



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

December 8, 2021

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

RE: Notice of Exempt Modification for T-Mobile: CTHA401A
Crown Site ID#807376
1455 Forbes Street, East Hartford, CT 06118
Latitude: 41° 43' 1653.30" / Longitude: -72° 36' 28.00"

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 98-foot mount level on the existing 131-foot monopole tower, located at 1455 Forbes Street, East Hartford, CT. The property is owned by Rebecca Jack-Handel. The tower is owned by Crown Castle. T-Mobile now intends to replace six (6) antennas and ancillary equipment at the 98-ft level. T-Mobile to modify the existing antenna mount at the same level. This modification/proposal includes hardware that is both 4G (LTE) and 5G capable through remote software configuration and either or both services may be turned on or off at various times.

Panned Modification:
Tower:

Installed New:

- (3) RFS/Celwave – APXVAALL24_43-U-NA20
- (3) Ericsson – AIR6449 B41 Antenna
- (3) Ericsson-Radio 4449 B71/B85
- (3) Ericsson Radio 4460 B25+B66
- (3) HYBRID 6x24 Hybrid Cable
- (1) GPS antenna and line
- (1) Sitepro1 Antenna Mount. Per B+T Group 10/28/2021 Mount Analysis

Remove:

- (3) RFS/Celwave – APXVTM14-ALU-120
- (3) Clearwire Antennas
- (3) RFS/Celwave-APXVSPP18-C-A20
- (9) Sprint RRHs
- (3) Clearwire RRHs
- (1) RRH Mount
- (4) 1/2" Hybrid Cables
- (2) Clearwire Microwave Dishes

Ground:

Install New:

- (1) Emerson AAV Cabinet
- (1) RBS 6160 Cabinet
- (1) B160 battery Cabinet
- (3.) BB 6648
- (1.) DUG20
- (1) CSR IXRE V2 (GEN 2)
- (2) PSU 4813 Voltage Booster

Remove:

- All Clearwire Equipment and Cabinets
- (1) MMBS Equipment Cabinet
- (1.) BBU Equipment Cabinet

The facility was approved by the Connecticut Siting Council Petition No. 535 on May 21, 200. This approval was given without conditions.

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 the Honorable Michael Walsh, Mayor, Town of East Hartford, Ms. Eileen Buckheit, Development Director, Town of East Hartford and the property owner, Rebecca Jack-Handel. 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, T-Mobile 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: Jeffrey Barbadora.

Melanie A. Bachman

Page 3

Sincerely,

Jeffrey Barbadora
Site Acquisition Specialist
1800 W. Park Drive
Westborough, MA 01581
(781) 970-0053
Jeff.Barbadora@crowncastle.com

Attachments

cc:

Michael Walsh, Mayor
Town of East Hartford
740 Main Street
East Hartford, CT 06108
860-291-7200

Eileen Buckheit, Development Director
Town of East Hartford
740 Main Street
East Hartford, CT 06108
860-291-7300

Rebecca Jack-Handel, Property Owner
1455 Forbes Street
East Hartford, CT 06118

Crown Castle, Tower Owner.

DOCKET NO. 139 - An application of
Metro Mobile CTS of Hartford, Inc., : Connecticut
for a Certificate of Environmental :
Compatibility and Public Need for : Siting
the construction, maintenance, and :
operation of cellular facilities in : Council
the Towns of Enfield, East Hartford,
and Wethersfield, Connecticut. September 18, 1991

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 cellular telecommunications towers and equipment buildings at the proposed Enfield, Connecticut, alternate site and the proposed East Hartford, Connecticut, prime site 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 section 16-50k of the Connecticut General Statutes (CGS), be issued to Metro Mobile CTS of Hartford, Inc., for the construction, operation, and maintenance of a cellular telecommunications tower, associated equipment, and building at the proposed alternate site in Enfield, Connecticut, and the proposed prime site in East Hartford, Connecticut.

The facilities 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 self-supporting monopole towers shall be no taller than necessary to provide the proposed communication service and in no event shall the towers exceed a total height of 163 feet above ground level (AGL) at the proposed Enfield alternate site and 123 feet AGL at the proposed East Hartford prime site, with antennas and appurtenances.
2. The Certificate holder shall prepare a Development and Management (D&M) Plan, for approval by the Council, for these sites in compliance with sections 16-50j-75 through 16-50j-77 of the Regulations of State Agencies. This D&M plan

shall include detailed plans of the towers, tower foundations, soil boring reports, equipment buildings, access roads, security fences, landscaping plans, detailed erosion and sedimentation control plans, and a final schedule. In addition, the D&M plan shall include for Council consideration, detailed plans and itemized costs for the placement of service utilities underground in order to further mitigate the visual effect of the facilities.

3. The Certificate holder shall comply with any existing and future radio frequency (RF) standards promulgated by State or federal regulatory agencies. Upon the establishment of any new governmental RF standards, the facilities granted herein shall be brought into compliance with such standards.
4. The Certificate holder shall provide the Council with a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels originally calculated and provided in the application.
5. 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.
6. If the facility does not initially provide or permanently ceases to provide cellular service following completion of construction, this Decision and Order shall be void, and the tower and all associated equipment shall be dismantled and removed or reapplication for any new use shall be made to the Council as soon as practicable before any such new use is made.
7. Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within three years of the effective date of this Decision and Order or within three years after all appeals to this Decision and Order have been resolved.

Pursuant to CGS section 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 this issuance shall be published in the Hartford Courant and the Journal Inquirer.

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 State Agencies.

The parties to this proceeding are:

PARTIES	ITS REPRESENTATIVE
Metro Mobile CTS of Hartford, Inc. 20 Alexander Drive P.O. Box 5029 Wallingford, CT 06492 Attn: Gary Schulman	Robinson and Cole One Commercial Plaza Hartford, CT 06103-3597 Attn: Earl Phillips, Jr. (203) 275-8200
The Town of East Hartford	G. Barry Goodberg Assistant Corporation Counsel Town of East Hartford 740 Main Street East Hartford, CT 06108 (203) 289-2781
The Town of Enfield	Christopher W. Bromson Enfield Town Attorney 47 No. Main Street Enfield, CT 06082 (203) 745-0371 Ext. 290

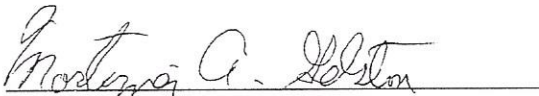
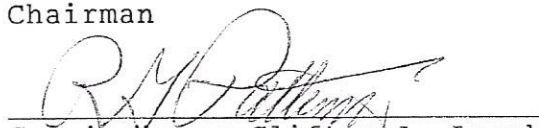
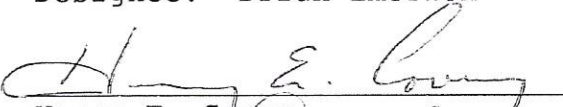
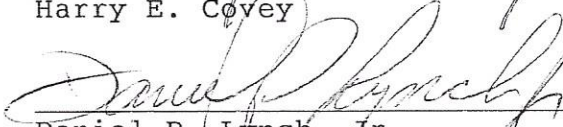
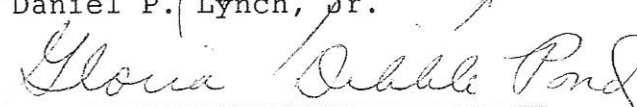
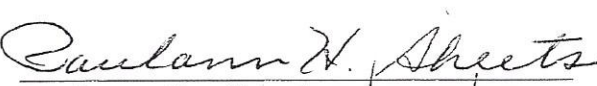
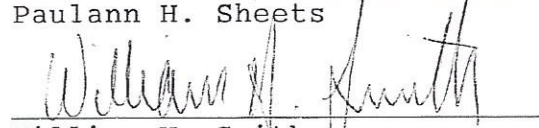
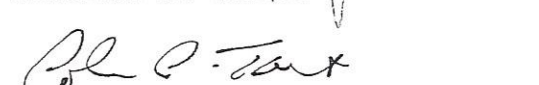
SMH:bw

5534E

CERTIFICATION

The undersigned members of the Connecticut Siting Council hereby certify that they have heard this case in DOCKET NO. 139 - An application of Metro Mobile CTS of Hartford, Inc., for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of cellular facilities in the Towns of Enfield, East Hartford, and Wethersfield, Connecticut, or read the record thereof, and that we voted as follows:

Dated at New Britain, Connecticut the 18th day of September, 1991.

<u>Council Members</u>	<u>Vote Cast</u>
 Mortimer A. Gelston Chairman	YES
 Commissioner Clifton A. Leonhardt Designee: Commissioner Richard G. Patterson	ABSTAIN
 Commissioner Timothy R.E. Keeney Designee: Brian Emerick	ABSENT
 Harry E. Covey	NO
 Daniel P. Lynch, Jr.	NO
 Gloria Dibble Pond	YES
 Paulann H. Sheets	YES
 William H. Smith	YES
 Colin C. Tait	YES

PETITION NO. 535 - AT&T Wireless PCS, LLC and Crown Atlantic Company LLC petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for proposed modification of an existing telecommunications tower located at 1455 Forbes Street, East Hartford, Connecticut.	} Connecticut } Siting } Council } May 21, 2002
---	--

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the extension of an existing telecommunications tower and installation of associated equipment at an existing facility located at 1455 Forbes Street in East Hartford, Connecticut, are not significant, are not disproportionate either alone or cumulatively with other effects, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny this petition.

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 extension shall be compatible with and installed on the existing monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of AT&T Wireless PCS, LLC (AT&T) and XM Satellite Radio, but such extension shall not exceed a height of 133 feet above ground level, including antennas and appurtenances.
2. 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.
3. 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.
4. The Certificate Holder shall permit public or private entities to share space on the tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
5. If the facility does not initially provide, or permanently ceases to provide cellular 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.
6. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and ceases to function.
7. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not completed 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.

8. All other applicable provisions of the Council's September 18, 1991 Decision and Order in Docket No. 139 remain in effect.

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, and The East Hartford Gazette.

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:

Crown Atlantic Company LLC and
AT&T Wireless PCS, LLC

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597

Town of East Hartford Property Summary Report

1455 FORBES ST

MAP LOT:	41-233	CAMA PID:	4723
LOCATION:	1455 FORBES ST		
OWNER NAME:	HANDEL-JACK REBECCA		



OWNER OF RECORD
HANDEL-JACK REBECCA
1455 FORBES ST
EAST HARTFORD, CT 06118

LIVING AREA:	720	ZONING:	R2	ACREAGE:	25.01
---------------------	-----	----------------	----	-----------------	-------

SALES HISTORY

OWNER	BOOK / PAGE	SALE DATE	SALE PRICE
HANDEL-JACK REBECCA	3909/186	07-Jul-2020	\$0.00
HANDEL ROBERT D	3582/0113	23-Jan-2016	\$0.00
HANDEL JESSIE K EST OF C/O ROBERT D HANDEL EXECUTOR	3534/0329	19-May-2015	\$0.00
HANDEL JESSIE K	1874/0345	01-Jan-2000	\$0.00
HANDEL ALBERT P JR EST OF HANDEL JESSIE K EXEC	0000/0000	30-Dec-1999	\$0.00

CURRENT PARCEL ASSESSMENT

TOTAL:	\$319,830.00	IMPROVEMENTS:	\$279,140.00	LAND:	\$40,690.00
---------------	--------------	----------------------	--------------	--------------	-------------

ASSESSING HISTORY

FISCAL YEAR	TOTAL VALUE	IMPROVEMENT VALUE	LAND VALUE
2019	\$332,880.00	\$291,500.00	\$41,380.00
2018	\$332,880.00	\$291,500.00	\$41,380.00
2017	\$332,880.00	\$291,500.00	\$41,380.00
2016	\$332,880.00	\$291,500.00	\$41,380.00
2015	\$346,650.00	\$302,420.00	\$44,230.00

Town of East Hartford Property Summary Report

1455 FORBES ST

MAP LOT:	41-233	CAMA PID:	4723
LOCATION:	1455 FORBES ST		
OWNER NAME:	HANDEL-JACK REBECCA		

BUILDING # 1

YEAR BUILT	1865	EXT WALL 1	Vinyl Siding
STYLE	Colonial	INT WALLS 1	Plaster
MODEL	Residential	HEAT FUEL	Gas
STORIES	2.0	HEAT TYPE	Hot Water
OCCUPANCY	One Family	AC TYPE	None
ROOF	Gable	BEDROOMS	4
ROOF COVER	Asphalt	FULL BATHS	1
FLOOR COVER 1	Hardwood	HALF BATHS	1
% BSMT	100	TOTAL ROOMS	9
% FIN BSMT	0	% REC RM	60
% SEMI FIN	0	% ATTIC FINISH	0
BSMT GARAGE		FIREPLACES	0



EXTRA FEATURES

DESCRIPTION	CODE	UNITS
1 Story Barn	BRN1	1x5112 (5112.00 SF)
Shed	SHD1	1x64 (64.00 S.F.)
1 Story Barn	BRN1	1x3072 (3072.00 SF)
Shed	SHD1	1x300 (300.00 S.F.)
Shed	SHD1	1x561 (561.00 S.F.)
1 Story Barn	BRN1	1x4928 (4928.00 SF)
Shed	SHD1	1x600 (600.00 S.F.)

Town of East Hartford Property Summary Report

1455 FORBES ST

MAP LOT:	41-233	CAMA PID:	4723
LOCATION:	1455 FORBES ST		
OWNER NAME:	HANDEL-JACK REBECCA		

BUILDING # 2

YEAR BUILT	1934	EXT WALL 1	Vinyl Siding
STYLE	Single Family	INT WALLS 1	Plaster
MODEL	Residential	HEAT FUEL	Other
STORIES	1.0	HEAT TYPE	Other
OCCUPANCY	One Family	AC TYPE	None
ROOF	Gable	BEDROOMS	1
ROOF COVER	Asphalt	FULL BATHS	1
FLOOR COVER 1	Hardwood	HALF BATHS	0
% BSMT	0	TOTAL ROOMS	4
% FIN BSMT	0	% REC RM	0
% SEMI FIN	0	% ATTIC FINISH	0
BSMT GARAGE		FIREPLACES	0



EXTRA FEATURES

DESCRIPTION	CODE	UNITS
Shed	SHD1	1x105 (105.00 S.F.)
FR/SHED	MSC55	30.00 UNIT
1 Story Barn	BRN1	1x840 (840.00 SF)
Shed	SHD1	1x144 (144.00 S.F.)
Shed	SHD1	1x308 (308.00 S.F.)

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, December 9, 2021 11:35 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 775431032780: Your package has been delivered

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



Hi. Your package was
delivered Thu, 12/09/2021 at
11:34am.



Delivered to 1455 FORBES ST, EAST HARTFORD, CT 06118

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [775431032780](#)
FROM Jeff Barbadora
 1800 W. Park Drive
 WESTBOROUGH, MA, US, 01581

TO Rebecca Jack-Handel
Rebecca Jack - Handel
1455 Forbes Street
EAST HARTFORD, CT, US, 06118

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Wed 12/08/2021 01:47 PM

DELIVERED TO Residence

PACKAGING TYPE FedEx Envelope

ORIGIN WESTBOROUGH, MA, US, 01581

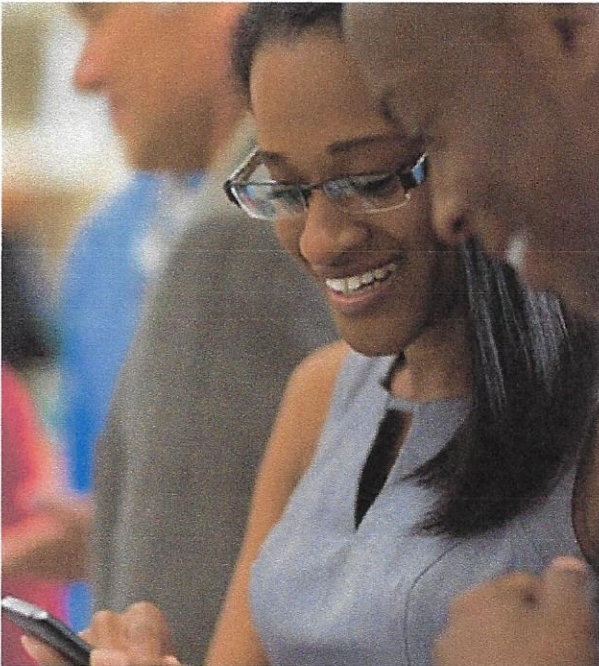
DESTINATION EAST HARTFORD, CT, US, 06118

SPECIAL HANDLING Deliver Weekday
Residential Delivery

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 1.00 LB

SERVICE TYPE FedEx Priority Overnight



Download the FedEx[®] Mobile app

Get the flexibility you need to create shipments and request to customize your deliveries through the app.

[LEARN MORE](#)

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, December 9, 2021 11:04 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 775430942778: Your package has been delivered

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



Hi. Your package was
delivered Thu, 12/09/2021 at
10:59am.



Delivered to 740 MAIN ST, EAST HARTFORD, CT 06108

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [775430942778](#)
FROM Jeff Barbadora
1800 W. Park Drive
WESTBOROUGH, MA, US, 01581

TO Town of East Hartford
Michael Walsh, Mayor
740 Main Street
EAST HARTFORD, CT, US, 06108

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Wed 12/08/2021 01:47 PM

PACKAGING TYPE FedEx Envelope

ORIGIN WESTBOROUGH, MA, US, 01581

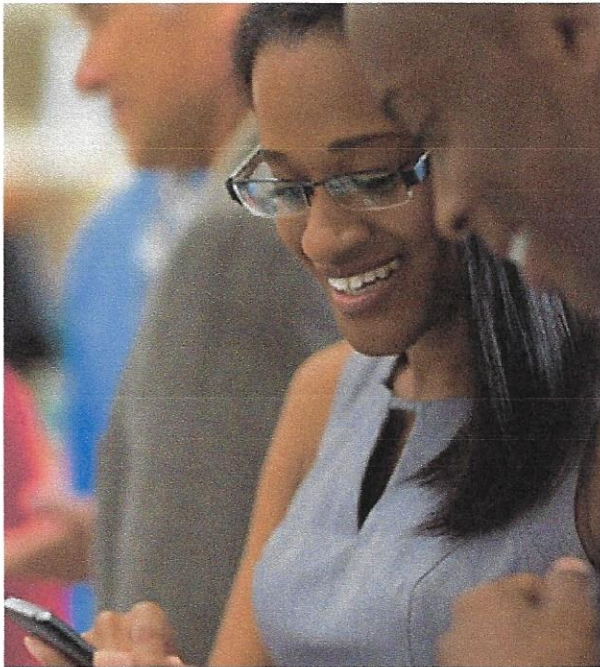
DESTINATION EAST HARTFORD, CT, US, 06108

SPECIAL HANDLING Deliver Weekday

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 1.00 LB

SERVICE TYPE FedEx Priority Overnight



Download the FedEx[®] Mobile app

Get the flexibility you need to create shipments and request to customize your deliveries through the app.

[LEARN MORE](#)

FOLLOW FEDEX



Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, December 9, 2021 11:03 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 775430967050: Your package has been delivered

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



Hi. Your package was
delivered Thu, 12/09/2021 at
10:59am.



Delivered to 740 MAIN ST, EAST HARTFORD, CT 06108

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [775430967050](#)
FROM Jeff Barbadora
1800 W. Park Drive
WESTBOROUGH, MA, US, 01581

TO Town of East Hartford
Eileen Buckheit, Development Direct
740 Main Street
EAST HARTFORD, CT, US, 06108

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Wed 12/08/2021 01:47 PM

PACKAGING TYPE FedEx Envelope

ORIGIN WESTBOROUGH, MA, US, 01581

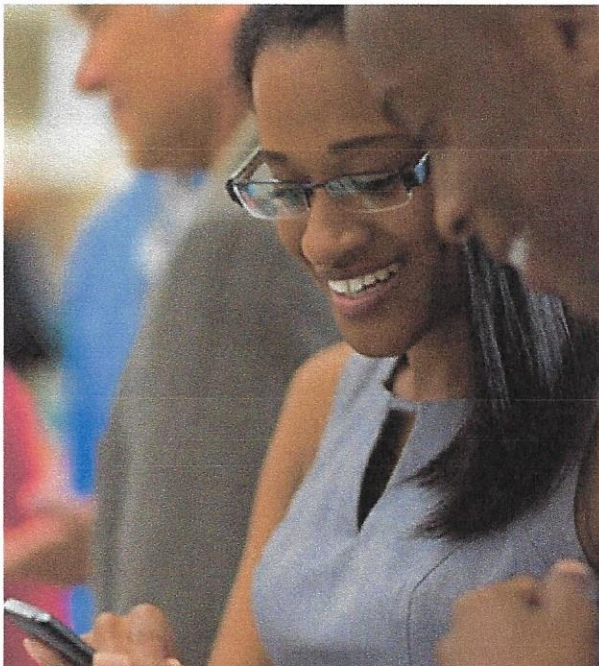
DESTINATION EAST HARTFORD, CT, US, 06108

SPECIAL HANDLING Deliver Weekday

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 0.50 LB

SERVICE TYPE FedEx Priority Overnight



Download the FedEx[®] Mobile app

Get the flexibility you need to create shipments and request to customize your deliveries through the app.

[LEARN MORE](#)

FOLLOW FEDEX



Date: **November 03, 2021**



Black & Veatch Corp.
6800 W. 115th St., Suite 2292
Overland Park, KS 66211
(913) 458-6909

Subject: **Structural Analysis Report**

Carrier Designation: **Site Number:** CTHA401A
Site Name: CT03XC251

Crown Castle Designation: **BU Number:** 806376
Site Name: HRT 100 943239
JDE Job Number: 650686
Work Order Number: 2018574
Order Number: 557898 Rev. 2

Engineering Firm Designation: **Black & Veatch Corp. Project Number:** 406642

Site Data: **1455 Forbes Street, East Hartford, Hartford County, CT**
Latitude 41° 43' 53.3", Longitude -72° 36' 28"
130 Foot - Monopole Tower

Black & Veatch Corp. 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:

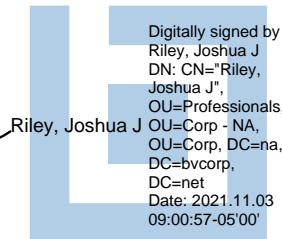
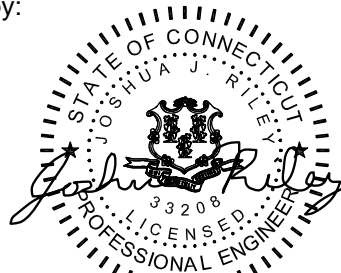
LC7: Proposed Equipment Configuration **Sufficient Capacity - 82.6%**

This analysis utilizes an ultimate 3-second gust wind speed of 118 mph as permitted by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Jonathan Crank / Phutthiphong Suwantha

Respectfully submitted by:

Joshua J. Riley, P.E.
Professional Engineer



11/03/2021

TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

Table 2 - Other Considered Equipment

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Table 5 - Tower Component Stresses vs. Capacity - LC7

4.1) Recommendations

5) APPENDIX A

tnxTower Output

6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This tower is a 130 ft Monopole tower designed by Valmont Microflect.

The tower has been modified multiple times in the past to accommodate additional loading.

The tower has been modified per reinforcement drawings prepared by Paul J. Ford and Company, in June of 2012. Reinforcement consists of addition of reinforcement plate from elevation 0.5' to 60.5' and transition stiffeners at elevation 0'. Refer to Modification Inspection Report by Tower Engineering Professionals in February of 2013. This modification was removed in October 2018 tower modifications and thus is not being considered effective in this analysis.

The tower was later modified per reinforcement drawings prepared by Paul J. Ford and Company, February of 2013. Reinforcement consisted of addition of reinforcement plate from elevation 0.5' to 85.9' and transition stiffeners at elevation 0'. Refer to Modification Inspection Report by Tower Engineering Professionals in June of 2014. This modification has been considered effective in this analysis except for the shaft plating from 0.5'-20.5' and transition stiffeners, these modifications were removed in the October 2016 modification.

The tower was later modified per reinforcement drawings prepared by Paul J. Ford and Company, May of 2015. Reinforcement consisted of addition of reinforcement plate from elevation 0.5' to 91.5' and replacing transition stiffeners at elevation 0'. Refer to Modification Inspection Report by Engineered Tower Solutions, Pllc., in October of 2015. This modification has been considered effective in this analysis.

The tower was later modified per reinforcement drawings prepared by GPD Group, Inc., October of 2016. Reinforcement consisted of removing and replacing reinforcement plate at elevation 0' to 20.75', and transition stiffeners at elevation 0'. Refer to Modification Inspection Report by Engineering Tower Professionals, in August of 2017. This modification has been considered effective in this analysis.

The tower was later modified per reinforcement drawings prepared by Tower Engineering Professionals, October of 2018. Reinforcement consisted of removing and replacing reinforcement plate at elevation 0' to 85.14', removing transition stiffeners at elevation 0', and addition of anchor rod at elevation 0'. Refer to Modification Inspection Report by Engineered Tower Solutions, Pllc., in May of 2019. This modification has been considered effective in this analysis.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	118 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	1.500 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)
97.0	98.0	3	ericsson	AIR6449 B41_T-MOBILE w/ Mount Pipe	3	1-5/8
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	ericsson	Radio 4480_TMOV2		
		3	rfs celwave	APXVAALL24_43-U-NA20_TMO 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)
	97.0	1	site pro 1	X-SNP-ST8 Telescopic Arm (3)		
		1	cci tower mounts (v2.1)	Platform Mount [13.16' LP 713-1]		

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)
121.0	122.0	3	ericsson	AIR 6449 B77D w/ Mount Pipe	2 2 6 4	3/8 7/8 13/16 conduit
	121.0	1	cci tower mounts (v2.1)	Platform Mount [LP 602-1]		
		1	cci tower mounts (v2.1)	Side Arm Mount [SO 102-3]		
	120.0	3	cci antennas	DMP65R-BU6D w/ Mount Pipe		
		3	ericsson	RRUS 32 B30		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 4478 B14		
		3	ericsson	RRUS 8843 B2/B66A		
		3	ericsson	RRUS E2 B29		
		3	quintel technology	QD6616-7 w/ Mount Pipe		
		1	raycap	DC6-48-60-0-8F		
	3	raycap	DC6-48-60-18-8F			
	118.0	3	ericsson	AIR 6419 B77G w/ Mount Pipe		
109.0	113.0	3	samsung telecommunications	MT6407-77A w/ Mount Pipe	2	1-7/8
	111.0	6	andrew	SBNHH-1D65B w/ Mount Pipe		
		3	antel	BXA-80063/4CF w/ Mount Pipe		
	109.0	1	site pro 1	F3P-12W 12' Fortress Platform		
		1	site pro 1	F3P-HRK12 12' Hand Rail Kit		
		1	raycap	RUSDC-6267-PF-48		
		3	samsung telecommunications	CBRS w/ Mount Pipe		
3	samsung telecommunications	RFV01U-D1A				
3	samsung telecommunications	RFV01U-D2A				
99.0	99.0	3	alcatel lucent	800MHz 2X50W RRH W/FILTER	-	-
		3	alcatel lucent	PCS 1900MHz 4x45W-65MHz w/ Mount Pipe		
		1	cci tower mounts (v2.1)	Side Arm Mount [SO 101-3]		
87.0	87.0	1	cci tower mounts (v2.1)	T-Arm Mount [TA 602-3]	1 11	7/8 1-1/4

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		3	ericsson	AIR -32 B2A/B66AA w/ Mount Pipe	1	1-3/8
		3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	1	1-5/8
		3	ericsson	KRY 112 144/1		
		3	ericsson	RADIO 4449 B12/B71		
		3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
77.0	77.0	3	fujitsu	TA08025-B604	1	1-3/8
		3	fujitsu	TA08025-B605		
		3	jma wireless	MX08FRO665-21 w/ Mount Pipe		
		1	raycap	RDIDC-9181-PF-48		
		1	tower mounts	Commscope MC-PK8-DSH		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	262381	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	262389	CCISITES
4-TOWER MANUFACTURER DRAWINGS	262386	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3448150	CCISITES
4-POST-MODIFICATION INSPECTION	3675451	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3635976	CCISITES
4-POST-MODIFICATION INSPECTION	5099148	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5681337	CCISITES
4-POST-MODIFICATION INSPECTION	5921968	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	6515906	CCISITES
4-POST-MODIFICATION INSPECTION	7030743	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	7890057	CCISITES
4-POST-MODIFICATION INSPECTION	8418504	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. Black & Veatch Corp. should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary) (Monopole Tower)

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
130 - 125	Pole	TP11.775x10.525x0.1875	Pole	0.5%	Pass
125 - 120	Pole	TP13.025x11.775x0.1875	Pole	4.1%	Pass
120 - 115	Pole	TP14.275x13.025x0.1875	Pole	21.9%	Pass
115 - 110	Pole	TP15.525x14.275x0.1875	Pole	34.7%	Pass
110 - 105	Pole	TP16.776x15.525x0.25	Pole	40.0%	Pass
105 - 100	Pole	TP18.027x16.776x0.25	Pole	49.6%	Pass
100 - 95	Pole	TP19.277x18.027x0.25	Pole	61.1%	Pass
95 - 90	Pole	TP20.528x19.277x0.25	Pole	71.4%	Pass
90 - 89.75	Pole + Reinf.	TP20.591x20.528x0.5	Reinf. 11 Tension Rupture	63.8%	Pass
89.75 - 84.75	Pole + Reinf.	TP21.841x20.591x0.4813	Reinf. 11 Tension Rupture	74.2%	Pass
84.75 - 84.42	Pole + Reinf.	TP21.925x21.841x0.475	Reinf. 11 Tension Rupture	75.0%	Pass
84.42 - 84.17	Pole + Reinf.	TP21.987x21.925x0.6375	Reinf. 11 Tension Rupture	58.0%	Pass
84.17 - 83.42	Pole + Reinf.	TP22.174x21.987x0.625	Reinf. 11 Tension Rupture	59.3%	Pass
83.42 - 83.17	Pole + Reinf.	TP22.237x22.174x0.95	Reinf. 16 Tension Rupture	41.6%	Pass
83.17 - 83	Pole + Reinf.	TP22.279x22.237x0.95	Reinf. 16 Tension Rupture	41.8%	Pass
83 - 82.75	Pole + Reinf.	TP22.342x22.279x0.7	Reinf. 16 Tension Rupture	55.6%	Pass
82.75 - 77.75	Pole + Reinf.	TP23.592x22.342x0.6625	Reinf. 16 Tension Rupture	62.9%	Pass
77.75 - 74	Pole + Reinf.	TP25.531x23.592x0.65	Reinf. 16 Tension Rupture	68.7%	Pass
74 - 69	Pole + Reinf.	TP25.281x24.03x0.7	Reinf. 16 Tension Rupture	70.9%	Pass
69 - 67.08	Pole + Reinf.	TP25.761x25.281x0.6875	Reinf. 16 Tension Rupture	73.2%	Pass
67.08 - 66.83	Pole + Reinf.	TP25.824x25.761x0.6875	Reinf. 16 Tension Rupture	73.5%	Pass
66.83 - 64.08	Pole + Reinf.	TP26.512x25.824x0.675	Reinf. 16 Tension Rupture	76.5%	Pass
64.08 - 63.83	Pole + Reinf.	TP26.574x26.512x0.7375	Reinf. 16 Tension Rupture	73.4%	Pass
63.83 - 62.44	Pole + Reinf.	TP26.922x26.574x0.7375	Reinf. 16 Tension Rupture	74.8%	Pass
62.44 - 62.19	Pole + Reinf.	TP26.984x26.922x0.8625	Reinf. 16 Tension Rupture	62.0%	Pass
62.19 - 57.19	Pole + Reinf.	TP28.235x26.984x0.8375	Reinf. 16 Tension Rupture	66.1%	Pass
57.19 - 53.5	Pole + Reinf.	TP29.158x28.235x0.8125	Reinf. 16 Tension Rupture	68.9%	Pass
53.5 - 53.25	Pole + Reinf.	TP29.22x29.158x0.8375	Reinf. 9 Tension Rupture	68.3%	Pass
53.25 - 52.58	Pole + Reinf.	TP29.388x29.22x0.825	Reinf. 9 Tension Rupture	68.8%	Pass

52.58 - 52.33	Pole + Reinf.	TP29.45x29.388x0.8625	Reinf. 9 Tension Rupture	66.3%	Pass
52.33 - 47.33	Pole + Reinf.	TP30.701x29.45x0.8375	Reinf. 9 Tension Rupture	69.7%	Pass
47.33 - 44.58	Pole + Reinf.	TP31.389x30.701x0.8125	Reinf. 9 Tension Rupture	71.4%	Pass
44.58 - 44.33	Pole + Reinf.	TP31.451x31.389x0.8125	Reinf. 9 Tension Rupture	71.6%	Pass
44.33 - 41.85	Pole + Reinf.	TP32.072x31.451x0.8	Reinf. 9 Tension Rupture	73.0%	Pass
41.85 - 41.6	Pole + Reinf.	TP32.134x32.072x0.8125	Reinf. 8 Tension Rupture	65.1%	Pass
41.6 - 39	Pole + Reinf.	TP34.015x32.134x0.7875	Reinf. 8 Tension Rupture	66.4%	Pass
39 - 34	Pole + Reinf.	TP33.408x32.159x0.8188	Reinf. 8 Tension Rupture	67.8%	Pass
34 - 29	Pole + Reinf.	TP34.657x33.408x0.7938	Reinf. 8 Tension Rupture	69.8%	Pass
29 - 26.85	Pole + Reinf.	TP35.194x34.657x0.7938	Reinf. 8 Tension Rupture	70.6%	Pass
26.85 - 26.6	Pole + Reinf.	TP35.256x35.194x0.8938	Reinf. 6 Tension Rupture	66.1%	Pass
26.6 - 21.6	Pole + Reinf.	TP36.505x35.256x0.8688	Reinf. 6 Tension Rupture	67.9%	Pass
21.6 - 18	Pole + Reinf.	TP37.404x36.505x0.8563	Reinf. 6 Tension Rupture	69.1%	Pass
18 - 17.75	Pole + Reinf.	TP37.467x37.404x0.9938	Reinf. 15 Compression	58.3%	Pass
17.75 - 17.5	Pole + Reinf.	TP37.529x37.467x0.9938	Reinf. 15 Compression	58.3%	Pass
17.5 - 17.25	Pole + Reinf.	TP37.592x37.529x0.9938	Reinf. 14 Compression	58.4%	Pass
17.25 - 17.08	Pole + Reinf.	TP37.634x37.592x0.9938	Reinf. 14 Compression	58.5%	Pass
17.08 - 16.83	Pole + Reinf.	TP37.697x37.634x0.8938	Reinf. 14 Compression	63.9%	Pass
16.83 - 13	Pole + Reinf.	TP38.653x37.697x0.8813	Reinf. 14 Compression	65.0%	Pass
13 - 12.75	Pole + Reinf.	TP38.716x38.653x1.0688	Reinf. 14 Compression	55.0%	Pass
12.75 - 11.85	Pole + Reinf.	TP38.94x38.716x1.0438	Reinf. 14 Compression	55.2%	Pass
11.85 - 11.6	Pole + Reinf.	TP39.003x38.94x0.8188	Reinf. 14 Compression	70.9%	Pass
11.6 - 6.5	Pole + Reinf.	TP40.277x39.003x0.7938	Reinf. 14 Compression	72.3%	Pass
6.5 - 6.25	Pole + Reinf.	TP40.339x40.277x0.9188	Reinf. 5 Tension Rupture	67.4%	Pass
6.25 - 3.75	Pole + Reinf.	TP40.963x40.339x0.9063	Reinf. 5 Tension Rupture	68.1%	Pass
3.75 - 3.5	Pole + Reinf.	TP41.026x40.963x1.2438	Reinf. 5 Tension Rupture	50.3%	Pass
3.5 - 3	Pole + Reinf.	TP41.151x41.026x1.2438	Reinf. 5 Tension Rupture	50.4%	Pass
3 - 2.75	Pole + Reinf.	TP41.213x41.151x1.0688	Reinf. 14 Compression	58.2%	Pass
2.75 - 0	Pole + Reinf.	TP41.9x41.213x1.0688	Reinf. 4 Weldment	82.6%	Pass
				Summary	
			Pole	71.4%	Pass
			Reinforcement	82.6%	Pass
			Overall	82.6%	Pass

Table 5 - Tower Component Stresses vs. Capacity (Monopole Tower) - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Flange Bolts	110	31.6	Pass
	Flange Plate		17.2	Pass
1	Anchor Rods (Original)	0	72.6	Pass
	Anchor Rods (Existing Modification)		63.7	Pass
	Anchor Rod Brackets		62.7	Pass
	Base Plate		49.4	Pass
1	Base Foundation (Structure)	0	61.6	Pass
	Base Foundation (Soil Interaction)		63.2	Pass

Structure Rating (max from all components) =	82.6%
---	--------------

Notes:

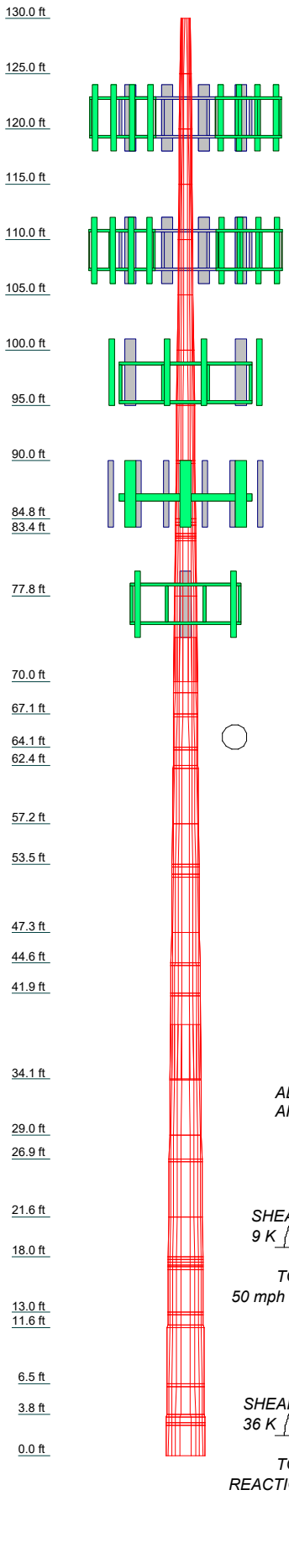
- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity. Rating per TIA-222-H Section 15.5.

4.1) Recommendations

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

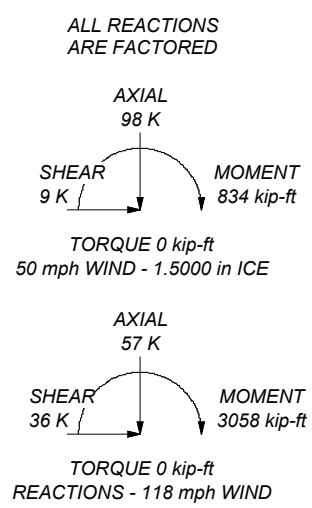
APPENDIX A
TNXTOWER OUTPUT

Section	1	2	3	4	5	6	7	8	9	10	17	18	26	27	31	32	36	37	38	41	4039	42	48	52	54	56	
Length (ft)	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	
Number of Sides	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
Thickness (in)	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	
Socket Length (ft)	4.00																										
Top Dia (in)	10.5250	11.7750	13.0250	14.2750	15.5250	16.7757	18.0265	19.2772	20.5280	21.7787	23.0295	24.2802	25.5310	26.7817	28.0325	29.2832	30.5340	31.7847	33.0355	34.2862	35.5370	36.7877	38.0385	39.2892	40.5400	41.7907	43.0415
Bot Dia (in)	13.0250	14.2750	15.5250	16.7757	18.0265	19.2772	20.5280	21.7787	23.0295	24.2802	25.5310	26.7817	28.0325	29.2832	30.5340	31.7847	33.0355	34.2862	35.5370	36.7877	38.0385	39.2892	40.5400	41.7907	43.0415	44.2922	45.5430
Grade	A572-65																										
Weight (K)	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5



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

- TOWER DESIGN NOTES**
1. Tower designed for Exposure C to the TIA-222-H Standard.
 2. Tower designed for a 118 mph basic wind in accordance with the TIA-222-H Standard.
 3. Tower is also designed for a 50 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
 4. Deflections are based upon a 60 mph wind.
 5. Tower Risk Category II.
 6. Topographic Category 1 with Crest Height of 0.00 ft
 7. TOWER RATING: 82.6%



BLACK & VEATCH Building a world of difference.	Black & Veatch Corp. 6800 W. 115th St., Suite 2292 Overland Park, KS 66211 Phone: (913) 458-6909 FAX: (913) 458-6909	Job: HRT 100 943239 (BU# 806376) Project: 406642 (806376.2018574) Client: Crown Castle Code: TIA-222-H Path:	Drawn by: Phutthiphong Suwantha Date: 11/03/21 App'd: Scale: NTS 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 base elevation above sea level: 41.00 ft.
- Basic wind speed of 118 mph.
- Risk Category II.
- Exposure Category C.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.00 ft.
- Nominal ice thickness of 1.5000 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

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	Distribute Leg Loads As Uniform Assume Legs Pinned ✓ Assume Rigid Index Plate ✓ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension 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	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 <div style="text-align: center; background-color: #e0e0e0; padding: 2px;">Poles</div> ✓ 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	

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	130.00-125.00	5.00	0.00	12	10.5250	11.7750	0.1875	0.7500	A572-65 (65 ksi)
L2	125.00-120.00	5.00	0.00	12	11.7750	13.0250	0.1875	0.7500	A572-65 (65 ksi)
L3	120.00-115.00	5.00	0.00	12	13.0250	14.2750	0.1875	0.7500	A572-65 (65 ksi)
L4	115.00-110.00	5.00	0.00	12	14.2750	15.5250	0.1875	0.7500	A572-65 (65 ksi)
L5	110.00-105.00	5.00	0.00	12	15.5250	16.7757	0.2500	1.0000	A572-65 (65 ksi)
L6	105.00-100.00	5.00	0.00	12	16.7757	18.0265	0.2500	1.0000	A572-65 (65 ksi)
L7	100.00-95.00	5.00	0.00	12	18.0265	19.2772	0.2500	1.0000	A572-65 (65 ksi)
L8	95.00-90.00	5.00	0.00	12	19.2772	20.5280	0.2500	1.0000	A572-65 (65 ksi)
L9	90.00-89.75	0.25	0.00	12	20.5280	20.5905	0.5000	2.0000	A572-65 (65 ksi)
L10	89.75-84.75	5.00	0.00	12	20.5905	21.8413	0.4813	1.9250	A572-65 (65 ksi)
L11	84.75-84.42	0.33	0.00	12	21.8413	21.9246	0.4750	1.9000	A572-65 (65 ksi)
L12	84.42-84.17	0.25	0.00	12	21.9246	21.9871	0.6375	2.5500	A572-65 (65 ksi)
L13	84.17-83.42	0.75	0.00	12	21.9871	22.1740	0.6250	2.5000	A572-65 (65 ksi)
L14	83.42-83.17	0.25	0.00	12	22.1740	22.2365	0.9500	3.8000	A572-65 (65 ksi)
L15	83.17-83.00	0.17	0.00	12	22.2365	22.2791	0.9500	3.8000	A572-65 (65 ksi)
L16	83.00-82.75	0.25	0.00	12	22.2791	22.3416	0.7000	2.8000	A572-65 (65 ksi)
L17	82.75-77.75	5.00	0.00	12	22.3416	23.5923	0.6625	2.6500	A572-65 (65 ksi)
L18	77.75-70.00	7.75	4.00	12	23.5923	25.5310	0.6500	2.6000	A572-65 (65 ksi)
L19	70.00-69.00	5.00	0.00	12	24.0304	25.2810	0.7000	2.8000	A572-65 (65 ksi)
L20	69.00-67.08	1.92	0.00	12	25.2810	25.7612	0.6875	2.7500	A572-65 (65 ksi)
L21	67.08-66.83	0.25	0.00	12	25.7612	25.8237	0.6875	2.7500	A572-65 (65 ksi)
L22	66.83-64.08	2.75	0.00	12	25.8237	26.5115	0.6750	2.7000	A572-65 (65 ksi)
L23	64.08-63.83	0.25	0.00	12	26.5115	26.5741	0.7375	2.9500	A572-65 (65 ksi)
L24	63.83-62.44	1.39	0.00	12	26.5741	26.9217	0.7375	2.9500	A572-65 (65 ksi)
L25	62.44-62.19	0.25	0.00	12	26.9217	26.9843	0.8625	3.4500	A572-65 (65 ksi)
L26	62.19-57.19	5.00	0.00	12	26.9843	28.2348	0.8375	3.3500	A572-65 (65 ksi)
L27	57.19-53.50	3.69	0.00	12	28.2348	29.1578	0.8125	3.2500	A572-65 (65 ksi)
L28	53.50-53.25	0.25	0.00	12	29.1578	29.2203	0.8375	3.3500	A572-65 (65 ksi)
L29	53.25-52.58	0.67	0.00	12	29.2203	29.3879	0.8250	3.3000	A572-65 (65 ksi)
L30	52.58-52.33	0.25	0.00	12	29.3879	29.4504	0.8625	3.4500	A572-65 (65 ksi)
L31	52.33-47.33	5.00	0.00	12	29.4504	30.7010	0.8375	3.3500	A572-65 (65 ksi)
L32	47.33-44.58	2.75	0.00	12	30.7010	31.3888	0.8125	3.2500	A572-65 (65 ksi)
L33	44.58-44.33	0.25	0.00	12	31.3888	31.4513	0.8125	3.2500	A572-65 (65 ksi)
L34	44.33-41.85	2.48	0.00	12	31.4513	32.0716	0.8000	3.2000	A572-65 (65 ksi)
L35	41.85-41.60	0.25	0.00	12	32.0716	32.1341	0.8125	3.2500	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
L36	41.60-34.08	7.52	4.92	12	32.1341	34.0150	0.7875	3.1500	(65 ksi) A572-65
L37	34.08-34.00	5.00	0.00	12	32.1594	33.4082	0.8187	3.2750	(65 ksi) A572-65
L38	34.00-29.00	5.00	0.00	12	33.4082	34.6570	0.7937	3.1750	(65 ksi) A572-65
L39	29.00-26.85	2.15	0.00	12	34.6570	35.1940	0.7937	3.1750	(65 ksi) A572-65
L40	26.85-26.60	0.25	0.00	12	35.1940	35.2564	0.8938	3.5750	(65 ksi) A572-65
L41	26.60-21.60	5.00	0.00	12	35.2564	36.5052	0.8688	3.4750	(65 ksi) A572-65
L42	21.60-18.00	3.60	0.00	12	36.5052	37.4044	0.8562	3.4250	(65 ksi) A572-65
L43	18.00-17.75	0.25	0.00	12	37.4044	37.4668	0.9938	3.9750	(65 ksi) A572-65
L44	17.75-17.50	0.25	0.00	12	37.4668	37.5292	0.9938	3.9750	(65 ksi) A572-65
L45	17.50-17.25	0.25	0.00	12	37.5292	37.5917	0.9938	3.9750	(65 ksi) A572-65
L46	17.25-17.08	0.17	0.00	12	37.5917	37.6341	0.9938	3.9750	(65 ksi) A572-65
L47	17.08-16.83	0.25	0.00	12	37.6341	37.6966	0.8938	3.5750	(65 ksi) A572-65
L48	16.83-13.00	3.83	0.00	12	37.6966	38.6531	0.8812	3.5250	(65 ksi) A572-65
L49	13.00-12.75	0.25	0.00	12	38.6531	38.7156	1.0688	4.2750	(65 ksi) A572-65
L50	12.75-11.85	0.90	0.00	12	38.7156	38.9404	1.0438	4.1750	(65 ksi) A572-65
L51	11.85-11.60	0.25	0.00	12	38.9404	39.0028	0.8187	3.2750	(65 ksi) A572-65
L52	11.60-6.50	5.10	0.00	12	39.0028	40.2766	0.7937	3.1750	(65 ksi) A572-65
L53	6.50-6.25	0.25	0.00	12	40.2766	40.3390	0.9187	3.6750	(65 ksi) A572-65
L54	6.25-3.75	2.50	0.00	12	40.3390	40.9634	0.9063	3.6250	(65 ksi) A572-65
L55	3.75-3.50	0.25	0.00	12	40.9634	41.0258	1.2437	4.9750	(65 ksi) A572-65
L56	3.50-3.00	0.50	0.00	12	41.0258	41.1507	1.2437	4.9750	(65 ksi) A572-65
L57	3.00-2.75	0.25	0.00	12	41.1507	41.2132	1.0688	4.2750	(65 ksi) A572-65
L58	2.75-0.00	2.75		12	41.2132	41.9000	1.0688	4.2750	(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	I/Q in ²	w in	w/t
L1	10.8301	6.2413	85.1314	3.7008	5.4520	15.6148	172.4993	3.0718	2.3182	12.364
	12.1242	6.9960	119.8981	4.1483	6.0995	19.6572	242.9461	3.4432	2.6532	14.15
L2	12.1242	6.9960	119.8981	4.1483	6.0995	19.6572	242.9461	3.4432	2.6532	14.15
	13.4183	7.7506	163.0364	4.5958	6.7470	24.1645	330.3559	3.8146	2.9882	15.937
L3	13.4183	7.7506	163.0364	4.5958	6.7470	24.1645	330.3559	3.8146	2.9882	15.937
	14.7124	8.5053	215.4492	5.0433	7.3945	29.1366	436.5585	4.1861	3.3232	17.724
L4	14.7124	8.5053	215.4492	5.0433	7.3945	29.1366	436.5585	4.1861	3.3232	17.724
	16.0065	9.2600	278.0397	5.4908	8.0419	34.5737	563.3838	4.5575	3.6582	19.51
L5	15.9845	12.2964	366.2060	5.4684	8.0419	45.5370	742.0327	6.0519	3.4907	13.963
	17.2793	13.3032	463.7302	5.9162	8.6898	53.3646	939.6431	6.5474	3.8259	15.304
L6	17.2793	13.3032	463.7302	5.9162	8.6898	53.3646	939.6431	6.5474	3.8259	15.304
	18.5742	14.3101	577.1924	6.3640	9.3377	61.8129	1169.5483	7.0430	4.1611	16.644
L7	18.5742	14.3101	577.1924	6.3640	9.3377	61.8129	1169.5483	7.0430	4.1611	16.644

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
	19.8691	15.3169	707.7989	6.8118	9.9856	70.8819	1434.1925	7.5385	4.4963	17.985
L8	19.8691	15.3169	707.7989	6.8118	9.9856	70.8819	1434.1925	7.5385	4.4963	17.985
	21.1640	16.3238	856.7561	7.2595	10.6335	80.5714	1736.0201	8.0341	4.8315	19.326
L9	21.0758	32.2451	1650.9145	7.1700	10.6335	155.2559	3345.2003	15.8700	4.1615	8.323
	21.1405	32.3458	1666.4278	7.1924	10.6659	156.2389	3376.6345	15.9196	4.1783	8.357
L10	21.1471	31.1619	1608.4317	7.1991	10.6659	150.8013	3259.1186	15.3369	4.2285	8.787
	22.4420	33.1000	1927.6075	7.6469	11.3138	170.3769	3905.8553	16.2908	4.5637	9.483
L11	22.4442	32.6797	1904.2442	7.6491	11.3138	168.3118	3858.5150	16.0840	4.5805	9.643
	22.5304	32.8071	1926.6031	7.6790	11.3569	169.6411	3903.8203	16.1467	4.6028	9.69
L12	22.4731	43.6971	2527.3812	7.6208	11.3569	222.5408	5121.1594	21.5064	4.1673	6.537
	22.5379	43.8254	2549.7216	7.6432	11.3893	223.8693	5166.4272	21.5695	4.1840	6.563
L13	22.5423	42.9913	2504.1203	7.6476	11.3893	219.8654	5074.0267	21.1590	4.2175	6.748
	22.7357	43.3673	2570.4101	7.7145	11.4861	223.7839	5208.3477	21.3441	4.2676	6.828
L14	22.6211	64.9242	3732.8999	7.5982	11.4861	324.9921	7563.8672	31.9537	3.3966	3.575
	22.6858	65.1155	3765.9947	7.6206	11.5185	326.9513	7630.9263	32.0479	3.4134	3.593
L15	22.6858	65.1155	3765.9947	7.6206	11.5185	326.9513	7630.9263	32.0479	3.4134	3.593
	22.7298	65.2456	3788.6105	7.6358	11.5405	328.2869	7676.7521	32.1119	3.4248	3.605
L16	22.8180	48.6392	2890.9250	7.7253	11.5405	250.5015	5857.7978	23.9387	4.0948	5.85
	22.8828	48.7801	2916.1322	7.7477	11.5729	251.9785	5908.8744	24.0081	4.1115	5.874
L17	22.8960	46.2469	2774.2826	7.7611	11.5729	239.7215	5621.4487	22.7613	4.2120	6.358
	24.1909	48.9151	3282.6958	8.2089	12.2208	268.6148	6651.6316	24.0745	4.5472	6.864
L18	24.1953	48.0183	3226.0283	8.2134	12.2208	263.9778	6536.8079	23.6332	4.5807	7.047
	26.2023	52.0759	4114.8942	8.9074	13.2251	311.1438	8337.8912	25.6302	5.1003	7.847
L19	25.6669	52.5867	3653.4773	8.3523	12.4477	293.5051	7402.9356	25.8816	4.5641	6.52
	25.9259	55.4055	4273.0428	8.8000	13.0955	326.2974	8658.3431	27.2689	4.8993	6.999
L20	25.9303	54.4438	4203.1441	8.8045	13.0955	320.9598	8516.7095	26.7956	4.9328	7.175
	26.4274	55.5069	4454.1995	8.9764	13.3443	333.7904	9025.4158	27.3188	5.0615	7.362
L21	26.4274	55.5069	4454.1995	8.9764	13.3443	333.7904	9025.4158	27.3188	5.0615	7.362
	26.4922	55.6453	4487.6063	8.9988	13.3767	335.4796	9093.1071	27.3869	5.0783	7.387
L22	26.4966	54.6608	4412.5900	9.0032	13.3767	329.8716	8941.1036	26.9024	5.1118	7.573
	27.2087	56.1557	4784.6350	9.2495	13.7330	348.4047	9694.9676	27.6381	5.2961	7.846
L23	27.1866	61.2069	5189.8105	9.2271	13.7330	377.9086	10515.963	30.1242	5.1286	6.954
	27.2513	61.3554	5227.6742	9.2495	13.7654	379.7700	10592.685	30.1973	5.1454	6.977
L24	27.2513	61.3554	5227.6742	9.2495	13.7654	379.7700	10592.685	30.1973	5.1454	6.977
	27.6113	62.1810	5441.5594	9.3740	13.9455	390.2030	11026.074	30.6036	5.2385	7.103
L25	27.5672	72.3730	6273.1514	9.3292	13.9455	449.8348	12711.105	35.6198	4.9035	5.685
	27.6319	72.5467	6318.4168	9.3516	13.9778	452.0308	12802.825	35.7053	4.9203	5.705
L26	27.6407	70.5113	6152.9066	9.3605	13.9778	440.1899	12467.456	34.7035	4.9873	5.955
	28.9354	73.8838	7078.6705	9.8082	14.6256	483.9903	14343.305	36.3633	5.3224	6.355
L27	28.9442	71.7437	6886.1834	9.8172	14.6256	470.8294	13953.274	35.3101	5.3894	6.633
	29.8997	74.1583	7605.1298	10.1476	15.1037	503.5269	15410.054	36.4985	5.6368	6.938
L28	29.8909	76.3727	7818.4101	10.1387	15.1037	517.6480	15842.218	37.5883	5.5698	6.65
	29.9556	76.5413	7870.3118	10.1610	15.1361	519.9692	15947.385	37.6713	5.5865	6.67
L29	29.9600	75.4321	7763.0922	10.1655	15.1361	512.8855	15730.129	37.1254	5.6200	6.812
	30.1335	75.8773	7901.3485	10.2255	15.2229	519.0430	16010.274	37.3445	5.6649	6.867
L30	30.1203	79.2221	8228.0080	10.2121	15.2229	540.5014	16672.174	38.9907	5.5644	6.452
	30.1850	79.3957	8282.2351	10.2345	15.2553	542.9085	16782.053	39.0762	5.5812	6.471
L31	30.1939	77.1618	8063.2873	10.2434	15.2553	528.5563	16338.406	37.9767	5.6482	6.744
	31.4885	80.5343	9167.4296	10.6911	15.9031	576.4554	18575.697	39.6365	5.9834	7.144
L32	31.4974	78.1957	8916.1298	10.7001	15.9031	560.6534	18066.496	38.4856	6.0504	7.447
	32.2094	79.9952	9545.9589	10.9463	16.2594	587.1043	19342.700	39.3712	6.2347	7.673

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L33	32.2094	79.9952	9545.9589	10.9463	16.2594	587.1043	19342.700	39.3712	6.2347	7.673
	32.2742	80.1588	9604.6435	10.9687	16.2918	589.5391	19461.611	39.4517	6.2515	7.694
L34	32.2786	78.9578	9468.4591	10.9732	16.2918	581.1800	19185.665	38.8606	6.2850	7.856
	32.9208	80.5557	10055.005	11.1952	16.6131	605.2459	20374.167	39.6470	6.4512	8.064
L35	32.9163	81.7816	10199.873	11.1908	16.6131	613.9660	20667.709	40.2504	6.4177	7.899
	32.9811	81.9452	10261.205	11.2131	16.6455	616.4559	20791.985	40.3309	6.4344	7.919
L36	32.9899	79.4872	9969.3100	11.2221	16.6455	598.9199	20200.524	39.1212	6.5014	8.256
	34.9371	84.2566	11873.681	11.8954	17.6198	673.8840	24059.297	41.4686	7.0055	8.896
L37	34.2772	82.6258	10359.016	11.2200	16.6586	621.8424	20990.175	40.6659	6.4245	7.847
	34.2979	85.9181	11647.297	11.6670	17.3055	673.0418	23600.582	42.2863	6.7592	8.255
L38	34.3067	83.3585	11317.661	11.6760	17.3055	653.9937	22932.649	41.0265	6.8262	8.6
	35.5996	86.5503	12668.115	12.1230	17.9523	705.6529	25669.037	42.5974	7.1608	9.022
L39	35.5996	86.5503	12668.115	12.1230	17.9523	705.6529	25669.037	42.5974	7.1608	9.022
	36.1555	87.9227	13280.369	12.3153	18.2305	728.4703	26909.628	43.2729	7.3047	9.203
L40	36.1202	98.7118	14823.457	12.2795	18.2305	813.1135	30036.344	48.5830	7.0367	7.873
	36.1849	98.8915	14904.558	12.3018	18.2628	816.1143	30200.675	48.6714	7.0535	7.892
L41	36.1937	96.1952	14519.291	12.3108	18.2628	795.0186	29420.020	47.3444	7.1205	8.196
	37.4865	99.6886	16159.236	12.7579	18.9097	854.5472	32742.994	49.0637	7.4552	8.581
L42	37.4909	98.2887	15943.495	12.7623	18.9097	843.1382	32305.843	48.3747	7.4887	8.746
	38.4218	100.7677	17180.545	13.0842	19.3755	886.7170	34812.443	49.5948	7.7296	9.027
L43	38.3733	116.5094	19715.264	13.0350	19.3755	1017.5381	39948.470	57.3424	7.3611	7.407
	38.4379	116.7092	19816.865	13.0573	19.4078	1021.0774	40154.342	57.4407	7.3779	7.424
L44	38.4379	116.7092	19816.865	13.0573	19.4078	1021.0774	40154.342	57.4407	7.3779	7.424
	38.5026	116.9090	19918.815	13.0797	19.4401	1024.6229	40360.921	57.5390	7.3946	7.441
L45	38.5026	116.9090	19918.815	13.0797	19.4401	1024.6229	40360.921	57.5390	7.3946	7.441
	38.5672	117.1088	20021.114	13.1021	19.4725	1028.1746	40568.206	57.6374	7.4113	7.458
L46	38.5672	117.1088	20021.114	13.1021	19.4725	1028.1746	40568.206	57.6374	7.4113	7.458
	38.6112	117.2446	20090.877	13.1173	19.4945	1030.5932	40709.565	57.7042	7.4227	7.469
L47	38.6464	105.7342	18217.503	13.1531	19.4945	934.4955	36913.600	52.0392	7.6907	8.605
	38.7111	105.9139	18310.541	13.1754	19.5268	937.7123	37102.121	52.1276	7.7074	8.624
L48	38.7155	104.4681	18072.853	13.1799	19.5268	925.5398	36620.500	51.4160	7.7409	8.784
	39.7058	107.1825	19518.536	13.5223	20.0223	974.8385	39549.846	52.7520	7.9973	9.075
L49	39.6397	129.3420	23320.648	13.4552	20.0223	1164.7321	47253.955	63.6582	7.4948	7.013
	39.7043	129.5569	23437.070	13.4776	20.0547	1168.6588	47489.858	63.7640	7.5115	7.028
L50	39.7131	126.6103	22934.464	13.4865	20.0547	1143.5970	46471.442	62.3138	7.5785	7.261

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
	39.9458	127.3658	23347.458 2	13.5670	20.1711	1157.4702	47308.280 2	62.6856	7.6388	7.319
L51	40.0252	100.5029	18642.624 4	13.6475	20.1711	924.2240	37775.011 6	49.4645	8.2418	10.066
	40.0899	100.6675	18734.378 4	13.6699	20.2035	927.2860	37960.930 2	49.5455	8.2585	10.087
L52	40.0987	97.6576	18198.034 9	13.6788	20.2035	900.7388	36874.150 9	48.0641	8.3255	10.489
	41.4174	100.9132	20079.371 1	14.1349	20.8633	962.4271	40686.251 9	49.6664	8.6669	10.919
L53	41.3733	116.4352	23021.432 9	14.0901	20.8633	1103.4435	46647.664 3	57.3059	8.3319	9.069
	41.4379	116.6199	23131.174 9	14.1125	20.8956	1106.9874	46870.030 5	57.3968	8.3486	9.087
L54	41.4423	115.0697	22838.176 4	14.1169	20.8956	1092.9654	46276.337 6	56.6338	8.3821	9.249
	42.0887	116.8918	23940.334 5	14.3405	21.2190	1128.2475	48509.607 3	57.5306	8.5494	9.434
L55	41.9697	159.0723	32032.540 3	14.2196	21.2190	1509.6127	64906.611 8	78.2905	7.6449	6.147
	42.0343	159.3223	32183.844 6	14.2420	21.2514	1514.4349	65213.193 7	78.4136	7.6617	6.16
L56	42.0343	159.3223	32183.844 2	14.2420	21.2514	1514.4349	65213.193 8	78.4136	7.6617	6.16
	42.1636	159.8224	32487.879 2	14.2867	21.3161	1524.1023	65829.251 8	78.6597	7.6951	6.187
L57	42.2254	137.9371	28285.594 3	14.3493	21.3161	1326.9607	57314.282 3	67.8884	8.1641	7.639
	42.2900	138.1520	28417.989 3	14.3717	21.3484	1331.1519	57582.552 7	67.9942	8.1809	7.655
L58	42.2900	138.1520	28417.989 9	14.3717	21.3484	1331.1519	57582.552 0	67.9942	8.1809	7.655
	43.0011	140.5156	29901.706 9	14.6176	21.7042	1377.6922	60588.964 0	69.1575	8.3650	7.827
			6				4			

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
L1 130.00-125.00				1	1	1			
L2 125.00-120.00				1	1	1			
L3 120.00-115.00				1	1	1			
L4 115.00-110.00				1	1	1			
L5 110.00-105.00				1	1	1			
L6 105.00-100.00				1	1	1			
L7 100.00-95.00				1	1	1			
L8 95.00-90.00				1	1	1			
L9 90.00-89.75				1	1	0.924185			
L10 89.75-84.75				1	1	0.933544			
L11 84.75-84.42				1	1	0.943922			
L12 84.42-84.17				1	1	0.913411			
L13 84.17-83.42				1	1	0.926528			
L14 83.42-83.17				1	1	0.877374			

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							
L15 83.17-83.00				1	1	0.876149			
L16 83.00-82.75				1	1	0.895771			
L17 82.75-77.75				1	1	0.913883			
L18 77.75-70.00				1	1	0.90949			
L19 70.00-69.00				1	1	0.921147			
L20 69.00-67.08				1	1	0.92817			
L21 67.08-66.83				1	1	0.926992			
L22 66.83-64.08				1	1	0.930891			
L23 64.08-63.83				1	1	0.999923			
L24 63.83-62.44				1	1	0.992273			
L25 62.44-62.19				1	1	0.91348			
L26 62.19-57.19				1	1	0.91398			
L27 57.19-53.50				1	1	0.92312			
L28 53.50-53.25				1	1	0.934453			
L29 53.25-52.58				1	1	0.944853			
L30 52.58-52.33				1	1	0.917963			
L31 52.33-47.33				1	1	0.920611			
L32 47.33-44.58				1	1	0.935467			
L33 44.58-44.33				1	1	0.934343			
L34 44.33-41.85				1	1	0.937488			
L35 41.85-41.60				1	1	0.94069			
L36 41.60-34.08				1	1	0.958134			
L37 34.08-34.00				1	1	0.950472			
L38 34.00-29.00				1	1	0.9595			
L39 29.00-26.85				1	1	0.951283			
L40 26.85-26.60				1	1	0.967987			
L41 26.60-21.60				1	1	0.974113			
L42 21.60-18.00				1	1	0.973558			
L43 18.00-17.75				1	1	0.947355			
L44 17.75-17.50				1	1	0.946327			
L45 17.50-17.25				1	1	0.945303			
L46 17.25-17.08				1	1	0.944608			
L47 17.08-16.83				1	1	0.961219			
L48 16.83-				1	1	0.959721			

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							
L49 13.00-12.75				1	1	0.933645			
L50 12.75-11.85				1	1	0.95166			
L51 11.85-11.60				1	1	1.02568			
L52 11.60-6.50				1	1	1.03715			
L53 6.50-6.25				1	1	0.967827			
L54 6.25-3.75				1	1	0.971489			
L55 3.75-3.50				1	1	0.878194			
L56 3.50-3.00				1	1	0.87631			
L57 3.00-2.75				1	1	0.88379			
L58 2.75-0.00				1	1	0.874334			

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
Climbing Ladder (Af)	C	No	Surface Af (CaAa)	109.00 - 87.00	1	1	0.000 0.160	3.0000	12.0000	8.40
Safety Line 3/8	C	No	Surface Ar (CaAa)	130.00 - 0.00	1	1	0.000 0.010	0.3750		0.22

2" Flexible Conduit	B	No	Surface Ar (CaAa)	121.00 - 0.00	4	4	0.129 0.409	2.0000		0.34

HB158-21U6S24-xxM_TMO(1-5/8)	C	No	Surface Ar (CaAa)	97.00 - 0.00	3	3	-0.149 0.040	1.9960		2.50

(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	B	No	Surface Ar (CaAa)	87.00 - 0.00	14	6	-0.400 -0.103	1.6250		1.07

CU12PSM9P8XXX(1-3/8)	B	No	Surface Ar (CaAa)	77.00 - 0.00	1	1	0.409 0.450	1.4110		1.66
Shaft Reinforcements										
CCI-AFP-060100	A	No	Surface Af (CaAa)	15.50 - 0.50	1	1	-0.375 -0.375	6.0000	14.0000	0.00
PL0.75x4 Reinforcement - Wind Area	A	No	Surface Af (CaAa)	45.83 - 15.83	1	1	-0.375 -0.375	4.0000	9.5000	0.00
PL0.75x4 Reinforcement - Wind Area	A	No	Surface Af (CaAa)	85.80 - 65.80	1	1	-0.375 -0.375	4.0000	9.5000	0.00
CCI-CFP-060100	A	No	Surface Af (CaAa)	55.10 - 0.00	1	1	-0.125 -0.125	6.0000	14.0000	0.00
CCI-CFP-045125	A	No	Surface Af (CaAa)	85.20 - 55.10	1	1	-0.125 -0.125	4.5000	11.5000	0.00
CCI-AFP-060100	A	No	Surface Af (CaAa)	44.40 - 9.40	1	1	0.125 0.125	6.0000	14.0000	0.00
CCI-AFP-045100	A	No	Surface Af (CaAa)	64.40 - 44.40	1	1	0.125 0.125	4.5000	11.0000	0.00
CCI-AFP-045100	A	No	Surface Af	91.50 -	1	1	0.125	4.5000	11.0000	0.00

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
CCI-SFP-065125	A	No	(CaAa) Surface Af	81.50 - 20.75 - 0.00	1	1	0.125 - 0.375 - 0.375	6.5000	15.5000	0.00
PL0.75x4 Reinforcement - Wind Area	A	No	(CaAa) Surface Af	68.30 - 43.30	1	1	0.375 - 0.375	4.0000	9.5000	0.00
CCI-AFP-060100	B	No	(CaAa) Surface Af	15.50 - 0.50	1	1	-0.375 - -0.375	6.0000	14.0000	0.00
PL0.75x4 Reinforcement - Wind Area	B	No	(CaAa) Surface Af	45.83 - 15.83	1	1	-0.375 - -0.375	4.0000	9.5000	0.00
PL0.75x4 Reinforcement - Wind Area	B	No	(CaAa) Surface Af	85.80 - 65.80	1	1	-0.375 - -0.375	4.0000	9.5000	0.00
CCI-CFP-060100	B	No	(CaAa) Surface Af	55.10 - 0.00	1	1	-0.125 - -0.125	6.0000	14.0000	0.00
CCI-CFP-045125	B	No	(CaAa) Surface Af	85.20 - 55.10	1	1	-0.125 - -0.125	4.5000	11.5000	0.00
CCI-SFP-065125	B	No	(CaAa) Surface Af	20.75 - 0.00	1	1	0.125 - 0.125	6.5000	15.5000	0.00
CCI-AFP-060100	B	No	(CaAa) Surface Af	56.00 - 21.00	1	1	0.125 - 0.125	6.0000	14.0000	0.00
CCI-AFP-045100	B	No	(CaAa) Surface Af	66.10 - 56.00	1	1	0.125 - 0.125	4.5000	11.0000	0.00
CCI-AFP-045100	B	No	(CaAa) Surface Af	91.50 - 81.50	1	1	0.125 - 0.125	4.5000	11.0000	0.00
CCI-SFP-065125	B	No	(CaAa) Surface Af	9.25 - 0.00	1	1	0.375 - 0.375	6.5000	15.5000	0.00
CCI-AFP-060100	B	No	(CaAa) Surface Af	29.40 - 9.40	1	1	0.375 - 0.375	6.0000	14.0000	0.00
PL0.75x4 Reinforcement - Wind Area	B	No	(CaAa) Surface Af	68.30 - 43.30	1	1	0.375 - 0.375	4.0000	9.5000	0.00
CCI-AFP-060100	C	No	(CaAa) Surface Af	15.50 - 0.50	1	1	-0.375 - -0.375	6.0000	14.0000	0.00
PL0.75x4 Reinforcement - Wind Area	C	No	(CaAa) Surface Af	45.83 - 15.83	1	1	-0.375 - -0.375	4.0000	9.5000	0.00
PL0.75x4 Reinforcement - Wind Area	C	No	(CaAa) Surface Af	85.80 - 65.80	1	1	-0.375 - -0.375	4.0000	9.5000	0.00
CCI-CFP-060100	C	No	(CaAa) Surface Af	55.10 - 0.00	1	1	-0.125 - -0.125	6.0000	14.0000	0.00
CCI-CFP-045125	C	No	(CaAa) Surface Af	85.20 - 55.10	1	1	-0.125 - -0.125	4.5000	11.5000	0.00
CCI-SFP-065125	C	No	(CaAa) Surface Af	20.75 - 0.00	1	1	0.125 - 0.125	6.5000	15.5000	0.00
CCI-AFP-060100	C	No	(CaAa) Surface Af	56.00 - 21.00	1	1	0.125 - 0.125	6.0000	14.0000	0.00
CCI-AFP-045100	C	No	(CaAa) Surface Af	66.10 - 56.00	1	1	0.125 - 0.125	4.5000	11.0000	0.00
CCI-AFP-045100	C	No	(CaAa) Surface Af	91.50 - 81.50	1	1	0.125 - 0.125	4.5000	11.0000	0.00
CCI-AFP-060100	C	No	(CaAa) Surface Af	29.40 - 9.40	1	1	0.375 - 0.375	6.0000	14.0000	0.00
PL0.75x4 Reinforcement - Wind Area	C	No	(CaAa) Surface Af	68.30 - 43.30	1	1	0.375 - 0.375	4.0000	9.5000	0.00

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf
PWRT-606-S(7/8)	B	No	No	Inside Pole	121.00 - 0.00	2	No Ice	0.00	0.89
							1/2" Ice	0.00	0.89
							1" Ice	0.00	0.89
							2" Ice	0.00	0.89
PWRT-608-S(13/16)	B	No	No	Inside Pole	121.00 - 0.00	6	No Ice	0.00	0.62
							1/2" Ice	0.00	0.62
							1" Ice	0.00	0.62
							2" Ice	0.00	0.62
FB-L98B-034-XXX(3/8)	B	No	No	Inside Pole	121.00 - 0.00	2	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
							2" Ice	0.00	0.06

HB158-U12S24-160-LI(1-7/8)	B	No	No	Inside Pole	109.00 - 0.00	1	No Ice	0.00	3.20
							1/2" Ice	0.00	3.20
							1" Ice	0.00	3.20
							2" Ice	0.00	3.20
HB158-U12S24-160-LI(1-7/8)	B	No	No	Inside Pole	109.00 - 0.00	1	No Ice	0.00	3.20
							1/2" Ice	0.00	3.20
							1" Ice	0.00	3.20
							2" Ice	0.00	3.20

Feed Line/Linear Appurtenances Section Areas

Tower Section 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	130.00-125.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.188	0.000	0.00
L2	125.00-120.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.800	0.000	0.01
		C	0.000	0.000	0.188	0.000	0.00
L3	120.00-115.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	4.000	0.000	0.03
		C	0.000	0.000	0.188	0.000	0.00
L4	115.00-110.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	4.000	0.000	0.03
		C	0.000	0.000	0.188	0.000	0.00
L5	110.00-105.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	4.000	0.000	0.06
		C	0.000	0.000	2.188	0.000	0.03
L6	105.00-100.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	4.000	0.000	0.07
		C	0.000	0.000	2.688	0.000	0.04
L7	100.00-95.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	4.000	0.000	0.07
		C	0.000	0.000	3.885	0.000	0.06
L8	95.00-90.00	A	0.000	0.000	1.125	0.000	0.00
		B	0.000	0.000	5.125	0.000	0.07
		C	0.000	0.000	6.806	0.000	0.08
L9	90.00-89.75	A	0.000	0.000	0.188	0.000	0.00
		B	0.000	0.000	0.388	0.000	0.00
		C	0.000	0.000	0.472	0.000	0.00
L10	89.75-84.75	A	0.000	0.000	4.787	0.000	0.00
		B	0.000	0.000	10.981	0.000	0.10
		C	0.000	0.000	9.344	0.000	0.06
L11	84.75-84.42	A	0.000	0.000	0.722	0.000	0.00
		B	0.000	0.000	1.313	0.000	0.01

Tower Section	Tower Elevation	Face	A _R	A _F	C _A A _A In Face	C _A A _A Out Face	Weight
n	ft		ft ²	ft ²	ft ²	ft ²	K
L12	84.42-84.17	C	0.000	0.000	0.933	0.000	0.00
		A	0.000	0.000	0.542	0.000	0.00
		B	0.000	0.000	0.985	0.000	0.01
L13	84.17-83.42	C	0.000	0.000	0.701	0.000	0.00
		A	0.000	0.000	1.619	0.000	0.00
		B	0.000	0.000	2.944	0.000	0.02
		C	0.000	0.000	2.094	0.000	0.01
L14	83.42-83.17	A	0.000	0.000	0.542	0.000	0.00
		B	0.000	0.000	0.985	0.000	0.01
		C	0.000	0.000	0.701	0.000	0.00
L15	83.17-83.00	A	0.000	0.000	0.368	0.000	0.00
		B	0.000	0.000	0.670	0.000	0.00
		C	0.000	0.000	0.477	0.000	0.00
L16	83.00-82.75	A	0.000	0.000	0.542	0.000	0.00
		B	0.000	0.000	0.985	0.000	0.01
		C	0.000	0.000	0.701	0.000	0.00
L17	82.75-77.75	A	0.000	0.000	8.021	0.000	0.00
		B	0.000	0.000	16.896	0.000	0.14
		C	0.000	0.000	11.202	0.000	0.04
L18	77.75-70.00	A	0.000	0.000	10.979	0.000	0.00
		B	0.000	0.000	25.723	0.000	0.23
		C	0.000	0.000	15.910	0.000	0.06
L19	70.00-69.00	A	0.000	0.000	1.417	0.000	0.00
		B	0.000	0.000	3.333	0.000	0.03
		C	0.000	0.000	2.053	0.000	0.01
L20	69.00-67.08	A	0.000	0.000	3.533	0.000	0.00
		B	0.000	0.000	7.212	0.000	0.06
		C	0.000	0.000	4.755	0.000	0.01
L21	67.08-66.83	A	0.000	0.000	0.521	0.000	0.00
		B	0.000	0.000	1.000	0.000	0.01
		C	0.000	0.000	0.680	0.000	0.00
L22	66.83-64.08	A	0.000	0.000	4.822	0.000	0.00
		B	0.000	0.000	11.367	0.000	0.08
		C	0.000	0.000	7.847	0.000	0.02
L23	64.08-63.83	A	0.000	0.000	0.542	0.000	0.00
		B	0.000	0.000	1.021	0.000	0.01
		C	0.000	0.000	0.701	0.000	0.00
L24	63.83-62.44	A	0.000	0.000	3.012	0.000	0.00
		B	0.000	0.000	5.675	0.000	0.04
		C	0.000	0.000	3.896	0.000	0.01
L25	62.44-62.19	A	0.000	0.000	0.542	0.000	0.00
		B	0.000	0.000	1.021	0.000	0.01
		C	0.000	0.000	0.701	0.000	0.00
L26	62.19-57.19	A	0.000	0.000	10.833	0.000	0.00
		B	0.000	0.000	20.414	0.000	0.15
		C	0.000	0.000	14.015	0.000	0.04
L27	57.19-53.50	A	0.000	0.000	8.395	0.000	0.00
		B	0.000	0.000	16.090	0.000	0.11
		C	0.000	0.000	11.368	0.000	0.03
L28	53.50-53.25	A	0.000	0.000	0.604	0.000	0.00
		B	0.000	0.000	1.146	0.000	0.01
		C	0.000	0.000	0.826	0.000	0.00
L29	53.25-52.58	A	0.000	0.000	1.619	0.000	0.00
		B	0.000	0.000	3.070	0.000	0.02
		C	0.000	0.000	2.213	0.000	0.01
L30	52.58-52.33	A	0.000	0.000	0.604	0.000	0.00
		B	0.000	0.000	1.146	0.000	0.01
		C	0.000	0.000	0.826	0.000	0.00
L31	52.33-47.33	A	0.000	0.000	12.083	0.000	0.00
		B	0.000	0.000	22.914	0.000	0.15
		C	0.000	0.000	16.515	0.000	0.04
L32	47.33-44.58	A	0.000	0.000	7.479	0.000	0.00
		B	0.000	0.000	13.436	0.000	0.08
		C	0.000	0.000	9.916	0.000	0.02
L33	44.58-44.33	A	0.000	0.000	0.788	0.000	0.00
		B	0.000	0.000	1.312	0.000	0.01
		C	0.000	0.000	0.992	0.000	0.00
L34	44.33-41.85	A	0.000	0.000	7.300	0.000	0.00
		B	0.000	0.000	12.052	0.000	0.07

