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

August 25, 2022

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

RE: **Notice of Exempt Modification for T-Mobile: CT11186A**
Crown Site ID# 806376
1455 Forbes Street, East Hartford, CT 06118
Latitude: 41° 43′ 3.30″ / Longitude: -72° 36′ 28.00″

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 87' mount level on the existing 131' monopole tower located at 1455 Forbes Street, East Hartford CT. The property is owned by Rebecca Handel-Jack and the tower is owned by Crown Castle. T-Mobile now intends to replace six (6) antennas and ancillary equipment at the 87'level of the tower. 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) Ericsson Air 6419 B41 Antennas
(3) Commscope- W-65B-R1 Antennas
(3) Ericsson-Radio 4460 B25+ B66 RRU
(3) Hybrid Cable 6x24
(1) New Mount Per Trylon MA

Remove:
(3) Ericsson Air32 KRD0901146-1_B66A_B2A Antennas
(3) Ericsson Air21 KCR118023-1_B2A_B4A Antennas
(11) Coaxial Cables
Antenna Mount

Ground:

Install New

(1) 6160 Cabinet
(1.) B160 Battery Cabinet
(2) RP 6651
(2) PSU 4813 vR2A
(1) CRS IXRc V2
(1) 6601, DUG20

The original facility was approved by the Connecticut Siting Council Docket No. 139 on September 18, 1991.

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 Michael Walsh, Mayor, Town of East Hartford, CT, Eileen Buckheit, Development Director, Town of East Hartford, CT and Rebecca Handel-Jack, property owner. Crown Castle is the tower owner.

1. The proposed modifications will not result in an increase in the height of the existing tower.

2. The proposed modifications will not require the extension of the site boundary.

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

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, 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.

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
860-291-7201

Eileen Buckheit, Development Director
Town of East Hartford
740 Main Street
East Hartford, CT 06108
860-291-7203

Rebecca Handel-Jack, 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., 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. : Connecticut : Siting : Council

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.

Council Members	Vote Cast
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

Property Location 1455 FORBES ST | Map ID 41/ / 233/ / | Bldg Name | State Use 101
Vision ID 4723 | Account # 4723 | Bldg # 1 | Sec # 1 of 1 | Card # 1 of 2 | Print Date 5/17/2022 3:15:40 AM

CURRENT OWNER

HANDEL-JACK REBECCA

1455 FORBES ST

EAST HARTFORD CT 06118

TOPO	UTILITIES	STRT / ROAD	LOCATION
A Good	1 All	1 Paved	

SUPPLEMENTAL DATA

Alt Prcl ID	1780-1455	Locn Suffix	
Homeown		Zoning	R-2
Census	5104	Res Area	0
VCS	2601	Non Res A	3240
# Units	2	Lot Size	25.74
Class	Farm-Q		
GIS ID		Assoc Pid#	

CURRENT ASSESSMENT

Description	Code	Appraised	Assessed
RES LAND	1-1	58,310	40,820
RES EXCES	1-2	44,800	31,360
DWELLING	1-3	271,330	189,930
RES OUTBL	1-4	90,800	63,560
FARM LAND	6-1	27,220	21,170
	Total	492,460	346,840

6043

EAST HARTFORD, CT

VISION

RECORD OF OWNERSHIP

	BK-VOL/PAGE		SALE DATE	Q/U	V/I	SALE PRIC	VC
HANDEL-JACK REBECCA	3909	186	07-09-2020	U	I	0	B02
HANDEL ROBERT D	3582	0113	01-25-2016	U	I	0	B10
HANDEL JESSIE K EST OF	3534	0329	05-21-2015	U	I	0	B11
HANDEL JESSIE K	1874	0345	01-03-2000	U	I	0	B01
HANDEL ALBERT P JR EST OF	0000	0000	01-01-2000	U	I	0	B33

PREVIOUS ASSESSMENTS (HISTORY)

Year	Code	Assessed	Year	Code	Assessed V	Year	Code	Assessed
2021	1-1	40,820	2019	1-1	30,930	2018	1-1	30,930
	1-2	31,360		1-2	1,250		1-2	1,250
	1-3	189,930		1-3	134,420		1-3	134,420
	1-4	63,560		1-4	157,080		1-4	157,080
	Total	346,840		Total	332,880		Total	332,880

EXEMPTIONS

Year	Code	Description	Amount
		Total	0.00

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm Int

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

Nbhd	Nbhd Name	B	Tracing	Batch
0001				

NOTES

SKETCH REVISIONS FOR OUTBLDGS & ADD

TELECOMMUNICATIONS SHED, REVAL 2006. RER

OOF BARN, NEW ANTENNAS INSTALLED 2013.

GL20: GAVE 0.32AC TO 1397 FORBES ST PID

4715

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	271,330
Appraised Xf (B) Value (Bldg)	0
Appraised Ob (B) Value (Bldg)	90,800
Appraised Land Value (Bldg)	130,330
Special Land Value	21,170
Total Appraised Parcel Value	492,460
Valuation Method	C
Total Appraised Parcel Value	492,460

BUILDING PERMIT RECORD

Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments
E-22-259	04-25-2022	EL	Electric	12,500		0		Install new 200amp 120/240V
B-22-53	02-01-2022	TE	Telecom	48,000		0		Add (3) Antennas, Add (6) RR
B-22-46	01-25-2022	TE	Telecom	20,000		0		Remove (3) Antenna, Replace
M-21-204	06-15-2021	MEC	Mechanical	3,500		100	10-01-2021	INSTALL GAS LINE FOR GAS
M-21-60	03-03-2021	MEC	Mechanical	27,650		100	10-01-2021	Install 2 hydroair systems with
P-21-3	02-08-2021	PL	Plumbing	14,000		100		Rough and finish plumbing for
E-20-666	10-06-2020	EL	Electric	17,000		100		Trench & install underground 4

VISIT / CHANGE HISTORY

Date	Id	Type	Is	Cd	Purpost/Result
10-01-2021	MVS	3		24	Permit Review
08-19-2021	MVS	3		51	Data Mailer - No Change
08-16-2021	MVS			50	Data Mailer - Change
08-06-2021	MAF			24	Permit Review
04-20-2016	BJR			01	Measure - No Entry-NOH
04-20-2016	BJR			10	Send Callback Letter
08-22-2005	DK			63	Verified

LAND LINE VALUATION SECTION

B	Use Code	Description	Zone	Land Type	Land Units		Unit Price	Size Adj	Site Index	Cond.	Nbhd.	Nbhd. Adj	Notes	Location Adjustment	Adj Unit P	Land Value
1	101	One Family	R2		0.340	AC	80,258.00	2.37436	5	1.00	26	0.900		1.0000		58,310
1	712	490 Tillable C	R2		16.000	AC	1,690.00	1.00000	0	1.00	26	0.900		1.0000		24,340
1	717	490 Woodland	R2		8.200	AC	390.00	1.00000	0	1.00	26	0.900		1.0000		2,880
1	101	One Family	R2		0.320	AC	3,000.00	2.50119	0	1.00	26	0.900		1.0000		2,160
1	111	Res w/Bus Use	R2		0.150	AC	64,206.40	4.91932	3	1.00	26	0.900		1.0000		42,640
		Total Card Land Units			25.0100	AC	Parcel Total Land Area			25.0100					Total Land Value	130,330

Property Location 1455 FORBES ST | Map ID 41/ / 233/ / | Bldg Name | State Use 101
Vision ID 4723 | Account # 4723 | Bldg # 1 | Sec # 1 of 1 | Card # 1 of 2 | Print Date

CONSTRUCTION DETAIL

Element	Cd	Description
Style	03	Colonial
Model	01	Residential
Grade:	57	1.05
Stories	2.0	
Occupancy	1	
Exterior Wall 1	25	Vinyl Siding
Exterior Wall 2		
Roof Structure	03	Gable
Roof Cover	03	Asphalt
Interior Wall 1	05	Drywall
Interior Wall 2		
Interior Flr 1	12	Hardwood
Interior Flr 2		
Heat Fuel	03	Gas
Heat Type:	04	Forced Hot Air
AC Type:	03	Central
Total Bedrooms	4	
Full Bthrms:	3	
Half Baths:	0	
Extra Fixtures	0	
Total Rooms:	7	
Bath Style:	02	Average
Kitchen Style:	03	Modern
Num Kitchens	1	
Fireplaces	0	
Extra Openings	0	
Prefab Fpl(s)	0	
% Basement	100	
Bsmt Garage(s)		
% Fin Bsmt	0	
% Rec Room	60	
% Semi FBM	0	
% Attic Fin	0.00	

CONSTRUCTION DETAIL (CONTINUED)

Element	Cd	Description
% Semi FBM	0	
% Attic Fin	0.00	
Unfin %	0	

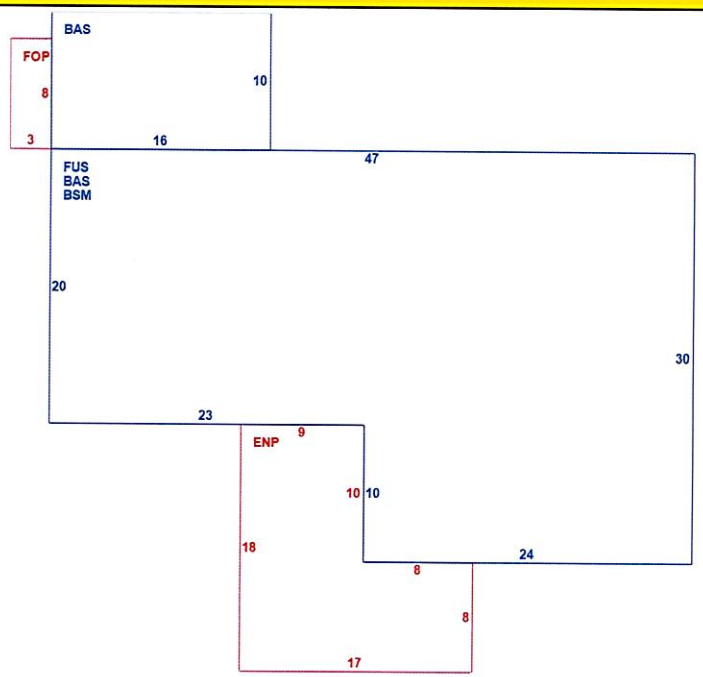
CONDO DATA

Parcel Id		C		Owne	
		B		S	

Adjust Type	Code	Description	Factor%
Condo Flr			
Condo Unit			

COST / MARKET VALUATION

Building Value New	311,872
Year Built	1865
Effective Year Built	1996
Depreciation Code	G
Remodel Rating	04
Year Remodeled	2021
Depreciation %	13
Functional Obsol	
External Obsol	
Trend Factor	1
Condition	
Condition %	
Percent Good	87
RCNLD	271,330
Dep % Ovr	
Dep Ov Comment	
Misc Imp Ovr	
Misc Imp Ovr Comment	
Cost to Cure Ovr	
Cost to Cure Ovr Comment	



OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)

Code	Description	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Gd	Grade	Grade Adj.	Appr. Value
BRN1	1 Story Barn	L	5,112	10.00	2000		80	C	1.00	40,900
SHD1	Shed	L	64	11.50	2000		80	C	1.00	590
BRN1	1 Story Barn	L	3,072	10.00	1975		40	C	1.00	12,290
SHD1	Shed	L	300	11.50	1975		40	C	1.00	1,380
SHD1	Shed	L	561	11.50	1975		40	C	1.00	2,580
BRN1	1 Story Barn	L	4,928	10.00	1975		40	C	1.00	19,710
SHD1	Shed	L	600	11.50	2000		80	C	1.00	5,520
SHD1	Shed	L	105	11.50	1975		40	C	1.00	480
MSC5	FR/SHED	L	30	0.00	2006		100		0.00	0
BRN1	1 Story Barn	L	840	10.00	1975		40	C	1.00	3,860

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
BAS	First Floor	1,340	1,340	1,340	105.04	140,757
BSM	Basement	0	1,180	354	31.51	37,185
ENP	Enclosed Porch	0	226	90	41.83	9,454
FOP	Open Porch	0	24	5	21.88	525
FUS	Finished Upper Story	1,180	1,180	1,180	105.04	123,951
	Ttl Gross Liv / Lease Area	2,520	3,950	2,969		311,872

Property Location 1455 FORBES ST | Map ID 41/ / 233/ / | Bldg Name | State Use 101
Vision ID 4723 | Account # 4723 | Bldg # 1 | Sec # 1 of 1 | Card # 2 of 2 | Print Date 5/17/2022 3:15:41 AM

CURRENT OWNER

HANDEL-JACK REBECCA

1455 FORBES ST

EAST HARTFORD CT 06118

TOPO	UTILITIES	STRT / ROAD	LOCATION
A Good	1 All	1 Paved	

SUPPLEMENTAL DATA

Alt Prcl ID	1780-1455	Locn Suffix	
Homeown		Zoning	R-2
Census	5104	Res Area	0
VCS	2601	Non Res A	3240
# Units	2	Lot Size	25.74
Class	Farm-Q		
GIS ID		Assoc Pid#	

CURRENT ASSESSMENT

Description	Code	Appraised	Assessed
RES LAND	1-1	58,310	40,820
RES EXCES	1-2	44,800	31,360
DWELLING	1-3	271,330	189,930
RES OUTBL	1-4	90,800	63,560
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	Total	492,460	346,840

6043

EAST HARTFORD, CT

VISION

RECORD OF OWNERSHIP

BK-VOL/PAGE		SALE DATE	Q/U	V/I	SALE PRIC	VC

PREVIOUS ASSESSMENTS (HISTORY)

Year	Code	Assessed	Year	Code	Assessed V	Year	Code	Assessed
2021	1-1	40,820	2019	1-1	30,930	2018	1-1	30,930
	1-2	31,360		1-2	1,250		1-2	1,250
	1-3	189,930		1-3	134,420		1-3	134,420
	1-4	63,560		1-4	157,080		1-4	157,080
	Total	346,840		Total	332,880		Total	332,880

EXEMPTIONS

Year	Code	Description	Amount
		Total	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm Int

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

Nbhd	Nbhd Name	B	Tracing	Batch
0001				

NOTES

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	271,330
Appraised Xf (B) Value (Bldg)	0
Appraised Ob (B) Value (Bldg)	90,800
Appraised Land Value (Bldg)	130,330
Special Land Value	21,170
Total Appraised Parcel Value	492,460
Valuation Method	C
Total Appraised Parcel Value	492,460

BUILDING PERMIT RECORD

Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments

VISIT / CHANGE HISTORY

Date	Id	Type	Is	Cd	Purpost/Result

LAND LINE VALUATION SECTION

B	Use Code	Description	Zone	Land Type	Land Units		Unit Price	Size Adj	Site Index	Cond.	Nbhd.	Nbhd. Adj	Notes	Location Adjustment		Adj Unit P	Land Value
		Total Card Land Units					Parcel Total Land Area								Total Land Value		

Property Location 1455 FORBES ST | Map ID 41/ / 233/ / | Bldg Name | State Use 101
Vision ID 4723 | Account # 4723 | Bldg # 1 | Sec # 1 of 1 | Card # 2 of 2 | Print Date

CONSTRUCTION DETAIL

Element	Cd	Description
Style	03	Colonial
Model	01	Residential
Grade:	57	1.05
Stories	2.0	
Occupancy	1	
Exterior Wall 1	25	Vinyl Siding
Exterior Wall 2		
Roof Structure	03	Gable
Roof Cover	03	Asphalt
Interior Wall 1	05	Drywall
Interior Wall 2		
Interior Flr 1	12	Hardwood
Interior Flr 2		
Heat Fuel	03	Gas
Heat Type:	04	Forced Hot Air
AC Type:	03	Central
Total Bedrooms	4	
Full Bthrms:	3	
Half Baths:	0	
Extra Fixtures	0	
Total Rooms:	7	
Bath Style:	02	Average
Kitchen Style:	03	Modern
Num Kitchens	1	
Fireplaces	0	
Extra Openings	0	
Prefab Fpl(s)	0	
% Basement	100	
Bsmt Garage(s)		
% Fin Bsmt	0	
% Rec Room	60	
% Semi FBM	0	
% Attic Fin	0.00	

CONSTRUCTION DETAIL (CONTINUED)

Element	Cd	Description
% Semi FBM	0	
% Attic Fin	0.00	
Unfin %	0	

CONDO DATA

Parcel Id		C		Owne	
		B		S	

Adjust Type	Code	Description	Factor%
Condo Flr			
Condo Unit			

COST / MARKET VALUATION

Building Value New	
Year Built	
Effective Year Built	
Depreciation Code	
Remodel Rating	
Year Remodeled	
Depreciation %	
Functional Obsol	
External Obsol	
Trend Factor	
Condition	
Condition %	
Percent Good	
RCNLD	
Dep % Ovr	
Dep Ovr Comment	
Misc Imp Ovr	
Misc Imp Ovr Comment	
Cost to Cure Ovr	
Cost to Cure Ovr Comment	

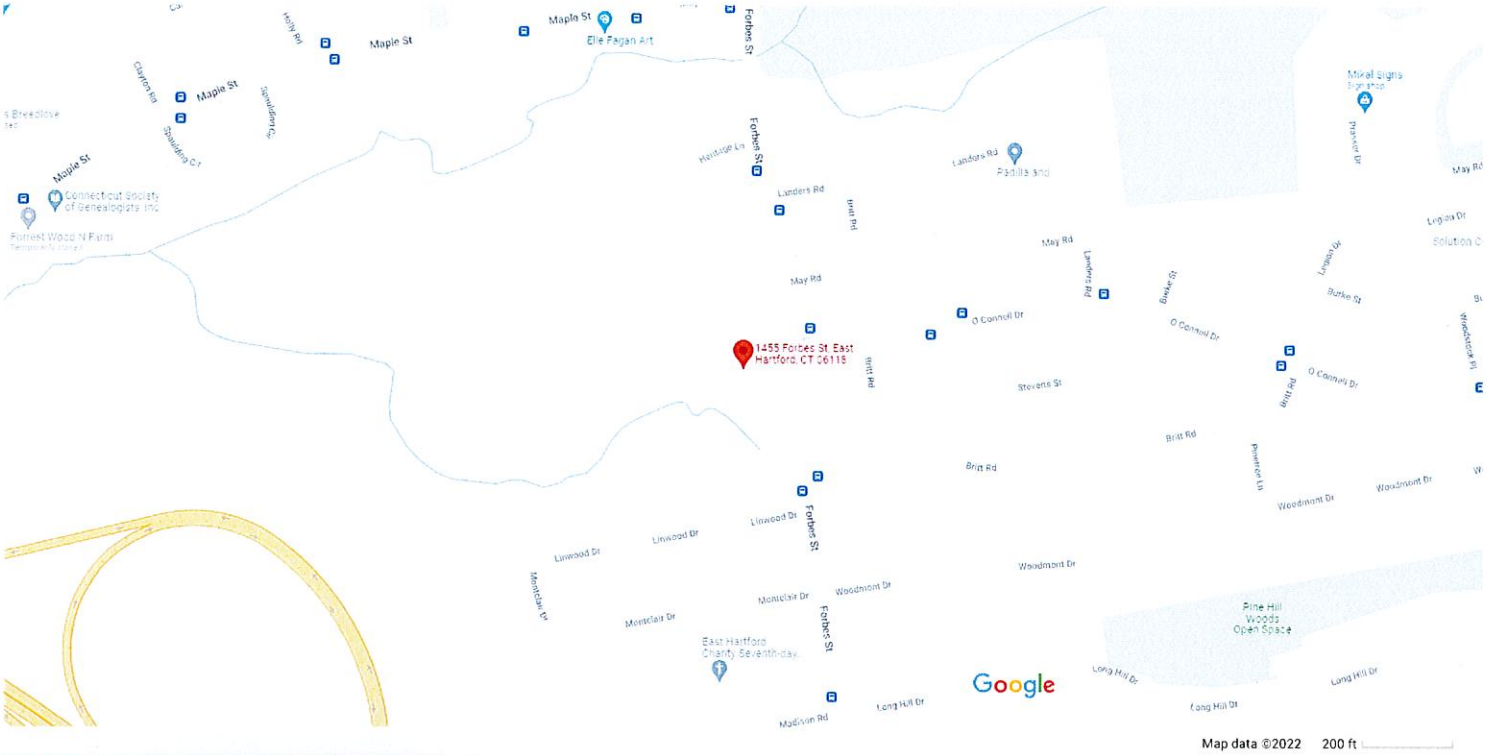
OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)

Code	Description	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Gd	Grade	Grade Adj.	Appr. Value
SHD1	Shed	L	144	11.50	1975		40	C	1.00	660
SHD1	Shed	L	308	11.50	1985		80	C	1.00	2,830

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
	Ttl Gross Liv / Lease Area					

1455 Forbes St



1455 Forbes St

Building

Directions Save Nearby Send to phone Share

1455 Forbes St, East Hartford, CT 06118

Photos

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Friday, August 26, 2022 10:21 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 777764170775: Your package has been delivered

Hi. Your package was delivered Fri, 08/26/2022 at 10:09am.

Delivered to 740 MAIN ST, EAST HARTFORD, CT 06108
Received by A.PEREZ

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 777764170775

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	Thu 8/25/2022 05:43 PM
DELIVERED TO	Receptionist/Front Desk
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

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Friday, August 26, 2022 10:21 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 777764228330: Your package has been delivered

Hi. Your package was delivered Fri, 08/26/2022 at 10:09am.

Delivered to 740 MAIN ST, EAST HARTFORD, CT 06108
Received by A.PEREZ

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 777764228330

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of East Hartford Eileen Buckeit, Development Dir 740 Main Street EAST HARTFORD, CT, US, 06108
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Thu 8/25/2022 05:43 PM
DELIVERED TO	Receptionist/Front Desk
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

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Friday, August 26, 2022 11:15 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 777764256487: Your package has been delivered
Attachments: DeliveryPicture.jpeg

Hi. Your package was delivered Fri, 08/26/2022 at 11:08am.

Delivered to 1455 FORBES ST, EAST HARTFORD, CT 06118

OBTAIN PROOF OF DELIVERY

Delivery picture not showing? View in browser.

TRACKING NUMBER	777764256487
FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Property Owner Rebecca Handel-Jack 1455 Forbes Street EAST HARTFORD, CT, US, 06118
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Thu 8/25/2022 05:43 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	0.50 LB
SERVICE TYPE	FedEx Priority Overnight

Date: **April 21, 2022**

Black & Veatch Corp.
11401 Lamar Avenue
Overland Park, KS 66211
(913) 458-6909

Subject:	**Structural Analysis Report**	
Carrier Designation:	***T-Mobile* Co-Locate**	
	Site Number:	CT11186A
	Site Name:	East Hartford/ Hills_1
Crown Castle Designation:	**BU Number:**	806376
	Site Name:	HRT 100 943239
	JDE Job Number:	709264
	Work Order Number:	2103847
	Order Number:	608639 Rev. 0
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 - 79.4 %**

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: Purich Sangpairoj

Respectfully submitted by:

Ping Jiang, P.E.
Professional Engineer

STATE OF CONNECTICUT
PING JIANG
30767
LICENSED
PROFESSIONAL ENGINEER

Apr 21, 2022
Digitally signed by Ping Jiang
Date: 2022.04.21
23:12:21-05'00'

TABLE OF CONTENTS

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
Seismic Ss:	0.194
Seismic S1:	0.055
Service Wind Speed:	60 mph
Seismic Loading:	Does not control per engineering judgment

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)
85.0	87.0	3	commscope	VV-65A-R1_TMO w/ Mount Pipe	1 3	1-3/8 1-5/8
		3	ericsson	AIR 6419 B41_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)
		3	ericsson	RADIO 4449 B71 B85A_ T-MOBILE		
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
	85.0	1	site pro 1	RMQP-496 + HRK12 12.5' Platform with Handrails		

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' Handrail 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		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		1	cci tower mounts (v2.1)	Side Arm Mount [SO 101-3]		
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		
	97.0	3	site pro 1	X-SNP-ST8 Telescopic Arm		
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	34.8%	Pass
110 - 105	Pole	TP16.776x15.525x0.25	Pole	40.1%	Pass
105 - 100	Pole	TP18.027x16.776x0.25	Pole	49.6%	Pass
100 - 95	Pole	TP19.277x18.027x0.25	Pole	61.0%	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	63.7%	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	58.1%	Pass
84.17 - 83.42	Pole + Reinf.	TP22.174x21.987x0.625	Reinf. 11 Tension Rupture	59.4%	Pass
83.42 - 83.17	Pole + Reinf.	TP22.237x22.174x0.95	Reinf. 16 Tension Rupture	41.7%	Pass
83.17 - 83	Pole + Reinf.	TP22.279x22.237x0.95	Reinf. 16 Tension Rupture	42.0%	Pass
83 - 82.75	Pole + Reinf.	TP22.342x22.279x0.7	Reinf. 16 Tension Rupture	55.8%	Pass
82.75 - 77.75	Pole + Reinf.	TP23.592x22.342x0.6625	Reinf. 16 Tension Rupture	63.4%	Pass
77.75 - 74	Pole + Reinf.	TP25.531x23.592x0.65	Reinf. 16 Tension Rupture	69.4%	Pass
74 - 69	Pole + Reinf.	TP25.281x24.03x0.7	Reinf. 16 Tension Rupture	71.6%	Pass
69 - 67.08	Pole + Reinf.	TP25.761x25.281x0.6875	Reinf. 16 Tension Rupture	73.9%	Pass
67.08 - 66.83	Pole + Reinf.	TP25.824x25.761x0.6875	Reinf. 16 Tension Rupture	74.1%	Pass
66.83 - 64.08	Pole + Reinf.	TP26.512x25.824x0.675	Reinf. 16 Tension Rupture	77.1%	Pass
64.08 - 63.83	Pole + Reinf.	TP26.574x26.512x0.7375	Reinf. 16 Tension Rupture	74.0%	Pass
63.83 - 62.44	Pole + Reinf.	TP26.922x26.574x0.7375	Reinf. 16 Tension Rupture	75.4%	Pass
62.44 - 62.19	Pole + Reinf.	TP26.984x26.922x0.8625	Reinf. 16 Tension Rupture	62.5%	Pass
62.19 - 57.19	Pole + Reinf.	TP28.235x26.984x0.8375	Reinf. 16 Tension Rupture	66.4%	Pass
57.19 - 53.5	Pole + Reinf.	TP29.158x28.235x0.8125	Reinf. 16 Tension Rupture	69.1%	Pass
53.5 - 53.25	Pole + Reinf.	TP29.22x29.158x0.8375	Reinf. 9 Tension Rupture	68.5%	Pass

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
53.25 - 52.58	Pole + Reinf.	TP29.388x29.22x0.825	Reinf. 9 Tension Rupture	68.9%	Pass
52.58 - 52.33	Pole + Reinf.	TP29.45x29.388x0.8625	Reinf. 9 Tension Rupture	66.4%	Pass
52.33 - 47.33	Pole + Reinf.	TP30.701x29.45x0.8375	Reinf. 9 Tension Rupture	69.6%	Pass
47.33 - 44.58	Pole + Reinf.	TP31.389x30.701x0.8125	Reinf. 9 Tension Rupture	71.1%	Pass
44.58 - 44.33	Pole + Reinf.	TP31.451x31.389x0.8125	Reinf. 9 Tension Rupture	71.3%	Pass
44.33 - 41.85	Pole + Reinf.	TP32.072x31.451x0.8	Reinf. 9 Tension Rupture	72.6%	Pass
41.85 - 41.6	Pole + Reinf.	TP32.134x32.072x0.8125	Reinf. 8 Tension Rupture	64.7%	Pass
41.6 - 39	Pole + Reinf.	TP34.015x32.134x0.7875	Reinf. 8 Tension Rupture	65.8%	Pass
39 - 34	Pole + Reinf.	TP33.408x32.159x0.8188	Reinf. 8 Tension Rupture	67.0%	Pass
34 - 29	Pole + Reinf.	TP34.657x33.408x0.7938	Reinf. 8 Tension Rupture	68.7%	Pass
29 - 26.85	Pole + Reinf.	TP35.194x34.657x0.7938	Reinf. 8 Tension Rupture	69.4%	Pass
26.85 - 26.6	Pole + Reinf.	TP35.256x35.194x0.8938	Reinf. 6 Tension Rupture	64.9%	Pass
26.6 - 21.6	Pole + Reinf.	TP36.505x35.256x0.8688	Reinf. 6 Tension Rupture	66.4%	Pass
21.6 - 18	Pole + Reinf.	TP37.404x36.505x0.8563	Reinf. 6 Tension Rupture	67.4%	Pass
18 - 17.75	Pole + Reinf.	TP37.467x37.404x0.9938	Reinf. 15 Compression	56.8%	Pass
17.75 - 17.5	Pole + Reinf.	TP37.529x37.467x0.9938	Reinf. 15 Compression	56.8%	Pass
17.5 - 17.25	Pole + Reinf.	TP37.592x37.529x0.9938	Reinf. 14 Compression	56.9%	Pass
17.25 - 17.08	Pole + Reinf.	TP37.634x37.592x0.9938	Reinf. 14 Compression	56.9%	Pass
17.08 - 16.83	Pole + Reinf.	TP37.697x37.634x0.8938	Reinf. 14 Compression	62.2%	Pass
16.83 - 13	Pole + Reinf.	TP38.653x37.697x0.8813	Reinf. 14 Compression	63.1%	Pass
13 - 12.75	Pole + Reinf.	TP38.716x38.653x1.0688	Reinf. 14 Compression	53.4%	Pass
12.75 - 11.85	Pole + Reinf.	TP38.94x38.716x1.0438	Reinf. 14 Compression	53.6%	Pass
11.85 - 11.6	Pole + Reinf.	TP39.003x38.94x0.8188	Reinf. 14 Compression	68.8%	Pass
11.6 - 6.5	Pole + Reinf.	TP40.277x39.003x0.7938	Reinf. 14 Compression	69.8%	Pass
6.5 - 6.25	Pole + Reinf.	TP40.339x40.277x0.9188	Reinf. 5 Tension Rupture	65.1%	Pass
6.25 - 3.75	Pole + Reinf.	TP40.963x40.339x0.9063	Reinf. 5 Tension Rupture	65.5%	Pass
3.75 - 3.5	Pole + Reinf.	TP41.026x40.963x1.2438	Reinf. 5 Tension Rupture	48.4%	Pass
3.5 - 3	Pole + Reinf.	TP41.151x41.026x1.2438	Reinf. 5 Tension Rupture	48.5%	Pass
3 - 2.75	Pole + Reinf.	TP41.213x41.151x1.0688	Reinf. 14 Compression	56.0%	Pass
2.75 - 0	Pole + Reinf.	TP41.9x41.213x1.0688	Reinf. 4 Weldment	79.4%	Pass
				Summary	
			Pole	71.4%	Pass
			Reinforcement	79.4%	Pass
			Overall	79.4%	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 Plates		17.2	Pass
1,2	Anchor Rods (Original)	0	69.6	Pass
	Anchor Rods (Existing Modification)		61.2	Pass
	Base Plate		47.5	Pass
1	Base Foundation (Structure)	0	58.9	Pass
	Base Foundation (Soil Interaction)		60.3	Pass

Structure Rating (max from all components) =	79.4%

Notes:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity. Rating per TIA-222-H Section 15.5.
2) The anchor rod brackets were analyzed previously and found not govern the design. The anchor rods will control the design.

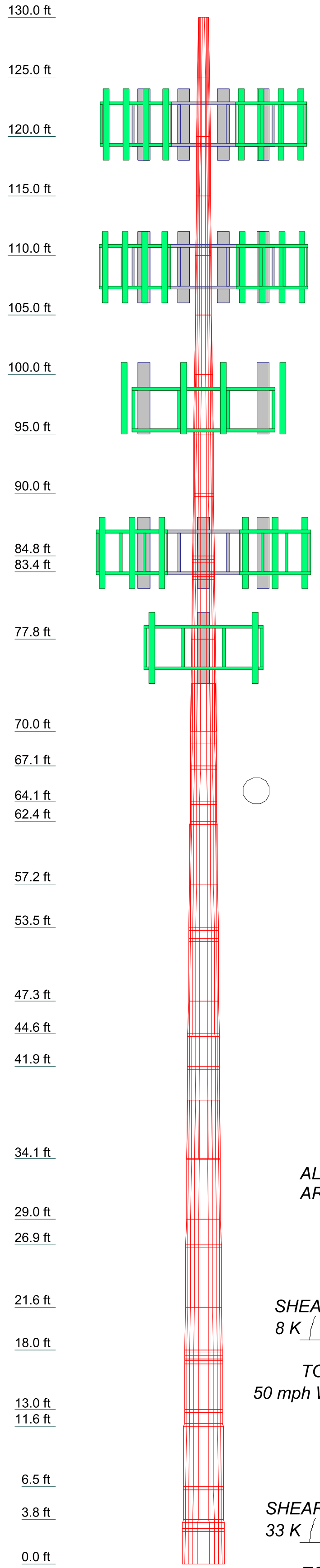
4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.00	12	0.1875		10.5250	11.7750	A572-65	0.1
2	5.00	12	0.1875		11.7750	13.0250		0.1
3	5.00	12	0.1875		13.0250	14.2750		0.1
4	5.00	12	0.1875		14.2750	15.5250		0.2
5	5.00	12	0.2500		15.5250	16.7757		0.2
6	5.00	12	0.2500		16.7757	18.0265		0.2
7	5.00	12	0.2500		18.0265	19.2772		0.3
8	5.00	12	0.2500		19.2772	[illegible]		0.3
9	0.25	12	[illegible]		[illegible]	[illegible]		0.0
10	5.00	12	[illegible]		[illegible]	[illegible]		0.5
11–16	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
17	5.00	12	[illegible]		[illegible]	[illegible]		0.7
18	7.75	12	0.6500	4.00	23.5923	25.5310		1.2
19–25	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
26	5.00	12	[illegible]		[illegible]	[illegible]		1.1
27	3.69	12	[illegible]		[illegible]	[illegible]		0.8
28–30	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
31	5.00	12	[illegible]		[illegible]	[illegible]		1.2
32–35	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
36	[illegible]	12	0.7875	4.92	[illegible]	[illegible]		2.0
37	[illegible]	12	[illegible]		[illegible]	[illegible]		1.4
38	5.00	12	[illegible]		[illegible]	[illegible]		1.4
39–40	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
41	5.00	12	[illegible]		35.25[illegible]	36.50[illegible]		1.6
42	3.60	12	[illegible]		[illegible]	[illegible]		1.2
43–47	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
48	[illegible]	12	[illegible]		[illegible]	[illegible]		1.3
49–51	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
52	5.10	12	[illegible]		[illegible]	[illegible]		1.8
53–57	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
58	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
								26.3



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: 79.4%

ALL REACTIONS ARE FACTORED

AXIAL 98 K
SHEAR 8 K
MOMENT 804 kip-ft
TORQUE 0 kip-ft
50 mph WIND - 1.5000 in ICE

AXIAL 57 K
SHEAR 33 K
MOMENT 2935 kip-ft
TORQUE 0 kip-ft
REACTIONS - 118 mph WIND

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Phone: (913) 458-6909
FAX:

Job: ***HRT 100 943239 (BU# 806376)***		
Project: ***406642 (806376.2018574)***		
Client: Crown Castle	Drawn by: Purich Sangpairoj	App'd:
Code: TIA-222-H	Date: 04/21/22	Scale: NTS
Path:		Dwg No. E-1

Tower Input Data

The tower is a monopole.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

- Tower 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.
- TOWER RATING: 79.4%.
- 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		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned		Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
√	Use Code Stress Ratios		Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-H Bracing Resist. Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-H Tension Splice Exemption
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
	Secondary Horizontal Braces Leg		Sort Capacity Reports By Component	√	Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	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)

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
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 (65 ksi)
L36	41.60-34.08	7.52	4.92	12	32.1341	34.0150	0.7875	3.1500	A572-65 (65 ksi)
L37	34.08-34.00	5.00	0.00	12	32.1594	33.4082	0.8187	3.2750	A572-65 (65 ksi)
L38	34.00-29.00	5.00	0.00	12	33.4082	34.6570	0.7937	3.1750	A572-65 (65 ksi)
L39	29.00-26.85	2.15	0.00	12	34.6570	35.1940	0.7937	3.1750	A572-65 (65 ksi)
L40	26.85-26.60	0.25	0.00	12	35.1940	35.2564	0.8938	3.5750	A572-65 (65 ksi)
L41	26.60-21.60	5.00	0.00	12	35.2564	36.5052	0.8688	3.4750	A572-65 (65 ksi)
L42	21.60-18.00	3.60	0.00	12	36.5052	37.4044	0.8562	3.4250	A572-65 (65 ksi)
L43	18.00-17.75	0.25	0.00	12	37.4044	37.4668	0.9938	3.9750	A572-65 (65 ksi)
L44	17.75-17.50	0.25	0.00	12	37.4668	37.5292	0.9938	3.9750	A572-65 (65 ksi)
L45	17.50-17.25	0.25	0.00	12	37.5292	37.5917	0.9938	3.9750	A572-65 (65 ksi)
L46	17.25-17.08	0.17	0.00	12	37.5917	37.6341	0.9938	3.9750	A572-65 (65 ksi)
L47	17.08-16.83	0.25	0.00	12	37.6341	37.6966	0.8938	3.5750	A572-65 (65 ksi)
L48	16.83-13.00	3.83	0.00	12	37.6966	38.6531	0.8812	3.5250	A572-65 (65 ksi)
L49	13.00-12.75	0.25	0.00	12	38.6531	38.7156	1.0688	4.2750	A572-65 (65 ksi)
L50	12.75-11.85	0.90	0.00	12	38.7156	38.9404	1.0438	4.1750	A572-65 (65 ksi)
L51	11.85-11.60	0.25	0.00	12	38.9404	39.0028	0.8187	3.2750	A572-65 (65 ksi)
L52	11.60-6.50	5.10	0.00	12	39.0028	40.2766	0.7937	3.1750	A572-65 (65 ksi)
L53	6.50-6.25	0.25	0.00	12	40.2766	40.3390	0.9187	3.6750	A572-65 (65 ksi)
L54	6.25-3.75	2.50	0.00	12	40.3390	40.9634	0.9063	3.6250	A572-65 (65 ksi)
L55	3.75-3.50	0.25	0.00	12	40.9634	41.0258	1.2437	4.9750	A572-65 (65 ksi)
L56	3.50-3.00	0.50	0.00	12	41.0258	41.1507	1.2437	4.9750	A572-65 (65 ksi)
L57	3.00-2.75	0.25	0.00	12	41.1507	41.2132	1.0688	4.2750	A572-65 (65 ksi)
L58	2.75-0.00	2.75		12	41.2132	41.9000	1.0688	4.2750	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	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

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
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
	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	10515.9630	30.1242	5.1286	6.954
	27.2513	61.3554	5227.6742	9.2495	13.7654	379.7700	10592.6852	30.1973	5.1454	6.977
L24	27.2513	61.3554	5227.6742	9.2495	13.7654	379.7700	10592.6852	30.1973	5.1454	6.977
	27.6113	62.1810	5441.5594	9.3740	13.9455	390.2030	11026.0745	30.6036	5.2385	7.103
L25	27.5672	72.3730	6273.1514	9.3292	13.9455	449.8348	12711.1054	35.6198	4.9035	5.685
	27.6319	72.5467	6318.4168	9.3516	13.9778	452.0308	12802.8255	35.7053	4.9203	5.705
L26	27.6407	70.5113	6152.9066	9.3605	13.9778	440.1899	12467.4569	34.7035	4.9873	5.955
	28.9354	73.8838	7078.6705	9.8082	14.6256	483.9903	14343.3055	36.3633	5.3224	6.355
L27	28.9442	71.7437	6886.1834	9.8172	14.6256	470.8294	13953.2745	35.3101	5.3894	6.633
	29.8997	74.1583	7605.1298	10.1476	15.1037	503.5269	15410.0548	36.4985	5.6368	6.938
L28	29.8909	76.3727	7818.4101	10.1387	15.1037	517.6480	15842.2186	37.5883	5.5698	6.65
	29.9556	76.5413	7870.3118	10.1610	15.1361	519.9692	15947.3854	37.6713	5.5865	6.67
L29	29.9600	75.4321	7763.0922	10.1655	15.1361	512.8855	15730.1294	37.1254	5.6200	6.812
	30.1335	75.8773	7901.3485	10.2255	15.2229	519.0430	16010.2743	37.3445	5.6649	6.867
L30	30.1203	79.2221	8228.0080	10.2121	15.2229	540.5014	16672.1749	38.9907	5.5644	6.452
	30.1850	79.3957	8282.2351	10.2345	15.2553	542.9085	16782.0537	39.0762	5.5812	6.471
L31	30.1939	77.1618	8063.2873	10.2434	15.2553	528.5563	16338.4061	37.9767	5.6482	6.744
	31.4885	80.5343	9167.4296	10.6911	15.9031	576.4554	18575.6979	39.6365	5.9834	7.144
L32	31.4974	78.1957	8916.1298	10.7001	15.9031	560.6534	18066.4963	38.4856	6.0504	7.447
	32.2094	79.9952	9545.9589	10.9463	16.2594	587.1043	19342.7008	39.3712	6.2347	7.673
L33	32.2094	79.9952	9545.9589	10.9463	16.2594	587.1043	19342.7008	39.3712	6.2347	7.673
	32.2742	80.1588	9604.6435	10.9687	16.2918	589.5391	19461.6117	39.4517	6.2515	7.694
L34	32.2786	78.9578	9468.4591	10.9732	16.2918	581.1800	19185.6652	38.8606	6.2850	7.856
	32.9208	80.5557	10055.0054	11.1952	16.6131	605.2459	20374.1671	39.6470	6.4512	8.064
L35	32.9163	81.7816	10199.8737	11.1908	16.6131	613.9660	20667.7095	40.2504	6.4177	7.899
	32.9811	81.9452	10261.2059	11.2131	16.6455	616.4559	20791.9850	40.3309	6.4344	7.919
L36	32.9899	79.4872	9969.3100	11.2221	16.6455	598.9199	20200.5249	39.1212	6.5014	8.256
	34.9371	84.2566	11873.6812	11.8954	17.6198	673.8840	24059.2972	41.4686	7.0055	8.896
L37	34.2772	82.6258	10359.0161	11.2200	16.6586	621.8424	20990.1751	40.6659	6.4245	7.847
	34.2979	85.9181	11647.2977	11.6670	17.3055	673.0418	23600.5829	42.2863	6.7592	8.255
L38	34.3067	83.3585	11317.6611	11.6760	17.3055	653.9937	22932.6497	41.0265	6.8262	8.6
	35.5996	86.5503	12668.1157	12.1230	17.9523	705.6529	25669.0370	42.5974	7.1608	9.022
L39	35.5996	86.5503	12668.1157	12.1230	17.9523	705.6529	25669.0370	42.5974	7.1608	9.022
	36.1555	87.9227	13280.3690	12.3153	18.2305	728.4703	26909.6280	43.2729	7.3047	9.203
L40	36.1202	98.7118	14823.4576	12.2795	18.2305	813.1135	30036.3440	48.5830	7.0367	7.873
	36.1849	98.8915	14904.5581	12.3018	18.2628	816.1143	30200.6756	48.6714	7.0535	7.892

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L41	36.1937	96.1952	14519.2912	12.3108	18.2628	795.0186	29420.0203	47.3444	7.1205	8.196
	37.4865	99.6886	16159.2365	12.7579	18.9097	854.5472	32742.9941	49.0637	7.4552	8.581
L42	37.4909	98.2887	15943.4950	12.7623	18.9097	843.1382	32305.8433	48.3747	7.4887	8.746
	38.4218	100.7677	17180.5456	13.0842	19.3755	886.7170	34812.4434	49.5948	7.7296	9.027
L43	38.3733	116.5094	19715.2643	13.0350	19.3755	1017.5381	39948.4706	57.3424	7.3611	7.407
	38.4379	116.7092	19816.8658	13.0573	19.4078	1021.0774	40154.3428	57.4407	7.3779	7.424
L44	38.4379	116.7092	19816.8658	13.0573	19.4078	1021.0774	40154.3428	57.4407	7.3779	7.424
	38.5026	116.9090	19918.8158	13.0797	19.4401	1024.6229	40360.9210	57.5390	7.3946	7.441
L45	38.5026	116.9090	19918.8158	13.0797	19.4401	1024.6229	40360.9210	57.5390	7.3946	7.441
	38.5672	117.1088	20021.1148	13.1021	19.4725	1028.1746	40568.2066	57.6374	7.4113	7.458
L46	38.5672	117.1088	20021.1148	13.1021	19.4725	1028.1746	40568.2066	57.6374	7.4113	7.458
	38.6112	117.2446	20090.8779	13.1173	19.4945	1030.5932	40709.5655	57.7042	7.4227	7.469
L47	38.6464	105.7342	18217.5030	13.1531	19.4945	934.4955	36913.6002	52.0392	7.6907	8.605
	38.7111	105.9139	18310.5418	13.1754	19.5268	937.7123	37102.1219	52.1276	7.7074	8.624
L48	38.7155	104.4681	18072.8530	13.1799	19.5268	925.5398	36620.5000	51.4160	7.7409	8.784
	39.7058	107.1825	19518.5365	13.5223	20.0223	974.8385	39549.8467	52.7520	7.9973	9.075
L49	39.6397	129.3420	23320.6483	13.4552	20.0223	1164.7321	47253.9559	63.6582	7.4948	7.013
	39.7043	129.5569	23437.0703	13.4776	20.0547	1168.6588	47489.8585	63.7640	7.5115	7.028
L50	39.7131	126.6103	22934.4642	13.4865	20.0547	1143.5970	46471.4422	62.3138	7.5785	7.261
	39.9458	127.3658	23347.4584	13.5670	20.1711	1157.4702	47308.2806	62.6856	7.6388	7.319
L51	40.0252	100.5029	18642.6244	13.6475	20.1711	924.2240	37775.0112	49.4645	8.2418	10.066
	40.0899	100.6675	18734.3789	13.6699	20.2035	927.2860	37960.9309	49.5455	8.2585	10.087
L52	40.0987	97.6576	18198.0341	13.6788	20.2035	900.7388	36874.1509	48.0641	8.3255	10.489
	41.4174	100.9132	20079.3719	14.1349	20.8633	962.4271	40686.2513	49.6664	8.6669	10.919
L53	41.3733	116.4352	23021.4329	14.0901	20.8633	1103.4435	46647.6645	57.3059	8.3319	9.069
	41.4379	116.6199	23131.1744	14.1125	20.8956	1106.9874	46870.0306	57.3968	8.3486	9.087
L54	41.4423	115.0697	22838.1765	14.1169	20.8956	1092.9654	46276.3373	56.6338	8.3821	9.249
	42.0887	116.8918	23940.3343	14.3405	21.2190	1128.2475	48509.6078	57.5306	8.5494	9.434
L55	41.9697	159.0723	32032.5406	14.2196	21.2190	1509.6127	64906.6117	78.2905	7.6449	6.147
	42.0343	159.3223	32183.8442	14.2420	21.2514	1514.4349	65213.1938	78.4136	7.6617	6.16
L56	42.0343	159.3223	32183.8442	14.2420	21.2514	1514.4349	65213.1938	78.4136	7.6617	6.16
	42.1636	159.8224	32487.8793	14.2867	21.3161	1524.1023	65829.2513	78.6597	7.6951	6.187
L57	42.2254	137.9371	28285.5943	14.3493	21.3161	1326.9607	57314.2827	67.8884	8.1641	7.639
	42.2900	138.1520	28417.9899	14.3717	21.3484	1331.1519	57582.5520	67.9942	8.1809	7.655
L58	42.2900	138.1520	28417.9899	14.3717	21.3484	1331.1519	57582.5520	67.9942	8.1809	7.655
	43.0011	140.5156	29901.7066	14.6176	21.7042	1377.6922	60588.9644	69.1575	8.3650	7.827

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 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-				1	1	0.877374			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	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
83.17									
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			

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L48 16.83-13.00				1	1	0.959721			
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 in	Perimeter 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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8) ***	B	No	Surface Ar (CaAa)	87.00 - 0.00	4	4	0.000 0.000	1.9960		2.50
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 (CaAa)	91.50 - 81.50	1	1	0.125 0.125	4.5000	11.0000	0.00
CCI-SFP-065125	A	No	Surface Af	20.75 -	1	1	0.375	6.5000	15.5000	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
			(CaAa)	0.00			0.375			
PL0.75x4 Reinforcement - Wind Area	A	No	Surface Af (CaAa)	68.30 - 43.30	1	1	0.375 0.375	4.0000	9.5000	0.00
CCI-AFP-060100	B	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	B	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	B	No	Surface Af (CaAa)	85.80 - 65.80	1	1	-0.375 -0.375	4.0000	9.5000	0.00
CCI-CFP-060100	B	No	Surface Af (CaAa)	55.10 - 0.00	1	1	-0.125 -0.125	6.0000	14.0000	0.00
CCI-CFP-045125	B	No	Surface Af (CaAa)	85.20 - 55.10	1	1	-0.125 -0.125	4.5000	11.5000	0.00
CCI-SFP-065125	B	No	Surface Af (CaAa)	20.75 - 0.00	1	1	0.125 0.125	6.5000	15.5000	0.00
CCI-AFP-060100	B	No	Surface Af (CaAa)	56.00 - 21.00	1	1	0.125 0.125	6.0000	14.0000	0.00
CCI-AFP-045100	B	No	Surface Af (CaAa)	66.10 - 56.00	1	1	0.125 0.125	4.5000	11.0000	0.00
CCI-AFP-045100	B	No	Surface Af (CaAa)	91.50 - 81.50	1	1	0.125 0.125	4.5000	11.0000	0.00
CCI-SFP-065125	B	No	Surface Af (CaAa)	9.25 - 0.00	1	1	0.375 0.375	6.5000	15.5000	0.00
CCI-AFP-060100	B	No	Surface Af (CaAa)	29.40 - 9.40	1	1	0.375 0.375	6.0000	14.0000	0.00
PL0.75x4 Reinforcement - Wind Area	B	No	Surface Af (CaAa)	68.30 - 43.30	1	1	0.375 0.375	4.0000	9.5000	0.00
CCI-AFP-060100	C	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	C	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	C	No	Surface Af (CaAa)	85.80 - 65.80	1	1	-0.375 -0.375	4.0000	9.5000	0.00
CCI-CFP-060100	C	No	Surface Af (CaAa)	55.10 - 0.00	1	1	-0.125 -0.125	6.0000	14.0000	0.00
CCI-CFP-045125	C	No	Surface Af (CaAa)	85.20 - 55.10	1	1	-0.125 -0.125	4.5000	11.5000	0.00
CCI-SFP-065125	C	No	Surface Af (CaAa)	20.75 - 0.00	1	1	0.125 0.125	6.5000	15.5000	0.00
CCI-AFP-060100	C	No	Surface Af (CaAa)	56.00 - 21.00	1	1	0.125 0.125	6.0000	14.0000	0.00
CCI-AFP-045100	C	No	Surface Af (CaAa)	66.10 - 56.00	1	1	0.125 0.125	4.5000	11.0000	0.00
CCI-AFP-045100	C	No	Surface Af (CaAa)	91.50 - 81.50	1	1	0.125 0.125	4.5000	11.0000	0.00
CCI-AFP-060100	C	No	Surface Af (CaAa)	29.40 - 9.40	1	1	0.375 0.375	6.0000	14.0000	0.00
PL0.75x4 Reinforcement - Wind Area	C	No	Surface Af (CaAa)	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_AA_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

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
							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	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	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	10.584	0.000	0.09
		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	1.254	0.000	0.01
		C	0.000	0.000	0.933	0.000	0.00

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L12	84.42-84.17	A	0.000	0.000	0.542	0.000	0.00
		B	0.000	0.000	0.941	0.000	0.01
		C	0.000	0.000	0.701	0.000	0.00
L13	84.17-83.42	A	0.000	0.000	1.619	0.000	0.00
		B	0.000	0.000	2.813	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	0.941	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	0.640	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	0.941	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	16.013	0.000	0.12
		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	24.354	0.000	0.19
		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	3.156	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	6.873	0.000	0.05
		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	0.956	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	10.881	0.000	0.07
		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	0.977	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	5.430	0.000	0.03
		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	0.977	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	19.531	0.000	0.13
		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	15.439	0.000	0.09
		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	1.102	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	2.952	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	1.102	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	22.031	0.000	0.13
		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	12.950	0.000	0.07
		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	1.268	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	11.614	0.000	0.06
		C	0.000	0.000	8.878	0.000	0.02

