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

August 18, 2022

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

RE: **Notice of Exempt Modification for T-Mobile: CTHA114B**
Crown Site#842859
371 Terryville Avenue, Bristol, CT 06010
Latitude: 41° 40′ 47.71″ / Longitude: -72° 57′ 45.18″

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 128' level of the 168" monopole tower located at 371 Terryville Avenue, Bristol, CT. T-Mobile to remove all antenna equipment at the 128' level and remove all (Sprint) antenna equipment at the 158' level of the tower. T-Mobile to install new antenna mount, with six (6) new replacement antennas and ancillary equipment at a new mount level of 158'. The property is owned by Bristol Hospital Inc and the tower is owned by Crown Castle. 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:@158'-0"
- (3) Ericsson – AIR6449 B41 Antennas
- (3) RFS APXVAALL24_43-U-NA20 Antennas
- (3) Ericsson-Radio 4480_B71+B85 RRH
- (3) Ericsson- 4460 B25+B66 RRH
- (3) Hybrid Cable 6x24
- (1) New Antenna Mount

Remove: @158'-0"
- (3) RFS-APXVSPP18-C-A20 Antenna
- (3) RFS- APXVTM14-C-120 Antennas
- (3) Alcatel Lucent -TD-RRH8x20-25 RRH
- (3) Alcatel Lucent -1900 MHZ RRH
- (3) Alcatel Lucent -800MHZ RRH
- (1) Antenna Mount and T-Arms
- (3) 1-1/4" Coaxial Cables
- (12) 1-5/8" Coaxial Cables
- (1) 9x18 HCR Cable

(3) TMAs
(9) RRH's
(1) HB114-21U3M12-XXXF Hybrid Cable

Remove all T-Mobile Equipment at the 128'-0" level

Ground:

Install New:
(1) 6160 Cabinet
(1.) B160 Battery Cabinet
(2) RP 6651
(2) PSU 4813 vR2A
(1) CRS IXRc V2

Remove:

(1) S12000 Cabinet
(3.) DUW30
(6.) RU22 Radios

The facility was approved by the City of Bristol Zoning Commission on December 9, 2003. The approval was given without conditions.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Jeffrey Caggiano, Mayor, City of Bristol and Edward Spyros, ZEO City of Bristol. Bristol Hospital Administration, property owner and 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, STE 250
Westborough, MA 01581
(781) 970-0053
Jeff.Barbadora@crowncastle.com

Attachments
cc:

Jeffrey Caggiano, Mayor
Mayor's Office
Town of Bristol
111 North Main Street
Bristol, CT 06010
860-584-6250

Edward Spyros, ZEO
Town of Bristol
111 North Main Street
Bristol, CT 06010
860-584-6214

Bristol Hospital Administration, property owner
41 Brewster Road
Bristol, CT 06010

Crown Castle, Tower Owner

Fee Received $15.00 CT-833 17647

ZONING PERMIT
CITY OF BRISTOL ZONING COMMISSION

THIS IS TO CERTIFY that in accordance with Section XII.D of the Zoning Regulations, This Permit is hereby granted.

PROPERTY INFORMATION

Location: 371 Terryville Avenue,

Zoning District: I, Property Use: Telecommunications.

TYPE OF PERMIT

- ☐ New Construction
- ☐ Addition
- ☐ Accessory Structure
- ☐ Fence
- ☐ Deck
- ☐ Swimming Pool
- ☐ Home Business/Office
- ☐ Change of Use
- ☒ Other: See Below

SIGNS

Classification: ☐ Permanent ☐ Temporary (30-day) ☐ Portable (1-Year)

Type: ☐ Wall ☐ Freestanding ☐ A-Frame ☐ Sandwich ☐ Other: _____

DESCRIPTION OF ACTIVITY

Construct telecommunications facility, 171' high tower, retaining walls & associated equipment per submitted plans

OTHER APPROVALS

Description: CT Siting Council approval 4/3/02

APPLICANT INFORMATION

Applicant Name(s): Peter Maxwell

Business Name: VRS Corp.

This permit is based upon the plan submitted. Falsification, by misrepresentation or omission, or failure to comply with the conditions of approval of this permit shall constitute a violation of the City of Bristol Zoning Regulations.

Approved by: _____ 12/9/03
Zoning Enforcement Officer Date Issued

371 TERRYVILLE AVE

Location	371 TERRYVILLE AVE	**Mblu**	61/ / 67-1/ /
Acct#	0136999	**Owner**	BRISTOL HOSPITAL INC
Assessment	$363,370	**Appraisal**	$519,100
PID	2194	**Building Count**	2

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$280,000	$239,100	$519,100
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$196,000	$167,370	$363,370

Owner of Record

Owner	BRISTOL HOSPITAL INC	**Sale Price**	$400,000
Co-Owner		**Certificate**	1
Address	41 BREWSTER RD BRISTOL, CT 06010	**Book & Page**	1564/0795
		Sale Date	06/08/2004
		Instrument	00

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
BRISTOL HOSPITAL INC	$400,000	1	1564/0795	00	06/08/2004
LAVIERO REALTY LLC	$0		1564/0792		06/08/2004
LAVIERO REALTY LLC	$0		1352/0030		02/08/2001
LAVIERO MORRIS + RICHARD	$0		1139/0447		09/23/1994
GTT CORP TRUSTEE OF OREGON	$0		1103/0330		09/30/1993

Building Information

Building 1 : Section 1

Year Built:	1996
Living Area:	960
Replacement Cost:	$117,937
Building Percent Good:	91
Replacement Cost Less Depreciation:	$107,300

Building Attributes	
Field	**Description**
Style	Office Bldg
Model	Comm/Ind
Grade	
Stories:	1
Occupancy	1.00
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Asphalt Shingl
Interior Wall 1	Drywall/Sheetr
Interior Wall 2	
Interior Floor 1	Carpet
Interior Floor 2	
Heating Fuel	Electric
Heating Type	Electr Basebrd
AC Type	Central
Struct Class	
Bldg Use	Hospital 94
Bedrooms	
Full Baths	
Half Baths	
1st Floor Use:	
Heat/AC	Heat/AC Split
Frame Type	Wood Frame
Baths/Plumbing	Average
Ceiling/Wall	Ceil & Walls
Rooms/Prtns	Average
Wall Height	10.00
% Comn Wall	

Building 2 : Section 1

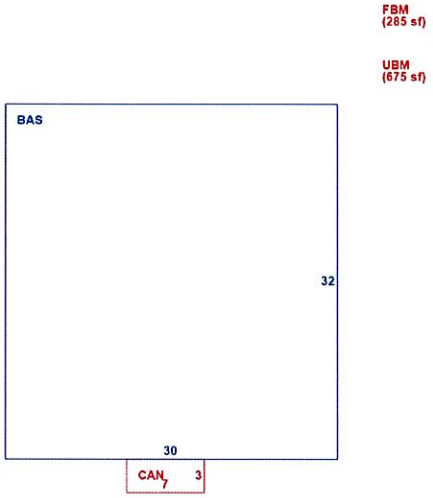
Year Built:	1996
Living Area:	3,900
Replacement Cost:	$185,406
Building Percent Good:	78

Building Photo

0136999 03/20/2016

(https://images.vgsi.com/photos2/BristolCTPhotos/\00\03\34\29.JPG)

Building Layout



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Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	960	960
CAN	Canopy	21	0
FBM	Basement, Finshed	285	0
UBM	Basement, Unfinished	675	0
		1,941	960

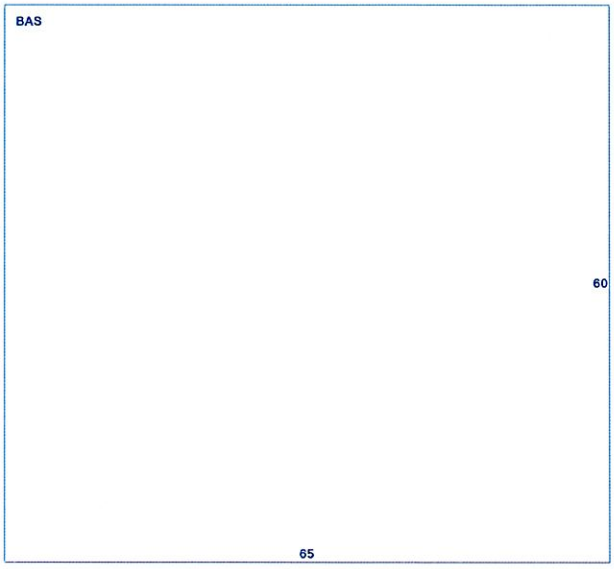
Replacement Cost
Less Depreciation: $144,600

Building Attributes : Bldg 2 of 2	
Field	**Description**
Style	Pre-Eng Garage
Model	Ind/Comm
Grade	
Stories:	1
Occupancy	1.00
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Metal/Tin
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Hot Air-no Duc
AC Type	None
Struct Class	
Bldg Use	Hospital 96
Bedrooms	
Full Baths	
Half Baths	
1st Floor Use:	
Heat/AC	None
Frame Type	Steel
Baths/Plumbing	Average
Ceiling/Wall	None
Rooms/Prtns	Average
Wall Height	18.00
% Comn Wall	

Building Photo

(https://images.vgsi.com/photos2/BristolCTPhotos/\00\02\98\62.jpg)

Building Layout



(ParcelSketch.ashx?pid=2194&bid=40200)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	3,900	3,900
		3,900	3,900

Extra Features

Extra Features				Legend
Code	**Description**	**Size**	**Value**	**Bldg #**
OHD	Overhead Door	2.00 Units	$0	2
MEZ2	Mezzanine Fin.	600.00 S.F.	$12,900	2