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
L35	41.85-41.60	C	0.000	0.000	8.878	0.000	0.02
		A	0.000	0.000	0.667	0.000	0.00
		B	0.000	0.000	1.146	0.000	0.01
L36	41.60-34.08	C	0.000	0.000	0.826	0.000	0.00
		A	0.000	0.000	20.053	0.000	0.00
		B	0.000	0.000	34.462	0.000	0.23
L37	34.08-34.00	C	0.000	0.000	24.838	0.000	0.06
		A	0.000	0.000	0.213	0.000	0.00
		B	0.000	0.000	0.367	0.000	0.00
L38	34.00-29.00	C	0.000	0.000	0.264	0.000	0.00
		A	0.000	0.000	13.333	0.000	0.00
		B	0.000	0.000	23.314	0.000	0.15
L39	29.00-26.85	C	0.000	0.000	16.915	0.000	0.04
		A	0.000	0.000	5.733	0.000	0.00
		B	0.000	0.000	12.003	0.000	0.06
L40	26.85-26.60	C	0.000	0.000	9.251	0.000	0.02
		A	0.000	0.000	0.667	0.000	0.00
		B	0.000	0.000	1.396	0.000	0.01
L41	26.60-21.60	C	0.000	0.000	1.076	0.000	0.00
		A	0.000	0.000	13.333	0.000	0.00
		B	0.000	0.000	27.914	0.000	0.15
L42	21.60-18.00	C	0.000	0.000	21.515	0.000	0.04
		A	0.000	0.000	12.579	0.000	0.00
		B	0.000	0.000	20.077	0.000	0.11
L43	18.00-17.75	C	0.000	0.000	15.470	0.000	0.03
		A	0.000	0.000	0.938	0.000	0.00
		B	0.000	0.000	1.417	0.000	0.01
L44	17.75-17.50	C	0.000	0.000	1.097	0.000	0.00
		A	0.000	0.000	0.938	0.000	0.00
		B	0.000	0.000	1.417	0.000	0.01
L45	17.50-17.25	C	0.000	0.000	1.097	0.000	0.00
		A	0.000	0.000	0.938	0.000	0.00
		B	0.000	0.000	1.417	0.000	0.01
L46	17.25-17.08	C	0.000	0.000	1.097	0.000	0.00
		A	0.000	0.000	0.637	0.000	0.00
		B	0.000	0.000	0.963	0.000	0.01
L47	17.08-16.83	C	0.000	0.000	0.746	0.000	0.00
		A	0.000	0.000	0.938	0.000	0.00
		B	0.000	0.000	1.417	0.000	0.01
L48	16.83-13.00	C	0.000	0.000	1.097	0.000	0.00
		A	0.000	0.000	14.976	0.000	0.00
		B	0.000	0.000	22.314	0.000	0.11
L49	13.00-12.75	C	0.000	0.000	17.413	0.000	0.03
		A	0.000	0.000	1.021	0.000	0.00
		B	0.000	0.000	1.500	0.000	0.01
L50	12.75-11.85	C	0.000	0.000	1.180	0.000	0.00
		A	0.000	0.000	3.675	0.000	0.00
		B	0.000	0.000	5.399	0.000	0.03
L51	11.85-11.60	C	0.000	0.000	4.248	0.000	0.01
		A	0.000	0.000	1.021	0.000	0.00
		B	0.000	0.000	1.500	0.000	0.01
L52	11.60-6.50	C	0.000	0.000	1.180	0.000	0.00
		A	0.000	0.000	17.925	0.000	0.00
		B	0.000	0.000	30.268	0.000	0.15
L53	6.50-6.25	C	0.000	0.000	21.170	0.000	0.04
		A	0.000	0.000	0.771	0.000	0.00
		B	0.000	0.000	1.484	0.000	0.01
L54	6.25-3.75	C	0.000	0.000	0.930	0.000	0.00
		A	0.000	0.000	7.708	0.000	0.00
		B	0.000	0.000	14.835	0.000	0.08
L55	3.75-3.50	C	0.000	0.000	9.299	0.000	0.02
		A	0.000	0.000	0.771	0.000	0.00
		B	0.000	0.000	1.484	0.000	0.01
L56	3.50-3.00	C	0.000	0.000	0.930	0.000	0.00
		A	0.000	0.000	1.542	0.000	0.00
		B	0.000	0.000	2.967	0.000	0.02
L57	3.00-2.75	C	0.000	0.000	1.860	0.000	0.00
		A	0.000	0.000	0.771	0.000	0.00
		B	0.000	0.000	1.484	0.000	0.01

Tower Section	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
L58	2.75-0.00	C	0.000	0.000	0.930	0.000	0.00
		A	0.000	0.000	7.979	0.000	0.00
		B	0.000	0.000	15.819	0.000	0.08
		C	0.000	0.000	9.729	0.000	0.02

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	130.00-125.00	A	1.459	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	1.647	0.000	0.02
L2	125.00-120.00	A	1.454	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	1.363	0.000	0.02
		C		0.000	0.000	1.641	0.000	0.02
L3	120.00-115.00	A	1.448	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	6.809	0.000	0.10
		C		0.000	0.000	1.635	0.000	0.02
L4	115.00-110.00	A	1.441	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	6.802	0.000	0.10
		C		0.000	0.000	1.629	0.000	0.02
L5	110.00-105.00	A	1.435	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	6.793	0.000	0.13
		C		0.000	0.000	4.770	0.000	0.09
L6	105.00-100.00	A	1.428	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	6.785	0.000	0.14
		C		0.000	0.000	5.543	0.000	0.11
L7	100.00-95.00	A	1.421	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	6.776	0.000	0.13
		C		0.000	0.000	7.737	0.000	0.14
L8	95.00-90.00	A	1.413	0.000	0.000	1.366	0.000	0.01
		B		0.000	0.000	8.132	0.000	0.15
		C		0.000	0.000	12.389	0.000	0.21
L9	90.00-89.75	A	1.409	0.000	0.000	0.227	0.000	0.00
		B		0.000	0.000	0.566	0.000	0.01
		C		0.000	0.000	0.778	0.000	0.01
L10	89.75-84.75	A	1.405	0.000	0.000	6.007	0.000	0.06
		B		0.000	0.000	16.296	0.000	0.27
		C		0.000	0.000	15.246	0.000	0.21
L11	84.75-84.42	A	1.401	0.000	0.000	0.961	0.000	0.01
		B		0.000	0.000	1.933	0.000	0.03
		C		0.000	0.000	1.433	0.000	0.02
L12	84.42-84.17	A	1.400	0.000	0.000	0.721	0.000	0.01
		B		0.000	0.000	1.451	0.000	0.02
		C		0.000	0.000	1.076	0.000	0.01
L13	84.17-83.42	A	1.400	0.000	0.000	2.155	0.000	0.02
		B		0.000	0.000	4.336	0.000	0.07
		C		0.000	0.000	3.213	0.000	0.04
L14	83.42-83.17	A	1.399	0.000	0.000	0.721	0.000	0.01
		B		0.000	0.000	1.451	0.000	0.02
		C		0.000	0.000	1.075	0.000	0.01
L15	83.17-83.00	A	1.398	0.000	0.000	0.490	0.000	0.00
		B		0.000	0.000	0.986	0.000	0.01
		C		0.000	0.000	0.731	0.000	0.01
L16	83.00-82.75	A	1.398	0.000	0.000	0.721	0.000	0.01
		B		0.000	0.000	1.451	0.000	0.02
		C		0.000	0.000	1.075	0.000	0.01
L17	82.75-77.75	A	1.393	0.000	0.000	11.006	0.000	0.10
		B		0.000	0.000	25.583	0.000	0.40
		C		0.000	0.000	18.071	0.000	0.20
L18	77.75-70.00	A	1.382	0.000	0.000	15.263	0.000	0.13
		B		0.000	0.000	40.736	0.000	0.65
		C		0.000	0.000	26.174	0.000	0.30
L19	70.00-69.00	A	1.374	0.000	0.000	1.969	0.000	0.02
		B		0.000	0.000	5.297	0.000	0.08

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
L20	69.00-67.08	C	1.371	0.000	0.000	3.377	0.000	0.04
		A		0.000	0.000	4.920	0.000	0.04
		B		0.000	0.000	11.294	0.000	0.17
L21	67.08-66.83	C	1.368	0.000	0.000	7.614	0.000	0.08
		A		0.000	0.000	0.726	0.000	0.01
		B		0.000	0.000	1.556	0.000	0.02
L22	66.83-64.08	C	1.365	0.000	0.000	1.077	0.000	0.01
		A		0.000	0.000	6.693	0.000	0.06
		B		0.000	0.000	17.319	0.000	0.26
L23	64.08-63.83	C	1.362	0.000	0.000	12.052	0.000	0.13
		A		0.000	0.000	0.746	0.000	0.01
		B		0.000	0.000	1.546	0.000	0.02
L24	63.83-62.44	C	1.360	0.000	0.000	1.067	0.000	0.01
		A		0.000	0.000	4.146	0.000	0.03
		B		0.000	0.000	8.592	0.000	0.13
L25	62.44-62.19	C	1.359	0.000	0.000	5.931	0.000	0.06
		A		0.000	0.000	0.745	0.000	0.01
		B		0.000	0.000	1.545	0.000	0.02
L26	62.19-57.19	C	1.353	0.000	0.000	1.066	0.000	0.01
		A		0.000	0.000	14.892	0.000	0.12
		B		0.000	0.000	30.860	0.000	0.46
L27	57.19-53.50	C	1.343	0.000	0.000	21.300	0.000	0.23
		A		0.000	0.000	11.368	0.000	0.09
		B		0.000	0.000	24.035	0.000	0.34
L28	53.50-53.25	C	1.338	0.000	0.000	16.989	0.000	0.17
		A		0.000	0.000	0.805	0.000	0.01
		B		0.000	0.000	1.691	0.000	0.02
L29	53.25-52.58	C	1.337	0.000	0.000	1.214	0.000	0.01
		A		0.000	0.000	2.156	0.000	0.02
		B		0.000	0.000	4.532	0.000	0.06
L30	52.58-52.33	C	1.335	0.000	0.000	3.254	0.000	0.03
		A		0.000	0.000	0.804	0.000	0.01
		B		0.000	0.000	1.691	0.000	0.02
L31	52.33-47.33	C	1.329	0.000	0.000	1.214	0.000	0.01
		A		0.000	0.000	16.069	0.000	0.13
		B		0.000	0.000	33.768	0.000	0.47
L32	47.33-44.58	C	1.318	0.000	0.000	24.238	0.000	0.24
		A		0.000	0.000	9.983	0.000	0.08
		B		0.000	0.000	19.697	0.000	0.26
L33	44.58-44.33	C	1.314	0.000	0.000	14.463	0.000	0.14
		A		0.000	0.000	1.051	0.000	0.01
		B		0.000	0.000	1.916	0.000	0.02
L34	44.33-41.85	C	1.309	0.000	0.000	1.440	0.000	0.01
		A		0.000	0.000	9.518	0.000	0.07
		B		0.000	0.000	17.644	0.000	0.24
L35	41.85-41.60	C	1.305	0.000	0.000	12.929	0.000	0.12
		A		0.000	0.000	0.862	0.000	0.01
		B		0.000	0.000	1.681	0.000	0.02
L36	41.60-34.08	C	1.292	0.000	0.000	1.206	0.000	0.01
		A		0.000	0.000	25.885	0.000	0.20
		B		0.000	0.000	50.434	0.000	0.69
L37	34.08-34.00	C	1.279	0.000	0.000	36.169	0.000	0.35
		A		0.000	0.000	0.275	0.000	0.00
		B		0.000	0.000	0.537	0.000	0.01
L38	34.00-29.00	C	1.269	0.000	0.000	0.385	0.000	0.00
		A		0.000	0.000	17.140	0.000	0.13
		B		0.000	0.000	33.883	0.000	0.45
L39	29.00-26.85	C	1.254	0.000	0.000	24.427	0.000	0.23
		A		0.000	0.000	7.351	0.000	0.05
		B		0.000	0.000	17.001	0.000	0.21
L40	26.85-26.60	C	1.248	0.000	0.000	12.943	0.000	0.12
		A		0.000	0.000	0.854	0.000	0.01
		B		0.000	0.000	1.975	0.000	0.02
L41	26.60-21.60	C	1.235	0.000	0.000	1.503	0.000	0.01
		A		0.000	0.000	17.040	0.000	0.12
		B		0.000	0.000	39.399	0.000	0.49
L42	21.60-18.00	C	1.211	0.000	0.000	29.985	0.000	0.27
		A		0.000	0.000	15.862	0.000	0.11
		B		0.000	0.000	28.156	0.000	0.34

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	C_{AA} In Face ft ²	C_{AA} Out Face ft ²	Weight K
L43	18.00-17.75	C		0.000	0.000	21.400	0.000	0.19
		A	1.199	0.000	0.000	1.177	0.000	0.01
		B		0.000	0.000	1.977	0.000	0.02
L44	17.75-17.50	C		0.000	0.000	1.509	0.000	0.01
		A	1.197	0.000	0.000	1.177	0.000	0.01
		B		0.000	0.000	1.977	0.000	0.02
L45	17.50-17.25	C		0.000	0.000	1.508	0.000	0.01
		A	1.196	0.000	0.000	1.177	0.000	0.01
		B		0.000	0.000	1.976	0.000	0.02
L46	17.25-17.08	C		0.000	0.000	1.508	0.000	0.01
		A	1.194	0.000	0.000	0.800	0.000	0.01
		B		0.000	0.000	1.343	0.000	0.02
L47	17.08-16.83	C		0.000	0.000	1.025	0.000	0.01
		A	1.193	0.000	0.000	1.176	0.000	0.01
		B		0.000	0.000	1.975	0.000	0.02
L48	16.83-13.00	C		0.000	0.000	1.507	0.000	0.01
		A	1.178	0.000	0.000	18.416	0.000	0.13
		B		0.000	0.000	30.612	0.000	0.36
L49	13.00-12.75	C		0.000	0.000	23.456	0.000	0.20
		A	1.160	0.000	0.000	1.244	0.000	0.01
		B		0.000	0.000	2.037	0.000	0.02
L50	12.75-11.85	C		0.000	0.000	1.571	0.000	0.01
		A	1.155	0.000	0.000	4.476	0.000	0.03
		B		0.000	0.000	7.328	0.000	0.09
L51	11.85-11.60	C		0.000	0.000	5.652	0.000	0.05
		A	1.150	0.000	0.000	1.242	0.000	0.01
		B		0.000	0.000	2.034	0.000	0.02
L52	11.60-6.50	C		0.000	0.000	1.568	0.000	0.01
		A	1.120	0.000	0.000	21.691	0.000	0.14
		B		0.000	0.000	40.628	0.000	0.47
L53	6.50-6.25	C		0.000	0.000	28.270	0.000	0.24
		A	1.082	0.000	0.000	0.926	0.000	0.01
		B		0.000	0.000	1.969	0.000	0.02
L54	6.25-3.75	C		0.000	0.000	1.245	0.000	0.01
		A	1.056	0.000	0.000	9.232	0.000	0.06
		B		0.000	0.000	19.601	0.000	0.22
L55	3.75-3.50	C		0.000	0.000	12.385	0.000	0.10
		A	1.022	0.000	0.000	0.919	0.000	0.01
		B		0.000	0.000	1.949	0.000	0.02
L56	3.50-3.00	C		0.000	0.000	1.231	0.000	0.01
		A	1.011	0.000	0.000	1.835	0.000	0.01
		B		0.000	0.000	3.891	0.000	0.04
L57	3.00-2.75	C		0.000	0.000	2.456	0.000	0.02
		A	0.999	0.000	0.000	0.916	0.000	0.01
		B		0.000	0.000	1.942	0.000	0.02
L58	2.75-0.00	C		0.000	0.000	1.225	0.000	0.01
		A	0.928	0.000	0.000	9.392	0.000	0.05
		B		0.000	0.000	20.514	0.000	0.22
		C		0.000	0.000	12.701	0.000	0.09

Feed Line Center of Pressure

Section	Elevation ft	CP_x in	CP_z in	CP_x Ice in	CP_z Ice in
L1	130.00-125.00	-0.0024	0.2284	-0.0112	1.0729
L2	125.00-120.00	0.9834	0.2374	0.8763	0.9502
L3	120.00-115.00	2.9887	0.2447	2.6582	0.6798
L4	115.00-110.00	3.1205	0.2567	2.7810	0.7147
L5	110.00-105.00	2.3137	1.6373	2.1497	1.8510
L6	105.00-100.00	2.2146	1.9797	2.0789	2.1577
L7	100.00-95.00	2.2132	2.6945	1.9996	2.7540
L8	95.00-90.00	1.8183	2.9899	1.6956	3.0881
L9	90.00-89.75	1.3372	2.1980	1.3983	2.5453
L10	89.75-84.75	1.7364	0.8452	1.7658	1.1899

Section	Elevation	CP _x	CP _z	CP _x Ice	CP _z Ice
	ft	in	in	in	in
L11	84.75-84.42	1.5265	-0.3097	1.6211	-0.0580
L12	84.42-84.17	1.5308	-0.3103	1.6257	-0.0579
L13	84.17-83.42	1.5374	-0.3111	1.6326	-0.0576
L14	83.42-83.17	1.5449	-0.3121	1.6406	-0.0574
L15	83.17-83.00	1.5477	-0.3124	1.6435	-0.0572
L16	83.00-82.75	1.5498	-0.3127	1.6456	-0.0571
L17	82.75-77.75	1.8903	-0.3781	1.9061	-0.0631
L18	77.75-70.00	2.2416	-0.3386	2.3443	0.0586
L19	70.00-69.00	2.2938	-0.3338	2.4114	0.0753
L20	69.00-67.08	2.0268	-0.2934	2.1799	0.0675
L21	67.08-66.83	1.9059	-0.2749	2.0722	0.0650
L22	66.83-64.08	2.2342	0.2190	2.3563	0.4357
L23	64.08-63.83	1.8985	-0.2711	2.0687	-0.0075
L24	63.83-62.44	1.9098	-0.2719	2.0807	-0.0070
L25	62.44-62.19	1.9214	-0.2729	2.0932	-0.0065
L26	62.19-57.19	1.9572	-0.2757	2.1313	-0.0048
L27	57.19-53.50	2.0268	-0.0848	2.2027	0.1659
L28	53.50-53.25	2.0201	0.0020	2.2043	0.2408
L29	53.25-52.58	2.0263	0.0024	2.2109	0.2418
L30	52.58-52.33	2.0326	0.0028	2.2176	0.2428
L31	52.33-47.33	2.0679	0.0051	2.2548	0.2483
L32	47.33-44.58	1.9778	0.0079	2.1711	0.2407
L33	44.58-44.33	1.7992	-0.0580	2.0115	0.1828
L34	44.33-41.85	1.8345	-0.2467	2.0919	0.0760
L35	41.85-41.60	1.9700	-0.2640	2.2293	0.0812
L36	41.60-34.08	2.0142	-0.2674	2.2790	0.0833
L37	34.08-34.00	2.0284	-0.2684	2.2963	0.0849
L38	34.00-29.00	1.9843	-0.1453	2.2652	0.1823
L39	29.00-26.85	1.3002	1.1080	1.6728	1.2104
L40	26.85-26.60	1.3088	1.1169	1.6833	1.2188
L41	26.60-21.60	1.3271	1.1359	1.7052	1.2364
L42	21.60-18.00	1.7163	-0.0107	2.0240	0.2619
L43	18.00-17.75	1.8725	-0.2553	2.1537	0.0475
L44	17.75-17.50	1.8748	-0.2555	2.1564	0.0473
L45	17.50-17.25	1.8772	-0.2557	2.1590	0.0472
L46	17.25-17.08	1.8791	-0.2559	2.1612	0.0470
L47	17.08-16.83	1.8808	-0.2560	2.1631	0.0468
L48	16.83-13.00	1.8472	-0.2506	2.1534	0.0443
L49	13.00-12.75	1.8122	-0.2450	2.1272	0.0411
L50	12.75-11.85	1.8172	-0.2454	2.1326	0.0403
L51	11.85-11.60	1.8216	-0.2458	2.1373	0.0394
L52	11.60-6.50	3.1357	0.1367	3.2796	0.3477
L53	6.50-6.25	4.3202	0.5282	4.2962	0.6580
L54	6.25-3.75	4.3477	0.5325	4.3213	0.6578
L55	3.75-3.50	4.3777	0.5371	4.3479	0.6562
L56	3.50-3.00	4.3852	0.5383	4.3542	0.6552
L57	3.00-2.75	4.3913	0.5393	4.3592	0.6538
L58	2.75-0.00	4.5760	0.5631	4.5125	0.6627

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	125.00 - 130.00	1.0000	1.0000
L2	2	Safety Line 3/8	120.00 - 125.00	1.0000	1.0000
L2	4	2" Flexible Conduit	120.00 - 121.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L3	2	Safety Line 3/8	115.00 - 120.00	1.0000	1.0000
L3	4	2" Flexible Conduit	115.00 - 120.00	1.0000	1.0000
L4	2	Safety Line 3/8	110.00 - 115.00	1.0000	1.0000
L4	4	2" Flexible Conduit	110.00 - 115.00	1.0000	1.0000
L5	1	Climbing Ladder (Af)	105.00 - 109.00	1.0000	1.0000
L5	2	Safety Line 3/8	105.00 - 110.00	1.0000	1.0000
L5	4	2" Flexible Conduit	105.00 - 110.00	1.0000	1.0000
L6	1	Climbing Ladder (Af)	100.00 - 105.00	1.0000	1.0000
L6	2	Safety Line 3/8	100.00 - 105.00	1.0000	1.0000
L6	4	2" Flexible Conduit	100.00 - 105.00	1.0000	1.0000
L7	1	Climbing Ladder (Af)	95.00 - 100.00	1.0000	1.0000
L7	2	Safety Line 3/8	95.00 - 100.00	1.0000	1.0000
L7	4	2" Flexible Conduit	95.00 - 100.00	1.0000	1.0000
L7	22	HB158-21U6S24- xxM_TMO(1-5/8)	95.00 - 97.00	1.0000	1.0000
L8	1	Climbing Ladder (Af)	90.00 - 95.00	1.0000	1.0000
L8	2	Safety Line 3/8	90.00 - 95.00	1.0000	1.0000
L8	4	2" Flexible Conduit	90.00 - 95.00	1.0000	1.0000
L8	22	HB158-21U6S24- xxM_TMO(1-5/8)	90.00 - 95.00	1.0000	1.0000
L8	40	CCI-AFP-045100	90.00 - 91.50	1.0000	1.0000
L8	51	CCI-AFP-045100	90.00 - 91.50	1.0000	1.0000
L8	63	CCI-AFP-045100	90.00 - 91.50	1.0000	1.0000
L9	1	Climbing Ladder (Af)	89.75 - 90.00	1.0000	1.0000
L9	2	Safety Line 3/8	89.75 - 90.00	1.0000	1.0000
L9	4	2" Flexible Conduit	89.75 - 90.00	1.0000	1.0000
L9	22	HB158-21U6S24- xxM_TMO(1-5/8)	89.75 - 90.00	1.0000	1.0000
L9	40	CCI-AFP-045100	89.75 - 90.00	1.0000	1.0000
L9	51	CCI-AFP-045100	89.75 - 90.00	1.0000	1.0000
L9	63	CCI-AFP-045100	89.75 - 90.00	1.0000	1.0000
L10	1	Climbing Ladder (Af)	87.00 - 89.75	1.0000	1.0000
L10	2	Safety Line 3/8	84.75 - 89.75	1.0000	1.0000
L10	4	2" Flexible Conduit	84.75 - 89.75	1.0000	1.0000
L10	22	HB158-21U6S24- xxM_TMO(1-5/8)	84.75 - 89.75	1.0000	1.0000
L10	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11)	84.75 - 87.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L10	35	LCF114-50J(1-1/4) PL0.75x4 Reinforcement - Wind Area	84.75 - 85.80	1.0000	1.0000
L10	37	CCI-CFP-045125	84.75 - 85.20	1.0000	1.0000
L10	40	CCI-AFP-045100	84.75 - 89.75	1.0000	1.0000
L10	45	PL0.75x4 Reinforcement - Wind Area	84.75 - 85.80	1.0000	1.0000
L10	47	CCI-CFP-045125	84.75 - 85.20	1.0000	1.0000
L10	51	CCI-AFP-045100	84.75 - 89.75	1.0000	1.0000
L10	57	PL0.75x4 Reinforcement - Wind Area	84.75 - 85.80	1.0000	1.0000
L10	59	CCI-CFP-045125	84.75 - 85.20	1.0000	1.0000
L10	63	CCI-AFP-045100	84.75 - 89.75	1.0000	1.0000
L11	2	Safety Line 3/8	84.42 - 84.75	1.0000	1.0000
L11	4	2" Flexible Conduit	84.42 - 84.75	1.0000	1.0000
L11	22	HB158-21U6S24- xxM_TMO(1-5/8)	84.42 - 84.75	1.0000	1.0000
L11	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	84.42 - 84.75	1.0000	1.0000
L11	35	PL0.75x4 Reinforcement - Wind Area	84.42 - 84.75	1.0000	1.0000
L11	37	CCI-CFP-045125	84.42 - 84.75	1.0000	1.0000
L11	40	CCI-AFP-045100	84.42 - 84.75	1.0000	1.0000
L11	45	PL0.75x4 Reinforcement - Wind Area	84.42 - 84.75	1.0000	1.0000
L11	47	CCI-CFP-045125	84.42 - 84.75	1.0000	1.0000
L11	51	CCI-AFP-045100	84.42 - 84.75	1.0000	1.0000
L11	57	PL0.75x4 Reinforcement - Wind Area	84.42 - 84.75	1.0000	1.0000
L11	59	CCI-CFP-045125	84.42 - 84.75	1.0000	1.0000
L11	63	CCI-AFP-045100	84.42 - 84.75	1.0000	1.0000
L12	2	Safety Line 3/8	84.17 - 84.42	1.0000	1.0000
L12	4	2" Flexible Conduit	84.17 - 84.42	1.0000	1.0000
L12	22	HB158-21U6S24- xxM_TMO(1-5/8)	84.17 - 84.42	1.0000	1.0000
L12	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	84.17 - 84.42	1.0000	1.0000
L12	35	PL0.75x4 Reinforcement - Wind Area	84.17 - 84.42	1.0000	1.0000
L12	37	CCI-CFP-045125	84.17 - 84.42	1.0000	1.0000
L12	40	CCI-AFP-045100	84.17 - 84.42	1.0000	1.0000
L12	45	PL0.75x4 Reinforcement - Wind Area	84.17 - 84.42	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L12	47	CCI-CFP-045125	84.17 - 84.42	1.0000	1.0000
L12	51	CCI-AFP-045100	84.17 - 84.42	1.0000	1.0000
L12	57	PL0.75x4 Reinforcement - Wind Area	84.17 - 84.42	1.0000	1.0000
L12	59	CCI-CFP-045125	84.17 - 84.42	1.0000	1.0000
L12	63	CCI-AFP-045100	84.17 - 84.42	1.0000	1.0000
L13	2	Safety Line 3/8	83.42 - 84.17	1.0000	1.0000
L13	4	2" Flexible Conduit	83.42 - 84.17	1.0000	1.0000
L13	22	HB158-21U6S24- xxM_TMO(1-5/8)	83.42 - 84.17	1.0000	1.0000
L13	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	83.42 - 84.17	1.0000	1.0000
L13	35	PL0.75x4 Reinforcement - Wind Area	83.42 - 84.17	1.0000	1.0000
L13	37	CCI-CFP-045125	83.42 - 84.17	1.0000	1.0000
L13	40	CCI-AFP-045100	83.42 - 84.17	1.0000	1.0000
L13	45	PL0.75x4 Reinforcement - Wind Area	83.42 - 84.17	1.0000	1.0000
L13	47	CCI-CFP-045125	83.42 - 84.17	1.0000	1.0000
L13	51	CCI-AFP-045100	83.42 - 84.17	1.0000	1.0000
L13	57	PL0.75x4 Reinforcement - Wind Area	83.42 - 84.17	1.0000	1.0000
L13	59	CCI-CFP-045125	83.42 - 84.17	1.0000	1.0000
L13	63	CCI-AFP-045100	83.42 - 84.17	1.0000	1.0000
L14	2	Safety Line 3/8	83.17 - 83.42	1.0000	1.0000
L14	4	2" Flexible Conduit	83.17 - 83.42	1.0000	1.0000
L14	22	HB158-21U6S24- xxM_TMO(1-5/8)	83.17 - 83.42	1.0000	1.0000
L14	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	83.17 - 83.42	1.0000	1.0000
L14	35	PL0.75x4 Reinforcement - Wind Area	83.17 - 83.42	1.0000	1.0000
L14	37	CCI-CFP-045125	83.17 - 83.42	1.0000	1.0000
L14	40	CCI-AFP-045100	83.17 - 83.42	1.0000	1.0000
L14	45	PL0.75x4 Reinforcement - Wind Area	83.17 - 83.42	1.0000	1.0000
L14	47	CCI-CFP-045125	83.17 - 83.42	1.0000	1.0000
L14	51	CCI-AFP-045100	83.17 - 83.42	1.0000	1.0000
L14	57	PL0.75x4 Reinforcement - Wind Area	83.17 - 83.42	1.0000	1.0000
L14	59	CCI-CFP-045125	83.17 - 83.42	1.0000	1.0000
L14	63	CCI-AFP-045100	83.17 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L15	2	Safety Line 3/8	83.42 83.00 -	1.0000	1.0000
L15	4	2" Flexible Conduit	83.17 83.00 -	1.0000	1.0000
L15	22	HB158-21U6S24-xxM_TMO(1-5/8)	83.17 83.00 -	1.0000	1.0000
L15	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	83.17 83.00 -	1.0000	1.0000
L15	35	PL0.75x4 Reinforcement - Wind Area	83.17 83.00 -	1.0000	1.0000
L15	37	CCI-CFP-045125	83.17 83.00 -	1.0000	1.0000
L15	40	CCI-AFP-045100	83.17 83.00 -	1.0000	1.0000
L15	45	PL0.75x4 Reinforcement - Wind Area	83.17 83.00 -	1.0000	1.0000
L15	47	CCI-CFP-045125	83.17 83.00 -	1.0000	1.0000
L15	51	CCI-AFP-045100	83.17 83.00 -	1.0000	1.0000
L15	57	PL0.75x4 Reinforcement - Wind Area	83.17 83.00 -	1.0000	1.0000
L15	59	CCI-CFP-045125	83.17 83.00 -	1.0000	1.0000
L15	63	CCI-AFP-045100	83.17 83.00 -	1.0000	1.0000
L16	2	Safety Line 3/8	82.75 - 83.00	1.0000	1.0000
L16	4	2" Flexible Conduit	82.75 - 83.00	1.0000	1.0000
L16	22	HB158-21U6S24-xxM_TMO(1-5/8)	82.75 - 83.00	1.0000	1.0000
L16	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	82.75 - 83.00	1.0000	1.0000
L16	35	PL0.75x4 Reinforcement - Wind Area	82.75 - 83.00	1.0000	1.0000
L16	37	CCI-CFP-045125	82.75 - 83.00	1.0000	1.0000
L16	40	CCI-AFP-045100	82.75 - 83.00	1.0000	1.0000
L16	45	PL0.75x4 Reinforcement - Wind Area	82.75 - 83.00	1.0000	1.0000
L16	47	CCI-CFP-045125	82.75 - 83.00	1.0000	1.0000
L16	51	CCI-AFP-045100	82.75 - 83.00	1.0000	1.0000
L16	57	PL0.75x4 Reinforcement - Wind Area	82.75 - 83.00	1.0000	1.0000
L16	59	CCI-CFP-045125	82.75 - 83.00	1.0000	1.0000
L16	63	CCI-AFP-045100	82.75 - 83.00	1.0000	1.0000
L17	2	Safety Line 3/8	77.75 - 82.75	1.0000	1.0000
L17	4	2" Flexible Conduit	77.75 - 82.75	1.0000	1.0000
L17	22	HB158-21U6S24-xxM_TMO(1-5/8)	77.75 - 82.75	1.0000	1.0000
L17	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-	77.75 - 82.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
		5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)			
L17	35	PL0.75x4 Reinforcement - Wind Area	77.75 - 82.75	1.0000	1.0000
L17	37	CCI-CFP-045125	77.75 - 82.75	1.0000	1.0000
L17	40	CCI-AFP-045100	81.50 - 82.75	1.0000	1.0000
L17	45	PL0.75x4 Reinforcement - Wind Area	77.75 - 82.75	1.0000	1.0000
L17	47	CCI-CFP-045125	77.75 - 82.75	1.0000	1.0000
L17	51	CCI-AFP-045100	81.50 - 82.75	1.0000	1.0000
L17	57	PL0.75x4 Reinforcement - Wind Area	77.75 - 82.75	1.0000	1.0000
L17	59	CCI-CFP-045125	77.75 - 82.75	1.0000	1.0000
L17	63	CCI-AFP-045100	81.50 - 82.75	1.0000	1.0000
L18	2	Safety Line 3/8	70.00 - 77.75	1.0000	1.0000
L18	4	2" Flexible Conduit	70.00 - 77.75	1.0000	1.0000
L18	22	HB158-21U6S24- xxM_TMO(1-5/8)	70.00 - 77.75	1.0000	1.0000
L18	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	70.00 - 77.75	1.0000	1.0000
L18	30	CU12PSM9P8XXX(1-3/8)	70.00 - 77.00	1.0000	1.0000
L18	35	PL0.75x4 Reinforcement - Wind Area	70.00 - 77.75	1.0000	1.0000
L18	37	CCI-CFP-045125	70.00 - 77.75	1.0000	1.0000
L18	45	PL0.75x4 Reinforcement - Wind Area	70.00 - 77.75	1.0000	1.0000
L18	47	CCI-CFP-045125	70.00 - 77.75	1.0000	1.0000
L18	57	PL0.75x4 Reinforcement - Wind Area	70.00 - 77.75	1.0000	1.0000
L18	59	CCI-CFP-045125	70.00 - 77.75	1.0000	1.0000
L19	2	Safety Line 3/8	69.00 - 70.00	1.0000	1.0000
L19	4	2" Flexible Conduit	69.00 - 70.00	1.0000	1.0000
L19	22	HB158-21U6S24- xxM_TMO(1-5/8)	69.00 - 70.00	1.0000	1.0000
L19	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	69.00 - 70.00	1.0000	1.0000
L19	30	CU12PSM9P8XXX(1-3/8)	69.00 - 70.00	1.0000	1.0000
L19	35	PL0.75x4 Reinforcement - Wind Area	69.00 - 70.00	1.0000	1.0000
L19	37	CCI-CFP-045125	69.00 - 70.00	1.0000	1.0000
L19	45	PL0.75x4 Reinforcement - Wind Area	69.00 - 70.00	1.0000	1.0000
L19	47	CCI-CFP-045125	69.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
			70.00		
L19	57	PL0.75x4 Reinforcement - Wind Area	69.00 - 70.00	1.0000	1.0000
L19	59	CCI-CFP-045125	69.00 - 70.00	1.0000	1.0000
L20	2	Safety Line 3/8	67.08 - 69.00	1.0000	1.0000
L20	4	2" Flexible Conduit	67.08 - 69.00	1.0000	1.0000
L20	22	HB158-21U6S24- xxM_TMO(1-5/8)	67.08 - 69.00	1.0000	1.0000
L20	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	67.08 - 69.00	1.0000	1.0000
L20	30	CU12PSM9P8XXX(1-3/8)	67.08 - 69.00	1.0000	1.0000
L20	35	PL0.75x4 Reinforcement - Wind Area	67.08 - 69.00	1.0000	1.0000
L20	37	CCI-CFP-045125	67.08 - 69.00	1.0000	1.0000
L20	42	PL0.75x4 Reinforcement - Wind Area	67.08 - 68.30	1.0000	1.0000
L20	45	PL0.75x4 Reinforcement - Wind Area	67.08 - 69.00	1.0000	1.0000
L20	47	CCI-CFP-045125	67.08 - 69.00	1.0000	1.0000
L20	54	PL0.75x4 Reinforcement - Wind Area	67.08 - 68.30	1.0000	1.0000
L20	57	PL0.75x4 Reinforcement - Wind Area	67.08 - 69.00	1.0000	1.0000
L20	59	CCI-CFP-045125	67.08 - 69.00	1.0000	1.0000
L20	65	PL0.75x4 Reinforcement - Wind Area	67.08 - 68.30	1.0000	1.0000
L21	2	Safety Line 3/8	66.83 - 67.08	1.0000	1.0000
L21	4	2" Flexible Conduit	66.83 - 67.08	1.0000	1.0000
L21	22	HB158-21U6S24- xxM_TMO(1-5/8)	66.83 - 67.08	1.0000	1.0000
L21	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	66.83 - 67.08	1.0000	1.0000
L21	30	CU12PSM9P8XXX(1-3/8)	66.83 - 67.08	1.0000	1.0000
L21	35	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	1.0000	1.0000
L21	37	CCI-CFP-045125	66.83 - 67.08	1.0000	1.0000
L21	42	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	1.0000	1.0000
L21	45	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	1.0000	1.0000
L21	47	CCI-CFP-045125	66.83 - 67.08	1.0000	1.0000
L21	54	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	1.0000	1.0000
L21	57	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	1.0000	1.0000
L21	59	CCI-CFP-045125	66.83 - 67.08	1.0000	1.0000
L21	65	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L22	2	Safety Line 3/8	64.08 - 66.83	1.0000	1.0000
L22	4	2" Flexible Conduit	64.08 - 66.83	1.0000	1.0000
L22	22	HB158-21U6S24- xxM_TMO(1-5/8)	64.08 - 66.83	1.0000	1.0000
L22	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	64.08 - 66.83	1.0000	1.0000
L22	30	CU12PSM9P8XXX(1-3/8)	64.08 - 66.83	1.0000	1.0000
L22	35	PL0.75x4 Reinforcement - Wind Area	65.80 - 66.83	1.0000	1.0000
L22	37	CCI-CFP-045125	64.08 - 66.83	1.0000	1.0000
L22	39	CCI-AFP-045100	64.08 - 64.40	1.0000	1.0000
L22	42	PL0.75x4 Reinforcement - Wind Area	64.08 - 66.83	1.0000	1.0000
L22	45	PL0.75x4 Reinforcement - Wind Area	65.80 - 66.83	1.0000	1.0000
L22	47	CCI-CFP-045125	64.08 - 66.83	1.0000	1.0000
L22	50	CCI-AFP-045100	64.08 - 66.10	1.0000	1.0000
L22	54	PL0.75x4 Reinforcement - Wind Area	64.08 - 66.83	1.0000	1.0000
L22	57	PL0.75x4 Reinforcement - Wind Area	65.80 - 66.83	1.0000	1.0000
L22	59	CCI-CFP-045125	64.08 - 66.83	1.0000	1.0000
L22	62	CCI-AFP-045100	64.08 - 66.10	1.0000	1.0000
L22	65	PL0.75x4 Reinforcement - Wind Area	64.08 - 66.83	1.0000	1.0000
L23	2	Safety Line 3/8	63.83 - 64.08	1.0000	1.0000
L23	4	2" Flexible Conduit	63.83 - 64.08	1.0000	1.0000
L23	22	HB158-21U6S24- xxM_TMO(1-5/8)	63.83 - 64.08	1.0000	1.0000
L23	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	63.83 - 64.08	1.0000	1.0000
L23	30	CU12PSM9P8XXX(1-3/8)	63.83 - 64.08	1.0000	1.0000
L23	37	CCI-CFP-045125	63.83 - 64.08	1.0000	1.0000
L23	39	CCI-AFP-045100	63.83 - 64.08	1.0000	1.0000
L23	42	PL0.75x4 Reinforcement - Wind Area	63.83 - 64.08	1.0000	1.0000
L23	47	CCI-CFP-045125	63.83 - 64.08	1.0000	1.0000
L23	50	CCI-AFP-045100	63.83 - 64.08	1.0000	1.0000
L23	54	PL0.75x4 Reinforcement - Wind Area	63.83 - 64.08	1.0000	1.0000
L23	59	CCI-CFP-045125	63.83 - 64.08	1.0000	1.0000
L23	62	CCI-AFP-045100	63.83 - 64.08	1.0000	1.0000
L23	65	PL0.75x4 Reinforcement -	63.83 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L24	2	Wind Area Safety Line 3/8	64.08 62.44 - 63.83	1.0000	1.0000
L24	4	2" Flexible Conduit	62.44 - 63.83	1.0000	1.0000
L24	22	HB158-21U6S24- xxM_TMO(1-5/8)	62.44 - 63.83	1.0000	1.0000
L24	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	62.44 - 63.83	1.0000	1.0000
L24	30	CU12PSM9P8XXX(1-3/8)	62.44 - 63.83	1.0000	1.0000
L24	37	CCI-CFP-045125	62.44 - 63.83	1.0000	1.0000
L24	39	CCI-AFP-045100	62.44 - 63.83	1.0000	1.0000
L24	42	PL0.75x4 Reinforcement - Wind Area	62.44 - 63.83	1.0000	1.0000
L24	47	CCI-CFP-045125	62.44 - 63.83	1.0000	1.0000
L24	50	CCI-AFP-045100	62.44 - 63.83	1.0000	1.0000
L24	54	PL0.75x4 Reinforcement - Wind Area	62.44 - 63.83	1.0000	1.0000
L24	59	CCI-CFP-045125	62.44 - 63.83	1.0000	1.0000
L24	62	CCI-AFP-045100	62.44 - 63.83	1.0000	1.0000
L24	65	PL0.75x4 Reinforcement - Wind Area	62.44 - 63.83	1.0000	1.0000
L25	2	Safety Line 3/8	62.19 - 62.44	1.0000	1.0000
L25	4	2" Flexible Conduit	62.19 - 62.44	1.0000	1.0000
L25	22	HB158-21U6S24- xxM_TMO(1-5/8)	62.19 - 62.44	1.0000	1.0000
L25	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	62.19 - 62.44	1.0000	1.0000
L25	30	CU12PSM9P8XXX(1-3/8)	62.19 - 62.44	1.0000	1.0000
L25	37	CCI-CFP-045125	62.19 - 62.44	1.0000	1.0000
L25	39	CCI-AFP-045100	62.19 - 62.44	1.0000	1.0000
L25	42	PL0.75x4 Reinforcement - Wind Area	62.19 - 62.44	1.0000	1.0000
L25	47	CCI-CFP-045125	62.19 - 62.44	1.0000	1.0000
L25	50	CCI-AFP-045100	62.19 - 62.44	1.0000	1.0000
L25	54	PL0.75x4 Reinforcement - Wind Area	62.19 - 62.44	1.0000	1.0000
L25	59	CCI-CFP-045125	62.19 - 62.44	1.0000	1.0000
L25	62	CCI-AFP-045100	62.19 - 62.44	1.0000	1.0000
L25	65	PL0.75x4 Reinforcement - Wind Area	62.19 - 62.44	1.0000	1.0000
L26	2	Safety Line 3/8	57.19 - 62.19	1.0000	1.0000
L26	4	2" Flexible Conduit	57.19 - 62.19	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L26	22	HB158-21U6S24-xxM_TMO(1-5/8)	57.19 - 62.19	1.0000	1.0000
L26	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	57.19 - 62.19	1.0000	1.0000
L26	30	CU12PSM9P8XXX(1-3/8)	57.19 - 62.19	1.0000	1.0000
L26	37	CCI-CFP-045125	57.19 - 62.19	1.0000	1.0000
L26	39	CCI-AFP-045100	57.19 - 62.19	1.0000	1.0000
L26	42	PL0.75x4 Reinforcement - Wind Area	57.19 - 62.19	1.0000	1.0000
L26	47	CCI-CFP-045125	57.19 - 62.19	1.0000	1.0000
L26	50	CCI-AFP-045100	57.19 - 62.19	1.0000	1.0000
L26	54	PL0.75x4 Reinforcement - Wind Area	57.19 - 62.19	1.0000	1.0000
L26	59	CCI-CFP-045125	57.19 - 62.19	1.0000	1.0000
L26	62	CCI-AFP-045100	57.19 - 62.19	1.0000	1.0000
L26	65	PL0.75x4 Reinforcement - Wind Area	57.19 - 62.19	1.0000	1.0000
L27	2	Safety Line 3/8	53.50 - 57.19	1.0000	1.0000
L27	4	2" Flexible Conduit	53.50 - 57.19	1.0000	1.0000
L27	22	HB158-21U6S24-xxM_TMO(1-5/8)	53.50 - 57.19	1.0000	1.0000
L27	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	53.50 - 57.19	1.0000	1.0000
L27	30	CU12PSM9P8XXX(1-3/8)	53.50 - 57.19	1.0000	1.0000
L27	36	CCI-CFP-060100	53.50 - 55.10	1.0000	1.0000
L27	37	CCI-CFP-045125	55.10 - 57.19	1.0000	1.0000
L27	39	CCI-AFP-045100	53.50 - 57.19	1.0000	1.0000
L27	42	PL0.75x4 Reinforcement - Wind Area	53.50 - 57.19	1.0000	1.0000
L27	46	CCI-CFP-060100	53.50 - 55.10	1.0000	1.0000
L27	47	CCI-CFP-045125	55.10 - 57.19	1.0000	1.0000
L27	49	CCI-AFP-060100	53.50 - 56.00	1.0000	1.0000
L27	50	CCI-AFP-045100	56.00 - 57.19	1.0000	1.0000
L27	54	PL0.75x4 Reinforcement - Wind Area	53.50 - 57.19	1.0000	1.0000
L27	58	CCI-CFP-060100	53.50 - 55.10	1.0000	1.0000
L27	59	CCI-CFP-045125	55.10 - 57.19	1.0000	1.0000
L27	61	CCI-AFP-060100	53.50 - 56.00	1.0000	1.0000
L27	62	CCI-AFP-045100	56.00 - 57.19	1.0000	1.0000
L27	65	PL0.75x4 Reinforcement -	53.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L28	2	Wind Area Safety Line 3/8	57.19 53.25 - 53.50	1.0000	1.0000
L28	4	2" Flexible Conduit	53.25 - 53.50	1.0000	1.0000
L28	22	HB158-21U6S24- xxM_TMO(1-5/8)	53.25 - 53.50	1.0000	1.0000
L28	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	53.25 - 53.50	1.0000	1.0000
L28	30	CU12PSM9P8XXX(1-3/8)	53.25 - 53.50	1.0000	1.0000
L28	36	CCI-CFP-060100	53.25 - 53.50	1.0000	1.0000
L28	39	CCI-AFP-045100	53.25 - 53.50	1.0000	1.0000
L28	42	PL0.75x4 Reinforcement - Wind Area	53.25 - 53.50	1.0000	1.0000
L28	46	CCI-CFP-060100	53.25 - 53.50	1.0000	1.0000
L28	49	CCI-AFP-060100	53.25 - 53.50	1.0000	1.0000
L28	54	PL0.75x4 Reinforcement - Wind Area	53.25 - 53.50	1.0000	1.0000
L28	58	CCI-CFP-060100	53.25 - 53.50	1.0000	1.0000
L28	61	CCI-AFP-060100	53.25 - 53.50	1.0000	1.0000
L28	65	PL0.75x4 Reinforcement - Wind Area	53.25 - 53.50	1.0000	1.0000
L29	2	Safety Line 3/8	52.58 - 53.25	1.0000	1.0000
L29	4	2" Flexible Conduit	52.58 - 53.25	1.0000	1.0000
L29	22	HB158-21U6S24- xxM_TMO(1-5/8)	52.58 - 53.25	1.0000	1.0000
L29	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	52.58 - 53.25	1.0000	1.0000
L29	30	CU12PSM9P8XXX(1-3/8)	52.58 - 53.25	1.0000	1.0000
L29	36	CCI-CFP-060100	52.58 - 53.25	1.0000	1.0000
L29	39	CCI-AFP-045100	52.58 - 53.25	1.0000	1.0000
L29	42	PL0.75x4 Reinforcement - Wind Area	52.58 - 53.25	1.0000	1.0000
L29	46	CCI-CFP-060100	52.58 - 53.25	1.0000	1.0000
L29	49	CCI-AFP-060100	52.58 - 53.25	1.0000	1.0000
L29	54	PL0.75x4 Reinforcement - Wind Area	52.58 - 53.25	1.0000	1.0000
L29	58	CCI-CFP-060100	52.58 - 53.25	1.0000	1.0000
L29	61	CCI-AFP-060100	52.58 - 53.25	1.0000	1.0000
L29	65	PL0.75x4 Reinforcement - Wind Area	52.58 - 53.25	1.0000	1.0000
L30	2	Safety Line 3/8	52.33 - 52.58	1.0000	1.0000
L30	4	2" Flexible Conduit	52.33 - 52.58	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L30	22	HB158-21U6S24-xxM_TMO(1-5/8)	52.33 - 52.58	1.0000	1.0000
L30	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	52.33 - 52.58	1.0000	1.0000
L30	30	CU12PSM9P8XXX(1-3/8)	52.33 - 52.58	1.0000	1.0000
L30	36	CCI-CFP-060100	52.33 - 52.58	1.0000	1.0000
L30	39	CCI-AFP-045100	52.33 - 52.58	1.0000	1.0000
L30	42	PL0.75x4 Reinforcement - Wind Area	52.33 - 52.58	1.0000	1.0000
L30	46	CCI-CFP-060100	52.33 - 52.58	1.0000	1.0000
L30	49	CCI-AFP-060100	52.33 - 52.58	1.0000	1.0000
L30	54	PL0.75x4 Reinforcement - Wind Area	52.33 - 52.58	1.0000	1.0000
L30	58	CCI-CFP-060100	52.33 - 52.58	1.0000	1.0000
L30	61	CCI-AFP-060100	52.33 - 52.58	1.0000	1.0000
L30	65	PL0.75x4 Reinforcement - Wind Area	52.33 - 52.58	1.0000	1.0000
L31	2	Safety Line 3/8	47.33 - 52.33	1.0000	1.0000
L31	4	2" Flexible Conduit	47.33 - 52.33	1.0000	1.0000
L31	22	HB158-21U6S24-xxM_TMO(1-5/8)	47.33 - 52.33	1.0000	1.0000
L31	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	47.33 - 52.33	1.0000	1.0000
L31	30	CU12PSM9P8XXX(1-3/8)	47.33 - 52.33	1.0000	1.0000
L31	36	CCI-CFP-060100	47.33 - 52.33	1.0000	1.0000
L31	39	CCI-AFP-045100	47.33 - 52.33	1.0000	1.0000
L31	42	PL0.75x4 Reinforcement - Wind Area	47.33 - 52.33	1.0000	1.0000
L31	46	CCI-CFP-060100	47.33 - 52.33	1.0000	1.0000
L31	49	CCI-AFP-060100	47.33 - 52.33	1.0000	1.0000
L31	54	PL0.75x4 Reinforcement - Wind Area	47.33 - 52.33	1.0000	1.0000
L31	58	CCI-CFP-060100	47.33 - 52.33	1.0000	1.0000
L31	61	CCI-AFP-060100	47.33 - 52.33	1.0000	1.0000
L31	65	PL0.75x4 Reinforcement - Wind Area	47.33 - 52.33	1.0000	1.0000
L32	2	Safety Line 3/8	44.58 - 47.33	1.0000	1.0000
L32	4	2" Flexible Conduit	44.58 - 47.33	1.0000	1.0000
L32	22	HB158-21U6S24-xxM_TMO(1-5/8)	44.58 - 47.33	1.0000	1.0000
L32	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12	44.58 - 47.33	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L32	30	6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4) CU12PSM9P8XXX(1-3/8)	44.58 - 47.33	1.0000	1.0000
L32	34	PL0.75x4 Reinforcement - Wind Area	44.58 - 45.83	1.0000	1.0000
L32	36	CCI-CFP-060100	44.58 - 47.33	1.0000	1.0000
L32	39	CCI-AFP-045100	44.58 - 47.33	1.0000	1.0000
L32	42	PL0.75x4 Reinforcement - Wind Area	44.58 - 47.33	1.0000	1.0000
L32	44	PL0.75x4 Reinforcement - Wind Area	44.58 - 45.83	1.0000	1.0000
L32	46	CCI-CFP-060100	44.58 - 47.33	1.0000	1.0000
L32	49	CCI-AFP-060100	44.58 - 47.33	1.0000	1.0000
L32	54	PL0.75x4 Reinforcement - Wind Area	44.58 - 47.33	1.0000	1.0000
L32	56	PL0.75x4 Reinforcement - Wind Area	44.58 - 45.83	1.0000	1.0000
L32	58	CCI-CFP-060100	44.58 - 47.33	1.0000	1.0000
L32	61	CCI-AFP-060100	44.58 - 47.33	1.0000	1.0000
L32	65	PL0.75x4 Reinforcement - Wind Area	44.58 - 47.33	1.0000	1.0000
L33	2	Safety Line 3/8	44.33 - 44.58	1.0000	1.0000
L33	4	2" Flexible Conduit	44.33 - 44.58	1.0000	1.0000
L33	22	HB158-21U6S24- xxM_TMO(1-5/8)	44.33 - 44.58	1.0000	1.0000
L33	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12	44.33 - 44.58	1.0000	1.0000
L33	30	6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4) CU12PSM9P8XXX(1-3/8)	44.33 - 44.58	1.0000	1.0000
L33	34	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	1.0000	1.0000
L33	36	CCI-CFP-060100	44.33 - 44.58	1.0000	1.0000
L33	38	CCI-AFP-060100	44.33 - 44.40	1.0000	1.0000
L33	39	CCI-AFP-045100	44.40 - 44.58	1.0000	1.0000
L33	42	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	1.0000	1.0000
L33	44	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	1.0000	1.0000
L33	46	CCI-CFP-060100	44.33 - 44.58	1.0000	1.0000
L33	49	CCI-AFP-060100	44.33 - 44.58	1.0000	1.0000
L33	54	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	1.0000	1.0000
L33	56	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	1.0000	1.0000
L33	58	CCI-CFP-060100	44.33 - 44.58	1.0000	1.0000
L33	61	CCI-AFP-060100	44.33 - 44.58	1.0000	1.0000
L33	65	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L34	2	Safety Line 3/8	41.85 - 44.33	1.0000	1.0000
L34	4	2" Flexible Conduit	41.85 - 44.33	1.0000	1.0000
L34	22	HB158-21U6S24- xxM_TMO(1-5/8)	41.85 - 44.33	1.0000	1.0000
L34	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	41.85 - 44.33	1.0000	1.0000
L34	30	CU12PSM9P8XXX(1-3/8)	41.85 - 44.33	1.0000	1.0000
L34	34	PL0.75x4 Reinforcement - Wind Area	41.85 - 44.33	1.0000	1.0000
L34	36	CCI-CFP-060100	41.85 - 44.33	1.0000	1.0000
L34	38	CCI-AFP-060100	41.85 - 44.33	1.0000	1.0000
L34	42	PL0.75x4 Reinforcement - Wind Area	43.30 - 44.33	1.0000	1.0000
L34	44	PL0.75x4 Reinforcement - Wind Area	41.85 - 44.33	1.0000	1.0000
L34	46	CCI-CFP-060100	41.85 - 44.33	1.0000	1.0000
L34	49	CCI-AFP-060100	41.85 - 44.33	1.0000	1.0000
L34	54	PL0.75x4 Reinforcement - Wind Area	43.30 - 44.33	1.0000	1.0000
L34	56	PL0.75x4 Reinforcement - Wind Area	41.85 - 44.33	1.0000	1.0000
L34	58	CCI-CFP-060100	41.85 - 44.33	1.0000	1.0000
L34	61	CCI-AFP-060100	41.85 - 44.33	1.0000	1.0000
L34	65	PL0.75x4 Reinforcement - Wind Area	43.30 - 44.33	1.0000	1.0000
L35	2	Safety Line 3/8	41.60 - 41.85	1.0000	1.0000
L35	4	2" Flexible Conduit	41.60 - 41.85	1.0000	1.0000
L35	22	HB158-21U6S24- xxM_TMO(1-5/8)	41.60 - 41.85	1.0000	1.0000
L35	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	41.60 - 41.85	1.0000	1.0000
L35	30	CU12PSM9P8XXX(1-3/8)	41.60 - 41.85	1.0000	1.0000
L35	34	PL0.75x4 Reinforcement - Wind Area	41.60 - 41.85	1.0000	1.0000
L35	36	CCI-CFP-060100	41.60 - 41.85	1.0000	1.0000
L35	38	CCI-AFP-060100	41.60 - 41.85	1.0000	1.0000
L35	44	PL0.75x4 Reinforcement - Wind Area	41.60 - 41.85	1.0000	1.0000
L35	46	CCI-CFP-060100	41.60 - 41.85	1.0000	1.0000
L35	49	CCI-AFP-060100	41.60 - 41.85	1.0000	1.0000
L35	56	PL0.75x4 Reinforcement - Wind Area	41.60 - 41.85	1.0000	1.0000
L35	58	CCI-CFP-060100	41.60 - 41.85	1.0000	1.0000
L35	61	CCI-AFP-060100	41.60 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L36	2	Safety Line 3/8	41.85 34.08 - 41.60	1.0000	1.0000
L36	4	2" Flexible Conduit	34.08 - 41.60	1.0000	1.0000
L36	22	HB158-21U6S24-xxM_TMO(1-5/8)	34.08 - 41.60	1.0000	1.0000
L36	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	34.08 - 41.60	1.0000	1.0000
L36	30	CU12PSM9P8XXX(1-3/8)	34.08 - 41.60	1.0000	1.0000
L36	34	PL0.75x4 Reinforcement - Wind Area	34.08 - 41.60	1.0000	1.0000
L36	36	CCI-CFP-060100	34.08 - 41.60	1.0000	1.0000
L36	38	CCI-AFP-060100	34.08 - 41.60	1.0000	1.0000
L36	44	PL0.75x4 Reinforcement - Wind Area	34.08 - 41.60	1.0000	1.0000
L36	46	CCI-CFP-060100	34.08 - 41.60	1.0000	1.0000
L36	49	CCI-AFP-060100	34.08 - 41.60	1.0000	1.0000
L36	56	PL0.75x4 Reinforcement - Wind Area	34.08 - 41.60	1.0000	1.0000
L36	58	CCI-CFP-060100	34.08 - 41.60	1.0000	1.0000
L36	61	CCI-AFP-060100	34.08 - 41.60	1.0000	1.0000
L37	2	Safety Line 3/8	34.00 - 34.08	1.0000	1.0000
L37	4	2" Flexible Conduit	34.00 - 34.08	1.0000	1.0000
L37	22	HB158-21U6S24-xxM_TMO(1-5/8)	34.00 - 34.08	1.0000	1.0000
L37	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	34.00 - 34.08	1.0000	1.0000
L37	30	CU12PSM9P8XXX(1-3/8)	34.00 - 34.08	1.0000	1.0000
L37	34	PL0.75x4 Reinforcement - Wind Area	34.00 - 34.08	1.0000	1.0000
L37	36	CCI-CFP-060100	34.00 - 34.08	1.0000	1.0000
L37	38	CCI-AFP-060100	34.00 - 34.08	1.0000	1.0000
L37	44	PL0.75x4 Reinforcement - Wind Area	34.00 - 34.08	1.0000	1.0000
L37	46	CCI-CFP-060100	34.00 - 34.08	1.0000	1.0000
L37	49	CCI-AFP-060100	34.00 - 34.08	1.0000	1.0000
L37	56	PL0.75x4 Reinforcement - Wind Area	34.00 - 34.08	1.0000	1.0000
L37	58	CCI-CFP-060100	34.00 - 34.08	1.0000	1.0000
L37	61	CCI-AFP-060100	34.00 - 34.08	1.0000	1.0000
L38	2	Safety Line 3/8	29.00 - 34.00	1.0000	1.0000
L38	4	2" Flexible Conduit	29.00 - 34.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L38	22	HB158-21U6S24-xxM_TMO(1-5/8)	29.00 - 34.00	1.0000	1.0000
L38	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	29.00 - 34.00	1.0000	1.0000
L38	30	CU12PSM9P8XXX(1-3/8)	29.00 - 34.00	1.0000	1.0000
L38	34	PL0.75x4 Reinforcement - Wind Area	29.00 - 34.00	1.0000	1.0000
L38	36	CCI-CFP-060100	29.00 - 34.00	1.0000	1.0000
L38	38	CCI-AFP-060100	29.00 - 34.00	1.0000	1.0000
L38	44	PL0.75x4 Reinforcement - Wind Area	29.00 - 34.00	1.0000	1.0000
L38	46	CCI-CFP-060100	29.00 - 34.00	1.0000	1.0000
L38	49	CCI-AFP-060100	29.00 - 34.00	1.0000	1.0000
L38	53	CCI-AFP-060100	29.00 - 29.40	1.0000	1.0000
L38	56	PL0.75x4 Reinforcement - Wind Area	29.00 - 34.00	1.0000	1.0000
L38	58	CCI-CFP-060100	29.00 - 34.00	1.0000	1.0000
L38	61	CCI-AFP-060100	29.00 - 34.00	1.0000	1.0000
L38	64	CCI-AFP-060100	29.00 - 29.40	1.0000	1.0000
L39	2	Safety Line 3/8	26.85 - 29.00	1.0000	1.0000
L39	4	2" Flexible Conduit	26.85 - 29.00	1.0000	1.0000
L39	22	HB158-21U6S24-xxM_TMO(1-5/8)	26.85 - 29.00	1.0000	1.0000
L39	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	26.85 - 29.00	1.0000	1.0000
L39	30	CU12PSM9P8XXX(1-3/8)	26.85 - 29.00	1.0000	1.0000
L39	34	PL0.75x4 Reinforcement - Wind Area	26.85 - 29.00	1.0000	1.0000
L39	36	CCI-CFP-060100	26.85 - 29.00	1.0000	1.0000
L39	38	CCI-AFP-060100	26.85 - 29.00	1.0000	1.0000
L39	44	PL0.75x4 Reinforcement - Wind Area	26.85 - 29.00	1.0000	1.0000
L39	46	CCI-CFP-060100	26.85 - 29.00	1.0000	1.0000
L39	49	CCI-AFP-060100	26.85 - 29.00	1.0000	1.0000
L39	53	CCI-AFP-060100	26.85 - 29.00	1.0000	1.0000
L39	56	PL0.75x4 Reinforcement - Wind Area	26.85 - 29.00	1.0000	1.0000
L39	58	CCI-CFP-060100	26.85 - 29.00	1.0000	1.0000
L39	61	CCI-AFP-060100	26.85 - 29.00	1.0000	1.0000
L39	64	CCI-AFP-060100	26.85 - 29.00	1.0000	1.0000
L40	2	Safety Line 3/8	26.60 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L40	4	2" Flexible Conduit	26.85 26.60 - 26.85	1.0000	1.0000
L40	22	HB158-21U6S24- xxM_TMO(1-5/8)	26.60 - 26.85	1.0000	1.0000
L40	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	26.60 - 26.85	1.0000	1.0000
L40	30	CU12PSM9P8XXX(1-3/8)	26.60 - 26.85	1.0000	1.0000
L40	34	PL0.75x4 Reinforcement - Wind Area	26.60 - 26.85	1.0000	1.0000
L40	36	CCI-CFP-060100	26.60 - 26.85	1.0000	1.0000
L40	38	CCI-AFP-060100	26.60 - 26.85	1.0000	1.0000
L40	44	PL0.75x4 Reinforcement - Wind Area	26.60 - 26.85	1.0000	1.0000
L40	46	CCI-CFP-060100	26.60 - 26.85	1.0000	1.0000
L40	49	CCI-AFP-060100	26.60 - 26.85	1.0000	1.0000
L40	53	CCI-AFP-060100	26.60 - 26.85	1.0000	1.0000
L40	56	PL0.75x4 Reinforcement - Wind Area	26.60 - 26.85	1.0000	1.0000
L40	58	CCI-CFP-060100	26.60 - 26.85	1.0000	1.0000
L40	61	CCI-AFP-060100	26.60 - 26.85	1.0000	1.0000
L40	64	CCI-AFP-060100	26.60 - 26.85	1.0000	1.0000
L41	2	Safety Line 3/8	21.60 - 26.60	1.0000	1.0000
L41	4	2" Flexible Conduit	21.60 - 26.60	1.0000	1.0000
L41	22	HB158-21U6S24- xxM_TMO(1-5/8)	21.60 - 26.60	1.0000	1.0000
L41	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	21.60 - 26.60	1.0000	1.0000
L41	30	CU12PSM9P8XXX(1-3/8)	21.60 - 26.60	1.0000	1.0000
L41	34	PL0.75x4 Reinforcement - Wind Area	21.60 - 26.60	1.0000	1.0000
L41	36	CCI-CFP-060100	21.60 - 26.60	1.0000	1.0000
L41	38	CCI-AFP-060100	21.60 - 26.60	1.0000	1.0000
L41	44	PL0.75x4 Reinforcement - Wind Area	21.60 - 26.60	1.0000	1.0000
L41	46	CCI-CFP-060100	21.60 - 26.60	1.0000	1.0000
L41	49	CCI-AFP-060100	21.60 - 26.60	1.0000	1.0000
L41	53	CCI-AFP-060100	21.60 - 26.60	1.0000	1.0000
L41	56	PL0.75x4 Reinforcement - Wind Area	21.60 - 26.60	1.0000	1.0000
L41	58	CCI-CFP-060100	21.60 - 26.60	1.0000	1.0000
L41	61	CCI-AFP-060100	21.60 - 26.60	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L41	64	CCI-AFP-060100	21.60 - 26.60	1.0000	1.0000
L42	2	Safety Line 3/8	18.00 - 21.60	1.0000	1.0000
L42	4	2" Flexible Conduit	18.00 - 21.60	1.0000	1.0000
L42	22	HB158-21U6S24- xxM_TMO(1-5/8)	18.00 - 21.60	1.0000	1.0000
L42	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	18.00 - 21.60	1.0000	1.0000
L42	30	CU12PSM9P8XXX(1-3/8)	18.00 - 21.60	1.0000	1.0000
L42	34	PL0.75x4 Reinforcement - Wind Area	18.00 - 21.60	1.0000	1.0000
L42	36	CCI-CFP-060100	18.00 - 21.60	1.0000	1.0000
L42	38	CCI-AFP-060100	18.00 - 21.60	1.0000	1.0000
L42	41	CCI-SFP-065125	18.00 - 20.75	1.0000	1.0000
L42	44	PL0.75x4 Reinforcement - Wind Area	18.00 - 21.60	1.0000	1.0000
L42	46	CCI-CFP-060100	18.00 - 21.60	1.0000	1.0000
L42	48	CCI-SFP-065125	18.00 - 20.75	1.0000	1.0000
L42	49	CCI-AFP-060100	21.00 - 21.60	1.0000	1.0000
L42	53	CCI-AFP-060100	18.00 - 21.60	1.0000	1.0000
L42	56	PL0.75x4 Reinforcement - Wind Area	18.00 - 21.60	1.0000	1.0000
L42	58	CCI-CFP-060100	18.00 - 21.60	1.0000	1.0000
L42	60	CCI-SFP-065125	18.00 - 20.75	1.0000	1.0000
L42	61	CCI-AFP-060100	21.00 - 21.60	1.0000	1.0000
L42	64	CCI-AFP-060100	18.00 - 21.60	1.0000	1.0000
L43	2	Safety Line 3/8	17.75 - 18.00	1.0000	1.0000
L43	4	2" Flexible Conduit	17.75 - 18.00	1.0000	1.0000
L43	22	HB158-21U6S24- xxM_TMO(1-5/8)	17.75 - 18.00	1.0000	1.0000
L43	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	17.75 - 18.00	1.0000	1.0000
L43	30	CU12PSM9P8XXX(1-3/8)	17.75 - 18.00	1.0000	1.0000
L43	34	PL0.75x4 Reinforcement - Wind Area	17.75 - 18.00	1.0000	1.0000
L43	36	CCI-CFP-060100	17.75 - 18.00	1.0000	1.0000
L43	38	CCI-AFP-060100	17.75 - 18.00	1.0000	1.0000
L43	41	CCI-SFP-065125	17.75 - 18.00	1.0000	1.0000
L43	44	PL0.75x4 Reinforcement - Wind Area	17.75 - 18.00	1.0000	1.0000
L43	46	CCI-CFP-060100	17.75 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
			18.00		
L43	48	CCI-SFP-065125	17.75 - 18.00	1.0000	1.0000
L43	53	CCI-AFP-060100	17.75 - 18.00	1.0000	1.0000
L43	56	PL0.75x4 Reinforcement - Wind Area	17.75 - 18.00	1.0000	1.0000
L43	58	CCI-CFP-060100	17.75 - 18.00	1.0000	1.0000
L43	60	CCI-SFP-065125	17.75 - 18.00	1.0000	1.0000
L43	64	CCI-AFP-060100	17.75 - 18.00	1.0000	1.0000
L44	2	Safety Line 3/8	17.50 - 17.75	1.0000	1.0000
L44	4	2" Flexible Conduit	17.50 - 17.75	1.0000	1.0000
L44	22	HB158-21U6S24-xxM_TMO(1-5/8)	17.50 - 17.75	1.0000	1.0000
L44	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	17.50 - 17.75	1.0000	1.0000
L44	30	CU12PSM9P8XXX(1-3/8)	17.50 - 17.75	1.0000	1.0000
L44	34	PL0.75x4 Reinforcement - Wind Area	17.50 - 17.75	1.0000	1.0000
L44	36	CCI-CFP-060100	17.50 - 17.75	1.0000	1.0000
L44	38	CCI-AFP-060100	17.50 - 17.75	1.0000	1.0000
L44	41	CCI-SFP-065125	17.50 - 17.75	1.0000	1.0000
L44	44	PL0.75x4 Reinforcement - Wind Area	17.50 - 17.75	1.0000	1.0000
L44	46	CCI-CFP-060100	17.50 - 17.75	1.0000	1.0000
L44	48	CCI-SFP-065125	17.50 - 17.75	1.0000	1.0000
L44	53	CCI-AFP-060100	17.50 - 17.75	1.0000	1.0000
L44	56	PL0.75x4 Reinforcement - Wind Area	17.50 - 17.75	1.0000	1.0000
L44	58	CCI-CFP-060100	17.50 - 17.75	1.0000	1.0000
L44	60	CCI-SFP-065125	17.50 - 17.75	1.0000	1.0000
L44	64	CCI-AFP-060100	17.50 - 17.75	1.0000	1.0000
L45	2	Safety Line 3/8	17.25 - 17.50	1.0000	1.0000
L45	4	2" Flexible Conduit	17.25 - 17.50	1.0000	1.0000
L45	22	HB158-21U6S24-xxM_TMO(1-5/8)	17.25 - 17.50	1.0000	1.0000
L45	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	17.25 - 17.50	1.0000	1.0000
L45	30	CU12PSM9P8XXX(1-3/8)	17.25 - 17.50	1.0000	1.0000
L45	34	PL0.75x4 Reinforcement - Wind Area	17.25 - 17.50	1.0000	1.0000
L45	36	CCI-CFP-060100	17.25 - 17.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L45	38	CCI-AFP-060100	17.25 - 17.50	1.0000	1.0000
L45	41	CCI-SFP-065125	17.25 - 17.50	1.0000	1.0000
L45	44	PL0.75x4 Reinforcement - Wind Area	17.25 - 17.50	1.0000	1.0000
L45	46	CCI-CFP-060100	17.25 - 17.50	1.0000	1.0000
L45	48	CCI-SFP-065125	17.25 - 17.50	1.0000	1.0000
L45	53	CCI-AFP-060100	17.25 - 17.50	1.0000	1.0000
L45	56	PL0.75x4 Reinforcement - Wind Area	17.25 - 17.50	1.0000	1.0000
L45	58	CCI-CFP-060100	17.25 - 17.50	1.0000	1.0000
L45	60	CCI-SFP-065125	17.25 - 17.50	1.0000	1.0000
L45	64	CCI-AFP-060100	17.25 - 17.50	1.0000	1.0000
L46	2	Safety Line 3/8	17.08 - 17.25	1.0000	1.0000
L46	4	2" Flexible Conduit	17.08 - 17.25	1.0000	1.0000
L46	22	HB158-21U6S24-xxM_TMO(1-5/8)	17.08 - 17.25	1.0000	1.0000
L46	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	17.08 - 17.25	1.0000	1.0000
L46	30	CU12PSM9P8XXX(1-3/8)	17.08 - 17.25	1.0000	1.0000
L46	34	PL0.75x4 Reinforcement - Wind Area	17.08 - 17.25	1.0000	1.0000
L46	36	CCI-CFP-060100	17.08 - 17.25	1.0000	1.0000
L46	38	CCI-AFP-060100	17.08 - 17.25	1.0000	1.0000
L46	41	CCI-SFP-065125	17.08 - 17.25	1.0000	1.0000
L46	44	PL0.75x4 Reinforcement - Wind Area	17.08 - 17.25	1.0000	1.0000
L46	46	CCI-CFP-060100	17.08 - 17.25	1.0000	1.0000
L46	48	CCI-SFP-065125	17.08 - 17.25	1.0000	1.0000
L46	53	CCI-AFP-060100	17.08 - 17.25	1.0000	1.0000
L46	56	PL0.75x4 Reinforcement - Wind Area	17.08 - 17.25	1.0000	1.0000
L46	58	CCI-CFP-060100	17.08 - 17.25	1.0000	1.0000
L46	60	CCI-SFP-065125	17.08 - 17.25	1.0000	1.0000
L46	64	CCI-AFP-060100	17.08 - 17.25	1.0000	1.0000
L47	2	Safety Line 3/8	16.83 - 17.08	1.0000	1.0000
L47	4	2" Flexible Conduit	16.83 - 17.08	1.0000	1.0000
L47	22	HB158-21U6S24-xxM_TMO(1-5/8)	16.83 - 17.08	1.0000	1.0000
L47	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11)	16.83 - 17.08	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L47	30	LCF114-50J(1-1/4) CU12PSM9P8XXX(1-3/8)	16.83 - 17.08	1.0000	1.0000
L47	34	PL0.75x4 Reinforcement - Wind Area	16.83 - 17.08	1.0000	1.0000
L47	36	CCI-CFP-060100	16.83 - 17.08	1.0000	1.0000
L47	38	CCI-AFP-060100	16.83 - 17.08	1.0000	1.0000
L47	41	CCI-SFP-065125	16.83 - 17.08	1.0000	1.0000
L47	44	PL0.75x4 Reinforcement - Wind Area	16.83 - 17.08	1.0000	1.0000
L47	46	CCI-CFP-060100	16.83 - 17.08	1.0000	1.0000
L47	48	CCI-SFP-065125	16.83 - 17.08	1.0000	1.0000
L47	53	CCI-AFP-060100	16.83 - 17.08	1.0000	1.0000
L47	56	PL0.75x4 Reinforcement - Wind Area	16.83 - 17.08	1.0000	1.0000
L47	58	CCI-CFP-060100	16.83 - 17.08	1.0000	1.0000
L47	60	CCI-SFP-065125	16.83 - 17.08	1.0000	1.0000
L47	64	CCI-AFP-060100	16.83 - 17.08	1.0000	1.0000
L48	2	Safety Line 3/8	13.00 - 16.83	1.0000	1.0000
L48	4	2" Flexible Conduit	13.00 - 16.83	1.0000	1.0000
L48	22	HB158-21U6S24- xxM_TMO(1-5/8)	13.00 - 16.83	1.0000	1.0000
L48	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	13.00 - 16.83	1.0000	1.0000
L48	30	CU12PSM9P8XXX(1-3/8)	13.00 - 16.83	1.0000	1.0000
L48	33	CCI-AFP-060100	13.00 - 15.50	1.0000	1.0000
L48	34	PL0.75x4 Reinforcement - Wind Area	15.83 - 16.83	1.0000	1.0000
L48	36	CCI-CFP-060100	13.00 - 16.83	1.0000	1.0000
L48	38	CCI-AFP-060100	13.00 - 16.83	1.0000	1.0000
L48	41	CCI-SFP-065125	13.00 - 16.83	1.0000	1.0000
L48	43	CCI-AFP-060100	13.00 - 15.50	1.0000	1.0000
L48	44	PL0.75x4 Reinforcement - Wind Area	15.83 - 16.83	1.0000	1.0000
L48	46	CCI-CFP-060100	13.00 - 16.83	1.0000	1.0000
L48	48	CCI-SFP-065125	13.00 - 16.83	1.0000	1.0000
L48	53	CCI-AFP-060100	13.00 - 16.83	1.0000	1.0000
L48	55	CCI-AFP-060100	13.00 - 15.50	1.0000	1.0000
L48	56	PL0.75x4 Reinforcement - Wind Area	15.83 - 16.83	1.0000	1.0000
L48	58	CCI-CFP-060100	13.00 - 16.83	1.0000	1.0000
L48	60	CCI-SFP-065125	13.00 - 16.83	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L48	64	CCI-AFP-060100	13.00 - 16.83	1.0000	1.0000
L49	2	Safety Line 3/8	12.75 - 13.00	1.0000	1.0000
L49	4	2" Flexible Conduit	12.75 - 13.00	1.0000	1.0000
L49	22	HB158-21U6S24- xxM_TMO(1-5/8)	12.75 - 13.00	1.0000	1.0000
L49	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	12.75 - 13.00	1.0000	1.0000
L49	30	CU12PSM9P8XXX(1-3/8)	12.75 - 13.00	1.0000	1.0000
L49	33	CCI-AFP-060100	12.75 - 13.00	1.0000	1.0000
L49	36	CCI-CFP-060100	12.75 - 13.00	1.0000	1.0000
L49	38	CCI-AFP-060100	12.75 - 13.00	1.0000	1.0000
L49	41	CCI-SFP-065125	12.75 - 13.00	1.0000	1.0000
L49	43	CCI-AFP-060100	12.75 - 13.00	1.0000	1.0000
L49	46	CCI-CFP-060100	12.75 - 13.00	1.0000	1.0000
L49	48	CCI-SFP-065125	12.75 - 13.00	1.0000	1.0000
L49	53	CCI-AFP-060100	12.75 - 13.00	1.0000	1.0000
L49	55	CCI-AFP-060100	12.75 - 13.00	1.0000	1.0000
L49	58	CCI-CFP-060100	12.75 - 13.00	1.0000	1.0000
L49	60	CCI-SFP-065125	12.75 - 13.00	1.0000	1.0000
L49	64	CCI-AFP-060100	12.75 - 13.00	1.0000	1.0000
L50	2	Safety Line 3/8	11.85 - 12.75	1.0000	1.0000
L50	4	2" Flexible Conduit	11.85 - 12.75	1.0000	1.0000
L50	22	HB158-21U6S24- xxM_TMO(1-5/8)	11.85 - 12.75	1.0000	1.0000
L50	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1- 5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	11.85 - 12.75	1.0000	1.0000
L50	30	CU12PSM9P8XXX(1-3/8)	11.85 - 12.75	1.0000	1.0000
L50	33	CCI-AFP-060100	11.85 - 12.75	1.0000	1.0000
L50	36	CCI-CFP-060100	11.85 - 12.75	1.0000	1.0000
L50	38	CCI-AFP-060100	11.85 - 12.75	1.0000	1.0000
L50	41	CCI-SFP-065125	11.85 - 12.75	1.0000	1.0000
L50	43	CCI-AFP-060100	11.85 - 12.75	1.0000	1.0000
L50	46	CCI-CFP-060100	11.85 - 12.75	1.0000	1.0000
L50	48	CCI-SFP-065125	11.85 - 12.75	1.0000	1.0000
L50	53	CCI-AFP-060100	11.85 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L50	55	CCI-AFP-060100	12.75 - 11.85	1.0000	1.0000
L50	58	CCI-CFP-060100	12.75 - 11.85	1.0000	1.0000
L50	60	CCI-SFP-065125	12.75 - 11.85	1.0000	1.0000
L50	64	CCI-AFP-060100	12.75 - 11.85	1.0000	1.0000
L51	2	Safety Line 3/8	11.60 - 11.85	1.0000	1.0000
L51	4	2" Flexible Conduit	11.60 - 11.85	1.0000	1.0000
L51	22	HB158-21U6S24-xxM_TMO(1-5/8)	11.60 - 11.85	1.0000	1.0000
L51	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	11.60 - 11.85	1.0000	1.0000
L51	30	CU12PSM9P8XXX(1-3/8)	11.60 - 11.85	1.0000	1.0000
L51	33	CCI-AFP-060100	11.60 - 11.85	1.0000	1.0000
L51	36	CCI-CFP-060100	11.60 - 11.85	1.0000	1.0000
L51	38	CCI-AFP-060100	11.60 - 11.85	1.0000	1.0000
L51	41	CCI-SFP-065125	11.60 - 11.85	1.0000	1.0000
L51	43	CCI-AFP-060100	11.60 - 11.85	1.0000	1.0000
L51	46	CCI-CFP-060100	11.60 - 11.85	1.0000	1.0000
L51	48	CCI-SFP-065125	11.60 - 11.85	1.0000	1.0000
L51	53	CCI-AFP-060100	11.60 - 11.85	1.0000	1.0000
L51	55	CCI-AFP-060100	11.60 - 11.85	1.0000	1.0000
L51	58	CCI-CFP-060100	11.60 - 11.85	1.0000	1.0000
L51	60	CCI-SFP-065125	11.60 - 11.85	1.0000	1.0000
L51	64	CCI-AFP-060100	11.60 - 11.85	1.0000	1.0000
L52	2	Safety Line 3/8	6.50 - 11.60	1.0000	1.0000
L52	4	2" Flexible Conduit	6.50 - 11.60	1.0000	1.0000
L52	22	HB158-21U6S24-xxM_TMO(1-5/8)	6.50 - 11.60	1.0000	1.0000
L52	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	6.50 - 11.60	1.0000	1.0000
L52	30	CU12PSM9P8XXX(1-3/8)	6.50 - 11.60	1.0000	1.0000
L52	33	CCI-AFP-060100	6.50 - 11.60	1.0000	1.0000
L52	36	CCI-CFP-060100	6.50 - 11.60	1.0000	1.0000
L52	38	CCI-AFP-060100	9.40 - 11.60	1.0000	1.0000
L52	41	CCI-SFP-065125	6.50 - 11.60	1.0000	1.0000
L52	43	CCI-AFP-060100	6.50 - 11.60	1.0000	1.0000
L52	46	CCI-CFP-060100	6.50 - 11.60	1.0000	1.0000
L52	48	CCI-SFP-065125	6.50 - 11.60	1.0000	1.0000
L52	52	CCI-SFP-065125	6.50 - 9.25	1.0000	1.0000
L52	53	CCI-AFP-060100	9.40 - 11.60	1.0000	1.0000
L52	55	CCI-AFP-060100	6.50 - 11.60	1.0000	1.0000
L52	58	CCI-CFP-060100	6.50 - 11.60	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L52	60	CCI-SFP-065125	6.50 - 11.60	1.0000	1.0000
L52	64	CCI-AFP-060100	9.40 - 11.60	1.0000	1.0000
L53	2	Safety Line 3/8	6.25 - 6.50	1.0000	1.0000
L53	4	2" Flexible Conduit	6.25 - 6.50	1.0000	1.0000
L53	22	HB158-21U6S24-xxM_TMO(1-5/8)	6.25 - 6.50	1.0000	1.0000
L53	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	6.25 - 6.50	1.0000	1.0000
L53	30	CU12PSM9P8XXX(1-3/8)	6.25 - 6.50	1.0000	1.0000
L53	33	CCI-AFP-060100	6.25 - 6.50	1.0000	1.0000
L53	36	CCI-CFP-060100	6.25 - 6.50	1.0000	1.0000
L53	41	CCI-SFP-065125	6.25 - 6.50	1.0000	1.0000
L53	43	CCI-AFP-060100	6.25 - 6.50	1.0000	1.0000
L53	46	CCI-CFP-060100	6.25 - 6.50	1.0000	1.0000
L53	48	CCI-SFP-065125	6.25 - 6.50	1.0000	1.0000
L53	52	CCI-SFP-065125	6.25 - 6.50	1.0000	1.0000
L53	55	CCI-AFP-060100	6.25 - 6.50	1.0000	1.0000
L53	58	CCI-CFP-060100	6.25 - 6.50	1.0000	1.0000
L53	60	CCI-SFP-065125	6.25 - 6.50	1.0000	1.0000
L54	2	Safety Line 3/8	3.75 - 6.25	1.0000	1.0000
L54	4	2" Flexible Conduit	3.75 - 6.25	1.0000	1.0000
L54	22	HB158-21U6S24-xxM_TMO(1-5/8)	3.75 - 6.25	1.0000	1.0000
L54	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	3.75 - 6.25	1.0000	1.0000
L54	30	CU12PSM9P8XXX(1-3/8)	3.75 - 6.25	1.0000	1.0000
L54	33	CCI-AFP-060100	3.75 - 6.25	1.0000	1.0000
L54	36	CCI-CFP-060100	3.75 - 6.25	1.0000	1.0000
L54	41	CCI-SFP-065125	3.75 - 6.25	1.0000	1.0000
L54	43	CCI-AFP-060100	3.75 - 6.25	1.0000	1.0000
L54	46	CCI-CFP-060100	3.75 - 6.25	1.0000	1.0000
L54	48	CCI-SFP-065125	3.75 - 6.25	1.0000	1.0000
L54	52	CCI-SFP-065125	3.75 - 6.25	1.0000	1.0000
L54	55	CCI-AFP-060100	3.75 - 6.25	1.0000	1.0000
L54	58	CCI-CFP-060100	3.75 - 6.25	1.0000	1.0000
L54	60	CCI-SFP-065125	3.75 - 6.25	1.0000	1.0000
L55	2	Safety Line 3/8	3.50 - 3.75	1.0000	1.0000
L55	4	2" Flexible Conduit	3.50 - 3.75	1.0000	1.0000
L55	22	HB158-21U6S24-xxM_TMO(1-5/8)	3.50 - 3.75	1.0000	1.0000
L55	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	3.50 - 3.75	1.0000	1.0000
L55	30	CU12PSM9P8XXX(1-3/8)	3.50 - 3.75	1.0000	1.0000
L55	33	CCI-AFP-060100	3.50 - 3.75	1.0000	1.0000
L55	36	CCI-CFP-060100	3.50 - 3.75	1.0000	1.0000
L55	41	CCI-SFP-065125	3.50 - 3.75	1.0000	1.0000
L55	43	CCI-AFP-060100	3.50 - 3.75	1.0000	1.0000
L55	46	CCI-CFP-060100	3.50 - 3.75	1.0000	1.0000
L55	48	CCI-SFP-065125	3.50 - 3.75	1.0000	1.0000
L55	52	CCI-SFP-065125	3.50 - 3.75	1.0000	1.0000
L55	55	CCI-AFP-060100	3.50 - 3.75	1.0000	1.0000
L55	58	CCI-CFP-060100	3.50 - 3.75	1.0000	1.0000
L55	60	CCI-SFP-065125	3.50 - 3.75	1.0000	1.0000
L56	2	Safety Line 3/8	3.00 - 3.50	1.0000	1.0000
L56	4	2" Flexible Conduit	3.00 - 3.50	1.0000	1.0000
L56	22	HB158-21U6S24-xxM_TMO(1-5/8)	3.00 - 3.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L56	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	3.00 - 3.50	1.0000	1.0000
L56	30	CU12PSM9P8XXX(1-3/8)	3.00 - 3.50	1.0000	1.0000
L56	33	CCI-AFP-060100	3.00 - 3.50	1.0000	1.0000
L56	36	CCI-CFP-060100	3.00 - 3.50	1.0000	1.0000
L56	41	CCI-SFP-065125	3.00 - 3.50	1.0000	1.0000
L56	43	CCI-AFP-060100	3.00 - 3.50	1.0000	1.0000
L56	46	CCI-CFP-060100	3.00 - 3.50	1.0000	1.0000
L56	48	CCI-SFP-065125	3.00 - 3.50	1.0000	1.0000
L56	52	CCI-SFP-065125	3.00 - 3.50	1.0000	1.0000
L56	55	CCI-AFP-060100	3.00 - 3.50	1.0000	1.0000
L56	58	CCI-CFP-060100	3.00 - 3.50	1.0000	1.0000
L56	60	CCI-SFP-065125	3.00 - 3.50	1.0000	1.0000
L57	2	Safety Line 3/8	2.75 - 3.00	1.0000	1.0000
L57	4	2" Flexible Conduit	2.75 - 3.00	1.0000	1.0000
L57	22	HB158-21U6S24- xxM_TMO(1-5/8)	2.75 - 3.00	1.0000	1.0000
L57	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	2.75 - 3.00	1.0000	1.0000
L57	30	CU12PSM9P8XXX(1-3/8)	2.75 - 3.00	1.0000	1.0000
L57	33	CCI-AFP-060100	2.75 - 3.00	1.0000	1.0000
L57	36	CCI-CFP-060100	2.75 - 3.00	1.0000	1.0000
L57	41	CCI-SFP-065125	2.75 - 3.00	1.0000	1.0000
L57	43	CCI-AFP-060100	2.75 - 3.00	1.0000	1.0000
L57	46	CCI-CFP-060100	2.75 - 3.00	1.0000	1.0000
L57	48	CCI-SFP-065125	2.75 - 3.00	1.0000	1.0000
L57	52	CCI-SFP-065125	2.75 - 3.00	1.0000	1.0000
L57	55	CCI-AFP-060100	2.75 - 3.00	1.0000	1.0000
L57	58	CCI-CFP-060100	2.75 - 3.00	1.0000	1.0000
L57	60	CCI-SFP-065125	2.75 - 3.00	1.0000	1.0000
L58	2	Safety Line 3/8	0.00 - 2.75	1.0000	1.0000
L58	4	2" Flexible Conduit	0.00 - 2.75	1.0000	1.0000
L58	22	HB158-21U6S24- xxM_TMO(1-5/8)	0.00 - 2.75	1.0000	1.0000
L58	24	(1) MLE Hybrid 9Power/18Fiber RL 2(1-5/8) + (1) HCS 6X12 6AWG(1-3/8) + (1) MLC HYBRID 6/6(7/8) + (11) LCF114-50J(1-1/4)	0.00 - 2.75	1.0000	1.0000
L58	30	CU12PSM9P8XXX(1-3/8)	0.00 - 2.75	1.0000	1.0000
L58	33	CCI-AFP-060100	0.50 - 2.75	1.0000	1.0000
L58	36	CCI-CFP-060100	0.00 - 2.75	1.0000	1.0000
L58	41	CCI-SFP-065125	0.00 - 2.75	1.0000	1.0000
L58	43	CCI-AFP-060100	0.50 - 2.75	1.0000	1.0000
L58	46	CCI-CFP-060100	0.00 - 2.75	1.0000	1.0000
L58	48	CCI-SFP-065125	0.00 - 2.75	1.0000	1.0000
L58	52	CCI-SFP-065125	0.00 - 2.75	1.0000	1.0000
L58	55	CCI-AFP-060100	0.50 - 2.75	1.0000	1.0000
L58	58	CCI-CFP-060100	0.00 - 2.75	1.0000	1.0000
L58	60	CCI-SFP-065125	0.00 - 2.75	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
L5	1	Climbing Ladder (Af)	105.00 - 109.00	Manual	1.0000
L6	1	Climbing Ladder (Af)	100.00 - 105.00	Manual	1.0000
L7	1	Climbing Ladder (Af)	95.00 - 100.00	Manual	1.0000
L8	1	Climbing Ladder (Af)	90.00 - 95.00	Manual	1.0000
L8	40	CCI-AFP-045100	90.00 - 91.50	Auto	0.0000
L8	51	CCI-AFP-045100	90.00 - 91.50	Auto	0.0000
L8	63	CCI-AFP-045100	90.00 - 91.50	Auto	0.0000
L9	1	Climbing Ladder (Af)	89.75 - 90.00	Manual	1.0000
L9	40	CCI-AFP-045100	89.75 - 90.00	Auto	0.0734
L9	51	CCI-AFP-045100	89.75 - 90.00	Auto	0.0734
L9	63	CCI-AFP-045100	89.75 - 90.00	Auto	0.0734
L10	1	Climbing Ladder (Af)	87.00 - 89.75	Manual	1.0000
L10	35	PL0.75x4 Reinforcement - Wind Area	84.75 - 85.80	Auto	0.0000
L10	37	CCI-CFP-045125	84.75 - 85.20	Auto	0.0000
L10	40	CCI-AFP-045100	84.75 - 89.75	Auto	0.0244
L10	45	PL0.75x4 Reinforcement - Wind Area	84.75 - 85.80	Auto	0.0000
L10	47	CCI-CFP-045125	84.75 - 85.20	Auto	0.0000
L10	51	CCI-AFP-045100	84.75 - 89.75	Auto	0.0244
L10	57	PL0.75x4 Reinforcement - Wind Area	84.75 - 85.80	Auto	0.0000
L10	59	CCI-CFP-045125	84.75 - 85.20	Auto	0.0000
L10	63	CCI-AFP-045100	84.75 - 89.75	Auto	0.0244
L11	35	PL0.75x4 Reinforcement - Wind Area	84.42 - 84.75	Auto	0.0000
L11	37	CCI-CFP-045125	84.42 - 84.75	Auto	0.0000
L11	40	CCI-AFP-045100	84.42 - 84.75	Auto	0.0000
L11	45	PL0.75x4 Reinforcement - Wind Area	84.42 - 84.75	Auto	0.0000
L11	47	CCI-CFP-045125	84.42 - 84.75	Auto	0.0000
L11	51	CCI-AFP-045100	84.42 - 84.75	Auto	0.0000
L11	57	PL0.75x4 Reinforcement - Wind Area	84.42 - 84.75	Auto	0.0000
L11	59	CCI-CFP-045125	84.42 - 84.75	Auto	0.0000
L11	63	CCI-AFP-045100	84.42 - 84.75	Auto	0.0000
L12	35	PL0.75x4 Reinforcement - Wind Area	84.17 - 84.42	Auto	0.0000
L12	37	CCI-CFP-045125	84.17 - 84.42	Auto	0.0721
L12	40	CCI-AFP-045100	84.17 - 84.42	Auto	0.0721
L12	45	PL0.75x4 Reinforcement -	84.17 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L12	47	Wind Area CCI-CFP-045125	84.42 84.17 - 84.42	Auto	0.0721
L12	51	CCI-AFP-045100	84.17 - 84.42	Auto	0.0721
L12	57	PL0.75x4 Reinforcement - Wind Area	84.17 - 84.42	Auto	0.0000
L12	59	CCI-CFP-045125	84.17 - 84.42	Auto	0.0721
L12	63	CCI-AFP-045100	84.17 - 84.42	Auto	0.0721
L13	35	PL0.75x4 Reinforcement - Wind Area	83.42 - 84.17	Auto	0.0000
L13	37	CCI-CFP-045125	83.42 - 84.17	Auto	0.0572
L13	40	CCI-AFP-045100	83.42 - 84.17	Auto	0.0572
L13	45	PL0.75x4 Reinforcement - Wind Area	83.42 - 84.17	Auto	0.0000
L13	47	CCI-CFP-045125	83.42 - 84.17	Auto	0.0572
L13	51	CCI-AFP-045100	83.42 - 84.17	Auto	0.0572
L13	57	PL0.75x4 Reinforcement - Wind Area	83.42 - 84.17	Auto	0.0000
L13	59	CCI-CFP-045125	83.42 - 84.17	Auto	0.0572
L13	63	CCI-AFP-045100	83.42 - 84.17	Auto	0.0572
L14	35	PL0.75x4 Reinforcement - Wind Area	83.17 - 83.42	Auto	0.1487
L14	37	CCI-CFP-045125	83.17 - 83.42	Auto	0.2433
L14	40	CCI-AFP-045100	83.17 - 83.42	Auto	0.2433
L14	45	PL0.75x4 Reinforcement - Wind Area	83.17 - 83.42	Auto	0.1487
L14	47	CCI-CFP-045125	83.17 - 83.42	Auto	0.2433
L14	51	CCI-AFP-045100	83.17 - 83.42	Auto	0.2433
L14	57	PL0.75x4 Reinforcement - Wind Area	83.17 - 83.42	Auto	0.1487
L14	59	CCI-CFP-045125	83.17 - 83.42	Auto	0.2433
L14	63	CCI-AFP-045100	83.17 - 83.42	Auto	0.2433
L15	35	PL0.75x4 Reinforcement - Wind Area	83.00 - 83.17	Auto	0.1452
L15	37	CCI-CFP-045125	83.00 - 83.17	Auto	0.2402
L15	40	CCI-AFP-045100	83.00 - 83.17	Auto	0.2402
L15	45	PL0.75x4 Reinforcement - Wind Area	83.00 - 83.17	Auto	0.1452
L15	47	CCI-CFP-045125	83.00 - 83.17	Auto	0.2402
L15	51	CCI-AFP-045100	83.00 - 83.17	Auto	0.2402
L15	57	PL0.75x4 Reinforcement - Wind Area	83.00 - 83.17	Auto	0.1452
L15	59	CCI-CFP-045125	83.00 - 83.17	Auto	0.2402
L15	63	CCI-AFP-045100	83.00 - 83.17	Auto	0.2402
L16	35	PL0.75x4 Reinforcement - Wind Area	82.75 - 83.00	Auto	0.0000
L16	37	CCI-CFP-045125	82.75 -	Auto	0.0882

