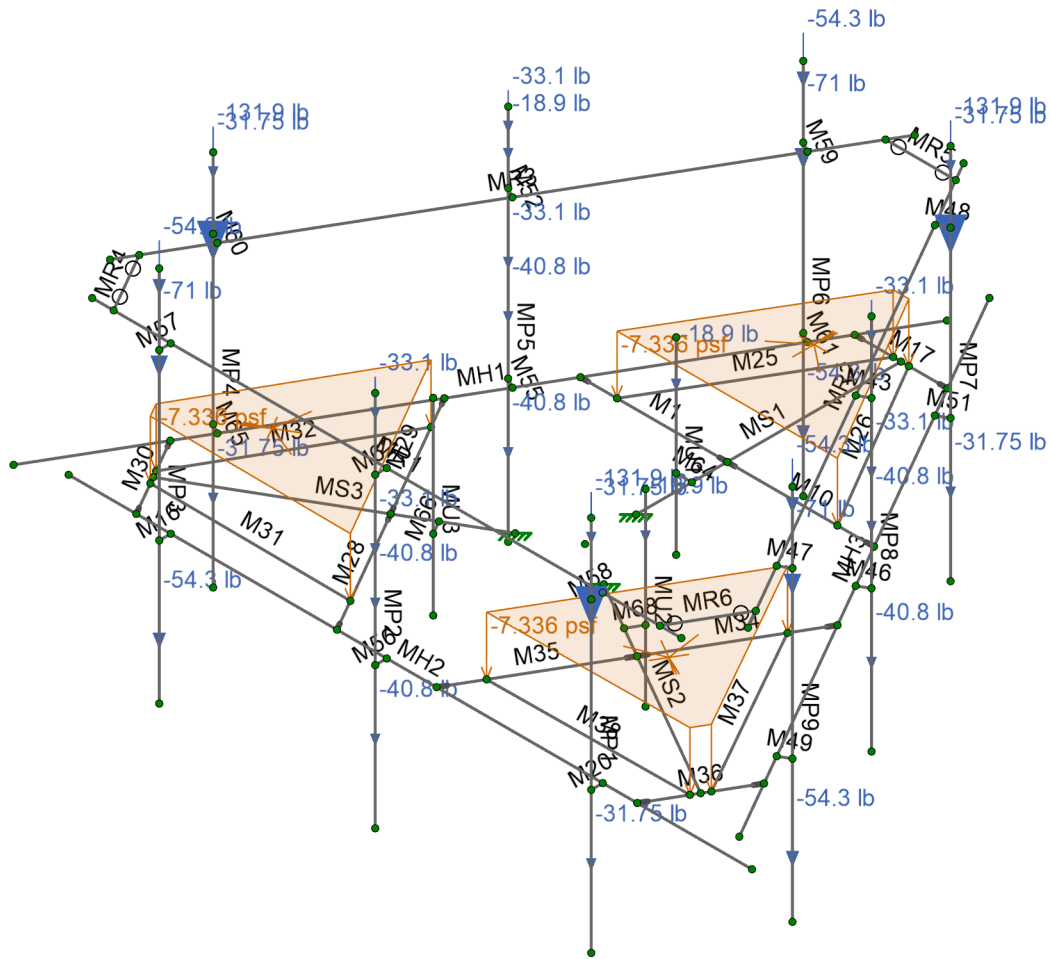
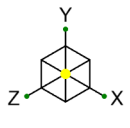
APPENDIX A
WIRE FRAME AND RENDERED MODELS



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SK-1
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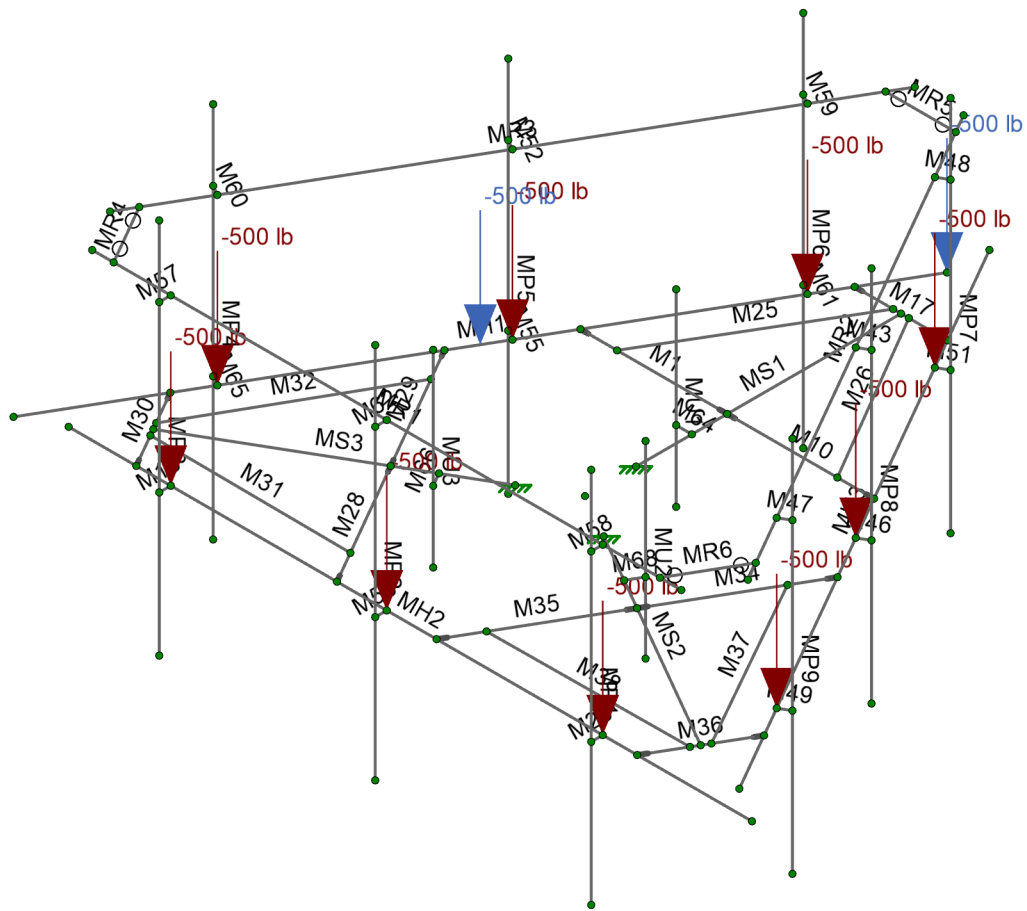
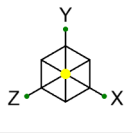


Loads: DL - Dead Load

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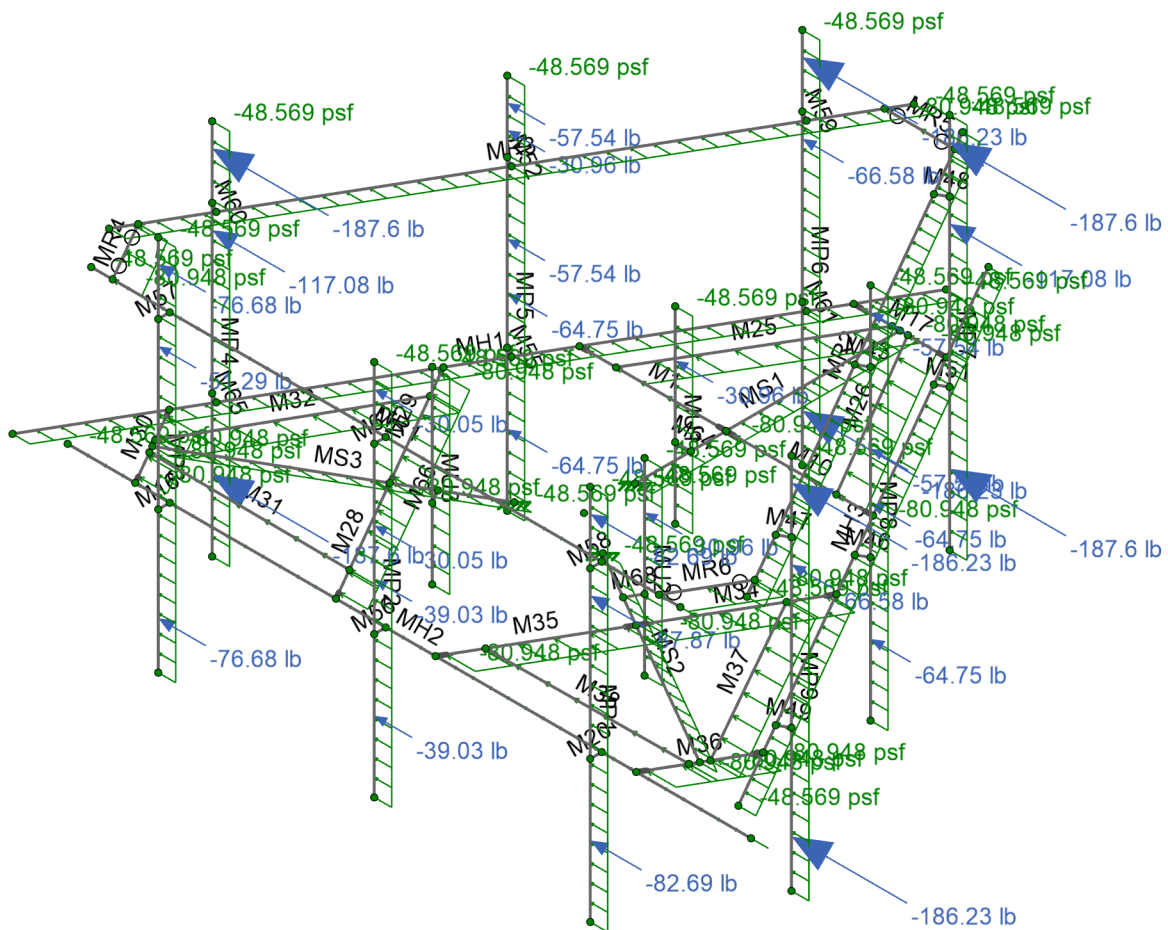
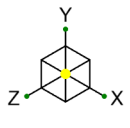


Loads: LL - Live Load

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1039-Z0001-B

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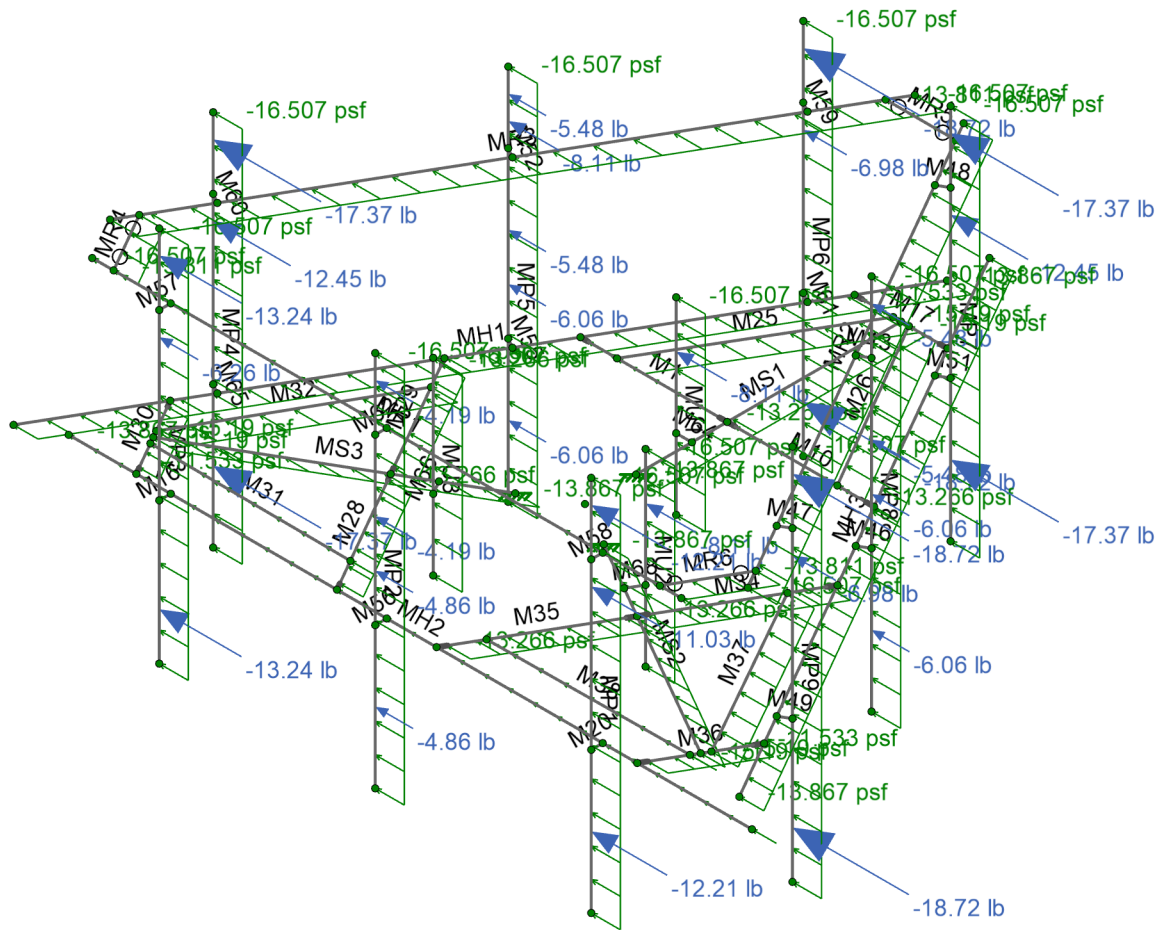
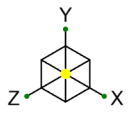


Loads: WLX - Wind Load X

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Loads: OL3 - Other Load 3 generic	
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APPENDIX B
SOFTWARE INPUT CALCULATIONS

Program Inputs

PROJECT INFORMATION		
Site Name:	WARD	
Carrier:	AT&T Mobility	
Engineer:	Ian Geery	

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	B	
Topo Factor Procedure:	Method 1, Category 1	
Site Class:	D - Stiff Soil (Assumed)	
Ground Elevation:	181.21	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Platform	
Num Sectors:	3	
Centerline AGL:	167.00	ft
Tower Height AGL:	176.00	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):	0.993	*Rev H Only
Rooftop Speed-Up (K_s):	1.000	*Rev H Only
Topographic Factor (K_{zt}):	1.000	
Height Esc. Fact. (K_{iz}):	1.176	
Gust Effect Factor (G_f):	1.000	
Shielding Factor (K_s):	0.900	
Velocity Pressure Co. (K_z):	1.144	(Mount Elev)

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

WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	121	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1	in
Radial Ice Thickness (t_{iz}):	1.176	in
Flat Pressure:	80.948	psf
Round Pressure:	48.569	psf
Ice Wind Pressure:	8.293	psf

SEISMIC DATA		
Short-Period Accel. (S_s):	0.206	g
1-Second Accel. (S_1):	0.054	g
Short-Period Design (S_{DS}):	0.220	
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	
Seismic Importance (I_e):	1.000	
Seismic Response Co. (C_s):	0.110	
Total App. Weight:	541.700	lb
Total Shear Force (V_s):	59.515	lb
Hor. Seismic Load (E_h):	59.515	lb
Vert. Seismic Load (E_v):	23.806	lb *

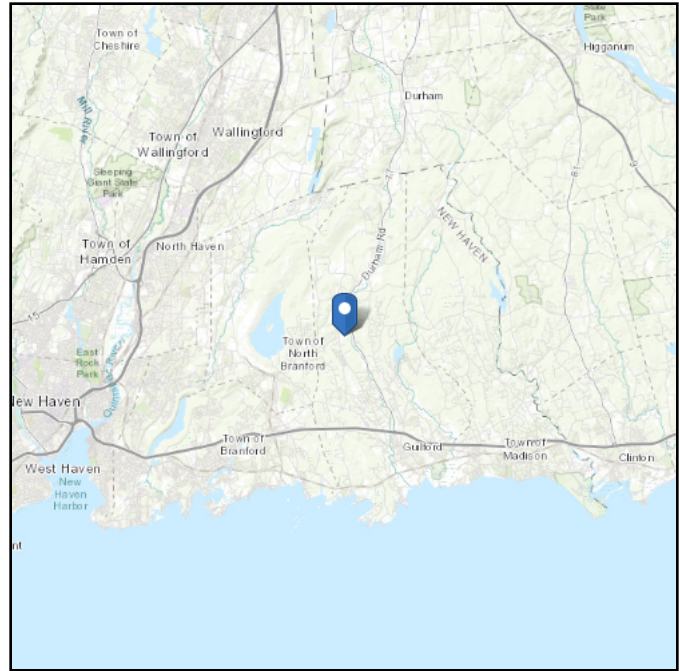
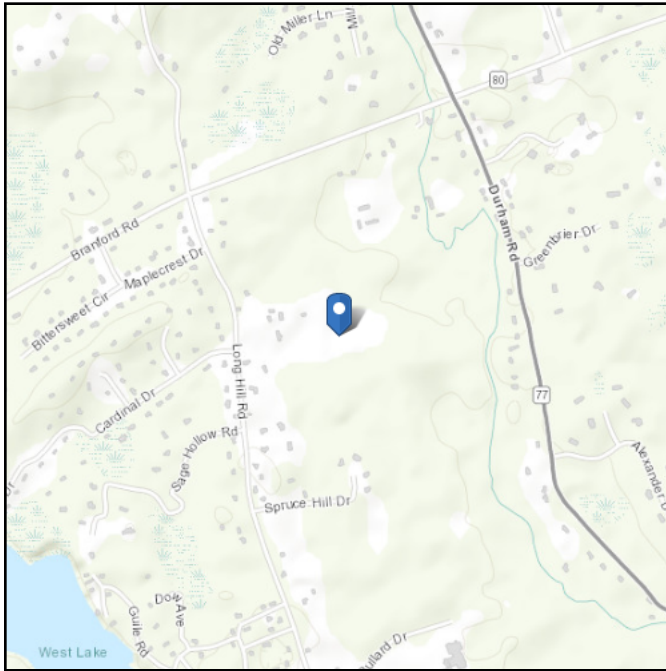
*For reference only. Per TIA rev H section 16.7, E_v is not applicable to mounts

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 181.21 ft (NAVD 88)
Latitude: 41.346483
Longitude: -72.723097



Wind

Results:

Wind Speed	121 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	93 Vmph
100-year MRI	99 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: Thu Mar 24 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).

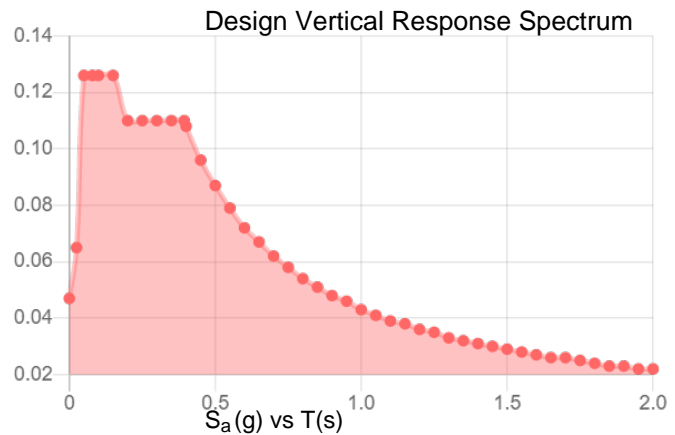
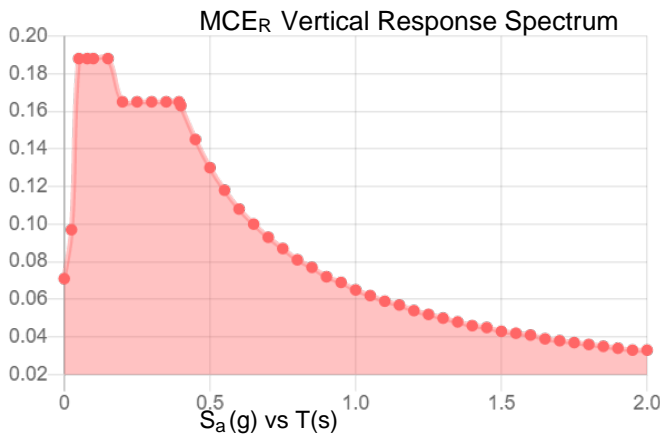
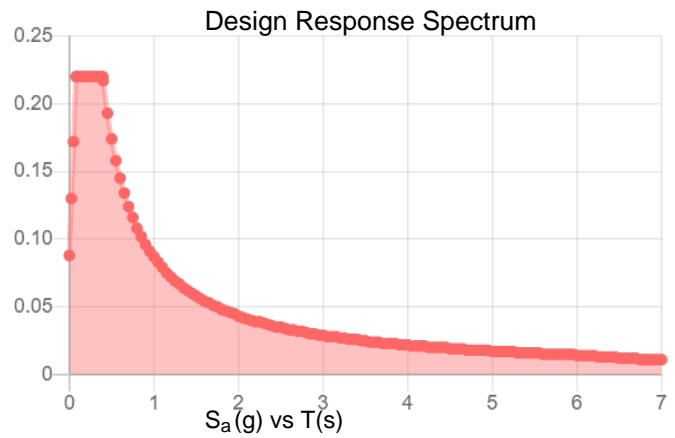
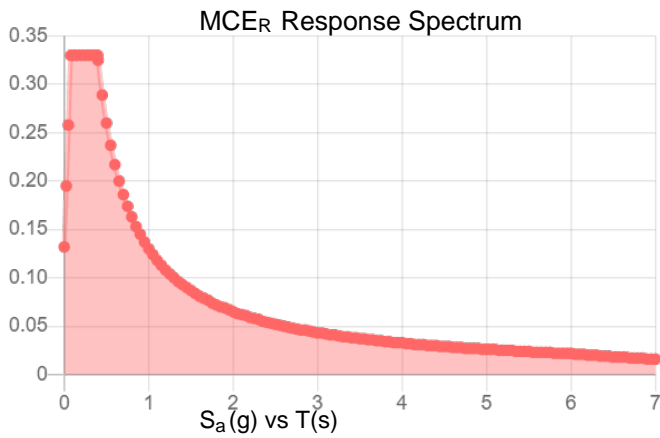
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Stiff Soil

Results:

S_s :	0.206	S_{D1} :	0.087
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.116
F_v :	2.4	PGA _M :	0.181
S_{MS} :	0.33	F_{PGA} :	1.569
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.22	C_v :	0.713

Seismic Design Category B



Data Accessed: Thu Mar 24 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: Thu Mar 24 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.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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APPENDIX C
SOFTWARE ANALYSIS OUTPUT

Material Take-Off

	Material	Size	Pieces	Length[in]	Weight[K]
1	General Members				
2	RIGID		21	64.9	0
3	Total General		21	64.9	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	6X0.5	3	58.9	0.05
7	A36 Gr.36	L2.5X2.5X3	3	53.6	0.014
8	A36 Gr.36	L2X2X3	6	308.1	0.063
9	A36 Gr.36	C3.375X2X0.1875	6	200.2	0.075
10	A500 Gr.B Rect	PIPE 3.0	3	202.4	0.128
11	A53 Gr.B	PIPE 2.0	15	1458	0.422
12	A53 Gr.B	PIPE 3.0	3	522	0.306
13	Total HR Steel		39	2803.3	1.058

Node Coordinates

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
1	N109	37.373215	-10	-59.890665	
2	N107	-37.373215	-10	-59.890665	
3	N106	11.822655	-10	-104.145532	
4	N92	-11.822655	-10	-104.145532	
5	CP	0	-10	-23.673333	
6	N19	0.000295	-10	-104.145532	
7	N23	93.000211	-10	26.801486	
8	N15	-80.999789	-10	26.801486	
9	N24	-54.999789	-10	26.801486	
10	N27	55.000211	-10	26.801486	
11	N13	-54.999789	50	29.738986	
12	N29	55.000211	50	29.738986	
13	N31	-54.999789	-46	29.738986	
14	N17	55.000211	-46	29.738986	
15	N42	-54.999789	-10	29.738986	
16	N43	55.000211	-10	29.738986	
17	N49	0.000295	-10	-36.673433	
18	N100	0.000295	-10	-59.890665	
19	N65	0.000211	-46	29.738986	
20	N66	0.000211	50	29.738986	
21	N67	0.000211	-10	26.801486	
22	N68	0.000211	-10	29.738986	
23	N78	-54.999789	32	26.801486	
24	N82	55.000211	32	26.801486	
25	N88	-54.999789	32	29.738986	
26	N108	55.000211	32	29.738986	
27	N111	0.000211	32	26.801486	
28	N112	0.000211	32	29.738986	
29	N113	-74.999789	32	26.801486	
30	N114	75.000211	32	26.801486	
31	N169	-8.935904	32	-109.145532	
32	N170	8.935904	32	-109.145532	
33	N171	-69.553144	32	26.801486	
34	N172	-78.489048	32	11.324047	
35	N173	78.489048	32	11.324047	
36	N174	69.553144	32	26.801486	
37	N115	81.21237	32	16.04098	
38	N116	6.21237	32	-113.862831	

Node Coordinates (Continued)

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
39	N117	-6.212581	32	-113.862466	
40	N118	-81.212581	32	16.041345	
41	N48	-1.999705	-10	-104.145532	
42	N50	-28.0508	-10	-59.890665	
43	N51	2.000295	-10	-104.145532	
44	N52	28.050727	-10	-59.890665	
45	N54	-69.691117	-10	16.56251	
46	N55	-31.365277	-10	-5.564924	
47	N56	-12.678522	-10	26.801486	
48	N57	-50.051736	-10	-37.930821	
49	N58	-63.779641	-10	26.801486	
50	N59	-75.602296	-10	6.324047	
51	N60	-68.691117	-10	18.294561	
52	N61	-17.339729	-10	18.728038	
53	N62	-70.691117	-10	14.83046	
54	N63	-45.390492	-10	-29.857309	
55	N69	69.690821	-10	16.563022	
56	N70	31.364981	-10	-5.564412	
57	N71	50.051736	-10	-37.930821	
58	N72	12.678522	-10	26.801486	
59	N73	75.602296	-10	6.324047	
60	N74	63.779641	-10	26.801486	
61	N75	70.690821	-10	14.830971	
62	N76	45.390529	-10	-29.857373	
63	N77	68.690821	-10	18.295073	
64	N79	17.339766	-10	18.727974	
65	N132	0.000295	-10	-50.890665	
66	N133	-3.999705	-10	-50.890665	
67	N134	-3.999705	-28	-50.890665	
68	N135	-3.999705	20	-50.890665	
69	N136	-21.571048	-10	-6.600822	
70	N137	-21.571048	20	-6.600822	
71	N138	-21.571048	-28	-6.600822	
72	N139	-23.571048	-10	-10.064924	
73	N140	25.570753	-10	-13.528513	
74	N141	25.570753	20	-13.528513	
75	N142	25.570753	-28	-13.528513	
76	N143	23.570753	-10	-10.064412	
77	N145	84.21237	-10	21.237132	
78	N146	-2.78763	-10	-129.451288	
79	N147	-3.212581	-10	-119.058618	
80	N148	-90.212581	-10	31.629802	
81	N91	-11.258565	-10	-17.173539	
82	N93	11.258269	-10	-17.173027	
83	N83	46.25632	-46	-50.379676	
84	N84	73.75632	-46	-2.748279	
85	N85	46.25632	50	-50.379676	
86	N86	43.71237	-10	-48.910925	
87	N87	46.25632	-10	-50.379676	
88	N89	43.71237	32	-48.910925	
89	N90	46.25632	32	-50.379676	
90	N94	71.21237	-10	-1.279528	
91	N95	73.75632	50	-2.748279	
92	N96	73.75632	-10	-2.748278	
93	N97	71.21237	32	-1.279528	

Node Coordinates (Continued)

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
94	N98	73.75632	32	-2.748279	
95	N99	18.75632	50	-98.011073	
96	N101	16.21237	-10	-96.542322	
97	N102	18.75632	32	-98.011073	
98	N103	18.75632	-46	-98.011073	
99	N104	18.75632	-10	-98.011073	
100	N105	16.21237	32	-96.542322	
101	N110	-46.256531	-46	-50.37931	
102	N119	-18.756531	-46	-98.010707	
103	N120	-46.256531	50	-50.37931	
104	N121	-43.712581	-10	-48.910561	
105	N122	-46.256531	-10	-50.37931	
106	N123	-43.712581	32	-48.910561	
107	N124	-46.256531	32	-50.37931	
108	N125	-16.212581	-10	-96.541958	
109	N126	-18.756531	50	-98.010707	
110	N127	-18.756531	-10	-98.010708	
111	N128	-16.212581	32	-96.541958	
112	N129	-18.756531	32	-98.010707	
113	N130	-73.756531	50	-2.747913	
114	N131	-71.212581	-10	-1.279163	
115	N144	-73.756531	32	-2.747913	
116	N149	-73.756531	-46	-2.747913	
117	N150	-73.756531	-10	-2.747913	
118	N151	-71.212581	32	-1.279163	

Node Boundary Conditions

	Node 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	N49	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N91	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N93	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e ⁵ F ⁻¹]	Density [k/ft ³]	Yield [psi]	Ry	Fu [psi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50000	1.1	65000	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36000	1.5	58000	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50000	1.1	65000	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42000	1.4	58000	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46000	1.4	58000	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35000	1.6	60000	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50000	1.4	65000	1.3
8	Q235-GB	29000	11154	0.3	0.65	0.49	35000	1.5	58000	1.2
9	Q345	29000	11154	0.3	0.65	0.49	36000	1.1	58000	1.1

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e ⁵ F ⁻¹]	Density [k/ft ³]	Yield [psi]	Fu [psi]
1	A653 SS Gr33	29500	11346	0.3	0.65	0.49	33000	45000
2	A653 SS Gr50/1	29500	11346	0.3	0.65	0.49	50000	65000

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	Standoffs	PIPE 3.0	Beam	Tube	A500 Gr.B Rect	Typical	2.07	2.85	2.85	5.69
2	Horizontals	PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
3	Platform Angle	L2X2X3	Beam	Single Angle	A36 Gr.36	Typical	0.722	0.271	0.271	0.009
4	Mount Pipe	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
5	Corner Plate	6X0.5	Beam	RECT	A36 Gr.36	Typical	3	0.062	9	0.237
6	Handrail	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
7	Handrail L	L2.5X2.5X3	Beam	Single Angle	A36 Gr.36	Typical	0.901	0.535	0.535	0.011
8	Platform Brace	C3.375X2X0.1875	Beam	Channel	A36 Gr.36	Typical	1.316	0.517	2.334	0.015
9	Connection Plates	PL6X.375	Beam	RECT	A36 Gr.36	Typical	2.25	0.026	6.75	0.101
10	Mount Pipe 2.5	PIPE 2.5	Column	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
11	Support Pipe	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	CF1A	8CU1.25X057	Beam	None	A653 SS Gr33	Typical	0.581	0.057	4.41	0.00063

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	MS1	N49	N19		Standoffs	Beam	Tube	A500 Gr.B Rect	Typical
2	M10	N109	N100		Platform Brace	Beam	Channel	A36 Gr.36	Typical
3	M1	N100	N107		Platform Brace	Beam	Channel	A36 Gr.36	Typical
4	M16	N24	N42		RIGID	None	None	RIGID	Typical
5	M20	N27	N43		RIGID	None	None	RIGID	Typical
6	MP1	N29	N17		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
7	MP3	N13	N31		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
8	MH2	N15	N23		Horizontals	Beam	Pipe	A53 Gr.B	Typical
9	M17	N92	N106		Corner Plate	Beam	RECT	A36 Gr.36	Typical
10	MP2	N66	N65		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
11	M56	N67	N68		RIGID	None	None	RIGID	Typical
12	M57	N78	N88		RIGID	None	None	RIGID	Typical
13	M58	N82	N108		RIGID	None	None	RIGID	Typical
14	MR1	N113	N114		Handrail	Beam	Pipe	A53 Gr.B	Typical
15	M62	N111	N112		RIGID	None	None	RIGID	Typical
16	MR5	N169	N170	180	Handrail L	Beam	Single Angle	A36 Gr.36	Typical
17	MR4	N171	N172	180	Handrail L	Beam	Single Angle	A36 Gr.36	Typical
18	MR6	N173	N174	180	Handrail L	Beam	Single Angle	A36 Gr.36	Typical
19	MR2	N115	N116		Handrail	Beam	Pipe	A53 Gr.B	Typical
20	MR3	N117	N118		Handrail	Beam	Pipe	A53 Gr.B	Typical
21	M25	N48	N50	270	Platform Angle	Beam	Single Angle	A36 Gr.36	Typical
22	M26	N51	N52		Platform Angle	Beam	Single Angle	A36 Gr.36	Typical
23	M28	N55	N56		Platform Brace	Beam	Channel	A36 Gr.36	Typical
24	M29	N57	N55		Platform Brace	Beam	Channel	A36 Gr.36	Typical
25	M30	N58	N59		Corner Plate	Beam	RECT	A36 Gr.36	Typical
26	M31	N60	N61	270	Platform Angle	Beam	Single Angle	A36 Gr.36	Typical
27	M32	N62	N63		Platform Angle	Beam	Single Angle	A36 Gr.36	Typical
28	M34	N70	N71		Platform Brace	Beam	Channel	A36 Gr.36	Typical
29	M35	N72	N70		Platform Brace	Beam	Channel	A36 Gr.36	Typical
30	M36	N73	N74		Corner Plate	Beam	RECT	A36 Gr.36	Typical
31	M37	N75	N76	270	Platform Angle	Beam	Single Angle	A36 Gr.36	Typical
32	M38	N77	N79		Platform Angle	Beam	Single Angle	A36 Gr.36	Typical
33	MU1	N135	N134		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
34	M64	N132	N133		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
35	MU3	N137	N138		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
36	M66	N139	N136		RIGID	None	None	RIGID	Typical
37	MU2	N141	N142		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
38	M68	N143	N140		RIGID	None	None	RIGID	Typical
39	MH3	N145	N146		Horizontals	Beam	Pipe	A53 Gr.B	Typical
40	MH1	N147	N148		Horizontals	Beam	Pipe	A53 Gr.B	Typical
41	MS3	N91	N54		Standoffs	Beam	Tube	A500 Gr.B Rect	Typical
42	MS2	N93	N69		Standoffs	Beam	Tube	A500 Gr.B Rect	Typical
43	M43	N89	N90		RIGID	None	None	RIGID	Typical
44	MP7	N99	N103		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
45	MP8	N85	N83		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
46	M46	N86	N87		RIGID	None	None	RIGID	Typical
47	M47	N97	N98		RIGID	None	None	RIGID	Typical
48	M48	N105	N102		RIGID	None	None	RIGID	Typical
49	M49	N94	N96		RIGID	None	None	RIGID	Typical
50	MP9	N95	N84		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
51	M51	N101	N104		RIGID	None	None	RIGID	Typical
52	M52	N123	N124		RIGID	None	None	RIGID	Typical
53	MP4	N130	N149		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
54	MP5	N120	N110		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
55	M55	N121	N122		RIGID	None	None	RIGID	Typical
56	M59	N128	N129		RIGID	None	None	RIGID	Typical
57	M60	N151	N144		RIGID	None	None	RIGID	Typical
58	M61	N125	N127		RIGID	None	None	RIGID	Typical
59	MP6	N126	N119		Mount Pipe	Column	Pipe	A53 Gr.B	Typical
60	M65	N131	N150		RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
1	MS1					Yes	N/A	None
2	M10			2	2	Yes	Default	None
3	M1			2	2	Yes	Default	None
4	M16					Yes	** NA **	None
5	M20					Yes	** NA **	None
6	MP1					Yes	** NA **	None
7	MP3					Yes	** NA **	None
8	MH2					Yes	N/A	None
9	M17			2	2	Yes	Default	None
10	MP2					Yes	** NA **	None
11	M56					Yes	** NA **	None
12	M57					Yes	** NA **	None
13	M58					Yes	** NA **	None
14	MR1					Yes	Default	None
15	M62					Yes	** NA **	None
16	MR5	BenPIN	BenPIN			Yes	Default	None
17	MR4	BenPIN	BenPIN			Yes	Default	None
18	MR6	BenPIN	BenPIN			Yes	Default	None
19	MR2					Yes	Default	None
20	MR3					Yes	Default	None
21	M25					Yes	N/A	None
22	M26					Yes	N/A	None
23	M28			2	2	Yes	Default	None
24	M29			2	2	Yes	Default	None
25	M30			2	2	Yes	Default	None
26	M31					Yes	N/A	None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset [in]	J Offset [in]	Physical	Deflection Ratio Options	Seismic DR
27	M32					Yes	N/A	None
28	M34			2	2	Yes	Default	None
29	M35			2	2	Yes	Default	None
30	M36			2	2	Yes	Default	None
31	M37					Yes	N/A	None
32	M38					Yes	N/A	None
33	MU1					Yes	** NA **	None
34	M64					Yes	** NA **	None
35	MU3					Yes	** NA **	None
36	M66					Yes	** NA **	None
37	MU2					Yes	** NA **	None
38	M68					Yes	** NA **	None
39	MH3					Yes	N/A	None
40	MH1					Yes	N/A	None
41	MS3					Yes	N/A	None
42	MS2					Yes	N/A	None
43	M43					Yes	** NA **	None
44	MP7					Yes	** NA **	None
45	MP8					Yes	** NA **	None
46	M46					Yes	** NA **	None
47	M47					Yes	** NA **	None
48	M48					Yes	** NA **	None
49	M49					Yes	** NA **	None
50	MP9					Yes	** NA **	None
51	M51					Yes	** NA **	None
52	M52					Yes	** NA **	None
53	MP4					Yes	** NA **	None
54	MP5					Yes	** NA **	None
55	M55					Yes	** NA **	None
56	M59					Yes	** NA **	None
57	M60					Yes	** NA **	None
58	M61					Yes	** NA **	None
59	MP6					Yes	** NA **	None
60	M65					Yes	** NA **	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lcomp top [in]	Channel Conn.	a [in]	Function
1	MS1	Standoffs	67.472	Lbyy	N/A	N/A	Lateral
2	M10	Platform Brace	37.373	Lbyy	N/A	N/A	Lateral
3	M1	Platform Brace	37.374	Lbyy	N/A	N/A	Lateral
4	MP1	Mount Pipe	96	Lbyy	N/A	N/A	Lateral
5	MP3	Mount Pipe	96	Lbyy	N/A	N/A	Lateral
6	MH2	Horizontals	174	Lbyy	N/A	N/A	Lateral
7	M17	Corner Plate	23.645	Lbyy	N/A	N/A	Lateral
8	MP2	Mount Pipe	96	Lbyy	N/A	N/A	Lateral
9	MR1	Handrail	150	Lbyy	N/A	N/A	Lateral
10	MR5	Handrail L	17.872	Lbyy	N/A	N/A	Lateral
11	MR4	Handrail L	17.872	Lbyy	N/A	N/A	Lateral
12	MR6	Handrail L	17.872	Lbyy	N/A	N/A	Lateral
13	MR2	Handrail	150	Lbyy	N/A	N/A	Lateral
14	MR3	Handrail	150	Lbyy	N/A	N/A	Lateral
15	M25	Platform Angle	51.353	Lbyy	N/A	N/A	Lateral
16	M26	Platform Angle	51.353	Lbyy	N/A	N/A	Lateral
17	M28	Platform Brace	37.374	Lbyy	N/A	N/A	Lateral
18	M29	Platform Brace	37.373	Lbyy	N/A	N/A	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [in]	Lcomp top [in]	Channel Conn.	a [in]	Function
19	M30	Corner Plate	23.645	Lbyy	N/A	N/A	Lateral
20	M31	Platform Angle	51.353	Lbyy	N/A	N/A	Lateral
21	M32	Platform Angle	51.353	Lbyy	N/A	N/A	Lateral
22	M34	Platform Brace	37.374	Lbyy	N/A	N/A	Lateral
23	M35	Platform Brace	37.373	Lbyy	N/A	N/A	Lateral
24	M36	Corner Plate	23.645	Lbyy	N/A	N/A	Lateral
25	M37	Platform Angle	51.353	Lbyy	N/A	N/A	Lateral
26	M38	Platform Angle	51.353	Lbyy	N/A	N/A	Lateral
27	MU1	Mount Pipe	48	Lbyy	N/A	N/A	Lateral
28	MU3	Mount Pipe	48	Lbyy	N/A	N/A	Lateral
29	MU2	Mount Pipe	48	Lbyy	N/A	N/A	Lateral
30	MH3	Horizontals	174	Lbyy	N/A	N/A	Lateral
31	MH1	Horizontals	174	Lbyy	N/A	N/A	Lateral
32	MS3	Standoffs	67.472	Lbyy	N/A	N/A	Lateral
33	MS2	Standoffs	67.472	Lbyy	N/A	N/A	Lateral
34	MP7	Mount Pipe	96	Lbyy	N/A	N/A	Lateral
35	MP8	Mount Pipe	96	Lbyy	N/A	N/A	Lateral
36	MP9	Mount Pipe	96	Lbyy	N/A	N/A	Lateral
37	MP4	Mount Pipe	96	Lbyy	N/A	N/A	Lateral
38	MP5	Mount Pipe	96	Lbyy	N/A	N/A	Lateral
39	MP6	Mount Pipe	96	Lbyy	N/A	N/A	Lateral

Cold Formed Steel Design Parameters

No Data to Print...							
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Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	Y	-31.75	6
2	MP1	Y	-31.75	78
3	MP2	Y	-33.1	6
4	MP2	Y	-33.1	36
5	MP2	Y	-40.8	48
6	MP2	Y	-40.8	78
7	MP3	Y	-54.3	6
8	MP3	Y	-54.3	84
9	MP3	Y	-71	24
10	MP1	Y	-59.9	24
11	MP1	Y	-72	24
12	MU1	Y	-18.9	12
13	MP4	Y	-31.75	6
14	MP4	Y	-31.75	78
15	MP5	Y	-33.1	6
16	MP5	Y	-33.1	36
17	MP5	Y	-40.8	48
18	MP5	Y	-40.8	78
19	MP6	Y	-54.3	6
20	MP6	Y	-54.3	84
21	MP6	Y	-71	24
22	MP4	Y	-59.9	24
23	MP4	Y	-72	24
24	MU2	Y	-18.9	12
25	MP7	Y	-31.75	6
26	MP7	Y	-31.75	78
27	MP8	Y	-33.1	6

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
28	MP8	Y	-33.1	36
29	MP8	Y	-40.8	48
30	MP8	Y	-40.8	78
31	MP9	Y	-54.3	6
32	MP9	Y	-54.3	84
33	MP9	Y	-71	24
34	MP7	Y	-59.9	24
35	MP7	Y	-72	24
36	MP5	Y	-18.9	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	0	6
2	MP1	Z	-222.57	6
3	MP1	X	0	78
4	MP1	Z	-222.57	78
5	MP2	X	0	6
6	MP2	Z	-66.7	6
7	MP2	X	0	36
8	MP2	Z	-66.7	36
9	MP2	X	0	48
10	MP2	Z	-73.33	48
11	MP2	X	0	78
12	MP2	Z	-73.33	78
13	MP3	X	0	6
14	MP3	Z	-222.75	6
15	MP3	X	0	84
16	MP3	Z	-222.75	84
17	MP3	X	0	24
18	MP3	Z	-71.67	24
19	MP1	X	0	24
20	MP1	Z	-67.12	24
21	MP1	X	0	24
22	MP1	Z	-59.7	24
23	MU1	X	0	12
24	MU1	Z	-30.96	12
25	MP4	X	0	6
26	MP4	Z	-117.66	6
27	MP4	X	0	78
28	MP4	Z	-117.66	78
29	MP5	X	0	6
30	MP5	Z	-39.22	6
31	MP5	X	0	36
32	MP5	Z	-39.22	36
33	MP5	X	0	48
34	MP5	Z	-47.61	48
35	MP5	X	0	78
36	MP5	Z	-47.61	78
37	MP6	X	0	6
38	MP6	Z	-113.2	6
39	MP6	X	0	84
40	MP6	Z	-113.2	84
41	MP6	X	0	24
42	MP6	Z	-56.39	24
43	MP4	X	0	24

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
44	MP4	Z	-45.7	24
45	MP4	X	0	24
46	MP4	Z	-51.9	24
47	MU2	X	0	12
48	MU2	Z	-30.96	12
49	MP7	X	0	6
50	MP7	Z	-117.66	6
51	MP7	X	0	78
52	MP7	Z	-117.66	78
53	MP8	X	0	6
54	MP8	Z	-39.22	6
55	MP8	X	0	36
56	MP8	Z	-39.22	36
57	MP8	X	0	48
58	MP8	Z	-47.61	48
59	MP8	X	0	78
60	MP8	Z	-47.61	78
61	MP9	X	0	6
62	MP9	Z	-113.2	6
63	MP9	X	0	84
64	MP9	Z	-113.2	84
65	MP9	X	0	24
66	MP9	Z	-56.39	24
67	MP7	X	0	24
68	MP7	Z	-45.7	24
69	MP7	X	0	24
70	MP7	Z	-51.9	24
71	MP5	X	0	12
72	MP5	Z	-30.96	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-93.8	6
2	MP1	Z	-162.46	6
3	MP1	X	-93.8	78
4	MP1	Z	-162.46	78
5	MP2	X	-28.77	6
6	MP2	Z	-49.83	6
7	MP2	X	-28.77	36
8	MP2	Z	-49.83	36
9	MP2	X	-32.38	48
10	MP2	Z	-56.08	48
11	MP2	X	-32.38	78
12	MP2	Z	-56.08	78
13	MP3	X	-93.12	6
14	MP3	Z	-161.28	6
15	MP3	X	-93.12	84
16	MP3	Z	-161.28	84
17	MP3	X	-33.29	24
18	MP3	Z	-57.66	24
19	MP1	X	-29.99	24
20	MP1	Z	-51.94	24
21	MP1	X	-28.55	24
22	MP1	Z	-49.45	24
23	MU1	X	-15.48	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
24	MU1	Z	-26.81	12
25	MP4	X	-93.8	6
26	MP4	Z	-162.46	6
27	MP4	X	-93.8	78
28	MP4	Z	-162.46	78
29	MP5	X	-28.77	6
30	MP5	Z	-49.83	6
31	MP5	X	-28.77	36
32	MP5	Z	-49.83	36
33	MP5	X	-32.38	48
34	MP5	Z	-56.08	48
35	MP5	X	-32.38	78
36	MP5	Z	-56.08	78
37	MP6	X	-93.12	6
38	MP6	Z	-161.28	6
39	MP6	X	-93.12	84
40	MP6	Z	-161.28	84
41	MP6	X	-33.29	24
42	MP6	Z	-57.66	24
43	MP4	X	-29.99	24
44	MP4	Z	-51.94	24
45	MP4	X	-28.55	24
46	MP4	Z	-49.45	24
47	MU2	X	-15.48	12
48	MU2	Z	-26.81	12
49	MP7	X	-41.34	6
50	MP7	Z	-71.61	6
51	MP7	X	-41.34	78
52	MP7	Z	-71.61	78
53	MP8	X	-15.03	6
54	MP8	Z	-26.03	6
55	MP8	X	-15.03	36
56	MP8	Z	-26.03	36
57	MP8	X	-19.52	48
58	MP8	Z	-33.81	48
59	MP8	X	-19.52	78
60	MP8	Z	-33.81	78
61	MP9	X	-38.34	6
62	MP9	Z	-66.41	6
63	MP9	X	-38.34	84
64	MP9	Z	-66.41	84
65	MP9	X	-25.65	24
66	MP9	Z	-44.42	24
67	MP7	X	-19.28	24
68	MP7	Z	-33.4	24
69	MP7	X	-24.65	24
70	MP7	Z	-42.7	24
71	MP5	X	-15.48	12
72	MP5	Z	-26.81	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-101.9	6
2	MP1	Z	-58.83	6
3	MP1	X	-101.9	78

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
4	MP1	Z	-58.83	78
5	MP2	X	-33.96	6
6	MP2	Z	-19.61	6
7	MP2	X	-33.96	36
8	MP2	Z	-19.61	36
9	MP2	X	-41.23	48
10	MP2	Z	-23.8	48
11	MP2	X	-41.23	78
12	MP2	Z	-23.8	78
13	MP3	X	-98.03	6
14	MP3	Z	-56.6	6
15	MP3	X	-98.03	84
16	MP3	Z	-56.6	84
17	MP3	X	-48.83	24
18	MP3	Z	-28.19	24
19	MP1	X	-39.58	24
20	MP1	Z	-22.85	24
21	MP1	X	-44.95	24
22	MP1	Z	-25.95	24
23	MU1	X	-26.81	12
24	MU1	Z	-15.48	12
25	MP4	X	-192.75	6
26	MP4	Z	-111.28	6
27	MP4	X	-192.75	78
28	MP4	Z	-111.28	78
29	MP5	X	-57.76	6
30	MP5	Z	-33.35	6
31	MP5	X	-57.76	36
32	MP5	Z	-33.35	36
33	MP5	X	-63.5	48
34	MP5	Z	-36.66	48
35	MP5	X	-63.5	78
36	MP5	Z	-36.66	78
37	MP6	X	-192.91	6
38	MP6	Z	-111.37	6
39	MP6	X	-192.91	84
40	MP6	Z	-111.37	84
41	MP6	X	-62.07	24
42	MP6	Z	-35.83	24
43	MP4	X	-58.12	24
44	MP4	Z	-33.56	24
45	MP4	X	-51.7	24
46	MP4	Z	-29.85	24
47	MU2	X	-26.81	12
48	MU2	Z	-15.48	12
49	MP7	X	-101.9	6
50	MP7	Z	-58.83	6
51	MP7	X	-101.9	78
52	MP7	Z	-58.83	78
53	MP8	X	-33.96	6
54	MP8	Z	-19.61	6
55	MP8	X	-33.96	36
56	MP8	Z	-19.61	36
57	MP8	X	-41.23	48
58	MP8	Z	-23.8	48

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
59	MP8	X	-41.23	78
60	MP8	Z	-23.8	78
61	MP9	X	-98.03	6
62	MP9	Z	-56.6	6
63	MP9	X	-98.03	84
64	MP9	Z	-56.6	84
65	MP9	X	-48.83	24
66	MP9	Z	-28.19	24
67	MP7	X	-39.58	24
68	MP7	Z	-22.85	24
69	MP7	X	-44.95	24
70	MP7	Z	-25.95	24
71	MP5	X	-26.81	12
72	MP5	Z	-15.48	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-82.69	6
2	MP1	Z	0	6
3	MP1	X	-82.69	78
4	MP1	Z	0	78
5	MP2	X	-30.05	6
6	MP2	Z	0	6
7	MP2	X	-30.05	36
8	MP2	Z	0	36
9	MP2	X	-39.03	48
10	MP2	Z	0	48
11	MP2	X	-39.03	78
12	MP2	Z	0	78
13	MP3	X	-76.68	6
14	MP3	Z	0	6
15	MP3	X	-76.68	84
16	MP3	Z	0	84
17	MP3	X	-51.29	24
18	MP3	Z	0	24
19	MP1	X	-38.57	24
20	MP1	Z	0	24
21	MP1	X	-49.3	24
22	MP1	Z	0	24
23	MU1	X	-30.96	12
24	MU1	Z	0	12
25	MP4	X	-187.6	6
26	MP4	Z	0	6
27	MP4	X	-187.6	78
28	MP4	Z	0	78
29	MP5	X	-57.54	6
30	MP5	Z	0	6
31	MP5	X	-57.54	36
32	MP5	Z	0	36
33	MP5	X	-64.75	48
34	MP5	Z	0	48
35	MP5	X	-64.75	78
36	MP5	Z	0	78
37	MP6	X	-186.23	6
38	MP6	Z	0	6

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
39	MP6	X	-186.23	84
40	MP6	Z	0	84
41	MP6	X	-66.58	24
42	MP6	Z	0	24
43	MP4	X	-59.98	24
44	MP4	Z	0	24
45	MP4	X	-57.1	24
46	MP4	Z	0	24
47	MU2	X	-30.96	12
48	MU2	Z	0	12
49	MP7	X	-187.6	6
50	MP7	Z	0	6
51	MP7	X	-187.6	78
52	MP7	Z	0	78
53	MP8	X	-57.54	6
54	MP8	Z	0	6
55	MP8	X	-57.54	36
56	MP8	Z	0	36
57	MP8	X	-64.75	48
58	MP8	Z	0	48
59	MP8	X	-64.75	78
60	MP8	Z	0	78
61	MP9	X	-186.23	6
62	MP9	Z	0	6
63	MP9	X	-186.23	84
64	MP9	Z	0	84
65	MP9	X	-66.58	24
66	MP9	Z	0	24
67	MP7	X	-59.98	24
68	MP7	Z	0	24
69	MP7	X	-57.1	24
70	MP7	Z	0	24
71	MP5	X	-30.96	12
72	MP5	Z	0	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-101.9	6
2	MP1	Z	58.83	6
3	MP1	X	-101.9	78
4	MP1	Z	58.83	78
5	MP2	X	-33.96	6
6	MP2	Z	19.61	6
7	MP2	X	-33.96	36
8	MP2	Z	19.61	36
9	MP2	X	-41.23	48
10	MP2	Z	23.8	48
11	MP2	X	-41.23	78
12	MP2	Z	23.8	78
13	MP3	X	-98.03	6
14	MP3	Z	56.6	6
15	MP3	X	-98.03	84
16	MP3	Z	56.6	84
17	MP3	X	-48.83	24
18	MP3	Z	28.19	24

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
19	MP1	X	-39.58	24
20	MP1	Z	22.85	24
21	MP1	X	-44.95	24
22	MP1	Z	25.95	24
23	MU1	X	-26.81	12
24	MU1	Z	15.48	12
25	MP4	X	-101.9	6
26	MP4	Z	58.83	6
27	MP4	X	-101.9	78
28	MP4	Z	58.83	78
29	MP5	X	-33.96	6
30	MP5	Z	19.61	6
31	MP5	X	-33.96	36
32	MP5	Z	19.61	36
33	MP5	X	-41.23	48
34	MP5	Z	23.8	48
35	MP5	X	-41.23	78
36	MP5	Z	23.8	78
37	MP6	X	-98.03	6
38	MP6	Z	56.6	6
39	MP6	X	-98.03	84
40	MP6	Z	56.6	84
41	MP6	X	-48.83	24
42	MP6	Z	28.19	24
43	MP4	X	-39.58	24
44	MP4	Z	22.85	24
45	MP4	X	-44.95	24
46	MP4	Z	25.95	24
47	MU2	X	-26.81	12
48	MU2	Z	15.48	12
49	MP7	X	-192.75	6
50	MP7	Z	111.28	6
51	MP7	X	-192.75	78
52	MP7	Z	111.28	78
53	MP8	X	-57.76	6
54	MP8	Z	33.35	6
55	MP8	X	-57.76	36
56	MP8	Z	33.35	36
57	MP8	X	-63.5	48
58	MP8	Z	36.66	48
59	MP8	X	-63.5	78
60	MP8	Z	36.66	78
61	MP9	X	-192.91	6
62	MP9	Z	111.37	6
63	MP9	X	-192.91	84
64	MP9	Z	111.37	84
65	MP9	X	-62.07	24
66	MP9	Z	35.83	24
67	MP7	X	-58.12	24
68	MP7	Z	33.56	24
69	MP7	X	-51.7	24
70	MP7	Z	29.85	24
71	MP5	X	-26.81	12
72	MP5	Z	15.48	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-93.8	6
2	MP1	Z	162.46	6
3	MP1	X	-93.8	78
4	MP1	Z	162.46	78
5	MP2	X	-28.77	6
6	MP2	Z	49.83	6
7	MP2	X	-28.77	36
8	MP2	Z	49.83	36
9	MP2	X	-32.38	48
10	MP2	Z	56.08	48
11	MP2	X	-32.38	78
12	MP2	Z	56.08	78
13	MP3	X	-93.12	6
14	MP3	Z	161.28	6
15	MP3	X	-93.12	84
16	MP3	Z	161.28	84
17	MP3	X	-33.29	24
18	MP3	Z	57.66	24
19	MP1	X	-29.99	24
20	MP1	Z	51.94	24
21	MP1	X	-28.55	24
22	MP1	Z	49.45	24
23	MU1	X	-15.48	12
24	MU1	Z	26.81	12
25	MP4	X	-41.34	6
26	MP4	Z	71.61	6
27	MP4	X	-41.34	78
28	MP4	Z	71.61	78
29	MP5	X	-15.03	6
30	MP5	Z	26.03	6
31	MP5	X	-15.03	36
32	MP5	Z	26.03	36
33	MP5	X	-19.52	48
34	MP5	Z	33.81	48
35	MP5	X	-19.52	78
36	MP5	Z	33.81	78
37	MP6	X	-38.34	6
38	MP6	Z	66.41	6
39	MP6	X	-38.34	84
40	MP6	Z	66.41	84
41	MP6	X	-25.65	24
42	MP6	Z	44.42	24
43	MP4	X	-19.28	24
44	MP4	Z	33.4	24
45	MP4	X	-24.65	24
46	MP4	Z	42.7	24
47	MU2	X	-15.48	12
48	MU2	Z	26.81	12
49	MP7	X	-93.8	6
50	MP7	Z	162.46	6
51	MP7	X	-93.8	78
52	MP7	Z	162.46	78
53	MP8	X	-28.77	6
54	MP8	Z	49.83	6
55	MP8	X	-28.77	36

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
56	MP8	Z	49.83	36
57	MP8	X	-32.38	48
58	MP8	Z	56.08	48
59	MP8	X	-32.38	78
60	MP8	Z	56.08	78
61	MP9	X	-93.12	6
62	MP9	Z	161.28	6
63	MP9	X	-93.12	84
64	MP9	Z	161.28	84
65	MP9	X	-33.29	24
66	MP9	Z	57.66	24
67	MP7	X	-29.99	24
68	MP7	Z	51.94	24
69	MP7	X	-28.55	24
70	MP7	Z	49.45	24
71	MP5	X	-15.48	12
72	MP5	Z	26.81	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	0	6
2	MP1	Z	222.57	6
3	MP1	X	0	78
4	MP1	Z	222.57	78
5	MP2	X	0	6
6	MP2	Z	66.7	6
7	MP2	X	0	36
8	MP2	Z	66.7	36
9	MP2	X	0	48
10	MP2	Z	73.33	48
11	MP2	X	0	78
12	MP2	Z	73.33	78
13	MP3	X	0	6
14	MP3	Z	222.75	6
15	MP3	X	0	84
16	MP3	Z	222.75	84
17	MP3	X	0	24
18	MP3	Z	71.67	24
19	MP1	X	0	24
20	MP1	Z	67.12	24
21	MP1	X	0	24
22	MP1	Z	59.7	24
23	MU1	X	0	12
24	MU1	Z	30.96	12
25	MP4	X	0	6
26	MP4	Z	117.66	6
27	MP4	X	0	78
28	MP4	Z	117.66	78
29	MP5	X	0	6
30	MP5	Z	39.22	6
31	MP5	X	0	36
32	MP5	Z	39.22	36
33	MP5	X	0	48
34	MP5	Z	47.61	48
35	MP5	X	0	78

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
36	MP5	Z	47.61	78
37	MP6	X	0	6
38	MP6	Z	113.2	6
39	MP6	X	0	84
40	MP6	Z	113.2	84
41	MP6	X	0	24
42	MP6	Z	56.39	24
43	MP4	X	0	24
44	MP4	Z	45.7	24
45	MP4	X	0	24
46	MP4	Z	51.9	24
47	MU2	X	0	12
48	MU2	Z	30.96	12
49	MP7	X	0	6
50	MP7	Z	117.66	6
51	MP7	X	0	78
52	MP7	Z	117.66	78
53	MP8	X	0	6
54	MP8	Z	39.22	6
55	MP8	X	0	36
56	MP8	Z	39.22	36
57	MP8	X	0	48
58	MP8	Z	47.61	48
59	MP8	X	0	78
60	MP8	Z	47.61	78
61	MP9	X	0	6
62	MP9	Z	113.2	6
63	MP9	X	0	84
64	MP9	Z	113.2	84
65	MP9	X	0	24
66	MP9	Z	56.39	24
67	MP7	X	0	24
68	MP7	Z	45.7	24
69	MP7	X	0	24
70	MP7	Z	51.9	24
71	MP5	X	0	12
72	MP5	Z	30.96	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	93.8	6
2	MP1	Z	162.46	6
3	MP1	X	93.8	78
4	MP1	Z	162.46	78
5	MP2	X	28.77	6
6	MP2	Z	49.83	6
7	MP2	X	28.77	36
8	MP2	Z	49.83	36
9	MP2	X	32.38	48
10	MP2	Z	56.08	48
11	MP2	X	32.38	78
12	MP2	Z	56.08	78
13	MP3	X	93.12	6
14	MP3	Z	161.28	6
15	MP3	X	93.12	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
16	MP3	Z	161.28	84
17	MP3	X	33.29	24
18	MP3	Z	57.66	24
19	MP1	X	29.99	24
20	MP1	Z	51.94	24
21	MP1	X	28.55	24
22	MP1	Z	49.45	24
23	MU1	X	15.48	12
24	MU1	Z	26.81	12
25	MP4	X	93.8	6
26	MP4	Z	162.46	6
27	MP4	X	93.8	78
28	MP4	Z	162.46	78
29	MP5	X	28.77	6
30	MP5	Z	49.83	6
31	MP5	X	28.77	36
32	MP5	Z	49.83	36
33	MP5	X	32.38	48
34	MP5	Z	56.08	48
35	MP5	X	32.38	78
36	MP5	Z	56.08	78
37	MP6	X	93.12	6
38	MP6	Z	161.28	6
39	MP6	X	93.12	84
40	MP6	Z	161.28	84
41	MP6	X	33.29	24
42	MP6	Z	57.66	24
43	MP4	X	29.99	24
44	MP4	Z	51.94	24
45	MP4	X	28.55	24
46	MP4	Z	49.45	24
47	MU2	X	15.48	12
48	MU2	Z	26.81	12
49	MP7	X	41.34	6
50	MP7	Z	71.61	6
51	MP7	X	41.34	78
52	MP7	Z	71.61	78
53	MP8	X	15.03	6
54	MP8	Z	26.03	6
55	MP8	X	15.03	36
56	MP8	Z	26.03	36
57	MP8	X	19.52	48
58	MP8	Z	33.81	48
59	MP8	X	19.52	78
60	MP8	Z	33.81	78
61	MP9	X	38.34	6
62	MP9	Z	66.41	6
63	MP9	X	38.34	84
64	MP9	Z	66.41	84
65	MP9	X	25.65	24
66	MP9	Z	44.42	24
67	MP7	X	19.28	24
68	MP7	Z	33.4	24
69	MP7	X	24.65	24
70	MP7	Z	42.7	24