Land

Land Use

Use Code	928
Description	Hospital 94
Zone	I
Neighborhood	
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	1.8
Frontage	412
Depth	
Assessed Value	$167,370
Appraised Value	$239,100

lblIndfront

Outbuildings

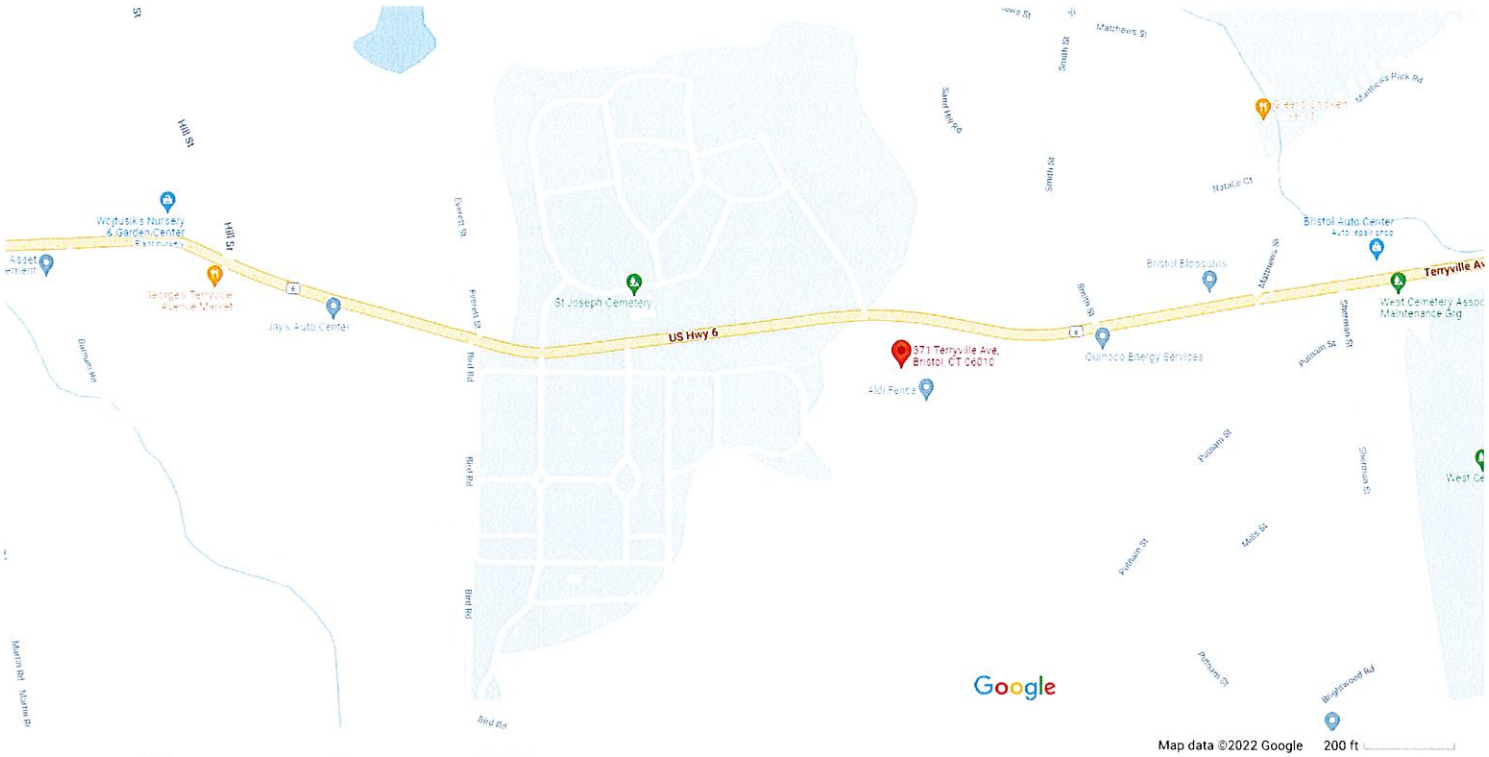
Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PAV1	Paving Asph.			8285.00 S.F.	$8,700	1
LT1	Light (1fixt)			2.00 UNITS	$1,900	1
FN3	Fence 6'			470.00 L.F.	$3,600	1
SHD1	Shed	MT	Metal	160.00 S.F.	$1,000	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$280,000	$239,100	$519,100
2020	$280,000	$239,100	$519,100
2019	$280,000	$239,100	$519,100

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$196,000	$167,370	$363,370
2020	$196,000	$167,370	$363,370
2019	$196,000	$167,370	$363,370

371 Terryville Ave



371 Terryville Ave

Bristol, CT 06010
Building

Directions Save Nearby Send to phone Share

Photos

At this location

Bristol Hospital EMS
3.3 (7)
Ambulance service · 371 Terryville Ave

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Friday, August 19, 2022 9:46 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 777700091380: Your package has been delivered

Hi. Your package was delivered Fri, 08/19/2022 at 9:44am.

Delivered to 111 N MAIN ST, BRISTOL, CT 06010
Received by C.JEFF

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 777700091380

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of Bristol Jeffrey Caggiano, Mayor 111 North Main Street BRISTOL, CT, US, 06010
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Thu 8/18/2022 05:43 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	BRISTOL, CT, US, 06010
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 19, 2022 9:56 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 777700114204: Your package has been delivered

Hi. Your package was delivered Fri, 08/19/2022 at 9:53am.

Delivered to 111 N MAIN ST, BRISTOL, CT 06010
Received by L.ROSA

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 777700114204

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of Bristol Edward Spyros, ZEO 111 North Main Street BRISTOL, CT, US, 06010
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Thu 8/18/2022 05:43 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	BRISTOL, CT, US, 06010
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 19, 2022 9:30 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 777700160865: Your package has been delivered

Hi. Your package was delivered Fri, 08/19/2022 at 9:24am.

Delivered to 41 BREWSTER RD, BRISTOL, CT 06010
Received by K.PERRI

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 777700160865

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Bristol Hospital Administration Property Owner 41 Brewster Road BRISTOL, CT, US, 06010
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Thu 8/18/2022 05:43 PM
DELIVERED TO	Shipping/Receiving
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	BRISTOL, CT, US, 06010
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

Date: **June 30, 2022**

MORRISON HERSHFIELD

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

Subject:	**Structural Analysis Report**	
Carrier Designation:		
	Site Number:	CTHA114B
	Site Name:	CT54XC710
Crown Castle Designation:	**BU Number:**	842859
	Site Name:	Bristol Center
	JDE Job Number:	721831
	Work Order Number:	2132702
	Order Number:	621871 Rev. 1
Engineering Firm Designation:	**Morrison Hershfield Project Number:** CN8-652R4 / 2200039	
Site Data:	**371 Terryville Avenue, Bristol, Hartford County, CT 06010** **Latitude *41° 40' 47.71"*, Longitude *-72° 57' 45.18"*** **168.5 Foot – EEI Monopole Tower**	

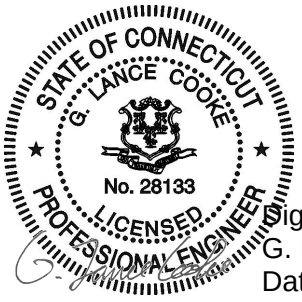
Morrison Hershfield is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above-mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC4.7: Proposed Equipment Configuration with Proposed Modifications **Sufficient Capacity – 91.1%**

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

Respectfully submitted by:



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

Digitally signed by G. Lance Cooke
Date: 2022.07.01 08:52:26-07'00'

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 168.5 ft monopole tower designed by Engineered Endeavors, Inc.

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

The Proposed modification design prepared by Black & Veatch Corporation in February of 2022 has been considered in this analysis. The modification consists of removing existing flat plate reinforcement from 0.8 ft to 5.3 ft, 8.8 ft to 13.3 ft and form 45.5 ft to 5.5 ft and removing existing base plate stiffeners, installing new flat plate reinforcement for 10.0 ft to 70.08 ft, 70.42 ft to 100.42 ft and form 110.0 ft to 140.0 ft and installing new transition stiffeners at 0 ft.

2) ANALYSIS CRITERIA

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

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
158.0	158.0	3	ericsson	AIR 6419 B41_TMO	3	1-5/8
		3	rfs/celwave	APXVAALL24_43-U-NA20_TMO		
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	ericsson	Radio 4480_TMOV2		
		12	-	10' Mount Pipe [#P2STD, Sch. 40]		
		1	Site Pro 1	Monopole Sector Frame Attachment Assembly [#MSFAA]		
		3	Site Pro 1	12' HD V-Frame Mount [#VFA12-HD]		
70.0	70.0	1	gps	GPS_A	1	1/2
		1	-	Side Arm Mount [SO 701-1]		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
168.0	172.0	3	ericsson	AIR 6419 B77G w/ Mount Pipe	6 6 5 5 1	1-5/8 13/16 7/8 3/8 2C
	170.0	1	matsing	MS-MBA-3.2-H4-L4 w/ Mount Pipe		
		1	quintel technology	QD6616-7 w/ Mount Pipe		
		2	quintel technology	QD8616-7 w/ Mount Pipe		
		5	kaelus	DBC0051F3V51-2		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
168.0	170.0	2	ericsson	RRUS 4426 B66	-	-
		3	ericsson	RRUS 8843 B2/B66A		
		1	raycap	DC9-48-60-24-8C-EV		
	169.0	3	ericsson	RRUS 32 B2		
		3	ericsson	RRUS 32 B30		
		3	ericsson	RRUS 4415 B25		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS E2 B29		
		4	raycap	DC6-48-60-18-8F		
	168.0	1	cci antennas	DMP65R-BU6D w/ Mount Pipe		
		1	cci antennas	DMP65R-BU8D w/ Mount Pipe		
		3	ericsson	AIR 6449 B77D w/ Mount Pipe		
		1	-	Platform Mount [LP 303-1_KCKR-HR-1]		
148.0	148.0	3	jma wireless	MX08FRO665-21 w/ Mount Pipe	1	1-1/2
		3	fujitsu	TA08025-B604		
		3	fujitsu	TA08025-B605		
		1	raycap	RDIDC-9181-PF-48		
		1	tower mounts	Commscope MC-PK8-DSH		
138.0	140.0	3	antel	BXA-70063/4CF w/ Mount Pipe	7 1	1-5/8 1-1/4
		3	commscope	NHH-65B-R2B w/ Mount Pipe		
		3	commscope	NHHSS-65B-R2B w/ Mount Pipe		
		3	samsung telecommunications	MT6407-77A w/ Mount Pipe		
		3	samsung telecommunications	CBRS RT4401-48A		
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		
		1	raycap	RVZDC-6627-PF-48		
	138.0	1	-	Platform Mount [LP 303-1]		
128.0	130.0	3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	12 1	1-5/8 1-1/4
		3	ericsson	ERICSSON AIR 21 B4A B2P w/ Mount Pipe		
		3	ericsson	KRY 112 144/1		
	128.0	1	-	Platform Mount [LP 303-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	5452600	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	4529295	CCISITES
4-TOWER MANUFACTURER DRAWINGS	5135435	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5111173	CCISITES
4-POST-MODIFICATION INSPECTION	5839578	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	4964264	CCISITES
4-POST-MODIFICATION INSPECTION	5595874	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5111173	CCISITES
4-POST-MODIFICATION INSPECTION	5114340	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5907572	CCISITES
4-POST-MODIFICATION INSPECTION	6121087	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	8800798	CCISITES
4-POST-MODIFICATION INSPECTION	9239992	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	10203938	CCISITES