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L16	40	CCI-AFP-045100	83.00 82.75 - 83.00	Auto	0.0882
L16	45	PL0.75x4 Reinforcement - Wind Area	82.75 - 83.00	Auto	0.0000
L16	47	CCI-CFP-045125	82.75 - 83.00	Auto	0.0882
L16	51	CCI-AFP-045100	82.75 - 83.00	Auto	0.0882
L16	57	PL0.75x4 Reinforcement - Wind Area	82.75 - 83.00	Auto	0.0000
L16	59	CCI-CFP-045125	82.75 - 83.00	Auto	0.0882
L16	63	CCI-AFP-045100	82.75 - 83.00	Auto	0.0882
L17	35	PL0.75x4 Reinforcement - Wind Area	77.75 - 82.75	Auto	0.0000
L17	37	CCI-CFP-045125	77.75 - 82.75	Auto	0.0275
L17	40	CCI-AFP-045100	81.50 - 82.75	Auto	0.0547
L17	45	PL0.75x4 Reinforcement - Wind Area	77.75 - 82.75	Auto	0.0000
L17	47	CCI-CFP-045125	77.75 - 82.75	Auto	0.0275
L17	51	CCI-AFP-045100	81.50 - 82.75	Auto	0.0547
L17	57	PL0.75x4 Reinforcement - Wind Area	77.75 - 82.75	Auto	0.0000
L17	59	CCI-CFP-045125	77.75 - 82.75	Auto	0.0275
L17	63	CCI-AFP-045100	81.50 - 82.75	Auto	0.0547
L18	35	PL0.75x4 Reinforcement - Wind Area	70.00 - 77.75	Auto	0.0000
L18	37	CCI-CFP-045125	70.00 - 77.75	Auto	0.0000
L18	45	PL0.75x4 Reinforcement - Wind Area	70.00 - 77.75	Auto	0.0000
L18	47	CCI-CFP-045125	70.00 - 77.75	Auto	0.0000
L18	57	PL0.75x4 Reinforcement - Wind Area	70.00 - 77.75	Auto	0.0000
L18	59	CCI-CFP-045125	70.00 - 77.75	Auto	0.0000
L19	35	PL0.75x4 Reinforcement - Wind Area	69.00 - 70.00	Auto	0.0000
L19	37	CCI-CFP-045125	69.00 - 70.00	Auto	0.0000
L19	45	PL0.75x4 Reinforcement - Wind Area	69.00 - 70.00	Auto	0.0000
L19	47	CCI-CFP-045125	69.00 - 70.00	Auto	0.0000
L19	57	PL0.75x4 Reinforcement - Wind Area	69.00 - 70.00	Auto	0.0000
L19	59	CCI-CFP-045125	69.00 - 70.00	Auto	0.0000
L20	35	PL0.75x4 Reinforcement - Wind Area	67.08 - 69.00	Auto	0.0000
L20	37	CCI-CFP-045125	67.08 - 69.00	Auto	0.0000
L20	42	PL0.75x4 Reinforcement - Wind Area	67.08 - 68.30	Auto	0.0000
L20	45	PL0.75x4 Reinforcement - Wind Area	67.08 - 69.00	Auto	0.0000
L20	47	CCI-CFP-045125	67.08 - 69.00	Auto	0.0000
L20	54	PL0.75x4 Reinforcement -	67.08 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L20	57	Wind Area PL0.75x4 Reinforcement - Wind Area	68.30 67.08 - 69.00	Auto	0.0000
L20	59	CCI-CFP-045125	67.08 - 69.00	Auto	0.0000
L20	65	PL0.75x4 Reinforcement - Wind Area	67.08 - 68.30	Auto	0.0000
L21	35	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	Auto	0.0000
L21	37	CCI-CFP-045125	66.83 - 67.08	Auto	0.0000
L21	42	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	Auto	0.0000
L21	45	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	Auto	0.0000
L21	47	CCI-CFP-045125	66.83 - 67.08	Auto	0.0000
L21	54	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	Auto	0.0000
L21	57	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	Auto	0.0000
L21	59	CCI-CFP-045125	66.83 - 67.08	Auto	0.0000
L21	65	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	Auto	0.0000
L22	35	PL0.75x4 Reinforcement - Wind Area	65.80 - 66.83	Auto	0.0000
L22	37	CCI-CFP-045125	64.08 - 66.83	Auto	0.0000
L22	39	CCI-AFP-045100	64.08 - 64.40	Auto	0.0000
L22	42	PL0.75x4 Reinforcement - Wind Area	64.08 - 66.83	Auto	0.0000
L22	45	PL0.75x4 Reinforcement - Wind Area	65.80 - 66.83	Auto	0.0000
L22	47	CCI-CFP-045125	64.08 - 66.83	Auto	0.0000
L22	50	CCI-AFP-045100	64.08 - 66.10	Auto	0.0000
L22	54	PL0.75x4 Reinforcement - Wind Area	64.08 - 66.83	Auto	0.0000
L22	57	PL0.75x4 Reinforcement - Wind Area	65.80 - 66.83	Auto	0.0000
L22	59	CCI-CFP-045125	64.08 - 66.83	Auto	0.0000
L22	62	CCI-AFP-045100	64.08 - 66.10	Auto	0.0000
L22	65	PL0.75x4 Reinforcement - Wind Area	64.08 - 66.83	Auto	0.0000
L23	37	CCI-CFP-045125	63.83 - 64.08	Auto	0.0000
L23	39	CCI-AFP-045100	63.83 - 64.08	Auto	0.0000
L23	42	PL0.75x4 Reinforcement - Wind Area	63.83 - 64.08	Auto	0.0000
L23	47	CCI-CFP-045125	63.83 - 64.08	Auto	0.0000
L23	50	CCI-AFP-045100	63.83 - 64.08	Auto	0.0000
L23	54	PL0.75x4 Reinforcement - Wind Area	63.83 - 64.08	Auto	0.0000
L23	59	CCI-CFP-045125	63.83 - 64.08	Auto	0.0000
L23	62	CCI-AFP-045100	63.83 - 64.08	Auto	0.0000
L23	65	PL0.75x4 Reinforcement - Wind Area	63.83 - 64.08	Auto	0.0000
L24	37	CCI-CFP-045125	62.44 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L24	39	CCI-AFP-045100	63.83 62.44 - 63.83	Auto	0.0000
L24	42	PL0.75x4 Reinforcement - Wind Area	62.44 - 63.83	Auto	0.0000
L24	47	CCI-CFP-045125	62.44 - 63.83	Auto	0.0000
L24	50	CCI-AFP-045100	62.44 - 63.83	Auto	0.0000
L24	54	PL0.75x4 Reinforcement - Wind Area	62.44 - 63.83	Auto	0.0000
L24	59	CCI-CFP-045125	62.44 - 63.83	Auto	0.0000
L24	62	CCI-AFP-045100	62.44 - 63.83	Auto	0.0000
L24	65	PL0.75x4 Reinforcement - Wind Area	62.44 - 63.83	Auto	0.0000
L25	37	CCI-CFP-045125	62.19 - 62.44	Auto	0.0000
L25	39	CCI-AFP-045100	62.19 - 62.44	Auto	0.0000
L25	42	PL0.75x4 Reinforcement - Wind Area	62.19 - 62.44	Auto	0.0000
L25	47	CCI-CFP-045125	62.19 - 62.44	Auto	0.0000
L25	50	CCI-AFP-045100	62.19 - 62.44	Auto	0.0000
L25	54	PL0.75x4 Reinforcement - Wind Area	62.19 - 62.44	Auto	0.0000
L25	59	CCI-CFP-045125	62.19 - 62.44	Auto	0.0000
L25	62	CCI-AFP-045100	62.19 - 62.44	Auto	0.0000
L25	65	PL0.75x4 Reinforcement - Wind Area	62.19 - 62.44	Auto	0.0000
L26	37	CCI-CFP-045125	57.19 - 62.19	Auto	0.0000
L26	39	CCI-AFP-045100	57.19 - 62.19	Auto	0.0000
L26	42	PL0.75x4 Reinforcement - Wind Area	57.19 - 62.19	Auto	0.0000
L26	47	CCI-CFP-045125	57.19 - 62.19	Auto	0.0000
L26	50	CCI-AFP-045100	57.19 - 62.19	Auto	0.0000
L26	54	PL0.75x4 Reinforcement - Wind Area	57.19 - 62.19	Auto	0.0000
L26	59	CCI-CFP-045125	57.19 - 62.19	Auto	0.0000
L26	62	CCI-AFP-045100	57.19 - 62.19	Auto	0.0000
L26	65	PL0.75x4 Reinforcement - Wind Area	57.19 - 62.19	Auto	0.0000
L27	36	CCI-CFP-060100	53.50 - 55.10	Auto	0.0695
L27	37	CCI-CFP-045125	55.10 - 57.19	Auto	0.0000
L27	39	CCI-AFP-045100	53.50 - 57.19	Auto	0.0000
L27	42	PL0.75x4 Reinforcement - Wind Area	53.50 - 57.19	Auto	0.0000
L27	46	CCI-CFP-060100	53.50 - 55.10	Auto	0.0695
L27	47	CCI-CFP-045125	55.10 - 57.19	Auto	0.0000
L27	49	CCI-AFP-060100	53.50 - 56.00	Auto	0.0745
L27	50	CCI-AFP-045100	56.00 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L27	54	PL0.75x4 Reinforcement - Wind Area	57.19 53.50 - 57.19	Auto	0.0000
L27	58	CCI-CFP-060100	53.50 - 55.10	Auto	0.0695
L27	59	CCI-CFP-045125	55.10 - 57.19	Auto	0.0000
L27	61	CCI-AFP-060100	53.50 - 56.00	Auto	0.0745
L27	62	CCI-AFP-045100	56.00 - 57.19	Auto	0.0000
L27	65	PL0.75x4 Reinforcement - Wind Area	53.50 - 57.19	Auto	0.0000
L28	36	CCI-CFP-060100	53.25 - 53.50	Auto	0.0703
L28	39	CCI-AFP-045100	53.25 - 53.50	Auto	0.0000
L28	42	PL0.75x4 Reinforcement - Wind Area	53.25 - 53.50	Auto	0.0000
L28	46	CCI-CFP-060100	53.25 - 53.50	Auto	0.0703
L28	49	CCI-AFP-060100	53.25 - 53.50	Auto	0.0703
L28	54	PL0.75x4 Reinforcement - Wind Area	53.25 - 53.50	Auto	0.0000
L28	58	CCI-CFP-060100	53.25 - 53.50	Auto	0.0703
L28	61	CCI-AFP-060100	53.25 - 53.50	Auto	0.0703
L28	65	PL0.75x4 Reinforcement - Wind Area	53.25 - 53.50	Auto	0.0000
L29	36	CCI-CFP-060100	52.58 - 53.25	Auto	0.0596
L29	39	CCI-AFP-045100	52.58 - 53.25	Auto	0.0000
L29	42	PL0.75x4 Reinforcement - Wind Area	52.58 - 53.25	Auto	0.0000
L29	46	CCI-CFP-060100	52.58 - 53.25	Auto	0.0596
L29	49	CCI-AFP-060100	52.58 - 53.25	Auto	0.0596
L29	54	PL0.75x4 Reinforcement - Wind Area	52.58 - 53.25	Auto	0.0000
L29	58	CCI-CFP-060100	52.58 - 53.25	Auto	0.0596
L29	61	CCI-AFP-060100	52.58 - 53.25	Auto	0.0596
L29	65	PL0.75x4 Reinforcement - Wind Area	52.58 - 53.25	Auto	0.0000
L30	36	CCI-CFP-060100	52.33 - 52.58	Auto	0.0712
L30	39	CCI-AFP-045100	52.33 - 52.58	Auto	0.0000
L30	42	PL0.75x4 Reinforcement - Wind Area	52.33 - 52.58	Auto	0.0000
L30	46	CCI-CFP-060100	52.33 - 52.58	Auto	0.0712
L30	49	CCI-AFP-060100	52.33 - 52.58	Auto	0.0712
L30	54	PL0.75x4 Reinforcement - Wind Area	52.33 - 52.58	Auto	0.0000
L30	58	CCI-CFP-060100	52.33 - 52.58	Auto	0.0712
L30	61	CCI-AFP-060100	52.33 - 52.58	Auto	0.0712
L30	65	PL0.75x4 Reinforcement - Wind Area	52.33 - 52.58	Auto	0.0000
L31	36	CCI-CFP-060100	47.33 -	Auto	0.0307

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L31	39	CCI-AFP-045100	52.33 47.33 - 52.33	Auto	0.0000
L31	42	PL0.75x4 Reinforcement - Wind Area	47.33 - 52.33	Auto	0.0000
L31	46	CCI-CFP-060100	47.33 - 52.33	Auto	0.0307
L31	49	CCI-AFP-060100	47.33 - 52.33	Auto	0.0307
L31	54	PL0.75x4 Reinforcement - Wind Area	47.33 - 52.33	Auto	0.0000
L31	58	CCI-CFP-060100	47.33 - 52.33	Auto	0.0307
L31	61	CCI-AFP-060100	47.33 - 52.33	Auto	0.0307
L31	65	PL0.75x4 Reinforcement - Wind Area	47.33 - 52.33	Auto	0.0000
L32	34	PL0.75x4 Reinforcement - Wind Area	44.58 - 45.83	Auto	0.0000
L32	36	CCI-CFP-060100	44.58 - 47.33	Auto	0.0000
L32	39	CCI-AFP-045100	44.58 - 47.33	Auto	0.0000
L32	42	PL0.75x4 Reinforcement - Wind Area	44.58 - 47.33	Auto	0.0000
L32	44	PL0.75x4 Reinforcement - Wind Area	44.58 - 45.83	Auto	0.0000
L32	46	CCI-CFP-060100	44.58 - 47.33	Auto	0.0000
L32	49	CCI-AFP-060100	44.58 - 47.33	Auto	0.0000
L32	54	PL0.75x4 Reinforcement - Wind Area	44.58 - 47.33	Auto	0.0000
L32	56	PL0.75x4 Reinforcement - Wind Area	44.58 - 45.83	Auto	0.0000
L32	58	CCI-CFP-060100	44.58 - 47.33	Auto	0.0000
L32	61	CCI-AFP-060100	44.58 - 47.33	Auto	0.0000
L32	65	PL0.75x4 Reinforcement - Wind Area	44.58 - 47.33	Auto	0.0000
L33	34	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	Auto	0.0000
L33	36	CCI-CFP-060100	44.33 - 44.58	Auto	0.0000
L33	38	CCI-AFP-060100	44.33 - 44.40	Auto	0.0000
L33	39	CCI-AFP-045100	44.40 - 44.58	Auto	0.0000
L33	42	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	Auto	0.0000
L33	44	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	Auto	0.0000
L33	46	CCI-CFP-060100	44.33 - 44.58	Auto	0.0000
L33	49	CCI-AFP-060100	44.33 - 44.58	Auto	0.0000
L33	54	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	Auto	0.0000
L33	56	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	Auto	0.0000
L33	58	CCI-CFP-060100	44.33 - 44.58	Auto	0.0000
L33	61	CCI-AFP-060100	44.33 - 44.58	Auto	0.0000
L33	65	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	Auto	0.0000
L34	34	PL0.75x4 Reinforcement -	41.85 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L34	36	Wind Area CCI-CFP-060100	44.33 41.85 - 44.33	Auto	0.0000
L34	38	CCI-AFP-060100	41.85 - 44.33	Auto	0.0000
L34	42	PL0.75x4 Reinforcement - Wind Area	43.30 - 44.33	Auto	0.0000
L34	44	PL0.75x4 Reinforcement - Wind Area	41.85 - 44.33	Auto	0.0000
L34	46	CCI-CFP-060100	41.85 - 44.33	Auto	0.0000
L34	49	CCI-AFP-060100	41.85 - 44.33	Auto	0.0000
L34	54	PL0.75x4 Reinforcement - Wind Area	43.30 - 44.33	Auto	0.0000
L34	56	PL0.75x4 Reinforcement - Wind Area	41.85 - 44.33	Auto	0.0000
L34	58	CCI-CFP-060100	41.85 - 44.33	Auto	0.0000
L34	61	CCI-AFP-060100	41.85 - 44.33	Auto	0.0000
L34	65	PL0.75x4 Reinforcement - Wind Area	43.30 - 44.33	Auto	0.0000
L35	34	PL0.75x4 Reinforcement - Wind Area	41.60 - 41.85	Auto	0.0000
L35	36	CCI-CFP-060100	41.60 - 41.85	Auto	0.0000
L35	38	CCI-AFP-060100	41.60 - 41.85	Auto	0.0000
L35	44	PL0.75x4 Reinforcement - Wind Area	41.60 - 41.85	Auto	0.0000
L35	46	CCI-CFP-060100	41.60 - 41.85	Auto	0.0000
L35	49	CCI-AFP-060100	41.60 - 41.85	Auto	0.0000
L35	56	PL0.75x4 Reinforcement - Wind Area	41.60 - 41.85	Auto	0.0000
L35	58	CCI-CFP-060100	41.60 - 41.85	Auto	0.0000
L35	61	CCI-AFP-060100	41.60 - 41.85	Auto	0.0000
L36	34	PL0.75x4 Reinforcement - Wind Area	34.08 - 41.60	Auto	0.0000
L36	36	CCI-CFP-060100	34.08 - 41.60	Auto	0.0000
L36	38	CCI-AFP-060100	34.08 - 41.60	Auto	0.0000
L36	44	PL0.75x4 Reinforcement - Wind Area	34.08 - 41.60	Auto	0.0000
L36	46	CCI-CFP-060100	34.08 - 41.60	Auto	0.0000
L36	49	CCI-AFP-060100	34.08 - 41.60	Auto	0.0000
L36	56	PL0.75x4 Reinforcement - Wind Area	34.08 - 41.60	Auto	0.0000
L36	58	CCI-CFP-060100	34.08 - 41.60	Auto	0.0000
L36	61	CCI-AFP-060100	34.08 - 41.60	Auto	0.0000
L37	34	PL0.75x4 Reinforcement - Wind Area	34.00 - 34.08	Auto	0.0000
L37	36	CCI-CFP-060100	34.00 - 34.08	Auto	0.0000
L37	38	CCI-AFP-060100	34.00 - 34.08	Auto	0.0000
L37	44	PL0.75x4 Reinforcement - Wind Area	34.00 - 34.08	Auto	0.0000
L37	46	CCI-CFP-060100	34.00 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L37	49	CCI-AFP-060100	34.08 34.00 - 34.08	Auto	0.0000
L37	56	PL0.75x4 Reinforcement - Wind Area	34.00 - 34.08	Auto	0.0000
L37	58	CCI-CFP-060100	34.00 - 34.08	Auto	0.0000
L37	61	CCI-AFP-060100	34.00 - 34.08	Auto	0.0000
L38	34	PL0.75x4 Reinforcement - Wind Area	29.00 - 34.00	Auto	0.0000
L38	36	CCI-CFP-060100	29.00 - 34.00	Auto	0.0000
L38	38	CCI-AFP-060100	29.00 - 34.00	Auto	0.0000
L38	44	PL0.75x4 Reinforcement - Wind Area	29.00 - 34.00	Auto	0.0000
L38	46	CCI-CFP-060100	29.00 - 34.00	Auto	0.0000
L38	49	CCI-AFP-060100	29.00 - 34.00	Auto	0.0000
L38	53	CCI-AFP-060100	29.00 - 29.40	Auto	0.0000
L38	56	PL0.75x4 Reinforcement - Wind Area	29.00 - 34.00	Auto	0.0000
L38	58	CCI-CFP-060100	29.00 - 34.00	Auto	0.0000
L38	61	CCI-AFP-060100	29.00 - 34.00	Auto	0.0000
L38	64	CCI-AFP-060100	29.00 - 29.40	Auto	0.0000
L39	34	PL0.75x4 Reinforcement - Wind Area	26.85 - 29.00	Auto	0.0000
L39	36	CCI-CFP-060100	26.85 - 29.00	Auto	0.0000
L39	38	CCI-AFP-060100	26.85 - 29.00	Auto	0.0000
L39	44	PL0.75x4 Reinforcement - Wind Area	26.85 - 29.00	Auto	0.0000
L39	46	CCI-CFP-060100	26.85 - 29.00	Auto	0.0000
L39	49	CCI-AFP-060100	26.85 - 29.00	Auto	0.0000
L39	53	CCI-AFP-060100	26.85 - 29.00	Auto	0.0000
L39	56	PL0.75x4 Reinforcement - Wind Area	26.85 - 29.00	Auto	0.0000
L39	58	CCI-CFP-060100	26.85 - 29.00	Auto	0.0000
L39	61	CCI-AFP-060100	26.85 - 29.00	Auto	0.0000
L39	64	CCI-AFP-060100	26.85 - 29.00	Auto	0.0000
L40	34	PL0.75x4 Reinforcement - Wind Area	26.60 - 26.85	Auto	0.0000
L40	36	CCI-CFP-060100	26.60 - 26.85	Auto	0.0000
L40	38	CCI-AFP-060100	26.60 - 26.85	Auto	0.0000
L40	44	PL0.75x4 Reinforcement - Wind Area	26.60 - 26.85	Auto	0.0000
L40	46	CCI-CFP-060100	26.60 - 26.85	Auto	0.0000
L40	49	CCI-AFP-060100	26.60 - 26.85	Auto	0.0000
L40	53	CCI-AFP-060100	26.60 - 26.85	Auto	0.0000
L40	56	PL0.75x4 Reinforcement -	26.60 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L40	58	Wind Area CCI-CFP-060100	26.85 26.60 - 26.85	Auto	0.0000
L40	61	CCI-AFP-060100	26.60 - 26.85	Auto	0.0000
L40	64	CCI-AFP-060100	26.60 - 26.85	Auto	0.0000
L41	34	PL0.75x4 Reinforcement - Wind Area	21.60 - 26.60	Auto	0.0000
L41	36	CCI-CFP-060100	21.60 - 26.60	Auto	0.0000
L41	38	CCI-AFP-060100	21.60 - 26.60	Auto	0.0000
L41	44	PL0.75x4 Reinforcement - Wind Area	21.60 - 26.60	Auto	0.0000
L41	46	CCI-CFP-060100	21.60 - 26.60	Auto	0.0000
L41	49	CCI-AFP-060100	21.60 - 26.60	Auto	0.0000
L41	53	CCI-AFP-060100	21.60 - 26.60	Auto	0.0000
L41	56	PL0.75x4 Reinforcement - Wind Area	21.60 - 26.60	Auto	0.0000
L41	58	CCI-CFP-060100	21.60 - 26.60	Auto	0.0000
L41	61	CCI-AFP-060100	21.60 - 26.60	Auto	0.0000
L41	64	CCI-AFP-060100	21.60 - 26.60	Auto	0.0000
L42	34	PL0.75x4 Reinforcement - Wind Area	18.00 - 21.60	Auto	0.0000
L42	36	CCI-CFP-060100	18.00 - 21.60	Auto	0.0000
L42	38	CCI-AFP-060100	18.00 - 21.60	Auto	0.0000
L42	41	CCI-SFP-065125	18.00 - 20.75	Auto	0.0000
L42	44	PL0.75x4 Reinforcement - Wind Area	18.00 - 21.60	Auto	0.0000
L42	46	CCI-CFP-060100	18.00 - 21.60	Auto	0.0000
L42	48	CCI-SFP-065125	18.00 - 20.75	Auto	0.0000
L42	49	CCI-AFP-060100	21.00 - 21.60	Auto	0.0000
L42	53	CCI-AFP-060100	18.00 - 21.60	Auto	0.0000
L42	56	PL0.75x4 Reinforcement - Wind Area	18.00 - 21.60	Auto	0.0000
L42	58	CCI-CFP-060100	18.00 - 21.60	Auto	0.0000
L42	60	CCI-SFP-065125	18.00 - 20.75	Auto	0.0000
L42	61	CCI-AFP-060100	21.00 - 21.60	Auto	0.0000
L42	64	CCI-AFP-060100	18.00 - 21.60	Auto	0.0000
L43	34	PL0.75x4 Reinforcement - Wind Area	17.75 - 18.00	Auto	0.0000
L43	36	CCI-CFP-060100	17.75 - 18.00	Auto	0.0000
L43	38	CCI-AFP-060100	17.75 - 18.00	Auto	0.0000
L43	41	CCI-SFP-065125	17.75 - 18.00	Auto	0.0000
L43	44	PL0.75x4 Reinforcement - Wind Area	17.75 - 18.00	Auto	0.0000
L43	46	CCI-CFP-060100	17.75 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L43	48	CCI-SFP-065125	18.00 17.75 - 18.00	Auto	0.0000
L43	53	CCI-AFP-060100	17.75 - 18.00	Auto	0.0000
L43	56	PL0.75x4 Reinforcement - Wind Area	17.75 - 18.00	Auto	0.0000
L43	58	CCI-CFP-060100	17.75 - 18.00	Auto	0.0000
L43	60	CCI-SFP-065125	17.75 - 18.00	Auto	0.0000
L43	64	CCI-AFP-060100	17.75 - 18.00	Auto	0.0000
L44	34	PL0.75x4 Reinforcement - Wind Area	17.50 - 17.75	Auto	0.0000
L44	36	CCI-CFP-060100	17.50 - 17.75	Auto	0.0000
L44	38	CCI-AFP-060100	17.50 - 17.75	Auto	0.0000
L44	41	CCI-SFP-065125	17.50 - 17.75	Auto	0.0000
L44	44	PL0.75x4 Reinforcement - Wind Area	17.50 - 17.75	Auto	0.0000
L44	46	CCI-CFP-060100	17.50 - 17.75	Auto	0.0000
L44	48	CCI-SFP-065125	17.50 - 17.75	Auto	0.0000
L44	53	CCI-AFP-060100	17.50 - 17.75	Auto	0.0000
L44	56	PL0.75x4 Reinforcement - Wind Area	17.50 - 17.75	Auto	0.0000
L44	58	CCI-CFP-060100	17.50 - 17.75	Auto	0.0000
L44	60	CCI-SFP-065125	17.50 - 17.75	Auto	0.0000
L44	64	CCI-AFP-060100	17.50 - 17.75	Auto	0.0000
L45	34	PL0.75x4 Reinforcement - Wind Area	17.25 - 17.50	Auto	0.0000
L45	36	CCI-CFP-060100	17.25 - 17.50	Auto	0.0000
L45	38	CCI-AFP-060100	17.25 - 17.50	Auto	0.0000
L45	41	CCI-SFP-065125	17.25 - 17.50	Auto	0.0000
L45	44	PL0.75x4 Reinforcement - Wind Area	17.25 - 17.50	Auto	0.0000
L45	46	CCI-CFP-060100	17.25 - 17.50	Auto	0.0000
L45	48	CCI-SFP-065125	17.25 - 17.50	Auto	0.0000
L45	53	CCI-AFP-060100	17.25 - 17.50	Auto	0.0000
L45	56	PL0.75x4 Reinforcement - Wind Area	17.25 - 17.50	Auto	0.0000
L45	58	CCI-CFP-060100	17.25 - 17.50	Auto	0.0000
L45	60	CCI-SFP-065125	17.25 - 17.50	Auto	0.0000
L45	64	CCI-AFP-060100	17.25 - 17.50	Auto	0.0000
L46	34	PL0.75x4 Reinforcement - Wind Area	17.08 - 17.25	Auto	0.0000
L46	36	CCI-CFP-060100	17.08 - 17.25	Auto	0.0000
L46	38	CCI-AFP-060100	17.08 - 17.25	Auto	0.0000
L46	41	CCI-SFP-065125	17.08 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L46	44	PL0.75x4 Reinforcement - Wind Area	17.25 17.08 - 17.25	Auto	0.0000
L46	46	CCI-CFP-060100	17.08 - 17.25	Auto	0.0000
L46	48	CCI-SFP-065125	17.08 - 17.25	Auto	0.0000
L46	53	CCI-AFP-060100	17.08 - 17.25	Auto	0.0000
L46	56	PL0.75x4 Reinforcement - Wind Area	17.08 - 17.25	Auto	0.0000
L46	58	CCI-CFP-060100	17.08 - 17.25	Auto	0.0000
L46	60	CCI-SFP-065125	17.08 - 17.25	Auto	0.0000
L46	64	CCI-AFP-060100	17.08 - 17.25	Auto	0.0000
L47	34	PL0.75x4 Reinforcement - Wind Area	16.83 - 17.08	Auto	0.0000
L47	36	CCI-CFP-060100	16.83 - 17.08	Auto	0.0000
L47	38	CCI-AFP-060100	16.83 - 17.08	Auto	0.0000
L47	41	CCI-SFP-065125	16.83 - 17.08	Auto	0.0000
L47	44	PL0.75x4 Reinforcement - Wind Area	16.83 - 17.08	Auto	0.0000
L47	46	CCI-CFP-060100	16.83 - 17.08	Auto	0.0000
L47	48	CCI-SFP-065125	16.83 - 17.08	Auto	0.0000
L47	53	CCI-AFP-060100	16.83 - 17.08	Auto	0.0000
L47	56	PL0.75x4 Reinforcement - Wind Area	16.83 - 17.08	Auto	0.0000
L47	58	CCI-CFP-060100	16.83 - 17.08	Auto	0.0000
L47	60	CCI-SFP-065125	16.83 - 17.08	Auto	0.0000
L47	64	CCI-AFP-060100	16.83 - 17.08	Auto	0.0000
L48	33	CCI-AFP-060100	13.00 - 15.50	Auto	0.0000
L48	34	PL0.75x4 Reinforcement - Wind Area	15.83 - 16.83	Auto	0.0000
L48	36	CCI-CFP-060100	13.00 - 16.83	Auto	0.0000
L48	38	CCI-AFP-060100	13.00 - 16.83	Auto	0.0000
L48	41	CCI-SFP-065125	13.00 - 16.83	Auto	0.0000
L48	43	CCI-AFP-060100	13.00 - 15.50	Auto	0.0000
L48	44	PL0.75x4 Reinforcement - Wind Area	15.83 - 16.83	Auto	0.0000
L48	46	CCI-CFP-060100	13.00 - 16.83	Auto	0.0000
L48	48	CCI-SFP-065125	13.00 - 16.83	Auto	0.0000
L48	53	CCI-AFP-060100	13.00 - 16.83	Auto	0.0000
L48	55	CCI-AFP-060100	13.00 - 15.50	Auto	0.0000
L48	56	PL0.75x4 Reinforcement - Wind Area	15.83 - 16.83	Auto	0.0000
L48	58	CCI-CFP-060100	13.00 - 16.83	Auto	0.0000
L48	60	CCI-SFP-065125	13.00 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L48	64	CCI-AFP-060100	16.83 13.00 - 16.83	Auto	0.0000
L49	33	CCI-AFP-060100	12.75 - 13.00	Auto	0.0000
L49	36	CCI-CFP-060100	12.75 - 13.00	Auto	0.0000
L49	38	CCI-AFP-060100	12.75 - 13.00	Auto	0.0000
L49	41	CCI-SFP-065125	12.75 - 13.00	Auto	0.0000
L49	43	CCI-AFP-060100	12.75 - 13.00	Auto	0.0000
L49	46	CCI-CFP-060100	12.75 - 13.00	Auto	0.0000
L49	48	CCI-SFP-065125	12.75 - 13.00	Auto	0.0000
L49	53	CCI-AFP-060100	12.75 - 13.00	Auto	0.0000
L49	55	CCI-AFP-060100	12.75 - 13.00	Auto	0.0000
L49	58	CCI-CFP-060100	12.75 - 13.00	Auto	0.0000
L49	60	CCI-SFP-065125	12.75 - 13.00	Auto	0.0000
L49	64	CCI-AFP-060100	12.75 - 13.00	Auto	0.0000
L50	33	CCI-AFP-060100	11.85 - 12.75	Auto	0.0000
L50	36	CCI-CFP-060100	11.85 - 12.75	Auto	0.0000
L50	38	CCI-AFP-060100	11.85 - 12.75	Auto	0.0000
L50	41	CCI-SFP-065125	11.85 - 12.75	Auto	0.0000
L50	43	CCI-AFP-060100	11.85 - 12.75	Auto	0.0000
L50	46	CCI-CFP-060100	11.85 - 12.75	Auto	0.0000
L50	48	CCI-SFP-065125	11.85 - 12.75	Auto	0.0000
L50	53	CCI-AFP-060100	11.85 - 12.75	Auto	0.0000
L50	55	CCI-AFP-060100	11.85 - 12.75	Auto	0.0000
L50	58	CCI-CFP-060100	11.85 - 12.75	Auto	0.0000
L50	60	CCI-SFP-065125	11.85 - 12.75	Auto	0.0000
L50	64	CCI-AFP-060100	11.85 - 12.75	Auto	0.0000
L51	33	CCI-AFP-060100	11.60 - 11.85	Auto	0.0000
L51	36	CCI-CFP-060100	11.60 - 11.85	Auto	0.0000
L51	38	CCI-AFP-060100	11.60 - 11.85	Auto	0.0000
L51	41	CCI-SFP-065125	11.60 - 11.85	Auto	0.0000
L51	43	CCI-AFP-060100	11.60 - 11.85	Auto	0.0000
L51	46	CCI-CFP-060100	11.60 - 11.85	Auto	0.0000
L51	48	CCI-SFP-065125	11.60 - 11.85	Auto	0.0000
L51	53	CCI-AFP-060100	11.60 - 11.85	Auto	0.0000
L51	55	CCI-AFP-060100	11.60 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L51	58	CCI-CFP-060100	11.85 11.60 - 11.85	Auto	0.0000
L51	60	CCI-SFP-065125	11.60 - 11.85	Auto	0.0000
L51	64	CCI-AFP-060100	11.60 - 11.85	Auto	0.0000
L52	33	CCI-AFP-060100	6.50 - 11.60	Auto	0.0000
L52	36	CCI-CFP-060100	6.50 - 11.60	Auto	0.0000
L52	38	CCI-AFP-060100	9.40 - 11.60	Auto	0.0000
L52	41	CCI-SFP-065125	6.50 - 11.60	Auto	0.0000
L52	43	CCI-AFP-060100	6.50 - 11.60	Auto	0.0000
L52	46	CCI-CFP-060100	6.50 - 11.60	Auto	0.0000
L52	48	CCI-SFP-065125	6.50 - 11.60	Auto	0.0000
L52	52	CCI-SFP-065125	6.50 - 9.25	Auto	0.0000
L52	53	CCI-AFP-060100	9.40 - 11.60	Auto	0.0000
L52	55	CCI-AFP-060100	6.50 - 11.60	Auto	0.0000
L52	58	CCI-CFP-060100	6.50 - 11.60	Auto	0.0000
L52	60	CCI-SFP-065125	6.50 - 11.60	Auto	0.0000
L52	64	CCI-AFP-060100	9.40 - 11.60	Auto	0.0000
L53	33	CCI-AFP-060100	6.25 - 6.50	Auto	0.0000
L53	36	CCI-CFP-060100	6.25 - 6.50	Auto	0.0000
L53	41	CCI-SFP-065125	6.25 - 6.50	Auto	0.0000
L53	43	CCI-AFP-060100	6.25 - 6.50	Auto	0.0000
L53	46	CCI-CFP-060100	6.25 - 6.50	Auto	0.0000
L53	48	CCI-SFP-065125	6.25 - 6.50	Auto	0.0000
L53	52	CCI-SFP-065125	6.25 - 6.50	Auto	0.0000
L53	55	CCI-AFP-060100	6.25 - 6.50	Auto	0.0000
L53	58	CCI-CFP-060100	6.25 - 6.50	Auto	0.0000
L53	60	CCI-SFP-065125	6.25 - 6.50	Auto	0.0000
L54	33	CCI-AFP-060100	3.75 - 6.25	Auto	0.0000
L54	36	CCI-CFP-060100	3.75 - 6.25	Auto	0.0000
L54	41	CCI-SFP-065125	3.75 - 6.25	Auto	0.0000
L54	43	CCI-AFP-060100	3.75 - 6.25	Auto	0.0000
L54	46	CCI-CFP-060100	3.75 - 6.25	Auto	0.0000
L54	48	CCI-SFP-065125	3.75 - 6.25	Auto	0.0000
L54	52	CCI-SFP-065125	3.75 - 6.25	Auto	0.0000
L54	55	CCI-AFP-060100	3.75 - 6.25	Auto	0.0000
L54	58	CCI-CFP-060100	3.75 - 6.25	Auto	0.0000
L54	60	CCI-SFP-065125	3.75 - 6.25	Auto	0.0000
L55	33	CCI-AFP-060100	3.50 - 3.75	Auto	0.0000
L55	36	CCI-CFP-060100	3.50 - 3.75	Auto	0.0000
L55	41	CCI-SFP-065125	3.50 - 3.75	Auto	0.0000
L55	43	CCI-AFP-060100	3.50 - 3.75	Auto	0.0000
L55	46	CCI-CFP-060100	3.50 - 3.75	Auto	0.0000
L55	48	CCI-SFP-065125	3.50 - 3.75	Auto	0.0000
L55	52	CCI-SFP-065125	3.50 - 3.75	Auto	0.0000
L55	55	CCI-AFP-060100	3.50 - 3.75	Auto	0.0000
L55	58	CCI-CFP-060100	3.50 - 3.75	Auto	0.0000
L55	60	CCI-SFP-065125	3.50 - 3.75	Auto	0.0000
L56	33	CCI-AFP-060100	3.00 - 3.50	Auto	0.0000
L56	36	CCI-CFP-060100	3.00 - 3.50	Auto	0.0000
L56	41	CCI-SFP-065125	3.00 - 3.50	Auto	0.0000
L56	43	CCI-AFP-060100	3.00 - 3.50	Auto	0.0000
L56	46	CCI-CFP-060100	3.00 - 3.50	Auto	0.0000
L56	48	CCI-SFP-065125	3.00 - 3.50	Auto	0.0000
L56	52	CCI-SFP-065125	3.00 - 3.50	Auto	0.0000
L56	55	CCI-AFP-060100	3.00 - 3.50	Auto	0.0000
L56	58	CCI-CFP-060100	3.00 - 3.50	Auto	0.0000
L56	60	CCI-SFP-065125	3.00 - 3.50	Auto	0.0000
L57	33	CCI-AFP-060100	2.75 - 3.00	Auto	0.0000
L57	36	CCI-CFP-060100	2.75 - 3.00	Auto	0.0000
L57	41	CCI-SFP-065125	2.75 - 3.00	Auto	0.0000
L57	43	CCI-AFP-060100	2.75 - 3.00	Auto	0.0000
L57	46	CCI-CFP-060100	2.75 - 3.00	Auto	0.0000
L57	48	CCI-SFP-065125	2.75 - 3.00	Auto	0.0000
L57	52	CCI-SFP-065125	2.75 - 3.00	Auto	0.0000
L57	55	CCI-AFP-060100	2.75 - 3.00	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L57	58	CCI-CFP-060100	2.75 - 3.00	Auto	0.0000
L57	60	CCI-SFP-065125	2.75 - 3.00	Auto	0.0000
L58	33	CCI-AFP-060100	0.50 - 2.75	Auto	0.0000
L58	36	CCI-CFP-060100	0.00 - 2.75	Auto	0.0000
L58	41	CCI-SFP-065125	0.00 - 2.75	Auto	0.0000
L58	43	CCI-AFP-060100	0.50 - 2.75	Auto	0.0000
L58	46	CCI-CFP-060100	0.00 - 2.75	Auto	0.0000
L58	48	CCI-SFP-065125	0.00 - 2.75	Auto	0.0000
L58	52	CCI-SFP-065125	0.00 - 2.75	Auto	0.0000
L58	55	CCI-AFP-060100	0.50 - 2.75	Auto	0.0000
L58	58	CCI-CFP-060100	0.00 - 2.75	Auto	0.0000
L58	60	CCI-SFP-065125	0.00 - 2.75	Auto	0.0000

Discrete Tower Loads

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 ²	ft ²	K	

Platform Mount [LP 602-1]	C	None			0.0000	121.00	No Ice 1/2" Ice 1" Ice 2" Ice	31.07 34.82 38.48 45.60	31.07 34.82 38.48 45.60	1.34 1.97 2.67 4.31
Side Arm Mount [SO 102-3]	C	None			0.0000	121.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.60 4.18 4.75 5.90	3.60 4.18 4.75 5.90	0.07 0.11 0.14 0.20
(2) 6'x2" Horizontal Pipe	A	From Leg	4.00 0.00 0.00		0.0000	121.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	0.01 0.04 0.07 0.13	0.02 0.03 0.05 0.09
(2) 6'x2" Horizontal Pipe	B	From Leg	4.00 0.00 0.00		0.0000	121.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	0.01 0.04 0.07 0.13	0.02 0.03 0.05 0.09
(2) 6'x2" Horizontal Pipe	C	From Leg	4.00 0.00 0.00		0.0000	121.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	0.01 0.04 0.07 0.13	0.02 0.03 0.05 0.09
3'x2" Mount Pipe	A	From Face	2.00 0.00 0.00		0.0000	121.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.58 0.77 0.97 1.39	0.58 0.77 0.97 1.39	0.01 0.02 0.02 0.05
3'x2" Mount Pipe	B	From Face	2.00 0.00 0.00		0.0000	121.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.58 0.77 0.97 1.39	0.58 0.77 0.97 1.39	0.01 0.02 0.02 0.05
3'x2" Mount Pipe	C	From Face	2.00 0.00 0.00		0.0000	121.00	No Ice 1/2" Ice	0.58 0.77 0.97	0.58 0.77 0.97	0.01 0.02 0.02

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight	
			Horz	Lateral	Vert						ft
			ft	ft	ft	°	ft	ft ²	ft ²	K	
4' Horiz x L2x2x1/4	A	From Face	2.00	0.00	0.00	0.0000	121.00	1" Ice	1.39	1.39	0.05
								2" Ice	0.80	0.03	0.01
								No Ice	1.08	0.06	0.02
								1/2" Ice	1.37	0.09	0.03
								1" Ice	1.97	0.18	0.07
4' Horiz x L2x2x1/4	B	From Face	2.00	0.00	0.00	0.0000	121.00	1" Ice	1.39	1.39	0.05
								2" Ice	0.80	0.03	0.01
								No Ice	1.08	0.06	0.02
								1/2" Ice	1.37	0.09	0.03
								1" Ice	1.97	0.18	0.07
4' Horiz x L2x2x1/4	C	From Face	2.00	0.00	0.00	0.0000	121.00	1" Ice	1.39	1.39	0.05
								2" Ice	0.80	0.03	0.01
								No Ice	1.08	0.06	0.02
								1/2" Ice	1.37	0.09	0.03
								1" Ice	1.97	0.18	0.07
DMP65R-BU6D w/ Mount Pipe	A	From Leg	4.00	0.00	-1.00	0.0000	121.00	2" Ice	11.96	5.97	0.11
								No Ice	12.70	6.63	0.20
								1/2" Ice	13.46	7.30	0.30
								1" Ice	15.02	8.69	0.53
								2" Ice	11.96	5.97	0.11
DMP65R-BU6D w/ Mount Pipe	B	From Leg	4.00	0.00	-1.00	0.0000	121.00	2" Ice	11.96	5.97	0.11
								No Ice	12.70	6.63	0.20
								1/2" Ice	13.46	7.30	0.30
								1" Ice	15.02	8.69	0.53
								2" Ice	11.96	5.97	0.11
DMP65R-BU6D w/ Mount Pipe	C	From Leg	4.00	0.00	-1.00	0.0000	121.00	2" Ice	11.96	5.97	0.11
								No Ice	12.70	6.63	0.20
								1/2" Ice	13.46	7.30	0.30
								1" Ice	15.02	8.69	0.53
								2" Ice	11.96	5.97	0.11
AIR 6419 B77G w/ Mount Pipe	A	From Leg	4.00	0.00	-3.00	0.0000	121.00	2" Ice	4.32	2.49	0.08
								No Ice	4.74	2.84	0.11
								1/2" Ice	5.17	3.21	0.15
								1" Ice	6.09	4.00	0.24
								2" Ice	4.32	2.49	0.08
AIR 6419 B77G w/ Mount Pipe	B	From Leg	4.00	0.00	-3.00	0.0000	121.00	2" Ice	4.32	2.49	0.08
								No Ice	4.74	2.84	0.11
								1/2" Ice	5.17	3.21	0.15
								1" Ice	6.09	4.00	0.24
								2" Ice	4.32	2.49	0.08
AIR 6419 B77G w/ Mount Pipe	C	From Leg	4.00	0.00	-3.00	0.0000	121.00	2" Ice	4.32	2.49	0.08
								No Ice	4.74	2.84	0.11
								1/2" Ice	5.17	3.21	0.15
								1" Ice	6.09	4.00	0.24
								2" Ice	4.32	2.49	0.08
AIR 6449 B77D w/ Mount Pipe	A	From Leg	4.00	0.00	1.00	0.0000	121.00	2" Ice	3.58	2.31	0.09
								No Ice	3.92	2.60	0.13
								1/2" Ice	4.27	2.91	0.17
								1" Ice	5.02	3.57	0.28
								2" Ice	3.58	2.31	0.09
AIR 6449 B77D w/ Mount Pipe	B	From Leg	4.00	0.00	1.00	0.0000	121.00	2" Ice	3.58	2.31	0.09
								No Ice	3.92	2.60	0.13
								1/2" Ice	4.27	2.91	0.17
								1" Ice	5.02	3.57	0.28
								2" Ice	3.58	2.31	0.09
AIR 6449 B77D w/ Mount Pipe	C	From Leg	4.00	0.00	1.00	0.0000	121.00	2" Ice	3.58	2.31	0.09
								No Ice	3.92	2.60	0.13
								1/2" Ice	4.27	2.91	0.17
								1" Ice	5.02	3.57	0.28
								2" Ice	3.58	2.31	0.09
QD6616-7 w/ Mount Pipe	A	From Leg	4.00	0.00	-1.00	0.0000	121.00	No Ice	12.56	6.93	0.16
								1/2" Ice	13.30	7.60	0.25
								Ice	14.06	8.28	0.36

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight
			Horz	Lateral	Vert					
			ft	ft	ft	°	ft	ft ²	ft ²	K
							1" Ice	15.63	9.68	0.61
							2" Ice			
QD6616-7 w/ Mount Pipe	B	From Leg	4.00	0.0000	121.00		No Ice	12.56	6.93	0.16
			0.00				1/2"	13.30	7.60	0.25
			-1.00				Ice	14.06	8.28	0.36
							1" Ice	15.63	9.68	0.61
							2" Ice			
QD6616-7 w/ Mount Pipe	C	From Leg	4.00	0.0000	121.00		No Ice	12.56	6.93	0.16
			0.00				1/2"	13.30	7.60	0.25
			-1.00				Ice	14.06	8.28	0.36
							1" Ice	15.63	9.68	0.61
							2" Ice			
RRUS 32 B30	A	From Leg	4.00	0.0000	121.00		No Ice	2.69	1.57	0.06
			0.00				1/2"	2.91	1.76	0.08
			-1.00				Ice	3.14	1.95	0.10
							1" Ice	3.61	2.35	0.16
							2" Ice			
RRUS 32 B30	B	From Leg	4.00	0.0000	121.00		No Ice	2.69	1.57	0.06
			0.00				1/2"	2.91	1.76	0.08
			-1.00				Ice	3.14	1.95	0.10
							1" Ice	3.61	2.35	0.16
							2" Ice			
RRUS 32 B30	C	From Leg	4.00	0.0000	121.00		No Ice	2.69	1.57	0.06
			0.00				1/2"	2.91	1.76	0.08
			-1.00				Ice	3.14	1.95	0.10
							1" Ice	3.61	2.35	0.16
							2" Ice			
RRUS 4449 B5/B12	A	From Leg	4.00	0.0000	121.00		No Ice	1.97	1.41	0.07
			0.00				1/2"	2.14	1.56	0.09
			-1.00				Ice	2.33	1.73	0.11
							1" Ice	2.72	2.07	0.16
							2" Ice			
RRUS 4449 B5/B12	B	From Leg	4.00	0.0000	121.00		No Ice	1.97	1.41	0.07
			0.00				1/2"	2.14	1.56	0.09
			-1.00				Ice	2.33	1.73	0.11
							1" Ice	2.72	2.07	0.16
							2" Ice			
RRUS 4449 B5/B12	C	From Leg	4.00	0.0000	121.00		No Ice	1.97	1.41	0.07
			0.00				1/2"	2.14	1.56	0.09
			-1.00				Ice	2.33	1.73	0.11
							1" Ice	2.72	2.07	0.16
							2" Ice			
RRUS 4478 B14	A	From Leg	4.00	0.0000	121.00		No Ice	1.84	1.06	0.06
			0.00				1/2"	2.01	1.20	0.08
			-1.00				Ice	2.19	1.34	0.09
							1" Ice	2.57	1.66	0.14
							2" Ice			
RRUS 4478 B14	B	From Leg	4.00	0.0000	121.00		No Ice	1.84	1.06	0.06
			0.00				1/2"	2.01	1.20	0.08
			-1.00				Ice	2.19	1.34	0.09
							1" Ice	2.57	1.66	0.14
							2" Ice			
RRUS 4478 B14	C	From Leg	4.00	0.0000	121.00		No Ice	1.84	1.06	0.06
			0.00				1/2"	2.01	1.20	0.08
			-1.00				Ice	2.19	1.34	0.09
							1" Ice	2.57	1.66	0.14
							2" Ice			
RRUS 8843 B2/B66A	A	From Leg	4.00	0.0000	121.00		No Ice	1.64	1.35	0.07
			0.00				1/2"	1.80	1.50	0.09
			-1.00				Ice	1.97	1.65	0.11
							1" Ice	2.32	1.99	0.16
							2" Ice			
RRUS 8843 B2/B66A	B	From Leg	4.00	0.0000	121.00		No Ice	1.64	1.35	0.07
			0.00				1/2"	1.80	1.50	0.09
			-1.00				Ice	1.97	1.65	0.11

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight	
			Horz	Lateral	Vert						ft
			ft	ft	ft	°	ft	ft ²	ft ²	K	
RRUS 8843 B2/B66A	C	From Leg	4.00	0.00	-1.00	0.0000	121.00	1" Ice	2.32	1.99	0.16
								2" Ice			
								No Ice	1.64	1.35	0.07
								1/2" Ice	1.80	1.50	0.09
								Ice	1.97	1.65	0.11
RRUS E2 B29	A	From Leg	4.00	0.00	-1.00	0.0000	121.00	1" Ice	2.32	1.99	0.16
								2" Ice			
								No Ice	3.15	1.29	0.05
								1/2" Ice	3.36	1.44	0.08
								Ice	3.59	1.60	0.10
RRUS E2 B29	B	From Leg	4.00	0.00	-1.00	0.0000	121.00	1" Ice	4.07	1.95	0.17
								2" Ice			
								No Ice	3.15	1.29	0.05
								1/2" Ice	3.36	1.44	0.08
								Ice	3.59	1.60	0.10
RRUS E2 B29	C	From Leg	4.00	0.00	-1.00	0.0000	121.00	1" Ice	4.07	1.95	0.17
								2" Ice			
								No Ice	3.15	1.29	0.05
								1/2" Ice	3.36	1.44	0.08
								Ice	3.59	1.60	0.10
DC6-48-60-0-8F	A	From Leg	4.00	0.00	-1.00	0.0000	121.00	1" Ice	4.07	1.95	0.17
								2" Ice			
								No Ice	0.92	0.92	0.02
								1/2" Ice	1.46	1.46	0.04
								Ice	1.64	1.64	0.06
DC6-48-60-18-8F	B	From Leg	4.00	0.00	-1.00	0.0000	121.00	1" Ice	2.04	2.04	0.11
								2" Ice			
								No Ice	0.92	0.92	0.02
								1/2" Ice	1.46	1.46	0.04
								Ice	1.64	1.64	0.06
(2) DC6-48-60-18-8F	C	From Leg	4.00	0.00	-1.00	0.0000	121.00	1" Ice	2.04	2.04	0.11
								2" Ice			
								No Ice	0.92	0.92	0.02
								1/2" Ice	1.46	1.46	0.04
								Ice	1.64	1.64	0.06
*** Site Pro 1 F3P-12W 12' Fortress Platform	C	None				0.0000	109.00	1" Ice	50.42	52.86	4.40
								2" Ice			
								No Ice	25.52	25.41	2.00
								1/2" Ice	31.74	32.27	2.60
								Ice	40.10	39.68	3.41
Site Pro 1 F3P-HRK12 12' Hand Rail Kit	C	None				0.0000	109.00	1" Ice	12.74	11.48	0.77
								2" Ice			
								No Ice	5.38	4.64	0.41
								1/2" Ice	7.22	6.35	0.50
								Ice	8.88	8.13	0.63
(2) SBNHH-1D65B w/ Mount Pipe	A	From Leg	4.00	0.00	2.00	0.0000	109.00	1" Ice	5.72	4.87	0.39
								2" Ice			
								No Ice	4.09	3.30	0.07
								1/2" Ice	4.49	3.68	0.13
								Ice	4.89	4.07	0.20
(2) SBNHH-1D65B w/ Mount Pipe	B	From Leg	4.00	0.00	2.00	0.0000	109.00	1" Ice	5.72	4.87	0.39
								2" Ice			
								No Ice	4.09	3.30	0.07
								1/2" Ice	4.49	3.68	0.13
								Ice	4.89	4.07	0.20
(2) SBNHH-1D65B w/ Mount Pipe	C	From Leg	4.00	0.00	2.00	0.0000	109.00	1" Ice	5.72	4.87	0.39
								2" Ice			
								No Ice	4.09	3.30	0.07
								1/2" Ice	4.49	3.68	0.13
								Ice	4.89	4.07	0.20
MT6407-77A w/ Mount Pipe	A	From Leg	4.00	0.00		0.0000	109.00	1" Ice	5.26	3.14	0.14
								2" Ice			
								No Ice	4.91	2.68	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
			4.00			Ice 5.61	3.62	0.18
						1" Ice 6.36	4.63	0.29
						2" Ice		
MT6407-77A w/ Mount Pipe	B	From Leg	4.00	0.0000	109.00	No Ice 4.91	2.68	0.10
			0.00			1/2" 5.26	3.14	0.14
			4.00			Ice 5.61	3.62	0.18
						1" Ice 6.36	4.63	0.29
						2" Ice		
MT6407-77A w/ Mount Pipe	C	From Leg	4.00	0.0000	109.00	No Ice 4.91	2.68	0.10
			0.00			1/2" 5.26	3.14	0.14
			4.00			Ice 5.61	3.62	0.18
						1" Ice 6.36	4.63	0.29
						2" Ice		
CBRS w/ Mount Pipe	A	From Leg	4.00	0.0000	109.00	No Ice 1.45	0.99	0.03
			0.00			1/2" 1.67	1.18	0.05
			0.00			Ice 1.90	1.39	0.07
						1" Ice 2.42	1.85	0.12
						2" Ice		
CBRS w/ Mount Pipe	B	From Leg	4.00	0.0000	109.00	No Ice 1.45	0.99	0.03
			0.00			1/2" 1.67	1.18	0.05
			0.00			Ice 1.90	1.39	0.07
						1" Ice 2.42	1.85	0.12
						2" Ice		
CBRS w/ Mount Pipe	C	From Leg	4.00	0.0000	109.00	No Ice 1.45	0.99	0.03
			0.00			1/2" 1.67	1.18	0.05
			0.00			Ice 1.90	1.39	0.07
						1" Ice 2.42	1.85	0.12
						2" Ice		
BXA-80063/4CF w/ Mount Pipe	A	From Leg	4.00	0.0000	109.00	No Ice 4.83	3.65	0.03
			0.00			1/2" 5.35	4.14	0.06
			2.00			Ice 5.88	4.64	0.11
						1" Ice 6.98	5.70	0.22
						2" Ice		
BXA-80063/4CF w/ Mount Pipe	B	From Leg	4.00	0.0000	109.00	No Ice 4.83	3.65	0.03
			0.00			1/2" 5.35	4.14	0.06
			2.00			Ice 5.88	4.64	0.11
						1" Ice 6.98	5.70	0.22
						2" Ice		
BXA-80063/4CF w/ Mount Pipe	C	From Leg	4.00	0.0000	109.00	No Ice 4.83	3.65	0.03
			0.00			1/2" 5.35	4.14	0.06
			2.00			Ice 5.88	4.64	0.11
						1" Ice 6.98	5.70	0.22
						2" Ice		
RFV01U-D1A	A	From Leg	4.00	0.0000	109.00	No Ice 1.88	1.25	0.08
			0.00			1/2" 2.05	1.39	0.10
			0.00			Ice 2.22	1.54	0.12
						1" Ice 2.60	1.86	0.18
						2" Ice		
RFV01U-D1A	B	From Leg	4.00	0.0000	109.00	No Ice 1.88	1.25	0.08
			0.00			1/2" 2.05	1.39	0.10
			0.00			Ice 2.22	1.54	0.12
						1" Ice 2.60	1.86	0.18
						2" Ice		
RFV01U-D1A	C	From Leg	4.00	0.0000	109.00	No Ice 1.88	1.25	0.08
			0.00			1/2" 2.05	1.39	0.10
			0.00			Ice 2.22	1.54	0.12
						1" Ice 2.60	1.86	0.18
						2" Ice		
RFV01U-D2A	A	From Leg	4.00	0.0000	109.00	No Ice 1.88	1.01	0.07
			0.00			1/2" 2.05	1.14	0.09
			0.00			Ice 2.22	1.28	0.11
						1" Ice 2.60	1.59	0.15
						2" Ice		
RFV01U-D2A	B	From Leg	4.00	0.0000	109.00	No Ice 1.88	1.01	0.07
			0.00			1/2" 2.05	1.14	0.09

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral	Vert					
			ft	ft	ft	°	ft	ft ²	ft ²	K
			0.00				Ice	2.22	1.28	0.11
							1" Ice	2.60	1.59	0.15
							2" Ice			
RFV01U-D2A	C	From Leg	4.00	0.0000	109.00		No Ice	1.88	1.01	0.07
			0.00				1/2"	2.05	1.14	0.09
			0.00				Ice	2.22	1.28	0.11
							1" Ice	2.60	1.59	0.15
							2" Ice			
RUSDC-6267-PF-48	B	From Leg	4.00	0.0000	109.00		No Ice	3.23	1.04	0.02
			0.00				1/2"	3.45	1.18	0.04
			0.00				Ice	3.68	1.33	0.07
							1" Ice	4.17	1.66	0.13
							2" Ice			

Side Arm Mount [SO 101-3]	C	None		0.0000	99.00		No Ice	5.81	5.81	0.25
							1/2"	6.95	6.95	0.34
							Ice	8.28	8.28	0.46
							1" Ice	11.54	11.54	0.78
							2" Ice			
800MHz 2X50W RRH W/FILTER	A	From Leg	2.00	0.0000	99.00		No Ice	2.06	1.93	0.06
			0.00				1/2"	2.24	2.11	0.09
			0.00				Ice	2.43	2.29	0.11
							1" Ice	2.83	2.68	0.17
							2" Ice			
800MHz 2X50W RRH W/FILTER	B	From Leg	2.00	0.0000	99.00		No Ice	2.06	1.93	0.06
			0.00				1/2"	2.24	2.11	0.09
			0.00				Ice	2.43	2.29	0.11
							1" Ice	2.83	2.68	0.17
							2" Ice			
800MHz 2X50W RRH W/FILTER	C	From Leg	2.00	0.0000	99.00		No Ice	2.06	1.93	0.06
			0.00				1/2"	2.24	2.11	0.09
			0.00				Ice	2.43	2.29	0.11
							1" Ice	2.83	2.68	0.17
							2" Ice			
PCS 1900MHz 4x45W-65MHz w/ Mount Pipe	A	From Leg	2.00	0.0000	99.00		No Ice	2.52	2.84	0.07
			0.00				1/2"	2.79	3.24	0.10
			0.00				Ice	3.06	3.65	0.14
							1" Ice	3.65	4.53	0.23
							2" Ice			
PCS 1900MHz 4x45W-65MHz w/ Mount Pipe	B	From Leg	2.00	0.0000	99.00		No Ice	2.52	2.84	0.07
			0.00				1/2"	2.79	3.24	0.10
			0.00				Ice	3.06	3.65	0.14
							1" Ice	3.65	4.53	0.23
							2" Ice			
PCS 1900MHz 4x45W-65MHz w/ Mount Pipe	C	From Leg	2.00	0.0000	99.00		No Ice	2.52	2.84	0.07
			0.00				1/2"	2.79	3.24	0.10
			0.00				Ice	3.06	3.65	0.14
							1" Ice	3.65	4.53	0.23
							2" Ice			