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
71	MP5	X	15.48	12
72	MP5	Z	26.81	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	101.9	6
2	MP1	Z	58.83	6
3	MP1	X	101.9	78
4	MP1	Z	58.83	78
5	MP2	X	33.96	6
6	MP2	Z	19.61	6
7	MP2	X	33.96	36
8	MP2	Z	19.61	36
9	MP2	X	41.23	48
10	MP2	Z	23.8	48
11	MP2	X	41.23	78
12	MP2	Z	23.8	78
13	MP3	X	98.03	6
14	MP3	Z	56.6	6
15	MP3	X	98.03	84
16	MP3	Z	56.6	84
17	MP3	X	48.83	24
18	MP3	Z	28.19	24
19	MP1	X	39.58	24
20	MP1	Z	22.85	24
21	MP1	X	44.95	24
22	MP1	Z	25.95	24
23	MU1	X	26.81	12
24	MU1	Z	15.48	12
25	MP4	X	192.75	6
26	MP4	Z	111.28	6
27	MP4	X	192.75	78
28	MP4	Z	111.28	78
29	MP5	X	57.76	6
30	MP5	Z	33.35	6
31	MP5	X	57.76	36
32	MP5	Z	33.35	36
33	MP5	X	63.5	48
34	MP5	Z	36.66	48
35	MP5	X	63.5	78
36	MP5	Z	36.66	78
37	MP6	X	192.91	6
38	MP6	Z	111.37	6
39	MP6	X	192.91	84
40	MP6	Z	111.37	84
41	MP6	X	62.07	24
42	MP6	Z	35.83	24
43	MP4	X	58.12	24
44	MP4	Z	33.56	24
45	MP4	X	51.7	24
46	MP4	Z	29.85	24
47	MU2	X	26.81	12
48	MU2	Z	15.48	12
49	MP7	X	101.9	6
50	MP7	Z	58.83	6

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
51	MP7	X	101.9	78
52	MP7	Z	58.83	78
53	MP8	X	33.96	6
54	MP8	Z	19.61	6
55	MP8	X	33.96	36
56	MP8	Z	19.61	36
57	MP8	X	41.23	48
58	MP8	Z	23.8	48
59	MP8	X	41.23	78
60	MP8	Z	23.8	78
61	MP9	X	98.03	6
62	MP9	Z	56.6	6
63	MP9	X	98.03	84
64	MP9	Z	56.6	84
65	MP9	X	48.83	24
66	MP9	Z	28.19	24
67	MP7	X	39.58	24
68	MP7	Z	22.85	24
69	MP7	X	44.95	24
70	MP7	Z	25.95	24
71	MP5	X	26.81	12
72	MP5	Z	15.48	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	82.69	6
2	MP1	Z	0	6
3	MP1	X	82.69	78
4	MP1	Z	0	78
5	MP2	X	30.05	6
6	MP2	Z	0	6
7	MP2	X	30.05	36
8	MP2	Z	0	36
9	MP2	X	39.03	48
10	MP2	Z	0	48
11	MP2	X	39.03	78
12	MP2	Z	0	78
13	MP3	X	76.68	6
14	MP3	Z	0	6
15	MP3	X	76.68	84
16	MP3	Z	0	84
17	MP3	X	51.29	24
18	MP3	Z	0	24
19	MP1	X	38.57	24
20	MP1	Z	0	24
21	MP1	X	49.3	24
22	MP1	Z	0	24
23	MU1	X	30.96	12
24	MU1	Z	0	12
25	MP4	X	187.6	6
26	MP4	Z	0	6
27	MP4	X	187.6	78
28	MP4	Z	0	78
29	MP5	X	57.54	6
30	MP5	Z	0	6

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
31	MP5	X	57.54	36
32	MP5	Z	0	36
33	MP5	X	64.75	48
34	MP5	Z	0	48
35	MP5	X	64.75	78
36	MP5	Z	0	78
37	MP6	X	186.23	6
38	MP6	Z	0	6
39	MP6	X	186.23	84
40	MP6	Z	0	84
41	MP6	X	66.58	24
42	MP6	Z	0	24
43	MP4	X	59.98	24
44	MP4	Z	0	24
45	MP4	X	57.1	24
46	MP4	Z	0	24
47	MU2	X	30.96	12
48	MU2	Z	0	12
49	MP7	X	187.6	6
50	MP7	Z	0	6
51	MP7	X	187.6	78
52	MP7	Z	0	78
53	MP8	X	57.54	6
54	MP8	Z	0	6
55	MP8	X	57.54	36
56	MP8	Z	0	36
57	MP8	X	64.75	48
58	MP8	Z	0	48
59	MP8	X	64.75	78
60	MP8	Z	0	78
61	MP9	X	186.23	6
62	MP9	Z	0	6
63	MP9	X	186.23	84
64	MP9	Z	0	84
65	MP9	X	66.58	24
66	MP9	Z	0	24
67	MP7	X	59.98	24
68	MP7	Z	0	24
69	MP7	X	57.1	24
70	MP7	Z	0	24
71	MP5	X	30.96	12
72	MP5	Z	0	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	101.9	6
2	MP1	Z	-58.83	6
3	MP1	X	101.9	78
4	MP1	Z	-58.83	78
5	MP2	X	33.96	6
6	MP2	Z	-19.61	6
7	MP2	X	33.96	36
8	MP2	Z	-19.61	36
9	MP2	X	41.23	48
10	MP2	Z	-23.8	48

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
11	MP2	X	41.23	78
12	MP2	Z	-23.8	78
13	MP3	X	98.03	6
14	MP3	Z	-56.6	6
15	MP3	X	98.03	84
16	MP3	Z	-56.6	84
17	MP3	X	48.83	24
18	MP3	Z	-28.19	24
19	MP1	X	39.58	24
20	MP1	Z	-22.85	24
21	MP1	X	44.95	24
22	MP1	Z	-25.95	24
23	MU1	X	26.81	12
24	MU1	Z	-15.48	12
25	MP4	X	101.9	6
26	MP4	Z	-58.83	6
27	MP4	X	101.9	78
28	MP4	Z	-58.83	78
29	MP5	X	33.96	6
30	MP5	Z	-19.61	6
31	MP5	X	33.96	36
32	MP5	Z	-19.61	36
33	MP5	X	41.23	48
34	MP5	Z	-23.8	48
35	MP5	X	41.23	78
36	MP5	Z	-23.8	78
37	MP6	X	98.03	6
38	MP6	Z	-56.6	6
39	MP6	X	98.03	84
40	MP6	Z	-56.6	84
41	MP6	X	48.83	24
42	MP6	Z	-28.19	24
43	MP4	X	39.58	24
44	MP4	Z	-22.85	24
45	MP4	X	44.95	24
46	MP4	Z	-25.95	24
47	MU2	X	26.81	12
48	MU2	Z	-15.48	12
49	MP7	X	192.75	6
50	MP7	Z	-111.28	6
51	MP7	X	192.75	78
52	MP7	Z	-111.28	78
53	MP8	X	57.76	6
54	MP8	Z	-33.35	6
55	MP8	X	57.76	36
56	MP8	Z	-33.35	36
57	MP8	X	63.5	48
58	MP8	Z	-36.66	48
59	MP8	X	63.5	78
60	MP8	Z	-36.66	78
61	MP9	X	192.91	6
62	MP9	Z	-111.37	6
63	MP9	X	192.91	84
64	MP9	Z	-111.37	84
65	MP9	X	62.07	24

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
66	MP9	Z	-35.83	24
67	MP7	X	58.12	24
68	MP7	Z	-33.56	24
69	MP7	X	51.7	24
70	MP7	Z	-29.85	24
71	MP5	X	26.81	12
72	MP5	Z	-15.48	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	93.8	6
2	MP1	Z	-162.46	6
3	MP1	X	93.8	78
4	MP1	Z	-162.46	78
5	MP2	X	28.77	6
6	MP2	Z	-49.83	6
7	MP2	X	28.77	36
8	MP2	Z	-49.83	36
9	MP2	X	32.38	48
10	MP2	Z	-56.08	48
11	MP2	X	32.38	78
12	MP2	Z	-56.08	78
13	MP3	X	93.12	6
14	MP3	Z	-161.28	6
15	MP3	X	93.12	84
16	MP3	Z	-161.28	84
17	MP3	X	33.29	24
18	MP3	Z	-57.66	24
19	MP1	X	29.99	24
20	MP1	Z	-51.94	24
21	MP1	X	28.55	24
22	MP1	Z	-49.45	24
23	MU1	X	15.48	12
24	MU1	Z	-26.81	12
25	MP4	X	41.34	6
26	MP4	Z	-71.61	6
27	MP4	X	41.34	78
28	MP4	Z	-71.61	78
29	MP5	X	15.03	6
30	MP5	Z	-26.03	6
31	MP5	X	15.03	36
32	MP5	Z	-26.03	36
33	MP5	X	19.52	48
34	MP5	Z	-33.81	48
35	MP5	X	19.52	78
36	MP5	Z	-33.81	78
37	MP6	X	38.34	6
38	MP6	Z	-66.41	6
39	MP6	X	38.34	84
40	MP6	Z	-66.41	84
41	MP6	X	25.65	24
42	MP6	Z	-44.42	24
43	MP4	X	19.28	24
44	MP4	Z	-33.4	24
45	MP4	X	24.65	24

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
46	MP4	Z	-42.7	24
47	MU2	X	15.48	12
48	MU2	Z	-26.81	12
49	MP7	X	93.8	6
50	MP7	Z	-162.46	6
51	MP7	X	93.8	78
52	MP7	Z	-162.46	78
53	MP8	X	28.77	6
54	MP8	Z	-49.83	6
55	MP8	X	28.77	36
56	MP8	Z	-49.83	36
57	MP8	X	32.38	48
58	MP8	Z	-56.08	48
59	MP8	X	32.38	78
60	MP8	Z	-56.08	78
61	MP9	X	93.12	6
62	MP9	Z	-161.28	6
63	MP9	X	93.12	84
64	MP9	Z	-161.28	84
65	MP9	X	33.29	24
66	MP9	Z	-57.66	24
67	MP7	X	29.99	24
68	MP7	Z	-51.94	24
69	MP7	X	28.55	24
70	MP7	Z	-49.45	24
71	MP5	X	15.48	12
72	MP5	Z	-26.81	12

Member Point Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	Y	-93.569	6
2	MP1	Y	-93.569	78
3	MP2	Y	-32.608	6
4	MP2	Y	-32.608	36
5	MP2	Y	-37.716	48
6	MP2	Y	-37.716	78
7	MP3	Y	-95.621	6
8	MP3	Y	-95.621	84
9	MP3	Y	-48.056	24
10	MP1	Y	-41.565	24
11	MP1	Y	-45.752	24
12	MU1	Y	-54.89	12
13	MP4	Y	-93.569	6
14	MP4	Y	-93.569	78
15	MP5	Y	-32.608	6
16	MP5	Y	-32.608	36
17	MP5	Y	-37.716	48
18	MP5	Y	-37.716	78
19	MP6	Y	-95.621	6
20	MP6	Y	-95.621	84
21	MP6	Y	-48.056	24
22	MP4	Y	-41.565	24
23	MP4	Y	-45.752	24
24	MU2	Y	-54.89	12
25	MP7	Y	-93.569	6

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
26	MP7	Y	-93.569	78
27	MP8	Y	-32.608	6
28	MP8	Y	-32.608	36
29	MP8	Y	-37.716	48
30	MP8	Y	-37.716	78
31	MP9	Y	-95.621	6
32	MP9	Y	-95.621	84
33	MP9	Y	-48.056	24
34	MP7	Y	-41.565	24
35	MP7	Y	-45.752	24
36	MP5	Y	-54.89	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	0	6
2	MP1	Z	-19.08	6
3	MP1	X	0	78
4	MP1	Z	-19.08	78
5	MP2	X	0	6
6	MP2	Z	-5.91	6
7	MP2	X	0	36
8	MP2	Z	-5.91	36
9	MP2	X	0	48
10	MP2	Z	-6.45	48
11	MP2	X	0	78
12	MP2	Z	-6.45	78
13	MP3	X	0	6
14	MP3	Z	-20.54	6
15	MP3	X	0	84
16	MP3	Z	-20.54	84
17	MP3	X	0	24
18	MP3	Z	-7.22	24
19	MP1	X	0	24
20	MP1	Z	-6.77	24
21	MP1	X	0	24
22	MP1	Z	-6.15	24
23	MU1	X	0	12
24	MU1	Z	-8.11	12
25	MP4	X	0	6
26	MP4	Z	-13.93	6
27	MP4	X	0	78
28	MP4	Z	-13.93	78
29	MP5	X	0	6
30	MP5	Z	-4.62	6
31	MP5	X	0	36
32	MP5	Z	-4.62	36
33	MP5	X	0	48
34	MP5	Z	-5.26	48
35	MP5	X	0	78
36	MP5	Z	-5.26	78
37	MP6	X	0	6
38	MP6	Z	-15.07	6
39	MP6	X	0	84
40	MP6	Z	-15.07	84
41	MP6	X	0	24

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
42	MP6	Z	-6.5	24
43	MP4	X	0	24
44	MP4	Z	-5.72	24
45	MP4	X	0	24
46	MP4	Z	-5.79	24
47	MU2	X	0	12
48	MU2	Z	-8.11	12
49	MP7	X	0	6
50	MP7	Z	-13.93	6
51	MP7	X	0	78
52	MP7	Z	-13.93	78
53	MP8	X	0	6
54	MP8	Z	-4.62	6
55	MP8	X	0	36
56	MP8	Z	-4.62	36
57	MP8	X	0	48
58	MP8	Z	-5.26	48
59	MP8	X	0	78
60	MP8	Z	-5.26	78
61	MP9	X	0	6
62	MP9	Z	-15.07	6
63	MP9	X	0	84
64	MP9	Z	-15.07	84
65	MP9	X	0	24
66	MP9	Z	-6.5	24
67	MP7	X	0	24
68	MP7	Z	-5.72	24
69	MP7	X	0	24
70	MP7	Z	-5.79	24
71	MP5	X	0	12
72	MP5	Z	-8.11	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-8.68	6
2	MP1	Z	-15.04	6
3	MP1	X	-8.68	78
4	MP1	Z	-15.04	78
5	MP2	X	-2.74	6
6	MP2	Z	-4.75	6
7	MP2	X	-2.74	36
8	MP2	Z	-4.75	36
9	MP2	X	-3.03	48
10	MP2	Z	-5.25	48
11	MP2	X	-3.03	78
12	MP2	Z	-5.25	78
13	MP3	X	-9.36	6
14	MP3	Z	-16.21	6
15	MP3	X	-9.36	84
16	MP3	Z	-16.21	84
17	MP3	X	-3.49	24
18	MP3	Z	-6.04	24
19	MP1	X	-3.21	24
20	MP1	Z	-5.56	24
21	MP1	X	-3.01	24

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
22	MP1	Z	-5.22	24
23	MU1	X	-4.05	12
24	MU1	Z	-7.02	12
25	MP4	X	-8.68	6
26	MP4	Z	-15.04	6
27	MP4	X	-8.68	78
28	MP4	Z	-15.04	78
29	MP5	X	-2.74	6
30	MP5	Z	-4.75	6
31	MP5	X	-2.74	36
32	MP5	Z	-4.75	36
33	MP5	X	-3.03	48
34	MP5	Z	-5.25	48
35	MP5	X	-3.03	78
36	MP5	Z	-5.25	78
37	MP6	X	-9.36	6
38	MP6	Z	-16.21	6
39	MP6	X	-9.36	84
40	MP6	Z	-16.21	84
41	MP6	X	-3.49	24
42	MP6	Z	-6.04	24
43	MP4	X	-3.21	24
44	MP4	Z	-5.56	24
45	MP4	X	-3.01	24
46	MP4	Z	-5.22	24
47	MU2	X	-4.05	12
48	MU2	Z	-7.02	12
49	MP7	X	-6.11	6
50	MP7	Z	-10.58	6
51	MP7	X	-6.11	78
52	MP7	Z	-10.58	78
53	MP8	X	-2.09	6
54	MP8	Z	-3.63	6
55	MP8	X	-2.09	36
56	MP8	Z	-3.63	36
57	MP8	X	-2.43	48
58	MP8	Z	-4.21	48
59	MP8	X	-2.43	78
60	MP8	Z	-4.21	78
61	MP9	X	-6.62	6
62	MP9	Z	-11.47	6
63	MP9	X	-6.62	84
64	MP9	Z	-11.47	84
65	MP9	X	-3.13	24
66	MP9	Z	-5.42	24
67	MP7	X	-2.68	24
68	MP7	Z	-4.65	24
69	MP7	X	-2.83	24
70	MP7	Z	-4.91	24
71	MP5	X	-4.05	12
72	MP5	Z	-7.02	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-12.06	6
2	MP1	Z	-6.96	6
3	MP1	X	-12.06	78
4	MP1	Z	-6.96	78
5	MP2	X	-4	6
6	MP2	Z	-2.31	6
7	MP2	X	-4	36
8	MP2	Z	-2.31	36
9	MP2	X	-4.56	48
10	MP2	Z	-2.63	48
11	MP2	X	-4.56	78
12	MP2	Z	-2.63	78
13	MP3	X	-13.05	6
14	MP3	Z	-7.53	6
15	MP3	X	-13.05	84
16	MP3	Z	-7.53	84
17	MP3	X	-5.63	24
18	MP3	Z	-3.25	24
19	MP1	X	-4.95	24
20	MP1	Z	-2.86	24
21	MP1	X	-5.01	24
22	MP1	Z	-2.89	24
23	MU1	X	-7.02	12
24	MU1	Z	-4.05	12
25	MP4	X	-16.53	6
26	MP4	Z	-9.54	6
27	MP4	X	-16.53	78
28	MP4	Z	-9.54	78
29	MP5	X	-5.12	6
30	MP5	Z	-2.96	6
31	MP5	X	-5.12	36
32	MP5	Z	-2.96	36
33	MP5	X	-5.59	48
34	MP5	Z	-3.23	48
35	MP5	X	-5.59	78
36	MP5	Z	-3.23	78
37	MP6	X	-17.79	6
38	MP6	Z	-10.27	6
39	MP6	X	-17.79	84
40	MP6	Z	-10.27	84
41	MP6	X	-6.25	24
42	MP6	Z	-3.61	24
43	MP4	X	-5.86	24
44	MP4	Z	-3.38	24
45	MP4	X	-5.33	24
46	MP4	Z	-3.08	24
47	MU2	X	-7.02	12
48	MU2	Z	-4.05	12
49	MP7	X	-12.06	6
50	MP7	Z	-6.96	6
51	MP7	X	-12.06	78
52	MP7	Z	-6.96	78
53	MP8	X	-4	6
54	MP8	Z	-2.31	6
55	MP8	X	-4	36

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
56	MP8	Z	-2.31	36
57	MP8	X	-4.56	48
58	MP8	Z	-2.63	48
59	MP8	X	-4.56	78
60	MP8	Z	-2.63	78
61	MP9	X	-13.05	6
62	MP9	Z	-7.53	6
63	MP9	X	-13.05	84
64	MP9	Z	-7.53	84
65	MP9	X	-5.63	24
66	MP9	Z	-3.25	24
67	MP7	X	-4.95	24
68	MP7	Z	-2.86	24
69	MP7	X	-5.01	24
70	MP7	Z	-2.89	24
71	MP5	X	-7.02	12
72	MP5	Z	-4.05	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-12.21	6
2	MP1	Z	0	6
3	MP1	X	-12.21	78
4	MP1	Z	0	78
5	MP2	X	-4.19	6
6	MP2	Z	0	6
7	MP2	X	-4.19	36
8	MP2	Z	0	36
9	MP2	X	-4.86	48
10	MP2	Z	0	48
11	MP2	X	-4.86	78
12	MP2	Z	0	78
13	MP3	X	-13.24	6
14	MP3	Z	0	6
15	MP3	X	-13.24	84
16	MP3	Z	0	84
17	MP3	X	-6.26	24
18	MP3	Z	0	24
19	MP1	X	-5.37	24
20	MP1	Z	0	24
21	MP1	X	-5.66	24
22	MP1	Z	0	24
23	MU1	X	-8.11	12
24	MU1	Z	0	12
25	MP4	X	-17.37	6
26	MP4	Z	0	6
27	MP4	X	-17.37	78
28	MP4	Z	0	78
29	MP5	X	-5.48	6
30	MP5	Z	0	6
31	MP5	X	-5.48	36
32	MP5	Z	0	36
33	MP5	X	-6.06	48
34	MP5	Z	0	48
35	MP5	X	-6.06	78

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
36	MP5	Z	0	78
37	MP6	X	-18.72	6
38	MP6	Z	0	6
39	MP6	X	-18.72	84
40	MP6	Z	0	84
41	MP6	X	-6.98	24
42	MP6	Z	0	24
43	MP4	X	-6.42	24
44	MP4	Z	0	24
45	MP4	X	-6.03	24
46	MP4	Z	0	24
47	MU2	X	-8.11	12
48	MU2	Z	0	12
49	MP7	X	-17.37	6
50	MP7	Z	0	6
51	MP7	X	-17.37	78
52	MP7	Z	0	78
53	MP8	X	-5.48	6
54	MP8	Z	0	6
55	MP8	X	-5.48	36
56	MP8	Z	0	36
57	MP8	X	-6.06	48
58	MP8	Z	0	48
59	MP8	X	-6.06	78
60	MP8	Z	0	78
61	MP9	X	-18.72	6
62	MP9	Z	0	6
63	MP9	X	-18.72	84
64	MP9	Z	0	84
65	MP9	X	-6.98	24
66	MP9	Z	0	24
67	MP7	X	-6.42	24
68	MP7	Z	0	24
69	MP7	X	-6.03	24
70	MP7	Z	0	24
71	MP5	X	-8.11	12
72	MP5	Z	0	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-12.06	6
2	MP1	Z	6.96	6
3	MP1	X	-12.06	78
4	MP1	Z	6.96	78
5	MP2	X	-4	6
6	MP2	Z	2.31	6
7	MP2	X	-4	36
8	MP2	Z	2.31	36
9	MP2	X	-4.56	48
10	MP2	Z	2.63	48
11	MP2	X	-4.56	78
12	MP2	Z	2.63	78
13	MP3	X	-13.05	6
14	MP3	Z	7.53	6
15	MP3	X	-13.05	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
16	MP3	Z	7.53	84
17	MP3	X	-5.63	24
18	MP3	Z	3.25	24
19	MP1	X	-4.95	24
20	MP1	Z	2.86	24
21	MP1	X	-5.01	24
22	MP1	Z	2.89	24
23	MU1	X	-7.02	12
24	MU1	Z	4.05	12
25	MP4	X	-12.06	6
26	MP4	Z	6.96	6
27	MP4	X	-12.06	78
28	MP4	Z	6.96	78
29	MP5	X	-4	6
30	MP5	Z	2.31	6
31	MP5	X	-4	36
32	MP5	Z	2.31	36
33	MP5	X	-4.56	48
34	MP5	Z	2.63	48
35	MP5	X	-4.56	78
36	MP5	Z	2.63	78
37	MP6	X	-13.05	6
38	MP6	Z	7.53	6
39	MP6	X	-13.05	84
40	MP6	Z	7.53	84
41	MP6	X	-5.63	24
42	MP6	Z	3.25	24
43	MP4	X	-4.95	24
44	MP4	Z	2.86	24
45	MP4	X	-5.01	24
46	MP4	Z	2.89	24
47	MU2	X	-7.02	12
48	MU2	Z	4.05	12
49	MP7	X	-16.53	6
50	MP7	Z	9.54	6
51	MP7	X	-16.53	78
52	MP7	Z	9.54	78
53	MP8	X	-5.12	6
54	MP8	Z	2.96	6
55	MP8	X	-5.12	36
56	MP8	Z	2.96	36
57	MP8	X	-5.59	48
58	MP8	Z	3.23	48
59	MP8	X	-5.59	78
60	MP8	Z	3.23	78
61	MP9	X	-17.79	6
62	MP9	Z	10.27	6
63	MP9	X	-17.79	84
64	MP9	Z	10.27	84
65	MP9	X	-6.25	24
66	MP9	Z	3.61	24
67	MP7	X	-5.86	24
68	MP7	Z	3.38	24
69	MP7	X	-5.33	24
70	MP7	Z	3.08	24

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
71	MP5	X	-7.02	12
72	MP5	Z	4.05	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-8.68	6
2	MP1	Z	15.04	6
3	MP1	X	-8.68	78
4	MP1	Z	15.04	78
5	MP2	X	-2.74	6
6	MP2	Z	4.75	6
7	MP2	X	-2.74	36
8	MP2	Z	4.75	36
9	MP2	X	-3.03	48
10	MP2	Z	5.25	48
11	MP2	X	-3.03	78
12	MP2	Z	5.25	78
13	MP3	X	-9.36	6
14	MP3	Z	16.21	6
15	MP3	X	-9.36	84
16	MP3	Z	16.21	84
17	MP3	X	-3.49	24
18	MP3	Z	6.04	24
19	MP1	X	-3.21	24
20	MP1	Z	5.56	24
21	MP1	X	-3.01	24
22	MP1	Z	5.22	24
23	MU1	X	-4.05	12
24	MU1	Z	7.02	12
25	MP4	X	-6.11	6
26	MP4	Z	10.58	6
27	MP4	X	-6.11	78
28	MP4	Z	10.58	78
29	MP5	X	-2.09	6
30	MP5	Z	3.63	6
31	MP5	X	-2.09	36
32	MP5	Z	3.63	36
33	MP5	X	-2.43	48
34	MP5	Z	4.21	48
35	MP5	X	-2.43	78
36	MP5	Z	4.21	78
37	MP6	X	-6.62	6
38	MP6	Z	11.47	6
39	MP6	X	-6.62	84
40	MP6	Z	11.47	84
41	MP6	X	-3.13	24
42	MP6	Z	5.42	24
43	MP4	X	-2.68	24
44	MP4	Z	4.65	24
45	MP4	X	-2.83	24
46	MP4	Z	4.91	24
47	MU2	X	-4.05	12
48	MU2	Z	7.02	12
49	MP7	X	-8.68	6
50	MP7	Z	15.04	6

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
51	MP7	X	-8.68	78
52	MP7	Z	15.04	78
53	MP8	X	-2.74	6
54	MP8	Z	4.75	6
55	MP8	X	-2.74	36
56	MP8	Z	4.75	36
57	MP8	X	-3.03	48
58	MP8	Z	5.25	48
59	MP8	X	-3.03	78
60	MP8	Z	5.25	78
61	MP9	X	-9.36	6
62	MP9	Z	16.21	6
63	MP9	X	-9.36	84
64	MP9	Z	16.21	84
65	MP9	X	-3.49	24
66	MP9	Z	6.04	24
67	MP7	X	-3.21	24
68	MP7	Z	5.56	24
69	MP7	X	-3.01	24
70	MP7	Z	5.22	24
71	MP5	X	-4.05	12
72	MP5	Z	7.02	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	0	6
2	MP1	Z	19.08	6
3	MP1	X	0	78
4	MP1	Z	19.08	78
5	MP2	X	0	6
6	MP2	Z	5.91	6
7	MP2	X	0	36
8	MP2	Z	5.91	36
9	MP2	X	0	48
10	MP2	Z	6.45	48
11	MP2	X	0	78
12	MP2	Z	6.45	78
13	MP3	X	0	6
14	MP3	Z	20.54	6
15	MP3	X	0	84
16	MP3	Z	20.54	84
17	MP3	X	0	24
18	MP3	Z	7.22	24
19	MP1	X	0	24
20	MP1	Z	6.77	24
21	MP1	X	0	24
22	MP1	Z	6.15	24
23	MU1	X	0	12
24	MU1	Z	8.11	12
25	MP4	X	0	6
26	MP4	Z	13.93	6
27	MP4	X	0	78
28	MP4	Z	13.93	78
29	MP5	X	0	6
30	MP5	Z	4.62	6

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
31	MP5	X	0	36
32	MP5	Z	4.62	36
33	MP5	X	0	48
34	MP5	Z	5.26	48
35	MP5	X	0	78
36	MP5	Z	5.26	78
37	MP6	X	0	6
38	MP6	Z	15.07	6
39	MP6	X	0	84
40	MP6	Z	15.07	84
41	MP6	X	0	24
42	MP6	Z	6.5	24
43	MP4	X	0	24
44	MP4	Z	5.72	24
45	MP4	X	0	24
46	MP4	Z	5.79	24
47	MU2	X	0	12
48	MU2	Z	8.11	12
49	MP7	X	0	6
50	MP7	Z	13.93	6
51	MP7	X	0	78
52	MP7	Z	13.93	78
53	MP8	X	0	6
54	MP8	Z	4.62	6
55	MP8	X	0	36
56	MP8	Z	4.62	36
57	MP8	X	0	48
58	MP8	Z	5.26	48
59	MP8	X	0	78
60	MP8	Z	5.26	78
61	MP9	X	0	6
62	MP9	Z	15.07	6
63	MP9	X	0	84
64	MP9	Z	15.07	84
65	MP9	X	0	24
66	MP9	Z	6.5	24
67	MP7	X	0	24
68	MP7	Z	5.72	24
69	MP7	X	0	24
70	MP7	Z	5.79	24
71	MP5	X	0	12
72	MP5	Z	8.11	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	8.68	6
2	MP1	Z	15.04	6
3	MP1	X	8.68	78
4	MP1	Z	15.04	78
5	MP2	X	2.74	6
6	MP2	Z	4.75	6
7	MP2	X	2.74	36
8	MP2	Z	4.75	36
9	MP2	X	3.03	48
10	MP2	Z	5.25	48

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
11	MP2	X	3.03	78
12	MP2	Z	5.25	78
13	MP3	X	9.36	6
14	MP3	Z	16.21	6
15	MP3	X	9.36	84
16	MP3	Z	16.21	84
17	MP3	X	3.49	24
18	MP3	Z	6.04	24
19	MP1	X	3.21	24
20	MP1	Z	5.56	24
21	MP1	X	3.01	24
22	MP1	Z	5.22	24
23	MU1	X	4.05	12
24	MU1	Z	7.02	12
25	MP4	X	8.68	6
26	MP4	Z	15.04	6
27	MP4	X	8.68	78
28	MP4	Z	15.04	78
29	MP5	X	2.74	6
30	MP5	Z	4.75	6
31	MP5	X	2.74	36
32	MP5	Z	4.75	36
33	MP5	X	3.03	48
34	MP5	Z	5.25	48
35	MP5	X	3.03	78
36	MP5	Z	5.25	78
37	MP6	X	9.36	6
38	MP6	Z	16.21	6
39	MP6	X	9.36	84
40	MP6	Z	16.21	84
41	MP6	X	3.49	24
42	MP6	Z	6.04	24
43	MP4	X	3.21	24
44	MP4	Z	5.56	24
45	MP4	X	3.01	24
46	MP4	Z	5.22	24
47	MU2	X	4.05	12
48	MU2	Z	7.02	12
49	MP7	X	6.11	6
50	MP7	Z	10.58	6
51	MP7	X	6.11	78
52	MP7	Z	10.58	78
53	MP8	X	2.09	6
54	MP8	Z	3.63	6
55	MP8	X	2.09	36
56	MP8	Z	3.63	36
57	MP8	X	2.43	48
58	MP8	Z	4.21	48
59	MP8	X	2.43	78
60	MP8	Z	4.21	78
61	MP9	X	6.62	6
62	MP9	Z	11.47	6
63	MP9	X	6.62	84
64	MP9	Z	11.47	84
65	MP9	X	3.13	24

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
66	MP9	Z	5.42	24
67	MP7	X	2.68	24
68	MP7	Z	4.65	24
69	MP7	X	2.83	24
70	MP7	Z	4.91	24
71	MP5	X	4.05	12
72	MP5	Z	7.02	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	12.06	6
2	MP1	Z	6.96	6
3	MP1	X	12.06	78
4	MP1	Z	6.96	78
5	MP2	X	4	6
6	MP2	Z	2.31	6
7	MP2	X	4	36
8	MP2	Z	2.31	36
9	MP2	X	4.56	48
10	MP2	Z	2.63	48
11	MP2	X	4.56	78
12	MP2	Z	2.63	78
13	MP3	X	13.05	6
14	MP3	Z	7.53	6
15	MP3	X	13.05	84
16	MP3	Z	7.53	84
17	MP3	X	5.63	24
18	MP3	Z	3.25	24
19	MP1	X	4.95	24
20	MP1	Z	2.86	24
21	MP1	X	5.01	24
22	MP1	Z	2.89	24
23	MU1	X	7.02	12
24	MU1	Z	4.05	12
25	MP4	X	16.53	6
26	MP4	Z	9.54	6
27	MP4	X	16.53	78
28	MP4	Z	9.54	78
29	MP5	X	5.12	6
30	MP5	Z	2.96	6
31	MP5	X	5.12	36
32	MP5	Z	2.96	36
33	MP5	X	5.59	48
34	MP5	Z	3.23	48
35	MP5	X	5.59	78
36	MP5	Z	3.23	78
37	MP6	X	17.79	6
38	MP6	Z	10.27	6
39	MP6	X	17.79	84
40	MP6	Z	10.27	84
41	MP6	X	6.25	24
42	MP6	Z	3.61	24
43	MP4	X	5.86	24
44	MP4	Z	3.38	24
45	MP4	X	5.33	24

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
46	MP4	Z	3.08	24
47	MU2	X	7.02	12
48	MU2	Z	4.05	12
49	MP7	X	12.06	6
50	MP7	Z	6.96	6
51	MP7	X	12.06	78
52	MP7	Z	6.96	78
53	MP8	X	4	6
54	MP8	Z	2.31	6
55	MP8	X	4	36
56	MP8	Z	2.31	36
57	MP8	X	4.56	48
58	MP8	Z	2.63	48
59	MP8	X	4.56	78
60	MP8	Z	2.63	78
61	MP9	X	13.05	6
62	MP9	Z	7.53	6
63	MP9	X	13.05	84
64	MP9	Z	7.53	84
65	MP9	X	5.63	24
66	MP9	Z	3.25	24
67	MP7	X	4.95	24
68	MP7	Z	2.86	24
69	MP7	X	5.01	24
70	MP7	Z	2.89	24
71	MP5	X	7.02	12
72	MP5	Z	4.05	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	12.21	6
2	MP1	Z	0	6
3	MP1	X	12.21	78
4	MP1	Z	0	78
5	MP2	X	4.19	6
6	MP2	Z	0	6
7	MP2	X	4.19	36
8	MP2	Z	0	36
9	MP2	X	4.86	48
10	MP2	Z	0	48
11	MP2	X	4.86	78
12	MP2	Z	0	78
13	MP3	X	13.24	6
14	MP3	Z	0	6
15	MP3	X	13.24	84
16	MP3	Z	0	84
17	MP3	X	6.26	24
18	MP3	Z	0	24
19	MP1	X	5.37	24
20	MP1	Z	0	24
21	MP1	X	5.66	24
22	MP1	Z	0	24
23	MU1	X	8.11	12
24	MU1	Z	0	12
25	MP4	X	17.37	6

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
26	MP4	Z	0	6
27	MP4	X	17.37	78
28	MP4	Z	0	78
29	MP5	X	5.48	6
30	MP5	Z	0	6
31	MP5	X	5.48	36
32	MP5	Z	0	36
33	MP5	X	6.06	48
34	MP5	Z	0	48
35	MP5	X	6.06	78
36	MP5	Z	0	78
37	MP6	X	18.72	6
38	MP6	Z	0	6
39	MP6	X	18.72	84
40	MP6	Z	0	84
41	MP6	X	6.98	24
42	MP6	Z	0	24
43	MP4	X	6.42	24
44	MP4	Z	0	24
45	MP4	X	6.03	24
46	MP4	Z	0	24
47	MU2	X	8.11	12
48	MU2	Z	0	12
49	MP7	X	17.37	6
50	MP7	Z	0	6
51	MP7	X	17.37	78
52	MP7	Z	0	78
53	MP8	X	5.48	6
54	MP8	Z	0	6
55	MP8	X	5.48	36
56	MP8	Z	0	36
57	MP8	X	6.06	48
58	MP8	Z	0	48
59	MP8	X	6.06	78
60	MP8	Z	0	78
61	MP9	X	18.72	6
62	MP9	Z	0	6
63	MP9	X	18.72	84
64	MP9	Z	0	84
65	MP9	X	6.98	24
66	MP9	Z	0	24
67	MP7	X	6.42	24
68	MP7	Z	0	24
69	MP7	X	6.03	24
70	MP7	Z	0	24
71	MP5	X	8.11	12
72	MP5	Z	0	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	12.06	6
2	MP1	Z	-6.96	6
3	MP1	X	12.06	78
4	MP1	Z	-6.96	78
5	MP2	X	4	6

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
6	MP2	Z	-2.31	6
7	MP2	X	4	36
8	MP2	Z	-2.31	36
9	MP2	X	4.56	48
10	MP2	Z	-2.63	48
11	MP2	X	4.56	78
12	MP2	Z	-2.63	78
13	MP3	X	13.05	6
14	MP3	Z	-7.53	6
15	MP3	X	13.05	84
16	MP3	Z	-7.53	84
17	MP3	X	5.63	24
18	MP3	Z	-3.25	24
19	MP1	X	4.95	24
20	MP1	Z	-2.86	24
21	MP1	X	5.01	24
22	MP1	Z	-2.89	24
23	MU1	X	7.02	12
24	MU1	Z	-4.05	12
25	MP4	X	12.06	6
26	MP4	Z	-6.96	6
27	MP4	X	12.06	78
28	MP4	Z	-6.96	78
29	MP5	X	4	6
30	MP5	Z	-2.31	6
31	MP5	X	4	36
32	MP5	Z	-2.31	36
33	MP5	X	4.56	48
34	MP5	Z	-2.63	48
35	MP5	X	4.56	78
36	MP5	Z	-2.63	78
37	MP6	X	13.05	6
38	MP6	Z	-7.53	6
39	MP6	X	13.05	84
40	MP6	Z	-7.53	84
41	MP6	X	5.63	24
42	MP6	Z	-3.25	24
43	MP4	X	4.95	24
44	MP4	Z	-2.86	24
45	MP4	X	5.01	24
46	MP4	Z	-2.89	24
47	MU2	X	7.02	12
48	MU2	Z	-4.05	12
49	MP7	X	16.53	6
50	MP7	Z	-9.54	6
51	MP7	X	16.53	78
52	MP7	Z	-9.54	78
53	MP8	X	5.12	6
54	MP8	Z	-2.96	6
55	MP8	X	5.12	36
56	MP8	Z	-2.96	36
57	MP8	X	5.59	48
58	MP8	Z	-3.23	48
59	MP8	X	5.59	78
60	MP8	Z	-3.23	78

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
61	MP9	X	17.79	6
62	MP9	Z	-10.27	6
63	MP9	X	17.79	84
64	MP9	Z	-10.27	84
65	MP9	X	6.25	24
66	MP9	Z	-3.61	24
67	MP7	X	5.86	24
68	MP7	Z	-3.38	24
69	MP7	X	5.33	24
70	MP7	Z	-3.08	24
71	MP5	X	7.02	12
72	MP5	Z	-4.05	12

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	8.68	6
2	MP1	Z	-15.04	6
3	MP1	X	8.68	78
4	MP1	Z	-15.04	78
5	MP2	X	2.74	6
6	MP2	Z	-4.75	6
7	MP2	X	2.74	36
8	MP2	Z	-4.75	36
9	MP2	X	3.03	48
10	MP2	Z	-5.25	48
11	MP2	X	3.03	78
12	MP2	Z	-5.25	78
13	MP3	X	9.36	6
14	MP3	Z	-16.21	6
15	MP3	X	9.36	84
16	MP3	Z	-16.21	84
17	MP3	X	3.49	24
18	MP3	Z	-6.04	24
19	MP1	X	3.21	24
20	MP1	Z	-5.56	24
21	MP1	X	3.01	24
22	MP1	Z	-5.22	24
23	MU1	X	4.05	12
24	MU1	Z	-7.02	12
25	MP4	X	6.11	6
26	MP4	Z	-10.58	6
27	MP4	X	6.11	78
28	MP4	Z	-10.58	78
29	MP5	X	2.09	6
30	MP5	Z	-3.63	6
31	MP5	X	2.09	36
32	MP5	Z	-3.63	36
33	MP5	X	2.43	48
34	MP5	Z	-4.21	48
35	MP5	X	2.43	78
36	MP5	Z	-4.21	78
37	MP6	X	6.62	6
38	MP6	Z	-11.47	6
39	MP6	X	6.62	84
40	MP6	Z	-11.47	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
41	MP6	X	3.13	24
42	MP6	Z	-5.42	24
43	MP4	X	2.68	24
44	MP4	Z	-4.65	24
45	MP4	X	2.83	24
46	MP4	Z	-4.91	24
47	MU2	X	4.05	12
48	MU2	Z	-7.02	12
49	MP7	X	8.68	6
50	MP7	Z	-15.04	6
51	MP7	X	8.68	78
52	MP7	Z	-15.04	78
53	MP8	X	2.74	6
54	MP8	Z	-4.75	6
55	MP8	X	2.74	36
56	MP8	Z	-4.75	36
57	MP8	X	3.03	48
58	MP8	Z	-5.25	48
59	MP8	X	3.03	78
60	MP8	Z	-5.25	78
61	MP9	X	9.36	6
62	MP9	Z	-16.21	6
63	MP9	X	9.36	84
64	MP9	Z	-16.21	84
65	MP9	X	3.49	24
66	MP9	Z	-6.04	24
67	MP7	X	3.21	24
68	MP7	Z	-5.56	24
69	MP7	X	3.01	24
70	MP7	Z	-5.22	24
71	MP5	X	4.05	12
72	MP5	Z	-7.02	12

Member Point Loads (BLC 31 : Seismic Load Z)

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	Z	-10.465	6
2	MP1	Z	-10.465	78
3	MP2	Z	-10.91	6
4	MP2	Z	-10.91	36
5	MP2	Z	-13.448	48
6	MP2	Z	-13.448	78
7	MP3	Z	-17.897	6
8	MP3	Z	-17.897	84
9	MP3	Z	-23.402	24
10	MP1	Z	-19.743	24
11	MP1	Z	-23.731	24
12	MU1	Z	-6.229	12
13	MP4	Z	-10.465	6
14	MP4	Z	-10.465	78
15	MP5	Z	-10.91	6
16	MP5	Z	-10.91	36
17	MP5	Z	-13.448	48
18	MP5	Z	-13.448	78
19	MP6	Z	-17.897	6
20	MP6	Z	-17.897	84

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

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
21	MP6	Z	-23.402	24
22	MP4	Z	-19.743	24
23	MP4	Z	-23.731	24
24	MU2	Z	-6.229	12
25	MP7	Z	-10.465	6
26	MP7	Z	-10.465	78
27	MP8	Z	-10.91	6
28	MP8	Z	-10.91	36
29	MP8	Z	-13.448	48
30	MP8	Z	-13.448	78
31	MP9	Z	-17.897	6
32	MP9	Z	-17.897	84
33	MP9	Z	-23.402	24
34	MP7	Z	-19.743	24
35	MP7	Z	-23.731	24
36	MP5	Z	-6.229	12

Member Point Loads (BLC 32 : Seismic Load X)

	Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1	MP1	X	-10.465	6
2	MP1	X	-10.465	78
3	MP2	X	-10.91	6
4	MP2	X	-10.91	36
5	MP2	X	-13.448	48
6	MP2	X	-13.448	78
7	MP3	X	-17.897	6
8	MP3	X	-17.897	84
9	MP3	X	-23.402	24
10	MP1	X	-19.743	24
11	MP1	X	-23.731	24
12	MU1	X	-6.229	12
13	MP4	X	-10.465	6
14	MP4	X	-10.465	78
15	MP5	X	-10.91	6
16	MP5	X	-10.91	36
17	MP5	X	-13.448	48
18	MP5	X	-13.448	78
19	MP6	X	-17.897	6
20	MP6	X	-17.897	84
21	MP6	X	-23.402	24
22	MP4	X	-19.743	24
23	MP4	X	-23.731	24
24	MU2	X	-6.229	12
25	MP7	X	-10.465	6
26	MP7	X	-10.465	78
27	MP8	X	-10.91	6
28	MP8	X	-10.91	36
29	MP8	X	-13.448	48
30	MP8	X	-13.448	78
31	MP9	X	-17.897	6
32	MP9	X	-17.897	84
33	MP9	X	-23.402	24
34	MP7	X	-19.743	24
35	MP7	X	-23.731	24
36	MP5	X	-6.229	12

Member Point Loads (BLC 43 : Maintenance Load Lv1)

Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1 MH1	Y	-500	0

Member Point Loads (BLC 44 : Maintenance Load Lv2)

Member Label	Direction	Magnitude [lb, lb-ft]	Location [(in, %)]
1 MH1	Y	-500	%50

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

Member Label	Direction	Start Magnitude [lb/ft, F, psf, lb-ft/in]	End Magnitude [lb/ft, F, psf, lb-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1 MS1	SZ	-48.569	-48.569	0	%100
2 M10	SZ	-80.948	-80.948	0	%100
3 M1	SZ	-80.948	-80.948	0	%100
4 M16	SZ	0	0	0	%100
5 M20	SZ	0	0	0	%100
6 MP1	SZ	-48.569	-48.569	0	%100
7 MP3	SZ	-48.569	-48.569	0	%100
8 MH2	SZ	-48.569	-48.569	0	%100
9 M17	SZ	-80.948	-80.948	0	%100
10 MP2	SZ	-48.569	-48.569	0	%100
11 M56	SZ	0	0	0	%100
12 M57	SZ	0	0	0	%100
13 M58	SZ	0	0	0	%100
14 MR1	SZ	-48.569	-48.569	0	%100
15 M62	SZ	0	0	0	%100
16 MR5	SZ	-80.948	-80.948	0	%100
17 MR4	SZ	-80.948	-80.948	0	%100
18 MR6	SZ	-80.948	-80.948	0	%100
19 MR2	SZ	-48.569	-48.569	0	%100
20 MR3	SZ	-48.569	-48.569	0	%100
21 M25	SZ	-80.948	-80.948	0	%100
22 M26	SZ	-80.948	-80.948	0	%100
23 M28	SZ	-80.948	-80.948	0	%100
24 M29	SZ	-80.948	-80.948	0	%100
25 M30	SZ	-80.948	-80.948	0	%100
26 M31	SZ	-80.948	-80.948	0	%100
27 M32	SZ	-80.948	-80.948	0	%100
28 M34	SZ	-80.948	-80.948	0	%100
29 M35	SZ	-80.948	-80.948	0	%100
30 M36	SZ	-80.948	-80.948	0	%100
31 M37	SZ	-80.948	-80.948	0	%100
32 M38	SZ	-80.948	-80.948	0	%100
33 MU1	SZ	-48.569	-48.569	0	%100
34 M64	SZ	0	0	0	%100
35 MU3	SZ	-48.569	-48.569	0	%100
36 M66	SZ	0	0	0	%100
37 MU2	SZ	-48.569	-48.569	0	%100
38 M68	SZ	0	0	0	%100
39 MH3	SZ	-48.569	-48.569	0	%100
40 MH1	SZ	-48.569	-48.569	0	%100
41 MS3	SZ	-48.569	-48.569	0	%100
42 MS2	SZ	-48.569	-48.569	0	%100
43 M43	SZ	0	0	0	%100
44 MP7	SZ	-48.569	-48.569	0	%100

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

Member Label	Direction	Start Magnitude [lb/ft, F, psf, lb-ft/in]	End Magnitude [lb/ft, F, psf, lb-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
45	MP8	SZ	-48.569	-48.569	0 %100
46	M46	SZ	0	0	0 %100
47	M47	SZ	0	0	0 %100
48	M48	SZ	0	0	0 %100
49	M49	SZ	0	0	0 %100
50	MP9	SZ	-48.569	-48.569	0 %100
51	M51	SZ	0	0	0 %100
52	M52	SZ	0	0	0 %100
53	MP4	SZ	-48.569	-48.569	0 %100
54	MP5	SZ	-48.569	-48.569	0 %100
55	M55	SZ	0	0	0 %100
56	M59	SZ	0	0	0 %100
57	M60	SZ	0	0	0 %100
58	M61	SZ	0	0	0 %100
59	MP6	SZ	-48.569	-48.569	0 %100
60	M65	SZ	0	0	0 %100

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

Member Label	Direction	Start Magnitude [lb/ft, F, psf, lb-ft/in]	End Magnitude [lb/ft, F, psf, lb-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	MS1	SX	-48.569	-48.569	0 %100
2	M10	SX	-80.948	-80.948	0 %100
3	M1	SX	-80.948	-80.948	0 %100
4	M16	SX	0	0	0 %100
5	M20	SX	0	0	0 %100
6	MP1	SX	-48.569	-48.569	0 %100
7	MP3	SX	-48.569	-48.569	0 %100
8	MH2	SX	-48.569	-48.569	0 %100
9	M17	SX	-80.948	-80.948	0 %100
10	MP2	SX	-48.569	-48.569	0 %100
11	M56	SX	0	0	0 %100
12	M57	SX	0	0	0 %100
13	M58	SX	0	0	0 %100
14	MR1	SX	-48.569	-48.569	0 %100
15	M62	SX	0	0	0 %100
16	MR5	SX	-80.948	-80.948	0 %100
17	MR4	SX	-80.948	-80.948	0 %100
18	MR6	SX	-80.948	-80.948	0 %100
19	MR2	SX	-48.569	-48.569	0 %100
20	MR3	SX	-48.569	-48.569	0 %100
21	M25	SX	-80.948	-80.948	0 %100
22	M26	SX	-80.948	-80.948	0 %100
23	M28	SX	-80.948	-80.948	0 %100
24	M29	SX	-80.948	-80.948	0 %100
25	M30	SX	-80.948	-80.948	0 %100
26	M31	SX	-80.948	-80.948	0 %100
27	M32	SX	-80.948	-80.948	0 %100
28	M34	SX	-80.948	-80.948	0 %100
29	M35	SX	-80.948	-80.948	0 %100
30	M36	SX	-80.948	-80.948	0 %100
31	M37	SX	-80.948	-80.948	0 %100
32	M38	SX	-80.948	-80.948	0 %100
33	MU1	SX	-48.569	-48.569	0 %100
34	M64	SX	0	0	0 %100
35	MU3	SX	-48.569	-48.569	0 %100
36	M66	SX	0	0	0 %100

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

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, lb-ft/in]	End Magnitude [lb/ft, F, psf, lb-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
37	MU2	SX	-48.569	-48.569	0	%100
38	M68	SX	0	0	0	%100
39	MH3	SX	-48.569	-48.569	0	%100
40	MH1	SX	-48.569	-48.569	0	%100
41	MS3	SX	-48.569	-48.569	0	%100
42	MS2	SX	-48.569	-48.569	0	%100
43	M43	SX	0	0	0	%100
44	MP7	SX	-48.569	-48.569	0	%100
45	MP8	SX	-48.569	-48.569	0	%100
46	M46	SX	0	0	0	%100
47	M47	SX	0	0	0	%100
48	M48	SX	0	0	0	%100
49	M49	SX	0	0	0	%100
50	MP9	SX	-48.569	-48.569	0	%100
51	M51	SX	0	0	0	%100
52	M52	SX	0	0	0	%100
53	MP4	SX	-48.569	-48.569	0	%100
54	MP5	SX	-48.569	-48.569	0	%100
55	M55	SX	0	0	0	%100
56	M59	SX	0	0	0	%100
57	M60	SX	0	0	0	%100
58	M61	SX	0	0	0	%100
59	MP6	SX	-48.569	-48.569	0	%100
60	M65	SX	0	0	0	%100

Member Distributed Loads (BLC 16 : Ice Weight)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, lb-ft/in]	End Magnitude [lb/ft, F, psf, lb-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	MS1	Y	-6.719	-6.719	0	%100
2	M10	Y	-7.326	-7.326	0	%100
3	M1	Y	-7.326	-7.326	0	%100
4	M16	Y	-1.69	-1.69	0	%100
5	M20	Y	-1.69	-1.69	0	%100
6	MP1	Y	-5.102	-5.102	0	%100
7	MP3	Y	-5.102	-5.102	0	%100
8	MH2	Y	-6.719	-6.719	0	%100
9	M17	Y	-10.34	-10.34	0	%100
10	MP2	Y	-5.102	-5.102	0	%100
11	M56	Y	-1.69	-1.69	0	%100
12	M57	Y	-1.69	-1.69	0	%100
13	M58	Y	-1.69	-1.69	0	%100
14	MR1	Y	-5.102	-5.102	0	%100
15	M62	Y	-1.69	-1.69	0	%100
16	MR5	Y	-6.77	-6.77	0	%100
17	MR4	Y	-6.77	-6.77	0	%100
18	MR6	Y	-6.77	-6.77	0	%100
19	MR2	Y	-5.102	-5.102	0	%100
20	MR3	Y	-5.102	-5.102	0	%100
21	M25	Y	-5.754	-5.754	0	%100
22	M26	Y	-5.754	-5.754	0	%100
23	M28	Y	-7.326	-7.326	0	%100
24	M29	Y	-7.326	-7.326	0	%100
25	M30	Y	-10.34	-10.34	0	%100
26	M31	Y	-5.754	-5.754	0	%100
27	M32	Y	-5.754	-5.754	0	%100
28	M34	Y	-7.326	-7.326	0	%100

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

Member Label	Direction	Start Magnitude [lb/ft, F, psf, lb-ft/in]	End Magnitude [lb/ft, F, psf, lb-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
29	M35	Y	-7.326	-7.326	0 %100
30	M36	Y	-10.34	-10.34	0 %100
31	M37	Y	-5.754	-5.754	0 %100
32	M38	Y	-5.754	-5.754	0 %100
33	MU1	Y	-5.102	-5.102	0 %100
34	M64	Y	-1.69	-1.69	0 %100
35	MU3	Y	-5.102	-5.102	0 %100
36	M66	Y	-1.69	-1.69	0 %100
37	MU2	Y	-5.102	-5.102	0 %100
38	M68	Y	-1.69	-1.69	0 %100
39	MH3	Y	-6.719	-6.719	0 %100
40	MH1	Y	-6.719	-6.719	0 %100
41	MS3	Y	-6.719	-6.719	0 %100
42	MS2	Y	-6.719	-6.719	0 %100
43	M43	Y	-1.69	-1.69	0 %100
44	MP7	Y	-5.102	-5.102	0 %100
45	MP8	Y	-5.102	-5.102	0 %100
46	M46	Y	-1.69	-1.69	0 %100
47	M47	Y	-1.69	-1.69	0 %100
48	M48	Y	-1.69	-1.69	0 %100
49	M49	Y	-1.69	-1.69	0 %100
50	MP9	Y	-5.102	-5.102	0 %100
51	M51	Y	-1.69	-1.69	0 %100
52	M52	Y	-1.69	-1.69	0 %100
53	MP4	Y	-5.102	-5.102	0 %100
54	MP5	Y	-5.102	-5.102	0 %100
55	M55	Y	-1.69	-1.69	0 %100
56	M59	Y	-1.69	-1.69	0 %100
57	M60	Y	-1.69	-1.69	0 %100
58	M61	Y	-1.69	-1.69	0 %100
59	MP6	Y	-5.102	-5.102	0 %100
60	M65	Y	-1.69	-1.69	0 %100

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

Member Label	Direction	Start Magnitude [lb/ft, F, psf, lb-ft/in]	End Magnitude [lb/ft, F, psf, lb-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	MS1	SZ	-13.867	-13.867	0 %100
2	M10	SZ	-13.266	-13.266	0 %100
3	M1	SZ	-13.266	-13.266	0 %100
4	M16	SZ	0	0	0 %100
5	M20	SZ	0	0	0 %100
6	MP1	SZ	-16.507	-16.507	0 %100
7	MP3	SZ	-16.507	-16.507	0 %100
8	MH2	SZ	-13.867	-13.867	0 %100
9	M17	SZ	-11.533	-11.533	0 %100
10	MP2	SZ	-16.507	-16.507	0 %100
11	M56	SZ	0	0	0 %100
12	M57	SZ	0	0	0 %100
13	M58	SZ	0	0	0 %100
14	MR1	SZ	-16.507	-16.507	0 %100
15	M62	SZ	0	0	0 %100
16	MR5	SZ	-13.811	-13.811	0 %100
17	MR4	SZ	-13.811	-13.811	0 %100
18	MR6	SZ	-13.811	-13.811	0 %100
19	MR2	SZ	-16.507	-16.507	0 %100
20	MR3	SZ	-16.507	-16.507	0 %100

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

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, lb-ft/in]	End Magnitude [lb/ft, F, psf, lb-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
21	M25	SZ	-15.19	-15.19	0	%100
22	M26	SZ	-15.19	-15.19	0	%100
23	M28	SZ	-13.266	-13.266	0	%100
24	M29	SZ	-13.266	-13.266	0	%100
25	M30	SZ	-11.533	-11.533	0	%100
26	M31	SZ	-15.19	-15.19	0	%100
27	M32	SZ	-15.19	-15.19	0	%100
28	M34	SZ	-13.266	-13.266	0	%100
29	M35	SZ	-13.266	-13.266	0	%100
30	M36	SZ	-11.533	-11.533	0	%100
31	M37	SZ	-15.19	-15.19	0	%100
32	M38	SZ	-15.19	-15.19	0	%100
33	MU1	SZ	-16.507	-16.507	0	%100
34	M64	SZ	0	0	0	%100
35	MU3	SZ	-16.507	-16.507	0	%100
36	M66	SZ	0	0	0	%100
37	MU2	SZ	-16.507	-16.507	0	%100
38	M68	SZ	0	0	0	%100
39	MH3	SZ	-13.867	-13.867	0	%100
40	MH1	SZ	-13.867	-13.867	0	%100
41	MS3	SZ	-13.867	-13.867	0	%100
42	MS2	SZ	-13.867	-13.867	0	%100
43	M43	SZ	0	0	0	%100
44	MP7	SZ	-16.507	-16.507	0	%100
45	MP8	SZ	-16.507	-16.507	0	%100
46	M46	SZ	0	0	0	%100
47	M47	SZ	0	0	0	%100
48	M48	SZ	0	0	0	%100
49	M49	SZ	0	0	0	%100
50	MP9	SZ	-16.507	-16.507	0	%100
51	M51	SZ	0	0	0	%100
52	M52	SZ	0	0	0	%100
53	MP4	SZ	-16.507	-16.507	0	%100
54	MP5	SZ	-16.507	-16.507	0	%100
55	M55	SZ	0	0	0	%100
56	M59	SZ	0	0	0	%100
57	M60	SZ	0	0	0	%100
58	M61	SZ	0	0	0	%100
59	MP6	SZ	-16.507	-16.507	0	%100
60	M65	SZ	0	0	0	%100

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

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, lb-ft/in]	End Magnitude [lb/ft, F, psf, lb-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	MS1	SX	-13.867	-13.867	0	%100
2	M10	SX	-13.266	-13.266	0	%100
3	M1	SX	-13.266	-13.266	0	%100
4	M16	SX	0	0	0	%100
5	M20	SX	0	0	0	%100
6	MP1	SX	-16.507	-16.507	0	%100
7	MP3	SX	-16.507	-16.507	0	%100
8	MH2	SX	-13.867	-13.867	0	%100
9	M17	SX	-11.533	-11.533	0	%100
10	MP2	SX	-16.507	-16.507	0	%100
11	M56	SX	0	0	0	%100
12	M57	SX	0	0	0	%100

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

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, lb-ft/in]	End Magnitude [lb/ft, F, psf, lb-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
13	M58	SX	0	0	0	%100
14	MR1	SX	-16.507	-16.507	0	%100
15	M62	SX	0	0	0	%100
16	MR5	SX	-13.811	-13.811	0	%100
17	MR4	SX	-13.811	-13.811	0	%100
18	MR6	SX	-13.811	-13.811	0	%100
19	MR2	SX	-16.507	-16.507	0	%100
20	MR3	SX	-16.507	-16.507	0	%100
21	M25	SX	-15.19	-15.19	0	%100
22	M26	SX	-15.19	-15.19	0	%100
23	M28	SX	-13.266	-13.266	0	%100
24	M29	SX	-13.266	-13.266	0	%100
25	M30	SX	-11.533	-11.533	0	%100
26	M31	SX	-15.19	-15.19	0	%100
27	M32	SX	-15.19	-15.19	0	%100
28	M34	SX	-13.266	-13.266	0	%100
29	M35	SX	-13.266	-13.266	0	%100
30	M36	SX	-11.533	-11.533	0	%100
31	M37	SX	-15.19	-15.19	0	%100
32	M38	SX	-15.19	-15.19	0	%100
33	MU1	SX	-16.507	-16.507	0	%100
34	M64	SX	0	0	0	%100
35	MU3	SX	-16.507	-16.507	0	%100
36	M66	SX	0	0	0	%100
37	MU2	SX	-16.507	-16.507	0	%100
38	M68	SX	0	0	0	%100
39	MH3	SX	-13.867	-13.867	0	%100
40	MH1	SX	-13.867	-13.867	0	%100
41	MS3	SX	-13.867	-13.867	0	%100
42	MS2	SX	-13.867	-13.867	0	%100
43	M43	SX	0	0	0	%100
44	MP7	SX	-16.507	-16.507	0	%100
45	MP8	SX	-16.507	-16.507	0	%100
46	M46	SX	0	0	0	%100
47	M47	SX	0	0	0	%100
48	M48	SX	0	0	0	%100
49	M49	SX	0	0	0	%100
50	MP9	SX	-16.507	-16.507	0	%100
51	M51	SX	0	0	0	%100
52	M52	SX	0	0	0	%100
53	MP4	SX	-16.507	-16.507	0	%100
54	MP5	SX	-16.507	-16.507	0	%100
55	M55	SX	0	0	0	%100
56	M59	SX	0	0	0	%100
57	M60	SX	0	0	0	%100
58	M61	SX	0	0	0	%100
59	MP6	SX	-16.507	-16.507	0	%100
60	M65	SX	0	0	0	%100