3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

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

3.2) Assumptions

1) Tower and structures were maintained in accordance with the TIA-222 Standard.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L1	168.5 - 163.5	Pole	TP19.834x19x0.1875	Pole	14.4%	Pass
L2	163.5 - 158.5	Pole	TP20.669x19.834x0.1875	Pole	25.1%	Pass
L3	158.5 - 153.5	Pole	TP21.503x20.669x0.1875	Pole	41.5%	Pass
L4	153.5 - 148.5	Pole	TP22.337x21.503x0.1875	Pole	56.0%	Pass
L5	148.5 - 143.5	Pole	TP23.171x22.337x0.1875	Pole	72.8%	Pass
L6	143.5 - 138.5	Pole	TP24.006x23.171x0.1875	Pole	87.8%	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L7	138.5 - 138	Pole	TP24.089x24.006x0.1875	Pole	89.2%	Pass
L8	138 - 137.75	Pole + Reinf.	TP24.131x24.089x0.4375	Reinf. 17 Tension Rupture	64.0%	Pass
L9	137.75 - 134.33	Pole + Reinf.	TP25.313x24.131x0.4375	Reinf. 17 Tension Rupture	72.5%	Pass
L10	134.33 - 129.33	Pole + Reinf.	TP25.15x24.327x0.4938	Reinf. 17 Tension Rupture	75.1%	Pass
L11	129.33 - 125.75	Pole + Reinf.	TP25.739x25.15x0.4875	Reinf. 17 Tension Rupture	82.6%	Pass
L12	125.75 - 125.5	Pole + Reinf.	TP25.78x25.739x0.6125	Reinf. 10 Tension Rupture	66.0%	Pass
L13	125.5 - 120.5	Pole + Reinf.	TP26.603x25.78x0.6	Reinf. 10 Tension Rupture	73.9%	Pass
L14	120.5 - 120.25	Pole + Reinf.	TP26.644x26.603x0.85	Reinf. 15 Tension Rupture	66.3%	Pass
L15	120.25 - 115.25	Pole + Reinf.	TP27.467x26.644x0.8375	Reinf. 15 Tension Rupture	73.2%	Pass
L16	115.25 - 113.83	Pole + Reinf.	TP27.7x27.467x0.825	Reinf. 15 Tension Rupture	75.1%	Pass
L17	113.83 - 113.48	Pole + Reinf.	TP27.758x27.7x0.8625	Reinf. 10 Tension Rupture	59.0%	Pass
L18	113.48 - 113.25	Pole + Reinf.	TP27.796x27.758x0.8625	Reinf. 10 Tension Rupture	59.2%	Pass
L19	113.25 - 112	Pole + Reinf.	TP28.002x27.796x0.85	Reinf. 10 Tension Rupture	60.5%	Pass
L20	112 - 111.75	Pole + Reinf.	TP28.043x28.002x0.65	Reinf. 10 Tension Rupture	75.9%	Pass
L21	111.75 - 106.75	Pole + Reinf.	TP28.866x28.043x0.6375	Reinf. 10 Tension Rupture	81.9%	Pass
L22	106.75 - 101.75	Pole + Reinf.	TP29.689x28.866x0.625	Reinf. 10 Tension Rupture	87.6%	Pass
L23	101.75 - 98.42	Pole + Reinf.	TP30.238x29.689x0.6125	Reinf. 10 Tension Rupture	91.1%	Pass
L24	98.42 - 98.17	Pole + Reinf.	TP30.279x30.238x0.95	Reinf. 10 Tension Rupture	64.9%	Pass
L25	98.17 - 93.17	Pole + Reinf.	TP31.102x30.279x0.9375	Reinf. 10 Tension Rupture	68.7%	Pass
L26	93.17 - 89.28	Pole + Reinf.	TP32.493x31.102x0.925	Reinf. 10 Tension Rupture	71.6%	Pass
L27	89.28 - 83.72	Pole + Reinf.	TP32.155x31.243x0.8625	Reinf. 13 Tension Rupture	75.4%	Pass
L28	83.72 - 82.83	Pole + Reinf.	TP32.3x32.155x0.8625	Reinf. 13 Tension Rupture	75.9%	Pass
L29	82.83 - 82.58	Pole + Reinf.	TP32.341x32.3x0.9875	Reinf. 13 Tension Rupture	67.0%	Pass
L30	82.58 - 77.58	Pole + Reinf.	TP33.162x32.341x0.9625	Reinf. 13 Tension Rupture	69.8%	Pass
L31	77.58 - 73.42	Pole + Reinf.	TP33.846x33.162x0.9375	Reinf. 13 Tension Rupture	72.1%	Pass
L32	73.42 - 73.17	Pole + Reinf.	TP33.887x33.846x1.2125	Reinf. 9 Tension Rupture	60.0%	Pass
L33	73.17 - 72.42	Pole + Reinf.	TP34.009x33.887x1.2125	Reinf. 9 Tension Rupture	60.3%	Pass
L34	72.42 - 72.17	Pole + Reinf.	TP34.05x34.009x0.925	Reinf. 9 Tension Rupture	76.7%	Pass
L35	72.17 - 68.08	Pole + Reinf.	TP34.722x34.05x0.9125	Reinf. 9 Tension Rupture	78.9%	Pass
L36	68.08 - 67.83	Pole + Reinf.	TP34.763x34.722x0.9125	Reinf. 9 Tension Rupture	76.5%	Pass
L37	67.83 - 65.58	Pole + Reinf.	TP35.132x34.763x0.9125	Reinf. 9 Tension Rupture	77.6%	Pass
L38	65.58 - 65.33	Pole + Reinf.	TP35.173x35.132x1.1625	Reinf. 9 Tension Rupture	63.5%	Pass
L39	65.33 - 64.25	Pole + Reinf.	TP35.35x35.173x1.1625	Reinf. 9 Tension Rupture	63.9%	Pass
L40	64.25 - 64	Pole + Reinf.	TP35.391x35.35x0.9625	Reinf. 12 Tension Rupture	73.1%	Pass
L41	64 - 59	Pole + Reinf.	TP36.212x35.391x0.95	Reinf. 12 Tension Rupture	75.4%	Pass
L42	59 - 54	Pole + Reinf.	TP37.032x36.212x0.9375	Reinf. 12 Tension Rupture	77.5%	Pass
L43	54 - 49.17	Pole + Reinf.	TP38.702x37.032x0.9125	Reinf. 12 Tension Rupture	79.5%	Pass
L44	49.17 - 42.83	Pole + Reinf.	TP38.239x37.201x0.975	Reinf. 12 Tension Rupture	78.7%	Pass
L45	42.83 - 41.75	Pole + Reinf.	TP38.415x38.239x0.975	Reinf. 12 Tension Rupture	79.1%	Pass
L46	41.75 - 41.5	Pole + Reinf.	TP38.456x38.415x1	Reinf. 12 Tension Rupture	76.5%	Pass
L47	41.5 - 36.5	Pole + Reinf.	TP39.274x38.456x0.975	Reinf. 12 Tension Rupture	78.2%	Pass
L48	36.5 - 32.75	Pole + Reinf.	TP39.888x39.274x0.975	Reinf. 12 Tension Rupture	79.4%	Pass
L49	32.75 - 32.5	Pole + Reinf.	TP39.929x39.888x1.025	Reinf. 4 Tension Rupture	71.2%	Pass
L50	32.5 - 32.25	Pole + Reinf.	TP39.97x39.929x1.025	Reinf. 4 Tension Rupture	71.3%	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L51	32.25 - 32	Pole + Reinf.	TP40.011x39.97x1.05	Reinf. 4 Tension Rupture	70.7%	Pass
L52	32 - 30.33	Pole + Reinf.	TP40.284x40.011x1.025	Reinf. 4 Tension Rupture	71.2%	Pass
L53	30.33 - 30.08	Pole + Reinf.	TP40.325x40.284x0.925	Reinf. 8 Tension Rupture	87.1%	Pass
L54	30.08 - 28.25	Pole + Reinf.	TP40.625x40.325x0.925	Reinf. 8 Tension Rupture	87.7%	Pass
L55	28.25 - 28	Pole + Reinf.	TP40.666x40.625x0.975	Reinf. 8 Tension Rupture	81.3%	Pass
L56	28 - 23	Pole + Reinf.	TP41.485x40.666x0.95	Reinf. 8 Tension Rupture	82.8%	Pass
L57	23 - 19.25	Pole + Reinf.	TP42.099x41.485x0.95	Reinf. 8 Tension Rupture	83.9%	Pass
L58	19.25 - 19	Pole + Reinf.	TP42.139x42.099x0.8375	Reinf. 5 Tension Rupture	84.5%	Pass
L59	19 - 14.5	Pole + Reinf.	TP42.876x42.139x0.825	Reinf. 5 Tension Rupture	85.6%	Pass
L60	14.5 - 14.25	Pole + Reinf.	TP42.917x42.876x1.275	Reinf. 6 Tension Rupture	59.0%	Pass
L61	14.25 - 12.75	Pole + Reinf.	TP43.163x42.917x1.275	Reinf. 6 Tension Rupture	59.3%	Pass
L62	12.75 - 12.5	Pole + Reinf.	TP43.204x43.163x1	Reinf. 6 Tension Rupture	71.9%	Pass
L63	12.5 - 7.5	Pole + Reinf.	TP44.022x43.204x0.975	Reinf. 6 Tension Rupture	73.0%	Pass
L64	7.5 - 3.5	Pole + Reinf.	TP44.677x44.022x0.975	Reinf. 6 Tension Rupture	73.9%	Pass
L65	3.5 - 3.25	Pole + Reinf.	TP44.718x44.677x1.25	Reinf. 5 Tension Rupture	60.0%	Pass
L66	3.25 - 0	Pole + Reinf.	TP45.25x44.718x1.225	Reinf. 5 Tension Rupture	60.6%	Pass
					Summary	
				Pole	89.2	Pass
				Reinforcement	91.1	Pass
				Overall	91.1	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC4.7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	64.6	Pass
1	Base Plate		57.1	Pass
1	Base Foundation (Structure)	0	87.8	Pass
1	Base Foundation (Soil Interaction)		58.6	Pass