Platform Mount [13.16' LP 713-1]	C	None		0.0000	97.00		No Ice	34.63	34.63	1.59
							1/2"	37.65	37.65	2.35
							Ice	40.67	40.67	3.10
							1" Ice	46.71	46.71	4.61
							2" Ice			
6' x HSS 4"x4"x0.1375" Mount	A	From Leg	2.00	0.0000	97.00		No Ice	2.83	2.83	0.05
			0.00				1/2"	3.29	3.29	0.08
			3.00				Ice	3.75	3.75	0.11
							1" Ice	4.68	4.68	0.17
							2" Ice			
6' x HSS 4"x4"x0.1375" Mount	B	From Leg	2.00	0.0000	97.00		No Ice	2.83	2.83	0.05
			0.00				1/2"	3.29	3.29	0.08
			3.00				Ice	3.75	3.75	0.11
							1" Ice	4.68	4.68	0.17

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral	Vert					
			ft	ft	ft	°	ft	ft ²	ft ²	K
6' x HSS 4"x4"x0.1375" Mount	C	From Leg	2.00	0.0000	97.00		2" Ice			
							No Ice	2.83	2.83	0.05
							1/2"	3.29	3.29	0.08
							Ice	3.75	3.75	0.11
12' horizontal x 2" Pipe Mount	A	From Leg	4.00	0.0000	97.00		1" Ice	4.68	4.68	0.17
							2" Ice			
							No Ice	2.28	0.01	0.03
							1/2"	3.50	0.04	0.05
12' horizontal x 2" Pipe Mount	B	From Leg	4.00	0.0000	97.00		Ice	4.75	0.09	0.08
							1" Ice	7.28	0.21	0.15
							2" Ice			
							No Ice	2.28	0.01	0.03
12' horizontal x 2" Pipe Mount	C	From Leg	4.00	0.0000	97.00		1/2"	3.50	0.04	0.05
							Ice	4.75	0.09	0.08
							1" Ice	7.28	0.21	0.15
							2" Ice			
4'x2" Mount Pipe	A	From Leg	4.00	0.0000	97.00		No Ice	0.87	0.87	0.01
							1/2"	1.11	1.11	0.02
							Ice	1.36	1.36	0.03
							1" Ice	1.90	1.90	0.06
4'x2" Mount Pipe	B	From Leg	4.00	0.0000	97.00		2" Ice			
							No Ice	0.87	0.87	0.01
							1/2"	1.11	1.11	0.02
							Ice	1.36	1.36	0.03
4'x2" Mount Pipe	C	From Leg	4.00	0.0000	97.00		1" Ice	1.90	1.90	0.06
							2" Ice			
							No Ice	0.87	0.87	0.01
							1/2"	1.11	1.11	0.02
8'x2" Mount Pipe	A	From Leg	4.00	0.0000	97.00		Ice	1.36	1.36	0.03
							1" Ice	1.90	1.90	0.06
							2" Ice			
							No Ice	1.90	1.90	0.03
8'x2" Mount Pipe	B	From Leg	4.00	0.0000	97.00		1/2"	2.73	2.73	0.04
							Ice	3.40	3.40	0.06
							1" Ice	4.40	4.40	0.12
							2" Ice			
8'x2" Mount Pipe	C	From Leg	4.00	0.0000	97.00		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	4.40	4.40	0.12
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Leg	4.00	0.0000	97.00		2" Ice			
							No Ice	14.69	6.87	0.18
							1/2"	15.46	7.55	0.31
							Ice	16.23	8.25	0.45
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Leg	4.00	0.0000	97.00		1" Ice	17.82	9.67	0.78
							2" Ice			
							No Ice	14.69	6.87	0.18
							1/2"	15.46	7.55	0.31
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	C	From Leg	4.00	0.0000	97.00		Ice	16.23	8.25	0.45
							1" Ice	17.82	9.67	0.78
							2" Ice			
							No Ice	14.69	6.87	0.18
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe			0.00				1/2"	15.46	7.55	0.31
							Ice	16.23	8.25	0.45
							1" Ice	17.82	9.67	0.78
							2" Ice			

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral	Vert					
			ft	ft	ft	°	ft	ft ²	ft ²	K
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.00	0.0000	97.00		2" Ice			
							No Ice	5.19	2.71	0.13
							1/2"	5.59	3.04	0.17
							Ice	6.02	3.38	0.23
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.00	0.0000	97.00		1" Ice	6.90	4.12	0.35
							2" Ice			
							No Ice	5.19	2.71	0.13
							1/2"	5.59	3.04	0.17
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.00	0.0000	97.00		Ice	6.02	3.38	0.23
							1" Ice	6.90	4.12	0.35
							2" Ice			
							No Ice	5.19	2.71	0.13
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.00	0.0000	97.00		1/2"	5.59	3.04	0.17
							Ice	6.02	3.38	0.23
							1" Ice	6.90	4.12	0.35
							2" Ice			
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.00	0.0000	97.00		No Ice	2.14	1.69	0.11
							1/2"	2.32	1.85	0.13
							Ice	2.51	2.02	0.16
							1" Ice	2.91	2.39	0.22
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.00	0.0000	97.00		2" Ice			
							No Ice	2.14	1.69	0.11
							1/2"	2.32	1.85	0.13
							Ice	2.51	2.02	0.16
Radio 4480_TMOV2	A	From Leg	4.00	0.0000	97.00		1" Ice	2.91	2.39	0.22
							2" Ice			
							No Ice	2.88	1.40	0.08
							1/2"	3.09	1.56	0.10
Radio 4480_TMOV2	B	From Leg	4.00	0.0000	97.00		Ice	3.31	1.73	0.13
							1" Ice	3.78	2.09	0.19
							2" Ice			
							No Ice	2.88	1.40	0.08
Radio 4480_TMOV2	C	From Leg	4.00	0.0000	97.00		1/2"	3.09	1.56	0.10
							Ice	3.31	1.73	0.13
							1" Ice	3.78	2.09	0.19
							2" Ice			
T-Arm Mount [TA 602-3]	C	None			87.00		No Ice	13.40	13.40	0.77
							1/2"	16.44	16.44	1.00
							Ice	19.70	19.70	1.29
							1" Ice	25.86	25.86	2.05
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Face	4.00	0.0000	87.00		2" Ice			
							No Ice	3.14	2.59	0.11
							1/2"	3.45	2.88	0.16
							Ice	3.77	3.19	0.23
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Face	4.00	0.0000	87.00		1" Ice	4.43	3.84	0.38
							2" Ice			
							No Ice	3.14	2.59	0.11
							1/2"	3.45	2.88	0.16
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Face	4.00	0.0000	87.00		Ice	3.77	3.19	0.23
							1" Ice	4.43	3.84	0.38
							2" Ice			
							No Ice	3.14	2.59	0.11
ERICSSON AIR 21 B2A B4P w/ Mount Pipe			4.00	0.0000	87.00		1/2"	3.45	2.88	0.16
							Ice	3.77	3.19	0.23
							Ice	3.77	3.19	0.23

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
						1" Ice	4.43	3.84	0.38
						2" Ice			
APXVAARR24_43-U-NA20	A	From Face	4.00	0.0000	87.00	No Ice	14.69	6.87	0.19
w/ Mount Pipe			0.00			1/2"	15.46	7.55	0.31
			0.00			Ice	16.23	8.25	0.46
						1" Ice	17.82	9.67	0.79
						2" Ice			
APXVAARR24_43-U-NA20	B	From Face	4.00	0.0000	87.00	No Ice	14.69	6.87	0.19
w/ Mount Pipe			0.00			1/2"	15.46	7.55	0.31
			0.00			Ice	16.23	8.25	0.46
						1" Ice	17.82	9.67	0.79
						2" Ice			
APXVAARR24_43-U-NA20	C	From Face	4.00	0.0000	87.00	No Ice	14.69	6.87	0.19
w/ Mount Pipe			0.00			1/2"	15.46	7.55	0.31
			0.00			Ice	16.23	8.25	0.46
						1" Ice	17.82	9.67	0.79
						2" Ice			
AIR -32 B2A/B66AA w/	A	From Face	4.00	0.0000	87.00	No Ice	3.76	3.15	0.19
Mount Pipe			0.00			1/2"	4.12	3.49	0.25
			0.00			Ice	4.48	3.84	0.32
						1" Ice	5.24	4.58	0.48
						2" Ice			
AIR -32 B2A/B66AA w/	B	From Face	4.00	0.0000	87.00	No Ice	3.76	3.15	0.19
Mount Pipe			0.00			1/2"	4.12	3.49	0.25
			0.00			Ice	4.48	3.84	0.32
						1" Ice	5.24	4.58	0.48
						2" Ice			
AIR -32 B2A/B66AA w/	C	From Face	4.00	0.0000	87.00	No Ice	3.76	3.15	0.19
Mount Pipe			0.00			1/2"	4.12	3.49	0.25
			0.00			Ice	4.48	3.84	0.32
						1" Ice	5.24	4.58	0.48
						2" Ice			
KRY 112 144/1	A	From Face	4.00	0.0000	87.00	No Ice	0.35	0.17	0.01
			0.00			1/2"	0.43	0.23	0.01
			0.00			Ice	0.51	0.30	0.02
						1" Ice	0.70	0.46	0.03
						2" Ice			
KRY 112 144/1	B	From Face	4.00	0.0000	87.00	No Ice	0.35	0.17	0.01
			0.00			1/2"	0.43	0.23	0.01
			0.00			Ice	0.51	0.30	0.02
						1" Ice	0.70	0.46	0.03
						2" Ice			
KRY 112 144/1	C	From Face	4.00	0.0000	87.00	No Ice	0.35	0.17	0.01
			0.00			1/2"	0.43	0.23	0.01
			0.00			Ice	0.51	0.30	0.02
						1" Ice	0.70	0.46	0.03
						2" Ice			
RADIO 4449 B12/B71	A	From Face	4.00	0.0000	87.00	No Ice	1.65	1.30	0.08
			0.00			1/2"	1.81	1.44	0.09
			0.00			Ice	1.98	1.60	0.11
						1" Ice	2.34	1.92	0.16
						2" Ice			
RADIO 4449 B12/B71	B	From Face	4.00	0.0000	87.00	No Ice	1.65	1.30	0.08
			0.00			1/2"	1.81	1.44	0.09
			0.00			Ice	1.98	1.60	0.11
						1" Ice	2.34	1.92	0.16
						2" Ice			
RADIO 4449 B12/B71	C	From Face	4.00	0.0000	87.00	No Ice	1.65	1.30	0.08
			0.00			1/2"	1.81	1.44	0.09
			0.00			Ice	1.98	1.60	0.11
						1" Ice	2.34	1.92	0.16
						2" Ice			

Commscope MC-PK8-DSH	C	None		0.0000	77.00	No Ice	34.24	34.24	1.75
						1/2"	62.95	62.95	2.10

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight	
			Horz	Lateral						ft
							ft ²	ft ²	K	
							Ice	91.66	91.66	2.45
							1" Ice	149.08	149.08	3.15
							2" Ice			
(2) 8'x2" Mount Pipe	A	From Leg	4.00	0.0000	77.00	No Ice	1.90	1.90	0.03	
			0.00			1/2"	2.73	2.73	0.04	
			0.00			Ice	3.40	3.40	0.06	
						1" Ice	4.40	4.40	0.12	
						2" Ice				
(2) 8'x2" Mount Pipe	B	From Leg	4.00	0.0000	77.00	No Ice	1.90	1.90	0.03	
			0.00			1/2"	2.73	2.73	0.04	
			0.00			Ice	3.40	3.40	0.06	
						1" Ice	4.40	4.40	0.12	
						2" Ice				
(2) 8'x2" Mount Pipe	C	From Leg	4.00	0.0000	77.00	No Ice	1.90	1.90	0.03	
			0.00			1/2"	2.73	2.73	0.04	
			0.00			Ice	3.40	3.40	0.06	
						1" Ice	4.40	4.40	0.12	
						2" Ice				
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.00	0.0000	77.00	No Ice	8.01	4.23	0.11	
			0.00			1/2"	8.52	4.69	0.19	
			0.00			Ice	9.04	5.16	0.29	
						1" Ice	10.11	6.12	0.52	
						2" Ice				
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.00	0.0000	77.00	No Ice	8.01	4.23	0.11	
			0.00			1/2"	8.52	4.69	0.19	
			0.00			Ice	9.04	5.16	0.29	
						1" Ice	10.11	6.12	0.52	
						2" Ice				
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.00	0.0000	77.00	No Ice	8.01	4.23	0.11	
			0.00			1/2"	8.52	4.69	0.19	
			0.00			Ice	9.04	5.16	0.29	
						1" Ice	10.11	6.12	0.52	
						2" Ice				
TA08025-B605	A	From Leg	4.00	0.0000	77.00	No Ice	1.96	1.13	0.08	
			0.00			1/2"	2.14	1.27	0.09	
			0.00			Ice	2.32	1.41	0.11	
						1" Ice	2.71	1.72	0.16	
						2" Ice				
TA08025-B605	B	From Leg	4.00	0.0000	77.00	No Ice	1.96	1.13	0.08	
			0.00			1/2"	2.14	1.27	0.09	
			0.00			Ice	2.32	1.41	0.11	
						1" Ice	2.71	1.72	0.16	
						2" Ice				
TA08025-B605	C	From Leg	4.00	0.0000	77.00	No Ice	1.96	1.13	0.08	
			0.00			1/2"	2.14	1.27	0.09	
			0.00			Ice	2.32	1.41	0.11	
						1" Ice	2.71	1.72	0.16	
						2" Ice				
TA08025-B604	A	From Leg	4.00	0.0000	77.00	No Ice	1.96	0.98	0.06	
			0.00			1/2"	2.14	1.11	0.08	
			0.00			Ice	2.32	1.25	0.10	
						1" Ice	2.71	1.55	0.15	
						2" Ice				
TA08025-B604	B	From Leg	4.00	0.0000	77.00	No Ice	1.96	0.98	0.06	
			0.00			1/2"	2.14	1.11	0.08	
			0.00			Ice	2.32	1.25	0.10	
						1" Ice	2.71	1.55	0.15	
						2" Ice				
TA08025-B604	C	From Leg	4.00	0.0000	77.00	No Ice	1.96	0.98	0.06	
			0.00			1/2"	2.14	1.11	0.08	
			0.00			Ice	2.32	1.25	0.10	
						1" Ice	2.71	1.55	0.15	
						2" Ice				
RDIDC-9181-PF-48	A	From Leg	4.00	0.0000	77.00	No Ice	2.01	1.17	0.02	
			0.00			1/2"	2.19	1.31	0.04	

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	
			0.00			Ice	2.37	1.46	0.06
						1" Ice	2.76	1.78	0.11
						2" Ice			

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	130 - 125	Pole	Max Tension	20	0.00	-0.00	0.00
			Max. Compression	26	-0.27	-0.00	-0.01
			Max. Mx	8	-0.11	-0.56	-0.00
			Max. My	14	-0.11	-0.00	-0.56
			Max. Vy	8	0.23	-0.56	-0.00
			Max. Vx	14	0.23	-0.00	-0.56
L2	125 - 120	Pole	Max. Torque	6			0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-11.69	0.31	-0.20
			Max. Mx	20	-4.29	4.69	-0.05
			Max. My	14	-4.32	0.08	-4.63
			Max. Vy	8	6.79	-4.50	-0.05
L3	120 - 115	Pole	Max. Vx	14	6.77	0.08	-4.63
			Max. Torque	24			0.17
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-12.12	0.26	-0.20
			Max. Mx	20	-4.49	39.29	-0.04
			Max. My	14	-4.51	0.07	-39.24
L4	115 - 110	Pole	Max. Vy	8	7.06	-39.12	-0.05
			Max. Vx	14	7.07	0.07	-39.24
			Max. Torque	24			0.17
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-12.58	0.20	-0.19
			Max. Mx	20	-4.72	75.25	-0.04
L5	110 - 105	Pole	Max. My	14	-4.74	0.06	-75.34
			Max. Vy	8	7.33	-75.08	-0.06
			Max. Vx	14	7.37	0.06	-75.34
			Max. Torque	24			0.17
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-22.57	-0.24	-0.47
L6	105 - 100	Pole	Max. Mx	8	-9.23	-133.33	-0.29
			Max. My	14	-9.27	-0.17	-133.44
			Max. Vy	8	11.78	-133.33	-0.29
			Max. Vx	14	11.72	-0.17	-133.44
			Max. Torque	20			0.18
			Max Tension	1	0.00	0.00	0.00
L7	100 - 95	Pole	Max. Compression	26	-23.29	-0.30	-0.55
			Max. Mx	8	-9.69	-193.11	-0.51
			Max. My	14	-9.75	-0.35	-192.79
			Max. Vy	8	12.15	-193.11	-0.51
			Max. Vx	14	12.02	-0.35	-192.79
			Max. Torque	20			0.18
L8	95 - 90	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-34.90	-0.37	-0.66
			Max. Mx	8	-14.70	-270.81	-0.75
			Max. My	14	-14.79	-0.54	-269.35
			Max. Vy	8	18.06	-270.81	-0.75
			Max. Vx	14	17.70	-0.54	-269.35
L9	90 - 89.75	Pole	Max. Torque	20			0.23
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.82	-0.44	-0.84
			Max. Mx	8	-15.33	-362.23	-1.02
			Max. My	14	-15.43	-0.72	-358.50
			Max. Vy	8	18.55	-362.23	-1.02
L10	89.75 -	Pole	Max. Vx	14	17.95	-0.72	-358.50
			Max. Torque	20			0.29
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.88	-0.45	-0.84
			Max. Mx	8	-15.39	-366.87	-1.03
			Max. My	14	-15.49	-0.73	-362.99

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
	84.75		Max. Compression	26	-43.63	-0.61	-0.93
			Max. Mx	8	-19.10	-467.40	-1.26
			Max. My	14	-19.23	-0.96	-459.85
			Max. Vy	8	21.92	-467.40	-1.26
			Max. Vx	14	21.05	-0.96	-459.85
			Max. Torque	20			0.31
L11	84.75 - 84.417	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.74	-0.63	-0.93
			Max. Mx	8	-19.18	-474.71	-1.27
			Max. My	14	-19.30	-0.98	-466.86
			Max. Vy	8	21.96	-474.71	-1.27
			Max. Vx	14	21.07	-0.98	-466.86
			Max. Torque	20			0.31
L12	84.417 - 84.167	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.84	-0.64	-0.93
			Max. Mx	8	-19.23	-480.21	-1.28
			Max. My	14	-19.36	-0.99	-472.13
			Max. Vy	8	21.99	-480.21	-1.28
			Max. Vx	14	21.09	-0.99	-472.13
			Max. Torque	20			0.31
L13	84.167 - 83.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.11	-0.68	-0.92
			Max. Mx	8	-19.39	-496.69	-1.31
			Max. My	14	-19.52	-1.04	-487.91
			Max. Vy	8	22.10	-496.69	-1.31
			Max. Vx	14	21.16	-1.04	-487.91
			Max. Torque	20			0.31
L14	83.42 - 83.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.23	-0.70	-0.92
			Max. Mx	8	-19.47	-502.22	-1.32
			Max. My	14	-19.59	-1.05	-493.20
			Max. Vy	8	22.13	-502.22	-1.32
			Max. Vx	14	21.18	-1.05	-493.20
			Max. Torque	20			0.31
L15	83.17 - 83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.30	-0.71	-0.92
			Max. Mx	8	-19.51	-505.99	-1.32
			Max. My	14	-19.64	-1.06	-496.80
			Max. Vy	8	22.16	-505.99	-1.32
			Max. Vx	14	21.20	-1.06	-496.80
			Max. Torque	20			0.31
L16	83 - 82.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.40	-0.72	-0.92
			Max. Mx	8	-19.57	-511.54	-1.33
			Max. My	14	-19.70	-1.07	-502.10
			Max. Vy	8	22.19	-511.54	-1.33
			Max. Vx	14	21.22	-1.07	-502.10
			Max. Torque	20			0.31
L17	82.75 - 77.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.24	-1.01	-0.89
			Max. Mx	8	-20.73	-624.29	-1.51
			Max. My	14	-20.87	-1.36	-609.20
			Max. Vy	8	22.89	-624.29	-1.51
			Max. Vx	14	21.64	-1.36	-609.20
			Max. Torque	20			0.31
L18	77.75 - 70	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-53.39	-1.26	-0.44
			Max. Mx	8	-24.70	-720.05	-1.53
			Max. My	14	-24.86	-1.58	-699.75
			Max. Vy	8	26.38	-720.05	-1.53
			Max. Vx	14	24.95	-1.58	-699.75
			Max. Torque	20			0.30
L19	70 - 69	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L20	69 - 67.08	Pole	Max. Compression	26	-56.30	-1.59	-0.40
			Max. Mx	8	-26.74	-853.96	-1.70
			Max. My	14	-26.90	-1.88	-825.69
			Max. Vy	8	27.15	-853.96	-1.70
			Max. Vx	14	25.44	-1.88	-825.69
			Max. Torque	25			-0.15
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.10	-1.72	-0.38
			Max. Mx	8	-27.25	-906.35	-1.76
			Max. My	14	-27.42	-2.00	-874.66
L21	67.08 - 66.83	Pole	Max. Vy	8	27.42	-906.35	-1.76
			Max. Vx	14	25.61	-2.00	-874.66
			Max. Torque	25			-0.16
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.21	-1.74	-0.38
			Max. Mx	8	-27.34	-913.21	-1.77
			Max. My	14	-27.51	-2.02	-881.06
			Max. Vy	8	27.43	-913.21	-1.77
			Max. Vx	14	25.61	-2.02	-881.06
			Max. Torque	25			-0.17
L22	66.83 - 64.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.38	-1.94	-0.36
			Max. Mx	8	-28.09	-989.22	-1.87
			Max. My	14	-28.25	-2.19	-951.78
			Max. Vy	8	27.82	-989.22	-1.87
			Max. Vx	14	25.85	-2.19	-951.78
			Max. Torque	25			-0.19
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.50	-1.96	-0.36
			Max. Mx	8	-28.18	-996.18	-1.87
L23	64.08 - 63.83	Pole	Max. My	14	-28.35	-2.20	-958.24
			Max. Vy	8	27.84	-996.18	-1.87
			Max. Vx	14	25.86	-2.20	-958.24
			Max. Torque	25			-0.19
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.15	-2.04	-0.34
			Max. Mx	8	-28.60	-1035.05	-1.92
			Max. My	14	-28.77	-2.29	-994.26
			Max. Vy	8	28.05	-1035.05	-1.92
			Max. Vx	14	25.99	-2.29	-994.26
L24	63.83 - 62.44	Pole	Max. Torque	25			-0.20
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.27	-2.06	-0.34
			Max. Mx	8	-28.70	-1042.07	-1.93
			Max. My	14	-28.87	-2.30	-1000.76
			Max. Vy	8	28.07	-1042.07	-1.93
			Max. Vx	14	26.00	-2.30	-1000.76
			Max. Torque	25			-0.20
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.27	-2.06	-0.34
L25	62.44 - 62.19	Pole	Max. Mx	8	-28.70	-1042.07	-1.93
			Max. My	14	-28.87	-2.30	-1000.76
			Max. Vy	8	28.07	-1042.07	-1.93
			Max. Vx	14	26.00	-2.30	-1000.76
			Max. Torque	25			-0.20
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.27	-2.06	-0.34
			Max. Mx	8	-28.70	-1042.07	-1.93
			Max. My	14	-28.87	-2.30	-1000.76
			Max. Vy	8	28.07	-1042.07	-1.93
L26	62.19 - 57.19	Pole	Max. Vx	14	26.46	-2.61	-1131.85
			Max. Torque	25			-0.24
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-61.71	-2.39	-0.29
			Max. Mx	8	-30.35	-1184.32	-2.10
			Max. My	14	-30.52	-2.61	-1131.85
			Max. Vy	8	28.80	-1184.32	-2.10
			Max. Vx	14	26.46	-2.61	-1131.85
			Max. Torque	25			-0.24
			Max Tension	1	0.00	0.00	0.00
L27	57.19 - 53.5	Pole	Max. Compression	26	-63.55	-2.65	-0.25
			Max. Mx	8	-31.60	-1291.61	-2.22
			Max. My	14	-31.76	-2.85	-1230.00
			Max. Vy	8	29.33	-1291.61	-2.22
			Max. Vx	14	26.78	-2.85	-1230.00
			Max. Torque	25			-0.26
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-63.55	-2.65	-0.25
			Max. Mx	8	-31.60	-1291.61	-2.22
			Max. My	14	-31.76	-2.85	-1230.00
L28	53.5 - 53.25	Pole	Max. Vy	8	29.33	-1291.61	-2.22
			Max. Vx	14	26.78	-2.85	-1230.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L29	53.25 - 52.58	Pole	Max. Compression	26	-63.68	-2.67	-0.25
			Max. Mx	8	-31.70	-1298.95	-2.23
			Max. My	14	-31.86	-2.86	-1236.69
			Max. Vy	8	29.35	-1298.95	-2.23
			Max. Vx	14	26.78	-2.86	-1236.69
			Max. Torque	25			-0.26
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-64.03	-2.71	-0.24
			Max. Mx	8	-31.93	-1318.66	-2.25
			Max. My	14	-32.09	-2.90	-1254.65
L30	52.58 - 52.33	Pole	Max. Vy	8	29.45	-1318.66	-2.25
			Max. Vx	14	26.85	-2.90	-1254.65
			Max. Torque	25			-0.27
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-64.16	-2.73	-0.24
			Max. Mx	8	-32.03	-1326.03	-2.26
			Max. My	14	-32.19	-2.92	-1261.36
			Max. Vy	8	29.48	-1326.03	-2.26
			Max. Vx	14	26.86	-2.92	-1261.36
			Max. Torque	25			-0.27
L31	52.33 - 47.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-66.77	-3.09	-0.19
			Max. Mx	8	-33.82	-1475.32	-2.43
			Max. My	14	-33.98	-3.24	-1396.66
			Max. Vy	8	30.20	-1475.32	-2.43
			Max. Vx	14	27.29	-3.24	-1396.66
			Max. Torque	25			-0.30
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-68.26	-3.29	-0.16
			Max. Mx	8	-34.82	-1558.94	-2.52
L32	47.33 - 44.58	Pole	Max. My	14	-34.98	-3.42	-1471.96
			Max. Vy	8	30.59	-1558.94	-2.52
			Max. Vx	14	27.52	-3.42	-1471.96
			Max. Torque	25			-0.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-68.39	-3.31	-0.16
			Max. Mx	8	-34.93	-1566.60	-2.53
			Max. My	14	-35.08	-3.43	-1478.84
			Max. Vy	8	30.61	-1566.60	-2.53
			Max. Vx	14	27.52	-3.43	-1478.84
L33	44.58 - 44.33	Pole	Max. Torque	25			-0.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-69.74	-3.49	-0.13
			Max. Mx	8	-35.84	-1643.01	-2.61
			Max. My	14	-35.99	-3.59	-1547.33
			Max. Vy	8	30.97	-1643.01	-2.61
			Max. Vx	14	27.73	-3.59	-1547.33
			Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-69.87	-3.51	-0.13
L34	44.33 - 41.85	Pole	Max. Mx	8	-35.94	-1650.76	-2.62
			Max. My	14	-36.09	-3.61	-1554.26
			Max. Vy	8	31.00	-1650.76	-2.62
			Max. Vx	14	27.74	-3.61	-1554.26
			Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-71.28	-3.71	-0.10
			Max. Mx	8	-36.92	-1731.87	-2.70
			Max. My	14	-37.06	-3.78	-1626.63
			Max. Vy	8	31.36	-1731.87	-2.70
L35	41.85 - 41.6	Pole	Max. Vx	14	27.96	-3.78	-1626.63
			Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-71.28	-3.71	-0.10
			Max. Mx	8	-36.92	-1731.87	-2.70
			Max. My	14	-37.06	-3.78	-1626.63
			Max. Vy	8	31.36	-1731.87	-2.70
			Max. Vx	14	27.96	-3.78	-1626.63
			Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
L36	41.6 - 34.08	Pole	Max. Compression	26	-71.28	-3.71	-0.10
			Max. Mx	8	-36.92	-1731.87	-2.70
			Max. My	14	-37.06	-3.78	-1626.63
			Max. Vy	8	31.36	-1731.87	-2.70
			Max. Vx	14	27.96	-3.78	-1626.63
			Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-71.28	-3.71	-0.10
			Max. Mx	8	-36.92	-1731.87	-2.70
			Max. My	14	-37.06	-3.78	-1626.63
L37	34.08 - 34	Pole	Max. Vy	8	31.36	-1731.87	-2.70
			Max. Vx	14	27.96	-3.78	-1626.63
			Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-71.28	-3.71	-0.10
			Max. Mx	8	-36.92	-1731.87	-2.70
			Max. My	14	-37.06	-3.78	-1626.63
			Max. Vy	8	31.36	-1731.87	-2.70
			Max. Vx	14	27.96	-3.78	-1626.63
			Max. Torque	25			-0.33

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L38	34 - 29	Pole	Max. Compression	26	-75.92	-4.09	-0.04
			Max. Mx	8	-40.43	-1890.76	-2.86
			Max. My	14	-40.57	-4.11	-1767.55
			Max. Vy	8	32.16	-1890.76	-2.86
			Max. Vx	14	28.45	-4.11	-1767.55
			Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-78.71	-4.47	0.02
			Max. Mx	8	-42.43	-2053.28	-3.03
			Max. My	14	-42.55	-4.44	-1910.61
L39	29 - 26.85	Pole	Max. Vy	8	32.82	-2053.28	-3.03
			Max. Vx	14	28.81	-4.44	-1910.61
			Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-79.96	-4.65	0.01
			Max. Mx	8	-43.30	-2124.17	-3.10
			Max. My	14	-43.42	-4.59	-1972.69
			Max. Vy	8	33.10	-2124.17	-3.10
			Max. Vx	14	28.97	-4.59	-1972.69
			Max. Torque	25			-0.33
L40	26.85 - 26.6	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-80.12	-4.67	0.01
			Max. Mx	8	-43.43	-2132.45	-3.10
			Max. My	14	-43.54	-4.60	-1979.93
			Max. Vy	8	33.12	-2132.45	-3.10
			Max. Vx	14	28.98	-4.60	-1979.93
			Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-83.27	-5.10	-0.01
			Max. Mx	8	-45.70	-2299.78	-3.26
L41	26.6 - 21.6	Pole	Max. My	14	-45.80	-4.94	-2125.69
			Max. Vy	8	33.77	-2299.78	-3.26
			Max. Vx	14	29.35	-4.94	-2125.69
			Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.57	-5.39	0.03
			Max. Mx	8	-47.37	-2422.23	-3.38
			Max. My	14	-47.45	-5.19	-2231.75
			Max. Vy	8	34.23	-2422.23	-3.38
			Max. Vx	14	29.61	-5.19	-2231.75
L42	21.6 - 18	Pole	Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.75	-5.41	0.03
			Max. Mx	8	-47.51	-2430.79	-3.39
			Max. My	14	-47.59	-5.20	-2239.15
			Max. Vy	8	34.25	-2430.79	-3.39
			Max. Vx	14	29.61	-5.20	-2239.15
			Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.92	-5.43	0.03
L43	18 - 17.75	Pole	Max. Mx	8	-47.64	-2439.36	-3.39
			Max. My	14	-47.72	-5.22	-2246.55
			Max. Vy	8	34.28	-2439.36	-3.39
			Max. Vx	14	29.63	-5.22	-2246.55
			Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.10	-5.45	0.04
			Max. Mx	8	-47.77	-2447.95	-3.40
			Max. My	14	-47.84	-5.24	-2253.96
			Max. Vy	8	34.31	-2447.95	-3.40
L44	17.75 - 17.5	Pole	Max. Vx	14	29.65	-5.24	-2253.96
			Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.22	-5.47	0.04
			Max. Mx	8	-47.85	-2453.78	-3.41
			Max. My	14	-47.93	-5.25	-2259.00
			Max. Vy	8	34.33	-2453.78	-3.41
			Max. Vx	14	29.66	-5.25	-2259.00
			Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
L45	17.5 - 17.25	Pole	Max. Compression	26	-86.22	-5.47	0.04
			Max. Mx	8	-47.85	-2453.78	-3.41
			Max. My	14	-47.93	-5.25	-2259.00
			Max. Vy	8	34.33	-2453.78	-3.41
			Max. Vx	14	29.66	-5.25	-2259.00
			Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.22	-5.47	0.04
			Max. Mx	8	-47.85	-2453.78	-3.41
			Max. My	14	-47.93	-5.25	-2259.00
L46	17.25 - 17.08	Pole	Max. Vy	8	34.33	-2453.78	-3.41
			Max. Vx	14	29.66	-5.25	-2259.00
			Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.22	-5.47	0.04
			Max. Mx	8	-47.85	-2453.78	-3.41
			Max. My	14	-47.93	-5.25	-2259.00
			Max. Vy	8	34.33	-2453.78	-3.41
			Max. Vx	14	29.66	-5.25	-2259.00
			Max. Torque	25			-0.33

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L47	17.08 - 16.83	Pole	Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.38	-5.49	0.04
			Max. Mx	8	-47.97	-2462.38	-3.42
			Max. My	14	-48.05	-5.27	-2266.42
			Max. Vy	8	34.36	-2462.38	-3.42
			Max. Vx	14	29.68	-5.27	-2266.42
L48	16.83 - 13	Pole	Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-88.91	-5.80	0.09
			Max. Mx	8	-49.81	-2594.98	-3.54
			Max. My	14	-49.87	-5.53	-2380.55
			Max. Vy	8	34.84	-2594.98	-3.54
			Max. Vx	14	29.95	-5.53	-2380.55
L49	13 - 12.75	Pole	Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-89.10	-5.82	0.10
			Max. Mx	8	-49.96	-2603.70	-3.54
			Max. My	14	-50.02	-5.55	-2388.04
			Max. Vy	8	34.86	-2603.70	-3.54
			Max. Vx	14	29.95	-5.55	-2388.04
L50	12.75 - 11.85	Pole	Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-89.76	-5.89	0.11
			Max. Mx	8	-50.45	-2635.15	-3.57
			Max. My	14	-50.51	-5.61	-2415.02
			Max. Vy	8	34.98	-2635.15	-3.57
			Max. Vx	14	30.03	-5.61	-2415.02
L51	11.85 - 11.6	Pole	Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-89.93	-5.91	0.11
			Max. Mx	8	-50.58	-2643.91	-3.58
			Max. My	14	-50.64	-5.63	-2422.52
			Max. Vy	8	35.00	-2643.91	-3.58
			Max. Vx	14	30.04	-5.63	-2422.52
L52	11.6 - 6.5	Pole	Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-93.25	-6.38	0.19
			Max. Mx	8	-53.07	-2824.14	-3.74
			Max. My	14	-53.10	-5.98	-2576.52
			Max. Vy	8	35.63	-2824.14	-3.74
			Max. Vx	14	30.38	-5.98	-2576.52
L53	6.5 - 6.25	Pole	Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-93.42	-6.41	0.20
			Max. Mx	8	-53.21	-2833.05	-3.75
			Max. My	14	-53.24	-6.00	-2584.12
			Max. Vy	8	35.65	-2833.05	-3.75
			Max. Vx	14	30.39	-6.00	-2584.12
L54	6.25 - 3.75	Pole	Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-95.11	-6.66	0.24
			Max. Mx	8	-54.52	-2922.64	-3.83
			Max. My	14	-54.54	-6.17	-2660.29
			Max. Vy	8	35.98	-2922.64	-3.83
			Max. Vx	14	30.58	-6.17	-2660.29
L55	3.75 - 3.5	Pole	Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-95.31	-6.69	0.24
			Max. Mx	8	-54.69	-2931.64	-3.83
			Max. My	14	-54.70	-6.19	-2667.93
			Max. Vy	8	35.99	-2931.64	-3.83
			Max. Vx	14	30.58	-6.19	-2667.93
L56	3.5 - 3	Pole	Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-95.70	-6.74	0.25
			Max. Mx	8	-55.00	-2949.67	-3.85

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L57	3 - 2.75	Pole	Max. My	14	-55.02	-6.23	-2683.23
			Max. Vy	8	36.07	-2949.67	-3.85
			Max. Vx	14	30.63	-6.23	-2683.23
			Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-95.87	-6.76	0.25
			Max. Mx	8	-55.14	-2958.70	-3.86
			Max. My	14	-55.16	-6.24	-2690.88
			Max. Vy	8	36.10	-2958.70	-3.86
			Max. Vx	14	30.64	-6.24	-2690.88
L58	2.75 - 0	Pole	Max. Torque	25			-0.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-97.76	-7.02	0.30
			Max. Mx	8	-56.68	-3058.43	-3.94
			Max. My	14	-56.68	-6.44	-2775.42
			Max. Vy	8	36.39	-3058.43	-3.94
			Max. Vx	14	30.87	-6.44	-2775.42
			Max. Torque	25			-0.33

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	97.76	-0.00	-0.00
	Max. H _x	20	56.69	36.36	0.03
	Max. H _z	2	56.69	0.03	30.85
	Max. M _x	2	2775.41	0.03	30.85
	Max. M _z	8	3058.43	-36.37	-0.03
	Max. Torsion	13	0.33	-17.04	-29.47
	Min. Vert	19	42.52	26.47	-15.26
	Min. H _x	8	56.69	-36.37	-0.03
	Min. H _z	14	56.69	-0.03	-30.85
	Min. M _x	14	-2775.42	-0.03	-30.85
	Min. M _z	20	-3053.26	36.36	0.03
	Min. Torsion	25	-0.33	17.13	29.63

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturing Moment, M _x kip-ft	Overturing Moment, M _z kip-ft	Torque kip-ft
Dead Only	47.24	0.00	0.00	-0.01	-2.02	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	56.69	-0.03	-30.85	-2775.41	1.44	0.02
0.9 Dead+1.0 Wind 0 deg - No Ice	42.52	-0.03	-30.85	-2747.68	2.03	0.02
1.2 Dead+1.0 Wind 30 deg - No Ice	56.69	15.60	-27.04	-2421.68	-1399.53	0.01
0.9 Dead+1.0 Wind 30 deg - No Ice	42.52	15.60	-27.04	-2397.55	-1384.96	0.00
1.2 Dead+1.0 Wind 60 deg - No Ice	56.69	26.62	-15.34	-1383.01	-2403.87	-0.01
0.9 Dead+1.0 Wind 60 deg - No Ice	42.52	26.62	-15.34	-1369.18	-2379.19	-0.01
1.2 Dead+1.0 Wind 90 deg - No Ice	56.69	36.37	0.03	3.94	-3058.43	0.10
0.9 Dead+1.0 Wind 90 deg - No Ice	42.52	36.37	0.03	3.89	-3028.27	0.09
1.2 Dead+1.0 Wind 120 deg - No Ice	56.69	29.39	16.98	1476.83	-2558.47	-0.19

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
0.9 Dead+1.0 Wind 120 deg - No Ice	42.52	29.39	16.98	1462.38	-2532.82	-0.19
1.2 Dead+1.0 Wind 150 deg - No Ice	56.69	17.04	29.47	2541.86	-1473.45	-0.33
0.9 Dead+1.0 Wind 150 deg - No Ice	42.52	17.04	29.47	2517.06	-1458.46	-0.33
1.2 Dead+1.0 Wind 180 deg - No Ice	56.69	0.03	30.85	2775.42	-6.44	-0.02
0.9 Dead+1.0 Wind 180 deg - No Ice	42.52	0.03	30.85	2747.67	-5.75	-0.02
1.2 Dead+1.0 Wind 210 deg - No Ice	56.69	-15.51	26.88	2405.33	1385.09	-0.01
0.9 Dead+1.0 Wind 210 deg - No Ice	42.52	-15.51	26.88	2381.36	1371.89	-0.00
1.2 Dead+1.0 Wind 240 deg - No Ice	56.69	-26.47	15.26	1373.94	2383.14	0.01
0.9 Dead+1.0 Wind 240 deg - No Ice	42.52	-26.47	15.26	1360.19	2359.90	0.01
1.2 Dead+1.0 Wind 270 deg - No Ice	56.69	-36.36	-0.03	-3.93	3053.26	-0.10
0.9 Dead+1.0 Wind 270 deg - No Ice	42.52	-36.36	-0.03	-3.89	3024.38	-0.09
1.2 Dead+1.0 Wind 300 deg - No Ice	56.69	-29.45	-17.02	-1480.60	2560.03	0.19
0.9 Dead+1.0 Wind 300 deg - No Ice	42.52	-29.45	-17.02	-1466.12	2535.60	0.19
1.2 Dead+1.0 Wind 330 deg - No Ice	56.69	-17.13	-29.63	-2558.25	1477.93	0.33
0.9 Dead+1.0 Wind 330 deg - No Ice	42.52	-17.13	-29.63	-2533.30	1464.12	0.33
1.2 Dead+1.0 Ice+1.0 Temp	97.76	0.00	0.00	-0.30	-7.02	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	97.76	-0.01	-8.09	-759.67	-6.43	-0.01
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	97.76	4.04	-7.00	-657.63	-386.53	0.00
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	97.76	7.00	-4.04	-379.34	-665.00	0.01
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	97.76	9.30	0.01	0.52	-833.62	0.08
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	97.76	7.42	4.29	397.28	-695.47	-0.02
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	97.76	4.31	7.46	687.86	-405.27	-0.08
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	97.76	0.01	8.09	759.07	-8.07	0.01
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	97.76	-4.04	7.00	656.93	371.97	-0.00
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	97.76	-7.00	4.04	378.68	650.39	-0.01
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	97.76	-9.30	-0.01	-1.12	819.08	-0.08
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	97.76	-7.42	-4.29	-397.94	681.08	0.02
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	97.76	-4.31	-7.46	-688.56	390.83	0.08
Dead+Wind 0 deg - Service	47.24	-0.01	-7.52	-672.91	-1.12	0.00
Dead+Wind 30 deg - Service	47.24	3.80	-6.59	-587.15	-340.79	-0.00
Dead+Wind 60 deg - Service	47.24	6.49	-3.74	-335.32	-584.29	-0.00
Dead+Wind 90 deg - Service	47.24	8.86	0.01	0.96	-743.10	0.03
Dead+Wind 120 deg - Service	47.24	7.16	4.14	358.10	-621.83	-0.04
Dead+Wind 150 deg - Service	47.24	4.15	7.18	616.34	-358.74	-0.08
Dead+Wind 180 deg - Service	47.24	0.01	7.52	672.92	-3.03	-0.00
Dead+Wind 210 deg - Service	47.24	-3.78	6.55	583.19	334.36	0.00
Dead+Wind 240 deg - Service	47.24	-6.45	3.72	333.12	576.33	0.00

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+Wind 270 deg - Service	47.24	-8.86	-0.01	-0.95	738.91	-0.03
Dead+Wind 300 deg - Service	47.24	-7.18	-4.15	-359.01	619.28	0.04
Dead+Wind 330 deg - Service	47.24	-4.18	-7.22	-620.32	356.89	0.08

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	-47.24	0.00	0.00	47.24	0.00	0.000%
2	-0.03	-56.69	-30.85	0.03	56.69	30.85	0.000%
3	-0.03	-42.52	-30.85	0.03	42.52	30.85	0.000%
4	15.60	-56.69	-27.04	-15.60	56.69	27.04	0.000%
5	15.60	-42.52	-27.04	-15.60	42.52	27.04	0.000%
6	26.62	-56.69	-15.34	-26.62	56.69	15.34	0.000%
7	26.62	-42.52	-15.34	-26.62	42.52	15.34	0.000%
8	36.37	-56.69	0.03	-36.37	56.69	-0.03	0.000%
9	36.37	-42.52	0.03	-36.37	42.52	-0.03	0.000%
10	29.39	-56.69	16.98	-29.39	56.69	-16.98	0.000%
11	29.39	-42.52	16.98	-29.39	42.52	-16.98	0.000%
12	17.04	-56.69	29.47	-17.04	56.69	-29.47	0.000%
13	17.04	-42.52	29.47	-17.04	42.52	-29.47	0.000%
14	0.03	-56.69	30.85	-0.03	56.69	-30.85	0.000%
15	0.03	-42.52	30.85	-0.03	42.52	-30.85	0.000%
16	-15.51	-56.69	26.88	15.51	56.69	-26.88	0.000%
17	-15.51	-42.52	26.88	15.51	42.52	-26.88	0.000%
18	-26.47	-56.69	15.26	26.47	56.69	-15.26	0.000%
19	-26.47	-42.52	15.26	26.47	42.52	-15.26	0.000%
20	-36.36	-56.69	-0.03	36.36	56.69	0.03	0.000%
21	-36.36	-42.52	-0.03	36.36	42.52	0.03	0.000%
22	-29.45	-56.69	-17.02	29.45	56.69	17.02	0.000%
23	-29.45	-42.52	-17.02	29.45	42.52	17.02	0.000%
24	-17.13	-56.69	-29.63	17.13	56.69	29.63	0.000%
25	-17.13	-42.52	-29.63	17.13	42.52	29.63	0.000%
26	0.00	-97.76	0.00	-0.00	97.76	-0.00	0.000%
27	-0.01	-97.76	-8.09	0.01	97.76	8.09	0.000%
28	4.04	-97.76	-7.00	-4.04	97.76	7.00	0.000%
29	7.00	-97.76	-4.04	-7.00	97.76	4.04	0.000%
30	9.30	-97.76	0.01	-9.30	97.76	-0.01	0.000%
31	7.42	-97.76	4.29	-7.42	97.76	-4.29	0.000%
32	4.31	-97.76	7.46	-4.31	97.76	-7.46	0.000%
33	0.01	-97.76	8.09	-0.01	97.76	-8.09	0.000%
34	-4.04	-97.76	7.00	4.04	97.76	-7.00	0.000%
35	-7.00	-97.76	4.04	7.00	97.76	-4.04	0.000%
36	-9.30	-97.76	-0.01	9.30	97.76	0.01	0.000%
37	-7.42	-97.76	-4.29	7.42	97.76	4.29	0.000%
38	-4.31	-97.76	-7.46	4.31	97.76	7.46	0.000%
39	-0.01	-47.24	-7.52	0.01	47.24	7.52	0.000%
40	3.80	-47.24	-6.59	-3.80	47.24	6.59	0.000%
41	6.49	-47.24	-3.74	-6.49	47.24	3.74	0.000%
42	8.86	-47.24	0.01	-8.86	47.24	-0.01	0.000%
43	7.16	-47.24	4.14	-7.16	47.24	-4.14	0.000%
44	4.15	-47.24	7.18	-4.15	47.24	-7.18	0.000%
45	0.01	-47.24	7.52	-0.01	47.24	-7.52	0.000%
46	-3.78	-47.24	6.55	3.78	47.24	-6.55	0.000%
47	-6.45	-47.24	3.72	6.45	47.24	-3.72	0.000%
48	-8.86	-47.24	-0.01	8.86	47.24	0.01	0.000%
49	-7.18	-47.24	-4.15	7.18	47.24	4.15	0.000%
50	-4.18	-47.24	-7.22	4.18	47.24	7.22	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	14	0.00000001	0.00000000
2	Yes	5	0.00000001	0.00039085
3	Yes	5	0.00000001	0.00014250
4	Yes	6	0.00000001	0.00060927
5	Yes	6	0.00000001	0.00020308
6	Yes	6	0.00000001	0.00060413
7	Yes	6	0.00000001	0.00020178
8	Yes	5	0.00000001	0.00040733
9	Yes	5	0.00000001	0.00014906
10	Yes	6	0.00000001	0.00064703
11	Yes	6	0.00000001	0.00021285
12	Yes	6	0.00000001	0.00064117
13	Yes	6	0.00000001	0.00021156
14	Yes	5	0.00000001	0.00039810
15	Yes	5	0.00000001	0.00014616
16	Yes	6	0.00000001	0.00059848
17	Yes	6	0.00000001	0.00020003
18	Yes	6	0.00000001	0.00059536
19	Yes	6	0.00000001	0.00019934
20	Yes	5	0.00000001	0.00039164
21	Yes	5	0.00000001	0.00013999
22	Yes	6	0.00000001	0.00065266
23	Yes	6	0.00000001	0.00021484
24	Yes	6	0.00000001	0.00064081
25	Yes	6	0.00000001	0.00021094
26	Yes	4	0.00000001	0.00075230
27	Yes	7	0.00000001	0.00021336
28	Yes	7	0.00000001	0.00022795
29	Yes	7	0.00000001	0.00022855
30	Yes	7	0.00000001	0.00022517
31	Yes	7	0.00000001	0.00023629
32	Yes	7	0.00000001	0.00023556
33	Yes	7	0.00000001	0.00021440
34	Yes	7	0.00000001	0.00022650
35	Yes	7	0.00000001	0.00022611
36	Yes	7	0.00000001	0.00022206
37	Yes	7	0.00000001	0.00023265
38	Yes	7	0.00000001	0.00023223
39	Yes	5	0.00000001	0.00007650
40	Yes	5	0.00000001	0.00022076
41	Yes	5	0.00000001	0.00021790
42	Yes	5	0.00000001	0.00008060
43	Yes	5	0.00000001	0.00023796
44	Yes	5	0.00000001	0.00023757
45	Yes	5	0.00000001	0.00007667
46	Yes	5	0.00000001	0.00021525
47	Yes	5	0.00000001	0.00021385
48	Yes	5	0.00000001	0.00008022
49	Yes	5	0.00000001	0.00023997
50	Yes	5	0.00000001	0.00023341

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	130 - 125	19.957	42	1.5546	0.0012
L2	125 - 120	18.329	42	1.5540	0.0012
L3	120 - 115	16.703	42	1.5512	0.0012
L4	115 - 110	15.095	42	1.5129	0.0010
L5	110 - 105	13.549	42	1.4338	0.0008
L6	105 - 100	12.090	42	1.3479	0.0006
L7	100 - 95	10.734	42	1.2400	0.0005

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L8	95 - 90	9.498	42	1.1176	0.0004
L9	90 - 89.75	8.399	42	0.9783	0.0002
L10	89.75 - 84.75	8.348	42	0.9745	0.0002
L11	84.75 - 84.417	7.370	42	0.8936	0.0002
L12	84.417 - 84.167	7.307	42	0.8880	0.0002
L13	84.167 - 83.42	7.261	42	0.8848	0.0002
L14	83.42 - 83.17	7.123	42	0.8750	0.0002
L15	83.17 - 83	7.078	42	0.8727	0.0002
L16	83 - 82.75	7.047	42	0.8712	0.0002
L17	82.75 - 77.75	7.001	42	0.8682	0.0002
L18	77.75 - 70	6.126	42	0.8036	0.0002
L19	74 - 69	5.514	42	0.7530	0.0002
L20	69 - 67.08	4.744	42	0.7119	0.0001
L21	67.08 - 66.83	4.463	42	0.6857	0.0001
L22	66.83 - 64.08	4.427	42	0.6822	0.0001
L23	64.08 - 63.83	4.045	42	0.6430	0.0001
L24	63.83 - 62.44	4.012	42	0.6398	0.0001
L25	62.44 - 62.19	3.828	42	0.6219	0.0001
L26	62.19 - 57.19	3.796	42	0.6191	0.0001
L27	57.19 - 53.5	3.178	42	0.5610	0.0001
L28	53.5 - 53.25	2.761	42	0.5175	0.0001
L29	53.25 - 52.58	2.734	42	0.5147	0.0001
L30	52.58 - 52.33	2.662	42	0.5071	0.0001
L31	52.33 - 47.33	2.636	42	0.5043	0.0001
L32	47.33 - 44.58	2.137	42	0.4482	0.0001
L33	44.58 - 44.33	1.888	42	0.4170	0.0001
L34	44.33 - 41.85	1.866	42	0.4142	0.0001
L35	41.85 - 41.6	1.658	42	0.3861	0.0001
L36	41.6 - 34.08	1.638	42	0.3833	0.0001
L37	39 - 34	1.438	42	0.3539	0.0001
L38	34 - 29	1.082	42	0.3253	0.0001
L39	29 - 26.85	0.771	42	0.2686	0.0000
L40	26.85 - 26.6	0.655	42	0.2447	0.0000
L41	26.6 - 21.6	0.642	42	0.2422	0.0000
L42	21.6 - 18	0.415	42	0.1923	0.0000
L43	18 - 17.75	0.283	42	0.1568	0.0000
L44	17.75 - 17.5	0.275	42	0.1547	0.0000
L45	17.5 - 17.25	0.267	42	0.1526	0.0000
L46	17.25 - 17.08	0.259	42	0.1505	0.0000
L47	17.08 - 16.83	0.254	42	0.1491	0.0000
L48	16.83 - 13	0.246	42	0.1468	0.0000
L49	13 - 12.75	0.143	42	0.1112	0.0000
L50	12.75 - 11.85	0.137	42	0.1093	0.0000
L51	11.85 - 11.6	0.117	42	0.1023	0.0000
L52	11.6 - 6.5	0.112	42	0.0998	0.0000
L53	6.5 - 6.25	0.032	42	0.0495	0.0000
L54	6.25 - 3.75	0.030	42	0.0474	0.0000
L55	3.75 - 3.5	0.010	42	0.0261	0.0000
L56	3.5 - 3	0.009	42	0.0245	0.0000
L57	3 - 2.75	0.007	42	0.0214	0.0000
L58	2.75 - 0	0.006	42	0.0196	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
121.00	Platform Mount [LP 602-1]	42	17.028	1.5535	0.0012	25585
109.00	Site Pro 1 F3P-12W 12' Fortress Platform	42	13.250	1.4173	0.0008	3333
99.00	Side Arm Mount [SO 101-3]	42	10.476	1.2177	0.0005	2419
97.00	Platform Mount [13.16' LP 713-1]	42	9.977	1.1714	0.0004	2292
87.00	T-Arm Mount [TA 602-3]	42	7.799	0.9321	0.0002	3419
77.00	Commscope MC-PK8-DSH	42	6.000	0.7928	0.0002	4641

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	130 - 125	82.240	8	6.4171	0.0048
L2	125 - 120	75.535	8	6.4147	0.0048
L3	120 - 115	68.837	8	6.4033	0.0046
L4	115 - 110	62.209	8	6.2444	0.0038
L5	110 - 105	55.842	8	5.9172	0.0032
L6	105 - 100	49.830	8	5.5630	0.0025
L7	100 - 95	44.240	8	5.1173	0.0019
L8	95 - 90	39.146	8	4.6118	0.0013
L9	90 - 89.75	34.617	8	4.0363	0.0008
L10	89.75 - 84.75	34.406	8	4.0208	0.0008
L11	84.75 - 84.417	30.372	8	3.6864	0.0007
L12	84.417 - 84.167	30.115	8	3.6633	0.0007
L13	84.167 - 83.42	29.924	8	3.6500	0.0007
L14	83.42 - 83.17	29.357	8	3.6096	0.0007
L15	83.17 - 83	29.168	8	3.6001	0.0007
L16	83 - 82.75	29.040	8	3.5937	0.0007
L17	82.75 - 77.75	28.852	8	3.5813	0.0007
L18	77.75 - 70	25.243	8	3.3144	0.0007
L19	74 - 69	22.723	8	3.1057	0.0007
L20	69 - 67.08	19.548	8	2.9357	0.0007
L21	67.08 - 66.83	18.390	8	2.8277	0.0006
L22	66.83 - 64.08	18.242	8	2.8133	0.0006
L23	64.08 - 63.83	16.669	8	2.6514	0.0006
L24	63.83 - 62.44	16.530	8	2.6379	0.0006
L25	62.44 - 62.19	15.773	8	2.5641	0.0006
L26	62.19 - 57.19	15.639	8	2.5524	0.0006
L27	57.19 - 53.5	13.093	8	2.3129	0.0005
L28	53.5 - 53.25	11.375	8	2.1334	0.0004
L29	53.25 - 52.58	11.264	8	2.1217	0.0004
L30	52.58 - 52.33	10.968	8	2.0901	0.0004
L31	52.33 - 47.33	10.859	8	2.0788	0.0004
L32	47.33 - 44.58	8.804	8	1.8473	0.0004
L33	44.58 - 44.33	7.778	8	1.7187	0.0003
L34	44.33 - 41.85	7.688	8	1.7071	0.0003
L35	41.85 - 41.6	6.831	8	1.5911	0.0003
L36	41.6 - 34.08	6.748	8	1.5797	0.0003
L37	39 - 34	5.921	8	1.4580	0.0003
L38	34 - 29	4.455	8	1.3404	0.0002
L39	29 - 26.85	3.174	8	1.1063	0.0002
L40	26.85 - 26.6	2.698	8	1.0078	0.0002
L41	26.6 - 21.6	2.646	8	0.9977	0.0002
L42	21.6 - 18	1.709	8	0.7920	0.0001
L43	18 - 17.75	1.167	8	0.6459	0.0001
L44	17.75 - 17.5	1.134	8	0.6372	0.0001
L45	17.5 - 17.25	1.100	8	0.6285	0.0001
L46	17.25 - 17.08	1.068	8	0.6198	0.0001
L47	17.08 - 16.83	1.046	8	0.6139	0.0001
L48	16.83 - 13	1.014	8	0.6044	0.0001
L49	13 - 12.75	0.588	8	0.4577	0.0001
L50	12.75 - 11.85	0.564	8	0.4499	0.0001
L51	11.85 - 11.6	0.482	8	0.4211	0.0001
L52	11.6 - 6.5	0.460	8	0.4111	0.0001
L53	6.5 - 6.25	0.133	8	0.2037	0.0000
L54	6.25 - 3.75	0.122	8	0.1950	0.0000
L55	3.75 - 3.5	0.043	8	0.1075	0.0000
L56	3.5 - 3	0.038	8	0.1010	0.0000
L57	3 - 2.75	0.028	8	0.0881	0.0000
L58	2.75 - 0	0.023	8	0.0807	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
121.00	Platform Mount [LP 602-1]	8	70.175	6.4130	0.0047	6577
109.00	Site Pro 1 F3P-12W 12' Fortress Platform	8	54.609	5.8489	0.0031	825
99.00	Side Arm Mount [SO 101-3]	8	43.179	5.0255	0.0019	594
97.00	Platform Mount [13.16' LP 713-1]	8	41.119	4.8340	0.0017	562
87.00	T-Arm Mount [TA 602-3]	8	32.144	3.8453	0.0007	834
77.00	Commscope MC-PK8-DSH	8	24.727	3.2697	0.0007	1130

Compression Checks

Pole Design Data

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
L1	130 - 125 (1)	TP11.775x10.525x0.1875	5.00	0.00	0.0	6.9960	-0.11	409.26	0.000
L2	125 - 120 (2)	TP13.025x11.775x0.1875	5.00	0.00	0.0	7.7506	-4.29	453.41	0.009
L3	120 - 115 (3)	TP14.275x13.025x0.1875	5.00	0.00	0.0	8.5053	-4.49	497.56	0.009
L4	115 - 110 (4)	TP15.525x14.275x0.1875	5.00	0.00	0.0	9.2600	-4.74	541.71	0.009
L5	110 - 105 (5)	TP16.775x15.525x0.25	5.00	0.00	0.0	13.303 2	-9.27	778.24	0.012
L6	105 - 100 (6)	TP18.0265x16.775x0.25	5.00	0.00	0.0	14.310 1	-9.69	837.14	0.012
L7	100 - 95 (7)	TP19.2773x18.0265x0.25	5.00	0.00	0.0	15.316 9	-14.70	896.04	0.016
L8	95 - 90 (8)	TP20.528x19.2773x0.25	5.00	0.00	0.0	16.323 8	-15.33	954.94	0.016
L9	90 - 89.75 (9)	TP20.5905x20.528x0.5	0.25	0.00	0.0	32.345 8	-15.39	1892.23	0.008
L10	89.75 - 84.75 (10)	TP21.8413x20.5905x0.48 13	5.00	0.00	0.0	33.100 0	-19.10	1936.35	0.010
L11	84.75 - 84.417 (11)	TP21.9246x21.8413x0.47 5	0.33	0.00	0.0	32.807 1	-19.18	1919.22	0.010
L12	84.417 - 84.167 (12)	TP21.9871x21.9246x0.63 75	0.25	0.00	0.0	43.825 4	-19.23	2563.79	0.008
L13	84.167 - 83.42 (13)	TP22.174x21.9871x0.625	0.75	0.00	0.0	43.367 3	-19.39	2536.99	0.008
L14	83.42 - 83.17 (14)	TP22.2365x22.174x0.95	0.25	0.00	0.0	65.115 5	-19.47	3809.26	0.005
L15	83.17 - 83 (15)	TP22.2791x22.2365x0.95	0.17	0.00	0.0	65.245 6	-19.51	3816.87	0.005
L16	83 - 82.75 (16)	TP22.3416x22.2791x0.7	0.25	0.00	0.0	48.780 1	-19.57	2853.64	0.007
L17	82.75 - 77.75 (17)	TP23.5923x22.3416x0.66 25	5.00	0.00	0.0	48.915 1	-20.73	2861.53	0.007
L18	77.75 - 70 (18)	TP25.531x23.5923x0.65	7.75	0.00	0.0	49.981 7	-24.70	2923.93	0.008
L19	70 - 69 (19)	TP25.281x24.0304x0.7	5.00	0.00	0.0	55.405 5	-26.74	3241.22	0.008
L20	69 - 67.08 (20)	TP25.7612x25.281x0.687 5	1.92	0.00	0.0	55.506 9	-27.25	3247.15	0.008
L21	67.08 - 66.83 (21)	TP25.8237x25.7612x0.68 75	0.25	0.00	0.0	55.645 3	-27.34	3255.25	0.008
L22	66.83 - 64.08 (22)	TP26.5115x25.8237x0.67 5	2.75	0.00	0.0	56.155 7	-28.09	3285.11	0.009
L23	64.08 - 63.83 (23)	TP26.5741x26.5115x0.73 75	0.25	0.00	0.0	61.355 4	-28.18	3589.29	0.008
L24	63.83 - 62.44 (24)	TP26.9217x26.5741x0.73 75	1.39	0.00	0.0	62.181 0	-28.60	3637.59	0.008
L25	62.44 - 62.19 (25)	TP26.9843x26.9217x0.86 25	0.25	0.00	0.0	72.546 7	-28.70	4243.98	0.007

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
L26	62.19 - 57.19 (26)	TP28.2348x26.9843x0.83 75	5.00	0.00	0.0	73.883 8	-30.35	4322.20	0.007
L27	57.19 - 53.5 (27)	TP29.1578x28.2348x0.81 25	3.69	0.00	0.0	74.158 3	-31.60	4338.26	0.007
L28	53.5 - 53.25 (28)	TP29.2203x29.1578x0.83 75	0.25	0.00	0.0	76.541 3	-31.70	4477.67	0.007
L29	53.25 - 52.58 (29)	TP29.3879x29.2203x0.82 5	0.67	0.00	0.0	75.877 3	-31.93	4438.82	0.007
L30	52.58 - 52.33 (30)	TP29.4504x29.3879x0.86 25	0.25	0.00	0.0	79.395 7	-32.03	4644.65	0.007
L31	52.33 - 47.33 (31)	TP30.701x29.4504x0.837 5	5.00	0.00	0.0	80.534 3	-33.82	4711.26	0.007
L32	47.33 - 44.58 (32)	TP31.3888x30.701x0.812 5	2.75	0.00	0.0	79.995 2	-34.82	4679.72	0.007
L33	44.58 - 44.33 (33)	TP31.4513x31.3888x0.81 25	0.25	0.00	0.0	80.158 8	-34.93	4689.29	0.007
L34	44.33 - 41.85 (34)	TP32.0716x31.4513x0.8 5	2.48	0.00	0.0	80.555 7	-35.84	4712.51	0.008
L35	41.85 - 41.6 (35)	TP32.1341x32.0716x0.81 25	0.25	0.00	0.0	81.945 2	-35.94	4793.80	0.007
L36	41.6 - 34.08 (36)	TP34.015x32.1341x0.787 5	7.52	0.00	0.0	81.136 2	-36.92	4746.47	0.008
L37	34.08 - 34 (37)	TP33.4082x32.1594x0.81 88	5.00	0.00	0.0	85.918 1	-40.43	5026.21	0.008
L38	34 - 29 (38)	TP34.657x33.4082x0.793 8	5.00	0.00	0.0	86.550 3	-42.43	5063.19	0.008
L39	29 - 26.85 (39)	TP35.194x34.657x0.7938 7	2.15	0.00	0.0	87.922 7	-43.30	5143.48	0.008
L40	26.85 - 26.6 (40)	TP35.2564x35.194x0.893 8	0.25	0.00	0.0	98.891 5	-43.43	5785.15	0.008
L41	26.6 - 21.6 (41)	TP36.5052x35.2564x0.86 88	5.00	0.00	0.0	99.688 6	-45.70	5831.78	0.008
L42	21.6 - 18 (42)	TP37.4044x36.5052x0.85 63	3.60	0.00	0.0	100.76 80	-47.37	5894.91	0.008
L43	18 - 17.75 (43)	TP37.4668x37.4044x0.99 38	0.25	0.00	0.0	116.70 90	-47.51	6827.49	0.007
L44	17.75 - 17.5 (44)	TP37.5292x37.4668x0.99 38	0.25	0.00	0.0	116.90 90	-47.64	6839.18	0.007
L45	17.5 - 17.25 (45)	TP37.5917x37.5292x0.99 38	0.25	0.00	0.0	117.10 90	-47.77	6850.86	0.007
L46	17.25 - 17.08 (46)	TP37.6341x37.5917x0.99 38	0.17	0.00	0.0	117.24 50	-47.85	6858.81	0.007
L47	17.08 - 16.83 (47)	TP37.6966x37.6341x0.89 38	0.25	0.00	0.0	105.91 40	-47.97	6195.96	0.008
L48	16.83 - 13 (48)	TP38.6531x37.6966x0.88 13	3.83	0.00	0.0	107.18 20	-49.81	6270.17	0.008
L49	13 - 12.75 (49)	TP38.7156x38.6531x1.06 88	0.25	0.00	0.0	129.55 70	-49.96	7579.08	0.007
L50	12.75 - 11.85 (50)	TP38.9404x38.7156x1.04 38	0.90	0.00	0.0	127.36 60	-50.45	7450.90	0.007
L51	11.85 - 11.6 (51)	TP39.0028x38.9404x0.81 88	0.25	0.00	0.0	100.66 70	-50.58	5889.05	0.009
L52	11.6 - 6.5 (52)	TP40.2766x39.0028x0.79 38	5.10	0.00	0.0	98.959 8	-51.59	5789.15	0.009
L53	6.5 - 6.25 (53)	TP40.339x40.2766x0.918 8	0.25	0.00	0.0	116.43 50	-53.09	6811.46	0.008
L54	6.25 - 3.75 (54)	TP40.9634x40.339x0.906 3	2.50	0.00	0.0	115.07 00	-53.23	6731.58	0.008
L55	3.75 - 3.5 (55)	TP41.0258x40.9634x1.24 38	0.25	0.00	0.0	159.07 20	-54.53	9305.73	0.006
L56	3.5 - 3 (56)	TP41.1507x41.0258x1.24 38	0.50	0.00	0.0	159.32 20	-54.69	9320.36	0.006
L57	3 - 2.75 (57)	TP41.2132x41.1507x1.06 88	0.25	0.00	0.0	137.93 70	-55.01	8069.32	0.007
L58	2.75 - 0 (58)	TP41.9x41.2132x1.0688 20	2.75	0.00	0.0	138.15 20	-55.16	8081.89	0.007

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	130 - 125 (1)	TP11.775x10.525x0.1875	0.56	120.74	0.005	0.00	120.74	0.000
L2	125 - 120 (2)	TP13.025x11.775x0.1875	4.69	148.43	0.032	0.00	148.43	0.000
L3	120 - 115 (3)	TP14.275x13.025x0.1875	39.29	178.97	0.220	0.00	178.97	0.000
L4	115 - 110 (4)	TP15.525x14.275x0.1875	75.34	212.37	0.355	0.00	212.37	0.000
L5	110 - 105 (5)	TP16.775x15.525x0.25	133.44	327.79	0.407	0.00	327.79	0.000
L6	105 - 100 (6)	TP18.0265x16.775x0.25	193.11	379.69	0.509	0.00	379.69	0.000
L7	100 - 95 (7)	TP19.2773x18.0265x0.25	270.81	435.39	0.622	0.00	435.39	0.000
L8	95 - 90 (8)	TP20.528x19.2773x0.25	362.24	494.91	0.732	0.00	494.91	0.000
L9	90 - 89.75 (9)	TP20.5905x20.528x0.5	366.87	959.70	0.382	0.00	959.70	0.000
L10	89.75 - 84.75 (10)	TP21.8413x20.5905x0.48	467.41	1046.54	0.447	0.00	1046.54	0.000
L11	84.75 - 84.417 (11)	TP21.9246x21.8413x0.475	474.72	1042.02	0.456	0.00	1042.02	0.000
L12	84.417 - 84.167 (12)	TP21.9871x21.9246x0.6375	480.21	1375.12	0.349	0.00	1375.12	0.000
L13	84.167 - 83.42 (13)	TP22.174x21.9871x0.625	496.69	1374.59	0.361	0.00	1374.59	0.000
L14	83.42 - 83.17 (14)	TP22.2365x22.174x0.95	502.23	2008.30	0.250	0.00	2008.30	0.000
L15	83.17 - 83 (15)	TP22.2791x22.2365x0.95	505.99	2016.50	0.251	0.00	2016.50	0.000
L16	83 - 82.75 (16)	TP22.3416x22.2791x0.7	511.54	1547.78	0.331	0.00	1547.78	0.000
L17	82.75 - 77.75 (17)	TP23.5923x22.3416x0.6625	624.29	1649.97	0.378	0.00	1649.97	0.000
L18	77.75 - 70 (18)	TP25.531x23.5923x0.65	720.05	1758.70	0.409	0.00	1758.70	0.000
L19	70 - 69 (19)	TP25.281x24.0304x0.7	853.96	2004.28	0.426	0.00	2004.28	0.000
L20	69 - 67.08 (20)	TP25.7612x25.281x0.6875	906.36	2050.31	0.442	0.00	2050.31	0.000
L21	67.08 - 66.83 (21)	TP25.8237x25.7612x0.6875	913.22	2060.68	0.443	0.00	2060.68	0.000
L22	66.83 - 64.08 (22)	TP26.5115x25.8237x0.675	989.23	2140.07	0.462	0.00	2140.07	0.000
L23	64.08 - 63.83 (23)	TP26.5741x26.5115x0.7375	996.18	2332.73	0.427	0.00	2332.73	0.000
L24	63.83 - 62.44 (24)	TP26.9217x26.5741x0.7375	1035.05	2396.82	0.432	0.00	2396.82	0.000
L25	62.44 - 62.19 (25)	TP26.9843x26.9217x0.8625	1042.07	2776.60	0.375	0.00	2776.60	0.000
L26	62.19 - 57.19 (26)	TP28.2348x26.9843x0.8375	1184.33	2972.91	0.398	0.00	2972.91	0.000
L27	57.19 - 53.5 (27)	TP29.1578x28.2348x0.8125	1291.61	3092.92	0.418	0.00	3092.92	0.000
L28	53.5 - 53.25 (28)	TP29.2203x29.1578x0.8375	1298.95	3193.91	0.407	0.00	3193.91	0.000
L29	53.25 - 52.58 (29)	TP29.3879x29.2203x0.825	1318.67	3188.22	0.414	0.00	3188.22	0.000
L30	52.58 - 52.33 (30)	TP29.4504x29.3879x0.8625	1326.03	3334.82	0.398	0.00	3334.82	0.000
L31	52.33 - 47.33 (31)	TP30.701x29.4504x0.8375	1475.33	3540.88	0.417	0.00	3540.88	0.000
L32	47.33 - 44.58 (32)	TP31.3888x30.701x0.8125	1558.94	3606.29	0.432	0.00	3606.29	0.000
L33	44.58 - 44.33 (33)	TP31.4513x31.3888x0.8125	1566.60	3621.24	0.433	0.00	3621.24	0.000
L34	44.33 - 41.85 (34)	TP32.0716x31.4513x0.825	1643.01	3717.72	0.442	0.00	3717.72	0.000
L35	41.85 - 41.6 (35)	TP32.1341x32.0716x0.8125	1650.76	3786.58	0.436	0.00	3786.58	0.000
L36	41.6 - 34.08 (36)	TP34.015x32.1341x0.7875	1731.88	3835.00	0.452	0.00	3835.00	0.000
L37	34.08 - 34 (37)	TP33.4082x32.1594x0.8188	1890.76	4134.16	0.457	0.00	4134.16	0.000
L38	34 - 29 (38)	TP34.657x33.4082x0.793	2053.28	4334.48	0.474	0.00	4334.48	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L39	29 - 26.85 (39)	TP35.194x34.657x0.7938 8	2124.18	4474.63	0.475	0.00	4474.63	0.000
L40	26.85 - 26.6 (40)	TP35.2564x35.194x0.893 8	2132.46	5012.98	0.425	0.00	5012.98	0.000
L41	26.6 - 21.6 (41)	TP36.5052x35.2564x0.86 88	2299.78	5249.06	0.438	0.00	5249.06	0.000
L42	21.6 - 18 (42)	TP37.4044x36.5052x0.85 63	2422.23	5446.66	0.445	0.00	5446.66	0.000
L43	18 - 17.75 (43)	TP37.4668x37.4044x0.99 38	2430.79	6271.97	0.388	0.00	6271.97	0.000
L44	17.75 - 17.5 (44)	TP37.5292x37.4668x0.99 38	2439.37	6293.75	0.388	0.00	6293.75	0.000
L45	17.5 - 17.25 (45)	TP37.5917x37.5292x0.99 38	2447.95	6315.56	0.388	0.00	6315.56	0.000
L46	17.25 - 17.08 (46)	TP37.6341x37.5917x0.99 38	2453.78	6330.42	0.388	0.00	6330.42	0.000
L47	17.08 - 16.83 (47)	TP37.6966x37.6341x0.89 38	2462.38	5759.90	0.428	0.00	5759.90	0.000
L48	16.83 - 13 (48)	TP38.6531x37.6966x0.88 13	2594.98	5987.94	0.433	0.00	5987.94	0.000
L49	13 - 12.75 (49)	TP38.7156x38.6531x1.06 88	2603.71	7178.48	0.363	0.00	7178.48	0.000
L50	12.75 - 11.85 (50)	TP38.9404x38.7156x1.04 38	2635.16	7109.76	0.371	0.00	7109.76	0.000
L51	11.85 - 11.6 (51)	TP39.0028x38.9404x0.81 88	2643.91	5695.85	0.464	0.00	5695.85	0.000
L52	11.6 - 6.5 (52)	TP40.2766x39.0028x0.79 38	2715.63	5682.85	0.478	0.00	5682.85	0.000
L53	6.5 - 6.25 (53)	TP40.339x40.2766x0.918 8	2824.14	6777.90	0.417	0.00	6777.90	0.000
L54	6.25 - 3.75 (54)	TP40.9634x40.339x0.906 3	2833.05	6713.54	0.422	0.00	6713.54	0.000
L55	3.75 - 3.5 (55)	TP41.0258x40.9634x1.24 38	2922.64	9272.83	0.315	0.00	9272.83	0.000
L56	3.5 - 3 (56)	TP41.1507x41.0258x1.24 38	2931.64	9302.42	0.315	0.00	9302.42	0.000
L57	3 - 2.75 (57)	TP41.2132x41.1507x1.06 88	2949.68	8150.86	0.362	0.00	8150.86	0.000
L58	2.75 - 0 (58)	TP41.9x41.2132x1.0688	2958.70	8176.60	0.362	0.00	8176.60	0.000