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L35	41.85-41.60	A	0.000	0.000	0.667	0.000	0.00
		B	0.000	0.000	1.102	0.000	0.01
		C	0.000	0.000	0.826	0.000	0.00
L36	41.60-34.08	A	0.000	0.000	20.053	0.000	0.00
		B	0.000	0.000	33.134	0.000	0.19
		C	0.000	0.000	24.838	0.000	0.06
L37	34.08-34.00	A	0.000	0.000	0.213	0.000	0.00
		B	0.000	0.000	0.352	0.000	0.00
		C	0.000	0.000	0.264	0.000	0.00
L38	34.00-29.00	A	0.000	0.000	13.333	0.000	0.00
		B	0.000	0.000	22.431	0.000	0.13
		C	0.000	0.000	16.915	0.000	0.04
L39	29.00-26.85	A	0.000	0.000	5.733	0.000	0.00
		B	0.000	0.000	11.623	0.000	0.05
		C	0.000	0.000	9.251	0.000	0.02
L40	26.85-26.60	A	0.000	0.000	0.667	0.000	0.00
		B	0.000	0.000	1.352	0.000	0.01
		C	0.000	0.000	1.076	0.000	0.00
L41	26.60-21.60	A	0.000	0.000	13.333	0.000	0.00
		B	0.000	0.000	27.031	0.000	0.13
		C	0.000	0.000	21.515	0.000	0.04
L42	21.60-18.00	A	0.000	0.000	12.579	0.000	0.00
		B	0.000	0.000	19.441	0.000	0.09
		C	0.000	0.000	15.470	0.000	0.03
L43	18.00-17.75	A	0.000	0.000	0.938	0.000	0.00
		B	0.000	0.000	1.372	0.000	0.01
		C	0.000	0.000	1.097	0.000	0.00
L44	17.75-17.50	A	0.000	0.000	0.938	0.000	0.00
		B	0.000	0.000	1.372	0.000	0.01
		C	0.000	0.000	1.097	0.000	0.00
L45	17.50-17.25	A	0.000	0.000	0.938	0.000	0.00
		B	0.000	0.000	1.372	0.000	0.01
		C	0.000	0.000	1.097	0.000	0.00
L46	17.25-17.08	A	0.000	0.000	0.637	0.000	0.00
		B	0.000	0.000	0.933	0.000	0.00
		C	0.000	0.000	0.746	0.000	0.00
L47	17.08-16.83	A	0.000	0.000	0.938	0.000	0.00
		B	0.000	0.000	1.372	0.000	0.01
		C	0.000	0.000	1.097	0.000	0.00
L48	16.83-13.00	A	0.000	0.000	14.976	0.000	0.00
		B	0.000	0.000	21.638	0.000	0.10
		C	0.000	0.000	17.413	0.000	0.03
L49	13.00-12.75	A	0.000	0.000	1.021	0.000	0.00
		B	0.000	0.000	1.456	0.000	0.01
		C	0.000	0.000	1.180	0.000	0.00
L50	12.75-11.85	A	0.000	0.000	3.675	0.000	0.00
		B	0.000	0.000	5.241	0.000	0.02
		C	0.000	0.000	4.248	0.000	0.01
L51	11.85-11.60	A	0.000	0.000	1.021	0.000	0.00
		B	0.000	0.000	1.456	0.000	0.01
		C	0.000	0.000	1.180	0.000	0.00
L52	11.60-6.50	A	0.000	0.000	17.925	0.000	0.00
		B	0.000	0.000	29.367	0.000	0.13
		C	0.000	0.000	21.170	0.000	0.04
L53	6.50-6.25	A	0.000	0.000	0.771	0.000	0.00
		B	0.000	0.000	1.439	0.000	0.01
		C	0.000	0.000	0.930	0.000	0.00
L54	6.25-3.75	A	0.000	0.000	7.708	0.000	0.00
		B	0.000	0.000	14.394	0.000	0.06
		C	0.000	0.000	9.299	0.000	0.02
L55	3.75-3.50	A	0.000	0.000	0.771	0.000	0.00
		B	0.000	0.000	1.439	0.000	0.01
		C	0.000	0.000	0.930	0.000	0.00
L56	3.50-3.00	A	0.000	0.000	1.542	0.000	0.00
		B	0.000	0.000	2.879	0.000	0.01
		C	0.000	0.000	1.860	0.000	0.00
L57	3.00-2.75	A	0.000	0.000	0.771	0.000	0.00
		B	0.000	0.000	1.439	0.000	0.01
		C	0.000	0.000	0.930	0.000	0.00

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L58	2.75-0.00	A	0.000	0.000	7.979	0.000	0.00
		B	0.000	0.000	15.333	0.000	0.07
		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_AA_A In Face ft^2	C_AA_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	15.799	0.000	0.24
		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	1.860	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	1.396	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	4.171	0.000	0.06
		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	1.396	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	0.949	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	1.395	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	24.479	0.000	0.35
		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	39.025	0.000	0.56
		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	5.076	0.000	0.07
		C		0.000	0.000	3.377	0.000	0.04

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L20	69.00-67.08	A	1.371	0.000	0.000	4.920	0.000	0.04
		B		0.000	0.000	10.870	0.000	0.15
		C		0.000	0.000	7.614	0.000	0.08
L21	67.08-66.83	A	1.368	0.000	0.000	0.726	0.000	0.01
		B		0.000	0.000	1.500	0.000	0.02
		C		0.000	0.000	1.077	0.000	0.01
L22	66.83-64.08	A	1.365	0.000	0.000	6.693	0.000	0.06
		B		0.000	0.000	16.712	0.000	0.22
		C		0.000	0.000	12.052	0.000	0.13
L23	64.08-63.83	A	1.362	0.000	0.000	0.746	0.000	0.01
		B		0.000	0.000	1.491	0.000	0.02
		C		0.000	0.000	1.067	0.000	0.01
L24	63.83-62.44	A	1.360	0.000	0.000	4.146	0.000	0.03
		B		0.000	0.000	8.285	0.000	0.11
		C		0.000	0.000	5.931	0.000	0.06
L25	62.44-62.19	A	1.359	0.000	0.000	0.745	0.000	0.01
		B		0.000	0.000	1.490	0.000	0.02
		C		0.000	0.000	1.066	0.000	0.01
L26	62.19-57.19	A	1.353	0.000	0.000	14.892	0.000	0.12
		B		0.000	0.000	29.756	0.000	0.40
		C		0.000	0.000	21.300	0.000	0.23
L27	57.19-53.50	A	1.343	0.000	0.000	11.368	0.000	0.09
		B		0.000	0.000	23.220	0.000	0.30
		C		0.000	0.000	16.989	0.000	0.17
L28	53.50-53.25	A	1.338	0.000	0.000	0.805	0.000	0.01
		B		0.000	0.000	1.636	0.000	0.02
		C		0.000	0.000	1.214	0.000	0.01
L29	53.25-52.58	A	1.337	0.000	0.000	2.156	0.000	0.02
		B		0.000	0.000	4.384	0.000	0.06
		C		0.000	0.000	3.254	0.000	0.03
L30	52.58-52.33	A	1.335	0.000	0.000	0.804	0.000	0.01
		B		0.000	0.000	1.635	0.000	0.02
		C		0.000	0.000	1.214	0.000	0.01
L31	52.33-47.33	A	1.329	0.000	0.000	16.069	0.000	0.13
		B		0.000	0.000	32.665	0.000	0.41
		C		0.000	0.000	24.238	0.000	0.24
L32	47.33-44.58	A	1.318	0.000	0.000	9.983	0.000	0.08
		B		0.000	0.000	19.090	0.000	0.23
		C		0.000	0.000	14.463	0.000	0.14
L33	44.58-44.33	A	1.314	0.000	0.000	1.051	0.000	0.01
		B		0.000	0.000	1.861	0.000	0.02
		C		0.000	0.000	1.440	0.000	0.01
L34	44.33-41.85	A	1.309	0.000	0.000	9.518	0.000	0.07
		B		0.000	0.000	17.096	0.000	0.21
		C		0.000	0.000	12.929	0.000	0.12
L35	41.85-41.60	A	1.305	0.000	0.000	0.862	0.000	0.01
		B		0.000	0.000	1.626	0.000	0.02
		C		0.000	0.000	1.206	0.000	0.01
L36	41.60-34.08	A	1.292	0.000	0.000	25.885	0.000	0.20
		B		0.000	0.000	48.774	0.000	0.60
		C		0.000	0.000	36.169	0.000	0.35
L37	34.08-34.00	A	1.279	0.000	0.000	0.275	0.000	0.00
		B		0.000	0.000	0.519	0.000	0.01
		C		0.000	0.000	0.385	0.000	0.00
L38	34.00-29.00	A	1.269	0.000	0.000	17.140	0.000	0.13
		B		0.000	0.000	32.779	0.000	0.40
		C		0.000	0.000	24.427	0.000	0.23
L39	29.00-26.85	A	1.254	0.000	0.000	7.351	0.000	0.05
		B		0.000	0.000	16.526	0.000	0.19
		C		0.000	0.000	12.943	0.000	0.12
L40	26.85-26.60	A	1.248	0.000	0.000	0.854	0.000	0.01
		B		0.000	0.000	1.920	0.000	0.02
		C		0.000	0.000	1.503	0.000	0.01
L41	26.60-21.60	A	1.235	0.000	0.000	17.040	0.000	0.12
		B		0.000	0.000	38.295	0.000	0.43
		C		0.000	0.000	29.985	0.000	0.27
L42	21.60-18.00	A	1.211	0.000	0.000	15.862	0.000	0.11
		B		0.000	0.000	27.361	0.000	0.30
		C		0.000	0.000	21.400	0.000	0.19

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L43	18.00-17.75	A	1.199	0.000	0.000	1.177	0.000	0.01
		B		0.000	0.000	1.922	0.000	0.02
		C		0.000	0.000	1.509	0.000	0.01
L44	17.75-17.50	A	1.197	0.000	0.000	1.177	0.000	0.01
		B		0.000	0.000	1.921	0.000	0.02
		C		0.000	0.000	1.508	0.000	0.01
L45	17.50-17.25	A	1.196	0.000	0.000	1.177	0.000	0.01
		B		0.000	0.000	1.921	0.000	0.02
		C		0.000	0.000	1.508	0.000	0.01
L46	17.25-17.08	A	1.194	0.000	0.000	0.800	0.000	0.01
		B		0.000	0.000	1.306	0.000	0.01
		C		0.000	0.000	1.025	0.000	0.01
L47	17.08-16.83	A	1.193	0.000	0.000	1.176	0.000	0.01
		B		0.000	0.000	1.920	0.000	0.02
		C		0.000	0.000	1.507	0.000	0.01
L48	16.83-13.00	A	1.178	0.000	0.000	18.416	0.000	0.13
		B		0.000	0.000	29.766	0.000	0.32
		C		0.000	0.000	23.456	0.000	0.20
L49	13.00-12.75	A	1.160	0.000	0.000	1.244	0.000	0.01
		B		0.000	0.000	1.982	0.000	0.02
		C		0.000	0.000	1.571	0.000	0.01
L50	12.75-11.85	A	1.155	0.000	0.000	4.476	0.000	0.03
		B		0.000	0.000	7.129	0.000	0.08
		C		0.000	0.000	5.652	0.000	0.05
L51	11.85-11.60	A	1.150	0.000	0.000	1.242	0.000	0.01
		B		0.000	0.000	1.978	0.000	0.02
		C		0.000	0.000	1.568	0.000	0.01
L52	11.60-6.50	A	1.120	0.000	0.000	21.691	0.000	0.14
		B		0.000	0.000	39.502	0.000	0.42
		C		0.000	0.000	28.270	0.000	0.24
L53	6.50-6.25	A	1.082	0.000	0.000	0.926	0.000	0.01
		B		0.000	0.000	1.913	0.000	0.02
		C		0.000	0.000	1.245	0.000	0.01
L54	6.25-3.75	A	1.056	0.000	0.000	9.232	0.000	0.06
		B		0.000	0.000	19.049	0.000	0.20
		C		0.000	0.000	12.385	0.000	0.10
L55	3.75-3.50	A	1.022	0.000	0.000	0.919	0.000	0.01
		B		0.000	0.000	1.894	0.000	0.02
		C		0.000	0.000	1.231	0.000	0.01
L56	3.50-3.00	A	1.011	0.000	0.000	1.835	0.000	0.01
		B		0.000	0.000	3.781	0.000	0.04
		C		0.000	0.000	2.456	0.000	0.02
L57	3.00-2.75	A	0.999	0.000	0.000	0.916	0.000	0.01
		B		0.000	0.000	1.886	0.000	0.02
		C		0.000	0.000	1.225	0.000	0.01
L58	2.75-0.00	A	0.928	0.000	0.000	9.392	0.000	0.05
		B		0.000	0.000	19.907	0.000	0.19
		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	1.8715	1.2838	1.9146	1.5971
L11	84.75-84.42	1.7142	0.2887	1.8424	0.5357

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L12	84.42-84.17	1.7193	0.2895	1.8478	0.5372
L13	84.17-83.42	1.7270	0.2908	1.8560	0.5396
L14	83.42-83.17	1.7359	0.2923	1.8655	0.5423
L15	83.17-83.00	1.7391	0.2929	1.8690	0.5433
L16	83.00-82.75	1.7416	0.2933	1.8715	0.5440
L17	82.75-77.75	2.1331	0.3594	2.1728	0.6314
L18	77.75-70.00	2.5180	0.4640	2.6390	0.7980
L19	70.00-69.00	2.5763	0.4787	2.7126	0.8236
L20	69.00-67.08	2.2717	0.4221	2.4500	0.7424
L21	67.08-66.83	2.1343	0.3966	2.3282	0.7053
L22	66.83-64.08	2.4714	0.9060	2.6231	1.0970
L23	64.08-63.83	2.1269	0.3954	2.3313	0.6432
L24	63.83-62.44	2.1400	0.3978	2.3453	0.6469
L25	62.44-62.19	2.1535	0.4004	2.3598	0.6508
L26	62.19-57.19	2.1950	0.4081	2.4041	0.6627
L27	57.19-53.50	2.2617	0.5839	2.4737	0.8222
L28	53.50-53.25	2.2486	0.6514	2.4703	0.8829
L29	53.25-52.58	2.2557	0.6535	2.4778	0.8855
L30	52.58-52.33	2.2630	0.6556	2.4856	0.8882
L31	52.33-47.33	2.3035	0.6676	2.5285	0.9030
L32	47.33-44.58	2.2026	0.6387	2.4348	0.8688
L33	44.58-44.33	2.0063	0.5265	2.2581	0.7710
L34	44.33-41.85	2.0596	0.3834	2.3586	0.7082
L35	41.85-41.60	2.2141	0.4121	2.5153	0.7547
L36	41.60-34.08	2.2653	0.4218	2.5730	0.7702
L37	34.08-34.00	2.2818	0.4249	2.5929	0.7762
L38	34.00-29.00	2.2379	0.5492	2.5631	0.8767
L39	29.00-26.85	1.5197	1.7419	1.9419	1.8531
L40	26.85-26.60	1.5302	1.7547	1.9545	1.8655
L41	26.60-21.60	1.5526	1.7819	1.9809	1.8914
L42	21.60-18.00	1.9404	0.6015	2.2976	0.8957
L43	18.00-17.75	2.0948	0.3435	2.4252	0.6719
L44	17.75-17.50	2.0975	0.3439	2.4282	0.6725
L45	17.50-17.25	2.1002	0.3444	2.4313	0.6731
L46	17.25-17.08	2.1024	0.3447	2.4338	0.6735
L47	17.08-16.83	2.1043	0.3451	2.4360	0.6739
L48	16.83-13.00	2.0667	0.3389	2.4252	0.6684
L49	13.00-12.75	2.0274	0.3325	2.3958	0.6575
L50	12.75-11.85	2.0332	0.3335	2.4020	0.6583
L51	11.85-11.60	2.0383	0.3343	2.4075	0.6589
L52	11.60-6.50	3.3854	0.7698	3.5794	1.0177
L53	6.50-6.25	4.6002	1.2076	4.6221	1.3719
L54	6.25-3.75	4.6297	1.2155	4.6491	1.3761
L55	3.75-3.50	4.6620	1.2242	4.6773	1.3794
L56	3.50-3.00	4.6700	1.2264	4.6840	1.3796
L57	3.00-2.75	4.6766	1.2282	4.6892	1.3792
L58	2.75-0.00	4.8755	1.2807	4.8543	1.4159

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
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

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
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	42	CCI-AFP-045100	90.00 - 91.50	1.0000	1.0000
L8	53	CCI-AFP-045100	90.00 - 91.50	1.0000	1.0000
L8	65	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	42	CCI-AFP-045100	89.75 - 90.00	1.0000	1.0000
L9	53	CCI-AFP-045100	89.75 - 90.00	1.0000	1.0000
L9	65	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	84.75 - 87.00	1.0000	1.0000
L10	37	PL0.75x4 Reinforcement - Wind Area	84.75 - 85.80	1.0000	1.0000
L10	39	CCI-CFP-045125	84.75 - 85.20	1.0000	1.0000
L10	42	CCI-AFP-045100	84.75 - 89.75	1.0000	1.0000
L10	47	PL0.75x4 Reinforcement - Wind Area	84.75 - 85.80	1.0000	1.0000
L10	49	CCI-CFP-045125	84.75 - 85.20	1.0000	1.0000
L10	53	CCI-AFP-045100	84.75 - 89.75	1.0000	1.0000
L10	59	PL0.75x4 Reinforcement - Wind Area	84.75 - 85.80	1.0000	1.0000
L10	61	CCI-CFP-045125	84.75 - 85.20	1.0000	1.0000
L10	65	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	84.42 - 84.75	1.0000	1.0000
L11	37	PL0.75x4 Reinforcement - Wind Area	84.42 - 84.75	1.0000	1.0000
L11	39	CCI-CFP-045125	84.42 - 84.75	1.0000	1.0000
L11	42	CCI-AFP-045100	84.42 - 84.75	1.0000	1.0000
L11	47	PL0.75x4 Reinforcement - Wind Area	84.42 - 84.75	1.0000	1.0000
L11	49	CCI-CFP-045125	84.42 - 84.75	1.0000	1.0000
L11	53	CCI-AFP-045100	84.42 - 84.75	1.0000	1.0000
L11	59	PL0.75x4 Reinforcement - Wind Area	84.42 - 84.75	1.0000	1.0000
L11	61	CCI-CFP-045125	84.42 - 84.75	1.0000	1.0000
L11	65	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	84.17 - 84.42	1.0000	1.0000
L12	37	PL0.75x4 Reinforcement - Wind Area	84.17 - 84.42	1.0000	1.0000
L12	39	CCI-CFP-045125	84.17 - 84.42	1.0000	1.0000
L12	42	CCI-AFP-045100	84.17 - 84.42	1.0000	1.0000
L12	47	PL0.75x4 Reinforcement - Wind Area	84.17 - 84.42	1.0000	1.0000
L12	49	CCI-CFP-045125	84.17 - 84.42	1.0000	1.0000
L12	53	CCI-AFP-045100	84.17 - 84.42	1.0000	1.0000
L12	59	PL0.75x4 Reinforcement - Wind Area	84.17 - 84.42	1.0000	1.0000
L12	61	CCI-CFP-045125	84.17 - 84.42	1.0000	1.0000
L12	65	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-	83.42 - 84.17	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		21U6S24-xxM_TMO(1-5/8)			
L13	37	PL0.75x4 Reinforcement - Wind Area	83.42 - 84.17	1.0000	1.0000
L13	39	CCI-CFP-045125	83.42 - 84.17	1.0000	1.0000
L13	42	CCI-AFP-045100	83.42 - 84.17	1.0000	1.0000
L13	47	PL0.75x4 Reinforcement - Wind Area	83.42 - 84.17	1.0000	1.0000
L13	49	CCI-CFP-045125	83.42 - 84.17	1.0000	1.0000
L13	53	CCI-AFP-045100	83.42 - 84.17	1.0000	1.0000
L13	59	PL0.75x4 Reinforcement - Wind Area	83.42 - 84.17	1.0000	1.0000
L13	61	CCI-CFP-045125	83.42 - 84.17	1.0000	1.0000
L13	65	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	83.17 - 83.42	1.0000	1.0000
L14	37	PL0.75x4 Reinforcement - Wind Area	83.17 - 83.42	1.0000	1.0000
L14	39	CCI-CFP-045125	83.17 - 83.42	1.0000	1.0000
L14	42	CCI-AFP-045100	83.17 - 83.42	1.0000	1.0000
L14	47	PL0.75x4 Reinforcement - Wind Area	83.17 - 83.42	1.0000	1.0000
L14	49	CCI-CFP-045125	83.17 - 83.42	1.0000	1.0000
L14	53	CCI-AFP-045100	83.17 - 83.42	1.0000	1.0000
L14	59	PL0.75x4 Reinforcement - Wind Area	83.17 - 83.42	1.0000	1.0000
L14	61	CCI-CFP-045125	83.17 - 83.42	1.0000	1.0000
L14	65	CCI-AFP-045100	83.17 - 83.42	1.0000	1.0000
L15	2	Safety Line 3/8	83.00 - 83.17	1.0000	1.0000
L15	4	2" Flexible Conduit	83.00 - 83.17	1.0000	1.0000
L15	22	HB158-21U6S24-xxM_TMO(1-5/8)	83.00 - 83.17	1.0000	1.0000
L15	24	(1)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	83.00 - 83.17	1.0000	1.0000
L15	37	PL0.75x4 Reinforcement - Wind Area	83.00 - 83.17	1.0000	1.0000
L15	39	CCI-CFP-045125	83.00 - 83.17	1.0000	1.0000
L15	42	CCI-AFP-045100	83.00 - 83.17	1.0000	1.0000
L15	47	PL0.75x4 Reinforcement - Wind Area	83.00 - 83.17	1.0000	1.0000
L15	49	CCI-CFP-045125	83.00 - 83.17	1.0000	1.0000
L15	53	CCI-AFP-045100	83.00 - 83.17	1.0000	1.0000
L15	59	PL0.75x4 Reinforcement - Wind Area	83.00 - 83.17	1.0000	1.0000
L15	61	CCI-CFP-045125	83.00 - 83.17	1.0000	1.0000
L15	65	CCI-AFP-045100	83.00 - 83.17	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	82.75 - 83.00	1.0000	1.0000
L16	37	PL0.75x4 Reinforcement - Wind Area	82.75 - 83.00	1.0000	1.0000
L16	39	CCI-CFP-045125	82.75 - 83.00	1.0000	1.0000
L16	42	CCI-AFP-045100	82.75 - 83.00	1.0000	1.0000
L16	47	PL0.75x4 Reinforcement - Wind Area	82.75 - 83.00	1.0000	1.0000
L16	49	CCI-CFP-045125	82.75 - 83.00	1.0000	1.0000
L16	53	CCI-AFP-045100	82.75 - 83.00	1.0000	1.0000
L16	59	PL0.75x4 Reinforcement - Wind Area	82.75 - 83.00	1.0000	1.0000
L16	61	CCI-CFP-045125	82.75 - 83.00	1.0000	1.0000
L16	65	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	77.75 - 82.75	1.0000	1.0000
L17	37	PL0.75x4 Reinforcement - Wind Area	77.75 - 82.75	1.0000	1.0000
L17	39	CCI-CFP-045125	77.75 - 82.75	1.0000	1.0000
L17	42	CCI-AFP-045100	81.50 - 82.75	1.0000	1.0000
L17	47	PL0.75x4 Reinforcement - Wind Area	77.75 - 82.75	1.0000	1.0000
L17	49	CCI-CFP-045125	77.75 - 82.75	1.0000	1.0000
L17	53	CCI-AFP-045100	81.50 - 82.75	1.0000	1.0000
L17	59	PL0.75x4 Reinforcement - Wind Area	77.75 - 82.75	1.0000	1.0000
L17	61	CCI-CFP-045125	77.75 - 82.75	1.0000	1.0000
L17	65	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-	70.00 - 77.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		21U6S24-xxM_TMO(1-5/8)			
L18	32	CU12PSM9P8XXX(1-3/8)	70.00 - 77.00	1.0000	1.0000
L18	37	PL0.75x4 Reinforcement - Wind Area	70.00 - 77.75	1.0000	1.0000
L18	39	CCI-CFP-045125	70.00 - 77.75	1.0000	1.0000
L18	47	PL0.75x4 Reinforcement - Wind Area	70.00 - 77.75	1.0000	1.0000
L18	49	CCI-CFP-045125	70.00 - 77.75	1.0000	1.0000
L18	59	PL0.75x4 Reinforcement - Wind Area	70.00 - 77.75	1.0000	1.0000
L18	61	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	69.00 - 70.00	1.0000	1.0000
L19	32	CU12PSM9P8XXX(1-3/8)	69.00 - 70.00	1.0000	1.0000
L19	37	PL0.75x4 Reinforcement - Wind Area	69.00 - 70.00	1.0000	1.0000
L19	39	CCI-CFP-045125	69.00 - 70.00	1.0000	1.0000
L19	47	PL0.75x4 Reinforcement - Wind Area	69.00 - 70.00	1.0000	1.0000
L19	49	CCI-CFP-045125	69.00 - 70.00	1.0000	1.0000
L19	59	PL0.75x4 Reinforcement - Wind Area	69.00 - 70.00	1.0000	1.0000
L19	61	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	67.08 - 69.00	1.0000	1.0000
L20	32	CU12PSM9P8XXX(1-3/8)	67.08 - 69.00	1.0000	1.0000
L20	37	PL0.75x4 Reinforcement - Wind Area	67.08 - 69.00	1.0000	1.0000
L20	39	CCI-CFP-045125	67.08 - 69.00	1.0000	1.0000
L20	44	PL0.75x4 Reinforcement - Wind Area	67.08 - 68.30	1.0000	1.0000
L20	47	PL0.75x4 Reinforcement - Wind Area	67.08 - 69.00	1.0000	1.0000
L20	49	CCI-CFP-045125	67.08 - 69.00	1.0000	1.0000
L20	56	PL0.75x4 Reinforcement - Wind Area	67.08 - 68.30	1.0000	1.0000
L20	59	PL0.75x4 Reinforcement - Wind Area	67.08 - 69.00	1.0000	1.0000
L20	61	CCI-CFP-045125	67.08 - 69.00	1.0000	1.0000
L20	67	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	66.83 - 67.08	1.0000	1.0000
L21	32	CU12PSM9P8XXX(1-3/8)	66.83 - 67.08	1.0000	1.0000
L21	37	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	1.0000	1.0000
L21	39	CCI-CFP-045125	66.83 - 67.08	1.0000	1.0000
L21	44	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	1.0000	1.0000
L21	47	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	1.0000	1.0000
L21	49	CCI-CFP-045125	66.83 - 67.08	1.0000	1.0000
L21	56	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	1.0000	1.0000
L21	59	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	1.0000	1.0000
L21	61	CCI-CFP-045125	66.83 - 67.08	1.0000	1.0000
L21	67	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	1.0000	1.0000
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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	64.08 - 66.83	1.0000	1.0000
L22	32	CU12PSM9P8XXX(1-3/8)	64.08 - 66.83	1.0000	1.0000
L22	37	PL0.75x4 Reinforcement - Wind Area	65.80 - 66.83	1.0000	1.0000
L22	39	CCI-CFP-045125	64.08 - 66.83	1.0000	1.0000
L22	41	CCI-AFP-045100	64.08 - 64.40	1.0000	1.0000
L22	44	PL0.75x4 Reinforcement - Wind Area	64.08 - 66.83	1.0000	1.0000
L22	47	PL0.75x4 Reinforcement - Wind Area	65.80 - 66.83	1.0000	1.0000
L22	49	CCI-CFP-045125	64.08 - 66.83	1.0000	1.0000
L22	52	CCI-AFP-045100	64.08 - 66.10	1.0000	1.0000
L22	56	PL0.75x4 Reinforcement - Wind Area	64.08 - 66.83	1.0000	1.0000
L22	59	PL0.75x4 Reinforcement - Wind Area	65.80 - 66.83	1.0000	1.0000
L22	61	CCI-CFP-045125	64.08 - 66.83	1.0000	1.0000
L22	64	CCI-AFP-045100	64.08 - 66.10	1.0000	1.0000
L22	67	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

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L23	22	HB158-21U6S24-xxM_TMO(1-5/8)	63.83 - 64.08	1.0000	1.0000
L23	24	(1)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	63.83 - 64.08	1.0000	1.0000
L23	32	CU12PSM9P8XXX(1-3/8)	63.83 - 64.08	1.0000	1.0000
L23	39	CCI-CFP-045125	63.83 - 64.08	1.0000	1.0000
L23	41	CCI-AFP-045100	63.83 - 64.08	1.0000	1.0000
L23	44	PL0.75x4 Reinforcement - Wind Area	63.83 - 64.08	1.0000	1.0000
L23	49	CCI-CFP-045125	63.83 - 64.08	1.0000	1.0000
L23	52	CCI-AFP-045100	63.83 - 64.08	1.0000	1.0000
L23	56	PL0.75x4 Reinforcement - Wind Area	63.83 - 64.08	1.0000	1.0000
L23	61	CCI-CFP-045125	63.83 - 64.08	1.0000	1.0000
L23	64	CCI-AFP-045100	63.83 - 64.08	1.0000	1.0000
L23	67	PL0.75x4 Reinforcement - Wind Area	63.83 - 64.08	1.0000	1.0000
L24	2	Safety Line 3/8	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	62.44 - 63.83	1.0000	1.0000
L24	32	CU12PSM9P8XXX(1-3/8)	62.44 - 63.83	1.0000	1.0000
L24	39	CCI-CFP-045125	62.44 - 63.83	1.0000	1.0000
L24	41	CCI-AFP-045100	62.44 - 63.83	1.0000	1.0000
L24	44	PL0.75x4 Reinforcement - Wind Area	62.44 - 63.83	1.0000	1.0000
L24	49	CCI-CFP-045125	62.44 - 63.83	1.0000	1.0000
L24	52	CCI-AFP-045100	62.44 - 63.83	1.0000	1.0000
L24	56	PL0.75x4 Reinforcement - Wind Area	62.44 - 63.83	1.0000	1.0000
L24	61	CCI-CFP-045125	62.44 - 63.83	1.0000	1.0000
L24	64	CCI-AFP-045100	62.44 - 63.83	1.0000	1.0000
L24	67	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	62.19 - 62.44	1.0000	1.0000
L25	32	CU12PSM9P8XXX(1-3/8)	62.19 - 62.44	1.0000	1.0000
L25	39	CCI-CFP-045125	62.19 - 62.44	1.0000	1.0000
L25	41	CCI-AFP-045100	62.19 - 62.44	1.0000	1.0000
L25	44	PL0.75x4 Reinforcement - Wind Area	62.19 - 62.44	1.0000	1.0000
L25	49	CCI-CFP-045125	62.19 - 62.44	1.0000	1.0000
L25	52	CCI-AFP-045100	62.19 - 62.44	1.0000	1.0000
L25	56	PL0.75x4 Reinforcement - Wind Area	62.19 - 62.44	1.0000	1.0000
L25	61	CCI-CFP-045125	62.19 - 62.44	1.0000	1.0000
L25	64	CCI-AFP-045100	62.19 - 62.44	1.0000	1.0000
L25	67	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
L26	22	HB158-21U6S24-xxM_TMO(1-5/8)	57.19 - 62.19	1.0000	1.0000
L26	24	(1)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	57.19 - 62.19	1.0000	1.0000
L26	32	CU12PSM9P8XXX(1-3/8)	57.19 - 62.19	1.0000	1.0000
L26	39	CCI-CFP-045125	57.19 - 62.19	1.0000	1.0000
L26	41	CCI-AFP-045100	57.19 - 62.19	1.0000	1.0000
L26	44	PL0.75x4 Reinforcement - Wind Area	57.19 - 62.19	1.0000	1.0000
L26	49	CCI-CFP-045125	57.19 - 62.19	1.0000	1.0000
L26	52	CCI-AFP-045100	57.19 - 62.19	1.0000	1.0000
L26	56	PL0.75x4 Reinforcement - Wind Area	57.19 - 62.19	1.0000	1.0000
L26	61	CCI-CFP-045125	57.19 - 62.19	1.0000	1.0000
L26	64	CCI-AFP-045100	57.19 - 62.19	1.0000	1.0000
L26	67	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	53.50 - 57.19	1.0000	1.0000
L27	32	CU12PSM9P8XXX(1-3/8)	53.50 - 57.19	1.0000	1.0000
L27	38	CCI-CFP-060100	53.50 - 55.10	1.0000	1.0000
L27	39	CCI-CFP-045125	55.10 - 57.19	1.0000	1.0000
L27	41	CCI-AFP-045100	53.50 - 57.19	1.0000	1.0000
L27	44	PL0.75x4 Reinforcement - Wind Area	53.50 - 57.19	1.0000	1.0000
L27	48	CCI-CFP-060100	53.50 - 55.10	1.0000	1.0000
L27	49	CCI-CFP-045125	55.10 - 57.19	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L27	51	CCI-AFP-060100	53.50 - 56.00	1.0000	1.0000
L27	52	CCI-AFP-045100	56.00 - 57.19	1.0000	1.0000
L27	56	PL0.75x4 Reinforcement - Wind Area	53.50 - 57.19	1.0000	1.0000
L27	60	CCI-CFP-060100	53.50 - 55.10	1.0000	1.0000
L27	61	CCI-CFP-045125	55.10 - 57.19	1.0000	1.0000
L27	63	CCI-AFP-060100	53.50 - 56.00	1.0000	1.0000
L27	64	CCI-AFP-045100	56.00 - 57.19	1.0000	1.0000
L27	67	PL0.75x4 Reinforcement - Wind Area	53.50 - 57.19	1.0000	1.0000
L28	2	Safety Line 3/8	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	53.25 - 53.50	1.0000	1.0000
L28	32	CU12PSM9P8XXX(1-3/8)	53.25 - 53.50	1.0000	1.0000
L28	38	CCI-CFP-060100	53.25 - 53.50	1.0000	1.0000
L28	41	CCI-AFP-045100	53.25 - 53.50	1.0000	1.0000
L28	44	PL0.75x4 Reinforcement - Wind Area	53.25 - 53.50	1.0000	1.0000
L28	48	CCI-CFP-060100	53.25 - 53.50	1.0000	1.0000
L28	51	CCI-AFP-060100	53.25 - 53.50	1.0000	1.0000
L28	56	PL0.75x4 Reinforcement - Wind Area	53.25 - 53.50	1.0000	1.0000
L28	60	CCI-CFP-060100	53.25 - 53.50	1.0000	1.0000
L28	63	CCI-AFP-060100	53.25 - 53.50	1.0000	1.0000
L28	67	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	52.58 - 53.25	1.0000	1.0000
L29	32	CU12PSM9P8XXX(1-3/8)	52.58 - 53.25	1.0000	1.0000
L29	38	CCI-CFP-060100	52.58 - 53.25	1.0000	1.0000
L29	41	CCI-AFP-045100	52.58 - 53.25	1.0000	1.0000
L29	44	PL0.75x4 Reinforcement - Wind Area	52.58 - 53.25	1.0000	1.0000
L29	48	CCI-CFP-060100	52.58 - 53.25	1.0000	1.0000
L29	51	CCI-AFP-060100	52.58 - 53.25	1.0000	1.0000
L29	56	PL0.75x4 Reinforcement - Wind Area	52.58 - 53.25	1.0000	1.0000
L29	60	CCI-CFP-060100	52.58 - 53.25	1.0000	1.0000
L29	63	CCI-AFP-060100	52.58 - 53.25	1.0000	1.0000
L29	67	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
L30	22	HB158-21U6S24-xxM_TMO(1-5/8)	52.33 - 52.58	1.0000	1.0000
L30	24	(1)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	52.33 - 52.58	1.0000	1.0000
L30	32	CU12PSM9P8XXX(1-3/8)	52.33 - 52.58	1.0000	1.0000
L30	38	CCI-CFP-060100	52.33 - 52.58	1.0000	1.0000
L30	41	CCI-AFP-045100	52.33 - 52.58	1.0000	1.0000
L30	44	PL0.75x4 Reinforcement - Wind Area	52.33 - 52.58	1.0000	1.0000
L30	48	CCI-CFP-060100	52.33 - 52.58	1.0000	1.0000
L30	51	CCI-AFP-060100	52.33 - 52.58	1.0000	1.0000
L30	56	PL0.75x4 Reinforcement - Wind Area	52.33 - 52.58	1.0000	1.0000
L30	60	CCI-CFP-060100	52.33 - 52.58	1.0000	1.0000
L30	63	CCI-AFP-060100	52.33 - 52.58	1.0000	1.0000
L30	67	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	47.33 - 52.33	1.0000	1.0000
L31	32	CU12PSM9P8XXX(1-3/8)	47.33 - 52.33	1.0000	1.0000
L31	38	CCI-CFP-060100	47.33 - 52.33	1.0000	1.0000
L31	41	CCI-AFP-045100	47.33 - 52.33	1.0000	1.0000
L31	44	PL0.75x4 Reinforcement - Wind Area	47.33 - 52.33	1.0000	1.0000
L31	48	CCI-CFP-060100	47.33 - 52.33	1.0000	1.0000
L31	51	CCI-AFP-060100	47.33 - 52.33	1.0000	1.0000
L31	56	PL0.75x4 Reinforcement - Wind Area	47.33 - 52.33	1.0000	1.0000
L31	60	CCI-CFP-060100	47.33 - 52.33	1.0000	1.0000
L31	63	CCI-AFP-060100	47.33 - 52.33	1.0000	1.0000
L31	67	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

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L32	22	HB158-21U6S24-xxM_TMO(1-5/8)	44.58 - 47.33	1.0000	1.0000
L32	24	(1)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	44.58 - 47.33	1.0000	1.0000
L32	32	CU12PSM9P8XXX(1-3/8)	44.58 - 47.33	1.0000	1.0000
L32	36	PL0.75x4 Reinforcement - Wind Area	44.58 - 45.83	1.0000	1.0000
L32	38	CCI-CFP-060100	44.58 - 47.33	1.0000	1.0000
L32	41	CCI-AFP-045100	44.58 - 47.33	1.0000	1.0000
L32	44	PL0.75x4 Reinforcement - Wind Area	44.58 - 47.33	1.0000	1.0000
L32	46	PL0.75x4 Reinforcement - Wind Area	44.58 - 45.83	1.0000	1.0000
L32	48	CCI-CFP-060100	44.58 - 47.33	1.0000	1.0000
L32	51	CCI-AFP-060100	44.58 - 47.33	1.0000	1.0000
L32	56	PL0.75x4 Reinforcement - Wind Area	44.58 - 47.33	1.0000	1.0000
L32	58	PL0.75x4 Reinforcement - Wind Area	44.58 - 45.83	1.0000	1.0000
L32	60	CCI-CFP-060100	44.58 - 47.33	1.0000	1.0000
L32	63	CCI-AFP-060100	44.58 - 47.33	1.0000	1.0000
L32	67	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	44.33 - 44.58	1.0000	1.0000
L33	32	CU12PSM9P8XXX(1-3/8)	44.33 - 44.58	1.0000	1.0000
L33	36	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	1.0000	1.0000
L33	38	CCI-CFP-060100	44.33 - 44.58	1.0000	1.0000
L33	40	CCI-AFP-060100	44.33 - 44.40	1.0000	1.0000
L33	41	CCI-AFP-045100	44.40 - 44.58	1.0000	1.0000
L33	44	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	1.0000	1.0000
L33	46	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	1.0000	1.0000
L33	48	CCI-CFP-060100	44.33 - 44.58	1.0000	1.0000
L33	51	CCI-AFP-060100	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	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	1.0000	1.0000
L33	60	CCI-CFP-060100	44.33 - 44.58	1.0000	1.0000
L33	63	CCI-AFP-060100	44.33 - 44.58	1.0000	1.0000
L33	67	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	1.0000	1.0000
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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	41.85 - 44.33	1.0000	1.0000
L34	32	CU12PSM9P8XXX(1-3/8)	41.85 - 44.33	1.0000	1.0000
L34	36	PL0.75x4 Reinforcement - Wind Area	41.85 - 44.33	1.0000	1.0000
L34	38	CCI-CFP-060100	41.85 - 44.33	1.0000	1.0000
L34	40	CCI-AFP-060100	41.85 - 44.33	1.0000	1.0000
L34	44	PL0.75x4 Reinforcement - Wind Area	43.30 - 44.33	1.0000	1.0000
L34	46	PL0.75x4 Reinforcement - Wind Area	41.85 - 44.33	1.0000	1.0000
L34	48	CCI-CFP-060100	41.85 - 44.33	1.0000	1.0000
L34	51	CCI-AFP-060100	41.85 - 44.33	1.0000	1.0000
L34	56	PL0.75x4 Reinforcement - Wind Area	43.30 - 44.33	1.0000	1.0000
L34	58	PL0.75x4 Reinforcement - Wind Area	41.85 - 44.33	1.0000	1.0000
L34	60	CCI-CFP-060100	41.85 - 44.33	1.0000	1.0000
L34	63	CCI-AFP-060100	41.85 - 44.33	1.0000	1.0000
L34	67	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	41.60 - 41.85	1.0000	1.0000
L35	32	CU12PSM9P8XXX(1-3/8)	41.60 - 41.85	1.0000	1.0000
L35	36	PL0.75x4 Reinforcement - Wind Area	41.60 - 41.85	1.0000	1.0000
L35	38	CCI-CFP-060100	41.60 - 41.85	1.0000	1.0000
L35	40	CCI-AFP-060100	41.60 - 41.85	1.0000	1.0000
L35	46	PL0.75x4 Reinforcement - Wind Area	41.60 - 41.85	1.0000	1.0000
L35	48	CCI-CFP-060100	41.60 - 41.85	1.0000	1.0000
L35	51	CCI-AFP-060100	41.60 - 41.85	1.0000	1.0000
L35	58	PL0.75x4 Reinforcement - Wind Area	41.60 - 41.85	1.0000	1.0000
L35	60	CCI-CFP-060100	41.60 - 41.85	1.0000	1.0000
L35	63	CCI-AFP-060100	41.60 - 41.85	1.0000	1.0000
L36	2	Safety Line 3/8	34.08 - 41.60	1.0000	1.0000
L36	4	2" Flexible Conduit	34.08 - 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	22	HB158-21U6S24-xxM_TMO(1-5/8)	34.08 - 41.60	1.0000	1.0000
L36	24	(1)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	34.08 - 41.60	1.0000	1.0000
L36	32	CU12PSM9P8XXX(1-3/8)	34.08 - 41.60	1.0000	1.0000
L36	36	PL0.75x4 Reinforcement - Wind Area	34.08 - 41.60	1.0000	1.0000
L36	38	CCI-CFP-060100	34.08 - 41.60	1.0000	1.0000
L36	40	CCI-AFP-060100	34.08 - 41.60	1.0000	1.0000
L36	46	PL0.75x4 Reinforcement - Wind Area	34.08 - 41.60	1.0000	1.0000
L36	48	CCI-CFP-060100	34.08 - 41.60	1.0000	1.0000
L36	51	CCI-AFP-060100	34.08 - 41.60	1.0000	1.0000
L36	58	PL0.75x4 Reinforcement - Wind Area	34.08 - 41.60	1.0000	1.0000
L36	60	CCI-CFP-060100	34.08 - 41.60	1.0000	1.0000
L36	63	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	34.00 - 34.08	1.0000	1.0000
L37	32	CU12PSM9P8XXX(1-3/8)	34.00 - 34.08	1.0000	1.0000
L37	36	PL0.75x4 Reinforcement - Wind Area	34.00 - 34.08	1.0000	1.0000
L37	38	CCI-CFP-060100	34.00 - 34.08	1.0000	1.0000
L37	40	CCI-AFP-060100	34.00 - 34.08	1.0000	1.0000
L37	46	PL0.75x4 Reinforcement - Wind Area	34.00 - 34.08	1.0000	1.0000
L37	48	CCI-CFP-060100	34.00 - 34.08	1.0000	1.0000
L37	51	CCI-AFP-060100	34.00 - 34.08	1.0000	1.0000
L37	58	PL0.75x4 Reinforcement - Wind Area	34.00 - 34.08	1.0000	1.0000
L37	60	CCI-CFP-060100	34.00 - 34.08	1.0000	1.0000
L37	63	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
L38	22	HB158-21U6S24-xxM_TMO(1-5/8)	29.00 - 34.00	1.0000	1.0000
L38	24	(1)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	29.00 - 34.00	1.0000	1.0000
L38	32	CU12PSM9P8XXX(1-3/8)	29.00 - 34.00	1.0000	1.0000
L38	36	PL0.75x4 Reinforcement - Wind Area	29.00 - 34.00	1.0000	1.0000
L38	38	CCI-CFP-060100	29.00 - 34.00	1.0000	1.0000
L38	40	CCI-AFP-060100	29.00 - 34.00	1.0000	1.0000
L38	46	PL0.75x4 Reinforcement - Wind Area	29.00 - 34.00	1.0000	1.0000
L38	48	CCI-CFP-060100	29.00 - 34.00	1.0000	1.0000
L38	51	CCI-AFP-060100	29.00 - 34.00	1.0000	1.0000
L38	55	CCI-AFP-060100	29.00 - 29.40	1.0000	1.0000
L38	58	PL0.75x4 Reinforcement - Wind Area	29.00 - 34.00	1.0000	1.0000
L38	60	CCI-CFP-060100	29.00 - 34.00	1.0000	1.0000
L38	63	CCI-AFP-060100	29.00 - 34.00	1.0000	1.0000
L38	66	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	26.85 - 29.00	1.0000	1.0000
L39	32	CU12PSM9P8XXX(1-3/8)	26.85 - 29.00	1.0000	1.0000
L39	36	PL0.75x4 Reinforcement - Wind Area	26.85 - 29.00	1.0000	1.0000
L39	38	CCI-CFP-060100	26.85 - 29.00	1.0000	1.0000
L39	40	CCI-AFP-060100	26.85 - 29.00	1.0000	1.0000
L39	46	PL0.75x4 Reinforcement - Wind Area	26.85 - 29.00	1.0000	1.0000
L39	48	CCI-CFP-060100	26.85 - 29.00	1.0000	1.0000
L39	51	CCI-AFP-060100	26.85 - 29.00	1.0000	1.0000
L39	55	CCI-AFP-060100	26.85 - 29.00	1.0000	1.0000
L39	58	PL0.75x4 Reinforcement - Wind Area	26.85 - 29.00	1.0000	1.0000
L39	60	CCI-CFP-060100	26.85 - 29.00	1.0000	1.0000
L39	63	CCI-AFP-060100	26.85 - 29.00	1.0000	1.0000
L39	66	CCI-AFP-060100	26.85 - 29.00	1.0000	1.0000
L40	2	Safety Line 3/8	26.60 - 26.85	1.0000	1.0000
L40	4	2" Flexible Conduit	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	26.60 - 26.85	1.0000	1.0000
L40	32	CU12PSM9P8XXX(1-3/8)	26.60 - 26.85	1.0000	1.0000
L40	36	PL0.75x4 Reinforcement - Wind Area	26.60 - 26.85	1.0000	1.0000
L40	38	CCI-CFP-060100	26.60 - 26.85	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L40	40	CCI-AFP-060100	26.60 - 26.85	1.0000	1.0000
L40	46	PL0.75x4 Reinforcement - Wind Area	26.60 - 26.85	1.0000	1.0000
L40	48	CCI-CFP-060100	26.60 - 26.85	1.0000	1.0000
L40	51	CCI-AFP-060100	26.60 - 26.85	1.0000	1.0000
L40	55	CCI-AFP-060100	26.60 - 26.85	1.0000	1.0000
L40	58	PL0.75x4 Reinforcement - Wind Area	26.60 - 26.85	1.0000	1.0000
L40	60	CCI-CFP-060100	26.60 - 26.85	1.0000	1.0000
L40	63	CCI-AFP-060100	26.60 - 26.85	1.0000	1.0000
L40	66	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	21.60 - 26.60	1.0000	1.0000
L41	32	CU12PSM9P8XXX(1-3/8)	21.60 - 26.60	1.0000	1.0000
L41	36	PL0.75x4 Reinforcement - Wind Area	21.60 - 26.60	1.0000	1.0000
L41	38	CCI-CFP-060100	21.60 - 26.60	1.0000	1.0000
L41	40	CCI-AFP-060100	21.60 - 26.60	1.0000	1.0000
L41	46	PL0.75x4 Reinforcement - Wind Area	21.60 - 26.60	1.0000	1.0000
L41	48	CCI-CFP-060100	21.60 - 26.60	1.0000	1.0000
L41	51	CCI-AFP-060100	21.60 - 26.60	1.0000	1.0000
L41	55	CCI-AFP-060100	21.60 - 26.60	1.0000	1.0000
L41	58	PL0.75x4 Reinforcement - Wind Area	21.60 - 26.60	1.0000	1.0000
L41	60	CCI-CFP-060100	21.60 - 26.60	1.0000	1.0000
L41	63	CCI-AFP-060100	21.60 - 26.60	1.0000	1.0000
L41	66	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	18.00 - 21.60	1.0000	1.0000
L42	32	CU12PSM9P8XXX(1-3/8)	18.00 - 21.60	1.0000	1.0000
L42	36	PL0.75x4 Reinforcement - Wind Area	18.00 - 21.60	1.0000	1.0000
L42	38	CCI-CFP-060100	18.00 - 21.60	1.0000	1.0000
L42	40	CCI-AFP-060100	18.00 - 21.60	1.0000	1.0000
L42	43	CCI-SFP-065125	18.00 - 20.75	1.0000	1.0000
L42	46	PL0.75x4 Reinforcement - Wind Area	18.00 - 21.60	1.0000	1.0000
L42	48	CCI-CFP-060100	18.00 - 21.60	1.0000	1.0000
L42	50	CCI-SFP-065125	18.00 - 20.75	1.0000	1.0000
L42	51	CCI-AFP-060100	21.00 - 21.60	1.0000	1.0000
L42	55	CCI-AFP-060100	18.00 - 21.60	1.0000	1.0000
L42	58	PL0.75x4 Reinforcement - Wind Area	18.00 - 21.60	1.0000	1.0000
L42	60	CCI-CFP-060100	18.00 - 21.60	1.0000	1.0000
L42	62	CCI-SFP-065125	18.00 - 20.75	1.0000	1.0000
L42	63	CCI-AFP-060100	21.00 - 21.60	1.0000	1.0000
L42	66	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	17.75 - 18.00	1.0000	1.0000
L43	32	CU12PSM9P8XXX(1-3/8)	17.75 - 18.00	1.0000	1.0000
L43	36	PL0.75x4 Reinforcement - Wind Area	17.75 - 18.00	1.0000	1.0000
L43	38	CCI-CFP-060100	17.75 - 18.00	1.0000	1.0000
L43	40	CCI-AFP-060100	17.75 - 18.00	1.0000	1.0000
L43	43	CCI-SFP-065125	17.75 - 18.00	1.0000	1.0000
L43	46	PL0.75x4 Reinforcement - Wind Area	17.75 - 18.00	1.0000	1.0000
L43	48	CCI-CFP-060100	17.75 - 18.00	1.0000	1.0000
L43	50	CCI-SFP-065125	17.75 - 18.00	1.0000	1.0000
L43	55	CCI-AFP-060100	17.75 - 18.00	1.0000	1.0000
L43	58	PL0.75x4 Reinforcement - Wind Area	17.75 - 18.00	1.0000	1.0000
L43	60	CCI-CFP-060100	17.75 - 18.00	1.0000	1.0000
L43	62	CCI-SFP-065125	17.75 - 18.00	1.0000	1.0000
L43	66	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	17.50 - 17.75	1.0000	1.0000
L44	32	CU12PSM9P8XXX(1-3/8)	17.50 - 17.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L44	36	PL0.75x4 Reinforcement - Wind Area	17.50 - 17.75	1.0000	1.0000
L44	38	CCI-CFP-060100	17.50 - 17.75	1.0000	1.0000
L44	40	CCI-AFP-060100	17.50 - 17.75	1.0000	1.0000
L44	43	CCI-SFP-065125	17.50 - 17.75	1.0000	1.0000
L44	46	PL0.75x4 Reinforcement - Wind Area	17.50 - 17.75	1.0000	1.0000
L44	48	CCI-CFP-060100	17.50 - 17.75	1.0000	1.0000
L44	50	CCI-SFP-065125	17.50 - 17.75	1.0000	1.0000
L44	55	CCI-AFP-060100	17.50 - 17.75	1.0000	1.0000
L44	58	PL0.75x4 Reinforcement - Wind Area	17.50 - 17.75	1.0000	1.0000
L44	60	CCI-CFP-060100	17.50 - 17.75	1.0000	1.0000
L44	62	CCI-SFP-065125	17.50 - 17.75	1.0000	1.0000
L44	66	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	17.25 - 17.50	1.0000	1.0000
L45	32	CU12PSM9P8XXX(1-3/8)	17.25 - 17.50	1.0000	1.0000
L45	36	PL0.75x4 Reinforcement - Wind Area	17.25 - 17.50	1.0000	1.0000
L45	38	CCI-CFP-060100	17.25 - 17.50	1.0000	1.0000
L45	40	CCI-AFP-060100	17.25 - 17.50	1.0000	1.0000
L45	43	CCI-SFP-065125	17.25 - 17.50	1.0000	1.0000
L45	46	PL0.75x4 Reinforcement - Wind Area	17.25 - 17.50	1.0000	1.0000
L45	48	CCI-CFP-060100	17.25 - 17.50	1.0000	1.0000
L45	50	CCI-SFP-065125	17.25 - 17.50	1.0000	1.0000
L45	55	CCI-AFP-060100	17.25 - 17.50	1.0000	1.0000
L45	58	PL0.75x4 Reinforcement - Wind Area	17.25 - 17.50	1.0000	1.0000
L45	60	CCI-CFP-060100	17.25 - 17.50	1.0000	1.0000
L45	62	CCI-SFP-065125	17.25 - 17.50	1.0000	1.0000
L45	66	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	17.08 - 17.25	1.0000	1.0000
L46	32	CU12PSM9P8XXX(1-3/8)	17.08 - 17.25	1.0000	1.0000
L46	36	PL0.75x4 Reinforcement - Wind Area	17.08 - 17.25	1.0000	1.0000
L46	38	CCI-CFP-060100	17.08 - 17.25	1.0000	1.0000
L46	40	CCI-AFP-060100	17.08 - 17.25	1.0000	1.0000
L46	43	CCI-SFP-065125	17.08 - 17.25	1.0000	1.0000
L46	46	PL0.75x4 Reinforcement - Wind Area	17.08 - 17.25	1.0000	1.0000
L46	48	CCI-CFP-060100	17.08 - 17.25	1.0000	1.0000
L46	50	CCI-SFP-065125	17.08 - 17.25	1.0000	1.0000
L46	55	CCI-AFP-060100	17.08 - 17.25	1.0000	1.0000
L46	58	PL0.75x4 Reinforcement - Wind Area	17.08 - 17.25	1.0000	1.0000
L46	60	CCI-CFP-060100	17.08 - 17.25	1.0000	1.0000
L46	62	CCI-SFP-065125	17.08 - 17.25	1.0000	1.0000
L46	66	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	16.83 - 17.08	1.0000	1.0000
L47	32	CU12PSM9P8XXX(1-3/8)	16.83 - 17.08	1.0000	1.0000
L47	36	PL0.75x4 Reinforcement - Wind Area	16.83 - 17.08	1.0000	1.0000
L47	38	CCI-CFP-060100	16.83 - 17.08	1.0000	1.0000
L47	40	CCI-AFP-060100	16.83 - 17.08	1.0000	1.0000
L47	43	CCI-SFP-065125	16.83 - 17.08	1.0000	1.0000
L47	46	PL0.75x4 Reinforcement - Wind Area	16.83 - 17.08	1.0000	1.0000
L47	48	CCI-CFP-060100	16.83 - 17.08	1.0000	1.0000
L47	50	CCI-SFP-065125	16.83 - 17.08	1.0000	1.0000
L47	55	CCI-AFP-060100	16.83 - 17.08	1.0000	1.0000
L47	58	PL0.75x4 Reinforcement - Wind Area	16.83 - 17.08	1.0000	1.0000
L47	60	CCI-CFP-060100	16.83 - 17.08	1.0000	1.0000
L47	62	CCI-SFP-065125	16.83 - 17.08	1.0000	1.0000
L47	66	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-	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
		21U6S24-xxM_TMO(1-5/8)			
L48	32	CU12PSM9P8XXX(1-3/8)	13.00 - 16.83	1.0000	1.0000
L48	35	CCI-AFP-060100	13.00 - 15.50	1.0000	1.0000
L48	36	PL0.75x4 Reinforcement - Wind Area	15.83 - 16.83	1.0000	1.0000
L48	38	CCI-CFP-060100	13.00 - 16.83	1.0000	1.0000
L48	40	CCI-AFP-060100	13.00 - 16.83	1.0000	1.0000
L48	43	CCI-SFP-065125	13.00 - 16.83	1.0000	1.0000
L48	45	CCI-AFP-060100	13.00 - 15.50	1.0000	1.0000
L48	46	PL0.75x4 Reinforcement - Wind Area	15.83 - 16.83	1.0000	1.0000
L48	48	CCI-CFP-060100	13.00 - 16.83	1.0000	1.0000
L48	50	CCI-SFP-065125	13.00 - 16.83	1.0000	1.0000
L48	55	CCI-AFP-060100	13.00 - 16.83	1.0000	1.0000
L48	57	CCI-AFP-060100	13.00 - 15.50	1.0000	1.0000
L48	58	PL0.75x4 Reinforcement - Wind Area	15.83 - 16.83	1.0000	1.0000
L48	60	CCI-CFP-060100	13.00 - 16.83	1.0000	1.0000
L48	62	CCI-SFP-065125	13.00 - 16.83	1.0000	1.0000
L48	66	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	12.75 - 13.00	1.0000	1.0000
L49	32	CU12PSM9P8XXX(1-3/8)	12.75 - 13.00	1.0000	1.0000
L49	35	CCI-AFP-060100	12.75 - 13.00	1.0000	1.0000
L49	38	CCI-CFP-060100	12.75 - 13.00	1.0000	1.0000
L49	40	CCI-AFP-060100	12.75 - 13.00	1.0000	1.0000
L49	43	CCI-SFP-065125	12.75 - 13.00	1.0000	1.0000
L49	45	CCI-AFP-060100	12.75 - 13.00	1.0000	1.0000
L49	48	CCI-CFP-060100	12.75 - 13.00	1.0000	1.0000
L49	50	CCI-SFP-065125	12.75 - 13.00	1.0000	1.0000
L49	55	CCI-AFP-060100	12.75 - 13.00	1.0000	1.0000
L49	57	CCI-AFP-060100	12.75 - 13.00	1.0000	1.0000
L49	60	CCI-CFP-060100	12.75 - 13.00	1.0000	1.0000
L49	62	CCI-SFP-065125	12.75 - 13.00	1.0000	1.0000
L49	66	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	11.85 - 12.75	1.0000	1.0000
L50	32	CU12PSM9P8XXX(1-3/8)	11.85 - 12.75	1.0000	1.0000
L50	35	CCI-AFP-060100	11.85 - 12.75	1.0000	1.0000
L50	38	CCI-CFP-060100	11.85 - 12.75	1.0000	1.0000
L50	40	CCI-AFP-060100	11.85 - 12.75	1.0000	1.0000
L50	43	CCI-SFP-065125	11.85 - 12.75	1.0000	1.0000
L50	45	CCI-AFP-060100	11.85 - 12.75	1.0000	1.0000
L50	48	CCI-CFP-060100	11.85 - 12.75	1.0000	1.0000
L50	50	CCI-SFP-065125	11.85 - 12.75	1.0000	1.0000
L50	55	CCI-AFP-060100	11.85 - 12.75	1.0000	1.0000
L50	57	CCI-AFP-060100	11.85 - 12.75	1.0000	1.0000
L50	60	CCI-CFP-060100	11.85 - 12.75	1.0000	1.0000
L50	62	CCI-SFP-065125	11.85 - 12.75	1.0000	1.0000
L50	66	CCI-AFP-060100	11.85 - 12.75	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	11.60 - 11.85	1.0000	1.0000
L51	32	CU12PSM9P8XXX(1-3/8)	11.60 - 11.85	1.0000	1.0000
L51	35	CCI-AFP-060100	11.60 - 11.85	1.0000	1.0000
L51	38	CCI-CFP-060100	11.60 - 11.85	1.0000	1.0000
L51	40	CCI-AFP-060100	11.60 - 11.85	1.0000	1.0000
L51	43	CCI-SFP-065125	11.60 - 11.85	1.0000	1.0000
L51	45	CCI-AFP-060100	11.60 - 11.85	1.0000	1.0000
L51	48	CCI-CFP-060100	11.60 - 11.85	1.0000	1.0000
L51	50	CCI-SFP-065125	11.60 - 11.85	1.0000	1.0000
L51	55	CCI-AFP-060100	11.60 - 11.85	1.0000	1.0000
L51	57	CCI-AFP-060100	11.60 - 11.85	1.0000	1.0000
L51	60	CCI-CFP-060100	11.60 - 11.85	1.0000	1.0000
L51	62	CCI-SFP-065125	11.60 - 11.85	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L51	66	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	6.50 - 11.60	1.0000	1.0000
L52	32	CU12PSM9P8XXX(1-3/8)	6.50 - 11.60	1.0000	1.0000
L52	35	CCI-AFP-060100	6.50 - 11.60	1.0000	1.0000
L52	38	CCI-CFP-060100	6.50 - 11.60	1.0000	1.0000
L52	40	CCI-AFP-060100	9.40 - 11.60	1.0000	1.0000
L52	43	CCI-SFP-065125	6.50 - 11.60	1.0000	1.0000
L52	45	CCI-AFP-060100	6.50 - 11.60	1.0000	1.0000
L52	48	CCI-CFP-060100	6.50 - 11.60	1.0000	1.0000
L52	50	CCI-SFP-065125	6.50 - 11.60	1.0000	1.0000
L52	54	CCI-SFP-065125	6.50 - 9.25	1.0000	1.0000
L52	55	CCI-AFP-060100	9.40 - 11.60	1.0000	1.0000
L52	57	CCI-AFP-060100	6.50 - 11.60	1.0000	1.0000
L52	60	CCI-CFP-060100	6.50 - 11.60	1.0000	1.0000
L52	62	CCI-SFP-065125	6.50 - 11.60	1.0000	1.0000
L52	66	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	6.25 - 6.50	1.0000	1.0000
L53	32	CU12PSM9P8XXX(1-3/8)	6.25 - 6.50	1.0000	1.0000
L53	35	CCI-AFP-060100	6.25 - 6.50	1.0000	1.0000
L53	38	CCI-CFP-060100	6.25 - 6.50	1.0000	1.0000
L53	43	CCI-SFP-065125	6.25 - 6.50	1.0000	1.0000
L53	45	CCI-AFP-060100	6.25 - 6.50	1.0000	1.0000
L53	48	CCI-CFP-060100	6.25 - 6.50	1.0000	1.0000
L53	50	CCI-SFP-065125	6.25 - 6.50	1.0000	1.0000
L53	54	CCI-SFP-065125	6.25 - 6.50	1.0000	1.0000
L53	57	CCI-AFP-060100	6.25 - 6.50	1.0000	1.0000
L53	60	CCI-CFP-060100	6.25 - 6.50	1.0000	1.0000
L53	62	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	3.75 - 6.25	1.0000	1.0000
L54	32	CU12PSM9P8XXX(1-3/8)	3.75 - 6.25	1.0000	1.0000
L54	35	CCI-AFP-060100	3.75 - 6.25	1.0000	1.0000
L54	38	CCI-CFP-060100	3.75 - 6.25	1.0000	1.0000
L54	43	CCI-SFP-065125	3.75 - 6.25	1.0000	1.0000
L54	45	CCI-AFP-060100	3.75 - 6.25	1.0000	1.0000
L54	48	CCI-CFP-060100	3.75 - 6.25	1.0000	1.0000
L54	50	CCI-SFP-065125	3.75 - 6.25	1.0000	1.0000
L54	54	CCI-SFP-065125	3.75 - 6.25	1.0000	1.0000
L54	57	CCI-AFP-060100	3.75 - 6.25	1.0000	1.0000
L54	60	CCI-CFP-060100	3.75 - 6.25	1.0000	1.0000
L54	62	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	3.50 - 3.75	1.0000	1.0000
L55	32	CU12PSM9P8XXX(1-3/8)	3.50 - 3.75	1.0000	1.0000
L55	35	CCI-AFP-060100	3.50 - 3.75	1.0000	1.0000
L55	38	CCI-CFP-060100	3.50 - 3.75	1.0000	1.0000
L55	43	CCI-SFP-065125	3.50 - 3.75	1.0000	1.0000
L55	45	CCI-AFP-060100	3.50 - 3.75	1.0000	1.0000
L55	48	CCI-CFP-060100	3.50 - 3.75	1.0000	1.0000
L55	50	CCI-SFP-065125	3.50 - 3.75	1.0000	1.0000
L55	54	CCI-SFP-065125	3.50 - 3.75	1.0000	1.0000
L55	57	CCI-AFP-060100	3.50 - 3.75	1.0000	1.0000
L55	60	CCI-CFP-060100	3.50 - 3.75	1.0000	1.0000
L55	62	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