Structure Rating (max from all components) =	91.1%*

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

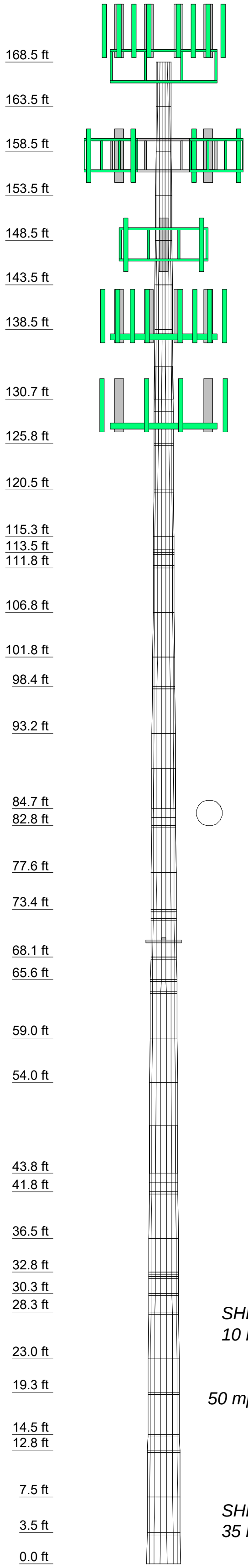
4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration once the proposed modifications are installed.

APPENDIX A

TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.00	18	0.1875		19.0000	19.8343		0.2
2	5.00	18	0.1875		19.8343	20.6685		0.2
3	5.00	18	0.1875		20.6685	21.5028		0.2
4	5.00	18	0.1875		21.5028	22.3370		0.2
5	5.00	18	0.1875		22.3370	23.1713		0.2
22	5.00	18	0.6250		[illegible]	[illegible]		0.9
42	5.00	18	0.9375		36.2118	37.0324		1.8
43	10.17	18	0.9125	5.34		38.7021		3.6
							A572-65	49.8



MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 116 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. CCI POLE RATING: 91.1%

ALL REACTIONS ARE FACTORED

AXIAL 122 K
SHEAR 10 K
MOMENT 1303 kip-ft
TORQUE 0 kip-ft
50 mph WIND - 1.0000 in ICE

AXIAL 91 K
SHEAR 35 K
MOMENT 4568 kip-ft
TORQUE 2 kip-ft
REACTIONS - 116 mph WIND

Morrison Hershfield
1455 Lincoln Parkway, Suit 500
Atlanta, GA 30346
Phone: (770) 379-8500
FAX: (770) 379-8501
Consulting Engineers

Job: CN8-652R4 / 2200039		
Project: 842859 / Bristol Center		
Client: Crown Castle USA	Drawn by: RP	App'd:
Code: TIA-222-H	Date: 07/01/22	Scale: NTS
Path: C:\Users\Pkumar\Desktop\July-01\CN8-652R4\CN8-652R4 SA Re-run\Analysis\CN8-652R4 BU_842859 WO_2132702_Modified.eri		Dwg No. E-1