Pole Shear Design Data

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 $\frac{T_u}{\phi T_n}$
L1	130 - 125 (1)	TP11.775x10.525x0.1875	0.23	122.78	0.002	0.00	125.15	0.000
L2	125 - 120 (2)	TP13.025x11.775x0.1875	6.79	136.02	0.050	0.08	153.60	0.001
L3	120 - 115 (3)	TP14.275x13.025x0.1875	7.06	149.27	0.047	0.08	184.97	0.000
L4	115 - 110 (4)	TP15.525x14.275x0.1875	7.37	162.51	0.045	0.14	219.25	0.001
L5	110 - 105 (5)	TP16.775x15.525x0.25	11.72	233.47	0.050	0.02	339.39	0.000
L6	105 - 100 (6)	TP18.0265x16.775x0.25	12.15	251.14	0.048	0.18	392.70	0.000
L7	100 - 95 (7)	TP19.2773x18.0265x0.25	18.06	268.81	0.067	0.23	449.91	0.001
L8	95 - 90 (8)	TP20.528x19.2773x0.25	18.55	286.48	0.065	0.29	511.00	0.001
L9	90 - 89.75 (9)	TP20.5905x20.528x0.5	18.56	567.67	0.033	0.29	1003.20	0.000
L10	89.75 - 84.75 (10)	TP21.8413x20.5905x0.48 13	21.92	580.91	0.038	0.31	1091.46	0.000
L11	84.75 - 84.417 (11)	TP21.9246x21.8413x0.47 5	21.96	575.76	0.038	0.31	1086.33	0.000
L12	84.417 - 84.167 (12)	TP21.9871x21.9246x0.63 75	21.99	769.14	0.029	0.31	1444.42	0.000
L13	84.167 - 83.42 (13)	TP22.174x21.9871x0.625	22.10	761.10	0.029	0.31	1442.67	0.000
L14	83.42 - 83.17 (14)	TP22.2365x22.174x0.95	22.13	1142.78	0.019	0.31	2139.77	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio V_u ϕV_n	Actual T_u kip-ft	ϕT_n kip-ft	Ratio T_u ϕT_n
L15	83.17 - 83 (15)	TP22.2791x22.2365x0.95	22.16	1145.06	0.019	0.31	2148.32	0.000
L16	83 - 82.75 (16)	TP22.3416x22.2791x0.7	22.19	856.09	0.026	0.31	1629.71	0.000
L17	82.75 - 77.75 (17)	TP23.5923x22.3416x0.66 25	22.89	858.46	0.027	0.30	1731.49	0.000
L18	77.75 - 70 (18)	TP25.531x23.5923x0.65	26.38	877.18	0.030	0.10	1842.59	0.000
L19	70 - 69 (19)	TP25.281x24.0304x0.7	27.15	972.37	0.028	0.09	2102.47	0.000
L20	69 - 67.08 (20)	TP25.7612x25.281x0.687 5	27.42	974.15	0.028	0.09	2148.53	0.000
L21	67.08 - 66.83 (21)	TP25.8237x25.7612x0.68 75	27.43	976.58	0.028	0.09	2159.27	0.000
L22	66.83 - 64.08 (22)	TP26.5115x25.8237x0.67 5	27.82	985.53	0.028	0.09	2239.78	0.000
L23	64.08 - 63.83 (23)	TP26.5741x26.5115x0.73 75	27.84	1076.79	0.026	0.09	2447.18	0.000
L24	63.83 - 62.44 (24)	TP26.9217x26.5741x0.73 75	28.05	1091.28	0.026	0.09	2513.47	0.000
L25	62.44 - 62.19 (25)	TP26.9843x26.9217x0.86 25	28.07	1273.19	0.022	0.09	2925.47	0.000
L26	62.19 - 57.19 (26)	TP28.2348x26.9843x0.83 75	28.80	1296.66	0.022	0.08	3124.88	0.000
L27	57.19 - 53.5 (27)	TP29.1578x28.2348x0.81 25	29.33	1301.48	0.023	0.08	3245.02	0.000
L28	53.5 - 53.25 (28)	TP29.2203x29.1578x0.83 75	29.35	1343.30	0.022	0.08	3353.72	0.000
L29	53.25 - 52.58 (29)	TP29.3879x29.2203x0.82 5	29.45	1331.65	0.022	0.08	3345.72	0.000
L30	52.58 - 52.33 (30)	TP29.4504x29.3879x0.86 25	29.48	1393.40	0.021	0.08	3503.94	0.000
L31	52.33 - 47.33 (31)	TP30.701x29.4504x0.837 5	30.20	1413.38	0.021	0.08	3712.78	0.000
L32	47.33 - 44.58 (32)	TP31.3888x30.701x0.812 5	30.59	1403.92	0.022	0.08	3775.95	0.000
L33	44.58 - 44.33 (33)	TP31.4513x31.3888x0.81 25	30.61	1406.79	0.022	0.08	3791.41	0.000
L34	44.33 - 41.85 (34)	TP32.0716x31.4513x0.8	30.97	1413.75	0.022	0.08	3888.87	0.000
L35	41.85 - 41.6 (35)	TP32.1341x32.0716x0.81 25	31.00	1438.14	0.022	0.08	3962.28	0.000
L36	41.6 - 34.08 (36)	TP34.015x32.1341x0.787 5	31.36	1423.94	0.022	0.07	4007.74	0.000
L37	34.08 - 34 (37)	TP33.4082x32.1594x0.81 88	32.16	1507.86	0.021	0.07	4322.54	0.000
L38	34 - 29 (38)	TP34.657x33.4082x0.793 8	32.82	1518.96	0.022	0.07	4524.54	0.000
L39	29 - 26.85 (39)	TP35.194x34.657x0.7938	33.10	1543.04	0.021	0.07	4669.17	0.000
L40	26.85 - 26.6 (40)	TP35.2564x35.194x0.893 8	33.12	1735.55	0.019	0.07	5245.93	0.000
L41	26.6 - 21.6 (41)	TP36.5052x35.2564x0.86 88	33.77	1749.53	0.019	0.09	5484.25	0.000
L42	21.6 - 18 (42)	TP37.4044x36.5052x0.85 63	34.23	1768.47	0.019	0.09	5685.42	0.000
L43	18 - 17.75 (43)	TP37.4668x37.4044x0.99 38	34.25	2048.25	0.017	0.09	6571.34	0.000
L44	17.75 - 17.5 (44)	TP37.5292x37.4668x0.99 38	34.28	2051.75	0.017	0.09	6593.86	0.000
L45	17.5 - 17.25 (45)	TP37.5917x37.5292x0.99 38	34.31	2055.26	0.017	0.09	6616.42	0.000
L46	17.25 - 17.08 (46)	TP37.6341x37.5917x0.99 38	34.33	2057.64	0.017	0.09	6631.77	0.000
L47	17.08 - 16.83 (47)	TP37.6966x37.6341x0.89 38	34.36	1858.79	0.018	0.09	6017.43	0.000
L48	16.83 - 13 (48)	TP38.6531x37.6966x0.88 13	34.84	1881.05	0.019	0.09	6249.85	0.000
L49	13 - 12.75 (49)	TP38.7156x38.6531x1.06 88	34.86	2273.72	0.015	0.09	7529.49	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 $\frac{T_u}{\phi T_n}$
L50	12.75 - 11.85 (50)	TP38.9404x38.7156x1.04 38	34.98	2235.27	0.016	0.09	7451.27	0.000
L51	11.85 - 11.6 (51)	TP39.0028x38.9404x0.81 88	35.00	1766.71	0.020	0.09	5934.01	0.000
L52	11.6 - 6.5 (52)	TP40.2766x39.0028x0.79 38	35.38	1748.17	0.020	0.09	5915.00	0.000
L53	6.5 - 6.25 (53)	TP40.339x40.2766x0.918 8	35.65	2046.68	0.017	0.09	7074.44	0.000
L54	6.25 - 3.75 (54)	TP40.9634x40.339x0.906 3	35.82	2035.46	0.018	0.09	7004.79	0.000
L55	3.75 - 3.5 (55)	TP41.0258x40.9634x1.24 38	35.99	2796.11	0.013	0.10	9753.83	0.000
L56	3.5 - 3 (56)	TP41.1507x41.0258x1.24 38	36.07	2804.88	0.013	0.10	9784.58	0.000
L57	3 - 2.75 (57)	TP41.2132x41.1507x1.06 88	36.10	2424.57	0.015	0.10	8535.08	0.000
L58	2.75 - 0 (58)	TP41.9x41.2132x1.0688	36.25	2445.31	0.015	0.10	8561.67	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u ϕP_n	Ratio M_{ux} ϕM_{nx}	Ratio M_{uy} ϕM_{ny}	Ratio V_u ϕV_n	Ratio T_u ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	130 - 125 (1)	0.000	0.005	0.000	0.002	0.000	0.005	1.050	4.8.2
L2	125 - 120 (2)	0.009	0.032	0.000	0.050	0.001	0.044	1.050	4.8.2
L3	120 - 115 (3)	0.009	0.220	0.000	0.047	0.000	0.231	1.050	4.8.2
L4	115 - 110 (4)	0.009	0.355	0.000	0.045	0.001	0.366	1.050	4.8.2
L5	110 - 105 (5)	0.012	0.407	0.000	0.050	0.000	0.422	1.050	4.8.2
L6	105 - 100 (6)	0.012	0.509	0.000	0.048	0.000	0.523	1.050	4.8.2
L7	100 - 95 (7)	0.016	0.622	0.000	0.067	0.001	0.643	1.050	4.8.2
L8	95 - 90 (8)	0.016	0.732	0.000	0.065	0.001	0.752	1.050	4.8.2
L9	90 - 89.75 (9)	0.008	0.382	0.000	0.033	0.000	0.391	1.050	4.8.2
L10	89.75 - 84.75 (10)	0.010	0.447	0.000	0.038	0.000	0.458	1.050	4.8.2
L11	84.75 - 84.417 (11)	0.010	0.456	0.000	0.038	0.000	0.467	1.050	4.8.2
L12	84.417 - 84.167 (12)	0.008	0.349	0.000	0.029	0.000	0.358	1.050	4.8.2
L13	84.167 - 83.42 (13)	0.008	0.361	0.000	0.029	0.000	0.370	1.050	4.8.2
L14	83.42 - 83.17 (14)	0.005	0.250	0.000	0.019	0.000	0.256	1.050	4.8.2
L15	83.17 - 83 (15)	0.005	0.251	0.000	0.019	0.000	0.256	1.050	4.8.2
L16	83 - 82.75 (16)	0.007	0.331	0.000	0.026	0.000	0.338	1.050	4.8.2
L17	82.75 - 77.75 (17)	0.007	0.378	0.000	0.027	0.000	0.386	1.050	4.8.2
L18	77.75 - 70 (18)	0.008	0.409	0.000	0.030	0.000	0.419	1.050	4.8.2
L19	70 - 69 (19)	0.008	0.426	0.000	0.028	0.000	0.435	1.050	4.8.2
L20	69 - 67.08 (20)	0.008	0.442	0.000	0.028	0.000	0.451	1.050	4.8.2
L21	67.08 - 66.83 (21)	0.008	0.443	0.000	0.028	0.000	0.452	1.050	4.8.2
L22	66.83 - 64.08 (22)	0.009	0.462	0.000	0.028	0.000	0.472	1.050	4.8.2
L23	64.08 - 63.83 (23)	0.008	0.427	0.000	0.026	0.000	0.436	1.050	4.8.2
L24	63.83 - 62.44 (24)	0.008	0.432	0.000	0.026	0.000	0.440	1.050	4.8.2
L25	62.44 - 62.19 (25)	0.007	0.375	0.000	0.022	0.000	0.383	1.050	4.8.2

Section No.	Elevation ft	Ratio	Ratio	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		P_u	M_{ux}	M_{uy}	V_u	T_u			
		ϕP_n	ϕM_{nx}	ϕM_{ny}	ϕV_n	ϕT_n			
L26	62.19 - 57.19 (26)	0.007	0.398	0.000	0.022	0.000	0.406	1.050	4.8.2
L27	57.19 - 53.5 (27)	0.007	0.418	0.000	0.023	0.000	0.425	1.050	4.8.2
L28	53.5 - 53.25 (28)	0.007	0.407	0.000	0.022	0.000	0.414	1.050	4.8.2
L29	53.25 - 52.58 (29)	0.007	0.414	0.000	0.022	0.000	0.421	1.050	4.8.2
L30	52.58 - 52.33 (30)	0.007	0.398	0.000	0.021	0.000	0.405	1.050	4.8.2
L31	52.33 - 47.33 (31)	0.007	0.417	0.000	0.021	0.000	0.424	1.050	4.8.2
L32	47.33 - 44.58 (32)	0.007	0.432	0.000	0.022	0.000	0.440	1.050	4.8.2
L33	44.58 - 44.33 (33)	0.007	0.433	0.000	0.022	0.000	0.441	1.050	4.8.2
L34	44.33 - 41.85 (34)	0.008	0.442	0.000	0.022	0.000	0.450	1.050	4.8.2
L35	41.85 - 41.6 (35)	0.007	0.436	0.000	0.022	0.000	0.444	1.050	4.8.2
L36	41.6 - 34.08 (36)	0.008	0.452	0.000	0.022	0.000	0.460	1.050	4.8.2
L37	34.08 - 34 (37)	0.008	0.457	0.000	0.021	0.000	0.466	1.050	4.8.2
L38	34 - 29 (38)	0.008	0.474	0.000	0.022	0.000	0.483	1.050	4.8.2
L39	29 - 26.85 (39)	0.008	0.475	0.000	0.021	0.000	0.484	1.050	4.8.2
L40	26.85 - 26.6 (40)	0.008	0.425	0.000	0.019	0.000	0.433	1.050	4.8.2
L41	26.6 - 21.6 (41)	0.008	0.438	0.000	0.019	0.000	0.446	1.050	4.8.2
L42	21.6 - 18 (42)	0.008	0.445	0.000	0.019	0.000	0.453	1.050	4.8.2
L43	18 - 17.75 (43)	0.007	0.388	0.000	0.017	0.000	0.395	1.050	4.8.2
L44	17.75 - 17.5 (44)	0.007	0.388	0.000	0.017	0.000	0.395	1.050	4.8.2
L45	17.5 - 17.25 (45)	0.007	0.388	0.000	0.017	0.000	0.395	1.050	4.8.2
L46	17.25 - 17.08 (46)	0.007	0.388	0.000	0.017	0.000	0.395	1.050	4.8.2
L47	17.08 - 16.83 (47)	0.008	0.428	0.000	0.018	0.000	0.436	1.050	4.8.2
L48	16.83 - 13 (48)	0.008	0.433	0.000	0.019	0.000	0.442	1.050	4.8.2
L49	13 - 12.75 (49)	0.007	0.363	0.000	0.015	0.000	0.370	1.050	4.8.2
L50	12.75 - 11.85 (50)	0.007	0.371	0.000	0.016	0.000	0.378	1.050	4.8.2
L51	11.85 - 11.6 (51)	0.009	0.464	0.000	0.020	0.000	0.473	1.050	4.8.2
L52	11.6 - 6.5 (52)	0.009	0.478	0.000	0.020	0.000	0.487	1.050	4.8.2
L53	6.5 - 6.25 (53)	0.008	0.417	0.000	0.017	0.000	0.425	1.050	4.8.2
L54	6.25 - 3.75 (54)	0.008	0.422	0.000	0.018	0.000	0.430	1.050	4.8.2
L55	3.75 - 3.5 (55)	0.006	0.315	0.000	0.013	0.000	0.321	1.050	4.8.2
L56	3.5 - 3 (56)	0.006	0.315	0.000	0.013	0.000	0.321	1.050	4.8.2
L57	3 - 2.75 (57)	0.007	0.362	0.000	0.015	0.000	0.369	1.050	4.8.2
L58	2.75 - 0 (58)	0.007	0.362	0.000	0.015	0.000	0.369	1.050	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$\sigma_{P_{allow}}$ K	% Capacity	Pass Fail	
L1	130 - 125	Pole	TP11.775x10.525x0.1875	1	-0.11	429.73	0.5	Pass	
L2	125 - 120	Pole	TP13.025x11.775x0.1875	2	-4.29	476.08	4.9	Pass	
L3	120 - 115	Pole	TP14.275x13.025x0.1875	3	-4.49	522.44	22.0	Pass	
L4	115 - 110	Pole	TP15.525x14.275x0.1875	4	-4.74	568.80	34.8	Pass	
L5	110 - 105	Pole	TP16.775x15.525x0.25	5	-9.27	817.15	40.1	Pass	
L6	105 - 100	Pole	TP18.0265x16.775x0.25	6	-9.69	879.00	49.8	Pass	
L7	100 - 95	Pole	TP19.2773x18.0265x0.25	7	-14.70	940.84	61.2	Pass	
L8	95 - 90	Pole	TP20.528x19.2773x0.25	8	-15.33	1002.69	71.6	Pass	
L9	90 - 89.75	Pole	TP20.5905x20.528x0.5	9	-15.39	1986.84	37.3	Pass	
L10	89.75 - 84.75	Pole	TP21.8413x20.5905x0.4813	10	-19.10	2033.17	43.6	Pass	
L11	84.75 - 84.417	Pole	TP21.9246x21.8413x0.475	11	-19.18	2015.18	44.5	Pass	
L12	84.417 - 84.167	Pole	TP21.9871x21.9246x0.6375	12	-19.23	2691.98	34.1	Pass	
L13	84.167 - 83.42	Pole	TP22.174x21.9871x0.625	13	-19.39	2663.84	35.2	Pass	
L14	83.42 - 83.17	Pole	TP22.2365x22.174x0.95	14	-19.47	3999.72	24.3	Pass	
L15	83.17 - 83	Pole	TP22.2791x22.2365x0.95	15	-19.51	4007.71	24.4	Pass	
L16	83 - 82.75	Pole	TP22.3416x22.2791x0.7	16	-19.57	2996.32	32.2	Pass	
L17	82.75 - 77.75	Pole	TP23.5923x22.3416x0.6625	17	-20.73	3004.61	36.8	Pass	
L18	77.75 - 70	Pole	TP25.531x23.5923x0.65	18	-24.70	3070.13	39.9	Pass	
L19	70 - 69	Pole	TP25.281x24.0304x0.7	19	-26.74	3403.28	41.4	Pass	
L20	69 - 67.08	Pole	TP25.7612x25.281x0.6875	20	-27.25	3409.51	43.0	Pass	
L21	67.08 - 66.83	Pole	TP25.8237x25.7612x0.6875	21	-27.34	3418.01	43.1	Pass	
L22	66.83 - 64.08	Pole	TP26.5115x25.8237x0.675	22	-28.09	3449.37	44.9	Pass	
L23	64.08 - 63.83	Pole	TP26.5741x26.5115x0.7375	23	-28.18	3768.75	41.5	Pass	
L24	63.83 - 62.44	Pole	TP26.9217x26.5741x0.7375	24	-28.60	3819.47	41.9	Pass	
L25	62.44 - 62.19	Pole	TP26.9843x26.9217x0.8625	25	-28.70	4456.18	36.4	Pass	
L26	62.19 - 57.19	Pole	TP28.2348x26.9843x0.8375	26	-30.35	4538.31	38.7	Pass	
L27	57.19 - 53.5	Pole	TP29.1578x28.2348x0.8125	27	-31.60	4555.17	40.5	Pass	
L28	53.5 - 53.25	Pole	TP29.2203x29.1578x0.8375	28	-31.70	4701.55	39.5	Pass	
L29	53.25 - 52.58	Pole	TP29.3879x29.2203x0.825	29	-31.93	4660.76	40.1	Pass	
L30	52.58 - 52.33	Pole	TP29.4504x29.3879x0.8625	30	-32.03	4876.88	38.6	Pass	
L31	52.33 - 47.33	Pole	TP30.701x29.4504x0.8375	31	-33.82	4946.82	40.4	Pass	
L32	47.33 - 44.58	Pole	TP31.3888x30.701x0.8125	32	-34.82	4913.71	41.9	Pass	
L33	44.58 - 44.33	Pole	TP31.4513x31.3888x0.8125	33	-34.93	4923.75	42.0	Pass	
L34	44.33 - 41.85	Pole	TP32.0716x31.4513x0.8	34	-35.84	4948.14	42.9	Pass	
L35	41.85 - 41.6	Pole	TP32.1341x32.0716x0.8125	35	-35.94	5033.49	42.3	Pass	
L36	41.6 - 34.08	Pole	TP34.015x32.1341x0.7875	36	-36.92	4983.79	43.8	Pass	
L37	34.08 - 34	Pole	TP33.4082x32.1594x0.8188	37	-40.43	5277.52	44.4	Pass	
L38	34 - 29	Pole	TP34.657x33.4082x0.7938	38	-42.43	5316.35	46.0	Pass	
L39	29 - 26.85	Pole	TP35.194x34.657x0.7938	39	-43.30	5400.65	46.1	Pass	
L40	26.85 - 26.6	Pole	TP35.2564x35.194x0.8938	40	-43.43	6074.41	41.3	Pass	
L41	26.6 - 21.6	Pole	TP36.5052x35.2564x0.8688	41	-45.70	6123.37	42.5	Pass	
L42	21.6 - 18	Pole	TP37.4044x36.5052x0.8563	42	-47.37	6189.66	43.2	Pass	
L43	18 - 17.75	Pole	TP37.4668x37.4044x0.9938	43	-47.51	7168.86	37.6	Pass	
L44	17.75 - 17.5	Pole	TP37.5292x37.4668x0.9938	44	-47.64	7181.14	37.6	Pass	
L45	17.5 - 17.25	Pole	TP37.5917x37.5292x0.9938	45	-47.77	7193.40	37.6	Pass	
L46	17.25 - 17.08	Pole	TP37.6341x37.5917x0.9938	46	-47.85	7201.75	37.6	Pass	
L47	17.08 - 16.83	Pole	TP37.6966x37.6341x0.8938	47	-47.97	6505.76	41.5	Pass	
L48	16.83 - 13	Pole	TP38.6531x37.6966x0.8813	48	-49.81	6583.68	42.1	Pass	
L49	13 - 12.75	Pole	TP38.7156x38.6531x1.0688	49	-49.96	7958.03	35.2	Pass	
L50	12.75 - 11.85	Pole	TP38.9404x38.7156x1.0438	50	-50.45	7823.44	36.0	Pass	
L51	11.85 - 11.6	Pole	TP39.0028x38.9404x0.8188	51	-50.58	6183.50	45.1	Pass	
L52	11.6 - 6.5	Pole	TP40.2766x39.0028x0.7938	52	-51.59	6078.61	46.4	Pass	
L53	6.5 - 6.25	Pole	TP40.339x40.2766x0.9188	53	-53.09	7152.03	40.5	Pass	
L54	6.25 - 3.75	Pole	TP40.9634x40.339x0.9063	54	-53.23	7068.16	41.0	Pass	
L55	3.75 - 3.5	Pole	TP41.0258x40.9634x1.2438	55	-54.53	9771.02	30.6	Pass	
L56	3.5 - 3	Pole	TP41.1507x41.0258x1.2438	56	-54.69	9786.38	30.6	Pass	
L57	3 - 2.75	Pole	TP41.2132x41.1507x1.0688	57	-55.01	8472.79	35.1	Pass	
L58	2.75 - 0	Pole	TP41.9x41.2132x1.0688	58	-55.16	8485.98	35.1	Pass	
							Summary		
							Pole (L8)	71.6	Pass
							RATING =	71.6	Pass

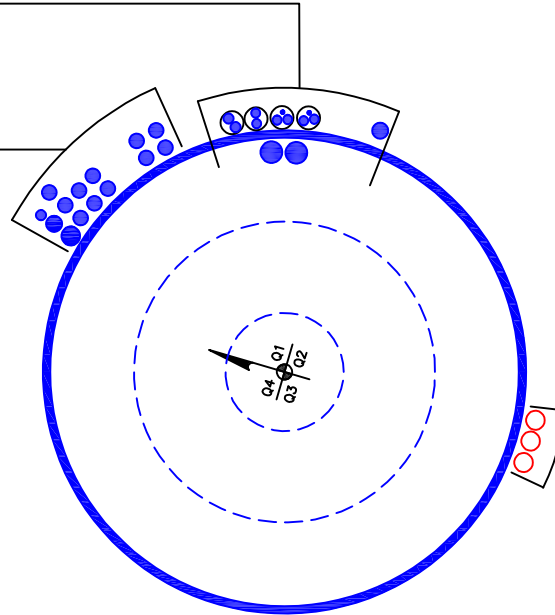
***NOTE: Above stress ratios for reinforced sections are approximate. More exact calculations are presented in Appendix C**

APPENDIX B
BASE LEVEL DRAWING



(OTHER CONSIDERED EQUIPMENT)
(2) 1-7/8" TO 109 FT LEVEL
(1) 1-3/8" TO 77 FT LEVEL
(OTHER CONSIDERED EQUIPMENT-IN CONDUITS)
(2) 3/8" TO 121 FT LEVEL
(6) 13/16" TO 121 FT LEVEL
(2) 7/8" TO 121 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(1) 7/8" TO 87 FT LEVEL
(11) 1-1/4" TO 87 FT LEVEL
(1) 1-3/8" TO 87 FT LEVEL
(1) 1-5/8" TO 87 FT LEVEL



(PROPOSED EQUIPMENT CONFIGURATION)
(3) 1-5/8" TO 97 FT LEVEL

APPENDIX C
ADDITIONAL CALCULATIONS

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	130	20	0	12	10.525	15.525	0.1875	Auto	A572-65
2	110	40	4	12	15.53	25.531	0.25	Auto	A572-65
3	74	39.92	4.92	12	24.03	34.015	0.3125	Auto	A572-65
4	39	39	0	12	32.16	41.9	0.34375	Auto	A572-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12
1	17.08	44.58	plate	PL 0.75x4.0 (100 ksi)	3	x				x				x			
2	44.58	67.08	plate	PL 0.75x4.0 (100 ksi)	3				x				x				x
3	67.08	84.417	plate	PL 0.75x4.0 (100 ksi)	3	x				x				x			
4	0	3.75	plate	TS 1.25x7 (65 ksi)	3				c				c				c
5	3	13	plate	CCI-AFP-060100	3	x				x				x			
6	11.85	41.85	plate	CCI-AFP-060100	1				x								
7	11.85	26.85	plate	CCI-AFP-060100	2								x				x
8	18	53.5	plate	CCI-AFP-060100	2							x					x
9	41.85	62.44	plate	CCI-AFP-045100	1				x								
10	53.5	64.08	plate	CCI-AFP-045100	2								x				x
11	83	90	plate	CCI-SFP-045100	3				x				x				x
12	0	6.5	plate	CCI-WCFP-065125	1									1.5			
13	0	18	plate	CCI-WCFP-065125	3				x				x				x
14	0	17.5	plate	CCI-WCFP-060100	3												x
15	17.5	52.58	plate	CCI-CFP-060100	3												x
16	52.58	83.42	plate	CCI-CFP-045125	3												x
17																	

Reinforcement Details

	B (in)	H (in)	Gross Area (in ²)	Pole Face to Centroid (in)	Bottom Termination Type	Bottom Termination Length (in)	Top Termination Type	Top Termination Length (in)	Lu (in)	Net Area (in ²)	Bolt Hole Size (in)	Reinforcement Material
1	4	0.75	3	0.375	PC 8.8 - M20 (100)	15	PC 8.8 - M20 (100)	15.000	15.000	2.063	1.1875	A514-GR100
2	4	0.75	3	0.375	PC 8.8 - M20 (100)	15	PC 8.8 - M20 (100)	15.000	15.000	2.063	1.1875	A514-GR100
3	4	0.75	3	0.375	PC 8.8 - M20 (100)	15	PC 8.8 - M20 (100)	15.000	15.000	2.063	1.1875	A514-GR100
4	1.25	7	8.75	3.5	Welded	n/a	Welded	n/a	0.000	8.750	0.0000	A572-65
5	6	1	6	0.5	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	30.000	16.000	4.750	1.1875	A572-65
6	6	1	6	0.5	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	30.000	16.000	4.750	1.1875	A572-65
7	6	1	6	0.5	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	30.000	16.000	4.750	1.1875	A572-65
8	6	1	6	0.5	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	30.000	16.000	4.750	1.1875	A572-65
9	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	20.000	3.250	1.1875	A572-65
10	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	20.000	3.250	1.1875	A572-65
11	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
12	6.5	1.25	8.125	0.625	Welded	n/a	PC 8.8 - M20 (100)	33.000	19.000	6.563	1.1875	A572-65
13	6.5	1.25	8.125	0.625	Welded	n/a	PC 8.8 - M20 (100)	33.000	19.000	6.563	1.1875	A572-65
14	6	1	6	0.5	Welded	n/a	PC 8.8 - M20 (100)	30.000	17.000	4.750	1.1875	A572-65
15	6	1	6	0.5	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	30.000	17.000	4.750	1.1875	A572-65
16	4.5	1.25	5.625	0.625	PC 8.8 - M20 (100)	21	PC 8.8 - M20 (100)	21.000	24.000	4.063	1.1875	A572-65

Connection Details for Custom Reinforcements

Reinforcement	End	# Bolts	N or X	Bolt Spacing (in)	Edge Dist (in)	Weld Grade (ksi)	Transverse (Horiz.) Weld Type	Horiz. Weld Length (in)	Horiz. Groove Depth (in)	Horiz. Groove Angle (deg)	Horiz. Fillet Size (in)	Vertical Weld Length (in)	Vertical Fillet Size (in)	Rev H Connection Capacity (kip)
PL 0.75x4.0 (100 ksi)	Top	5	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	5	N	3	3	-	-	-	-	-	-	-	-	-
TS 1.25x7 (65 ksi)	Top	-	-	-	-	80	None	-	-	-	-	27	0.375	-
	Bottom	-	-	-	-	80	PJP Groove	12.5	0.5	45	0.625	-	-	-
CCI-WCFP-065125	Top	11	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	-	-	-	-	80	CJP Groove	6.5	1.25	45	0.5	-	-	-
CCI-WCFP-060100	Top	10	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	-	-	-	-	80	CJP Groove	6	1	45	0.375	-	-	-
CCI-CFP-060100	Top	10	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	10	N	3	3	-	-	-	-	-	-	-	-	-
CCI-CFP-045125	Top	7	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	7	N	3	3	-	-	-	-	-	-	-	-	-

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	130 - 125	5		12	10.525	11.775	0.1875	A572-65	1.000
2	125 - 120	5		12	11.775	13.025	0.1875	A572-65	1.000
3	120 - 115	5		12	13.025	14.275	0.1875	A572-65	1.000
4	115 - 110	5	0	12	14.275	15.525	0.1875	A572-65	1.000
5	110 - 105	5		12	15.525	16.776	0.25	A572-65	1.000
6	105 - 100	5		12	16.776	18.027	0.25	A572-65	1.000
7	100 - 95	5		12	18.027	19.277	0.25	A572-65	1.000
8	95 - 90	5		12	19.277	20.528	0.25	A572-65	1.000
9	90 - 89.75	0.25		12	20.528	20.591	0.5	A572-65	0.924
10	89.75 - 84.75	5		12	20.591	21.841	0.48125	A572-65	0.934
11	84.75 - 84.417	0.333		12	21.841	21.925	0.475	A572-65	0.944
12	84.417 - 84.167	0.25		12	21.925	21.987	0.6375	A572-65	0.913
13	84.167 - 83.42	0.747		12	21.987	22.174	0.625	A572-65	0.927
14	83.42 - 83.17	0.25		12	22.174	22.237	0.95	A572-65	0.877
15	83.17 - 83	0.17		12	22.237	22.279	0.95	A572-65	0.876
16	83 - 82.75	0.25		12	22.279	22.342	0.7	A572-65	0.896
17	82.75 - 77.75	5		12	22.342	23.592	0.6625	A572-65	0.914
18	77.75 - 74	7.75	4	12	23.592	25.531	0.65	A572-65	0.909
19	74 - 69	5		12	24.030	25.281	0.7	A572-65	0.921
20	69 - 67.08	1.92		12	25.281	25.761	0.6875	A572-65	0.928
21	67.08 - 66.83	0.25		12	25.761	25.824	0.6875	A572-65	0.927
22	66.83 - 64.08	2.75		12	25.824	26.512	0.675	A572-65	0.931
23	64.08 - 63.83	0.25		12	26.512	26.574	0.7375	A572-65	1.000
24	63.83 - 62.44	1.39		12	26.574	26.922	0.7375	A572-65	0.992
25	62.44 - 62.19	0.25		12	26.922	26.984	0.8625	A572-65	0.913
26	62.19 - 57.19	5		12	26.984	28.235	0.8375	A572-65	0.914
27	57.19 - 53.5	3.69		12	28.235	29.158	0.8125	A572-65	0.923
28	53.5 - 53.25	0.25		12	29.158	29.220	0.8375	A572-65	0.934
29	53.25 - 52.58	0.67		12	29.220	29.388	0.825	A572-65	0.945
30	52.58 - 52.33	0.25		12	29.388	29.450	0.8625	A572-65	0.918
31	52.33 - 47.33	5		12	29.450	30.701	0.8375	A572-65	0.921
32	47.33 - 44.58	2.75		12	30.701	31.389	0.8125	A572-65	0.935
33	44.58 - 44.33	0.25		12	31.389	31.451	0.8125	A572-65	0.934
34	44.33 - 41.85	2.48		12	31.451	32.072	0.8	A572-65	0.937
35	41.85 - 41.6	0.25		12	32.072	32.134	0.8125	A572-65	0.941
36	41.6 - 39	7.52	4.92	12	32.134	34.015	0.7875	A572-65	0.958
37	39 - 34	5		12	32.159	33.408	0.81875	A572-65	0.950
38	34 - 29	5		12	33.408	34.657	0.79375	A572-65	0.960
39	29 - 26.85	2.15		12	34.657	35.194	0.79375	A572-65	0.951
40	26.85 - 26.6	0.25		12	35.194	35.256	0.89375	A572-65	0.968
41	26.6 - 21.6	5		12	35.256	36.505	0.86875	A572-65	0.974
42	21.6 - 18	3.6		12	36.505	37.404	0.85625	A572-65	0.974
43	18 - 17.75	0.25		12	37.404	37.467	0.99375	A572-65	0.947
44	17.75 - 17.5	0.25		12	37.467	37.529	0.99375	A572-65	0.946
45	17.5 - 17.25	0.25		12	37.529	37.592	0.99375	A572-65	0.945
46	17.25 - 17.08	0.17		12	37.592	37.634	0.99375	A572-65	0.945
47	17.08 - 16.83	0.25		12	37.634	37.697	0.89375	A572-65	0.961
48	16.83 - 13	3.83		12	37.697	38.653	0.88125	A572-65	0.960
49	13 - 12.75	0.25		12	38.653	38.716	1.06875	A572-65	0.934
50	12.75 - 11.85	0.9		12	38.716	38.940	1.04375	A572-65	0.952
51	11.85 - 11.6	0.25		12	38.940	39.003	0.81875	A572-65	1.026
52	11.6 - 6.5	5.1		12	39.003	40.277	0.79375	A572-65	1.037
53	6.5 - 6.25	0.25		12	40.277	40.339	0.91875	A572-65	0.968
54	6.25 - 3.75	2.5		12	40.339	40.963	0.90625	A572-65	0.971
55	3.75 - 3.5	0.25		12	40.963	41.026	1.24375	A572-65	0.878
56	3.5 - 3	0.5		12	41.026	41.151	1.24375	A572-65	0.876
57	3 - 2.75	0.25		12	41.151	41.213	1.06875	A572-65	0.884
58	2.75 - 0	2.75		12	41.213	41.900	1.06875	A572-65	0.874

TNX Section Forces

Increment (ft):		TNX Output			
	5	P _u	(K)	M _{ux} (kip-ft)	V _u (K)
Section Height (ft)					
1	130 - 125	0.11	0.56	0.23	
2	125 - 120	4.29	4.69	6.79	
3	120 - 115	4.49	39.29	7.06	
4	115 - 110	4.74	75.34	7.37	
5	110 - 105	9.27	133.44	11.72	
6	105 - 100	9.69	193.11	12.15	
7	100 - 95	14.70	270.81	18.06	
8	95 - 90	15.33	362.24	18.55	
9	90 - 89.75	15.39	366.87	18.56	
10	89.75 - 84.75	19.10	467.41	21.92	
11	84.75 - 84.417	19.18	474.72	21.96	
12	84.417 - 84.167	19.23	480.21	21.99	
13	84.167 - 83.42	19.39	496.69	22.10	
14	83.42 - 83.17	19.47	502.23	22.13	
15	83.17 - 83	19.51	505.99	22.16	
16	83 - 82.75	19.57	511.54	22.19	
17	82.75 - 77.75	20.73	624.29	22.89	
18	77.75 - 74	24.70	720.05	26.38	
19	74 - 69	26.74	853.96	27.15	
20	69 - 67.08	27.25	906.35	27.42	
21	67.08 - 66.83	27.34	913.21	27.43	
22	66.83 - 64.08	28.09	989.22	27.82	
23	64.08 - 63.83	28.18	996.18	27.84	
24	63.83 - 62.44	28.60	1035.05	28.05	
25	62.44 - 62.19	28.70	1042.07	28.07	
26	62.19 - 57.19	30.35	1184.33	28.80	
27	57.19 - 53.5	31.60	1291.61	29.33	
28	53.5 - 53.25	31.70	1298.95	29.35	
29	53.25 - 52.58	31.93	1318.66	29.45	
30	52.58 - 52.33	32.03	1326.03	29.48	
31	52.33 - 47.33	33.82	1475.32	30.20	
32	47.33 - 44.58	34.82	1558.94	30.59	
33	44.58 - 44.33	34.93	1566.60	30.61	
34	44.33 - 41.85	35.84	1643.01	30.97	
35	41.85 - 41.6	35.94	1650.76	31.00	
36	41.6 - 39	36.92	1731.87	31.36	
37	39 - 34	40.43	1890.76	32.16	
38	34 - 29	42.43	2053.29	32.82	
39	29 - 26.85	43.30	2124.17	33.10	
40	26.85 - 26.6	43.43	2132.46	33.12	
41	26.6 - 21.6	45.70	2299.78	33.77	
42	21.6 - 18	47.37	2422.23	34.23	
43	18 - 17.75	47.51	2430.79	34.25	
44	17.75 - 17.5	47.64	2439.37	34.28	
45	17.5 - 17.25	47.77	2447.95	34.31	
46	17.25 - 17.08	47.85	2453.79	34.33	
47	17.08 - 16.83	47.97	2462.38	34.36	
48	16.83 - 13	49.81	2594.99	34.84	
49	13 - 12.75	49.96	2603.70	34.86	
50	12.75 - 11.85	50.45	2635.16	34.98	
51	11.85 - 11.6	50.58	2643.91	35.00	
52	11.6 - 6.5	53.07	2824.14	35.63	
53	6.5 - 6.25	53.21	2833.05	35.65	
54	6.25 - 3.75	54.52	2922.64	35.98	
55	3.75 - 3.5	54.69	2931.65	35.99	
56	3.5 - 3	55.00	2949.68	36.07	
57	3 - 2.75	55.14	2958.70	36.10	
58	2.75 - 0	56.68	3058.43	36.39	

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
130 - 125	Pole	TP11.775x10.525x0.1875	Pole	0.5%	Pass
125 - 120	Pole	TP13.025x11.775x0.1875	Pole	4.1%	Pass
120 - 115	Pole	TP14.275x13.025x0.1875	Pole	21.9%	Pass
115 - 110	Pole	TP15.525x14.275x0.1875	Pole	34.7%	Pass
110 - 105	Pole	TP16.776x15.525x0.25	Pole	40.0%	Pass
105 - 100	Pole	TP18.027x16.776x0.25	Pole	49.6%	Pass
100 - 95	Pole	TP19.277x18.027x0.25	Pole	61.1%	Pass
95 - 90	Pole	TP20.528x19.277x0.25	Pole	71.4%	Pass
90 - 89.75	Pole + Reinf.	TP20.591x20.528x0.5	Reinf. 11 Tension Rupture	63.8%	Pass
89.75 - 84.75	Pole + Reinf.	TP21.841x20.591x0.4813	Reinf. 11 Tension Rupture	74.2%	Pass
84.75 - 84.42	Pole + Reinf.	TP21.925x21.841x0.475	Reinf. 11 Tension Rupture	75.0%	Pass
84.42 - 84.17	Pole + Reinf.	TP21.987x21.925x0.6375	Reinf. 11 Tension Rupture	58.0%	Pass
84.17 - 83.42	Pole + Reinf.	TP22.174x21.987x0.625	Reinf. 11 Tension Rupture	59.3%	Pass
83.42 - 83.17	Pole + Reinf.	TP22.237x22.174x0.95	Reinf. 16 Tension Rupture	41.6%	Pass
83.17 - 83	Pole + Reinf.	TP22.279x22.237x0.95	Reinf. 16 Tension Rupture	41.8%	Pass
83 - 82.75	Pole + Reinf.	TP22.342x22.279x0.7	Reinf. 16 Tension Rupture	55.6%	Pass
82.75 - 77.75	Pole + Reinf.	TP23.592x22.342x0.6625	Reinf. 16 Tension Rupture	62.9%	Pass
77.75 - 74	Pole + Reinf.	TP25.531x23.592x0.65	Reinf. 16 Tension Rupture	68.7%	Pass
74 - 69	Pole + Reinf.	TP25.281x24.03x0.7	Reinf. 16 Tension Rupture	70.9%	Pass
69 - 67.08	Pole + Reinf.	TP25.761x25.281x0.6875	Reinf. 16 Tension Rupture	73.2%	Pass
67.08 - 66.83	Pole + Reinf.	TP25.824x25.761x0.6875	Reinf. 16 Tension Rupture	73.5%	Pass
66.83 - 64.08	Pole + Reinf.	TP26.512x25.824x0.675	Reinf. 16 Tension Rupture	76.5%	Pass
64.08 - 63.83	Pole + Reinf.	TP26.574x26.512x0.7375	Reinf. 16 Tension Rupture	73.4%	Pass
63.83 - 62.44	Pole + Reinf.	TP26.922x26.574x0.7375	Reinf. 16 Tension Rupture	74.8%	Pass
62.44 - 62.19	Pole + Reinf.	TP26.984x26.922x0.8625	Reinf. 16 Tension Rupture	62.0%	Pass
62.19 - 57.19	Pole + Reinf.	TP28.235x26.984x0.8375	Reinf. 16 Tension Rupture	66.1%	Pass
57.19 - 53.5	Pole + Reinf.	TP29.158x28.235x0.8125	Reinf. 16 Tension Rupture	68.9%	Pass
53.5 - 53.25	Pole + Reinf.	TP29.22x29.158x0.8375	Reinf. 9 Tension Rupture	68.3%	Pass
53.25 - 52.58	Pole + Reinf.	TP29.388x29.22x0.825	Reinf. 9 Tension Rupture	68.8%	Pass
52.58 - 52.33	Pole + Reinf.	TP29.45x29.388x0.8625	Reinf. 9 Tension Rupture	66.3%	Pass
52.33 - 47.33	Pole + Reinf.	TP30.701x29.45x0.8375	Reinf. 9 Tension Rupture	69.7%	Pass
47.33 - 44.58	Pole + Reinf.	TP31.389x30.701x0.8125	Reinf. 9 Tension Rupture	71.4%	Pass
44.58 - 44.33	Pole + Reinf.	TP31.451x31.389x0.8125	Reinf. 9 Tension Rupture	71.6%	Pass
44.33 - 41.85	Pole + Reinf.	TP32.072x31.451x0.8	Reinf. 9 Tension Rupture	73.0%	Pass
41.85 - 41.6	Pole + Reinf.	TP32.134x32.072x0.8125	Reinf. 8 Tension Rupture	65.1%	Pass
41.6 - 39	Pole + Reinf.	TP34.015x32.134x0.7875	Reinf. 8 Tension Rupture	66.4%	Pass
39 - 34	Pole + Reinf.	TP33.408x32.159x0.8188	Reinf. 8 Tension Rupture	67.8%	Pass
34 - 29	Pole + Reinf.	TP34.657x33.408x0.7938	Reinf. 8 Tension Rupture	69.8%	Pass
29 - 26.85	Pole + Reinf.	TP35.194x34.657x0.7938	Reinf. 8 Tension Rupture	70.6%	Pass
26.85 - 26.6	Pole + Reinf.	TP35.256x35.194x0.8938	Reinf. 6 Tension Rupture	66.1%	Pass
26.6 - 21.6	Pole + Reinf.	TP36.505x35.256x0.8688	Reinf. 6 Tension Rupture	67.9%	Pass
21.6 - 18	Pole + Reinf.	TP37.404x36.505x0.8563	Reinf. 6 Tension Rupture	69.1%	Pass
18 - 17.75	Pole + Reinf.	TP37.467x37.404x0.9938	Reinf. 15 Compression	58.3%	Pass
17.75 - 17.5	Pole + Reinf.	TP37.529x37.467x0.9938	Reinf. 15 Compression	58.3%	Pass
17.5 - 17.25	Pole + Reinf.	TP37.592x37.529x0.9938	Reinf. 14 Compression	58.4%	Pass
17.25 - 17.08	Pole + Reinf.	TP37.634x37.592x0.9938	Reinf. 14 Compression	58.5%	Pass
17.08 - 16.83	Pole + Reinf.	TP37.697x37.634x0.8938	Reinf. 14 Compression	63.9%	Pass
16.83 - 13	Pole + Reinf.	TP38.653x37.697x0.8813	Reinf. 14 Compression	65.0%	Pass
13 - 12.75	Pole + Reinf.	TP38.716x38.653x1.0688	Reinf. 14 Compression	55.0%	Pass
12.75 - 11.85	Pole + Reinf.	TP38.94x38.716x1.0438	Reinf. 14 Compression	55.2%	Pass
11.85 - 11.6	Pole + Reinf.	TP39.003x38.94x0.8188	Reinf. 14 Compression	70.9%	Pass
11.6 - 6.5	Pole + Reinf.	TP40.277x39.003x0.7938	Reinf. 14 Compression	72.3%	Pass
6.5 - 6.25	Pole + Reinf.	TP40.339x40.277x0.9188	Reinf. 5 Tension Rupture	67.4%	Pass
6.25 - 3.75	Pole + Reinf.	TP40.963x40.339x0.9063	Reinf. 5 Tension Rupture	68.1%	Pass
3.75 - 3.5	Pole + Reinf.	TP41.026x40.963x1.2438	Reinf. 5 Tension Rupture	50.3%	Pass
3.5 - 3	Pole + Reinf.	TP41.151x41.026x1.2438	Reinf. 5 Tension Rupture	50.4%	Pass
3 - 2.75	Pole + Reinf.	TP41.213x41.151x1.0688	Reinf. 14 Compression	58.2%	Pass
2.75 - 0	Pole + Reinf.	TP41.9x41.213x1.0688	Reinf. 4 Weldment	82.6%	Pass
				Summary	
			Pole	71.4%	Pass
			Reinforcement	82.6%	Pass
			Overall	82.6%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in ⁴)			Area (in ²)			% Capacity*																	
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	
130 - 125	120	n/a	120	6.99	n/a	6.99	0.5%																	
125 - 120	163	n/a	163	7.74	n/a	7.74	4.1%																	
120 - 115	216	n/a	216	8.49	n/a	8.49	21.9%																	
115 - 110	278	n/a	278	9.25	n/a	9.25	34.7%																	
110 - 105	464	n/a	464	13.28	n/a	13.28	40.0%																	
105 - 100	578	n/a	578	14.29	n/a	14.29	49.6%																	
100 - 95	709	n/a	709	15.30	n/a	15.30	61.1%																	
95 - 90	858	n/a	858	16.30	n/a	16.30	71.4%																	
90 - 89.75	866	799	1664	16.35	13.50	29.85	36.2%																	
89.75 - 84.75	1036	892	1928	17.36	13.50	30.86	42.9%																	
84.75 - 84.42	1048	899	1946	17.42	13.50	30.92	43.4%																	
84.42 - 84.17	1057	1491	2548	17.47	22.50	39.97	33.6%			44.1%														
84.17 - 83.42	1084	1516	2600	17.62	22.50	40.12	34.4%			45.0%														
83.42 - 83.17	1094	2703	3796	17.67	39.38	57.05	24.0%			31.3%														
83.17 - 83	1100	2712	3812	17.71	39.38	57.08	24.1%			31.5%														
83 - 82.75	1109	1795	2905	17.76	25.88	43.63	32.0%			41.8%														
82.75 - 77.75	1309	1990	3299	18.76	25.88	44.64	36.9%			47.3%														
77.75 - 74	1473	2142	3615	19.52	25.88	45.39	41.0%			51.7%														
74 - 69	2002	2269	4271	25.09	25.88	50.96	40.2%			53.4%														
69 - 67.08	2120	2351	4471	25.57	25.88	51.45	41.5%			55.1%														
67.08 - 66.83	2135	2362	4498	25.63	25.88	51.51	41.6%			55.3%														
66.83 - 64.08	2313	2483	4796	26.33	25.88	52.20	43.7%			57.6%														
64.08 - 63.83	2353	2954	5307	26.39	34.88	61.26	43.8%			55.4%														
63.83 - 62.44	2448	3028	5476	26.74	34.88	61.61	44.8%			56.4%														
62.44 - 62.19	2440	3902	6342	26.80	39.38	66.18	35.6%			46.7%														
62.19 - 57.19	2800	4255	7055	28.06	39.38	67.43	38.6%			49.9%														
57.19 - 53.5	3087	4525	7612	28.98	39.38	68.36	40.7%			52.0%														
53.5 - 53.25	3110	4720	7830	29.05	42.38	71.42	40.7%			51.3%														
53.25 - 52.58	3164	4772	7936	29.22	42.38	71.59	41.1%			51.7%														
52.58 - 52.33	3183	5071	8254	29.28	43.50	72.78	39.6%			49.9%														
52.33 - 47.33	3611	5485	9095	30.53	43.50	74.03	42.3%			52.4%														
47.33 - 44.58	3862	5719	9581	31.23	43.50	74.73	43.7%			53.7%														
44.58 - 44.33	3885	5740	9625	31.29	43.50	74.79	43.9%			54.7%														
44.33 - 41.85	4122	5956	10078	31.91	43.50	75.41	45.1%			55.8%														
41.85 - 41.6	4144	6052	10196	31.97	45.00	76.97	44.5%			54.7%														
41.6 - 39	4404	6293	10697	32.63	45.00	77.63	45.7%			55.8%														
39 - 34	5114	6529	11643	36.55	45.00	81.55	45.4%			57.0%														
34 - 29	5716	7014	12729	37.93	45.00	82.93	47.4%			58.7%														
29 - 26.85	5988	7228	13216	38.52	45.00	83.52	48.2%			59.4%														
26.85 - 26.6	6056	8887	14943	38.59	57.00	95.59	45.8%			55.5%														
26.6 - 21.6	6728	9497	16225	39.97	57.00	96.97	47.8%			57.0%														
21.6 - 18	7242	9949	17190	40.96	57.00	97.96	49.1%			58.0%														
18 - 17.75	7238	12612	19850	41.03	69.38	110.41	41.0%			48.6%														
17.75 - 17.5	7275	12652	19927	41.10	69.38	110.48	41.1%			48.7%														
17.5 - 17.25	7312	12693	20005	41.17	69.38	110.54	41.1%			48.8%														
17.25 - 17.08	7337	12721	20057	41.22	69.38	110.59	41.2%			48.8%														
17.08 - 16.83	7374	11092	18466	41.29	60.38	101.66	45.1%																	
16.83 - 13	7955	11640	19595	42.34	60.38	102.72	46.4%																	
13 - 12.75	7993	15253	23247	42.41	78.38	120.79	39.3%																	
12.75 - 11.85	8135	15424	23559	42.66	78.38	121.04	39.6%																	
11.85 - 11.6	8188	10557	18745	42.73	60.38	103.10	50.2%																	
11.6 - 6.5	9024	11232	20256	44.14	60.38	104.51	52.0%																	
6.5 - 6.25	9256	14118	23374	44.21	68.50	112.71	48.7%																	
6.25 - 3.75	9693	14546	24240	44.90	68.50	113.40	49.5%																	
3.75 - 3.5	9665	22849	32515	44.97	94.75	139.72	36.7%																	
3.5 - 3	9754	22979	32733	45.10	94.75	139.85	36.8%																	
3 - 2.75	9826	18947	28773	45.17	76.75	121.92	42.4%																	
2.75 - 0	10329	19551	29880	45.93	76.75	122.68	44.5%																	

Note: Section capacity checked using 5 degree increments.

Rating per TIA-222-H Section 15.5.

Monopole Flange Plate Connection

Elevation = 110 ft.



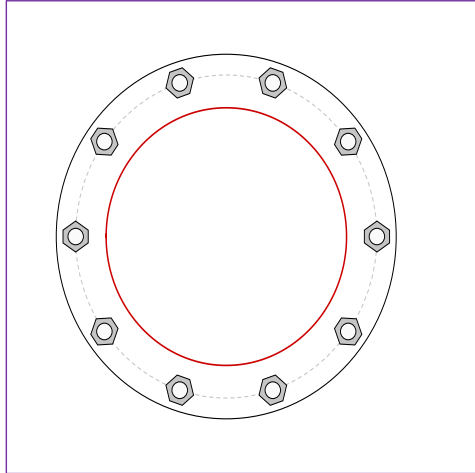
BU #	806376
Site Name	HRT 100 943239
Order #	557898 Rev. 2

Applied Loads	
Moment (kip-ft)	75.34
Axial Force (kips)	4.74
Shear Force (kips)	7.37

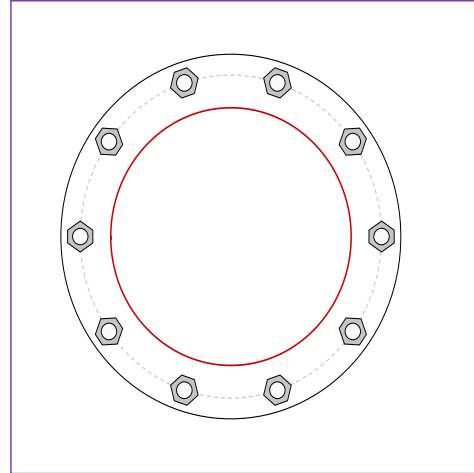
TIA-222 Revision	H
------------------	---

*TIA-222-H Section 15.5 Applied

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(10) 1" \emptyset bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 19.45" BC

Top Plate Data

21.95" OD x 1.375" Plate (A572-60; Fy=60 ksi, Fu=75 ksi)

Top Stiffener Data

N/A

Top Pole Data

15.525" x 0.1875" 12-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Bottom Plate Data

21.95" OD x 1.375" Plate (A572-60; Fy=60 ksi, Fu=75 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

15.525" x 0.25" 12-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	18.10
Allowable (kips)	54.53
Stress Rating:	31.6% Pass

Top Plate Capacity

Max Stress (ksi):	9.74	(Flexural)
Allowable Stress (ksi):	54.00	
Stress Rating:	17.2%	Pass
Tension Side Stress Rating:	9.1%	Pass

Bottom Plate Capacity

Max Stress (ksi):	9.74	(Flexural)
Allowable Stress (ksi):	54.00	
Stress Rating:	17.2%	Pass
Tension Side Stress Rating:	9.1%	Pass

Monopole Base Plate Connection

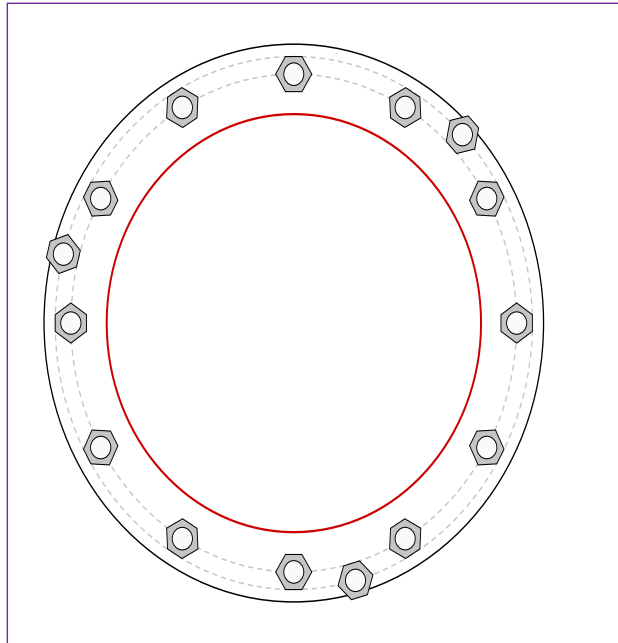


Site Info	
BU #	806376
Site Name	HRT 100 943239
Order #	557898 Rev. 2

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	See Custom Sheet
l_{ar} (in)	See Custom Sheet

Applied Loads	
Moment (kip-ft)	3058.43
Axial Force (kips)	56.68
Shear Force (kips)	36.39

*TIA-222-H Section 15.5 Applied



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

Anchor Rod Data
GROUP 1: (12) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 49.88" BC
GROUP 2: (3) 2-1/4" ϕ bolts (F1554-105 N; $F_y=105$ ksi, $F_u=125$ ksi) on 53.38" BC
Base Plate Data
55.88" OD x 2.5" Plate (S-128; $F_y=60$ ksi, $F_u=80$ ksi)
Stiffener Data
N/A
Pole Data
41.9" x 0.34375" 12-sided pole (A572-65; $F_y=65$ ksi, $F_u=80$ ksi)

Anchor Rod Summary	<i>(units of kips, kip-in)</i>	
GROUP 1:		
$P_{u,t} = 185.79$	$\phi P_{n,t} = 243.75$	Stress Rating
$V_u = 3.03$	$\phi V_n = 149.1$	72.6%
$M_u = n/a$	$\phi M_n = n/a$	Pass
GROUP 2:		
$P_{u,t} = 203.89$	$\phi P_{n,t} = 304.69$	Stress Rating
$V_u = 0$	$\phi V_n = 186.38$	63.7%
$M_u = 0$	$\phi M_n = 179.4$	Pass
Base Plate Summary		
Max Stress (ksi):	28.03	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	49.4%	Pass

CCIplate

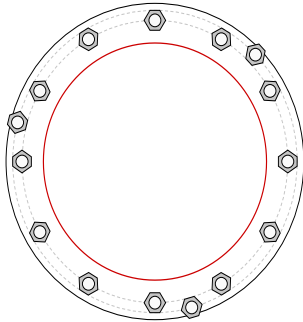
Elevation (ft) 0 (Base)

note: Bending interaction not considered when Grout Considered = "Yes"

Bolt Group	Resist Axial	Resist Shear	Induce Plate Bending	Grout Considered	Apply at BARB Elevation	BARB CL Elevation (ft)
1	Yes	Yes	Yes	No	No	
2	No	No	No	No	No	

Custom Bolt Connection										
Bolt	Bolt Group ID	Location (deg.)	Diameter (in)	Material	Bolt Circle (in)	Eta Factor, η :	I_{br} (in):	Thread Type	Area Override, in ²	Tension Only
1	1	0	2.25	A615-75	49.88	0.5	1	N-Included		No
2	1	30	2.25	A615-75	49.88	0.5	1	N-Included		No
3	1	60	2.25	A615-75	49.88	0.5	1	N-Included		No
4	1	90	2.25	A615-75	49.88	0.5	1	N-Included		No
5	1	120	2.25	A615-75	49.88	0.5	1	N-Included		No
6	1	150	2.25	A615-75	49.88	0.5	1	N-Included		No
7	1	180	2.25	A615-75	49.88	0.5	1	N-Included		No
8	1	210	2.25	A615-75	49.88	0.5	1	N-Included		No
9	1	240	2.25	A615-75	49.88	0.5	1	N-Included		No
10	1	270	2.25	A615-75	49.88	0.5	1	N-Included		No
11	1	300	2.25	A615-75	49.88	0.5	1	N-Included		No
12	1	330	2.25	A615-75	49.88	0.5	1	N-Included		No
13	2	45	2.25	F1554-105	53.38	0.5	10	N-Included		No
14	2	165	2.25	F1554-105	53.38	0.5	10	N-Included		No
15	2	285	2.25	F1554-105	53.38	0.5	10	N-Included		No

Plot Graphic



Anchor Rod Bracket Calculations:

Additional Anchor Rod Group:

$$N_{\text{new}} := 3 \quad D_{\text{new}} := 2.25 \cdot \text{in} \quad F_{u_{\text{rod}}} := 105 \text{ksi}$$

$$BC_{\text{new}} := 53.38 \cdot \text{in} \quad A_{\text{net_new}} := 3.25 \cdot \text{in}^2 \quad F_{y_{\text{rod}}} := 125 \text{ksi}$$

$$A_{n_{\text{new}}} := N_{\text{new}} \cdot A_{\text{net_new}} = 9.75 \cdot \text{in}^2$$



Anchor Rod Bracket Calculations

Analysis
 Design

Comment = "Analyze the anchor rod brackets to resist the controlling anchor rod demand force"

Anchor Rod Demand Force:

$$P_{u_{\text{max}}} := 203.89 \text{kip}$$

Bracket Loading:

$$P_u := \begin{cases} \phi P_n & \text{if AorD} = \text{"Design"} \\ P_{u_{\text{max}}} & \text{if AorD} = \text{"Analysis"} \end{cases} = 203.89 \cdot \text{kip}$$

Tube Design (Square HSS)

Member Size:

HSS5x5x1/2

Apply TIA-222-H Section 15.5?

No
 Yes

Member Properties

(AISC 15th Ed., Table 1-12):

Outside Diameter: $OD_{\text{HSS}} := 5 \cdot \text{in}$

Area: $A_{\text{HSS}} := 7.88 \cdot \text{in}^2$

$$A_{e_{\text{HSS}}} := 0.75 \cdot A_{\text{HSS}} = 5.91 \cdot \text{in}^2$$

Thickness: $t_{\text{HSS}} := 0.5 \cdot \text{in}$

Yield Strength: $F_{y_{\text{HSS}}} := 50 \cdot \text{ksi}$ $F_{u_{\text{HSS}}} := 65 \cdot \text{ksi}$

Length: $L_{\text{HSS}} := 24 \cdot \text{in}$

Moment of Inertia: $I_{\text{HSS}} := 26 \cdot \text{in}^4$

Radius of Gyration: $r_{\text{HSS}} := 1.82 \cdot \text{in}$

Inside Dimension: $ID_{\text{HSS}} := OD_{\text{HSS}} - 2 \cdot t_{\text{HSS}} = 4 \cdot \text{in}$

Bearing Check
(AISC 15th Ed., Equation J7-1):

$$\phi_b := 0.75$$

$$P_{u_c} = \phi_b \cdot R_n = \phi_b \cdot 1.8 \cdot F_{y_HSS} \cdot A_{pb}$$

$$A_{pb} := \frac{P_u}{\phi_b \cdot 1.8 \cdot F_{y_HSS}} = 3.02 \cdot \text{in}^2$$

$$\text{Check}_{\text{bear}} := \begin{cases} \text{"OK"} & \text{if } A_{HSS} \geq A_{pb} \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$$\text{Check}_{\text{bear}} = \text{"OK"}$$

Compression Check
(AISC 15th Ed., Eqs. E3-1 to E3-4):

$$\phi_c := 0.9$$

$$K := 1$$

$$\phi P_{u_comp} = \phi_c \cdot F_{cr} \cdot A_g$$

$$L_c := K \cdot L_{HSS} = 24 \cdot \text{in}$$

$$F_e := \frac{\pi^2 \cdot 29000 \text{ksi}}{\left(\frac{L_c}{r_{HSS}} \right)^2} = 1645.96 \cdot \text{ksi}$$

$$\frac{L_c}{r_{HSS}} = 13.19 < 4.71 \cdot \sqrt{\frac{29000 \cdot \text{ksi}}{F_{y_HSS}}} = 113.43$$

$$F_{cr} := 0.658 \cdot \frac{F_{y_HSS}}{F_e} \cdot F_{y_HSS} = 49.37 \cdot \text{ksi}$$

(AISC 15th Ed., Equation J4-6):

$$\phi P_{u_comp} := \begin{cases} \phi_c \cdot F_{y_HSS} \cdot A_{HSS} & \text{if } \frac{L_c}{r_{HSS}} \leq 25 \\ \phi_c \cdot F_{cr} \cdot A_{HSS} & \text{otherwise} \end{cases}$$

$$\phi P_{u_comp} = 354.6 \cdot \text{kip}$$

$$\text{Check}_{comp} := \begin{cases} \text{"OK"} & \text{if } \text{Rating}_{comp} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

$$\text{Check}_{comp} = \text{"OK"}$$

Gusset Plate Design

Gusset Plate width:

$$w_{plate} := 2 \cdot \text{in}$$

Gusset Plate thickness:

$$t_{plate} := 1.25 \cdot \text{in}$$

$$L_{plate1} := 33 \cdot \text{in}$$

$$L_{plate2} := 23 \cdot \text{in}$$

Gusset Plate Strength:

$$F_{yplate} := 65 \cdot \text{ksi}$$

$$F_{uplate} := 80 \cdot \text{ksi}$$

Pole thickness:

$$t_{pole} := 0.34375 \cdot \text{in}$$

Shear Check

(AISC 15th Ed., Eqs. J4-3 and J4-4):

$$A_g := t_{\text{plate}} \cdot L_{\text{plate2}} = 28.75 \cdot \text{in}^2$$

$$A_{nv} := A_g = 28.75 \cdot \text{in}^2$$

Shear Yielding

$$\phi_v := 1$$

$$\phi V_{\text{plate}} := \phi_v \cdot 0.6 \cdot A_g \cdot F_{y\text{plate}} = 1121.25 \cdot \text{kip}$$

$$\text{Check}_{\text{shear}} := \begin{cases} \text{"OK"} & \text{if Rating}_{\text{sheary}} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

Check_{shear} = "OK"

Shear Rupture

$$\phi_v := 0.75$$

$$\phi V_{\text{plate}} := \phi_v \cdot 0.6 \cdot A_{nv} \cdot F_{u\text{plate}} = 1035 \cdot \text{kip}$$

$$\text{Check}_{\text{shear}} := \begin{cases} \text{"OK"} & \text{if Rating}_{\text{shearr}} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

Check_{shear} = "OK"

**Gusset Plate to Tower and Base
Plate Weld Design (Horizontal and**

Vertical Weld):
(AISC 15th Ed., Part 8)

Gusset plate thickness:

$$t_{plate} = 1.25 \cdot in$$

Tower Grade:

$$F_{ypole} := 65 \text{ksi}$$

$$F_{upole} := 80 \text{ksi}$$

Base Plate Grade:

$$F_{ybase} := 60 \text{ksi}$$

$$F_{ubase} := 75 \text{ksi}$$

Gusset Plate Grade:

$$F_{yplate} = 65 \cdot \text{ksi}$$

$$F_{uplate} = 80 \cdot \text{ksi}$$

Height of vertical weld from base plate:

$$H_{ww} := L_{plate1} = 33 \cdot in$$

$$\text{Notch}_{horiz} := 0.75 \cdot in$$

$$\text{Notch}_{vert} := 0.75 \cdot in$$

Gap between Base Plate and HSS:

$$\text{Gap} := 0 \text{in}$$

Vertical fillet weld size to pole:
(in sixteenths of an inch)

$$D_{vpole} := 5$$

$$\text{weldsize}_{pole} := \frac{D_{vpole}}{16} = \frac{5}{16}$$

Electrode Strength:

$$\begin{matrix} 70 \text{ksi} \\ 80 \text{ksi} \end{matrix}$$

Check := $\begin{cases} \text{"OK"} & \text{if } \text{Rating}_{weld2} < 100\% \\ \text{"INSUFFICIENT"} & \text{otherwise} \end{cases}$

Check = "OK"

Gusset Plate to HSS Weld Design
(AISC 15th Ed., Table 8-4)

Interpolation per AISC SCM Table 8-4:

Electrode Strength:

70ksi
 80ksi

13th Edition
 14th Edition
 15th Edition

Fillet Weld Size (in sixteenths of an inch):

D := 5

Groove Weld:

None
 45 PJP
 60 PJP
 CJP

Groove Depth (inches):

GD := 0in

Assume the worst-case installation scenario where the rod is positioned directly against the far side of the HSS.

$$ecc_2 := OD_{HSS} - t_{HSS} - \frac{D_{new}}{2} = 3.38 \cdot \text{in}$$

Load not in plane with
 weld group:

$$k := 0$$

$$a := \frac{ecc_2}{L_{plate2}} = 0.15$$

$$C_1 = 1.03$$

$$\text{Coeff}_1 = 3.67$$

$$\phi_w := 0.75$$

$$D_{min1} := \text{ceil} \left(\frac{P_u \cdot \text{in}}{\phi_w \cdot \text{Coeff}_1 \cdot C_1 \cdot L_{plate2} \cdot \text{kip}} \right) = 4$$

$$\text{minweldsize} := \frac{D_{min1}}{16} = \frac{1}{4}$$

$$\text{Check}_{weld} := \begin{cases} \text{"OK"} & \text{if } D_1 \geq D_{min1} \wedge D_1 \geq \text{Min}_{weldsize} \wedge D_1 \leq \text{Max}_{weldsize} \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

Check_{weld} = "OK"

$$\phi R_{n_{weld1}} := \phi_w \cdot \text{Coeff}_1 \cdot \text{ksi} \cdot \text{in} \cdot C_1 \cdot D_1 \cdot L_{plate2} = 326.32 \cdot \text{kip}$$

$$\text{Check}_{weld1} := \begin{cases} \text{"OK"} & \text{if } \text{Rating}_{weld1} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

Check_{weld1} = "OK"

**Gusset Plate to Pole Punching
 Shear Check
 (max per unit length):
 (AISC 15th Ed., Section J4.2)**

What is the bracket welded to?

Tower Only
 Tower & Reinforcement
 Reinforcement Only

Reinforcement Thickness:

$$t_{ref} := 0 \text{ in}$$

Reinforcement Grade:

$$F_{y_ref} := 0 \text{ ksi}$$

$$F_{u_ref} := 0 \text{ ksi}$$

Assume the worst-case installation scenario where the rod is positioned directly against the far side of the HSS.

$$\phi_{sy} := 1.0$$

$$\phi_{sr} := 0.75$$

$$ecc_1 := w_{plate} + OD_{HSS} - t_{HSS} - \frac{D_{new}}{2} = 5.38 \cdot \text{in}$$

$$M_1 := P_u \cdot ecc_1 = 1095.91 \cdot \text{kip} \cdot \text{in}$$

$$S_1 := \frac{t_{plate} \cdot L_{plate1}^2}{6} = 226.88 \cdot \text{in}^3$$

$$f_v := \frac{M_1}{S_1} \cdot t_{plate} \cdot 1 \text{ in} = 6.04 \cdot \text{kip}$$

AISC 15th Ed., Equation J4-3:

$$\phi F_{sy} := \phi_{sy} \cdot 0.6 \cdot F_{y_pole} \cdot 2 \cdot t_{pole} \cdot 1 \text{ in}$$

$$\phi F_{sy_ref} := \phi_{sy} \cdot 0.6 \cdot F_{y_ref} \cdot 2 \cdot t_{ref} \cdot 1 \text{ in}$$

AISC 15th Ed., Equation J4-4:

$$\phi F_{sr} := \phi_{sr} \cdot 0.6 \cdot F_{u_pole} \cdot 2 \cdot t_{pole} \cdot 1 \text{ in}$$

$$\phi F_{sr_ref} := \phi_{sr} \cdot 0.6 \cdot F_{u_ref} \cdot 2 \cdot t_{ref} \cdot 1 \text{ in}$$

$$\phi F_v = 24.75 \cdot \text{kip}$$

$$\text{Check}_{PS1} := \begin{cases} \text{"OK"} & \text{if Rating}_{PS1} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

Check_{PS1} = "OK"

Gusset Plate to HSS Punching Shear Check
 (max per unit length):
 (AISC 15th Ed., Section J4.2)

Assume the worst-case installation scenario where the rod is positioned directly against the far side of the HSS.

$$ecc_2 := OD_{HSS} - t_{HSS} - \frac{D_{new}}{2} = 3.38 \cdot \text{in}$$

$$M_2 := P_u \cdot ecc_2 = 688.13 \cdot \text{kip} \cdot \text{in}$$

$$S_2 := \frac{t_{plate} \cdot L_{plate}^2}{6} = 110.21 \cdot \text{in}^3$$

$$f_{vw} := \frac{M_2}{S_2} \cdot t_{plate} \cdot 1 \text{ in} = 7.8 \cdot \text{kip}$$

AISC 15th Ed., Equation J4-3:

$$\phi F_{sy} := \phi_{sy} \cdot 0.6 \cdot F_{y_HSS} \cdot 2 \cdot t_{HSS} \cdot 1 \text{ in} = 30 \cdot \text{kip}$$

AISC 15th Ed., Equation J4-4:

$$\phi F_{sr} := \phi_{sr} \cdot 0.6 \cdot F_{u_HSS} \cdot 2 \cdot t_{HSS} \cdot 1 \text{ in} = 29.25 \cdot \text{kip}$$

$$\phi F_{vw} := \min(\phi F_{sy}, \phi F_{sr}) = 29.25 \cdot \text{kip}$$

$$\text{Check}_{PS2} := \begin{cases} \text{"OK"} & \text{if Rating}_{PS2} < 100\% \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

Check_{PS2} = "OK"

Embedment Depth Calculations

Projected Embedment Depth: $L_{em} := 5 \cdot ft$

Concrete Strength: $f_c := 3000 \text{ psi}$

Are anchor rods installed in piers?: Yes No

Yield Strength of Rebar: $f_y := 60 \text{ ksi}$
 Transverse Reinforcement Index: $k_{tr} := 0$ Can be taken as 0 for design per ACI 318-14

Epoxy Factor:	$\psi_e := 1$
Rebar Size Factor:	$\psi_s := 1$
Casting Position Factor:	$\psi_t := 1$
Concrete Weight Factor:	$\lambda := 1 \cdot \sqrt{ps}$
Pier Diameter:	$D_{\text{pier}} := 6 \text{ ft}$
Cover:	$c_c := 3 \text{ in}$
Rebar Size:	$d_s := 10$
Tie Size:	$\text{Tie} := 4$
Number of Vertical Rebar:	$n := 36$

$$d_b := \left\lceil \text{vlookup}(d_s, d_{\text{btable}}, 2) \right\rceil \cdot \text{in} = 1.27 \cdot \text{in}$$

The embedment depth shall be analyzed based on the design tension capacity of the anchor rods.

Design Load:

$$\phi P_{n, \text{max}} := 0.75 \cdot F_{u, \text{rod}} \cdot A_{\text{net, new}} = 255.94 \cdot \text{kip}$$

**Development Length
 (ACI 318-14 Chapter 25):**

$$BC_{\text{rebar}} := D_{\text{pier}} - 2 \cdot c_c - \frac{\text{Tie} \cdot \text{in}}{4} - d_b = 63.73 \cdot \text{in}$$

$$S_{\text{rebar}} := \frac{\pi \cdot BC_{\text{rebar}}}{n} = 5.561 \cdot \text{in}$$

$$c_b := \min \left(c_c + \frac{\text{Tie} \cdot \text{in}}{8} + \frac{d_b}{2}, S_{\text{rebar}} \cdot 0.5 \right) = 2.78 \cdot \text{in}$$

ACI 318-14, Equation 25.4.2.3a:

$$l_d := \left[\frac{3}{40} \cdot \frac{f_y}{\lambda \cdot \sqrt{f'_c}} \cdot \frac{\psi_t \cdot \psi_e \cdot \psi_s}{\min \left(\frac{c_b + k_{tr}}{d_b}, 2.5 \right)} \right] \cdot d_b = 47.65 \cdot \text{in}$$

Calculate Max Distance Between Rebar and New Anchor Rods:

$$A := \frac{1}{2} \cdot S_{\text{rebar}} = 2.781 \cdot \text{in}$$

$$B := \frac{BC_{\text{rebar}}}{2} - \frac{BC_{\text{new}}}{2} = 5.175 \cdot \text{in}$$

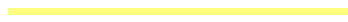
$$G := \sqrt{A^2 + B^2} = 5.875 \cdot \text{in}$$

$$l'_d := l_d + \frac{G}{1.5} + 3 \text{ in} = 4.55 \text{ ft}$$



Epoxy Development Length:

Bond Strength:



Epoxy :=

$$S_b := \begin{cases} S_{bh} & \text{if Epoxy} = 0 \\ S_{bA} & \text{if Epoxy} = 1 \wedge (f'_c = 4000\text{psi} \vee f'_c > 4000\cdot\text{psi}) \\ 0.94S_{bA} & \text{if Epoxy} = 1 \wedge (f'_c = 3000\text{psi} \vee f'_c < 3000\cdot\text{psi}) \\ E_{bond} & \text{if Epoxy} = 1 \wedge f'_c > 3000\text{psi} \wedge f'_c < 4000\text{psi} \end{cases} = 1613.98 \text{ psi}$$

$$\phi_{bond} := 0.65$$

$$L_{be} := \frac{P_{umax}}{\pi \cdot D_{new} \cdot S_b \cdot \phi_{bond}} = 27.49 \cdot \text{in}$$

Required Embedment Length:

Length of Breaker Tape:

$$L_{min} := \begin{cases} \max(L_{be} + L_{BT}, l'_d + 0.25 \cdot L_{be}) & \text{if Piers} = \text{"Yes"} \\ (L_{be} + L_{BT}) & \text{if Piers} = \text{"No"} \end{cases} = 5.12 \text{ ft}$$

$$\text{Check} := \begin{cases} \text{"OK"} & \text{if } L_{min} \leq L_{em} \\ \text{"N/G"} & \text{otherwise} \end{cases}$$

Anchor Rods Bond Stress Ratio: $\text{Rating}_{bond} := \frac{L_{be} + L_{BT}}{L_{em} \cdot 1.05} = 62.69\%$

The provided 60 inch embedment of the anchor rods technically does not meet the rebar/anchor rod splice check ($l'_d + 0.25L_{be}$), pier rebar has been reduced to account for this and was found to be sufficient.

Anchor Rod Bracket Summary

Bracket HSS Compression: $\text{Rating}_{\text{comp}} = 54.76\%$

Bracket Plate Shear Yielding: $\text{Rating}_{\text{sheary}} = 17.32\%$

Bracket Plate Shear Rupture: $\text{Rating}_{\text{shearr}} = 18.76\%$

Bracket Plate to Pole Weld: $\text{Rating}_{\text{weld2}} = 45.63\%$

Bracket Plate to HSS Weld: $\text{Rating}_{\text{weld1}} = 59.51\%$

Bracket Plate to Pole Punching Shear: $\text{Rating}_{\text{PS1}} = 23.23\%$

Bracket Plate to HSS Punching Shear: $\text{Rating}_{\text{PS2}} = 25.41\%$

Anchor Rods Bond Strength: $\text{Rating}_{\text{bond}} = 62.69\%$

Pier and Pad Foundation



BU #: 806376
 Site Name: HRT 100 943239
 App. Number: 557898 Rev. 2

TIA-222 Revision: H
 Tower Type: Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp} :	56.69	kips
Base Shear, V_{u_comp} :	36.37	kips
Moment, M_u :	3058.43	ft-kips
Tower Height, H :	130	ft
BP Dist. Above Fdn, bp_{dist} :	7.5	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
<i>Lateral (Sliding) (kips)</i>	287.83	36.37	12.0%	Pass
<i>Bearing Pressure (ksf)</i>	7.50	2.80	37.3%	Pass
<i>Overturing (kip*ft)</i>	5366.69	3390.31	63.2%	Pass
<i>Pier Flexure (Comp.) (kip*ft)</i>	5038.73	3258.47	61.6%	Pass
<i>Pier Compression (kip)</i>	13497.04	84.68	0.6%	Pass
<i>Pad Flexure (kip*ft)</i>	2927.56	1349.50	43.9%	Pass
<i>Pad Shear - 1-way (kips)</i>	674.44	226.80	32.0%	Pass
<i>Pad Shear - 2-way (Comp) (ksi)</i>	0.164	0.042	24.2%	Pass
<i>Flexural 2-way (Comp) (kip*ft)</i>	3867.66	1955.08	48.1%	Pass

Pier Properties		
Pier Shape:	Circular	
Pier Diameter, $dpier$:	6	ft
Ext. Above Grade, E :	0.5	ft
Pier Rebar Size, Sc :	9	
Pier Rebar Quantity, mc :	39	
Pier Tie/Spiral Size, St :	4	
Pier Tie/Spiral Quantity, mt :	6	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	3	in

*Pier rebar reduced to account for insufficient splice length of anchor rod mod.