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L56	22	HB158-21U6S24-xxM_TMO(1-5/8)	3.00 - 3.50	1.0000	1.0000
L56	24	(1)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	3.00 - 3.50	1.0000	1.0000
L56	32	CU12PSM9P8XXX(1-3/8)	3.00 - 3.50	1.0000	1.0000
L56	35	CCI-AFP-060100	3.00 - 3.50	1.0000	1.0000
L56	38	CCI-CFP-060100	3.00 - 3.50	1.0000	1.0000
L56	43	CCI-SFP-065125	3.00 - 3.50	1.0000	1.0000
L56	45	CCI-AFP-060100	3.00 - 3.50	1.0000	1.0000
L56	48	CCI-CFP-060100	3.00 - 3.50	1.0000	1.0000
L56	50	CCI-SFP-065125	3.00 - 3.50	1.0000	1.0000
L56	54	CCI-SFP-065125	3.00 - 3.50	1.0000	1.0000
L56	57	CCI-AFP-060100	3.00 - 3.50	1.0000	1.0000
L56	60	CCI-CFP-060100	3.00 - 3.50	1.0000	1.0000
L56	62	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	2.75 - 3.00	1.0000	1.0000
L57	32	CU12PSM9P8XXX(1-3/8)	2.75 - 3.00	1.0000	1.0000
L57	35	CCI-AFP-060100	2.75 - 3.00	1.0000	1.0000
L57	38	CCI-CFP-060100	2.75 - 3.00	1.0000	1.0000
L57	43	CCI-SFP-065125	2.75 - 3.00	1.0000	1.0000
L57	45	CCI-AFP-060100	2.75 - 3.00	1.0000	1.0000
L57	48	CCI-CFP-060100	2.75 - 3.00	1.0000	1.0000
L57	50	CCI-SFP-065125	2.75 - 3.00	1.0000	1.0000
L57	54	CCI-SFP-065125	2.75 - 3.00	1.0000	1.0000
L57	57	CCI-AFP-060100	2.75 - 3.00	1.0000	1.0000
L57	60	CCI-CFP-060100	2.75 - 3.00	1.0000	1.0000
L57	62	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)HCS 6X12 6AWG(1-3/8) + (3)HB158-21U6S24-xxM_TMO(1-5/8)	0.00 - 2.75	1.0000	1.0000
L58	32	CU12PSM9P8XXX(1-3/8)	0.00 - 2.75	1.0000	1.0000
L58	35	CCI-AFP-060100	0.50 - 2.75	1.0000	1.0000
L58	38	CCI-CFP-060100	0.00 - 2.75	1.0000	1.0000
L58	43	CCI-SFP-065125	0.00 - 2.75	1.0000	1.0000
L58	45	CCI-AFP-060100	0.50 - 2.75	1.0000	1.0000
L58	48	CCI-CFP-060100	0.00 - 2.75	1.0000	1.0000
L58	50	CCI-SFP-065125	0.00 - 2.75	1.0000	1.0000
L58	54	CCI-SFP-065125	0.00 - 2.75	1.0000	1.0000
L58	57	CCI-AFP-060100	0.50 - 2.75	1.0000	1.0000
L58	60	CCI-CFP-060100	0.00 - 2.75	1.0000	1.0000
L58	62	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	42	CCI-AFP-045100	90.00 - 91.50	Auto	0.0000
L8	53	CCI-AFP-045100	90.00 - 91.50	Auto	0.0000
L8	65	CCI-AFP-045100	90.00 - 91.50	Auto	0.0000
L9	1	Climbing Ladder (Af)	89.75 - 90.00	Manual	1.0000
L9	42	CCI-AFP-045100	89.75 - 90.00	Auto	0.0734

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L9	53	CCI-AFP-045100	89.75 - 90.00	Auto	0.0734
L9	65	CCI-AFP-045100	89.75 - 90.00	Auto	0.0734
L10	1	Climbing Ladder (Af)	87.00 - 89.75	Manual	1.0000
L10	37	PL0.75x4 Reinforcement - Wind Area	84.75 - 85.80	Auto	0.0000
L10	39	CCI-CFP-045125	84.75 - 85.20	Auto	0.0000
L10	42	CCI-AFP-045100	84.75 - 89.75	Auto	0.0244
L10	47	PL0.75x4 Reinforcement - Wind Area	84.75 - 85.80	Auto	0.0000
L10	49	CCI-CFP-045125	84.75 - 85.20	Auto	0.0000
L10	53	CCI-AFP-045100	84.75 - 89.75	Auto	0.0244
L10	59	PL0.75x4 Reinforcement - Wind Area	84.75 - 85.80	Auto	0.0000
L10	61	CCI-CFP-045125	84.75 - 85.20	Auto	0.0000
L10	65	CCI-AFP-045100	84.75 - 89.75	Auto	0.0244
L11	37	PL0.75x4 Reinforcement - Wind Area	84.42 - 84.75	Auto	0.0000
L11	39	CCI-CFP-045125	84.42 - 84.75	Auto	0.0000
L11	42	CCI-AFP-045100	84.42 - 84.75	Auto	0.0000
L11	47	PL0.75x4 Reinforcement - Wind Area	84.42 - 84.75	Auto	0.0000
L11	49	CCI-CFP-045125	84.42 - 84.75	Auto	0.0000
L11	53	CCI-AFP-045100	84.42 - 84.75	Auto	0.0000
L11	59	PL0.75x4 Reinforcement - Wind Area	84.42 - 84.75	Auto	0.0000
L11	61	CCI-CFP-045125	84.42 - 84.75	Auto	0.0000
L11	65	CCI-AFP-045100	84.42 - 84.75	Auto	0.0000
L12	37	PL0.75x4 Reinforcement - Wind Area	84.17 - 84.42	Auto	0.0000
L12	39	CCI-CFP-045125	84.17 - 84.42	Auto	0.0721
L12	42	CCI-AFP-045100	84.17 - 84.42	Auto	0.0721
L12	47	PL0.75x4 Reinforcement - Wind Area	84.17 - 84.42	Auto	0.0000
L12	49	CCI-CFP-045125	84.17 - 84.42	Auto	0.0721
L12	53	CCI-AFP-045100	84.17 - 84.42	Auto	0.0721
L12	59	PL0.75x4 Reinforcement - Wind Area	84.17 - 84.42	Auto	0.0000
L12	61	CCI-CFP-045125	84.17 - 84.42	Auto	0.0721
L12	65	CCI-AFP-045100	84.17 - 84.42	Auto	0.0721
L13	37	PL0.75x4 Reinforcement - Wind Area	83.42 - 84.17	Auto	0.0000
L13	39	CCI-CFP-045125	83.42 - 84.17	Auto	0.0572
L13	42	CCI-AFP-045100	83.42 - 84.17	Auto	0.0572
L13	47	PL0.75x4 Reinforcement - Wind Area	83.42 - 84.17	Auto	0.0000
L13	49	CCI-CFP-045125	83.42 - 84.17	Auto	0.0572
L13	53	CCI-AFP-045100	83.42 - 84.17	Auto	0.0572
L13	59	PL0.75x4 Reinforcement - Wind Area	83.42 - 84.17	Auto	0.0000
L13	61	CCI-CFP-045125	83.42 - 84.17	Auto	0.0572
L13	65	CCI-AFP-045100	83.42 - 84.17	Auto	0.0572
L14	37	PL0.75x4 Reinforcement - Wind Area	83.17 - 83.42	Auto	0.1487
L14	39	CCI-CFP-045125	83.17 - 83.42	Auto	0.2433
L14	42	CCI-AFP-045100	83.17 - 83.42	Auto	0.2433
L14	47	PL0.75x4 Reinforcement - Wind Area	83.17 - 83.42	Auto	0.1487
L14	49	CCI-CFP-045125	83.17 - 83.42	Auto	0.2433
L14	53	CCI-AFP-045100	83.17 - 83.42	Auto	0.2433
L14	59	PL0.75x4 Reinforcement - Wind Area	83.17 - 83.42	Auto	0.1487
L14	61	CCI-CFP-045125	83.17 - 83.42	Auto	0.2433
L14	65	CCI-AFP-045100	83.17 - 83.42	Auto	0.2433
L15	37	PL0.75x4 Reinforcement - Wind Area	83.00 - 83.17	Auto	0.1452
L15	39	CCI-CFP-045125	83.00 - 83.17	Auto	0.2402
L15	42	CCI-AFP-045100	83.00 - 83.17	Auto	0.2402
L15	47	PL0.75x4 Reinforcement - Wind Area	83.00 - 83.17	Auto	0.1452
L15	49	CCI-CFP-045125	83.00 - 83.17	Auto	0.2402
L15	53	CCI-AFP-045100	83.00 - 83.17	Auto	0.2402
L15	59	PL0.75x4 Reinforcement - Wind Area	83.00 - 83.17	Auto	0.1452
L15	61	CCI-CFP-045125	83.00 - 83.17	Auto	0.2402
L15	65	CCI-AFP-045100	83.00 - 83.17	Auto	0.2402
L16	37	PL0.75x4 Reinforcement - Wind Area	82.75 - 83.00	Auto	0.0000
L16	39	CCI-CFP-045125	82.75 - 83.00	Auto	0.0882
L16	42	CCI-AFP-045100	82.75 - 83.00	Auto	0.0882
L16	47	PL0.75x4 Reinforcement - Wind Area	82.75 - 83.00	Auto	0.0000
L16	49	CCI-CFP-045125	82.75 - 83.00	Auto	0.0882
L16	53	CCI-AFP-045100	82.75 - 83.00	Auto	0.0882
L16	59	PL0.75x4 Reinforcement - Wind Area	82.75 - 83.00	Auto	0.0000
L16	61	CCI-CFP-045125	82.75 - 83.00	Auto	0.0882
L16	65	CCI-AFP-045100	82.75 - 83.00	Auto	0.0882
L17	37	PL0.75x4 Reinforcement - Wind Area	77.75 - 82.75	Auto	0.0000
L17	39	CCI-CFP-045125	77.75 - 82.75	Auto	0.0275

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L17	42	CCI-AFP-045100	81.50 - 82.75	Auto	0.0547
L17	47	PL0.75x4 Reinforcement - Wind Area	77.75 - 82.75	Auto	0.0000
L17	49	CCI-CFP-045125	77.75 - 82.75	Auto	0.0275
L17	53	CCI-AFP-045100	81.50 - 82.75	Auto	0.0547
L17	59	PL0.75x4 Reinforcement - Wind Area	77.75 - 82.75	Auto	0.0000
L17	61	CCI-CFP-045125	77.75 - 82.75	Auto	0.0275
L17	65	CCI-AFP-045100	81.50 - 82.75	Auto	0.0547
L18	37	PL0.75x4 Reinforcement - Wind Area	70.00 - 77.75	Auto	0.0000
L18	39	CCI-CFP-045125	70.00 - 77.75	Auto	0.0000
L18	47	PL0.75x4 Reinforcement - Wind Area	70.00 - 77.75	Auto	0.0000
L18	49	CCI-CFP-045125	70.00 - 77.75	Auto	0.0000
L18	59	PL0.75x4 Reinforcement - Wind Area	70.00 - 77.75	Auto	0.0000
L18	61	CCI-CFP-045125	70.00 - 77.75	Auto	0.0000
L19	37	PL0.75x4 Reinforcement - Wind Area	69.00 - 70.00	Auto	0.0000
L19	39	CCI-CFP-045125	69.00 - 70.00	Auto	0.0000
L19	47	PL0.75x4 Reinforcement - Wind Area	69.00 - 70.00	Auto	0.0000
L19	49	CCI-CFP-045125	69.00 - 70.00	Auto	0.0000
L19	59	PL0.75x4 Reinforcement - Wind Area	69.00 - 70.00	Auto	0.0000
L19	61	CCI-CFP-045125	69.00 - 70.00	Auto	0.0000
L20	37	PL0.75x4 Reinforcement - Wind Area	67.08 - 69.00	Auto	0.0000
L20	39	CCI-CFP-045125	67.08 - 69.00	Auto	0.0000
L20	44	PL0.75x4 Reinforcement - Wind Area	67.08 - 68.30	Auto	0.0000
L20	47	PL0.75x4 Reinforcement - Wind Area	67.08 - 69.00	Auto	0.0000
L20	49	CCI-CFP-045125	67.08 - 69.00	Auto	0.0000
L20	56	PL0.75x4 Reinforcement - Wind Area	67.08 - 68.30	Auto	0.0000
L20	59	PL0.75x4 Reinforcement - Wind Area	67.08 - 69.00	Auto	0.0000
L20	61	CCI-CFP-045125	67.08 - 69.00	Auto	0.0000
L20	67	PL0.75x4 Reinforcement - Wind Area	67.08 - 68.30	Auto	0.0000
L21	37	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	Auto	0.0000
L21	39	CCI-CFP-045125	66.83 - 67.08	Auto	0.0000
L21	44	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	Auto	0.0000
L21	47	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	Auto	0.0000
L21	49	CCI-CFP-045125	66.83 - 67.08	Auto	0.0000
L21	56	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	Auto	0.0000
L21	59	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	Auto	0.0000
L21	61	CCI-CFP-045125	66.83 - 67.08	Auto	0.0000
L21	67	PL0.75x4 Reinforcement - Wind Area	66.83 - 67.08	Auto	0.0000
L22	37	PL0.75x4 Reinforcement - Wind Area	65.80 - 66.83	Auto	0.0000
L22	39	CCI-CFP-045125	64.08 - 66.83	Auto	0.0000
L22	41	CCI-AFP-045100	64.08 - 64.40	Auto	0.0000
L22	44	PL0.75x4 Reinforcement - Wind Area	64.08 - 66.83	Auto	0.0000
L22	47	PL0.75x4 Reinforcement - Wind Area	65.80 - 66.83	Auto	0.0000
L22	49	CCI-CFP-045125	64.08 - 66.83	Auto	0.0000
L22	52	CCI-AFP-045100	64.08 - 66.10	Auto	0.0000
L22	56	PL0.75x4 Reinforcement - Wind Area	64.08 - 66.83	Auto	0.0000
L22	59	PL0.75x4 Reinforcement - Wind Area	65.80 - 66.83	Auto	0.0000
L22	61	CCI-CFP-045125	64.08 - 66.83	Auto	0.0000
L22	64	CCI-AFP-045100	64.08 - 66.10	Auto	0.0000
L22	67	PL0.75x4 Reinforcement - Wind Area	64.08 - 66.83	Auto	0.0000
L23	39	CCI-CFP-045125	63.83 - 64.08	Auto	0.0000
L23	41	CCI-AFP-045100	63.83 - 64.08	Auto	0.0000
L23	44	PL0.75x4 Reinforcement - Wind Area	63.83 - 64.08	Auto	0.0000
L23	49	CCI-CFP-045125	63.83 - 64.08	Auto	0.0000
L23	52	CCI-AFP-045100	63.83 - 64.08	Auto	0.0000
L23	56	PL0.75x4 Reinforcement - Wind Area	63.83 - 64.08	Auto	0.0000
L23	61	CCI-CFP-045125	63.83 - 64.08	Auto	0.0000
L23	64	CCI-AFP-045100	63.83 - 64.08	Auto	0.0000
L23	67	PL0.75x4 Reinforcement - Wind Area	63.83 - 64.08	Auto	0.0000
L24	39	CCI-CFP-045125	62.44 - 63.83	Auto	0.0000
L24	41	CCI-AFP-045100	62.44 - 63.83	Auto	0.0000
L24	44	PL0.75x4 Reinforcement - Wind Area	62.44 - 63.83	Auto	0.0000
L24	49	CCI-CFP-045125	62.44 - 63.83	Auto	0.0000
L24	52	CCI-AFP-045100	62.44 - 63.83	Auto	0.0000
L24	56	PL0.75x4 Reinforcement - Wind Area	62.44 - 63.83	Auto	0.0000
L24	61	CCI-CFP-045125	62.44 - 63.83	Auto	0.0000
L24	64	CCI-AFP-045100	62.44 - 63.83	Auto	0.0000
L24	67	PL0.75x4 Reinforcement - Wind Area	62.44 - 63.83	Auto	0.0000
L25	39	CCI-CFP-045125	62.19 - 62.44	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L25	41	CCI-AFP-045100	62.19 - 62.44	Auto	0.0000
L25	44	PL0.75x4 Reinforcement - Wind Area	62.19 - 62.44	Auto	0.0000
L25	49	CCI-CFP-045125	62.19 - 62.44	Auto	0.0000
L25	52	CCI-AFP-045100	62.19 - 62.44	Auto	0.0000
L25	56	PL0.75x4 Reinforcement - Wind Area	62.19 - 62.44	Auto	0.0000
L25	61	CCI-CFP-045125	62.19 - 62.44	Auto	0.0000
L25	64	CCI-AFP-045100	62.19 - 62.44	Auto	0.0000
L25	67	PL0.75x4 Reinforcement - Wind Area	62.19 - 62.44	Auto	0.0000
L26	39	CCI-CFP-045125	57.19 - 62.19	Auto	0.0000
L26	41	CCI-AFP-045100	57.19 - 62.19	Auto	0.0000
L26	44	PL0.75x4 Reinforcement - Wind Area	57.19 - 62.19	Auto	0.0000
L26	49	CCI-CFP-045125	57.19 - 62.19	Auto	0.0000
L26	52	CCI-AFP-045100	57.19 - 62.19	Auto	0.0000
L26	56	PL0.75x4 Reinforcement - Wind Area	57.19 - 62.19	Auto	0.0000
L26	61	CCI-CFP-045125	57.19 - 62.19	Auto	0.0000
L26	64	CCI-AFP-045100	57.19 - 62.19	Auto	0.0000
L26	67	PL0.75x4 Reinforcement - Wind Area	57.19 - 62.19	Auto	0.0000
L27	38	CCI-CFP-060100	53.50 - 55.10	Auto	0.0695
L27	39	CCI-CFP-045125	55.10 - 57.19	Auto	0.0000
L27	41	CCI-AFP-045100	53.50 - 57.19	Auto	0.0000
L27	44	PL0.75x4 Reinforcement - Wind Area	53.50 - 57.19	Auto	0.0000
L27	48	CCI-CFP-060100	53.50 - 55.10	Auto	0.0695
L27	49	CCI-CFP-045125	55.10 - 57.19	Auto	0.0000
L27	51	CCI-AFP-060100	53.50 - 56.00	Auto	0.0745
L27	52	CCI-AFP-045100	56.00 - 57.19	Auto	0.0000
L27	56	PL0.75x4 Reinforcement - Wind Area	53.50 - 57.19	Auto	0.0000
L27	60	CCI-CFP-060100	53.50 - 55.10	Auto	0.0695
L27	61	CCI-CFP-045125	55.10 - 57.19	Auto	0.0000
L27	63	CCI-AFP-060100	53.50 - 56.00	Auto	0.0745
L27	64	CCI-AFP-045100	56.00 - 57.19	Auto	0.0000
L27	67	PL0.75x4 Reinforcement - Wind Area	53.50 - 57.19	Auto	0.0000
L28	38	CCI-CFP-060100	53.25 - 53.50	Auto	0.0703
L28	41	CCI-AFP-045100	53.25 - 53.50	Auto	0.0000
L28	44	PL0.75x4 Reinforcement - Wind Area	53.25 - 53.50	Auto	0.0000
L28	48	CCI-CFP-060100	53.25 - 53.50	Auto	0.0703
L28	51	CCI-AFP-060100	53.25 - 53.50	Auto	0.0703
L28	56	PL0.75x4 Reinforcement - Wind Area	53.25 - 53.50	Auto	0.0000
L28	60	CCI-CFP-060100	53.25 - 53.50	Auto	0.0703
L28	63	CCI-AFP-060100	53.25 - 53.50	Auto	0.0703
L28	67	PL0.75x4 Reinforcement - Wind Area	53.25 - 53.50	Auto	0.0000
L29	38	CCI-CFP-060100	52.58 - 53.25	Auto	0.0596
L29	41	CCI-AFP-045100	52.58 - 53.25	Auto	0.0000
L29	44	PL0.75x4 Reinforcement - Wind Area	52.58 - 53.25	Auto	0.0000
L29	48	CCI-CFP-060100	52.58 - 53.25	Auto	0.0596
L29	51	CCI-AFP-060100	52.58 - 53.25	Auto	0.0596
L29	56	PL0.75x4 Reinforcement - Wind Area	52.58 - 53.25	Auto	0.0000
L29	60	CCI-CFP-060100	52.58 - 53.25	Auto	0.0596
L29	63	CCI-AFP-060100	52.58 - 53.25	Auto	0.0596
L29	67	PL0.75x4 Reinforcement - Wind Area	52.58 - 53.25	Auto	0.0000
L30	38	CCI-CFP-060100	52.33 - 52.58	Auto	0.0712
L30	41	CCI-AFP-045100	52.33 - 52.58	Auto	0.0000
L30	44	PL0.75x4 Reinforcement - Wind Area	52.33 - 52.58	Auto	0.0000
L30	48	CCI-CFP-060100	52.33 - 52.58	Auto	0.0712
L30	51	CCI-AFP-060100	52.33 - 52.58	Auto	0.0712
L30	56	PL0.75x4 Reinforcement - Wind Area	52.33 - 52.58	Auto	0.0000
L30	60	CCI-CFP-060100	52.33 - 52.58	Auto	0.0712
L30	63	CCI-AFP-060100	52.33 - 52.58	Auto	0.0712
L30	67	PL0.75x4 Reinforcement - Wind Area	52.33 - 52.58	Auto	0.0000
L31	38	CCI-CFP-060100	47.33 - 52.33	Auto	0.0307
L31	41	CCI-AFP-045100	47.33 - 52.33	Auto	0.0000
L31	44	PL0.75x4 Reinforcement - Wind Area	47.33 - 52.33	Auto	0.0000
L31	48	CCI-CFP-060100	47.33 - 52.33	Auto	0.0307
L31	51	CCI-AFP-060100	47.33 - 52.33	Auto	0.0307
L31	56	PL0.75x4 Reinforcement - Wind Area	47.33 - 52.33	Auto	0.0000
L31	60	CCI-CFP-060100	47.33 - 52.33	Auto	0.0307
L31	63	CCI-AFP-060100	47.33 - 52.33	Auto	0.0307
L31	67	PL0.75x4 Reinforcement - Wind Area	47.33 - 52.33	Auto	0.0000
L32	36	PL0.75x4 Reinforcement - Wind Area	44.58 - 45.83	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L32	38	CCI-CFP-060100	44.58 - 47.33	Auto	0.0000
L32	41	CCI-AFP-045100	44.58 - 47.33	Auto	0.0000
L32	44	PL0.75x4 Reinforcement - Wind Area	44.58 - 47.33	Auto	0.0000
L32	46	PL0.75x4 Reinforcement - Wind Area	44.58 - 45.83	Auto	0.0000
L32	48	CCI-CFP-060100	44.58 - 47.33	Auto	0.0000
L32	51	CCI-AFP-060100	44.58 - 47.33	Auto	0.0000
L32	56	PL0.75x4 Reinforcement - Wind Area	44.58 - 47.33	Auto	0.0000
L32	58	PL0.75x4 Reinforcement - Wind Area	44.58 - 45.83	Auto	0.0000
L32	60	CCI-CFP-060100	44.58 - 47.33	Auto	0.0000
L32	63	CCI-AFP-060100	44.58 - 47.33	Auto	0.0000
L32	67	PL0.75x4 Reinforcement - Wind Area	44.58 - 47.33	Auto	0.0000
L33	36	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	Auto	0.0000
L33	38	CCI-CFP-060100	44.33 - 44.58	Auto	0.0000
L33	40	CCI-AFP-060100	44.33 - 44.40	Auto	0.0000
L33	41	CCI-AFP-045100	44.40 - 44.58	Auto	0.0000
L33	44	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	Auto	0.0000
L33	46	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	Auto	0.0000
L33	48	CCI-CFP-060100	44.33 - 44.58	Auto	0.0000
L33	51	CCI-AFP-060100	44.33 - 44.58	Auto	0.0000
L33	56	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	Auto	0.0000
L33	58	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	Auto	0.0000
L33	60	CCI-CFP-060100	44.33 - 44.58	Auto	0.0000
L33	63	CCI-AFP-060100	44.33 - 44.58	Auto	0.0000
L33	67	PL0.75x4 Reinforcement - Wind Area	44.33 - 44.58	Auto	0.0000
L34	36	PL0.75x4 Reinforcement - Wind Area	41.85 - 44.33	Auto	0.0000
L34	38	CCI-CFP-060100	41.85 - 44.33	Auto	0.0000
L34	40	CCI-AFP-060100	41.85 - 44.33	Auto	0.0000
L34	44	PL0.75x4 Reinforcement - Wind Area	43.30 - 44.33	Auto	0.0000
L34	46	PL0.75x4 Reinforcement - Wind Area	41.85 - 44.33	Auto	0.0000
L34	48	CCI-CFP-060100	41.85 - 44.33	Auto	0.0000
L34	51	CCI-AFP-060100	41.85 - 44.33	Auto	0.0000
L34	56	PL0.75x4 Reinforcement - Wind Area	43.30 - 44.33	Auto	0.0000
L34	58	PL0.75x4 Reinforcement - Wind Area	41.85 - 44.33	Auto	0.0000
L34	60	CCI-CFP-060100	41.85 - 44.33	Auto	0.0000
L34	63	CCI-AFP-060100	41.85 - 44.33	Auto	0.0000
L34	67	PL0.75x4 Reinforcement - Wind Area	43.30 - 44.33	Auto	0.0000
L35	36	PL0.75x4 Reinforcement - Wind Area	41.60 - 41.85	Auto	0.0000
L35	38	CCI-CFP-060100	41.60 - 41.85	Auto	0.0000
L35	40	CCI-AFP-060100	41.60 - 41.85	Auto	0.0000
L35	46	PL0.75x4 Reinforcement - Wind Area	41.60 - 41.85	Auto	0.0000
L35	48	CCI-CFP-060100	41.60 - 41.85	Auto	0.0000
L35	51	CCI-AFP-060100	41.60 - 41.85	Auto	0.0000
L35	58	PL0.75x4 Reinforcement - Wind Area	41.60 - 41.85	Auto	0.0000
L35	60	CCI-CFP-060100	41.60 - 41.85	Auto	0.0000
L35	63	CCI-AFP-060100	41.60 - 41.85	Auto	0.0000
L36	36	PL0.75x4 Reinforcement - Wind Area	34.08 - 41.60	Auto	0.0000
L36	38	CCI-CFP-060100	34.08 - 41.60	Auto	0.0000
L36	40	CCI-AFP-060100	34.08 - 41.60	Auto	0.0000
L36	46	PL0.75x4 Reinforcement - Wind Area	34.08 - 41.60	Auto	0.0000
L36	48	CCI-CFP-060100	34.08 - 41.60	Auto	0.0000
L36	51	CCI-AFP-060100	34.08 - 41.60	Auto	0.0000
L36	58	PL0.75x4 Reinforcement - Wind Area	34.08 - 41.60	Auto	0.0000
L36	60	CCI-CFP-060100	34.08 - 41.60	Auto	0.0000
L36	63	CCI-AFP-060100	34.08 - 41.60	Auto	0.0000
L37	36	PL0.75x4 Reinforcement - Wind Area	34.00 - 34.08	Auto	0.0000
L37	38	CCI-CFP-060100	34.00 - 34.08	Auto	0.0000
L37	40	CCI-AFP-060100	34.00 - 34.08	Auto	0.0000
L37	46	PL0.75x4 Reinforcement - Wind Area	34.00 - 34.08	Auto	0.0000
L37	48	CCI-CFP-060100	34.00 - 34.08	Auto	0.0000
L37	51	CCI-AFP-060100	34.00 - 34.08	Auto	0.0000
L37	58	PL0.75x4 Reinforcement - Wind Area	34.00 - 34.08	Auto	0.0000
L37	60	CCI-CFP-060100	34.00 - 34.08	Auto	0.0000
L37	63	CCI-AFP-060100	34.00 - 34.08	Auto	0.0000
L38	36	PL0.75x4 Reinforcement - Wind Area	29.00 - 34.00	Auto	0.0000
L38	38	CCI-CFP-060100	29.00 - 34.00	Auto	0.0000
L38	40	CCI-AFP-060100	29.00 - 34.00	Auto	0.0000
L38	46	PL0.75x4 Reinforcement - Wind Area	29.00 - 34.00	Auto	0.0000
L38	48	CCI-CFP-060100	29.00 - 34.00	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L38	51	CCI-AFP-060100	29.00 - 34.00	Auto	0.0000
L38	55	CCI-AFP-060100	29.00 - 29.40	Auto	0.0000
L38	58	PL0.75x4 Reinforcement - Wind Area	29.00 - 34.00	Auto	0.0000
L38	60	CCI-CFP-060100	29.00 - 34.00	Auto	0.0000
L38	63	CCI-AFP-060100	29.00 - 34.00	Auto	0.0000
L38	66	CCI-AFP-060100	29.00 - 29.40	Auto	0.0000
L39	36	PL0.75x4 Reinforcement - Wind Area	26.85 - 29.00	Auto	0.0000
L39	38	CCI-CFP-060100	26.85 - 29.00	Auto	0.0000
L39	40	CCI-AFP-060100	26.85 - 29.00	Auto	0.0000
L39	46	PL0.75x4 Reinforcement - Wind Area	26.85 - 29.00	Auto	0.0000
L39	48	CCI-CFP-060100	26.85 - 29.00	Auto	0.0000
L39	51	CCI-AFP-060100	26.85 - 29.00	Auto	0.0000
L39	55	CCI-AFP-060100	26.85 - 29.00	Auto	0.0000
L39	58	PL0.75x4 Reinforcement - Wind Area	26.85 - 29.00	Auto	0.0000
L39	60	CCI-CFP-060100	26.85 - 29.00	Auto	0.0000
L39	63	CCI-AFP-060100	26.85 - 29.00	Auto	0.0000
L39	66	CCI-AFP-060100	26.85 - 29.00	Auto	0.0000
L40	36	PL0.75x4 Reinforcement - Wind Area	26.60 - 26.85	Auto	0.0000
L40	38	CCI-CFP-060100	26.60 - 26.85	Auto	0.0000
L40	40	CCI-AFP-060100	26.60 - 26.85	Auto	0.0000
L40	46	PL0.75x4 Reinforcement - Wind Area	26.60 - 26.85	Auto	0.0000
L40	48	CCI-CFP-060100	26.60 - 26.85	Auto	0.0000
L40	51	CCI-AFP-060100	26.60 - 26.85	Auto	0.0000
L40	55	CCI-AFP-060100	26.60 - 26.85	Auto	0.0000
L40	58	PL0.75x4 Reinforcement - Wind Area	26.60 - 26.85	Auto	0.0000
L40	60	CCI-CFP-060100	26.60 - 26.85	Auto	0.0000
L40	63	CCI-AFP-060100	26.60 - 26.85	Auto	0.0000
L40	66	CCI-AFP-060100	26.60 - 26.85	Auto	0.0000
L41	36	PL0.75x4 Reinforcement - Wind Area	21.60 - 26.60	Auto	0.0000
L41	38	CCI-CFP-060100	21.60 - 26.60	Auto	0.0000
L41	40	CCI-AFP-060100	21.60 - 26.60	Auto	0.0000
L41	46	PL0.75x4 Reinforcement - Wind Area	21.60 - 26.60	Auto	0.0000
L41	48	CCI-CFP-060100	21.60 - 26.60	Auto	0.0000
L41	51	CCI-AFP-060100	21.60 - 26.60	Auto	0.0000
L41	55	CCI-AFP-060100	21.60 - 26.60	Auto	0.0000
L41	58	PL0.75x4 Reinforcement - Wind Area	21.60 - 26.60	Auto	0.0000
L41	60	CCI-CFP-060100	21.60 - 26.60	Auto	0.0000
L41	63	CCI-AFP-060100	21.60 - 26.60	Auto	0.0000
L41	66	CCI-AFP-060100	21.60 - 26.60	Auto	0.0000
L42	36	PL0.75x4 Reinforcement - Wind Area	18.00 - 21.60	Auto	0.0000
L42	38	CCI-CFP-060100	18.00 - 21.60	Auto	0.0000
L42	40	CCI-AFP-060100	18.00 - 21.60	Auto	0.0000
L42	43	CCI-SFP-065125	18.00 - 20.75	Auto	0.0000
L42	46	PL0.75x4 Reinforcement - Wind Area	18.00 - 21.60	Auto	0.0000
L42	48	CCI-CFP-060100	18.00 - 21.60	Auto	0.0000
L42	50	CCI-SFP-065125	18.00 - 20.75	Auto	0.0000
L42	51	CCI-AFP-060100	21.00 - 21.60	Auto	0.0000
L42	55	CCI-AFP-060100	18.00 - 21.60	Auto	0.0000
L42	58	PL0.75x4 Reinforcement - Wind Area	18.00 - 21.60	Auto	0.0000
L42	60	CCI-CFP-060100	18.00 - 21.60	Auto	0.0000
L42	62	CCI-SFP-065125	18.00 - 20.75	Auto	0.0000
L42	63	CCI-AFP-060100	21.00 - 21.60	Auto	0.0000
L42	66	CCI-AFP-060100	18.00 - 21.60	Auto	0.0000
L43	36	PL0.75x4 Reinforcement - Wind Area	17.75 - 18.00	Auto	0.0000
L43	38	CCI-CFP-060100	17.75 - 18.00	Auto	0.0000
L43	40	CCI-AFP-060100	17.75 - 18.00	Auto	0.0000
L43	43	CCI-SFP-065125	17.75 - 18.00	Auto	0.0000
L43	46	PL0.75x4 Reinforcement - Wind Area	17.75 - 18.00	Auto	0.0000
L43	48	CCI-CFP-060100	17.75 - 18.00	Auto	0.0000
L43	50	CCI-SFP-065125	17.75 - 18.00	Auto	0.0000
L43	55	CCI-AFP-060100	17.75 - 18.00	Auto	0.0000
L43	58	PL0.75x4 Reinforcement - Wind Area	17.75 - 18.00	Auto	0.0000
L43	60	CCI-CFP-060100	17.75 - 18.00	Auto	0.0000
L43	62	CCI-SFP-065125	17.75 - 18.00	Auto	0.0000
L43	66	CCI-AFP-060100	17.75 - 18.00	Auto	0.0000
L44	36	PL0.75x4 Reinforcement - Wind Area	17.50 - 17.75	Auto	0.0000
L44	38	CCI-CFP-060100	17.50 - 17.75	Auto	0.0000
L44	40	CCI-AFP-060100	17.50 - 17.75	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L44	43	CCI-SFP-065125	17.50 - 17.75	Auto	0.0000
L44	46	PL0.75x4 Reinforcement - Wind Area	17.50 - 17.75	Auto	0.0000
L44	48	CCI-CFP-060100	17.50 - 17.75	Auto	0.0000
L44	50	CCI-SFP-065125	17.50 - 17.75	Auto	0.0000
L44	55	CCI-AFP-060100	17.50 - 17.75	Auto	0.0000
L44	58	PL0.75x4 Reinforcement - Wind Area	17.50 - 17.75	Auto	0.0000
L44	60	CCI-CFP-060100	17.50 - 17.75	Auto	0.0000
L44	62	CCI-SFP-065125	17.50 - 17.75	Auto	0.0000
L44	66	CCI-AFP-060100	17.50 - 17.75	Auto	0.0000
L45	36	PL0.75x4 Reinforcement - Wind Area	17.25 - 17.50	Auto	0.0000
L45	38	CCI-CFP-060100	17.25 - 17.50	Auto	0.0000
L45	40	CCI-AFP-060100	17.25 - 17.50	Auto	0.0000
L45	43	CCI-SFP-065125	17.25 - 17.50	Auto	0.0000
L45	46	PL0.75x4 Reinforcement - Wind Area	17.25 - 17.50	Auto	0.0000
L45	48	CCI-CFP-060100	17.25 - 17.50	Auto	0.0000
L45	50	CCI-SFP-065125	17.25 - 17.50	Auto	0.0000
L45	55	CCI-AFP-060100	17.25 - 17.50	Auto	0.0000
L45	58	PL0.75x4 Reinforcement - Wind Area	17.25 - 17.50	Auto	0.0000
L45	60	CCI-CFP-060100	17.25 - 17.50	Auto	0.0000
L45	62	CCI-SFP-065125	17.25 - 17.50	Auto	0.0000
L45	66	CCI-AFP-060100	17.25 - 17.50	Auto	0.0000
L46	36	PL0.75x4 Reinforcement - Wind Area	17.08 - 17.25	Auto	0.0000
L46	38	CCI-CFP-060100	17.08 - 17.25	Auto	0.0000
L46	40	CCI-AFP-060100	17.08 - 17.25	Auto	0.0000
L46	43	CCI-SFP-065125	17.08 - 17.25	Auto	0.0000
L46	46	PL0.75x4 Reinforcement - Wind Area	17.08 - 17.25	Auto	0.0000
L46	48	CCI-CFP-060100	17.08 - 17.25	Auto	0.0000
L46	50	CCI-SFP-065125	17.08 - 17.25	Auto	0.0000
L46	55	CCI-AFP-060100	17.08 - 17.25	Auto	0.0000
L46	58	PL0.75x4 Reinforcement - Wind Area	17.08 - 17.25	Auto	0.0000
L46	60	CCI-CFP-060100	17.08 - 17.25	Auto	0.0000
L46	62	CCI-SFP-065125	17.08 - 17.25	Auto	0.0000
L46	66	CCI-AFP-060100	17.08 - 17.25	Auto	0.0000
L47	36	PL0.75x4 Reinforcement - Wind Area	16.83 - 17.08	Auto	0.0000
L47	38	CCI-CFP-060100	16.83 - 17.08	Auto	0.0000
L47	40	CCI-AFP-060100	16.83 - 17.08	Auto	0.0000
L47	43	CCI-SFP-065125	16.83 - 17.08	Auto	0.0000
L47	46	PL0.75x4 Reinforcement - Wind Area	16.83 - 17.08	Auto	0.0000
L47	48	CCI-CFP-060100	16.83 - 17.08	Auto	0.0000
L47	50	CCI-SFP-065125	16.83 - 17.08	Auto	0.0000
L47	55	CCI-AFP-060100	16.83 - 17.08	Auto	0.0000
L47	58	PL0.75x4 Reinforcement - Wind Area	16.83 - 17.08	Auto	0.0000
L47	60	CCI-CFP-060100	16.83 - 17.08	Auto	0.0000
L47	62	CCI-SFP-065125	16.83 - 17.08	Auto	0.0000
L47	66	CCI-AFP-060100	16.83 - 17.08	Auto	0.0000
L48	35	CCI-AFP-060100	13.00 - 15.50	Auto	0.0000
L48	36	PL0.75x4 Reinforcement - Wind Area	15.83 - 16.83	Auto	0.0000
L48	38	CCI-CFP-060100	13.00 - 16.83	Auto	0.0000
L48	40	CCI-AFP-060100	13.00 - 16.83	Auto	0.0000
L48	43	CCI-SFP-065125	13.00 - 16.83	Auto	0.0000
L48	45	CCI-AFP-060100	13.00 - 15.50	Auto	0.0000
L48	46	PL0.75x4 Reinforcement - Wind Area	15.83 - 16.83	Auto	0.0000
L48	48	CCI-CFP-060100	13.00 - 16.83	Auto	0.0000
L48	50	CCI-SFP-065125	13.00 - 16.83	Auto	0.0000
L48	55	CCI-AFP-060100	13.00 - 16.83	Auto	0.0000
L48	57	CCI-AFP-060100	13.00 - 15.50	Auto	0.0000
L48	58	PL0.75x4 Reinforcement - Wind Area	15.83 - 16.83	Auto	0.0000
L48	60	CCI-CFP-060100	13.00 - 16.83	Auto	0.0000
L48	62	CCI-SFP-065125	13.00 - 16.83	Auto	0.0000
L48	66	CCI-AFP-060100	13.00 - 16.83	Auto	0.0000
L49	35	CCI-AFP-060100	12.75 - 13.00	Auto	0.0000
L49	38	CCI-CFP-060100	12.75 - 13.00	Auto	0.0000
L49	40	CCI-AFP-060100	12.75 - 13.00	Auto	0.0000
L49	43	CCI-SFP-065125	12.75 - 13.00	Auto	0.0000
L49	45	CCI-AFP-060100	12.75 - 13.00	Auto	0.0000
L49	48	CCI-CFP-060100	12.75 - 13.00	Auto	0.0000
L49	50	CCI-SFP-065125	12.75 - 13.00	Auto	0.0000
L49	55	CCI-AFP-060100	12.75 - 13.00	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L49	57	CCI-AFP-060100	12.75 - 13.00	Auto	0.0000
L49	60	CCI-CFP-060100	12.75 - 13.00	Auto	0.0000
L49	62	CCI-SFP-065125	12.75 - 13.00	Auto	0.0000
L49	66	CCI-AFP-060100	12.75 - 13.00	Auto	0.0000
L50	35	CCI-AFP-060100	11.85 - 12.75	Auto	0.0000
L50	38	CCI-CFP-060100	11.85 - 12.75	Auto	0.0000
L50	40	CCI-AFP-060100	11.85 - 12.75	Auto	0.0000
L50	43	CCI-SFP-065125	11.85 - 12.75	Auto	0.0000
L50	45	CCI-AFP-060100	11.85 - 12.75	Auto	0.0000
L50	48	CCI-CFP-060100	11.85 - 12.75	Auto	0.0000
L50	50	CCI-SFP-065125	11.85 - 12.75	Auto	0.0000
L50	55	CCI-AFP-060100	11.85 - 12.75	Auto	0.0000
L50	57	CCI-AFP-060100	11.85 - 12.75	Auto	0.0000
L50	60	CCI-CFP-060100	11.85 - 12.75	Auto	0.0000
L50	62	CCI-SFP-065125	11.85 - 12.75	Auto	0.0000
L50	66	CCI-AFP-060100	11.85 - 12.75	Auto	0.0000
L51	35	CCI-AFP-060100	11.60 - 11.85	Auto	0.0000
L51	38	CCI-CFP-060100	11.60 - 11.85	Auto	0.0000
L51	40	CCI-AFP-060100	11.60 - 11.85	Auto	0.0000
L51	43	CCI-SFP-065125	11.60 - 11.85	Auto	0.0000
L51	45	CCI-AFP-060100	11.60 - 11.85	Auto	0.0000
L51	48	CCI-CFP-060100	11.60 - 11.85	Auto	0.0000
L51	50	CCI-SFP-065125	11.60 - 11.85	Auto	0.0000
L51	55	CCI-AFP-060100	11.60 - 11.85	Auto	0.0000
L51	57	CCI-AFP-060100	11.60 - 11.85	Auto	0.0000
L51	60	CCI-CFP-060100	11.60 - 11.85	Auto	0.0000
L51	62	CCI-SFP-065125	11.60 - 11.85	Auto	0.0000
L51	66	CCI-AFP-060100	11.60 - 11.85	Auto	0.0000
L52	35	CCI-AFP-060100	6.50 - 11.60	Auto	0.0000
L52	38	CCI-CFP-060100	6.50 - 11.60	Auto	0.0000
L52	40	CCI-AFP-060100	9.40 - 11.60	Auto	0.0000
L52	43	CCI-SFP-065125	6.50 - 11.60	Auto	0.0000
L52	45	CCI-AFP-060100	6.50 - 11.60	Auto	0.0000
L52	48	CCI-CFP-060100	6.50 - 11.60	Auto	0.0000
L52	50	CCI-SFP-065125	6.50 - 11.60	Auto	0.0000
L52	54	CCI-SFP-065125	6.50 - 9.25	Auto	0.0000
L52	55	CCI-AFP-060100	9.40 - 11.60	Auto	0.0000
L52	57	CCI-AFP-060100	6.50 - 11.60	Auto	0.0000
L52	60	CCI-CFP-060100	6.50 - 11.60	Auto	0.0000
L52	62	CCI-SFP-065125	6.50 - 11.60	Auto	0.0000
L52	66	CCI-AFP-060100	9.40 - 11.60	Auto	0.0000
L53	35	CCI-AFP-060100	6.25 - 6.50	Auto	0.0000
L53	38	CCI-CFP-060100	6.25 - 6.50	Auto	0.0000
L53	43	CCI-SFP-065125	6.25 - 6.50	Auto	0.0000
L53	45	CCI-AFP-060100	6.25 - 6.50	Auto	0.0000
L53	48	CCI-CFP-060100	6.25 - 6.50	Auto	0.0000
L53	50	CCI-SFP-065125	6.25 - 6.50	Auto	0.0000
L53	54	CCI-SFP-065125	6.25 - 6.50	Auto	0.0000
L53	57	CCI-AFP-060100	6.25 - 6.50	Auto	0.0000
L53	60	CCI-CFP-060100	6.25 - 6.50	Auto	0.0000
L53	62	CCI-SFP-065125	6.25 - 6.50	Auto	0.0000
L54	35	CCI-AFP-060100	3.75 - 6.25	Auto	0.0000
L54	38	CCI-CFP-060100	3.75 - 6.25	Auto	0.0000
L54	43	CCI-SFP-065125	3.75 - 6.25	Auto	0.0000
L54	45	CCI-AFP-060100	3.75 - 6.25	Auto	0.0000
L54	48	CCI-CFP-060100	3.75 - 6.25	Auto	0.0000
L54	50	CCI-SFP-065125	3.75 - 6.25	Auto	0.0000
L54	54	CCI-SFP-065125	3.75 - 6.25	Auto	0.0000
L54	57	CCI-AFP-060100	3.75 - 6.25	Auto	0.0000
L54	60	CCI-CFP-060100	3.75 - 6.25	Auto	0.0000
L54	62	CCI-SFP-065125	3.75 - 6.25	Auto	0.0000
L55	35	CCI-AFP-060100	3.50 - 3.75	Auto	0.0000
L55	38	CCI-CFP-060100	3.50 - 3.75	Auto	0.0000
L55	43	CCI-SFP-065125	3.50 - 3.75	Auto	0.0000
L55	45	CCI-AFP-060100	3.50 - 3.75	Auto	0.0000
L55	48	CCI-CFP-060100	3.50 - 3.75	Auto	0.0000
L55	50	CCI-SFP-065125	3.50 - 3.75	Auto	0.0000
L55	54	CCI-SFP-065125	3.50 - 3.75	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L55	57	CCI-AFP-060100	3.50 - 3.75	Auto	0.0000
L55	60	CCI-CFP-060100	3.50 - 3.75	Auto	0.0000
L55	62	CCI-SFP-065125	3.50 - 3.75	Auto	0.0000
L56	35	CCI-AFP-060100	3.00 - 3.50	Auto	0.0000
L56	38	CCI-CFP-060100	3.00 - 3.50	Auto	0.0000
L56	43	CCI-SFP-065125	3.00 - 3.50	Auto	0.0000
L56	45	CCI-AFP-060100	3.00 - 3.50	Auto	0.0000
L56	48	CCI-CFP-060100	3.00 - 3.50	Auto	0.0000
L56	50	CCI-SFP-065125	3.00 - 3.50	Auto	0.0000
L56	54	CCI-SFP-065125	3.00 - 3.50	Auto	0.0000
L56	57	CCI-AFP-060100	3.00 - 3.50	Auto	0.0000
L56	60	CCI-CFP-060100	3.00 - 3.50	Auto	0.0000
L56	62	CCI-SFP-065125	3.00 - 3.50	Auto	0.0000
L57	35	CCI-AFP-060100	2.75 - 3.00	Auto	0.0000
L57	38	CCI-CFP-060100	2.75 - 3.00	Auto	0.0000
L57	43	CCI-SFP-065125	2.75 - 3.00	Auto	0.0000
L57	45	CCI-AFP-060100	2.75 - 3.00	Auto	0.0000
L57	48	CCI-CFP-060100	2.75 - 3.00	Auto	0.0000
L57	50	CCI-SFP-065125	2.75 - 3.00	Auto	0.0000
L57	54	CCI-SFP-065125	2.75 - 3.00	Auto	0.0000
L57	57	CCI-AFP-060100	2.75 - 3.00	Auto	0.0000
L57	60	CCI-CFP-060100	2.75 - 3.00	Auto	0.0000
L57	62	CCI-SFP-065125	2.75 - 3.00	Auto	0.0000
L58	35	CCI-AFP-060100	0.50 - 2.75	Auto	0.0000
L58	38	CCI-CFP-060100	0.00 - 2.75	Auto	0.0000
L58	43	CCI-SFP-065125	0.00 - 2.75	Auto	0.0000
L58	45	CCI-AFP-060100	0.50 - 2.75	Auto	0.0000
L58	48	CCI-CFP-060100	0.00 - 2.75	Auto	0.0000
L58	50	CCI-SFP-065125	0.00 - 2.75	Auto	0.0000
L58	54	CCI-SFP-065125	0.00 - 2.75	Auto	0.0000
L58	57	CCI-AFP-060100	0.50 - 2.75	Auto	0.0000
L58	60	CCI-CFP-060100	0.00 - 2.75	Auto	0.0000
L58	62	CCI-SFP-065125	0.00 - 2.75	Auto	0.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
***									
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	0.0000	121.00	No Ice 1/2"	1.43 1.92	0.01 0.04	0.02 0.03