Tower Input Data

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

Tower is located in Hartford County, Connecticut.
Tower base elevation above sea level: 565.00 ft.
Basic wind speed of 116 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 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Tower analysis based on target reliabilities in accordance with Annex S.
Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
Maximum demand-capacity ratio is: 1.05.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	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	168.50-163.50	5.00	0.00	18	19.0000	19.8343	0.1875	0.7500	A572-65 (65 ksi)
L2	163.50-158.50	5.00	0.00	18	19.8343	20.6685	0.1875	0.7500	A572-65 (65 ksi)
L3	158.50-153.50	5.00	0.00	18	20.6685	21.5028	0.1875	0.7500	A572-65 (65 ksi)
L4	153.50-148.50	5.00	0.00	18	21.5028	22.3370	0.1875	0.7500	A572-65 (65 ksi)
L5	148.50-143.50	5.00	0.00	18	22.3370	23.1713	0.1875	0.7500	A572-65 (65 ksi)
L6	143.50-138.50	5.00	0.00	18	23.1713	24.0056	0.1875	0.7500	A572-65 (65 ksi)
L7	138.50-138.00	0.50	0.00	18	24.0056	24.0890	0.1875	0.7500	A572-65 (65 ksi)
L8	138.00-137.75	0.25	0.00	18	24.0890	24.1307	0.4375	1.7500	A572-65 (65 ksi)
L9	137.75-130.67	7.08	3.66	18	24.1307	25.3125	0.4375	1.7500	A572-65 (65 ksi)
L10	130.67-129.33	5.00	0.00	18	24.3268	25.1499	0.4938	1.9750	A572-65 (65 ksi)
L11	129.33-125.75	3.58	0.00	18	25.1499	25.7387	0.4875	1.9500	A572-65 (65 ksi)
L12	125.75-125.50	0.25	0.00	18	25.7387	25.7798	0.6125	2.4500	A572-65 (65 ksi)
L13	125.50-120.50	5.00	0.00	18	25.7798	26.6029	0.6000	2.4000	A572-65 (65 ksi)
L14	120.50-120.25	0.25	0.00	18	26.6029	26.6441	0.8500	3.4000	A572-65 (65 ksi)
L15	120.25-115.25	5.00	0.00	18	26.6441	27.4671	0.8375	3.3500	A572-65 (65 ksi)
L16	115.25-113.83	1.42	0.00	18	27.4671	27.7004	0.8250	3.3000	A572-65 (65 ksi)
L17	113.83-113.48	0.35	0.00	18	27.7004	27.7580	0.8625	3.4500	A572-65 (65 ksi)
L18	113.48-113.25	0.23	0.00	18	27.7580	27.7963	0.8625	3.4500	A572-65 (65 ksi)
L19	113.25-112.00	1.25	0.00	18	27.7963	28.0021	0.8500	3.4000	A572-65 (65 ksi)
L20	112.00-111.75	0.25	0.00	18	28.0021	28.0433	0.6500	2.6000	A572-65 (65 ksi)
L21	111.75-106.75	5.00	0.00	18	28.0433	28.8663	0.6375	2.5500	A572-65 (65 ksi)
L22	106.75-101.75	5.00	0.00	18	28.8663	29.6894	0.6250	2.5000	A572-65 (65 ksi)
L23	101.75-98.42	3.33	0.00	18	29.6894	30.2375	0.6125	2.4500	A572-65 (65 ksi)
L24	98.42-98.17	0.25	0.00	18	30.2375	30.2787	0.9500	3.8000	A572-65 (65 ksi)
L25	98.17-93.17	5.00	0.00	18	30.2787	31.1017	0.9375	3.7500	A572-65 (65 ksi)
L26	93.17-84.72	8.45	4.56	18	31.1017	32.4932	0.9250	3.7000	A572-65 (65 ksi)
L27	84.72-83.72	5.56	0.00	18	31.2426	32.1551	0.8625	3.4500	A572-65 (65 ksi)
L28	83.72-82.83	0.88	0.00	18	32.1551	32.3002	0.8625	3.4500	A572-65 (65 ksi)
L29	82.83-82.58	0.25	0.00	18	32.3002	32.3412	0.9875	3.9500	A572-65 (65 ksi)
L30	82.58-77.58	5.00	0.00	18	32.3412	33.1619	0.9625	3.8500	A572-65 (65 ksi)
L31	77.58-73.42	4.17	0.00	18	33.1619	33.8456	0.9375	3.7500	A572-65 (65 ksi)
L32	73.42-73.17	0.25	0.00	18	33.8456	33.8866	1.2125	4.8500	A572-65 (65 ksi)
L33	73.17-72.42	0.75	0.00	18	33.8866	34.0092	1.2125	4.8500	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	72.42-72.17	0.25	0.00	18	34.0092	34.0503	0.9250	3.7000	A572-65 (65 ksi)
L35	72.17-68.08	4.09	0.00	18	34.0503	34.7216	0.9125	3.6500	A572-65 (65 ksi)
L36	68.08-67.83	0.25	0.00	18	34.7216	34.7626	0.9125	3.6500	A572-65 (65 ksi)
L37	67.83-65.58	2.25	0.00	18	34.7626	35.1319	0.9125	3.6500	A572-65 (65 ksi)
L38	65.58-65.33	0.25	0.00	18	35.1319	35.1729	1.1625	4.6500	A572-65 (65 ksi)
L39	65.33-64.25	1.08	0.00	18	35.1729	35.3502	1.1625	4.6500	A572-65 (65 ksi)
L40	64.25-64.00	0.25	0.00	18	35.3502	35.3912	0.9625	3.8500	A572-65 (65 ksi)
L41	64.00-59.00	5.00	0.00	18	35.3912	36.2118	0.9500	3.8000	A572-65 (65 ksi)
L42	59.00-54.00	5.00	0.00	18	36.2118	37.0324	0.9375	3.7500	A572-65 (65 ksi)
L43	54.00-43.83	10.17	5.34	18	37.0324	38.7021	0.9125	3.6500	A572-65 (65 ksi)
L44	43.83-42.83	6.34	0.00	18	37.2007	38.2386	0.9750	3.9000	A572-65 (65 ksi)
L45	42.83-41.75	1.08	0.00	18	38.2386	38.4149	0.9750	3.9000	A572-65 (65 ksi)
L46	41.75-41.50	0.25	0.00	18	38.4149	38.4559	1.0000	4.0000	A572-65 (65 ksi)
L47	41.50-36.50	5.00	0.00	18	38.4559	39.2744	0.9750	3.9000	A572-65 (65 ksi)
L48	36.50-32.75	3.75	0.00	18	39.2744	39.8884	0.9750	3.9000	A572-65 (65 ksi)
L49	32.75-32.50	0.25	0.00	18	39.8884	39.9293	1.0250	4.1000	A572-65 (65 ksi)
L50	32.50-32.25	0.25	0.00	18	39.9293	39.9702	1.0250	4.1000	A572-65 (65 ksi)
L51	32.25-32.00	0.25	0.00	18	39.9702	40.0111	1.0500	4.2000	A572-65 (65 ksi)
L52	32.00-30.33	1.67	0.00	18	40.0111	40.2841	1.0250	4.1000	A572-65 (65 ksi)
L53	30.33-30.08	0.25	0.00	18	40.2841	40.3250	0.9250	3.7000	A572-65 (65 ksi)
L54	30.08-28.25	1.83	0.00	18	40.3250	40.6251	0.9250	3.7000	A572-65 (65 ksi)
L55	28.25-28.00	0.25	0.00	18	40.6251	40.6660	0.9750	3.9000	A572-65 (65 ksi)
L56	28.00-23.00	5.00	0.00	18	40.6660	41.4846	0.9500	3.8000	A572-65 (65 ksi)
L57	23.00-19.25	3.75	0.00	18	41.4846	42.0985	0.9500	3.8000	A572-65 (65 ksi)
L58	19.25-19.00	0.25	0.00	18	42.0985	42.1394	0.8375	3.3500	A572-65 (65 ksi)
L59	19.00-14.50	4.50	0.00	18	42.1394	42.8761	0.8250	3.3000	A572-65 (65 ksi)
L60	14.50-14.25	0.25	0.00	18	42.8761	42.9171	1.2750	5.1000	A572-65 (65 ksi)
L61	14.25-12.75	1.50	0.00	18	42.9171	43.1626	1.2750	5.1000	A572-65 (65 ksi)
L62	12.75-12.50	0.25	0.00	18	43.1626	43.2036	1.0000	4.0000	A572-65 (65 ksi)
L63	12.50-7.50	5.00	0.00	18	43.2036	44.0221	0.9750	3.9000	A572-65 (65 ksi)
L64	7.50-3.50	4.00	0.00	18	44.0221	44.6770	0.9750	3.9000	A572-65 (65 ksi)
L65	3.50-3.25	0.25	0.00	18	44.6770	44.7179	1.2500	5.0000	A572-65 (65 ksi)
L66	3.25-0.00	3.25		18	44.7179	45.2500	1.2250	4.9000	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	19.2642	11.1958	500.5935	6.6784	9.6520	51.8642	1001.8456	5.5990	3.0140	16.075
	20.1113	11.6923	570.1884	6.9746	10.0758	56.5899	1141.1270	5.8472	3.1608	16.858
L2	20.1113	11.6923	570.1884	6.9746	10.0758	56.5899	1141.1270	5.8472	3.1608	16.858
	20.9584	12.1888	645.9519	7.2708	10.4996	61.5215	1292.7538	6.0955	3.3077	17.641
L3	20.9584	12.1888	645.9519	7.2708	10.4996	61.5215	1292.7538	6.0955	3.3077	17.641
	21.8056	12.6853	728.1460	7.5669	10.9234	66.6592	1457.2502	6.3438	3.4545	18.424
L4	21.8056	12.6853	728.1460	7.5669	10.9234	66.6592	1457.2502	6.3438	3.4545	18.424
	22.6527	13.1817	817.0327	7.8631	11.3472	72.0029	1635.1404	6.5921	3.6013	19.207
L5	22.6527	13.1817	817.0327	7.8631	11.3472	72.0029	1635.1404	6.5921	3.6013	19.207
	23.4998	13.6782	912.8737	8.1592	11.7710	77.5527	1826.9486	6.8404	3.7481	19.99
L6	23.4998	13.6782	912.8737	8.1592	11.7710	77.5527	1826.9486	6.8404	3.7481	19.99
	24.3470	14.1747	1015.9312	8.4554	12.1948	83.3084	2033.1992	7.0887	3.8950	20.773
L7	24.3470	14.1747	1015.9312	8.4554	12.1948	83.3084	2033.1992	7.0887	3.8950	20.773
	24.4317	14.2244	1026.6439	8.4850	12.2372	83.8953	2054.6387	7.1135	3.9097	20.852
L8	24.3931	32.8430	2321.1179	8.3963	12.2372	189.6772	4645.2900	16.4246	3.4697	7.931
	24.4355	32.9010	2333.4205	8.4111	12.2584	190.3529	4669.9114	16.4536	3.4770	7.947
L9	24.4355	32.9010	2333.4205	8.4111	12.2584	190.3529	4669.9114	16.4536	3.4770	7.947
	25.6355	34.5420	2700.2980	8.8306	12.8588	209.9969	5404.1492	17.2743	3.6850	8.423
L10	25.2377	37.3503	2680.3506	8.4607	12.3580	216.8915	5364.2280	18.6787	3.4125	6.911
	25.4617	38.6402	2967.7426	8.7529	12.7761	232.2879	5939.3903	19.3238	3.5574	7.205
L11	25.4627	38.1607	2932.4051	8.7551	12.7761	229.5220	5868.6688	19.0840	3.5684	7.32
	26.0606	39.0718	3147.4935	8.9642	13.0753	240.7213	6299.1285	19.5396	3.6720	7.532
L12	26.0413	48.8472	3896.1053	8.9198	13.0753	297.9754	7797.3371	24.4282	3.4520	5.636
	26.0831	48.9272	3915.2803	8.9344	13.0962	298.9639	7835.7125	24.4683	3.4593	5.648
L13	26.0850	47.9525	3841.0943	8.9388	13.0962	293.2992	7687.2428	23.9808	3.4813	5.802
	26.9207	49.5199	4230.2038	9.2310	13.5143	313.0174	8465.9738	24.7647	3.6261	6.044
L14	26.8822	69.4788	5821.5956	9.1423	13.5143	430.7738	11650.851 5	34.7460	3.1861	3.748
	26.9240	69.5898	5849.5488	9.1569	13.5352	432.1736	11706.794 6	34.8015	3.1934	3.757
L15	26.9259	68.5996	5771.9092	9.1613	13.5352	426.4375	11551.413 3	34.3063	3.2154	3.839
	27.7616	70.7875	6341.9663	9.4535	13.9533	454.5139	12692.277 6	35.4005	3.3602	4.012
L16	27.7636	69.7637	6256.1118	9.4580	13.9533	448.3609	12520.455 5	34.8885	3.3822	4.1
	28.0004	70.3745	6421.8733	9.5408	14.0718	456.3651	12852.196 7	35.1939	3.4233	4.149
L17	27.9946	73.4707	6685.7121	9.5274	14.0718	475.1146	13380.221 3	36.7423	3.3573	3.892
	28.0531	73.6284	6728.8621	9.5479	14.1011	477.1885	13466.578 2	36.8212	3.3674	3.904
L18	28.0531	73.6284	6728.8621	9.5479	14.1011	477.1885	13466.578 2	36.8212	3.3674	3.904
	28.0921	73.7334	6757.6904	9.5615	14.1205	478.5716	13524.272 7	36.8737	3.3742	3.912
L19	28.0940	72.6985	6669.0295	9.5660	14.1205	472.2928	13346.834 3	36.3562	3.3962	3.995
	28.3030	73.2537	6822.9748	9.6390	14.2251	479.6444	13654.927 4	36.6338	3.4324	4.038
L20	28.3338	56.4301	5333.7168	9.7100	14.2251	374.9519	10674.451 8	28.2204	3.7844	5.822
	28.3756	56.5150	5357.8277	9.7246	14.2460	376.0942	10722.705 4	28.2629	3.7916	5.833
L21	28.3775	55.4535	5261.9894	9.7290	14.2460	369.3668	10530.902 6	27.7320	3.8136	5.982
	29.2133	57.1189	5750.4586	10.0212	14.6641	392.1457	11508.483 8	28.5649	3.9585	6.209
L22	29.2152	56.0237	5645.1971	10.0257	14.6641	384.9675	11297.822 4	28.0172	3.9805	6.369
	30.0510	57.6564	6153.2877	10.3179	15.0822	407.9834	12314.672 1	28.8337	4.1253	6.601
L23	30.0529	56.5276	6038.0058	10.3223	15.0822	400.3398	12083.956 5	28.2692	4.1473	6.771
	30.6095	57.5933	6385.9688	10.5169	15.3607	415.7352	12780.340 4	28.8021	4.2438	6.929
L24	30.5574	88.3107	9570.0928	10.3971	15.3607	623.0260	19152.778	44.1637	3.6498	3.842