Member Distributed Loads (BLC 45 : BLC 1 Transient Area Loads)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, lb-ft/in]	End Magnitude [lb/ft, F, psf, lb-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M28	Y	-5.673	-5.673	2	25.621
2	M29	Y	-5.671	-5.671	11.752	35.373
3	M30	Y	-0.61	-0.678	9.551	10.687
4	M30	Y	-0.678	-0.713	10.687	11.823

Member Distributed Loads (BLC 45 : BLC 1 Transient Area Loads) (Continued)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, lb-ft/in]	End Magnitude [lb/ft, F, psf, lb-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
5	M30	Y	-0.713	-0.678	11.823	12.959
6	M30	Y	-0.678	-0.61	12.959	14.094
7	M31	Y	-1.173	-1.87	0	9.244
8	M31	Y	-1.87	-3.592	9.244	18.487
9	M31	Y	-3.592	-6.368	18.487	27.731
10	M31	Y	-6.368	-3.902	27.731	36.974
11	M31	Y	-3.902	-0.035	36.974	46.218
12	M32	Y	-1.173	-1.87	0	9.244
13	M32	Y	-1.87	-3.594	9.244	18.487
14	M32	Y	-3.594	-6.373	18.487	27.731
15	M32	Y	-6.373	-3.906	27.731	36.974
16	M32	Y	-3.906	-0.035	36.974	46.218
17	MS3	Y	-0.224	-8.423	26.989	35.085
18	MS3	Y	-8.423	-10.515	35.085	43.182
19	MS3	Y	-10.515	-5.701	43.182	51.279
20	MS3	Y	-5.701	-4.749	51.279	59.375
21	MS3	Y	-4.749	-0.262	59.375	67.472
22	MS1	Y	-0.224	-8.423	26.989	35.085
23	MS1	Y	-8.423	-10.515	35.085	43.182
24	MS1	Y	-10.515	-5.701	43.182	51.279
25	MS1	Y	-5.701	-4.749	51.279	59.375
26	MS1	Y	-4.749	-0.262	59.375	67.472
27	M10	Y	-5.671	-5.671	11.752	35.373
28	M1	Y	-5.673	-5.673	2	25.621
29	M17	Y	-0.61	-0.678	9.551	10.687
30	M17	Y	-0.678	-0.713	10.687	11.823
31	M17	Y	-0.713	-0.678	11.823	12.959
32	M17	Y	-0.678	-0.61	12.959	14.094
33	M25	Y	-1.173	-1.87	0	9.244
34	M25	Y	-1.87	-3.592	9.244	18.487
35	M25	Y	-3.592	-6.368	18.487	27.731
36	M25	Y	-6.368	-3.902	27.731	36.974
37	M25	Y	-3.902	-0.035	36.974	46.218
38	M26	Y	-1.173	-1.87	0	9.244
39	M26	Y	-1.87	-3.594	9.244	18.487
40	M26	Y	-3.594	-6.373	18.487	27.731
41	M26	Y	-6.373	-3.906	27.731	36.974
42	M26	Y	-3.906	-0.035	36.974	46.218
43	M34	Y	-5.673	-5.673	2	25.621
44	M35	Y	-5.671	-5.671	11.752	35.373
45	M36	Y	-0.61	-0.678	9.551	10.687
46	M36	Y	-0.678	-0.713	10.687	11.823
47	M36	Y	-0.713	-0.678	11.823	12.959
48	M36	Y	-0.678	-0.61	12.959	14.094
49	M37	Y	-1.173	-1.87	0	9.244
50	M37	Y	-1.87	-3.592	9.244	18.487
51	M37	Y	-3.592	-6.368	18.487	27.731
52	M37	Y	-6.368	-3.902	27.731	36.974
53	M37	Y	-3.902	-0.035	36.974	46.218
54	M38	Y	-1.173	-1.87	0	9.244
55	M38	Y	-1.87	-3.594	9.244	18.487
56	M38	Y	-3.594	-6.373	18.487	27.731
57	M38	Y	-6.373	-3.906	27.731	36.974
58	M38	Y	-3.906	-0.035	36.974	46.218
59	MS2	Y	-0.224	-8.423	26.989	35.085

Member Distributed Loads (BLC 45 : BLC 1 Transient Area Loads) (Continued)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, lb-ft/in]	End Magnitude [lb/ft, F, psf, lb-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
60	MS2	Y	-8.423	-10.515	35.085	43.182
61	MS2	Y	-10.515	-5.701	43.182	51.279
62	MS2	Y	-5.701	-4.749	51.279	59.375
63	MS2	Y	-4.749	-0.262	59.375	67.472

Member Distributed Loads (BLC 46 : BLC 16 Transient Area Loads)

Member	Label	Direction	Start Magnitude [lb/ft, F, psf, lb-ft/in]	End Magnitude [lb/ft, F, psf, lb-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M37	Y	-1.787	-2.848	0	9.244
2	M37	Y	-2.848	-5.471	9.244	18.487
3	M37	Y	-5.471	-9.697	18.487	27.731
4	M37	Y	-9.697	-5.942	27.731	36.974
5	M37	Y	-5.942	-0.053	36.974	46.218
6	M38	Y	-1.786	-2.848	0	9.244
7	M38	Y	-2.848	-5.474	9.244	18.487
8	M38	Y	-5.474	-9.706	18.487	27.731
9	M38	Y	-9.706	-5.948	27.731	36.974
10	M38	Y	-5.948	-0.053	36.974	46.218
11	MS2	Y	-0.342	-12.827	26.989	35.085
12	MS2	Y	-12.827	-16.014	35.085	43.182
13	MS2	Y	-16.014	-8.682	43.182	51.279
14	MS2	Y	-8.682	-7.232	51.279	59.375
15	MS2	Y	-7.232	-0.398	59.375	67.472
16	M28	Y	-8.64	-8.64	2	25.621
17	M29	Y	-8.637	-8.637	11.752	35.373
18	M30	Y	-0.928	-1.033	9.551	10.687
19	M30	Y	-1.033	-1.085	10.687	11.823
20	M30	Y	-1.085	-1.033	11.823	12.959
21	M30	Y	-1.033	-0.928	12.959	14.094
22	M31	Y	-1.787	-2.848	0	9.244
23	M31	Y	-2.848	-5.471	9.244	18.487
24	M31	Y	-5.471	-9.697	18.487	27.731
25	M31	Y	-9.697	-5.942	27.731	36.974
26	M31	Y	-5.942	-0.053	36.974	46.218
27	M32	Y	-1.786	-2.848	0	9.244
28	M32	Y	-2.848	-5.474	9.244	18.487
29	M32	Y	-5.474	-9.706	18.487	27.731
30	M32	Y	-9.706	-5.948	27.731	36.974
31	M32	Y	-5.948	-0.053	36.974	46.218
32	MS3	Y	-0.342	-12.827	26.989	35.085
33	MS3	Y	-12.827	-16.014	35.085	43.182
34	MS3	Y	-16.014	-8.682	43.182	51.279
35	MS3	Y	-8.682	-7.232	51.279	59.375
36	MS3	Y	-7.232	-0.398	59.375	67.472
37	MS1	Y	-0.342	-12.827	26.989	35.085
38	MS1	Y	-12.827	-16.014	35.085	43.182
39	MS1	Y	-16.014	-8.682	43.182	51.279
40	MS1	Y	-8.682	-7.232	51.279	59.375
41	MS1	Y	-7.232	-0.398	59.375	67.472
42	M10	Y	-8.637	-8.637	11.752	35.373
43	M1	Y	-8.64	-8.64	2	25.621
44	M17	Y	-0.928	-1.033	9.551	10.687
45	M17	Y	-1.033	-1.085	10.687	11.823
46	M17	Y	-1.085	-1.033	11.823	12.959
47	M17	Y	-1.033	-0.928	12.959	14.094
48	M25	Y	-1.787	-2.848	0	9.244

Member Distributed Loads (BLC 46 : BLC 16 Transient Area Loads) (Continued)

Member Label	Direction	Start Magnitude [lb/ft, F, psf, lb-ft/in]	End Magnitude [lb/ft, F, psf, lb-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
49	M25	Y	-2.848	-5.471	9.244 18.487
50	M25	Y	-5.471	-9.697	18.487 27.731
51	M25	Y	-9.697	-5.942	27.731 36.974
52	M25	Y	-5.942	-0.053	36.974 46.218
53	M26	Y	-1.786	-2.848	0 9.244
54	M26	Y	-2.848	-5.474	9.244 18.487
55	M26	Y	-5.474	-9.706	18.487 27.731
56	M26	Y	-9.706	-5.948	27.731 36.974
57	M26	Y	-5.948	-0.053	36.974 46.218
58	M34	Y	-8.64	-8.64	2 25.621
59	M35	Y	-8.637	-8.637	11.752 35.373
60	M36	Y	-0.928	-1.033	9.551 10.687
61	M36	Y	-1.033	-1.085	10.687 11.823
62	M36	Y	-1.085	-1.033	11.823 12.959
63	M36	Y	-1.033	-0.928	12.959 14.094

Member Area Loads (BLC 1 : Self Weight)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [psf]
1	N62	N63	N61	N60	Y	Two Way	-1.75
2	N50	N48	N51	N52	Y	Two Way	-1.75
3	N79	N76	N75	N77	Y	Two Way	-1.75
4	N62	N63	N61	N60	Y	Two Way	-5.586
5	N50	N48	N51	N52	Y	Two Way	-5.586
6	N79	N76	N75	N77	Y	Two Way	-5.586

Member Area Loads (BLC 16 : Ice Weight)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [psf]
1	N62	N63	N61	N60	Y	Two Way	-5.586
2	N50	N48	N51	N52	Y	Two Way	-5.586
3	N79	N76	N75	N77	Y	Two Way	-5.586
4	N62	N63	N61	N60	Y	Two Way	-5.586
5	N50	N48	N51	N52	Y	Two Way	-5.586
6	N79	N76	N75	N77	Y	Two Way	-5.586

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Point	Distributed	Area(Member)
1	Self Weight	DL		-1			36		6
2	Wind Load AZI 0	WLZ					72		
3	Wind Load AZI 30	None					72		
4	Wind Load AZI 60	None					72		
5	Wind Load AZI 90	WLX					72		
6	Wind Load AZI 120	None					72		
7	Wind Load AZI 150	None					72		
8	Wind Load AZI 180	None					72		
9	Wind Load AZI 210	None					72		
10	Wind Load AZI 240	None					72		
11	Wind Load AZI 270	None					72		
12	Wind Load AZI 300	None					72		
13	Wind Load AZI 330	None					72		
14	Distr. Wind Load Z	WLZ						60	
15	Distr. Wind Load X	WLX						60	
16	Ice Weight	OL1					36	60	6

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Point	Distributed	Area(Member)
17	Ice Wind Load AZI 0	OL2					72		
18	Ice Wind Load AZI 30	None					72		
19	Ice Wind Load AZI 60	None					72		
20	Ice Wind Load AZI 90	OL3					72		
21	Ice Wind Load AZI 120	None					72		
22	Ice Wind Load AZI 150	None					72		
23	Ice Wind Load AZI 180	None					72		
24	Ice Wind Load AZI 210	None					72		
25	Ice Wind Load AZI 240	None					72		
26	Ice Wind Load AZI 270	None					72		
27	Ice Wind Load AZI 300	None					72		
28	Ice Wind Load AZI 330	None					72		
29	Distr. Ice Wind Load Z	OL2						60	
30	Distr. Ice Wind Load X	OL3						60	
31	Seismic Load Z	ELZ			-0.33		36		
32	Seismic Load X	ELX	-0.33				36		
33	Service Live Loads	LL							
34	Maintenance Load Lm1	LL				1			
35	Maintenance Load Lm2	LL				1			
36	Maintenance Load Lm3	LL				1			
37	Maintenance Load Lm4	LL				1			
38	Maintenance Load Lm5	LL				1			
39	Maintenance Load Lm6	LL				1			
40	Maintenance Load Lm7	LL				1			
41	Maintenance Load Lm8	LL				1			
42	Maintenance Load Lm9	LL				1			
43	Maintenance Load Lv1	LL					1		
44	Maintenance Load Lv2	LL					1		
45	BLC 1 Transient Area Loads	None						63	
46	BLC 16 Transient Area Loads	None						63	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4DL	Yes	Y	1	1.4								
2	1.2DL + 1WL AZI 0	Yes	Y	1	1.2	2	1	14	1	15			
3	1.2DL + 1WL AZI 30	Yes	Y	1	1.2	3	1	14	0.866	15	0.5		
4	1.2DL + 1WL AZI 60	Yes	Y	1	1.2	4	1	14	0.5	15	0.866		
5	1.2DL + 1WL AZI 90	Yes	Y	1	1.2	5	1	14		15	1		
6	1.2DL + 1WL AZI 120	Yes	Y	1	1.2	6	1	14	-0.5	15	0.866		
7	1.2DL + 1WL AZI 150	Yes	Y	1	1.2	7	1	14	-0.866	15	0.5		
8	1.2DL + 1WL AZI 180	Yes	Y	1	1.2	8	1	14	-1	15			
9	1.2DL + 1WL AZI 210	Yes	Y	1	1.2	9	1	14	-0.866	15	-0.5		
10	1.2DL + 1WL AZI 240	Yes	Y	1	1.2	10	1	14	-0.5	15	-0.866		
11	1.2DL + 1WL AZI 270	Yes	Y	1	1.2	11	1	14		15	-1		
12	1.2DL + 1WL AZI 300	Yes	Y	1	1.2	12	1	14	0.5	15	-0.866		
13	1.2DL + 1WL AZI 330	Yes	Y	1	1.2	13	1	14	0.866	15	-0.5		
14	0.9DL + 1WL AZI 0	Yes	Y	1	0.9	2	1	14	1	15			
15	0.9DL + 1WL AZI 30	Yes	Y	1	0.9	3	1	14	0.866	15	0.5		
16	0.9DL + 1WL AZI 60	Yes	Y	1	0.9	4	1	14	0.5	15	0.866		
17	0.9DL + 1WL AZI 90	Yes	Y	1	0.9	5	1	14		15	1		
18	0.9DL + 1WL AZI 120	Yes	Y	1	0.9	6	1	14	-0.5	15	0.866		
19	0.9DL + 1WL AZI 150	Yes	Y	1	0.9	7	1	14	-0.866	15	0.5		
20	0.9DL + 1WL AZI 180	Yes	Y	1	0.9	8	1	14	-1	15			
21	0.9DL + 1WL AZI 210	Yes	Y	1	0.9	9	1	14	-0.866	15	-0.5		
22	0.9DL + 1WL AZI 240	Yes	Y	1	0.9	10	1	14	-0.5	15	-0.866		

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
23	0.9DL + 1WL AZI 270	Yes	Y	1	0.9	11	1	14		15	-1		
24	0.9DL + 1WL AZI 300	Yes	Y	1	0.9	12	1	14	0.5	15	-0.866		
25	0.9DL + 1WL AZI 330	Yes	Y	1	0.9	13	1	14	0.866	15	-0.5		
26	1.2D + 1.0Di	Yes	Y	1	1.2	16	1						
27	1.2D + 1.0Di + 1.0Wi AZI 0	Yes	Y	1	1.2	16	1	17	1	29	1	30	
28	1.2D + 1.0Di + 1.0Wi AZI 30	Yes	Y	1	1.2	16	1	18	1	29	0.866	30	0.5
29	1.2D + 1.0Di + 1.0Wi AZI 60	Yes	Y	1	1.2	16	1	19	1	29	0.5	30	0.866
30	1.2D + 1.0Di + 1.0Wi AZI 90	Yes	Y	1	1.2	16	1	20	1	29		30	1
31	1.2D + 1.0Di + 1.0Wi AZI 120	Yes	Y	1	1.2	16	1	21	1	29	-0.5	30	0.866
32	1.2D + 1.0Di + 1.0Wi AZI 150	Yes	Y	1	1.2	16	1	22	1	29	-0.866	30	0.5
33	1.2D + 1.0Di + 1.0Wi AZI 180	Yes	Y	1	1.2	16	1	23	1	29	-1	30	
34	1.2D + 1.0Di + 1.0Wi AZI 210	Yes	Y	1	1.2	16	1	24	1	29	-0.866	30	-0.5
35	1.2D + 1.0Di + 1.0Wi AZI 240	Yes	Y	1	1.2	16	1	25	1	29	-0.5	30	-0.866
36	1.2D + 1.0Di + 1.0Wi AZI 270	Yes	Y	1	1.2	16	1	26	1	29		30	-1
37	1.2D + 1.0Di + 1.0Wi AZI 300	Yes	Y	1	1.2	16	1	27	1	29	0.5	30	-0.866
38	1.2D + 1.0Di + 1.0Wi AZI 330	Yes	Y	1	1.2	16	1	28	1	29	0.866	30	-0.5
39	(1.2 + 0.2Sds)DL + 1.0E AZI 0	Yes	Y	1	1.244	31	1	32					
40	(1.2 + 0.2Sds)DL + 1.0E AZI 30	Yes	Y	1	1.244	31	0.866	32	0.5				
41	(1.2 + 0.2Sds)DL + 1.0E AZI 60	Yes	Y	1	1.244	31	0.5	32	0.866				
42	(1.2 + 0.2Sds)DL + 1.0E AZI 90	Yes	Y	1	1.244	31		32	1				
43	(1.2 + 0.2Sds)DL + 1.0E AZI 120	Yes	Y	1	1.244	31	-0.5	32	0.866				
44	(1.2 + 0.2Sds)DL + 1.0E AZI 150	Yes	Y	1	1.244	31	-0.866	32	0.5				
45	(1.2 + 0.2Sds)DL + 1.0E AZI 180	Yes	Y	1	1.244	31	-1	32					
46	(1.2 + 0.2Sds)DL + 1.0E AZI 210	Yes	Y	1	1.244	31	-0.866	32	-0.5				
47	(1.2 + 0.2Sds)DL + 1.0E AZI 240	Yes	Y	1	1.244	31	-0.5	32	-0.866				
48	(1.2 + 0.2Sds)DL + 1.0E AZI 270	Yes	Y	1	1.244	31		32	-1				
49	(1.2 + 0.2Sds)DL + 1.0E AZI 300	Yes	Y	1	1.244	31	0.5	32	-0.866				
50	(1.2 + 0.2Sds)DL + 1.0E AZI 330	Yes	Y	1	1.244	31	0.866	32	-0.5				
51	(0.9 - 0.2Sds)DL + 1.0E AZI 0	Yes	Y	1	0.856	31	1	32					
52	(0.9 - 0.2Sds)DL + 1.0E AZI 30	Yes	Y	1	0.856	31	0.866	32	0.5				
53	(0.9 - 0.2Sds)DL + 1.0E AZI 60	Yes	Y	1	0.856	31	0.5	32	0.866				
54	(0.9 - 0.2Sds)DL + 1.0E AZI 90	Yes	Y	1	0.856	31		32	1				
55	(0.9 - 0.2Sds)DL + 1.0E AZI 120	Yes	Y	1	0.856	31	-0.5	32	0.866				
56	(0.9 - 0.2Sds)DL + 1.0E AZI 150	Yes	Y	1	0.856	31	-0.866	32	0.5				
57	(0.9 - 0.2Sds)DL + 1.0E AZI 180	Yes	Y	1	0.856	31	-1	32					
58	(0.9 - 0.2Sds)DL + 1.0E AZI 210	Yes	Y	1	0.856	31	-0.866	32	-0.5				
59	(0.9 - 0.2Sds)DL + 1.0E AZI 240	Yes	Y	1	0.856	31	-0.5	32	-0.866				
60	(0.9 - 0.2Sds)DL + 1.0E AZI 270	Yes	Y	1	0.856	31		32	-1				
61	(0.9 - 0.2Sds)DL + 1.0E AZI 300	Yes	Y	1	0.856	31	0.5	32	-0.866				
62	(0.9 - 0.2Sds)DL + 1.0E AZI 330	Yes	Y	1	0.856	31	0.866	32	-0.5				
63	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 0	Yes	Y	1	1	2	0.246	14	0.246	15		33	1.5
64	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 30	Yes	Y	1	1	3	0.246	14	0.213	15	0.123	33	1.5
65	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 60	Yes	Y	1	1	4	0.246	14	0.123	15	0.213	33	1.5
66	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 90	Yes	Y	1	1	5	0.246	14		15	0.246	33	1.5
67	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 120	Yes	Y	1	1	6	0.246	14	-0.123	15	0.213	33	1.5
68	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 150	Yes	Y	1	1	7	0.246	14	-0.213	15	0.123	33	1.5
69	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 180	Yes	Y	1	1	8	0.246	14	-0.246	15		33	1.5
70	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 210	Yes	Y	1	1	9	0.246	14	-0.213	15	-0.123	33	1.5
71	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 240	Yes	Y	1	1	10	0.246	14	-0.123	15	-0.213	33	1.5
72	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 270	Yes	Y	1	1	11	0.246	14		15	-0.246	33	1.5
73	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 300	Yes	Y	1	1	12	0.246	14	0.123	15	-0.213	33	1.5
74	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 330	Yes	Y	1	1	13	0.246	14	0.213	15	-0.123	33	1.5
75	1.2DL + 1.5LL	Yes	Y	1	1.2	33	1.5						
76	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	34	1.5	2	0.061	14	0.061	15	
77	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	34	1.5	3	0.061	14	0.053	15	0.031

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
78	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	34	1.5	4	0.061	14	0.031	15	0.053
79	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	34	1.5	5	0.061	14		15	0.061
80	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	34	1.5	6	0.061	14	-0.031	15	0.053
81	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	34	1.5	7	0.061	14	-0.053	15	0.031
82	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	34	1.5	8	0.061	14	-0.061	15	
83	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	34	1.5	9	0.061	14	-0.053	15	-0.031
84	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	34	1.5	10	0.061	14	-0.031	15	-0.053
85	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	34	1.5	11	0.061	14		15	-0.061
86	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	34	1.5	12	0.061	14	0.031	15	-0.053
87	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	34	1.5	13	0.061	14	0.053	15	-0.031
88	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	35	1.5	2	0.061	14	0.061	15	
89	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	35	1.5	3	0.061	14	0.053	15	0.031
90	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	35	1.5	4	0.061	14	0.031	15	0.053
91	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	35	1.5	5	0.061	14		15	0.061
92	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	35	1.5	6	0.061	14	-0.031	15	0.053
93	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	35	1.5	7	0.061	14	-0.053	15	0.031
94	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	35	1.5	8	0.061	14	-0.061	15	
95	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	35	1.5	9	0.061	14	-0.053	15	-0.031
96	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	35	1.5	10	0.061	14	-0.031	15	-0.053
97	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	35	1.5	11	0.061	14		15	-0.061
98	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	35	1.5	12	0.061	14	0.031	15	-0.053
99	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	35	1.5	13	0.061	14	0.053	15	-0.031
100	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	36	1.5	2	0.061	14	0.061	15	
101	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	36	1.5	3	0.061	14	0.053	15	0.031
102	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	36	1.5	4	0.061	14	0.031	15	0.053
103	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	36	1.5	5	0.061	14		15	0.061
104	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	36	1.5	6	0.061	14	-0.031	15	0.053
105	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	36	1.5	7	0.061	14	-0.053	15	0.031
106	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	36	1.5	8	0.061	14	-0.061	15	
107	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	36	1.5	9	0.061	14	-0.053	15	-0.031
108	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	36	1.5	10	0.061	14	-0.031	15	-0.053
109	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	36	1.5	11	0.061	14		15	-0.061
110	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	36	1.5	12	0.061	14	0.031	15	-0.053
111	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	36	1.5	13	0.061	14	0.053	15	-0.031
112	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	37	1.5	2	0.061	14	0.061	15	
113	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	37	1.5	3	0.061	14	0.053	15	0.031
114	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	37	1.5	4	0.061	14	0.031	15	0.053
115	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	37	1.5	5	0.061	14		15	0.061
116	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	37	1.5	6	0.061	14	-0.031	15	0.053
117	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	37	1.5	7	0.061	14	-0.053	15	0.031
118	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	37	1.5	8	0.061	14	-0.061	15	
119	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	37	1.5	9	0.061	14	-0.053	15	-0.031
120	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	37	1.5	10	0.061	14	-0.031	15	-0.053
121	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	37	1.5	11	0.061	14		15	-0.061
122	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	37	1.5	12	0.061	14	0.031	15	-0.053
123	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	37	1.5	13	0.061	14	0.053	15	-0.031
124	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	38	1.5	2	0.061	14	0.061	15	
125	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	38	1.5	3	0.061	14	0.053	15	0.031
126	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	38	1.5	4	0.061	14	0.031	15	0.053
127	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	38	1.5	5	0.061	14		15	0.061
128	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	38	1.5	6	0.061	14	-0.031	15	0.053
129	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	38	1.5	7	0.061	14	-0.053	15	0.031
130	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	38	1.5	8	0.061	14	-0.061	15	
131	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	38	1.5	9	0.061	14	-0.053	15	-0.031
132	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	38	1.5	10	0.061	14	-0.031	15	-0.053

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
133	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	38	1.5	11	0.061	14		15	-0.061
134	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	38	1.5	12	0.061	14	0.031	15	-0.053
135	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	38	1.5	13	0.061	14	0.053	15	-0.031
136	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	39	1.5	2	0.061	14	0.061	15	
137	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	39	1.5	3	0.061	14	0.053	15	0.031
138	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	39	1.5	4	0.061	14	0.031	15	0.053
139	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	39	1.5	5	0.061	14		15	0.061
140	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	39	1.5	6	0.061	14	-0.031	15	0.053
141	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	39	1.5	7	0.061	14	-0.053	15	0.031
142	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	39	1.5	8	0.061	14	-0.061	15	
143	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	39	1.5	9	0.061	14	-0.053	15	-0.031
144	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	39	1.5	10	0.061	14	-0.031	15	-0.053
145	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	39	1.5	11	0.061	14		15	-0.061
146	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	39	1.5	12	0.061	14	0.031	15	-0.053
147	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	39	1.5	13	0.061	14	0.053	15	-0.031
148	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	40	1.5	2	0.061	14	0.061	15	
149	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	40	1.5	3	0.061	14	0.053	15	0.031
150	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	40	1.5	4	0.061	14	0.031	15	0.053
151	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	40	1.5	5	0.061	14		15	0.061
152	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	40	1.5	6	0.061	14	-0.031	15	0.053
153	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	40	1.5	7	0.061	14	-0.053	15	0.031
154	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	40	1.5	8	0.061	14	-0.061	15	
155	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	40	1.5	9	0.061	14	-0.053	15	-0.031
156	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	40	1.5	10	0.061	14	-0.031	15	-0.053
157	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	40	1.5	11	0.061	14		15	-0.061
158	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	40	1.5	12	0.061	14	0.031	15	-0.053
159	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	40	1.5	13	0.061	14	0.053	15	-0.031
160	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	41	1.5	2	0.061	14	0.061	15	
161	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	41	1.5	3	0.061	14	0.053	15	0.031
162	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	41	1.5	4	0.061	14	0.031	15	0.053
163	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	41	1.5	5	0.061	14		15	0.061
164	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	41	1.5	6	0.061	14	-0.031	15	0.053
165	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	41	1.5	7	0.061	14	-0.053	15	0.031
166	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	41	1.5	8	0.061	14	-0.061	15	
167	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	41	1.5	9	0.061	14	-0.053	15	-0.031
168	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	41	1.5	10	0.061	14	-0.031	15	-0.053
169	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	41	1.5	11	0.061	14		15	-0.061
170	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	41	1.5	12	0.061	14	0.031	15	-0.053
171	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	41	1.5	13	0.061	14	0.053	15	-0.031
172	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	42	1.5	2	0.061	14	0.061	15	
173	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	42	1.5	3	0.061	14	0.053	15	0.031
174	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	42	1.5	4	0.061	14	0.031	15	0.053
175	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	42	1.5	5	0.061	14		15	0.061
176	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	42	1.5	6	0.061	14	-0.031	15	0.053
177	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	42	1.5	7	0.061	14	-0.053	15	0.031
178	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	42	1.5	8	0.061	14	-0.061	15	
179	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	42	1.5	9	0.061	14	-0.053	15	-0.031
180	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	42	1.5	10	0.061	14	-0.031	15	-0.053
181	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	42	1.5	11	0.061	14		15	-0.061
182	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	42	1.5	12	0.061	14	0.031	15	-0.053
183	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	42	1.5	13	0.061	14	0.053	15	-0.031
184	1.2DL + 1.5Lv1	Yes	Y	1	1.2	43	1.5						
185	1.2DL + 1.5Lv2	Yes	Y	1	1.2	44	1.5						

Envelope Node Reactions

Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC	
1	N49	max	1500.902	17	2652.414	27	2481.827	2	5448.829	184	2018.962	23	951.491	23
2		min	-1501.663	23	-128.852	20	-2454.7	20	-778.246	20	-2017.76	17	-983.522	5
3	N91	max	2030.527	6	2568.776	31	1407.354	14	628.751	25	1768.808	15	639.597	24
4		min	-2006.914	24	-132.367	24	-1420.391	8	-2683.805	93	-1767.744	21	-4545.703	31
5	N93	max	2028.162	16	2560.272	35	1419.361	14	691.853	15	1764.378	19	4454.686	35
6		min	-2050.949	10	-127.989	16	-1433.006	8	-2685.081	83	-1763.912	25	-649.774	16
7	Totals:	max	5149.899	17	7285.979	38	5304.27	14						
8		min	-5149.901	11	2470.419	56	-5304.283	8						

Connection Design Results

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Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks

Member	Shape	Code Check	Loc[in]	LC	Shear	Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
1	MS1	PIPE 3.0	0.721	0	184	0.22	0	y	5	68607.746	85698	7555.5	7555.5	1	H1-1b
2	M10	C3.375X2X0.1875	0.59	33.373	38	0.14	7.3	y	29	34435.507	42632.309	1608.304	4376.781	1.926	H1-1b
3	M1	C3.375X2X0.1875	0.597	0	28	0.159	26.073	y	37	34435.346	42632.309	1608.304	4376.781	1.911	H1-1b
4	MP1	PIPE 2.0	0.624	60	13	0.154	60	y	12	14916.096	32130	1871.625	1871.625	1	H1-1b
5	MP3	PIPE 2.0	0.624	60	3	0.161	60	y	4	14916.096	32130	1871.625	1871.625	1	H1-1b
6	MH2	PIPE 3.0	0.268	67.062	30	0.152	67.062	y	29	21266.02	65205	5748.75	5748.75	1	H1-1b
7	M17	6X0.5	0.289	9.823	13	0.207	9.618	y	12	36584.919	97200	1012.5	12150	1.202	H1-1b
8	MP2	PIPE 2.0	0.658	60	2	0.083	60	y	5	14916.096	32130	1871.625	1871.625	1	H1-1b
9	MR1	PIPE 2.0	0.309	75	31	0.117	75	y	5	6295.422	32130	1871.625	1871.625	1	H1-1b
10	MR5	L2.5X2.5X3	0.015	8.936	13	0.103	17.872	y	5	27063.137	29192.4	872.574	1971.83	1.136	H2-1
11	MR4	L2.5X2.5X3	0.015	8.75	5	0.105	17.872	z	3	27063.137	29192.4	872.574	1971.83	1.136	H2-1
12	MR6	L2.5X2.5X3	0.014	9.122	11	0.103	17.872	z	7	27063.137	29192.4	872.574	1971.83	1.136	H2-1
13	MR2	PIPE 2.0	0.312	75	28	0.116	75	y	9	6295.422	32130	1871.625	1871.625	1	H1-1b
14	MR3	PIPE 2.0	0.307	75	38	0.112	75	y	7	6295.422	32130	1871.625	1871.625	1	H1-1b
15	M25	L2X2X3	0.316	51.353	4	0.021	0	z	38	9346.157	23392.8	557.717	1134	1.5	H2-1
16	M26	L2X2X3	0.321	51.353	12	0.02	0	y	28	9346.27	23392.8	557.717	1134.001	1.5	H2-1
17	M28	C3.375X2X0.1875	0.59	0	32	0.159	26.073	y	29	34435.346	42632.309	1608.304	4376.781	1.922	H1-1b
18	M29	C3.375X2X0.1875	0.593	33.373	30	0.139	7.3	y	33	34435.507	42632.309	1608.304	4376.781	1.907	H1-1b
19	M30	6X0.5	0.291	9.823	5	0.215	9.823	y	4	36584.919	97200	1012.5	12150	1.209	H1-1b
20	M31	L2X2X3	0.333	51.353	8	0.021	0	z	30	9346.157	23392.8	557.717	1134	1.5	H2-1
21	M32	L2X2X3	0.327	51.353	5	0.02	0	y	32	9346.27	23392.8	557.717	1134.001	1.5	H2-1
22	M34	C3.375X2X0.1875	0.568	0	35	0.154	26.073	y	33	34435.346	42632.309	1608.304	4376.781	1.958	H1-1b
23	M35	C3.375X2X0.1875	0.573	33.373	34	0.134	7.3	y	37	34435.507	42632.309	1608.304	4376.781	1.915	H1-1b
24	M36	6X0.5	0.288	9.823	9	0.208	9.618	y	8	36584.919	97200	1012.5	12150	1.201	H1-1b
25	M37	L2X2X3	0.317	51.353	11	0.02	0	z	34	9346.157	23392.8	557.717	1134	1.5	H2-1
26	M38	L2X2X3	0.337	51.353	8	0.02	0	y	36	9346.27	23392.8	557.717	1134.001	1.5	H2-1
27	MU1	PIPE 2.0	0.042	30	2	0.006	30	y	2	26521.424	32130	1871.625	1871.625	1	H1-1b
28	MU3	PIPE 2.0	0.016	30	6	0.002	30	y	6	26521.424	32130	1871.625	1871.625	1	H1-1b
29	MU2	PIPE 2.0	0.042	30	10	0.006	30	y	10	26521.424	32130	1871.625	1871.625	1	H1-1b
30	MH3	PIPE 3.0	0.288	94.25	184	0.146	67.062	y	33	21266.02	65205	5748.75	5748.75	1	H1-1b
31	MH1	PIPE 3.0	0.264	94.25	32	0.149	67.062	y	37	21266.02	65205	5748.75	5748.75	1	H1-1b
32	MS3	PIPE 3.0	0.693	0	31	0.212	0	y	3	68607.746	85698	7555.5	7555.5	1	H1-1b
33	MS2	PIPE 3.0	0.682	0	35	0.212	0	y	13	68607.746	85698	7555.5	7555.5	1	H1-1b
34	MP7	PIPE 2.0	0.615	60	5	0.15	60	y	4	14916.096	32130	1871.625	1871.625	1	H1-1b
35	MP8	PIPE 2.0	0.645	60	6	0.084	60	y	10	14916.096	32130	1871.625	1871.625	1	H1-1b
36	MP9	PIPE 2.0	0.604	60	7	0.159	60	y	8	14916.096	32130	1871.625	1871.625	1	H1-1b
37	MP4	PIPE 2.0	0.625	60	10	0.151	60	y	8	14916.096	32130	1871.625	1871.625	1	H1-1b
38	MP5	PIPE 2.0	0.677	60	10	0.084	60	y	13	14916.096	32130	1871.625	1871.625	1	H1-1b
39	MP6	PIPE 2.0	0.608	60	11	0.147	60	y	12	14916.096	32130	1871.625	1871.625	1	H1-1b

Envelope AISI S100-16: LRFD Member Cold Formed Steel Code Checks

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APPENDIX D
ADDITIONAL CALCUATIONS

INFINIGY⁸

Bolt Calculation Tool, V1.6.4

PROJECT DATA	
Site Name:	WARD
Site Number:	876381
Connection Description:	Mount to Collar

ENVELOPE BOLT LOADS		
(LC38 MS1) Bolt Tension:	5504.50	lbs
(LC5 MS1) Bolt Shear:	1167.91	lbs

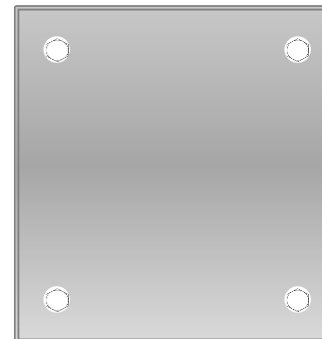
MAX BOLT USAGE LOADS ¹		
Bolt Tension:	5504.50	lbs
Bolt Shear:	648.58	lbs

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

¹ Max bolt usage loads correspond to Load combination #38 on member MS1 in RISA-3D, which causes the maximum demand on the bolts.

Member Information
1 nodes of MS1, MS3, MS2,

BOLT CHECK		
Tensile Strength	20340.15	
Shear Strength	13805.83	
Max Tensile Usage	27.1%	
Max Shear Usage	8.5%	
Interaction Check (Max Usage)	0.08	≤1.05
Result	Pass	





MORRISON HERSHFIELD

Morrison Hershfield
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
(770) 379-8500

Date: **March 31, 2022**

Subject: **Structural Analysis Report**

Carrier Designation: **AT&T Mobility Co-Locate**
Site Number: CT5640
Site Name: Ward
FA Number: 10071056

Crown Castle Designation: **BU Number:** 876381
Site Name: Ward
JDE Job Number: 686299
Work Order Number: 2092881
Order Number: 586337 Rev. 0

Engineering Firm Designation: **Morrison Hershfield Project Number:** CN8-179R1 / 2200039

Site Data: **2381 Long Hill Rd, Guilford, New Haven County, CT 06437**
Latitude 41° 20' 47.34", Longitude -72° 43' 23.15"
176 Foot – EEI Monopole Tower

Morrison Hershfield 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 – 72.0%**

This analysis utilizes an ultimate 3-second gust wind speed of 121 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:

G. Lance Cooke, P.E. (CT License No. PEN.0028133)
Senior Engineer

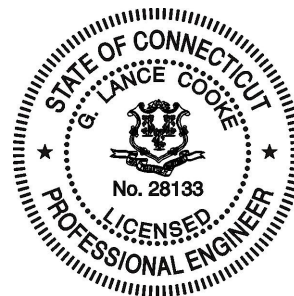


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1) INTRODUCTION

This tower is a 176 ft monopole tower designed by Engineered Endeavors, Inc.

The tower was modified multiple times in the past to accommodate additional loading. Modifications are incorporated in this analysis per the post modification inspection reports.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	121 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	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)
167.0	168.0	3	ericsson	AIR 6449 B77D_CCVI2	6 3 3 2	1-5/8 7/8 13/16 3/8
	167.0	3	cci antennas	OPA65R-BU6D w/ Mount Pipe		
		3	kathrein	80010965 w/ Mount Pipe		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 4478 B14		
		3	ericsson	RRUS 8843 B2/B66A		
		3	raycap	DC6-48-60-18-8F		
	1	-	Platform Mount [LP 304-1_HR-1]			
166.0	3	ericsson	AIR 6419 B77G			

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)
176.0	178.0	3	commscope	DT465B-2XR w/ Mount Pipe	3 1	1/2 1-1/4
		3	rfs/celwave	APXVTM14-C-120 w/ Mount Pipe		
		3	alcatel lucent	RRH2X50-800		
	176.0	3	alcatel lucent	TD-RRH8X20-25		
		9	rfs/celwave	ACU-A20-N		
1	-	Platform Mount [LP 712-1]				
174.0	176.0	3	alcatel lucent	800 EXTERNAL NOTCH FILTER	-	-
	175.0	3	alcatel lucent	800MHZ RRH		
	174.0	1	-	Side Arm Mount [SO 102-3]		
	173.0	3	alcatel lucent	PCS 1900MHz 4x45W-65MHz		
155.0	155.0	3	ericsson	AIR 21 B4A/B2P w/ Mount Pipe	13	1-5/8
		3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
155.0	155.0	3	rfs/celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe	-	-
		3	ericsson	KRY 112 144/1		
		3	ericsson	RADIO 4449 B12/B71		
		1	-	Platform Mount [LP 303-1_HR-1]		
145.0	145.0	3	amphenol	BXA-70063-6CF-EDIN-X w/ Mount Pipe	11 2	1-5/8 1-1/2
		6	commscope	JAHH-65B-R3B w/ Mount Pipe		
		3	vzw	Sub6 Antenna - VZS01		
		3	commscope	CBC78T-DS-43-2X		
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		
		1	raycap	RVZDC-6627-PF-48		
		1	-	3' Pipe Mount [#P2STD]		
		3	-	8' Pipe Mount [#P2.5STD]		
		1	-	Collar Mount Assembly [#VZWSMART-PLK7]		
		1	-	Kicker Kit [#VZWSMART-PLK5]		
		1	-	Support Rail Kit [#VZWSMART-PLK1]		
		1	-	Platform Mount [LP 303-1]		
50.0	51.0	1	lucent	KS24019-L112A	1	1/2
	50.0	1	-	Side Arm Mount [SO 701-1]		
10.0	12.0	1	kathrein	OG-860/1920/GPS-A	1	1/4
	10.0	1	-	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	1532993	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	1614617	CCISITES
4-TOWER MANUFACTURER DRAWINGS	1613550	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	4318894	CCISITES
4-POST-MODIFICATION INSPECTION	5163807	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5650483	CCISITES
4-POST-MODIFICATION INSPECTION	5885207	CCISITES

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.

tnxTower was used to determine the loads on the modified structure. Additional calculations were performed to determine the stresses in the pole and in the reinforcing elements. These calculations are presented in Appendix C.

3.2) Assumptions

- 1) 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.

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L1	176 - 171	Pole	TP17.626x16.5x0.1875	Pole	8.6	Pass
L2	171 - 166	Pole	TP18.752x17.626x0.1875	Pole	17.1	Pass
L3	166 - 161	Pole	TP19.878x18.752x0.1875	Pole	29.1	Pass
L4	161 - 156	Pole	TP21.004x19.878x0.1875	Pole	39.2	Pass
L5	156 - 151	Pole	TP22.13x21.004x0.1875	Pole	51.0	Pass
L6	151 - 147.75	Pole	TP23.65x22.13x0.1875	Pole	57.9	Pass
L7	147.75 - 142.75	Pole	TP23.601x22.487x0.3125	Pole	40.5	Pass
L8	142.75 - 137.75	Pole	TP24.714x23.601x0.3125	Pole	46.8	Pass
L9	137.75 - 132.75	Pole	TP25.828x24.714x0.3125	Pole	52.0	Pass
L10	132.75 - 127.75	Pole	TP26.942x25.828x0.3125	Pole	56.4	Pass
L11	127.75 - 127.5	Pole	TP26.998x26.942x0.3125	Pole	56.6	Pass
L12	127.5 - 122.5	Pole	TP28.111x26.998x0.3125	Pole	60.1	Pass
L13	122.5 - 120.75	Pole	TP28.501x28.111x0.3125	Pole	61.2	Pass
L14	120.75 - 120.5	Pole	TP28.557x28.501x0.3125	Pole	61.4	Pass
L15	120.5 - 117.25	Pole	TP29.281x28.557x0.3125	Pole	63.3	Pass
L16	117.25 - 117	Pole + Reinf.	TP29.337x29.281x0.5375	Reinf. 4 Tension Rupture	59.5	Pass
L17	117 - 112	Pole + Reinf.	TP30.45x29.337x0.525	Reinf. 4 Tension Rupture	62.8	Pass
L18	112 - 107	Pole + Reinf.	TP31.564x30.45x0.525	Reinf. 4 Tension Rupture	65.8	Pass
L19	107 - 102	Pole + Reinf.	TP32.678x31.564x0.5125	Reinf. 4 Tension Rupture	68.5	Pass
L20	102 - 99.42	Pole + Reinf.	TP34.33x32.678x0.5125	Reinf. 4 Tension Rupture	69.7	Pass
L21	99.42 - 94.42	Pole	TP33.741x32.628x0.375	Pole	62.6	Pass
L22	94.42 - 89.42	Pole	TP34.853x33.741x0.375	Pole	63.6	Pass
L23	89.42 - 87.25	Pole	TP35.335x34.853x0.375	Pole	63.9	Pass
L24	87.25 - 87	Pole	TP35.391x35.335x0.375	Pole	64.0	Pass
L25	87 - 82	Pole	TP36.503x35.391x0.375	Pole	64.9	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L26	82 - 77	Pole	TP37.616x36.503x0.375	Pole	65.9	Pass
L27	77 - 72	Pole	TP38.728x37.616x0.375	Pole	66.9	Pass
L28	72 - 67	Pole	TP39.841x38.728x0.375	Pole	67.7	Pass
L29	67 - 62	Pole	TP40.953x39.841x0.375	Pole	68.5	Pass
L30	62 - 61.5	Pole	TP41.064x40.953x0.375	Pole	68.5	Pass
L31	61.5 - 61.25	Pole + Reinf.	TP41.12x41.064x0.5875	Reinf. 2 Tension Rupture	66.4	Pass
L32	61.25 - 56.25	Pole + Reinf.	TP42.232x41.12x0.575	Reinf. 2 Tension Rupture	67.2	Pass
L33	56.25 - 53.04	Pole + Reinf.	TP44.3x42.232x0.575	Reinf. 2 Tension Rupture	67.6	Pass
L34	53.04 - 45.96	Pole + Reinf.	TP43.773x42.197x0.575	Reinf. 2 Tension Rupture	70.6	Pass
L35	45.96 - 40.96	Pole + Reinf.	TP44.886x43.773x0.5625	Reinf. 2 Tension Rupture	71.1	Pass
L36	40.96 - 35.96	Pole + Reinf.	TP45.998x44.886x0.5625	Reinf. 2 Tension Rupture	71.6	Pass
L37	35.96 - 32.25	Pole + Reinf.	TP46.823x45.998x0.5625	Reinf. 2 Tension Rupture	72.0	Pass
L38	32.25 - 32	Pole + Reinf.	TP46.879x46.823x0.775	Reinf. 2 Tension Rupture	52.0	Pass
L39	32 - 31.75	Pole + Reinf.	TP46.934x46.879x0.6125	Reinf. 1 Tension Rupture	64.9	Pass
L40	31.75 - 26.75	Pole + Reinf.	TP48.047x46.934x0.6125	Reinf. 1 Tension Rupture	65.3	Pass
L41	26.75 - 21.75	Pole + Reinf.	TP49.16x48.047x0.6125	Reinf. 1 Tension Rupture	65.7	Pass
L42	21.75 - 16.75	Pole + Reinf.	TP50.272x49.16x0.6	Reinf. 1 Tension Rupture	66.1	Pass
L43	16.75 - 11.75	Pole + Reinf.	TP51.385x50.272x0.6	Reinf. 1 Tension Rupture	66.4	Pass
L44	11.75 - 6.75	Pole + Reinf.	TP52.498x51.385x0.5875	Reinf. 1 Tension Rupture	66.7	Pass
L45	6.75 - 1.75	Pole + Reinf.	TP53.611x52.498x0.5875	Reinf. 1 Tension Rupture	67.0	Pass
L46	1.75 - 0	Pole + Reinf.	TP54x53.611x0.5875	Reinf. 1 Tension Rupture	67.1	Pass
					Summary	
				Pole	68.5	Pass
				Reinforcement	72.0	Pass
				Overall	72.0	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	65.7	Pass
1	Base Plate		53.7	Pass
1	Base Foundation (Structure)	0	60.8	Pass
1	Base Foundation (Soil Interaction)		29.1	Pass

Structure Rating (max from all components) =	72.0%*
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Notes:

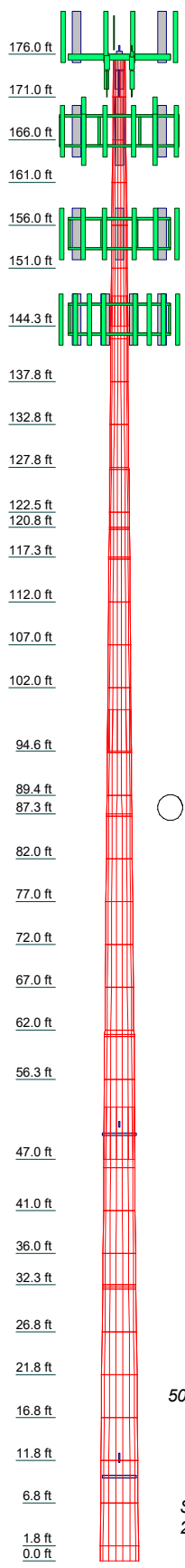
- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) *Rating per TIA-222-H, Section 15.5.

4.1) Recommendations

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

APPENDIX A
TNXTOWER OUTPUT

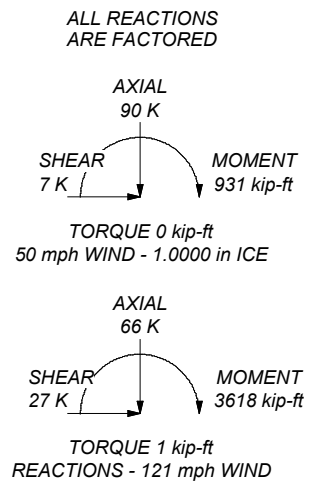
Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
2	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
3	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
4	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
5	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
6	5.0675	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
7	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
8	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
9	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
10	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
11	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
12	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
13	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
14	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
15	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
16	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
17	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
18	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
19	5.00	18	0.1875	3.50	16.5000	16.5000	0.2	0.2
20	5.0042	18	0.1875	4.83	16.5000	16.5000	0.2	0.2
21	5.00	18	0.1875	4.83	16.5000	16.5000	0.2	0.2
22	5.00	18	0.1875	4.83	16.5000	16.5000	0.2	0.2
23	5.00	18	0.1875	4.83	16.5000	16.5000	0.2	0.2
24	5.00	18	0.1875	4.83	16.5000	16.5000	0.2	0.2
25	5.00	18	0.1875	4.83	16.5000	16.5000	0.2	0.2
26	5.00	18	0.1875	4.83	16.5000	16.5000	0.2	0.2
27	5.00	18	0.1875	4.83	16.5000	16.5000	0.2	0.2
28	5.00	18	0.1875	4.83	16.5000	16.5000	0.2	0.2
29	5.00	18	0.1875	4.83	16.5000	16.5000	0.2	0.2
30	5.00	18	0.1875	4.83	16.5000	16.5000	0.2	0.2
31	5.00	18	0.1875	4.83	16.5000	16.5000	0.2	0.2
32	5.00	18	0.1875	4.83	16.5000	16.5000	0.2	0.2
33	5.00	18	0.1875	6.08	16.5000	16.5000	0.2	0.2
34	5.00	18	0.1875	6.08	16.5000	16.5000	0.2	0.2
35	5.00	18	0.1875	6.08	16.5000	16.5000	0.2	0.2
36	5.00	18	0.1875	6.08	16.5000	16.5000	0.2	0.2
37	5.00	18	0.1875	6.08	16.5000	16.5000	0.2	0.2
38	5.00	18	0.1875	6.08	16.5000	16.5000	0.2	0.2
39	5.00	18	0.1875	6.08	16.5000	16.5000	0.2	0.2
40	5.00	18	0.1875	6.08	16.5000	16.5000	0.2	0.2
41	5.00	18	0.1875	6.08	16.5000	16.5000	0.2	0.2
42	5.00	18	0.1875	6.08	16.5000	16.5000	0.2	0.2
43	5.00	18	0.1875	6.08	16.5000	16.5000	0.2	0.2
44	5.00	18	0.1875	6.08	16.5000	16.5000	0.2	0.2
45	5.00	18	0.1875	6.08	16.5000	16.5000	0.2	0.2
46	5.00	18	0.1875	6.08	16.5000	16.5000	0.2	0.2




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

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 121 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 0.00 ft
8. CCIPOLE RATING: 72.0%



 Morrison Hershfield 1455 Lincoln Parkway, Suite 500 Atlanta, GA 30346 Phone: (770) 379-8500 FAX: (770) 379-8501	Job: CN8-179R1 / 2200039		
	Project: 876381 / Ward		
	Client: Crown Castle USA	Drawn by: RP	App'd:
	Code: TIA-222-H	Date: 03/29/22	Scale: NTS
	Path:	Dwg No. E-1	

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 New Haven County, Connecticut.
- Tower base elevation above sea level: 181.00 ft.
- Basic wind speed of 121 mph.
- Risk Category II.
- Exposure Category B.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.00 ft.
- Nominal ice thickness of 1.0000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50 °F.
- Deflections calculated using a wind speed of 60 mph.
- 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"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile
 Include Bolts In Member Capacity
 Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric | <ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retention Guys To Initial Tension √ Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurt.
 Autocalc Torque Arm Areas
 Add IBC .6D+W Combination Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs | <ul style="list-style-type: none"> Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption
 <li style="text-align: center;">Poles √ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known |
|--|---|--|

Tapered Pole Section Geometry

Section	Elevation	Section Length	Splice Length	Number of Sides	Top Diameter	Bottom Diameter	Wall Thickness	Bend Radius	Pole Grade
	ft	ft	ft		in	in	in	in	
L1	176.00-171.00	5.00	0.00	18	16.5000	17.6260	0.1875	0.7500	A572-65 (65 ksi)
L2	171.00-166.00	5.00	0.00	18	17.6260	18.7520	0.1875	0.7500	A572-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L3	166.00-161.00	5.00	0.00	18	18.7520	19.8780	0.1875	0.7500	A572-65 (65 ksi)
L4	161.00-156.00	5.00	0.00	18	19.8780	21.0039	0.1875	0.7500	A572-65 (65 ksi)
L5	156.00-151.00	5.00	0.00	18	21.0039	22.1299	0.1875	0.7500	A572-65 (65 ksi)
L6	151.00-144.25	6.75	3.50	18	22.1299	23.6500	0.1875	0.7500	A572-65 (65 ksi)
L7	144.25-142.75	5.00	0.00	18	22.4868	23.6006	0.3125	1.2500	A572-65 (65 ksi)
L8	142.75-137.75	5.00	0.00	18	23.6006	24.7144	0.3125	1.2500	A572-65 (65 ksi)
L9	137.75-132.75	5.00	0.00	18	24.7144	25.8281	0.3125	1.2500	A572-65 (65 ksi)
L10	132.75-127.75	5.00	0.00	18	25.8281	26.9419	0.3125	1.2500	A572-65 (65 ksi)
L11	127.75-127.50	0.25	0.00	18	26.9419	26.9976	0.3125	1.2500	A572-65 (65 ksi)
L12	127.50-122.50	5.00	0.00	18	26.9976	28.1114	0.3125	1.2500	A572-65 (65 ksi)
L13	122.50-120.75	1.75	0.00	18	28.1114	28.5012	0.3125	1.2500	A572-65 (65 ksi)
L14	120.75-120.50	0.25	0.00	18	28.5012	28.5569	0.3125	1.2500	A572-65 (65 ksi)
L15	120.50-117.25	3.25	0.00	18	28.5569	29.2809	0.3125	1.2500	A572-65 (65 ksi)
L16	117.25-117.00	0.25	0.00	18	29.2809	29.3366	0.5375	2.1500	A572-65 (65 ksi)
L17	117.00-112.00	5.00	0.00	18	29.3366	30.4503	0.5250	2.1000	A572-65 (65 ksi)
L18	112.00-107.00	5.00	0.00	18	30.4503	31.5641	0.5250	2.1000	A572-65 (65 ksi)
L19	107.00-102.00	5.00	0.00	18	31.5641	32.6779	0.5125	2.0500	A572-65 (65 ksi)
L20	102.00-94.58	7.42	4.83	18	32.6779	34.3300	0.5125	2.0500	A572-65 (65 ksi)
L21	94.58-94.42	5.00	0.00	18	32.6283	33.7408	0.3750	1.5000	A572-65 (65 ksi)
L22	94.42-89.42	5.00	0.00	18	33.7408	34.8532	0.3750	1.5000	A572-65 (65 ksi)
L23	89.42-87.25	2.17	0.00	18	34.8532	35.3353	0.3750	1.5000	A572-65 (65 ksi)
L24	87.25-87.00	0.25	0.00	18	35.3353	35.3909	0.3750	1.5000	A572-65 (65 ksi)
L25	87.00-82.00	5.00	0.00	18	35.3909	36.5033	0.3750	1.5000	A572-65 (65 ksi)
L26	82.00-77.00	5.00	0.00	18	36.5033	37.6158	0.3750	1.5000	A572-65 (65 ksi)
L27	77.00-72.00	5.00	0.00	18	37.6158	38.7282	0.3750	1.5000	A572-65 (65 ksi)
L28	72.00-67.00	5.00	0.00	18	38.7282	39.8406	0.3750	1.5000	A572-65 (65 ksi)
L29	67.00-62.00	5.00	0.00	18	39.8406	40.9531	0.3750	1.5000	A572-65 (65 ksi)
L30	62.00-61.50	0.50	0.00	18	40.9531	41.0643	0.3750	1.5000	A572-65 (65 ksi)
L31	61.50-61.25	0.25	0.00	18	41.0643	41.1199	0.5875	2.3500	A572-65 (65 ksi)
L32	61.25-56.25	5.00	0.00	18	41.1199	42.2324	0.5750	2.3000	A572-65 (65 ksi)
L33	56.25-46.96	9.29	6.08	18	42.2324	44.3000	0.5750	2.3000	A572-65 (65 ksi)
L34	46.96-45.96	7.08	0.00	18	42.1965	43.7729	0.5750	2.3000	A572-65 (65 ksi)
L35	45.96-40.96	5.00	0.00	18	43.7729	44.8856	0.5625	2.2500	A572-65 (65 ksi)
L36	40.96-35.96	5.00	0.00	18	44.8856	45.9982	0.5625	2.2500	A572-65 (65 ksi)
L37	35.96-32.25	3.71	0.00	18	45.9982	46.8231	0.5625	2.2500	A572-65

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
L38	32.25-32.00	0.25	0.00	18	46.8231	46.8788	0.7750	3.1000	(65 ksi) A572-65
L39	32.00-31.75	0.25	0.00	18	46.8788	46.9344	0.6125	2.4500	(65 ksi) A572-65
L40	31.75-26.75	5.00	0.00	18	46.9344	48.0471	0.6125	2.4500	(65 ksi) A572-65
L41	26.75-21.75	5.00	0.00	18	48.0471	49.1598	0.6125	2.4500	(65 ksi) A572-65
L42	21.75-16.75	5.00	0.00	18	49.1598	50.2725	0.6000	2.4000	(65 ksi) A572-65
L43	16.75-11.75	5.00	0.00	18	50.2725	51.3852	0.6000	2.4000	(65 ksi) A572-65
L44	11.75-6.75	5.00	0.00	18	51.3852	52.4979	0.5875	2.3500	(65 ksi) A572-65
L45	6.75-1.75	5.00	0.00	18	52.4979	53.6106	0.5875	2.3500	(65 ksi) A572-65
L46	1.75-0.00	1.75		18	53.6106	54.0000	0.5875	2.3500	(65 ksi) A572-65

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L1	16.7256	9.7080	326.3677	5.7909	8.3820	38.9367	653.1649	4.8549	2.5740	13.728
	17.8690	10.3781	398.7235	6.1907	8.9540	44.5302	797.9717	5.1900	2.7722	14.785
L2	17.8690	10.3781	398.7235	6.1907	8.9540	44.5302	797.9717	5.1900	2.7722	14.785
	19.0123	11.0482	481.0533	6.5904	9.5260	50.4990	962.7396	5.5251	2.9703	15.842
L3	19.0123	11.0482	481.0533	6.5904	9.5260	50.4990	962.7396	5.5251	2.9703	15.842
	20.1557	11.7183	574.0011	6.9901	10.0980	56.8431	1148.7576	5.8603	3.1685	16.899
L4	20.1557	11.7183	574.0011	6.9901	10.0980	56.8431	1148.7576	5.8603	3.1685	16.899
	21.2990	12.3884	678.2110	7.3898	10.6700	63.5624	1357.3144	6.1954	3.3667	17.956
L5	21.2990	12.3884	678.2110	7.3898	10.6700	63.5624	1357.3144	6.1954	3.3667	17.956
	22.4424	13.0585	794.3269	7.7896	11.2420	70.6571	1589.6991	6.5305	3.5649	19.013
L6	22.4424	13.0585	794.3269	7.7896	11.2420	70.6571	1589.6991	6.5305	3.5649	19.013
	23.9859	13.9631	971.1102	8.3292	12.0142	80.8302	1943.4981	6.9829	3.8324	20.439
L7	23.9859	13.9631	971.1102	8.3292	12.0142	80.8302	1943.4981	6.9829	3.8324	20.439
	23.5772	21.9941	1366.2960	7.8719	11.4233	119.6061	2734.3898	10.9992	3.4077	10.905
	23.9165	23.0989	1582.6906	8.2673	11.9891	132.0108	3167.4638	11.5516	3.6037	11.532
L8	23.9165	23.0989	1582.6906	8.2673	11.9891	132.0108	3167.4638	11.5516	3.6037	11.532
	25.0474	24.2036	1820.8062	8.6627	12.5549	145.0275	3644.0082	12.1041	3.7997	12.159
L9	25.0474	24.2036	1820.8062	8.6627	12.5549	145.0275	3644.0082	12.1041	3.7997	12.159
	26.1784	25.3083	2081.6815	9.0581	13.1207	158.6563	4166.1020	12.6566	3.9958	12.786
L10	26.1784	25.3083	2081.6815	9.0581	13.1207	158.6563	4166.1020	12.6566	3.9958	12.786
	27.3093	26.4131	2366.3553	9.4534	13.6865	172.8970	4735.8243	13.2090	4.1918	13.414
L11	27.3093	26.4131	2366.3553	9.4534	13.6865	172.8970	4735.8243	13.2090	4.1918	13.414
	27.3659	26.4683	2381.2323	9.4732	13.7148	173.6251	4765.5979	13.2367	4.2016	13.445
L12	27.3659	26.4683	2381.2323	9.4732	13.7148	173.6251	4765.5979	13.2367	4.2016	13.445
	28.4969	27.5730	2692.0127	9.8686	14.2806	188.5085	5387.5676	13.7891	4.3976	14.072
L13	28.4969	27.5730	2692.0127	9.8686	14.2806	188.5085	5387.5676	13.7891	4.3976	14.072
	28.8927	27.9597	2806.8582	10.0070	14.4786	193.8623	5617.4096	13.9825	4.4662	14.292
L14	28.8927	27.9597	2806.8582	10.0070	14.4786	193.8623	5617.4096	13.9825	4.4662	14.292
	28.9492	28.0149	2823.5265	10.0268	14.5069	194.6332	5650.7683	14.0101	4.4760	14.323
L15	28.9492	28.0149	2823.5265	10.0268	14.5069	194.6332	5650.7683	14.0101	4.4760	14.323
	29.6844	28.7330	3046.2559	10.2838	14.8747	204.7947	6096.5201	14.3692	4.6034	14.731
L16	29.6844	28.7330	3046.2559	10.2838	14.8747	204.7947	6096.5201	14.3692	4.6034	14.731
	29.7062	49.1319	5148.2252	10.2237	14.9030	345.4496	10303.224	24.5706	4.2172	7.846
							8			
L17	29.7081	48.0101	5035.0496	10.2281	14.9030	337.8555	10076.724	24.0096	4.2392	8.075
							6			
	30.8391	49.8661	5641.8392	10.6235	15.4688	364.7245	11291.102	24.9378	4.4353	8.448
							5			
L18	30.8391	49.8661	5641.8392	10.6235	15.4688	364.7245	11291.102	24.9378	4.4353	8.448
							0			
	31.9701	51.7220	6295.5200	11.0189	16.0346	392.6217	12599.323	25.8659	4.6313	8.821
							8			