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			Ice	2.29	0.07	0.05
						1" Ice	3.06	0.13	0.09
						2" Ice			
(2) 6'x2" Horizontal Pipe	C	From Leg	4.00	0.0000	121.00	No Ice	1.43	0.01	0.02
			0.00			1/2"	1.92	0.04	0.03
			0.00			Ice	2.29	0.07	0.05
						1" Ice	3.06	0.13	0.09
						2" Ice			
3'x2" Mount Pipe	A	From Face	2.00	0.0000	121.00	No Ice	0.58	0.58	0.01
			0.00			1/2"	0.77	0.77	0.02
			0.00			Ice	0.97	0.97	0.02
						1" Ice	1.39	1.39	0.05
						2" Ice			
3'x2" Mount Pipe	B	From Face	2.00	0.0000	121.00	No Ice	0.58	0.58	0.01
			0.00			1/2"	0.77	0.77	0.02
			0.00			Ice	0.97	0.97	0.02
						1" Ice	1.39	1.39	0.05
						2" Ice			
3'x2" Mount Pipe	C	From Face	2.00	0.0000	121.00	No Ice	0.58	0.58	0.01
			0.00			1/2"	0.77	0.77	0.02
			0.00			Ice	0.97	0.97	0.02
						1" Ice	1.39	1.39	0.05
						2" Ice			
4' Horiz x L2x2x1/4	A	From Face	2.00	0.0000	121.00	No Ice	0.80	0.03	0.01
			0.00			1/2"	1.08	0.06	0.02
			0.00			Ice	1.37	0.09	0.03
						1" Ice	1.97	0.18	0.07
						2" Ice			
4' Horiz x L2x2x1/4	B	From Face	2.00	0.0000	121.00	No Ice	0.80	0.03	0.01
			0.00			1/2"	1.08	0.06	0.02
			0.00			Ice	1.37	0.09	0.03
						1" Ice	1.97	0.18	0.07
						2" Ice			
4' Horiz x L2x2x1/4	C	From Face	2.00	0.0000	121.00	No Ice	0.80	0.03	0.01
			0.00			1/2"	1.08	0.06	0.02
			0.00			Ice	1.37	0.09	0.03
						1" Ice	1.97	0.18	0.07
						2" Ice			
DMP65R-BU6D w/ Mount Pipe	A	From Leg	4.00	0.0000	121.00	No Ice	11.96	5.97	0.11
			0.00			1/2"	12.70	6.63	0.20
			-1.00			Ice	13.46	7.30	0.30
						1" Ice	15.02	8.69	0.53
						2" Ice			
DMP65R-BU6D w/ Mount Pipe	B	From Leg	4.00	0.0000	121.00	No Ice	11.96	5.97	0.11
			0.00			1/2"	12.70	6.63	0.20
			-1.00			Ice	13.46	7.30	0.30
						1" Ice	15.02	8.69	0.53
						2" Ice			
DMP65R-BU6D w/ Mount Pipe	C	From Leg	4.00	0.0000	121.00	No Ice	11.96	5.97	0.11
			0.00			1/2"	12.70	6.63	0.20
			-1.00			Ice	13.46	7.30	0.30
						1" Ice	15.02	8.69	0.53
						2" Ice			
AIR 6419 B77G w/ Mount Pipe	A	From Leg	4.00	0.0000	121.00	No Ice	4.32	2.49	0.08
			0.00			1/2"	4.74	2.84	0.11
			-3.00			Ice	5.17	3.21	0.15
						1" Ice	6.09	4.00	0.24
						2" Ice			
AIR 6419 B77G w/ Mount Pipe	B	From Leg	4.00	0.0000	121.00	No Ice	4.32	2.49	0.08
			0.00			1/2"	4.74	2.84	0.11
			-3.00			Ice	5.17	3.21	0.15
						1" Ice	6.09	4.00	0.24
						2" Ice			
AIR 6419 B77G w/ Mount Pipe	C	From Leg	4.00	0.0000	121.00	No Ice	4.32	2.49	0.08
			0.00			1/2"	4.74	2.84	0.11

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			-3.00			Ice	5.17	3.21	0.15
						1" Ice	6.09	4.00	0.24
						2" Ice			
AIR 6449 B77D w/ Mount Pipe	A	From Leg	4.00	0.0000	121.00	No Ice	3.58	2.31	0.09
			0.00			1/2"	3.92	2.60	0.13
			1.00			Ice	4.27	2.91	0.17
						1" Ice	5.02	3.57	0.28
						2" Ice			
AIR 6449 B77D w/ Mount Pipe	B	From Leg	4.00	0.0000	121.00	No Ice	3.58	2.31	0.09
			0.00			1/2"	3.92	2.60	0.13
			1.00			Ice	4.27	2.91	0.17
						1" Ice	5.02	3.57	0.28
						2" Ice			
AIR 6449 B77D w/ Mount Pipe	C	From Leg	4.00	0.0000	121.00	No Ice	3.58	2.31	0.09
			0.00			1/2"	3.92	2.60	0.13
			1.00			Ice	4.27	2.91	0.17
						1" Ice	5.02	3.57	0.28
						2" Ice			
QD6616-7 w/ Mount Pipe	A	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	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

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			-1.00			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
						1" Ice	2.32	1.99	0.16
						2" Ice			
RRUS 8843 B2/B66A	C	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 E2 B29	A	From Leg	4.00	0.0000	121.00	No Ice	3.15	1.29	0.05
			0.00			1/2"	3.36	1.44	0.08
			-1.00			Ice	3.59	1.60	0.10
						1" Ice	4.07	1.95	0.17
						2" Ice			
RRUS E2 B29	B	From Leg	4.00	0.0000	121.00	No Ice	3.15	1.29	0.05
			0.00			1/2"	3.36	1.44	0.08
			-1.00			Ice	3.59	1.60	0.10
						1" Ice	4.07	1.95	0.17
						2" Ice			
RRUS E2 B29	C	From Leg	4.00	0.0000	121.00	No Ice	3.15	1.29	0.05
			0.00			1/2"	3.36	1.44	0.08
			-1.00			Ice	3.59	1.60	0.10
						1" Ice	4.07	1.95	0.17
						2" Ice			
DC6-48-60-0-8F	A	From Leg	4.00	0.0000	121.00	No Ice	0.92	0.92	0.02
			0.00			1/2"	1.46	1.46	0.04
			-1.00			Ice	1.64	1.64	0.06
						1" Ice	2.04	2.04	0.11
						2" Ice			
DC6-48-60-18-8F	B	From Leg	4.00	0.0000	121.00	No Ice	0.92	0.92	0.02
			0.00			1/2"	1.46	1.46	0.04
			-1.00			Ice	1.64	1.64	0.06
						1" Ice	2.04	2.04	0.11
						2" Ice			
(2) DC6-48-60-18-8F	C	From Leg	4.00	0.0000	121.00	No Ice	0.92	0.92	0.02
			0.00			1/2"	1.46	1.46	0.04
			-1.00			Ice	1.64	1.64	0.06
						1" Ice	2.04	2.04	0.11
						2" Ice			
***									
Site Pro 1 F3P-12W 12' Fortress Platform	C	None		0.0000	109.00	No Ice	25.52	25.41	2.00
						1/2"	31.74	32.27	2.60
						Ice	40.10	39.68	3.41
						1" Ice	50.42	52.86	4.40
						2" Ice			
Site Pro 1 F3P-HRK12 12'	C	None		0.0000	109.00	No Ice	5.38	4.64	0.41

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Hand Rail Kit						1/2" Ice	7.22	6.35	0.50
						1" Ice	8.88	8.13	0.63
						2" Ice	12.74	11.48	0.77
(2) SBNHH-1D65B w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	109.00	No Ice	4.09	3.30	0.07
						1/2" Ice	4.49	3.68	0.13
						1" Ice	4.89	4.07	0.20
						2" Ice	5.72	4.87	0.39
(2) SBNHH-1D65B w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	109.00	No Ice	4.09	3.30	0.07
						1/2" Ice	4.49	3.68	0.13
						1" Ice	4.89	4.07	0.20
						2" Ice	5.72	4.87	0.39
(2) SBNHH-1D65B w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	109.00	No Ice	4.09	3.30	0.07
						1/2" Ice	4.49	3.68	0.13
						1" Ice	4.89	4.07	0.20
						2" Ice	5.72	4.87	0.39
MT6407-77A w/ Mount Pipe	A	From Leg	4.00 0.00 4.00	0.0000	109.00	No Ice	4.91	2.68	0.10
						1/2" Ice	5.26	3.14	0.14
						1" Ice	5.61	3.62	0.18
						2" Ice	6.36	4.63	0.29
MT6407-77A w/ Mount Pipe	B	From Leg	4.00 0.00 4.00	0.0000	109.00	No Ice	4.91	2.68	0.10
						1/2" Ice	5.26	3.14	0.14
						1" Ice	5.61	3.62	0.18
						2" Ice	6.36	4.63	0.29
MT6407-77A w/ Mount Pipe	C	From Leg	4.00 0.00 4.00	0.0000	109.00	No Ice	4.91	2.68	0.10
						1/2" Ice	5.26	3.14	0.14
						1" Ice	5.61	3.62	0.18
						2" Ice	6.36	4.63	0.29
CBRS w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	109.00	No Ice	1.45	0.99	0.03
						1/2" Ice	1.67	1.18	0.05
						1" Ice	1.90	1.39	0.07
						2" Ice	2.42	1.85	0.12
CBRS w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	109.00	No Ice	1.45	0.99	0.03
						1/2" Ice	1.67	1.18	0.05
						1" Ice	1.90	1.39	0.07
						2" Ice	2.42	1.85	0.12
CBRS w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	109.00	No Ice	1.45	0.99	0.03
						1/2" Ice	1.67	1.18	0.05
						1" Ice	1.90	1.39	0.07
						2" Ice	2.42	1.85	0.12
BXA-80063/4CF w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	109.00	No Ice	4.83	3.65	0.03
						1/2" Ice	5.35	4.14	0.06
						1" Ice	5.88	4.64	0.11
						2" Ice	6.98	5.70	0.22
BXA-80063/4CF w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	109.00	No Ice	4.83	3.65	0.03
						1/2" Ice	5.35	4.14	0.06
						1" Ice	5.88	4.64	0.11
						2" Ice	6.98	5.70	0.22
BXA-80063/4CF w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	109.00	No Ice	4.83	3.65	0.03
						1/2" Ice	5.35	4.14	0.06
						1" Ice	5.88	4.64	0.11
						2" Ice	6.98	5.70	0.22
RFV01U-D1A	A	From Leg	4.00	0.0000	109.00	No Ice	1.88	1.25	0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			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
			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			

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
PCS 1900MHz 4x45W-65MHz w/ Mount Pipe	C	From Leg	2.00 0.00 0.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.52 2.79 3.06 3.65	2.84 3.24 3.65 4.53	0.07 0.10 0.14 0.23
***									
Platform Mount [13.16' LP 713-1]	C	None		0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	34.63 37.65 40.67 46.71	34.63 37.65 40.67 46.71	1.59 2.35 3.10 4.61
6' x HSS 4"x4"x0.1375" Mount	A	From Leg	2.00 0.00 3.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.83 3.29 3.75 4.68	2.83 3.29 3.75 4.68	0.05 0.08 0.11 0.17
6' x HSS 4"x4"x0.1375" Mount	B	From Leg	2.00 0.00 3.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.83 3.29 3.75 4.68	2.83 3.29 3.75 4.68	0.05 0.08 0.11 0.17
6' x HSS 4"x4"x0.1375" Mount	C	From Leg	2.00 0.00 3.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.83 3.29 3.75 4.68	2.83 3.29 3.75 4.68	0.05 0.08 0.11 0.17
12' horizontal x 2" Pipe Mount	A	From Leg	4.00 0.00 3.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.28 3.50 4.75 7.28	0.01 0.04 0.09 0.21	0.03 0.05 0.08 0.15
12' horizontal x 2" Pipe Mount	B	From Leg	4.00 0.00 3.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.28 3.50 4.75 7.28	0.01 0.04 0.09 0.21	0.03 0.05 0.08 0.15
12' horizontal x 2" Pipe Mount	C	From Leg	4.00 0.00 3.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.28 3.50 4.75 7.28	0.01 0.04 0.09 0.21	0.03 0.05 0.08 0.15
4'x2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.87 1.11 1.36 1.90	0.87 1.11 1.36 1.90	0.01 0.02 0.03 0.06
4'x2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.87 1.11 1.36 1.90	0.87 1.11 1.36 1.90	0.01 0.02 0.03 0.06
4'x2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.87 1.11 1.36 1.90	0.87 1.11 1.36 1.90	0.01 0.02 0.03 0.06
8'x2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
8'x2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice			
8'x2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 15.46 16.23 17.82	6.87 7.55 8.25 9.67	0.18 0.31 0.45 0.78
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 15.46 16.23 17.82	6.87 7.55 8.25 9.67	0.18 0.31 0.45 0.78
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 15.46 16.23 17.82	6.87 7.55 8.25 9.67	0.18 0.31 0.45 0.78
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.19 5.59 6.02 6.90	2.71 3.04 3.38 4.12	0.13 0.17 0.23 0.35
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.19 5.59 6.02 6.90	2.71 3.04 3.38 4.12	0.13 0.17 0.23 0.35
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.19 5.59 6.02 6.90	2.71 3.04 3.38 4.12	0.13 0.17 0.23 0.35
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.00 0.00 1.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.14 2.32 2.51 2.91	1.69 1.85 2.02 2.39	0.11 0.13 0.16 0.22
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.00 0.00 1.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.14 2.32 2.51 2.91	1.69 1.85 2.02 2.39	0.11 0.13 0.16 0.22
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.00 0.00 1.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.14 2.32 2.51 2.91	1.69 1.85 2.02 2.39	0.11 0.13 0.16 0.22
Radio 4480_TMOV2	A	From Leg	4.00 0.00 1.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.88 3.09 3.31 3.78	1.40 1.56 1.73 2.09	0.08 0.10 0.13 0.19
Radio 4480_TMOV2	B	From Leg	4.00 0.00 1.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.88 3.09 3.31 3.78	1.40 1.56 1.73 2.09	0.08 0.10 0.13 0.19
Radio 4480_TMOV2	C	From Leg	4.00 0.00 1.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice	2.88 3.09 3.31 3.78	1.40 1.56 1.73 2.09	0.08 0.10 0.13 0.19

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice			
***									
Site Pro 1 RMQP-496 + HRK12 12.5' Platform with Handrails	C	None		0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	21.17 25.84 30.51 39.85	19.65 24.18 28.79 37.77	1.49 1.83 2.29 2.85
8'x2" Mount Pipe	A	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
8'x2" Mount Pipe	B	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
8'x2" Mount Pipe	C	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
AIR 6419 B41_TMO w/ Mount Pipe	A	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.58 7.06 7.57 8.62	3.50 3.90 4.32 5.20	0.11 0.16 0.22 0.36
AIR 6419 B41_TMO w/ Mount Pipe	B	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.58 7.06 7.57 8.62	3.50 3.90 4.32 5.20	0.11 0.16 0.22 0.36
AIR 6419 B41_TMO w/ Mount Pipe	C	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.58 7.06 7.57 8.62	3.50 3.90 4.32 5.20	0.11 0.16 0.22 0.36
VV-65A-R1_TMO w/ Mount Pipe	A	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.46 4.91 5.36 6.32	2.69 3.10 3.52 4.41	0.05 0.10 0.15 0.28
VV-65A-R1_TMO w/ Mount Pipe	B	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.46 4.91 5.36 6.32	2.69 3.10 3.52 4.41	0.05 0.10 0.15 0.28
VV-65A-R1_TMO w/ Mount Pipe	C	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.46 4.91 5.36 6.32	2.69 3.10 3.52 4.41	0.05 0.10 0.15 0.28
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 15.46 16.23 17.82	6.87 7.55 8.25 9.67	0.19 0.31 0.46 0.79
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 15.46 16.23 17.82	6.87 7.55 8.25 9.67	0.19 0.31 0.46 0.79
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice	14.69 15.46 16.23	6.87 7.55 8.25	0.19 0.31 0.46

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						1" Ice	17.82	9.67	0.79
						2" Ice			
RADIO 4449 B71 B85A_T-MOBILE	A	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.97 2.15 2.33 2.72	1.59 1.75 1.92 2.28	0.07 0.09 0.12 0.17
RADIO 4449 B71 B85A_T-MOBILE	B	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.97 2.15 2.33 2.72	1.59 1.75 1.92 2.28	0.07 0.09 0.12 0.17
RADIO 4449 B71 B85A_T-MOBILE	C	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.97 2.15 2.33 2.72	1.59 1.75 1.92 2.28	0.07 0.09 0.12 0.17
RADIO 4460 B2/B25 B66_TMO	A	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.14 2.32 2.51 2.91	1.69 1.85 2.02 2.39	0.11 0.13 0.16 0.22
RADIO 4460 B2/B25 B66_TMO	B	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.14 2.32 2.51 2.91	1.69 1.85 2.02 2.39	0.11 0.13 0.16 0.22
RADIO 4460 B2/B25 B66_TMO	C	From Face	4.00 0.00 2.00	0.0000	85.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.14 2.32 2.51 2.91	1.69 1.85 2.02 2.39	0.11 0.13 0.16 0.22
***									
Commscope MC-PK8-DSH	C	None		0.0000	77.00	No Ice 1/2" Ice 1" Ice 2" Ice	34.24 62.95 91.66 149.08	34.24 62.95 91.66 149.08	1.75 2.10 2.45 3.15
(2) 8'x2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	77.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
(2) 8'x2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	77.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
(2) 8'x2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	77.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	77.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.01 8.52 9.04 10.11	4.23 4.69 5.16 6.12	0.11 0.19 0.29 0.52
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	77.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.01 8.52 9.04 10.11	4.23 4.69 5.16 6.12	0.11 0.19 0.29 0.52
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.00 0.00	0.0000	77.00	No Ice 1/2"	8.01 8.52	4.23 4.69	0.11 0.19

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			Ice	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
			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

Comb. No.	Description
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
			Max. Torque	6			0.00
L2	125 - 120	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-11.69	0.32	-0.20
			Max. Mx	20	-4.29	4.69	-0.05
			Max. My	14	-4.31	0.08	-4.64
			Max. Vy	8	6.79	-4.50	-0.05
			Max. Vx	14	6.78	0.08	-4.64
			Max. Torque	24			0.17
L3	120 - 115	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-12.12	0.26	-0.20
			Max. Mx	20	-4.49	39.28	-0.04
			Max. My	14	-4.50	0.07	-39.28
			Max. Vy	8	7.06	-39.10	-0.05
			Max. Vx	14	7.08	0.07	-39.28
			Max. Torque	24			0.17
L4	115 - 110	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-12.58	0.21	-0.19
			Max. Mx	20	-4.72	75.22	-0.04
			Max. My	14	-4.73	0.06	-75.42
			Max. Vy	8	7.33	-75.06	-0.06

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	14	7.38	0.06	-75.42
			Max. Torque	24			0.17
L5	110 - 105	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-22.57	-0.23	-0.48
			Max. Mx	8	-9.23	-133.28	-0.29
			Max. My	14	-9.25	-0.17	-133.59
			Max. Vy	8	11.78	-133.28	-0.29
			Max. Vx	14	11.74	-0.17	-133.59
			Max. Torque	20			0.18
L6	105 - 100	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-23.29	-0.29	-0.55
			Max. Mx	8	-9.70	-193.04	-0.51
			Max. My	14	-9.73	-0.35	-193.01
			Max. Vy	8	12.15	-193.04	-0.51
			Max. Vx	14	12.03	-0.35	-193.01
			Max. Torque	20			0.18
L7	100 - 95	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-34.90	-0.35	-0.67
			Max. Mx	8	-14.70	-270.71	-0.75
			Max. My	14	-14.76	-0.54	-269.65
			Max. Vy	8	18.05	-270.71	-0.75
			Max. Vx	14	17.73	-0.54	-269.65
			Max. Torque	20			0.23
L8	95 - 90	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.82	-0.42	-0.85
			Max. Mx	8	-15.34	-362.10	-1.02
			Max. My	14	-15.41	-0.72	-358.92
			Max. Vy	8	18.54	-362.10	-1.02
			Max. Vx	14	17.98	-0.72	-358.92
			Max. Torque	20			0.29
L9	90 - 89.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.88	-0.43	-0.86
			Max. Mx	8	-15.40	-366.73	-1.03
			Max. My	14	-15.46	-0.73	-363.42
			Max. Vy	8	18.55	-366.73	-1.03
			Max. Vx	14	17.98	-0.73	-363.42
			Max. Torque	20			0.29
L10	89.75 - 84.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.81	-0.55	-0.96
			Max. Mx	8	-19.82	-467.05	-1.27
			Max. My	14	-19.90	-0.94	-460.40
			Max. Vy	8	22.88	-467.05	-1.27
			Max. Vx	14	22.10	-0.94	-460.40
			Max. Torque	20			0.31
L11	84.75 - 84.417	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.92	-0.56	-0.96
			Max. Mx	8	-19.89	-474.68	-1.29
			Max. My	14	-19.97	-0.96	-467.77
			Max. Vy	8	22.90	-474.68	-1.29
			Max. Vx	14	22.12	-0.96	-467.77
			Max. Torque	20			0.31
L12	84.417 - 84.167	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.01	-0.57	-0.97
			Max. Mx	8	-19.94	-480.41	-1.30
			Max. My	14	-20.02	-0.97	-473.30
			Max. Vy	8	22.92	-480.41	-1.30
			Max. Vx	14	22.14	-0.97	-473.30
			Max. Torque	20			0.31
L13	84.167 - 83.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.27	-0.60	-0.97
			Max. Mx	8	-20.10	-497.56	-1.32
			Max. My	14	-20.18	-1.00	-489.86
			Max. Vy	8	22.99	-497.56	-1.32
			Max. Vx	14	22.21	-1.00	-489.86
			Max. Torque	20			0.31

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L14	83.42 - 83.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.38	-0.61	-0.97
			Max. Mx	8	-20.18	-503.31	-1.33
			Max. My	14	-20.26	-1.02	-495.41
			Max. Vy	8	23.01	-503.31	-1.33
			Max. Vx	14	22.23	-1.02	-495.41
			Max. Torque	20			0.31
L15	83.17 - 83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.46	-0.62	-0.97
			Max. Mx	8	-20.22	-507.23	-1.34
			Max. My	14	-20.30	-1.03	-499.19
			Max. Vy	8	23.03	-507.23	-1.34
			Max. Vx	14	22.24	-1.03	-499.19
			Max. Torque	20			0.31
L16	83 - 82.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.55	-0.63	-0.97
			Max. Mx	8	-20.28	-512.99	-1.35
			Max. My	14	-20.36	-1.04	-504.76
			Max. Vy	8	23.05	-512.99	-1.35
			Max. Vx	14	22.27	-1.04	-504.76
			Max. Torque	20			0.31
L17	82.75 - 77.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.33	-0.81	-0.99
			Max. Mx	8	-21.43	-629.36	-1.55
			Max. My	14	-21.50	-1.29	-617.10
			Max. Vy	8	23.49	-629.36	-1.55
			Max. Vx	14	22.68	-1.29	-617.10
			Max. Torque	20			0.31
L18	77.75 - 70	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.43	-0.98	-0.57
			Max. Mx	8	-25.39	-726.96	-1.59
			Max. My	14	-25.47	-1.48	-711.59
			Max. Vy	8	26.77	-726.96	-1.59
			Max. Vx	14	25.99	-1.48	-711.59
			Max. Torque	20			0.31
L19	70 - 69	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.28	-1.20	-0.57
			Max. Mx	8	-27.42	-862.10	-1.78
			Max. My	14	-27.49	-1.74	-842.77
			Max. Vy	8	27.27	-862.10	-1.78
			Max. Vx	14	26.49	-1.74	-842.77
			Max. Torque	20			0.12
L20	69 - 67.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.05	-1.29	-0.57
			Max. Mx	8	-27.92	-914.60	-1.86
			Max. My	14	-27.99	-1.84	-893.75
			Max. Vy	8	27.43	-914.60	-1.86
			Max. Vx	14	26.65	-1.84	-893.75
			Max. Torque	20			0.12
L21	67.08 - 66.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.16	-1.30	-0.57
			Max. Mx	8	-28.01	-921.46	-1.87
			Max. My	14	-28.08	-1.86	-900.41
			Max. Vy	8	27.43	-921.46	-1.87
			Max. Vx	14	26.65	-1.86	-900.41
			Max. Torque	20			0.12
L22	66.83 - 64.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.29	-1.44	-0.58
			Max. Mx	8	-28.75	-997.23	-1.97
			Max. My	14	-28.82	-2.00	-974.00
			Max. Vy	8	27.67	-997.23	-1.97
			Max. Vx	14	26.89	-2.00	-974.00
			Max. Torque	20			0.12
L23	64.08 - 63.83	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-59.41	-1.45	-0.58
			Max. Mx	8	-28.84	-1004.14	-1.98
			Max. My	14	-28.91	-2.02	-980.72
			Max. Vy	8	27.67	-1004.14	-1.98
			Max. Vx	14	26.90	-2.02	-980.72
			Max. Torque	20			0.12
L24	63.83 - 62.44	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.04	-1.52	-0.58
			Max. Mx	8	-29.26	-1042.71	-2.04
			Max. My	14	-29.32	-2.09	-1018.19
			Max. Vy	8	27.80	-1042.71	-2.04
			Max. Vx	14	27.03	-2.09	-1018.19
			Max. Torque	20			0.12
L25	62.44 - 62.19	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.16	-1.53	-0.58
			Max. Mx	8	-29.36	-1049.66	-2.04
			Max. My	14	-29.42	-2.10	-1024.94
			Max. Vy	8	27.81	-1049.66	-2.04
			Max. Vx	14	27.04	-2.10	-1024.94
			Max. Torque	20			0.12
L26	62.19 - 57.19	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.54	-1.77	-0.57
			Max. Mx	8	-30.99	-1189.87	-2.24
			Max. My	14	-31.05	-2.37	-1161.22
			Max. Vy	8	28.26	-1189.87	-2.24
			Max. Vx	14	27.49	-2.37	-1161.22
			Max. Torque	20			0.12
L27	57.19 - 53.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-64.33	-1.96	-0.57
			Max. Mx	8	-32.22	-1294.72	-2.38
			Max. My	14	-32.27	-2.57	-1263.18
			Max. Vy	8	28.57	-1294.72	-2.38
			Max. Vx	14	27.80	-2.57	-1263.18
			Max. Torque	20			0.12
L28	53.5 - 53.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-64.46	-1.98	-0.57
			Max. Mx	8	-32.32	-1301.87	-2.39
			Max. My	14	-32.37	-2.59	-1270.13
			Max. Vy	8	28.58	-1301.87	-2.39
			Max. Vx	14	27.81	-2.59	-1270.13
			Max. Torque	20			0.12
L29	53.25 - 52.58	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-64.80	-2.01	-0.57
			Max. Mx	8	-32.55	-1321.04	-2.42
			Max. My	14	-32.60	-2.62	-1288.78
			Max. Vy	8	28.64	-1321.04	-2.42
			Max. Vx	14	27.87	-2.62	-1288.78
			Max. Torque	20			0.12
L30	52.58 - 52.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-64.93	-2.03	-0.58
			Max. Mx	8	-32.64	-1328.20	-2.43
			Max. My	14	-32.70	-2.64	-1295.75
			Max. Vy	8	28.65	-1328.20	-2.43
			Max. Vx	14	27.89	-2.64	-1295.75
			Max. Torque	20			0.12
L31	52.33 - 47.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-67.48	-2.29	-0.58
			Max. Mx	8	-34.41	-1472.55	-2.62
			Max. My	14	-34.46	-2.91	-1436.20
			Max. Vy	8	29.07	-1472.55	-2.62
			Max. Vx	14	28.31	-2.91	-1436.20
			Max. Torque	20			0.12
L32	47.33 -	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
	44.58						
			Max. Compression	26	-68.93	-2.44	-0.58
			Max. Mx	8	-35.40	-1552.80	-2.72
			Max. My	14	-35.45	-3.06	-1514.32
			Max. Vy	8	29.29	-1552.80	-2.72
			Max. Vx	14	28.54	-3.06	-1514.32
			Max. Torque	20			0.12
L33	44.58 - 44.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-69.06	-2.46	-0.58
			Max. Mx	8	-35.51	-1560.12	-2.73
			Max. My	14	-35.55	-3.08	-1521.45
			Max. Vy	8	29.30	-1560.12	-2.73
			Max. Vx	14	28.54	-3.08	-1521.45
			Max. Torque	20			0.12
L34	44.33 - 41.85	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-70.38	-2.59	-0.58
			Max. Mx	8	-36.40	-1633.06	-2.83
			Max. My	14	-36.44	-3.22	-1592.47
			Max. Vy	8	29.51	-1633.06	-2.83
			Max. Vx	14	28.75	-3.22	-1592.47
			Max. Torque	20			0.12
L35	41.85 - 41.6	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-70.51	-2.61	-0.58
			Max. Mx	8	-36.51	-1640.44	-2.84
			Max. My	14	-36.55	-3.23	-1599.65
			Max. Vy	8	29.51	-1640.44	-2.84
			Max. Vx	14	28.76	-3.23	-1599.65
			Max. Torque	20			0.12
L36	41.6 - 34.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-71.89	-2.75	-0.58
			Max. Mx	8	-37.47	-1717.47	-2.94
			Max. My	14	-37.51	-3.38	-1674.67
			Max. Vy	8	29.72	-1717.47	-2.94
			Max. Vx	14	28.97	-3.38	-1674.67
			Max. Torque	20			0.12
L37	34.08 - 34	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-76.46	-3.04	-0.58
			Max. Mx	8	-40.96	-1867.33	-3.13
			Max. My	14	-40.99	-3.66	-1820.68
			Max. Vy	8	30.21	-1867.33	-3.13
			Max. Vx	14	29.46	-3.66	-1820.68
			Max. Torque	20			0.12
L38	34 - 29	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-79.19	-3.32	-0.58
			Max. Mx	8	-42.92	-2019.32	-3.32
			Max. My	14	-42.95	-3.94	-1968.81
			Max. Vy	8	30.57	-2019.32	-3.32
			Max. Vx	14	29.82	-3.94	-1968.81
			Max. Torque	20			0.12
L39	29 - 26.85	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-80.42	-3.46	-0.61
			Max. Mx	8	-43.78	-2085.21	-3.40
			Max. My	14	-43.81	-4.06	-2033.05
			Max. Vy	8	30.72	-2085.21	-3.40
			Max. Vx	14	29.97	-4.06	-2033.05
			Max. Torque	20			0.12
L40	26.85 - 26.6	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-80.57	-3.47	-0.61
			Max. Mx	8	-43.90	-2092.90	-3.41
			Max. My	14	-43.93	-4.08	-2040.55
			Max. Vy	8	30.73	-2092.90	-3.41
			Max. Vx	14	29.98	-4.08	-2040.55
			Max. Torque	20			0.12
L41	26.6 - 21.6	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-83.66	-3.80	-0.69
			Max. Mx	8	-46.14	-2247.51	-3.60
			Max. My	14	-46.16	-4.36	-2191.33

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	8	31.10	-2247.51	-3.60
			Max. Vx	14	30.35	-4.36	-2191.33
			Max. Torque	20			0.12
L42	21.6 - 18	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.92	-4.02	-0.69
			Max. Mx	8	-47.78	-2359.92	-3.74
			Max. My	14	-47.79	-4.57	-2301.00
			Max. Vy	8	31.35	-2359.92	-3.74
			Max. Vx	14	30.60	-4.57	-2301.00
			Max. Torque	20			0.12
L43	18 - 17.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.09	-4.03	-0.69
			Max. Mx	8	-47.91	-2367.76	-3.75
			Max. My	14	-47.93	-4.58	-2308.65
			Max. Vy	8	31.35	-2367.76	-3.75
			Max. Vx	14	30.61	-4.58	-2308.65
			Max. Torque	20			0.12
L44	17.75 - 17.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.26	-4.05	-0.69
			Max. Mx	8	-48.04	-2375.61	-3.76
			Max. My	14	-48.06	-4.60	-2316.30
			Max. Vy	8	31.37	-2375.61	-3.76
			Max. Vx	14	30.62	-4.60	-2316.30
			Max. Torque	20			0.12
L45	17.5 - 17.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.44	-4.06	-0.69
			Max. Mx	8	-48.17	-2383.45	-3.77
			Max. My	14	-48.18	-4.61	-2323.96
			Max. Vy	8	31.38	-2383.45	-3.77
			Max. Vx	14	30.64	-4.61	-2323.96
			Max. Torque	20			0.12
L46	17.25 - 17.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.55	-4.07	-0.69
			Max. Mx	8	-48.26	-2388.79	-3.77
			Max. My	14	-48.27	-4.62	-2329.17
			Max. Vy	8	31.40	-2388.79	-3.77
			Max. Vx	14	30.65	-4.62	-2329.17
			Max. Torque	20			0.12
L47	17.08 - 16.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.71	-4.09	-0.69
			Max. Mx	8	-48.37	-2396.65	-3.78
			Max. My	14	-48.39	-4.64	-2336.83
			Max. Vy	8	31.41	-2396.65	-3.78
			Max. Vx	14	30.67	-4.64	-2336.83
			Max. Torque	20			0.12
L48	16.83 - 13	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-89.20	-4.32	-0.69
			Max. Mx	8	-50.18	-2517.52	-3.93
			Max. My	14	-50.19	-4.86	-2454.78
			Max. Vy	8	31.68	-2517.52	-3.93
			Max. Vx	14	30.94	-4.86	-2454.78
			Max. Torque	20			0.12
L49	13 - 12.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-89.38	-4.33	-0.69
			Max. Mx	8	-50.32	-2525.45	-3.94
			Max. My	14	-50.34	-4.87	-2462.52
			Max. Vy	8	31.69	-2525.45	-3.94
			Max. Vx	14	30.94	-4.87	-2462.52
			Max. Torque	20			0.12
L50	12.75 - 11.85	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-90.04	-4.39	-0.69
			Max. Mx	8	-50.81	-2554.01	-3.97
			Max. My	14	-50.82	-4.93	-2490.39
			Max. Vy	8	31.76	-2554.01	-3.97
			Max. Vx	14	31.02	-4.93	-2490.39
			Max. Torque	20			0.12

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L51	11.85 - 11.6	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-90.20	-4.40	-0.69
			Max. Mx	8	-50.94	-2561.95	-3.98
			Max. My	14	-50.95	-4.94	-2498.15
			Max. Vy	8	31.77	-2561.95	-3.98
			Max. Vx	14	31.02	-4.94	-2498.15
			Max. Torque	20			0.12
L52	11.6 - 6.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-93.47	-4.77	-0.67
			Max. Mx	8	-53.38	-2724.89	-4.17
			Max. My	14	-53.39	-5.24	-2657.19
			Max. Vy	8	32.11	-2724.89	-4.17
			Max. Vx	14	31.37	-5.24	-2657.19
			Max. Torque	20			0.12
L53	6.5 - 6.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-93.63	-4.79	-0.67
			Max. Mx	8	-53.52	-2732.92	-4.18
			Max. My	14	-53.53	-5.25	-2665.03
			Max. Vy	8	32.11	-2732.92	-4.18
			Max. Vx	14	31.37	-5.25	-2665.03
			Max. Torque	20			0.12
L54	6.25 - 3.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-95.29	-4.99	-0.66
			Max. Mx	8	-54.81	-2813.45	-4.27
			Max. My	14	-54.81	-5.40	-2743.66
			Max. Vy	8	32.30	-2813.45	-4.27
			Max. Vx	14	31.56	-5.40	-2743.66
			Max. Torque	20			0.12
L55	3.75 - 3.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-95.48	-5.01	-0.66
			Max. Mx	8	-54.97	-2821.53	-4.28
			Max. My	14	-54.98	-5.42	-2751.55
			Max. Vy	8	32.30	-2821.53	-4.28
			Max. Vx	14	31.56	-5.42	-2751.55
			Max. Torque	20			0.12
L56	3.5 - 3	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-95.87	-5.05	-0.65
			Max. Mx	8	-55.28	-2837.70	-4.30
			Max. My	14	-55.29	-5.45	-2767.34
			Max. Vy	8	32.34	-2837.70	-4.30
			Max. Vx	14	31.60	-5.45	-2767.34
			Max. Torque	20			0.12
L57	3 - 2.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-96.04	-5.07	-0.65
			Max. Mx	8	-55.42	-2845.79	-4.31
			Max. My	14	-55.43	-5.46	-2775.24
			Max. Vy	8	32.36	-2845.79	-4.31
			Max. Vx	14	31.62	-5.46	-2775.24
			Max. Torque	20			0.12
L58	2.75 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-97.90	-5.27	-0.64
			Max. Mx	8	-56.94	-2935.11	-4.41
			Max. My	14	-56.94	-5.62	-2862.47
			Max. Vy	8	32.58	-2935.11	-4.41
			Max. Vx	14	31.84	-5.62	-2862.47
			Max. Torque	20			0.12

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	97.90	-0.00	-0.00
	Max. H_x	20	56.95	32.55	0.03
	Max. H_z	2	56.95	0.03	31.82

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Max. M_x	2	2861.53	0.03	31.82
	Max. M_z	8	2935.11	-32.56	-0.03
	Max. Torsion	20	0.12	32.55	0.03
	Min. Vert	19	42.71	27.31	-15.74
	Min. H_x	8	56.95	-32.56	-0.03
	Min. H_z	14	56.95	-0.03	-31.82
	Min. M_x	14	-2862.47	-0.03	-31.82
	Min. M_z	20	-2931.57	32.55	0.03
	Min. Torsion	8	-0.11	-32.56	-0.03

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	47.46	0.00	0.00	0.37	-1.36	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	56.95	-0.03	-31.82	-2861.53	2.25	0.02
0.9 Dead+1.0 Wind 0 deg - No Ice	42.71	-0.03	-31.82	-2832.91	2.64	0.02
1.2 Dead+1.0 Wind 30 deg - No Ice	56.95	16.08	-27.88	-2496.20	-1442.01	0.01
0.9 Dead+1.0 Wind 30 deg - No Ice	42.71	16.08	-27.88	-2471.32	-1427.15	0.00
1.2 Dead+1.0 Wind 60 deg - No Ice	56.95	27.46	-15.83	-1425.83	-2478.04	-0.01
0.9 Dead+1.0 Wind 60 deg - No Ice	42.71	27.46	-15.83	-1411.62	-2452.70	-0.01
1.2 Dead+1.0 Wind 90 deg - No Ice	56.95	32.56	0.03	4.41	-2935.11	0.11
0.9 Dead+1.0 Wind 90 deg - No Ice	42.71	32.56	0.03	4.24	-2905.27	0.11
1.2 Dead+1.0 Wind 120 deg - No Ice	56.95	27.37	15.82	1427.45	-2471.32	-0.03
0.9 Dead+1.0 Wind 120 deg - No Ice	42.71	27.37	15.82	1412.96	-2446.02	-0.03
1.2 Dead+1.0 Wind 150 deg - No Ice	56.95	16.28	28.15	2505.99	-1451.66	-0.03
0.9 Dead+1.0 Wind 150 deg - No Ice	42.71	16.28	28.15	2480.85	-1436.74	-0.03
1.2 Dead+1.0 Wind 180 deg - No Ice	56.95	0.03	31.82	2862.47	-5.62	-0.02
0.9 Dead+1.0 Wind 180 deg - No Ice	42.71	0.03	31.82	2833.61	-5.15	-0.02
1.2 Dead+1.0 Wind 210 deg - No Ice	56.95	-15.99	27.72	2480.79	1429.19	-0.01
0.9 Dead+1.0 Wind 210 deg - No Ice	42.71	-15.99	27.72	2455.82	1415.29	-0.00
1.2 Dead+1.0 Wind 240 deg - No Ice	56.95	-27.31	15.74	1417.70	2458.94	0.01
0.9 Dead+1.0 Wind 240 deg - No Ice	42.71	-27.31	15.74	1403.33	2434.62	0.01
1.2 Dead+1.0 Wind 270 deg - No Ice	56.95	-32.55	-0.03	-3.46	2931.57	-0.12
0.9 Dead+1.0 Wind 270 deg - No Ice	42.71	-32.55	-0.03	-3.55	2902.59	-0.11
1.2 Dead+1.0 Wind 300 deg - No Ice	56.95	-27.43	-15.85	-1430.29	2474.51	0.03
0.9 Dead+1.0 Wind 300 deg - No Ice	42.71	-27.43	-15.85	-1416.01	2450.01	0.03
1.2 Dead+1.0 Wind 330 deg - No Ice	56.95	-16.37	-28.31	-2521.45	1457.76	0.03
0.9 Dead+1.0 Wind 330 deg - No Ice	42.71	-16.37	-28.31	-2496.39	1443.61	0.03
1.2 Dead+1.0 Ice+1.0 Temp	97.90	0.00	0.00	0.64	-5.27	-0.00

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	97.90	-0.01	-8.35	-782.86	-4.71	-0.01
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	97.90	4.17	-7.23	-677.58	-396.90	0.00
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	97.90	7.23	-4.17	-390.44	-684.22	0.01
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	97.90	8.49	0.01	1.51	-803.51	0.06
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	97.90	7.23	4.18	393.18	-684.94	0.02
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	97.90	4.19	7.25	681.47	-399.29	0.01
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	97.90	0.01	8.35	784.25	-6.35	0.01
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	97.90	-4.17	7.23	678.86	385.78	-0.00
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	97.90	-7.23	4.17	391.76	673.05	-0.01
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	97.90	-8.49	-0.01	-0.13	792.40	-0.06
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	97.90	-7.24	-4.18	-391.86	673.98	-0.02
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	97.90	-4.19	-7.25	-680.19	388.29	-0.01
Dead+Wind 0 deg - Service	47.46	-0.01	-7.76	-693.48	-0.44	0.00
Dead+Wind 30 deg - Service	47.46	3.92	-6.80	-604.92	-350.60	-0.00
Dead+Wind 60 deg - Service	47.46	6.69	-3.86	-345.41	-601.77	-0.00
Dead+Wind 90 deg - Service	47.46	7.94	0.01	1.35	-712.60	0.03
Dead+Wind 120 deg - Service	47.46	6.67	3.86	346.35	-600.14	-0.00
Dead+Wind 150 deg - Service	47.46	3.97	6.86	607.85	-352.94	-0.00
Dead+Wind 180 deg - Service	47.46	0.01	7.76	694.27	-2.35	-0.00
Dead+Wind 210 deg - Service	47.46	-3.90	6.76	601.74	345.51	0.00
Dead+Wind 240 deg - Service	47.46	-6.66	3.84	343.99	595.16	0.00
Dead+Wind 270 deg - Service	47.46	-7.93	-0.01	-0.56	709.76	-0.03
Dead+Wind 300 deg - Service	47.46	-6.69	-3.86	-346.49	598.94	0.00
Dead+Wind 330 deg - Service	47.46	-3.99	-6.90	-611.05	352.44	0.00

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-47.46	0.00	0.00	47.46	0.00	0.000%
2	-0.03	-56.95	-31.82	0.03	56.95	31.82	0.000%
3	-0.03	-42.71	-31.82	0.03	42.71	31.82	0.000%
4	16.08	-56.95	-27.88	-16.08	56.95	27.88	0.000%
5	16.08	-42.71	-27.88	-16.08	42.71	27.88	0.000%
6	27.46	-56.95	-15.83	-27.46	56.95	15.83	0.000%
7	27.46	-42.71	-15.83	-27.46	42.71	15.83	0.000%
8	32.56	-56.95	0.03	-32.56	56.95	-0.03	0.000%
9	32.56	-42.71	0.03	-32.56	42.71	-0.03	0.000%
10	27.37	-56.95	15.82	-27.37	56.95	-15.82	0.000%
11	27.37	-42.71	15.82	-27.37	42.71	-15.82	0.000%
12	16.28	-56.95	28.15	-16.28	56.95	-28.15	0.000%
13	16.28	-42.71	28.15	-16.28	42.71	-28.15	0.000%
14	0.03	-56.95	31.82	-0.03	56.95	-31.82	0.000%
15	0.03	-42.71	31.82	-0.03	42.71	-31.82	0.000%
16	-15.99	-56.95	27.72	15.99	56.95	-27.72	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
17	-15.99	-42.71	27.72	15.99	42.71	-27.72	0.000%
18	-27.31	-56.95	15.74	27.31	56.95	-15.74	0.000%
19	-27.31	-42.71	15.74	27.31	42.71	-15.74	0.000%
20	-32.55	-56.95	-0.03	32.55	56.95	0.03	0.000%
21	-32.55	-42.71	-0.03	32.55	42.71	0.03	0.000%
22	-27.43	-56.95	-15.85	27.43	56.95	15.85	0.000%
23	-27.43	-42.71	-15.85	27.43	42.71	15.85	0.000%
24	-16.37	-56.95	-28.31	16.37	56.95	28.31	0.000%
25	-16.37	-42.71	-28.31	16.37	42.71	28.31	0.000%
26	0.00	-97.90	0.00	-0.00	97.90	-0.00	0.000%
27	-0.01	-97.90	-8.35	0.01	97.90	8.35	0.000%
28	4.17	-97.90	-7.23	-4.17	97.90	7.23	0.000%
29	7.23	-97.90	-4.17	-7.23	97.90	4.17	0.000%
30	8.49	-97.90	0.01	-8.49	97.90	-0.01	0.000%
31	7.23	-97.90	4.18	-7.23	97.90	-4.18	0.000%
32	4.19	-97.90	7.25	-4.19	97.90	-7.25	0.000%
33	0.01	-97.90	8.35	-0.01	97.90	-8.35	0.000%
34	-4.17	-97.90	7.23	4.17	97.90	-7.23	0.000%
35	-7.23	-97.90	4.17	7.23	97.90	-4.17	0.000%
36	-8.49	-97.90	-0.01	8.49	97.90	0.01	0.000%
37	-7.24	-97.90	-4.18	7.24	97.90	4.18	0.000%
38	-4.19	-97.90	-7.25	4.19	97.90	7.25	0.000%
39	-0.01	-47.46	-7.76	0.01	47.46	7.76	0.000%
40	3.92	-47.46	-6.80	-3.92	47.46	6.80	0.000%
41	6.69	-47.46	-3.86	-6.69	47.46	3.86	0.000%
42	7.94	-47.46	0.01	-7.94	47.46	-0.01	0.000%
43	6.67	-47.46	3.86	-6.67	47.46	-3.86	0.000%
44	3.97	-47.46	6.86	-3.97	47.46	-6.86	0.000%
45	0.01	-47.46	7.76	-0.01	47.46	-7.76	0.000%
46	-3.90	-47.46	6.76	3.90	47.46	-6.76	0.000%
47	-6.66	-47.46	3.84	6.66	47.46	-3.84	0.000%
48	-7.93	-47.46	-0.01	7.93	47.46	0.01	0.000%
49	-6.69	-47.46	-3.86	6.69	47.46	3.86	0.000%
50	-3.99	-47.46	-6.90	3.99	47.46	6.90	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00040486
3	Yes	5	0.00000001	0.00014706
4	Yes	6	0.00000001	0.00065342
5	Yes	6	0.00000001	0.00021667
6	Yes	6	0.00000001	0.00064817
7	Yes	6	0.00000001	0.00021535
8	Yes	5	0.00000001	0.00042945
9	Yes	5	0.00000001	0.00015978
10	Yes	6	0.00000001	0.00064896
11	Yes	6	0.00000001	0.00021553
12	Yes	6	0.00000001	0.00065546
13	Yes	6	0.00000001	0.00021714
14	Yes	5	0.00000001	0.00041078
15	Yes	5	0.00000001	0.00015012
16	Yes	6	0.00000001	0.00064316
17	Yes	6	0.00000001	0.00021375
18	Yes	6	0.00000001	0.00063988
19	Yes	6	0.00000001	0.00021305
20	Yes	5	0.00000001	0.00040948
21	Yes	5	0.00000001	0.00014820
22	Yes	6	0.00000001	0.00065101
23	Yes	6	0.00000001	0.00021620
24	Yes	6	0.00000001	0.00066199
25	Yes	6	0.00000001	0.00021898
26	Yes	4	0.00000001	0.00046090