*Rating per TIA-222-H Section 15.5

Structural Rating*:	61.6%
Soil Rating*:	63.2%

Pad Properties		
Depth, D :	8	ft
Pad Width, W_1 :	22	ft
Pad Thickness, T :	3	ft
Pad Rebar Size (Bottom dir. 2), Sp_2 :	10	
Pad Rebar Quantity (Bottom dir. 2), mp_2 :	17	
Pad Clear Cover, cc_{pad} :	3	in

Material Properties		
Rebar Grade, Fy :	60	ksi
Concrete Compressive Strength, $F'c$:	3	ksi
Dry Concrete Density, δc :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	115	pcf
Ultimate Gross Bearing, Q_{ult} :	10.000	ksf
Cohesion, C_u :	0.000	ksf
Friction Angle, ϕ :	33	degrees
SPT Blow Count, N_{blows} :	18	
Base Friction, μ :		
Neglected Depth, N :	3.33	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw :	16	ft

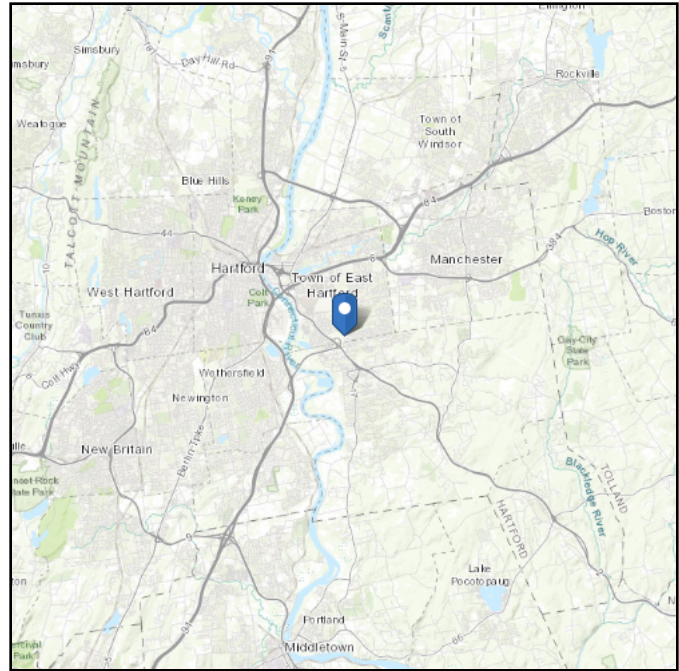
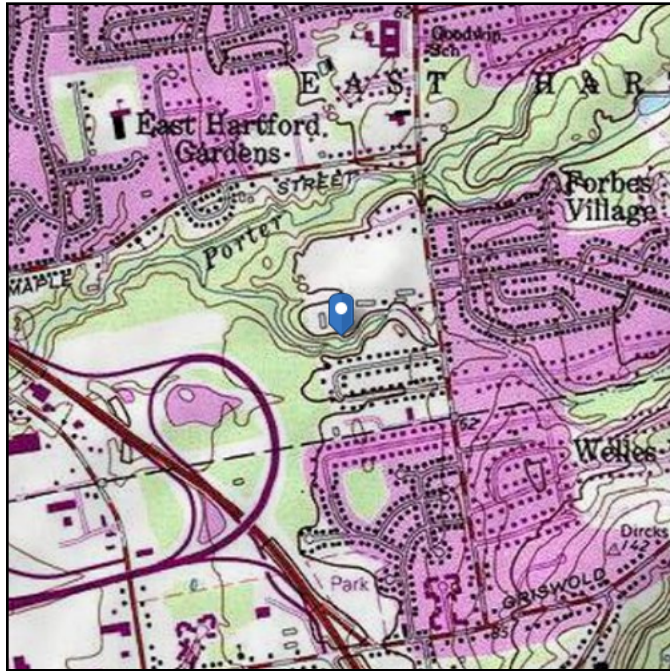
<--Toggle between Gross and Net

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 41.23 ft (NAVD 88)
Latitude: 41.731472
Longitude: -72.607778



Wind

Results:

Wind Speed:	118 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	98 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 Nov 02 2021

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

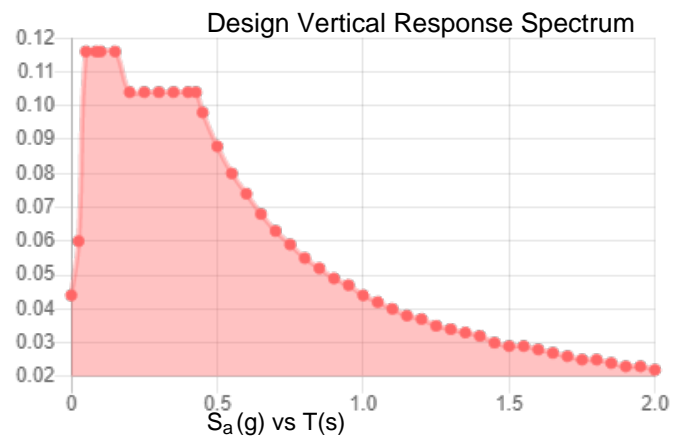
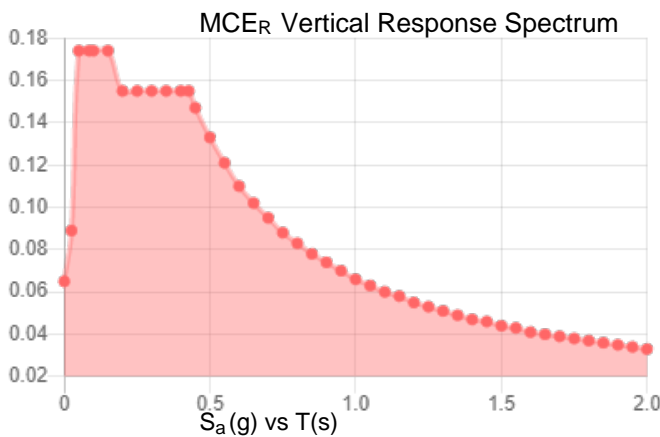
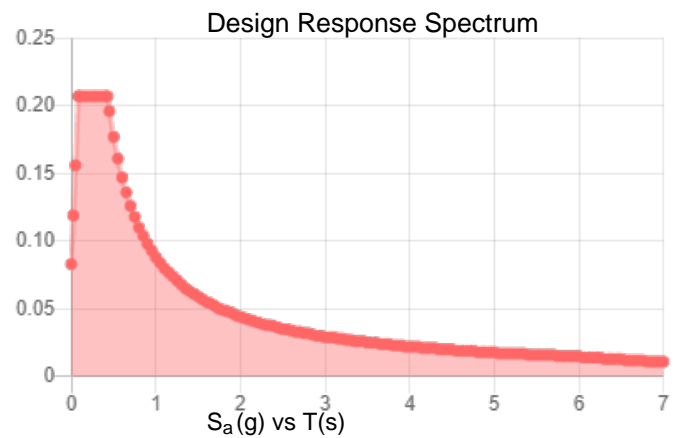
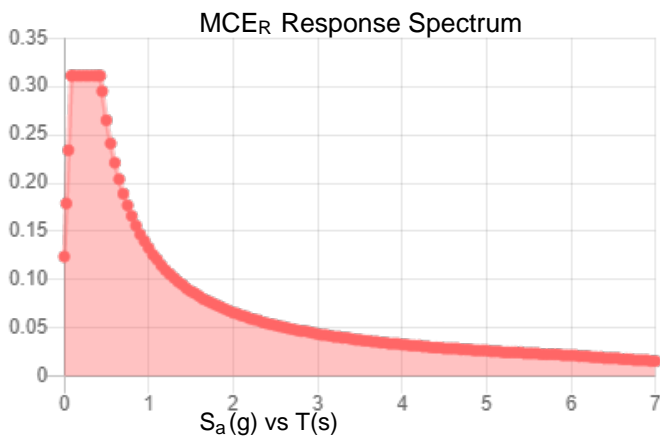
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

Results:

S_s :	0.194	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.105
F_v :	2.4	PGA _M :	0.168
S_{MS} :	0.311	F_{PGA} :	1.589
S_{M1} :	0.133	I_e :	1
S_{DS} :	0.207	C_v :	0.7

Seismic Design Category B



Data Accessed:

Tue Nov 02 2021

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: 1.50 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 Nov 02 2021

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.



Date: October 28, 2021

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

Subject: Mount Modification Report

Carrier Designation: T-Mobile Equipment Change-Out
Carrier Site Number: CTHA401A
Carrier Site Name: ctha401a_crown_806376_hrt_100_943239

Crown Castle Designation: BU Number: 806376
Site Name: HRT 100 943239
JDE Job Number: 650686
Order Number: 557898, Rev. 2

Engineering Firm Designation: B+T Group Report Designation: 143556.005.01

Site Data: 1455 Forbes Street, East Hartford, CT, Hartford County, 06118
Latitude 41° 43' 53.30" Longitude -72° 36' 28.00"

Structure Information: Tower Height & Type: 131 ft. Monopole
Mount Elevation: 97 ft.
Mount Type: 13.16 ft. Platform Mount

We are pleased to submit this “Mount Modification Report” to determine the structural integrity of T-Mobile’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’s stress level. Based on our analysis we have determined the stress level to be:

Platform

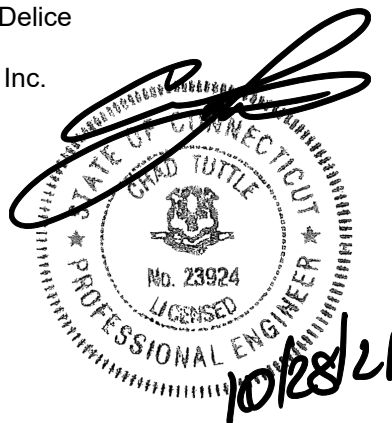
Sufficient

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

This analysis utilizes an ultimate 3-second gust wind speed of 118 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount structural analysis prepared by: Anne Delice

Respectfully submitted by: B&T Engineering, Inc.
COA: PEC.0001564 Expires: 02/10/2022



Chad E. Tuttle, P.E.

TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity

4.1) Recommendations

5) APPENDIX A

Wire Frame and Rendered Models

6) APPENDIX B

Software Input Calculations

7) APPENDIX C

Software Analysis Output

8) APPENDIX D

Additional Calculations

9) APPENDIX E

Mount Modification Design Drawings (MDD)

1) INTRODUCTION

This is an existing 3 – sector 13.16’ Platform Mount.

2) ANALYSIS CRITERIA

Building Code:	2015 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	118 mph
Exposure Category:	C
Topographic Factor at Base:	1
Topographic Factor at Mount:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.194
Seismic S₁:	0.055
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)	Qty.	Manufacturer	Model / Type	Mount / Modification Details
97	98	3	Ericsson	AIR6449 B41 T-MOBILE	13.16 ft. Platform Mount
		3	RFS	APXVAALL24_43-UNA20_TMO	
		3	Ericsson	RADIO 4460 B2/B25 B66_TMO	
		3	Ericsson	Radio 4480_TMOV2	

Table 2 - Documents Provided

Document	Remarks	Reference	Source
CCI Order	Proposed Loading and Existing Loading	Date: 04/21/2021	Crown Castle
RFDS		Date: 07/09/2021	
Mount Analysis	B+T Group	149269_002_01_NHV 104 943122_CT	On File
Failing MA		Date: 09/20/2021	

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 19.0.4), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

A tool internally developed by B+T Group, 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 *Tower Mount Analysis* (Revision D).

3.2) Assumptions

1. The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design, TIA Standards, and/or manufacturer's specifications.
2. The configuration of antennas, mounts, and other appurtenances are as specified in Table-1.
3. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected members unless otherwise specified in this report.
4. Mount areas and weights are determined from field measurements, standard material properties, and/or manufacturer product data.

The following assumptions have been included in the analysis of the mount

Component	Section	Length	Note
Proposed Mount Pipe	2" Std. Pipe	9'-0"	In Pos. 1
Existing Mount Pipes	2" Std. Pipe	8'-0"	In Pos. 3
			In Pos. 2 (Alpha)
	6'-0"	In Pos. 1, 2 (Gamma, Beta)	
	3.5" Std. Pipe	5'-0"	In Pos. 2 (Gamma)
Main Horizontal Channel	C5X2X0.1875	13'-2"	Length as per the previous Job 149269_002_01_NH V 104 943122_CT
Support Rails	L3X3X4	13'-2"	
Support Tube	HSS4X4X4	6'-0"	
Support Channel	C5X2X0.1875	6'-10"	
Support Angles	L4X3X3/16	4'-11"	
Bracing Angle	L2x2x4	4'-1"	
Connection Plates	PL1/4X3	0'-7"	

5. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
6. All prior structural modifications, if any are assumed to be correctly installed and fully effective.
7. 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.
8. The following material grades were assumed (Unless Noted Otherwise):
 - (a) Connection Bolts : ASTM A325
 - (b) Steel Pipe : ASTM A53 (GR. 35)
 - (c) HSS (Round) : ASTM 500 (GR. B-42)
 - (d) HSS (Rectangular) : ASTM 500 (GR. B-46)
 - (e) Channel : ASTM A36 (GR. 36)
 - (f) Steel Solid Rod : ASTM A36 (GR. 36)
 - (g) Steel Plate : ASTM A36 (GR. 36)
 - (h) Steel Angle : ASTM A36 (GR. 36)
 - (i) UNISTRUT : ASTM A570 (GR. 33)

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity (Platform Mount)

Notes	Component	Centerline (ft)	Critical Member	% Capacity	Pass / Fail
1,2	Main Horizontals	97	31	60.8	Pass
	Support Rails	97	12	48.1	Pass
	Support Angles	97	118	13.7	Pass
	Mount Pipes	97	92	58.6	Pass
	Corner vertical Pipes	97	40	15.1	Pass
	Mount Pipes	97	114	1.2	Pass
	Support Tubes	97	46	73.2	Pass
	Connection Plates	97	14	76.4	Pass
	Bracing Angles	97	115	6.3	Pass
	Additional Horizontal Pipe	97	106A	66.8	Pass
	Additional Telescopic Arm	97	110B	46.0	Pass
3	Connection Bolts	97	-	45.1	Pass

Structure Rating (max from all components) =	76.4%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
- 2) All sectors are typical

4.1) Recommendations

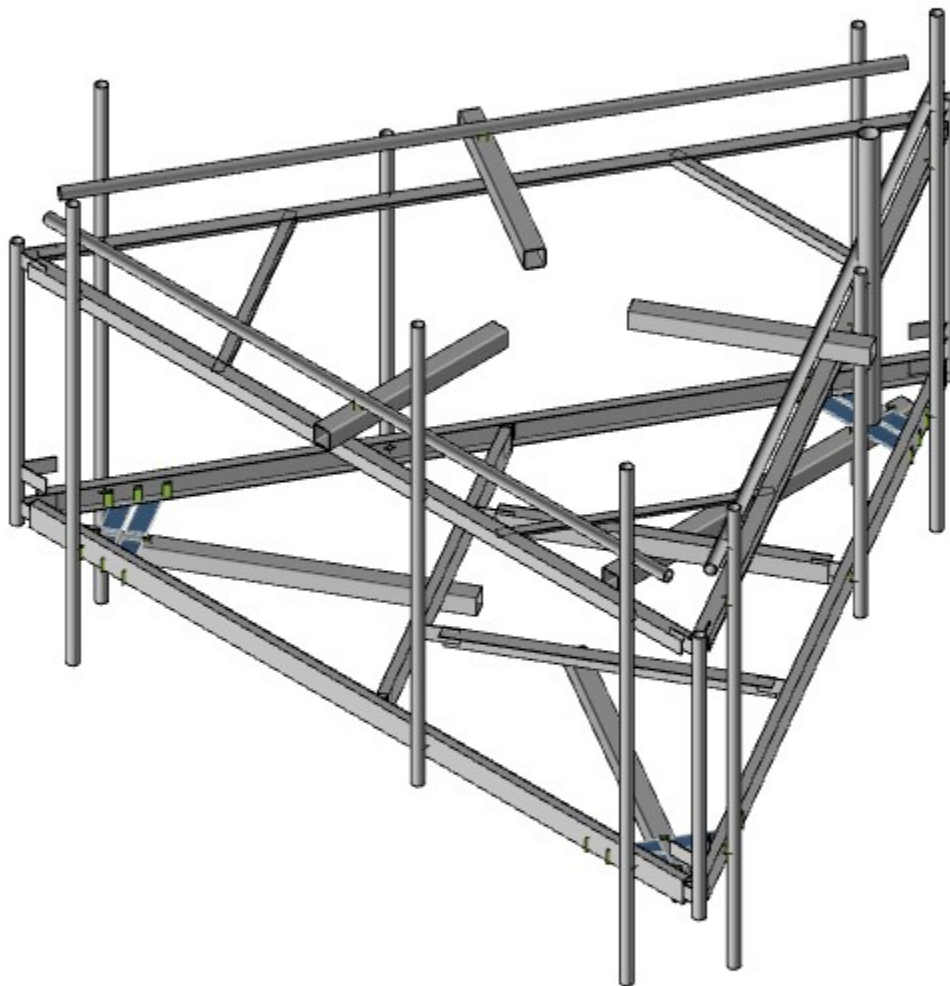
The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the structural modifications listed below must be completed.

1. Add (3) SitePro1 Part# X-SNP-ST8 Telescopic Arm, connected to the mount via new 2" std. horizontal pipe, 1ft above existing support rails in all sectors

Engineering detail drawings have been provided in Appendix E – Mount Modification Design Drawings.

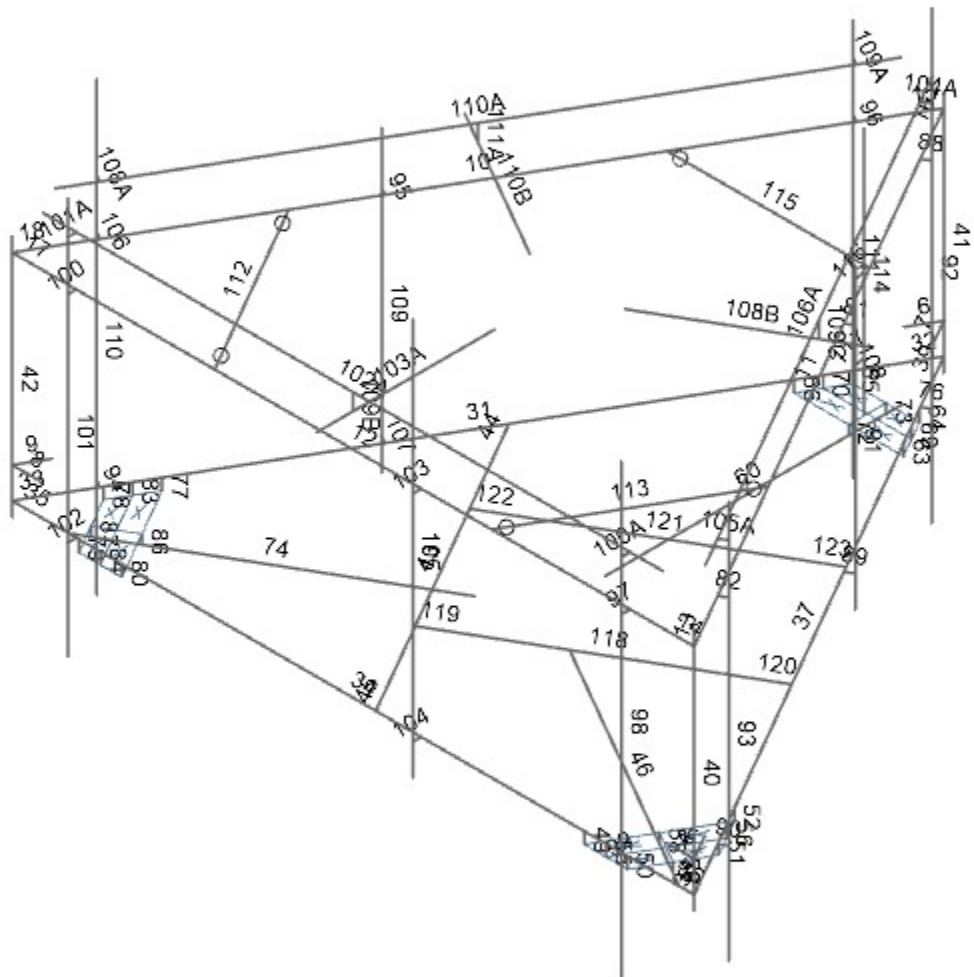
Connection from the mount to the tower and local stresses on the tower are sufficient.

APPENDIX A
WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

B+T Group	806376 - HRT 100 943239_CT	SK-1
SV		Oct 27, 2021
143556.005.01		143556_005_01_HRT 100 943239...

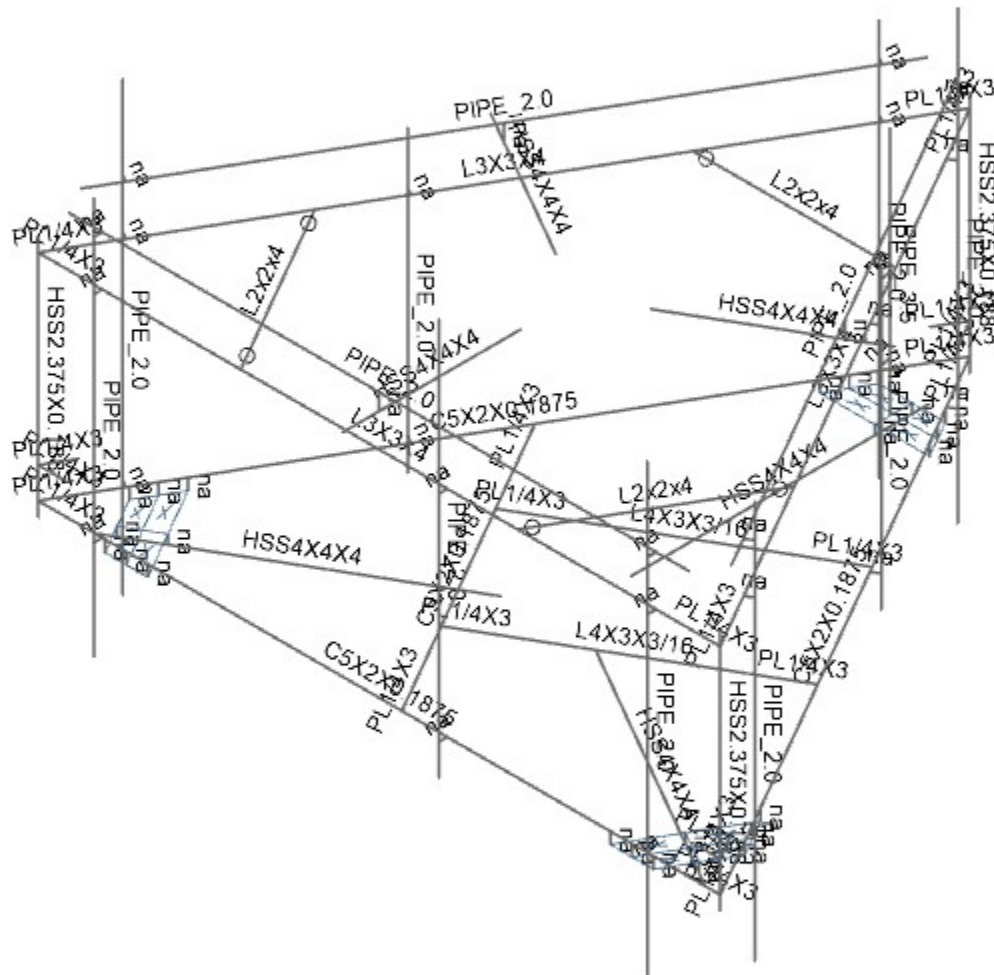


Envelope Only Solution

B+T Group
SV
143556.005.01

806376 - HRT 100 943239_CT

SK-2
Oct 27, 2021
143556_005_01_HRT 100 943239...

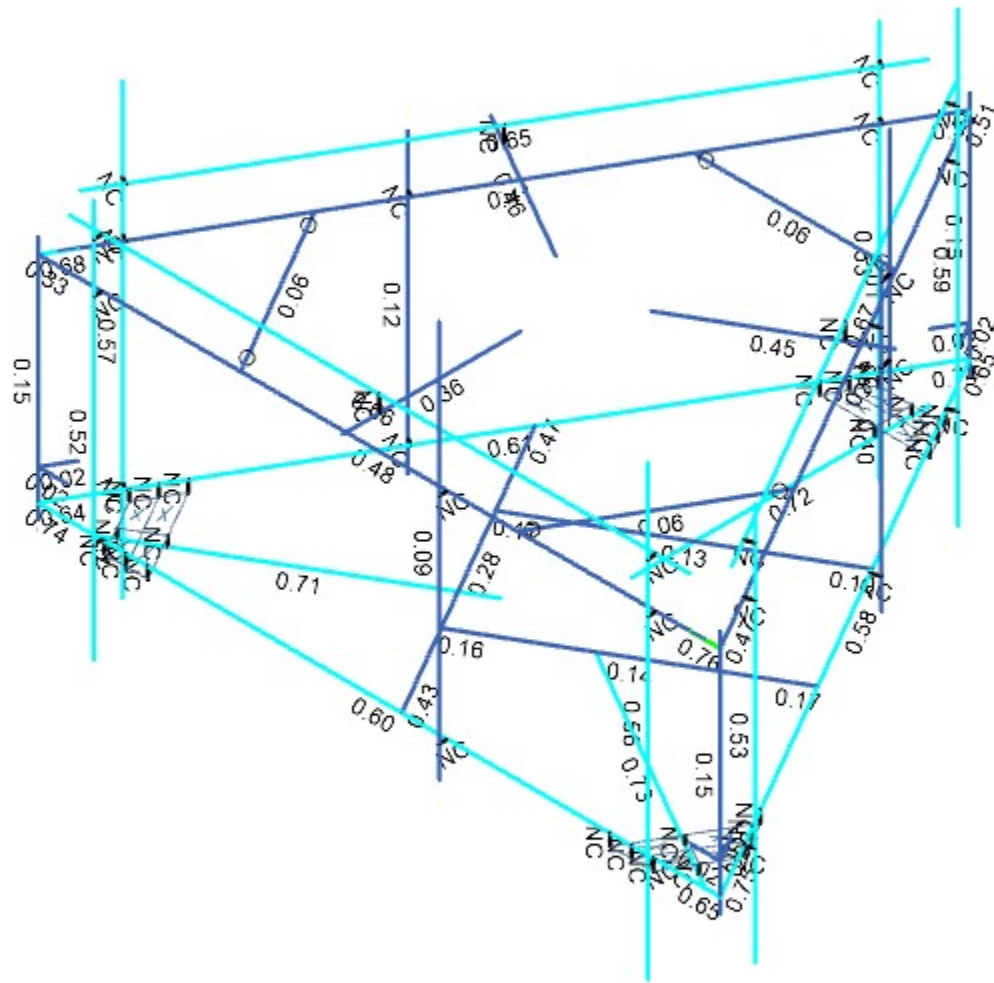
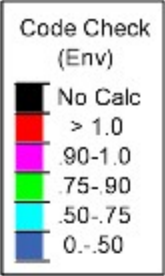


Envelope Only Solution

B+T Group
SV
143556.005.01

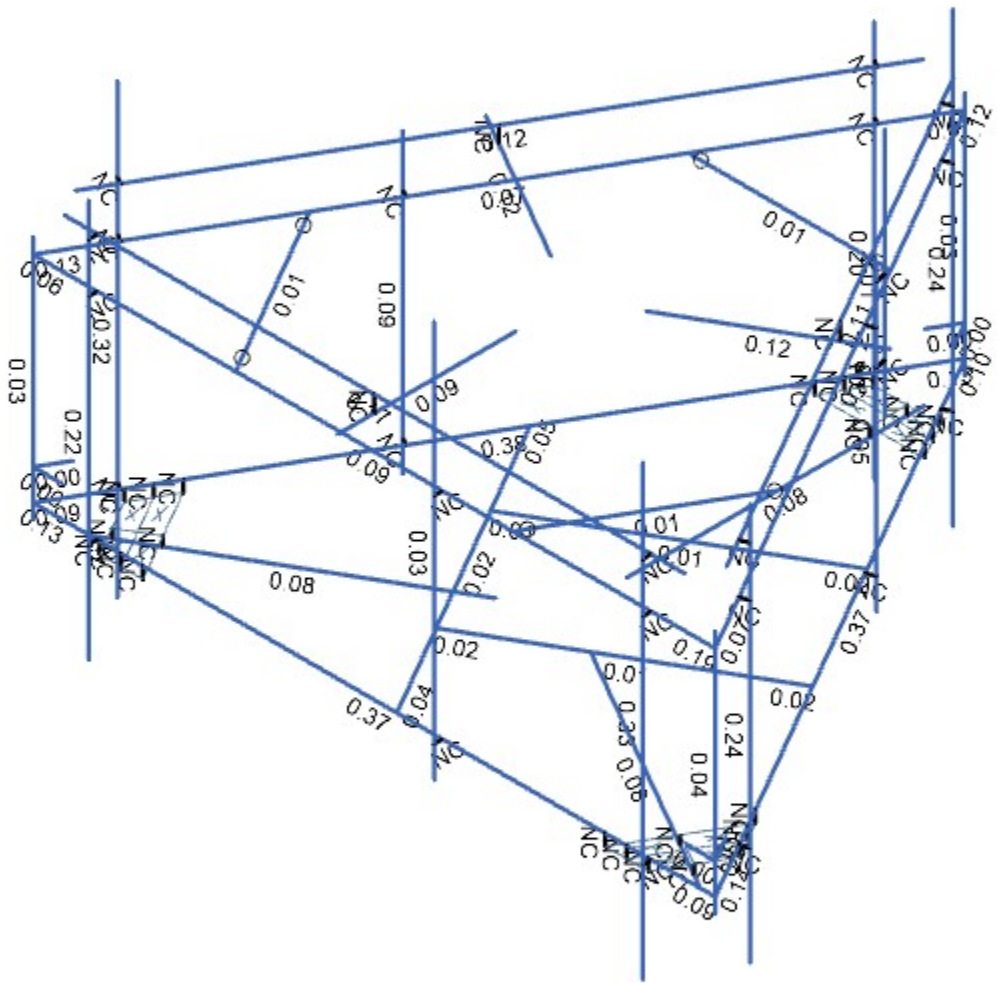
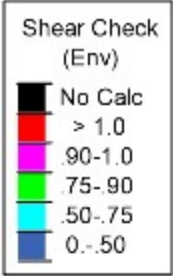
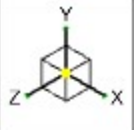
806376 - HRT 100 943239_CT

SK-3
Oct 27, 2021
143556_005_01_HRT 100 943239...



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	806376 - HRT 100 943239_CT	SK-4
SV		Oct 27, 2021
143556.005.01		143556_005_01_HRT 100 943239...



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	806376 - HRT 100 943239_CT	SK-5
SV		Oct 27, 2021
143556.005.01		143556_005_01_HRT 100 943239...

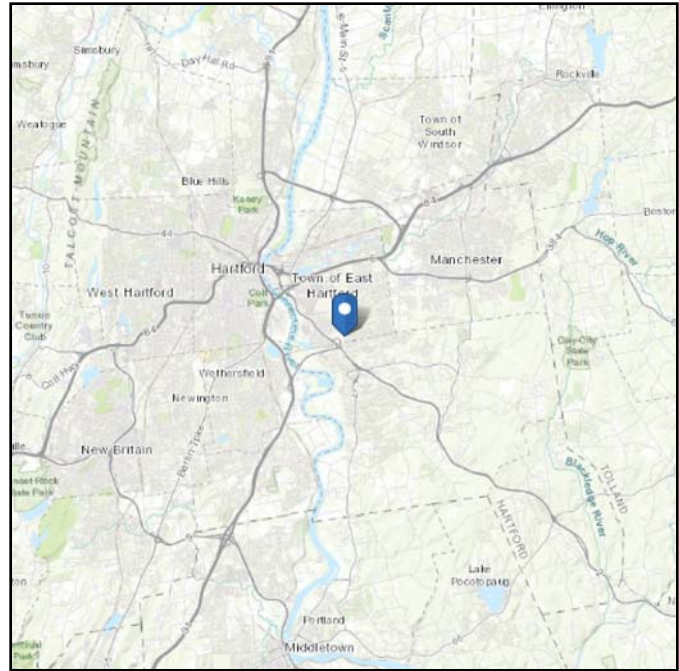
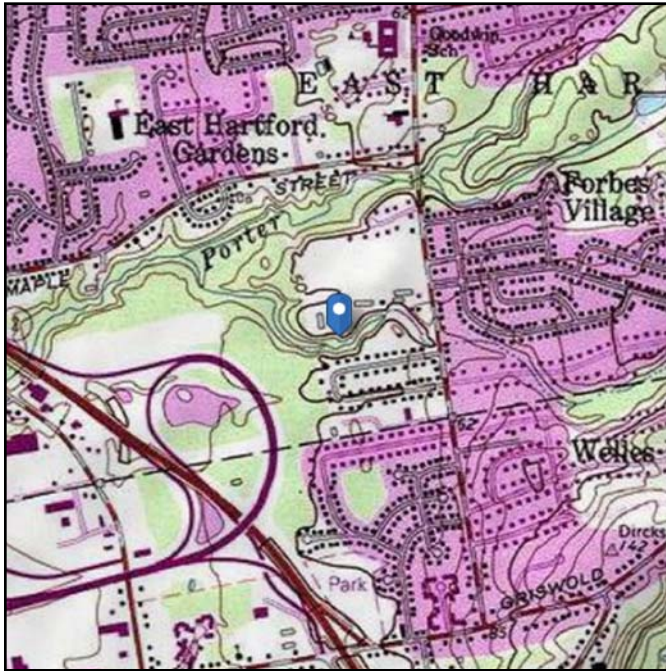
APPENDIX B
SOFTWARE INPUT CALCULATIONS

ASCE 7 Hazards Report

Address:
No Address at This
Location

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

Elevation: 41.23 ft (NAVD 88)
Latitude: 41.731472
Longitude: -72.607778



Wind

Results:

Wind Speed:	118 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	98 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: Wed Sep 15 2021

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

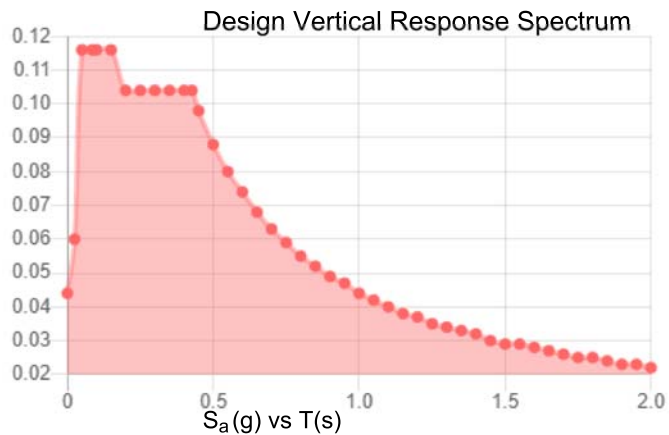
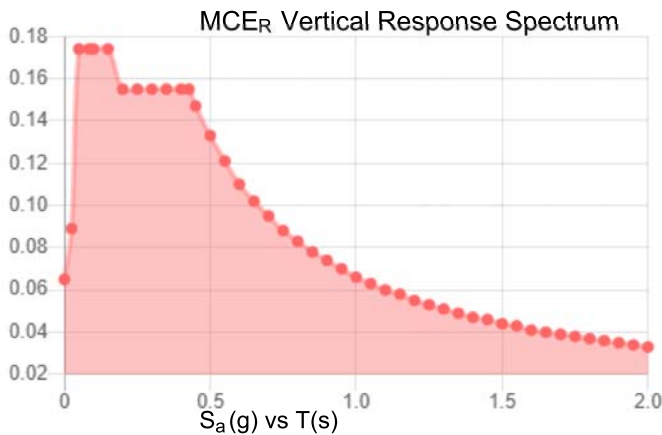
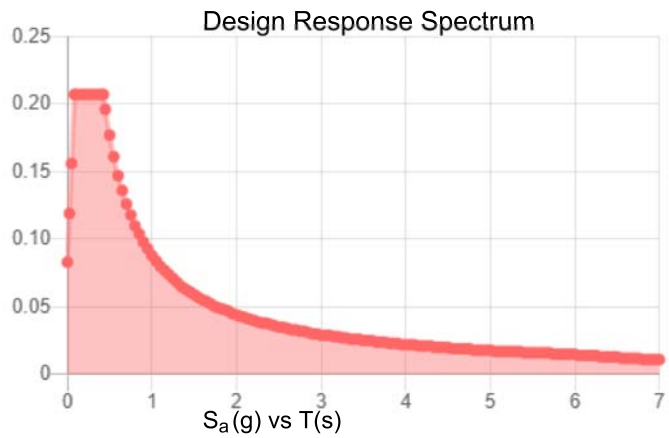
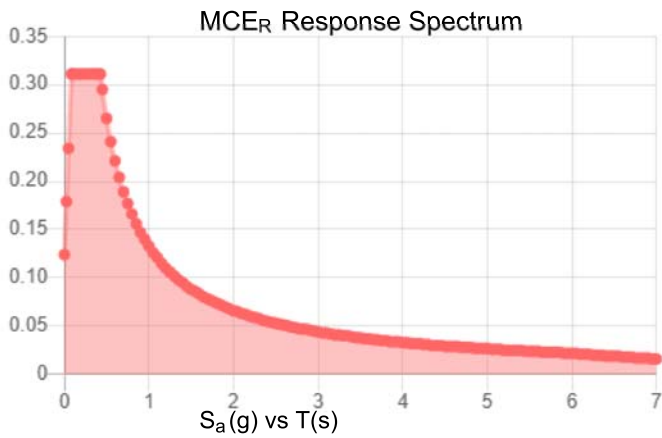
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

Results:

S_s :	0.194	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.105
F_v :	2.4	PGA _M :	0.168
S_{MS} :	0.311	F_{PGA} :	1.589
S_{M1} :	0.133	I_e :	1
S_{DS} :	0.207	C_v :	0.7

Seismic Design Category B



Data Accessed:

Wed Sep 15 2021

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: 1.50 in.

Concurrent Temperature: 15 F

Gust Speed: 50 mph

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

Date Accessed: Wed Sep 15 2021

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.

PROJECT	143556.005.01 - HRT 100 94:		KSC
SUBJECT	Platform Mount Analysis		
DATE	10/27/21	PAGE	OF



Tower Type	:	Monopole	
Ground Elevation	z_s :	41 ft	[ASCE7 Hazard Tool]
Tower Height	:	131.00 ft	
Mount Elevation	:	97.00 ft	
Antenna Elevation	:	98.00 ft	
Crest Height	:	0 ft	
Risk Category	:	II	[Table 2-1]
Exposure Category	:	C	[Sec. 2.6.5.1.2]
Topography Category	:	1.00	[Sec. 2.6.6.2]
Wind Velocity	V :	118 mph	[ASCE7 Hazard Tool]
Ice wind Velocity	V_i :	50 mph	[ASCE7 Hazard Tool]
Service Velocity	V_s :	30 mph	[ASCE7 Hazard Tool]
Base Ice thickness	t_i :	1.50 in	[ASCE7 Hazard Tool]
Seismic Design Cat.	:	B	[ASCE7 Hazard Tool]
	S_s :	0.19	
	S_1 :	0.06	
	S_{DS} :	0.21	
	S_{D1} :	0.09	
Gust Factor	G_h :	1.00	[Sec. 16.6]
Pressure Coefficient	K_z :	1.26	[Sec. 2.6.5.2]
Topography Factor	K_{zt} :	1.00	[Sec. 2.6.6]
Elevation Factor	K_e :	1.00	[Sec. 2.6.8]
Directionality Factor	K_d :	0.95	[Sec. 16.6]
Shielding Factor	K_a :	0.90	[Sec. 16.6]
Design Ice Thickness	t_{iz} :	1.67 in	[Sec. 2.6.10]
Importance Factor	I_e :	1	[Table 2-3]
Response Coefficient	C_s :	0.104	[Sec. 2.7.7.1]
Amplification	A_s :	1.961832	[Sec. 16.7]
	q_z :	42.52 psf	

PROJECT	143556.005.01 - HRT 100 94:		KSC
SUBJECT	Platform Mount Analysis		
DATE	10/27/21	PAGE	OF



Manufacturer	Model	Qty	Aspect Ratio	C _a flat/round	EPA _N (ft ²)	EPA _T (ft ²)	EPA _{N-ice} (ft ²)	EPA _{T-ice} (ft ²)	F _A No Ice (N)	F _A No Ice (T)	F _A Ice (N)	F _A Ice (T)
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMC	0.5	4.00	1.27	7.34	2.66	8.51	3.69	0.31	0.11	0.07	0.03
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMC	0.5	4.00	1.27	7.34	2.66	8.51	3.69	0.31	0.11	0.07	0.03
ERICSSON	RADIO 4460 B2/B25 B66_TMC	1	1.13	1.20	1.78	1.40	2.61	2.15	0.08	0.06	0.01	0.01
ERICSSON	Radio 4480_TMOV2	1	1.40	1.20	2.40	1.15	3.35	1.91	0.11	0.05	0.02	0.01
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.64	1.02	3.30	1.53	0.11	0.04	0.03	0.01
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.64	1.02	3.30	1.53	0.11	0.04	0.03	0.01
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMC	0.5	4.00	1.27	7.34	2.66	8.51	3.69	0.31	0.11	0.07	0.03
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMC	0.5	4.00	1.27	7.34	2.66	8.51	3.69	0.31	0.11	0.07	0.03
ERICSSON	RADIO 4460 B2/B25 B66_TMC	1	1.13	1.20	1.78	1.40	2.61	2.15	0.08	0.06	0.01	0.01
ERICSSON	Radio 4480_TMOV2	1	1.40	1.20	2.40	1.15	3.35	1.91	0.11	0.05	0.02	0.01
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.64	1.02	3.30	1.53	0.11	0.04	0.03	0.01
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.64	1.02	3.30	1.53	0.11	0.04	0.03	0.01
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMC	0.5	4.00	1.27	7.34	2.66	8.51	3.69	0.31	0.11	0.07	0.03
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMC	0.5	4.00	1.27	7.34	2.66	8.51	3.69	0.31	0.11	0.07	0.03
ERICSSON	RADIO 4460 B2/B25 B66_TMC	1	1.13	1.20	1.78	1.40	2.61	2.15	0.08	0.06	0.01	0.01
ERICSSON	Radio 4480_TMOV2	1	1.40	1.20	2.40	1.15	3.35	1.91	0.11	0.05	0.02	0.01
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.64	1.02	3.30	1.53	0.11	0.04	0.03	0.01
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.64	1.02	3.30	1.53	0.11	0.04	0.03	0.01

APPENDIX C
SOFTWARE ANALYSIS OUTPUT

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	7	0	0	0	
2	8	6.583333	1.041667	3.464102	
3	9	6.875	1.041667	3.969283	
4	10	6.291667	1.041667	3.969283	
5	11	-0.291667	1.041667	-7.433385	
6	12	0	1.041667	-7.938566	
7	13	0.291667	1.041667	-7.433385	
8	14	-6.291667	1.041667	3.969283	
9	15	-6.875	1.041667	3.969283	
10	16	-6.583333	1.041667	3.464102	
11	17	-0.145833	4.75	-7.685975	
12	18	-6.729167	4.75	3.716692	
13	19	0.145833	4.75	-7.685975	
14	20	6.729167	4.75	3.716692	
15	21	-6.583333	4.75	3.969283	
16	22	6.583333	4.75	3.969283	
17	23	6.583333	4.75	3.464102	
18	24	6.875	4.75	3.969283	
19	25	6.291667	4.75	3.969283	
20	26	-0.291667	4.75	-7.433385	
21	27	0	4.75	-7.938566	
22	28	0.291667	4.75	-7.433385	
23	29	-6.291667	4.75	3.969283	
24	30	-6.875	4.75	3.969283	
25	31	-6.583333	4.75	3.464102	
26	56	-0.145833	0.416667	-7.685975	
27	57	-6.729167	0.416667	3.716692	
28	58	-0.291667	0.416667	-7.433385	
29	59	-6.583333	0.416667	3.464102	
30	60	-6.583333	0.416667	3.969283	
31	61	6.583333	0.416667	3.969283	
32	62	-6.875	0.416667	3.969283	
33	63	-6.291667	0.416667	3.969283	
34	64	6.291667	0.416667	3.969283	
35	65	6.729167	0.416667	3.716692	
36	66	0.145833	0.416667	-7.685975	
37	67	6.875	0.416667	3.969283	
38	68	6.583333	0.416667	3.464102	
39	69	0	0.416667	-7.938566	
40	70	0.291667	0.416667	-7.433385	
41	71	6.875	5.041667	3.969283	
42	72	6.875	0.125	3.969283	
43	73	0	5.041667	-7.938566	
44	74	0	0.125	-7.938566	
45	75	-6.875	5.041667	3.969283	
46	76	-6.875	0.125	3.969283	
47	77	0.333333	0.416666	3.752777	
48	78	-3.083333	0.416666	-2.165063	
49	79	-3.208333	0.416667	-2.38157	
50	80	-2.916667	0.416666	-1.876388	
51	81	0.458333	0.416667	3.969283	
52	82	0.166667	0.416666	3.464102	
53	83	0.966297	0	0.557892	
54	84	6.162449	0	3.557892	
55	85	4.66246	0.416667	3.969283	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	86	5.528485	0.416667	3.969283	
57	87	6.201743	0.416667	2.803167	
58	88	5.76873	0.416667	2.053167	
59	89	6.201743	0.1875	2.803167	
60	90	5.76873	0.1875	2.053167	
61	91	5.528485	0.1875	3.969283	
62	92	4.66246	0.1875	3.969283	
63	93	5.095472	0.416667	3.969283	
64	94	5.095472	0.1875	3.969283	
65	95	5.985236	0.416667	2.428167	
66	96	5.985236	0.1875	2.428167	
67	97	1.5	0.416667	0.866025	
68	99	5.215595	0.1875	3.011225	
69	100	5.215595	0	3.011225	
70	101	5.865114	0.1875	3.386225	
71	102	5.865114	0	3.386225	
72	103	0	0	-1.115783	
73	104	0	0	-7.115783	
74	105	1.10627	0.416667	-6.02245	
75	106	0.673257	0.416667	-6.77245	
76	107	-0.673257	0.416667	-6.77245	
77	108	-1.10627	0.416667	-6.02245	
78	109	-0.673257	0.1875	-6.77245	
79	110	-1.10627	0.1875	-6.02245	
80	111	0.673257	0.1875	-6.77245	
81	112	1.10627	0.1875	-6.02245	
82	113	0.889764	0.416667	-6.39745	
83	114	0.889764	0.1875	-6.39745	
84	115	-0.889764	0.416667	-6.39745	
85	116	-0.889764	0.1875	-6.39745	
86	117	0	0.416666	-1.732051	
87	119	0	0.1875	-6.02245	
88	120	0	0	-6.02245	
89	121	0	0.1875	-6.77245	
90	122	0	0	-6.77245	
91	123	-0.966297	0	0.557892	
92	124	-6.162449	0	3.557892	
93	125	-5.76873	0.416667	2.053167	
94	126	-6.201743	0.416667	2.803167	
95	127	-5.528485	0.416667	3.969283	
96	128	-4.66246	0.416667	3.969283	
97	129	-5.528485	0.1875	3.969283	
98	130	-4.66246	0.1875	3.969283	
99	131	-6.201743	0.1875	2.803167	
100	132	-5.76873	0.1875	2.053167	
101	133	-5.985236	0.416667	2.428167	
102	134	-5.985236	0.1875	2.428167	
103	135	-5.095472	0.416667	3.969283	
104	136	-5.095472	0.1875	3.969283	
105	137	-1.375	0.416666	0.793857	
106	139	-5.215595	0.1875	3.011225	
107	140	-5.215595	0	3.011225	
108	141	-5.865114	0.1875	3.386225	
109	142	-5.865114	0	3.386225	
110	161	5.583	4.75	3.969283	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
111	162	5.583	4.75	4.138274	
112	163	5.583	7.416667	4.138274	
113	164	5.583	-1.583333	4.138274	
114	165	5.583	0.416667	3.969283	
115	166	5.583	0.416667	4.138274	
116	167	-5.583	4.75	3.969283	
117	168	-5.583	4.75	4.138274	
118	169	-5.583	6.416667	4.138274	
119	170	-5.583	-1.583333	4.138274	
120	171	-5.583	0.416667	3.969283	
121	172	-5.583	0.416667	4.138274	
122	173	1.375	4.75	3.969283	
123	174	1.375	4.75	4.137783	
124	175	1.375	0.416667	3.969283	
125	176	1.375	0.416667	4.137783	
126	177	1.375	7.791667	4.137783	
127	178	1.375	-0.208333	4.137783	
128	197	6.484117	0.416667	3.969283	
129	198	6.679558	0.416667	3.630768	
130	199	0.195442	0.416667	-7.600052	
131	200	-0.195441	0.416667	-7.600052	
132	201	-6.679558	0.416667	3.630768	
133	202	-6.484117	0.416667	3.969283	
134	203	3.910229	0.416667	-0.525521	
135	204	-0.347729	0.416666	1.932812	
136	205	-0.119819	0.416666	1.801228	
137	206	-0.625	0.416666	2.092895	
138	207	4.1875	0.416667	-0.685603	
139	208	3.682319	0.416667	-0.393937	
140	209	2.410229	0.416667	-3.123597	
141	210	-1.847729	0.416666	-0.665264	
142	211	-1.619819	0.416666	-0.796848	
143	212	-2.125	0.416666	-0.505182	
144	213	2.6875	0.416667	-3.28368	
145	214	2.182319	0.416667	-2.992013	
146	215	2.207046	0.416667	0.457812	
147	216	0.707046	0.416667	-2.140264	
148	151	0.79235	4.75	-6.904157	
149	152	0.79235	-1.583333	-6.904157	
150	153	2.75	4.75	-3.175427	
151	154	2.895925	4.75	-3.259677	
152	155	6.229	4.75	2.850378	
153	156	6.37535	4.75	2.765883	
154	157	0.646	4.75	-6.819661	
155	158	0.646	0.416667	-6.819661	
156	159	0.79235	0.416667	-6.904157	
157	160	2.75	0.416667	-3.175427	
158	179	2.895925	0.416667	-3.259677	
159	180	6.229	0.416667	2.850378	
160	181	6.37535	0.416667	2.765883	
161	182	2.895925	5.791667	-3.259677	
162	183	2.895925	-0.208333	-3.259677	
163	184	0.79235	7.416667	-6.904157	
164	185	6.37535	6.416667	2.765883	
165	186	6.37535	-1.583333	2.765883	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
166	187	-6.37535	4.75	2.765883	
167	188	-6.37535	-1.583333	2.765883	
168	189	-4.125	4.75	-0.793857	
169	190	-4.271062	4.75	-0.878185	
170	191	-0.646	4.75	-6.819661	
171	192	-0.79235	4.75	-6.904157	
172	193	-6.229	4.75	2.850378	
173	194	-6.229	0.416667	2.850378	
174	195	-6.37535	0.416667	2.765883	
175	196	-4.125	0.416667	-0.793857	
176	217	-4.271062	0.416667	-0.878185	
177	218	-0.646	0.416667	-6.819661	
178	219	-0.79235	0.416667	-6.904157	
179	220	-4.271062	5.791667	-0.878185	
180	221	-4.271062	-0.208333	-0.878185	
181	222	-6.37535	7.416667	2.765883	
182	223	-0.79235	6.416667	-6.904157	
183	224	-0.79235	-1.583333	-6.904157	
184	225	-2.791667	4.75	3.969283	
185	228	2.791667	4.75	3.969283	
186	226	2.041667	4.75	-4.402296	
187	227	4.833333	4.75	0.433013	
188	231	-4.833333	4.75	0.433013	
189	232	-2.041667	4.75	-4.402296	
190	229	2.895925	5.541667	-3.259677	
191	230	2.895925	4.041667	-3.259677	
192	233	2.832569	5.541667	-3.496127	
193	234	2.832569	4.041667	-3.496127	
194	235	2.832569	3.041667	-3.496127	
195	236	2.832569	8.041667	-3.496127	
196	196A	-5.540354	0.1875	3.198725	
197	197A	0	0.1875	-6.39745	
198	198A	5.540354	0.1875	3.198725	
199	200A	0	0	-5.115783	
200	202A	-4.430398	0	2.557892	
201	204A	4.430398	0	2.557892	
202	205A	-6.25	5.750033	3.969283	
203	206A	6.25	5.750033	3.969283	
204	207A	5.583	5.750033	3.969283	
205	208A	5.583	5.750033	4.138274	
206	209A	-5.583	5.750033	3.969283	
207	210A	-5.583	5.750033	4.138274	
208	211A	0	5.416703	1.115783	
209	212A	0	5.416703	4.698616	
210	215A	0.646	5.750033	-6.819661	
211	216A	0.79235	5.750033	-6.904157	
212	217A	6.229	5.750033	2.850378	
213	218A	6.37535	5.750033	2.765883	
214	220A	3.4375	5.750033	-1.984642	
215	223A	-6.229	5.750033	2.850378	
216	224A	-6.37535	5.750033	2.765883	
217	225A	-0.646	5.750033	-6.819661	
218	226A	-0.79235	5.750033	-6.904157	
219	228A	-3.4375	5.750033	-1.984642	
220	226B	0	5.750033	3.969283	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
221	227B	0	5.416703	3.969283	
222	226C	0.966296	5.416703	-0.557892	
223	227A	4.069121	5.416703	-2.349308	
224	229A	3.4375	5.416703	-1.984642	
225	230A	-0.966296	5.416703	-0.557892	
226	231A	-4.069121	5.416703	-2.349308	
227	233A	-3.4375	5.416703	-1.984642	
228	232A	6.5625	5.750033	3.428017	
229	233B	0.3125	5.750033	-7.3973	
230	234A	-0.3125	5.750033	-7.3973	
231	235A	-6.5625	5.750033	3.428017	

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	103	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	83	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	123	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	211A	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	226C	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	230A	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 [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3

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	MF-H1	C5X2X0.1875	Beam	Channel	A36 Gr.36	Typical	1.638	0.59	5.959	0.019
2	Support Rail	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	0.031
3	F1-SA1	L4X3X3/16	Beam	Single Angle	A36 Gr.36	Typical	1.277	1.046	2.127	0.014
4	MF-P1	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
5	F1-V1	HSS2.375X0.188	Column	HSS Pipe	A500 Gr.B RND	Typical	1.2	0.733	0.733	1.47
6	MF-P2	PIPE 3.5	Column	Pipe	A53 Gr.B	Typical	2.5	4.52	4.52	9.04
7	F1-ST1	HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
8	F1-CP1	PL1/4X3	Beam	RECT	A36 Gr.36	Typical	0.75	0.004	0.563	0.015
9	F1-S1	L2x2x4	Beam	Single Angle	A36 Gr.36	Typical	0.944	0.346	0.346	0.021
10	SF-P1	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
11	SF-S2	HSS4X4X4	Beam	Tube	A53 Gr.B	Typical	3.37	7.8	7.8	12.8

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	4	9	8		F1-CP1	Beam	RECT	A36 Gr.36	Typical
2	5	9	10		F1-CP1	Beam	RECT	A36 Gr.36	Typical
3	6	12	11		F1-CP1	Beam	RECT	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
4	7	12	13		F1-CP1	Beam	RECT	A36 Gr.36	Typical
5	8	15	14		F1-CP1	Beam	RECT	A36 Gr.36	Typical
6	9	15	16		F1-CP1	Beam	RECT	A36 Gr.36	Typical
7	10	17	18	180	Support Rail	Beam	Single Angle	A36 Gr.36	Typical
8	11	19	20	90	Support Rail	Beam	Single Angle	A36 Gr.36	Typical
9	12	21	22	180	Support Rail	Beam	Single Angle	A36 Gr.36	Typical
10	13	24	23		F1-CP1	Beam	RECT	A36 Gr.36	Typical
11	14	24	25		F1-CP1	Beam	RECT	A36 Gr.36	Typical
12	15	27	26		F1-CP1	Beam	RECT	A36 Gr.36	Typical
13	16	27	28		F1-CP1	Beam	RECT	A36 Gr.36	Typical
14	17	30	29		F1-CP1	Beam	RECT	A36 Gr.36	Typical
15	18	30	31		F1-CP1	Beam	RECT	A36 Gr.36	Typical
16	31	56	57	180	MF-H1	Beam	Channel	A36 Gr.36	Typical
17	32	69	58		F1-CP1	Beam	RECT	A36 Gr.36	Typical
18	33	62	59		F1-CP1	Beam	RECT	A36 Gr.36	Typical
19	34	60	61	180	MF-H1	Beam	Channel	A36 Gr.36	Typical
20	35	62	63		F1-CP1	Beam	RECT	A36 Gr.36	Typical
21	36	67	64		F1-CP1	Beam	RECT	A36 Gr.36	Typical
22	37	65	66	180	MF-H1	Beam	Channel	A36 Gr.36	Typical
23	38	67	68		F1-CP1	Beam	RECT	A36 Gr.36	Typical
24	39	69	70		F1-CP1	Beam	RECT	A36 Gr.36	Typical
25	40	71	72		F1-V1	Column	HSS Pipe	A500 Gr.B RND	Typical
26	41	73	74		F1-V1	Column	HSS Pipe	A500 Gr.B RND	Typical
27	42	75	76		F1-V1	Column	HSS Pipe	A500 Gr.B RND	Typical
28	43	77	78	180	MF-H1	Beam	Channel	A36 Gr.36	Typical
29	44	79	80		F1-CP1	Beam	RECT	A36 Gr.36	Typical
30	45	81	82		F1-CP1	Beam	RECT	A36 Gr.36	Typical
31	46	83	84		F1-ST1	Beam	Tube	A500 Gr.B Rect	Typical
32	49	85	92		RIGID	None	None	RIGID	Typical
33	50	86	91		RIGID	None	None	RIGID	Typical
34	51	87	89		RIGID	None	None	RIGID	Typical
35	52	88	90		RIGID	None	None	RIGID	Typical
36	55	93	94		RIGID	None	None	RIGID	Typical
37	56	95	96		RIGID	None	None	RIGID	Typical
38	58	99	100		RIGID	None	None	RIGID	Typical
39	59	101	102		RIGID	None	None	RIGID	Typical
40	60	103	104		F1-ST1	Beam	Tube	A500 Gr.B Rect	Typical
41	63	105	112		RIGID	None	None	RIGID	Typical
42	64	106	111		RIGID	None	None	RIGID	Typical
43	65	107	109		RIGID	None	None	RIGID	Typical
44	66	108	110		RIGID	None	None	RIGID	Typical
45	69	113	114		RIGID	None	None	RIGID	Typical
46	70	115	116		RIGID	None	None	RIGID	Typical
47	72	119	120		RIGID	None	None	RIGID	Typical
48	73	121	122		RIGID	None	None	RIGID	Typical
49	74	123	124		F1-ST1	Beam	Tube	A500 Gr.B Rect	Typical
50	77	125	132		RIGID	None	None	RIGID	Typical
51	78	126	131		RIGID	None	None	RIGID	Typical
52	79	127	129		RIGID	None	None	RIGID	Typical
53	80	128	130		RIGID	None	None	RIGID	Typical
54	83	133	134		RIGID	None	None	RIGID	Typical
55	84	135	136		RIGID	None	None	RIGID	Typical
56	86	139	140		RIGID	None	None	RIGID	Typical
57	87	141	142		RIGID	None	None	RIGID	Typical
58	97	161	162		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
59	98	163	164		MF-P1	Column	Pipe	A53 Gr.B	Typical
60	99	165	166		RIGID	None	None	RIGID	Typical
61	100	167	168		RIGID	None	None	RIGID	Typical
62	101	169	170		MF-P1	Column	Pipe	A53 Gr.B	Typical
63	102	171	172		RIGID	None	None	RIGID	Typical
64	103	173	174		RIGID	None	None	RIGID	Typical
65	104	175	176		RIGID	None	None	RIGID	Typical
66	105	177	178		MF-P1	Column	Pipe	A53 Gr.B	Typical
67	118	203	204	180	F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
68	119	205	206		F1-CP1	Beam	RECT	A36 Gr.36	Typical
69	120	207	208		F1-CP1	Beam	RECT	A36 Gr.36	Typical
70	121	210	209	180	F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
71	122	211	212		F1-CP1	Beam	RECT	A36 Gr.36	Typical
72	123	213	214		F1-CP1	Beam	RECT	A36 Gr.36	Typical
73	76	158	159		RIGID	None	None	RIGID	Typical
74	81	153	154		RIGID	None	None	RIGID	Typical
75	82	155	156		RIGID	None	None	RIGID	Typical
76	88	157	151		RIGID	None	None	RIGID	Typical
77	89	160	179		RIGID	None	None	RIGID	Typical
78	90	180	181		RIGID	None	None	RIGID	Typical
79	91	182	183		MF-P1	Column	Pipe	A53 Gr.B	Typical
80	92	184	152		MF-P1	Column	Pipe	A53 Gr.B	Typical
81	93	185	186		MF-P1	Column	Pipe	A53 Gr.B	Typical
82	94	194	195		RIGID	None	None	RIGID	Typical
83	95	189	190		RIGID	None	None	RIGID	Typical
84	96	191	192		RIGID	None	None	RIGID	Typical
85	106	193	187		RIGID	None	None	RIGID	Typical
86	107	196	217		RIGID	None	None	RIGID	Typical
87	108	218	219		RIGID	None	None	RIGID	Typical
88	109	220	221		MF-P1	Column	Pipe	A53 Gr.B	Typical
89	110	222	188		MF-P1	Column	Pipe	A53 Gr.B	Typical
90	111	223	224		MF-P1	Column	Pipe	A53 Gr.B	Typical
91	112	231	225	90	F1-S1	Beam	Single Angle	A36 Gr.36	Typical
92	113	228	227	90	F1-S1	Beam	Single Angle	A36 Gr.36	Typical
93	115	226	232	90	F1-S1	Beam	Single Angle	A36 Gr.36	Typical
94	114	236	235		MF-P2	Column	Pipe	A53 Gr.B	Typical
95	116	229	233		RIGID	None	None	RIGID	Typical
96	117	230	234		RIGID	None	None	RIGID	Typical
97	100A	207A	208A		RIGID	None	None	RIGID	Typical
98	101A	209A	210A		RIGID	None	None	RIGID	Typical
99	102A	205A	206A		SF-P1	Beam	Pipe	A53 Gr.B	Typical
100	103A	212A	211A		SF-S2	Beam	Tube	A53 Gr.B	Typical
101	104A	215A	216A		RIGID	None	None	RIGID	Typical
102	105A	217A	218A		RIGID	None	None	RIGID	Typical
103	106A	232A	233B		SF-P1	Beam	Pipe	A53 Gr.B	Typical
104	108A	223A	224A		RIGID	None	None	RIGID	Typical
105	109A	225A	226A		RIGID	None	None	RIGID	Typical
106	110A	234A	235A		SF-P1	Beam	Pipe	A53 Gr.B	Typical
107	109B	226B	227B		RIGID	None	None	RIGID	Typical
108	108B	227A	226C		SF-S2	Beam	Tube	A53 Gr.B	Typical
109	109C	220A	229A		RIGID	None	None	RIGID	Typical
110	110B	231A	230A		SF-S2	Beam	Tube	A53 Gr.B	Typical
111	111A	228A	233A		RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
1	4			Yes	N/A	None
2	5			Yes	N/A	None
3	6			Yes	N/A	None
4	7			Yes	N/A	None
5	8			Yes	N/A	None
6	9			Yes	N/A	None
7	10			Yes	Default	None
8	11			Yes	Default	None
9	12			Yes	Default	None
10	13			Yes	N/A	None
11	14			Yes	N/A	None
12	15			Yes	N/A	None
13	16			Yes	N/A	None
14	17			Yes	N/A	None
15	18			Yes	N/A	None
16	31			Yes	N/A	None
17	32			Yes	N/A	None
18	33			Yes	N/A	None
19	34			Yes	N/A	None
20	35			Yes	N/A	None
21	36			Yes	N/A	None
22	37			Yes	N/A	None
23	38			Yes	N/A	None
24	39			Yes	N/A	None
25	40			Yes	** NA **	None
26	41			Yes	** NA **	None
27	42			Yes	** NA **	None
28	43			Yes	N/A	None
29	44			Yes	N/A	None
30	45			Yes	N/A	None
31	46			Yes	N/A	None
32	49			Yes	** NA **	None
33	50			Yes	** NA **	None
34	51			Yes	** NA **	None
35	52			Yes	** NA **	None
36	55			Yes	** NA **	None
37	56			Yes	** NA **	None
38	58			Yes	** NA **	None
39	59			Yes	** NA **	None
40	60			Yes	N/A	None
41	63			Yes	** NA **	None
42	64			Yes	** NA **	None
43	65			Yes	** NA **	None
44	66			Yes	** NA **	None
45	69			Yes	** NA **	None
46	70			Yes	** NA **	None
47	72			Yes	** NA **	None
48	73			Yes	** NA **	None
49	74			Yes	N/A	None
50	77			Yes	** NA **	None
51	78			Yes	** NA **	None
52	79			Yes	** NA **	None
53	80			Yes	** NA **	None
54	83			Yes	** NA **	None
55	84			Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
56	86			Yes	** NA **	None
57	87			Yes	** NA **	None
58	97			Yes	** NA **	None
59	98			Yes	** NA **	None
60	99			Yes	** NA **	None
61	100			Yes	** NA **	None
62	101			Yes	** NA **	None
63	102			Yes	** NA **	None
64	103			Yes	** NA **	None
65	104			Yes	** NA **	None
66	105			Yes	** NA **	None
67	118			Yes	N/A	None
68	119			Yes	N/A	None
69	120			Yes	N/A	None
70	121			Yes	N/A	None
71	122			Yes	N/A	None
72	123			Yes	N/A	None
73	76			Yes	** NA **	None
74	81			Yes	** NA **	None
75	82			Yes	** NA **	None
76	88			Yes	** NA **	None
77	89			Yes	** NA **	None
78	90			Yes	** NA **	None
79	91			Yes	** NA **	None
80	92			Yes	** NA **	None
81	93			Yes	** NA **	None
82	94			Yes	** NA **	None
83	95			Yes	** NA **	None
84	96			Yes	** NA **	None
85	106			Yes	** NA **	None
86	107			Yes	** NA **	None
87	108			Yes	** NA **	None
88	109			Yes	** NA **	None
89	110			Yes	** NA **	None
90	111			Yes	** NA **	None
91	112	BenPIN	BenPIN	Yes	Default	None
92	113	BenPIN	BenPIN	Yes	Default	None
93	115	BenPIN	BenPIN	Yes	Default	None
94	114			Yes	** NA **	None
95	116			Yes	** NA **	None
96	117			Yes	** NA **	None
97	100A			Yes	** NA **	None
98	101A			Yes	** NA **	None
99	102A			Yes	N/A	None
100	103A			Yes	N/A	None
101	104A			Yes	** NA **	None
102	105A			Yes	** NA **	None
103	106A			Yes	N/A	None
104	108A			Yes	** NA **	None
105	109A			Yes	** NA **	None
106	110A			Yes	N/A	None
107	109B			Yes	** NA **	None
108	108B			Yes	N/A	None
109	109C			Yes	** NA **	None
110	110B			Yes	N/A	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
111	111A			Yes	** NA **	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
1	4	F1-CP1	0.583	Lbyy	Lateral
2	5	F1-CP1	0.583	Lbyy	Lateral
3	6	F1-CP1	0.583	Lbyy	Lateral
4	7	F1-CP1	0.583	Lbyy	Lateral
5	8	F1-CP1	0.583	Lbyy	Lateral
6	9	F1-CP1	0.583	Lbyy	Lateral
7	10	Support Rail	13.167	Lbyy	Lateral
8	11	Support Rail	13.167	Lbyy	Lateral
9	12	Support Rail	13.167	Lbyy	Lateral
10	13	F1-CP1	0.583	Lbyy	Lateral
11	14	F1-CP1	0.583	Lbyy	Lateral
12	15	F1-CP1	0.583	Lbyy	Lateral
13	16	F1-CP1	0.583	Lbyy	Lateral
14	17	F1-CP1	0.583	Lbyy	Lateral
15	18	F1-CP1	0.583	Lbyy	Lateral
16	31	MF-H1	13.167	Lbyy	Lateral
17	32	F1-CP1	0.583	Lbyy	Lateral
18	33	F1-CP1	0.583	Lbyy	Lateral
19	34	MF-H1	13.167	Lbyy	Lateral
20	35	F1-CP1	0.583	Lbyy	Lateral
21	36	F1-CP1	0.583	Lbyy	Lateral
22	37	MF-H1	13.167	Lbyy	Lateral
23	38	F1-CP1	0.583	Lbyy	Lateral
24	39	F1-CP1	0.583	Lbyy	Lateral
25	40	F1-V1	4.917	Lbyy	Lateral
26	41	F1-V1	4.917	Lbyy	Lateral
27	42	F1-V1	4.917	Lbyy	Lateral
28	43	MF-H1	6.833	Lbyy	Lateral
29	44	F1-CP1	0.583	Lbyy	Lateral
30	45	F1-CP1	0.583	Lbyy	Lateral
31	46	F1-ST1	6	Lbyy	Lateral
32	60	F1-ST1	6	Lbyy	Lateral
33	74	F1-ST1	6	Lbyy	Lateral
34	98	MF-P1	9	Lbyy	Lateral
35	101	MF-P1	8	Lbyy	Lateral
36	105	MF-P1	8	Lbyy	Lateral
37	118	F1-SA1	4.917	Lbyy	Lateral
38	119	F1-CP1	0.583	Lbyy	Lateral
39	120	F1-CP1	0.583	Lbyy	Lateral
40	121	F1-SA1	4.917	Lbyy	Lateral
41	122	F1-CP1	0.583	Lbyy	Lateral
42	123	F1-CP1	0.583	Lbyy	Lateral
43	91	MF-P1	6	Lbyy	Lateral
44	92	MF-P1	9	Lbyy	Lateral
45	93	MF-P1	8	Lbyy	Lateral
46	109	MF-P1	6	Lbyy	Lateral
47	110	MF-P1	9	Lbyy	Lateral
48	111	MF-P1	8	Lbyy	Lateral
49	112	F1-S1	4.083	Lbyy	Lateral
50	113	F1-S1	4.083	Lbyy	Lateral
51	115	F1-S1	4.083	Lbyy	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
52	114	MF-P2	5	Lbyy	Lateral
53	102A	SF-P1	12.5	Lbyy	Lateral
54	103A	SF-S2	3.583	Lbyy	Lateral
55	106A	SF-P1	12.5	Lbyy	Lateral
56	110A	SF-P1	12.5	Lbyy	Lateral
57	108B	SF-S2	3.583	Lbyy	Lateral
58	110B	SF-S2	3.583	Lbyy	Lateral

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	98	Y	-0.075	%5
2	98	Y	-0.075	%90
3	98	Y	-0.109	%15
4	98	Y	-0.081	%55
5	98	Y	0	0
6	105	Y	-0.057	%30
7	105	Y	-0.057	%60
8	105	Y	0	0
9	105	Y	0	0
10	105	Y	0	0
11	110	Y	-0.075	%5
12	110	Y	-0.075	%90
13	110	Y	-0.109	%15
14	110	Y	-0.081	%55
15	110	Y	0	0
16	109	Y	-0.057	%5
17	109	Y	-0.057	%60
18	109	Y	0	0
19	109	Y	0	0
20	109	Y	0	0
21	92	Y	-0.075	%5
22	92	Y	-0.075	%90
23	92	Y	-0.109	%15
24	92	Y	-0.081	%55
25	92	Y	0	0
26	91	Y	-0.057	%5
27	91	Y	-0.057	%60
28	91	Y	0	0
29	91	Y	0	0
30	91	Y	0	0

Member Point Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	98	Z	-0.313	%5
2	98	Z	-0.313	%90
3	98	Z	-0.082	%15
4	98	Z	-0.11	%55
5	98	Z	0	0
6	105	Z	-0.112	%30
7	105	Z	-0.112	%60
8	105	Z	0	0
9	105	Z	0	0
10	105	Z	0	0

Member Point Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
11	110	Z	-0.313	%5
12	110	Z	-0.313	%90
13	110	Z	-0.082	%15
14	110	Z	-0.11	%55
15	110	Z	0	0
16	109	Z	-0.112	%5
17	109	Z	-0.112	%60
18	109	Z	0	0
19	109	Z	0	0
20	109	Z	0	0
21	92	Z	-0.313	%5
22	92	Z	-0.313	%90
23	92	Z	-0.082	%15
24	92	Z	-0.11	%55
25	92	Z	0	0
26	91	Z	-0.112	%5
27	91	Z	-0.112	%60
28	91	Z	0	0
29	91	Z	0	0
30	91	Z	0	0

Member Point Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	98	X	-0.113	%5
2	98	X	-0.113	%90
3	98	X	-0.065	%15
4	98	X	-0.053	%55
5	98	X	0	0
6	105	X	-0.043	%30
7	105	X	-0.043	%60
8	105	X	0	0
9	105	X	0	0
10	105	X	0	0
11	110	X	-0.113	%5
12	110	X	-0.113	%90
13	110	X	-0.065	%15
14	110	X	-0.053	%55
15	110	X	0	0
16	109	X	-0.043	%5
17	109	X	-0.043	%60
18	109	X	0	0
19	109	X	0	0
20	109	X	0	0
21	92	X	-0.113	%5
22	92	X	-0.113	%90
23	92	X	-0.065	%15
24	92	X	-0.053	%55
25	92	X	0	0
26	91	X	-0.043	%5
27	91	X	-0.043	%60
28	91	X	0	0
29	91	X	0	0
30	91	X	0	0

Member Point Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	98	Z	-0.065	%5
2	98	Z	-0.065	%90
3	98	Z	-0.015	%15
4	98	Z	-0.02	%55
5	98	Z	0	0
6	105	Z	-0.025	%30
7	105	Z	-0.025	%60
8	105	Z	0	0
9	105	Z	0	0
10	105	Z	0	0
11	110	Z	-0.065	%5
12	110	Z	-0.065	%90
13	110	Z	-0.015	%15
14	110	Z	-0.02	%55
15	110	Z	0	0
16	109	Z	-0.025	%5
17	109	Z	-0.025	%60
18	109	Z	0	0
19	109	Z	0	0
20	109	Z	0	0
21	92	Z	-0.065	%5
22	92	Z	-0.065	%90
23	92	Z	-0.015	%15
24	92	Z	-0.02	%55
25	92	Z	0	0
26	91	Z	-0.025	%5
27	91	Z	-0.025	%60
28	91	Z	0	0
29	91	Z	0	0
30	91	Z	0	0

Member Point Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	98	X	-0.028	%5
2	98	X	-0.028	%90
3	98	X	-0.012	%15
4	98	X	-0.01	%55
5	98	X	0	0
6	105	X	-0.012	%30
7	105	X	-0.012	%60
8	105	X	0	0
9	105	X	0	0
10	105	X	0	0
11	110	X	-0.028	%5
12	110	X	-0.028	%90
13	110	X	-0.012	%15
14	110	X	-0.01	%55
15	110	X	0	0
16	109	X	-0.012	%5
17	109	X	-0.012	%60
18	109	X	0	0
19	109	X	0	0
20	109	X	0	0
21	92	X	-0.028	%5

Member Point Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
22	92	X	-0.028	%90
23	92	X	-0.012	%15
24	92	X	-0.01	%55
25	92	X	0	0
26	91	X	-0.012	%5
27	91	X	-0.012	%60
28	91	X	0	0
29	91	X	0	0
30	91	X	0	0

Member Point Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	98	Z	-0.02	%5
2	98	Z	-0.02	%90
3	98	Z	-0.005	%15
4	98	Z	-0.007	%55
5	98	Z	0	0
6	105	Z	-0.007	%30
7	105	Z	-0.007	%60
8	105	Z	0	0
9	105	Z	0	0
10	105	Z	0	0
11	110	Z	-0.02	%5
12	110	Z	-0.02	%90
13	110	Z	-0.005	%15
14	110	Z	-0.007	%55
15	110	Z	0	0
16	109	Z	-0.007	%5
17	109	Z	-0.007	%60
18	109	Z	0	0
19	109	Z	0	0
20	109	Z	0	0
21	92	Z	-0.02	%5
22	92	Z	-0.02	%90
23	92	Z	-0.005	%15
24	92	Z	-0.007	%55
25	92	Z	0	0
26	91	Z	-0.007	%5
27	91	Z	-0.007	%60
28	91	Z	0	0
29	91	Z	0	0
30	91	Z	0	0

Member Point Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	98	X	-0.007	%5
2	98	X	-0.007	%90
3	98	X	-0.004	%15
4	98	X	-0.003	%55
5	98	X	0	0
6	105	X	-0.003	%30
7	105	X	-0.003	%60
8	105	X	0	0

Member Point Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
9	105	X	0	0
10	105	X	0	0
11	110	X	-0.007	%5
12	110	X	-0.007	%90
13	110	X	-0.004	%15
14	110	X	-0.003	%55
15	110	X	0	0
16	109	X	-0.003	%5
17	109	X	-0.003	%60
18	109	X	0	0
19	109	X	0	0
20	109	X	0	0
21	92	X	-0.007	%5
22	92	X	-0.007	%90
23	92	X	-0.004	%15
24	92	X	-0.003	%55
25	92	X	0	0
26	91	X	-0.003	%5
27	91	X	-0.003	%60
28	91	X	0	0
29	91	X	0	0
30	91	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	98	Y	-0.258	%5
2	98	Y	-0.258	%90
3	98	Y	-0.061	%15
4	98	Y	-0.071	%55
5	98	Y	0	0
6	105	Y	-0.123	%30
7	105	Y	-0.123	%60
8	105	Y	0	0
9	105	Y	0	0
10	105	Y	0	0
11	110	Y	-0.258	%5
12	110	Y	-0.258	%90
13	110	Y	-0.061	%15
14	110	Y	-0.071	%55
15	110	Y	0	0
16	109	Y	-0.123	%5
17	109	Y	-0.123	%60
18	109	Y	0	0
19	109	Y	0	0
20	109	Y	0	0
21	92	Y	-0.258	%5
22	92	Y	-0.258	%90
23	92	Y	-0.061	%15
24	92	Y	-0.071	%55
25	92	Y	0	0
26	91	Y	-0.123	%5
27	91	Y	-0.123	%60
28	91	Y	0	0
29	91	Y	0	0
30	91	Y	0	0

Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	98	Z	-0.03	%5
2	98	Z	-0.03	%90
3	98	Z	-0.022	%15
4	98	Z	-0.016	%55
5	98	Z	0	0
6	105	Z	-0.023	%30
7	105	Z	-0.023	%60
8	105	Z	0	0
9	105	Z	0	0
10	105	Z	0	0
11	110	Z	-0.03	%5
12	110	Z	-0.03	%90
13	110	Z	-0.022	%15
14	110	Z	-0.016	%55
15	110	Z	0	0
16	109	Z	-0.023	%5
17	109	Z	-0.023	%60
18	109	Z	0	0
19	109	Z	0	0
20	109	Z	0	0
21	92	Z	-0.03	%5
22	92	Z	-0.03	%90
23	92	Z	-0.022	%15
24	92	Z	-0.016	%55
25	92	Z	0	0
26	91	Z	-0.023	%5
27	91	Z	-0.023	%60
28	91	Z	0	0
29	91	Z	0	0
30	91	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	98	X	-0.03	%5
2	98	X	-0.03	%90
3	98	X	-0.022	%15
4	98	X	-0.016	%55
5	98	X	0	0
6	105	X	-0.023	%30
7	105	X	-0.023	%60
8	105	X	0	0
9	105	X	0	0
10	105	X	0	0
11	110	X	-0.03	%5
12	110	X	-0.03	%90
13	110	X	-0.022	%15
14	110	X	-0.016	%55
15	110	X	0	0
16	109	X	-0.023	%5
17	109	X	-0.023	%60
18	109	X	0	0
19	109	X	0	0
20	109	X	0	0
21	92	X	-0.03	%5

Member Point Loads (BLC 10 : 90 Seismic) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
22	92	X	-0.03	%90
23	92	X	-0.022	%15
24	92	X	-0.016	%55
25	92	X	0	0
26	91	X	-0.023	%5
27	91	X	-0.023	%60
28	91	X	0	0
29	91	X	0	0
30	91	X	0	0

Member Point Loads (BLC 15 : Maint LL 1)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	34	Y	-0.25	%5

Member Point Loads (BLC 16 : Maint LL 2)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	31	Y	-0.25	%5

Member Point Loads (BLC 17 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	37	Y	-0.25	%5

Member Point Loads (BLC 18 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	12	Y	-0.25	%5

Member Point Loads (BLC 19 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	10	Y	-0.25	%5

Member Point Loads (BLC 20 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	11	Y	-0.25	%5

Member Point Loads (BLC 21 : Maint LL 7)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	34	Y	-0.25	%95

Member Point Loads (BLC 22 : Maint LL 8)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	31	Y	-0.25	%95