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L19	31.9720	50.5109	6153.0545	11.0233	16.0346	383.7368	12314.205	25.2602	4.6533	9.08
	33.1029	52.3226	6839.1925	11.4187	16.6004	411.9904	13687.384	26.1663	4.8493	9.462
L20	33.1029	52.3226	6839.1925	11.4187	16.6004	411.9904	13687.384	26.1663	4.8493	9.462
	34.7805	55.0101	7948.0893	12.0052	17.4396	455.7485	15906.636	27.5103	5.1401	10.029
L21	34.1658	38.3895	5045.4513	11.4499	16.5752	304.3976	10097.541	19.1984	5.0826	13.554
	34.2034	39.7136	5585.7246	11.8449	17.1403	325.8822	11178.799	19.8606	5.2784	14.076
L22	34.2034	39.7136	5585.7246	11.8449	17.1403	325.8822	11178.799	19.8606	5.2784	14.076
	35.3330	41.0377	6163.2522	12.2398	17.7054	348.0995	12334.614	20.5227	5.4742	14.598
L23	35.3330	41.0377	6163.2522	12.2398	17.7054	348.0995	12334.614	20.5227	5.4742	14.598
	35.8225	41.6115	6425.3957	12.4109	17.9503	357.9545	12859.246	20.8097	5.5590	14.824
L24	35.8225	41.6115	6425.3957	12.4109	17.9503	357.9545	12859.246	20.8097	5.5590	14.824
	35.8790	41.6777	6456.1129	12.4306	17.9786	359.1004	12920.720	20.8428	5.5688	14.85
L25	35.8790	41.6777	6456.1129	12.4306	17.9786	359.1004	12920.720	20.8428	5.5688	14.85
	37.0086	43.0017	7091.1886	12.8256	18.5437	382.4044	14191.708	21.5050	5.7646	15.372
L26	37.0086	43.0017	7091.1886	12.8256	18.5437	382.4044	14191.708	21.5050	5.7646	15.372
	38.1382	44.3258	7766.6031	13.2205	19.1088	406.4411	15543.425	22.1671	5.9604	15.894
L27	38.1382	44.3258	7766.6031	13.2205	19.1088	406.4411	15543.425	22.1671	5.9604	15.894
	39.2678	45.6499	8483.5985	13.6154	19.6739	431.2104	16978.359	22.8293	6.1562	16.416
L28	39.2678	45.6499	8483.5985	13.6154	19.6739	431.2104	16978.359	22.8293	6.1562	16.416
	40.3974	46.9740	9243.4168	14.0103	20.2390	456.7123	18498.996	23.4914	6.3519	16.939
L29	40.3974	46.9740	9243.4168	14.0103	20.2390	456.7123	18498.996	23.4914	6.3519	16.939
	41.5270	48.2980	10047.300	14.4052	20.8042	482.9469	20107.820	24.1536	6.5477	17.461
L30	41.5270	48.2980	10047.300	14.4052	20.8042	482.9469	20107.820	24.1536	6.5477	17.461
	41.6399	48.4304	10130.159	14.4447	20.8607	485.6106	20273.649	24.2198	6.5673	17.513
L31	41.6072	75.4781	15623.227	14.3693	20.8607	748.9324	31267.012	37.7462	6.1933	10.542
	41.6636	75.5818	15687.722	14.3890	20.8889	751.0069	31396.087	37.7981	6.2031	10.558
L32	41.6656	73.9965	15368.151	14.3934	20.8889	735.7083	30756.523	37.0053	6.2251	10.826
	42.7952	76.0268	16668.146	14.7884	21.4540	776.9236	33358.224	38.0206	6.4209	11.167
L33	42.7952	76.0268	16668.146	14.7884	21.4540	776.9236	33358.224	38.0206	6.4209	11.167
	44.8947	79.8003	19275.323	15.5224	22.5044	856.5135	38576.009	39.9077	6.7848	11.8
L34	44.1334	75.9614	16625.188	14.7756	21.4358	775.5790	33272.253	37.9879	6.4146	11.156
	44.3594	78.8382	18586.550	15.3352	22.2366	835.8536	37197.558	39.4266	6.6920	11.638
L35	44.3613	77.1467	18198.284	15.3397	22.2366	818.3929	36420.514	38.5807	6.7140	11.936
	45.4912	79.1333	19640.648	15.7347	22.8019	861.3617	39307.141	39.5742	6.9099	12.284
L36	45.4912	79.1333	19640.648	15.7347	22.8019	861.3617	39307.141	39.5742	6.9099	12.284

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
	46.6211	81.1198	21157.281 4	16.1297	23.3671	905.4300	42342.402 1	40.5676	7.1057	12.632
L37	46.6211	81.1198	21157.281 4	16.1297	23.3671	905.4300	42342.402 1	40.5676	7.1057	12.632
	47.4587	82.5926	22330.645 5	16.4225	23.7861	938.8089	44690.674 2	41.3041	7.2509	12.89
L38	47.4259	113.2715	30344.628 0	16.3471	23.7861	1275.7270	60729.184 2	56.6465	6.8769	8.873
	47.4824	113.4083	30454.746 8	16.3668	23.8144	1278.8370	60949.566 8	56.7149	6.8867	8.886
L39	47.5074	89.9451	24324.478 0	16.4245	23.8144	1021.4185	48680.962 8	44.9811	7.1727	11.71
	47.5639	90.0532	24412.333 4	16.4443	23.8427	1023.8926	48856.789 2	45.0352	7.1825	11.726
L40	47.5639	90.0532	24412.333 4	16.4443	23.8427	1023.8926	48856.789 2	45.0352	7.1825	11.726
	48.6938	92.2164	26214.149 9	16.8393	24.4079	1074.0018	52462.793 1	46.1170	7.3783	12.046
L41	48.6938	92.2164	26214.149 9	16.8393	24.4079	1074.0018	52462.793 1	46.1170	7.3783	12.046
	49.8237	94.3796	28102.512 8	17.2343	24.9732	1125.3083	56242.003 6	47.1987	7.5741	12.366
L42	49.8256	92.4772	27550.262 2	17.2387	24.9732	1103.1945	55136.775 7	46.2474	7.5961	12.66
	50.9554	94.5963	29487.841 9	17.6337	25.5384	1154.6464	59014.484 6	47.3071	7.7920	12.987
L43	50.9554	94.5963	29487.841 9	17.6337	25.5384	1154.6464	59014.484 6	47.3071	7.7920	12.987
	52.0853	96.7153	31514.201 5	18.0287	26.1037	1207.2711	63069.870 1	48.3668	7.9878	13.313
L44	52.0872	94.7237	30880.446 6	18.0332	26.1037	1182.9927	61801.526 6	47.3708	8.0098	13.634
	53.2171	96.7986	32954.477 5	18.4282	26.6689	1235.6888	65952.317 3	48.4085	8.2056	13.967
L45	53.2171	96.7986	32954.477 5	18.4282	26.6689	1235.6888	65952.317 3	48.4085	8.2056	13.967
	54.3470	98.8734	35119.355 0	18.8232	27.2342	1289.5331	70284.921 0	49.4461	8.4015	14.3
L46	54.3470	98.8734	35119.355 0	18.8232	27.2342	1289.5331	70284.921 0	49.4461	8.4015	14.3
	54.7424	99.5996	35898.885 1	18.9614	27.4320	1308.6499	71845.006 9	49.8093	8.4700	14.417

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontal	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
L1 176.00-171.00				1	1	1			
L2 171.00-166.00				1	1	1			
L3 166.00-161.00				1	1	1			
L4 161.00-156.00				1	1	1			
L5 156.00-151.00				1	1	1			
L6 151.00-144.25				1	1	1			
L7 144.25-142.75				1	1	1			
L8 142.75-137.75				1	1	1			
L9 137.75-132.75				1	1	1			
L10 132.75-127.75				1	1	1			
L11 127.75-				1	1	1			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_r	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
ft	ft ²	in							
127.50									
L12 127.50-122.50				1	1	1			
L13 122.50-120.75				1	1	1			
L14 120.75-120.50				1	1	1			
L15 120.50-117.25				1	1	1			
L16 117.25-117.00				1	1	0.952312			
L17 117.00-112.00				1	1	0.960445			
L18 112.00-107.00				1	1	0.94734			
L19 107.00-102.00				1	1	0.957579			
L20 102.00-94.58				1	1	0.951466			
L21 94.58-94.42				1	1	1			
L22 94.42-89.42				1	1	1			
L23 89.42-87.25				1	1	1			
L24 87.25-87.00				1	1	1			
L25 87.00-82.00				1	1	1			
L26 82.00-77.00				1	1	1			
L27 77.00-72.00				1	1	1			
L28 72.00-67.00				1	1	1			
L29 67.00-62.00				1	1	1			
L30 62.00-61.50				1	1	1			
L31 61.50-61.25				1	1	0.964154			
L32 61.25-56.25				1	1	0.975927			
L33 56.25-46.96				1	1	0.97047			
L34 46.96-45.96				1	1	0.964382			
L35 45.96-40.96				1	1	0.977523			
L36 40.96-35.96				1	1	0.96991			
L37 35.96-32.25				1	1	0.964503			
L38 32.25-32.00				1	1	0.989594			
L39 32.00-31.75				1	1	0.976295			
L40 31.75-26.75				1	1	0.967755			
L41 26.75-21.75				1	1	0.959607			
L42 21.75-16.75				1	1	0.971409			
L43 16.75-11.75				1	1	0.963819			
L44 11.75-6.75				1	1	0.976672			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_r	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
L45 6.75-1.75				1	1	0.969571			
L46 1.75-0.00				1	1	0.967156			

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 r in	Perimeter r in	Weight plf

Safety Line 3/8"	A	No	Surface Ar (CaAa)	176.00 - 0.00	1	1	-0.300 -0.300	0.3750		0.22
Climbing Pegs	A	No	Surface Ar (CaAa)	176.00 - 0.00	1	1	-0.350 -0.250	0.7050		1.80
HCS 6X12 4AWG(1-5/8)	C	No	Surface Ar (CaAa)	155.00 - 6.00	3	3	0.150 0.273	1.6600		2.40

LDF4-50A(1/2)	C	No	Surface Ar (CaAa)	50.00 - 6.00	1	1	-0.200 -0.200	0.6250		0.15

(Area) CCI-65FP-065125 (H)	A	No	Surface Af (CaAa)	35.00 - 0.00	1	1	-0.417 -0.417	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	A	No	Surface Af (CaAa)	35.00 - 0.00	1	1	0.417 0.417	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	B	No	Surface Af (CaAa)	35.00 - 0.00	1	1	0.083 0.083	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	C	No	Surface Af (CaAa)	35.00 - 0.00	1	1	-0.083 -0.083	6.5000	15.5000	0.00

(Area) CCI-65FP-065125 (H)	A	No	Surface Af (CaAa)	64.25 - 29.25	1	1	-0.250 -0.250	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	B	No	Surface Af (CaAa)	64.25 - 29.25	1	1	-0.250 -0.250	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	C	No	Surface Af (CaAa)	64.25 - 29.25	1	1	-0.250 -0.250	6.5000	15.5000	0.00

CCI-65FP-060100	A	No	Surface Af (CaAa)	89.25 - 64.25	1	1	-0.250 -0.250	6.0000	14.0000	20.42
CCI-65FP-060100	B	No	Surface Af (CaAa)	89.25 - 64.25	1	1	-0.250 -0.250	6.0000	14.0000	20.42
CCI-65FP-060100	C	No	Surface Af (CaAa)	89.25 - 64.25	1	1	-0.250 -0.250	6.0000	14.0000	20.42

(Area) CCI-65FP-060100 (H)	A	No	Surface Af (CaAa)	94.41 - 89.25	1	1	-0.250 -0.250	6.0000	14.0000	0.00
(Area) CCI-65FP-060100 (H)	B	No	Surface Af (CaAa)	94.41 - 89.25	1	1	-0.250 -0.250	6.0000	14.0000	0.00
(Area) CCI-65FP-060100 (H)	C	No	Surface Af (CaAa)	94.41 - 89.25	1	1	-0.250 -0.250	6.0000	14.0000	0.00
CCI-65FP-060100	A	No	Surface Af (CaAa)	119.25 - 94.41	1	1	-0.250 -0.250	6.0000	14.0000	20.42
CCI-65FP-060100	B	No	Surface Af (CaAa)	119.25 - 94.41	1	1	-0.250 -0.250	6.0000	14.0000	20.42
CCI-65FP-060100	C	No	Surface Af (CaAa)	119.25 - 94.41	1	1	-0.250 -0.250	6.0000	14.0000	20.42

CCI-65FP-045100	A	No	Surface Af (CaAa)	129.25 - 119.25	1	1	-0.250 -0.250	4.5000	11.0000	15.31
CCI-65FP-045100	B	No	Surface Af (CaAa)	129.25 - 119.25	1	1	-0.250 -0.250	4.5000	11.0000	15.31
CCI-65FP-045100	C	No	Surface Af (CaAa)	129.25 - 119.25	1	1	-0.250 -0.250	4.5000	11.0000	15.31

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Componen t Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf

HYBRIFLEX RRH 1-SECTOR(1/2)	C	No	No	Inside Pole	176.00 - 6.00	3	No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15
HB114-21U3M12- XXXF(1-1/4)	C	No	No	Inside Pole	176.00 - 6.00	1	No Ice	0.00	1.22
							1/2" Ice	0.00	1.22
							1" Ice	0.00	1.22

FB-L98B-034- XXX(3/8)	B	No	No	Inside Pole	167.00 - 6.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
LDF7-50A(1-5/8)	B	No	No	Inside Pole	167.00 - 6.00	6	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
FB-L98B-002- 75000(3/8)	B	No	No	Inside Pole	167.00 - 6.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06

PWRT-608- S(13/16)	B	No	No	Inside Pole	167.00 - 6.00	3	No Ice	0.00	0.62
							1/2" Ice	0.00	0.62
							1" Ice	0.00	0.62
PWRT-606-S(7/8)	B	No	No	Inside Pole	167.00 - 6.00	3	No Ice	0.00	0.89
							1/2" Ice	0.00	0.89
							1" Ice	0.00	0.89

MLE HYBRID 9POWER/18FIBE R RL 2(1-5/8)	C	No	No	Inside Pole	155.00 - 6.00	1	No Ice	0.00	1.07
							1/2" Ice	0.00	1.07
							1" Ice	0.00	1.07
LDF7-50A(1-5/8)	C	No	No	Inside Pole	155.00 - 6.00	9	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82

MLC HYBRID 6X12 LI(1-1/2)	A	No	No	Inside Pole	145.00 - 6.00	2	No Ice	0.00	1.85
							1/2" Ice	0.00	1.85
							1" Ice	0.00	1.85
LDF7-50A(1-5/8)	A	No	No	Inside Pole	145.00 - 6.00	11	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82

LDF1-50A(1/4)	C	No	No	Inside Pole	10.00 - 6.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06

Feed Line/Linear Appurtenances Section Areas

Tower Sectio n	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	176.00-171.00	A	0.000	0.000	0.540	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.01
L2	171.00-166.00	A	0.000	0.000	0.540	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.01
L3	166.00-161.00	A	0.000	0.000	0.540	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.01
L4	161.00-156.00	A	0.000	0.000	0.540	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.01

Tower Sectio n	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
L5	156.00-151.00	A	0.000	0.000	0.540	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.05
		C	0.000	0.000	1.992	0.000	0.07
L6	151.00-144.25	A	0.000	0.000	0.729	0.000	0.02
		B	0.000	0.000	0.000	0.000	0.06
		C	0.000	0.000	3.361	0.000	0.12
L7	144.25-142.75	A	0.000	0.000	0.162	0.000	0.02
		B	0.000	0.000	0.000	0.000	0.01
		C	0.000	0.000	0.747	0.000	0.03
L8	142.75-137.75	A	0.000	0.000	0.540	0.000	0.07
		B	0.000	0.000	0.000	0.000	0.05
		C	0.000	0.000	2.490	0.000	0.09
L9	137.75-132.75	A	0.000	0.000	0.540	0.000	0.07
		B	0.000	0.000	0.000	0.000	0.05
		C	0.000	0.000	2.490	0.000	0.09
L10	132.75-127.75	A	0.000	0.000	1.665	0.000	0.10
		B	0.000	0.000	1.125	0.000	0.07
		C	0.000	0.000	3.615	0.000	0.11
L11	127.75-127.50	A	0.000	0.000	0.215	0.000	0.01
		B	0.000	0.000	0.188	0.000	0.01
		C	0.000	0.000	0.312	0.000	0.01
L12	127.50-122.50	A	0.000	0.000	4.290	0.000	0.15
		B	0.000	0.000	3.750	0.000	0.12
		C	0.000	0.000	6.240	0.000	0.16
L13	122.50-120.75	A	0.000	0.000	1.502	0.000	0.05
		B	0.000	0.000	1.313	0.000	0.04
		C	0.000	0.000	2.184	0.000	0.06
L14	120.75-120.50	A	0.000	0.000	0.215	0.000	0.01
		B	0.000	0.000	0.188	0.000	0.01
		C	0.000	0.000	0.312	0.000	0.01
L15	120.50-117.25	A	0.000	0.000	3.289	0.000	0.11
		B	0.000	0.000	2.938	0.000	0.09
		C	0.000	0.000	4.556	0.000	0.12
L16	117.25-117.00	A	0.000	0.000	0.277	0.000	0.01
		B	0.000	0.000	0.250	0.000	0.01
		C	0.000	0.000	0.375	0.000	0.01
L17	117.00-112.00	A	0.000	0.000	5.540	0.000	0.18
		B	0.000	0.000	5.000	0.000	0.15
		C	0.000	0.000	7.490	0.000	0.19
L18	112.00-107.00	A	0.000	0.000	5.540	0.000	0.18
		B	0.000	0.000	5.000	0.000	0.15
		C	0.000	0.000	7.490	0.000	0.19
L19	107.00-102.00	A	0.000	0.000	5.540	0.000	0.18
		B	0.000	0.000	5.000	0.000	0.15
		C	0.000	0.000	7.490	0.000	0.19
L20	102.00-94.58	A	0.000	0.000	8.218	0.000	0.26
		B	0.000	0.000	7.417	0.000	0.22
		C	0.000	0.000	11.110	0.000	0.28
L21	94.58-94.42	A	0.000	0.000	0.185	0.000	0.01
		B	0.000	0.000	0.167	0.000	0.00
		C	0.000	0.000	0.250	0.000	0.01
L22	94.42-89.42	A	0.000	0.000	4.306	0.000	0.07
		B	0.000	0.000	3.766	0.000	0.05
		C	0.000	0.000	6.256	0.000	0.09
L23	89.42-87.25	A	0.000	0.000	2.360	0.000	0.07
		B	0.000	0.000	2.126	0.000	0.06
		C	0.000	0.000	3.205	0.000	0.08
L24	87.25-87.00	A	0.000	0.000	0.277	0.000	0.01
		B	0.000	0.000	0.250	0.000	0.01
		C	0.000	0.000	0.375	0.000	0.01
L25	87.00-82.00	A	0.000	0.000	5.540	0.000	0.18
		B	0.000	0.000	5.000	0.000	0.15
		C	0.000	0.000	7.490	0.000	0.19
L26	82.00-77.00	A	0.000	0.000	5.540	0.000	0.18
		B	0.000	0.000	5.000	0.000	0.15
		C	0.000	0.000	7.490	0.000	0.19
L27	77.00-72.00	A	0.000	0.000	5.540	0.000	0.18
		B	0.000	0.000	5.000	0.000	0.15
		C	0.000	0.000	7.490	0.000	0.19

Tower Section	Tower Elevation	Face	A _R	A _F	C _{AA} _A In Face	C _{AA} _A Out Face	Weight
n	ft		ft ²	ft ²	ft ²	ft ²	K
L28	72.00-67.00	A	0.000	0.000	5.540	0.000	0.18
		B	0.000	0.000	5.000	0.000	0.15
		C	0.000	0.000	7.490	0.000	0.19
L29	67.00-62.00	A	0.000	0.000	5.728	0.000	0.13
		B	0.000	0.000	5.188	0.000	0.10
		C	0.000	0.000	7.677	0.000	0.14
L30	62.00-61.50	A	0.000	0.000	0.596	0.000	0.01
		B	0.000	0.000	0.542	0.000	0.00
		C	0.000	0.000	0.791	0.000	0.01
L31	61.50-61.25	A	0.000	0.000	0.298	0.000	0.00
		B	0.000	0.000	0.271	0.000	0.00
		C	0.000	0.000	0.395	0.000	0.00
L32	61.25-56.25	A	0.000	0.000	5.957	0.000	0.07
		B	0.000	0.000	5.417	0.000	0.05
		C	0.000	0.000	7.907	0.000	0.09
L33	56.25-46.96	A	0.000	0.000	11.071	0.000	0.14
		B	0.000	0.000	10.068	0.000	0.09
		C	0.000	0.000	14.886	0.000	0.16
L34	46.96-45.96	A	0.000	0.000	1.191	0.000	0.01
		B	0.000	0.000	1.083	0.000	0.01
		C	0.000	0.000	1.644	0.000	0.02
L35	45.96-40.96	A	0.000	0.000	5.957	0.000	0.07
		B	0.000	0.000	5.417	0.000	0.05
		C	0.000	0.000	8.219	0.000	0.09
L36	40.96-35.96	A	0.000	0.000	5.957	0.000	0.07
		B	0.000	0.000	5.417	0.000	0.05
		C	0.000	0.000	8.219	0.000	0.09
L37	35.96-32.25	A	0.000	0.000	10.374	0.000	0.05
		B	0.000	0.000	6.995	0.000	0.04
		C	0.000	0.000	9.072	0.000	0.06
L38	32.25-32.00	A	0.000	0.000	0.840	0.000	0.00
		B	0.000	0.000	0.542	0.000	0.00
		C	0.000	0.000	0.682	0.000	0.00
L39	32.00-31.75	A	0.000	0.000	0.840	0.000	0.00
		B	0.000	0.000	0.542	0.000	0.00
		C	0.000	0.000	0.682	0.000	0.00
L40	31.75-26.75	A	0.000	0.000	14.082	0.000	0.07
		B	0.000	0.000	8.125	0.000	0.05
		C	0.000	0.000	10.928	0.000	0.09
L41	26.75-21.75	A	0.000	0.000	11.373	0.000	0.07
		B	0.000	0.000	5.417	0.000	0.05
		C	0.000	0.000	8.219	0.000	0.09
L42	21.75-16.75	A	0.000	0.000	11.373	0.000	0.07
		B	0.000	0.000	5.417	0.000	0.05
		C	0.000	0.000	8.219	0.000	0.09
L43	16.75-11.75	A	0.000	0.000	11.373	0.000	0.07
		B	0.000	0.000	5.417	0.000	0.05
		C	0.000	0.000	8.219	0.000	0.09
L44	11.75-6.75	A	0.000	0.000	11.373	0.000	0.07
		B	0.000	0.000	5.417	0.000	0.05
		C	0.000	0.000	8.219	0.000	0.09
L45	6.75-1.75	A	0.000	0.000	11.373	0.000	0.02
		B	0.000	0.000	5.417	0.000	0.01
		C	0.000	0.000	5.837	0.000	0.01
L46	1.75-0.00	A	0.000	0.000	3.981	0.000	0.00
		B	0.000	0.000	1.896	0.000	0.00
		C	0.000	0.000	1.896	0.000	0.00

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation	Face or Leg	Ice Thickness	A _R	A _F	C _{AA} _A In Face	C _{AA} _A Out Face	Weight
n	ft		in	ft ²	ft ²	ft ²	ft ²	K
L1	176.00-171.00	A	1.003	0.000	0.000	2.547	0.000	0.03
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.01

Tower Section	Tower Elevation	Face or Leg	Ice Thickness	A _R	A _F	C _A A _A In Face	C _A A _A Out Face	Weight
n	ft		in	ft ²	ft ²	ft ²	ft ²	K
L2	171.00-166.00	A	1.001	0.000	0.000	2.541	0.000	0.03
		B		0.000	0.000	0.000	0.000	0.01
		C		0.000	0.000	0.000	0.000	0.01
L3	166.00-161.00	A	0.997	0.000	0.000	2.535	0.000	0.03
		B		0.000	0.000	0.000	0.000	0.05
		C		0.000	0.000	0.000	0.000	0.01
L4	161.00-156.00	A	0.994	0.000	0.000	2.529	0.000	0.03
		B		0.000	0.000	0.000	0.000	0.05
		C		0.000	0.000	0.000	0.000	0.01
L5	156.00-151.00	A	0.991	0.000	0.000	2.522	0.000	0.03
		B		0.000	0.000	0.000	0.000	0.05
		C		0.000	0.000	3.481	0.000	0.10
L6	151.00-144.25	A	0.987	0.000	0.000	3.395	0.000	0.05
		B		0.000	0.000	0.000	0.000	0.06
		C		0.000	0.000	5.868	0.000	0.16
L7	144.25-142.75	A	0.985	0.000	0.000	0.754	0.000	0.03
		B		0.000	0.000	0.000	0.000	0.01
		C		0.000	0.000	1.304	0.000	0.04
L8	142.75-137.75	A	0.982	0.000	0.000	2.505	0.000	0.09
		B		0.000	0.000	0.000	0.000	0.05
		C		0.000	0.000	4.340	0.000	0.12
L9	137.75-132.75	A	0.979	0.000	0.000	2.498	0.000	0.09
		B		0.000	0.000	0.000	0.000	0.05
		C		0.000	0.000	4.336	0.000	0.12
L10	132.75-127.75	A	0.975	0.000	0.000	3.789	0.000	0.12
		B		0.000	0.000	1.299	0.000	0.08
		C		0.000	0.000	5.630	0.000	0.15
L11	127.75-127.50	A	0.973	0.000	0.000	0.341	0.000	0.01
		B		0.000	0.000	0.216	0.000	0.01
		C		0.000	0.000	0.433	0.000	0.01
L12	127.50-122.50	A	0.971	0.000	0.000	6.810	0.000	0.20
		B		0.000	0.000	4.328	0.000	0.15
		C		0.000	0.000	8.654	0.000	0.22
L13	122.50-120.75	A	0.968	0.000	0.000	2.381	0.000	0.07
		B		0.000	0.000	1.514	0.000	0.05
		C		0.000	0.000	3.027	0.000	0.08
L14	120.75-120.50	A	0.968	0.000	0.000	0.340	0.000	0.01
		B		0.000	0.000	0.216	0.000	0.01
		C		0.000	0.000	0.432	0.000	0.01
L15	120.50-117.25	A	0.966	0.000	0.000	5.075	0.000	0.14
		B		0.000	0.000	3.468	0.000	0.11
		C		0.000	0.000	6.276	0.000	0.16
L16	117.25-117.00	A	0.965	0.000	0.000	0.422	0.000	0.01
		B		0.000	0.000	0.298	0.000	0.01
		C		0.000	0.000	0.514	0.000	0.01
L17	117.00-112.00	A	0.963	0.000	0.000	8.428	0.000	0.23
		B		0.000	0.000	5.963	0.000	0.18
		C		0.000	0.000	10.278	0.000	0.25
L18	112.00-107.00	A	0.958	0.000	0.000	8.415	0.000	0.23
		B		0.000	0.000	5.958	0.000	0.18
		C		0.000	0.000	10.269	0.000	0.25
L19	107.00-102.00	A	0.954	0.000	0.000	8.402	0.000	0.23
		B		0.000	0.000	5.954	0.000	0.18
		C		0.000	0.000	10.259	0.000	0.25
L20	102.00-94.58	A	0.948	0.000	0.000	12.436	0.000	0.33
		B		0.000	0.000	8.823	0.000	0.27
		C		0.000	0.000	15.197	0.000	0.37
L21	94.58-94.42	A	0.944	0.000	0.000	0.279	0.000	0.01
		B		0.000	0.000	0.198	0.000	0.01
		C		0.000	0.000	0.342	0.000	0.01
L22	94.42-89.42	A	0.942	0.000	0.000	6.705	0.000	0.12
		B		0.000	0.000	4.281	0.000	0.08
		C		0.000	0.000	8.571	0.000	0.15
L23	89.42-87.25	A	0.938	0.000	0.000	3.565	0.000	0.09
		B		0.000	0.000	2.518	0.000	0.08
		C		0.000	0.000	4.375	0.000	0.10
L24	87.25-87.00	A	0.937	0.000	0.000	0.417	0.000	0.01
		B		0.000	0.000	0.297	0.000	0.01
		C		0.000	0.000	0.511	0.000	0.01

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	$C_A A_A$ In Face ft ²	$C_A A_A$ Out Face ft ²	Weight K
L25	87.00-82.00	A	0.934	0.000	0.000	8.341	0.000	0.22
		B		0.000	0.000	5.934	0.000	0.18
		C		0.000	0.000	10.214	0.000	0.25
L26	82.00-77.00	A	0.928	0.000	0.000	8.324	0.000	0.22
		B		0.000	0.000	5.928	0.000	0.18
		C		0.000	0.000	10.201	0.000	0.25
L27	77.00-72.00	A	0.922	0.000	0.000	8.306	0.000	0.22
		B		0.000	0.000	5.922	0.000	0.18
		C		0.000	0.000	10.187	0.000	0.25
L28	72.00-67.00	A	0.916	0.000	0.000	8.287	0.000	0.22
		B		0.000	0.000	5.916	0.000	0.18
		C		0.000	0.000	10.173	0.000	0.25
L29	67.00-62.00	A	0.909	0.000	0.000	8.454	0.000	0.18
		B		0.000	0.000	6.096	0.000	0.14
		C		0.000	0.000	10.345	0.000	0.20
L30	62.00-61.50	A	0.905	0.000	0.000	0.867	0.000	0.01
		B		0.000	0.000	0.632	0.000	0.01
		C		0.000	0.000	1.057	0.000	0.01
L31	61.50-61.25	A	0.904	0.000	0.000	0.433	0.000	0.01
		B		0.000	0.000	0.316	0.000	0.00
		C		0.000	0.000	0.528	0.000	0.01
L32	61.25-56.25	A	0.900	0.000	0.000	8.658	0.000	0.12
		B		0.000	0.000	6.317	0.000	0.08
		C		0.000	0.000	10.555	0.000	0.15
L33	56.25-46.96	A	0.889	0.000	0.000	16.027	0.000	0.23
		B		0.000	0.000	11.720	0.000	0.15
		C		0.000	0.000	20.301	0.000	0.28
L34	46.96-45.96	A	0.880	0.000	0.000	1.725	0.000	0.02
		B		0.000	0.000	1.261	0.000	0.02
		C		0.000	0.000	2.346	0.000	0.03
L35	45.96-40.96	A	0.874	0.000	0.000	8.578	0.000	0.12
		B		0.000	0.000	6.290	0.000	0.08
		C		0.000	0.000	11.681	0.000	0.15
L36	40.96-35.96	A	0.863	0.000	0.000	8.546	0.000	0.12
		B		0.000	0.000	6.280	0.000	0.08
		C		0.000	0.000	11.647	0.000	0.15
L37	35.96-32.25	A	0.853	0.000	0.000	13.209	0.000	0.12
		B		0.000	0.000	8.096	0.000	0.08
		C		0.000	0.000	12.057	0.000	0.13
L38	32.25-32.00	A	0.848	0.000	0.000	1.051	0.000	0.01
		B		0.000	0.000	0.626	0.000	0.01
		C		0.000	0.000	0.893	0.000	0.01
L39	32.00-31.75	A	0.847	0.000	0.000	1.051	0.000	0.01
		B		0.000	0.000	0.626	0.000	0.01
		C		0.000	0.000	0.893	0.000	0.01
L40	31.75-26.75	A	0.840	0.000	0.000	17.861	0.000	0.16
		B		0.000	0.000	9.385	0.000	0.09
		C		0.000	0.000	14.699	0.000	0.17
L41	26.75-21.75	A	0.824	0.000	0.000	14.670	0.000	0.15
		B		0.000	0.000	6.241	0.000	0.08
		C		0.000	0.000	11.520	0.000	0.15
L42	21.75-16.75	A	0.805	0.000	0.000	14.595	0.000	0.15
		B		0.000	0.000	6.222	0.000	0.08
		C		0.000	0.000	11.459	0.000	0.15
L43	16.75-11.75	A	0.781	0.000	0.000	14.499	0.000	0.14
		B		0.000	0.000	6.198	0.000	0.08
		C		0.000	0.000	11.381	0.000	0.15
L44	11.75-6.75	A	0.748	0.000	0.000	14.367	0.000	0.14
		B		0.000	0.000	6.165	0.000	0.07
		C		0.000	0.000	11.274	0.000	0.14
L45	6.75-1.75	A	0.692	0.000	0.000	14.143	0.000	0.08
		B		0.000	0.000	6.109	0.000	0.03
		C		0.000	0.000	6.856	0.000	0.04
L46	1.75-0.00	A	0.591	0.000	0.000	4.808	0.000	0.02
		B		0.000	0.000	2.103	0.000	0.01
		C		0.000	0.000	2.103	0.000	0.01

Feed Line Center of Pressure

Section	Elevation	CP _x	CP _z	CP _x	CP _z
	ft	in	in	Ice in	Ice in
L1	176.00-171.00	-0.8171	0.0859	-1.8286	0.1922
L2	171.00-166.00	-0.8201	0.0862	-1.8554	0.1950
L3	166.00-161.00	-0.8227	0.0865	-1.8794	0.1975
L4	161.00-156.00	-0.8251	0.0867	-1.9008	0.1998
L5	156.00-151.00	-1.7327	2.3549	-2.2862	2.0059
L6	151.00-144.25	-1.9231	2.8023	-2.4016	2.3605
L7	144.25-142.75	-1.9352	2.8191	-2.4268	2.3839
L8	142.75-137.75	-1.9493	2.8386	-2.4532	2.4114
L9	137.75-132.75	-1.9699	2.8671	-2.4954	2.4529
L10	132.75-127.75	-1.5275	2.2220	-2.1736	2.1368
L11	127.75-127.50	-1.0037	1.4597	-1.6509	1.6231
L12	127.50-122.50	-1.0163	1.4777	-1.6706	1.6426
L13	122.50-120.75	-1.0323	1.5005	-1.6952	1.6672
L14	120.75-120.50	-1.0369	1.5071	-1.7024	1.6744
L15	120.50-117.25	-0.9505	1.3813	-1.5871	1.5611
L16	117.25-117.00	-0.9075	1.3186	-1.5289	1.5041
L17	117.00-112.00	-0.9187	1.3346	-1.5463	1.5215
L18	112.00-107.00	-0.9396	1.3645	-1.5786	1.5541
L19	107.00-102.00	-0.9600	1.3937	-1.6096	1.5856
L20	102.00-94.58	-0.9847	1.4289	-1.6467	1.6235
L21	94.58-94.42	-0.9883	1.4341	-1.6527	1.6293
L22	94.42-89.42	-1.1466	1.6636	-1.8717	1.8478
L23	89.42-87.25	-1.0220	1.4825	-1.6991	1.6785
L24	87.25-87.00	-1.0165	1.4743	-1.6913	1.6712
L25	87.00-82.00	-1.0263	1.4883	-1.7053	1.6860
L26	82.00-77.00	-1.0446	1.5145	-1.7312	1.7134
L27	77.00-72.00	-1.0625	1.5401	-1.7560	1.7400
L28	72.00-67.00	-1.0800	1.5651	-1.7795	1.7658
L29	67.00-62.00	-1.0772	1.5607	-1.7809	1.7698
L30	62.00-61.50	-1.0630	1.5400	-1.7678	1.7583
L31	61.50-61.25	-1.0646	1.5422	-1.7699	1.7607
L32	61.25-56.25	-1.0731	1.5545	-1.7807	1.7730
L33	56.25-46.96	-1.0643	1.6461	-1.7240	1.9491
L34	46.96-45.96	-1.0061	1.7715	-1.5664	2.2414
L35	45.96-40.96	-1.0147	1.7865	-1.5696	2.2508
L36	40.96-35.96	-1.0288	1.8111	-1.5839	2.2745
L37	35.96-32.25	1.7770	2.6764	0.8294	2.8569
L38	32.25-32.00	2.3854	2.8718	1.4080	3.0043
L39	32.00-31.75	2.3872	2.8739	1.4093	3.0060
L40	31.75-26.75	2.8191	3.3931	1.6195	3.4407
L41	26.75-21.75	3.4471	4.1471	1.9117	4.0281
L42	21.75-16.75	3.4965	4.2047	1.9507	4.0700
L43	16.75-11.75	3.5451	4.2614	1.9930	4.1076
L44	11.75-6.75	3.5928	4.3171	2.0416	4.1379
L45	6.75-1.75	4.4253	3.1278	2.8836	2.6900
L46	1.75-0.00	4.6100	2.9185	3.1337	2.4018

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	2	Safety Line 3/8"	171.00 - 176.00	1.0000	1.0000
L1	3	Climbing Pegs	171.00 - 176.00	1.0000	1.0000
L2	2	Safety Line 3/8"	166.00 - 171.00	1.0000	1.0000
L2	3	Climbing Pegs	166.00 - 171.00	1.0000	1.0000
L3	2	Safety Line 3/8"	161.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
			166.00		
L3	3	Climbing Pegs	161.00 - 166.00	1.0000	1.0000
L4	2	Safety Line 3/8"	156.00 - 161.00	1.0000	1.0000
L4	3	Climbing Pegs	156.00 - 161.00	1.0000	1.0000
L5	2	Safety Line 3/8"	151.00 - 156.00	1.0000	1.0000
L5	3	Climbing Pegs	151.00 - 156.00	1.0000	1.0000
L5	20	HCS 6X12 4AWG(1-5/8)	151.00 - 155.00	1.0000	1.0000
L6	2	Safety Line 3/8"	144.25 - 151.00	1.0000	1.0000
L6	3	Climbing Pegs	144.25 - 151.00	1.0000	1.0000
L6	20	HCS 6X12 4AWG(1-5/8)	144.25 - 151.00	1.0000	1.0000
L7	2	Safety Line 3/8"	142.75 - 144.25	1.0000	1.0000
L7	3	Climbing Pegs	142.75 - 144.25	1.0000	1.0000
L7	20	HCS 6X12 4AWG(1-5/8)	142.75 - 144.25	1.0000	1.0000
L8	2	Safety Line 3/8"	137.75 - 142.75	1.0000	1.0000
L8	3	Climbing Pegs	137.75 - 142.75	1.0000	1.0000
L8	20	HCS 6X12 4AWG(1-5/8)	137.75 - 142.75	1.0000	1.0000
L9	2	Safety Line 3/8"	132.75 - 137.75	1.0000	1.0000
L9	3	Climbing Pegs	132.75 - 137.75	1.0000	1.0000
L9	20	HCS 6X12 4AWG(1-5/8)	132.75 - 137.75	1.0000	1.0000
L10	2	Safety Line 3/8"	127.75 - 132.75	1.0000	1.0000
L10	3	Climbing Pegs	127.75 - 132.75	1.0000	1.0000
L10	20	HCS 6X12 4AWG(1-5/8)	127.75 - 132.75	1.0000	1.0000
L10	51	CCI-65FP-045100	127.75 - 129.25	1.0000	1.0000
L10	52	CCI-65FP-045100	127.75 - 129.25	1.0000	1.0000
L10	53	CCI-65FP-045100	127.75 - 129.25	1.0000	1.0000
L11	2	Safety Line 3/8"	127.50 - 127.75	1.0000	1.0000
L11	3	Climbing Pegs	127.50 - 127.75	1.0000	1.0000
L11	20	HCS 6X12 4AWG(1-5/8)	127.50 - 127.75	1.0000	1.0000
L11	51	CCI-65FP-045100	127.50 - 127.75	1.0000	1.0000
L11	52	CCI-65FP-045100	127.50 - 127.75	1.0000	1.0000
L11	53	CCI-65FP-045100	127.50 - 127.75	1.0000	1.0000
L12	2	Safety Line 3/8"	122.50 - 127.50	1.0000	1.0000
L12	3	Climbing Pegs	122.50 - 127.50	1.0000	1.0000
L12	20	HCS 6X12 4AWG(1-5/8)	122.50 - 127.50	1.0000	1.0000
L12	51	CCI-65FP-045100	122.50 - 127.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L12	52	CCI-65FP-045100	122.50 - 127.50	1.0000	1.0000
L12	53	CCI-65FP-045100	122.50 - 127.50	1.0000	1.0000
L13	2	Safety Line 3/8"	120.75 - 122.50	1.0000	1.0000
L13	3	Climbing Pegs	120.75 - 122.50	1.0000	1.0000
L13	20	HCS 6X12 4AWG(1-5/8)	120.75 - 122.50	1.0000	1.0000
L13	51	CCI-65FP-045100	120.75 - 122.50	1.0000	1.0000
L13	52	CCI-65FP-045100	120.75 - 122.50	1.0000	1.0000
L13	53	CCI-65FP-045100	120.75 - 122.50	1.0000	1.0000
L14	2	Safety Line 3/8"	120.50 - 120.75	1.0000	1.0000
L14	3	Climbing Pegs	120.50 - 120.75	1.0000	1.0000
L14	20	HCS 6X12 4AWG(1-5/8)	120.50 - 120.75	1.0000	1.0000
L14	51	CCI-65FP-045100	120.50 - 120.75	1.0000	1.0000
L14	52	CCI-65FP-045100	120.50 - 120.75	1.0000	1.0000
L14	53	CCI-65FP-045100	120.50 - 120.75	1.0000	1.0000
L15	2	Safety Line 3/8"	117.25 - 120.50	1.0000	1.0000
L15	3	Climbing Pegs	117.25 - 120.50	1.0000	1.0000
L15	20	HCS 6X12 4AWG(1-5/8)	117.25 - 120.50	1.0000	1.0000
L15	47	CCI-65FP-060100	117.25 - 119.25	1.0000	1.0000
L15	48	CCI-65FP-060100	117.25 - 119.25	1.0000	1.0000
L15	49	CCI-65FP-060100	117.25 - 119.25	1.0000	1.0000
L15	51	CCI-65FP-045100	119.25 - 120.50	1.0000	1.0000
L15	52	CCI-65FP-045100	119.25 - 120.50	1.0000	1.0000
L15	53	CCI-65FP-045100	119.25 - 120.50	1.0000	1.0000
L16	2	Safety Line 3/8"	117.00 - 117.25	1.0000	1.0000
L16	3	Climbing Pegs	117.00 - 117.25	1.0000	1.0000
L16	20	HCS 6X12 4AWG(1-5/8)	117.00 - 117.25	1.0000	1.0000
L16	47	CCI-65FP-060100	117.00 - 117.25	1.0000	1.0000
L16	48	CCI-65FP-060100	117.00 - 117.25	1.0000	1.0000
L16	49	CCI-65FP-060100	117.00 - 117.25	1.0000	1.0000
L17	2	Safety Line 3/8"	112.00 - 117.00	1.0000	1.0000
L17	3	Climbing Pegs	112.00 - 117.00	1.0000	1.0000
L17	20	HCS 6X12 4AWG(1-5/8)	112.00 - 117.00	1.0000	1.0000
L17	47	CCI-65FP-060100	112.00 - 117.00	1.0000	1.0000
L17	48	CCI-65FP-060100	112.00 - 117.00	1.0000	1.0000
L17	49	CCI-65FP-060100	112.00 - 117.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L18	2	Safety Line 3/8"	117.00 107.00 -	1.0000	1.0000
L18	3	Climbing Pegs	112.00 107.00 -	1.0000	1.0000
L18	20	HCS 6X12 4AWG(1-5/8)	112.00 107.00 -	1.0000	1.0000
L18	47	CCI-65FP-060100	112.00 107.00 -	1.0000	1.0000
L18	48	CCI-65FP-060100	112.00 107.00 -	1.0000	1.0000
L18	49	CCI-65FP-060100	112.00 107.00 -	1.0000	1.0000
L19	2	Safety Line 3/8"	102.00 - 107.00	1.0000	1.0000
L19	3	Climbing Pegs	102.00 - 107.00	1.0000	1.0000
L19	20	HCS 6X12 4AWG(1-5/8)	102.00 - 107.00	1.0000	1.0000
L19	47	CCI-65FP-060100	102.00 - 107.00	1.0000	1.0000
L19	48	CCI-65FP-060100	102.00 - 107.00	1.0000	1.0000
L19	49	CCI-65FP-060100	102.00 - 107.00	1.0000	1.0000
L20	2	Safety Line 3/8"	94.58 - 102.00	1.0000	1.0000
L20	3	Climbing Pegs	94.58 - 102.00	1.0000	1.0000
L20	20	HCS 6X12 4AWG(1-5/8)	94.58 - 102.00	1.0000	1.0000
L20	47	CCI-65FP-060100	94.58 - 102.00	1.0000	1.0000
L20	48	CCI-65FP-060100	94.58 - 102.00	1.0000	1.0000
L20	49	CCI-65FP-060100	94.58 - 102.00	1.0000	1.0000
L21	2	Safety Line 3/8"	94.42 - 94.58	1.0000	1.0000
L21	3	Climbing Pegs	94.42 - 94.58	1.0000	1.0000
L21	20	HCS 6X12 4AWG(1-5/8)	94.42 - 94.58	1.0000	1.0000
L21	47	CCI-65FP-060100	94.42 - 94.58	1.0000	1.0000
L21	48	CCI-65FP-060100	94.42 - 94.58	1.0000	1.0000
L21	49	CCI-65FP-060100	94.42 - 94.58	1.0000	1.0000
L22	2	Safety Line 3/8"	89.42 - 94.42	1.0000	1.0000
L22	3	Climbing Pegs	89.42 - 94.42	1.0000	1.0000
L22	20	HCS 6X12 4AWG(1-5/8)	89.42 - 94.42	1.0000	1.0000
L22	44	(Area) CCI-65FP-060100 (H)	89.42 - 94.41	1.0000	1.0000
L22	45	(Area) CCI-65FP-060100 (H)	89.42 - 94.41	1.0000	1.0000
L22	46	(Area) CCI-65FP-060100 (H)	89.42 - 94.41	1.0000	1.0000
L22	47	CCI-65FP-060100	94.41 - 94.42	1.0000	1.0000
L22	48	CCI-65FP-060100	94.41 - 94.42	1.0000	1.0000
L22	49	CCI-65FP-060100	94.41 - 94.42	1.0000	1.0000
L23	2	Safety Line 3/8"	87.25 - 89.42	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L23	3	Climbing Pegs	87.25 - 89.42	1.0000	1.0000
L23	20	HCS 6X12 4AWG(1-5/8)	87.25 - 89.42	1.0000	1.0000
L23	40	CCI-65FP-060100	87.25 - 89.25	1.0000	1.0000
L23	41	CCI-65FP-060100	87.25 - 89.25	1.0000	1.0000
L23	42	CCI-65FP-060100	87.25 - 89.25	1.0000	1.0000
L23	44	(Area) CCI-65FP-060100 (H)	89.25 - 89.42	1.0000	1.0000
L23	45	(Area) CCI-65FP-060100 (H)	89.25 - 89.42	1.0000	1.0000
L23	46	(Area) CCI-65FP-060100 (H)	89.25 - 89.42	1.0000	1.0000
L24	2	Safety Line 3/8"	87.00 - 87.25	1.0000	1.0000
L24	3	Climbing Pegs	87.00 - 87.25	1.0000	1.0000
L24	20	HCS 6X12 4AWG(1-5/8)	87.00 - 87.25	1.0000	1.0000
L24	40	CCI-65FP-060100	87.00 - 87.25	1.0000	1.0000
L24	41	CCI-65FP-060100	87.00 - 87.25	1.0000	1.0000
L24	42	CCI-65FP-060100	87.00 - 87.25	1.0000	1.0000
L25	2	Safety Line 3/8"	82.00 - 87.00	1.0000	1.0000
L25	3	Climbing Pegs	82.00 - 87.00	1.0000	1.0000
L25	20	HCS 6X12 4AWG(1-5/8)	82.00 - 87.00	1.0000	1.0000
L25	40	CCI-65FP-060100	82.00 - 87.00	1.0000	1.0000
L25	41	CCI-65FP-060100	82.00 - 87.00	1.0000	1.0000
L25	42	CCI-65FP-060100	82.00 - 87.00	1.0000	1.0000
L26	2	Safety Line 3/8"	77.00 - 82.00	1.0000	1.0000
L26	3	Climbing Pegs	77.00 - 82.00	1.0000	1.0000
L26	20	HCS 6X12 4AWG(1-5/8)	77.00 - 82.00	1.0000	1.0000
L26	40	CCI-65FP-060100	77.00 - 82.00	1.0000	1.0000
L26	41	CCI-65FP-060100	77.00 - 82.00	1.0000	1.0000
L26	42	CCI-65FP-060100	77.00 - 82.00	1.0000	1.0000
L27	2	Safety Line 3/8"	72.00 - 77.00	1.0000	1.0000
L27	3	Climbing Pegs	72.00 - 77.00	1.0000	1.0000
L27	20	HCS 6X12 4AWG(1-5/8)	72.00 - 77.00	1.0000	1.0000
L27	40	CCI-65FP-060100	72.00 - 77.00	1.0000	1.0000
L27	41	CCI-65FP-060100	72.00 - 77.00	1.0000	1.0000
L27	42	CCI-65FP-060100	72.00 - 77.00	1.0000	1.0000
L28	2	Safety Line 3/8"	67.00 - 72.00	1.0000	1.0000
L28	3	Climbing Pegs	67.00 - 72.00	1.0000	1.0000
L28	20	HCS 6X12 4AWG(1-5/8)	67.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
			72.00		
L28	40	CCI-65FP-060100	67.00 -	1.0000	1.0000
			72.00		
L28	41	CCI-65FP-060100	67.00 -	1.0000	1.0000
			72.00		
L28	42	CCI-65FP-060100	67.00 -	1.0000	1.0000
			72.00		
L29	2	Safety Line 3/8"	62.00 -	1.0000	1.0000
			67.00		
L29	3	Climbing Pegs	62.00 -	1.0000	1.0000
			67.00		
L29	20	HCS 6X12 4AWG(1-5/8)	62.00 -	1.0000	1.0000
			67.00		
L29	36	(Area) CCI-65FP-065125 (H)	62.00 -	1.0000	1.0000
			64.25		
L29	37	(Area) CCI-65FP-065125 (H)	62.00 -	1.0000	1.0000
			64.25		
L29	38	(Area) CCI-65FP-065125 (H)	62.00 -	1.0000	1.0000
			64.25		
L29	40	CCI-65FP-060100	64.25 -	1.0000	1.0000
			67.00		
L29	41	CCI-65FP-060100	64.25 -	1.0000	1.0000
			67.00		
L29	42	CCI-65FP-060100	64.25 -	1.0000	1.0000
			67.00		
L30	2	Safety Line 3/8"	61.50 -	1.0000	1.0000
			62.00		
L30	3	Climbing Pegs	61.50 -	1.0000	1.0000
			62.00		
L30	20	HCS 6X12 4AWG(1-5/8)	61.50 -	1.0000	1.0000
			62.00		
L30	36	(Area) CCI-65FP-065125 (H)	61.50 -	1.0000	1.0000
			62.00		
L30	37	(Area) CCI-65FP-065125 (H)	61.50 -	1.0000	1.0000
			62.00		
L30	38	(Area) CCI-65FP-065125 (H)	61.50 -	1.0000	1.0000
			62.00		
L31	2	Safety Line 3/8"	61.25 -	1.0000	1.0000
			61.50		
L31	3	Climbing Pegs	61.25 -	1.0000	1.0000
			61.50		
L31	20	HCS 6X12 4AWG(1-5/8)	61.25 -	1.0000	1.0000
			61.50		
L31	36	(Area) CCI-65FP-065125 (H)	61.25 -	1.0000	1.0000
			61.50		
L31	37	(Area) CCI-65FP-065125 (H)	61.25 -	1.0000	1.0000
			61.50		
L31	38	(Area) CCI-65FP-065125 (H)	61.25 -	1.0000	1.0000
			61.50		
L32	2	Safety Line 3/8"	56.25 -	1.0000	1.0000
			61.25		
L32	3	Climbing Pegs	56.25 -	1.0000	1.0000
			61.25		
L32	20	HCS 6X12 4AWG(1-5/8)	56.25 -	1.0000	1.0000
			61.25		
L32	36	(Area) CCI-65FP-065125 (H)	56.25 -	1.0000	1.0000
			61.25		
L32	37	(Area) CCI-65FP-065125 (H)	56.25 -	1.0000	1.0000
			61.25		
L32	38	(Area) CCI-65FP-065125 (H)	56.25 -	1.0000	1.0000
			61.25		
L33	2	Safety Line 3/8"	46.96 -	1.0000	1.0000
			56.25		
L33	3	Climbing Pegs	46.96 -	1.0000	1.0000
			56.25		
L33	20	HCS 6X12 4AWG(1-5/8)	46.96 -	1.0000	1.0000
			56.25		
L33	27	LDF4-50A(1/2)	46.96 -	1.0000	1.0000
			50.00		

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L33	36	(Area) CCI-65FP-065125 (H)	46.96 - 56.25	1.0000	1.0000
L33	37	(Area) CCI-65FP-065125 (H)	46.96 - 56.25	1.0000	1.0000
L33	38	(Area) CCI-65FP-065125 (H)	46.96 - 56.25	1.0000	1.0000
L34	2	Safety Line 3/8"	45.96 - 46.96	1.0000	1.0000
L34	3	Climbing Pegs	45.96 - 46.96	1.0000	1.0000
L34	20	HCS 6X12 4AWG(1-5/8)	45.96 - 46.96	1.0000	1.0000
L34	27	LDF4-50A(1/2)	45.96 - 46.96	1.0000	1.0000
L34	36	(Area) CCI-65FP-065125 (H)	45.96 - 46.96	1.0000	1.0000
L34	37	(Area) CCI-65FP-065125 (H)	45.96 - 46.96	1.0000	1.0000
L34	38	(Area) CCI-65FP-065125 (H)	45.96 - 46.96	1.0000	1.0000
L35	2	Safety Line 3/8"	40.96 - 45.96	1.0000	1.0000
L35	3	Climbing Pegs	40.96 - 45.96	1.0000	1.0000
L35	20	HCS 6X12 4AWG(1-5/8)	40.96 - 45.96	1.0000	1.0000
L35	27	LDF4-50A(1/2)	40.96 - 45.96	1.0000	1.0000
L35	36	(Area) CCI-65FP-065125 (H)	40.96 - 45.96	1.0000	1.0000
L35	37	(Area) CCI-65FP-065125 (H)	40.96 - 45.96	1.0000	1.0000
L35	38	(Area) CCI-65FP-065125 (H)	40.96 - 45.96	1.0000	1.0000
L36	2	Safety Line 3/8"	35.96 - 40.96	1.0000	1.0000
L36	3	Climbing Pegs	35.96 - 40.96	1.0000	1.0000
L36	20	HCS 6X12 4AWG(1-5/8)	35.96 - 40.96	1.0000	1.0000
L36	27	LDF4-50A(1/2)	35.96 - 40.96	1.0000	1.0000
L36	36	(Area) CCI-65FP-065125 (H)	35.96 - 40.96	1.0000	1.0000
L36	37	(Area) CCI-65FP-065125 (H)	35.96 - 40.96	1.0000	1.0000
L36	38	(Area) CCI-65FP-065125 (H)	35.96 - 40.96	1.0000	1.0000
L37	2	Safety Line 3/8"	32.25 - 35.96	1.0000	1.0000
L37	3	Climbing Pegs	32.25 - 35.96	1.0000	1.0000
L37	20	HCS 6X12 4AWG(1-5/8)	32.25 - 35.96	1.0000	1.0000
L37	27	LDF4-50A(1/2)	32.25 - 35.96	1.0000	1.0000
L37	31	(Area) CCI-65FP-065125 (H)	32.25 - 35.00	1.0000	1.0000
L37	32	(Area) CCI-65FP-065125 (H)	32.25 - 35.00	1.0000	1.0000
L37	33	(Area) CCI-65FP-065125 (H)	32.25 - 35.00	1.0000	1.0000
L37	34	(Area) CCI-65FP-065125 (H)	32.25 - 35.00	1.0000	1.0000
L37	36	(Area) CCI-65FP-065125 (H)	32.25 - 35.96	1.0000	1.0000
L37	37	(Area) CCI-65FP-065125 (H)	32.25 - 35.96	1.0000	1.0000
L37	38	(Area) CCI-65FP-065125 (H)	32.25 - 35.96	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L38	2	(H) Safety Line 3/8"	35.96 32.00 - 32.25	1.0000	1.0000
L38	3	Climbing Pegs	32.00 - 32.25	1.0000	1.0000
L38	20	HCS 6X12 4AWG(1-5/8)	32.00 - 32.25	1.0000	1.0000
L38	27	LDF4-50A(1/2)	32.00 - 32.25	1.0000	1.0000
L38	31	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	1.0000	1.0000
L38	32	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	1.0000	1.0000
L38	33	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	1.0000	1.0000
L38	34	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	1.0000	1.0000
L38	36	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	1.0000	1.0000
L38	37	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	1.0000	1.0000
L38	38	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	1.0000	1.0000
L39	2	(H) Safety Line 3/8"	31.75 - 32.00	1.0000	1.0000
L39	3	Climbing Pegs	31.75 - 32.00	1.0000	1.0000
L39	20	HCS 6X12 4AWG(1-5/8)	31.75 - 32.00	1.0000	1.0000
L39	27	LDF4-50A(1/2)	31.75 - 32.00	1.0000	1.0000
L39	31	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	1.0000	1.0000
L39	32	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	1.0000	1.0000
L39	33	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	1.0000	1.0000
L39	34	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	1.0000	1.0000
L39	36	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	1.0000	1.0000
L39	37	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	1.0000	1.0000
L39	38	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	1.0000	1.0000
L40	2	(H) Safety Line 3/8"	26.75 - 31.75	1.0000	1.0000
L40	3	Climbing Pegs	26.75 - 31.75	1.0000	1.0000
L40	20	HCS 6X12 4AWG(1-5/8)	26.75 - 31.75	1.0000	1.0000
L40	27	LDF4-50A(1/2)	26.75 - 31.75	1.0000	1.0000
L40	31	(Area) CCI-65FP-065125 (H)	26.75 - 31.75	1.0000	1.0000
L40	32	(Area) CCI-65FP-065125 (H)	26.75 - 31.75	1.0000	1.0000
L40	33	(Area) CCI-65FP-065125 (H)	26.75 - 31.75	1.0000	1.0000
L40	34	(Area) CCI-65FP-065125 (H)	26.75 - 31.75	1.0000	1.0000
L40	36	(Area) CCI-65FP-065125 (H)	29.25 - 31.75	1.0000	1.0000
L40	37	(Area) CCI-65FP-065125 (H)	29.25 - 31.75	1.0000	1.0000
L40	38	(Area) CCI-65FP-065125 (H)	29.25 - 31.75	1.0000	1.0000
L41	2	(H) Safety Line 3/8"	21.75 - 26.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L41	3	Climbing Pegs	21.75 - 26.75	1.0000	1.0000
L41	20	HCS 6X12 4AWG(1-5/8)	21.75 - 26.75	1.0000	1.0000
L41	27	LDF4-50A(1/2)	21.75 - 26.75	1.0000	1.0000
L41	31	(Area) CCI-65FP-065125 (H)	21.75 - 26.75	1.0000	1.0000
L41	32	(Area) CCI-65FP-065125 (H)	21.75 - 26.75	1.0000	1.0000
L41	33	(Area) CCI-65FP-065125 (H)	21.75 - 26.75	1.0000	1.0000
L41	34	(Area) CCI-65FP-065125 (H)	21.75 - 26.75	1.0000	1.0000
L42	2	Safety Line 3/8"	16.75 - 21.75	1.0000	1.0000
L42	3	Climbing Pegs	16.75 - 21.75	1.0000	1.0000
L42	20	HCS 6X12 4AWG(1-5/8)	16.75 - 21.75	1.0000	1.0000
L42	27	LDF4-50A(1/2)	16.75 - 21.75	1.0000	1.0000
L42	31	(Area) CCI-65FP-065125 (H)	16.75 - 21.75	1.0000	1.0000
L42	32	(Area) CCI-65FP-065125 (H)	16.75 - 21.75	1.0000	1.0000
L42	33	(Area) CCI-65FP-065125 (H)	16.75 - 21.75	1.0000	1.0000
L42	34	(Area) CCI-65FP-065125 (H)	16.75 - 21.75	1.0000	1.0000
L43	2	Safety Line 3/8"	11.75 - 16.75	1.0000	1.0000
L43	3	Climbing Pegs	11.75 - 16.75	1.0000	1.0000
L43	20	HCS 6X12 4AWG(1-5/8)	11.75 - 16.75	1.0000	1.0000
L43	27	LDF4-50A(1/2)	11.75 - 16.75	1.0000	1.0000
L43	31	(Area) CCI-65FP-065125 (H)	11.75 - 16.75	1.0000	1.0000
L43	32	(Area) CCI-65FP-065125 (H)	11.75 - 16.75	1.0000	1.0000
L43	33	(Area) CCI-65FP-065125 (H)	11.75 - 16.75	1.0000	1.0000
L43	34	(Area) CCI-65FP-065125 (H)	11.75 - 16.75	1.0000	1.0000
L44	2	Safety Line 3/8"	6.75 - 11.75	1.0000	1.0000
L44	3	Climbing Pegs	6.75 - 11.75	1.0000	1.0000
L44	20	HCS 6X12 4AWG(1-5/8)	6.75 - 11.75	1.0000	1.0000
L44	27	LDF4-50A(1/2)	6.75 - 11.75	1.0000	1.0000
L44	31	(Area) CCI-65FP-065125 (H)	6.75 - 11.75	1.0000	1.0000
L44	32	(Area) CCI-65FP-065125 (H)	6.75 - 11.75	1.0000	1.0000
L44	33	(Area) CCI-65FP-065125 (H)	6.75 - 11.75	1.0000	1.0000
L44	34	(Area) CCI-65FP-065125 (H)	6.75 - 11.75	1.0000	1.0000
L45	2	Safety Line 3/8"	1.75 - 6.75	1.0000	1.0000
L45	3	Climbing Pegs	1.75 - 6.75	1.0000	1.0000
L45	20	HCS 6X12 4AWG(1-5/8)	6.00 - 6.75	1.0000	1.0000
L45	27	LDF4-50A(1/2)	6.00 - 6.75	1.0000	1.0000
L45	31	(Area) CCI-65FP-065125 (H)	1.75 - 6.75	1.0000	1.0000
L45	32	(Area) CCI-65FP-065125 (H)	1.75 - 6.75	1.0000	1.0000
L45	33	(Area) CCI-65FP-065125 (H)	1.75 - 6.75	1.0000	1.0000
L45	34	(Area) CCI-65FP-065125 (H)	1.75 - 6.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L46	2	(H) Safety Line 3/8"	0.00 - 1.75	1.0000	1.0000
L46	3	Climbing Pegs	0.00 - 1.75	1.0000	1.0000
L46	31	(Area) CCI-65FP-065125	0.00 - 1.75	1.0000	1.0000
L46	32	(H) (Area) CCI-65FP-065125	0.00 - 1.75	1.0000	1.0000
L46	33	(H) (Area) CCI-65FP-065125	0.00 - 1.75	1.0000	1.0000
L46	34	(H) (Area) CCI-65FP-065125	0.00 - 1.75	1.0000	1.0000