27	Yes	7	0.00000001	0.00021954
28	Yes	7	0.00000001	0.00023512
29	Yes	7	0.00000001	0.00023569
30	Yes	7	0.00000001	0.00022487
31	Yes	7	0.00000001	0.00023718
32	Yes	7	0.00000001	0.00023747
33	Yes	7	0.00000001	0.00022095
34	Yes	7	0.00000001	0.00023452
35	Yes	7	0.00000001	0.00023417
36	Yes	7	0.00000001	0.00022239
37	Yes	7	0.00000001	0.00023384
38	Yes	7	0.00000001	0.00023435
39	Yes	5	0.00000001	0.00007997
40	Yes	5	0.00000001	0.00023683
41	Yes	5	0.00000001	0.00023385
42	Yes	5	0.00000001	0.00008201
43	Yes	5	0.00000001	0.00023520
44	Yes	5	0.00000001	0.00023838
45	Yes	5	0.00000001	0.00008019
46	Yes	5	0.00000001	0.00023208
47	Yes	5	0.00000001	0.00023055
48	Yes	5	0.00000001	0.00008172
49	Yes	5	0.00000001	0.00023433
50	Yes	5	0.00000001	0.00023974

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	130 - 125	19.763	42	1.5472	0.0013
L2	125 - 120	18.143	42	1.5466	0.0013
L3	120 - 115	16.525	42	1.5438	0.0012
L4	115 - 110	14.924	42	1.5056	0.0010
L5	110 - 105	13.386	42	1.4265	0.0008
L6	105 - 100	11.935	42	1.3406	0.0007
L7	100 - 95	10.586	42	1.2327	0.0005
L8	95 - 90	9.358	42	1.1103	0.0004
L9	90 - 89.75	8.267	42	0.9711	0.0002
L10	89.75 - 84.75	8.216	42	0.9673	0.0002
L11	84.75 - 84.417	7.245	42	0.8867	0.0002
L12	84.417 - 84.167	7.183	42	0.8811	0.0002
L13	84.167 - 83.42	7.137	42	0.8778	0.0002
L14	83.42 - 83.17	7.001	42	0.8681	0.0001
L15	83.17 - 83	6.955	42	0.8658	0.0001
L16	83 - 82.75	6.924	42	0.8642	0.0001
L17	82.75 - 77.75	6.879	42	0.8612	0.0001
L18	77.75 - 70	6.011	42	0.7962	0.0001
L19	74 - 69	5.406	42	0.7452	0.0001
L20	69 - 67.08	4.644	42	0.7037	0.0001
L21	67.08 - 66.83	4.366	42	0.6773	0.0001
L22	66.83 - 64.08	4.331	42	0.6738	0.0001
L23	64.08 - 63.83	3.954	42	0.6343	0.0001
L24	63.83 - 62.44	3.921	42	0.6310	0.0001
L25	62.44 - 62.19	3.740	42	0.6130	0.0001
L26	62.19 - 57.19	3.708	42	0.6101	0.0001
L27	57.19 - 53.5	3.100	42	0.5518	0.0000
L28	53.5 - 53.25	2.690	42	0.5081	0.0000
L29	53.25 - 52.58	2.664	42	0.5053	0.0000
L30	52.58 - 52.33	2.593	42	0.4976	0.0000
L31	52.33 - 47.33	2.567	42	0.4949	0.0000
L32	47.33 - 44.58	2.078	42	0.4388	0.0000
L33	44.58 - 44.33	1.835	42	0.4078	0.0000
L34	44.33 - 41.85	1.813	42	0.4050	0.0000
L35	41.85 - 41.6	1.610	42	0.3770	0.0000
L36	41.6 - 34.08	1.591	42	0.3743	0.0000
L37	39 - 34	1.395	42	0.3450	0.0000
L38	34 - 29	1.048	42	0.3168	0.0000

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L39	29 - 26.85	0.746	42	0.2609	0.0000
L40	26.85 - 26.6	0.633	42	0.2374	0.0000
L41	26.6 - 21.6	0.621	42	0.2350	0.0000
L42	21.6 - 18	0.401	42	0.1862	0.0000
L43	18 - 17.75	0.273	42	0.1516	0.0000
L44	17.75 - 17.5	0.265	42	0.1495	0.0000
L45	17.5 - 17.25	0.258	42	0.1475	0.0000
L46	17.25 - 17.08	0.250	42	0.1454	0.0000
L47	17.08 - 16.83	0.245	42	0.1440	0.0000
L48	16.83 - 13	0.237	42	0.1418	0.0000
L49	13 - 12.75	0.138	42	0.1072	0.0000
L50	12.75 - 11.85	0.132	42	0.1054	0.0000
L51	11.85 - 11.6	0.113	42	0.0986	0.0000
L52	11.6 - 6.5	0.108	42	0.0962	0.0000
L53	6.5 - 6.25	0.031	42	0.0476	0.0000
L54	6.25 - 3.75	0.029	42	0.0455	0.0000
L55	3.75 - 3.5	0.010	42	0.0251	0.0000
L56	3.5 - 3	0.009	42	0.0236	0.0000
L57	3 - 2.75	0.006	42	0.0206	0.0000
L58	2.75 - 0	0.005	42	0.0188	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	16.848	1.5461	0.0012	25553
109.00	Site Pro 1 F3P-12W 12' Fortress Platform	42	13.088	1.4099	0.0008	3329
99.00	Side Arm Mount [SO 101-3]	42	10.330	1.2104	0.0005	2417
97.00	Platform Mount [13.16' LP 713-1]	42	9.833	1.1641	0.0004	2293
85.00	Site Pro 1 RMQP-496 + HRK12 12.5' Platform with Handrails	42	7.291	0.8911	0.0002	3892
77.00	Commscope MC-PK8-DSH	42	5.887	0.7853	0.0001	4604

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	130 - 125	81.479	8	6.3885	0.0049
L2	125 - 120	74.803	8	6.3861	0.0049
L3	120 - 115	68.135	8	6.3747	0.0048
L4	115 - 110	61.537	8	6.2158	0.0040
L5	110 - 105	55.200	8	5.8888	0.0033
L6	105 - 100	49.218	8	5.5346	0.0026
L7	100 - 95	43.657	8	5.0891	0.0020
L8	95 - 90	38.592	8	4.5838	0.0015
L9	90 - 89.75	34.092	8	4.0086	0.0009
L10	89.75 - 84.75	33.883	8	3.9930	0.0009
L11	84.75 - 84.417	29.877	8	3.6597	0.0006
L12	84.417 - 84.167	29.623	8	3.6365	0.0006
L13	84.167 - 83.42	29.433	8	3.6232	0.0006
L14	83.42 - 83.17	28.870	8	3.5828	0.0005
L15	83.17 - 83	28.682	8	3.5733	0.0005
L16	83 - 82.75	28.555	8	3.5669	0.0005
L17	82.75 - 77.75	28.369	8	3.5544	0.0005
L18	77.75 - 70	24.789	8	3.2859	0.0003
L19	74 - 69	22.291	8	3.0753	0.0003
L20	69 - 67.08	19.149	8	2.9037	0.0003
L21	67.08 - 66.83	18.004	8	2.7948	0.0002

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L22	66.83 - 64.08	17.858	8	2.7802	0.0002
L23	64.08 - 63.83	16.304	8	2.6169	0.0002
L24	63.83 - 62.44	16.167	8	2.6033	0.0002
L25	62.44 - 62.19	15.420	8	2.5290	0.0002
L26	62.19 - 57.19	15.288	8	2.5172	0.0002
L27	57.19 - 53.5	12.780	8	2.2762	0.0002
L28	53.5 - 53.25	11.090	8	2.0961	0.0002
L29	53.25 - 52.58	10.981	8	2.0843	0.0002
L30	52.58 - 52.33	10.691	8	2.0527	0.0001
L31	52.33 - 47.33	10.584	8	2.0413	0.0001
L32	47.33 - 44.58	8.568	8	1.8099	0.0001
L33	44.58 - 44.33	7.563	8	1.6816	0.0001
L34	44.33 - 41.85	7.475	8	1.6701	0.0001
L35	41.85 - 41.6	6.638	8	1.5547	0.0001
L36	41.6 - 34.08	6.557	8	1.5433	0.0001
L37	39 - 34	5.749	8	1.4226	0.0001
L38	34 - 29	4.319	8	1.3062	0.0001
L39	29 - 26.85	3.072	8	1.0754	0.0001
L40	26.85 - 26.6	2.610	8	0.9787	0.0001
L41	26.6 - 21.6	2.559	8	0.9687	0.0001
L42	21.6 - 18	1.651	8	0.7673	0.0000
L43	18 - 17.75	1.126	8	0.6248	0.0000
L44	17.75 - 17.5	1.094	8	0.6163	0.0000
L45	17.5 - 17.25	1.062	8	0.6078	0.0000
L46	17.25 - 17.08	1.030	8	0.5993	0.0000
L47	17.08 - 16.83	1.009	8	0.5936	0.0000
L48	16.83 - 13	0.978	8	0.5843	0.0000
L49	13 - 12.75	0.567	8	0.4418	0.0000
L50	12.75 - 11.85	0.544	8	0.4341	0.0000
L51	11.85 - 11.6	0.464	8	0.4063	0.0000
L52	11.6 - 6.5	0.443	8	0.3966	0.0000
L53	6.5 - 6.25	0.128	8	0.1960	0.0000
L54	6.25 - 3.75	0.117	8	0.1876	0.0000
L55	3.75 - 3.5	0.041	8	0.1033	0.0000
L56	3.5 - 3	0.036	8	0.0971	0.0000
L57	3 - 2.75	0.027	8	0.0847	0.0000
L58	2.75 - 0	0.022	8	0.0776	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	69.467	6.3843	0.0048	6578
109.00	Site Pro 1 F3P-12W 12' Fortress Platform	8	53.973	5.8204	0.0032	825
99.00	Side Arm Mount [SO 101-3]	8	42.602	4.9973	0.0020	594
97.00	Platform Mount [13.16' LP 713-1]	8	40.554	4.8059	0.0018	562
85.00	Site Pro 1 RMQP-496 + HRK12 12.5' Platform with Handrails	8	30.069	3.6781	0.0007	949
77.00	Commscope MC-PK8-DSH	8	24.277	3.2409	0.0004	1121

Compression Checks

Pole Design Data

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
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	-4.50	497.56	0.009
L4	115 - 110 (4)	TP15.525x14.275x0.1875	5.00	0.00	0.0	9.2600	-4.73	541.71	0.009
L5	110 - 105 (5)	TP16.7758x15.525x0.25	5.00	0.00	0.0	13.303 2	-9.25	778.24	0.012
L6	105 - 100 (6)	TP18.0265x16.7758x0.25	5.00	0.00	0.0	14.310 1	-9.70	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	-15.34	954.94	0.016
L9	90 - 89.75 (9)	TP20.5905x20.528x0.5	0.25	0.00	0.0	32.345 8	-15.40	1892.23	0.008
L10	89.75 - 84.75 (10)	TP21.8413x20.5905x0.48 13	5.00	0.00	0.0	33.100 0	-19.82	1936.35	0.010
L11	84.75 - 84.417 (11)	TP21.9246x21.8413x0.47 5	0.33	0.00	0.0	32.807 1	-19.89	1919.22	0.010
L12	84.417 - 84.167 (12)	TP21.9871x21.9246x0.63 75	0.25	0.00	0.0	43.825 4	-19.94	2563.79	0.008
L13	84.167 - 83.42 (13)	TP22.174x21.9871x0.625	0.75	0.00	0.0	43.367 3	-20.10	2536.99	0.008
L14	83.42 - 83.17 (14)	TP22.2365x22.174x0.95	0.25	0.00	0.0	65.115 5	-20.18	3809.26	0.005
L15	83.17 - 83 (15)	TP22.2791x22.2365x0.95	0.17	0.00	0.0	65.245 6	-20.22	3816.87	0.005
L16	83 - 82.75 (16)	TP22.3416x22.2791x0.7	0.25	0.00	0.0	48.780 1	-20.28	2853.64	0.007
L17	82.75 - 77.75 (17)	TP23.5923x22.3416x0.66 25	5.00	0.00	0.0	48.915 1	-21.43	2861.53	0.007
L18	77.75 - 70 (18)	TP25.531x23.5923x0.65	7.75	0.00	0.0	49.981 7	-25.39	2923.93	0.009
L19	70 - 69 (19)	TP25.281x24.0304x0.7	5.00	0.00	0.0	55.405 5	-27.42	3241.22	0.008
L20	69 - 67.08 (20)	TP25.7612x25.281x0.687 5	1.92	0.00	0.0	55.506 9	-27.92	3247.15	0.009
L21	67.08 - 66.83 (21)	TP25.8237x25.7612x0.68 75	0.25	0.00	0.0	55.645 3	-28.01	3255.25	0.009
L22	66.83 - 64.08 (22)	TP26.5115x25.8237x0.67 5	2.75	0.00	0.0	56.155 7	-28.75	3285.11	0.009
L23	64.08 - 63.83 (23)	TP26.5741x26.5115x0.73 75	0.25	0.00	0.0	61.355 4	-28.84	3589.29	0.008
L24	63.83 - 62.44 (24)	TP26.9217x26.5741x0.73 75	1.39	0.00	0.0	62.181 0	-29.26	3637.59	0.008
L25	62.44 - 62.19 (25)	TP26.9843x26.9217x0.86 25	0.25	0.00	0.0	72.546 7	-29.36	4243.98	0.007
L26	62.19 - 57.19 (26)	TP28.2348x26.9843x0.83 75	5.00	0.00	0.0	73.883 8	-30.99	4322.20	0.007
L27	57.19 - 53.5 (27)	TP29.1578x28.2348x0.81 25	3.69	0.00	0.0	74.158 3	-32.22	4338.26	0.007
L28	53.5 - 53.25 (28)	TP29.2203x29.1578x0.83 75	0.25	0.00	0.0	76.541 3	-32.32	4477.67	0.007
L29	53.25 - 52.58 (29)	TP29.3879x29.2203x0.82 5	0.67	0.00	0.0	75.877 3	-32.55	4438.82	0.007
L30	52.58 - 52.33 (30)	TP29.4504x29.3879x0.86 25	0.25	0.00	0.0	79.395 7	-32.64	4644.65	0.007
L31	52.33 - 47.33 (31)	TP30.701x29.4504x0.837 5	5.00	0.00	0.0	80.534 3	-34.41	4711.26	0.007
L32	47.33 - 44.58 (32)	TP31.3888x30.701x0.812 5	2.75	0.00	0.0	79.995 2	-35.40	4679.72	0.008
L33	44.58 - 44.33 (33)	TP31.4513x31.3888x0.81 25	0.25	0.00	0.0	80.158 8	-35.51	4689.29	0.008
L34	44.33 - 41.85 (34)	TP32.0716x31.4513x0.8	2.48	0.00	0.0	80.555 7	-36.40	4712.51	0.008
L35	41.85 - 41.6 (35)	TP32.1341x32.0716x0.81 25	0.25	0.00	0.0	81.945 2	-36.51	4793.80	0.008
L36	41.6 - 34.08 (36)	TP34.015x32.1341x0.787 5	7.52	0.00	0.0	81.136 2	-37.47	4746.47	0.008
L37	34.08 - 34	TP33.4082x32.1594x0.81	5.00	0.00	0.0	85.918	-40.96	5026.21	0.008

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
	(37)	88				1			
L38	34 - 29 (38)	TP34.657x33.4082x0.793 8	5.00	0.00	0.0	86.550 3	-42.92	5063.19	0.008
L39	29 - 26.85 (39)	TP35.194x34.657x0.7938	2.15	0.00	0.0	87.922 7	-43.78	5143.48	0.009
L40	26.85 - 26.6 (40)	TP35.2564x35.194x0.893 8	0.25	0.00	0.0	98.891 5	-43.90	5785.15	0.008
L41	26.6 - 21.6 (41)	TP36.5052x35.2564x0.86 88	5.00	0.00	0.0	96.195 2	-43.92	5627.42	0.008
L42	21.6 - 18 (42)	TP37.4044x36.5052x0.85 63	3.60	0.00	0.0	98.288 7	-46.16	5749.89	0.008
L43	18 - 17.75 (43)	TP37.4668x37.4044x0.99 38	0.25	0.00	0.0	116.50 90	-47.79	6815.80	0.007
L44	17.75 - 17.5 (44)	TP37.5292x37.4668x0.99 38	0.25	0.00	0.0	116.70 90	-47.92	6827.49	0.007
L45	17.5 - 17.25 (45)	TP37.5917x37.5292x0.99 38	0.25	0.00	0.0	116.90 90	-48.05	6839.18	0.007
L46	17.25 - 17.08 (46)	TP37.6341x37.5917x0.99 38	0.17	0.00	0.0	117.10 90	-48.17	6850.86	0.007
L47	17.08 - 16.83 (47)	TP37.6966x37.6341x0.89 38	0.25	0.00	0.0	105.73 40	-48.26	6185.45	0.008
L48	16.83 - 13 (48)	TP38.6531x37.6966x0.88 13	3.83	0.00	0.0	104.46 80	-48.39	6111.38	0.008
L49	13 - 12.75 (49)	TP38.7156x38.6531x1.06 88	0.25	0.00	0.0	129.34 20	-50.19	7566.51	0.007
L50	12.75 - 11.85 (50)	TP38.9404x38.7156x1.04 38	0.90	0.00	0.0	126.61 00	-50.33	7406.70	0.007
L51	11.85 - 11.6 (51)	TP39.0028x38.9404x0.81 88	0.25	0.00	0.0	100.50 30	-50.82	5879.42	0.009
L52	11.6 - 6.5 (52)	TP40.2766x39.0028x0.79 38	5.10	0.00	0.0	97.657 6	-50.95	5712.97	0.009
L53	6.5 - 6.25 (53)	TP40.339x40.2766x0.918 8	0.25	0.00	0.0	116.43 50	-53.40	6811.46	0.008
L54	6.25 - 3.75 (54)	TP40.9634x40.339x0.906 3	2.50	0.00	0.0	115.07 00	-53.54	6731.58	0.008
L55	3.75 - 3.5 (55)	TP41.0258x40.9634x1.24 38	0.25	0.00	0.0	159.07 20	-54.82	9305.73	0.006
L56	3.5 - 3 (56)	TP41.1507x41.0258x1.24 38	0.50	0.00	0.0	159.32 20	-54.98	9320.36	0.006
L57	3 - 2.75 (57)	TP41.2132x41.1507x1.06 88	0.25	0.00	0.0	137.93 70	-55.29	8069.32	0.007
L58	2.75 - 0 (58)	TP41.9x41.2132x1.0688	2.75	0.00	0.0	138.15 20	-55.44	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	39.28	178.97	0.219	0.00	178.97	0.000
L4	115 - 110 (4)	TP15.525x14.275x0.1875	75.42	212.37	0.355	0.00	212.37	0.000
L5	110 - 105 (5)	TP16.7758x15.525x0.25	133.59	327.79	0.408	0.00	327.79	0.000
L6	105 - 100 (6)	TP18.0265x16.7758x0.25	193.04	379.69	0.508	0.00	379.69	0.000
L7	100 - 95 (7)	TP19.2773x18.0265x0.25	270.71	435.39	0.622	0.00	435.39	0.000
L8	95 - 90 (8)	TP20.528x19.2773x0.25	362.10	494.91	0.732	0.00	494.91	0.000
L9	90 - 89.75 (9)	TP20.5905x20.528x0.5	366.74	959.70	0.382	0.00	959.70	0.000
L10	89.75 - 84.75 (10)	TP21.8413x20.5905x0.48 13	467.05	1046.54	0.446	0.00	1046.54	0.000
L11	84.75 - 84.417 (11)	TP21.9246x21.8413x0.47 5	474.68	1042.02	0.456	0.00	1042.02	0.000
L12	84.417 - 84.167 (12)	TP21.9871x21.9246x0.63 75	480.41	1375.12	0.349	0.00	1375.12	0.000
L13	84.167 -	TP22.174x21.9871x0.625	497.56	1374.59	0.362	0.00	1374.59	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 $\frac{M_{uy}}{\phi M_{ny}}$
	83.42 (13)							
L14	83.42 - 83.17 (14)	TP22.2365x22.174x0.95	503.31	2008.30	0.251	0.00	2008.30	0.000
L15	83.17 - 83 (15)	TP22.2791x22.2365x0.95	507.23	2016.50	0.252	0.00	2016.50	0.000
L16	83 - 82.75 (16)	TP22.3416x22.2791x0.7	512.99	1547.78	0.331	0.00	1547.78	0.000
L17	82.75 - 77.75 (17)	TP23.5923x22.3416x0.6625	629.36	1649.97	0.381	0.00	1649.97	0.000
L18	77.75 - 70 (18)	TP25.531x23.5923x0.65	726.96	1758.70	0.413	0.00	1758.70	0.000
L19	70 - 69 (19)	TP25.281x24.0304x0.7	862.10	2004.28	0.430	0.00	2004.28	0.000
L20	69 - 67.08 (20)	TP25.7612x25.281x0.6875	914.60	2050.31	0.446	0.00	2050.31	0.000
L21	67.08 - 66.83 (21)	TP25.8237x25.7612x0.6875	921.46	2060.68	0.447	0.00	2060.68	0.000
L22	66.83 - 64.08 (22)	TP26.5115x25.8237x0.675	997.23	2140.07	0.466	0.00	2140.07	0.000
L23	64.08 - 63.83 (23)	TP26.5741x26.5115x0.7375	1004.14	2332.73	0.430	0.00	2332.73	0.000
L24	63.83 - 62.44 (24)	TP26.9217x26.5741x0.7375	1042.71	2396.82	0.435	0.00	2396.82	0.000
L25	62.44 - 62.19 (25)	TP26.9843x26.9217x0.8625	1049.66	2776.60	0.378	0.00	2776.60	0.000
L26	62.19 - 57.19 (26)	TP28.2348x26.9843x0.8375	1189.87	2972.91	0.400	0.00	2972.91	0.000
L27	57.19 - 53.5 (27)	TP29.1578x28.2348x0.8125	1294.72	3092.92	0.419	0.00	3092.92	0.000
L28	53.5 - 53.25 (28)	TP29.2203x29.1578x0.8375	1301.87	3193.91	0.408	0.00	3193.91	0.000
L29	53.25 - 52.58 (29)	TP29.3879x29.2203x0.825	1321.04	3188.22	0.414	0.00	3188.22	0.000
L30	52.58 - 52.33 (30)	TP29.4504x29.3879x0.8625	1328.21	3334.82	0.398	0.00	3334.82	0.000
L31	52.33 - 47.33 (31)	TP30.701x29.4504x0.8375	1472.55	3540.88	0.416	0.00	3540.88	0.000
L32	47.33 - 44.58 (32)	TP31.3888x30.701x0.8125	1552.80	3606.29	0.431	0.00	3606.29	0.000
L33	44.58 - 44.33 (33)	TP31.4513x31.3888x0.8125	1560.13	3621.24	0.431	0.00	3621.24	0.000
L34	44.33 - 41.85 (34)	TP32.0716x31.4513x0.8	1633.07	3717.72	0.439	0.00	3717.72	0.000
L35	41.85 - 41.6 (35)	TP32.1341x32.0716x0.8125	1640.44	3786.58	0.433	0.00	3786.58	0.000
L36	41.6 - 34.08 (36)	TP34.015x32.1341x0.7875	1717.47	3835.00	0.448	0.00	3835.00	0.000
L37	34.08 - 34 (37)	TP33.4082x32.1594x0.8188	1867.33	4134.16	0.452	0.00	4134.16	0.000
L38	34 - 29 (38)	TP34.657x33.4082x0.7938	2019.32	4334.48	0.466	0.00	4334.48	0.000
L39	29 - 26.85 (39)	TP35.194x34.657x0.7938	2085.22	4474.63	0.466	0.00	4474.63	0.000
L40	26.85 - 26.6 (40)	TP35.2564x35.194x0.8938	2092.90	5012.98	0.417	0.00	5012.98	0.000
L41	26.6 - 21.6 (41)	TP36.5052x35.2564x0.8688	2092.90	4883.40	0.429	0.00	4883.40	0.000
L42	21.6 - 18 (42)	TP37.4044x36.5052x0.8563	2247.52	5178.98	0.434	0.00	5178.98	0.000
L43	18 - 17.75 (43)	TP37.4668x37.4044x0.9938	2359.93	6250.22	0.378	0.00	6250.22	0.000
L44	17.75 - 17.5 (44)	TP37.5292x37.4668x0.9938	2367.77	6271.97	0.378	0.00	6271.97	0.000
L45	17.5 - 17.25 (45)	TP37.5917x37.5292x0.9938	2375.61	6293.75	0.377	0.00	6293.75	0.000
L46	17.25 - 17.08 (46)	TP37.6341x37.5917x0.9938	2383.46	6315.56	0.377	0.00	6315.56	0.000
L47	17.08 - 16.83 (47)	TP37.6966x37.6341x0.8938	2388.80	5740.14	0.416	0.00	5740.14	0.000
L48	16.83 - 13	TP38.6531x37.6966x0.88	2396.65	5685.12	0.422	0.00	5685.12	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 $\frac{M_{uy}}{\phi M_{ny}}$
	(48)	13						
L49	13 - 12.75	TP38.7156x38.6531x1.06	2517.53	7154.37	0.352	0.00	7154.37	0.000
	(49)	88						
L50	12.75 - 11.85	TP38.9404x38.7156x1.04	2525.45	7024.54	0.360	0.00	7024.54	0.000
	(50)	38						
L51	11.85 - 11.6	TP39.0028x38.9404x0.81	2554.01	5677.05	0.450	0.00	5677.05	0.000
	(51)	88						
L52	11.6 - 6.5 (52)	TP40.2766x39.0028x0.79	2561.96	5532.79	0.463	0.00	5532.79	0.000
		38						
L53	6.5 - 6.25 (53)	TP40.339x40.2766x0.918	2724.89	6777.90	0.402	0.00	6777.90	0.000
		8						
L54	6.25 - 3.75	TP40.9634x40.339x0.906	2732.92	6713.54	0.407	0.00	6713.54	0.000
	(54)	3						
L55	3.75 - 3.5 (55)	TP41.0258x40.9634x1.24	2813.46	9272.83	0.303	0.00	9272.83	0.000
		38						
L56	3.5 - 3 (56)	TP41.1507x41.0258x1.24	2821.53	9302.42	0.303	0.00	9302.42	0.000
		38						
L57	3 - 2.75 (57)	TP41.2132x41.1507x1.06	2837.70	8150.86	0.348	0.00	8150.86	0.000
		88						
L58	2.75 - 0 (58)	TP41.9x41.2132x1.0688	2845.79	8176.60	0.348	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	7.08	149.27	0.047	0.14	184.97	0.001
L4	115 - 110 (4)	TP15.525x14.275x0.1875	7.38	162.51	0.045	0.14	219.25	0.001
L5	110 - 105 (5)	TP16.7758x15.525x0.25	11.74	233.47	0.050	0.02	339.39	0.000
L6	105 - 100 (6)	TP18.0265x16.7758x0.25	12.15	251.14	0.048	0.18	392.70	0.000
L7	100 - 95 (7)	TP19.2773x18.0265x0.25	18.05	268.81	0.067	0.23	449.91	0.001
L8	95 - 90 (8)	TP20.528x19.2773x0.25	18.54	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	TP21.8413x20.5905x0.48	22.88	580.91	0.039	0.31	1091.46	0.000
	(10)	13						
L11	84.75 -	TP21.9246x21.8413x0.47	22.90	575.76	0.040	0.31	1086.33	0.000
	84.417 (11)	5						
L12	84.417 -	TP21.9871x21.9246x0.63	22.92	769.14	0.030	0.31	1444.42	0.000
	84.167 (12)	75						
L13	84.167 -	TP22.174x21.9871x0.625	22.99	761.10	0.030	0.31	1442.67	0.000
	83.42 (13)							
L14	83.42 - 83.17	TP22.2365x22.174x0.95	23.01	1142.78	0.020	0.31	2139.77	0.000
	(14)							
L15	83.17 - 83	TP22.2791x22.2365x0.95	23.03	1145.06	0.020	0.31	2148.32	0.000
	(15)							
L16	83 - 82.75	TP22.3416x22.2791x0.7	23.05	856.09	0.027	0.31	1629.71	0.000
	(16)							
L17	82.75 - 77.75	TP23.5923x22.3416x0.66	23.49	858.46	0.027	0.31	1731.49	0.000
	(17)	25						
L18	77.75 - 70	TP25.531x23.5923x0.65	26.77	877.18	0.031	0.11	1842.59	0.000
	(18)							
L19	70 - 69 (19)	TP25.281x24.0304x0.7	27.27	972.37	0.028	0.11	2102.47	0.000
L20	69 - 67.08	TP25.7612x25.281x0.687	27.43	974.15	0.028	0.11	2148.53	0.000
	(20)	5						
L21	67.08 - 66.83	TP25.8237x25.7612x0.68	27.43	976.58	0.028	0.11	2159.27	0.000
	(21)	75						
L22	66.83 - 64.08	TP26.5115x25.8237x0.67	27.67	985.53	0.028	0.11	2239.78	0.000
	(22)	5						
L23	64.08 - 63.83	TP26.5741x26.5115x0.73	27.67	1076.79	0.026	0.11	2447.18	0.000
	(23)	75						
L24	63.83 - 62.44	TP26.9217x26.5741x0.73	27.80	1091.28	0.025	0.11	2513.47	0.000
	(24)	75						
L25	62.44 - 62.19	TP26.9843x26.9217x0.86	27.81	1273.19	0.022	0.11	2925.47	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 $\frac{T_u}{\phi T_n}$
	(25)	25						
L26	62.19 - 57.19	TP28.2348x26.9843x0.83	28.26	1296.66	0.022	0.11	3124.88	0.000
	(26)	75						
L27	57.19 - 53.5	TP29.1578x28.2348x0.81	28.57	1301.48	0.022	0.11	3245.02	0.000
	(27)	25						
L28	53.5 - 53.25	TP29.2203x29.1578x0.83	28.58	1343.30	0.021	0.11	3353.72	0.000
	(28)	75						
L29	53.25 - 52.58	TP29.3879x29.2203x0.82	28.64	1331.65	0.022	0.11	3345.72	0.000
	(29)	5						
L30	52.58 - 52.33	TP29.4504x29.3879x0.86	28.65	1393.40	0.021	0.11	3503.94	0.000
	(30)	25						
L31	52.33 - 47.33	TP30.701x29.4504x0.837	29.07	1413.38	0.021	0.11	3712.78	0.000
	(31)	5						
L32	47.33 - 44.58	TP31.3888x30.701x0.812	29.29	1403.92	0.021	0.11	3775.95	0.000
	(32)	5						
L33	44.58 - 44.33	TP31.4513x31.3888x0.81	29.30	1406.79	0.021	0.11	3791.41	0.000
	(33)	25						
L34	44.33 - 41.85	TP32.0716x31.4513x0.8	29.51	1413.75	0.021	0.11	3888.87	0.000
	(34)							
L35	41.85 - 41.6	TP32.1341x32.0716x0.81	29.51	1438.14	0.021	0.11	3962.28	0.000
	(35)	25						
L36	41.6 - 34.08	TP34.015x32.1341x0.787	29.72	1423.94	0.021	0.11	4007.74	0.000
	(36)	5						
L37	34.08 - 34	TP33.4082x32.1594x0.81	30.21	1507.86	0.020	0.11	4322.54	0.000
	(37)	88						
L38	34 - 29 (38)	TP34.657x33.4082x0.793	30.57	1518.96	0.020	0.11	4524.54	0.000
		8						
L39	29 - 26.85	TP35.194x34.657x0.7938	30.72	1543.04	0.020	0.11	4669.17	0.000
	(39)							
L40	26.85 - 26.6	TP35.2564x35.194x0.893	30.73	1735.55	0.018	0.11	5245.93	0.000
	(40)	8						
L41	26.6 - 21.6	TP36.5052x35.2564x0.86	30.81	1700.49	0.018	0.11	5106.62	0.000
	(41)	88						
L42	21.6 - 18 (42)	TP37.4044x36.5052x0.85	31.18	1739.47	0.018	0.11	5409.13	0.000
		63						
L43	18 - 17.75	TP37.4668x37.4044x0.99	31.35	2048.25	0.015	0.11	6548.86	0.000
	(43)	38						
L44	17.75 - 17.5	TP37.5292x37.4668x0.99	31.37	2051.75	0.015	0.11	6571.34	0.000
	(44)	38						
L45	17.5 - 17.25	TP37.5917x37.5292x0.99	31.39	2055.26	0.015	0.11	6593.86	0.000
	(45)	38						
L46	17.25 - 17.08	TP37.6341x37.5917x0.99	31.40	2057.64	0.015	0.11	6616.42	0.000
	(46)	38						
L47	17.08 - 16.83	TP37.6966x37.6341x0.89	31.41	1858.79	0.017	0.11	5997.03	0.000
	(47)	38						
L48	16.83 - 13	TP38.6531x37.6966x0.88	31.51	1849.29	0.017	0.11	5937.30	0.000
	(48)	13						
L49	13 - 12.75	TP38.7156x38.6531x1.06	31.69	2273.72	0.014	0.11	7504.54	0.000
	(49)	88						
L50	12.75 - 11.85	TP38.9404x38.7156x1.04	31.76	2235.27	0.014	0.11	7363.13	0.000
	(50)	38						
L51	11.85 - 11.6	TP39.0028x38.9404x0.81	31.77	1766.71	0.018	0.11	5914.62	0.000
	(51)	88						
L52	11.6 - 6.5 (52)	TP40.2766x39.0028x0.79	31.85	1725.32	0.018	0.11	5760.35	0.000
		38						
L53	6.5 - 6.25 (53)	TP40.339x40.2766x0.918	32.11	2046.68	0.016	0.11	7074.44	0.000
		8						
L54	6.25 - 3.75	TP40.9634x40.339x0.906	32.21	2035.46	0.016	0.11	7004.79	0.000
	(54)	3						
L55	3.75 - 3.5 (55)	TP41.0258x40.9634x1.24	32.30	2796.11	0.012	0.11	9753.83	0.000
		38						
L56	3.5 - 3 (56)	TP41.1507x41.0258x1.24	32.34	2804.88	0.012	0.11	9784.58	0.000
		38						
L57	3 - 2.75 (57)	TP41.2132x41.1507x1.06	32.36	2424.57	0.013	0.11	8535.08	0.000
		88						
L58	2.75 - 0 (58)	TP41.9x41.2132x1.0688	32.47	2445.31	0.013	0.11	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	0.219	0.000	0.047	0.001	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	0.408	0.000	0.050	0.000	0.422	1.050	4.8.2
L6	105 - 100 (6)	0.012	0.508	0.000	0.048	0.000	0.522	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	0.446	0.000	0.039	0.000	0.458	1.050	4.8.2
L11	84.75 - 84.417 (11)	0.010	0.456	0.000	0.040	0.000	0.468	1.050	4.8.2
L12	84.417 - 84.167 (12)	0.008	0.349	0.000	0.030	0.000	0.358	1.050	4.8.2
L13	84.167 - 83.42 (13)	0.008	0.362	0.000	0.030	0.000	0.371	1.050	4.8.2
L14	83.42 - 83.17 (14)	0.005	0.251	0.000	0.020	0.000	0.256	1.050	4.8.2
L15	83.17 - 83 (15)	0.005	0.252	0.000	0.020	0.000	0.257	1.050	4.8.2
L16	83 - 82.75 (16)	0.007	0.331	0.000	0.027	0.000	0.339	1.050	4.8.2
L17	82.75 - 77.75 (17)	0.007	0.381	0.000	0.027	0.000	0.390	1.050	4.8.2
L18	77.75 - 70 (18)	0.009	0.413	0.000	0.031	0.000	0.423	1.050	4.8.2
L19	70 - 69 (19)	0.008	0.430	0.000	0.028	0.000	0.439	1.050	4.8.2
L20	69 - 67.08 (20)	0.009	0.446	0.000	0.028	0.000	0.455	1.050	4.8.2
L21	67.08 - 66.83 (21)	0.009	0.447	0.000	0.028	0.000	0.457	1.050	4.8.2
L22	66.83 - 64.08 (22)	0.009	0.466	0.000	0.028	0.000	0.476	1.050	4.8.2
L23	64.08 - 63.83 (23)	0.008	0.430	0.000	0.026	0.000	0.439	1.050	4.8.2
L24	63.83 - 62.44 (24)	0.008	0.435	0.000	0.025	0.000	0.444	1.050	4.8.2
L25	62.44 - 62.19 (25)	0.007	0.378	0.000	0.022	0.000	0.385	1.050	4.8.2
L26	62.19 - 57.19 (26)	0.007	0.400	0.000	0.022	0.000	0.408	1.050	4.8.2
L27	57.19 - 53.5 (27)	0.007	0.419	0.000	0.022	0.000	0.427	1.050	4.8.2
L28	53.5 - 53.25 (28)	0.007	0.408	0.000	0.021	0.000	0.415	1.050	4.8.2
L29	53.25 - 52.58 (29)	0.007	0.414	0.000	0.022	0.000	0.422	1.050	4.8.2
L30	52.58 - 52.33 (30)	0.007	0.398	0.000	0.021	0.000	0.406	1.050	4.8.2
L31	52.33 - 47.33 (31)	0.007	0.416	0.000	0.021	0.000	0.424	1.050	4.8.2
L32	47.33 - 44.58 (32)	0.008	0.431	0.000	0.021	0.000	0.439	1.050	4.8.2
L33	44.58 - 44.33 (33)	0.008	0.431	0.000	0.021	0.000	0.439	1.050	4.8.2
L34	44.33 - 41.85 (34)	0.008	0.439	0.000	0.021	0.000	0.447	1.050	4.8.2
L35	41.85 - 41.6 (35)	0.008	0.433	0.000	0.021	0.000	0.441	1.050	4.8.2
L36	41.6 - 34.08 (36)	0.008	0.448	0.000	0.021	0.000	0.456	1.050	4.8.2
L37	34.08 - 34	0.008	0.452	0.000	0.020	0.000	0.460	1.050	4.8.2

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	(37)								
L38	34 - 29 (38)	0.008	0.466	0.000	0.020	0.000	0.475	1.050	4.8.2
L39	29 - 26.85 (39)	0.009	0.466	0.000	0.020	0.000	0.475	1.050	4.8.2
L40	26.85 - 26.6 (40)	0.008	0.417	0.000	0.018	0.000	0.425	1.050	4.8.2
L41	26.6 - 21.6 (41)	0.008	0.429	0.000	0.018	0.000	0.437	1.050	4.8.2
L42	21.6 - 18 (42)	0.008	0.434	0.000	0.018	0.000	0.442	1.050	4.8.2
L43	18 - 17.75 (43)	0.007	0.378	0.000	0.015	0.000	0.385	1.050	4.8.2
L44	17.75 - 17.5 (44)	0.007	0.378	0.000	0.015	0.000	0.385	1.050	4.8.2
L45	17.5 - 17.25 (45)	0.007	0.377	0.000	0.015	0.000	0.385	1.050	4.8.2
L46	17.25 - 17.08 (46)	0.007	0.377	0.000	0.015	0.000	0.385	1.050	4.8.2
L47	17.08 - 16.83 (47)	0.008	0.416	0.000	0.017	0.000	0.424	1.050	4.8.2
L48	16.83 - 13 (48)	0.008	0.422	0.000	0.017	0.000	0.430	1.050	4.8.2
L49	13 - 12.75 (49)	0.007	0.352	0.000	0.014	0.000	0.359	1.050	4.8.2
L50	12.75 - 11.85 (50)	0.007	0.360	0.000	0.014	0.000	0.367	1.050	4.8.2
L51	11.85 - 11.6 (51)	0.009	0.450	0.000	0.018	0.000	0.459	1.050	4.8.2
L52	11.6 - 6.5 (52)	0.009	0.463	0.000	0.018	0.000	0.472	1.050	4.8.2
L53	6.5 - 6.25 (53)	0.008	0.402	0.000	0.016	0.000	0.410	1.050	4.8.2
L54	6.25 - 3.75 (54)	0.008	0.407	0.000	0.016	0.000	0.415	1.050	4.8.2
L55	3.75 - 3.5 (55)	0.006	0.303	0.000	0.012	0.000	0.309	1.050	4.8.2
L56	3.5 - 3 (56)	0.006	0.303	0.000	0.012	0.000	0.309	1.050	4.8.2
L57	3 - 2.75 (57)	0.007	0.348	0.000	0.013	0.000	0.355	1.050	4.8.2
L58	2.75 - 0 (58)	0.007	0.348	0.000	0.013	0.000	0.355	1.050	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{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	4.8	Pass
L3	120 - 115	Pole	TP14.275x13.025x0.1875	3	-4.50	522.44	22.0	Pass
L4	115 - 110	Pole	TP15.525x14.275x0.1875	4	-4.73	568.80	34.9	Pass
L5	110 - 105	Pole	TP16.7758x15.525x0.25	5	-9.25	817.15	40.2	Pass
L6	105 - 100	Pole	TP18.0265x16.7758x0.25	6	-9.70	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	-15.34	1002.69	71.6	Pass
L9	90 - 89.75	Pole	TP20.5905x20.528x0.5	9	-15.40	1986.84	37.3	Pass
L10	89.75 - 84.75	Pole	TP21.8413x20.5905x0.4813	10	-19.82	2033.17	43.6	Pass
L11	84.75 - 84.417	Pole	TP21.9246x21.8413x0.475	11	-19.89	2015.18	44.5	Pass
L12	84.417 - 84.167	Pole	TP21.9871x21.9246x0.6375	12	-19.94	2691.98	34.1	Pass
L13	84.167 - 83.42	Pole	TP22.174x21.9871x0.625	13	-20.10	2663.84	35.3	Pass
L14	83.42 - 83.17	Pole	TP22.2365x22.174x0.95	14	-20.18	3999.72	24.4	Pass
L15	83.17 - 83	Pole	TP22.2791x22.2365x0.95	15	-20.22	4007.71	24.5	Pass
L16	83 - 82.75	Pole	TP22.3416x22.2791x0.7	16	-20.28	2996.32	32.3	Pass
L17	82.75 - 77.75	Pole	TP23.5923x22.3416x0.6625	17	-21.43	3004.61	37.1	Pass
L18	77.75 - 70	Pole	TP25.531x23.5923x0.65	18	-25.39	3070.13	40.3	Pass
L19	70 - 69	Pole	TP25.281x24.0304x0.7	19	-27.42	3403.28	41.8	Pass
L20	69 - 67.08	Pole	TP25.7612x25.281x0.6875	20	-27.92	3409.51	43.4	Pass
L21	67.08 - 66.83	Pole	TP25.8237x25.7612x0.6875	21	-28.01	3418.01	43.5	Pass
L22	66.83 - 64.08	Pole	TP26.5115x25.8237x0.675	22	-28.75	3449.37	45.3	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L23	64.08 - 63.83	Pole	TP26.5741x26.5115x0.7375	23	-28.84	3768.75	41.8	Pass
L24	63.83 - 62.44	Pole	TP26.9217x26.5741x0.7375	24	-29.26	3819.47	42.3	Pass
L25	62.44 - 62.19	Pole	TP26.9843x26.9217x0.8625	25	-29.36	4456.18	36.7	Pass
L26	62.19 - 57.19	Pole	TP28.2348x26.9843x0.8375	26	-30.99	4538.31	38.8	Pass
L27	57.19 - 53.5	Pole	TP29.1578x28.2348x0.8125	27	-32.22	4555.17	40.6	Pass
L28	53.5 - 53.25	Pole	TP29.2203x29.1578x0.8375	28	-32.32	4701.55	39.6	Pass
L29	53.25 - 52.58	Pole	TP29.3879x29.2203x0.825	29	-32.55	4660.76	40.2	Pass
L30	52.58 - 52.33	Pole	TP29.4504x29.3879x0.8625	30	-32.64	4876.88	38.6	Pass
L31	52.33 - 47.33	Pole	TP30.701x29.4504x0.8375	31	-34.41	4946.82	40.3	Pass
L32	47.33 - 44.58	Pole	TP31.3888x30.701x0.8125	32	-35.40	4913.71	41.8	Pass
L33	44.58 - 44.33	Pole	TP31.4513x31.3888x0.8125	33	-35.51	4923.75	41.8	Pass
L34	44.33 - 41.85	Pole	TP32.0716x31.4513x0.8	34	-36.40	4948.14	42.6	Pass
L35	41.85 - 41.6	Pole	TP32.1341x32.0716x0.8125	35	-36.51	5033.49	42.0	Pass
L36	41.6 - 34.08	Pole	TP34.015x32.1341x0.7875	36	-37.47	4983.79	43.4	Pass
L37	34.08 - 34	Pole	TP33.4082x32.1594x0.8188	37	-40.96	5277.52	43.8	Pass
L38	34 - 29	Pole	TP34.657x33.4082x0.7938	38	-42.92	5316.35	45.2	Pass
L39	29 - 26.85	Pole	TP35.194x34.657x0.7938	39	-43.78	5400.65	45.2	Pass
L40	26.85 - 26.6	Pole	TP35.2564x35.194x0.8938	40	-43.90	6074.41	40.5	Pass
L41	26.6 - 21.6	Pole	TP36.5052x35.2564x0.8688	41	-43.92	5908.79	41.6	Pass
L42	21.6 - 18	Pole	TP37.4044x36.5052x0.8563	42	-46.16	6037.38	42.1	Pass
L43	18 - 17.75	Pole	TP37.4668x37.4044x0.9938	43	-47.79	7156.59	36.6	Pass
L44	17.75 - 17.5	Pole	TP37.5292x37.4668x0.9938	44	-47.92	7168.86	36.6	Pass
L45	17.5 - 17.25	Pole	TP37.5917x37.5292x0.9938	45	-48.05	7181.14	36.6	Pass
L46	17.25 - 17.08	Pole	TP37.6341x37.5917x0.9938	46	-48.17	7193.40	36.6	Pass
L47	17.08 - 16.83	Pole	TP37.6966x37.6341x0.8938	47	-48.26	6494.72	40.4	Pass
L48	16.83 - 13	Pole	TP38.6531x37.6966x0.8813	48	-48.39	6416.95	40.9	Pass
L49	13 - 12.75	Pole	TP38.7156x38.6531x1.0688	49	-50.19	7944.84	34.2	Pass
L50	12.75 - 11.85	Pole	TP38.9404x38.7156x1.0438	50	-50.33	7777.03	34.9	Pass
L51	11.85 - 11.6	Pole	TP39.0028x38.9404x0.8188	51	-50.82	6173.39	43.7	Pass
L52	11.6 - 6.5	Pole	TP40.2766x39.0028x0.7938	52	-50.95	5998.62	45.0	Pass
L53	6.5 - 6.25	Pole	TP40.339x40.2766x0.9188	53	-53.40	7152.03	39.1	Pass
L54	6.25 - 3.75	Pole	TP40.9634x40.339x0.9063	54	-53.54	7068.16	39.6	Pass
L55	3.75 - 3.5	Pole	TP41.0258x40.9634x1.2438	55	-54.82	9771.02	29.5	Pass
L56	3.5 - 3	Pole	TP41.1507x41.0258x1.2438	56	-54.98	9786.38	29.5	Pass
L57	3 - 2.75	Pole	TP41.2132x41.1507x1.0688	57	-55.29	8472.79	33.8	Pass
L58	2.75 - 0	Pole	TP41.9x41.2132x1.0688	58	-55.44	8485.98	33.8	Pass
							Summary	
						Pole (L8)	71.6	Pass
						RATING =	**71.6**	**Pass**

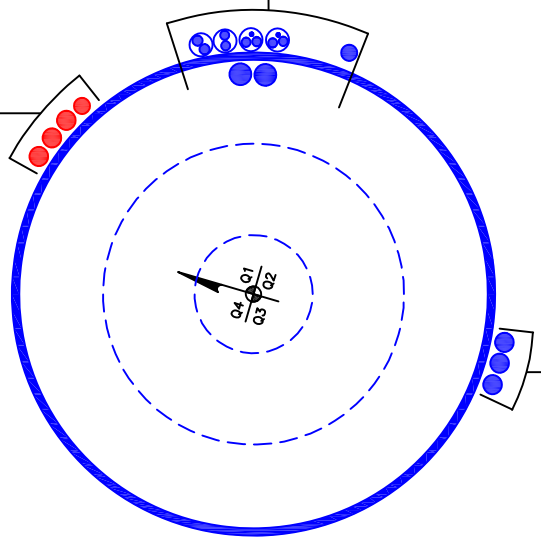
***NOTE: Above stress ratios for reinforced sections are approximate. More exact calculations are presented in Appendix C**

APPENDIX B

BASE LEVEL DRAWING

(OTHER CONSIDERED EQUIPMENT–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)
(2) 1–7/8" TO 109 FT LEVEL
(1) 1–3/8" TO 77 FT LEVEL

(PROPOSED EQUIPMENT CONFIGURATION)
(1) 1–3/8" TO 85 FT LEVEL
(3) 1–5/8" TO 85 FT LEVEL



(OTHER CONSIDERED EQUIPMENT)
(3) 1–5/8" TO 97 FT LEVEL

BUSINESS UNIT: 806376 TOWER ID: C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 806376

Work Order: 2103847

CROWN CASTLE

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	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		-2				x				x		
15	17.5	52.58	plate	CCI-CFP-060100	3		-2				x				x		
16	52.58	83.42	plate	CCI-CFP-045125	3		x				x				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 (in2)	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	0.000	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	0	-	0	0	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): 5 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):	5	TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	130 - 125	0.11	0.56	0.23
2	125 - 120	4.31	4.69	6.78
3	120 - 115	4.50	39.28	7.08
4	115 - 110	4.73	75.42	7.38
5	110 - 105	9.25	133.59	11.74
6	105 - 100	9.70	193.04	12.15
7	100 - 95	14.70	270.71	18.05
8	95 - 90	15.34	362.10	18.54
9	90 - 89.75	15.40	366.73	18.55
10	89.75 - 84.75	19.82	467.05	22.88
11	84.75 - 84.417	19.89	474.68	22.90
12	84.417 - 84.167	19.94	480.41	22.92
13	84.167 - 83.42	20.10	497.56	22.99
14	83.42 - 83.17	20.18	503.31	23.01
15	83.17 - 83	20.22	507.23	23.03
16	83 - 82.75	20.28	512.99	23.05
17	82.75 - 77.75	21.43	629.36	23.49
18	77.75 - 74	25.39	726.96	26.77
19	74 - 69	27.42	862.10	27.27
20	69 - 67.08	27.92	914.60	27.43
21	67.08 - 66.83	28.01	921.46	27.43
22	66.83 - 64.08	28.75	997.23	27.67
23	64.08 - 63.83	28.84	1004.15	27.67
24	63.83 - 62.44	29.26	1042.71	27.80
25	62.44 - 62.19	29.36	1049.66	27.81
26	62.19 - 57.19	30.99	1189.87	28.26
27	57.19 - 53.5	32.22	1294.72	28.57
28	53.5 - 53.25	32.32	1301.87	28.58
29	53.25 - 52.58	32.55	1321.04	28.64
30	52.58 - 52.33	32.64	1328.21	28.65
31	52.33 - 47.33	34.41	1472.55	29.07
32	47.33 - 44.58	35.40	1552.80	29.29
33	44.58 - 44.33	35.51	1560.13	29.30
34	44.33 - 41.85	36.40	1633.06	29.51
35	41.85 - 41.6	36.51	1640.44	29.51
36	41.6 - 39	37.47	1717.47	29.72
37	39 - 34	40.96	1867.34	30.21
38	34 - 29	42.92	2019.32	30.57
39	29 - 26.85	43.78	2085.22	30.72
40	26.85 - 26.6	43.90	2092.90	30.73
41	26.6 - 21.6	46.14	2247.51	31.10
42	21.6 - 18	47.78	2359.93	31.35
43	18 - 17.75	47.91	2367.76	31.35
44	17.75 - 17.5	48.04	2375.61	31.37
45	17.5 - 17.25	48.17	2383.46	31.39
46	17.25 - 17.08	48.26	2388.80	31.40
47	17.08 - 16.83	48.37	2396.65	31.41
48	16.83 - 13	50.18	2517.52	31.68
49	13 - 12.75	50.32	2525.45	31.69
50	12.75 - 11.85	50.81	2554.01	31.76
51	11.85 - 11.6	50.94	2561.96	31.77
52	11.6 - 6.5	53.38	2724.89	32.11
53	6.5 - 6.25	53.52	2732.92	32.11
54	6.25 - 3.75	54.81	2813.46	32.30
55	3.75 - 3.5	54.97	2821.53	32.30
56	3.5 - 3	55.28	2837.70	32.34
57	3 - 2.75	55.42	2845.79	32.36
58	2.75 - 0	56.94	2935.11	32.58