Member Point Loads (BLC 23 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	37	Y	-0.25	%95

Member Point Loads (BLC 24 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	12	Y	-0.25	%95

Member Point Loads (BLC 25 : Maint LL 11)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	10	Y	-0.25	%95

Member Point Loads (BLC 26 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	11	Y	-0.25	%95

Member Point Loads (BLC 27 : Maint LL 13)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	74	Y	-0.25	%95

Member Point Loads (BLC 28 : Maint LL 14)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	60	Y	-0.25	%95

Member Point Loads (BLC 29 : Maint LL 15)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	46	Y	-0.25	%95

Member Point Loads (BLC 30 : Maint LL 16)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	102A	Y	-0.25	%5

Member Point Loads (BLC 31 : Maint LL 17)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	110A	Y	-0.25	%5

Member Point Loads (BLC 32 : Maint LL 18)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	106A	Y	-0.25	%5

Member Point Loads (BLC 33 : Maint LL 19)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	103A	Y	-0.25	%5

Member Point Loads (BLC 34 : Maint LL 20)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	110B	Y	-0.25	%5

Member Point Loads (BLC 35 : Maint LL 21)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	108B	Y	-0.25	%5

Member Point Loads (BLC 36 : Maint LL 22)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	102A	Y	-0.25	%95

Member Point Loads (BLC 37 : Maint LL 23)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	110A	Y	-0.25	%95

Member Point Loads (BLC 38 : Maint LL 24)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	106A	Y	-0.25	%95

Member Distributed Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	4	Z	-0.012	-0.012	0	%100
2	5	Z	-0.012	-0.012	0	%100
3	6	Z	-0.012	-0.012	0	%100
4	7	Z	-0.012	-0.012	0	%100
5	8	Z	-0.012	-0.012	0	%100
6	9	Z	-0.012	-0.012	0	%100
7	10	Z	-0.019	-0.019	0	%100
8	11	Z	-0.019	-0.019	0	%100
9	12	Z	-0.019	-0.019	0	%100
10	13	Z	-0.012	-0.012	0	%100
11	14	Z	-0.012	-0.012	0	%100
12	15	Z	-0.012	-0.012	0	%100
13	16	Z	-0.012	-0.012	0	%100
14	17	Z	-0.012	-0.012	0	%100
15	18	Z	-0.012	-0.012	0	%100
16	31	Z	-0.032	-0.032	0	%100
17	32	Z	-0.012	-0.012	0	%100
18	33	Z	-0.012	-0.012	0	%100
19	34	Z	-0.032	-0.032	0	%100
20	35	Z	-0.012	-0.012	0	%100
21	36	Z	-0.012	-0.012	0	%100
22	37	Z	-0.032	-0.032	0	%100

Member Distributed Loads (BLC 2 : 0 Wind - No Ice) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
23	38	Z	-0.012	-0.012	0	%100
24	39	Z	-0.012	-0.012	0	%100
25	40	Z	-0.009	-0.009	0	%100
26	41	Z	-0.009	-0.009	0	%100
27	42	Z	-0.009	-0.009	0	%100
28	43	Z	-0.027	-0.027	0	%100
29	44	Z	-0.012	-0.012	0	%100
30	45	Z	-0.012	-0.012	0	%100
31	46	Z	-0.022	-0.022	0	%100
32	60	Z	-0.022	-0.022	0	%100
33	74	Z	-0.022	-0.022	0	%100
34	98	Z	-0.009	-0.009	0	%100
35	101	Z	-0.009	-0.009	0	%100
36	105	Z	-0.009	-0.009	0	%100
37	118	Z	-0.021	-0.021	0	%100
38	119	Z	-0.012	-0.012	0	%100
39	120	Z	-0.012	-0.012	0	%100
40	121	Z	-0.021	-0.021	0	%100
41	122	Z	-0.012	-0.012	0	%100
42	123	Z	-0.012	-0.012	0	%100
43	91	Z	-0.009	-0.009	0	%100
44	92	Z	-0.009	-0.009	0	%100
45	93	Z	-0.009	-0.009	0	%100
46	109	Z	-0.009	-0.009	0	%100
47	110	Z	-0.009	-0.009	0	%100
48	111	Z	-0.009	-0.009	0	%100
49	112	Z	-0.013	-0.013	0	%100
50	113	Z	-0.013	-0.013	0	%100
51	115	Z	-0.013	-0.013	0	%100
52	114	Z	-0.009	-0.009	0	%100
53	102A	Z	-0.009	-0.009	0	%100
54	103A	Z	-0.019	-0.019	0	%100
55	106A	Z	-0.009	-0.009	0	%100
56	110A	Z	-0.009	-0.009	0	%100
57	108B	Z	-0.019	-0.019	0	%100
58	110B	Z	-0.019	-0.019	0	%100

Member Distributed Loads (BLC 3 : 90 Wind - No Ice)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	4	X	-0.012	-0.012	0	%100
2	5	X	-0.012	-0.012	0	%100
3	6	X	-0.012	-0.012	0	%100
4	7	X	-0.012	-0.012	0	%100
5	8	X	-0.012	-0.012	0	%100
6	9	X	-0.012	-0.012	0	%100
7	10	X	-0.019	-0.019	0	%100
8	11	X	-0.019	-0.019	0	%100
9	12	X	-0.019	-0.019	0	%100
10	13	X	-0.012	-0.012	0	%100
11	14	X	-0.012	-0.012	0	%100
12	15	X	-0.012	-0.012	0	%100
13	16	X	-0.012	-0.012	0	%100
14	17	X	-0.012	-0.012	0	%100
15	18	X	-0.012	-0.012	0	%100
16	31	X	-0.032	-0.032	0	%100

Member Distributed Loads (BLC 3 : 90 Wind - No Ice) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
17	32	X	-0.012	-0.012	0	%100
18	33	X	-0.012	-0.012	0	%100
19	34	X	-0.032	-0.032	0	%100
20	35	X	-0.012	-0.012	0	%100
21	36	X	-0.012	-0.012	0	%100
22	37	X	-0.032	-0.032	0	%100
23	38	X	-0.012	-0.012	0	%100
24	39	X	-0.012	-0.012	0	%100
25	40	X	-0.009	-0.009	0	%100
26	41	X	-0.009	-0.009	0	%100
27	42	X	-0.009	-0.009	0	%100
28	43	X	-0.027	-0.027	0	%100
29	44	X	-0.012	-0.012	0	%100
30	45	X	-0.012	-0.012	0	%100
31	46	X	-0.022	-0.022	0	%100
32	60	X	-0.022	-0.022	0	%100
33	74	X	-0.022	-0.022	0	%100
34	98	X	-0.009	-0.009	0	%100
35	101	X	-0.009	-0.009	0	%100
36	105	X	-0.009	-0.009	0	%100
37	118	X	-0.021	-0.021	0	%100
38	119	X	-0.012	-0.012	0	%100
39	120	X	-0.012	-0.012	0	%100
40	121	X	-0.021	-0.021	0	%100
41	122	X	-0.012	-0.012	0	%100
42	123	X	-0.012	-0.012	0	%100
43	91	X	-0.009	-0.009	0	%100
44	92	X	-0.009	-0.009	0	%100
45	93	X	-0.009	-0.009	0	%100
46	109	X	-0.009	-0.009	0	%100
47	110	X	-0.009	-0.009	0	%100
48	111	X	-0.009	-0.009	0	%100
49	112	X	-0.013	-0.013	0	%100
50	113	X	-0.013	-0.013	0	%100
51	115	X	-0.013	-0.013	0	%100
52	114	X	-0.009	-0.009	0	%100
53	102A	X	-0.009	-0.009	0	%100
54	103A	X	-0.019	-0.019	0	%100
55	106A	X	-0.009	-0.009	0	%100
56	110A	X	-0.009	-0.009	0	%100
57	108B	X	-0.019	-0.019	0	%100
58	110B	X	-0.019	-0.019	0	%100

Member Distributed Loads (BLC 4 : 0 Wind - Ice)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	4	Z	-0.007	-0.007	0	%100
2	5	Z	-0.007	-0.007	0	%100
3	6	Z	-0.007	-0.007	0	%100
4	7	Z	-0.007	-0.007	0	%100
5	8	Z	-0.007	-0.007	0	%100
6	9	Z	-0.007	-0.007	0	%100
7	10	Z	-0.007	-0.007	0	%100
8	11	Z	-0.007	-0.007	0	%100
9	12	Z	-0.007	-0.007	0	%100
10	13	Z	-0.007	-0.007	0	%100

Member Distributed Loads (BLC 4 : 0 Wind - Ice) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
11	14	Z	-0.007	-0.007	0	%100
12	15	Z	-0.007	-0.007	0	%100
13	16	Z	-0.007	-0.007	0	%100
14	17	Z	-0.007	-0.007	0	%100
15	18	Z	-0.007	-0.007	0	%100
16	31	Z	-0.01	-0.01	0	%100
17	32	Z	-0.007	-0.007	0	%100
18	33	Z	-0.007	-0.007	0	%100
19	34	Z	-0.01	-0.01	0	%100
20	35	Z	-0.007	-0.007	0	%100
21	36	Z	-0.007	-0.007	0	%100
22	37	Z	-0.01	-0.01	0	%100
23	38	Z	-0.007	-0.007	0	%100
24	39	Z	-0.007	-0.007	0	%100
25	40	Z	-0.002	-0.002	0	%100
26	41	Z	-0.002	-0.002	0	%100
27	42	Z	-0.002	-0.002	0	%100
28	43	Z	-0.008	-0.008	0	%100
29	44	Z	-0.007	-0.007	0	%100
30	45	Z	-0.007	-0.007	0	%100
31	46	Z	-0.008	-0.008	0	%100
32	60	Z	-0.008	-0.008	0	%100
33	74	Z	-0.008	-0.008	0	%100
34	98	Z	-0.002	-0.002	0	%100
35	101	Z	-0.002	-0.002	0	%100
36	105	Z	-0.002	-0.002	0	%100
37	118	Z	-0.007	-0.007	0	%100
38	119	Z	-0.007	-0.007	0	%100
39	120	Z	-0.007	-0.007	0	%100
40	121	Z	-0.007	-0.007	0	%100
41	122	Z	-0.007	-0.007	0	%100
42	123	Z	-0.007	-0.007	0	%100
43	91	Z	-0.002	-0.002	0	%100
44	92	Z	-0.002	-0.002	0	%100
45	93	Z	-0.002	-0.002	0	%100
46	109	Z	-0.002	-0.002	0	%100
47	110	Z	-0.002	-0.002	0	%100
48	111	Z	-0.002	-0.002	0	%100
49	112	Z	-0.007	-0.007	0	%100
50	113	Z	-0.007	-0.007	0	%100
51	115	Z	-0.007	-0.007	0	%100
52	114	Z	-0.003	-0.003	0	%100
53	102A	Z	-0.002	-0.002	0	%100
54	103A	Z	-0.007	-0.007	0	%100
55	106A	Z	-0.002	-0.002	0	%100
56	110A	Z	-0.002	-0.002	0	%100
57	108B	Z	-0.007	-0.007	0	%100
58	110B	Z	-0.007	-0.007	0	%100

Member Distributed Loads (BLC 5 : 90 Wind - Ice)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	4	X	-0.007	-0.007	0	%100
2	5	X	-0.007	-0.007	0	%100
3	6	X	-0.007	-0.007	0	%100
4	7	X	-0.007	-0.007	0	%100



Member Distributed Loads (BLC 5 : 90 Wind - Ice) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
5	8	X	-0.007	-0.007	0	%100
6	9	X	-0.007	-0.007	0	%100
7	10	X	-0.007	-0.007	0	%100
8	11	X	-0.007	-0.007	0	%100
9	12	X	-0.007	-0.007	0	%100
10	13	X	-0.007	-0.007	0	%100
11	14	X	-0.007	-0.007	0	%100
12	15	X	-0.007	-0.007	0	%100
13	16	X	-0.007	-0.007	0	%100
14	17	X	-0.007	-0.007	0	%100
15	18	X	-0.007	-0.007	0	%100
16	31	X	-0.01	-0.01	0	%100
17	32	X	-0.007	-0.007	0	%100
18	33	X	-0.007	-0.007	0	%100
19	34	X	-0.01	-0.01	0	%100
20	35	X	-0.007	-0.007	0	%100
21	36	X	-0.007	-0.007	0	%100
22	37	X	-0.01	-0.01	0	%100
23	38	X	-0.007	-0.007	0	%100
24	39	X	-0.007	-0.007	0	%100
25	40	X	-0.002	-0.002	0	%100
26	41	X	-0.002	-0.002	0	%100
27	42	X	-0.002	-0.002	0	%100
28	43	X	-0.008	-0.008	0	%100
29	44	X	-0.007	-0.007	0	%100
30	45	X	-0.007	-0.007	0	%100
31	46	X	-0.008	-0.008	0	%100
32	60	X	-0.008	-0.008	0	%100
33	74	X	-0.008	-0.008	0	%100
34	98	X	-0.002	-0.002	0	%100
35	101	X	-0.002	-0.002	0	%100
36	105	X	-0.002	-0.002	0	%100
37	118	X	-0.007	-0.007	0	%100
38	119	X	-0.007	-0.007	0	%100
39	120	X	-0.007	-0.007	0	%100
40	121	X	-0.007	-0.007	0	%100
41	122	X	-0.007	-0.007	0	%100
42	123	X	-0.007	-0.007	0	%100
43	91	X	-0.002	-0.002	0	%100
44	92	X	-0.002	-0.002	0	%100
45	93	X	-0.002	-0.002	0	%100
46	109	X	-0.002	-0.002	0	%100
47	110	X	-0.002	-0.002	0	%100
48	111	X	-0.002	-0.002	0	%100
49	112	X	-0.007	-0.007	0	%100
50	113	X	-0.007	-0.007	0	%100
51	115	X	-0.007	-0.007	0	%100
52	114	X	-0.003	-0.003	0	%100
53	102A	X	-0.002	-0.002	0	%100
54	103A	X	-0.007	-0.007	0	%100
55	106A	X	-0.002	-0.002	0	%100
56	110A	X	-0.002	-0.002	0	%100
57	108B	X	-0.007	-0.007	0	%100
58	110B	X	-0.007	-0.007	0	%100

Member Distributed Loads (BLC 6 : 0 Wind - Service)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	4	Z	-0.0007	-0.0007	0	%100
2	5	Z	-0.0007	-0.0007	0	%100
3	6	Z	-0.0007	-0.0007	0	%100
4	7	Z	-0.0007	-0.0007	0	%100
5	8	Z	-0.0007	-0.0007	0	%100
6	9	Z	-0.0007	-0.0007	0	%100
7	10	Z	-0.001	-0.001	0	%100
8	11	Z	-0.001	-0.001	0	%100
9	12	Z	-0.001	-0.001	0	%100
10	13	Z	-0.0007	-0.0007	0	%100
11	14	Z	-0.0007	-0.0007	0	%100
12	15	Z	-0.0007	-0.0007	0	%100
13	16	Z	-0.0007	-0.0007	0	%100
14	17	Z	-0.0007	-0.0007	0	%100
15	18	Z	-0.0007	-0.0007	0	%100
16	31	Z	-0.002	-0.002	0	%100
17	32	Z	-0.0007	-0.0007	0	%100
18	33	Z	-0.0007	-0.0007	0	%100
19	34	Z	-0.002	-0.002	0	%100
20	35	Z	-0.0007	-0.0007	0	%100
21	36	Z	-0.0007	-0.0007	0	%100
22	37	Z	-0.002	-0.002	0	%100
23	38	Z	-0.0007	-0.0007	0	%100
24	39	Z	-0.0007	-0.0007	0	%100
25	40	Z	-0.0003	-0.0003	0	%100
26	41	Z	-0.0003	-0.0003	0	%100
27	42	Z	-0.0003	-0.0003	0	%100
28	43	Z	-0.002	-0.002	0	%100
29	44	Z	-0.0007	-0.0007	0	%100
30	45	Z	-0.0007	-0.0007	0	%100
31	46	Z	-0.001	-0.001	0	%100
32	60	Z	-0.001	-0.001	0	%100
33	74	Z	-0.001	-0.001	0	%100
34	98	Z	-0.0003	-0.0003	0	%100
35	101	Z	-0.0003	-0.0003	0	%100
36	105	Z	-0.0003	-0.0003	0	%100
37	118	Z	-0.001	-0.001	0	%100
38	119	Z	-0.0007	-0.0007	0	%100
39	120	Z	-0.0007	-0.0007	0	%100
40	121	Z	-0.001	-0.001	0	%100
41	122	Z	-0.0007	-0.0007	0	%100
42	123	Z	-0.0007	-0.0007	0	%100
43	91	Z	-0.0003	-0.0003	0	%100
44	92	Z	-0.0003	-0.0003	0	%100
45	93	Z	-0.0003	-0.0003	0	%100
46	109	Z	-0.0003	-0.0003	0	%100
47	110	Z	-0.0003	-0.0003	0	%100
48	111	Z	-0.0003	-0.0003	0	%100
49	112	Z	-0.0008	-0.0008	0	%100
50	113	Z	-0.0008	-0.0008	0	%100
51	115	Z	-0.0008	-0.0008	0	%100
52	114	Z	-0.0005	-0.0005	0	%100
53	102A	Z	-0.0003	-0.0003	0	%100
54	103A	Z	-0.001	-0.001	0	%100
55	106A	Z	-0.0003	-0.0003	0	%100



Member Distributed Loads (BLC 6 : 0 Wind - Service) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
56	110A	Z	-0.0003	-0.0003	0	%100
57	108B	Z	-0.001	-0.001	0	%100
58	110B	Z	-0.001	-0.001	0	%100

Member Distributed Loads (BLC 7 : 90 Wind - Service)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	4	X	-0.0007	-0.0007	0	%100
2	5	X	-0.0007	-0.0007	0	%100
3	6	X	-0.0007	-0.0007	0	%100
4	7	X	-0.0007	-0.0007	0	%100
5	8	X	-0.0007	-0.0007	0	%100
6	9	X	-0.0007	-0.0007	0	%100
7	10	X	-0.001	-0.001	0	%100
8	11	X	-0.001	-0.001	0	%100
9	12	X	-0.001	-0.001	0	%100
10	13	X	-0.0007	-0.0007	0	%100
11	14	X	-0.0007	-0.0007	0	%100
12	15	X	-0.0007	-0.0007	0	%100
13	16	X	-0.0007	-0.0007	0	%100
14	17	X	-0.0007	-0.0007	0	%100
15	18	X	-0.0007	-0.0007	0	%100
16	31	X	-0.002	-0.002	0	%100
17	32	X	-0.0007	-0.0007	0	%100
18	33	X	-0.0007	-0.0007	0	%100
19	34	X	-0.002	-0.002	0	%100
20	35	X	-0.0007	-0.0007	0	%100
21	36	X	-0.0007	-0.0007	0	%100
22	37	X	-0.002	-0.002	0	%100
23	38	X	-0.0007	-0.0007	0	%100
24	39	X	-0.0007	-0.0007	0	%100
25	40	X	-0.0003	-0.0003	0	%100
26	41	X	-0.0003	-0.0003	0	%100
27	42	X	-0.0003	-0.0003	0	%100
28	43	X	-0.002	-0.002	0	%100
29	44	X	-0.0007	-0.0007	0	%100
30	45	X	-0.0007	-0.0007	0	%100
31	46	X	-0.001	-0.001	0	%100
32	60	X	-0.001	-0.001	0	%100
33	74	X	-0.001	-0.001	0	%100
34	98	X	-0.0003	-0.0003	0	%100
35	101	X	-0.0003	-0.0003	0	%100
36	105	X	-0.0003	-0.0003	0	%100
37	118	X	-0.001	-0.001	0	%100
38	119	X	-0.0007	-0.0007	0	%100
39	120	X	-0.0007	-0.0007	0	%100
40	121	X	-0.001	-0.001	0	%100
41	122	X	-0.0007	-0.0007	0	%100
42	123	X	-0.0007	-0.0007	0	%100
43	91	X	-0.0003	-0.0003	0	%100
44	92	X	-0.0003	-0.0003	0	%100
45	93	X	-0.0003	-0.0003	0	%100
46	109	X	-0.0003	-0.0003	0	%100
47	110	X	-0.0003	-0.0003	0	%100
48	111	X	-0.0003	-0.0003	0	%100
49	112	X	-0.0008	-0.0008	0	%100

Member Distributed Loads (BLC 7 : 90 Wind - Service) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
50	113	X	-0.0008	-0.0008	0	%100
51	115	X	-0.0008	-0.0008	0	%100
52	114	X	-0.0005	-0.0005	0	%100
53	102A	X	-0.0003	-0.0003	0	%100
54	103A	X	-0.001	-0.001	0	%100
55	106A	X	-0.0003	-0.0003	0	%100
56	110A	X	-0.0003	-0.0003	0	%100
57	108B	X	-0.001	-0.001	0	%100
58	110B	X	-0.001	-0.001	0	%100

Member Distributed Loads (BLC 8 : Ice)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	4	Y	-0.01	-0.01	0	%100
2	5	Y	-0.01	-0.01	0	%100
3	6	Y	-0.01	-0.01	0	%100
4	7	Y	-0.01	-0.01	0	%100
5	8	Y	-0.01	-0.01	0	%100
6	9	Y	-0.01	-0.01	0	%100
7	10	Y	-0.012	-0.012	0	%100
8	11	Y	-0.012	-0.012	0	%100
9	12	Y	-0.012	-0.012	0	%100
10	13	Y	-0.01	-0.01	0	%100
11	14	Y	-0.01	-0.01	0	%100
12	15	Y	-0.01	-0.01	0	%100
13	16	Y	-0.01	-0.01	0	%100
14	17	Y	-0.01	-0.01	0	%100
15	18	Y	-0.01	-0.01	0	%100
16	31	Y	-0.014	-0.014	0	%100
17	32	Y	-0.01	-0.01	0	%100
18	33	Y	-0.01	-0.01	0	%100
19	34	Y	-0.014	-0.014	0	%100
20	35	Y	-0.01	-0.01	0	%100
21	36	Y	-0.01	-0.01	0	%100
22	37	Y	-0.014	-0.014	0	%100
23	38	Y	-0.01	-0.01	0	%100
24	39	Y	-0.01	-0.01	0	%100
25	40	Y	-0.008	-0.008	0	%100
26	41	Y	-0.008	-0.008	0	%100
27	42	Y	-0.008	-0.008	0	%100
28	43	Y	-0.014	-0.014	0	%100
29	44	Y	-0.01	-0.01	0	%100
30	45	Y	-0.01	-0.01	0	%100
31	46	Y	-0.015	-0.015	0	%100
32	60	Y	-0.015	-0.015	0	%100
33	74	Y	-0.015	-0.015	0	%100
34	98	Y	-0.008	-0.008	0	%100
35	101	Y	-0.008	-0.008	0	%100
36	105	Y	-0.008	-0.008	0	%100
37	118	Y	-0.014	-0.014	0	%100
38	119	Y	-0.01	-0.01	0	%100
39	120	Y	-0.01	-0.01	0	%100
40	121	Y	-0.014	-0.014	0	%100
41	122	Y	-0.01	-0.01	0	%100
42	123	Y	-0.01	-0.01	0	%100
43	91	Y	-0.008	-0.008	0	%100

Member Distributed Loads (BLC 8 : Ice) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
44	92	Y	-0.008	-0.008	0	%100
45	93	Y	-0.008	-0.008	0	%100
46	109	Y	-0.008	-0.008	0	%100
47	110	Y	-0.008	-0.008	0	%100
48	111	Y	-0.008	-0.008	0	%100
49	112	Y	-0.009	-0.009	0	%100
50	113	Y	-0.009	-0.009	0	%100
51	115	Y	-0.009	-0.009	0	%100
52	114	Y	-0.012	-0.012	0	%100
53	102A	Y	-0.008	-0.008	0	%100
54	103A	Y	-0.015	-0.015	0	%100
55	106A	Y	-0.008	-0.008	0	%100
56	110A	Y	-0.008	-0.008	0	%100
57	108B	Y	-0.015	-0.015	0	%100
58	110B	Y	-0.015	-0.015	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	4	Z	-0.0005	-0.0005	0	%100
2	5	Z	-0.0005	-0.0005	0	%100
3	6	Z	-0.0005	-0.0005	0	%100
4	7	Z	-0.0005	-0.0005	0	%100
5	8	Z	-0.0005	-0.0005	0	%100
6	9	Z	-0.0005	-0.0005	0	%100
7	10	Z	-0.001	-0.001	0	%100
8	11	Z	-0.001	-0.001	0	%100
9	12	Z	-0.001	-0.001	0	%100
10	13	Z	-0.0005	-0.0005	0	%100
11	14	Z	-0.0005	-0.0005	0	%100
12	15	Z	-0.0005	-0.0005	0	%100
13	16	Z	-0.0005	-0.0005	0	%100
14	17	Z	-0.0005	-0.0005	0	%100
15	18	Z	-0.0005	-0.0005	0	%100
16	31	Z	-0.001	-0.001	0	%100
17	32	Z	-0.0005	-0.0005	0	%100
18	33	Z	-0.0005	-0.0005	0	%100
19	34	Z	-0.001	-0.001	0	%100
20	35	Z	-0.0005	-0.0005	0	%100
21	36	Z	-0.0005	-0.0005	0	%100
22	37	Z	-0.001	-0.001	0	%100
23	38	Z	-0.0005	-0.0005	0	%100
24	39	Z	-0.0005	-0.0005	0	%100
25	40	Z	-0.0009	-0.0009	0	%100
26	41	Z	-0.0009	-0.0009	0	%100
27	42	Z	-0.0009	-0.0009	0	%100
28	43	Z	-0.001	-0.001	0	%100
29	44	Z	-0.0005	-0.0005	0	%100
30	45	Z	-0.0005	-0.0005	0	%100
31	46	Z	-0.003	-0.003	0	%100
32	60	Z	-0.003	-0.003	0	%100
33	74	Z	-0.003	-0.003	0	%100
34	98	Z	-0.0007	-0.0007	0	%100
35	101	Z	-0.0007	-0.0007	0	%100
36	105	Z	-0.0007	-0.0007	0	%100
37	118	Z	-0.0008	-0.0008	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
38	119	Z	-0.0005	-0.0005	0	%100
39	120	Z	-0.0005	-0.0005	0	%100
40	121	Z	-0.0008	-0.0008	0	%100
41	122	Z	-0.0005	-0.0005	0	%100
42	123	Z	-0.0005	-0.0005	0	%100
43	91	Z	-0.0007	-0.0007	0	%100
44	92	Z	-0.0007	-0.0007	0	%100
45	93	Z	-0.0007	-0.0007	0	%100
46	109	Z	-0.0007	-0.0007	0	%100
47	110	Z	-0.0007	-0.0007	0	%100
48	111	Z	-0.0007	-0.0007	0	%100
49	112	Z	-0.0006	-0.0006	0	%100
50	113	Z	-0.0006	-0.0006	0	%100
51	115	Z	-0.0006	-0.0006	0	%100
52	114	Z	-0.002	-0.002	0	%100
53	102A	Z	-0.0007	-0.0007	0	%100
54	103A	Z	-0.003	-0.003	0	%100
55	106A	Z	-0.0007	-0.0007	0	%100
56	110A	Z	-0.0007	-0.0007	0	%100
57	108B	Z	-0.003	-0.003	0	%100
58	110B	Z	-0.003	-0.003	0	%100

Member Distributed Loads (BLC 10 : 90 Seismic)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	4	X	-0.0005	-0.0005	0	%100
2	5	X	-0.0005	-0.0005	0	%100
3	6	X	-0.0005	-0.0005	0	%100
4	7	X	-0.0005	-0.0005	0	%100
5	8	X	-0.0005	-0.0005	0	%100
6	9	X	-0.0005	-0.0005	0	%100
7	10	X	-0.001	-0.001	0	%100
8	11	X	-0.001	-0.001	0	%100
9	12	X	-0.001	-0.001	0	%100
10	13	X	-0.0005	-0.0005	0	%100
11	14	X	-0.0005	-0.0005	0	%100
12	15	X	-0.0005	-0.0005	0	%100
13	16	X	-0.0005	-0.0005	0	%100
14	17	X	-0.0005	-0.0005	0	%100
15	18	X	-0.0005	-0.0005	0	%100
16	31	X	-0.001	-0.001	0	%100
17	32	X	-0.0005	-0.0005	0	%100
18	33	X	-0.0005	-0.0005	0	%100
19	34	X	-0.001	-0.001	0	%100
20	35	X	-0.0005	-0.0005	0	%100
21	36	X	-0.0005	-0.0005	0	%100
22	37	X	-0.001	-0.001	0	%100
23	38	X	-0.0005	-0.0005	0	%100
24	39	X	-0.0005	-0.0005	0	%100
25	40	X	-0.0009	-0.0009	0	%100
26	41	X	-0.0009	-0.0009	0	%100
27	42	X	-0.0009	-0.0009	0	%100
28	43	X	-0.001	-0.001	0	%100
29	44	X	-0.0005	-0.0005	0	%100
30	45	X	-0.0005	-0.0005	0	%100
31	46	X	-0.003	-0.003	0	%100

Member Distributed Loads (BLC 10 : 90 Seismic) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
32	60	X	-0.003	-0.003	0	%100
33	74	X	-0.003	-0.003	0	%100
34	98	X	-0.0007	-0.0007	0	%100
35	101	X	-0.0007	-0.0007	0	%100
36	105	X	-0.0007	-0.0007	0	%100
37	118	X	-0.0008	-0.0008	0	%100
38	119	X	-0.0005	-0.0005	0	%100
39	120	X	-0.0005	-0.0005	0	%100
40	121	X	-0.0008	-0.0008	0	%100
41	122	X	-0.0005	-0.0005	0	%100
42	123	X	-0.0005	-0.0005	0	%100
43	91	X	-0.0007	-0.0007	0	%100
44	92	X	-0.0007	-0.0007	0	%100
45	93	X	-0.0007	-0.0007	0	%100
46	109	X	-0.0007	-0.0007	0	%100
47	110	X	-0.0007	-0.0007	0	%100
48	111	X	-0.0007	-0.0007	0	%100
49	112	X	-0.0006	-0.0006	0	%100
50	113	X	-0.0006	-0.0006	0	%100
51	115	X	-0.0006	-0.0006	0	%100
52	114	X	-0.002	-0.002	0	%100
53	102A	X	-0.0007	-0.0007	0	%100
54	103A	X	-0.003	-0.003	0	%100
55	106A	X	-0.0007	-0.0007	0	%100
56	110A	X	-0.0007	-0.0007	0	%100
57	108B	X	-0.003	-0.003	0	%100
58	110B	X	-0.003	-0.003	0	%100

Member Distributed Loads (BLC 39 : BLC 1 Transient Area Loads)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	37	Y	-0.011	-0.004	4.213	5.267
2	118	Y	-0.004	-0.009	0.492	3.442
3	31	Y	-0.003	-0.01	0	1.317
4	31	Y	-0.01	-0.016	1.317	2.633
5	31	Y	-0.016	-0.019	2.633	3.95
6	31	Y	-0.019	-0.012	3.95	5.267
7	31	Y	-0.012	-0.0007926	5.267	6.583
8	37	Y	-0.006	-0.009	7.9	8.953
9	37	Y	-0.009	-0.017	8.953	10.007
10	37	Y	-0.017	-0.015	10.007	11.06
11	37	Y	-0.015	-0.006	11.06	12.113
12	37	Y	-0.006	-0.003	12.113	13.167
13	121	Y	-0.009	-0.009	2.739	4.358
14	76	Y	-0.007	-0.007	0	0.169
15	31	Y	-0.001	-0.001	3.95	6.583
16	43	Y	-0.0001754	-0.000673	4.1	4.647
17	43	Y	-0.000673	-0.003	4.647	5.193
18	43	Y	-0.003	-0.008	5.193	5.74
19	43	Y	-0.008	-0.01	5.74	6.287
20	43	Y	-0.01	-0.006	6.287	6.833
21	44	Y	-0.003	-0.0008616	0	0.292
22	44	Y	-0.0008616	0.0002872	0.292	0.583
23	121	Y	-0.006	-0.011	0	0.983
24	121	Y	-0.011	-0.013	0.983	1.967
25	121	Y	-0.013	-0.009	1.967	2.95

Member Distributed Loads (BLC 39 : BLC 1 Transient Area Loads) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
26	121	Y	-0.009	-0.005	2.95	3.933
27	121	Y	-0.005	-0.003	3.933	4.917
28	122	Y	-0.002	-0.002	0.264	0.58
29	123	Y	-0.000151	-0.0004982	0	0.194
30	123	Y	-0.0004982	-0.0003504	0.194	0.389
31	123	Y	-0.0003504	-2.894e-05	0.389	0.583
32	34	Y	-0.002	-0.0004982	6.583	9.217
33	43	Y	-0.006	-0.01	0	0.547
34	43	Y	-0.01	-0.009	0.547	1.093
35	43	Y	-0.009	-0.003	1.093	1.64
36	43	Y	-0.003	-0.0006984	1.64	2.187
37	43	Y	-0.0006984	-0.0001946	2.187	2.733
38	45	Y	-0.003	-0.0008559	0	0.292
39	45	Y	-0.0008559	0.0002853	0.292	0.583
40	118	Y	-0.002	-0.005	0	0.983
41	118	Y	-0.005	-0.009	0.983	1.967
42	118	Y	-0.009	-0.013	1.967	2.95
43	118	Y	-0.013	-0.011	2.95	3.933
44	118	Y	-0.011	-0.007	3.933	4.917
45	119	Y	-0.002	-0.002	0.263	0.58
46	120	Y	-0.0001473	-0.0004994	0	0.194
47	120	Y	-0.0004994	-0.0003523	0.194	0.389
48	120	Y	-0.0003523	-2.933e-05	0.389	0.583
49	37	Y	6.588e-19	-0.002	3.95	5.003
50	37	Y	-0.002	-0.008	5.003	6.057
51	37	Y	-0.008	-0.008	6.057	7.11
52	37	Y	-0.008	-0.002	7.11	8.163
53	37	Y	-0.002	6.588e-19	8.163	9.217
54	118	Y	-0.003	-0.007	0	0.492
55	118	Y	-0.007	-0.015	0.492	0.983
56	118	Y	-0.015	-0.016	0.983	1.475
57	118	Y	-0.016	-0.006	1.475	1.967
58	118	Y	-0.006	-0.0002036	1.967	2.458
59	120	Y	-0.001	-0.001	0	0.583
60	121	Y	-0.0002034	-0.008	2.458	2.95
61	121	Y	-0.008	-0.017	2.95	3.442
62	121	Y	-0.017	-0.015	3.442	3.933
63	121	Y	-0.015	-0.007	3.933	4.425
64	121	Y	-0.007	-0.003	4.425	4.917
65	123	Y	-0.001	-0.001	0	0.583
66	31	Y	-0.0006039	-0.005	5.267	6.847
67	31	Y	-0.005	-0.012	6.847	8.427
68	31	Y	-0.012	-0.016	8.427	10.007
69	31	Y	-0.016	-0.011	10.007	11.587
70	31	Y	-0.011	-0.000898	11.587	13.167
71	34	Y	-0.0009377	-0.012	0	1.58
72	34	Y	-0.012	-0.018	1.58	3.16
73	34	Y	-0.018	-0.014	3.16	4.74
74	34	Y	-0.014	-0.006	4.74	6.32
75	34	Y	-0.006	-0.0006523	6.32	7.9
76	43	Y	-0.001	-0.011	0	1.367
77	43	Y	-0.011	-0.017	1.367	2.733
78	43	Y	-0.017	-0.018	2.733	4.1
79	43	Y	-0.018	-0.012	4.1	5.467
80	43	Y	-0.012	-0.001	5.467	6.833

Member Distributed Loads (BLC 39 : BLC 1 Transient Area Loads) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
81	44	Y	-0.001	-0.001	0.03	0.22
82	45	Y	-0.0009641	-0.0009641	0.028	0.219
83	34	Y	-0.003	-0.009	6.583	7.9
84	34	Y	-0.009	-0.017	7.9	9.217
85	34	Y	-0.017	-0.017	9.217	10.533
86	34	Y	-0.017	-0.01	10.533	11.85
87	34	Y	-0.01	-0.002	11.85	13.167
88	37	Y	-0.002	-0.009	0	1.053
89	37	Y	-0.009	-0.015	1.053	2.107
90	37	Y	-0.015	-0.015	2.107	3.16
91	37	Y	-0.015	-0.011	3.16	4.213

Member Distributed Loads (BLC 40 : BLC 8 Transient Area Loads)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	120	Y	-0.0003986	-0.0002803	0.194	0.389
2	120	Y	-0.0002803	-2.315e-05	0.389	0.583
3	37	Y	1.318e-18	-0.002	3.95	5.003
4	37	Y	-0.002	-0.006	5.003	6.057
5	37	Y	-0.006	-0.006	6.057	7.11
6	37	Y	-0.006	-0.002	7.11	8.163
7	37	Y	-0.002	1.318e-18	8.163	9.217
8	118	Y	-0.003	-0.006	0	0.492
9	118	Y	-0.006	-0.012	0.492	0.983
10	118	Y	-0.012	-0.013	0.983	1.475
11	118	Y	-0.013	-0.005	1.475	1.967
12	118	Y	-0.005	-0.0001629	1.967	2.458
13	120	Y	-0.0008966	-0.0008966	0	0.583
14	121	Y	-0.0001628	-0.006	2.458	2.95
15	121	Y	-0.006	-0.014	2.95	3.442
16	121	Y	-0.014	-0.012	3.442	3.933
17	121	Y	-0.012	-0.006	3.933	4.425
18	121	Y	-0.006	-0.003	4.425	4.917
19	123	Y	-0.0008963	-0.0008963	0	0.583
20	31	Y	-0.0004807	-0.004	5.267	6.847
21	31	Y	-0.004	-0.01	6.847	8.427
22	31	Y	-0.01	-0.013	8.427	10.007
23	31	Y	-0.013	-0.009	10.007	11.587
24	31	Y	-0.009	-0.0007148	11.587	13.167
25	34	Y	-0.0007464	-0.01	0	1.58
26	34	Y	-0.01	-0.014	1.58	3.16
27	34	Y	-0.014	-0.011	3.16	4.74
28	34	Y	-0.011	-0.004	4.74	6.32
29	34	Y	-0.004	-0.0005193	6.32	7.9
30	43	Y	-0.0008798	-0.009	0	1.367
31	43	Y	-0.009	-0.014	1.367	2.733
32	43	Y	-0.014	-0.014	2.733	4.1
33	43	Y	-0.014	-0.009	4.1	5.467
34	43	Y	-0.009	-0.0008233	5.467	6.833
35	44	Y	-0.0008003	-0.0008003	0.03	0.22
36	45	Y	-0.0007674	-0.0007674	0.028	0.219
37	34	Y	-0.002	-0.007	6.583	7.9
38	34	Y	-0.007	-0.013	7.9	9.217
39	34	Y	-0.013	-0.014	9.217	10.533
40	34	Y	-0.014	-0.008	10.533	11.85
41	34	Y	-0.008	-0.002	11.85	13.167

Member Distributed Loads (BLC 40 : BLC 8 Transient Area Loads) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
42	37	Y	-0.002	-0.008	0	1.053
43	37	Y	-0.008	-0.012	1.053	2.107
44	37	Y	-0.012	-0.012	2.107	3.16
45	37	Y	-0.012	-0.009	3.16	4.213
46	37	Y	-0.009	-0.003	4.213	5.267
47	118	Y	-0.003	-0.008	0.492	3.442
48	31	Y	-0.002	-0.008	0	1.317
49	31	Y	-0.008	-0.013	1.317	2.633
50	31	Y	-0.013	-0.015	2.633	3.95
51	31	Y	-0.015	-0.01	3.95	5.267
52	31	Y	-0.01	-0.0006341	5.267	6.583
53	37	Y	-0.005	-0.007	7.9	8.953
54	37	Y	-0.007	-0.013	8.953	10.007
55	37	Y	-0.013	-0.012	10.007	11.06
56	37	Y	-0.012	-0.005	11.06	12.113
57	37	Y	-0.005	-0.002	12.113	13.167
58	121	Y	-0.007	-0.007	2.739	4.358
59	76	Y	-0.006	-0.006	0	0.169
60	31	Y	-0.0008534	-0.0008534	3.95	6.583
61	43	Y	-0.0001405	-0.0005385	4.1	4.647
62	43	Y	-0.0005385	-0.002	4.647	5.193
63	43	Y	-0.002	-0.006	5.193	5.74
64	43	Y	-0.006	-0.008	5.74	6.287
65	43	Y	-0.008	-0.005	6.287	6.833
66	44	Y	-0.003	-0.0006835	0	0.292
67	44	Y	-0.0006835	0.0002278	0.292	0.583
68	121	Y	-0.005	-0.009	0	0.983
69	121	Y	-0.009	-0.01	0.983	1.967
70	121	Y	-0.01	-0.007	1.967	2.95
71	121	Y	-0.007	-0.004	2.95	3.933
72	121	Y	-0.004	-0.002	3.933	4.917
73	122	Y	-0.001	-0.001	0.264	0.58
74	123	Y	-0.0001207	-0.0003987	0	0.194
75	123	Y	-0.0003987	-0.0002805	0.194	0.389
76	123	Y	-0.0002805	-2.317e-05	0.389	0.583
77	34	Y	-0.001	-0.0003987	6.583	9.217
78	43	Y	-0.005	-0.008	0	0.547
79	43	Y	-0.008	-0.007	0.547	1.093
80	43	Y	-0.007	-0.003	1.093	1.64
81	43	Y	-0.003	-0.0005587	1.64	2.187
82	43	Y	-0.0005587	-0.0001557	2.187	2.733
83	45	Y	-0.003	-0.0006847	0	0.292
84	45	Y	-0.0006847	0.0002282	0.292	0.583
85	118	Y	-0.002	-0.004	0	0.983
86	118	Y	-0.004	-0.007	0.983	1.967
87	118	Y	-0.007	-0.01	1.967	2.95
88	118	Y	-0.01	-0.009	2.95	3.933
89	118	Y	-0.009	-0.006	3.933	4.917
90	119	Y	-0.001	-0.001	0.263	0.58
91	120	Y	-0.0001208	-0.0003986	0	0.194

Member Area Loads (BLC 1 : Dead)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	201	202	81	79	Y	Two Way	-0.01
2	198	197	81	207	Y	Two Way	-0.01

Member Area Loads (BLC 1 : Dead) (Continued)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
3	200	199	213	79	Y	Two Way	-0.01
4	213	212	79	213	Y	Two Way	-0.01
5	81	206	207	81	Y	Two Way	-0.01
6	216	215	207	213	Y	Two Way	-0.01

Member Area Loads (BLC 8 : Ice)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	201	202	81	79	Y	Two Way	-0.008
2	198	197	81	207	Y	Two Way	-0.008
3	200	199	213	79	Y	Two Way	-0.008
4	213	212	79		Y	Two Way	-0.008
5	81	206	207		Y	Two Way	-0.008
6	216	215	207	213	Y	Two Way	-0.008

Node Loads and Enforced Displacements (BLC 11 : Live Load a)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	171	L	Y	-0.5
2	218	L	Y	-0.5
3	180	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 12 : Live Load b)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	175	L	Y	-0.5
2	196	L	Y	-0.5
3	160	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 13 : Live Load c)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	165	L	Y	-0.5
2	194	L	Y	-0.5
3	158	L	Y	-0.5

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
1	Dead	DL	-1		30		6
2	0 Wind - No Ice	WLZ			30	58	
3	90 Wind - No Ice	WLX			30	58	
4	0 Wind - Ice	WLZ			30	58	
5	90 Wind - Ice	WLX			30	58	
6	0 Wind - Service	WLZ			30	58	
7	90 Wind - Service	WLX			30	58	
8	Ice	OL1			30	58	6
9	0 Seismic	ELZ			30	58	
10	90 Seismic	ELX			30	58	
11	Live Load a	LL		3			
12	Live Load b	LL		3			
13	Live Load c	LL		3			
14	Live Load d	LL					
15	Maint LL 1	LL			1		

Basic Load Cases (Continued)

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
16	Maint LL 2	LL			1		
17	Maint LL 3	LL			1		
18	Maint LL 4	LL			1		
19	Maint LL 5	LL			1		
20	Maint LL 6	LL			1		
21	Maint LL 7	LL			1		
22	Maint LL 8	LL			1		
23	Maint LL 9	LL			1		
24	Maint LL 10	LL			1		
25	Maint LL 11	LL			1		
26	Maint LL 12	LL			1		
27	Maint LL 13	LL			1		
28	Maint LL 14	LL			1		
29	Maint LL 15	LL			1		
30	Maint LL 16	LL			1		
31	Maint LL 17	LL			1		
32	Maint LL 18	LL			1		
33	Maint LL 19	LL			1		
34	Maint LL 20	LL			1		
35	Maint LL 21	LL			1		
36	Maint LL 22	LL			1		
37	Maint LL 23	LL			1		
38	Maint LL 24	LL			1		
39	BLC 1 Transient Area Loads	None				91	
40	BLC 8 Transient Area Loads	None				91	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4 Dead	Yes	Y	1	1.4						
2	1.2 D + 1.0 - 0 W	Yes	Y	1	1.2	2	1				
3	1.2 D + 1.0 - 30 W	Yes	Y	1	1.2	2	0.866	3	0.5		
4	1.2 D + 1.0 - 60 W	Yes	Y	1	1.2	3	0.866	2	0.5		
5	1.2 D + 1.0 - 90 W	Yes	Y	1	1.2	3	1				
6	1.2 D + 1.0 - 120 W	Yes	Y	1	1.2	3	0.866	2	-0.5		
7	1.2 D + 1.0 - 150 W	Yes	Y	1	1.2	2	-0.866	3	0.5		
8	1.2 D + 1.0 - 180 W	Yes	Y	1	1.2	2	-1				
9	1.2 D + 1.0 - 210 W	Yes	Y	1	1.2	2	-0.866	3	-0.5		
10	1.2 D + 1.0 - 240 W	Yes	Y	1	1.2	3	-0.866	2	-0.5		
11	1.2 D + 1.0 - 270 W	Yes	Y	1	1.2	3	-1				
12	1.2 D + 1.0 - 300 W	Yes	Y	1	1.2	3	-0.866	2	0.5		
13	1.2 D + 1.0 - 330 W	Yes	Y	1	1.2	2	0.866	3	-0.5		
14	1.2 D + 1.0 - 0 W/Ice	Yes	Y	1	1.2	4	1			8	1
15	1.2 D + 1.0 - 30 W/Ice	Yes	Y	1	1.2	4	0.866	5	0.5	8	1
16	1.2 D + 1.0 - 60 W/Ice	Yes	Y	1	1.2	5	0.866	4	0.5	8	1
17	1.2 D + 1.0 - 90 W/Ice	Yes	Y	1	1.2	5	1			8	1
18	1.2 D + 1.0 - 120 W/Ice	Yes	Y	1	1.2	5	0.866	4	-0.5	8	1
19	1.2 D + 1.0 - 150 W/Ice	Yes	Y	1	1.2	4	-0.866	5	0.5	8	1
20	1.2 D + 1.0 - 180 W/Ice	Yes	Y	1	1.2	4	-1			8	1
21	1.2 D + 1.0 - 210 W/Ice	Yes	Y	1	1.2	4	-0.866	5	-0.5	8	1
22	1.2 D + 1.0 - 240 W/Ice	Yes	Y	1	1.2	5	-0.866	4	-0.5	8	1
23	1.2 D + 1.0 - 270 W/Ice	Yes	Y	1	1.2	5	-1			8	1
24	1.2 D + 1.0 - 300 W/Ice	Yes	Y	1	1.2	5	-0.866	4	0.5	8	1
25	1.2 D + 1.0 - 330 W/Ice	Yes	Y	1	1.2	4	0.866	5	-0.5	8	1
26	1.2 D + 1.0 E - 0	Yes	Y	1	1.2	9	1				
27	1.2 D + 1.0 E - 30	Yes	Y	1	1.2	9	0.866	10	0.5		

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
28	1.2 D + 1.0 E - 60	Yes	Y	1	1.2	10	0.866	9	0.5		
29	1.2 D + 1.0 E - 90	Yes	Y	1	1.2	10	1				
30	1.2 D + 1.0 E - 120	Yes	Y	1	1.2	10	0.866	9	-0.5		
31	1.2 D + 1.0 E - 150	Yes	Y	1	1.2	9	-0.866	10	0.5		
32	1.2 D + 1.0 E - 180	Yes	Y	1	1.2	9	-1				
33	1.2 D + 1.0 E - 210	Yes	Y	1	1.2	9	-0.866	10	-0.5		
34	1.2 D + 1.0 E - 240	Yes	Y	1	1.2	10	-0.866	9	-0.5		
35	1.2 D + 1.0 E - 270	Yes	Y	1	1.2	10	-1				
36	1.2 D + 1.0 E - 300	Yes	Y	1	1.2	10	-0.866	9	0.5		
37	1.2 D + 1.0 E - 330	Yes	Y	1	1.2	9	0.866	10	-0.5		
38	1.2 D + 1.5 LL a + Service - 0 W	Yes	Y	1	1.2	6	1			11	1.5
39	1.2 D + 1.5 LL a + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	11	1.5
40	1.2 D + 1.5 LL a + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	11	1.5
41	1.2 D + 1.5 LL a + Service - 90 W	Yes	Y	1	1.2	7	1			11	1.5
42	1.2 D + 1.5 LL a + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	11	1.5
43	1.2 D + 1.5 LL a + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	11	1.5
44	1.2 D + 1.5 LL a + Service - 180 W	Yes	Y	1	1.2	6	-1			11	1.5
45	1.2 D + 1.5 LL a + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	11	1.5
46	1.2 D + 1.5 LL a + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	11	1.5
47	1.2 D + 1.5 LL a + Service - 270 W	Yes	Y	1	1.2	7	-1			11	1.5
48	1.2 D + 1.5 LL a + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	11	1.5
49	1.2 D + 1.5 LL a + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	11	1.5
50	1.2 D + 1.5 LL b + Service - 0 W	Yes	Y	1	1.2	6	1			12	1.5
51	1.2 D + 1.5 LL b + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	12	1.5
52	1.2 D + 1.5 LL b + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	12	1.5
53	1.2 D + 1.5 LL b + Service - 90 W	Yes	Y	1	1.2	7	1			12	1.5
54	1.2 D + 1.5 LL b + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	12	1.5
55	1.2 D + 1.5 LL b + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	12	1.5
56	1.2 D + 1.5 LL b + Service - 180 W	Yes	Y	1	1.2	6	-1			12	1.5
57	1.2 D + 1.5 LL b + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	12	1.5
58	1.2 D + 1.5 LL b + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	12	1.5
59	1.2 D + 1.5 LL b + Service - 270 W	Yes	Y	1	1.2	7	-1			12	1.5
60	1.2 D + 1.5 LL b + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	12	1.5
61	1.2 D + 1.5 LL b + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	12	1.5
62	1.2 D + 1.5 LL c + Service - 0 W	Yes	Y	1	1.2	6	1			13	1.5
63	1.2 D + 1.5 LL c + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	13	1.5
64	1.2 D + 1.5 LL c + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	13	1.5
65	1.2 D + 1.5 LL c + Service - 90 W	Yes	Y	1	1.2	7	1			13	1.5
66	1.2 D + 1.5 LL c + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	13	1.5
67	1.2 D + 1.5 LL c + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	13	1.5
68	1.2 D + 1.5 LL c + Service - 180 W	Yes	Y	1	1.2	6	-1			13	1.5
69	1.2 D + 1.5 LL c + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	13	1.5
70	1.2 D + 1.5 LL c + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	13	1.5
71	1.2 D + 1.5 LL c + Service - 270 W	Yes	Y	1	1.2	7	-1			13	1.5
72	1.2 D + 1.5 LL c + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	13	1.5
73	1.2 D + 1.5 LL c + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	13	1.5
74	1.2 D + 1.5 LL d + Service - 0 W	Yes	Y	1	1.2	6	1			14	1.5
75	1.2 D + 1.5 LL d + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	14	1.5
76	1.2 D + 1.5 LL d + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	14	1.5
77	1.2 D + 1.5 LL d + Service - 90 W	Yes	Y	1	1.2	7	1			14	1.5
78	1.2 D + 1.5 LL d + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	14	1.5
79	1.2 D + 1.5 LL d + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	14	1.5
80	1.2 D + 1.5 LL d + Service - 180 W	Yes	Y	1	1.2	6	-1			14	1.5
81	1.2 D + 1.5 LL d + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	14	1.5
82	1.2 D + 1.5 LL d + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	14	1.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
83	1.2 D + 1.5 LL d + Service - 270 W	Yes	Y	1	1.2	7	-1			14	1.5
84	1.2 D + 1.5 LL d + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	14	1.5
85	1.2 D + 1.5 LL d + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	14	1.5
86	1.2 D + 1.5 LL Maint (1)	Yes	Y	1	1.2					15	1.5
87	1.2 D + 1.5 LL Maint (2)	Yes	Y	1	1.2					16	1.5
88	1.2 D + 1.5 LL Maint (3)	Yes	Y	1	1.2					17	1.5
89	1.2 D + 1.5 LL Maint (4)	Yes	Y	1	1.2					18	1.5
90	1.2 D + 1.5 LL Maint (5)	Yes	Y	1	1.2					19	1.5
91	1.2 D + 1.5 LL Maint (6)	Yes	Y	1	1.2					20	1.5
92	1.2 D + 1.5 LL Maint (7)	Yes	Y	1	1.2					21	1.5
93	1.2 D + 1.5 LL Maint (8)	Yes	Y	1	1.2					22	1.5
94	1.2 D + 1.5 LL Maint (9)	Yes	Y	1	1.2					23	1.5
95	1.2 D + 1.5 LL Maint (10)	Yes	Y	1	1.2					24	1.5
96	1.2 D + 1.5 LL Maint (11)	Yes	Y	1	1.2					25	1.5
97	1.2 D + 1.5 LL Maint (12)	Yes	Y	1	1.2					26	1.5
98	1.2 D + 1.5 LL Maint (13)	Yes	Y	1	1.2					27	1.5
99	1.2 D + 1.5 LL Maint (14)	Yes	Y	1	1.2					28	1.5
100	1.2 D + 1.5 LL Maint (15)	Yes	Y	1	1.2					29	1.5
101	1.2 D + 1.5 LL Maint (16)	Yes	Y	1	1.2					30	1.5
102	1.2 D + 1.5 LL Maint (17)	Yes	Y	1	1.2					31	1.5
103	1.2 D + 1.5 LL Maint (18)	Yes	Y	1	1.2					32	1.5
104	1.2 D + 1.5 LL Maint (19)	Yes	Y	1	1.2					33	1.5
105	1.2 D + 1.5 LL Maint (20)	Yes	Y	1	1.2					34	1.5
106	1.2 D + 1.5 LL Maint (21)	Yes	Y	1	1.2					35	1.5
107	1.2 D + 1.5 LL Maint (22)	Yes	Y	1	1.2					36	1.5
108	1.2 D + 1.5 LL Maint (23)	Yes	Y	1	1.2					37	1.5
109	1.2 D + 1.5 LL Maint (24)	Yes	Y	1	1.2					38	1.5

Envelope Node Reactions

Node Label	X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC		
1	103	max	0.455	5	2.592	15	-1.917	2	10.444	14	0.79	11	0.175	25
2		min	-0.442	11	1	9	-11.32	20	3.269	8	-1.007	5	-0.018	43
3	83	max	9.631	16	2.578	22	5.837	15	-1.742	4	0.762	8	8.897	22
4		min	2.031	10	1.024	4	0.949	9	-5.316	22	-1.244	2	2.988	4
5	123	max	-1.793	6	2.544	19	5.523	25	-1.616	13	0.982	3	-2.939	13
6		min	-9.69	24	0.979	13	0.84	7	-4.959	19	-1.325	9	-8.873	18
7	211A	max	1.352	5	0.955	20	0.413	2	-0.494	2	3.513	5	0.467	11
8		min	-1.256	11	0.321	2	-0.447	8	-2.612	20	-3.246	11	-0.452	5
9	226C	max	0.745	3	0.968	24	1.506	2	1.418	14	4.565	9	2.291	23
10		min	-0.829	9	0.328	6	-1.578	8	-0.068	8	-4.277	3	0.488	5
11	230A	max	0.818	7	0.957	16	1.51	13	1.431	14	4.569	13	-0.511	11
12		min	-0.853	13	0.323	9	-1.386	7	-0.102	8	-4.223	7	-2.247	17
13	Totals:	max	5.796	5	10.519	16	7.631	2						
14		min	-5.797	11	4.275	10	-7.631	8						

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

Member	Shape	Code Check	Loc [ft]	LC	Shear	Check	Loc [ft]	Dir	Cphi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	4	PL1/4X3	0.016	0	6	0.001	0	y	24	14.808	24.3	0.127	1.519	2.326H1-1b
2	5	PL1/4X3	0.016	0	2	0.001	0	y	22	14.808	24.3	0.127	1.519	2.326H1-1b
3	6	PL1/4X3	0.016	0	4	0.001	0	y	22	14.808	24.3	0.127	1.519	2.326H1-1b
4	7	PL1/4X3	0.016	0	12	0.001	0	y	14	14.808	24.3	0.127	1.519	2.326H1-1b
5	8	PL1/4X3	0.016	0	2	0.001	0	y	20	14.808	24.3	0.127	1.519	2.326H1-1b
6	9	PL1/4X3	0.016	0	10	0.001	0	y	18	14.808	24.3	0.127	1.519	2.326H1-1b

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

Member	Shape	Code	Check	Loc[ft]	LC	Shear	Check	Loc[ft]	Dir	Lcphi	*Pnc [k]	phi*	Pnt [k]	phi*	Mn y-y [k-ft]	phi*	Mn z-z [k-ft]	Cb	Eqn
7	10	L3X3X4	0.41	1.097	14	0.068	12.755	z	3	4.46	46.656	1.688	2.712	1.5	H2-1				
8	11	L3X3X4	0.45	9.326	2	0.059	0.411	z	7	4.46	46.656	1.688	2.711	1.499	H2-1				
9	12	L3X3X4	0.481	12.207	8	0.087	12.755	z	8	4.46	46.656	1.688	2.712	1.5	H2-1				
10	13	PL1/4X3	0.466	0.292	2	0.069	0	y	3	14.808	24.3	0.127	1.519	1.258	H1-1b				
11	14	PL1/4X3	0.764	0.292	7	0.188	0	y	2	14.808	24.3	0.127	1.519	1.357	H1-1b				
12	15	PL1/4X3	0.372	0.292	6	0.072	0	y	7	14.808	24.3	0.127	1.519	1.29	H1-1b				
13	16	PL1/4X3	0.511	0.292	12	0.121	0	y	7	14.808	24.3	0.127	1.519	1.436	H1-1b				
14	17	PL1/4X3	0.333	0.292	4	0.062	0	y	11	14.808	24.3	0.127	1.519	1.234	H1-1b				
15	18	PL1/4X3	0.681	0.292	3	0.132	0	y	9	14.808	24.3	0.127	1.519	1.372	H1-1b				
16	31	C5X2X0.1875	0.608	1.509	23	0.381	1.372	z	23	5.339	53.071	1.716	4.867	1.612	H1-1b				
17	32	PL1/4X3	0.736	0.292	23	0.127	0.292	y	17	14.808	24.3	0.127	1.519	1.409	H1-1b				
18	33	PL1/4X3	0.636	0.292	21	0.088	0.292	y	22	14.808	24.3	0.127	1.519	1.324	H1-1b				
19	34	C5X2X0.1875	0.601	6.995	15	0.374	11.795	z	25	5.339	53.071	1.716	5.093	1.687	H1-1b				
20	35	PL1/4X3	0.738	0.292	15	0.131	0.292	y	22	14.808	24.3	0.127	1.519	1.406	H1-1b				
21	36	PL1/4X3	0.655	0.292	25	0.091	0.292	y	15	14.808	24.3	0.127	1.519	1.323	H1-1b				
22	37	C5X2X0.1875	0.584	1.097	22	0.365	1.372	z	20	5.339	53.071	1.716	5.256	1.741	H1-1b				
23	38	PL1/4X3	0.747	0.292	20	0.135	0.292	y	14	14.808	24.3	0.127	1.519	1.402	H1-1b				
24	39	PL1/4X3	0.647	0.292	16	0.096	0.292	y	20	14.808	24.3	0.127	1.519	1.323	H1-1b				
25	40	HSS2.375X0.188	0.151	0.307	24	0.035	4.609		13	31.964	45.36	2.662	2.662	2.075	H1-1b				
26	41	HSS2.375X0.188	0.149	0.307	15	0.027	4.609		12	31.964	45.36	2.662	2.662	2.05	H1-1b				
27	42	HSS2.375X0.188	0.151	0.307	20	0.03	4.609		9	31.964	45.36	2.662	2.662	2.093	H1-1b				
28	43	C5X2X0.1875	0.284	3.844	24	0.019	5.552	y	16	19.823	53.071	1.716	6.174	1.091	H1-1b				
29	44	PL1/4X3	0.468	0	13	0.051	0	y	16	14.808	24.3	0.127	1.519	2.662	H1-1b				
30	45	PL1/4X3	0.427	0	11	0.038	0	y	15	14.808	24.3	0.127	1.519	2.598	H1-1b				
31	46	HSS4X4X4	0.732	0	25	0.082	0	y	20	120.005	139.518	16.181	16.181	2.196	H1-1b				
32	60	HSS4X4X4	0.716	0	16	0.083	0	y	25	120.005	139.518	16.181	16.181	2.194	H1-1b				
33	74	HSS4X4X4	0.714	0	20	0.08	0	y	16	120.005	139.518	16.181	16.181	2.195	H1-1b				
34	98	PIPE 2.0	0.563	1.688	22	0.334	2.625		8	12.144	32.13	1.872	1.872	2.403	H1-1b				
35	101	PIPE 2.0	0.523	0.667	18	0.218	0.667		3	14.916	32.13	1.872	1.872	2.737	H1-1b				
36	105	PIPE 2.0	0.087	7.333	24	0.034	3.083		13	14.916	32.13	1.872	1.872	2.389	H1-1b				
37	118	L4X3X3/16	0.137	2.407	21	0.012	0.307	y	15	24.288	41.375	1.491	3.465	1.119	H2-1				
38	119	PL1/4X3	0.164	0.267	10	0.017	0.583	y	17	14.808	24.3	0.127	1.519	1.292	H1-1b				
39	120	PL1/4X3	0.171	0	10	0.02	0	y	15	14.808	24.3	0.127	1.519	1.649	H1-1b				
40	121	L4X3X3/16	0.128	2.663	15	0.01	4.609	y	23	24.288	41.375	1.491	3.466	1.12	H2-1				
41	122	PL1/4X3	0.17	0.267	2	0.013	0.583	y	19	14.808	24.3	0.127	1.519	1.363	H1-1b				
42	123	PL1/4X3	0.192	0	2	0.016	0	y	23	14.808	24.3	0.127	1.519	1.943	H1-1b				
43	91	PIPE 2.0	0.105	5.375	3	0.05	5.375		3	20.867	32.13	1.872	1.872	2.434	H1-1b				
44	92	PIPE 2.0	0.586	1.688	14	0.244	2.625		12	12.144	32.13	1.872	1.872	1.842	H1-1b				
45	93	PIPE 2.0	0.533	0.667	22	0.243	0.667		8	14.916	32.13	1.872	1.872	3	H1-1b				
46	109	PIPE 2.0	0.118	5.375	7	0.091	5.375		8	20.867	32.13	1.872	1.872	2.354	H1-1b				
47	110	PIPE 2.0	0.568	1.688	19	0.316	1.688		9	12.144	32.13	1.872	1.872	2.129	H1-1b				
48	111	PIPE 2.0	0.535	0.667	14	0.204	0.667		12	14.916	32.13	1.872	1.872	1.572	H1-1b				
49	112	L2x2x4	0.055	2.042	12	0.007	4.083	y	4	13.152	30.586	0.691	1.464	1.136	H2-1				
50	113	L2x2x4	0.058	2.042	4	0.012	4.083	y	8	13.152	30.586	0.691	1.464	1.136	H2-1				
51	115	L2x2x4	0.063	2.042	8	0.009	4.083	y	7	13.152	30.586	0.691	1.464	1.136	H2-1				
52	114	PIPE 3.5	0.012	3.958	7	0.005	2.5		4	71.12	78.75	7.954	7.954	1.288	H1-1b				
53	102A	PIPE 2.0	0.661	6.25	21	0.165	6.25		2	6.295	32.13	1.872	1.872	1.825	H1-1b				
54	103A	HSS4X4X4	0.365	3.583	5	0.09	3.583	z	5	101.903	106.155	12.311	12.311	2.114	H1-1b				
55	106A	PIPE 2.0	0.668	6.25	25	0.107	6.25		6	6.295	32.13	1.872	1.872	1.826	H1-1b				
56	110A	PIPE 2.0	0.651	6.25	16	0.118	6.25		9	6.295	32.13	1.872	1.872	1.821	H1-1b				
57	108B	HSS4X4X4	0.447	3.583	9	0.115	3.583	z	9	101.903	106.155	12.311	12.311	2.186	H1-1b				
58	110B	HSS4X4X4	0.46	3.583	13	0.116	3.583	z	13	101.903	106.155	12.311	12.311	1.993	H1-1b				

APPENDIX D
ADDITIONAL CALCULATIONS

PROJECT	143556.005.01 - HRT 100 943239, CT KSC		
SUBJECT	Platform Mount Analysis		
DATE	10/28/21	PAGE	1 OF 1



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

B+T GRP

[REF: AISC 360-05]

Reactions at Bolted Connection

Tension	:	-1.916	k
Vertical Shear	:	2.592	k
Horizontal Shear	:	0.456	k
Torsion	:	0.178	k.ft
Moment from Horizontal Forces	:	0.789	k.ft
Moment from Vertical Forces	:	10.446	k.ft

Bolt Parameters

Bolt Grade	:	A325	
Bolt Diameter	:	0.625	in
Nominal Bolt Area	:	0.307	in ²
Bolt spacing, Horizontal	:	6	in
Bolt spacing, Vertical	:	6	in
Bolt edge distance, plate height	:	1	in
Bolt edge distance, plate width	:	1	in
Total Number of Bolts	:	4	bolts

Summary of Forces

Shear Resultant Force	:	2.63	k
Force from Horz. Moment	:	1.43	k
Force from Vert. Moment	:	18.92	k
Shear Load / Bolt	:	0.66	k
Tension Load / Bolt	:	-0.48	k
Resultant from Moments / Bolt	:	9.49	k

Bolt Checks

Nominal Tensile Stress, F_{nt}	:	90.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	20.72	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	43.47%		OKAY
Nominal Shear Stress, F_{nv}	:	48.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	11.05	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	1.62%		OKAY
Unity Check, Combined	:	45.09%		OKAY
Available Bearing Strength, ΦR_n	:	18.35	k/bolt	
Unity Check, Bolt Bearing	:	3.59%		OKAY

PROJECT	143556.005.01 - HRT 100 943239, CT KSC		
SUBJECT	Platform Mount Analysis		
DATE	10/28/21	PAGE	1 OF 1



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

[REF: AISC 360-05]

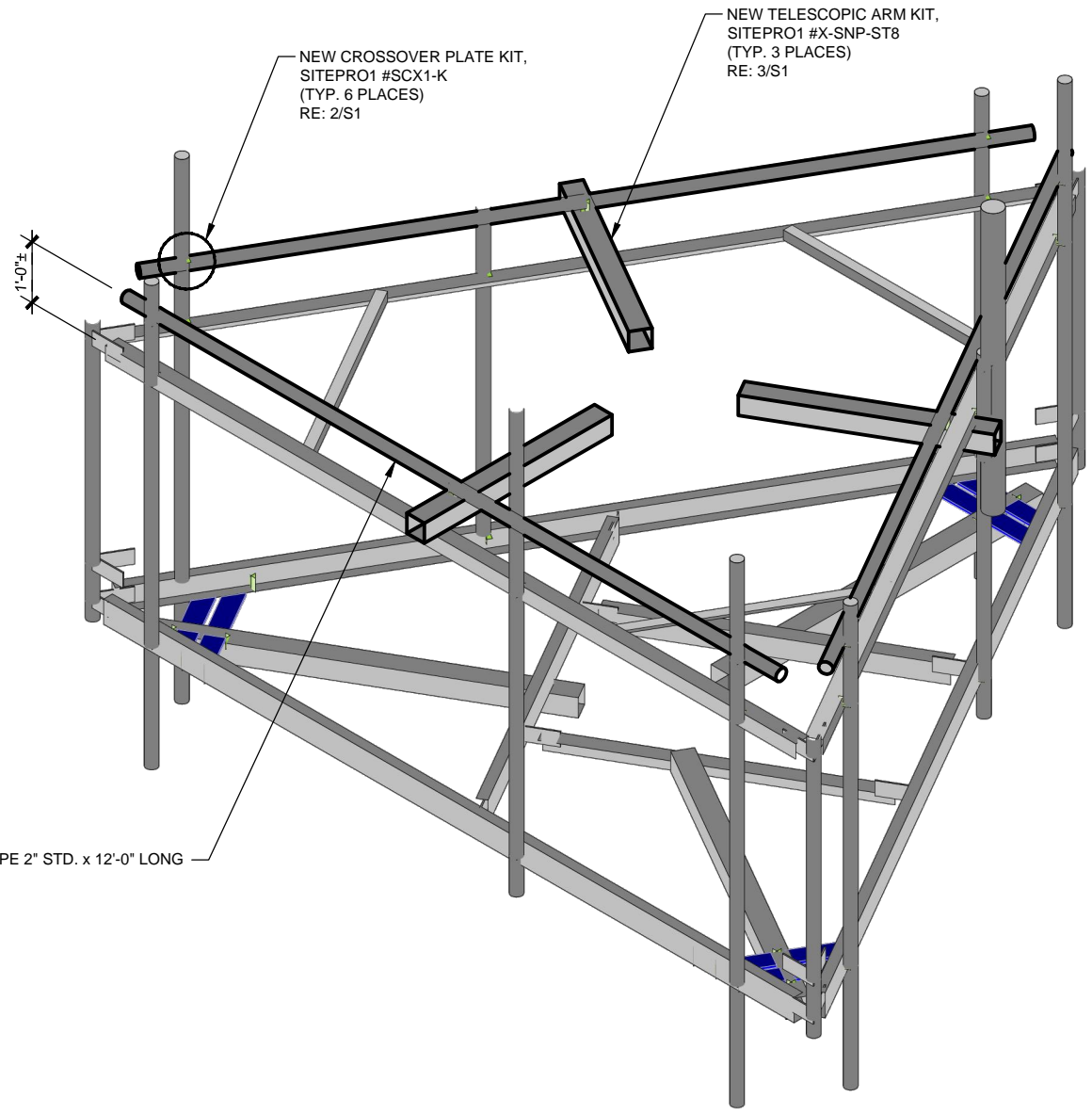
Connecting Member Parameters

Plate Yield Strength, F_y	:	36.00	ksi	[AISC Table 2-5]
Plate Tensile Strength, F_u	:	58.00	ksi	[AISC Table 2-5]
Plate Height	:	9.00	in	
Plate Width	:	9.00	in	
Plate Thickness	:	0.50	in	
Edge Distance	:	0.56	in	
Gross Tension Area, A_{gt}	:	4.50	in ²	
Gross Shear Area, A_{gv}	:	0.5	in ²	
Net Area for tension, A_{nt}	:	4.16	in ²	
Net Area for shear, A_{nt}	:	3.00	in ²	

Plate Check

Available Tensile Yield	:	145.80	k	[Eq. J4-1]
Available Tensile Rupture	:	180.80	k	[Eq. J4-2]
Unity Check, Plate Tension	:	6.18%		OKAY
Available Shear Yield	:	10.80	k	[Eq. J4-3]
Available Shear Rupture	:	104.40	k	[Eq. J4-4]
Unity Check, Plate Shear	:	24.37%		OKAY
Available Block Shear, ΦR_n	:	73.35	k	[Eq. J4-5]
Unity Check, Block Shear	:	3.59%		OKAY

APPENDIX E
MOUNT MODIFICATION DESIGN DRAWINGS (MDD)



NEW HORIZONTAL PIPE 2" STD. x 12'-0" LONG (TYP. 3 PLACES)

MODIFICATIONS BASED ON THE FAILING STRUCTURAL ANALYSIS FROM B+T GROUP DATED 09/20/21 AND ACCOMPANIED BY ANALYSIS FROM B+T GROUP DATED 10/27/21

GENERAL NOTES

- 1.1 CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO THE MOBILIZING ON THE SITE FOR INSTALLATION OF THE MOUNT MODIFICATION AND SHALL NOTIFY THE ENGINEER OF RECORD IF THE FIELD CONDITIONS VARY FROM WHAT IS SHOWN ON THE DRAWINGS. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD PRIOR TO MOBILIZING AT THE SITE IF THE MOUNT REINFORCEMENT SHOWN WILL NEED TO BE REVISED TO SATISFY FIELD CONDITIONS
- 1.2 CONTRACTOR SHALL RELOCATE NON-ANTENNA EQUIPMENT ALONG THE EXISTING PIPE MOUNT THAT IT IS MOUNTED TO, TO ALLOW FOR INSTALLATION OF MOUNT REINFORCEMENT. ENGINEER OF RECORD WILL BE NOTIFIED IF NON-ANTENNA EQUIPMENT NEEDS TO BE RELOCATED TO ANY OTHER EXISTING MEMBERS TO ALLOW FOR INSTALLATION OF MOUNT MODIFICATION.
- 1.3 MODIFICATION SHALL BE COMPLETED PRIOR TO ADDING THE PROPOSED APPURTENANCES.
- 1.4 ALL WORK SHALL COMPLY WITH THE TIA-222-H STANDARD, ANSI/TIA-322 AND ANSI/ASSE A10.48, AS WELL AS ANY OTHER GOVERNING BUILDING CODES.
- 1.5 FIELD WORK WILL BE DONE AROUND EXISTING COAXIAL CABLE AND EQUIPMENT. ALL WORK SHALL BE DONE IN A MANNER SUCH THAT NO DAMAGE OCCURS TO THE EXISTING EQUIPMENT OR THE STRUCTURE. A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND (OR APPROVED EQUIVALENT) SHALL BE APPLIED TO ANY FIELD CUTS OR FIELD DRILLED HOLES.
- 1.7 THE USE OF A GAS TORCH OR WELDER WILL NOT BE PERMITTED ON THE TOWER WITHOUT THE CONSENT OF THE OWNER.
- 1.8 ALL FIELD CONNECTIONS SHALL BE MADE WITH A325N BOLTS, U.N.O.
- 1.9 IN LIEU OF TEMPORARY BRACING, CONTRACTOR MAY HAVE A STABILITY ANALYSIS PERFORMED BY AN ENGINEER LICENSED IN THE STATE THE TOWER IS LOCATED. THE ANALYSIS SHALL USE A MINIMUM WIND SPEED OF 45 mph (3-SEC) PER ANSI/TIA-322 and ANSI/ASSE A10.48
- 1.10 ALL CUTTING AND WELDING ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH CCUSA POLICY "CUTTING AND WELDING PLAN" (DOC #ENG-PLN-10015) ON AN ONGOING BASIS THROUGHOUT THE ENTIRE LIFE OF THE PROJECT.
- 1.11 DIMENSIONS WITH "±" MUST BE WITHIN 3" OF THE INDICATED DIMENSION.

FABRICATION

- 2.1 ALL WORK SHALL BE DONE IN ACCORDANCE WITH A.I.S.C. "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
- 2.2 STRUCTURAL STEEL SHALL MEET THE FOLLOWING SPECIFICATIONS:

	YIELD	ASTM SPECS
STEEL PIPE, U.N.O.	35ksi	A53 GR.B
- 2.3 ALL NEW MATERIAL INCLUDING STRUCTURAL STEEL AND FASTENERS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 AND A153.
- 2.4 WELDING SHALL MEET ANSI/AWS D1.1 STRUCTURAL WELDING CODE (LATEST REVISION). ELECTRODES SHALL BE E80 SERIES.
- 2.5 CONTRACTOR SHALL PROVIDE SHOP FABRICATION DRAWINGS TO B+T GROUP 5 DAYS PRIOR TO FABRICATION.

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

HRT 100 943239

1455 FORBES STREET
EAST HARTFORD, CT 06118
HARTFORD

EXISTING PLATFORM
AT 97'-00"

PROJECT NO:	143556.006.01
CHECKED BY:	AD

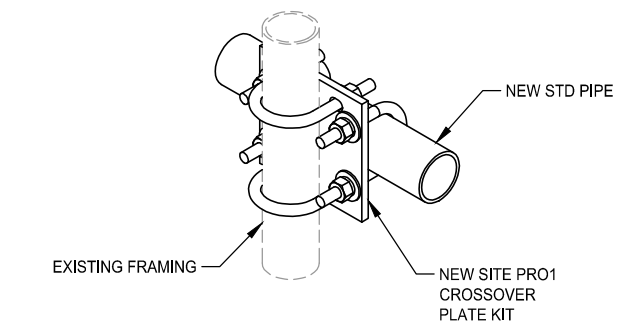
ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION
0	10/27/21	PMS	CONSTRUCTION

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

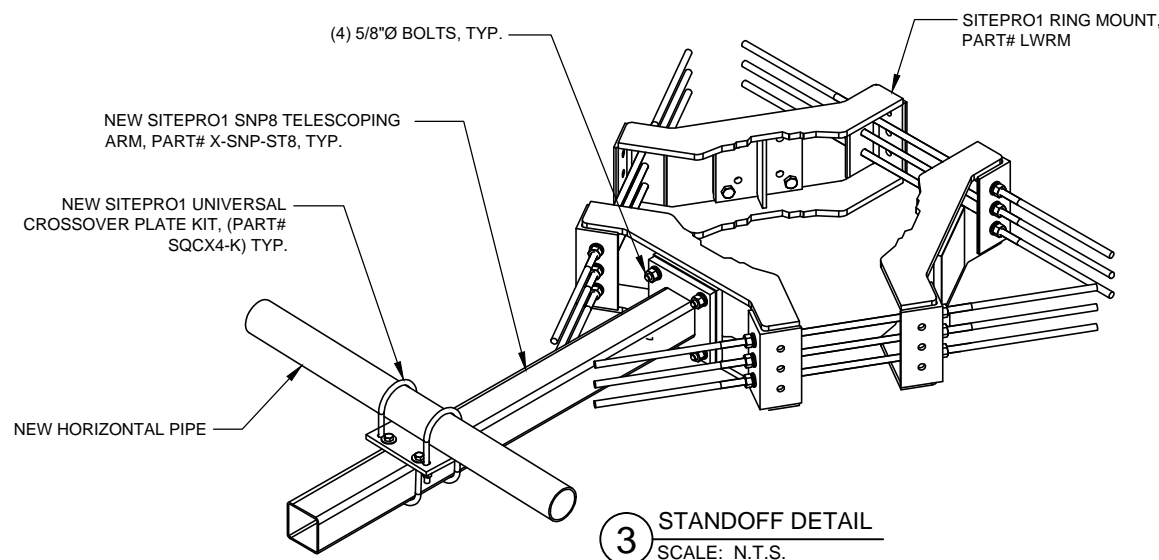
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER:	REVISION:
S1	0

1 MODIFIED PLATFORM
SCALE: N.T.S.



2 SITE PRO1 SCX1-K CROSSOVER PLATE KIT
SCALE: N.T.S.



3 STANDOFF DETAIL
SCALE: N.T.S.

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

T-Mobile Existing Facility

Site ID: CTHA401A

806376

1455 Forbes Street
East Hartford, Connecticut 06118

December 3, 2021

EBI Project Number: 6221007283

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	75.16%

December 3, 2021

T-Mobile

Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, Connecticut 06002

Emissions Analysis for Site: CTHA401A - 806376

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **1455 Forbes Street in East Hartford, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 1455 Forbes Street in East Hartford, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower. For power density calculations, the broadcast footprint of the AIR6449 antenna has been considered. Due to the beamforming nature of this antenna, the actual beam locations vary depending on demand and are narrow in nature. Using the broadcast footprint accounts for the potential location of beams at any given time.