Effective Width of Flat Linear Attachments / Feed Lines

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L10	51	CCI-65FP-045100	127.75 - 129.25	Auto	0.0750
L10	52	CCI-65FP-045100	127.75 - 129.25	Auto	0.0750
L10	53	CCI-65FP-045100	127.75 - 129.25	Auto	0.0750
L11	51	CCI-65FP-045100	127.50 - 127.75	Auto	0.0674
L11	52	CCI-65FP-045100	127.50 - 127.75	Auto	0.0674
L11	53	CCI-65FP-045100	127.50 - 127.75	Auto	0.0674
L12	51	CCI-65FP-045100	122.50 - 127.50	Auto	0.0445
L12	52	CCI-65FP-045100	122.50 - 127.50	Auto	0.0445
L12	53	CCI-65FP-045100	122.50 - 127.50	Auto	0.0445
L13	51	CCI-65FP-045100	120.75 - 122.50	Auto	0.0151
L13	52	CCI-65FP-045100	120.75 - 122.50	Auto	0.0151
L13	53	CCI-65FP-045100	120.75 - 122.50	Auto	0.0151
L14	51	CCI-65FP-045100	120.50 - 120.75	Auto	0.0064
L14	52	CCI-65FP-045100	120.50 - 120.75	Auto	0.0064
L14	53	CCI-65FP-045100	120.50 - 120.75	Auto	0.0064
L15	47	CCI-65FP-060100	117.25 - 119.25	Auto	0.2393
L15	48	CCI-65FP-060100	117.25 - 119.25	Auto	0.2393
L15	49	CCI-65FP-060100	117.25 - 119.25	Auto	0.2393
L15	51	CCI-65FP-045100	119.25 - 120.50	Auto	0.0013
L15	52	CCI-65FP-045100	119.25 - 120.50	Auto	0.0013
L15	53	CCI-65FP-045100	119.25 - 120.50	Auto	0.0013
L16	47	CCI-65FP-060100	117.00 - 117.25	Auto	0.2979
L16	48	CCI-65FP-060100	117.00 - 117.25	Auto	0.2979
L16	49	CCI-65FP-060100	117.00 - 117.25	Auto	0.2979

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L17	47	CCI-65FP-060100	112.00 - 117.00	Auto	0.2771
L17	48	CCI-65FP-060100	112.00 - 117.00	Auto	0.2771
L17	49	CCI-65FP-060100	112.00 - 117.00	Auto	0.2771
L18	47	CCI-65FP-060100	107.00 - 112.00	Auto	0.2445
L18	48	CCI-65FP-060100	107.00 - 112.00	Auto	0.2445
L18	49	CCI-65FP-060100	107.00 - 112.00	Auto	0.2445
L19	47	CCI-65FP-060100	102.00 - 107.00	Auto	0.2081
L19	48	CCI-65FP-060100	102.00 - 107.00	Auto	0.2081
L19	49	CCI-65FP-060100	102.00 - 107.00	Auto	0.2081
L20	47	CCI-65FP-060100	94.58 - 102.00	Auto	0.1676
L20	48	CCI-65FP-060100	94.58 - 102.00	Auto	0.1676
L20	49	CCI-65FP-060100	94.58 - 102.00	Auto	0.1676
L21	47	CCI-65FP-060100	94.42 - 94.58	Auto	0.1208
L21	48	CCI-65FP-060100	94.42 - 94.58	Auto	0.1208
L21	49	CCI-65FP-060100	94.42 - 94.58	Auto	0.1208
L22	44	(Area) CCI-65FP-060100 (H)	89.42 - 94.41	Auto	0.1039
L22	45	(Area) CCI-65FP-060100 (H)	89.42 - 94.41	Auto	0.1039
L22	46	(Area) CCI-65FP-060100 (H)	89.42 - 94.41	Auto	0.1039
L22	47	CCI-65FP-060100	94.41 - 94.42	Auto	0.1203
L22	48	CCI-65FP-060100	94.41 - 94.42	Auto	0.1203
L22	49	CCI-65FP-060100	94.41 - 94.42	Auto	0.1203
L23	40	CCI-65FP-060100	87.25 - 89.25	Auto	0.0800
L23	41	CCI-65FP-060100	87.25 - 89.25	Auto	0.0800
L23	42	CCI-65FP-060100	87.25 - 89.25	Auto	0.0800
L23	44	(Area) CCI-65FP-060100 (H)	89.25 - 89.42	Auto	0.0871
L23	45	(Area) CCI-65FP-060100 (H)	89.25 - 89.42	Auto	0.0871
L23	46	(Area) CCI-65FP-060100 (H)	89.25 - 89.42	Auto	0.0871
L24	40	CCI-65FP-060100	87.00 - 87.25	Auto	0.0727
L24	41	CCI-65FP-060100	87.00 - 87.25	Auto	0.0727
L24	42	CCI-65FP-060100	87.00 - 87.25	Auto	0.0727
L25	40	CCI-65FP-060100	82.00 - 87.00	Auto	0.0556
L25	41	CCI-65FP-060100	82.00 - 87.00	Auto	0.0556
L25	42	CCI-65FP-060100	82.00 - 87.00	Auto	0.0556
L26	40	CCI-65FP-060100	77.00 - 82.00	Auto	0.0229

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L26	41	CCI-65FP-060100	77.00 - 82.00	Auto	0.0229
L26	42	CCI-65FP-060100	77.00 - 82.00	Auto	0.0229
L27	40	CCI-65FP-060100	72.00 - 77.00	Auto	0.0007
L27	41	CCI-65FP-060100	72.00 - 77.00	Auto	0.0007
L27	42	CCI-65FP-060100	72.00 - 77.00	Auto	0.0007
L28	40	CCI-65FP-060100	67.00 - 72.00	Auto	0.0000
L28	41	CCI-65FP-060100	67.00 - 72.00	Auto	0.0000
L28	42	CCI-65FP-060100	67.00 - 72.00	Auto	0.0000
L29	36	(Area) CCI-65FP-065125 (H)	62.00 - 64.25	Auto	0.0014
L29	37	(Area) CCI-65FP-065125 (H)	62.00 - 64.25	Auto	0.0014
L29	38	(Area) CCI-65FP-065125 (H)	62.00 - 64.25	Auto	0.0014
L29	40	CCI-65FP-060100	64.25 - 67.00	Auto	0.0000
L29	41	CCI-65FP-060100	64.25 - 67.00	Auto	0.0000
L29	42	CCI-65FP-060100	64.25 - 67.00	Auto	0.0000
L30	36	(Area) CCI-65FP-065125 (H)	61.50 - 62.00	Auto	0.0000
L30	37	(Area) CCI-65FP-065125 (H)	61.50 - 62.00	Auto	0.0000
L30	38	(Area) CCI-65FP-065125 (H)	61.50 - 62.00	Auto	0.0000
L31	36	(Area) CCI-65FP-065125 (H)	61.25 - 61.50	Auto	0.0464
L31	37	(Area) CCI-65FP-065125 (H)	61.25 - 61.50	Auto	0.0464
L31	38	(Area) CCI-65FP-065125 (H)	61.25 - 61.50	Auto	0.0464
L32	36	(Area) CCI-65FP-065125 (H)	56.25 - 61.25	Auto	0.0272
L32	37	(Area) CCI-65FP-065125 (H)	56.25 - 61.25	Auto	0.0272
L32	38	(Area) CCI-65FP-065125 (H)	56.25 - 61.25	Auto	0.0272
L33	36	(Area) CCI-65FP-065125 (H)	46.96 - 56.25	Auto	0.0013
L33	37	(Area) CCI-65FP-065125 (H)	46.96 - 56.25	Auto	0.0013
L33	38	(Area) CCI-65FP-065125 (H)	46.96 - 56.25	Auto	0.0013
L34	36	(Area) CCI-65FP-065125 (H)	45.96 - 46.96	Auto	0.0000
L34	37	(Area) CCI-65FP-065125 (H)	45.96 - 46.96	Auto	0.0000
L34	38	(Area) CCI-65FP-065125 (H)	45.96 - 46.96	Auto	0.0000
L35	36	(Area) CCI-65FP-065125 (H)	40.96 - 45.96	Auto	0.0000
L35	37	(Area) CCI-65FP-065125 (H)	40.96 - 45.96	Auto	0.0000
L35	38	(Area) CCI-65FP-065125 (H)	40.96 - 45.96	Auto	0.0000
L36	36	(Area) CCI-65FP-065125 (H)	35.96 - 40.96	Auto	0.0000
L36	37	(Area) CCI-65FP-065125 (H)	35.96 - 40.96	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L36	38	(Area) CCI-65FP-065125 (H)	35.96 - 40.96	Auto	0.0000
L37	31	(Area) CCI-65FP-065125 (H)	32.25 - 35.00	Auto	0.0000
L37	32	(Area) CCI-65FP-065125 (H)	32.25 - 35.00	Auto	0.0000
L37	33	(Area) CCI-65FP-065125 (H)	32.25 - 35.00	Auto	0.0000
L37	34	(Area) CCI-65FP-065125 (H)	32.25 - 35.00	Auto	0.0000
L37	36	(Area) CCI-65FP-065125 (H)	32.25 - 35.96	Auto	0.0000
L37	37	(Area) CCI-65FP-065125 (H)	32.25 - 35.96	Auto	0.0000
L37	38	(Area) CCI-65FP-065125 (H)	32.25 - 35.96	Auto	0.0000
L38	31	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	Auto	0.0000
L38	32	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	Auto	0.0000
L38	33	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	Auto	0.0000
L38	34	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	Auto	0.0000
L38	36	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	Auto	0.0000
L38	37	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	Auto	0.0000
L38	38	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	Auto	0.0000
L39	31	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	Auto	0.0000
L39	32	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	Auto	0.0000
L39	33	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	Auto	0.0000
L39	34	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	Auto	0.0000
L39	36	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	Auto	0.0000
L39	37	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	Auto	0.0000
L39	38	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	Auto	0.0000
L40	31	(Area) CCI-65FP-065125 (H)	26.75 - 31.75	Auto	0.0000
L40	32	(Area) CCI-65FP-065125 (H)	26.75 - 31.75	Auto	0.0000
L40	33	(Area) CCI-65FP-065125 (H)	26.75 - 31.75	Auto	0.0000
L40	34	(Area) CCI-65FP-065125 (H)	26.75 - 31.75	Auto	0.0000
L40	36	(Area) CCI-65FP-065125 (H)	29.25 - 31.75	Auto	0.0000
L40	37	(Area) CCI-65FP-065125 (H)	29.25 - 31.75	Auto	0.0000
L40	38	(Area) CCI-65FP-065125 (H)	29.25 - 31.75	Auto	0.0000
L41	31	(Area) CCI-65FP-065125 (H)	21.75 - 26.75	Auto	0.0000
L41	32	(Area) CCI-65FP-065125 (H)	21.75 - 26.75	Auto	0.0000
L41	33	(Area) CCI-65FP-065125 (H)	21.75 - 26.75	Auto	0.0000
L41	34	(Area) CCI-65FP-065125 (H)	21.75 - 26.75	Auto	0.0000
L42	31	(Area) CCI-65FP-065125 (H)	16.75 - 21.75	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L42	32	(Area) CCI-65FP-065125 (H)	16.75 - 21.75	Auto	0.0000
L42	33	(Area) CCI-65FP-065125 (H)	16.75 - 21.75	Auto	0.0000
L42	34	(Area) CCI-65FP-065125 (H)	16.75 - 21.75	Auto	0.0000
L43	31	(Area) CCI-65FP-065125 (H)	11.75 - 16.75	Auto	0.0000
L43	32	(Area) CCI-65FP-065125 (H)	11.75 - 16.75	Auto	0.0000
L43	33	(Area) CCI-65FP-065125 (H)	11.75 - 16.75	Auto	0.0000
L43	34	(Area) CCI-65FP-065125 (H)	11.75 - 16.75	Auto	0.0000
L44	31	(Area) CCI-65FP-065125 (H)	6.75 - 11.75	Auto	0.0000
L44	32	(Area) CCI-65FP-065125 (H)	6.75 - 11.75	Auto	0.0000
L44	33	(Area) CCI-65FP-065125 (H)	6.75 - 11.75	Auto	0.0000
L44	34	(Area) CCI-65FP-065125 (H)	6.75 - 11.75	Auto	0.0000
L45	31	(Area) CCI-65FP-065125 (H)	1.75 - 6.75	Auto	0.0000
L45	32	(Area) CCI-65FP-065125 (H)	1.75 - 6.75	Auto	0.0000
L45	33	(Area) CCI-65FP-065125 (H)	1.75 - 6.75	Auto	0.0000
L45	34	(Area) CCI-65FP-065125 (H)	1.75 - 6.75	Auto	0.0000
L46	31	(Area) CCI-65FP-065125 (H)	0.00 - 1.75	Auto	0.0000
L46	32	(Area) CCI-65FP-065125 (H)	0.00 - 1.75	Auto	0.0000
L46	33	(Area) CCI-65FP-065125 (H)	0.00 - 1.75	Auto	0.0000
L46	34	(Area) CCI-65FP-065125 (H)	0.00 - 1.75	Auto	0.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft	C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K	

Lighting Rod 5/8" x 5'	C	From Leg	0.00	0.0000	176.00	No Ice	0.31	0.31	0.03
			0.00			1/2"	0.83	0.83	0.03
			2.50			Ice	1.32	1.32	0.04
						1" Ice			

DT465B-2XR w/ Mount Pipe	A	From Leg	4.00	0.0000	176.00	No Ice	5.50	4.38	0.09
			0.00			1/2"	5.97	4.84	0.16
			2.00			Ice	6.45	5.30	0.25
						1" Ice			
DT465B-2XR w/ Mount Pipe	B	From Leg	4.00	0.0000	176.00	No Ice	5.50	4.38	0.09
			0.00			1/2"	5.97	4.84	0.16
			2.00			Ice	6.45	5.30	0.25
						1" Ice			
DT465B-2XR w/ Mount Pipe	C	From Leg	4.00	0.0000	176.00	No Ice	5.50	4.38	0.09
			0.00			1/2"	5.97	4.84	0.16
			2.00			Ice	6.45	5.30	0.25
						1" Ice			

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight		
			Horz	Lateral	Vert						ft	ft ²
			ft	ft	ft	°	ft	ft ²	ft ²	K		
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.00			0.0000	176.00	1" Ice				
			0.00						No Ice	4.09	2.86	0.08
			2.00						1/2"	4.48	3.23	0.13
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.00			0.0000	176.00	1" Ice				
			0.00						No Ice	4.09	2.86	0.08
			2.00						1/2"	4.48	3.23	0.13
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.00			0.0000	176.00	1" Ice				
			0.00						No Ice	4.09	2.86	0.08
			2.00						1/2"	4.48	3.23	0.13
RRH2X50-800	A	From Leg	4.00			0.0000	176.00	1" Ice				
			0.00						No Ice	1.70	1.28	0.05
			2.00						1/2"	1.86	1.43	0.07
RRH2X50-800	B	From Leg	4.00			0.0000	176.00	1" Ice				
			0.00						No Ice	1.70	1.28	0.05
			2.00						1/2"	1.86	1.43	0.07
RRH2X50-800	C	From Leg	4.00			0.0000	176.00	1" Ice				
			0.00						No Ice	1.70	1.28	0.05
			2.00						1/2"	1.86	1.43	0.07
TD-RRH8X20-25	A	From Leg	4.00			0.0000	176.00	1" Ice				
			0.00						No Ice	4.05	1.53	0.07
			0.00						1/2"	4.30	1.71	0.10
TD-RRH8X20-25	B	From Leg	4.00			0.0000	176.00	1" Ice				
			0.00						No Ice	4.05	1.53	0.07
			0.00						1/2"	4.30	1.71	0.10
TD-RRH8X20-25	C	From Leg	4.00			0.0000	176.00	1" Ice				
			0.00						No Ice	4.05	1.53	0.07
			0.00						1/2"	4.30	1.71	0.10
(6) ACU-A20-N	B	From Leg	4.00			0.0000	176.00	1" Ice				
			0.00						No Ice	0.07	0.12	0.00
			0.00						1/2"	0.10	0.16	0.00
(3) ACU-A20-N	C	From Leg	4.00			0.0000	176.00	1" Ice				
			0.00						No Ice	0.07	0.12	0.00
			0.00						1/2"	0.10	0.16	0.00
(2) 6' x 2" Mount Pipe	A	From Leg	4.00			0.0000	176.00	1" Ice				
			0.00						No Ice	1.43	1.43	0.02
			0.00						1/2"	1.92	1.92	0.03
(2) 6' x 2" Mount Pipe	B	From Leg	4.00			0.0000	176.00	1" Ice				
			0.00						No Ice	1.43	1.43	0.02
			0.00						1/2"	1.92	1.92	0.03
(2) 6' x 2" Mount Pipe	C	From Leg	4.00			0.0000	176.00	1" Ice				
			0.00						No Ice	1.43	1.43	0.02
			0.00						1/2"	1.92	1.92	0.03
Platform Mount [LP 712-1]	C	None				0.0000	176.00	1" Ice				
									No Ice	24.56	24.56	1.34
									1/2"	27.92	27.92	1.91
***** 800MHZ RRH	A	From Leg	1.00			0.0000	174.00	1" Ice				
			0.00						No Ice	2.13	1.77	0.05
			1.00						1/2"	2.32	1.95	0.07
							Ice	2.51	2.13	0.10		

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
800MHZ RRH	B	From Leg	1.00 0.00 1.00	0.0000	174.00	1" Ice	2.13	1.77	0.05
						No Ice	2.32	1.95	0.07
						1/2"	2.51	2.13	0.10
800MHZ RRH	C	From Leg	1.00 0.00 1.00	0.0000	174.00	1" Ice	2.13	1.77	0.05
						No Ice	2.32	1.95	0.07
						1/2"	2.51	2.13	0.10
PCS 1900MHz 4x45W-65MHz	A	From Leg	1.00 0.00 -1.00	0.0000	174.00	1" Ice	2.32	2.24	0.06
						No Ice	2.53	2.44	0.08
						1/2"	2.74	2.65	0.11
PCS 1900MHz 4x45W-65MHz	B	From Leg	1.00 0.00 -1.00	0.0000	174.00	1" Ice	2.32	2.24	0.06
						No Ice	2.53	2.44	0.08
						1/2"	2.74	2.65	0.11
PCS 1900MHz 4x45W-65MHz	C	From Leg	1.00 0.00 -1.00	0.0000	174.00	1" Ice	2.32	2.24	0.06
						No Ice	2.53	2.44	0.08
						1/2"	2.74	2.65	0.11
800 EXTERNAL NOTCH FILTER	A	From Leg	1.00 0.00 2.00	0.0000	174.00	1" Ice	0.66	0.32	0.01
						No Ice	0.76	0.40	0.02
						1/2"	0.87	0.48	0.02
800 EXTERNAL NOTCH FILTER	B	From Leg	1.00 0.00 2.00	0.0000	174.00	1" Ice	0.66	0.32	0.01
						No Ice	0.76	0.40	0.02
						1/2"	0.87	0.48	0.02
800 EXTERNAL NOTCH FILTER	C	From Leg	1.00 0.00 2.00	0.0000	174.00	1" Ice	0.66	0.32	0.01
						No Ice	0.76	0.40	0.02
						1/2"	0.87	0.48	0.02
5' x 2" Pipe Mount	A	From Leg	1.00 0.00 0.00	0.0000	174.00	1" Ice	1.19	1.19	0.02
						No Ice	1.50	1.50	0.03
						1/2"	1.81	1.81	0.04
5' x 2" Pipe Mount	B	From Leg	1.00 0.00 0.00	0.0000	174.00	1" Ice	1.19	1.19	0.02
						No Ice	1.50	1.50	0.03
						1/2"	1.81	1.81	0.04
5' x 2" Pipe Mount	C	From Leg	1.00 0.00 0.00	0.0000	174.00	1" Ice	1.19	1.19	0.02
						No Ice	1.50	1.50	0.03
						1/2"	1.81	1.81	0.04
Side Arm Mount [SO 102-3]	C	None		0.0000	174.00	1" Ice	3.60	3.60	0.07
						No Ice	4.18	4.18	0.11
						1/2"	4.75	4.75	0.14
***** OPA65R-BU6D w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	167.00	1" Ice	12.25	6.05	0.09
						No Ice	13.00	6.71	0.18
						1/2"	13.76	7.39	0.27
OPA65R-BU6D w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	167.00	1" Ice	12.25	6.05	0.09
						No Ice	13.00	6.71	0.18
						1/2"	13.76	7.39	0.27
OPA65R-BU6D w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	167.00	1" Ice	12.25	6.05	0.09
						No Ice	13.00	6.71	0.18
						1/2"	13.76	7.39	0.27
80010965 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	167.00	1" Ice	12.26	5.79	0.14
						No Ice	13.03	6.47	0.23
						1/2"	13.80	7.17	0.33

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _A A _A Front	C _A A _A Side	Weight
			Horz	Lateral	Vert					
			ft	ft	ft	°	ft	ft ²	ft ²	K
80010965 w/ Mount Pipe	B	From Leg	4.00	0.0000	167.00		1" Ice			
			0.00				No Ice	12.26	5.79	0.14
			0.00				1/2"	13.03	6.47	0.23
80010965 w/ Mount Pipe	C	From Leg	4.00	0.0000	167.00		Ice	13.80	7.17	0.33
			0.00				1" Ice			
			0.00				No Ice	12.26	5.79	0.14
RRUS 4449 B5/B12	A	From Leg	4.00	0.0000	167.00		1/2"	13.03	6.47	0.23
			0.00				Ice	13.80	7.17	0.33
			0.00				1" Ice			
RRUS 4449 B5/B12	B	From Leg	4.00	0.0000	167.00		No Ice	1.97	1.41	0.07
			0.00				1/2"	2.14	1.56	0.09
			0.00				Ice	2.33	1.73	0.11
RRUS 4449 B5/B12	C	From Leg	4.00	0.0000	167.00		1" Ice			
			0.00				No Ice	1.97	1.41	0.07
			0.00				1/2"	2.14	1.56	0.09
DC6-48-60-18-8F	A	From Leg	1.00	0.0000	167.00		Ice	2.33	1.73	0.11
			0.00				1" Ice			
			0.00				No Ice	0.92	0.92	0.02
(2) DC6-48-60-18-8F	B	From Leg	1.00	0.0000	167.00		1/2"	1.46	1.46	0.04
			0.00				Ice	1.64	1.64	0.06
			0.00				1" Ice			
RRUS 4478 B14	A	From Leg	4.00	0.0000	167.00		No Ice	0.92	0.92	0.02
			0.00				1/2"	1.46	1.46	0.04
			0.00				Ice	1.64	1.64	0.06
RRUS 4478 B14	B	From Leg	4.00	0.0000	167.00		1" Ice			
			0.00				No Ice	1.84	1.06	0.06
			0.00				1/2"	2.01	1.20	0.08
RRUS 4478 B14	C	From Leg	4.00	0.0000	167.00		Ice	2.19	1.34	0.09
			0.00				1" Ice			
			0.00				No Ice	1.84	1.06	0.06
RRUS 8843 B2/B66A	A	From Leg	4.00	0.0000	167.00		1/2"	2.01	1.20	0.08
			0.00				Ice	2.19	1.34	0.09
			0.00				1" Ice			
RRUS 8843 B2/B66A	B	From Leg	4.00	0.0000	167.00		No Ice	1.84	1.06	0.06
			0.00				1/2"	2.01	1.20	0.08
			0.00				Ice	2.19	1.34	0.09
RRUS 8843 B2/B66A	C	From Leg	4.00	0.0000	167.00		1" Ice			
			0.00				No Ice	1.64	1.35	0.07
			0.00				1/2"	1.80	1.50	0.09
4' x 2" Pipe Mount	A	From Leg	2.00	0.0000	167.00		Ice	1.97	1.65	0.11
			0.00				1" Ice			
			0.00				No Ice	1.64	1.35	0.07
4' x 2" Pipe Mount	B	From Leg	2.00	0.0000	167.00		1/2"	1.80	1.50	0.09
			0.00				Ice	1.97	1.65	0.11
			0.00				1" Ice			
4' x 2" Pipe Mount	C	From Leg	2.00	0.0000	167.00		No Ice	1.64	1.35	0.07
			0.00				1/2"	1.80	1.50	0.09
			0.00				Ice	1.97	1.65	0.11
4' x 2" Pipe Mount	A	From Leg	2.00	0.0000	167.00		1" Ice			
			0.00				No Ice	0.79	0.79	0.03
			0.00				1/2"	1.03	1.03	0.04
4' x 2" Pipe Mount	B	From Leg	2.00	0.0000	167.00		Ice	1.28	1.28	0.04
			0.00				1" Ice			
			0.00				No Ice	0.79	0.79	0.03
4' x 2" Pipe Mount	C	From Leg	2.00	0.0000	167.00		1/2"	1.03	1.03	0.04
			0.00				Ice	1.28	1.28	0.04
			0.00				1" Ice			

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
Platform Mount [LP 304-1_HR-1]	C	None		0.0000	167.00	No Ice	21.41	21.41	1.60
						1/2"	26.62	26.62	2.06
						Ice	31.66	31.66	2.60
						1" Ice			

AIR 6449 B77D_CCVI2	A	From Leg	4.00 0.00 1.00	0.0000	167.00	No Ice	4.02	2.14	0.08
						1/2"	4.28	2.35	0.11
						Ice	4.55	2.57	0.14
						1" Ice			
AIR 6449 B77D_CCVI2	B	From Leg	4.00 0.00 1.00	0.0000	167.00	No Ice	4.02	2.14	0.08
						1/2"	4.28	2.35	0.11
						Ice	4.55	2.57	0.14
						1" Ice			
AIR 6449 B77D_CCVI2	C	From Leg	4.00 0.00 1.00	0.0000	167.00	No Ice	4.02	2.14	0.08
						1/2"	4.28	2.35	0.11
						Ice	4.55	2.57	0.14
						1" Ice			
AIR 6419 B77G	A	From Leg	4.00 0.00 -1.00	0.0000	167.00	No Ice	4.64	1.87	0.07
						1/2"	5.11	2.23	0.09
						Ice	5.59	2.62	0.12
						1" Ice			
AIR 6419 B77G	B	From Leg	4.00 0.00 -1.00	0.0000	167.00	No Ice	4.64	1.87	0.07
						1/2"	5.11	2.23	0.09
						Ice	5.59	2.62	0.12
						1" Ice			
AIR 6419 B77G	C	From Leg	4.00 0.00 -1.00	0.0000	167.00	No Ice	4.64	1.87	0.07
						1/2"	5.11	2.23	0.09
						Ice	5.59	2.62	0.12
						1" Ice			
8' x 2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	167.00	No Ice	1.90	1.90	0.03
						1/2"	2.73	2.73	0.04
						Ice	3.40	3.40	0.06
						1" Ice			
8' x 2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	167.00	No Ice	1.90	1.90	0.03
						1/2"	2.73	2.73	0.04
						Ice	3.40	3.40	0.06
						1" Ice			
8' x 2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	167.00	No Ice	1.90	1.90	0.03
						1/2"	2.73	2.73	0.04
						Ice	3.40	3.40	0.06
						1" Ice			

ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice	3.14	2.59	0.11
						1/2"	3.45	2.88	0.16
						Ice	3.77	3.19	0.23
						1" Ice			
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice	3.14	2.59	0.11
						1/2"	3.45	2.88	0.16
						Ice	3.77	3.19	0.23
						1" Ice			
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice	3.14	2.59	0.11
						1/2"	3.45	2.88	0.16
						Ice	3.77	3.19	0.23
						1" Ice			
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice	14.69	6.87	0.19
						1/2"	15.46	7.55	0.31
						Ice	16.23	8.25	0.46
						1" Ice			
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice	14.69	6.87	0.19
						1/2"	15.46	7.55	0.31
						Ice	16.23	8.25	0.46
						1" Ice			
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	155.00	No Ice	14.69	6.87	0.19
						1/2"	15.46	7.55	0.31
						Ice	16.23	8.25	0.46

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
AIR 21 B4A/B2P w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	155.00	1" Ice			
						No Ice	3.14	2.58	0.10
						1/2"	3.45	2.88	0.15
AIR 21 B4A/B2P w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	155.00	Ice	3.76	3.18	0.21
						1" Ice			
						No Ice	3.14	2.58	0.10
AIR 21 B4A/B2P w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	155.00	1/2"	3.45	2.88	0.15
						Ice	3.76	3.18	0.21
						No Ice	3.14	2.58	0.10
KRY 112 144/1	A	From Leg	4.00 0.00 0.00	0.0000	155.00	1" Ice			
						No Ice	0.35	0.17	0.01
						1/2"	0.43	0.23	0.01
KRY 112 144/1	B	From Leg	4.00 0.00 0.00	0.0000	155.00	Ice	0.51	0.30	0.02
						1" Ice			
						No Ice	0.35	0.17	0.01
KRY 112 144/1	C	From Leg	4.00 0.00 0.00	0.0000	155.00	1/2"	0.43	0.23	0.01
						Ice	0.51	0.30	0.02
						No Ice	0.35	0.17	0.01
RADIO 4449 B12/B71	A	From Leg	4.00 0.00 0.00	0.0000	155.00	1" Ice			
						No Ice	1.65	1.16	0.07
						1/2"	1.81	1.30	0.09
RADIO 4449 B12/B71	B	From Leg	4.00 0.00 0.00	0.0000	155.00	Ice	1.98	1.45	0.11
						1" Ice			
						No Ice	1.65	1.16	0.07
RADIO 4449 B12/B71	C	From Leg	4.00 0.00 0.00	0.0000	155.00	1/2"	1.81	1.30	0.09
						Ice	1.98	1.45	0.11
						No Ice	1.65	1.16	0.07
Platform Mount [LP 303-1_HR-1]	C	None		0.0000	155.00	1" Ice			
						No Ice	17.09	17.09	1.50
						1/2"	21.47	21.47	1.88
*****	A	From Leg	4.00 0.00 0.00	0.0000	145.00	Ice	8.90	6.83	0.18
						1" Ice			
						No Ice	7.40	5.39	0.06
BXA-70063-6CF-EDIN-X w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	145.00	1/2"	8.14	6.10	0.11
						Ice	8.90	6.83	0.18
						No Ice	7.40	5.39	0.06
BXA-70063-6CF-EDIN-X w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	145.00	1" Ice			
						No Ice	7.40	5.39	0.06
						1/2"	8.14	6.10	0.11
Platform Mount [LP 303-1]	C	None		0.0000	145.00	Ice	8.90	6.83	0.18
						1" Ice			
						No Ice	7.40	5.39	0.06
***	A	From Leg	4.00 0.00 0.00	0.0000	145.00	1/2"	18.01	18.01	1.57
						Ice	21.34	21.34	1.94
						No Ice	14.69	14.69	1.25
(2) JAHH-65B-R3B w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	145.00	1" Ice			
						No Ice	5.50	4.38	0.10
						1/2"	5.97	4.84	0.17
(2) JAHH-65B-R3B w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	145.00	Ice	6.45	5.30	0.25
						1" Ice			
						No Ice	5.50	4.38	0.10
(2) JAHH-65B-R3B w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	145.00	1/2"	5.97	4.84	0.17
						Ice	6.45	5.30	0.25
						No Ice	5.50	4.38	0.10

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			0.00			Ice 6.45	5.30	0.25	
(2) JAHH-65B-R3B w/ Mount Pipe	C	From Leg	4.00	0.0000	145.00	1" Ice	5.50	4.38	0.10
			0.00			No Ice	5.97	4.84	0.17
			0.00			1/2"	6.45	5.30	0.25
Sub6 Antenna - VZS01	A	From Leg	4.00	0.0000	145.00	1" Ice	4.70	1.84	0.09
			0.00			No Ice	4.99	2.07	0.12
			0.00			1/2"	5.28	2.30	0.15
Sub6 Antenna - VZS01	B	From Leg	4.00	0.0000	145.00	1" Ice	4.70	1.84	0.09
			0.00			No Ice	4.99	2.07	0.12
			0.00			1/2"	5.28	2.30	0.15
Sub6 Antenna - VZS01	C	From Leg	4.00	0.0000	145.00	1" Ice	4.70	1.84	0.09
			0.00			No Ice	4.99	2.07	0.12
			0.00			1/2"	5.28	2.30	0.15
CBC78T-DS-43-2X	A	From Leg	4.00	0.0000	145.00	1" Ice	0.37	0.51	0.02
			0.00			No Ice	0.45	0.60	0.03
			0.00			1/2"	0.53	0.70	0.04
CBC78T-DS-43-2X	B	From Leg	4.00	0.0000	145.00	1" Ice	0.37	0.51	0.02
			0.00			No Ice	0.45	0.60	0.03
			0.00			1/2"	0.53	0.70	0.04
CBC78T-DS-43-2X	C	From Leg	4.00	0.0000	145.00	1" Ice	0.37	0.51	0.02
			0.00			No Ice	0.45	0.60	0.03
			0.00			1/2"	0.53	0.70	0.04
RVZDC-6627-PF-48	A	From Leg	4.00	0.0000	145.00	1" Ice	3.79	2.51	0.03
			0.00			No Ice	4.04	2.73	0.06
			0.00			1/2"	4.30	2.95	0.10
RFV01U-D1A	A	From Leg	4.00	0.0000	145.00	1" Ice	1.88	1.25	0.08
			0.00			No Ice	2.05	1.39	0.10
			0.00			1/2"	2.22	1.54	0.12
RFV01U-D1A	B	From Leg	4.00	0.0000	145.00	1" Ice	1.88	1.25	0.08
			0.00			No Ice	2.05	1.39	0.10
			0.00			1/2"	2.22	1.54	0.12
RFV01U-D1A	C	From Leg	4.00	0.0000	145.00	1" Ice	1.88	1.25	0.08
			0.00			No Ice	2.05	1.39	0.10
			0.00			1/2"	2.22	1.54	0.12
RFV01U-D2A	A	From Leg	4.00	0.0000	145.00	1" Ice	1.88	1.01	0.07
			0.00			No Ice	2.05	1.14	0.09
			0.00			1/2"	2.22	1.28	0.11
RFV01U-D2A	B	From Leg	4.00	0.0000	145.00	1" Ice	1.88	1.01	0.07
			0.00			No Ice	2.05	1.14	0.09
			0.00			1/2"	2.22	1.28	0.11
RFV01U-D2A	C	From Leg	4.00	0.0000	145.00	1" Ice	1.88	1.01	0.07
			0.00			No Ice	2.05	1.14	0.09
			0.00			1/2"	2.22	1.28	0.11
8' Pipe Mount [#P2.5STD]	A	From Leg	4.00	0.0000	145.00	1" Ice	2.30	2.30	0.04
			0.00			No Ice	3.13	3.13	0.06
			0.00			1/2"	3.62	3.62	0.08
8' Pipe Mount [#P2.5STD]	B	From Leg	4.00	0.0000	145.00	1" Ice	2.30	2.30	0.04
			0.00			No Ice	3.13	3.13	0.06
			0.00			1/2"	3.62	3.62	0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
8' Pipe Mount [#P2.5STD]	C	From Leg	4.00 0.00 0.00	0.0000	145.00	1" Ice			
						No Ice	2.30	2.30	0.04
						1/2"	3.13	3.13	0.06
3' Pipe Mount [#P2STD]	A	From Leg	2.00 0.00 0.00	0.0000	145.00	Ice	3.62	3.62	0.08
						1" Ice			
						No Ice	0.58	0.58	0.01
Support Rail Kit [#VZSMART-PLK1]	C	None		0.0000	145.00	1/2"	0.77	0.77	0.02
						Ice	0.97	0.97	0.02
						1" Ice			
Kicker Kit [#VZSMART-PLK5]	C	None		0.0000	145.00	No Ice	4.56	4.56	0.25
						1/2"	6.39	6.39	0.31
						Ice	8.18	8.18	0.40
Collar Mount Assembly [#VZSMART-PLK7]	C	None		0.0000	145.00	1" Ice			
						No Ice	11.84	11.84	0.28
						1/2"	16.96	16.96	0.30
***** KS24019-L112A	A	From Leg	3.00 0.00 1.00	0.0000	50.00	Ice	22.08	22.08	0.32
						1" Ice			
						No Ice	0.14	0.14	0.01
3' x 2" Pipe Mount	A	From Leg	3.00 0.00 0.00	0.0000	50.00	1/2"	0.20	0.20	0.01
						Ice	0.26	0.26	0.01
						1" Ice			
Side Arm Mount [SO 701-1]	A	From Leg	1.50 0.00 0.00	0.0000	50.00	No Ice	0.58	0.58	0.01
						1/2"	0.77	0.77	0.02
						Ice	0.97	0.97	0.02
***** OG-860/1920/GPS-A	A	From Leg	3.00 0.00 2.00	0.0000	10.00	1" Ice			
						No Ice	0.85	1.67	0.07
						1/2"	1.14	2.34	0.08
3' x 2" Pipe Mount	A	From Leg	3.00 0.00 0.00	0.0000	10.00	Ice	1.43	3.01	0.09
						1" Ice			
						No Ice	0.31	0.37	0.00
Side Arm Mount [SO 701-1]	A	From Leg	1.50 0.00 0.00	0.0000	10.00	1/2"	0.40	0.46	0.01
						Ice	0.49	0.55	0.01
						1" Ice			
*****	A	From Leg	3.00 0.00 0.00	0.0000	10.00	No Ice	0.58	0.58	0.01
						1/2"	0.77	0.77	0.02
						Ice	0.97	0.97	0.02
Side Arm Mount [SO 701-1]	A	From Leg	1.50 0.00 0.00	0.0000	10.00	1" Ice			
						No Ice	0.85	1.67	0.07
						1/2"	1.14	2.34	0.08
*****	A	From Leg	3.00 0.00 0.00	0.0000	10.00	Ice	1.43	3.01	0.09
						1" Ice			
						No Ice	0.85	1.67	0.07

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

Comb. No.	Description
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
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

Sectio n No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	176 - 171	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-6.77	-0.01	-0.10
			Max. Mx	20	-3.03	23.21	-0.03
			Max. My	14	-3.03	0.03	-23.29
			Max. Vy	20	-4.57	23.21	-0.03
			Max. Vx	14	4.58	0.03	-23.29
			Max. Torque	6			-0.13
L2	171 - 166	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-14.51	-0.17	-0.09
			Max. Mx	8	-6.89	-51.53	0.02
			Max. My	14	-6.88	-0.00	-51.62
			Max. Vy	20	-9.63	51.43	-0.04
			Max. Vx	14	9.64	-0.00	-51.62
			Max. Torque	4			-0.19
L3	166 - 161	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-14.96	-0.15	-0.08
			Max. Mx	8	-7.19	-100.31	0.04
			Max. My	14	-7.19	0.02	-100.46
			Max. Vy	20	-9.89	100.22	-0.05
			Max. Vx	14	9.90	0.02	-100.46

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L4	161 - 156	Pole	Max. Torque	4			-0.19
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-15.44	-0.13	-0.06
			Max. Mx	8	-7.53	-150.41	0.06
			Max. My	14	-7.52	0.04	-150.63
			Max. Vy	20	-10.16	150.35	-0.06
L5	156 - 151	Pole	Max. Vx	14	10.17	0.04	-150.63
			Max. Torque	4			-0.19
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-22.02	-0.10	-0.11
			Max. Mx	8	-11.15	-213.68	0.05
			Max. My	14	-11.14	0.07	-213.99
L6	151 - 144.25	Pole	Max. Vy	20	-13.38	213.63	-0.10
			Max. Vx	14	13.40	0.07	-213.99
			Max. Torque	4			-0.19
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-22.44	-0.09	-0.15
			Max. Mx	8	-11.47	-257.41	0.03
L7	144.25 - 142.75	Pole	Max. My	14	-11.47	0.08	-257.80
			Max. Vy	20	-13.55	257.38	-0.14
			Max. Vx	14	13.57	0.08	-257.80
			Max. Torque	20			-0.36
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-30.72	-0.06	0.38
L8	142.75 - 137.75	Pole	Max. Mx	8	-16.08	-336.05	0.17
			Max. My	2	-16.07	-0.09	336.63
			Max. Vy	20	-18.36	336.04	-0.03
			Max. Vx	14	18.41	0.11	-336.44
			Max. Torque	23			-0.38
			Max Tension	1	0.00	0.00	0.00
L9	137.75 - 132.75	Pole	Max. Compression	26	-31.65	-0.03	0.32
			Max. Mx	20	-16.88	428.50	-0.09
			Max. My	2	-16.87	-0.10	429.30
			Max. Vy	20	-18.64	428.50	-0.09
			Max. Vx	14	18.70	0.14	-429.20
			Max. Torque	23			-0.38
L10	132.75 - 127.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.62	-0.01	0.25
			Max. Mx	20	-17.71	522.39	-0.14
			Max. My	2	-17.70	-0.10	523.42
			Max. Vy	20	-18.93	522.39	-0.14
			Max. Vx	14	18.99	0.16	-523.40
L11	127.75 - 127.5	Pole	Max. Torque	23			-0.38
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-33.72	0.02	0.18
			Max. Mx	20	-18.65	617.73	-0.20
			Max. My	14	-18.64	0.19	-619.05
			Max. Vy	20	-19.22	617.73	-0.20
L12	127.5 - 122.5	Pole	Max. Vx	14	19.28	0.19	-619.05
			Max. Torque	23			-0.38
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-33.78	0.03	0.18
			Max. Mx	20	-18.72	622.54	-0.21
			Max. My	14	-18.71	0.19	-623.87
L12	127.5 - 122.5	Pole	Max. Vy	20	-19.23	622.54	-0.21
			Max. Vx	14	19.29	0.19	-623.87
			Max. Torque	23			-0.38
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.16	0.06	0.11
			Max. Mx	20	-19.88	719.45	-0.27
L12	127.5 - 122.5	Pole	Max. My	14	-19.87	0.22	-721.10
			Max. Vy	20	-19.55	719.45	-0.27
			Max. Vx	14	19.60	0.22	-721.10
			Max. Torque	23			-0.38

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L13	122.5 - 120.75	Pole	Max. Torque	23			-0.38
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.65	0.07	0.08
			Max. Mx	20	-20.28	753.73	-0.29
			Max. My	14	-20.27	0.23	-755.49
			Max. Vy	20	-19.66	753.73	-0.29
			Max. Vx	14	19.72	0.23	-755.49
L14	120.75 - 120.5	Pole	Max. Torque	23			-0.38
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.72	0.07	0.08
			Max. Mx	20	-20.36	758.65	-0.29
			Max. My	14	-20.35	0.23	-760.42
			Max. Vy	20	-19.66	758.65	-0.29
			Max. Vx	14	19.72	0.23	-760.42
L15	120.5 - 117.25	Pole	Max. Torque	23			-0.38
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.68	0.09	0.03
			Max. Mx	20	-21.17	822.86	-0.34
			Max. My	14	-21.16	0.25	-824.83
			Max. Vy	20	-19.87	822.86	-0.34
			Max. Vx	14	19.92	0.25	-824.83
L16	117.25 - 117	Pole	Max. Torque	23			-0.38
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.78	0.09	0.03
			Max. Mx	20	-21.26	827.82	-0.34
			Max. My	14	-21.25	0.25	-829.81
			Max. Vy	20	-19.88	827.82	-0.34
			Max. Vx	14	19.93	0.25	-829.81
L17	117 - 112	Pole	Max. Torque	23			-0.38
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-38.69	0.12	-0.05
			Max. Mx	20	-22.88	928.18	-0.41
			Max. My	14	-22.87	0.28	-930.48
			Max. Vy	20	-20.27	928.18	-0.41
			Max. Vx	14	20.33	0.28	-930.48
L18	112 - 107	Pole	Max. Torque	23			-0.38
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.62	0.16	-0.13
			Max. Mx	20	-24.53	1030.49	-0.47
			Max. My	14	-24.52	0.31	-1033.11
			Max. Vy	20	-20.66	1030.49	-0.47
			Max. Vx	14	20.72	0.31	-1033.11
L19	107 - 102	Pole	Max. Torque	23			-0.37
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.58	0.19	-0.21
			Max. Mx	20	-26.21	1134.72	-0.54
			Max. My	14	-26.20	0.34	-1137.66
			Max. Vy	20	-21.05	1134.72	-0.54
			Max. Vx	14	21.10	0.34	-1137.66
L20	102 - 94.5833	Pole	Max. Torque	23			-0.37
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.61	0.21	-0.26
			Max. Mx	20	-27.08	1189.33	-0.58
			Max. My	14	-27.07	0.36	-1192.43
			Max. Vy	20	-21.25	1189.33	-0.58
			Max. Vx	14	21.30	0.36	-1192.43
L21	94.5833 - 94.4167	Pole	Max. Torque	23			-0.37
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.58	0.25	-0.34
			Max. Mx	20	-29.54	1296.72	-0.65
			Max. My	14	-29.53	0.39	-1300.14
			Max. Vy	20	-21.72	1296.72	-0.65
			Max. Vx	14	21.77	0.39	-1300.14
			Max. Torque	23			-0.37

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L22	94.4167 - 89.4167	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.01	0.28	-0.43
			Max. Mx	20	-30.70	1405.97	-0.73
			Max. My	14	-30.70	0.42	-1409.72
			Max. Vy	20	-22.00	1405.97	-0.73
			Max. Vx	14	22.06	0.42	-1409.72
L23	89.4167 - 87.25	Pole	Max. Torque	23			-0.37
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.78	0.30	-0.47
			Max. Mx	20	-31.37	1453.75	-0.76
			Max. My	14	-31.36	0.44	-1457.64
			Max. Vy	20	-22.13	1453.75	-0.76
L24	87.25 - 87	Pole	Max. Vx	14	22.19	0.44	-1457.64
			Max. Torque	23			-0.37
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.87	0.30	-0.47
			Max. Mx	20	-31.45	1459.29	-0.76
			Max. My	14	-31.45	0.44	-1463.19
L25	87 - 82	Pole	Max. Vy	20	-22.14	1459.29	-0.76
			Max. Vx	14	22.19	0.44	-1463.19
			Max. Torque	23			-0.37
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.71	0.34	-0.57
			Max. Mx	20	-33.02	1570.68	-0.84
L26	82 - 77	Pole	Max. My	14	-33.02	0.47	-1574.90
			Max. Vy	20	-22.44	1570.68	-0.84
			Max. Vx	14	22.50	0.47	-1574.90
			Max. Torque	23			-0.37
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.57	0.38	-0.66
L27	77 - 72	Pole	Max. Mx	20	-34.63	1683.51	-0.92
			Max. My	14	-34.63	0.50	-1688.06
			Max. Vy	20	-22.73	1683.51	-0.92
			Max. Vx	14	22.78	0.50	-1688.06
			Max. Torque	23			-0.37
			Max Tension	1	0.00	0.00	0.00
L28	72 - 67	Pole	Max. Compression	26	-54.47	0.42	-0.76
			Max. Mx	20	-36.27	1797.76	-1.00
			Max. My	14	-36.27	0.54	-1802.63
			Max. Vy	20	-23.01	1797.76	-1.00
			Max. Vx	14	23.06	0.54	-1802.63
			Max. Torque	23			-0.37
L29	67 - 62	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.19	0.50	-0.96
			Max. Mx	20	-39.46	2030.33	-1.16
			Max. My	14	-39.46	0.60	-2035.84
			Max. Vy	20	-23.53	2030.33	-1.16
			Max. Vx	14	23.59	0.60	-2035.84
L30	62 - 61.5	Pole	Max. Torque	23			-0.37
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.36	0.51	-0.97
			Max. Mx	20	-39.60	2042.10	-1.17
			Max. My	14	-39.60	0.61	-2047.64
			Max. Vy	20	-23.55	2042.10	-1.17
L31	61.5 - 61.25	Pole	Max. Vx	14	23.60	0.61	-2047.64
			Max. Torque	23			-0.37
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.46	0.51	-0.97
			Max. Mx	20	-39.70	2047.98	-1.17
			Max. My	14	-39.69	0.61	-2053.54

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L32	61.25 - 56.25	Pole	Max. Vy	20	-23.56	2047.98	-1.17
			Max. Vx	14	23.62	0.61	-2053.54
			Max. Torque	23			-0.37
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.59	0.55	-1.07
L33	56.25 - 46.9567	Pole	Max. Mx	20	-41.50	2166.60	-1.26
			Max. My	14	-41.50	0.64	-2172.47
			Max. Vy	20	-23.90	2166.60	-1.26
			Max. Vx	14	23.95	0.64	-2172.47
			Max. Torque	23			-0.37
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-61.97	0.58	-1.15
			Max. Mx	20	-42.68	2243.59	-1.31
			Max. My	14	-42.67	0.67	-2249.67
			Max. Vy	20	-24.10	2243.59	-1.31
L34	46.9567 - 45.9567	Pole	Max. Vx	14	24.15	0.67	-2249.67
			Max. Torque	21			-0.38
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-67.36	0.64	-0.80
			Max. Mx	20	-47.22	2416.65	-1.10
			Max. My	14	-47.22	0.72	-2422.74
			Max. Vy	20	-24.75	2416.65	-1.10
			Max. Vx	14	24.78	0.72	-2422.74
			Max. Torque	21			-0.61
			Max Tension	1	0.00	0.00	0.00
L35	45.9567 - 40.9567	Pole	Max. Compression	26	-69.56	0.69	-0.93
			Max. Mx	20	-49.11	2541.03	-1.19
			Max. My	14	-49.10	0.75	-2547.33
			Max. Vy	20	-25.03	2541.03	-1.19
			Max. Vx	14	25.06	0.75	-2547.33
			Max. Torque	21			-0.61
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-71.78	0.73	-1.06
			Max. Mx	20	-51.01	2666.80	-1.28
			Max. My	14	-51.01	0.79	-2673.29
L36	40.9567 - 35.9567	Pole	Max. Vy	20	-25.30	2666.80	-1.28
			Max. Vx	14	25.33	0.79	-2673.29
			Max. Torque	21			-0.61
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.52	0.78	-1.14
			Max. Mx	20	-52.45	2760.89	-1.35
			Max. My	14	-52.44	0.81	-2767.53
			Max. Vy	20	-25.49	2760.89	-1.35
			Max. Vx	14	25.52	0.81	-2767.53
			Max. Torque	21			-0.61
L37	35.9567 - 32.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.67	0.79	-1.15
			Max. Mx	20	-52.58	2767.26	-1.35
			Max. My	14	-52.58	0.82	-2773.91
			Max. Vy	20	-25.49	2767.26	-1.35
			Max. Vx	14	25.52	0.82	-2773.91
			Max. Torque	21			-0.61
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.80	0.79	-1.15
			Max. Mx	20	-52.69	2773.63	-1.36
L38	32.25 - 32	Pole	Max. My	14	-52.69	0.82	-2780.29
			Max. Vy	20	-25.51	2773.63	-1.36
			Max. Vx	14	25.54	0.82	-2780.29
			Max. Torque	21			-0.61
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-76.32	0.88	-1.26
			Max. Mx	20	-54.80	2901.82	-1.45
			Max. My	14	-52.69	0.82	-2780.29
			Max. Vy	20	-25.51	2773.63	-1.36
			Max. Vx	14	25.54	0.82	-2780.29
L39	32 - 31.75	Pole	Max. Torque	21			-0.61
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.80	0.79	-1.15
			Max. Mx	20	-52.69	2773.63	-1.36
			Max. My	14	-52.69	0.82	-2780.29
			Max. Vy	20	-25.51	2773.63	-1.36
			Max. Vx	14	25.54	0.82	-2780.29
			Max. Torque	21			-0.61
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-76.32	0.88	-1.26
L40	31.75 - 26.75	Pole	Max. Mx	20	-54.80	2901.82	-1.45
			Max. My	14	-52.69	0.82	-2780.29

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L41	26.75 - 21.75	Pole	Max. My	14	-54.80	0.85	-2908.68
			Max. Vy	20	-25.78	2901.82	-1.45
			Max. Vx	14	25.81	0.85	-2908.68
			Max. Torque	21			-0.61
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-78.82	0.96	-1.38
L42	21.75 - 16.75	Pole	Max. Mx	20	-56.94	3031.32	-1.55
			Max. My	14	-56.94	0.89	-3038.38
			Max. Vy	20	-26.04	3031.32	-1.55
			Max. Vx	14	26.07	0.89	-3038.38
			Max. Torque	21			-0.61
			Max Tension	1	0.00	0.00	0.00
L43	16.75 - 11.75	Pole	Max. Compression	26	-81.33	1.05	-1.49
			Max. Mx	20	-59.12	3162.13	-1.64
			Max. My	14	-59.12	0.93	-3169.39
			Max. Vy	20	-26.30	3162.13	-1.64
			Max. Vx	14	26.33	0.93	-3169.39
			Max. Torque	21			-0.61
L44	11.75 - 6.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.55	1.21	-1.19
			Max. Mx	20	-63.64	3427.92	-1.48
			Max. My	14	-63.64	1.00	-3435.13
			Max. Vy	20	-26.90	3427.92	-1.48
			Max. Vx	14	26.90	1.00	-3435.13
L45	6.75 - 1.75	Pole	Max. Torque	21			-0.89
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-88.88	1.29	-1.17
			Max. Mx	20	-65.69	3563.00	-1.49
			Max. My	14	-65.69	1.04	-3570.21
			Max. Vy	20	-27.16	3563.00	-1.49
L46	1.75 - 0	Pole	Max. Vx	14	27.16	1.04	-3570.21
			Max. Torque	21			-0.89
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-89.67	1.31	-1.16
			Max. Mx	20	-66.40	3610.59	-1.49
			Max. My	14	-66.40	1.05	-3617.79
			Max. Vy	20	-27.26	3610.59	-1.49
			Max. Vx	14	27.27	1.05	-3617.79
			Max. Torque	21			-0.89

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	36	89.67	7.00	-0.00
	Max. H _x	21	49.81	27.24	-0.00
	Max. H _z	3	49.81	-0.00	27.24
	Max. M _x	2	3615.90	-0.00	27.24
	Max. M _z	8	3609.56	-27.24	0.00
	Max. Torsion	9	0.89	-27.24	0.00
	Min. Vert	11	49.81	-23.59	-13.62
	Min. H _x	9	49.81	-27.24	0.00
	Min. H _z	15	49.81	0.00	-27.24
	Min. M _x	14	-3617.79	0.00	-27.24

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Min. M _z	20	-3610.59	27.24	-0.00
	Min. Torsion	21	-0.89	27.24	-0.00

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	55.34	0.00	0.00	0.73	0.41	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	66.41	0.00	-27.24	-3615.90	-0.01	0.15
0.9 Dead+1.0 Wind 0 deg - No Ice	49.81	0.00	-27.24	-3549.83	-0.14	0.15
1.2 Dead+1.0 Wind 30 deg - No Ice	66.41	13.62	-23.59	-3131.61	-1804.97	-0.31
0.9 Dead+1.0 Wind 30 deg - No Ice	49.81	13.62	-23.59	-3074.42	-1772.01	-0.32
1.2 Dead+1.0 Wind 60 deg - No Ice	66.41	23.59	-13.62	-1807.94	-3126.16	-0.69
0.9 Dead+1.0 Wind 60 deg - No Ice	49.81	23.59	-13.62	-1775.03	-3068.99	-0.70
1.2 Dead+1.0 Wind 90 deg - No Ice	66.41	27.24	-0.00	0.43	-3609.56	-0.89
0.9 Dead+1.0 Wind 90 deg - No Ice	49.81	27.24	-0.00	0.18	-3543.52	-0.89
1.2 Dead+1.0 Wind 120 deg - No Ice	66.41	23.59	13.62	1808.94	-3125.62	-0.85
0.9 Dead+1.0 Wind 120 deg - No Ice	49.81	23.59	13.62	1775.53	-3068.46	-0.85
1.2 Dead+1.0 Wind 150 deg - No Ice	66.41	13.62	23.59	3132.98	-1804.04	-0.58
0.9 Dead+1.0 Wind 150 deg - No Ice	49.81	13.62	23.59	3075.30	-1771.10	-0.58
1.2 Dead+1.0 Wind 180 deg - No Ice	66.41	-0.00	27.24	3617.79	1.05	-0.15
0.9 Dead+1.0 Wind 180 deg - No Ice	49.81	-0.00	27.24	3551.22	0.91	-0.15
1.2 Dead+1.0 Wind 210 deg - No Ice	66.41	-13.62	23.59	3133.50	1805.99	0.31
0.9 Dead+1.0 Wind 210 deg - No Ice	49.81	-13.62	23.59	3075.81	1772.77	0.32
1.2 Dead+1.0 Wind 240 deg - No Ice	66.41	-23.59	13.62	1809.85	3127.18	0.69
0.9 Dead+1.0 Wind 240 deg - No Ice	49.81	-23.59	13.62	1776.43	3069.74	0.70
1.2 Dead+1.0 Wind 270 deg - No Ice	66.41	-27.24	0.00	1.49	3610.59	0.89
0.9 Dead+1.0 Wind 270 deg - No Ice	49.81	-27.24	0.00	1.23	3544.28	0.89
1.2 Dead+1.0 Wind 300 deg - No Ice	66.41	-23.59	-13.62	-1807.02	3126.66	0.85
0.9 Dead+1.0 Wind 300 deg - No Ice	49.81	-23.59	-13.62	-1774.12	3069.23	0.85
1.2 Dead+1.0 Wind 330 deg - No Ice	66.41	-13.62	-23.59	-3131.07	1805.09	0.58
0.9 Dead+1.0 Wind 330 deg - No Ice	49.81	-13.62	-23.59	-3073.90	1771.88	0.58
1.2 Dead+1.0 Ice+1.0 Temp	89.67	0.00	0.00	1.16	1.31	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	89.67	0.00	-6.99	-928.25	1.29	0.05
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	89.67	3.50	-6.06	-803.78	-462.87	-0.06
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	89.67	6.06	-3.50	-463.59	-802.62	-0.15
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	89.67	7.00	-0.00	1.17	-926.93	-0.21