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	34.8%	Pass
110 - 105	Pole	TP16.776x15.525x0.25	Pole	40.1%	Pass
105 - 100	Pole	TP18.027x16.776x0.25	Pole	49.6%	Pass
100 - 95	Pole	TP19.277x18.027x0.25	Pole	61.0%	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	63.7%	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	58.1%	Pass
84.17 - 83.42	Pole + Reinf.	TP22.174x21.987x0.625	Reinf. 11 Tension Rupture	59.4%	Pass
83.42 - 83.17	Pole + Reinf.	TP22.237x22.174x0.95	Reinf. 16 Tension Rupture	41.7%	Pass
83.17 - 83	Pole + Reinf.	TP22.279x22.237x0.95	Reinf. 16 Tension Rupture	42.0%	Pass
83 - 82.75	Pole + Reinf.	TP22.342x22.279x0.7	Reinf. 16 Tension Rupture	55.8%	Pass
82.75 - 77.75	Pole + Reinf.	TP23.592x22.342x0.6625	Reinf. 16 Tension Rupture	63.4%	Pass
77.75 - 74	Pole + Reinf.	TP25.531x23.592x0.65	Reinf. 16 Tension Rupture	69.4%	Pass
74 - 69	Pole + Reinf.	TP25.281x24.03x0.7	Reinf. 16 Tension Rupture	71.6%	Pass
69 - 67.08	Pole + Reinf.	TP25.761x25.281x0.6875	Reinf. 16 Tension Rupture	73.9%	Pass
67.08 - 66.83	Pole + Reinf.	TP25.824x25.761x0.6875	Reinf. 16 Tension Rupture	74.1%	Pass
66.83 - 64.08	Pole + Reinf.	TP26.512x25.824x0.675	Reinf. 16 Tension Rupture	77.1%	Pass
64.08 - 63.83	Pole + Reinf.	TP26.574x26.512x0.7375	Reinf. 16 Tension Rupture	74.0%	Pass
63.83 - 62.44	Pole + Reinf.	TP26.922x26.574x0.7375	Reinf. 16 Tension Rupture	75.4%	Pass
62.44 - 62.19	Pole + Reinf.	TP26.984x26.922x0.8625	Reinf. 16 Tension Rupture	62.5%	Pass
62.19 - 57.19	Pole + Reinf.	TP28.235x26.984x0.8375	Reinf. 16 Tension Rupture	66.4%	Pass
57.19 - 53.5	Pole + Reinf.	TP29.158x28.235x0.8125	Reinf. 16 Tension Rupture	69.1%	Pass
53.5 - 53.25	Pole + Reinf.	TP29.22x29.158x0.8375	Reinf. 9 Tension Rupture	68.5%	Pass
53.25 - 52.58	Pole + Reinf.	TP29.388x29.22x0.825	Reinf. 9 Tension Rupture	68.9%	Pass
52.58 - 52.33	Pole + Reinf.	TP29.45x29.388x0.8625	Reinf. 9 Tension Rupture	66.4%	Pass
52.33 - 47.33	Pole + Reinf.	TP30.701x29.45x0.8375	Reinf. 9 Tension Rupture	69.6%	Pass
47.33 - 44.58	Pole + Reinf.	TP31.389x30.701x0.8125	Reinf. 9 Tension Rupture	71.1%	Pass
44.58 - 44.33	Pole + Reinf.	TP31.451x31.389x0.8125	Reinf. 9 Tension Rupture	71.3%	Pass
44.33 - 41.85	Pole + Reinf.	TP32.072x31.451x0.8	Reinf. 9 Tension Rupture	72.6%	Pass
41.85 - 41.6	Pole + Reinf.	TP32.134x32.072x0.8125	Reinf. 8 Tension Rupture	64.7%	Pass
41.6 - 39	Pole + Reinf.	TP34.015x32.134x0.7875	Reinf. 8 Tension Rupture	65.8%	Pass
39 - 34	Pole + Reinf.	TP33.408x32.159x0.8188	Reinf. 8 Tension Rupture	67.0%	Pass
34 - 29	Pole + Reinf.	TP34.657x33.408x0.7938	Reinf. 8 Tension Rupture	68.7%	Pass
29 - 26.85	Pole + Reinf.	TP35.194x34.657x0.7938	Reinf. 8 Tension Rupture	69.4%	Pass
26.85 - 26.6	Pole + Reinf.	TP35.256x35.194x0.8938	Reinf. 6 Tension Rupture	64.9%	Pass
26.6 - 21.6	Pole + Reinf.	TP36.505x35.256x0.8688	Reinf. 6 Tension Rupture	66.4%	Pass
21.6 - 18	Pole + Reinf.	TP37.404x36.505x0.8563	Reinf. 6 Tension Rupture	67.4%	Pass
18 - 17.75	Pole + Reinf.	TP37.467x37.404x0.9938	Reinf. 15 Compression	56.8%	Pass
17.75 - 17.5	Pole + Reinf.	TP37.529x37.467x0.9938	Reinf. 15 Compression	56.8%	Pass
17.5 - 17.25	Pole + Reinf.	TP37.592x37.529x0.9938	Reinf. 14 Compression	56.9%	Pass
17.25 - 17.08	Pole + Reinf.	TP37.634x37.592x0.9938	Reinf. 14 Compression	56.9%	Pass
17.08 - 16.83	Pole + Reinf.	TP37.697x37.634x0.8938	Reinf. 14 Compression	62.2%	Pass
16.83 - 13	Pole + Reinf.	TP38.653x37.697x0.8813	Reinf. 14 Compression	63.1%	Pass
13 - 12.75	Pole + Reinf.	TP38.716x38.653x1.0688	Reinf. 14 Compression	53.4%	Pass
12.75 - 11.85	Pole + Reinf.	TP38.94x38.716x1.0438	Reinf. 14 Compression	53.6%	Pass
11.85 - 11.6	Pole + Reinf.	TP39.003x38.94x0.8188	Reinf. 14 Compression	68.8%	Pass
11.6 - 6.5	Pole + Reinf.	TP40.277x39.003x0.7938	Reinf. 14 Compression	69.8%	Pass
6.5 - 6.25	Pole + Reinf.	TP40.339x40.277x0.9188	Reinf. 5 Tension Rupture	65.1%	Pass
6.25 - 3.75	Pole + Reinf.	TP40.963x40.339x0.9063	Reinf. 5 Tension Rupture	65.5%	Pass
3.75 - 3.5	Pole + Reinf.	TP41.026x40.963x1.2438	Reinf. 5 Tension Rupture	48.4%	Pass
3.5 - 3	Pole + Reinf.	TP41.151x41.026x1.2438	Reinf. 5 Tension Rupture	48.5%	Pass
3 - 2.75	Pole + Reinf.	TP41.213x41.151x1.0688	Reinf. 14 Compression	56.0%	Pass
2.75 - 0	Pole + Reinf.	TP41.9x41.213x1.0688	Reinf. 4 Weldment	79.4%	Pass
				Summary	
			Pole	71.4%	Pass
			Reinforcement	79.4%	Pass
			Overall	79.4%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity* (100% Max. Allowable)																
	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	34.8%																
110 - 105	464	n/a	464	13.28	n/a	13.28	40.1%																
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	61.0%																
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%											63.7%					
89.75 - 84.75	1036	892	1928	17.36	13.50	30.86	42.9%											74.2%					
84.75 - 84.42	1048	899	1946	17.42	13.50	30.92	43.4%											75.0%					
84.42 - 84.17	1057	1491	2548	17.47	22.50	39.97	33.6%			44.1%								58.1%					
84.17 - 83.42	1084	1516	2600	17.62	22.50	40.12	34.5%			45.1%								59.4%					
83.42 - 83.17	1094	2703	3796	17.67	39.38	57.05	24.0%			31.4%								41.3%					41.7%
83.17 - 83	1100	2712	3812	17.71	39.38	57.08	24.2%			31.6%								41.5%					42.0%
83 - 82.75	1109	1795	2905	17.76	25.88	43.63	32.2%			42.0%													55.8%
82.75 - 77.75	1309	1990	3299	18.76	25.88	44.64	37.3%			47.7%													63.4%
77.75 - 74	1473	2142	3615	19.52	25.88	45.39	41.5%			52.3%													69.4%
74 - 69	2002	2269	4271	25.09	25.88	50.96	40.6%			53.9%													71.6%
69 - 67.08	2120	2351	4471	25.57	25.88	51.45	41.9%			55.6%													73.9%
67.08 - 66.83	2135	2362	4498	25.63	25.88	51.51	42.0%		55.9%														74.1%
66.83 - 64.08	2313	2483	4796	26.33	25.88	52.20	44.0%		58.1%														77.1%
64.08 - 63.83	2353	2954	5307	26.39	34.88	61.26	44.2%		55.8%								60.8%						74.0%
63.83 - 62.44	2448	3028	5476	26.74	34.88	61.61	45.2%		56.9%								62.0%						75.4%
62.44 - 62.19	2440	3902	6342	26.80	39.38	66.18	35.9%		47.1%							61.9%	61.9%						62.5%
62.19 - 57.19	2800	4255	7055	28.06	39.38	67.43	38.8%		50.1%							65.9%	65.9%						66.4%
57.19 - 53.5	3087	4525	7612	28.98	39.38	68.36	40.8%		52.1%							68.5%	68.5%						69.1%
53.5 - 53.25	3110	4720	7830	29.05	42.38	71.42	40.8%		51.4%						58.8%	68.5%							68.1%
53.25 - 52.58	3164	4772	7936	29.22	42.38	71.59	41.2%		51.8%						59.2%	68.9%							68.6%
52.58 - 52.33	3183	5071	8254	29.28	43.50	72.78	39.7%		50.0%						59.3%	66.4%						62.0%	
52.33 - 47.33	3611	5485	9095	30.53	43.50	74.03	42.2%		52.3%						62.0%	69.6%						64.8%	
47.33 - 44.58	3862	5719	9581	31.23	43.50	74.73	43.6%		53.5%						63.4%	71.1%						66.2%	
44.58 - 44.33	3885	5740	9625	31.29	43.50	74.79	43.7%	54.5%							63.5%	71.3%						66.4%	
44.33 - 41.85	4122	5956	10078	31.91	43.50	75.41	44.9%	55.5%							64.7%	72.6%						67.6%	
41.85 - 41.6	4144	6052	10196	31.97	45.00	76.97	44.2%	54.4%					62.6%		64.7%							64.6%	
41.6 - 39	4404	6293	10697	32.63	45.00	77.63	45.3%	55.4%					63.8%		65.8%							65.7%	
39 - 34	5114	6529	11643	36.55	45.00	81.55	44.8%	56.3%					65.0%		67.0%							66.9%	
34 - 29	5716	7014	12729	37.93	45.00	82.93	46.6%	57.8%					66.8%		68.7%							68.6%	
29 - 26.85	5988	7228	13216	38.52	45.00	83.52	47.4%	58.3%					67.5%		69.4%							69.3%	
26.85 - 26.6	6056	8887	14943	38.59	57.00	95.59	45.0%	54.5%					64.9%	57.4%	59.2%							62.1%	
26.6 - 21.6	6728	9497	16225	39.97	57.00	96.97	46.7%	55.7%					66.4%	58.7%	60.6%							63.4%	
21.6 - 18	7242	9949	17190	40.96	57.00	97.96	47.9%	56.6%					67.4%	59.6%	61.5%							64.3%	
18 - 17.75	7238	12612	19850	41.03	69.38	110.41	39.9%	47.4%					55.1%	55.8%						54.7%		56.8%	
17.75 - 17.5	7275	12652	19927	41.10	69.38	110.48	40.0%	47.5%					55.1%	55.8%						54.7%		56.8%	
17.5 - 17.25	7312	12693	20005	41.17	69.38	110.54	40.1%	47.5%					55.2%	55.9%						54.8%	56.9%		
17.25 - 17.08	7337	12721	20057	41.22	69.38	110.59	40.1%	47.5%					55.2%	55.9%						54.8%	56.9%		
17.08 - 16.83	7374	11092	18466	41.29	60.38	101.66	43.9%						60.2%	61.1%						59.8%	62.2%		
16.83 - 13	7955	11640	19595	42.34	60.38	102.72	45.0%						61.1%	61.9%						60.7%	63.1%		
13 - 12.75	7993	15253	23247	42.41	78.38	120.79	38.1%					53.4%	51.9%	52.5%						51.5%	53.4%		
12.75 - 11.85	8135	15424	23559	42.66	78.38	121.04	38.4%					53.5%	52.1%	52.6%						51.6%	53.6%		
11.85 - 11.6	8188	10557	18745	42.73	60.38	103.10	48.6%					67.8%								61.7%	68.8%		
11.6 - 6.5	9024	11232	20256	44.14	60.38	104.51	50.2%					68.8%								62.7%	69.8%		
6.5 - 6.25	9256	14118	23374	44.21	68.50	112.71	47.0%					65.1%							52.5%	59.4%	64.9%		
6.25 - 3.75	9693	14546	24240	44.90	68.50	113.40	47.7%					65.5%							53.0%	59.9%	65.3%		
3.75 - 3.5	9665	22849	32515	44.97	94.75	139.72	35.3%				45.5%	48.4%							40.7%	45.0%	48.4%		
3.5 - 3	9754	22979	32733	45.10	94.75	139.85	35.4%				45.6%	48.5%							40.8%	45.1%	48.5%		
3 - 2.75	9826	18947	28773	45.17	76.75	121.92	40.8%				52.6%								46.1%	51.7%	56.0%		
2.75 - 0	10329	19551	29880	45.93	76.75	122.68	42.7%				79.4%								46.6%	52.2%	56.6%		

Note: Section capacity checked using 5 degree increments.

**Rating per TIA-222-H Section 15.5.*

Monopole Flange Plate Connection

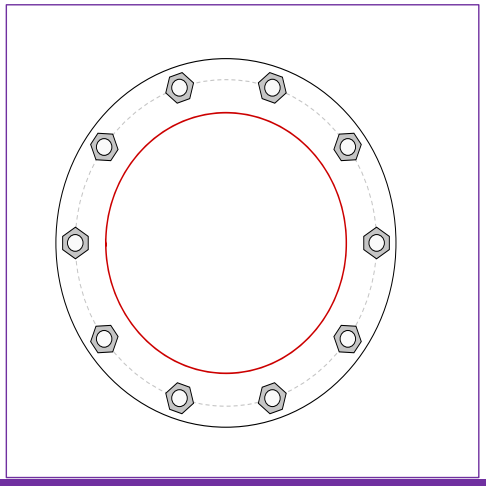
Elevation = 110 ft.

BU #	806376
Site Name	HRT 100 943239
Order #	608639 Rev. 0
TIA-222 Revision	H

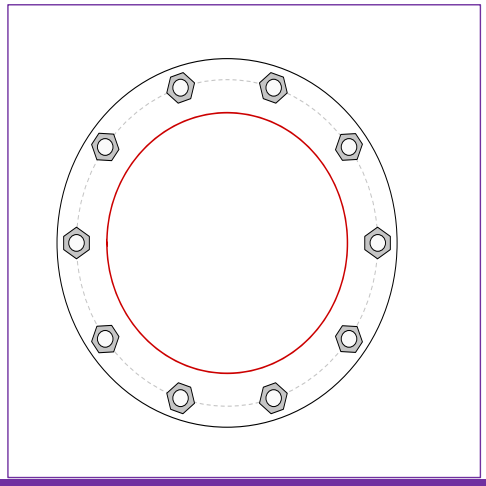
Applied Loads	
Moment (kip-ft)	75.42
Axial Force (kips)	4.73
Shear Force (kips)	7.38

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(10) 1" ø 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)

Bottom Plate Data

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

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

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

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)	18.12	
Allowable (kips)	54.53	
Stress Rating:	**31.6%**	Pass

Top Plate Capacity

Max Stress (ksi):	9.75	(Flexural)
Allowable Stress (ksi):	54.00	
Stress Rating:	**17.2%**	Pass
Tension Side Stress Rating:	**9.1%**	Pass

Bottom Plate Capacity

Max Stress (ksi):	9.75	(Flexural)
Allowable Stress (ksi):	54.00	
Stress Rating:	**17.2%**	Pass
Tension Side Stress Rating:	**9.1%**	Pass

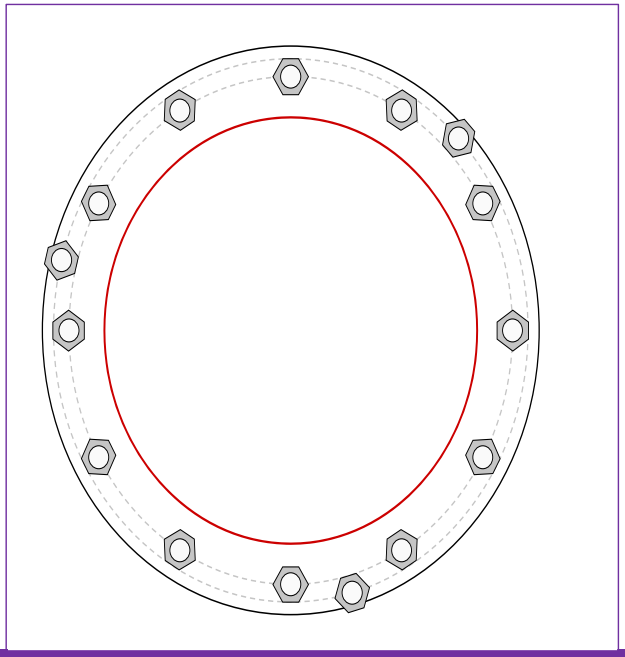
Monopole Base Plate Connection

Site Info	
BU #	806376
Site Name	HRT 100 943239
Order #	608639 Rev. 0

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

Applied Loads	
Moment (kip-ft)	2935.11
Axial Force (kips)	56.94
Shear Force (kips)	32.58

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

GROUP 1: (12) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 49.88" BC

GROUP 2: (3) 2-1/4" ø bolts (F1554-105 N; Fy=105 ksi, Fu=125 ksi) on 53.38" BC

Base Plate Data

55.88" OD x 2.5" Plate (S-128; Fy=60 ksi, Fu=80 ksi)

Stiffener Data

N/A

Pole Data

41.9" x 0.34375" 12-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary *(units of kips, kip-in)*

GROUP 1:		
Pu_t = 178.09	ϕPn_t = 243.75	**Stress Rating**
Vu = 2.71	ϕVn = 149.1	**69.6%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 2:		
Pu_t = 195.66	ϕPn_t = 304.69	**Stress Rating**
Vu = 0	ϕVn = 186.38	**61.2%**
Mu = 0	ϕMn = 179.4	**Pass**

Base Plate Summary

Max Stress (ksi):	26.93	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	**47.5%**	**Pass**

CCIplate

Elevation (ft)	0	*(Base)*

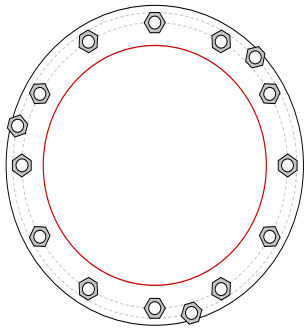
note: Bending interaction not considered when Grout Considered = "Yes"

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:	l_{ar} (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



Pier and Pad Foundation

BU # :	806376
Site Name:	HRT 100 943239
App. Number:	608639 Rev. 0

TIA-222 Revision:	H
Tower Type:	Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp}:	56.95	kips
Base Shear, Vu_comp:	32.56	kips
Moment, M_u:	2935.11	ft-kips
Tower Height, **H**:	130	ft
BP Dist. Above Fdn, bp_{dist}:	7.5	in

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

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, Qult:	10.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	33	degrees
SPT Blow Count, N_{blows}:	10	
Base Friction, μ:		
Neglected Depth, **N**:	3.33	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	16	ft

<--Toggle between Gross and Net

Foundation Analysis Checks	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	287.89	32.56	**10.8%**	**Pass**
Bearing Pressure (ksf)	7.50	2.69	**35.9%**	**Pass**
*Overturning (kip*ft)*	5364.25	3232.22	**60.3%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	5039.17	3114.19	**58.9%**	**Pass**
Pier Compression (kip)	13497.04	84.94	**0.6%**	**Pass**
*Pad Flexure (kip*ft)*	2927.56	1242.90	**40.4%**	**Pass**
Pad Shear - 1-way (kips)	674.44	208.96	**29.5%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.164	0.040	**23.4%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	3867.66	1868.51	**46.0%**	**Pass**

**Rating per TIA-222-H Section 15.5*

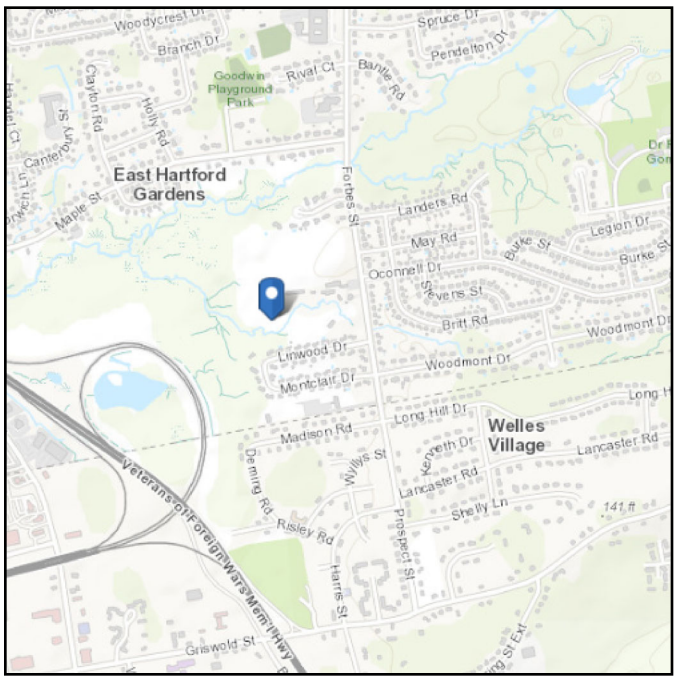
Structural Rating*:	**58.9%**
Soil Rating*:	**60.3%**

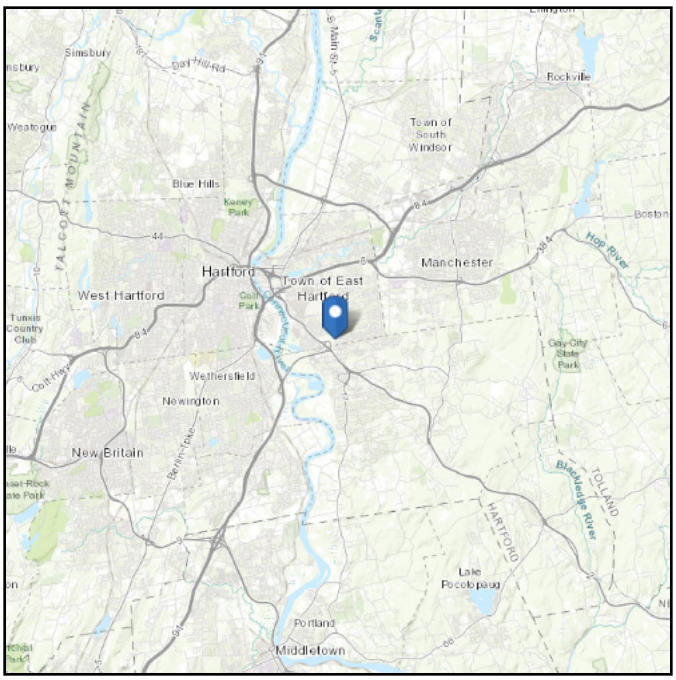
ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 0 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:	Thu Apr 21 2022

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

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

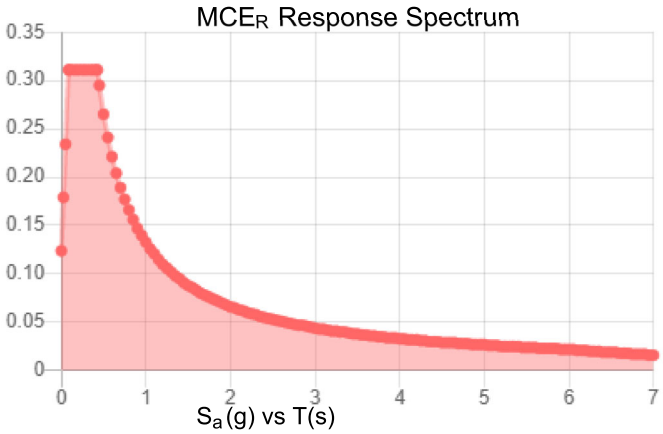
Seismic

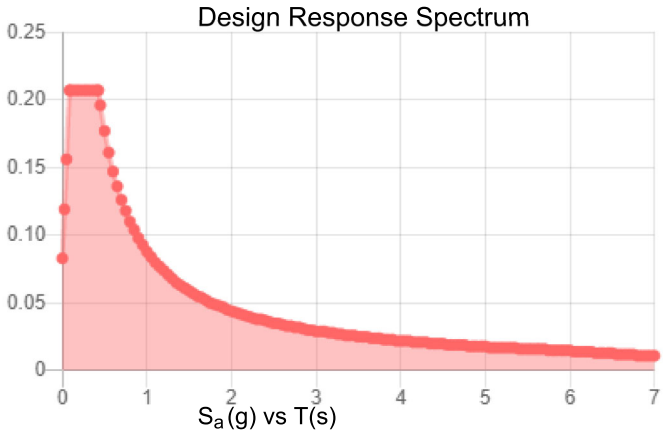
Site Soil Class: D - Default (see Section 11.4.3)

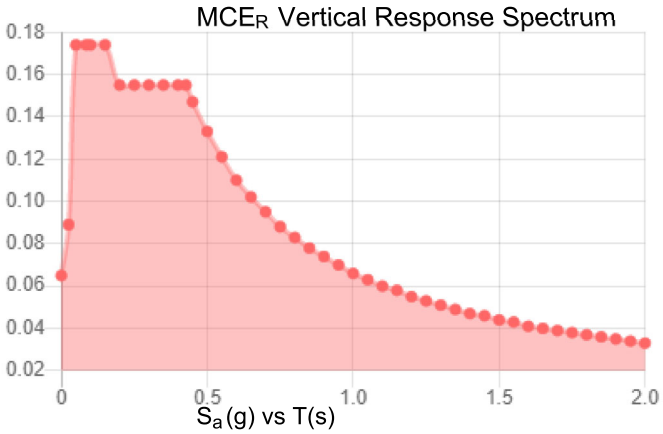
Results:

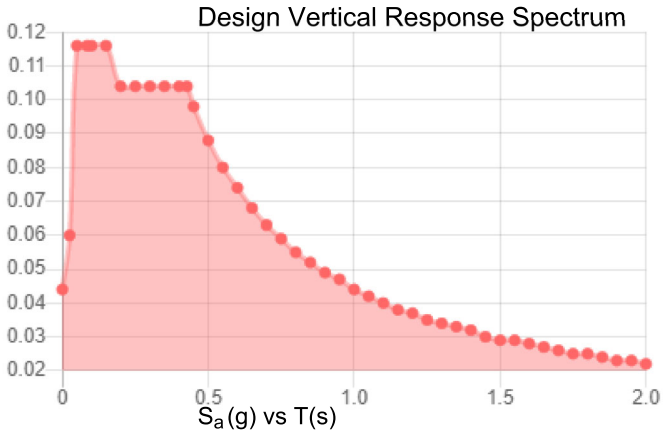
S_S :	0.194	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.105
F_v :	2.4	PGA_M :	0.168
S_{MS} :	0.311	F_{PGA} :	1.589
S_{M1} :	0.133	I_e :	1
S_{DS} :	0.207	C_v :	0.7

Seismic Design Category B









Data Accessed: **Thu Apr 21 2022**

Date Source:

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

Ice

Results:

Ice Thickness:	1.50 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Thu Apr 21 2022

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

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

Date: **August 4, 2022**

Trylon
1825 W. Walnut Hill Lane,
Suite 302
Irving, TX 75038
214-930-1730

Subject:	**Mount Replacement Analysis Report**	
Carrier Designation:	**T-Mobile Equipment Change-Out**	
	Carrier Site Number:	CT11186A
	Carrier Site Name:	East Hartford/ Hills_1
Crown Castle Designation:	**BU Number:**	806376
	Site Name:	HRT 100 943239
	JDE Job Number:	709264
	Order Number:	608639 Rev. 0
Engineering Firm Designation:	**Trylon Report Designation:**	207477 Rev. 1
Site Data:	**1455 Forbes Street, East Hartford, Hartford County, CT, 06118** **Latitude 41°43'53.30" Longitude -72°36'28.00"**	
Structure Information:	**Tower Height & Type:**	**130.0 ft Monopole**
	Mount Elevation:	**87.0 ft**
	Mount Width & Type:	**12.5 ft Platform**

Trylon is pleased to submit this **"Mount Replacement Analysis 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 stress level. Based on our analysis we have determined the mount stress level to be:

Platform **Sufficient***

***Sufficient upon completion of the changes listed in the 'Recommendations' section of this report.**

This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Dan Deaconu

Respectfully Submitted by:
Cliff Abernathy, P.E.

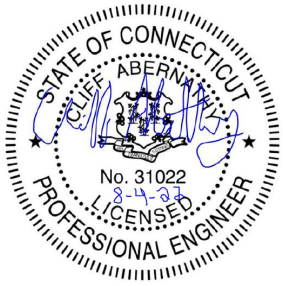


TABLE OF CONTENTS

1) INTRODUCTION

This is an existing 3 sector 12.5 ft Platform, designed by Site Pro 1.

2) ANALYSIS CRITERIA

Building Code:	2015 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	125 mph
Exposure Category:	C
Topographic Factor at Base:	1.00
Topographic Factor at Mount:	1.00
Ice Thickness:	2.00 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.180
Seismic S_1:	0.064
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb
Man Live Load at Mount Pipes:	500 lb

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
87.0	87.0	3	Commscope	VV-65A-R1_TMO	12.5 ft Platform [**Site Pro 1, RMQP-396 w/ HRK12**]
		3	Ericsson	AIR 6419 B41_TMO	
		3	RFS/Celwave	APXVAARR24_43-U-NA20	
		3	Ericsson	RADIO 4449 B71 B85A_T-MOBILE	
		3	Ericsson	RADIO 4460 B2/B25 B66_TMO	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	T-Mobile Application	608639, Rev. 0	CCI Sites
Structural Analysis Report	Black & Veatch Corp.	9879874	CCI Sites
Mount Manufacturer Drawings	Site Pro 1	RMQP-396	Trylon
Handrail Manufacturer Drawings	Site Pro 1	HRK12	Trylon

3.1) Analysis Method

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

A tool internally developed, using Microsoft Excel, by Trylon was used to calculate wind loading on all appurtenances, dishes, and mount members for various load cases. Selected output from the analysis is included in Appendix B.

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

3.2) Assumptions

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

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

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

4) ANALYSIS RESULTS

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

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1,2,3,4	Mount Pipe(s)	MP8	87.0	63.2	Pass
	Horizontal(s)	H3		31.1	Pass
	Standoff(s)	M86		72.0	Pass
	Bracing(s)	M85		32.1	Pass
	Handrail(s)	M55A		55.0	Pass
	Plate(s)	M39		35.7	Pass
	Mount Connection(s)	-		44.1	Pass

Structure Rating (max from all components) =	72.0%

Notes:
1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
2) See additional documentation in "Appendix D - Additional Calculations" for detailed mount connection calculations.
3) All sectors are typical
4) Rating per TIA-222-H, Section 15.5

4.1) Recommendations

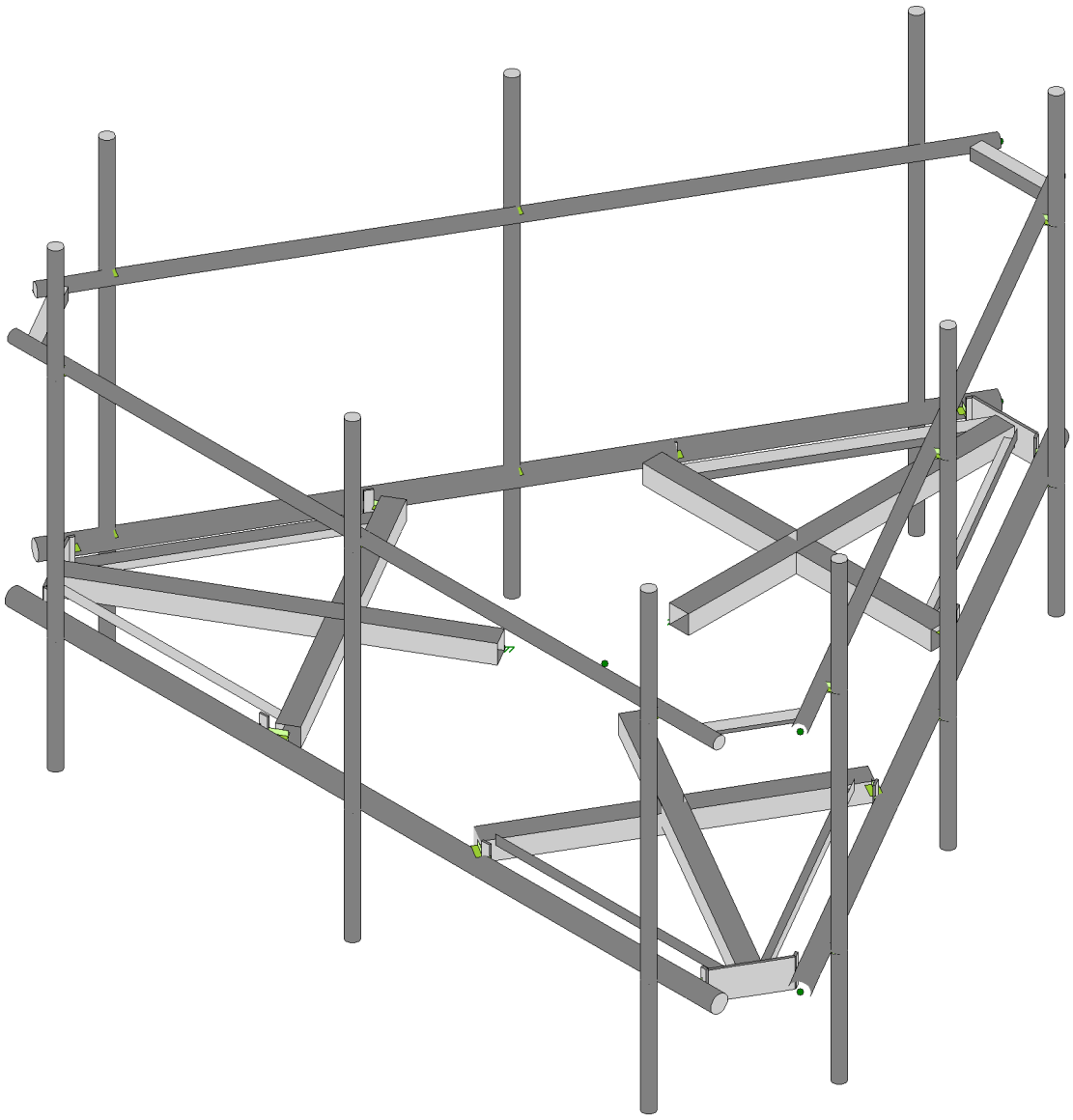
The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the proposed mount listed below must be installed.

1. Install new Site Pro 1, RMQP-496 Platform w/ HRK12 Support Rail. Install HRK 12 handrail kit at 48" above the platform horizontal elevation.

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

APPENDIX A

WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

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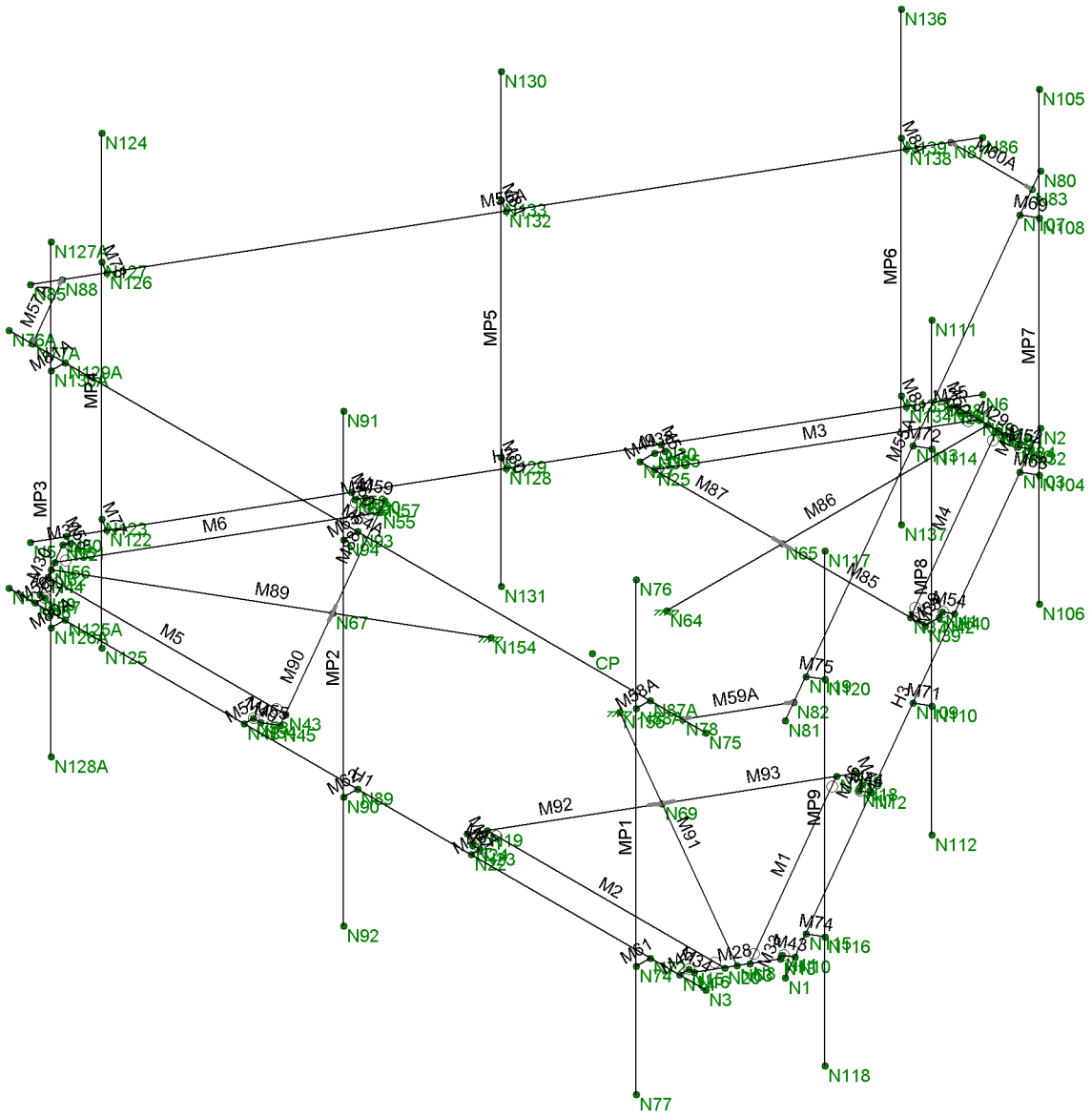
DD		Apr 19, 2022 at 12:21 PM
207477		806376.r3d



Envelope Only Solution

Trylon	806376	SK - 2
DD		Apr 19, 2022 at 12:21 PM
207477		806376.r3d

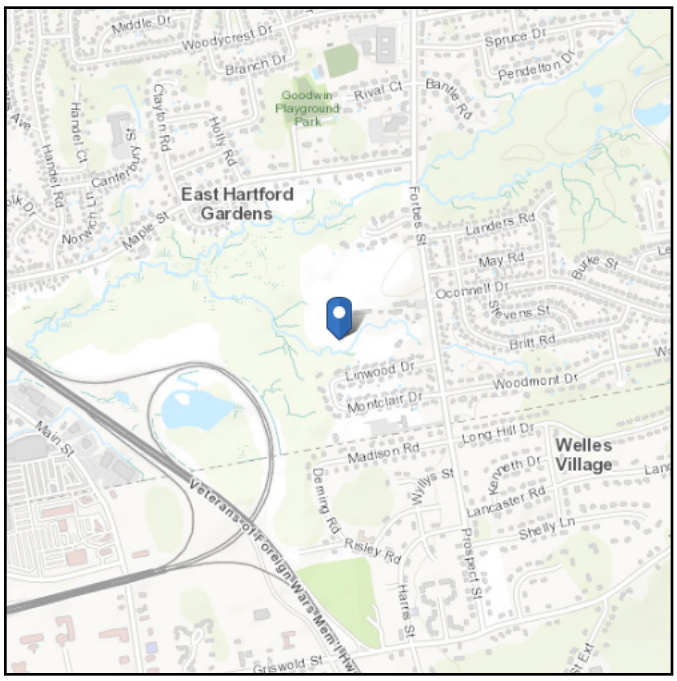
APPENDIX B

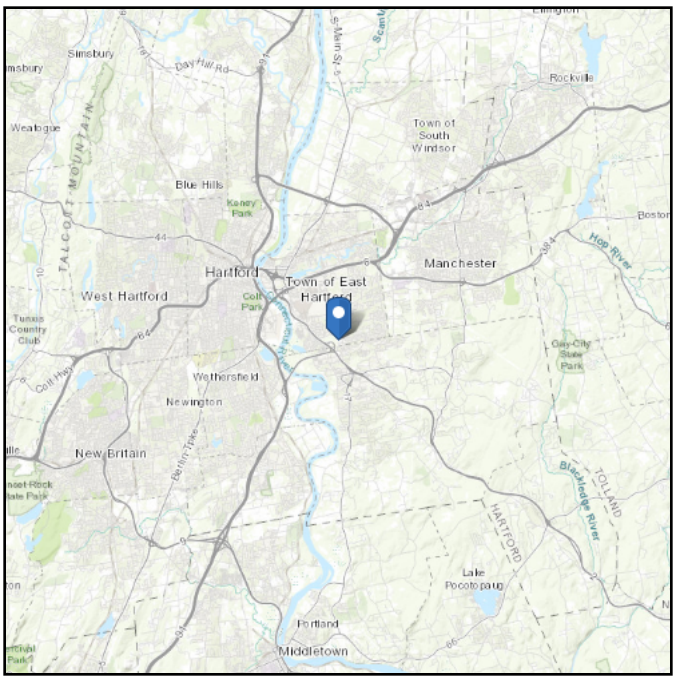
SOFTWARE INPUT CALCULATIONS

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-10	**Elevation:**	41.23 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.731472
Soil Class:	D - Stiff Soil	**Longitude:**	-72.607778





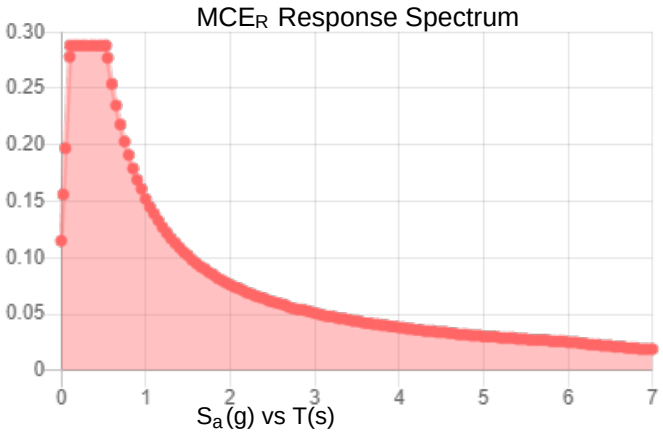
Seismic

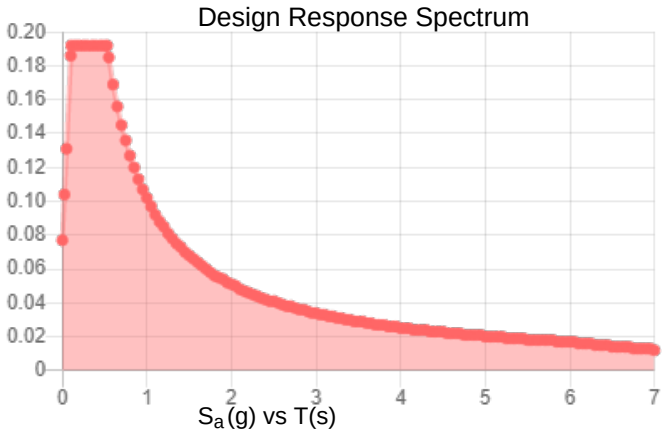
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.18	S_{DS} :	0.192
S_1 :	0.064	S_{D1} :	0.102
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.091
S_{MS} :	0.288	PGA_M :	0.145
S_{M1} :	0.152	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: **Fri Apr 15 2022**

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	5 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Fri Apr 15 2022

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

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-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.

Trylon
1825 W. Walnut Hill Lane Suite 120
Irving, TX 75038

TIA LOAD CALCULATOR 2.2

PROJECT DATA	
Job Code:	207477
Carrier Site ID:	CT11186A
Carrier Site Name:	East Hartford/ Hills_1

CODES AND STANDARDS	
Building Code:	2015 IBC
Local Building Code:	Connecticut State Building
Design Standard:	TIA-222-H

STRUCTURE DETAILS		
Mount Type:	Platform	--
Mount Elevation:	87.0	ft.
Number of Sectors:	3	--
Structure Type:	Monopole	--
Structure Height:	130.0	ft.

ANALYSIS CRITERIA		
Structure Risk Category:	II	--
Exposure Category:	C	--
Site Class:	D - Stiff Soil	--
Ground Elevation:	41.23	ft.

TOPOGRAPHIC DATA		
Topographic Category:	1.00	--
Topographic Feature:	N/A	--
Crest Point Elevation:	0.00	ft.
Base Point Elevation:	0.00	ft.
Crest to Mid-Height (L/2):	0.00	ft.
Distance from Crest (x):	0.00	ft.
Base Topo Factor (K_{zt}):	1.00	--
Mount Topo Factor (K_{zt}):	1.00	--

WIND PARAMETERS		
Design Wind Speed:	125	mph
Wind Escalation Factor (K_s):	1.00	--
Velocity Coefficient (K_z):	1.23	--
Directionality Factor (K_d):	0.95	--
Gust Effect Factor (Gh):	1.00	--
Shielding Factor (K_a):	0.90	--
Velocity Pressure (q_z):	46.63	psf
Ground Elevation Factor (K_e):	1.00	--

ICE PARAMETERS		
Design Ice Wind Speed:	50	mph
Design Ice Thickness (t_i):	2.00	in
Importance Factor (I_i):	1.00	--
Ice Velocity Pressure (q_{zi}):	6.69	psf
Mount Ice Thickness (t_{iz}):	2.20	in

WIND STRUCTURE CALCULATIONS		
Flat Member Pressure:	83.94	psf
Round Member Pressure:	50.37	psf
Ice Wind Pressure:	7.22	psf

SEISMIC PARAMETERS		
Importance Factor (I_e):	1.00	--
Short Period Accel .(S_s):	0.180	g
1 Second Accel (S_1):	0.064	g
Short Period Des. (S_{DS}):	0.19	g
1 Second Des. (S_{D1}):	0.10	g
Short Period Coeff. (F_a):	1.60	--
1 Second Coeff. (F_v):	2.40	--
Response Coefficient (Cs):	0.10	--
Amplification Factor (A_S):	1.20	--

LOAD COMBINATIONS [LRFD]

#	Description
1	1.4DL
2	1.2DL + 1WL 0 AZI
3	1.2DL + 1WL 30 AZI
4	1.2DL + 1WL 45 AZI
5	1.2DL + 1WL 60 AZI
6	1.2DL + 1WL 90 AZI
7	1.2DL + 1WL 120 AZI
8	1.2DL + 1WL 135 AZI
9	1.2DL + 1WL 150 AZI
10	1.2DL + 1WL 180 AZI
11	1.2DL + 1WL 210 AZI
12	1.2DL + 1WL 225 AZI
13	1.2DL + 1WL 240 AZI
14	1.2DL + 1WL 270 AZI
15	1.2DL + 1WL 300 AZI
16	1.2DL + 1WL 315 AZI
17	1.2DL + 1WL 330 AZI
18	0.9DL + 1WL 0 AZI
19	0.9DL + 1WL 30 AZI
20	0.9DL + 1WL 45 AZI
21	0.9DL + 1WL 60 AZI
22	0.9DL + 1WL 90 AZI
23	0.9DL + 1WL 120 AZI
24	0.9DL + 1WL 135 AZI
25	0.9DL + 1WL 150 AZI
26	0.9DL + 1WL 180 AZI
27	0.9DL + 1WL 210 AZI
28	0.9DL + 1WL 225 AZI
29	0.9DL + 1WL 240 AZI
30	0.9DL + 1WL 270 AZI
31	0.9DL + 1WL 300 AZI
32	0.9DL + 1WL 315 AZI
33	0.9DL + 1WL 330 AZI
34	1.2DL + 1DLi + 1WLi 0 AZI
35	1.2DL + 1DLi + 1WLi 30 AZI
36	1.2DL + 1DLi + 1WLi 45 AZI
37	1.2DL + 1DLi + 1WLi 60 AZI
38	1.2DL + 1DLi + 1WLi 90 AZI
39	1.2DL + 1DLi + 1WLi 120 AZI
40	1.2DL + 1DLi + 1WLi 135 AZI
41	1.2DL + 1DLi + 1WLi 150 AZI

#	Description
42	1.2DL + 1DLi + 1WLi 180 AZI
43	1.2DL + 1DLi + 1WLi 210 AZI
44	1.2DL + 1DLi + 1WLi 225 AZI
45	1.2DL + 1DLi + 1WLi 240 AZI
46	1.2DL + 1DLi + 1WLi 270 AZI
47	1.2DL + 1DLi + 1WLi 300 AZI
48	1.2DL + 1DLi + 1WLi 315 AZI
49	1.2DL + 1DLi + 1WLi 330 AZI
50	(1.2+0.2Sds) + 1.0E 0 AZI
51	(1.2+0.2Sds) + 1.0E 30 AZI
52	(1.2+0.2Sds) + 1.0E 45 AZI
53	(1.2+0.2Sds) + 1.0E 60 AZI
54	(1.2+0.2Sds) + 1.0E 90 AZI
55	(1.2+0.2Sds) + 1.0E 120 AZI
56	(1.2+0.2Sds) + 1.0E 135 AZI
57	(1.2+0.2Sds) + 1.0E 150 AZI
58	(1.2+0.2Sds) + 1.0E 180 AZI
59	(1.2+0.2Sds) + 1.0E 210 AZI
60	(1.2+0.2Sds) + 1.0E 225 AZI
61	(1.2+0.2Sds) + 1.0E 240 AZI
62	(1.2+0.2Sds) + 1.0E 270 AZI
63	(1.2+0.2Sds) + 1.0E 300 AZI
64	(1.2+0.2Sds) + 1.0E 315 AZI
65	(1.2+0.2Sds) + 1.0E 330 AZI
66	(0.9-0.2Sds) + 1.0E 0 AZI
67	(0.9-0.2Sds) + 1.0E 30 AZI
68	(0.9-0.2Sds) + 1.0E 45 AZI
69	(0.9-0.2Sds) + 1.0E 60 AZI
70	(0.9-0.2Sds) + 1.0E 90 AZI
71	(0.9-0.2Sds) + 1.0E 120 AZI
72	(0.9-0.2Sds) + 1.0E 135 AZI
73	(0.9-0.2Sds) + 1.0E 150 AZI
74	(0.9-0.2Sds) + 1.0E 180 AZI
75	(0.9-0.2Sds) + 1.0E 210 AZI
76	(0.9-0.2Sds) + 1.0E 225 AZI
77	(0.9-0.2Sds) + 1.0E 240 AZI
78	(0.9-0.2Sds) + 1.0E 270 AZI
79	(0.9-0.2Sds) + 1.0E 300 AZI
80	(0.9-0.2Sds) + 1.0E 315 AZI
81	(0.9-0.2Sds) + 1.0E 330 AZI
82-88	1.2D + 1.5 Lv1

#	Description
89	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP1
90	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP1
91	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP1
92	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP1
93	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP1
94	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP1
95	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP1
96	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP1
97	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP1
98	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP1
99	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP1
100	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP1
101	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP1
102	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP1
103	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP1
104	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP1
105	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP2
106	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP2
107	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP2
108	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP2
109	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP2
110	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP2
111	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP2
112	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP2
113	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP2
114	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP2
115	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP2
116	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP2
117	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP2
118	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP2
119	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP2
120	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP2

#	Description
121	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP3
122	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP3
123	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP3
124	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP3
125	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP3
126	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP3
127	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP3
128	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP3
129	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP3
130	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP3
131	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP3
132	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP3
133	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP3
134	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP3
135	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP3
136	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP3
137	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP4
138	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP4
139	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP4
140	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP4
141	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP4
142	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP4
143	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP4
144	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP4
145	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP4
146	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP4
147	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP4
148	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP4
149	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP4
150	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP4
151	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP4
152	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP4

*This page shows an example of maintenance loads for (4) pipes, the number of mount pipe LCs may vary per site

EQUIPMENT LOADING

Appurtenance Name	Qty.	Elevation [ft]	--	EPA $_N$ (ft2)	EPA $_T$ (ft2)	Weight (lbs)
AIR 6419 B41_TMO	3	87	No Ice	7	2.83	96.50
--	--	--	w/ Ice	9.29	4.66	226.33
VV-65A-R1_TMO	3	87	No Ice	4.48	1.74	33.30
--	--	--	w/ Ice	6.46	3.51	185.23
APXVAARR24_43-U-NA20	3	87	No Ice	14.67	5.32	128.00
--	--	--	w/ Ice	17.86	8.13	561.43
RADIO 4449 B71 B85A_T-MOBILE	3	87	No Ice	1.97	1.59	73.21
--	--	--	w/ Ice	2.53	2.11	110.05
RADIO 4460 B2/B25 B66_TMO	3	87	No Ice	2.14	1.69	109.00
--	--	--	w/ Ice	2.72	2.22	121.69
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			

EQUIPMENT LOADING [CONT.]