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
	30.5992	88.4348	9610.4912	10.4117	15.3816	624.8056	19233.6281	44.2258	3.6570	3.85
L25	30.6012	87.3084	9496.1690	10.4161	15.3816	617.3732	19004.8333	43.6625	3.6790	3.924
	31.4369	89.7575	10317.9344	10.7083	15.7997	653.0469	20649.4454	44.8873	3.8239	4.079
L26	31.4388	88.5974	10193.0234	10.7127	15.7997	645.1410	20399.4590	44.3071	3.8459	4.158
	32.8518	92.6827	11669.0517	11.2067	16.5065	706.9348	23353.4578	46.3501	4.0908	4.422
L27	32.3514	83.1677	9697.7247	10.7849	15.8712	611.0255	19408.2099	41.5918	3.9807	4.615
	32.5181	85.6659	10598.1225	11.1089	16.3348	648.8065	21210.1902	42.8411	4.1413	4.802
L28	32.5181	85.6659	10598.1225	11.1089	16.3348	648.8065	21210.1902	42.8411	4.1413	4.802
	32.6654	86.0631	10746.2208	11.1604	16.4085	654.9179	21506.5818	43.0397	4.1668	4.831
L29	32.6461	98.1442	12157.4647	11.1160	16.4085	740.9247	24330.9264	49.0814	3.9468	3.997
	32.6878	98.2728	12205.3200	11.1306	16.4293	742.8975	24426.7000	49.1457	3.9541	4.004
L30	32.6917	95.8612	11924.8040	11.1394	16.4293	725.8234	23865.2989	47.9397	3.9981	4.154
	33.5250	98.3682	12885.0731	11.4308	16.8462	764.8641	25787.1007	49.1935	4.1425	4.304
L31	33.5288	95.8876	12579.6514	11.4396	16.8462	746.7341	25175.8555	47.9529	4.1865	4.466
	34.2231	97.9222	13397.5223	11.6824	17.1936	779.2170	26812.6734	48.9704	4.3068	4.594
L32	34.1807	125.5877	16896.6860	11.5848	17.1936	982.7328	33815.6051	62.8058	3.8228	3.153
	34.2224	125.7456	16960.5018	11.5993	17.2144	985.2500	33943.3206	62.8848	3.8300	3.159
L33	34.2224	125.7456	16960.5018	11.5993	17.2144	985.2500	33943.3206	62.8848	3.8300	3.159
	34.3468	126.2174	17152.1401	11.6428	17.2767	992.7905	34326.8494	63.1207	3.8516	3.177
L34	34.3912	97.1337	13432.2806	11.7449	17.2767	777.4797	26882.2358	48.5761	4.3576	4.711
	34.4329	97.2542	13482.3193	11.7595	17.2975	779.4356	26982.3790	48.6363	4.3648	4.719
L35	34.4348	95.9761	13315.1881	11.7639	17.2975	769.7735	26647.8967	47.9972	4.3868	4.808
	35.1164	97.9203	14140.8721	12.0022	17.6385	801.7027	28300.3511	48.9695	4.5050	4.937
L36	35.1164	97.9203	14140.8721	12.0022	17.6385	801.7027	28300.3511	48.9695	4.5050	4.937
	35.1581	98.0391	14192.4197	12.0168	17.6594	803.6754	28403.5142	49.0289	4.5122	4.945
L37	35.1581	98.0391	14192.4197	12.0168	17.6594	803.6754	28403.5142	49.0289	4.5122	4.945
	35.5331	99.1087	14661.9972	12.1479	17.8470	821.5390	29343.2870	49.5638	4.5772	5.016
L38	35.4945	125.3393	18272.5714	12.0591	17.8470	1023.8462	36569.1864	62.6816	4.1372	3.559
	35.5362	125.4907	18338.8656	12.0737	17.8678	1026.3621	36701.8620	62.7573	4.1444	3.565
L39	35.5362	125.4907	18338.8656	12.0737	17.8678	1026.3621	36701.8620	62.7573	4.1444	3.565
	35.7162	126.1448	18627.0993	12.1366	17.9579	1037.2662	37278.7086	63.0844	4.1756	3.592
L40	35.7470	105.0534	15694.6904	12.2076	17.9579	873.9724	31410.0322	52.5367	4.5276	4.704
	35.7887	105.1788	15750.9383	12.2222	17.9787	876.0878	31522.6022	52.5994	4.5348	4.712
L41	35.7906	103.8505	15563.3201	12.2266	17.9787	865.6522	31147.1188	51.9351	4.5568	4.797
	36.6239	106.3250	16702.519	12.5179	18.3956	907.9626	33427.016	53.1726	4.7013	4.949

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
			5				6			
L42	36.6258	104.9631	16500.284 7	12.5224	18.3956	896.9690	33022.280 9	52.4915	4.7233	5.038
	37.4591	107.4050	17678.883 4	12.8137	18.8125	939.7422	35381.029 1	53.7127	4.8677	5.192
L43	37.4630	104.6133	17243.225 8	12.8226	18.8125	916.5843	34509.140 7	52.3166	4.9117	5.383
	39.1584	109.4491	19746.681 9	13.4153	19.6607	1004.3750	39519.347 0	54.7349	5.2056	5.705
L44	38.5119	112.1058	18586.523 2	12.8601	18.8979	983.5212	37197.503 0	56.0635	4.8313	4.955
	38.6781	115.3178	20230.374 7	13.2286	19.4252	1041.4491	40487.369 0	57.6699	5.0140	5.143
L45	38.6781	115.3178	20230.374 7	13.2286	19.4252	1041.4491	40487.369 0	57.6699	5.0140	5.143
	38.8571	115.8635	20518.907 6	13.2912	19.5148	1051.4544	41064.814 6	57.9428	5.0450	5.174
L46	38.8533	118.7550	21002.904 0	13.2823	19.5148	1076.2559	42033.444 2	59.3888	5.0010	5.001
	38.8948	118.8849	21071.905 3	13.2968	19.5356	1078.6425	42171.537 5	59.4538	5.0082	5.008
L47	38.8987	115.9902	20586.273 7	13.3057	19.5356	1053.7837	41199.635 4	58.0061	5.0522	5.182
	39.7299	118.5233	21964.739 4	13.5963	19.9514	1100.9115	43958.380 5	59.2729	5.1963	5.33
L48	39.7299	118.5233	21964.739 4	13.5963	19.9514	1100.9115	43958.380 5	59.2729	5.1963	5.33
	40.3533	120.4232	23038.025 2	13.8142	20.2633	1136.9342	46106.364 5	60.2231	5.3044	5.44
L49	40.3456	126.4361	24126.223 2	13.7965	20.2633	1190.6371	48284.192 2	63.2301	5.2164	5.089
	40.3871	126.5693	24202.528 3	13.8110	20.2841	1193.1785	48436.902 9	63.2967	5.2236	5.096
L50	40.3871	126.5693	24202.528 3	13.8110	20.2841	1193.1785	48436.902 9	63.2967	5.2236	5.096
	40.4287	126.7024	24278.994 1	13.8256	20.3049	1195.7226	48589.935 2	63.3633	5.2308	5.103
L51	40.4248	129.7094	24823.299 0	13.8167	20.3049	1222.5292	49679.261 2	64.8670	5.1868	4.94
	40.4664	129.8458	24901.694 0	13.8312	20.3257	1225.1356	49836.154 3	64.9352	5.1940	4.947
L52	40.4703	126.8356	24355.620 9	13.8401	20.3257	1198.2694	48743.289 5	63.4298	5.2380	5.11
	40.7474	127.7235	24870.693 6	13.9370	20.4643	1215.3209	49774.112 6	63.8739	5.2860	5.157
L53	40.7628	115.5562	22616.230 8	13.9725	20.4643	1105.1552	45262.220 5	57.7891	5.4620	5.905
	40.8044	115.6764	22686.858 4	13.9870	20.4851	1107.4813	45403.568 7	57.8492	5.4692	5.913
L54	40.8044	115.6764	22686.858 4	13.9870	20.4851	1107.4813	45403.568 7	57.8492	5.4692	5.913
	41.1091	116.5574	23209.196 5	14.0935	20.6375	1124.6107	46448.932 3	58.2898	5.5220	5.97
L55	41.1014	122.7031	24371.431 9	14.0758	20.6375	1180.9273	48774.932 5	61.3632	5.4340	5.573
	41.1429	122.8298	24446.981 6	14.0903	20.6583	1183.3958	48926.131 2	61.4266	5.4412	5.581
L56	41.1468	119.7557	23865.174 8	14.0992	20.6583	1155.2325	47761.751 9	59.8892	5.4852	5.774
	41.9780	122.2239	25371.424 0	14.3898	21.0742	1203.9113	50776.232 4	61.1236	5.6293	5.926
L57	41.9780	122.2239	25371.424 0	14.3898	21.0742	1203.9113	50776.232 4	61.1236	5.6293	5.926
	42.6014	124.0751	26541.782 9	14.6077	21.3860	1241.0799	53118.490 2	62.0493	5.7373	6.039
L58	42.6187	109.6810	23591.118 2	14.6477	21.3860	1103.1083	47213.278 1	54.8509	5.9353	7.087
	42.6603	109.7898	23661.390 9	14.6622	21.4068	1105.3196	47353.916 1	54.9053	5.9425	7.096
L59	42.6622	108.1839	23329.404	14.6666	21.4068	1089.8112	46689.507	54.1022	5.9645	7.23

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
			9				2			
	43.4103	110.1130	24599.812 5	14.9282	21.7811	1129.4119	49231.994 1	55.0670	6.0942	7.387
L60	43.3409	168.3536	36810.389 2	14.7684	21.7811	1690.0166	73669.214 4	84.1928	5.3022	4.159
	43.3824	168.5192	36919.141 8	14.7829	21.8019	1693.3931	73886.862 8	84.2756	5.3094	4.164
L61	43.3824	168.5192	36919.141 8	14.7829	21.8019	1693.3931	73886.862 8	84.2756	5.3094	4.164
	43.6318	169.5130	37576.158 7	14.8701	21.9266	1713.7230	75201.761 1	84.7726	5.3526	4.198
L62	43.6742	133.8242	30055.773 4	14.9677	21.9266	1370.7434	60151.094 9	66.9248	5.8366	5.837
	43.7158	133.9541	30143.386 5	14.9823	21.9474	1373.4367	60326.436 4	66.9898	5.8438	5.844
L63	43.7196	130.6827	29442.061 4	14.9911	21.9474	1341.4820	58922.863 4	65.3537	5.8878	6.039
	44.5508	133.2158	31187.604 4	15.2817	22.3632	1394.5918	62416.246 2	66.6206	6.0319	6.187
L64	44.5508	133.2158	31187.604 4	15.2817	22.3632	1394.5918	62416.246 2	66.6206	6.0319	6.187
	45.2158	135.2424	32632.695 0	15.5142	22.6959	1437.8223	65308.328 9	67.6340	6.1472	6.305
L65	45.1734	172.2966	41051.959 1	15.4166	22.6959	1808.7817	82157.935 4	86.1647	5.6632	4.531
	45.2149	172.4590	41168.138 9	15.4311	22.7167	1812.2405	82390.447 9	86.2459	5.6704	4.536
L66	45.2188	169.1070	40414.427 4	15.4400	22.7167	1779.0618	80882.033 2	84.5696	5.7144	4.665
	45.7591	171.1758	41915.876 8	15.6289	22.9870	1823.4601	83886.907 6	85.6042	5.8080	4.741