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 120	89.67	6.06	3.50	465.97	-802.49	-0.20
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 150	89.67	3.50	6.06	806.25	-462.64	-0.15
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 180	89.67	-0.00	6.99	930.85	1.55	-0.05
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 210	89.67	-3.50	6.06	806.38	465.70	0.06
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 240	89.67	-6.06	3.50	466.19	805.45	0.15
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 270	89.67	-7.00	0.00	1.43	929.76	0.21
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 300	89.67	-6.06	-3.50	-463.36	805.32	0.20
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 330	89.67	-3.50	-6.06	-803.65	465.48	0.15
deg+1.0 Ice+1.0 Temp						
Dead+Wind 0 deg - Service	55.34	0.00	-6.31	-828.84	0.30	0.04
Dead+Wind 30 deg - Service	55.34	3.16	-5.47	-717.76	-413.71	-0.07
Dead+Wind 60 deg - Service	55.34	5.47	-3.16	-414.14	-716.76	-0.16
Dead+Wind 90 deg - Service	55.34	6.31	-0.00	0.66	-827.64	-0.21
Dead+Wind 120 deg - Service	55.34	5.46	3.16	415.49	-716.64	-0.20
Dead+Wind 150 deg - Service	55.34	3.15	5.47	719.20	-413.50	-0.14
Dead+Wind 180 deg - Service	55.34	-0.00	6.31	830.42	0.55	-0.04
Dead+Wind 210 deg - Service	55.34	-3.16	5.47	719.33	414.57	0.07
Dead+Wind 240 deg - Service	55.34	-5.47	3.16	415.70	717.61	0.16
Dead+Wind 270 deg - Service	55.34	-6.31	0.00	0.90	828.49	0.21
Dead+Wind 300 deg - Service	55.34	-5.46	-3.16	-413.92	717.49	0.20
Dead+Wind 330 deg - Service	55.34	-3.15	-5.47	-717.63	414.35	0.14

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	0.00	-55.34	0.00	0.00	55.34	0.00	0.000%
2	0.00	-66.41	-27.24	-0.00	66.41	27.24	0.000%
3	0.00	-49.81	-27.24	-0.00	49.81	27.24	0.000%
4	13.62	-66.41	-23.59	-13.62	66.41	23.59	0.000%
5	13.62	-49.81	-23.59	-13.62	49.81	23.59	0.000%
6	23.59	-66.41	-13.62	-23.59	66.41	13.62	0.000%
7	23.59	-49.81	-13.62	-23.59	49.81	13.62	0.000%
8	27.24	-66.41	-0.00	-27.24	66.41	0.00	0.000%
9	27.24	-49.81	-0.00	-27.24	49.81	0.00	0.000%
10	23.59	-66.41	13.62	-23.59	66.41	-13.62	0.000%
11	23.59	-49.81	13.62	-23.59	49.81	-13.62	0.000%
12	13.62	-66.41	23.59	-13.62	66.41	-23.59	0.000%
13	13.62	-49.81	23.59	-13.62	49.81	-23.59	0.000%
14	-0.00	-66.41	27.24	0.00	66.41	-27.24	0.000%
15	-0.00	-49.81	27.24	0.00	49.81	-27.24	0.000%
16	-13.62	-66.41	23.59	13.62	66.41	-23.59	0.000%
17	-13.62	-49.81	23.59	13.62	49.81	-23.59	0.000%
18	-23.59	-66.41	13.62	23.59	66.41	-13.62	0.000%
19	-23.59	-49.81	13.62	23.59	49.81	-13.62	0.000%
20	-27.24	-66.41	0.00	27.24	66.41	-0.00	0.000%
21	-27.24	-49.81	0.00	27.24	49.81	-0.00	0.000%
22	-23.59	-66.41	-13.62	23.59	66.41	13.62	0.000%
23	-23.59	-49.81	-13.62	23.59	49.81	13.62	0.000%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
24	-13.62	-66.41	-23.59	13.62	66.41	23.59	0.000%
25	-13.62	-49.81	-23.59	13.62	49.81	23.59	0.000%
26	0.00	-89.67	0.00	0.00	89.67	0.00	0.000%
27	0.00	-89.67	-6.99	-0.00	89.67	6.99	0.000%
28	3.50	-89.67	-6.06	-3.50	89.67	6.06	0.000%
29	6.06	-89.67	-3.50	-6.06	89.67	3.50	0.000%
30	7.00	-89.67	-0.00	-7.00	89.67	0.00	0.000%
31	6.06	-89.67	3.50	-6.06	89.67	-3.50	0.000%
32	3.50	-89.67	6.06	-3.50	89.67	-6.06	0.000%
33	-0.00	-89.67	6.99	0.00	89.67	-6.99	0.000%
34	-3.50	-89.67	6.06	3.50	89.67	-6.06	0.000%
35	-6.06	-89.67	3.50	6.06	89.67	-3.50	0.000%
36	-7.00	-89.67	0.00	7.00	89.67	-0.00	0.000%
37	-6.06	-89.67	-3.50	6.06	89.67	3.50	0.000%
38	-3.50	-89.67	-6.06	3.50	89.67	6.06	0.000%
39	0.00	-55.34	-6.31	-0.00	55.34	6.31	0.000%
40	3.16	-55.34	-5.47	-3.16	55.34	5.47	0.000%
41	5.47	-55.34	-3.16	-5.47	55.34	3.16	0.000%
42	6.31	-55.34	-0.00	-6.31	55.34	0.00	0.000%
43	5.46	-55.34	3.16	-5.46	55.34	-3.16	0.000%
44	3.15	-55.34	5.47	-3.15	55.34	-5.47	0.000%
45	-0.00	-55.34	6.31	0.00	55.34	-6.31	0.000%
46	-3.16	-55.34	5.47	3.16	55.34	-5.47	0.000%
47	-5.47	-55.34	3.16	5.47	55.34	-3.16	0.000%
48	-6.31	-55.34	0.00	6.31	55.34	-0.00	0.000%
49	-5.46	-55.34	-3.16	5.46	55.34	3.16	0.000%
50	-3.15	-55.34	-5.47	3.15	55.34	5.47	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	6	0.00000001	0.00011849
3	Yes	5	0.00000001	0.00051924
4	Yes	7	0.00000001	0.00084824
5	Yes	7	0.00000001	0.00020650
6	Yes	7	0.00000001	0.00085179
7	Yes	7	0.00000001	0.00020759
8	Yes	6	0.00000001	0.00014434
9	Yes	5	0.00000001	0.00071111
10	Yes	7	0.00000001	0.00084407
11	Yes	7	0.00000001	0.00020531
12	Yes	7	0.00000001	0.00085336
13	Yes	7	0.00000001	0.00020792
14	Yes	6	0.00000001	0.00011625
15	Yes	5	0.00000001	0.00050312
16	Yes	7	0.00000001	0.00085102
17	Yes	7	0.00000001	0.00020716
18	Yes	7	0.00000001	0.00084659
19	Yes	7	0.00000001	0.00020594
20	Yes	6	0.00000001	0.00013938
21	Yes	5	0.00000001	0.00067896
22	Yes	7	0.00000001	0.00085333
23	Yes	7	0.00000001	0.00020804
24	Yes	7	0.00000001	0.00084491
25	Yes	7	0.00000001	0.00020557
26	Yes	4	0.00000001	0.00000001
27	Yes	7	0.00000001	0.00045042
28	Yes	7	0.00000001	0.00059448
29	Yes	7	0.00000001	0.00059439
30	Yes	7	0.00000001	0.00044981
31	Yes	7	0.00000001	0.00059496
32	Yes	7	0.00000001	0.00059652
33	Yes	7	0.00000001	0.00045153
34	Yes	7	0.00000001	0.00059744

35	Yes	7	0.00000001	0.00059684
36	Yes	7	0.00000001	0.00045057
37	Yes	7	0.00000001	0.00059567
38	Yes	7	0.00000001	0.00059480
39	Yes	5	0.00000001	0.00023962
40	Yes	6	0.00000001	0.00012628
41	Yes	6	0.00000001	0.00012770
42	Yes	5	0.00000001	0.00024375
43	Yes	6	0.00000001	0.00012497
44	Yes	6	0.00000001	0.00012865
45	Yes	5	0.00000001	0.00024008
46	Yes	6	0.00000001	0.00012762
47	Yes	6	0.00000001	0.00012602
48	Yes	5	0.00000001	0.00024371
49	Yes	6	0.00000001	0.00012858
50	Yes	6	0.00000001	0.00012508

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	176 - 171	31.834	45	1.8923	0.0009
L2	171 - 166	29.857	45	1.8814	0.0009
L3	166 - 161	27.900	45	1.8552	0.0009
L4	161 - 156	25.980	45	1.8085	0.0008
L5	156 - 151	24.119	45	1.7433	0.0008
L6	151 - 144.25	22.334	45	1.6633	0.0008
L7	147.75 - 142.75	21.222	45	1.6035	0.0008
L8	142.75 - 137.75	19.565	45	1.5560	0.0008
L9	137.75 - 132.75	17.973	45	1.4829	0.0007
L10	132.75 - 127.75	16.462	45	1.4035	0.0006
L11	127.75 - 127.5	15.036	45	1.3200	0.0005
L12	127.5 - 122.5	14.967	45	1.3157	0.0005
L13	122.5 - 120.75	13.634	45	1.2295	0.0004
L14	120.75 - 120.5	13.189	45	1.1995	0.0004
L15	120.5 - 117.25	13.126	45	1.1952	0.0004
L16	117.25 - 117	12.332	45	1.1381	0.0004
L17	117 - 112	12.272	45	1.1354	0.0004
L18	112 - 107	11.112	45	1.0818	0.0003
L19	107 - 102	10.007	45	1.0283	0.0003
L20	102 - 94.5833	8.959	45	0.9739	0.0003
L21	99.4167 - 94.4167	8.439	45	0.9460	0.0003
L22	94.4167 - 89.4167	7.465	45	0.9132	0.0003
L23	89.4167 - 87.25	6.548	45	0.8381	0.0002
L24	87.25 - 87	6.175	45	0.8060	0.0002
L25	87 - 82	6.133	45	0.8023	0.0002
L26	82 - 77	5.331	45	0.7293	0.0002
L27	77 - 72	4.605	45	0.6579	0.0002
L28	72 - 67	3.953	45	0.5880	0.0002
L29	67 - 62	3.373	45	0.5196	0.0001
L30	62 - 61.5	2.864	45	0.4529	0.0001
L31	61.5 - 61.25	2.817	45	0.4463	0.0001
L32	61.25 - 56.25	2.793	45	0.4442	0.0001
L33	56.25 - 46.9567	2.351	45	0.4012	0.0001
L34	53.04 - 45.9567	2.090	45	0.3742	0.0001
L35	45.9567 - 40.9567	1.558	45	0.3400	0.0001
L36	40.9567 - 35.9567	1.224	45	0.2972	0.0001
L37	35.9567 - 32.25	0.935	45	0.2555	0.0001
L38	32.25 - 32	0.748	45	0.2253	0.0001
L39	32 - 31.75	0.736	45	0.2238	0.0001
L40	31.75 - 26.75	0.725	45	0.2220	0.0001
L41	26.75 - 21.75	0.511	45	0.1853	0.0001
L42	21.75 - 16.75	0.336	45	0.1496	0.0000
L43	16.75 - 11.75	0.198	45	0.1141	0.0000

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L44	11.75 - 6.75	0.097	45	0.0795	0.0000
L45	6.75 - 1.75	0.032	45	0.0450	0.0000
L46	1.75 - 0	0.002	45	0.0114	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
176.00	Lighting Rod 5/8" x 5'	45	31.834	1.8923	0.0009	15313
174.00	800MHZ RRH	45	31.042	1.8889	0.0009	15313
167.00	OPA65R-BU6D w/ Mount Pipe	45	28.289	1.8620	0.0009	8951
155.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	45	23.756	1.7289	0.0008	3751
145.00	BXA-70063-6CF-EDIN-X w/ Mount Pipe	45	20.303	1.5752	0.0008	4812
50.00	KS24019-L112A	45	1.854	0.3589	0.0001	10190
10.00	OG-860/1920/GPS-A	45	0.070	0.0674	0.0000	8395

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	176 - 171	138.845	14	8.2688	0.0035
L2	171 - 166	130.234	14	8.2214	0.0035
L3	166 - 161	121.708	14	8.1075	0.0035
L4	161 - 156	113.343	14	7.9038	0.0032
L5	156 - 151	105.235	14	7.6193	0.0033
L6	151 - 144.25	97.454	14	7.2700	0.0033
L7	147.75 - 142.75	92.606	14	7.0090	0.0034
L8	142.75 - 137.75	85.377	14	6.8013	0.0032
L9	137.75 - 132.75	78.435	14	6.4814	0.0028
L10	132.75 - 127.75	71.841	14	6.1342	0.0024
L11	127.75 - 127.5	65.619	14	5.7687	0.0021
L12	127.5 - 122.5	65.318	14	5.7501	0.0021
L13	122.5 - 120.75	59.502	14	5.3729	0.0018
L14	120.75 - 120.5	57.559	14	5.2419	0.0017
L15	120.5 - 117.25	57.286	14	5.2228	0.0017
L16	117.25 - 117	53.820	14	4.9731	0.0016
L17	117 - 112	53.561	14	4.9616	0.0016
L18	112 - 107	48.494	14	4.7270	0.0015
L19	107 - 102	43.671	14	4.4929	0.0013
L20	102 - 94.5833	39.096	14	4.2551	0.0012
L21	99.4167 - 94.4167	36.828	14	4.1332	0.0012
L22	94.4167 - 89.4167	32.575	14	3.9894	0.0011
L23	89.4167 - 87.25	28.573	14	3.6611	0.0010
L24	87.25 - 87	26.944	14	3.5207	0.0010
L25	87 - 82	26.760	14	3.5046	0.0010
L26	82 - 77	23.260	14	3.1854	0.0009
L27	77 - 72	20.090	14	2.8728	0.0008
L28	72 - 67	17.243	14	2.5671	0.0007
L29	67 - 62	14.713	14	2.2684	0.0006
L30	62 - 61.5	12.491	14	1.9766	0.0005
L31	61.5 - 61.25	12.286	14	1.9479	0.0005
L32	61.25 - 56.25	12.184	14	1.9386	0.0005
L33	56.25 - 46.9567	10.253	14	1.7509	0.0005
L34	53.04 - 45.9567	9.116	14	1.6328	0.0005
L35	45.9567 - 40.9567	6.792	14	1.4835	0.0004

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L36	40.9567 - 35.9567	5.337	14	1.2966	0.0004
L37	35.9567 - 32.25	4.075	14	1.1145	0.0003
L38	32.25 - 32	3.261	14	0.9826	0.0003
L39	32 - 31.75	3.210	14	0.9761	0.0003
L40	31.75 - 26.75	3.159	14	0.9680	0.0003
L41	26.75 - 21.75	2.229	14	0.8081	0.0002
L42	21.75 - 16.75	1.465	14	0.6523	0.0002
L43	16.75 - 11.75	0.863	14	0.4974	0.0001
L44	11.75 - 6.75	0.422	14	0.3464	0.0001
L45	6.75 - 1.75	0.138	14	0.1963	0.0001
L46	1.75 - 0	0.009	14	0.0498	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
176.00	Lighting Rod 5/8" x 5'	14	138.845	8.2688	0.0036	3663
174.00	800MHZ RRRH	14	135.396	8.2541	0.0035	3663
167.00	OPA65R-BU6D w/ Mount Pipe	14	123.403	8.1372	0.0035	2134
155.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	14	103.649	7.5566	0.0033	888
145.00	BXA-70063-6CF-EDIN-X w/ Mount Pipe	14	88.598	6.8852	0.0033	1131
50.00	KS24019-L112A	14	8.087	1.5658	0.0005	2336
10.00	OG-860/1920/GPS-A	14	0.305	0.2938	0.0001	1926

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
L1	176 - 171 (1)	TP17.626x16.5x0.1875	5.00	0.00	0.0	10.378	-3.03	607.12	0.005
L2	171 - 166 (2)	TP18.752x17.626x0.1875	5.00	0.00	0.0	11.048	-6.88	646.32	0.011
L3	166 - 161 (3)	TP19.878x18.752x0.1875	5.00	0.00	0.0	11.718	-7.19	685.52	0.010
L4	161 - 156 (4)	TP21.0039x19.878x0.1875	5.00	0.00	0.0	12.388	-7.52	724.72	0.010
L5	156 - 151 (5)	TP22.1299x21.0039x0.1875	5.00	0.00	0.0	13.058	-11.14	763.92	0.015
L6	151 - 144.25 (6)	TP23.65x22.1299x0.1875	6.75	0.00	0.0	13.494	-11.47	789.40	0.015
L7	144.25 - 142.75 (7)	TP23.6006x22.4868x0.3125	5.00	0.00	0.0	23.098	-16.07	1351.28	0.012
L8	142.75 - 137.75 (8)	TP24.7144x23.6006x0.3125	5.00	0.00	0.0	24.203	-16.87	1415.91	0.012
L9	137.75 - 132.75 (9)	TP25.8281x24.7144x0.3125	5.00	0.00	0.0	25.308	-17.70	1480.54	0.012
L10	132.75 - 127.75 (10)	TP26.9419x25.8281x0.3125	5.00	0.00	0.0	26.413	-18.64	1545.16	0.012
L11	127.75 - 127.5 (11)	TP26.9976x26.9419x0.3125	0.25	0.00	0.0	26.468	-18.71	1548.40	0.012
L12	127.5 - 122.5 (12)	TP28.1114x26.9976x0.3125	5.00	0.00	0.0	27.573	-19.87	1613.02	0.012
L13	122.5 -	TP28.5012x28.1114x0.3125	1.75	0.00	0.0	27.959	-20.27	1635.64	0.012

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L14	120.75 (13)	25				7			
	120.75 - 120.5 (14)	TP28.5569x28.5012x0.31	0.25	0.00	0.0	28.014	-20.35	1638.87	0.012
L15	120.5 - 117.25 (15)	25				9			
	117.25 - 117 (16)	TP29.2809x28.5569x0.31	3.25	0.00	0.0	28.733	-21.16	1680.88	0.013
L16	117 - 112 (17)	25				0			
	112 - 107 (18)	TP29.3366x29.2809x0.53	0.25	0.00	0.0	49.131	-21.25	2874.22	0.007
L17	112 - 107 (18)	75				9			
	107 - 102 (19)	TP30.4503x29.3366x0.52	5.00	0.00	0.0	49.866	-22.87	2917.17	0.008
L18	107 - 102 (19)	5				1			
	102 - 94.5833 (20)	TP31.5641x30.4503x0.52	5.00	0.00	0.0	51.722	-24.52	3025.74	0.008
L19	94.5833 - 94.4167 (21)	5				0			
	94.4167 - 89.4167 (22)	TP32.6779x31.5641x0.51	5.00	0.00	0.0	52.322	-26.20	3060.87	0.009
L20	89.4167 - 87.25 (23)	25				6			
	87.25 - 87 (24)	TP34.33x32.6779x0.5125	7.42	0.00	0.0	53.258	-27.07	3115.64	0.009
L21	87 - 82 (25)	5				7			
	82 - 77 (26)	TP33.7408x32.6283x0.37	5.00	0.00	0.0	39.713	-29.53	2323.25	0.013
L22	82 - 77 (26)	5				6			
	77 - 72 (27)	TP34.8532x33.7408x0.37	5.00	0.00	0.0	41.037	-30.70	2400.71	0.013
L23	77 - 72 (27)	5				7			
	72 - 67 (28)	TP35.3353x34.8532x0.37	2.17	0.00	0.0	41.611	-31.36	2434.27	0.013
L24	72 - 67 (28)	5				5			
	67 - 62 (29)	TP35.3909x35.3353x0.37	0.25	0.00	0.0	41.677	-31.45	2438.14	0.013
L25	67 - 62 (29)	5				7			
	62 - 61.5 (30)	TP36.5033x35.3909x0.37	5.00	0.00	0.0	43.001	-33.02	2515.60	0.013
L26	62 - 61.5 (30)	5				7			
	61.5 - 61.25 (31)	TP37.6158x36.5033x0.37	5.00	0.00	0.0	44.325	-34.63	2593.06	0.013
L27	61.5 - 61.25 (31)	5				8			
	61.25 - 56.25 (32)	TP38.7282x37.6158x0.37	5.00	0.00	0.0	45.649	-36.27	2670.52	0.014
L28	61.25 - 56.25 (32)	5				9			
	56.25 - 46.9567 (33)	TP39.8406x38.7282x0.37	5.00	0.00	0.0	46.974	-37.93	2747.98	0.014
L29	56.25 - 46.9567 (33)	5				0			
	46.9567 - 45.9567 (34)	TP40.9531x39.8406x0.37	5.00	0.00	0.0	48.298	-39.46	2825.44	0.014
L30	46.9567 - 45.9567 (34)	5				0			
	45.9567 - 40.9567 (35)	TP41.0643x40.9531x0.37	0.50	0.00	0.0	48.430	-39.60	2833.18	0.014
L31	45.9567 - 40.9567 (35)	5				4			
	40.9567 - 35.9567 (36)	TP41.1199x41.0643x0.58	0.25	0.00	0.0	75.581	-39.69	4421.54	0.009
L32	40.9567 - 35.9567 (36)	75				8			
	35.9567 - 32.25 (37)	TP42.2324x41.1199x0.57	5.00	0.00	0.0	76.026	-41.50	4447.57	0.009
L33	35.9567 - 32.25 (37)	5				8			
	32.25 - 32 (38)	TP44.3x42.2324x0.575	9.29	0.00	0.0	77.330	-42.67	4523.82	0.009
L34	32.25 - 32 (38)	5				2			
	32 - 31.75 (39)	TP43.7729x42.1965x0.57	7.08	0.00	0.0	78.432	-46.86	4588.28	0.010
L35	32 - 31.75 (39)	5				1			
	31.75 - 26.75 (40)	TP44.8856x43.7729x0.56	5.00	0.00	0.0	77.146	-47.24	4513.08	0.010
L36	31.75 - 26.75 (40)	25				7			
	26.75 - 21.75 (41)	TP45.9982x44.8856x0.56	5.00	0.00	0.0	79.133	-49.12	4629.30	0.011
L37	26.75 - 21.75 (41)	25				3			
	21.75 - 16.75 (42)	TP46.8231x45.9982x0.56	3.71	0.00	0.0	81.119	-51.03	4745.51	0.011
L38	21.75 - 16.75 (42)	25				8			
	16.75 - 11.75 (43)	TP46.8788x46.8231x0.77	0.25	0.00	0.0	113.27	-52.46	6626.38	0.008
L39	16.75 - 11.75 (43)	5				10			
	11.75 - 6.75 (44)	TP46.9344x46.8788x0.61	0.25	0.00	0.0	89.945	-52.59	5261.79	0.010
L40	11.75 - 6.75 (44)	25				1			
	6.75 - 1.75 (45)	TP48.0471x46.9344x0.61	5.00	0.00	0.0	90.053	-52.70	5268.11	0.010
L41	6.75 - 1.75 (45)	25				2			
	1.75 - 0 (46)	TP49.1598x48.0471x0.61	5.00	0.00	0.0	92.216	-54.81	5394.66	0.010
L42	1.75 - 0 (46)	25				4			
		TP50.2725x49.1598x0.6	5.00	0.00	0.0	92.477	-56.96	5409.92	0.011
L43		2				2			
		TP51.3852x50.2725x0.6	5.00	0.00	0.0	94.596	-59.13	5533.88	0.011
L44		3				7			
		TP52.4979x51.3852x0.58	5.00	0.00	0.0	94.723	-61.33	5541.34	0.011
L45		75				7			
		TP53.6106x52.4979x0.58	5.00	0.00	0.0	96.798	-63.65	5662.72	0.011
L46		6				6			
		TP54x53.6106x0.5875	1.75	0.00	0.0	98.873	-65.71	5784.10	0.011
						4			

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux}	ϕM_{nx}	Ratio	M_{uy}	ϕM_{ny}	Ratio
			kip-ft	kip-ft	$\frac{M_{ux}}{\phi M_{nx}}$	kip-ft	kip-ft	$\frac{M_{uy}}{\phi M_{ny}}$
L1	176 - 171 (1)	TP17.626x16.5x0.1875	23.29	275.70	0.084	0.00	275.70	0.000
L2	171 - 166 (2)	TP18.752x17.626x0.1875	51.62	309.56	0.167	0.00	309.56	0.000
L3	166 - 161 (3)	TP19.878x18.752x0.1875	100.46	343.14	0.293	0.00	343.14	0.000
L4	161 - 156 (4)	TP21.0039x19.878x0.1875	150.63	377.78	0.399	0.00	377.78	0.000
L5	156 - 151 (5)	TP22.1299x21.0039x0.1875	213.99	413.36	0.518	0.00	413.36	0.000
L6	151 - 144.25 (6)	TP23.65x22.1299x0.1875	257.80	436.94	0.590	0.00	436.94	0.000
L7	144.25 - 142.75 (7)	TP23.6006x22.4868x0.3125	336.63	817.31	0.412	0.00	817.31	0.000
L8	142.75 - 137.75 (8)	TP24.7144x23.6006x0.3125	429.30	897.90	0.478	0.00	897.90	0.000
L9	137.75 - 132.75 (9)	TP25.8281x24.7144x0.3125	523.42	982.28	0.533	0.00	982.28	0.000
L10	132.75 - 127.75 (10)	TP26.9419x25.8281x0.3125	619.05	1070.45	0.578	0.00	1070.45	0.000
L11	127.75 - 127.5 (11)	TP26.9976x26.9419x0.3125	623.87	1074.96	0.580	0.00	1074.96	0.000
L12	127.5 - 122.5 (12)	TP28.1114x26.9976x0.3125	721.10	1167.10	0.618	0.00	1167.10	0.000
L13	122.5 - 120.75 (13)	TP28.5012x28.1114x0.3125	755.49	1200.25	0.629	0.00	1200.25	0.000
L14	120.75 - 120.5 (14)	TP28.5569x28.5012x0.3125	760.42	1205.03	0.631	0.00	1205.03	0.000
L15	120.5 - 117.25 (15)	TP29.2809x28.5569x0.3125	824.83	1267.93	0.651	0.00	1267.93	0.000
L16	117.25 - 117 (16)	TP29.3366x29.2809x0.5375	829.81	2138.77	0.388	0.00	2138.77	0.000
L17	117 - 112 (17)	TP30.4503x29.3366x0.525	930.48	2258.10	0.412	0.00	2258.10	0.000
L18	112 - 107 (18)	TP31.5641x30.4503x0.525	1033.11	2430.82	0.425	0.00	2430.82	0.000
L19	107 - 102 (19)	TP32.6779x31.5641x0.5125	1137.67	2550.73	0.446	0.00	2550.73	0.000
L20	102 - 94.5833 (20)	TP34.33x32.6779x0.5125	1192.43	2643.55	0.451	0.00	2643.55	0.000
L21	94.5833 - 94.4167 (21)	TP33.7408x32.6283x0.375	1300.14	2017.62	0.644	0.00	2017.62	0.000
L22	94.4167 - 89.4167 (22)	TP34.8532x33.7408x0.375	1409.72	2155.18	0.654	0.00	2155.18	0.000
L23	89.4167 - 87.25 (23)	TP35.3353x34.8532x0.375	1457.64	2216.18	0.658	0.00	2216.18	0.000
L24	87.25 - 87 (24)	TP35.3909x35.3353x0.375	1463.18	2223.28	0.658	0.00	2223.28	0.000
L25	87 - 82 (25)	TP36.5033x35.3909x0.375	1574.90	2359.96	0.667	0.00	2359.96	0.000
L26	82 - 77 (26)	TP37.6158x36.5033x0.375	1688.06	2489.58	0.678	0.00	2489.58	0.000
L27	77 - 72 (27)	TP38.7282x37.6158x0.375	1802.63	2621.44	0.688	0.00	2621.44	0.000
L28	72 - 67 (28)	TP39.8406x38.7282x0.375	1918.58	2755.44	0.696	0.00	2755.44	0.000
L29	67 - 62 (29)	TP40.9531x39.8406x0.375	2035.84	2891.47	0.704	0.00	2891.47	0.000
L30	62 - 61.5 (30)	TP41.0643x40.9531x0.375	2047.63	2905.19	0.705	0.00	2905.19	0.000
L31	61.5 - 61.25 (31)	TP41.1199x41.0643x0.5875	2053.54	4649.68	0.442	0.00	4649.68	0.000
L32	61.25 - 56.25 (32)	TP42.2324x41.1199x0.575	2172.47	4810.13	0.452	0.00	4810.13	0.000
L33	56.25 - 46.9567 (33)	TP44.3x42.2324x0.575	2249.68	4977.62	0.452	0.00	4977.62	0.000
L34	46.9567 - 45.9567 (34)	TP43.7729x42.1965x0.575	2397.99	5121.45	0.468	0.00	5121.45	0.000
L35	45.9567 -	TP44.8856x43.7729x0.56	2422.74	5066.88	0.478	0.00	5066.88	0.000

Section No.	Elevation ft	Size	M_{ux}	ϕM_{nx}	Ratio	M_{uy}	ϕM_{ny}	Ratio
			kip-ft	kip-ft	$\frac{M_{ux}}{\phi M_{nx}}$	kip-ft	kip-ft	$\frac{M_{uy}}{\phi M_{ny}}$
L36	40.9567 (35) 40.9567 - 35.9567 (36)	25 TP45.9982x44.8856x0.56 25	2547.32	5332.91	0.478	0.00	5332.91	0.000
L37	35.9567 - 32.25 (37)	25 TP46.8231x45.9982x0.56 25	2673.29	5605.74	0.477	0.00	5605.74	0.000
L38	32.25 - 32 (38)	5 TP46.8788x46.8231x0.77 5	2767.53	7898.34	0.350	0.00	7898.34	0.000
L39	32 - 31.75 (39)	25 TP46.9344x46.8788x0.61 25	2773.91	6323.86	0.439	0.00	6323.86	0.000
L40	31.75 - 26.75 (40)	25 TP48.0471x46.9344x0.61 25	2780.29	6339.17	0.439	0.00	6339.17	0.000
L41	26.75 - 21.75 (41)	25 TP49.1598x48.0471x0.61 25	2908.68	6649.42	0.437	0.00	6649.42	0.000
L42	21.75 - 16.75 (42)	0.6 TP50.2725x49.1598x0.6 0.6	3038.38	6830.15	0.445	0.00	6830.15	0.000
L43	16.75 - 11.75 (43)	0.6 TP51.3852x50.2725x0.6 0.6	3169.38	7148.71	0.443	0.00	7148.71	0.000
L44	11.75 - 6.75 (44)	0.58 TP52.4979x51.3852x0.58 0.58	3301.70	7324.20	0.451	0.00	7324.20	0.000
L45	6.75 - 1.75 (45)	0.58 TP53.6106x52.4979x0.58 0.58	3435.13	7650.46	0.449	0.00	7650.46	0.000
L46	1.75 - 0 (46)	0.5875 TP54x53.6106x0.5875 0.5875	3570.21	7983.82	0.447	0.00	7983.82	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual	ϕV_n	Ratio	Actual	ϕT_n	Ratio
			V_u K	K	$\frac{V_u}{\phi V_n}$	T_u kip-ft	kip-ft	$\frac{T_u}{\phi T_n}$
L1	176 - 171 (1)	TP17.626x16.5x0.1875	4.58	179.78	0.025	0.05	278.15	0.000
L2	171 - 166 (2)	TP18.752x17.626x0.1875	9.64	191.54	0.050	0.16	315.23	0.000
L3	166 - 161 (3)	TP19.878x18.752x0.1875	9.90	205.66	0.048	0.16	354.63	0.000
L4	161 - 156 (4)	TP21.0039x19.878x0.1875	10.17	217.42	0.047	0.16	396.35	0.000
L5	156 - 151 (5)	TP22.1299x21.0039x0.1875	13.40	229.18	0.058	0.16	440.39	0.000
L6	151 - 144.25 (6)	TP23.65x22.1299x0.1875	13.57	236.82	0.057	0.16	470.26	0.000
L7	144.25 - 142.75 (7)	TP23.6006x22.4868x0.31 25	18.41	405.38	0.045	0.16	826.76	0.000
L8	142.75 - 137.75 (8)	TP24.7144x23.6006x0.31 25	18.70	424.77	0.044	0.16	907.74	0.000
L9	137.75 - 132.75 (9)	TP25.8281x24.7144x0.31 25	18.99	444.16	0.043	0.16	992.49	0.000
L10	132.75 - 127.75 (10)	TP26.9419x25.8281x0.31 25	19.28	463.55	0.042	0.16	1081.03	0.000
L11	127.75 - 127.5 (11)	TP26.9976x26.9419x0.31 25	19.29	464.52	0.042	0.16	1085.56	0.000
L12	127.5 - 122.5 (12)	TP28.1114x26.9976x0.31 25	19.60	483.91	0.041	0.16	1178.07	0.000
L13	122.5 - 120.75 (13)	TP28.5012x28.1114x0.31 25	19.72	490.69	0.040	0.16	1211.33	0.000
L14	120.75 - 120.5 (14)	TP28.5569x28.5012x0.31 25	19.72	491.66	0.040	0.16	1216.13	0.000
L15	120.5 - 117.25 (15)	TP29.2809x28.5569x0.31 25	19.93	504.26	0.040	0.16	1279.27	0.000
L16	117.25 - 117 (16)	TP29.3366x29.2809x0.53 75	19.93	862.26	0.023	0.16	2174.70	0.000
L17	117 - 112 (17)	TP30.4503x29.3366x0.52 5	20.33	875.15	0.023	0.16	2293.52	0.000
L18	112 - 107 (18)	TP31.5641x30.4503x0.52 5	20.72	907.72	0.023	0.15	2467.42	0.000
L19	107 - 102 (19)	TP32.6779x31.5641x0.51 25	21.10	918.26	0.023	0.15	2586.64	0.000
L20	102 - 94.5833 (20)	TP34.33x32.6779x0.5125 0.5125	21.30	934.69	0.023	0.15	2680.02	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L21	94.5833 - 94.4167 (21)	TP33.7408x32.6283x0.375	21.77	696.97	0.031	0.15	2036.57	0.000
L22	94.4167 - 89.4167 (22)	TP34.8532x33.7408x0.375	22.06	720.21	0.031	0.15	2174.63	0.000
L23	89.4167 - 87.25 (23)	TP35.3353x34.8532x0.375	22.19	730.28	0.030	0.15	2235.86	0.000
L24	87.25 - 87 (24)	TP35.3909x35.3353x0.375	22.19	731.44	0.030	0.15	2242.98	0.000
L25	87 - 82 (25)	TP36.5033x35.3909x0.375	22.50	754.68	0.030	0.15	2387.76	0.000
L26	82 - 77 (26)	TP37.6158x36.5033x0.375	22.78	777.92	0.029	0.15	2537.07	0.000
L27	77 - 72 (27)	TP38.7282x37.6158x0.375	23.06	801.15	0.029	0.15	2690.91	0.000
L28	72 - 67 (28)	TP39.8406x38.7282x0.375	23.33	824.39	0.028	0.15	2849.27	0.000
L29	67 - 62 (29)	TP40.9531x39.8406x0.375	23.59	847.63	0.028	0.15	3012.16	0.000
L30	62 - 61.5 (30)	TP41.0643x40.9531x0.375	23.60	849.95	0.028	0.15	3028.70	0.000
L31	61.5 - 61.25 (31)	TP41.1199x41.0643x0.5875	23.61	1326.46	0.018	0.15	4708.44	0.000
L32	61.25 - 56.25 (32)	TP42.2324x41.1199x0.575	23.95	1334.27	0.018	0.15	4867.61	0.000
L33	56.25 - 46.9567 (33)	TP44.3x42.2324x0.575	24.15	1357.14	0.018	0.15	5035.94	0.000
L34	46.9567 - 45.9567 (34)	TP43.7729x42.1965x0.575	24.78	1383.61	0.018	0.15	5180.48	0.000
L35	45.9567 - 40.9567 (35)	TP44.8856x43.7729x0.5625	24.84	1360.90	0.018	0.15	5123.45	0.000
L36	40.9567 - 35.9567 (36)	TP45.9982x44.8856x0.5625	25.11	1395.76	0.018	0.15	5390.71	0.000
L37	35.9567 - 32.25 (37)	TP46.8231x45.9982x0.5625	25.40	1432.27	0.018	0.15	5664.77	0.000
L38	32.25 - 32 (38)	TP46.8788x46.8231x0.775	25.52	1990.32	0.013	0.15	8016.59	0.000
L39	32 - 31.75 (39)	TP46.9344x46.8788x0.6125	25.54	1580.43	0.016	0.15	6395.86	0.000
L40	31.75 - 26.75 (40)	TP48.0471x46.9344x0.6125	25.60	1588.03	0.016	0.15	6411.25	0.000
L41	26.75 - 21.75 (41)	TP49.1598x48.0471x0.6125	25.86	1625.99	0.016	0.15	6722.96	0.000
L42	21.75 - 16.75 (42)	TP50.2725x49.1598x0.6125	26.12	1630.41	0.016	0.15	6901.90	0.000
L43	16.75 - 11.75 (43)	TP51.3852x50.2725x0.6125	26.38	1667.60	0.016	0.15	7221.82	0.000
L44	11.75 - 6.75 (44)	TP52.4979x51.3852x0.5875	26.65	1669.68	0.016	0.15	7395.37	0.000
L45	6.75 - 1.75 (45)	TP53.6106x52.4979x0.5875	26.95	1706.10	0.016	0.15	7722.89	0.000
L46	1.75 - 0 (46)	TP54x53.6106x0.5875	27.27	1747.97	0.016	0.15	8057.52	0.000

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
		ϕP_n	ϕM_{nx}	ϕM_{ny}	ϕV_n	ϕT_n			
L1	176 - 171 (1)	0.005	0.084	0.000	0.025	0.000	0.090	1.050	4.8.2
L2	171 - 166 (2)	0.011	0.167	0.000	0.050	0.000	0.180	1.050	4.8.2
L3	166 - 161 (3)	0.010	0.293	0.000	0.048	0.000	0.306	1.050	4.8.2
L4	161 - 156 (4)	0.010	0.399	0.000	0.047	0.000	0.411	1.050	4.8.2
L5	156 - 151 (5)	0.015	0.518	0.000	0.058	0.000	0.536	1.050	4.8.2
L6	151 - 144.25 (6)	0.015	0.590	0.000	0.057	0.000	0.608	1.050	4.8.2
L7	144.25 -	0.012	0.412	0.000	0.045	0.000	0.426	1.050	4.8.2

Section No.	Elevation ft	Ratio	Ratio	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		P_u ϕP_n	M_{ux} ϕM_{nx}	M_{uy} ϕM_{ny}	V_u ϕV_n	T_u ϕT_n			
L8	142.75 (7) 142.75 - 137.75 (8)	0.012	0.478	0.000	0.044	0.000	0.492	1.050	4.8.2
L9	137.75 - 132.75 (9)	0.012	0.533	0.000	0.043	0.000	0.547	1.050	4.8.2
L10	132.75 - 127.75 (10)	0.012	0.578	0.000	0.042	0.000	0.592	1.050	4.8.2
L11	127.75 - 127.5 (11)	0.012	0.580	0.000	0.042	0.000	0.594	1.050	4.8.2
L12	127.5 - 122.5 (12)	0.012	0.618	0.000	0.041	0.000	0.632	1.050	4.8.2
L13	122.5 - 120.75 (13)	0.012	0.629	0.000	0.040	0.000	0.643	1.050	4.8.2
L14	120.75 - 120.5 (14)	0.012	0.631	0.000	0.040	0.000	0.645	1.050	4.8.2
L15	120.5 - 117.25 (15)	0.013	0.651	0.000	0.040	0.000	0.665	1.050	4.8.2
L16	117.25 - 117 (16)	0.007	0.388	0.000	0.023	0.000	0.396	1.050	4.8.2
L17	117 - 112 (17)	0.008	0.412	0.000	0.023	0.000	0.420	1.050	4.8.2
L18	112 - 107 (18)	0.008	0.425	0.000	0.023	0.000	0.434	1.050	4.8.2
L19	107 - 102 (19)	0.009	0.446	0.000	0.023	0.000	0.455	1.050	4.8.2
L20	102 - 94.5833 (20)	0.009	0.451	0.000	0.023	0.000	0.460	1.050	4.8.2
L21	94.5833 - 94.4167 (21)	0.013	0.644	0.000	0.031	0.000	0.658	1.050	4.8.2
L22	94.4167 - 89.4167 (22)	0.013	0.654	0.000	0.031	0.000	0.668	1.050	4.8.2
L23	89.4167 - 87.25 (23)	0.013	0.658	0.000	0.030	0.000	0.672	1.050	4.8.2
L24	87.25 - 87 (24)	0.013	0.658	0.000	0.030	0.000	0.672	1.050	4.8.2
L25	87 - 82 (25)	0.013	0.667	0.000	0.030	0.000	0.681	1.050	4.8.2
L26	82 - 77 (26)	0.013	0.678	0.000	0.029	0.000	0.692	1.050	4.8.2
L27	77 - 72 (27)	0.014	0.688	0.000	0.029	0.000	0.702	1.050	4.8.2
L28	72 - 67 (28)	0.014	0.696	0.000	0.028	0.000	0.711	1.050	4.8.2
L29	67 - 62 (29)	0.014	0.704	0.000	0.028	0.000	0.719	1.050	4.8.2
L30	62 - 61.5 (30)	0.014	0.705	0.000	0.028	0.000	0.720	1.050	4.8.2
L31	61.5 - 61.25 (31)	0.009	0.442	0.000	0.018	0.000	0.451	1.050	4.8.2
L32	61.25 - 56.25 (32)	0.009	0.452	0.000	0.018	0.000	0.461	1.050	4.8.2
L33	56.25 - 46.9567 (33)	0.009	0.452	0.000	0.018	0.000	0.462	1.050	4.8.2
L34	46.9567 - 45.9567 (34)	0.010	0.468	0.000	0.018	0.000	0.479	1.050	4.8.2
L35	45.9567 - 40.9567 (35)	0.010	0.478	0.000	0.018	0.000	0.489	1.050	4.8.2
L36	40.9567 - 35.9567 (36)	0.011	0.478	0.000	0.018	0.000	0.489	1.050	4.8.2
L37	35.9567 - 32.25 (37)	0.011	0.477	0.000	0.018	0.000	0.488	1.050	4.8.2
L38	32.25 - 32 (38)	0.008	0.350	0.000	0.013	0.000	0.358	1.050	4.8.2
L39	32 - 31.75 (39)	0.010	0.439	0.000	0.016	0.000	0.449	1.050	4.8.2
L40	31.75 - 26.75 (40)	0.010	0.439	0.000	0.016	0.000	0.449	1.050	4.8.2
L41	26.75 - 21.75 (41)	0.010	0.437	0.000	0.016	0.000	0.448	1.050	4.8.2
L42	21.75 - 16.75 (42)	0.011	0.445	0.000	0.016	0.000	0.456	1.050	4.8.2
L43	16.75 - 11.75 (43)	0.011	0.443	0.000	0.016	0.000	0.454	1.050	4.8.2
L44	11.75 - 6.75 (44)	0.011	0.451	0.000	0.016	0.000	0.462	1.050	4.8.2
L45	6.75 - 1.75 (45)	0.011	0.449	0.000	0.016	0.000	0.461	1.050	4.8.2
L46	1.75 - 0 (46)	0.011	0.447	0.000	0.016	0.000	0.459	1.050	4.8.2

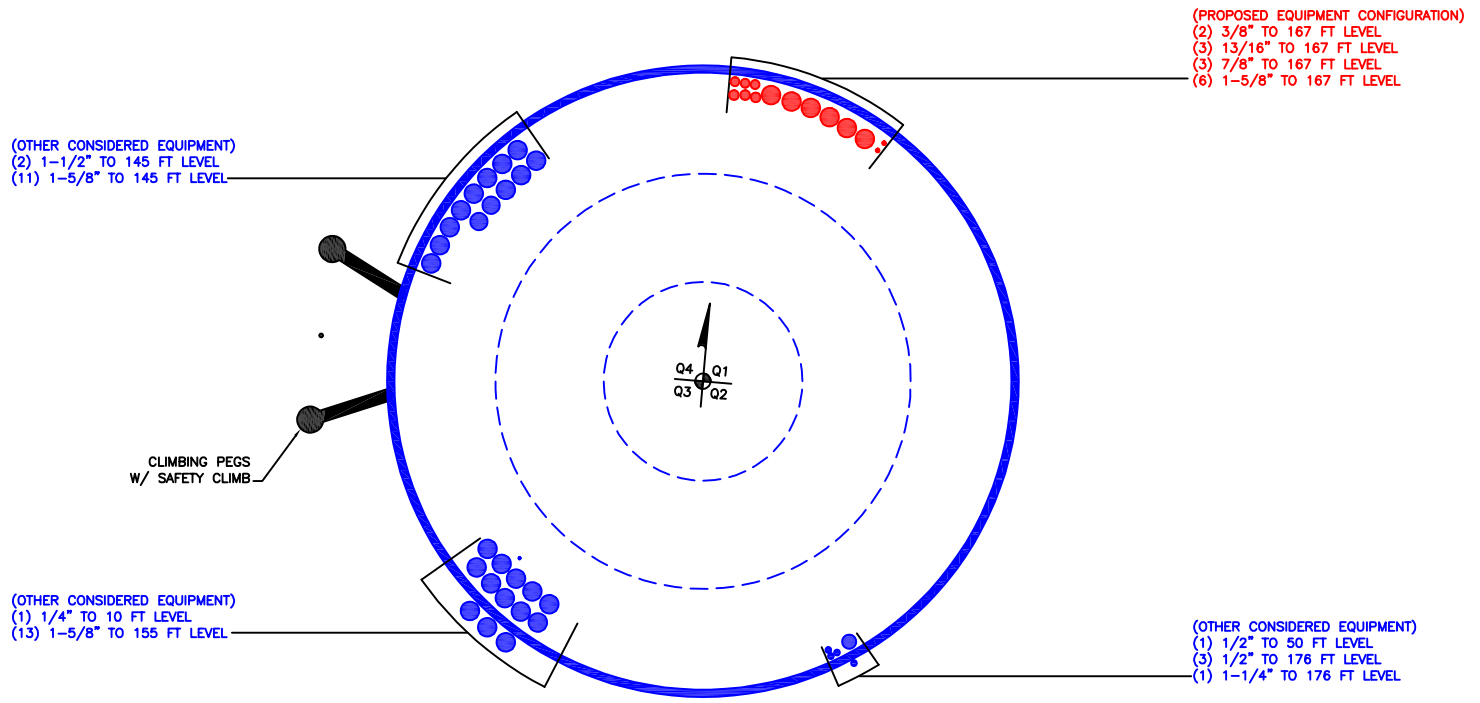
Section No.	Elevation ft	Ratio P_u	Ratio M_{ux}	Ratio M_{uy}	Ratio V_u	Ratio T_u	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		ϕP_n	ϕM_{nx}	ϕM_{ny}	ϕV_n	ϕT_n			

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail	
L1	176 - 171	Pole	TP17.626x16.5x0.1875	1	-3.03	637.47	8.6	Pass	
L2	171 - 166	Pole	TP18.752x17.626x0.1875	2	-6.88	678.63	17.1	Pass	
L3	166 - 161	Pole	TP19.878x18.752x0.1875	3	-7.19	719.79	29.1	Pass	
L4	161 - 156	Pole	TP21.0039x19.878x0.1875	4	-7.52	760.96	39.2	Pass	
L5	156 - 151	Pole	TP22.1299x21.0039x0.1875	5	-11.14	802.12	51.0	Pass	
L6	151 - 144.25	Pole	TP23.65x22.1299x0.1875	6	-11.47	828.87	57.9	Pass	
L7	144.25 - 142.75	Pole	TP23.6006x22.4868x0.3125	7	-16.07	1418.84	40.6	Pass	
L8	142.75 - 137.75	Pole	TP24.7144x23.6006x0.3125	8	-16.87	1486.71	46.9	Pass	
L9	137.75 - 132.75	Pole	TP25.8281x24.7144x0.3125	9	-17.70	1554.57	52.1	Pass	
L10	132.75 - 127.75	Pole	TP26.9419x25.8281x0.3125	10	-18.64	1622.42	56.4	Pass	
L11	127.75 - 127.5	Pole	TP26.9976x26.9419x0.3125	11	-18.71	1625.82	56.6	Pass	
L12	127.5 - 122.5	Pole	TP28.1114x26.9976x0.3125	12	-19.87	1693.67	60.2	Pass	
L13	122.5 - 120.75	Pole	TP28.5012x28.1114x0.3125	13	-20.27	1717.42	61.3	Pass	
L14	120.75 - 120.5	Pole	TP28.5569x28.5012x0.3125	14	-20.35	1720.81	61.4	Pass	
L15	120.5 - 117.25	Pole	TP29.2809x28.5569x0.3125	15	-21.16	1764.92	63.3	Pass	
L16	117.25 - 117	Pole	TP29.3366x29.2809x0.5375	16	-21.25	3017.93	37.7	Pass	
L17	117 - 112	Pole	TP30.4503x29.3366x0.525	17	-22.87	3063.03	40.0	Pass	
L18	112 - 107	Pole	TP31.5641x30.4503x0.525	18	-24.52	3177.03	41.3	Pass	
L19	107 - 102	Pole	TP32.6779x31.5641x0.5125	19	-26.20	3213.91	43.3	Pass	
L20	102 - 94.5833	Pole	TP34.33x32.6779x0.5125	20	-27.07	3271.42	43.8	Pass	
L21	94.5833 - 94.4167	Pole	TP33.7408x32.6283x0.375	21	-29.53	2439.41	62.7	Pass	
L22	94.4167 - 89.4167	Pole	TP34.8532x33.7408x0.375	22	-30.70	2520.75	63.6	Pass	
L23	89.4167 - 87.25	Pole	TP35.3353x34.8532x0.375	23	-31.36	2555.98	64.0	Pass	
L24	87.25 - 87	Pole	TP35.3909x35.3353x0.375	24	-31.45	2560.05	64.0	Pass	
L25	87 - 82	Pole	TP36.5033x35.3909x0.375	25	-33.02	2641.38	64.9	Pass	
L26	82 - 77	Pole	TP37.6158x36.5033x0.375	26	-34.63	2722.71	65.9	Pass	
L27	77 - 72	Pole	TP38.7282x37.6158x0.375	27	-36.27	2804.05	66.9	Pass	
L28	72 - 67	Pole	TP39.8406x38.7282x0.375	28	-37.93	2885.38	67.7	Pass	
L29	67 - 62	Pole	TP40.9531x39.8406x0.375	29	-39.46	2966.71	68.5	Pass	
L30	62 - 61.5	Pole	TP41.0643x40.9531x0.375	30	-39.60	2974.84	68.5	Pass	
L31	61.5 - 61.25	Pole	TP41.1199x41.0643x0.5875	31	-39.69	4642.62	42.9	Pass	
L32	61.25 - 56.25	Pole	TP42.2324x41.1199x0.575	32	-41.50	4669.95	43.9	Pass	
L33	56.25 - 46.9567	Pole	TP44.3x42.2324x0.575	33	-42.67	4750.01	44.0	Pass	
L34	46.9567 - 45.9567	Pole	TP43.7729x42.1965x0.575	34	-46.86	4817.69	45.6	Pass	
L35	45.9567 - 40.9567	Pole	TP44.8856x43.7729x0.5625	35	-47.24	4738.73	46.6	Pass	
L36	40.9567 - 35.9567	Pole	TP45.9982x44.8856x0.5625	36	-49.12	4860.76	46.5	Pass	
L37	35.9567 - 32.25	Pole	TP46.8231x45.9982x0.5625	37	-51.03	4982.79	46.5	Pass	
L38	32.25 - 32	Pole	TP46.8788x46.8231x0.775	38	-52.46	6957.70	34.1	Pass	
L39	32 - 31.75	Pole	TP46.9344x46.8788x0.6125	39	-52.59	5524.88	42.8	Pass	
L40	31.75 - 26.75	Pole	TP48.0471x46.9344x0.6125	40	-52.70	5531.52	42.7	Pass	
L41	26.75 - 21.75	Pole	TP49.1598x48.0471x0.6125	41	-54.81	5664.39	42.7	Pass	
L42	21.75 - 16.75	Pole	TP50.2725x49.1598x0.6	42	-56.96	5680.42	43.4	Pass	
L43	16.75 - 11.75	Pole	TP51.3852x50.2725x0.6	43	-59.13	5810.57	43.3	Pass	
L44	11.75 - 6.75	Pole	TP52.4979x51.3852x0.5875	44	-61.33	5818.41	44.0	Pass	
L45	6.75 - 1.75	Pole	TP53.6106x52.4979x0.5875	45	-63.65	5945.86	43.9	Pass	
L46	1.75 - 0	Pole	TP54x53.6106x0.5875	46	-65.71	6073.30	43.7	Pass	
							Summary		
							Pole (L30)	68.5	Pass
							RATING =	68.5	Pass

*NOTE: Above stress ratios for reinforced sections are approximate. More exact calculations are presented in Appendix C.

APPENDIX B
BASE LEVEL DRAWING



APPENDIX C
ADDITIONAL CALCULATIONS

TNX Geometry Input

Increment (ft): [Export to TNX](#)

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	176 - 171	5		18	16.500	17.626	0.1875	A572-65	1.000
2	171 - 166	5		18	17.626	18.752	0.1875	A572-65	1.000
3	166 - 161	5		18	18.752	19.878	0.1875	A572-65	1.000
4	161 - 156	5		18	19.878	21.004	0.1875	A572-65	1.000
5	156 - 151	5		18	21.004	22.130	0.1875	A572-65	1.000
6	151 - 147.75	6.75	3.5	18	22.130	23.650	0.1875	A572-65	1.000
7	147.75 - 142.75	5		18	22.487	23.601	0.3125	A572-65	1.000
8	142.75 - 137.75	5		18	23.601	24.714	0.3125	A572-65	1.000
9	137.75 - 132.75	5		18	24.714	25.828	0.3125	A572-65	1.000
10	132.75 - 127.75	5		18	25.828	26.942	0.3125	A572-65	1.000
11	127.75 - 127.5	0.25		18	26.942	26.998	0.3125	A572-65	1.000
12	127.5 - 122.5	5		18	26.998	28.111	0.3125	A572-65	1.000
13	122.5 - 120.75	1.75		18	28.111	28.501	0.3125	A572-65	1.000
14	120.75 - 120.5	0.25		18	28.501	28.557	0.3125	A572-65	1.000
15	120.5 - 117.25	3.25		18	28.557	29.281	0.3125	A572-65	1.000
16	117.25 - 117	0.25		18	29.281	29.337	0.5375	A572-65	0.952
17	117 - 112	5		18	29.337	30.450	0.525	A572-65	0.960
18	112 - 107	5		18	30.450	31.564	0.525	A572-65	0.947
19	107 - 102	5		18	31.564	32.678	0.5125	A572-65	0.958
20	102 - 99.41666	7.41667	4.83333	18	32.678	34.330	0.5125	A572-65	0.951
21	99.41666 - 94.41666	5		18	32.628	33.741	0.375	A572-65	1.000
22	94.41666 - 89.41666	5		18	33.741	34.853	0.375	A572-65	1.000
23	89.41666 - 87.25	2.16666		18	34.853	35.335	0.375	A572-65	1.000
24	87.25 - 87	0.25		18	35.335	35.391	0.375	A572-65	1.000
25	87 - 82	5		18	35.391	36.503	0.375	A572-65	1.000
26	82 - 77	5		18	36.503	37.616	0.375	A572-65	1.000
27	77 - 72	5		18	37.616	38.728	0.375	A572-65	1.000
28	72 - 67	5		18	38.728	39.841	0.375	A572-65	1.000
29	67 - 62	5		18	39.841	40.953	0.375	A572-65	1.000
30	62 - 61.5	0.5		18	40.953	41.064	0.375	A572-65	1.000
31	61.5 - 61.25	0.25		18	41.064	41.120	0.5875	A572-65	0.964
32	61.25 - 56.25	5		18	41.120	42.232	0.575	A572-65	0.976
33	56.25 - 53.04	9.29334	6.08334	18	42.232	44.300	0.575	A572-65	0.970
34	53.04 - 45.95666	7.08334		18	42.197	43.773	0.575	A572-65	0.964
35	45.95666 - 40.95666	5		18	43.773	44.886	0.5625	A572-65	0.978
36	40.95666 - 35.95666	5		18	44.886	45.998	0.5625	A572-65	0.970
37	35.95666 - 32.25	3.70666		18	45.998	46.823	0.5625	A572-65	0.965
38	32.25 - 32	0.25		18	46.823	46.879	0.775	A572-65	0.990
39	32 - 31.75	0.25		18	46.879	46.934	0.6125	A572-65	0.976
40	31.75 - 26.75	5		18	46.934	48.047	0.6125	A572-65	0.968
41	26.75 - 21.75	5		18	48.047	49.160	0.6125	A572-65	0.960
42	21.75 - 16.75	5		18	49.160	50.272	0.6	A572-65	0.971
43	16.75 - 11.75	5		18	50.272	51.385	0.6	A572-65	0.964
44	11.75 - 6.75	5		18	51.385	52.498	0.5875	A572-65	0.977
45	6.75 - 1.75	5		18	52.498	53.611	0.5875	A572-65	0.970
46	1.75 - 0	1.75		18	53.611	54.000	0.5875	A572-65	0.967

TNX Section Forces

Increment (ft):		TNX Output			
5					
	Section Height (ft)	P _u (K)	M _{ux} (kip-ft)	V _u (K)	
1	176 - 171	3.03	23.29	4.58	
2	171 - 166	6.88	51.62	9.64	
3	166 - 161	7.19	100.46	9.90	
4	161 - 156	7.52	150.63	10.17	
5	156 - 151	11.14	213.99	13.40	
6	151 - 147.75	11.47	257.80	13.57	
7	147.75 - 142.75	16.07	336.63	18.41	
8	142.75 - 137.75	16.87	429.30	18.70	
9	137.75 - 132.75	17.70	523.42	18.99	
10	132.75 - 127.75	18.64	619.05	19.28	
11	127.75 - 127.5	18.71	623.87	19.29	
12	127.5 - 122.5	19.87	721.10	19.60	
13	122.5 - 120.75	20.27	755.49	19.72	
14	120.75 - 120.5	20.35	760.42	19.72	
15	120.5 - 117.25	21.16	824.83	19.92	
16	117.25 - 117	21.25	829.81	19.93	
17	117 - 112	22.87	930.48	20.33	
18	112 - 107	24.52	1033.11	20.72	
19	107 - 102	26.20	1137.66	21.10	
20	102 - 99.4167	27.07	1192.43	21.30	
21	99.4167 - 94.4167	29.53	1300.14	21.77	
22	94.4167 - 89.4167	30.70	1409.72	22.06	
23	89.4167 - 87.25	31.36	1457.64	22.19	
24	87.25 - 87	31.45	1463.19	22.19	
25	87 - 82	33.02	1574.90	22.50	
26	82 - 77	34.63	1688.06	22.78	
27	77 - 72	36.27	1802.63	23.06	
28	72 - 67	37.93	1918.57	23.33	
29	67 - 62	39.46	2035.84	23.59	
30	62 - 61.5	39.60	2047.64	23.60	
31	61.5 - 61.25	39.69	2053.54	23.62	
32	61.25 - 56.25	41.50	2172.47	23.95	
33	56.25 - 53.04	42.67	2249.67	24.15	
34	53.04 - 45.9567	47.22	2422.74	24.78	
35	45.9567 - 40.9567	49.10	2547.33	25.06	
36	40.9567 - 35.9567	51.01	2673.29	25.33	
37	35.9567 - 32.25	52.44	2767.53	25.52	
38	32.25 - 32	52.58	2773.91	25.52	
39	32 - 31.75	52.69	2780.29	25.54	
40	31.75 - 26.75	54.80	2908.68	25.81	
41	26.75 - 21.75	56.94	3038.38	26.07	
42	21.75 - 16.75	59.12	3169.39	26.33	
43	16.75 - 11.75	61.32	3301.70	26.59	
44	11.75 - 6.75	63.64	3435.13	26.90	
45	6.75 - 1.75	65.69	3570.21	27.16	
46	1.75 - 0	66.40	3617.79	27.27	

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
176 - 171	Pole	TP17.626x16.5x0.1875	Pole	8.6%	Pass
171 - 166	Pole	TP18.752x17.626x0.1875	Pole	17.1%	Pass
166 - 161	Pole	TP19.878x18.752x0.1875	Pole	29.1%	Pass
161 - 156	Pole	TP21.004x19.878x0.1875	Pole	39.2%	Pass
156 - 151	Pole	TP22.13x21.004x0.1875	Pole	51.0%	Pass
151 - 147.75	Pole	TP23.65x22.13x0.1875	Pole	57.9%	Pass
147.75 - 142.75	Pole	TP23.601x22.487x0.3125	Pole	40.5%	Pass
142.75 - 137.75	Pole	TP24.714x23.601x0.3125	Pole	46.8%	Pass
137.75 - 132.75	Pole	TP25.828x24.714x0.3125	Pole	52.0%	Pass
132.75 - 127.75	Pole	TP26.942x25.828x0.3125	Pole	56.4%	Pass
127.75 - 127.5	Pole	TP26.998x26.942x0.3125	Pole	56.6%	Pass
127.5 - 122.5	Pole	TP28.111x26.998x0.3125	Pole	60.1%	Pass
122.5 - 120.75	Pole	TP28.501x28.111x0.3125	Pole	61.2%	Pass
120.75 - 120.5	Pole	TP28.557x28.501x0.3125	Pole	61.4%	Pass
120.5 - 117.25	Pole	TP29.281x28.557x0.3125	Pole	63.3%	Pass
117.25 - 117	Pole + Reinf.	TP29.337x29.281x0.5375	Reinf. 4 Tension Rupture	59.5%	Pass
117 - 112	Pole + Reinf.	TP30.45x29.337x0.525	Reinf. 4 Tension Rupture	62.8%	Pass
112 - 107	Pole + Reinf.	TP31.564x30.45x0.525	Reinf. 4 Tension Rupture	65.8%	Pass
107 - 102	Pole + Reinf.	TP32.678x31.564x0.5125	Reinf. 4 Tension Rupture	68.5%	Pass
102 - 99.42	Pole + Reinf.	TP34.33x32.678x0.5125	Reinf. 4 Tension Rupture	69.7%	Pass
99.42 - 94.42	Pole	TP33.741x32.628x0.375	Pole	62.6%	Pass
94.42 - 89.42	Pole	TP34.853x33.741x0.375	Pole	63.6%	Pass
89.42 - 87.25	Pole	TP35.335x34.853x0.375	Pole	63.9%	Pass
87.25 - 87	Pole	TP35.391x35.335x0.375	Pole	64.0%	Pass
87 - 82	Pole	TP36.503x35.391x0.375	Pole	64.9%	Pass
82 - 77	Pole	TP37.616x36.503x0.375	Pole	65.9%	Pass
77 - 72	Pole	TP38.728x37.616x0.375	Pole	66.9%	Pass
72 - 67	Pole	TP39.841x38.728x0.375	Pole	67.7%	Pass
67 - 62	Pole	TP40.953x39.841x0.375	Pole	68.5%	Pass
62 - 61.5	Pole	TP41.064x40.953x0.375	Pole	68.5%	Pass
61.5 - 61.25	Pole + Reinf.	TP41.12x41.064x0.5875	Reinf. 2 Tension Rupture	66.4%	Pass
61.25 - 56.25	Pole + Reinf.	TP42.232x41.12x0.575	Reinf. 2 Tension Rupture	67.2%	Pass
56.25 - 53.04	Pole + Reinf.	TP44.3x42.232x0.575	Reinf. 2 Tension Rupture	67.6%	Pass
53.04 - 45.96	Pole + Reinf.	TP43.773x42.197x0.575	Reinf. 2 Tension Rupture	70.6%	Pass
45.96 - 40.96	Pole + Reinf.	TP44.886x43.773x0.5625	Reinf. 2 Tension Rupture	71.1%	Pass
40.96 - 35.96	Pole + Reinf.	TP45.998x44.886x0.5625	Reinf. 2 Tension Rupture	71.6%	Pass
35.96 - 32.25	Pole + Reinf.	TP46.823x45.998x0.5625	Reinf. 2 Tension Rupture	72.0%	Pass
32.25 - 32	Pole + Reinf.	TP46.879x46.823x0.775	Reinf. 2 Tension Rupture	52.0%	Pass
32 - 31.75	Pole + Reinf.	TP46.934x46.879x0.6125	Reinf. 1 Tension Rupture	64.9%	Pass
31.75 - 26.75	Pole + Reinf.	TP48.047x46.934x0.6125	Reinf. 1 Tension Rupture	65.3%	Pass
26.75 - 21.75	Pole + Reinf.	TP49.16x48.047x0.6125	Reinf. 1 Tension Rupture	65.7%	Pass
21.75 - 16.75	Pole + Reinf.	TP50.272x49.16x0.6	Reinf. 1 Tension Rupture	66.1%	Pass
16.75 - 11.75	Pole + Reinf.	TP51.385x50.272x0.6	Reinf. 1 Tension Rupture	66.4%	Pass
11.75 - 6.75	Pole + Reinf.	TP52.498x51.385x0.5875	Reinf. 1 Tension Rupture	66.7%	Pass
6.75 - 1.75	Pole + Reinf.	TP53.611x52.498x0.5875	Reinf. 1 Tension Rupture	67.0%	Pass
1.75 - 0	Pole + Reinf.	TP54x53.611x0.5875	Reinf. 1 Tension Rupture	67.1%	Pass
				Summary	
			Pole	68.5%	Pass
			Reinforcement	72.0%	Pass
			Overall	72.0%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in ⁴)			Area (in ²)			% Capacity*					
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5
176 - 171	399	n/a	399	10.38	n/a	10.38	8.6%					
171 - 166	481	n/a	481	11.05	n/a	11.05	17.1%					
166 - 161	574	n/a	574	11.72	n/a	11.72	29.1%					
161 - 156	678	n/a	678	12.39	n/a	12.39	39.2%					
156 - 151	794	n/a	794	13.06	n/a	13.06	51.0%					
151 - 147.75	876	n/a	876	13.49	n/a	13.49	57.9%					
147.75 - 142.75	1582	n/a	1582	23.10	n/a	23.10	40.5%					
142.75 - 137.75	1820	n/a	1820	24.20	n/a	24.20	46.8%					
137.75 - 132.75	2081	n/a	2081	25.31	n/a	25.31	52.0%					
132.75 - 127.75	2366	n/a	2366	26.41	n/a	26.41	56.4%					
127.75 - 127.5	2380	n/a	2380	26.47	n/a	26.47	56.6%					
127.5 - 122.5	2691	n/a	2691	27.57	n/a	27.57	60.1%					
122.5 - 120.75	2806	n/a	2806	27.96	n/a	27.96	61.2%					
120.75 - 120.5	2823	n/a	2823	28.01	n/a	28.01	61.4%					
120.5 - 117.25	3045	n/a	3045	28.73	n/a	28.73	63.3%					
117.25 - 117	3063	2098	5161	28.79	18.00	46.79	37.1%				59.5%	
117 - 112	3429	2253	5682	29.89	18.00	47.89	39.4%				62.8%	
112 - 107	3823	2414	6237	31.00	18.00	49.00	41.6%				65.8%	
107 - 102	4247	2580	6827	32.10	18.00	50.10	43.8%				68.5%	
102 - 99.42	4478	2668	7145	32.67	18.00	50.67	44.8%				69.7%	
99.42 - 94.42	5584	n/a	5584	39.71	n/a	39.71	62.6%					
94.42 - 89.42	6161	n/a	6161	41.04	n/a	41.04	63.6%					
89.42 - 87.25	6423	n/a	6423	41.61	n/a	41.61	63.9%					
87.25 - 87	6454	n/a	6454	41.68	n/a	41.68	64.0%					
87 - 82	7089	n/a	7089	43.00	n/a	43.00	64.9%					
82 - 77	7764	n/a	7764	44.32	n/a	44.32	65.9%					
77 - 72	8481	n/a	8481	45.65	n/a	45.65	66.9%					
72 - 67	9240	n/a	9240	46.97	n/a	46.97	67.7%					
67 - 62	10044	n/a	10044	48.30	n/a	48.30	68.5%					
62 - 61.5	10127	n/a	10127	48.43	n/a	48.43	68.5%					
61.5 - 61.25	10168	5514	15682	48.49	24.38	72.87	43.9%		66.4%			
61.25 - 56.25	11024	5805	16829	49.82	24.38	74.19	44.8%		67.2%			
56.25 - 53.04	11598	5996	17594	50.67	24.38	75.04	45.3%		67.6%			
53.04 - 45.96	12286	6221	18507	51.65	24.38	76.03	47.6%		70.6%			
45.96 - 40.96	13256	6530	19786	52.98	24.38	77.35	48.4%		71.1%			
40.96 - 35.96	14275	6846	21121	54.30	24.38	78.68	49.1%		71.6%			
35.96 - 32.25	15063	7086	22149	55.28	24.38	79.66	49.7%		72.0%			
32.25 - 32	15118	15528	30645	55.35	56.88	112.22	36.5%	50.3%	52.0%			
32 - 31.75	15172	9209	24381	55.42	32.50	87.92	46.2%	64.9%				
31.75 - 26.75	16286	9932	26218	56.74	32.50	89.24	46.2%	65.3%				
26.75 - 21.75	17453	10383	27836	58.06	32.50	90.56	46.9%	65.7%				
21.75 - 16.75	18675	10844	29518	59.39	32.50	91.89	47.6%	66.1%				
16.75 - 11.75	19952	11314	31266	60.71	32.50	93.21	48.2%	66.4%				
11.75 - 6.75	21286	11795	33082	62.04	32.50	94.54	48.9%	66.7%				
6.75 - 1.75	22679	12286	34965	63.36	32.50	95.86	49.5%	67.0%				
1.75 - 0	23180	12460	35641	63.82	32.50	96.32	49.7%	67.1%				

Note: Section capacity checked using 5 degree increments.
Rating per TIA-222-H Section 15.5.