Appurtenance Name	Qty.	Elevation [ft]	--	EPA $_N$ (ft2)	EPA $_T$ (ft2)	Weight (lbs)
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			

EQUIPMENT WIND CALCULATIONS

Appurtenance Name	Qty.	Elevation [ft]	K_{zt}	K_z	K_d	t_d	q_z [psf]	q_{zi} [psf]
AIR 6419 B41_TMO	3	87	1.00	1.23	0.95	2.20	46.63	7.46
VV-65A-R1_TMO	3	87	1.00	1.23	0.95	2.20	46.63	7.46
APXVAARR24_43-U-NA20	3	87	1.00	1.23	0.95	2.20	46.63	7.46
IO 4449 B71 B85A_T-MOI	3	87	1.00	1.23	0.95	2.20	46.63	7.46
ADIO 4460 B2/B25 B66_TM	3	87	1.00	1.23	0.95	2.20	46.63	7.46

EQUIPMENT LATERAL WIND FORCE CALCULATIONS

Appurtenance Name	Qty.	--	0° 180°	30° 210°	60° 240°	90° 270°	120° 300°	150° 330°
AIR 6419 B41_TMO	3	No Ice	293.80	162.53	250.04	118.78	250.04	162.53
--	--	w/ Ice	62.37	39.05	54.60	31.27	54.60	39.05
VV-65A-R1_TMO	3	No Ice	188.03	101.78	159.28	73.03	159.28	101.78
--	--	w/ Ice	43.38	28.54	38.43	23.60	38.43	28.54
APXVAARR24_43-U-NA20	3	No Ice	615.71	321.39	517.61	223.29	517.61	321.39
--	--	w/ Ice	119.92	70.92	103.59	54.58	103.59	70.92
ADIO 4449 B71 B85A_T-MOBIL	3	No Ice	82.69	70.61	78.66	66.59	78.66	70.61
--	--	w/ Ice	17.02	14.89	16.31	14.18	16.31	14.89
RADIO 4460 B2/B25 B66_TMO	3	No Ice	89.78	75.51	85.03	70.76	85.03	75.51
--	--	w/ Ice	18.25	15.72	17.40	14.87	17.40	15.72
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
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		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						

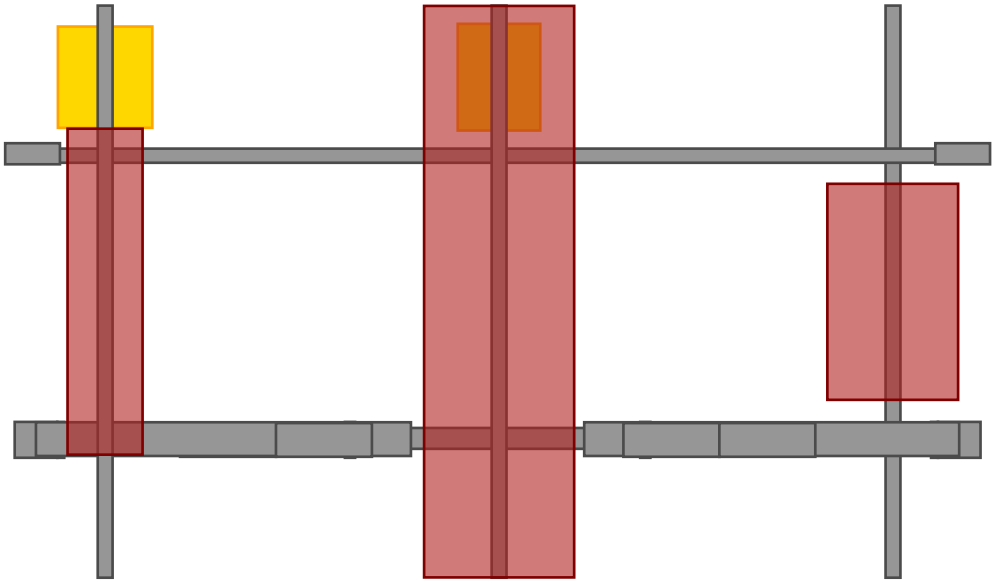
EQUIPMENT LATERAL WIND FORCE CALCULATIONS [CONT.]

Appurtenance Name	*Qty.*	*--*	*0° 180°*	*30° 210°*	*60° 240°*	*90° 270°*	*120° 300°*	*150° 330°*
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						

EQUIPMENT SEISMIC FORCE CALCULATIONS

Appurtenance Name	*Qty.*	*Elevation [ft]*	*Weight [lbs]*	F_p [lbs]
AIR 6419 B41_TMO	3	87	96.5	11.12
VV-65A-R1_TMO	3	87	33.3	3.84
APXVAARR24_43-U-NA20	3	87	128	14.75
RADIO 4449 B71 B85A_T-MOBILE	3	87	73.21	8.43
RADIO 4460 B2/B25 B66_TMO	3	87	109	12.56

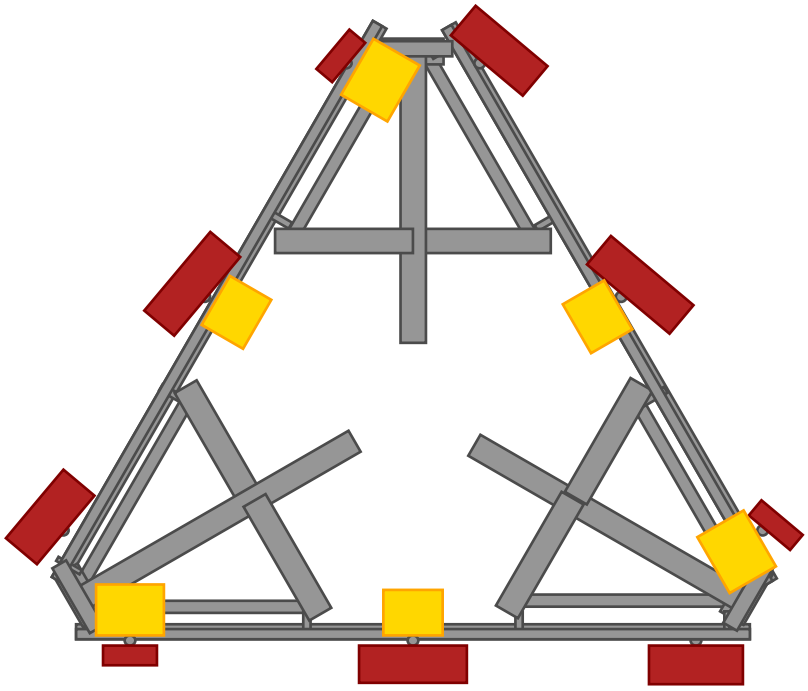
ELEVATION VIEW



MP3 MP2 MP1

*Elevation View Shows Only One Sector

PLAN VIEW



1825 W. Walnut Hill Lane, Suite 120
Irving, Texas 75038

Equipment Name	Total Quantity	Antenna Centerline	Mount Pipe Positions	Equipment Azimuths
AIR 6419 B41_TMO	3	87	MP1/MP4/MP7	0/130/220
VV-65A-R1_TMO	3	87	MP3/MP6/MP9	0/130/220
APXVAARR24_43-U-NA20	3	87	MP2/MP5/MP8	0/130/220
RADIO 4449 B71 B85A_T-MOBILE	3	87	MP2/MP5/MP8	0/120/240
RADIO 4460 B2/B25 B66_TMO	3	87	MP3/MP6/MP9	0/120/240

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (in/sec^2)	386.4
Wall Mesh Size (in)	24
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Z
Global Member Orientation Plane	XY
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 15th(360-16): LRFD
Adjust Stiffness?	Yes(Iterative)
RISAConnection Code	AISC 15th(360-16): LRFD
Cold Formed Steel Code	AISI S100-16: LRFD
Wood Code	None
Wood Temperature	< 100F
Concrete Code	None
Masonry Code	None
Aluminum Code	None - Building
Stainless Steel Code	None

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	No
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

(Global) Model Settings, Continued

Seismic Code	ASCE 7-16
Seismic Base Elevation (in)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	1
Cd X	1
Rho Z	1
Rho X	1

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E..	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3
8	A913 Gr.65	29000	11154	.3	.65	.49	65	1.1	80	1.1

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E5 F)	Density[k/ft^3]	Yield[ksi]	Fu[ksi]
1	A653 SS Gr33	29500	11346	.3	.65	.49	33	45
2	A653 SS Gr50/1	29500	11346	.3	.65	.49	50	65

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rul...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	HSS4X4X4	HSS4X4X4	Beam	Tube	A53 Gr.B	Typical	3.37	7.8	7.8	12.8
2	L2x2x3	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical	.722	.271	.271	.009
3	L2.5x2.5x4	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	.692	.692	.026
4	Pl 6"x0.5"	Pl 6"x0.5"	Beam	RECT	A36 Gr.36	Typical	3	.063	9	.237
5	PL 6x0.375	PL 6x0.375	Beam	RECT	A36 Gr.36	Typical	2.25	.026	6.75	.101
6	PIPE_3.0	PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design Rul...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
7	PIPE_2.0	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	CF1A	8CU1.25X057	Beam	None	A653 SS Gr33	Typical	.581	.057	4.41	.00063

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N64	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N154	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N155	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Self Weight	DL			-1		24		3	
2	Structure Wind X	WLX						84		
3	Structure Wind Y	WLY						84		
4	Wind Load 0 AZI	WLX					48			
5	Wind Load 30 AZI	None					48			
6	Wind Load 45 AZI	None					48			
7	Wind Load 60 AZI	None					48			
8	Wind Load 90 AZI	WLY					48			
9	Wind Load 120 AZI	None					48			
10	Wind Load 135 AZI	None					48			
11	Wind Load 150 AZI	None					48			
12	Ice Weight	OL1					24	84	3	
13	Ice Structure Wind X	OL2						84		
14	Ice Structure Wind Y	OL3						84		
15	Ice Wind Load 0 AZI	OL2					48			
16	Ice Wind Load 30 AZI	None					48			
17	Ice Wind Load 45 AZI	None					48			
18	Ice Wind Load 60 AZI	None					48			
19	Ice Wind Load 90 AZI	OL3					48			
20	Ice Wind Load 120 AZI	None					48			
21	Ice Wind Load 135 AZI	None					48			
22	Ice Wind Load 150 AZI	None					48			
23	Seismic Load X	ELX	-.115				24			
24	Seismic Load Y	ELY		-.115			24			
25	Live Load 1 (Lv)	None					1			
26	Live Load 2 (Lv)	None					1			
27	Live Load 3 (Lv)	None					1			
28	Live Load 4 (Lv)	None					1			
29	Live Load 5 (Lv)	None					1			
30	Live Load 6 (Lv)	None					1			
31	Live Load 7 (Lv)	None					1			
32	Live Load 8 (Lv)	None					1			
33	Live Load 9 (Lv)	None					1			

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
34	Maintenance Load 1 (...	None					1			
35	Maintenance Load 2 (...	None					1			
36	Maintenance Load 3 (...	None					1			
37	Maintenance Load 4 (...	None					1			
38	Maintenance Load 5 (...	None					1			
39	Maintenance Load 6 (...	None					1			
40	Maintenance Load 7 (...	None					1			
41	Maintenance Load 8 (...	None					1			
42	Maintenance Load 9 (...	None					1			
43	BLC 1 Transient Area...	None						48		
44	BLC 12 Transient Are...	None						48		

Load Combinations

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
1	1.4DL	Yes	Y		DL	1.4																		
2	1.2DL + 1WL 0 AZI	Yes	Y		DL	1.2	2	1	3		4	1												
3	1.2DL + 1WL 30 AZI	Yes	Y		DL	1.2	2	.866	3	.5	5	1												
4	1.2DL + 1WL 45 AZI	Yes	Y		DL	1.2	2	.707	3	.707	6	1												
5	1.2DL + 1WL 60 AZI	Yes	Y		DL	1.2	2	.5	3	.866	7	1												
6	1.2DL + 1WL 90 AZI	Yes	Y		DL	1.2	2		3	1	8	1												
7	1.2DL + 1WL 120 AZI	Yes	Y		DL	1.2	2	-.5	3	.866	9	1												
8	1.2DL + 1WL 135 AZI	Yes	Y		DL	1.2	2	-.707	3	.707	10	1												
9	1.2DL + 1WL 150 AZI	Yes	Y		DL	1.2	2	-.866	3	.5	11	1												
10	1.2DL + 1WL 180 AZI	Yes	Y		DL	1.2	2	-1	3		4	-1												
11	1.2DL + 1WL 210 AZI	Yes	Y		DL	1.2	2	-.866	3	-.5	5	-1												
12	1.2DL + 1WL 225 AZI	Yes	Y		DL	1.2	2	-.707	3	-.707	6	-1												
13	1.2DL + 1WL 240 AZI	Yes	Y		DL	1.2	2	-.5	3	-.866	7	-1												
14	1.2DL + 1WL 270 AZI	Yes	Y		DL	1.2	2		3	-1	8	-1												
15	1.2DL + 1WL 300 AZI	Yes	Y		DL	1.2	2	.5	3	-.866	9	-1												
16	1.2DL + 1WL 315 AZI	Yes	Y		DL	1.2	2	.707	3	-.707	10	-1												
17	1.2DL + 1WL 330 AZI	Yes	Y		DL	1.2	2	.866	3	-.5	11	-1												
18	0.9DL + 1WL 0 AZI	Yes	Y		DL	.9	2	1	3		4	1												
19	0.9DL + 1WL 30 AZI	Yes	Y		DL	.9	2	.866	3	.5	5	1												
20	0.9DL + 1WL 45 AZI	Yes	Y		DL	.9	2	.707	3	.707	6	1												
21	0.9DL + 1WL 60 AZI	Yes	Y		DL	.9	2	.5	3	.866	7	1												
22	0.9DL + 1WL 90 AZI	Yes	Y		DL	.9	2		3	1	8	1												
23	0.9DL + 1WL 120 AZI	Yes	Y		DL	.9	2	-.5	3	.866	9	1												
24	0.9DL + 1WL 135 AZI	Yes	Y		DL	.9	2	-.707	3	.707	10	1												
25	0.9DL + 1WL 150 AZI	Yes	Y		DL	.9	2	-.866	3	.5	11	1												
26	0.9DL + 1WL 180 AZI	Yes	Y		DL	.9	2	-1	3		4	-1												
27	0.9DL + 1WL 210 AZI	Yes	Y		DL	.9	2	-.866	3	-.5	5	-1												
28	0.9DL + 1WL 225 AZI	Yes	Y		DL	.9	2	-.707	3	-.707	6	-1												
29	0.9DL + 1WL 240 AZI	Yes	Y		DL	.9	2	-.5	3	-.866	7	-1												
30	0.9DL + 1WL 270 AZI	Yes	Y		DL	.9	2		3	-1	8	-1												
31	0.9DL + 1WL 300 AZI	Yes	Y		DL	.9	2	.5	3	-.866	9	-1												
32	0.9DL + 1WL 315 AZI	Yes	Y		DL	.9	2	.707	3	-.707	10	-1												
33	0.9DL + 1WL 330 AZI	Yes	Y		DL	.9	2	.866	3	-.5	11	-1												
34	1.2DL + 1DLi + 1WLi 0 ...	Yes	Y		DL	1.2	OL1	1	13	1	14		15	1										
35	1.2DL + 1DLi + 1WLi 3...	Yes	Y		DL	1.2	OL1	1	13	.866	14	.5	16	1										
36	1.2DL + 1DLi + 1WLi 4...	Yes	Y		DL	1.2	OL1	1	13	.707	14	.707	17	1										

Load Combinations (Continued)

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
37	1.2DL + 1DLi + 1W Li 6...	Yes	Y		DL	1.2	OL1	1	13	.5	14	.866	18	1												
38	1.2DL + 1DLi + 1W Li 9...	Yes	Y		DL	1.2	OL1	1	13		14	1	19	1												
39	1.2DL + 1DLi + 1W Li 1...	Yes	Y		DL	1.2	OL1	1	13	-.5	14	.866	20	1												
40	1.2DL + 1DLi + 1W Li 1...	Yes	Y		DL	1.2	OL1	1	13	-.707	14	.707	21	1												
41	1.2DL + 1DLi + 1W Li 1...	Yes	Y		DL	1.2	OL1	1	13	-.866	14	.5	22	1												
42	1.2DL + 1DLi + 1W Li 1...	Yes	Y		DL	1.2	OL1	1	13	-1	14		15	-1												
43	1.2DL + 1DLi + 1W Li 2...	Yes	Y		DL	1.2	OL1	1	13	-.866	14	-.5	16	-1												
44	1.2DL + 1DLi + 1W Li 2...	Yes	Y		DL	1.2	OL1	1	13	-.707	14	-.707	17	-1												
45	1.2DL + 1DLi + 1W Li 2...	Yes	Y		DL	1.2	OL1	1	13	-.5	14	-.866	18	-1												
46	1.2DL + 1DLi + 1W Li 2...	Yes	Y		DL	1.2	OL1	1	13		14	-1	19	-1												
47	1.2DL + 1DLi + 1W Li 3...	Yes	Y		DL	1.2	OL1	1	13	.5	14	-.866	20	-1												
48	1.2DL + 1DLi + 1W Li 3...	Yes	Y		DL	1.2	OL1	1	13	.707	14	-.707	21	-1												
49	1.2DL + 1DLi + 1W Li 3...	Yes	Y		DL	1.2	OL1	1	13	.866	14	-.5	22	-1												
50	(1.2+0.2Sds)DL + 1E 0 ...	Yes	Y		DL	1.2...	23	1	24																	
51	(1.2+0.2Sds)DL + 1E 3...	Yes	Y		DL	1.2...	23	.866	24	.5																
52	(1.2+0.2Sds)DL + 1E 4...	Yes	Y		DL	1.2...	23	.707	24	.707																
53	(1.2+0.2Sds)DL + 1E 6...	Yes	Y		DL	1.2...	23	.5	24	.866																
54	(1.2+0.2Sds)DL + 1E 9...	Yes	Y		DL	1.2...	23		24	1																
55	(1.2+0.2Sds)DL + 1E 1...	Yes	Y		DL	1.2...	23	-.5	24	.866																
56	(1.2+0.2Sds)DL + 1E 1...	Yes	Y		DL	1.2...	23	-.707	24	.707																
57	(1.2+0.2Sds)DL + 1E 1...	Yes	Y		DL	1.2...	23	-.866	24	.5																
58	(1.2+0.2Sds)DL + 1E 1...	Yes	Y		DL	1.2...	23	-1	24																	
59	(1.2+0.2Sds)DL + 1E 2...	Yes	Y		DL	1.2...	23	-.866	24	-.5																
60	(1.2+0.2Sds)DL + 1E 2...	Yes	Y		DL	1.2...	23	-.707	24	-.707																
61	(1.2+0.2Sds)DL + 1E 2...	Yes	Y		DL	1.2...	23	-.5	24	-.866																
62	(1.2+0.2Sds)DL + 1E 2...	Yes	Y		DL	1.2...	23		24	-1																
63	(1.2+0.2Sds)DL + 1E 3...	Yes	Y		DL	1.2...	23	.5	24	-.866																
64	(1.2+0.2Sds)DL + 1E 3...	Yes	Y		DL	1.2...	23	.707	24	-.707																
65	(1.2+0.2Sds)DL + 1E 3...	Yes	Y		DL	1.2...	23	.866	24	-.5																
66	(0.9-0.2Sds)DL + 1E 0 ...	Yes	Y		DL	.862	23	1	24																	
67	(0.9-0.2Sds)DL + 1E 3...	Yes	Y		DL	.862	23	.866	24	.5																
68	(0.9-0.2Sds)DL + 1E 4...	Yes	Y		DL	.862	23	.707	24	.707																
69	(0.9-0.2Sds)DL + 1E 6...	Yes	Y		DL	.862	23	.5	24	.866																
70	(0.9-0.2Sds)DL + 1E 9...	Yes	Y		DL	.862	23		24	1																
71	(0.9-0.2Sds)DL + 1E 1...	Yes	Y		DL	.862	23	-.5	24	.866																
72	(0.9-0.2Sds)DL + 1E 1...	Yes	Y		DL	.862	23	-.707	24	.707																
73	(0.9-0.2Sds)DL + 1E 1...	Yes	Y		DL	.862	23	-.866	24	.5																
74	(0.9-0.2Sds)DL + 1E 1...	Yes	Y		DL	.862	23	-1	24																	
75	(0.9-0.2Sds)DL + 1E 2...	Yes	Y		DL	.862	23	-.866	24	-.5																
76	(0.9-0.2Sds)DL + 1E 2...	Yes	Y		DL	.862	23	-.707	24	-.707																
77	(0.9-0.2Sds)DL + 1E 2...	Yes	Y		DL	.862	23	-.5	24	-.866																
78	(0.9-0.2Sds)DL + 1E 2...	Yes	Y		DL	.862	23		24	-1																
79	(0.9-0.2Sds)DL + 1E 3...	Yes	Y		DL	.862	23	.5	24	-.866																
80	(0.9-0.2Sds)DL + 1E 3...	Yes	Y		DL	.862	23	.707	24	-.707																
81	(0.9-0.2Sds)DL + 1E 3...	Yes	Y		DL	.862	23	.866	24	-.5																
82	1.2DL + 1Lv1	Yes	Y		DL	1.2	25	1.5																		
83	1.2DL + 1Lv2	Yes	Y		DL	1.2	26	1.5																		
84	1.2DL + 1Lv3	Yes	Y		DL	1.2	27	1.5																		
85	1.2DL + 1Lv4	Yes	Y		DL	1.2	28	1.5																		
86	1.2DL + 1Lv5	Yes	Y		DL	1.2	29	1.5																		
87	1.2DL + 1Lv6	Yes	Y		DL	1.2	30	1.5																		
88	1.2DL + 1Lv7	Yes	Y		DL	1.2	31	1.5																		

Load Combinations (Continued)

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
89	1.2DL + 1Lv8	Yes	Y		DL	1.2	32	1.5																		
90	1.2DL + 1Lv9	Yes	Y		DL	1.2	33	1.5																		
91	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	34	1.5	2	.058	3		4	.058												
92	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	34	1.5	2	.05	3	.029	5	.058												
93	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	34	1.5	2	.041	3	.041	6	.058												
94	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	34	1.5	2	.029	3	.05	7	.058												
95	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	34	1.5	2		3	.058	8	.058												
96	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	34	1.5	2	-.029	3	.05	9	.058												
97	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	34	1.5	2	-.041	3	.041	10	.058												
98	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	34	1.5	2	-.05	3	.029	11	.058												
99	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	34	1.5	2	-.058	3		4	-.058												
100	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	34	1.5	2	-.05	3	-.029	5	-.058												
101	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	34	1.5	2	-.041	3	-.041	6	-.058												
102	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	34	1.5	2	-.029	3	-.05	7	-.058												
103	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	34	1.5	2		3	-.058	8	-.058												
104	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	34	1.5	2	.029	3	-.05	9	-.058												
105	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	34	1.5	2	.041	3	-.041	10	-.058												
106	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	34	1.5	2	.05	3	-.029	11	-.058												
107	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	35	1.5	2	.058	3		4	.058												
108	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	35	1.5	2	.05	3	.029	5	.058												
109	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	35	1.5	2	.041	3	.041	6	.058												
110	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	35	1.5	2	.029	3	.05	7	.058												
111	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	35	1.5	2		3	.058	8	.058												
112	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	35	1.5	2	-.029	3	.05	9	.058												
113	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	35	1.5	2	-.041	3	.041	10	.058												
114	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	35	1.5	2	-.05	3	.029	11	.058												
115	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	35	1.5	2	-.058	3		4	-.058												
116	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	35	1.5	2	-.05	3	-.029	5	-.058												
117	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	35	1.5	2	-.041	3	-.041	6	-.058												
118	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	35	1.5	2	-.029	3	-.05	7	-.058												
119	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	35	1.5	2		3	-.058	8	-.058												
120	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	35	1.5	2	.029	3	-.05	9	-.058												
121	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	35	1.5	2	.041	3	-.041	10	-.058												
122	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	35	1.5	2	.05	3	-.029	11	-.058												
123	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	36	1.5	2	.058	3		4	.058												
124	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	36	1.5	2	.05	3	.029	5	.058												
125	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	36	1.5	2	.041	3	.041	6	.058												
126	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	36	1.5	2	.029	3	.05	7	.058												
127	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	36	1.5	2		3	.058	8	.058												
128	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	36	1.5	2	-.029	3	.05	9	.058												
129	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	36	1.5	2	-.041	3	.041	10	.058												
130	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	36	1.5	2	-.05	3	.029	11	.058												
131	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	36	1.5	2	-.058	3		4	-.058												
132	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	36	1.5	2	-.05	3	-.029	5	-.058												
133	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	36	1.5	2	-.041	3	-.041	6	-.058												
134	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	36	1.5	2	-.029	3	-.05	7	-.058												
135	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	36	1.5	2		3	-.058	8	-.058												
136	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	36	1.5	2	.029	3	-.05	9	-.058												
137	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	36	1.5	2	.041	3	-.041	10	-.058												
138	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	36	1.5	2	.05	3	-.029	11	-.058												
139	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	37	1.5	2	.058	3		4	.058												
140	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	37	1.5	2	.05	3	.029	5	.058												

Load Combinations (Continued)

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
141	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.041	3	.041	6	.058												
142	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.029	3	.05	7	.058												
143	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2		3	.058	8	.058												
144	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.029	3	.05	9	.058												
145	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.041	3	.041	10	.058												
146	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.05	3	.029	11	.058												
147	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.058	3		4	-.058												
148	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.05	3	-.029	5	-.058												
149	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.041	3	-.041	6	-.058												
150	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.029	3	-.05	7	-.058												
151	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2		3	-.058	8	-.058												
152	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.029	3	-.05	9	-.058												
153	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.041	3	-.041	10	-.058												
154	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.05	3	-.029	11	-.058												
155	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.058	3		4	.058												
156	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.05	3	.029	5	.058												
157	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.041	3	.041	6	.058												
158	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.029	3	.05	7	.058												
159	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2		3	.058	8	.058												
160	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.029	3	.05	9	.058												
161	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.041	3	.041	10	.058												
162	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.05	3	.029	11	.058												
163	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.058	3		4	-.058												
164	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.05	3	-.029	5	-.058												
165	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.041	3	-.041	6	-.058												
166	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.029	3	-.05	7	-.058												
167	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2		3	-.058	8	-.058												
168	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.029	3	-.05	9	-.058												
169	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.041	3	-.041	10	-.058												
170	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.05	3	-.029	11	-.058												
171	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.058	3		4	.058												
172	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.05	3	.029	5	.058												
173	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.041	3	.041	6	.058												
174	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.029	3	.05	7	.058												
175	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2		3	.058	8	.058												
176	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.029	3	.05	9	.058												
177	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.041	3	.041	10	.058												
178	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.05	3	.029	11	.058												
179	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.058	3		4	-.058												
180	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.05	3	-.029	5	-.058												
181	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.041	3	-.041	6	-.058												
182	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.029	3	-.05	7	-.058												
183	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2		3	-.058	8	-.058												
184	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.029	3	-.05	9	-.058												
185	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.041	3	-.041	10	-.058												
186	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.05	3	-.029	11	-.058												
187	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.058	3		4	.058												
188	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.05	3	.029	5	.058												
189	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.041	3	.041	6	.058												
190	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.029	3	.05	7	.058												
191	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2		3	.058	8	.058												
192	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	-.029	3	.05	9	.058												

Load Combinations (Continued)

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
193	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	40	1.5	2	-.041	3	.041	10	.058												
194	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	40	1.5	2	-.05	3	.029	11	.058												
195	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	40	1.5	2	-.058	3		4	-.058												
196	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	40	1.5	2	-.05	3	-.029	5	-.058												
197	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	40	1.5	2	-.041	3	-.041	6	-.058												
198	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	40	1.5	2	-.029	3	-.05	7	-.058												
199	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	40	1.5	2		3	-.058	8	-.058												
200	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	40	1.5	2	.029	3	-.05	9	-.058												
201	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	40	1.5	2	.041	3	-.041	10	-.058												
202	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	40	1.5	2	.05	3	-.029	11	-.058												
203	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	41	1.5	2	.058	3		4	.058												
204	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	41	1.5	2	.05	3	.029	5	.058												
205	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	41	1.5	2	.041	3	.041	6	.058												
206	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	41	1.5	2	.029	3	.05	7	.058												
207	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	41	1.5	2		3	.058	8	.058												
208	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	41	1.5	2	-.029	3	.05	9	.058												
209	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	41	1.5	2	-.041	3	.041	10	.058												
210	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	41	1.5	2	-.05	3	.029	11	.058												
211	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	41	1.5	2	-.058	3		4	-.058												
212	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	41	1.5	2	-.05	3	-.029	5	-.058												
213	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	41	1.5	2	-.041	3	-.041	6	-.058												
214	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	41	1.5	2	-.029	3	-.05	7	-.058												
215	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	41	1.5	2		3	-.058	8	-.058												
216	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	41	1.5	2	.029	3	-.05	9	-.058												
217	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	41	1.5	2	.041	3	-.041	10	-.058												
218	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	41	1.5	2	.05	3	-.029	11	-.058												
219	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	42	1.5	2	.058	3		4	.058												
220	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	42	1.5	2	.05	3	.029	5	.058												
221	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	42	1.5	2	.041	3	.041	6	.058												
222	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	42	1.5	2	.029	3	.05	7	.058												
223	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	42	1.5	2		3	.058	8	.058												
224	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	42	1.5	2	-.029	3	.05	9	.058												
225	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	42	1.5	2	-.041	3	.041	10	.058												
226	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	42	1.5	2	-.05	3	.029	11	.058												
227	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	42	1.5	2	-.058	3		4	-.058												
228	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	42	1.5	2	-.05	3	-.029	5	-.058												
229	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	42	1.5	2	-.041	3	-.041	6	-.058												
230	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	42	1.5	2	-.029	3	-.05	7	-.058												
231	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	42	1.5	2		3	-.058	8	-.058												
232	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	42	1.5	2	.029	3	-.05	9	-.058												
233	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	42	1.5	2	.041	3	-.041	10	-.058												
234	1.2DL + 1.5Lm + 1Wm ..	Yes	Y		DL	1.2	42	1.5	2	.05	3	-.029	11	-.058												

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N64	max	2453.628	18	1104.577	22	3755.086	34	730.625	30	9261.457	34	1725.446	30
2		min	-2489.401	10	-1104.687	30	-459.862	26	-749.827	6	-2582.16	26	-1727.085	22
3	N154	max	1396.767	2	1859.863	23	3727.469	39	1804.96	31	1255.762	33	1674.25	19
4		min	-1379.983	26	-1889.893	15	-337.309	32	-7908.967	39	-4640.842	41	-1675.405	27
5	N155	max	1525.31	2	1882.485	5	3727.756	45	7937.775	45	1247.682	19	1752.448	25

Envelope Joint Reactions (Continued)

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
6		min	-1508.778	26	-1852.634	29	-336.974	20	-1808.004	21	-4589.969	43	-1754.55	33
7	Totals:	max	5372.773	2	4558.957	22	10280.642	37						
8		min	-5372.781	10	-4558.957	30	2153.768	77						

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

	Member	Shape	Code ...	Loc[in]	LC	Shear ...	Loc[in]	Dir	LC	phi*Pnc ...	phi*Pnt [...	phi*Mn y...	phi*Mn z...	Cb	Eqn
1	M86	HSS4X4X4	.756	0	34	.142	0	y	37	66502.4...	106155	12311.25	12311.25	1	H1-1b
2	M89	HSS4X4X4	.752	0	39	.144	0	y	42	66502.4...	106155	12311.25	12311.25	1	H1-1b
3	M91	HSS4X4X4	.751	0	44	.143	0	y	48	66502.4...	106155	12311.25	12311.25	1	H1-1b
4	MP8	PIPE_2.0	.664	72	3	.111	72		3	14916.0...	32130	1871.625	1871.625	1	H1-1b
5	MP5	PIPE_2.0	.660	72	9	.111	72		9	14916.0...	32130	1871.625	1871.625	1	H1-1b
6	MP4	PIPE_2.0	.659	72	2	.276	72		3	14916.0...	32130	1871.625	1871.625	1....	H1-1b
7	MP9	PIPE_2.0	.647	24	17	.273	72		16	14916.0...	32130	1871.625	1871.625	1....	H3-6
8	MP3	PIPE_2.0	.633	24	11	.270	24		10	14916.0...	32130	1871.625	1871.625	1	H3-6
9	MP1	PIPE_2.0	.630	72	9	.274	72		9	14916.0...	32130	1871.625	1871.625	1	H3-6
10	MP7	PIPE_2.0	.605	72	12	.249	24		15	14916.0...	32130	1871.625	1871.625	1....	H1-1b
11	MP6	PIPE_2.0	.587	72	8	.256	24		5	14916.0...	32130	1871.625	1871.625	1	H1-1b
12	MP2	PIPE_2.0	.583	72	14	.099	72		13	14916.0...	32130	1871.625	1871.625	1....	H1-1b
13	M55A	PIPE_2.0	.578	139....	33	.403	143.75		9	6295.422	32130	1871.625	1871.625	1	H3-6
14	M54A	PIPE_2.0	.574	139....	27	.396	143.75		3	6295.422	32130	1871.625	1871.625	1	H3-6
15	M56A	PIPE_2.0	.527	10.938	19	.354	6.25		11	6295.422	32130	1871.625	1871.625	1	H3-6
16	M57A	L2.5x2.5x4	.412	15.108	2	.209	0	z	3	35968.8...	38556	1113.554	2537.388	1	H2-1
17	M60A	L2.5x2.5x4	.405	0	3	.183	0	z	14	35968.8...	38556	1113.554	2537.388	1	H2-1
18	M59A	L2.5x2.5x4	.398	15.108	8	.212	0	z	9	35968.8...	38556	1113.554	2537.388	1	H2-1
19	M39	PL 6x0.375	.375	0	2	.545	1.625	y	49	72028.0...	72900	569.7	9112.5	1....	H1-1b
20	M38	PL 6x0.375	.347	0	2	.545	1.625	y	34	72028.0...	72900	569.7	9112.5	1....	H1-1b
21	M37	PL 6x0.375	.339	0	12	.544	1.625	y	43	72028.0...	72900	569.7	9112.5	1....	H1-1b
22	M85	HSS4X4X4	.337	28.687	49	.068	28.687	y	37	105225....	106155	12311.25	12311.25	1	H1-1b
23	M92	HSS4X4X4	.336	28.687	43	.068	28.687	y	48	105225....	106155	12311.25	12311.25	1	H1-1b
24	M88	HSS4X4X4	.334	28.688	38	.068	28.688	y	42	105225....	106155	12311.25	12311.25	1	H1-1b
25	M87	HSS4X4X4	.333	0	35	.063	0	y	47	105225....	106155	12311.25	12311.25	1	H1-1b
26	M90	HSS4X4X4	.333	0	41	.063	0	y	36	105225....	106155	12311.25	12311.25	1	H1-1b
27	M93	HSS4X4X4	.331	0	46	.063	0	y	42	105225....	106155	12311.25	12311.25	1	H1-1b
28	H3	PIPE_3.0	.327	98.438	34	.084	51.563		12	28250.5...	65205	5748.75	5748.75	1	H1-1b
29	H1	PIPE_3.0	.326	51.563	43	.082	51.563		13	28250.5...	65205	5748.75	5748.75	1	H1-1b
30	M41	PL 6x0.375	.325	0	7	.542	1.625	y	39	72028.0...	72900	569.7	9112.5	1....	H1-1b
31	H2	PIPE_3.0	.323	51.563	38	.085	51.563		8	28250.5...	65205	5748.75	5748.75	1	H1-1b
32	M40	PL 6x0.375	.318	0	8	.544	1.625	y	41	72028.0...	72900	569.7	9112.5	1....	H1-1b
33	M46	PL 6x0.375	.301	0	13	.542	1.625	y	45	72028.0...	72900	569.7	9112.5	1....	H1-1b
34	M29	Pl 6"x0.5"	.276	6.81	2	.121	6.81	y	46	96256.7...	97200	1012.5	12150	1....	H1-1b
35	M30	Pl 6"x0.5"	.240	6.81	7	.121	6.81	y	35	96256.5	97200	1012.5	12150	1....	H1-1b
36	M28	Pl 6"x0.5"	.234	6.668	11	.121	6.668	y	41	96257.0...	97200	1012.5	12150	1....	H1-1b
37	M2	L2x2x3	.214	25.584	11	.013	0	z	34	9408.104	23392.8	557.717	1033.352	1	H2-1
38	M5	L2x2x3	.206	25.584	9	.013	0	y	34	9408.104	23392.8	557.717	1067.437	1....	H2-1
39	M4	L2x2x3	.192	25.584	17	.013	51.168	z	40	9408.104	23392.8	557.717	1033.351	1	H2-1
40	M6	L2x2x3	.191	26.117	6	.013	0	z	45	9408.104	23392.8	557.717	1033.352	1	H2-1
41	M3	L2x2x3	.185	25.584	3	.013	51.168	y	44	9408.104	23392.8	557.717	1066.165	1....	H2-1
42	M1	L2x2x3	.183	26.117	14	.013	0	y	39	9408.104	23392.8	557.717	1067.421	1....	H2-1
43	M35	Pl 6"x0.5"	.030	0	2	.109	1.108	y	221	96901.1...	97200	1012.5	12150	1....	H1-1b
44	M36	Pl 6"x0.5"	.028	0	10	.101	1.108	y	154	96901.1...	97200	1012.5	12150	1....	H1-1b

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

	Member	Shape	Code ...	Loc[in]	LC	Shear ...	Loc[in]	Dir	LC	phi*Pnc ...	phi*Pnt [...	phi*Mn y...	phi*Mn z...	Cb	Eqn
45	M31	Pl 6"x0.5"	.027	0	7	.109	1.108	y	131	96901.1...	97200	1012.5	12150	1....	H1-1b
46	M32	Pl 6"x0.5"	.027	0	17	.101	1.108	y	190	96901.1...	97200	1012.5	12150	1....	H1-1b
47	M33	Pl 6"x0.5"	.027	0	12	.109	1.108	y	184	96901.1...	97200	1012.5	12150	1....	H1-1b
48	M34	Pl 6"x0.5"	.025	0	13	.101	1.108	y	99	96901.1...	97200	1012.5	12150	1....	H1-1b

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

Member	Shape	Code ...	Loc[in]	LC	Shear ..	Loc[in]	Dir	LC	phi*Pn[lb]	phi*Tn[lb]	phi*Mny...	phi*Mnz...	phi*V...	phi*V...	Cb	Eqn
No Data to Print ...																

APPENDIX D

ADDITIONAL CALCULATIONS

Trylon

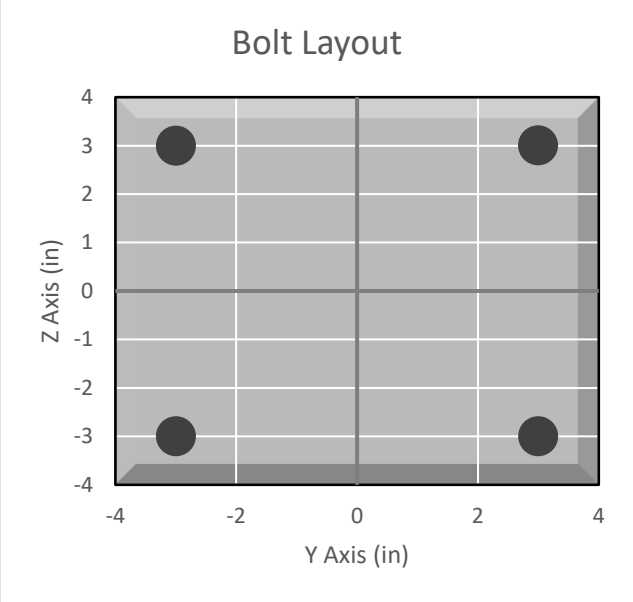
Analysis date: 8/4/2022

BOLT TOOL 1.5.2

Project Data	
Job Code:	207477
Carrier Site ID:	CT11186A
Carrier Site Name:	East Hartford/ Hills_1

Code	
Design Standard:	TIA-222-H
Slip Check:	No
Pretension Standard:	AISC

Bolt Properties		
Connection Type:	Bolt	
Diameter:	0.625	in
Grade:	A325	--
Yield Strength (Fy):	92	ksi
Ultimate Strength (Fu):	120	ksi
Number of Bolts:	4	--
Threads Included:	Yes	--
Double Shear:	No	--
Connection Pipe Size:	-	in



Connection Description
Standoff to Monopole Collar

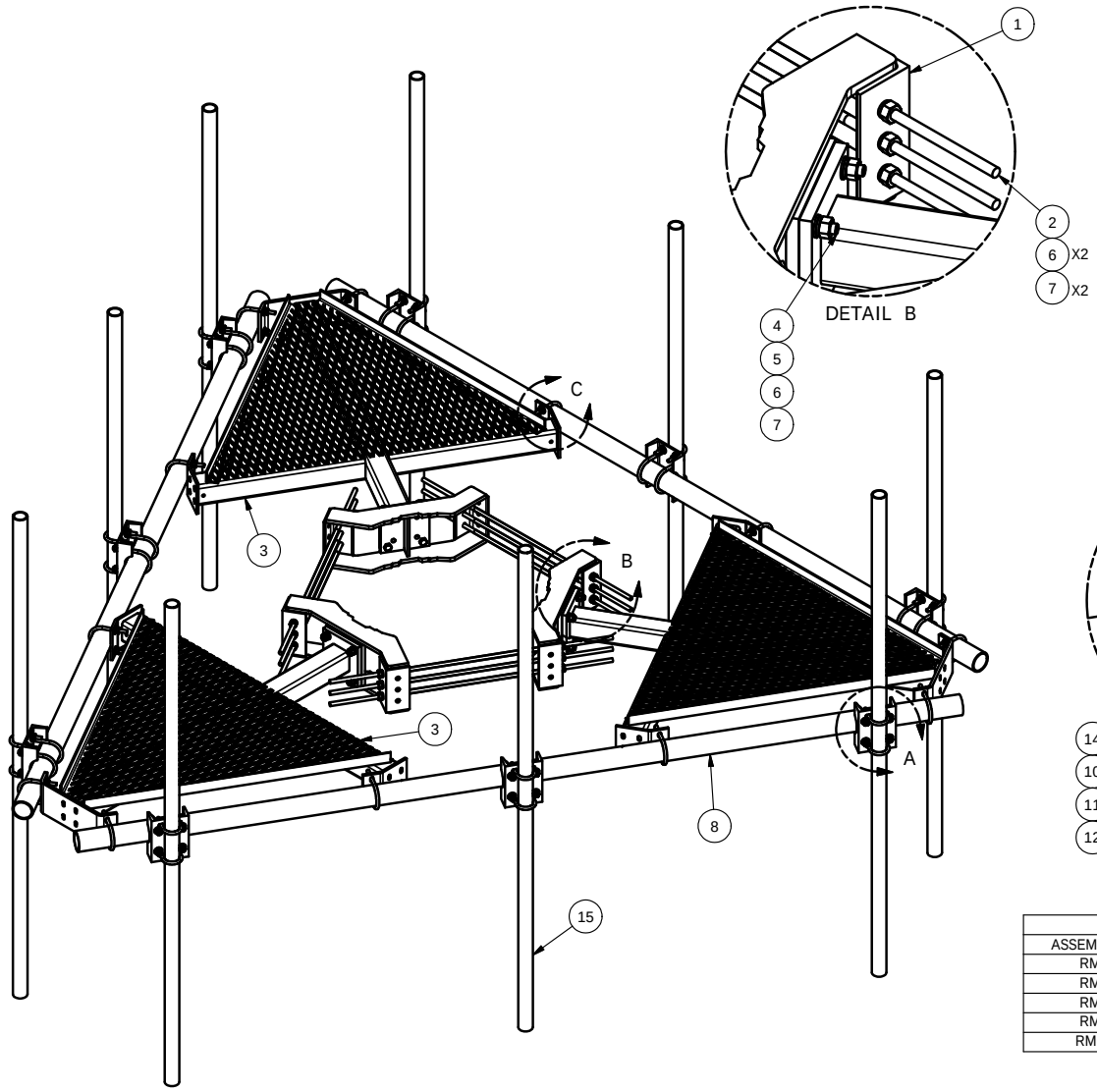
Bolt Check*		
Tensile Capacity (ϕT_n):	20340.1	lbs
Shear Capacity (ϕV_n):	13805.8	lbs
Tension Force (T_u):	9421.1	lbs
Shear Force (V_u):	923.2	lbs
Tension Usage:	44.1%	--
Shear Usage:	6.4%	--
Interaction:	44.1%	Pass
Controlling Member:	M86	--
Controlling LC:	34	--

**Rating per TIA-222-H Section 15.5*

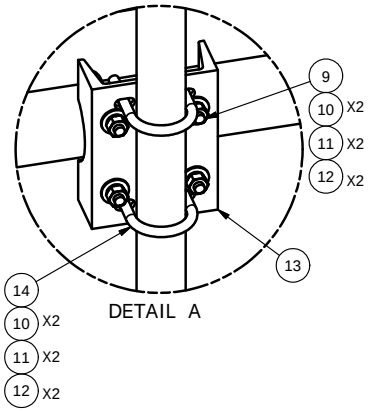
1825 W. Walnut Hill Lane, Suite 120
Irving, Texas 75038

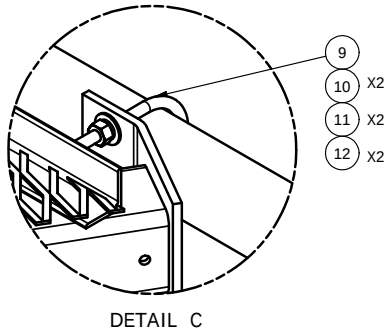
APPENDIX E

SUPPLEMENTAL DRAWINGS



PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	3	X-LWRM	RING MOUNT WELDMENT		68.81	206.42
2	9	G58R-24	5/8" x 24" THREADED ROD (HDG.)		0.40	3.59
2	9	G58R-48	5/8" x 48" THREADED ROD (HDG.)		0.40	3.59
3	3	X-SV196	LOW PROFILE PLATFORM CORNER		212.10	636.31
4	12	A58234	5/8" x 2-3/4" HDG A325 HEX BOLT	2.75	0.36	4.27
5	12	A58FW	5/8" HDG A325 FLATWASHER		0.03	0.41
6	30	G58LW	5/8" HDG LOCKWASHER		0.03	0.78
7	30	A58NUT	5/8" HDG A325 HEX NUT		0.13	3.90
8	3	P3150	3-1/2" X 150" SCH 40 GALVANIZED PIPE	150.000 in	94.80	284.40
9	30	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.26	7.71
10	96	G12FW	1/2" HDG USS FLATWASHER		0.03	3.27
11	96	G12LW	1/2" HDG LOCKWASHER		0.01	1.33
12	96	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	6.88
13	9	X-SP219	SMALL SUPPORT CROSS PLATE	8.250 in	8.61	77.50
14	18	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.26	4.63
15	9	B	ANTENNA MOUNTING PIPE	C	D	E





2-3/8" O.D. VERTICAL MOUNTING PIPES					
ASSEMBLY NO. "A"	PART NO. "B"	LENGTH, "C"	UNIT WEIGHT, "D"	NET WEIGHT, "E"	TOTAL WEIGHT
RMQP-363	P263	63"	20.18	181.62	1494.37
RMQP-372	P272	72"	23.07	207.63	1520.38
RMQP-384	P284	84"	26.91	242.19	1554.94
RMQP-396	P296	96"	30.76	276.84	1589.59
RMQP-3126	P2126	126"	40.75	366.75	1679.50

REVISION HISTORY				
REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	ADDED 10' 6" ANTENNA MOUNTING PIPES		CEK	7/7/2015

TOLERANCE NOTE

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES (± 0.030")
DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES
LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE - ALL OTHER MACHINING (± 0.030")
ALL OTHER ASSEMBLY (± 0.060")

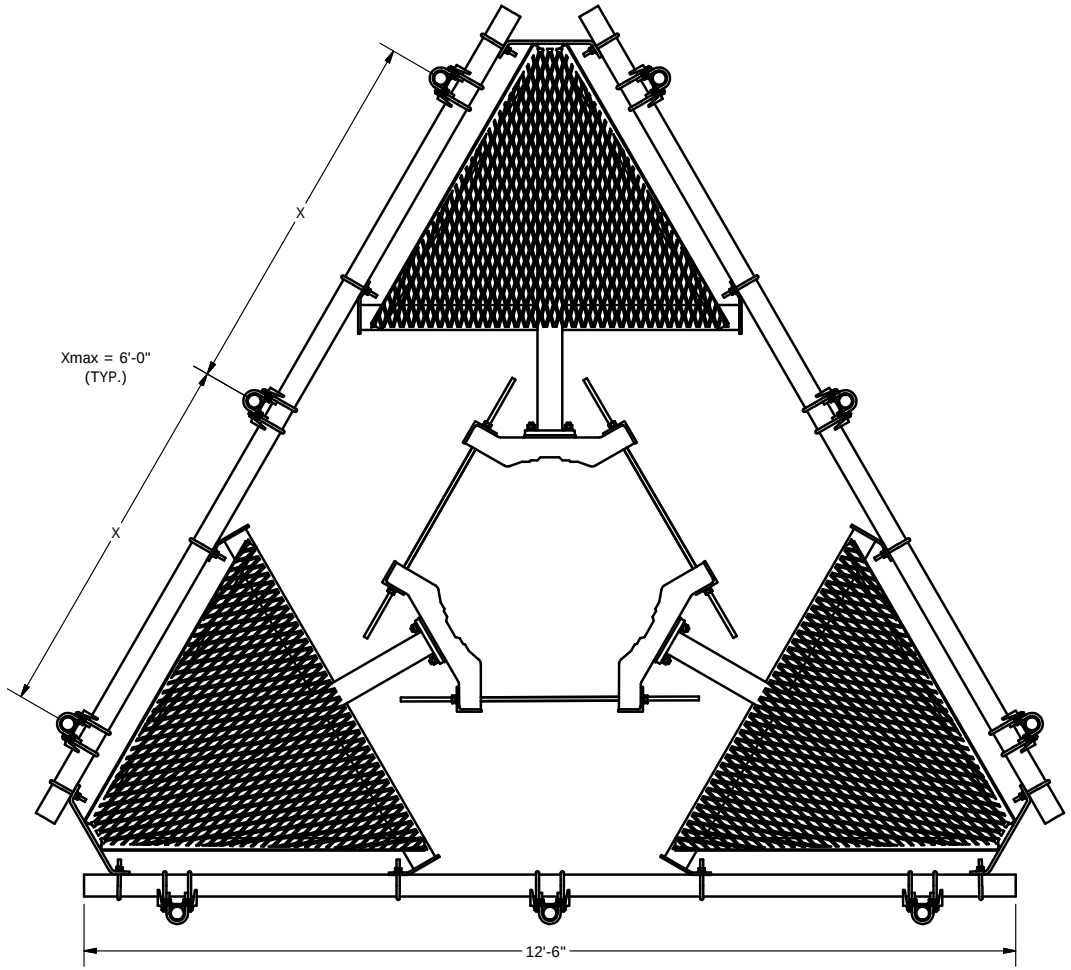
DESCRIPTION
LOW PROFILE CO-LOCATION PLATFORM
FOR 9 ANTENNAS WITH 12' 6" FACE WIDTH
FOR 12" - 38" DIAMETER POLES

SITE PRO 1
A valmont COMPANY

Engineering Support Team:
1-888-753-7446

Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Salem, OR
Dallas, TX

DRAWN BY	CPD NO.	DRAWING USAGE	PART NO.
CEK 1/19/2012	semb	CUSTOMER	SEE ASSEMBLY NO. "A"
ENG. APPROVAL	CHECKED BY		DWG. NO.
	BMC 1/23/2012		RMQP-3XX



TOLERANCE NOTE

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES (± 0.030")
DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES
LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE - ALL OTHER MACHINING (± 0.030")
ALL OTHER ASSEMBLY (± 0.060")

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	ADDED 10' 6" ANTENNA MOUNTING PIPES		CEK	7/7/2015

REVISION HISTORY

DESCRIPTION
LOW PROFILE CO-LOCATION PLATFORM
FOR 9 ANTENNAS WITH 12' 6" FACE WIDTH
FOR 12" - 38" DIAMETER POLES

DRAWN BY	CPD NO.	DRAWING USAGE
CEK 1/19/2012	semb	CUSTOMER

ENG. APPROVAL	CHECKED BY
	BMC 1/23/2012

SITE PRO 1
A valmont COMPANY

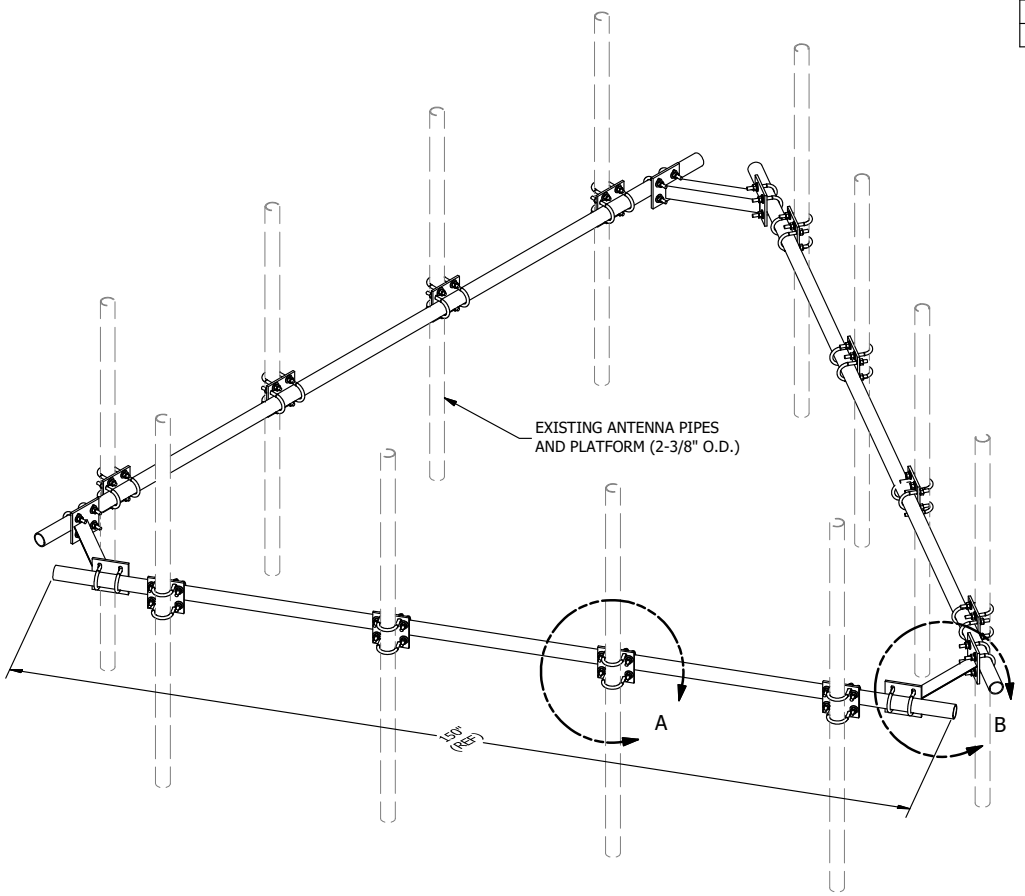
Engineering
Support Team:
1-888-753-7446