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 168.50-163.50				1	1	1			
L2 163.50-158.50				1	1	1			
L3 158.50-153.50				1	1	1			
L4 153.50-148.50				1	1	1			
L5 148.50-143.50				1	1	1			
L6 143.50-138.50				1	1	1			
L7 138.50-138.00				1	1	1			
L8 138.00-137.75				1	1	1.041			
L9 137.75-130.67				1	1	1.02659			
L10 130.67-129.33				1	1	1.02895			
L11 129.33-125.75				1	1	1.02954			
L12 125.75-125.50				1	1	1.09876			
L13 125.50-120.50				1	1	1.09879			
L14 120.50-120.25				1	1	0.910356			
L15 120.25-115.25				1	1	0.904179			
L16 115.25-113.83				1	1	0.912115			

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
L17 113.83-113.48				1	1	1.00613			
L18 113.48-113.25				1	1	1.00511			
L19 113.25-112.00				1	1	1.01392			
L20 112.00-111.75				1	1	0.960897			
L21 111.75-106.75				1	1	0.962172			
L22 106.75-101.75				1	1	0.964529			
L23 101.75-98.42				1	1	0.973139			
L24 98.42-98.17				1	1	0.916832			
L25 98.17-93.17				1	1	0.910597			
L26 93.17-84.72				1	1	0.908957			
L27 84.72-83.72				1	1	0.952371			
L28 83.72-82.83				1	1	0.949648			
L29 82.83-82.58				1	1	1.01524			
L30 82.58-77.58				1	1	1.02253			
L31 77.58-73.42				1	1	1.03412			
L32 73.42-73.17				1	1	0.948776			
L33 73.17-72.42				1	1	0.946193			
L34 72.42-72.17				1	1	0.97133			
L35 72.17-68.08				1	1	0.971521			
L36 68.08-67.83				1	1	1.09826			
L37 67.83-65.58				1	1	1.09011			
L38 65.58-65.33				1	1	0.96087			
L39 65.33-64.25				1	1	0.957282			
L40 64.25-64.00				1	1	0.977347			
L41 64.00-59.00				1	1	0.974466			
L42 59.00-54.00				1	1	0.972245			
L43 54.00-43.83				1	1	0.9841			
L44 43.83-42.83				1	1	1.02386			
L45 42.83-41.75				1	1	1.02085			
L46 41.75-41.50				1	1	1.04579			
L47 41.50-36.50				1	1	1.0572			
L48 36.50-32.75				1	1	1.04659			
L49 32.75-32.50				1	1	1.02578			
L50 32.50-				1	1	1.02509			

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
32.25									
L51 32.25-32.00				1	1	1.02953			
L52 32.00-30.33				1	1	1.04918			
L53 30.33-30.08				1	1	1.05513			
L54 30.08-28.25				1	1	1.05021			
L55 28.25-28.00				1	1	1.10893			
L56 28.00-23.00				1	1	1.1224			
L57 23.00-19.25				1	1	1.11154			
L58 19.25-19.00				1	1	1.09266			
L59 19.00-14.50				1	1	1.09741			
L60 14.50-14.25				1	1	0.910219			
L61 14.25-12.75				1	1	0.906607			
L62 12.75-12.50				1	1	1.02632			
L63 12.50-7.50				1	1	1.03932			
L64 7.50-3.50				1	1	1.02951			
L65 3.50-3.25				1	1	0.871411			
L66 3.25-0.00				1	1	0.881643			

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
******										
Safety Line 3/8"	C	No	Surface Ar (CaAa)	168.50 - 0.00	1	1	0.000 0.000	0.3750		0.22
Climbing Pegs	C	No	Surface Ar (CaAa)	168.50 - 0.00	1	1	-0.050 0.050	0.7050		1.80
******										
CU12PSM9P6XXX(1-1/2)	B	No	Surface Ar (CaAa)	148.00 - 6.00	1	1	0.050 0.050	1.6000		2.35
HB158-1-08U8-S8J18(1-5/8)	A	No	Surface Ar (CaAa)	138.00 - 6.00	1	1	0.305 0.305	1.9800		1.30
HB114-U6S12-XXX-LI(1-1/4)	A	No	Surface Ar (CaAa)	138.00 - 6.00	1	1	0.300 0.300	1.5400		1.70
******										
MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	B	No	Surface Ar (CaAa)	128.00 - 6.00	1	1	0.000 0.000	1.2500		0.68
***										
******										
LDF4-50A(1/2)	C	No	Surface Ar (CaAa)	70.00 - 6.00	1	1	0.250 0.250	0.6250		0.15
******										
Shaft Rinforcement [#PL0.625x5]	A	No	Surface Af (CaAa)	84.67 - 0.00	1	1	0.000 0.000	5.0000	11.2500	10.63
Shaft Rinforcement [#PL0.625x5]	C	No	Surface Af (CaAa)	84.67 - 0.00	1	1	0.000 0.000	5.0000	11.2500	10.63
Shaft Rinforcement	A	No	Surface Af	120.00 -	1	1	0.000	5.0000	11.2500	10.63

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
[#PL0.625x5]			(CaAa)	84.67			0.000			
Shaft Rinforcement [#PL0.625x5]	B	No	Surface Af (CaAa)	120.00 - 84.67	1	1	0.000 0.000	5.0000	11.2500	10.63
Shaft Rinforcement [#PL0.625x5]	C	No	Surface Af (CaAa)	120.00 - 84.67	1	1	0.000 0.000	5.0000	11.2500	10.63
******										
Shaft Rinforcement [#PL1.25x6]	A	No	Surface Af (CaAa)	30.75 - 0.00	1	1	0.000 0.000	6.0000	14.5000	0.00
Shaft Rinforcement [#PL1.25x6]	B	No	Surface Af (CaAa)	30.75 - 0.00	1	1	0.000 0.000	6.0000	14.5000	0.00
Shaft Rinforcement [#PL1.25x6]	C	No	Surface Af (CaAa)	30.75 - 0.00	2	2	0.000 0.000	6.0000	14.5000	0.00
Shaft Rinforcement [#PL1.25x6]	A	No	Surface Af (CaAa)	47.92 - 27.75	2	2	0.000 0.000	6.0000	14.5000	0.00
Shaft Rinforcement [#PL1.25x6]	B	No	Surface Af (CaAa)	47.92 - 27.75	1	1	0.000 0.000	6.0000	14.5000	0.00
Shaft Rinforcement [#PL1.25x6]	C	No	Surface Af (CaAa)	47.92 - 27.75	1	1	0.000 0.000	6.0000	14.5000	0.00
Shaft Rinforcement [#PL1.25x5]	A	No	Surface Af (CaAa)	75.42 - 45.38	2	2	0.000 0.000	5.0000	12.5000	0.00
Shaft Rinforcement [#PL1.25x5]	B	No	Surface Af (CaAa)	75.42 - 45.38	1	1	0.000 0.000	5.0000	12.5000	0.00
Shaft Rinforcement [#PL1.25x5]	C	No	Surface Af (CaAa)	75.42 - 45.38	1	1	0.000 0.000	5.0000	12.5000	0.00
Shaft Rinforcement [#PL1.25x5]	A	No	Surface Af (CaAa)	87.92 - 72.75	1	1	0.000 0.000	5.0000	12.5000	0.00
Shaft Rinforcement [#PL1.25x5]	B	No	Surface Af (CaAa)	87.92 - 72.75	1	1	0.000 0.000	5.0000	12.5000	0.00
Shaft Rinforcement [#PL1.25x5]	C	No	Surface Af (CaAa)	87.92 - 72.75	2	2	0.000 0.000	5.0000	12.5000	0.00
Shaft Rinforcement [#PL1.25x5]	A	No	Surface Af (CaAa)	115.83 - 85.83	1	1	0.000 0.000	5.0000	12.5000	0.00
Shaft Rinforcement [#PL1.25x5]	B	No	Surface Af (CaAa)	115.83 - 85.83	1	1	0.000 0.000	5.0000	12.5000	0.00
Shaft Rinforcement [#PL1.25x5]	C	No	Surface Af (CaAa)	115.83 - 85.83	1	1	0.000 0.000	5.0000	12.5000	0.00
******										
CCI-SFP-060100	A	No	Surface Af (CaAa)	43.75 - 0.00	1	1	0.000 0.000	6.0000	14.0000	0.00
CCI-SFP-060100	B	No	Surface Af (CaAa)	43.75 - 0.00	2	2	0.000 0.000	6.0000	14.0000	0.00
CCI-SFP-060100	C	No	Surface Af (CaAa)	43.75 - 0.00	1	1	0.000 0.000	6.0000	14.0000	0.00
*****										
CCI-SFP-045100	A	No	Surface Af (CaAa)	84.33 - 43.75	1	1	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	B	No	Surface Af (CaAa)	84.33 - 43.75	2	2	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	C	No	Surface Af (CaAa)	84.33 - 43.75	1	1	0.000 0.000	4.5000	11.0000	0.00
*****										
CCI-SFP-045100	A	No	Surface Af (CaAa)	27.75 - 17.75	1	1	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	B	No	Surface Af (CaAa)	27.75 - 17.75	1	1	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	C	No	Surface Af (CaAa)	27.75 - 17.75	2	2	0.000 0.000	4.5000	11.0000	0.00
*****										
CCI-SFP-045100	A	No	Surface Af (CaAa)	72.75 - 62.75	1	1	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	B	No	Surface Af (CaAa)	72.75 - 62.75	1	1	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	C	No	Surface Af (CaAa)	72.75 - 62.75	2	2	0.000 0.000	4.5000	11.0000	0.00
*****										
CCI-SFP-045100	A	No	Surface Af (CaAa)	127.33 - 87.92	1	1	0.000 0.000	4.5000	11.0000	0.00
CCI-SFP-045100	B	No	Surface Af	127.33 -	1	1	0.000	4.5000	11.0000	0.00