Monopole Base Plate Connection

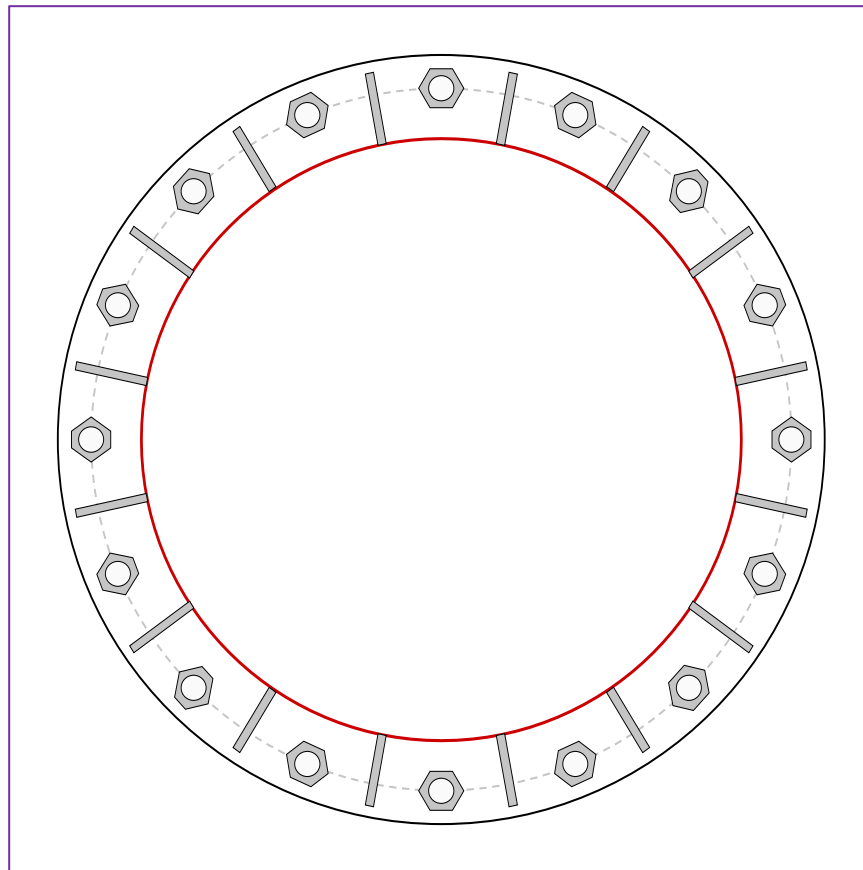


Site Info	
BU #	876381
Site Name	Ward
Order #	586337 Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	1

Applied Loads	
Moment (kip-ft)	3617.79
Axial Force (kips)	66.40
Shear Force (kips)	27.27

*TIA-222-H Section 15.5 Applied



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

Anchor Rod Data
 (16) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 63" BC

Base Plate Data
 69" OD x 2" Plate (A572-60; $F_y=60$ ksi, $F_u=75$ ksi)

Stiffener Data
 (16) 15"H x 6.5"W x 0.75"T, Notch: 0.75"
 plate: $F_y=65$ ksi ; weld: $F_y=80$ ksi
 horiz. weld: 0.375" groove, 45° dbl bevel, 0.3125" fillet
 vert. weld: 0.3125" fillet

Pole Data
 54" x 0.375" 18-sided pole (A572-65; $F_y=65$ ksi, $F_u=80$ ksi)

Anchor Rod Summary			<i>(units of kips, kip-in)</i>
$P_{u,t}$ = 168.04	$\phi P_{n,t}$ = 243.75	Stress Rating	
V_u = 1.7	ϕV_n = 149.1	65.7%	
M_u = n/a	ϕM_n = n/a	Pass	

Base Plate Summary		
Max Stress (ksi):	28.91	(Roark's Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	51.0%	Pass

Stiffener Summary		
Horizontal Weld:	45.4%	Pass
Vertical Weld:	53.7%	Pass
Plate Flexure+Shear:	17.1%	Pass
Plate Tension+Shear:	44.6%	Pass
Plate Compression:	53.7%	Pass

Pole Summary		
Punching Shear:	16.6%	Pass

Drilled Pier Foundation

BU # :	876381
Site Name:	Ward
Order Number:	586337 Rev. 0
TIA-222 Revision:	H
Tower Type:	Monopole



Applied Loads		
	Comp.	Uplift
Moment (kip-ft)	3617.79	
Axial Force (kips)	66.41	
Shear Force (kips)	27.24	

Material Properties		
Concrete Strength, f'c:	4	ksi
Rebar Strength, Fy:	60	ksi
Tie Yield Strength, Fyt:	60	ksi

Pier Design Data	
Depth	29 ft
Ext. Above Grade	1 ft
Pier Section 1	
<i>From 1' above grade to 29' below grade</i>	
Pier Diameter	7 ft
Rebar Quantity	24
Rebar Size	11
Rebar Cage Diameter	73 in
Tie Size	5
Tie Spacing	12 in

Rebar 2, Fy Override (ksi)	Rebar 3, Fy Override (ksi)

[Rebar & Pier Options](#)
[Embedded Pole Inputs](#)
[Belled Pier Inputs](#)

Analysis Results

Soil Lateral Check	Compression	Uplift
D _{v=0} (ft from TOC)	6.98	-
Soil Safety Factor	4.35	-
Max Moment (kip-ft)	3855.21	-
Rating*	29.1%	-

Soil Vertical Check	Compression	Uplift
Skin Friction (kips)	841.16	-
End Bearing (kips)	650.06	-
Weight of Concrete (kips)	150.15	-
Total Capacity (kips)	1491.22	-
Axial (kips)	216.56	-
Rating*	13.8%	-

Reinforced Concrete Flexure	Compression	Uplift
Critical Depth (ft from TOC)	6.93	-
Critical Moment (kip-ft)	3855.20	-
Critical Moment Capacity	6041.57	-
Rating*	60.8%	-

Reinforced Concrete Shear	Compression	Uplift
Critical Depth (ft from TOC)	21.02	-
Critical Shear (kip)	355.37	-
Critical Shear Capacity	679.90	-
Rating*	49.8%	-

Structural Foundation Rating*	60.8%
Soil Interaction Rating*	29.1%

*Rating per TIA-222-H Section 15.5

Check Limitation	
Apply TIA-222-H Section 15.5:	<input checked="" type="checkbox"/>
N/A	<input type="checkbox"/>
Additional Longitudinal Rebar	
Input Effective Depths (else Actual):	<input type="checkbox"/>
Shear Design Options	
Check Shear along Depth of Pier:	<input checked="" type="checkbox"/>
Utilize Shear-Friction Methodology:	<input type="checkbox"/>
Override Critical Depth:	<input type="checkbox"/>

[Go to Soil Calculations](#)

Soil Profile			
Groundwater Depth	9	# of Layers	3

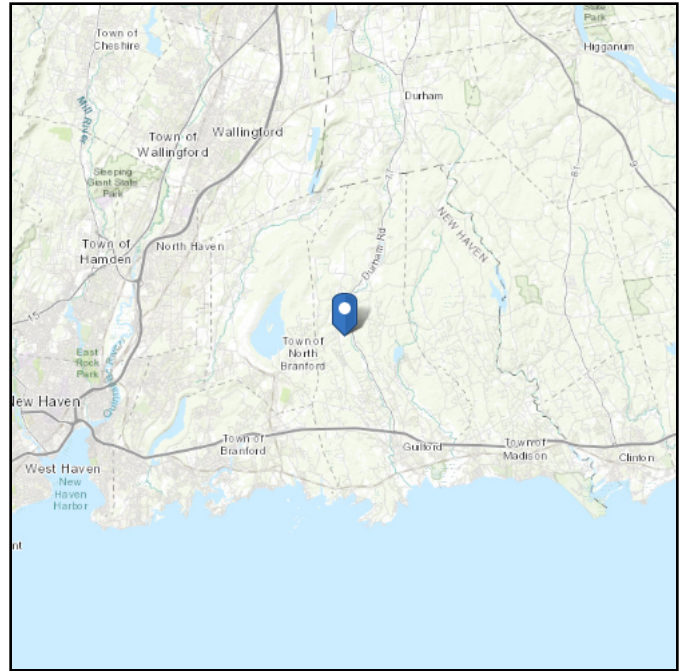
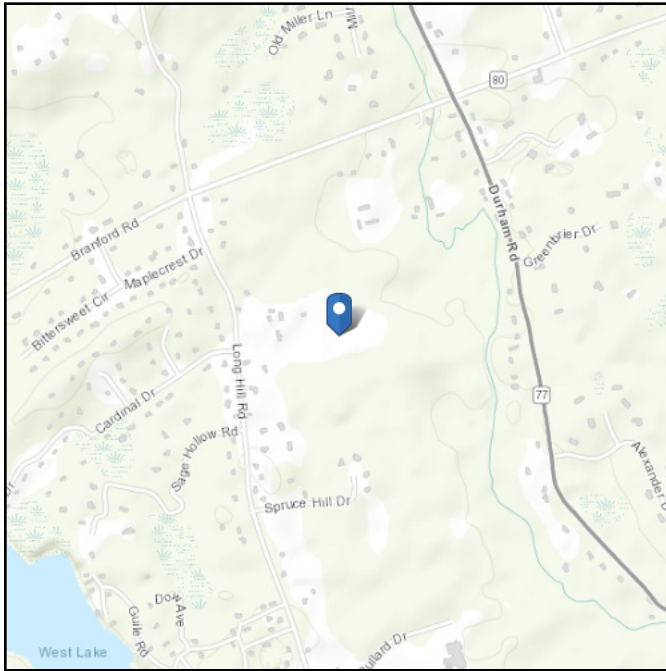
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ _{soil} (pcf)	γ _{concrete} (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Net Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	3.5	3.5	130	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	3.5	9	5.5	130	150	0	35	0.000	0.000	2.00	2.00			Cohesionless
3	9	29	20	67.6	87.6	0	35	0.000	0.000	2.00	2.00	20		Cohesionless

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 181.21 ft (NAVD 88)
Latitude: 41.346483
Longitude: -72.723097



Wind

Results:

Wind Speed	121 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	93 Vmph
100-year MRI	99 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: Tue Mar 29 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).

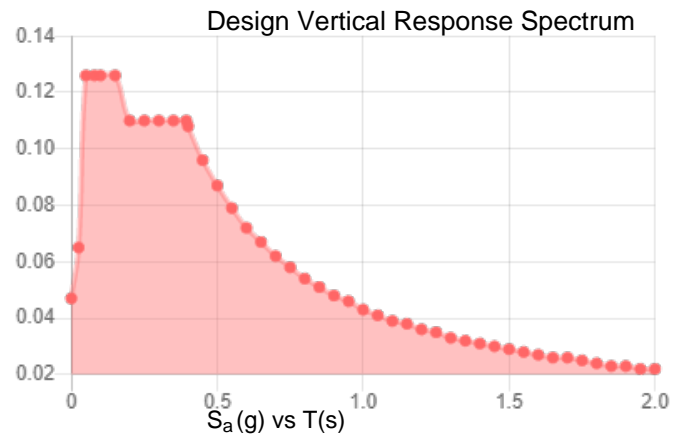
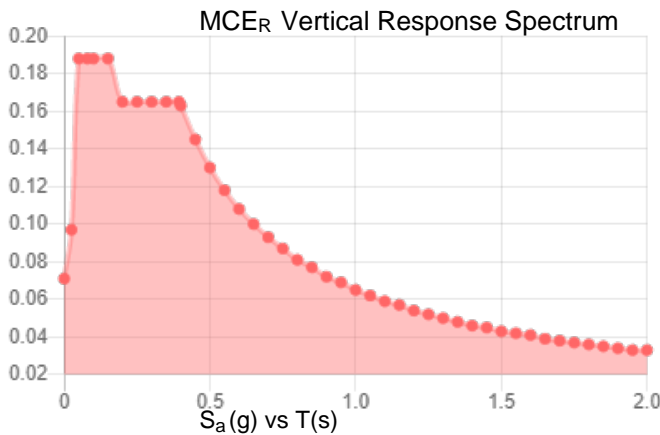
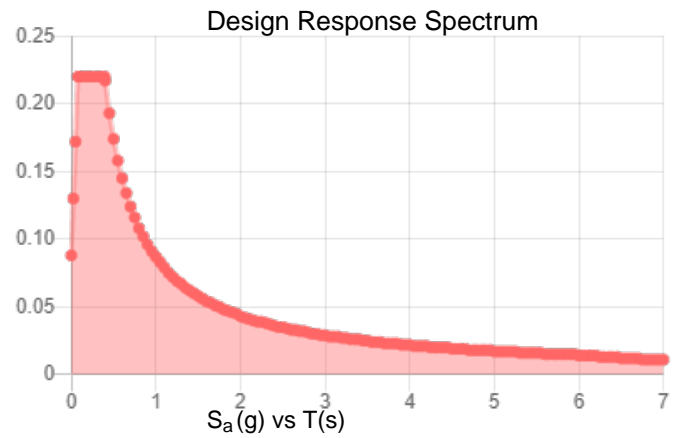
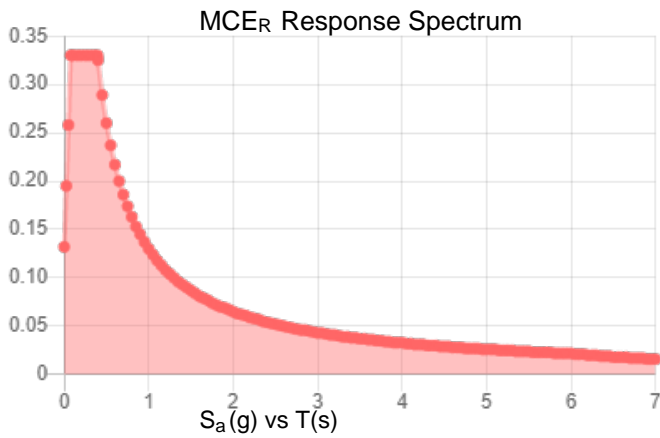
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Stiff Soil

Results:

S_s :	0.206	S_{D1} :	0.087
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.116
F_v :	2.4	PGA _M :	0.181
S_{MS} :	0.33	F_{PGA} :	1.569
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.22	C_v :	0.713

Seismic Design Category B



Data Accessed: Tue Mar 29 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: Tue Mar 29 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.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.



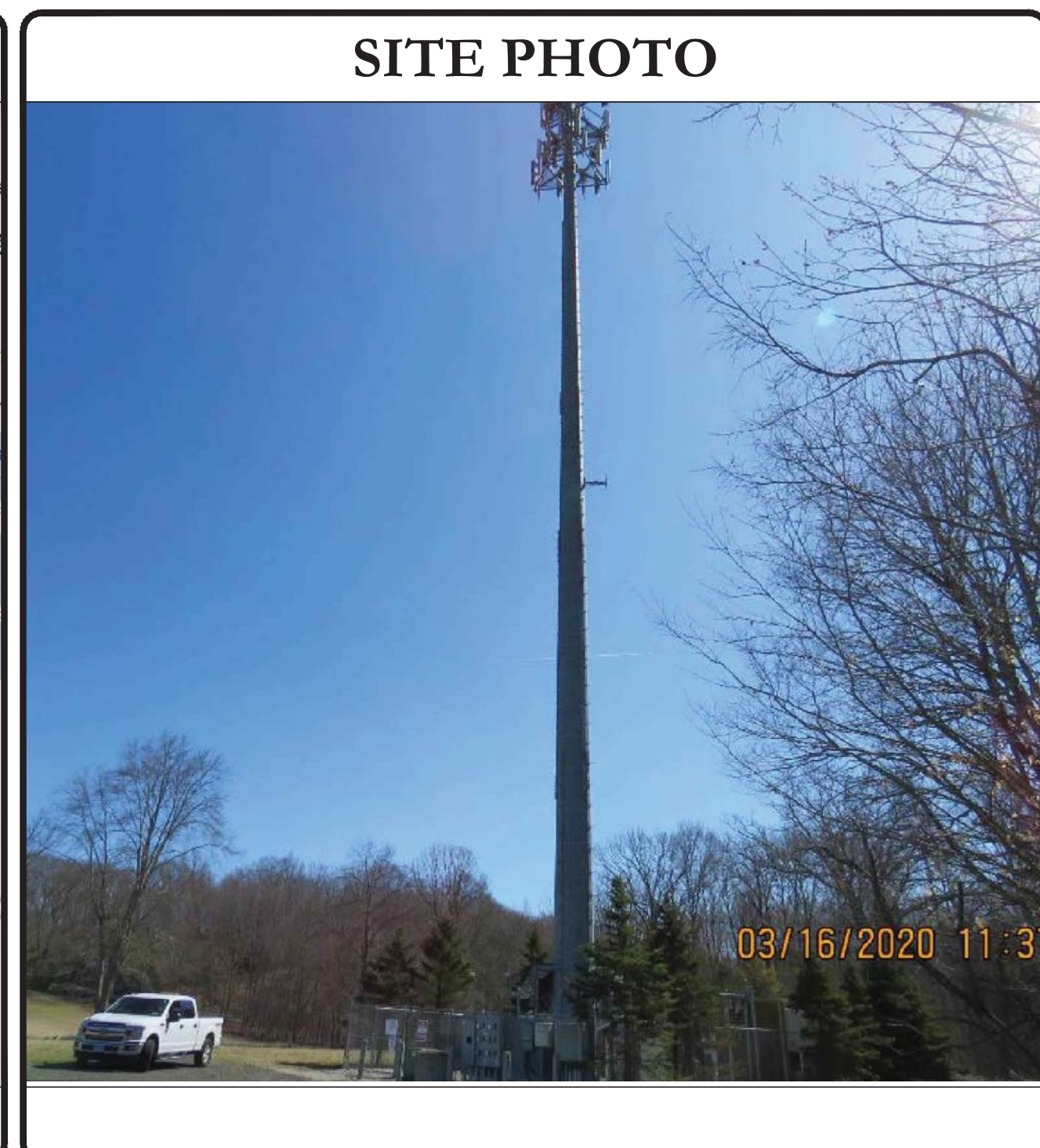
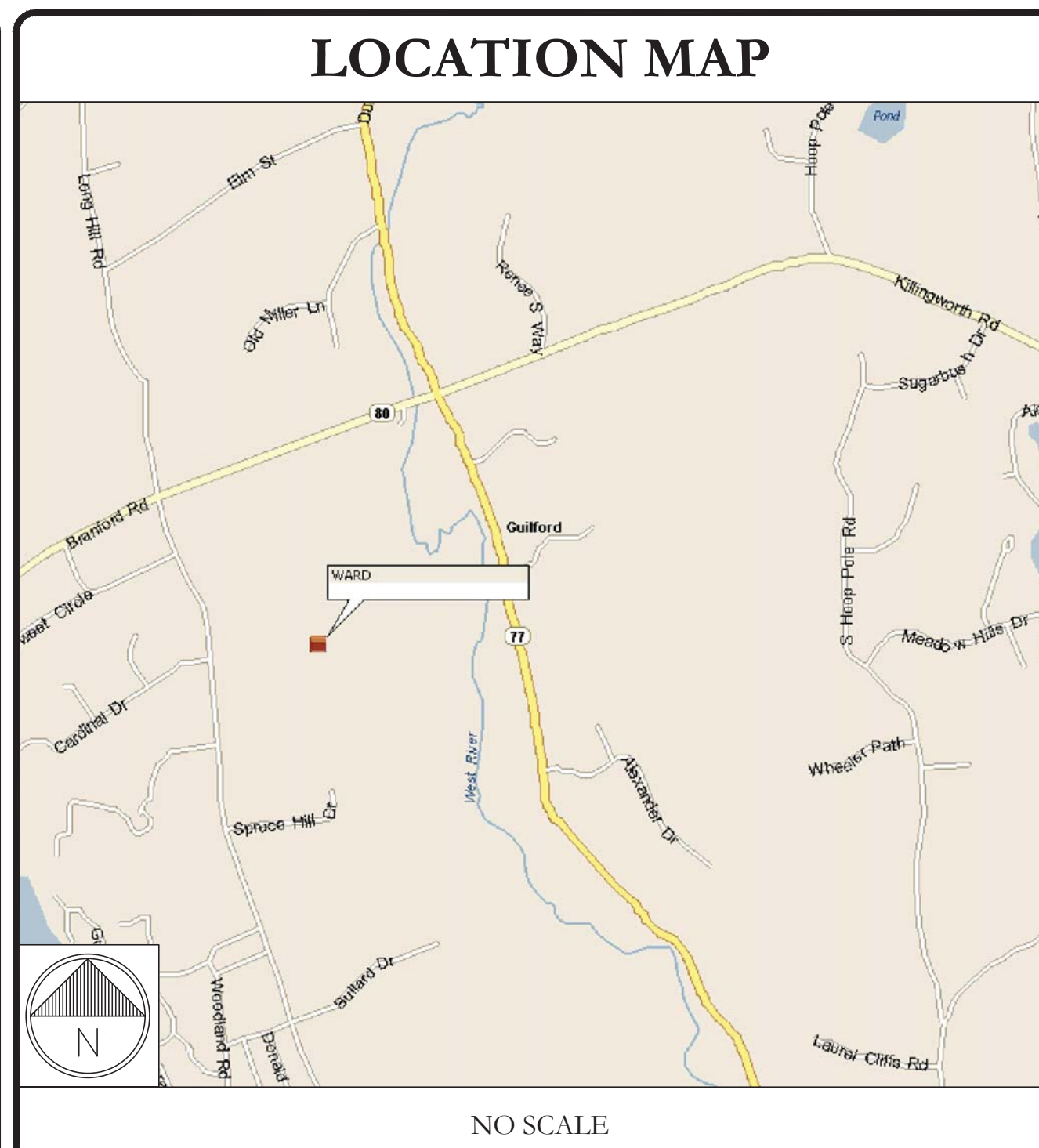
AT&T SITE NUMBER: CTL05640
AT&T SITE NAME: GUILDFORD
AT&T FA CODE: 10071056
AT&T PACE NUMBER: MRCTB056687, MRCTB056312, MRCTB056308, MRCTB053745, MRCTB053302
AT&T PROJECT: 5G NR 1SR CBAND, BBU RECONFIGURATION WITH NEW IDS, 5G NR ACTIVATION

BUSINESS UNIT #: 876381
SITE ADDRESS: 2381 LONG HILL ROAD GUILDFORD, CT 06437
COUNTY: NEW HAVEN
SITE TYPE: MONOPOLE
TOWER HEIGHT: 176'-0"



SITE INFORMATION	
CROWN CASTLE USA INC. SITE NAME:	WARD
SITE ADDRESS:	2381 LONG HILL ROAD GUILDFORD, CT 06437
COUNTY:	NEW HAVEN
MAP/PARCEL #:	101023B
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41° 20' 47.34"
LONGITUDE:	-72° 43' 23.15"
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	183'
CURRENT ZONING:	R-5 (SINGLE FAMILY)
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:	WARD JAMES J FAMILY & JANICE M FAMILY 2365 LONG HILL RD GUILDFORD, CT 06437
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 1-800-286-2000
TELCO PROVIDER:	LIGHTOWER 855-91-FIBER

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



AT&T SITE NUMBER: CTL05640

BU #: 876381
WARD

2381 LONG HILL ROAD
GUILDFORD, CT 06437

EXISTING
176'-0" MONOPOLE

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/11/22	GAC	PRELIMINARY REVIEW	MTJ
B	7/18/22	GAC	PRELIMINARY REVIEW	CV
C	7/27/22	CV	PRELIMINARY REVIEW	CV
0	9/1/22	GAC	CONSTRUCTION	ANP

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 VERONICA CHAPMAN - PROJECT MANAGER VERONICA.CHAPMAN@BTGRP.COM JASON D'AMICO - CONSTRUCTION MANAGER JASON.DAMICO@CROWNCastle.COM

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER SCOPE OF WORK:

- REMOVE (3) CCI - HPA-65R-BU6AA ANTENNAS
- REMOVE (1) RAYCAP - DC6-48-60-0-8F SQUID
- REMOVE (6) POWERWAVE - LGP 21901 DIPLEXERS
- REMOVE (3) 8AWG DC CABLES (13/16")
- RELOCATE (3) CCI - OPA65R-BU6DA ANTENNAS
- RELOCATE (3) ERICSSON - 4478 B14 RRHS
- RELOCATE (3) ERICSSON - 8843 B2/B66A RRHS
- INSTALL (6) ERICSSON - AIR6449 B77D+AIR6419 B77G STACKED ANTENNAS WITH INTEGRATED RRHS
- INSTALL (1) RAYCAP - DC6-48-60-18-8F SQUID
- INSTALL (1) 18 PAIR FIBER CABLE (5/8")
- INSTALL (3) 6AWG DC CABLE (7/8")
- INSTALL (6) Y CABLES FOR DUAL BAND RADIOS

GROUND SCOPE OF WORK:

- REMOVE (3) 180AH BATTERY STRING
- REMOVE (6) POWERWAVE - DIPLEXERS
- REMOVE (1) RAYCAP - OD DC6
- INSTALL (1) BATTERY CABINET
- INSTALL (5) 170AH BATTERY STRING
- INSTALL (3) RECTIFIERS INSIDE POWER PLANT
- INSTALL (1) 6648 W/ XCEDE CABLE
- INSTALL (1) RAYCAP - DC12-48-60-0-25E

NOTE:
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:

CODE TYPE	CODE
BUILDING	2018 CONNECTICUT SBC/2015 IBC
MECHANICAL	2018 CONNECTICUT SBC/2015 IMC
ELECTRICAL	2018 CONNECTICUT SBC/2017 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS: BY OTHERS
DATED: 3/24/22

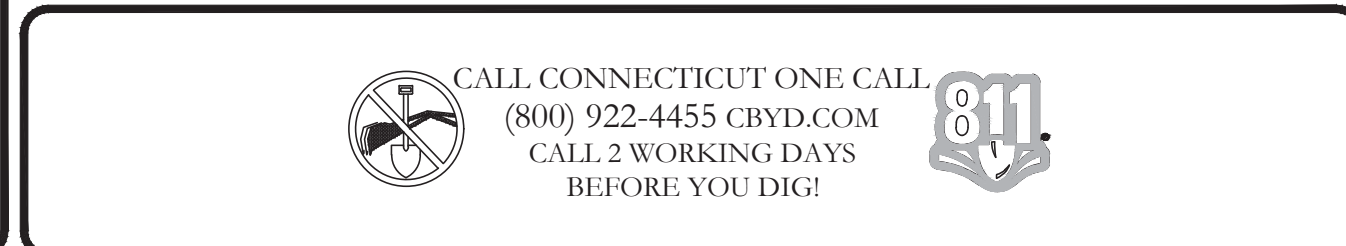
MOUNT ANALYSIS: INFINIGY
DATED: 3/24/22

RFDS REVISION: PRELIMINARY
DATED: 2/28/22

ORDER ID: 586337
REVISION: 0

AC ELECTRICAL POWER DESIGN: N/A
DATED: N/A

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.



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

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER:	REVISION:
T-1	0

85638.007.01_WARD_8.29.22.dwg - Sheet1-1 - User: ashley.pope - Sep 01, 2022 - 6:45am

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

- NOTICE TO PROCEED- NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800-788-7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
- "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.
- PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
- ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED-STD-10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA-322 (LATEST EDITION).
- ALL SITE WORK TO COMPLY WITH QAS-STD-10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE," CED-STD-10294 "STANDARD FOR INSTALLATION OF MOUNTS AND APPURTENANCES," AND LATEST VERSION OF ANSI/TIA-1019-A-2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS." IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
- ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
- CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
- THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GREENFIELD GROUNDING NOTES:

- ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
- THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
- THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
- METAL CONDUIT AND TRAY SHALL BE GROUNDING AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
- EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
- CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
- ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
- COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
- APPROVED ANTI-OXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- BOND ALL METALLIC OBJECTS WITHIN 6 FT OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
- GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
- ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
- BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

GENERAL NOTES:

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
CARRIER: AT&T
TOWER OWNER: CROWN CASTLE USA INC.
- THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
- THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
- NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
- SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CROWN CASTLE.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC.
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f_c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT NOTED APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
- CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.
- ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (F_y) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
#4 BARS AND SMALLER.....40 ksi
#5 BARS AND LARGER.....60 ksi
THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.....3"
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 BARS AND LARGER.....2"
#5 BARS AND SMALLER.....1-1/2"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
SLAB AND WALLS.....3/4"
BEAMS AND COLUMNS.....1-1/2"
- A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

ELECTRICAL INSTALLATION NOTES:

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
- CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
- ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
- ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIG MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
- EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
- PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
- ALL THE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND NEC.
- ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND THE NEC.
- WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOULD SPECMATE WIREWAY).
- SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
- CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKOUT ON OUTSIDE AND INSIDE.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
- METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
- INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "AT&T".
- ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE		
SYSTEM	CONDUCTOR	COLOR
120/240V, 1Ø	A PHASE	BLACK
	B PHASE	RED
	NEUTRAL	WHITE
	GROUND	GREEN
120/208V, 3Ø	A PHASE	BLACK
	B PHASE	RED
	C PHASE	BLUE
	NEUTRAL	WHITE
	GROUND	GREEN
277/480V, 3Ø	A PHASE	BROWN
	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
	GROUND	GREEN
DC VOLTAGE	POS (+)	RED**
	NEG (-)	BLACK**

* SEE NEC 210.5(C)(1) AND (2)
** POLARITY MARKED AT TERMINATION

ABBREVIATIONS:

ANT	ANTENNA
(E)	EXISTING
FIF	FACILITY INTERFACE FRAME
GEN	GENERATOR
GPS	GLOBAL POSITIONING SYSTEM
GSM	GLOBAL SYSTEM FOR MOBILE
LTE	LONG TERM EVOLUTION
MGB	MASTER GROUND BAR
MW	MICROWAVE
(N)	NEW
NEC	NATIONAL ELECTRIC CODE
(P)	PROPOSED
PP	POWER PLANT
QTY	QUANTITY
RECT	RECTIFIER
RBS	RADIO BASE STATION
RET	REMOTE ELECTRIC TILT
RFDS	RADIO FREQUENCY DATA SHEET
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
SIAD	SMART INTEGRATED DEVICE
TMA	TOWER MOUNTED AMPLIFIER
TYP	TYPICAL
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
W.P.	WORK POINT

APWA UNIFORM COLOR CODE:


WHITE	PROPOSED EXCAVATION
PINK	TEMPORARY SURVEY MARKINGS
RED	ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES
YELLOW	GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
ORANGE	COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS
BLUE	POTABLE WATER
PURPLE	RECLAIMED WATER, IRRIGATION, AND SLURRY LINES
GREEN	SEWERS AND DRAIN LINES



575 MOROSGO DRIVE
ATLANTA, GA 30324-3300



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



1717 S. BOULDER
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AT&T SITE NUMBER: CTL05640

BU #: 876381
WARD
2381 LONG HILL ROAD
GUILFORD, CT 06437

EXISTING
176'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/11/22	GAC	PRELIMINARY REVIEW	MTJ
B	7/18/22	GAC	PRELIMINARY REVIEW	CV
C	7/27/22	CV	PRELIMINARY REVIEW	CV
0	9/1/22	GAC	CONSTRUCTION	ANP



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

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: **T-2** REVISION: **0**



575 MOROSGO DRIVE
ATLANTA, GA 30324-3300



3 CORPORATE PARK DRIVE, SUITE 101
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SHEET NUMBER: **C-1.1** REVISION: **0**

61'-2"±

11'-6"±
GATE

39'-8"±

(E) BOLLARD (TYP)

(E) TRANSFORMER

(E) AT&T
UTILITY FRAME

(E) AT&T
7'-0"x13'-0"
EQUIPMENT PAD

(E) 9'-6"x18'-0"
PAD
BY OTHERS

(E) 12'-0"x30'-0"
SHELTER
BY OTHERS

(E) 3'-8"x7'-5"
EMPTY PAD
BY OTHERS

(E) AT&T ICE BRIDGE
±21'-0"

(E) AT&T GPS
ANTENNA

(E) GPS ANTENNA
(TYP)

(E) 176'-0" MONOPOLE

(E) ICE BRIDGE (TYP)

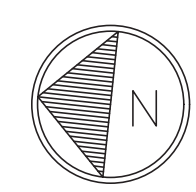
(E) 5'-0"x17'-3"
PAD
BY OTHERS

(E) CONCRETE
CYLINDER

(E) TELCO
HANDHOLE

(E) UTILITY H-FRAME
(TYP)

1 SITE PLAN
SCALE: 3/8"=1'-0" (FULL SIZE)
3/16"=1'-0" (11x17)



85638.007.01_WARD_8.29.22.dwg - Sheet: C-1.1 - User: ashley.pope - Sep 01, 2022 - 6:45am



575 MOROSGO DRIVE
ATLANTA, GA 30324-3300



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



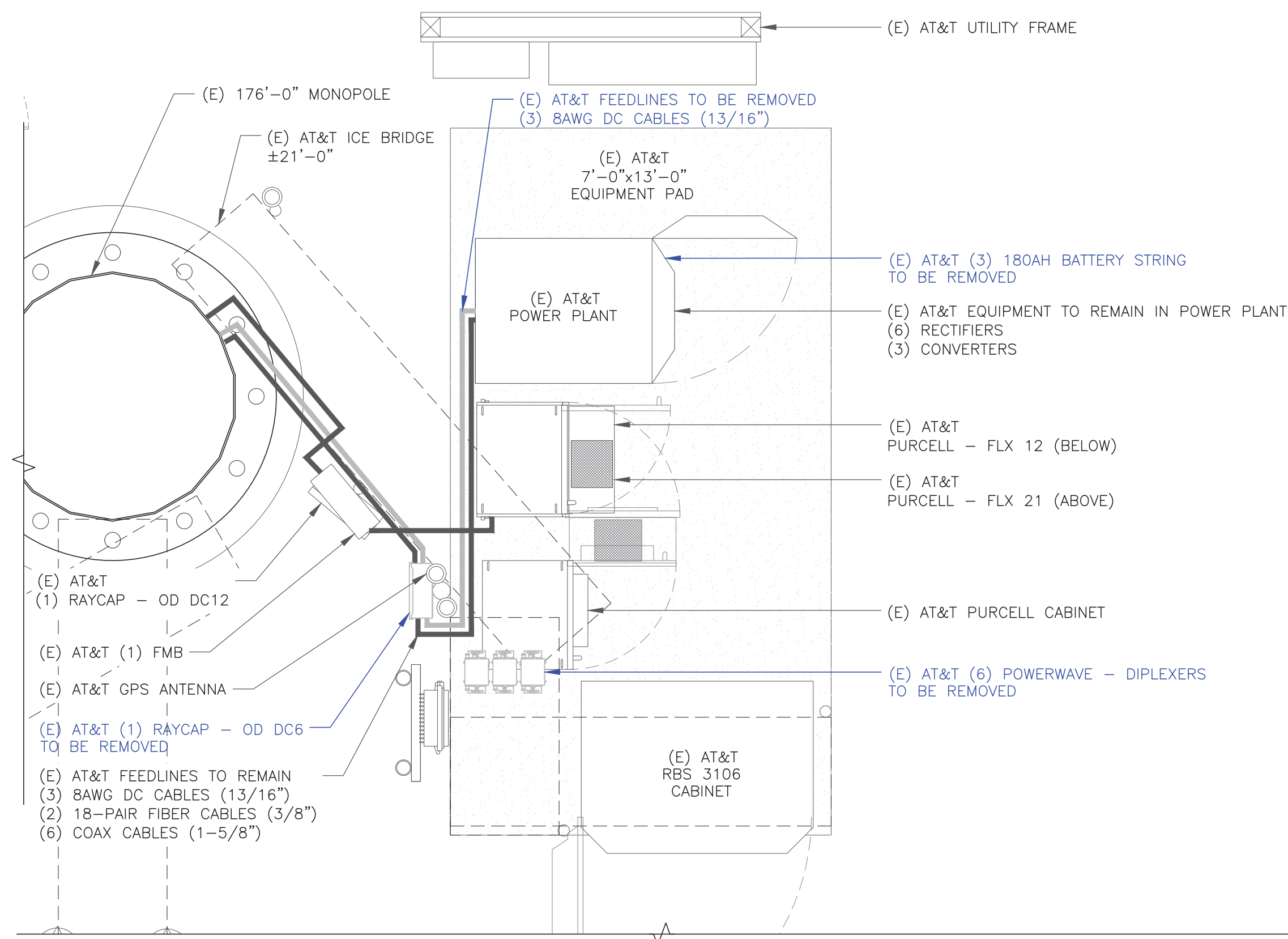
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.blgrp.com

AT&T SITE NUMBER: CTL05640

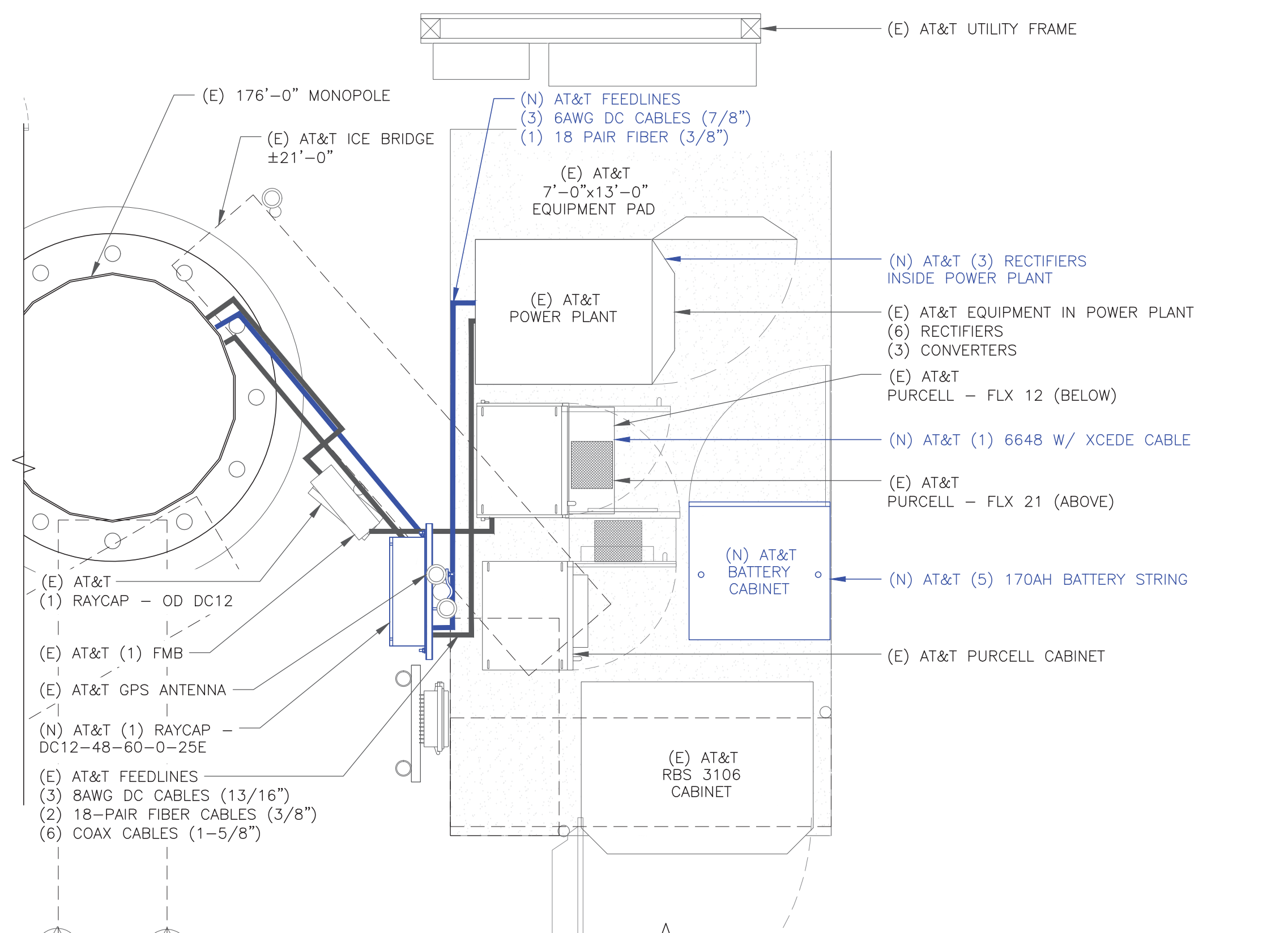
BU #: 876381
WARD

2381 LONG HILL ROAD
GUILFORD, CT 06437

EXISTING
176'-0" MONOPOLE



1 EXISTING EQUIPMENT PLAN
SCALE: 1/2"=1'-0" (FULL SIZE)
1/4"=1'-0" (11x17)



2 FINAL EQUIPMENT PLAN
SCALE: 1/2"=1'-0" (FULL SIZE)
1/4"=1'-0" (11x17)



- GROUND SCOPE OF WORK:**
- REMOVE (3) 180AH BATTERY STRING
 - REMOVE (6) POWERWAVE - DIPLEXERS
 - REMOVE (1) RAYCAP - OD DC6
 - INSTALL (1) BATTERY CABINET
 - INSTALL (5) 170AH BATTERY STRING
 - INSTALL (3) RECTIFIERS INSIDE POWER PLANT
 - INSTALL (1) 6648 W/ XCEDE CABLE
 - INSTALL (1) RAYCAP - DC12-48-60-0-25E

NOTE:

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.

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/11/22	GAC	PRELIMINARY REVIEW	MTJ
B	7/18/22	GAC	PRELIMINARY REVIEW	CV
C	7/27/22	CV	PRELIMINARY REVIEW	CV
0	9/1/22	GAC	CONSTRUCTION	ANP



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SHEET NUMBER: **C-1.2** REVISION: **0**

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AT&T SITE NUMBER: CTL05640

BU #: 876381
WARD

2381 LONG HILL ROAD
GUILFORD, CT 06437

EXISTING
176'-0" MONOPOLE

ISSUED FOR:

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0	9/1/22	GAC	CONSTRUCTION	ANP



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SHEET NUMBER: **C-3** REVISION: **0**

FINAL EQUIPMENT SCHEDULE
(VERIFY WITH CURRENT RFDS)

ALPHA																				
POSITION	ANTENNA				RADIO			DIPLEXER			TMA			SURGE PROTECTION		CABLES				
	TECH.	STATUS/MANUFACTURER	MODEL	AZIMUTH	RAD CENTER	QTY.	STATUS/MODEL	LOCATION	QTY.	STATUS	LOCATION	QTY.	STATUS/MANUFACTURER	MODEL	QTY.	STATUS/MODEL	QTY.	STATUS/TYPE	SIZE	LENGTH
A2	LTE/5G	(E) CCI - OPA65R-BU6DA	30°	167'-0"	1	(E) 4478 B14	TOWER	-	-	-	-	-	-	-	1	(E) DC6-48-60-18-8F SQUID	2	(E) COAX	1-5/8"	217'-0"
					1	(E) 8843 B2/B66A (N) Y CABLE	TOWER										1	(E) 18 PAIR FIBER	3/8"	217'-0"
A3	5G CBAND/5G DOD	(N) ERICSSON - AIR6419 B77G STACKED ABOVE	30°	168'-9"	-	INTEGRATED WITHIN	-	-	-	-	-	-	-	-	1	(E) DC6-48-60-18-8F SQUID	1	(E) 8AWG DC	13/16"	217'-0"
		(N) ERICSSON - AIR6449 B77D STACKED BELOW	30°	165'-3"													1	(N) 6AWG DC	7/8"	217'-0"
A4	LTE/5G	(E) KATHREIN - 800-10965	30°	167'-0"	1	(E) 4449 B5/B12 (N) Y CABLE	TOWER	-	-	-	-	-	-	-	-	-	-	-	-	-
BETA																				
B2	LTE/5G	(E) CCI - OPA65R-BU6DA	160°	167'-0"	1	(E) 4478 B14	TOWER	-	-	-	-	-	-	-	1	(E) DC6-48-60-18-8F SQUID	2	(E) COAX	1-5/8"	217'-0"
					1	(E) 8843 B2/B66A (N) Y CABLE	TOWER										1	(E) 18 PAIR FIBER	3/8"	217'-0"
B3	5G CBAND/5G DOD	(N) ERICSSON - AIR6419 B77G STACKED ABOVE	160°	168'-9"	-	INTEGRATED WITHIN	-	-	-	-	-	-	-	-	1	(E) DC6-48-60-18-8F SQUID	1	(E) 8AWG DC	13/16"	217'-0"
		(N) ERICSSON - AIR6449 B77D STACKED BELOW	160°	165'-3"													1	(N) 6AWG DC	7/8"	217'-0"
B4	LTE/5G	(E) KATHREIN - 800-10965	160°	167'-0"	1	(E) 4449 B5/B12 (N) Y CABLE	TOWER	-	-	-	-	-	-	-	-	-	-	-	-	-
GAMMA																				
C2	LTE/5G	(E) CCI - OPA65R-BU6DA	280°	167'-0"	1	(E) 4478 B14	TOWER	-	-	-	-	-	-	-	1	(E) DC6-48-60-18-8F SQUID	2	(E) COAX	1-5/8"	217'-0"
					1	(E) 8843 B2/B66A (N) Y CABLE	TOWER										1	(E) 18 PAIR FIBER	3/8"	217'-0"
C3	5G CBAND/5G DOD	(N) ERICSSON - AIR6419 B77G STACKED ABOVE	280°	168'-9"	-	INTEGRATED WITHIN	-	-	-	-	-	-	-	-	1	(E) DC6-48-60-18-8F SQUID	1	(E) 8AWG DC	13/16"	217'-0"
		(N) ERICSSON - AIR6449 B77D STACKED BELOW	280°	165'-3"													1	(N) 6AWG DC	7/8"	217'-0"
C4	LTE/5G	(E) KATHREIN - 800-10965	280°	167'-0"	1	(E) 4449 B5/B12 (N) Y CABLE	TOWER	-	-	-	-	-	-	-	-	-	-	-	-	-
																UNUSED FEEDLINES:	-	-	-	-
																	-	-	-	-

NOTE:
(E) - EXISTING
(N) - NEW

AT&T SITE NUMBER: CTL05640

BU #: 876381
WARD

2381 LONG HILL ROAD
GUILFORD, CT 06437

EXISTING
176'-0" MONOPOLE

ISSUED FOR:

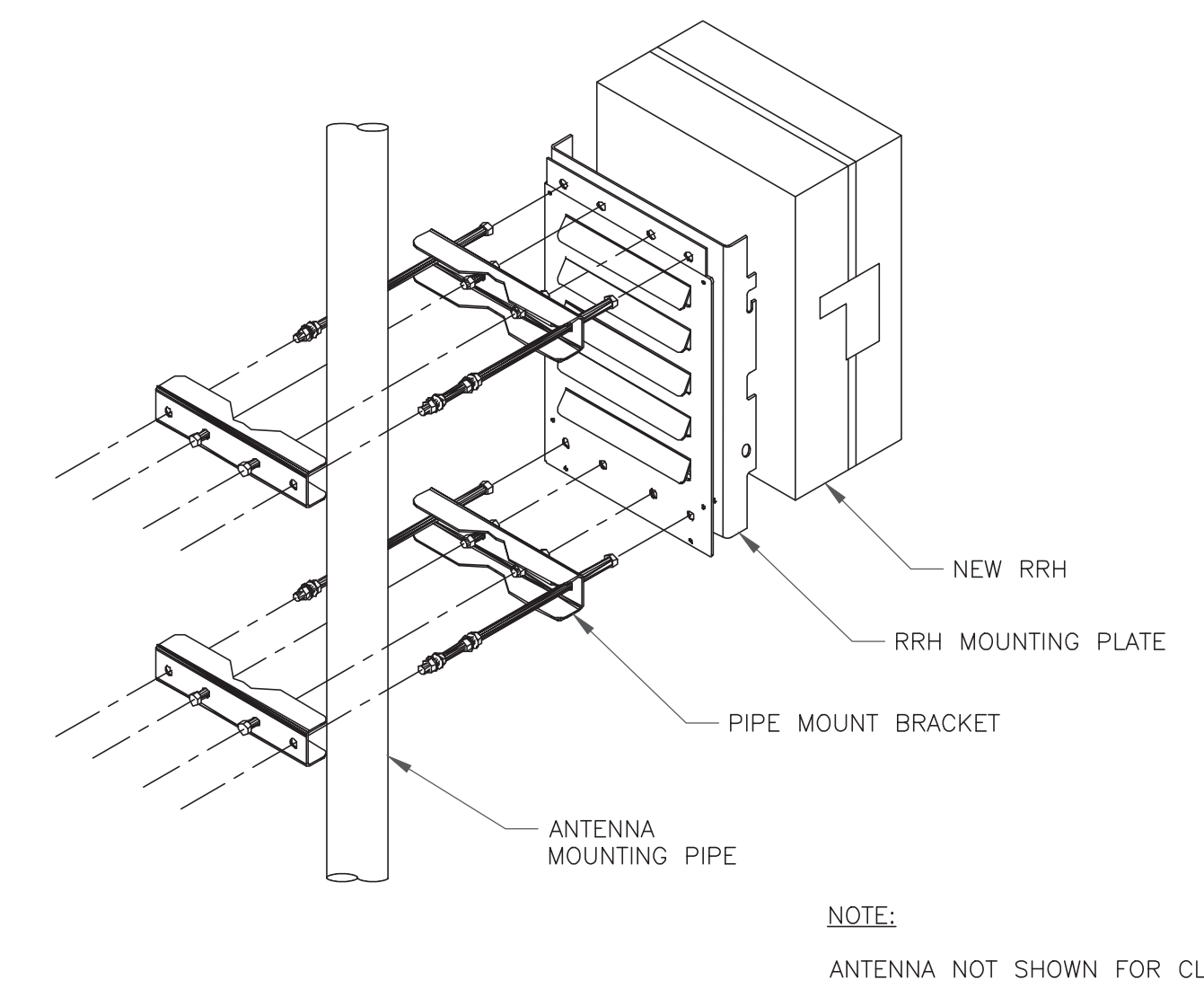
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/11/22	GAC	PRELIMINARY REVIEW	MTJ
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SHEET NUMBER: **C-4** REVISION: **0**

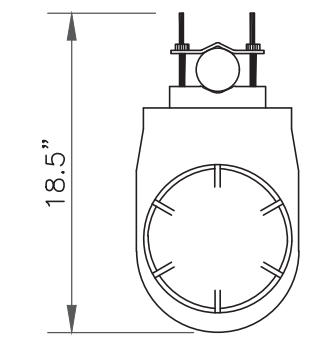


3 SINGLE RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

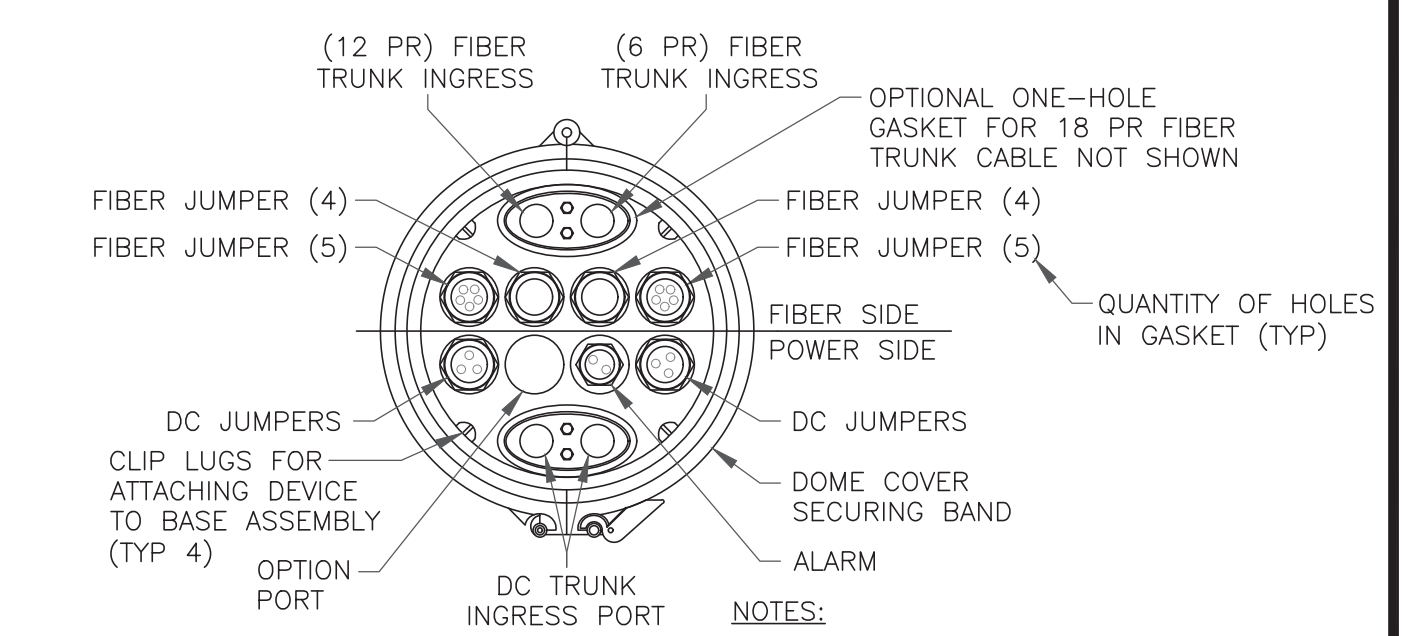
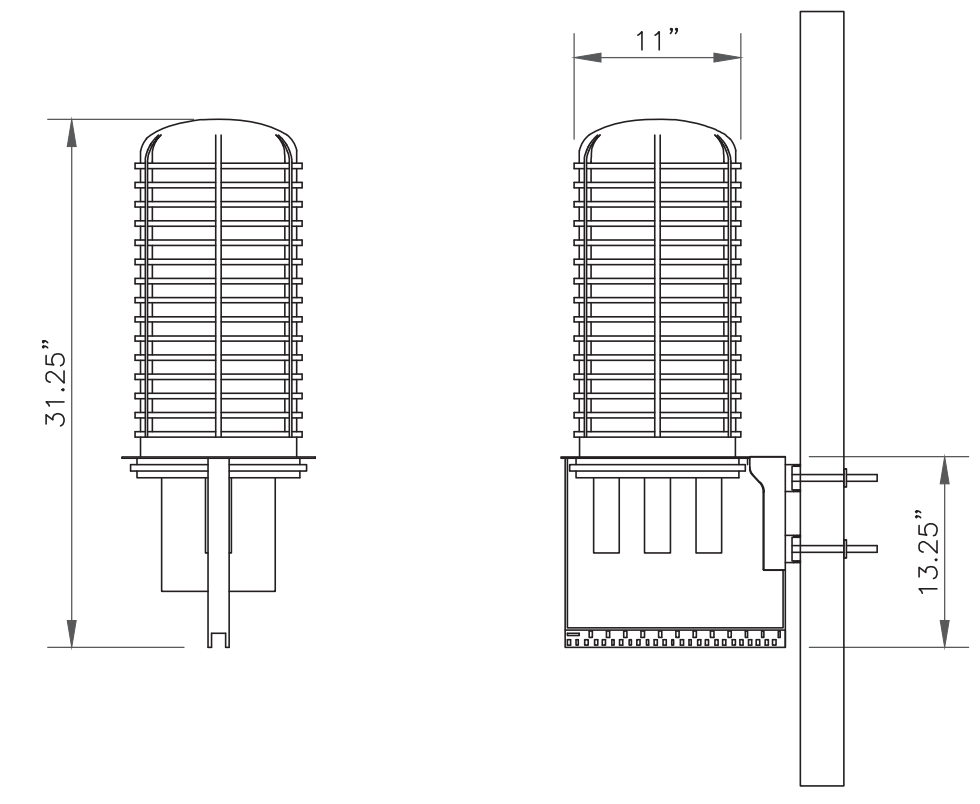
RAYCAP

DC6-48-60-18-8F

RAYCAP - DC6-48-60-18-8F
SIZE: 11x31.25 IN.
WEIGHT: 32.8 LBS
NOMINAL OPERATING VOLTAGE: 48 VDC
VOLTAGE PROTECTION RATING: 400 V
WIND LOADING: 150 MPH SUSTAINED (105.7 LBS)
WIND LOADING: 195 MPH GUST (213.6 LBS)

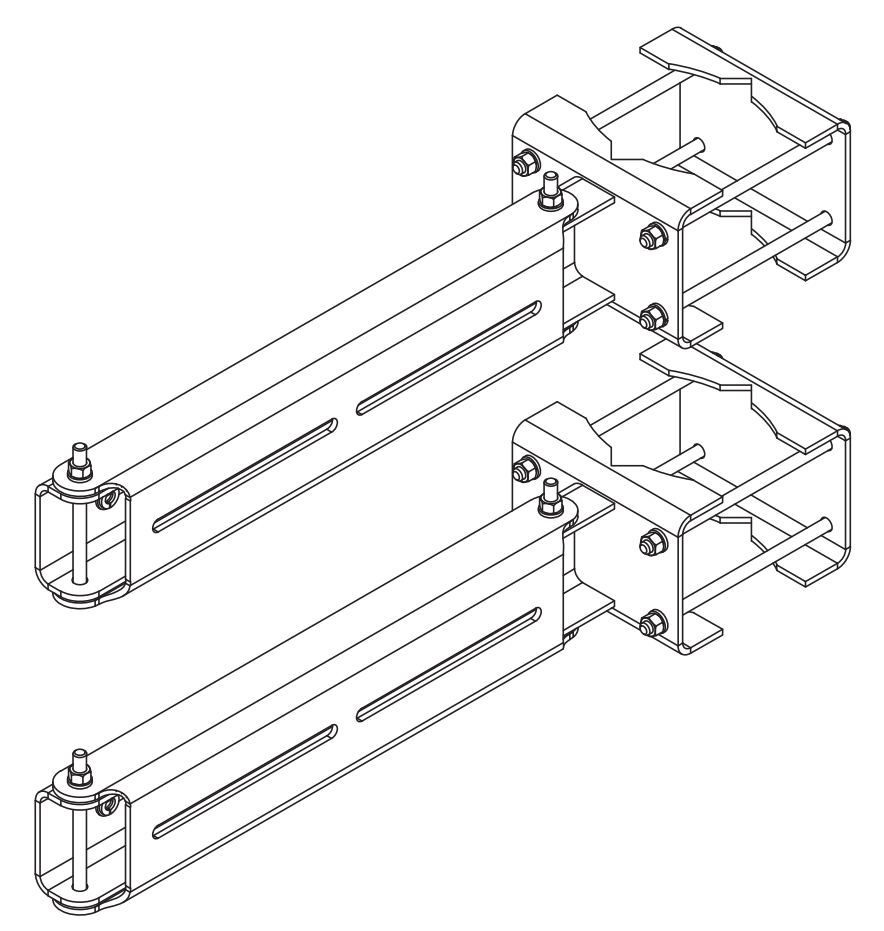


CONTRACTOR TO USE "THREAD LUBRICANT" ON MOUNTING BOLTS DURING INSTALLATION



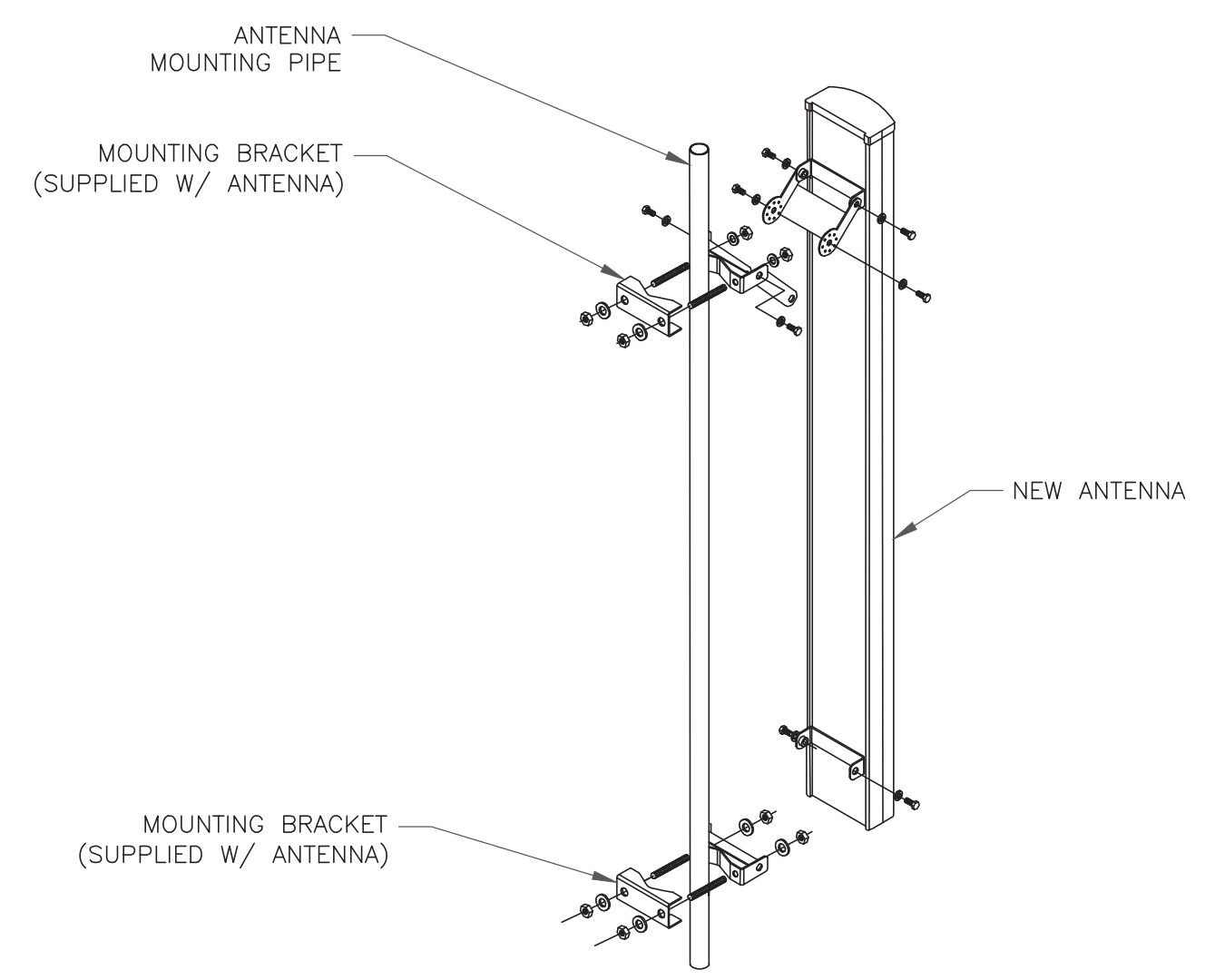
NOTES:
1. REMOVE CABLE SEALING GLAND AND INSTALL M32x1.5 METRIC-T0-1" NPT ADAPTER (COOPER CROUSE-HINES P/N CAP 740 994 OR EQUIVALENT MFR) WHEN CONNECTING CONDUIT TO OVP.