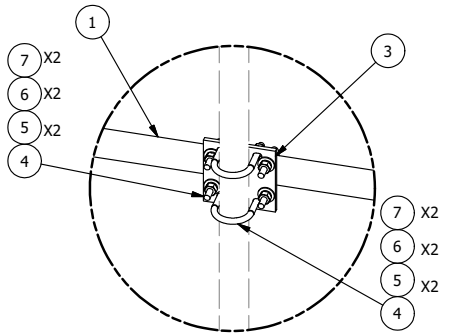
Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Salem, OR
Dallas, TX

PART NO. SEE ASSEMBLY NO. "A"

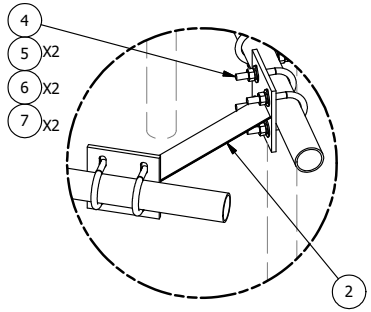
DWG. NO. RMQP-3XX

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	3	P2150	2-3/8" O.D. X 150" SCH 40 GALVANIZED PIPE	150 in	45.77	137.31
2	3	X-AHCP	ANGLE HANDRAIL CORNER PLATE		12.92	38.76
3	12	SCX1	CROSSOVER PLATE 2-3/8" X 2-3/8"	6 in	3.71	44.50
4	60	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	37.51
5	120	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	4.09
6	120	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	1.67
7	120	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	8.60
					TOTAL WT. #	272.43





DETAIL A



DETAIL B

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	REPLACED HCP WITH X-AHCP		CEK	7/10/2014

REVISION HISTORY

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES *(± 0.030")*
DRILLED AND GAS CUT HOLES *(± 0.030")* - NO CONING OF HOLES
LASER CUT EDGES AND HOLES *(± 0.010")* - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING *(± 0.030")*
ALL OTHER ASSEMBLY *(± 0.060")*

DESCRIPTION: **HANDRAIL KIT FOR 12'-6" FACE**

SITE PRO 1
A valmont COMPANY
Engineering Support Team: 1-888-753-7446
Locations: New York, NY; Atlanta, GA; Los Angeles, CA; Plymouth, IN; Salem, OR; Dallas, TX

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
	KC8 5/30/2012		HRK12

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	01	CUSTOMER	BMC 7/13/2014	HRK12

EBI Consulting

environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11186A

East Hartford/ Hills_1
1455 Forbes Street
East Hartford, Connecticut 06118

May 15, 2022

EBI Project Number: 6222003125

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**83.99%**

21 B Street, Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

May 15, 2022

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

Emissions Analysis for Site: CT11186A - East Hartford/ Hills_1

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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu W/cm^2$). The number of $\mu W/cm^2$ 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 ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is 1000 $\mu W/cm^2$. 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 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 1C 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 1C 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 Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Commscope VV-65A-R1 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector A, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Commscope VV-65A-R1 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector B, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Commscope VV-65A-R1 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all

calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

14) The antenna mounting height centerline of the proposed antennas is 87 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:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419
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:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd
Height (AGL):	87 feet	Height (AGL):	87 feet	Height (AGL):	87 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts
ERP (W):	31,011.95	ERP (W):	31,011.95	ERP (W):	31,011.95
Antenna A1 MPE %:	**16.99%**	Antenna B1 MPE %:	**16.99%**	Antenna C1 MPE %:	**16.99%**
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd
Height (AGL):	87 feet	Height (AGL):	87 feet	Height (AGL):	87 feet
Channel Count:	5	Channel Count:	5	Channel Count:	5
Total TX Power (W):	200.00 Watts	Total TX Power (W):	200.00 Watts	Total TX Power (W):	200.00 Watts
ERP (W):	4,059.02	ERP (W):	4,059.02	ERP (W):	4,059.02
Antenna A2 MPE %:	**5.31%**	Antenna B2 MPE %:	**5.31%**	Antenna C2 MPE %:	**5.31%**
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Commscope VV-65A-R1	Make / Model:	Commscope VV-65A-R1	Make / Model:	Commscope VV-65A-R1
Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz
Gain:	15.55 dBd / 15.55 dBd / 16.05 dBd	Gain:	15.55 dBd / 15.55 dBd / 16.05 dBd	Gain:	15.55 dBd / 15.55 dBd / 16.05 dBd
Height (AGL):	87 feet	Height (AGL):	87 feet	Height (AGL):	87 feet
Channel Count:	8	Channel Count:	8	Channel Count:	8
Total TX Power (W):	360.00 Watts	Total TX Power (W):	360.00 Watts	Total TX Power (W):	360.00 Watts
ERP (W):	13,446.73	ERP (W):	13,446.73	ERP (W):	13,446.73
Antenna A3 MPE %:	**7.37%**	Antenna B3 MPE %:	**7.37%**	Antenna C3 MPE %:	**7.37%**

Site Composite MPE %	
Carrier	**MPE %**
T-Mobile (Max at Sector A):	29.67%
Dish	3.15%
T-Mobile Existing	25.47%
AT&T	9.72%
Verizon	15.98%
Site Total MPE % :	83.99%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	29.67%
T-Mobile Sector B Total:	29.67%
T-Mobile Sector C Total:	29.67%
Site Total MPE % :	83.99%

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 (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 2500 MHz LTE 1C & 2C Traffic	1	9619.47	87.0	52.71	2500 MHz LTE 1C & 2C Traffic	1000	5.27%
T-Mobile 2500 MHz LTE 1C & 2C Broadcast	1	717.84	87.0	3.93	2500 MHz LTE 1C & 2C Broadcast	1000	0.39%
T-Mobile 2500 MHz NR Traffic	1	19238.94	87.0	105.42	2500 MHz NR Traffic	1000	10.54%
T-Mobile 2500 MHz NR Broadcast	1	1435.69	87.0	7.87	2500 MHz NR Broadcast	1000	0.79%
T-Mobile 600 MHz LTE	2	591.73	87.0	6.48	600 MHz LTE	400	1.62%
T-Mobile 600 MHz NR	1	1577.94	87.0	8.65	600 MHz NR	400	2.16%
T-Mobile 700 MHz LTE	2	648.82	87.0	7.11	700 MHz LTE	467	1.52%
T-Mobile 1900 MHz GSM	4	1076.77	87.0	23.60	1900 MHz GSM	1000	2.36%
T-Mobile 1900 MHz LTE	2	2153.53	87.0	23.60	1900 MHz LTE	1000	2.36%
T-Mobile 2100 MHz LTE	2	2416.30	87.0	26.48	2100 MHz LTE	1000	2.65%
						Total:	**29.67%**

• 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:	29.67%
Sector B:	29.67%
Sector C:	29.67%
T-Mobile Maximum MPE % (Sector A):	29.67%
Site Total:	83.99%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **83.99%** 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

T-MOBILE SITE NUMBER: CT11186A
T-MOBILE SITE NAME: EAST HARTFORD/ HILLS_1
SITE TYPE: MONOPOLE
TOWER HEIGHT: 131'-0"

BUSINESS UNIT #: 806376
SITE ADDRESS: 1455 FORBES STREET EAST HARTFORD, CT 06118
COUNTY: HARTFORD
JURISDICTION: HARTFORD COUNTY

CT11186A _ANCHOR: **67D5998E_1XAIR+1OP+1QP**

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	HRT 100 943239
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:	TBD
TYPE OF CONSTRUCTION:	TBD
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 12920 SE 38TH STREET BELLEVUE, WA 98006
ELECTRIC PROVIDER:	TBD
TELCO PROVIDER:	TBD

PROJECT TEAM

A&E FIRM:	INFINIGY 500 WEST OFFICE CENTER DR. SUITE 150, FORT WASHINGTON, PA 19034
CROWN CASTLE USA INC. DISTRICT CONTACTS:	3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065
	TBD - PROJECT MANAGER -
	TBD - CONSTRUCTION MANAGER -

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 11X17. 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

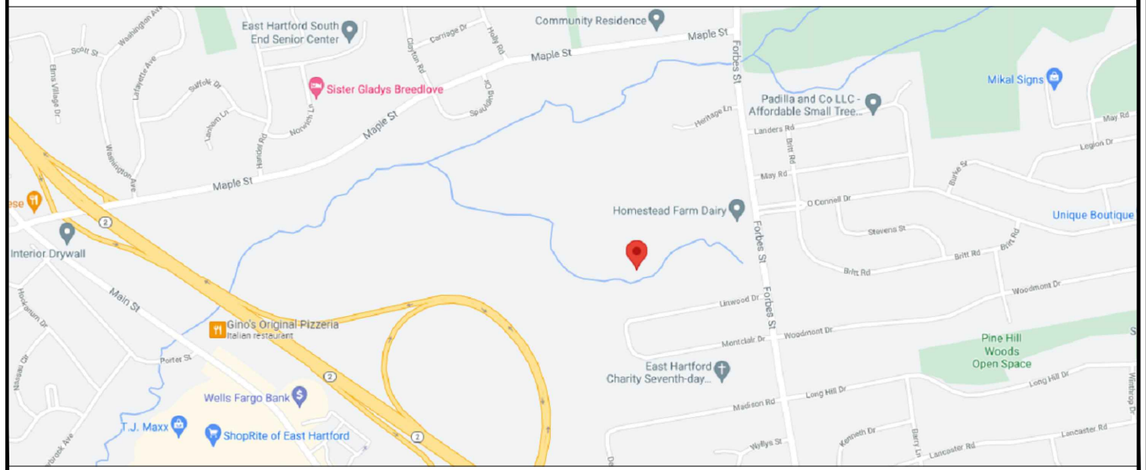
THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER SCOPE OF WORK:
- REMOVE (6) ANTENNAS
- REMOVE (11) COAX CABLES
- INSTALL (6) ANTENNAS
- INSTALL (3) RRHS
- INSTALL (3) HYBRID CABLES

GROUND SCOPE OF WORK:
- RELOCATE (1) EQUIPMENT CABINET
- INSTALL (1) 6160 & (1) B160 BATTERY CABINET
- INSTALL (2) PSU4813 VOLTAGE BOOSTER IN (P) CABINET
- INSTALL (1) CSR IXRE ROUTER IN (P) CABINET
- INSTALL (2) RP 6651 IN (P) CABINET
- INSTALL (1) 6601, DUG20 IN (P) CABINET

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

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 IBC
MECHANICAL	2015 IMC
ELECTRICAL	2017 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	Black & Veatch Corp.
DATED:	04/21/2022
MOUNT ANALYSIS:	TRYLON
DATED:	08/04/2022
RFDS REVISION:	5
DATED:	03/05/2022
ORDER ID:	608639
REVISION:	0

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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.

T-Mobile
12920 SE 38TH STREET
BELLEVUE, WA 98006

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

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www.infinigy.com

T-MOBILE SITE NUMBER:
CT11186A

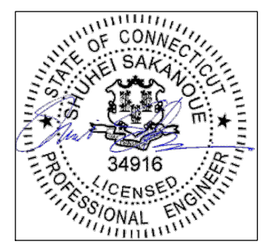
BU #: **806376**
HRT 100 943239

1455 FORBES STREET
EAST HARTFORD, CT 06118

EXISTING 131'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	05/17/22	RCD	PRELIMINARY	SS
0	06/28/22	RCD	100% FINALS	SS
1	08/04/22	RCD	100% FINALS	SS
2	08/19/22	RCD	100% FINALS	SS



08/19/22

SHEET NUMBER: T-1
REVISION: 2

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

1. 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.
2. "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.
3. 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.
4. 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).
5. 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."
6. 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.
7. 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.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
10. 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.
11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
12. 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.
13. 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.
14. 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.
15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
17. 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.
18. 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.
19. 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.
20. 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.
21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
22. 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.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
   CARRIER: T–MOBILE
   TOWER OWNER: CROWN CASTLE USA INC.
2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
10. 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.
11. 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.
12. 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.
13. 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.
14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. 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.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. 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.
4. 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.
5. 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
6. 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"
7. 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.

GREENFIELD GROUNDING NOTES:

1. 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.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL–OF–POTENTAL 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON–ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON–METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. 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).
21. 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).

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. 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. VERYIFY 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.
5. 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.
6. 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).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
9. 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.
10. 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.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI–CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. 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.
13. 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).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL–CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON–PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER–ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
24. 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.
25. 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.
26. 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.
27. 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.
28. 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.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "T–MOBILE".
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE

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

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

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

ABBREVIATIONS:

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

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1455 FORBES STREET
EAST HARTFORD, CT 06118

EXISTING 131'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	05/17/22	RCD	PRELIMINARY	SS
0	06/28/22	RCD	100% FINALS	SS
1	08/04/22	RCD	100% FINALS	SS
2	08/19/22	RCD	100% FINALS	SS

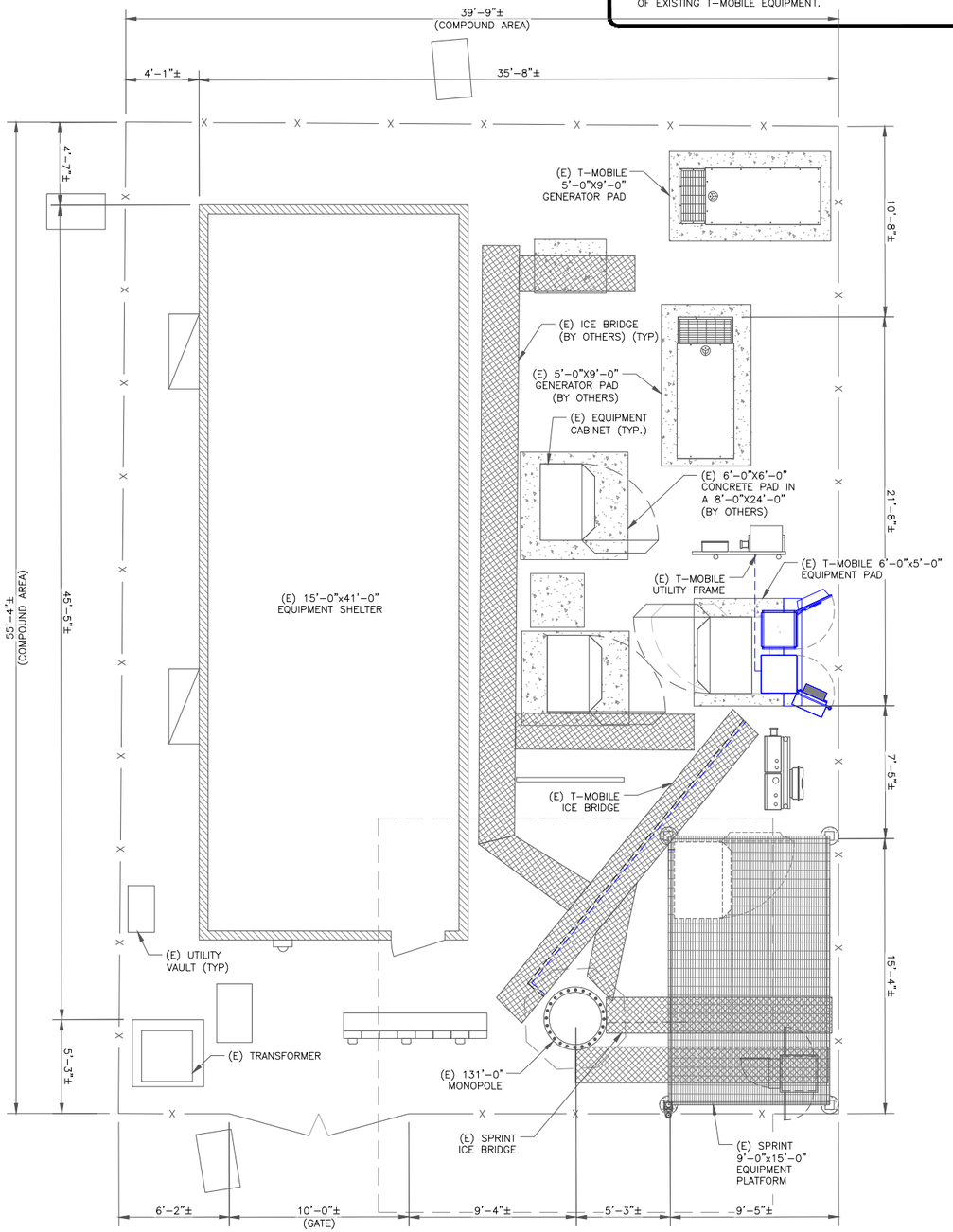
SHUHEI SAKANOUE
34916
08/19/22

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: T-2
REVISION: 2

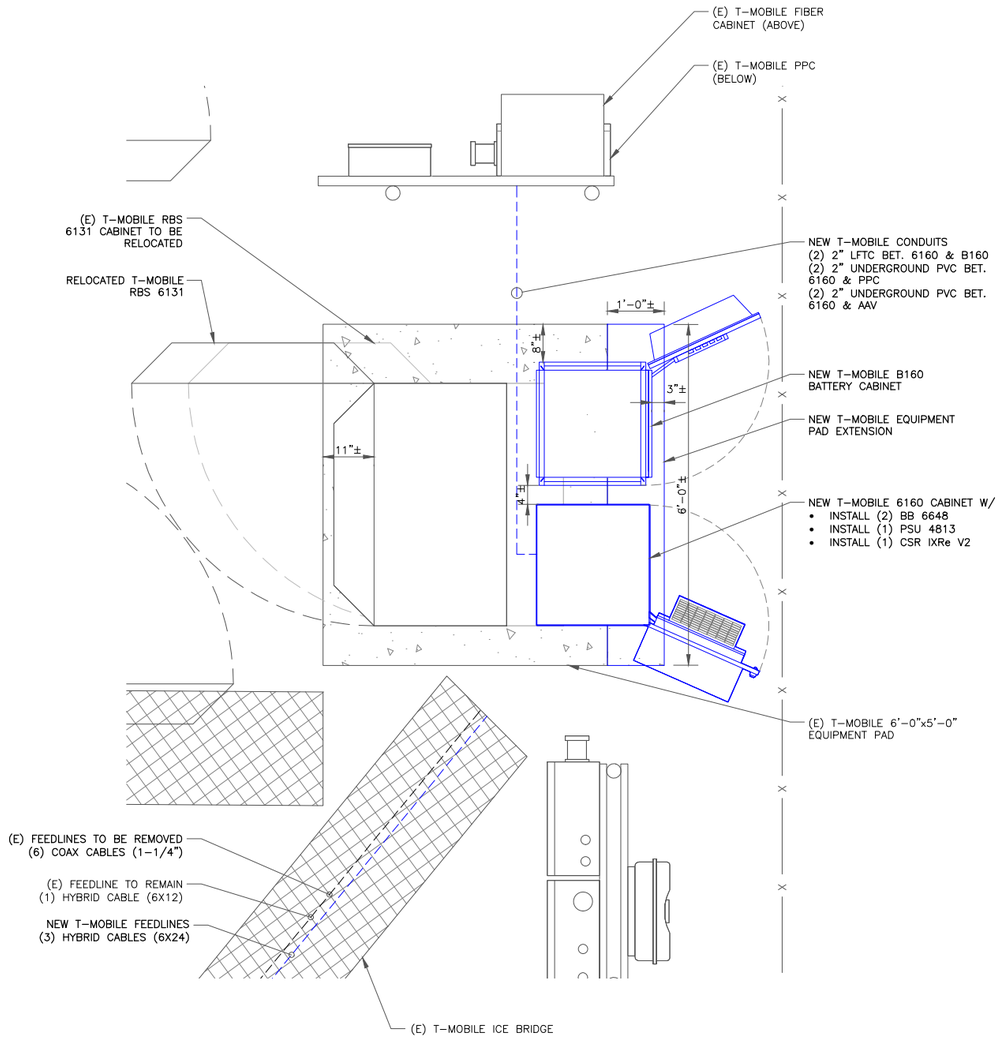
NOTE:

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: 4' 3' 2' 1' 0 4'
1/4"=1'-0" (FULL SIZE)
1/8"=1'-0" (11x17)

N



2 ENLARGED SITE PLAN
SCALE: 1' 6" 0 1'
3/4"=1'-0" (FULL SIZE)
3/8"=1'-0" (11x17)

N

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1455 FORBES STREET
EAST HARTFORD, CT 06118

EXISTING 131'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	05/17/22	RCD	PRELIMINARY	SS
0	06/28/22	RCD	100% FINALS	SS
1	08/04/22	RCD	100% FINALS	SS
2	08/19/22	RCD	100% FINALS	SS

STATE OF CONNECTICUT
SHUHEI SAKANOUE
34916
LICENSED PROFESSIONAL ENGINEER

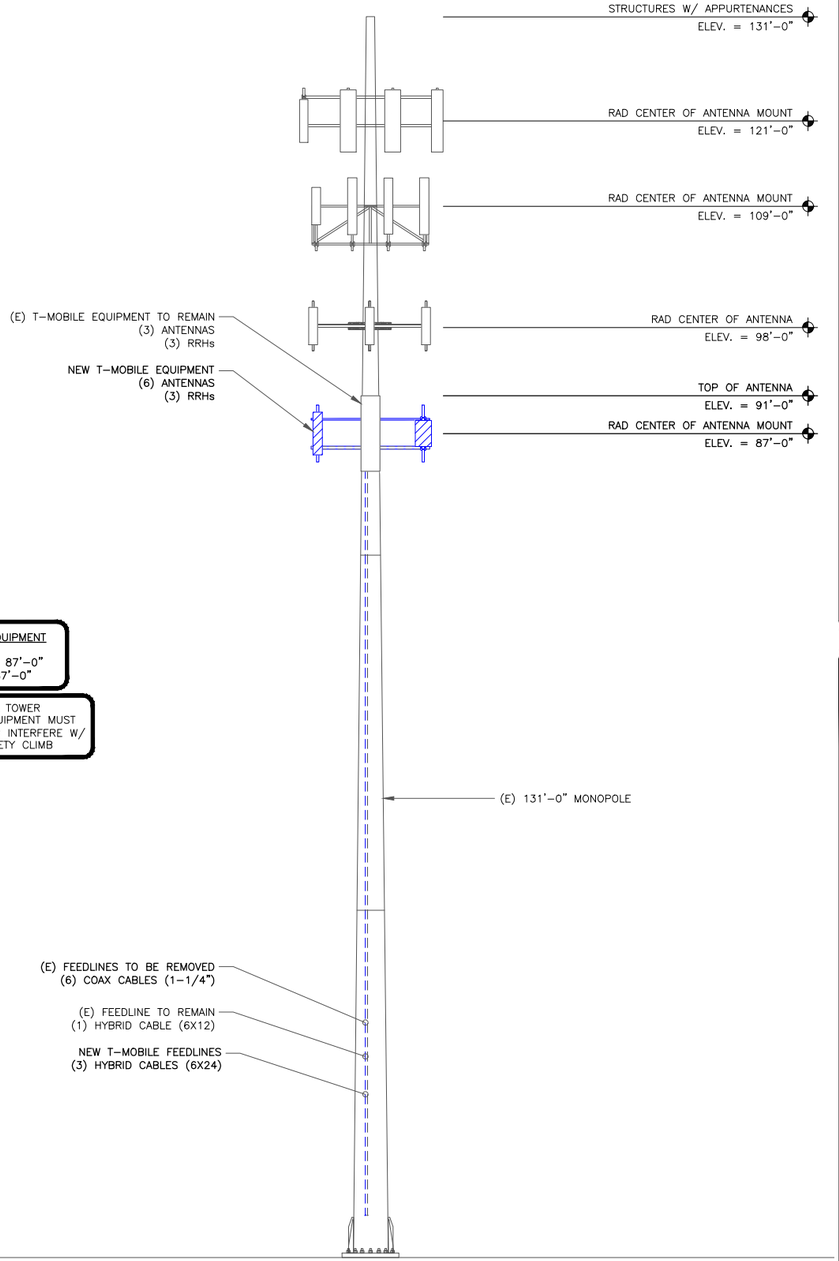
08/19/22

SHEET NUMBER: C-1

REVISION: 2

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 OR MOUNT 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.

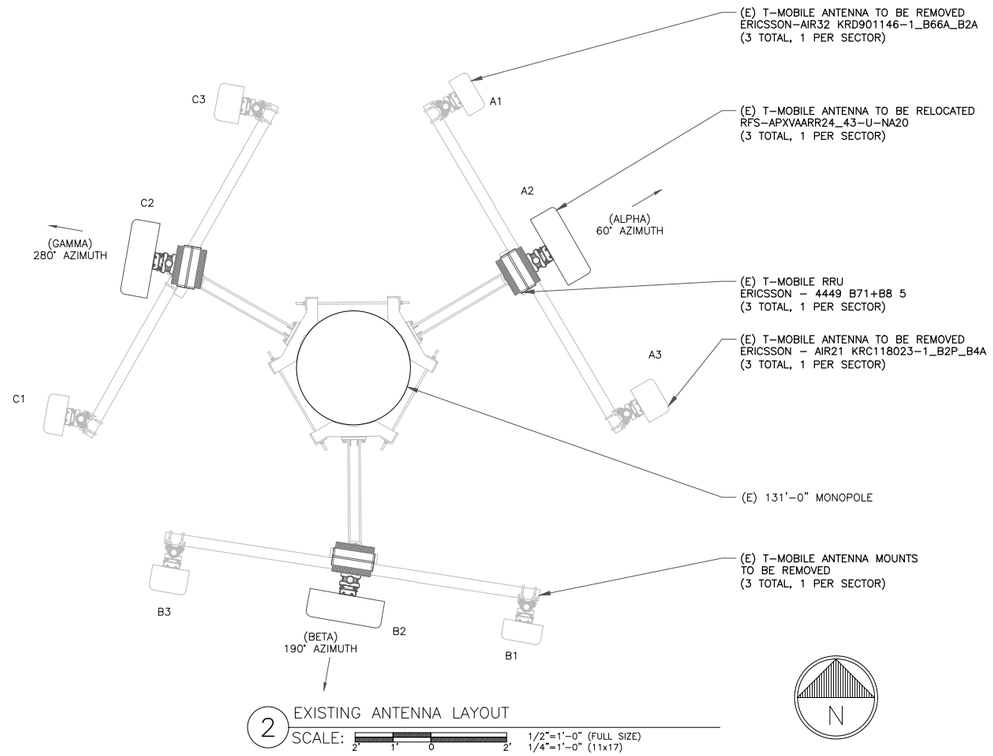


T-MOBILE EQUIPMENT

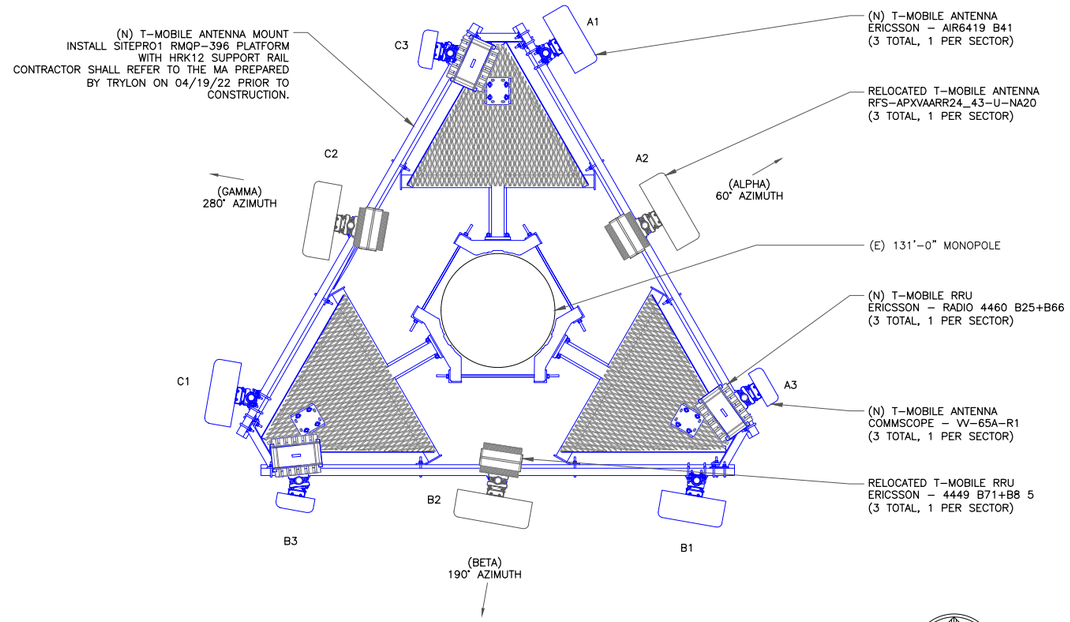
ANTENNA CL: 87'-0"
MOUNT CL: 87'-0"

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

1 FINAL ELEVATION
SCALE: 8' 6' 4' 2' 0 8' 1/8"=1'-0" (FULL SIZE) 1/16"=1'-0" (11x17)



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



3 FINAL ANTENNA LAYOUT
SCALE: 2' 1' 0 2' 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

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STATE OF CONNECTICUT
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34916
LICENSED PROFESSIONAL ENGINEER

08/19/22

SHEET NUMBER: C-2

REVISION: 2

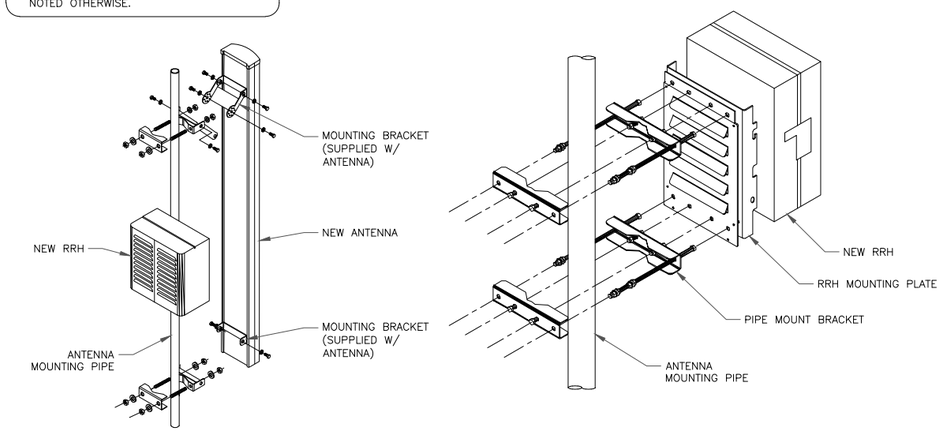
ANTENNA SCHEDULE

SECTOR	POS.	TECHNOLOGY	RAD CENTER	AZIMUTH	ANTENNA MANUFACTURER	ANTENNA MODEL	MECH. TILT	ELECT. TILT	TOWER MOUNTED EQUIPMENT	FEEDLINE TYPE
ALPHA	A1	L2500. N2500	87'-0"	60°	ERICSSON	AIR6419 B41	0	2°/2°	–	(1) 6X24 HYBRID 50M IN LENGTH
ALPHA	A2	L700, L600, N600	87'-0"	60°	RFS	APXVAARR24_43-U-NA20	0	2°/2°	(1) ERICSSON – RRUS 4449 B71+B85	(1) 6X12 HYBRID
ALPHA	A3	L2100, L1900, G1900	87'-0"	60°	COMMSCOPE	VV-65A-R1	0	2°/2°	(1) ERICSSON – RRUS 4460 B25+B66	–
BETA	B1	L2500. N2500	87'-0"	190°	ERICSSON	AIR6419 B41	0	2°/2°	–	(1) 6X24 HYBRID 50M IN LENGTH
BETA	B2	L700, L600, N600	87'-0"	190°	RFS	APXVAARR24_43-U-NA20	0	2°/2°	(1) ERICSSON – RRUS 4449 B71+B85	–
BETA	B3	L2100, L1900, G1900	87'-0"	190°	COMMSCOPE	VV-65A-R1	0	2°/2°	(1) ERICSSON – RRUS 4460 B25+B66	–
GAMMA	C1	L2500. N2500	87'-0"	280°	ERICSSON	AIR6419 B41	0	2°/2°	–	(1) 6X24 HYBRID 50M IN LENGTH
GAMMA	C2	L700, L600, N600	87'-0"	280°	RFS	APXVAARR24_43-U-NA20	0	2°/2°	(1) ERICSSON – RRUS 4449 B71+B85	–
GAMMA	C3	L2100, L1900, G1900	87'-0"	280°	COMMSCOPE	VV-65A-R1	0	2°/2°	(1) ERICSSON – RRUS 4460 B25+B66	–

1 ANTENNA AND CABLE SCHEDULE
SCALE: NOT TO SCALE

INSTALLER NOTES:

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



NOTE:

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

2 ANTENNA WITH RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

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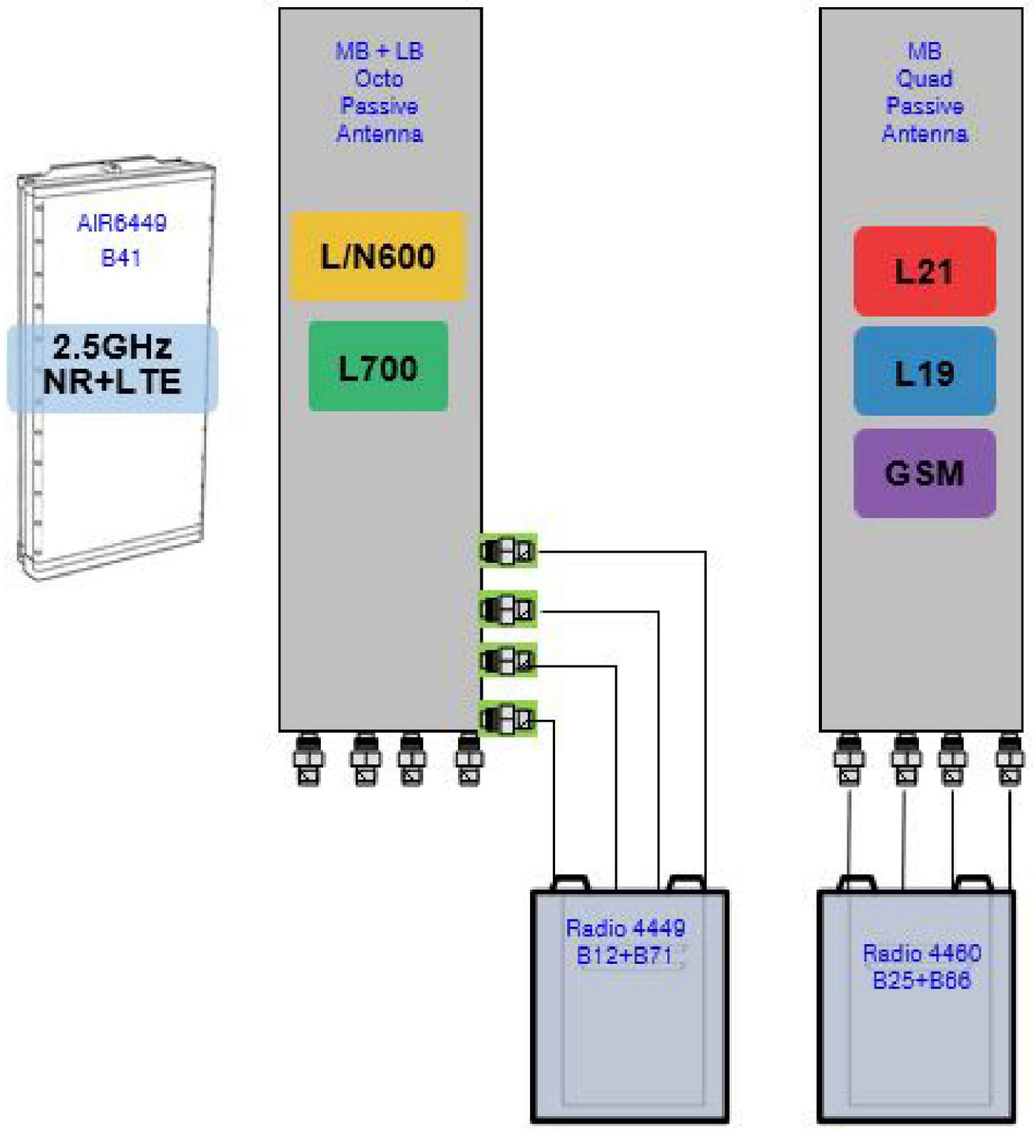
08/19/22

SHEET NUMBER: C-3

REVISION: 2



1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

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EXISTING 131'-0" MONOPOLE

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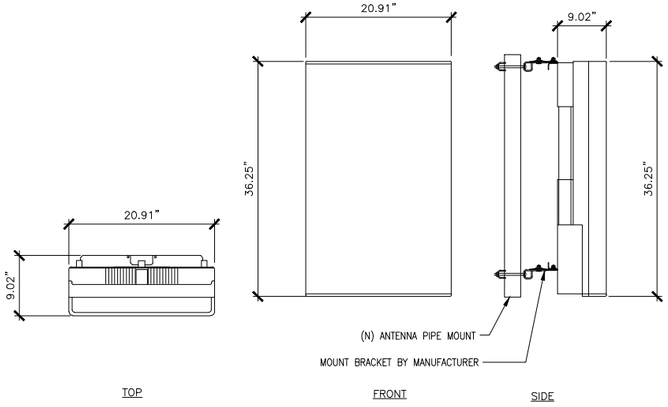
STATE OF CONNECTICUT
SHUHEI SAKANOUE
34916
LICENSED PROFESSIONAL ENGINEER

08/19/22

SHEET NUMBER: C-4

REVISION: 2

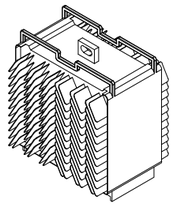
MANUFACTURER: ERICSSON
MODEL: AIR6419 B41
WEIGHT: 96.5 LBS (W/ MOUNT BRACKET 113)
DIMENSIONS: 36.25"H. X 20.91"W. X 9.02"D.
FREQUENCY: REFER TO RF DATA SHEET

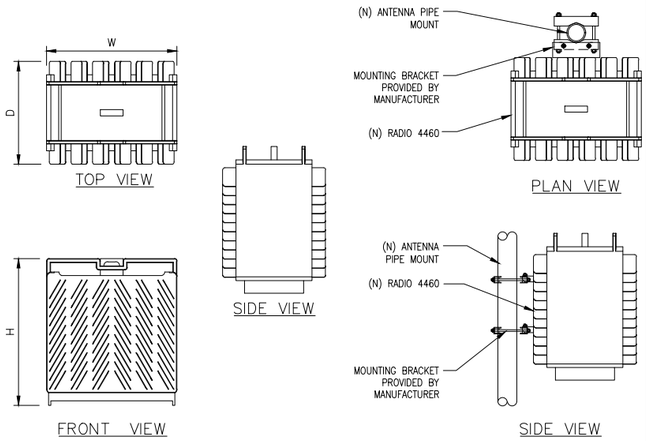


1 (N) AIR6419 B41 ANTENNA SPEC
SCALE: NOT TO SCALE

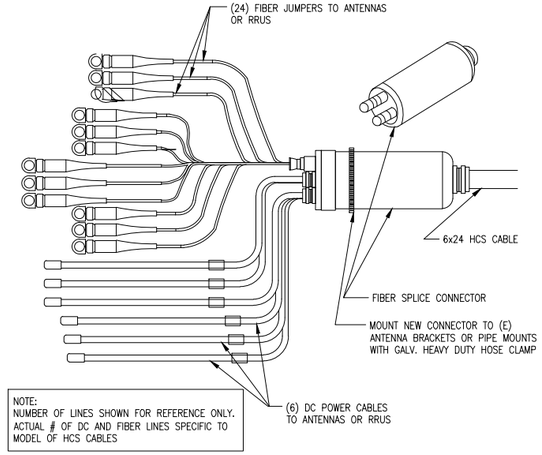
ERICSSON RADIO-4460 B25 B66

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



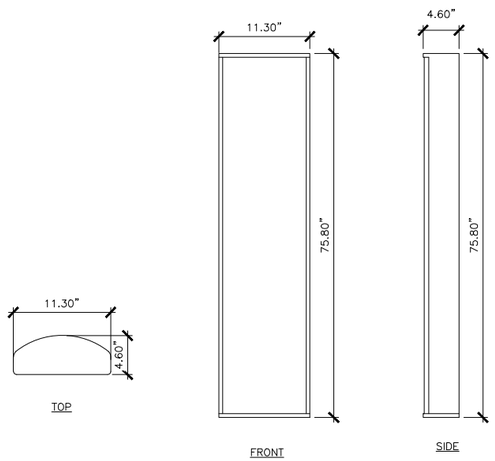


2 (N) RADIO 4460 SPEC
SCALE: NOT TO SCALE



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

MANUFACTURER: RFS
MODEL: APXVLL19P_43-C-A20
WEIGHT: 48.39 LBS
DIMENSIONS: 75.80"H. X 11.30"W. X 4.60"D.
FREQUENCY: REFER TO RF DATA SHEET



4 (N) VV-65A-R1 ANTENNA SPEC
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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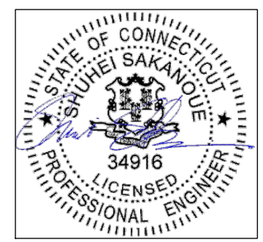
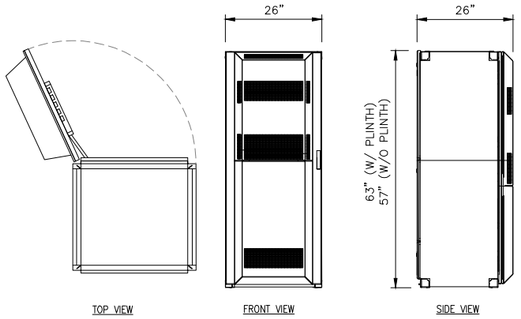


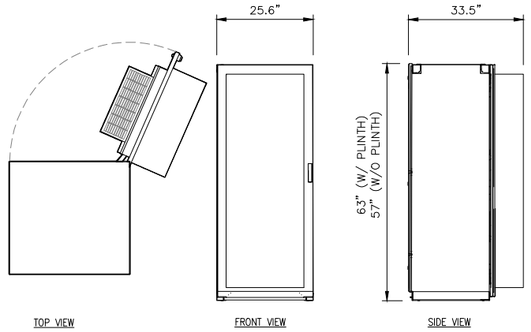
08/19/22

SHEET NUMBER: C-5
REVISION: 2



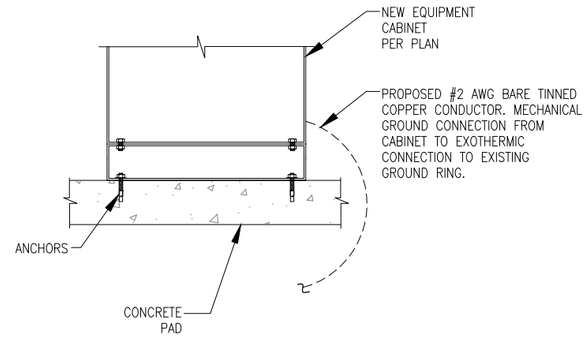
ERICSSON MODEL NO.:	B160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x26"x26" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	485 LBS
MAXIMUM WEIGHT:	2100± LBS

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

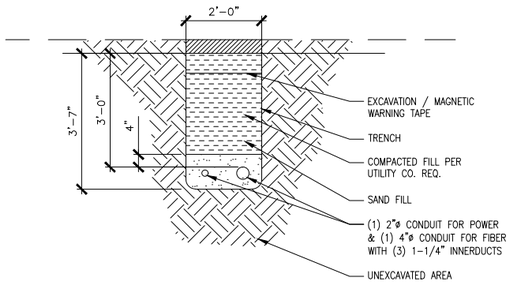


ERICSSON MODEL NO.:	6160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x25.6"x25.6" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	410 LBS
MAXIMUM WEIGHT:	770± LBS

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

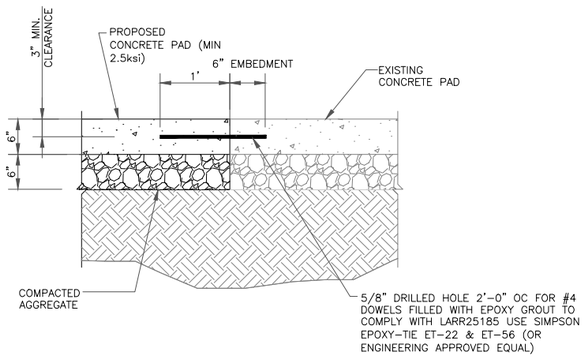


3 (N) EQUIPMENT CABINET MOUNTING DETAIL
SCALE: NOT TO SCALE



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

5 NOT USED
SCALE: NOT TO SCALE



6 PAD EXTENSION
SCALE: NOT TO SCALE

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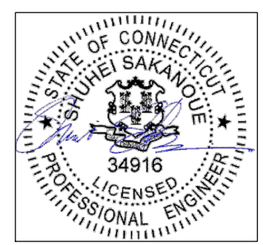


08/19/22

SHEET NUMBER: C-6

REVISION: 2

NOTES:

1. EXISTING DISTRIBUTION PANEL WAS NOT ACCESSIBLE DURING SITE VISIT PERFORMED BY INFINIGY. CONTRACTOR SHALL INFORM ENGINEER IF THERE ARE ANY DISCREPANCIES IN PANEL SCHEDULE.

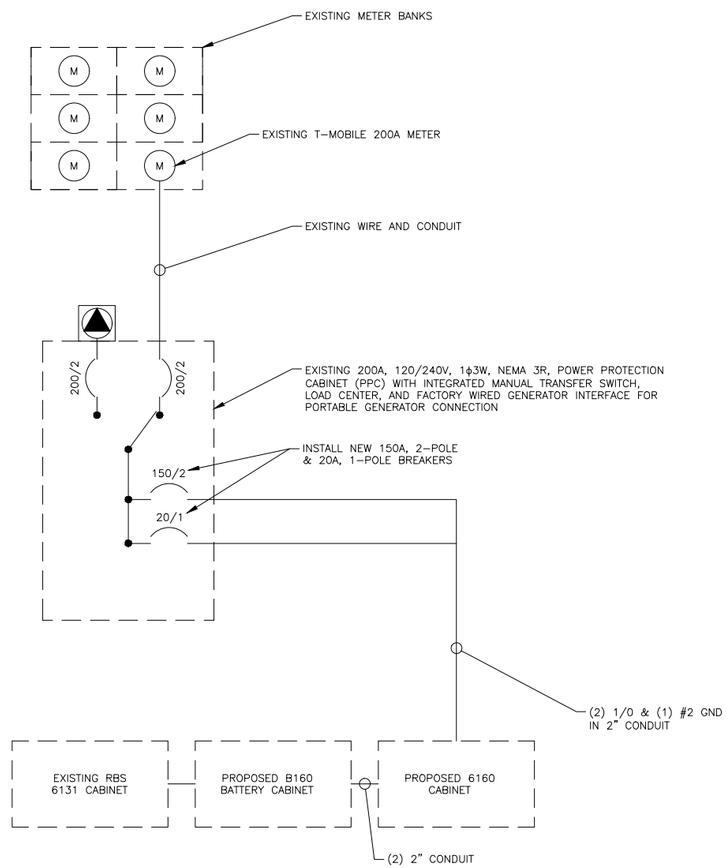
T-MOBILE PANEL SCHEDULE

MAIN: 200 AMP MAIN BREAKER			**VOLTAGE/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.	LOAD (VA) A-PHASE	LOAD (VA) B-PHASE	CIR No.	C/B	C or NC	LOAD (VA)	DESCRIPTION
SURGE PROTECTION DEVICE	0	NC	60	1	180		2	20	NC	180	RECEPTACLE
	0	NC		3		200	4	20	NC	200	LIGHT
BTS CABINET **	**3600**	**C**	**150**	5	3600		6				BLANK
	3600	**C**		7		3600	8				
	3600	**C**		9	3600		10				
	3600	**C**		11		3600	12				
BLANK				13	0		14				
				15		0	16				
				17	0		18				
				19		0	20				
				21	0		22				
				23		0	24				
BASE LOAD (VA) =					7380	7400	C = CONTINUOUS LOAD; NC = NON-CONTINUOUS LOAD				
25% OF CONTINUOUS LOAD (VA) =					1800	1800	** INDICATES NEW LOAD. ALL OTHER LOADS ARE EXISTING. 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 (VA) =					9180	9200					
TOTAL LOAD (A) =					77	77					

1 AC PANEL SCHEDULE
SCALE: NOT TO SCALE

NOTES:

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



2 ONE LINE DIAGRAM
SCALE: NOT TO SCALE

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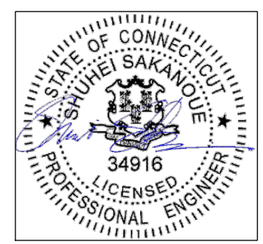
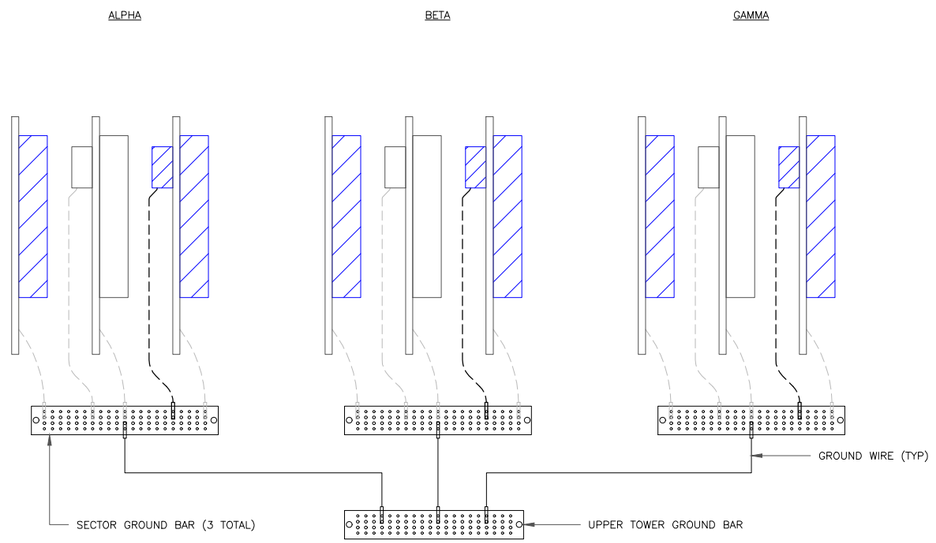


08/19/22

SHEET NUMBER: E-1

REVISION: 2



NOTE:

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

1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE

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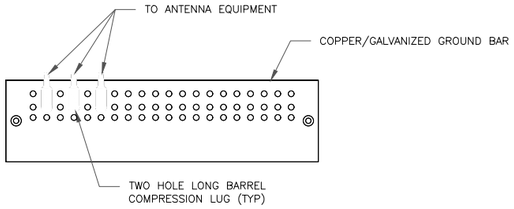
STATE OF CONNECTICUT
SHUHEI SAKANOUE
34916
LICENSED
PROFESSIONAL ENGINEER

08/19/22

SHEET NUMBER: G-1

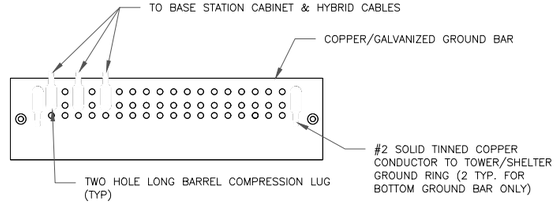
REVISION: 2



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.

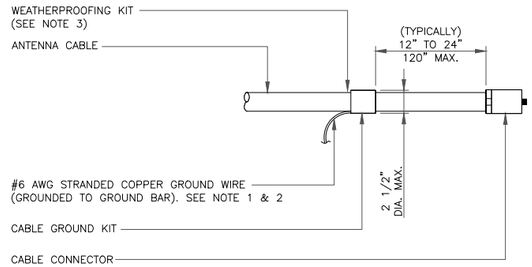
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



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.

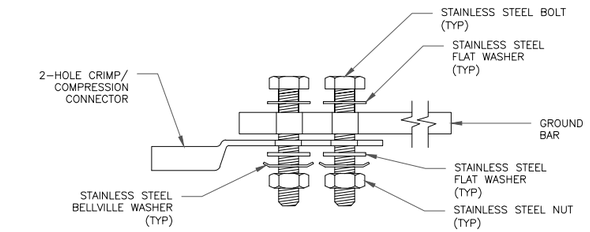
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



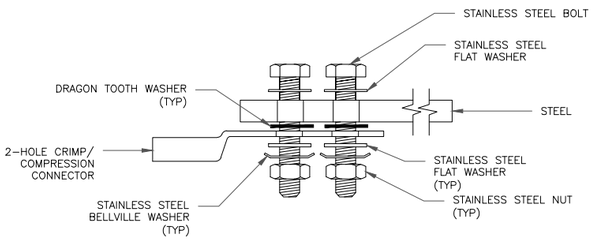
NOTES:

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.

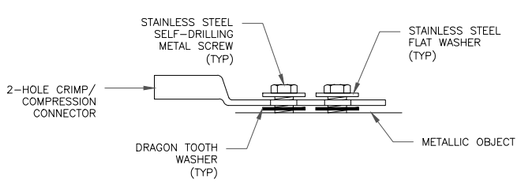
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS



SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

4 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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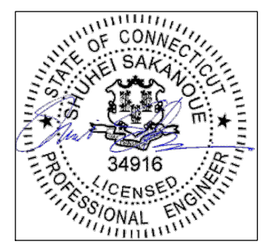
EAST HARTFORD, CT 06118

EXISTING 131'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	05/17/22	RCD	PRELIMINARY	SS
0	06/28/22	RCD	100% FINALS	SS
1	08/04/22	RCD	100% FINALS	SS
2	08/19/22	RCD	100% FINALS	SS



08/19/22

SHEET NUMBER: G-2

REVISION: 2