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

- 1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.
- 3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 5) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

- 6) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 7) 1 LTE Traffic channel (LTE IC and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 60 Watts.
- 8) 1 LTE Broadcast channel (LTE IC and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 20 Watts.
- 9) 1 NR Traffic channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.
- 10) 1 NR Broadcast channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.
- 11) 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.
- 12) 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.
- 13) The antennas used in this modeling are the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector A, the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector B, the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 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.

- 14) The antenna mounting height centerline of the proposed antennas is 98 feet above ground level (AGL).
- 15) 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.
- 16) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APXVAALL24_43- U-NA20	Make / Model:	RFS APXVAALL24_43- U-NA20	Make / Model:	RFS APXVAALL24_43- U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd / 16.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd / 16.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd / 16.45 dBd
Height (AGL):	98 feet	Height (AGL):	98 feet	Height (AGL):	98 feet
Channel Count:	13	Channel Count:	13	Channel Count:	13
Total TX Power (W):	560 Watts	Total TX Power (W):	560 Watts	Total TX Power (W):	560 Watts
ERP (W):	17,868.72	ERP (W):	17,868.72	ERP (W):	17,868.72
Antenna A1 MPE %:	10.02%	Antenna B1 MPE %:	10.02%	Antenna C1 MPE %:	10.02%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz
Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd	Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd	Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd
Height (AGL):	98 feet	Height (AGL):	98 feet	Height (AGL):	98 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	36,356.09	ERP (W):	36,356.09	ERP (W):	36,356.09
Antenna A2 MPE %:	15.44%	Antenna B2 MPE %:	15.44%	Antenna C2 MPE %:	15.44%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	25.47%
Clearwire	0.22%
AT&T	9.72%
Verizon	9.8%
T-Mobile (Existing)	29.95%
Site Total MPE % :	75.16%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	25.47%
T-Mobile Sector B Total:	25.47%
T-Mobile Sector C Total:	25.47%
Site Total MPE % :	75.16%

T-Mobile Maximum MPE Power Values (Sector A)							
T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 600 MHz LTE	2	591.73	98.0	5.03	600 MHz LTE	400	1.26%
T-Mobile 600 MHz NR	1	1577.94	98.0	6.70	600 MHz NR	400	1.68%
T-Mobile 700 MHz LTE	2	695.22	98.0	5.91	700 MHz LTE	467	1.26%
T-Mobile 1900 MHz GSM	4	1052.26	98.0	17.88	1900 MHz GSM	1000	1.79%
T-Mobile 1900 MHz LTE	2	2104.51	98.0	17.88	1900 MHz LTE	1000	1.79%
T-Mobile 2100 MHz LTE	2	2649.42	98.0	22.51	2100 MHz LTE	1000	2.25%
T-Mobile 2500 MHz LTE IC & 2C Traffic	1	11044.63	98.0	46.91	2500 MHz LTE IC & 2C Traffic	1000	4.69%
T-Mobile 2500 MHz LTE IC & 2C Broadcast	1	1074.06	98.0	4.56	2500 MHz LTE IC & 2C Broadcast	1000	0.46%
T-Mobile 2500 MHz NR Traffic	1	22089.26	98.0	93.83	2500 MHz NR Traffic	1000	9.38%
T-Mobile 2500 MHz NR Broadcast	1	2148.13	98.0	9.12	2500 MHz NR Broadcast	1000	0.91%
						Total:	25.47%

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

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	25.47%
Sector B:	25.47%
Sector C:	25.47%
T-Mobile Maximum MPE % (Sector A):	25.47%
Site Total:	75.16%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **75.16%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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



T-MOBILE SITE NUMBER: CTHA401A

T-MOBILE SITE NAME: CTHA401A

SITE TYPE: MONOPOLE

TOWER HEIGHT: 131'-0"

BUSINESS UNIT #: 806376

**SITE ADDRESS: 1455 FORBES STREET
EAST HARTFORD, CT 06118**

COUNTY: HARTFORD

JURISDICTION: HARTFORD COUNTY

T-MOBILE SPRINT RETAIN SITE CONFIGURATION: 67E5998E_1XAIR+10P



35 GRIFFIN ROAD
BLOOMFIELD, CT 06002



1500 CORPORATE DRIVE
CANONSBURG, PA 15317



FROM ZERO TO INFINIGY

the solutions are endless

1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com

**T-MOBILE SITE NUMBER:
CTHA401A**

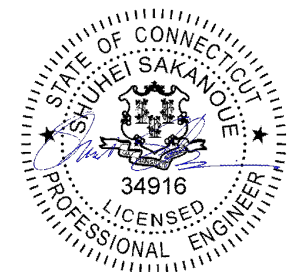
**BU #: 806376
HRT 100 943239**

**1455 FORBES STREET
EAST HARTFORD, CT 06118**

EXISTING 131'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	06/01/2021	RCD	FINAL	SS
1	06/30/2021	PEG	FINAL	SS
2	11/05/2021	TJ	MA REFERENCE	SS
3	11/29/2021	TJ	MA NOTE UPDATE	SS



11/29/2021

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 3

SITE INFORMATION

CROWN CASTLE USA INC. HRT 100 943239
SITE NAME:
SITE ADDRESS: 1455 FORBES STREET
EAST HARTFORD, CT 06118
COUNTY: HARTFORD
MAP/PARCEL #: 1780-1455
AREA OF CONSTRUCTION: EXISTING
LATITUDE: 41.73145277° (41° 43' 53.30")
LONGITUDE: -72.60777499° (-72° 36' 28.00")
LAT/LONG TYPE: NAD83
GROUND ELEVATION: 50 FT
CURRENT ZONING: R-2
JURISDICTION: HARTFORD COUNTY
OCCUPANCY CLASSIFICATION: U
TYPE OF CONSTRUCTION: IIB
A.D.A. COMPLIANCE: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER: HANDEL-JACK REBECCA
1455 FORBES ST
EAST HARTFORD, CT 06118
TOWER OWNER: CROWN CASTLE
2000 CORPORATE DRIVE
CANONSBURG, PA 15317
CARRIER/APPLICANT: T-MOBILE
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002
ELECTRIC PROVIDER: TBD
TELCO PROVIDER: TBD

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1	SITE PLAN & ENLARGED SITE PLAN
C-2	FINAL ELEVATION & ANTENNA PLANS
C-3	ANTENNA & CABLE SCHEDULE
C-4	PLUMBING DIAGRAM
C-5	EQUIPMENT SPECS
C-6	EQUIPMENT SPECS
E-1	AC PANEL SCHEDULES & ONE LINE DIAGRAM
G-1	ANTENNA GROUNDING DIAGRAM
G-2	GROUNDING DETAILS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR ----. 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.

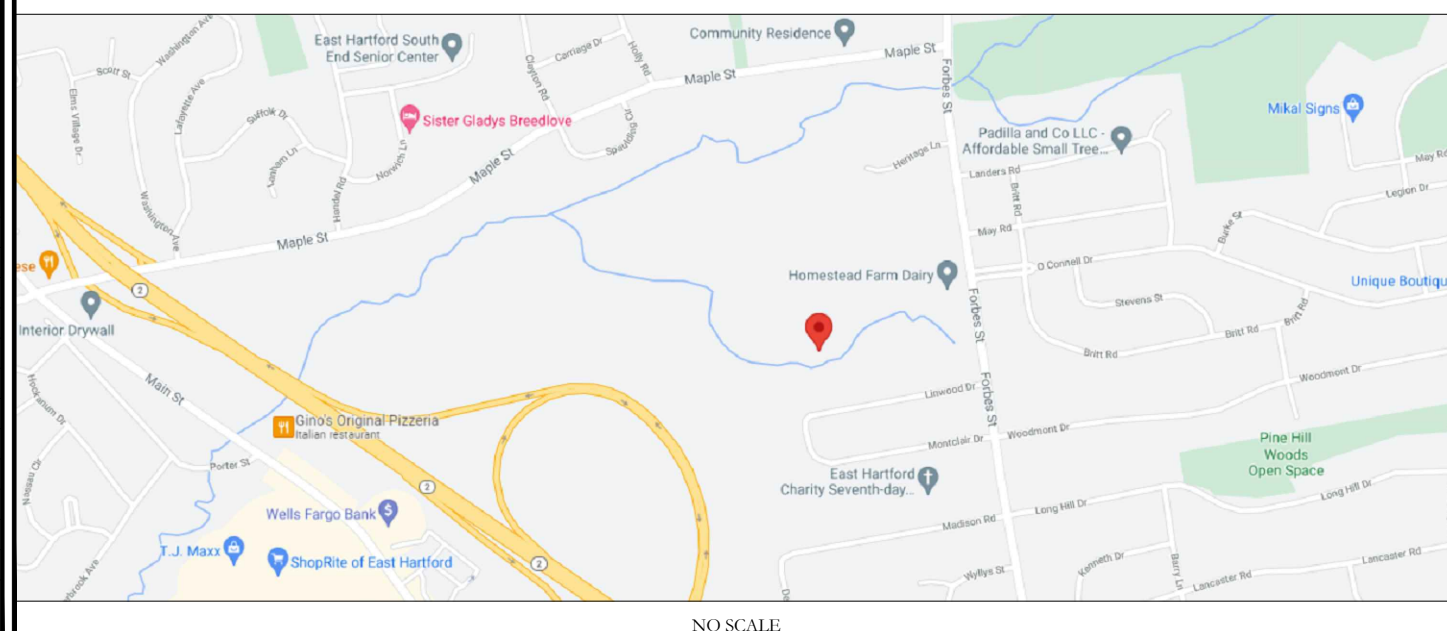
PROJECT DESCRIPTION

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

- TOWER SCOPE OF WORK:**
- REMOVE (6) ANTENNAS
 - REMOVE (9) RRHs
 - REMOVE (1) RRH MOUNT
 - REMOVE ALL CLEARWIRE ANTENNAS AND RRH's
 - REMOVE (4) HYBRID CABLES
 - INSTALL (6) ANTENNAS
 - INSTALL (6) RRHs
 - INSTALL (3) 6X24 HYBRID CABLES OUTSIDE THE MONOPOLE
 - INSTALL (1) GPS
 - INSTALL (1) GPS LINE
 - MODIFY EXISTING PLATFORM MOUNT

- GROUND SCOPE OF WORK:**
- REMOVE (1) MMBs EQUIPMENT CABINET
 - REMOVE (1) BBU EQUIPMENT CABINET
 - REMOVE ALL CLEARWIRE CABINETS & EQUIPMENT
 - INSTALL (1) 6160 & (1) B160 BATTERY CABINETS
 - INSTALL (3) BB 6648
 - INSTALL (1) DUG20
 - INSTALL (1) PSU 4813
 - INSTALL (1) CSR IXRe V2 (GEN2)
 - UPGRADE SERVICE TO 200AMP.

LOCATION MAP



NO SCALE

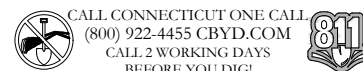
APPLICABLE CODES/REFERENCE DOCUMENTS

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 CT STATE BUILDING CODE
MECHANICAL	2015 IMC
ELECTRICAL	2017 NEC

REFERENCE DOCUMENTS:

- STRUCTURAL ANALYSIS: BLACK & VEATCH
DATED: 11/03/2021
- MOUNT ANALYSIS: B+T GROUP
DATED: 10/28/2021
- RFDS REVISION: 1
DATED: 07/09/2021
- ORDER ID: 557900
- REVISION: 1



CALL CONNECTICUT ONE CALL
(800) 922-4455 CBYD.COM
CALL 2 WORKING DAYS
BEFORE YOU DIG!

APPROVALS

APPROVAL	SIGNATURE	DATE
PROPERTY OWNER OR REP.	_____	_____
LAND USE PLANNER	_____	_____
T-MOBILE	_____	_____
OPERATIONS	_____	_____
RF	_____	_____
NETWORK	_____	_____
BACKHAUL	_____	_____
CONSTRUCTION MANAGER	_____	_____

THE PARTIES ABOVE HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL CONSTRUCTION DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND ANY CHANGES AND MODIFICATIONS THEY MAY IMPOSE.

PROJECT TEAM

A&E FIRM: INFINIGY
1033 WATERVLIET SHAKER RD.
ALBANY, NY 12205
CROWN CASTLE USA INC. DISTRICT CONTACTS: 4511 N HIMES AVE, SUITE 210
TAMPA, FL 33614
TRICIA PELON - PROJECT MANAGER
(518) 373-3507
JASON D'AMICO - CONSTRUCTION MANAGER
(860) 209-0104

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

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 GROUNDED 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 ANTIOXIDANT 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. HOWEVER 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: CARRIER: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION 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 IN 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 UNLESS 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 (Fy) 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.
4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
4.2. 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 AIC 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 TIE 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 SOW 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 (WIREMOLD 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 RIDGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT 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 "T–MOBILE".
- 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
120/208V, 3Ø	GROUND	GREEN
	A PHASE	BLACK
	B PHASE	RED
277/480V, 3Ø	C PHASE	BLUE
	NEUTRAL	WHITE
	GROUND	GREEN
	A PHASE	BROWN
	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
	GROUND	GREEN
	POS (+)	RED**
DC VOLTAGE	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 ELECTRICAL CODE
- (P) PROPOSED
- PL POWER PLANT
- QTY QUANTITY
- RECT RECTIFIER
- RBS RADIO BASE STATION
- RET REMOTE ELECTRIC TILT
- RFDS RADIO FREQUENCY DATA SHEET
- RRH REMOTE RADIO HEAD
- RIU REMOTE RADIO UNIT
- SMART 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

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002



CROWN CASTLE
1500 CORPORATE DRIVE
CANONSBURG, PA 15317

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com

T-MOBILE SITE NUMBER:
CTHA401A

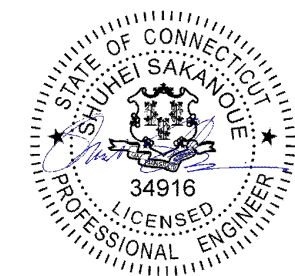
BU #: 806376
HRT 100 943239

1455 FORBES STREET
EAST HARTFORD, CT 06118

EXISTING 131'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	06/01/2021	RCD	FINAL	SS
1	06/30/2021	PEG	FINAL	SS
2	11/05/2021	TJ	MA REFERENCE	SS
3	11/29/2021	TJ	MA NOTE UPDATE	SS

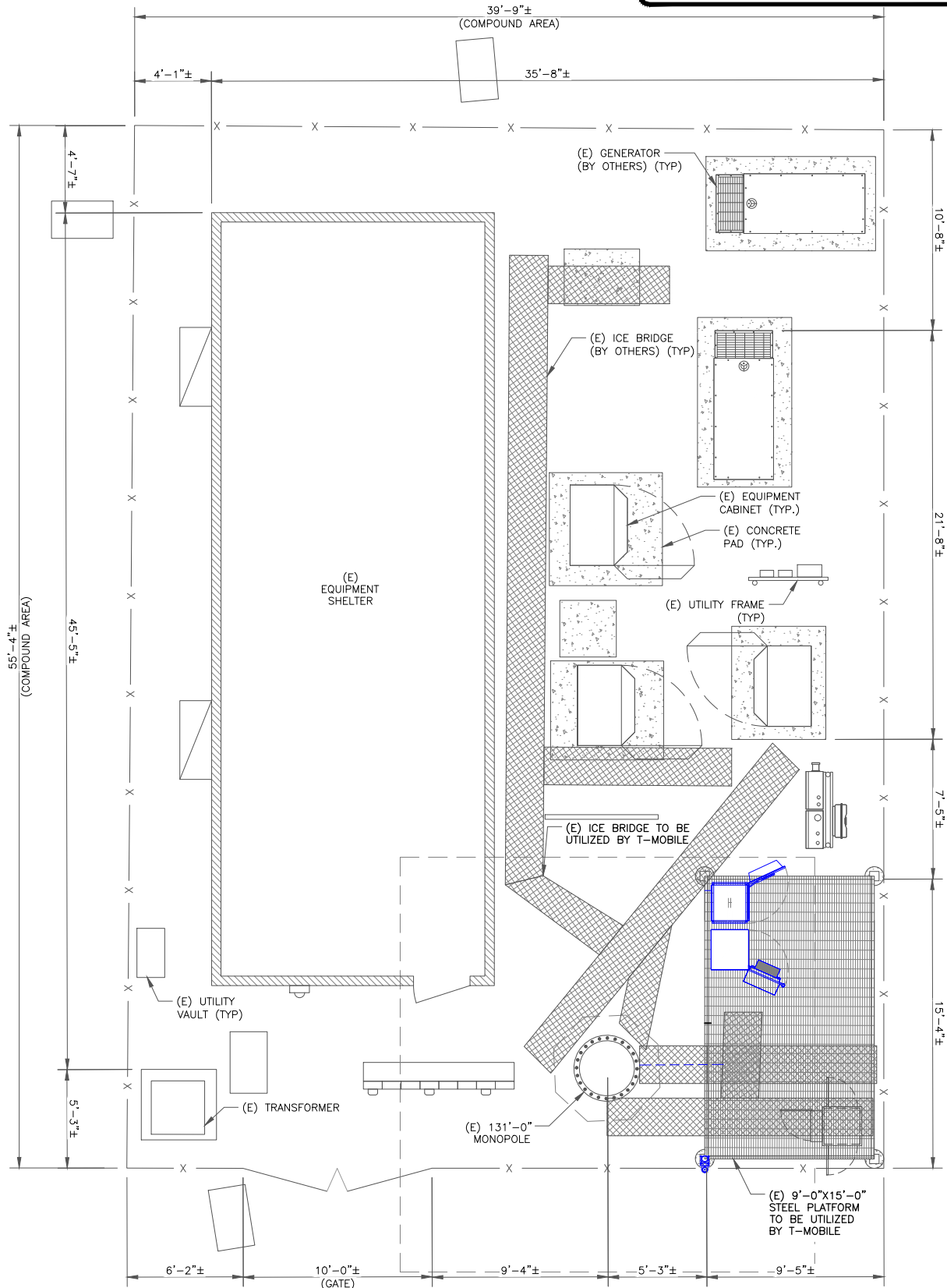


11/29/2021

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: 3

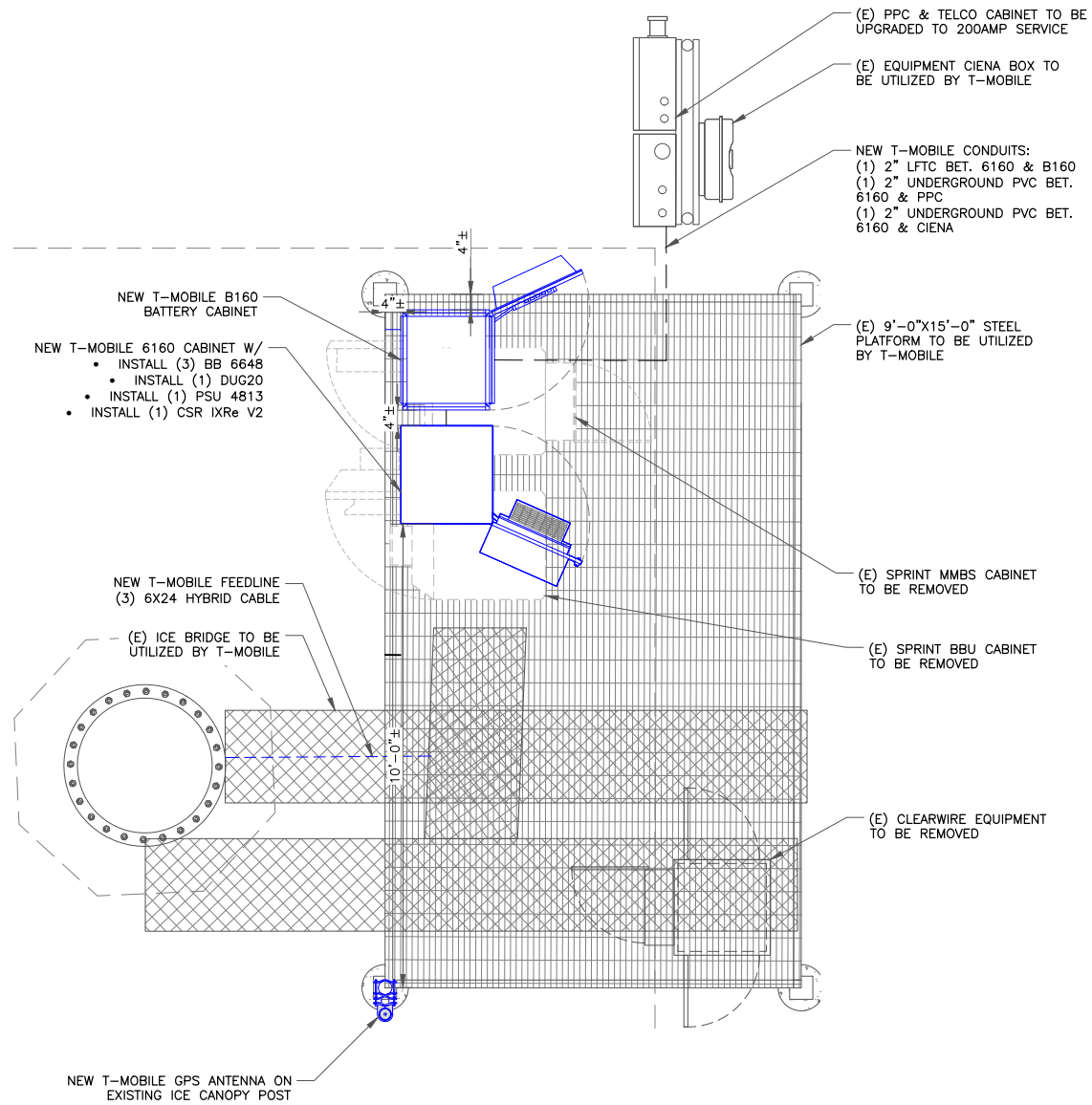
NOTE:
 1. PLANS BASED ON SITE PLAN PROVIDED BY TOWER OWNER AND SITE VISIT PERFORMED BY INFINIGY. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATION/ORIENTATION OF EXISTING T-MOBILE EQUIPMENT.



1 SITE PLAN
 SCALE: 1/4"=1'-0" (FULL SIZE)
 1/8"=1'-0" (11x17)



NOTES:
 THE POWER DESIGN FOR ANY AC ELECTRICAL POWER CHANGES IS TO BE PERFORMED BY OTHERS AND IS SHOWN HERE FOR REFERENCE PURPOSES ONLY. T-MOBILE IS SOLELY RESPONSIBLE FOR THE ELECTRICAL POWER DESIGN.



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



T-Mobile
 35 GRIFFIN ROAD
 BLOOMFIELD, CT 06002

CROWN CASTLE
 1500 CORPORATE DRIVE
 CANONSBURG, PA 15317

INFINIGY
 FROM ZERO TO INFINIGY
 the solutions are endless
 1033 Watervliet Shaker Rd | Albany, NY 12205
 Phone: 518-690-0790 | Fax: 518-690-0793
 www.infinigy.com

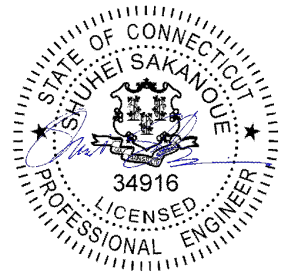
T-MOBILE SITE NUMBER:
CTHA401A

BU #: **806376**
HRT 100 943239

1455 FORBES STREET
 EAST HARTFORD, CT 06118
 EXISTING 131'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	06/01/2021	RCD	FINAL	SS
1	06/30/2021	PEG	FINAL	SS
2	11/05/2021	TJ	MA REFERENCE	SS
3	11/29/2021	TJ	MA NOTE UPDATE	SS

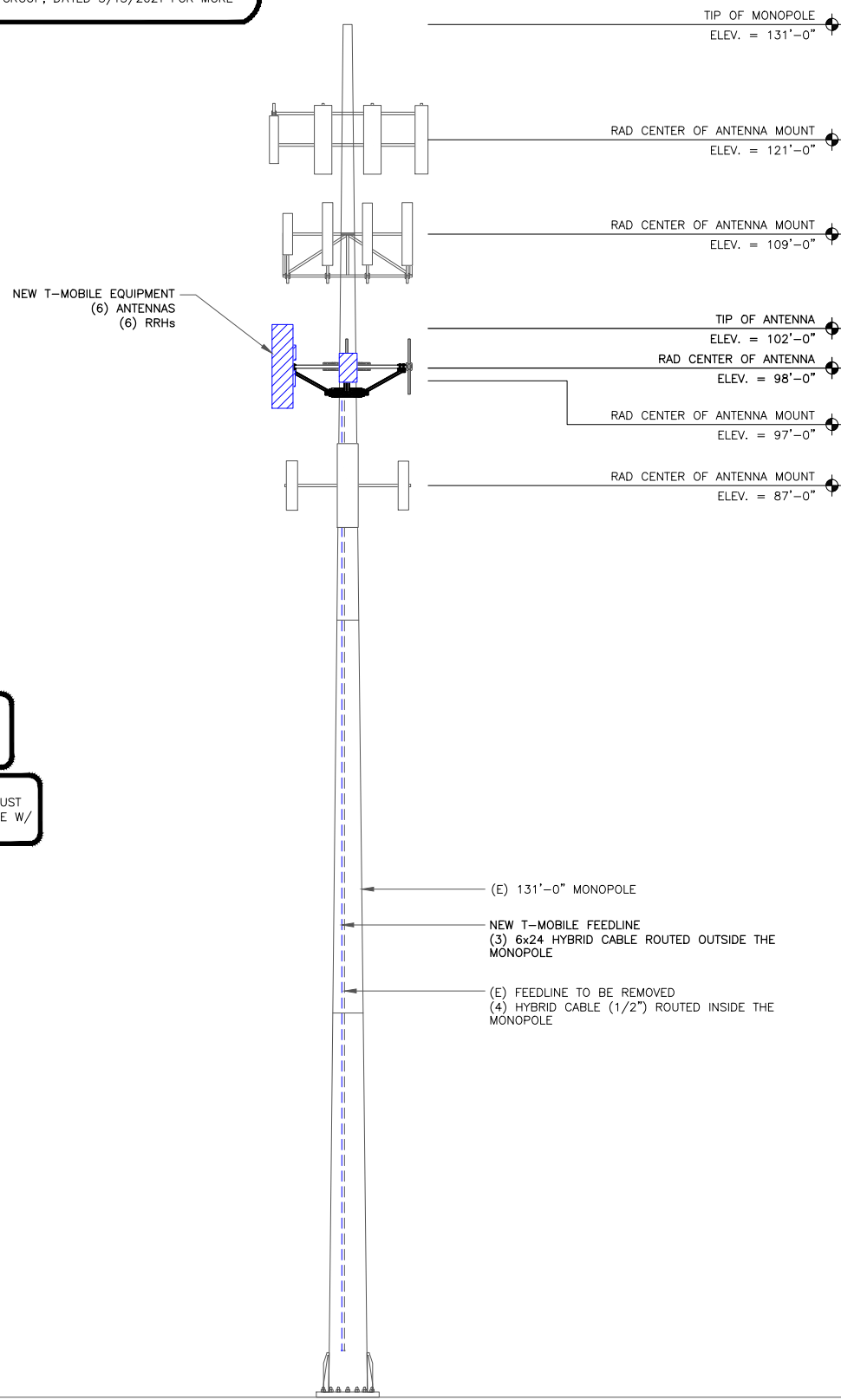


11/29/2021

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: **C-1** REVISION: **3**

NOTES:
 1. ELEVATION BASED ON DRAWING PROVIDED BY TOWER OWNER. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATION/ORIENTATION OF EXISTING EQUIPMENT.
 2. INFINIGY HAS NOT EVALUATED THE TOWER STRUCTURE AND ASSUMES NO RESPONSIBILITY FOR THEIR STRUCTURAL INTEGRITY REGARDING PROPOSED LOADINGS. FINAL INSTALLATION SHALL COMPLY WITH RESULTS OF PASSING STRUCTURAL ANALYSES PERFORMED BY OTHERS. FOR ANTENNA MOUNT ANALYSIS, SEE MOUNT REPLACEMENT ANALYSIS, BY B+T GROUP, DATED 5/13/2021 FOR MORE INFORMATION.

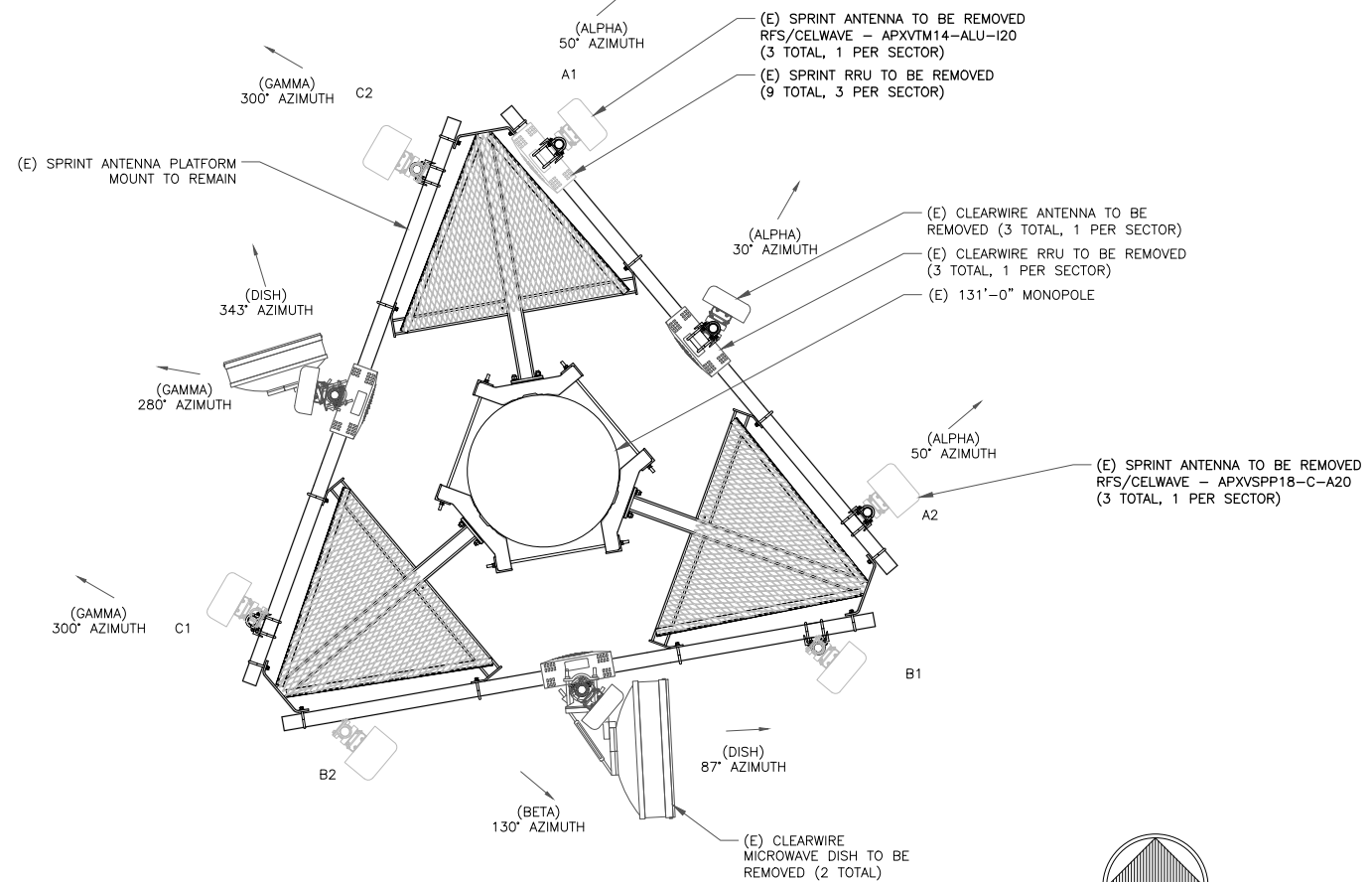


1 FINAL ELEVATION
SCALE: NOT TO SCALE

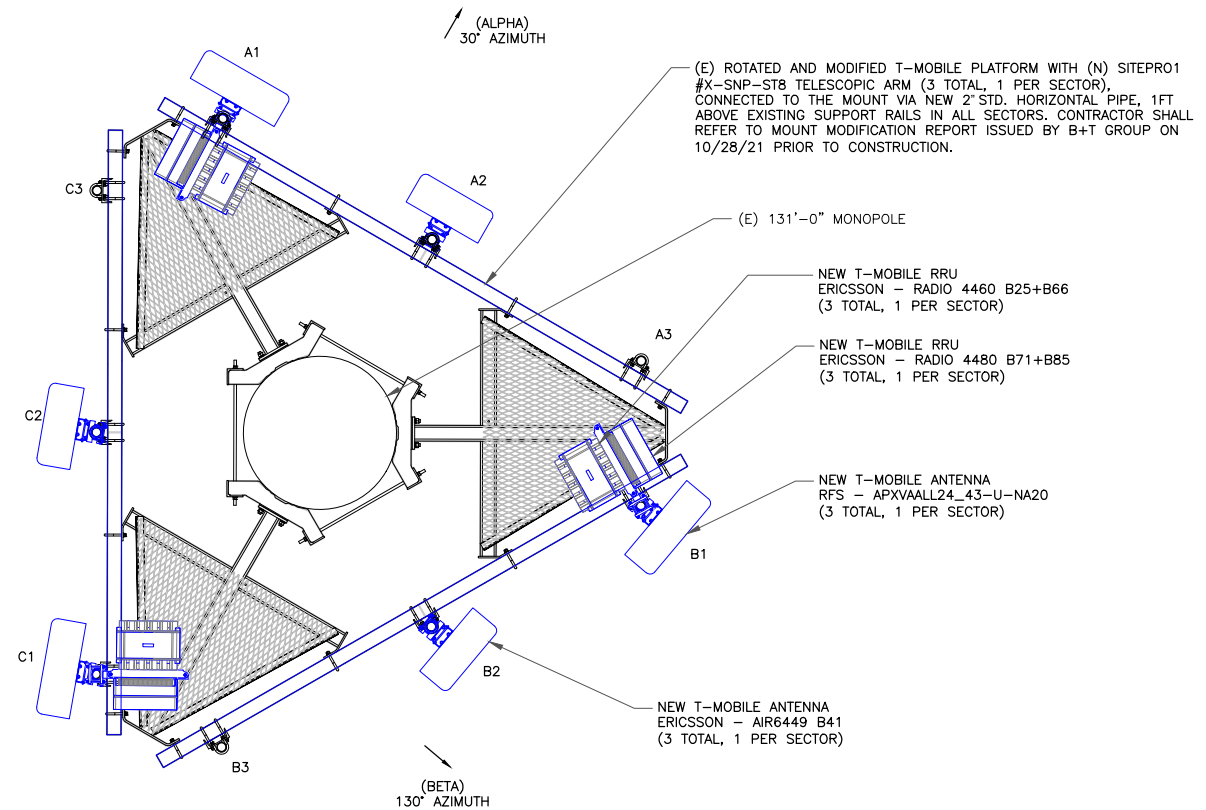
T-MOBILE EQUIPMENT

ANTENNA CL: 98'-0"
MOUNT CL: 97'-0"

ANY AND ALL TOWER MOUNTED EQUIPMENT MUST NOT TRAP OR INTERFERE W/ EXISTING SAFETY CLIMB



2 EXISTING ANTENNA LAYOUT
SCALE: NOT TO SCALE



3 FINAL ANTENNA LAYOUT
SCALE: NOT TO SCALE

T-Mobile

35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE

1500 CORPORATE DRIVE
CANONSBURG, PA 15317

INFINIGY

FROM ZERO TO INFINIGY

the solutions are endless

1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com

T-MOBILE SITE NUMBER:
CTHA401A

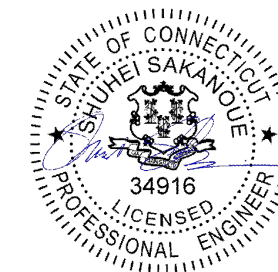
BU #: 806376
HRT 100 943239

1455 FORBES STREET
EAST HARTFORD, CT 06118

EXISTING 131'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	06/01/2021	RCD	FINAL	SS
1	06/30/2021	PEG	FINAL	SS
2	11/05/2021	TJ	MA REFERENCE	SS
3	11/29/2021	TJ	MA NOTE UPDATE	SS



11/29/2021

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:

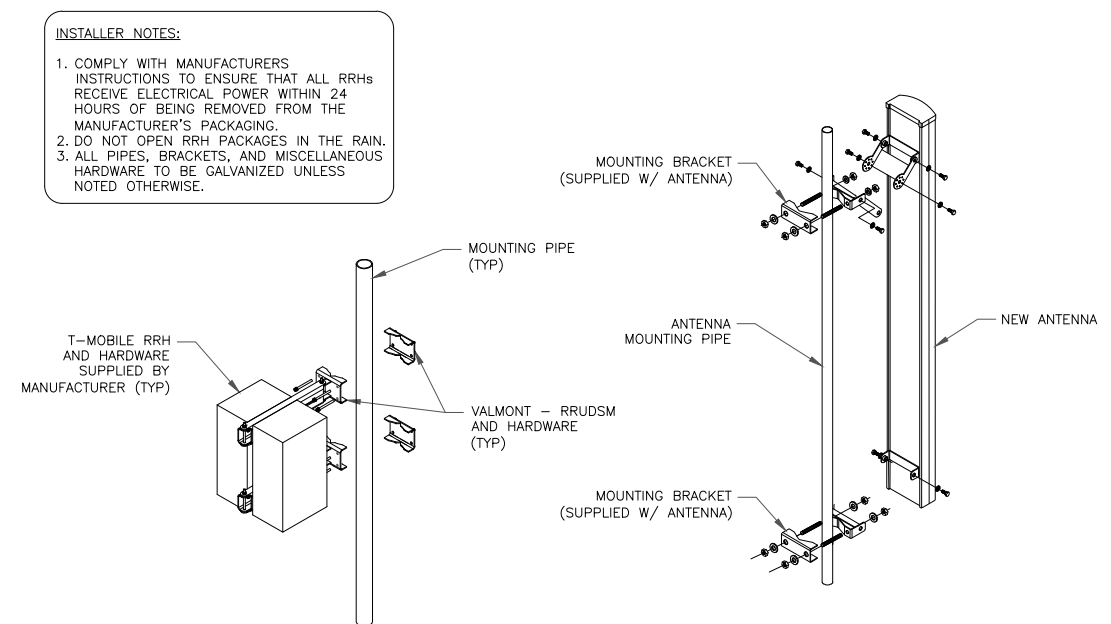
C-2

REVISION:

3

ANTENNA SCHEDULE										
SECTOR	POS.	TECHNOLOGY	RAD CENTER	AZIMUTH	ANTENNA MANUFACTURER	ANTENNA MODEL	MECH. TILT	ELECT. TILT	TOWER MOUNTED EQUIPMENT	FEEDLINE TYPE
ALPHA	A1	L700, L600, N600, L1900, G1900, L2100	98'-0"	30°	RFS	APXVAALL24_43-U-NA20	--	--	(1) ERICSSON - RRUS 4480 B71+B85 (1) ERICSSON - RRUS 4460 B25+B66	(3) 6X24 HCS HYBRID (SHARED)
ALPHA	A2	L2500, N2500	98'-0"	30°	ERICSSON	AIR6449 B41	--	--	--	
ALPHA	A3	--	--	--	--	--	--	--	--	
BETA	B1	L700, L600, N600, L1900, G1900, L2100	98'-0"	130°	RFS	APXVAALL24_43-U-NA20	--	--	(1) ERICSSON - RRUS 4480 B71+B85 (1) ERICSSON - RRUS 4460 B25+B66	(3) 6X24 HCS HYBRID (SHARED)
BETA	B2	L2500, N2500	98'-0"	130°	ERICSSON	AIR6449 B41	--	--	--	
BETA	B3	--	--	--	--	--	--	--	--	
GAMMA	C1	L700, L600, N600, L1900, G1900, L2100	98'-0"	280°	RFS	APXVAALL24_43-U-NA20	--	--	(1) ERICSSON - RRUS 4480 B71+B85 (1) ERICSSON - RRUS 4460 B25+B66	(3) 6X24 HCS HYBRID (SHARED)
GAMMA	C2	L2500, N2500	98'-0"	280°	ERICSSON	AIR6449 B41	--	--	--	
GAMMA	C3	--	--	--	--	--	--	--	--	

1 ANTENNA AND CABLE SCHEDULE
SCALE: NOT TO SCALE



NOTE:
1. CONTRACTOR SHALL INSTALL 3RD DUAL RRH MOUNT TO ACCOMMODATE ALL RRH BRACKETS HOLES IF NECESSARY.

2 ANTENNA WITH RRHs MOUNTING DETAIL
SCALE: NOT TO SCALE

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
1500 CORPORATE DRIVE
CANONSBURG, PA 15317

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com

T-MOBILE SITE NUMBER:
CTHA401A

BU #: **806376**
HRT 100 943239

1455 FORBES STREET
EAST HARTFORD, CT 06118

EXISTING 131'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	06/01/2021	RCD	FINAL	SS
1	06/30/2021	PEG	FINAL	SS
2	11/05/2021	TJ	MA REFERENCE	SS
3	11/29/2021	TJ	MA NOTE UPDATE	SS

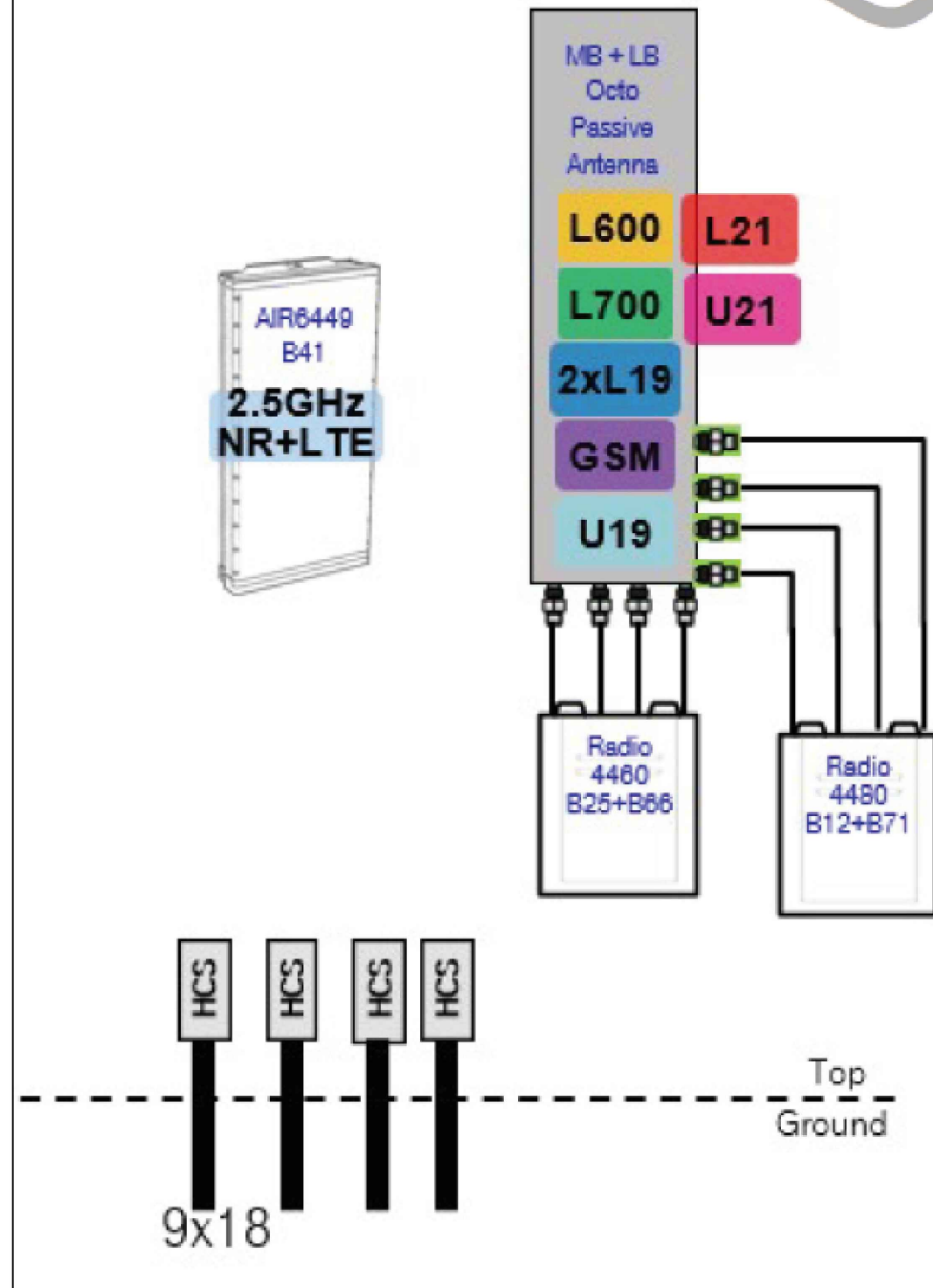
STATE OF CONNECTICUT
SHUHEI SAKANOU
34916
LICENSED PROFESSIONAL ENGINEER

11/29/2021

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: **C-3** REVISION: **3**

Final Config: 67E5A998E



1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

T-Mobile

35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE

1500 CORPORATE DRIVE
CANONSBURG, PA 15317

INFINIGY

FROM ZERO TO INFINIGY

the solutions are endless

1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com

T-MOBILE SITE NUMBER:
CTHA401A

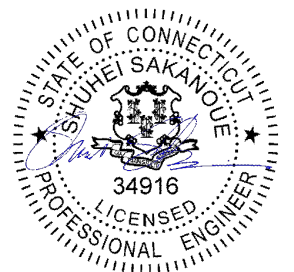
BU #: 806376
HRT 100 943239

1455 FORBES STREET
EAST HARTFORD, CT 06118

EXISTING 131'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	06/01/2021	RCD	FINAL	SS
1	06/30/2021	PEG	FINAL	SS
2	11/05/2021	TJ	MA REFERENCE	SS
3	11/29/2021	TJ	MA NOTE UPDATE	SS



11/29/2021

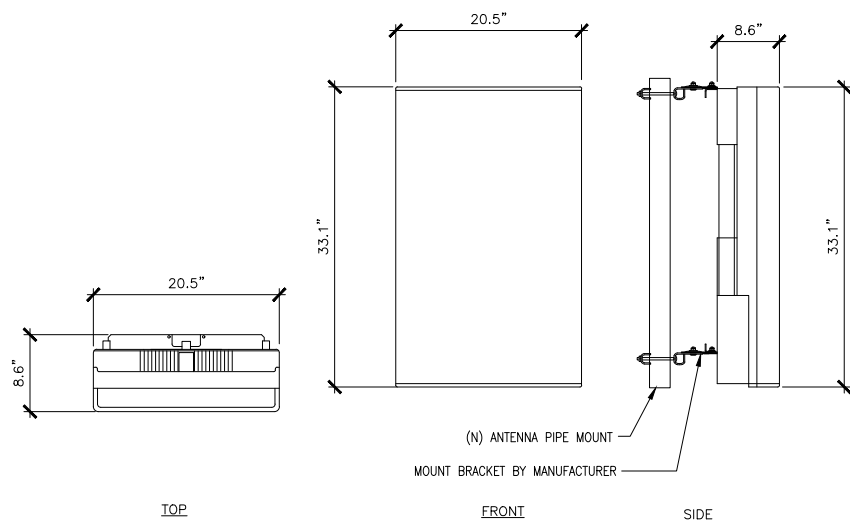
IT IS A VIOLATION OF LAW FOR ANY PERSON,
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER: REVISION:

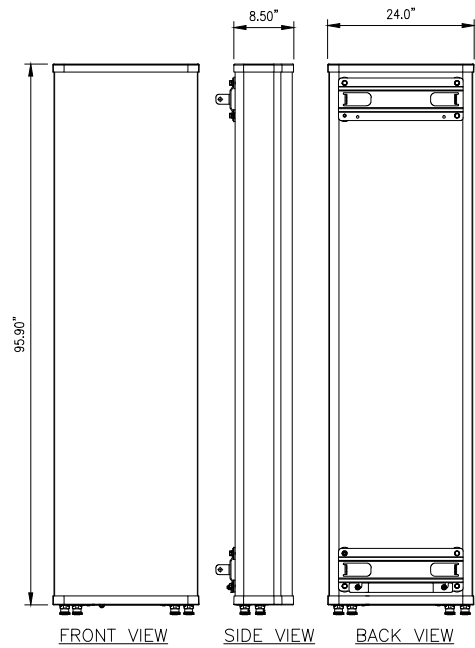
C-4

3

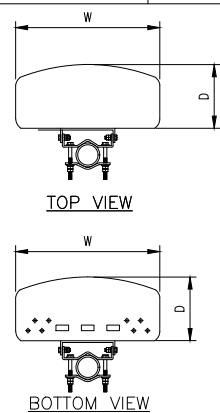
MANUFACTURER: ERICSSON
 MODEL: AIR6449 B41
 WEIGHT: 104 LBS (W/ MOUNT BRACKET 113)
 DIMENSIONS: 33.1"H. X 20.5"W. X 8.6"D.
 FREQUENCY: REFER TO RF DATA SHEET



1 (N) AIR6449 B41 ANTENNA SPEC
 SCALE: NOT TO SCALE

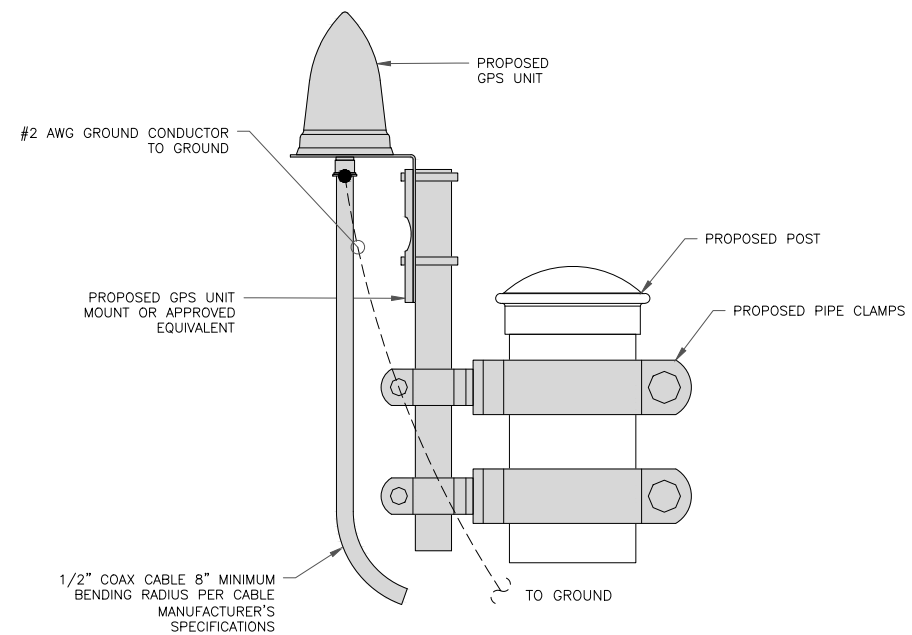


700MHz RFS ANTENNAS	
MODEL	WEIGHT (lb)
(8') APXVAALL24_43-UNA20	149.90
WEIGHT W/ MOUNTING BRACKET (lb):	154



2 (N) APXVAALL24_43-UNA20 ANTENNA SPEC
 SCALE: NOT TO SCALE

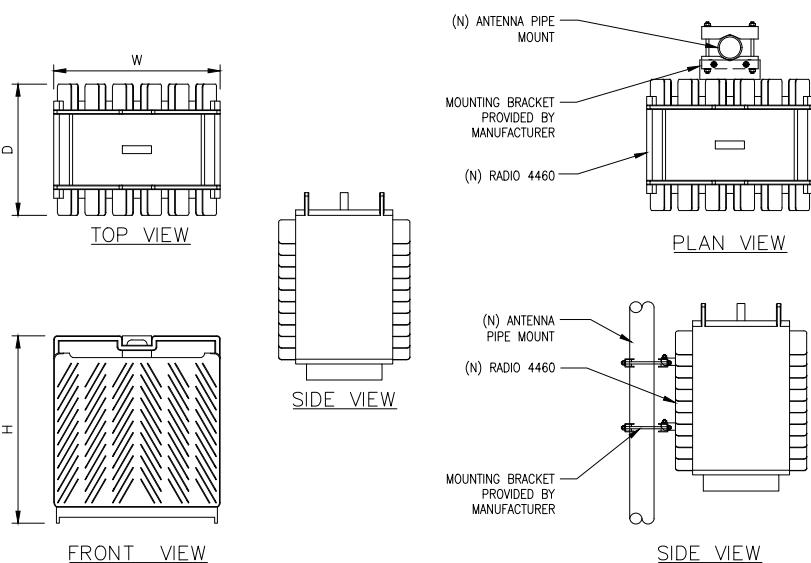
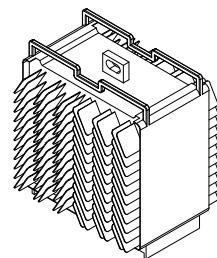
INSTALLER NOTES:
 CABLE GROUNDING NOT REQUIRED WHEN
 ANTENNA IS LESS THAN 10' FROM CABINET



3 GPS DETAILS
 SCALE: NOT TO SCALE

ERICSSON RADIO-4460 B25 B66

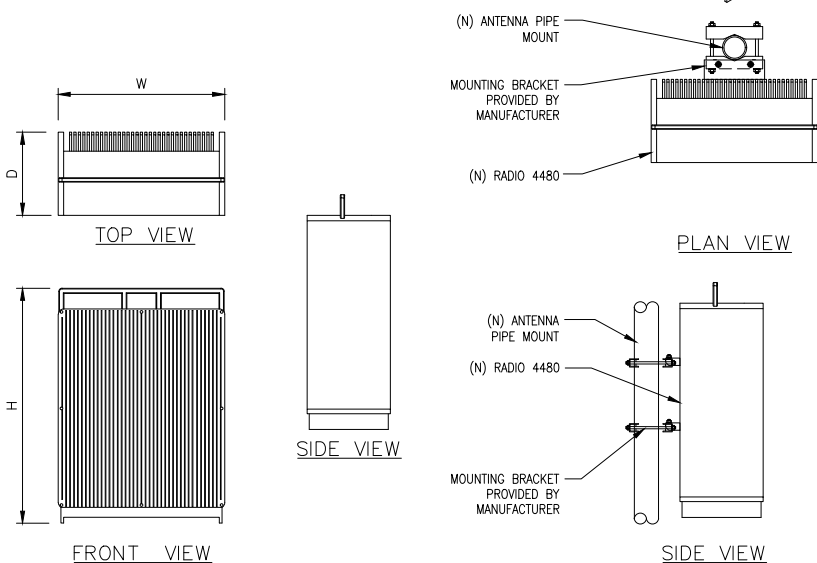
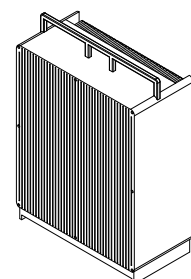
DIMENSIONS, WxDxH: 17.0"x15.1"x11.9"
 MAX OUTPUT POWER: 4x80W (2x(2x80W))
 TOTAL WEIGHT: 109 lbs
 TEMPERATURE: -40° TO 55° C



4 (N) RADIO 4460 SPEC
 SCALE: NOT TO SCALE

ERICSSON RADIO-4480 B71 B85

DIMENSIONS, WxDxH: 21.8"x15.7"x7.5"
 MAX OUTPUT POWER: 4x80W (2x(2x80W))
 TOTAL WEIGHT: 93 lbs
 TEMPERATURE: -40° TO 55° C



5 (N) RADIO 4480 SPEC
 SCALE: NOT TO SCALE

6 NOT USED
 SCALE: NOT TO SCALE

T-Mobile

35 GRIFFIN ROAD
 BLOOMFIELD, CT 06002

CROWN CASTLE

1500 CORPORATE DRIVE
 CANONSBURG, PA 15317

INFINIGY

FROM ZERO TO INFINIGY

the solutions are endless

1033 Watervliet Shaker Rd | Albany, NY 12205
 Phone: 518-690-0790 | Fax: 518-690-0793
 www.infinigy.com

T-MOBILE SITE NUMBER:
 CTHA401A

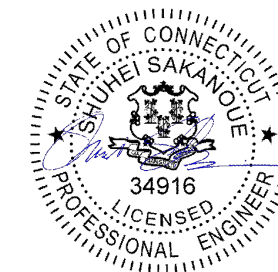
BU #: 806376
 HRT 100 943239

1455 FORBES STREET
 EAST HARTFORD, CT 06118

EXISTING 131'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	06/01/2021	RCD	FINAL	SS
1	06/30/2021	PEG	FINAL	SS
2	11/05/2021	TJ	MA REFERENCE	SS
3	11/29/2021	TJ	MA NOTE UPDATE	SS

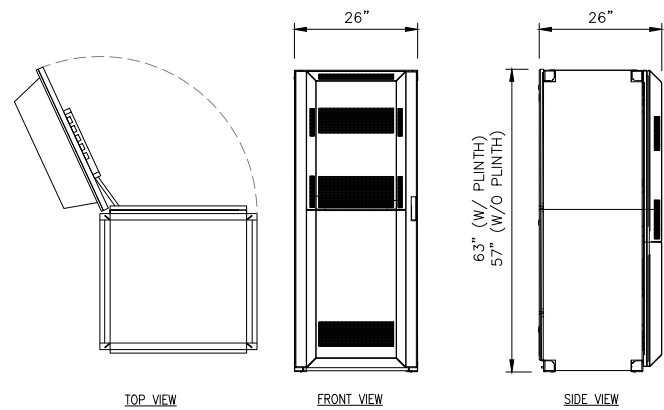


11/29/2021

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.

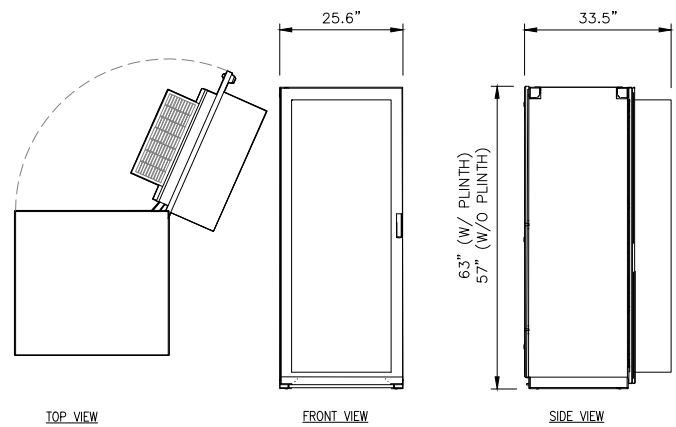
SHEET NUMBER:
 C-5

REVISION:
 3



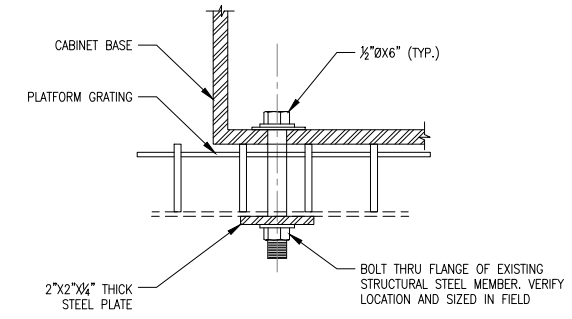
ERICSSON MODEL NO.:	B160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x26"x26" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	485 LBS
MAXIMUM WEIGHT:	2100± LBS

1 (N) B160 CABINET DETAIL
SCALE: NOT TO SCALE

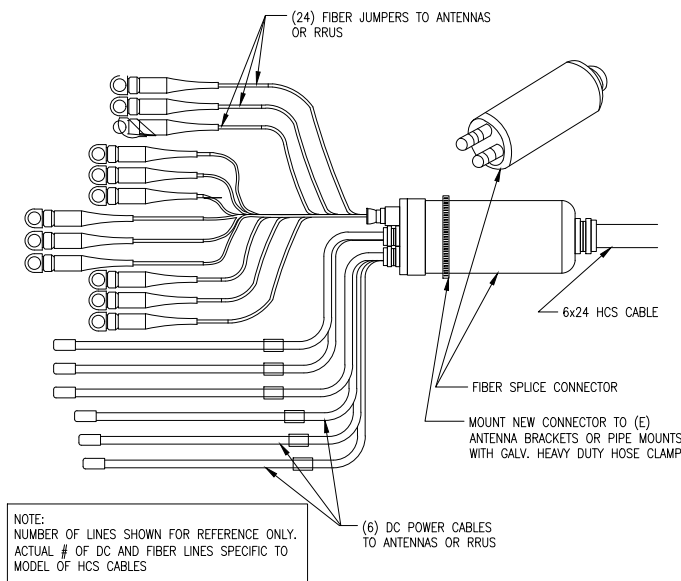


ERICSSON MODEL NO.:	6160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x25.6"x25.6" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	410 LBS
MAXIMUM WEIGHT:	770± LBS

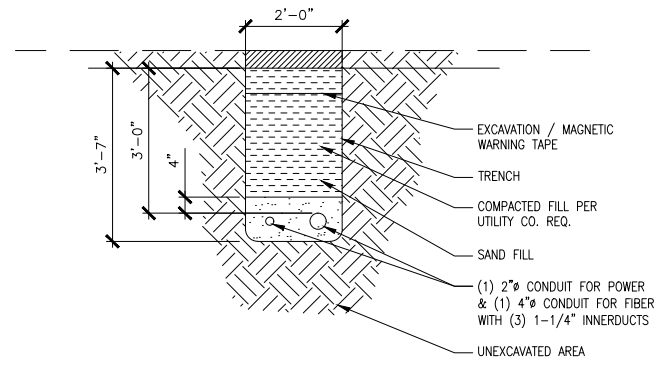
2 (N) 6160 CABINET DETAIL
SCALE: NOT TO SCALE



3 (N) EQUIPMENT CABINET MOUNTING DETAIL
SCALE: NOT TO SCALE



4 (N) 6X24 HCS CABLE DETAIL
SCALE: NOT TO SCALE



5 (N) CONDUIT TRENCH DETAIL
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
1500 CORPORATE DRIVE
CANONSBURG, PA 15317

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com

T-MOBILE SITE NUMBER:
CTHA401A

BU #: **806376**
HRT **100 943239**

1455 FORBES STREET
EAST HARTFORD, CT 06118

EXISTING 131'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	06/01/2021	RCD	FINAL	SS
1	06/30/2021	PEG	FINAL	SS
2	11/05/2021	TJ	MA REFERENCE	SS
3	11/29/2021	TJ	MA NOTE UPDATE	SS

STATE OF CONNECTICUT
SHUHEI SAKANOU
34916
LICENSED PROFESSIONAL ENGINEER

11/29/2021

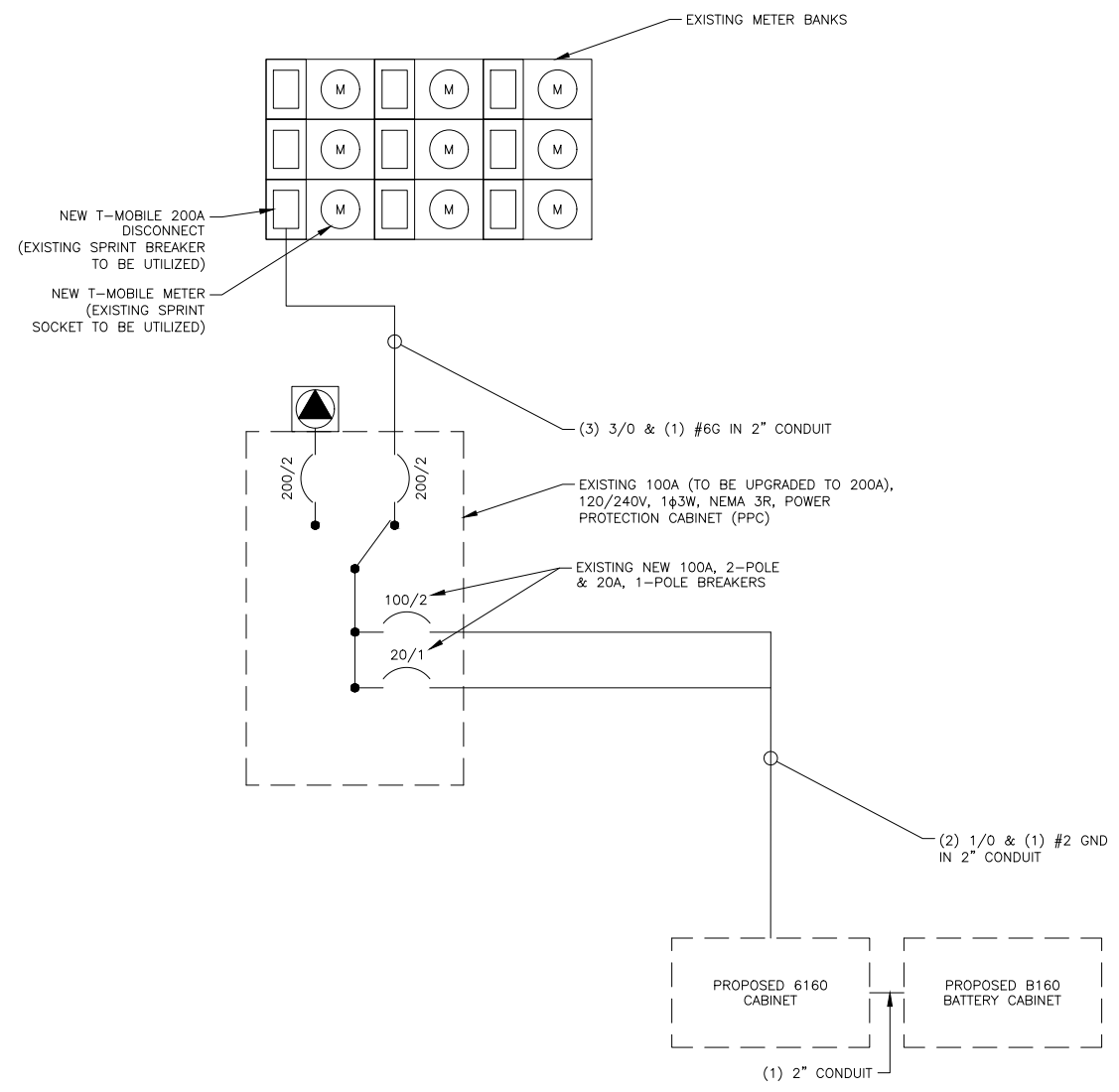
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: **C-6** REVISION: **3**

T-MOBILE PANEL SCHEDULE											
MAIN: 200A MAIN BREAKER			VOTAGE/PHASE: 120/240V, 1-PHASE, 3-WIRE				SHORT CIRCUIT CURRENT RATING: --				
MOUNTING: INSIDE PPC ENCLOSURE			ENCLOSURE: NEMA 3R				SURGE PROTECTION DEVICE: YES				
DESCRIPTION	LOAD (VA)	C or NC	C/B	CIR No.	PHASE LOADS (VA)		CIR No.	C/B	C or NC	LOAD (VA)	DESCRIPTION
					A	B					
6160	7000	C	100	1	7001		2	60	C	1	AC SURGE PROTECTION
	7000	C		3		7001	4		C	1	
6160 GFI	180	C	20	5	180		6	60	C	0	SPARE
UNKNOWN	3600	NC	40	7		3600	8		C	0	
SPARE	0	NC	20	9	0		10	20	NC	0	TELCO CABINET (OFF)
TELCO CABINET FAN	900	C	10	11		0	12				
BASE LOAD (VA) =					7181	10601					
25% OF CONTINUOUS LOAD (VA) =					1750	1750	C = CONTINUOUS LOAD; NC = NON-CONTINUOUS LOAD				
TOTAL LOAD (VA) =					8931	12351	NEW BREAKER TO BE SAME TYPE AND HAVE SAME AIC RATING AS EXISTING. CUSTOMER HAS NOT PROVIDED LOADS FOR EQUIPMENT CABINETS THEREFORE THE CABINET LOADS SHOWN ARE ESTIMATED VALUES.				
TOTAL LOAD (A) =					74	103					

1 AC PANEL SCHEDULE
SCALE: NOT TO SCALE

- NOTES:
- ALL NEW CONDUCTORS TO BE INSTALLED SHALL BE COPPER. ALL CONDUCTORS SHALL BE THHW, THWN, THWN-2, XHHW, OR XHHW-2 UNLESS NOTED OTHERWISE.
 - CONTRACTOR IS TO FIELD VERIFY ALL EXISTING ITEMS SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
 - ALL GROUNDING AND BONDING PER THE NEC.



2 ONE LINE DIAGRAM
SCALE: NOT TO SCALE

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
1500 CORPORATE DRIVE
CANONSBURG, PA 15317

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com

T-MOBILE SITE NUMBER:
CTHA401A

BU #: **806376**
HRT **100 943239**

1455 FORBES STREET
EAST HARTFORD, CT 06118
EXISTING 131'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	06/01/2021	RCD	FINAL	SS
1	06/30/2021	PEG	FINAL	SS
2	11/05/2021	TJ	MA REFERENCE	SS
3	11/29/2021	TJ	MA NOTE UPDATE	SS



11/29/2021

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: **E-1** REVISION: **3**

T-Mobile

35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN
CASTLE

1500 CORPORATE DRIVE
CANONSBURG, PA 15317

INFINIGY

FROM ZERO TO INFINIGY
the solutions are endless

1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com

T-MOBILE SITE NUMBER:
CTHA401A

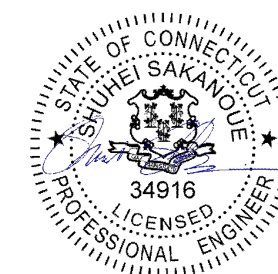
BU #: 806376
HRT 100 943239

1455 FORBES STREET
EAST HARTFORD, CT 06118

EXISTING 131'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	06/01/2021	RCD	FINAL	SS
1	06/30/2021	PEG	FINAL	SS
2	11/05/2021	TJ	MA REFERENCE	SS
3	11/29/2021	TJ	MA NOTE UPDATE	SS



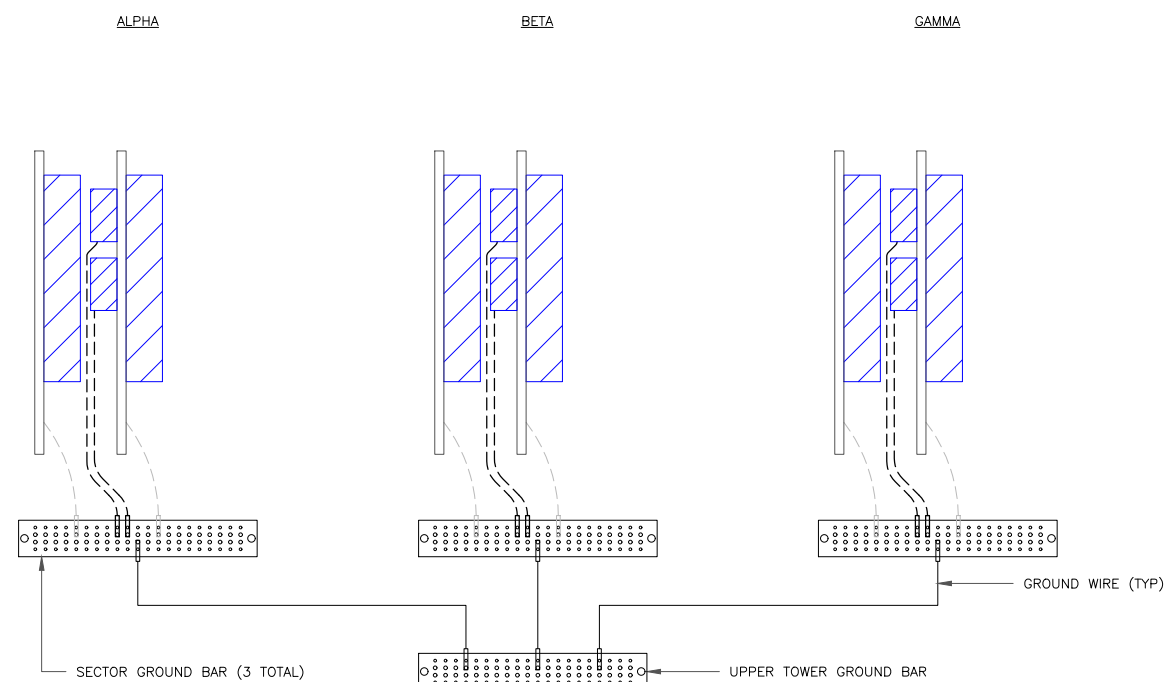
11/29/2021

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:

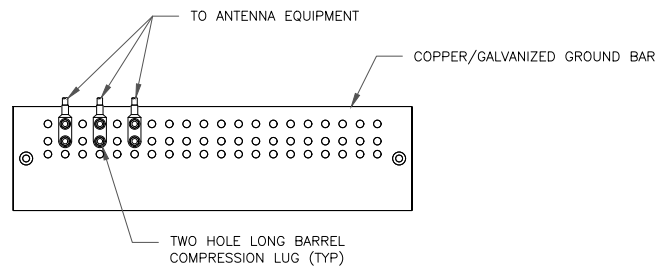
G-1

3



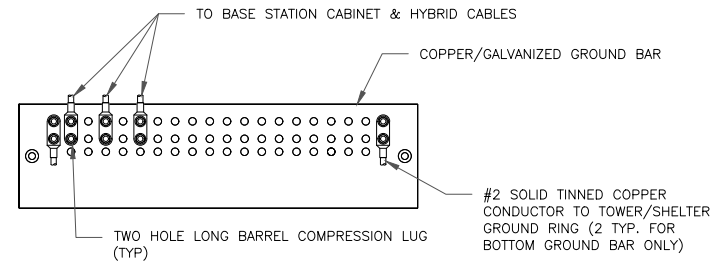
NOTE:
ALL NEW GROUNDS TO BE #6 STRANDED
COPPER WITH GREEN INSULATION UNLESS
NOTED OTHERWISE.

1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE



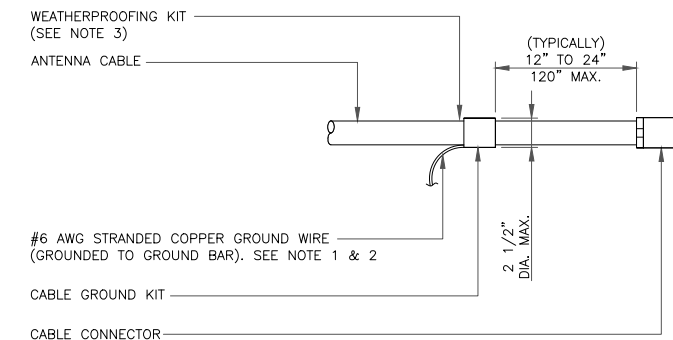
- NOTES:
1. DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
 2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
 3. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO ANTENNA MOUNT STEEL.

1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



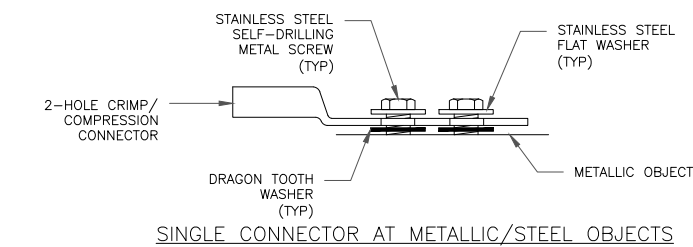
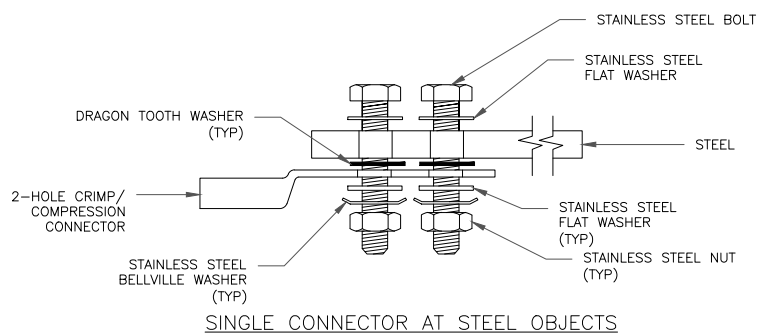
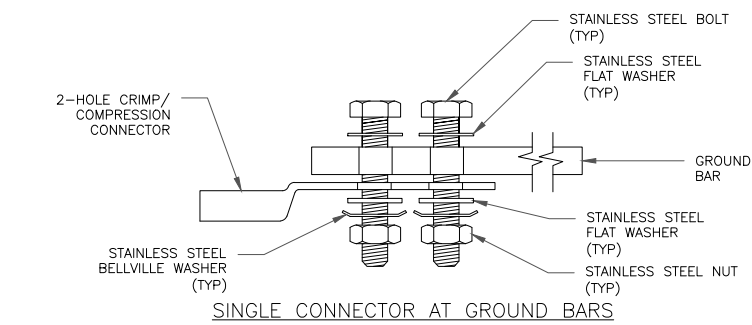
- NOTES:
1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
 2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
 3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

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



- 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.

3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



4 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
1500 CORPORATE DRIVE
CANONSBURG, PA 15317

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com

T-MOBILE SITE NUMBER:
CTHA401A

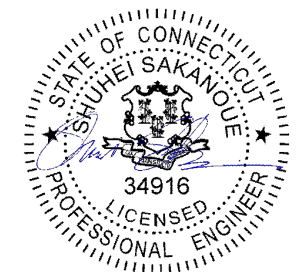
BU #: **806376**
HRT **100 943239**

1455 FORBES STREET
EAST HARTFORD, CT 06118

EXISTING 131'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	06/01/2021	RCD	FINAL	SS
1	06/30/2021	PEG	FINAL	SS
2	11/05/2021	TJ	MA REFERENCE	SS
3	11/29/2021	TJ	MA NOTE UPDATE	SS



11/29/2021

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: **3**