6 SQUID MOUNTING DETAIL
SCALE: NOT TO SCALE



2 DUAL RADIO MOUNT
SCALE: NOT TO SCALE

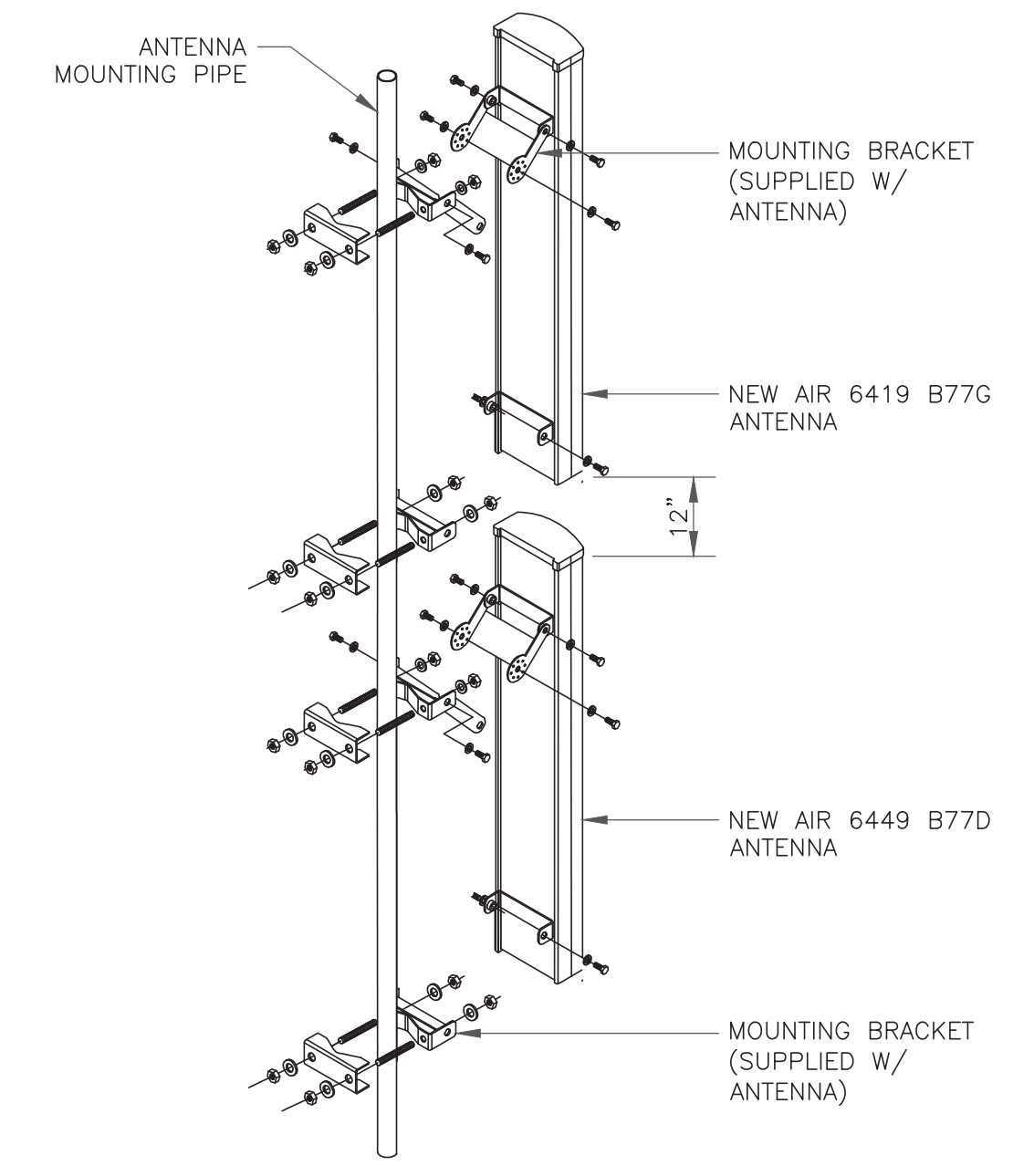
INSTALLER NOTES:
1. COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRHs RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.
2. DO NOT OPEN RRH PACKAGES IN THE RAIN.
3. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.
4. RRHs SHALL NOT BE INSTALLED CLOSER THAN 8" TO ANTENNAS.



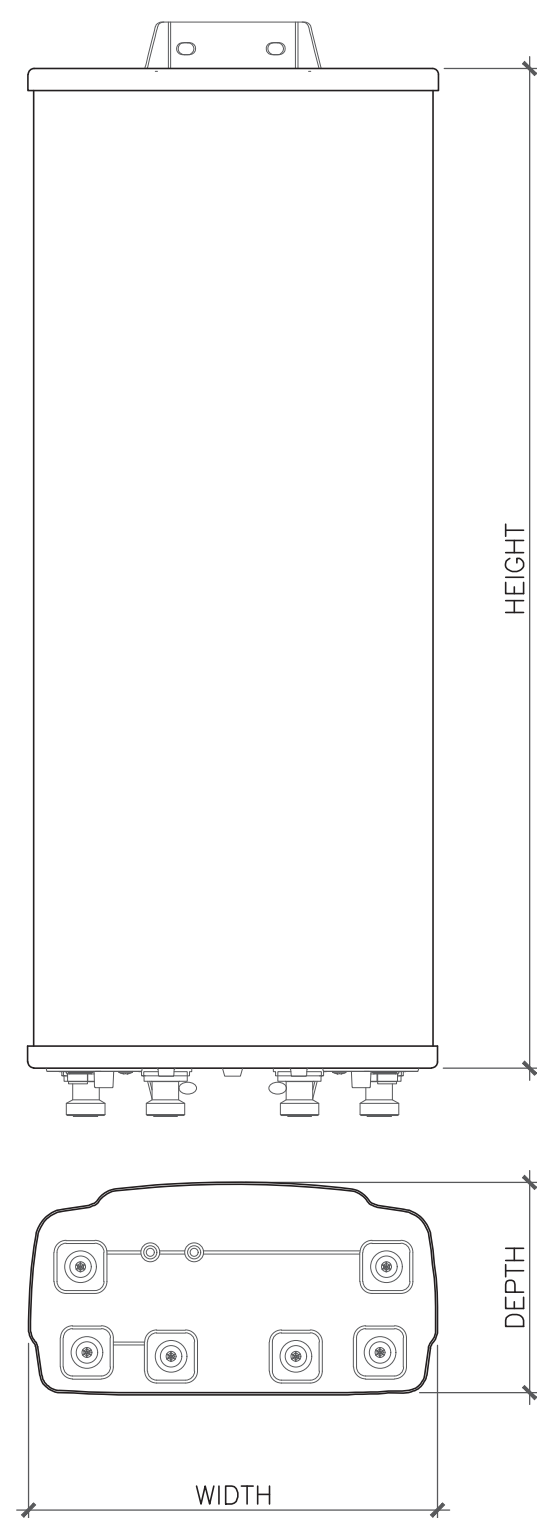
5 ANTENNA WITH DUAL RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

1 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.

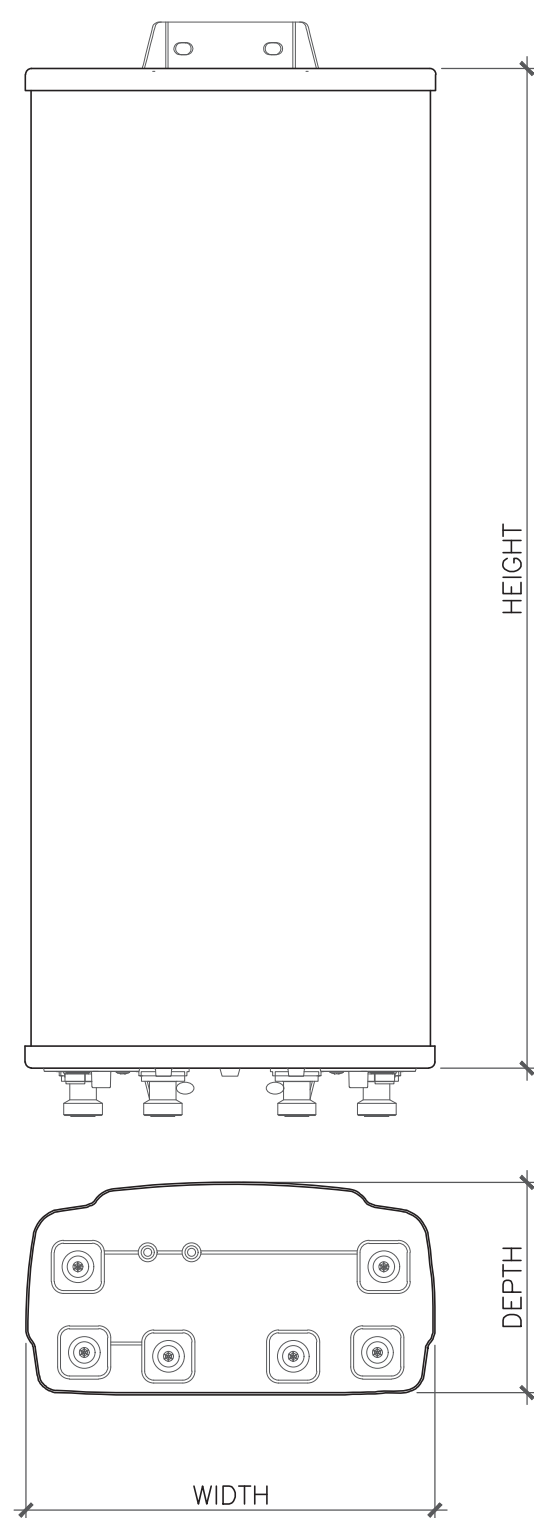


1 STACKED ANTENNA MOUNTING DETAIL
SCALE: NOT TO SCALE



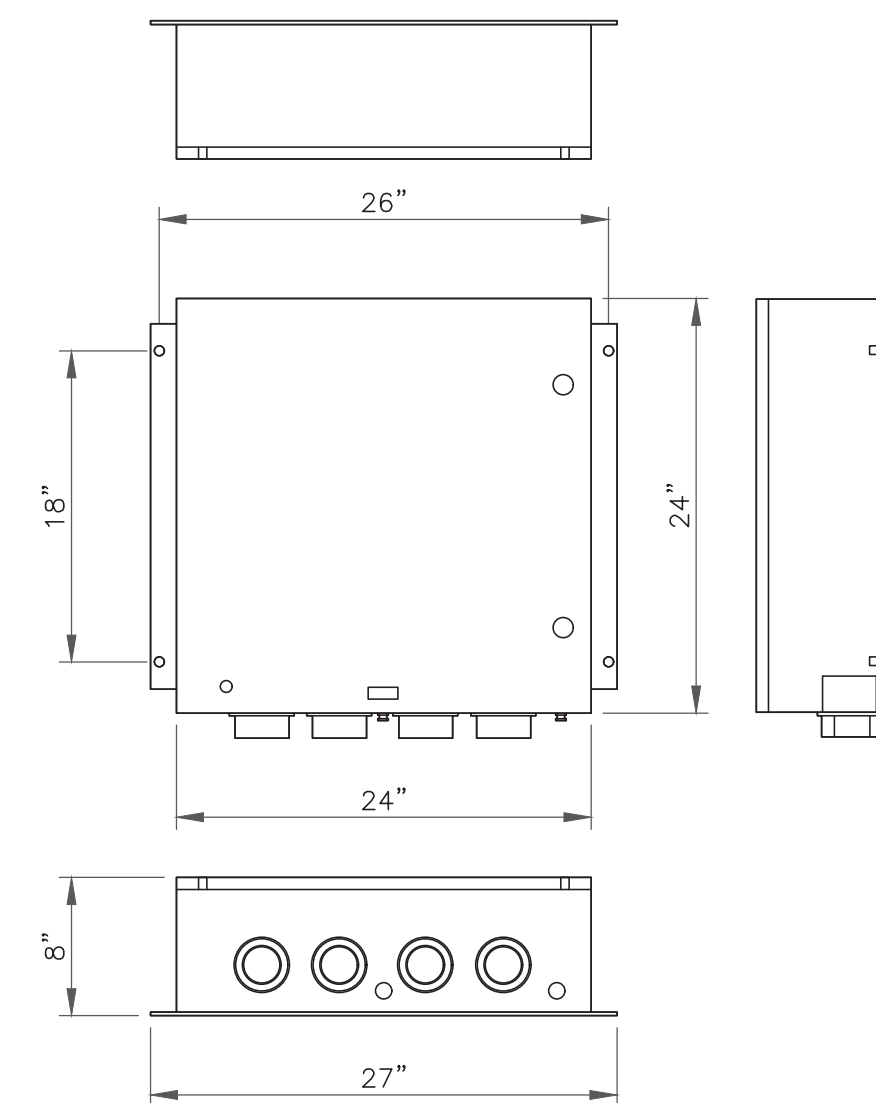
ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
AIR 6419 B77G	27.95"	15.75"	6.68"	66.20 lbs

1 ANTENNA DETAIL
SCALE: NOT TO SCALE



ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
AIR 6449 B77D	30.39"	15.87"	8.07"	81.60 lbs

2 ANTENNA DETAIL
SCALE: NOT TO SCALE



RAYCAP - DC12-48-60-0-25E
WEIGHT: 56.3 LBS
SIZE (LxWxD): 24.0x24.0x8.0 IN.
OPERATING TEMPERATURE: -40° C TO +100° C
NOMINAL OPERATING DC VOLTAGE: 48V DC
VOLTAGE PROTECTION RATING (VRP): 400V

3 RAYCAP - DC12-48-60-0-25E
SCALE: NOT TO SCALE

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: CTL05640

BU #: 876381
WARD

2381 LONG HILL ROAD
GUILFORD, CT 06437

EXISTING
176'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
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SHEET NUMBER: **C-5** REVISION: **0**

4 NOT USED
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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.



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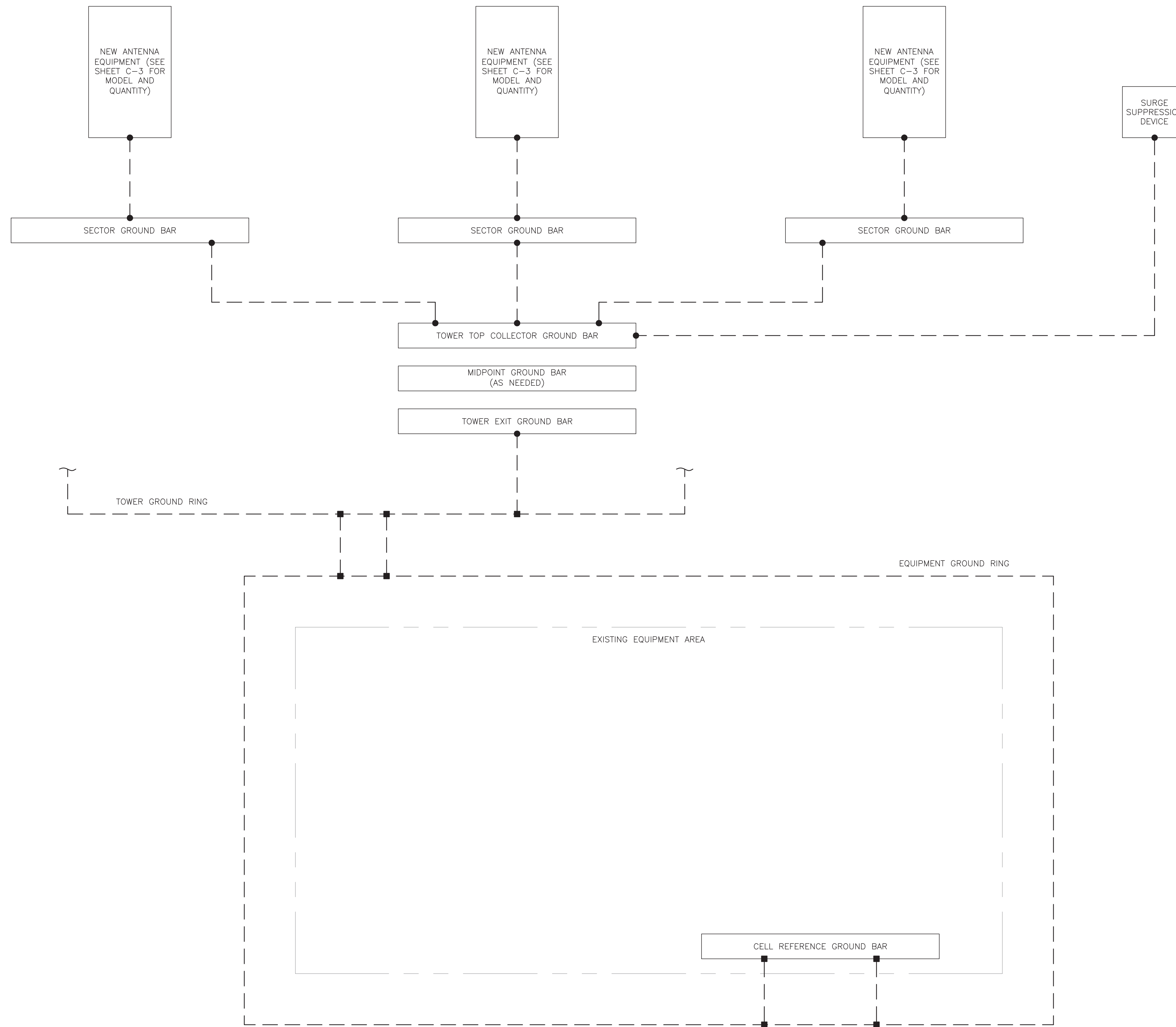
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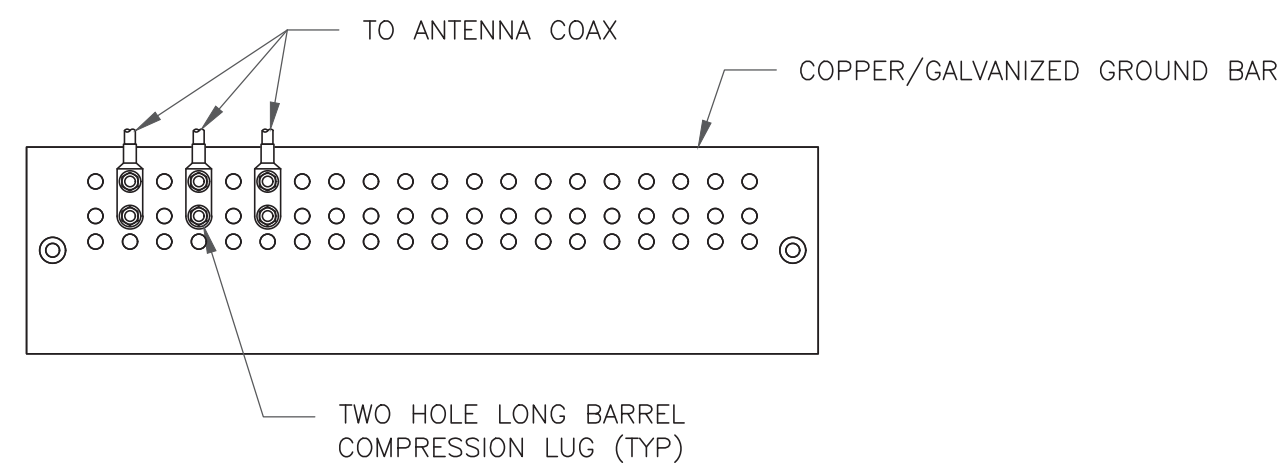
SHEET NUMBER: REVISION:

G-1

0



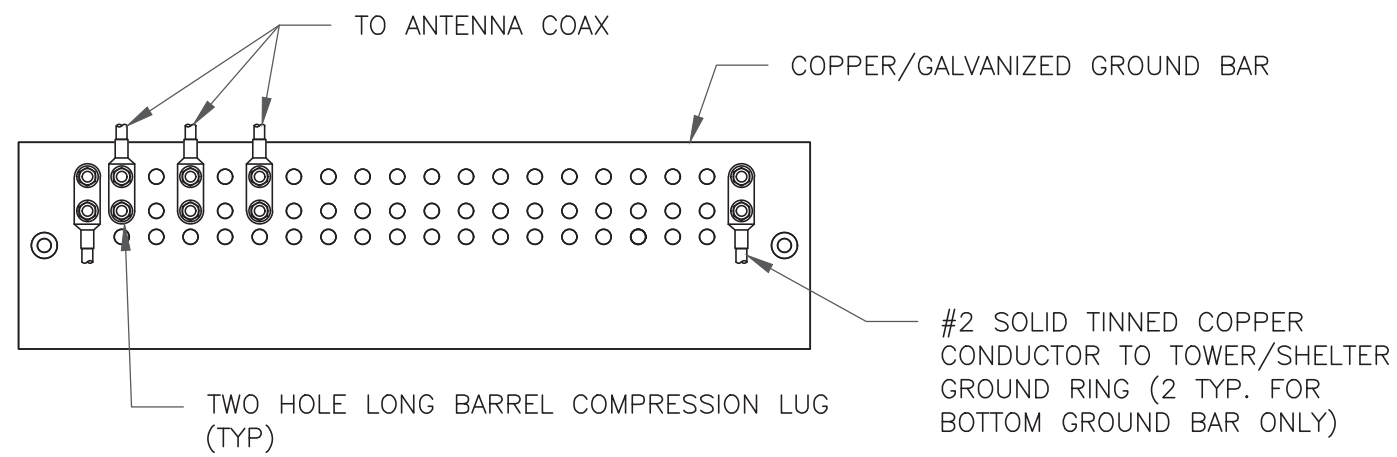
1 GROUNDING SCHEMATIC
SCALE: NOT TO SCALE



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

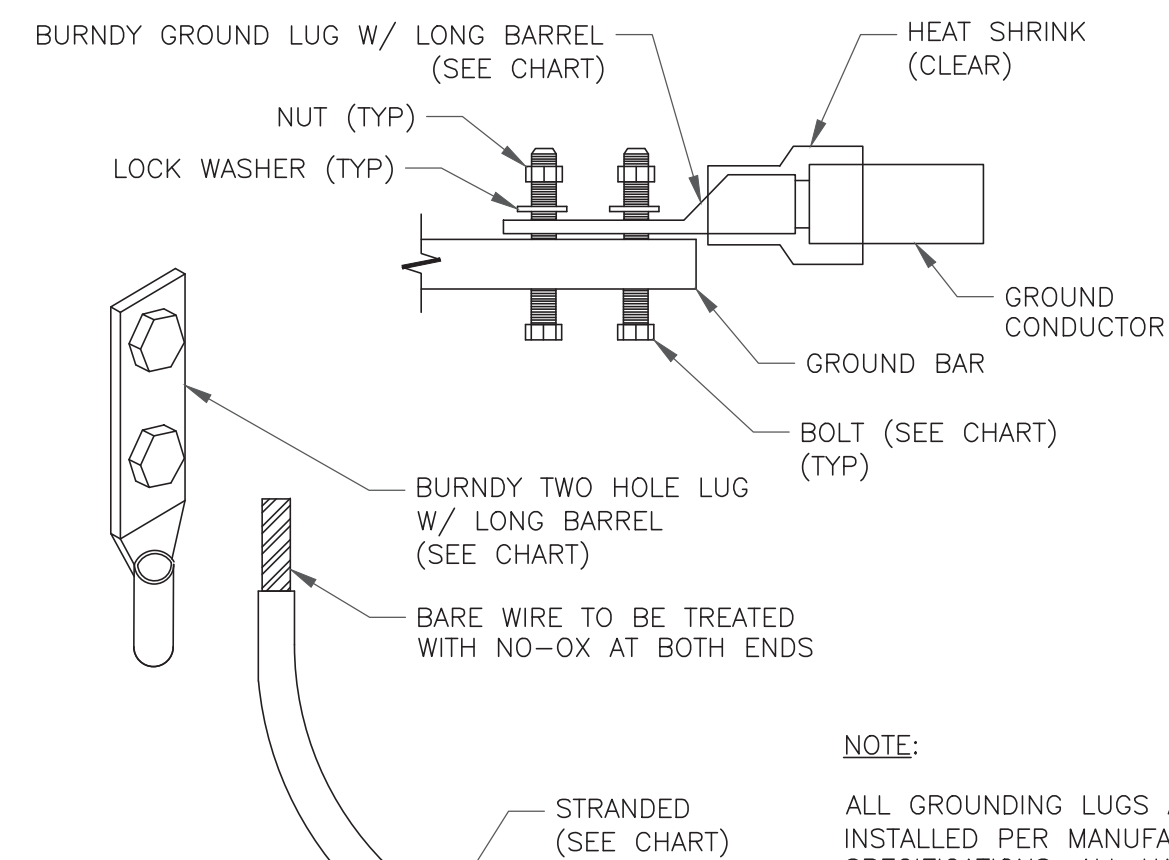


NOTES:

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

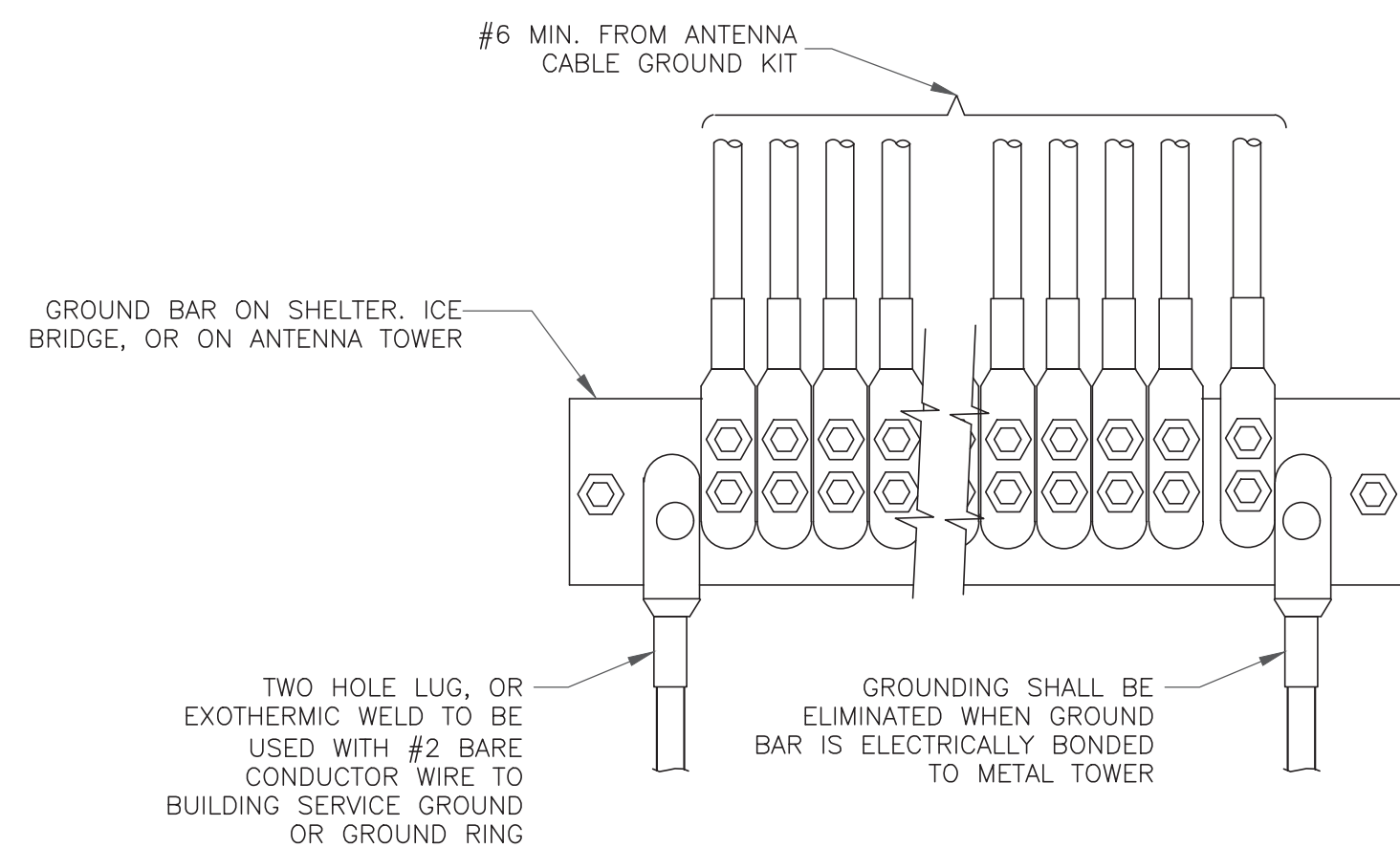
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



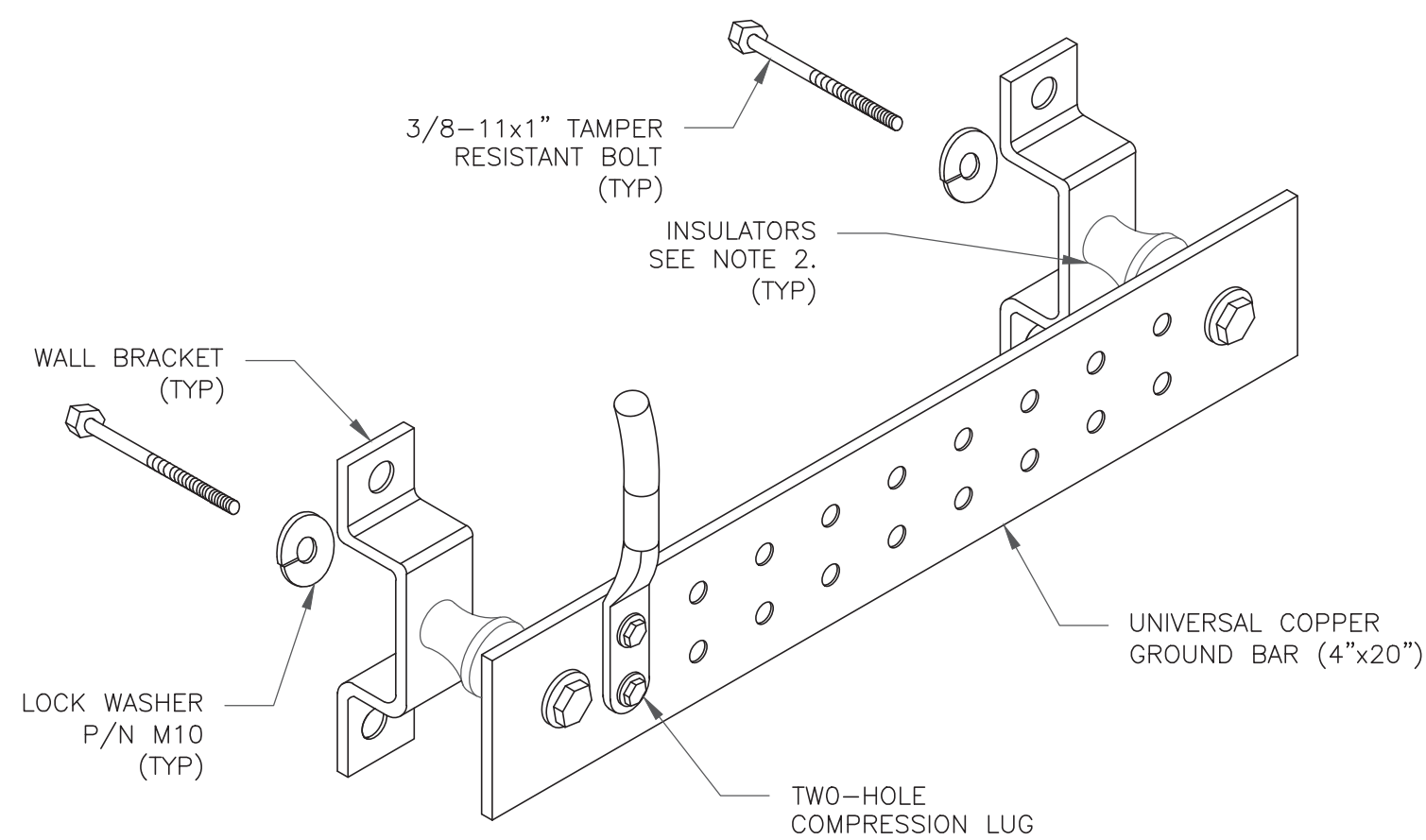
NOTE:

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



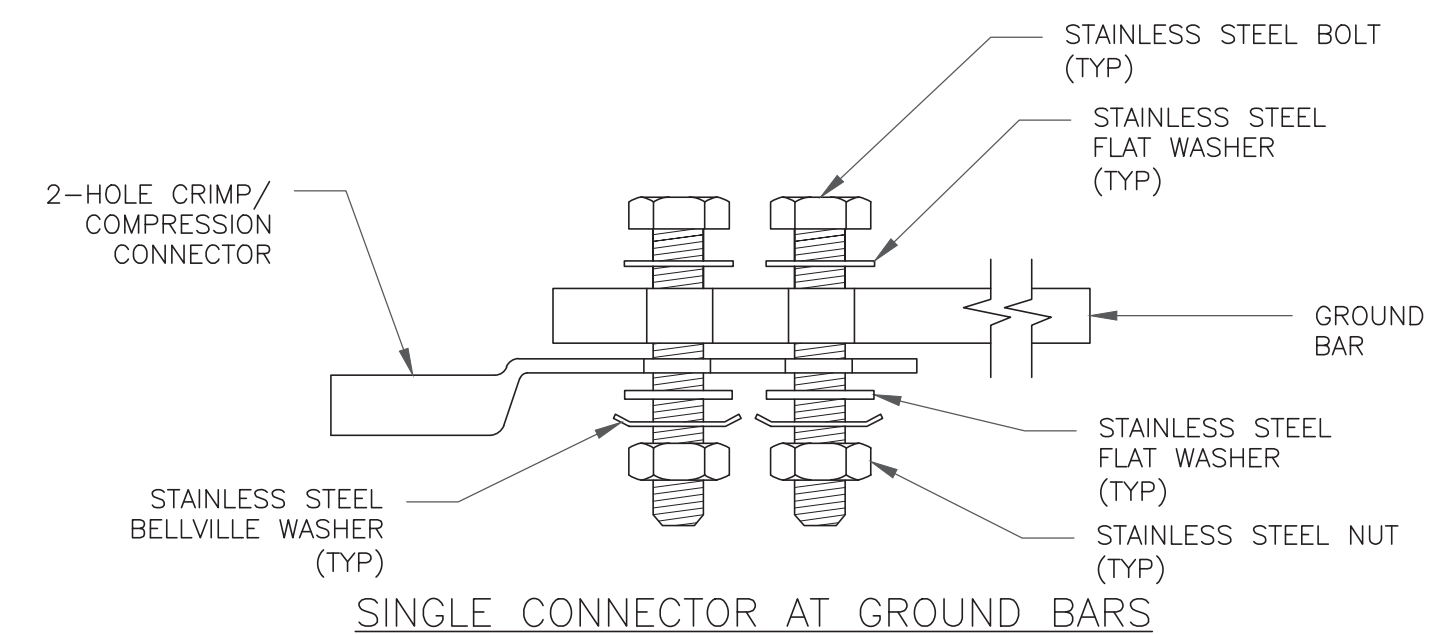
4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



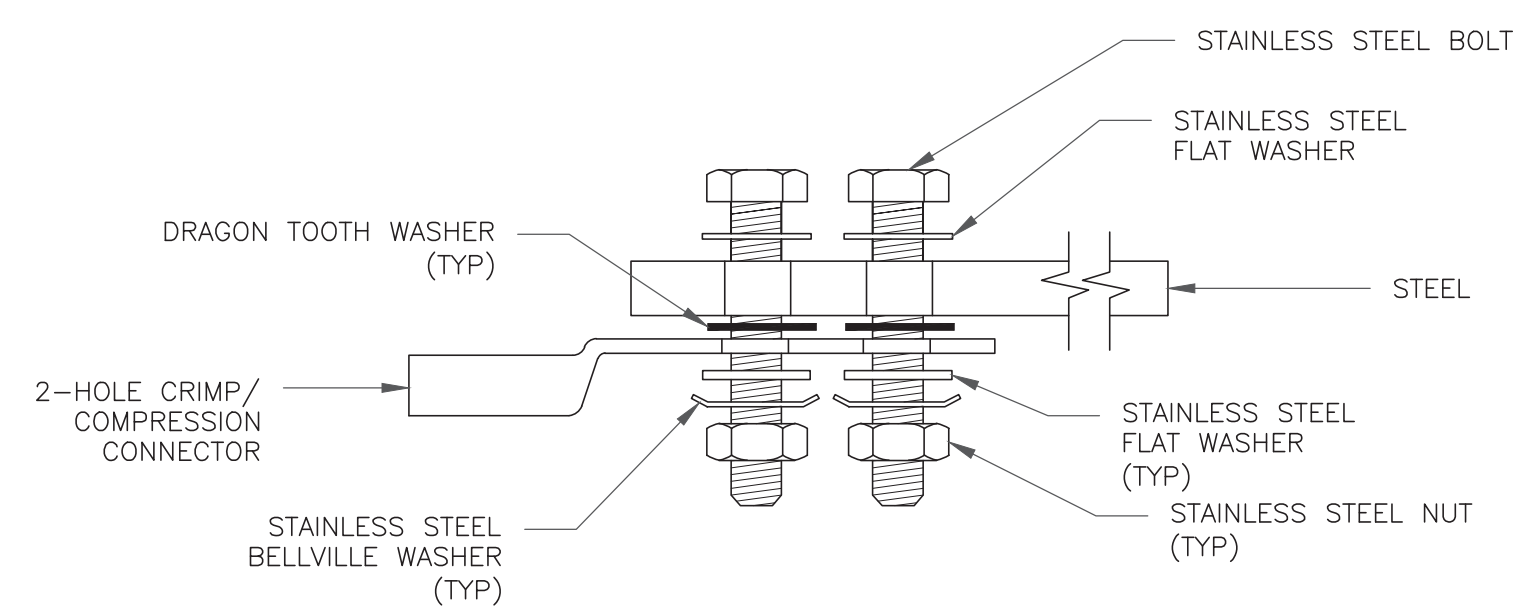
NOTES:

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.

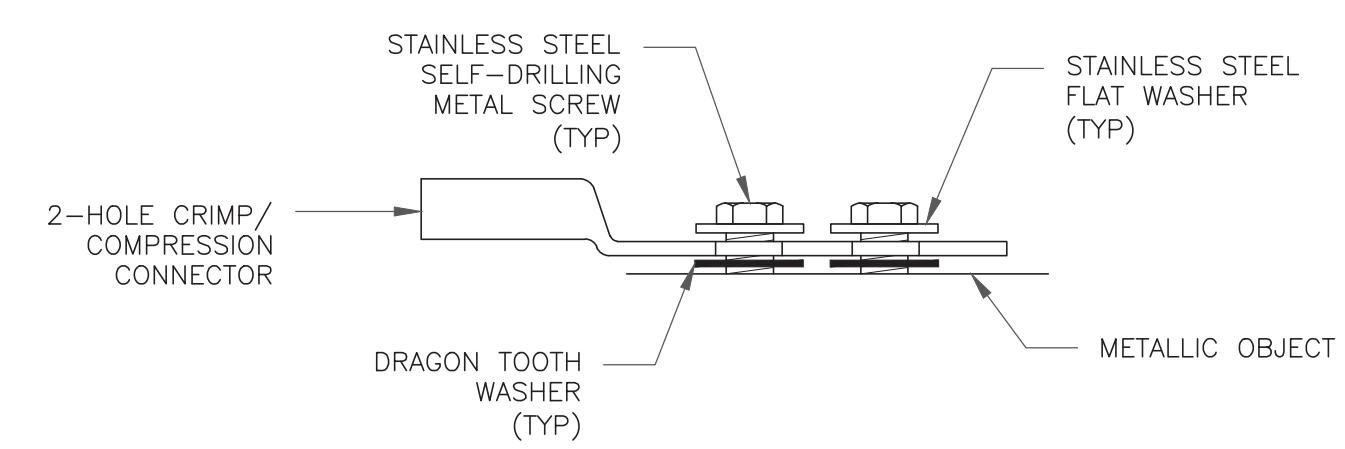
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

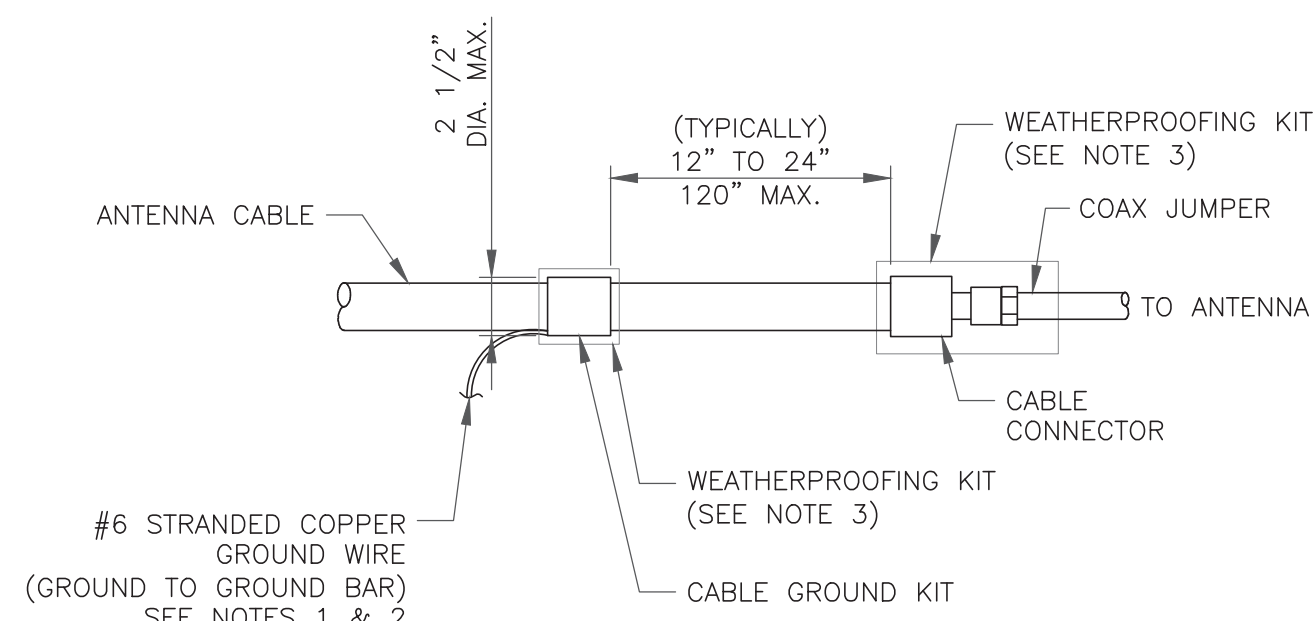


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

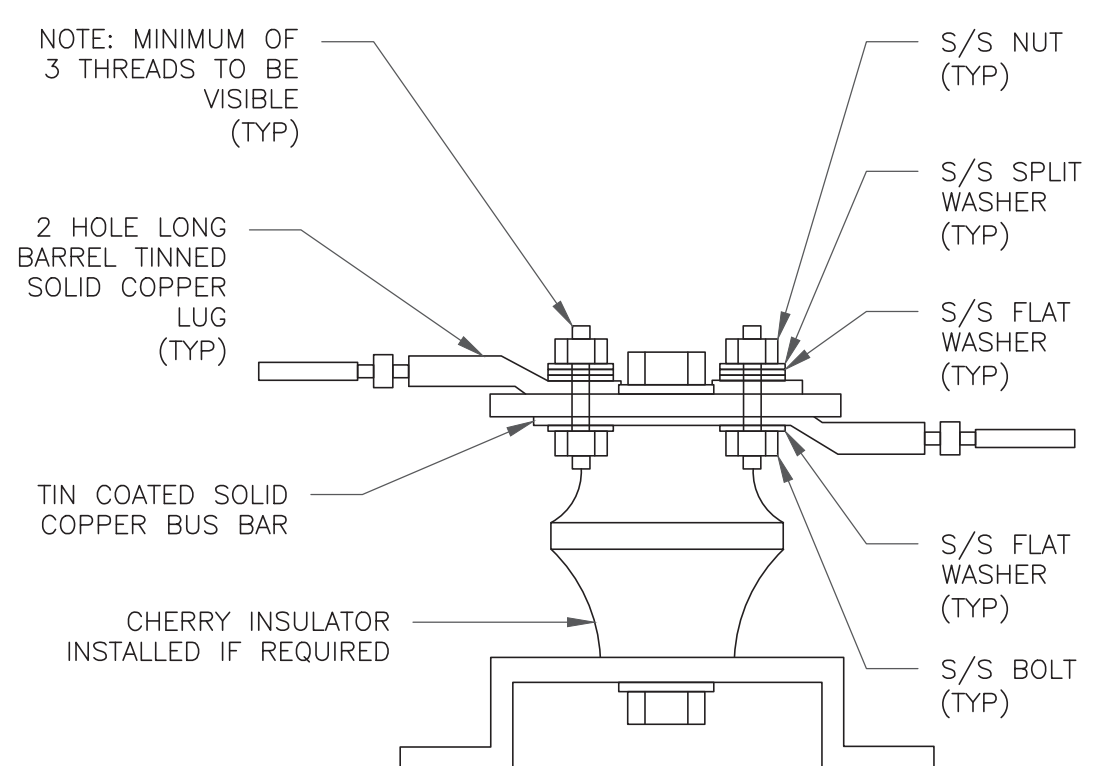
8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



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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0	9/1/22	GAC	CONSTRUCTION	ANP



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PEC.0001564
Expires 2/10/23

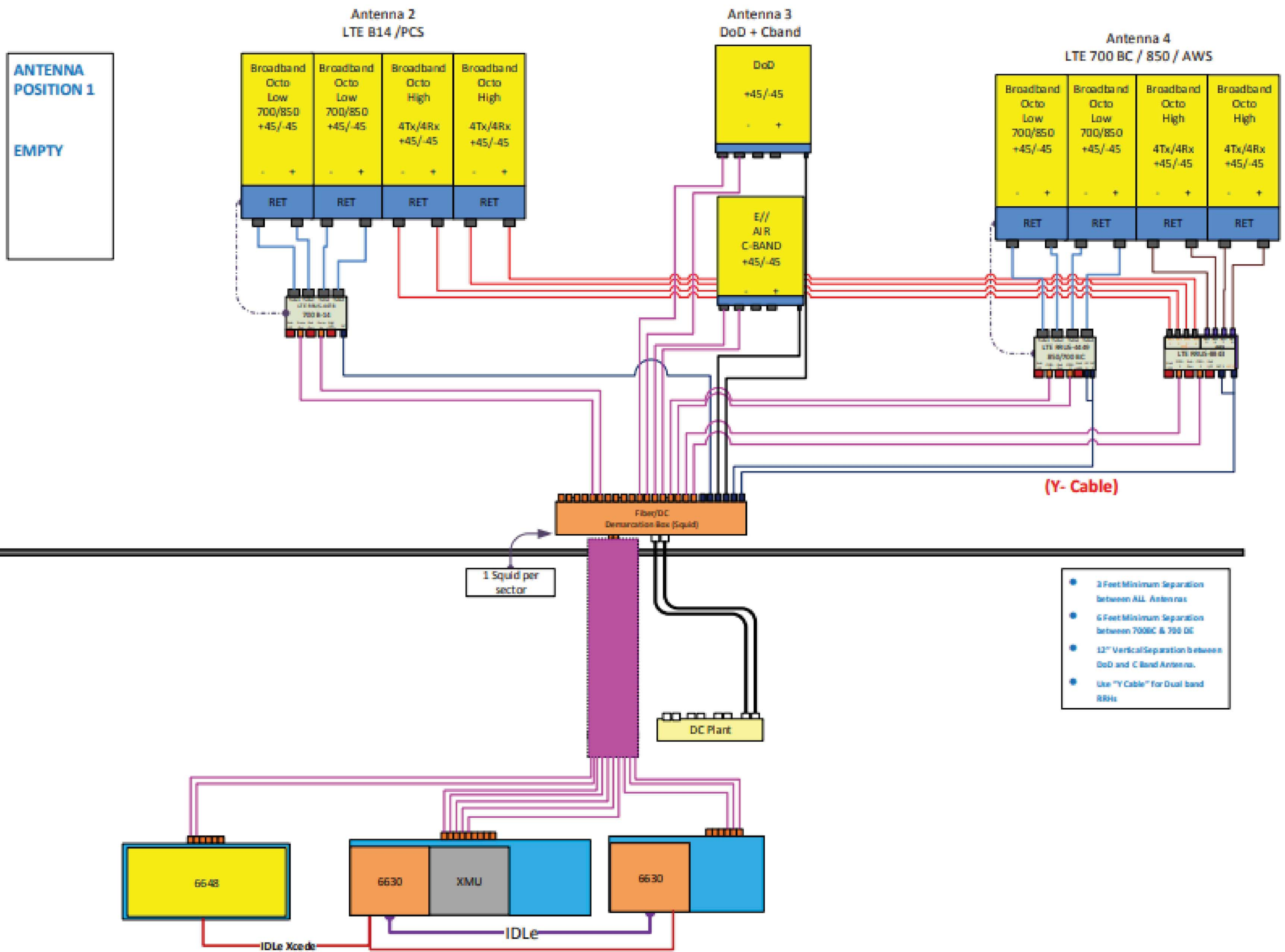
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

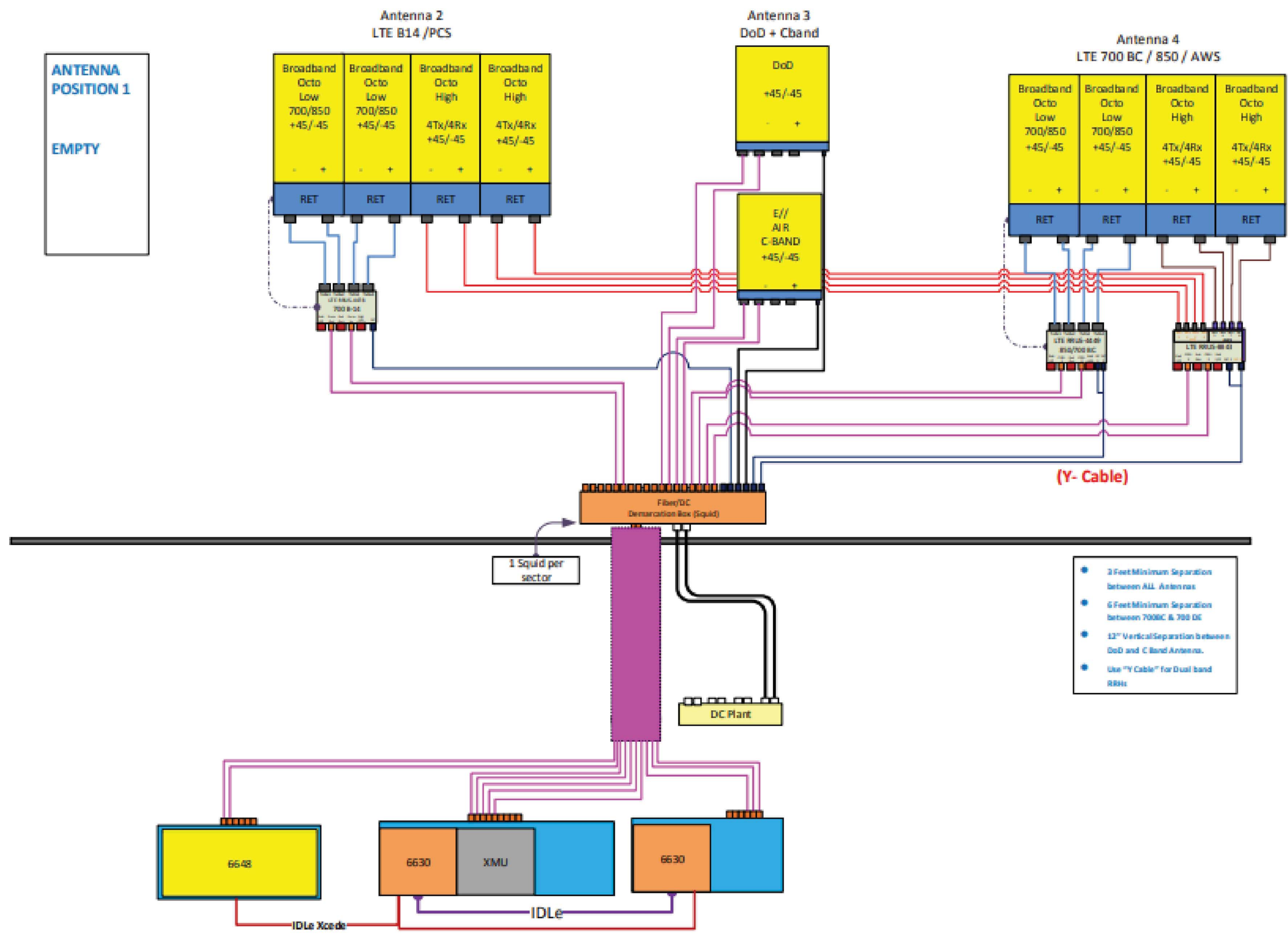
SHEET NUMBER:

G-2

REVISION:

0





ANTENNA POSITION 1
EMPTY

(Y- Cable)

1 Squid per sector

- 2 Feet Minimum Separation between ALL Antennas
- 6 Feet Minimum Separation between 700BC & 700 DC
- 12" Vertical Separation between DoD and C-Band Antennas.
- Use "Y-Cable" for Dual band RANs