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
			(CaAa)	87.92			0.000			
CCI-SFP-045100	C	No	Surface Af	127.33 -	1	1	0.000	4.5000	11.0000	0.00
			(CaAa)	87.92			0.000			
******										
CCI-SFP-040125	A	No	Surface Af	122.00 -	1	1	0.000	4.0000	10.5000	0.00
			(CaAa)	112.00			0.000			
CCI-SFP-040125	B	No	Surface Af	122.00 -	1	1	0.000	4.0000	10.5000	0.00
			(CaAa)	112.00			0.000			
CCI-SFP-050125	B	No	Surface Af	90.50 -	1	1	0.000	5.0000	12.5000	0.00
			(CaAa)	80.50			0.000			
CCI-SFP-050125	C	No	Surface Af	90.50 -	1	1	0.000	5.0000	12.5000	0.00
			(CaAa)	80.50			0.000			
CCI-SFP-050125	B	No	Surface Af	55.50 -	1	1	0.000	5.0000	12.5000	0.00
			(CaAa)	45.50			0.000			
CCI-SFP-050125	C	No	Surface Af	55.50 -	1	1	0.000	5.0000	12.5000	0.00
			(CaAa)	45.50			0.000			
CCI-SFP-065125	B	No	Surface Af	35.50 -	1	1	0.000	6.5000	15.5000	0.00
			(CaAa)	25.50			0.000			
CCI-SFP-065125	C	No	Surface Af	35.50 -	1	1	0.000	6.5000	15.5000	0.00
			(CaAa)	25.50			0.000			
******										
CCI-SFP-040125	A	No	Surface Af	140.00 -	1	1	-0.150	4.0000	10.5000	0.00
			(CaAa)	110.00			-0.150			
CCI-SFP-040125	B	No	Surface Af	140.00 -	1	1	-0.200	4.0000	10.5000	0.00
			(CaAa)	110.00			-0.200			
CCI-SFP-040125	C	No	Surface Af	140.00 -	1	1	0.200	4.0000	10.5000	0.00
			(CaAa)	110.00			0.200			
CCI-SFP-040125	C	No	Surface Af	140.00 -	1	1	-0.300	4.0000	10.5000	0.00
			(CaAa)	110.00			-0.300			
*****										
CCI-SFP-050125	A	No	Surface Af	100.42 -	1	1	0.400	5.0000	12.5000	0.00
			(CaAa)	70.42			0.400			
CCI-SFP-050125	B	No	Surface Af	80.50 -	1	1	0.400	5.0000	12.5000	0.00
			(CaAa)	70.42			0.400			
CCI-SFP-050125	B	No	Surface Af	100.58 -	1	1	0.400	5.0000	12.5000	0.00
			(CaAa)	90.50			0.400			
CCI-SFP-050125	B	No	Surface Af	100.42 -	1	1	-0.300	5.0000	12.5000	0.00
			(CaAa)	70.42			-0.300			
CCI-SFP-050125	C	No	Surface Af	80.50 -	1	1	-0.200	5.0000	12.5000	0.00
			(CaAa)	70.42			-0.200			
CCI-SFP-050125	C	No	Surface Af	100.58 -	1	1	-0.200	5.0000	12.5000	0.00
			(CaAa)	90.50			-0.200			
*****										
CCI-SFP-050125	A	No	Surface Af	70.08 -	1	1	0.400	5.0000	12.5000	0.00
			(CaAa)	35.00			0.400			
CCI-SFP-050125	B	No	Surface Af	70.08 -	1	1	-0.300	5.0000	12.5000	0.00
			(CaAa)	35.00			-0.300			
CCI-SFP-050125	B	No	Surface Af	67.58 -	1	1	0.400	5.0000	12.5000	0.00
			(CaAa)	35.50			0.400			
CCI-SFP-050125	C	No	Surface Af	67.58 -	1	1	-0.200	5.0000	12.5000	0.00
			(CaAa)	35.50			-0.200			
*****										
CCI-SFP-065125	A	No	Surface Af	35.00 -	1	1	0.400	6.5000	15.5000	0.00
			(CaAa)	10.00			0.400			
CCI-SFP-065125	B	No	Surface Af	35.00 -	1	1	-0.300	6.5000	15.5000	0.00
			(CaAa)	10.00			-0.300			
******										

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
Tower Lightining	A	No	No	Inside Pole	168.50 - 0.00	1	No Ice	0.00	0.08

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
(3/8")							1/2" Ice	0.00	0.08
							1" Ice	0.00	0.08
Tower Lightining (3/8")	B	No	No	Inside Pole	168.50 - 0.00	1	No Ice	0.00	0.08
							1/2" Ice	0.00	0.08
							1" Ice	0.00	0.08
******									
LDF7-50A(1-5/8)	C	No	No	Inside Pole	168.00 - 6.00	6	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
FB-L98B-034-XXXXXX(3/8)	C	No	No	Inside Pole	168.00 - 6.00	2	No Ice	0.00	0.05
							1/2" Ice	0.00	0.05
							1" Ice	0.00	0.05
LDF2-50(3/8)	C	No	No	Inside Pole	168.00 - 6.00	1	No Ice	0.00	0.08
							1/2" Ice	0.00	0.08
							1" Ice	0.00	0.08
Conduit (2")	C	No	No	Inside Pole	168.00 - 6.00	1	No Ice	0.00	2.80
							1/2" Ice	0.00	2.80
							1" Ice	0.00	2.80
***									
PWRT-606-S(7/8)	C	No	No	Inside Pole	168.00 - 6.00	5	No Ice	0.00	0.89
							1/2" Ice	0.00	0.89
							1" Ice	0.00	0.89
PWRT-608-S(13/16)	C	No	No	Inside Pole	168.00 - 6.00	6	No Ice	0.00	0.62
							1/2" Ice	0.00	0.62
							1" Ice	0.00	0.62
FB-L98B-034-XXXXXX(3/8)	C	No	No	Inside Pole	168.00 - 6.00	1	No Ice	0.00	0.05
							1/2" Ice	0.00	0.05
							1" Ice	0.00	0.05
FB-L98B-235-XXX(3/8)	C	No	No	Inside Pole	168.00 - 6.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
******									
***									
HB158-21U6S24-xxM_TMO(1-5/8)	C	No	No	Inside Pole	158.00 - 6.00	3	No Ice	0.00	2.50
							1/2" Ice	0.00	2.50
							1" Ice	0.00	2.50
******									
LDF7-50A(1-5/8)	A	No	No	Inside Pole	138.00 - 6.00	6	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
LDF7-50A(1-5/8)	B	No	No	Inside Pole	128.00 - 6.00	12	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
******									

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	168.50-163.50	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	0.540	0.000	0.08
L2	163.50-158.50	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	0.540	0.000	0.09
L3	158.50-153.50	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	0.540	0.000	0.12
L4	153.50-148.50	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	0.540	0.000	0.13

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
L5	148.50-143.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.720	0.000	0.01
		C	0.000	0.000	0.540	0.000	0.13
L6	143.50-138.50	A	0.000	0.000	1.000	0.000	0.00
		B	0.000	0.000	1.800	0.000	0.01
		C	0.000	0.000	2.540	0.000	0.13
L7	138.50-138.00	A	0.000	0.000	0.333	0.000	0.00
		B	0.000	0.000	0.413	0.000	0.00
		C	0.000	0.000	0.721	0.000	0.01
L8	138.00-137.75	A	0.000	0.000	0.255	0.000	0.00
		B	0.000	0.000	0.207	0.000	0.00
		C	0.000	0.000	0.360	0.000	0.01
L9	137.75-130.67	A	0.000	0.000	7.215	0.000	0.06
		B	0.000	0.000	5.855	0.000	0.02
		C	0.000	0.000	10.209	0.000	0.18
L10	130.67-129.33	A	0.000	0.000	1.365	0.000	0.01
		B	0.000	0.000	1.108	0.000	0.00
		C	0.000	0.000	1.931	0.000	0.03
L11	129.33-125.75	A	0.000	0.000	4.829	0.000	0.03
		B	0.000	0.000	4.423	0.000	0.03
		C	0.000	0.000	6.341	0.000	0.09
L12	125.75-125.50	A	0.000	0.000	0.442	0.000	0.00
		B	0.000	0.000	0.425	0.000	0.00
		C	0.000	0.000	0.548	0.000	0.01
L13	125.50-120.50	A	0.000	0.000	9.843	0.000	0.04
		B	0.000	0.000	9.508	0.000	0.06
		C	0.000	0.000	10.957	0.000	0.13
L14	120.50-120.25	A	0.000	0.000	0.609	0.000	0.00
		B	0.000	0.000	0.592	0.000	0.00
		C	0.000	0.000	0.548	0.000	0.01
L15	120.25-115.25	A	0.000	0.000	16.618	0.000	0.09
		B	0.000	0.000	16.283	0.000	0.12
		C	0.000	0.000	15.398	0.000	0.18
L16	115.25-113.83	A	0.000	0.000	5.813	0.000	0.03
		B	0.000	0.000	5.718	0.000	0.03
		C	0.000	0.000	5.467	0.000	0.05
L17	113.83-113.48	A	0.000	0.000	1.436	0.000	0.01
		B	0.000	0.000	1.412	0.000	0.01
		C	0.000	0.000	1.350	0.000	0.01
L18	113.48-113.25	A	0.000	0.000	0.956	0.000	0.00
		B	0.000	0.000	0.940	0.000	0.01
		C	0.000	0.000	0.899	0.000	0.01
L19	113.25-112.00	A	0.000	0.000	5.128	0.000	0.02
		B	0.000	0.000	5.044	0.000	0.03
		C	0.000	0.000	4.822	0.000	0.05
L20	112.00-111.75	A	0.000	0.000	0.859	0.000	0.00
		B	0.000	0.000	0.842	0.000	0.01
		C	0.000	0.000	0.965	0.000	0.01
L21	111.75-106.75	A	0.000	0.000	15.010	0.000	0.09
		B	0.000	0.000	14.675	0.000	0.12
		C	0.000	0.000	14.957	0.000	0.18
L22	106.75-101.75	A	0.000	0.000	13.843	0.000	0.09
		B	0.000	0.000	13.508	0.000	0.12
		C	0.000	0.000	12.623	0.000	0.18
L23	101.75-98.42	A	0.000	0.000	10.886	0.000	0.06
		B	0.000	0.000	12.417	0.000	0.08
		C	0.000	0.000	10.161	0.000	0.12
L24	98.42-98.17	A	0.000	0.000	0.900	0.000	0.00
		B	0.000	0.000	1.087	0.000	0.01
		C	0.000	0.000	0.834	0.000	0.01
L25	98.17-93.17	A	0.000	0.000	18.010	0.000	0.09
		B	0.000	0.000	21.735	0.000	0.12
		C	0.000	0.000	16.684	0.000	0.18
L26	93.17-84.72	A	0.000	0.000	29.787	0.000	0.16
		B	0.000	0.000	36.070	0.000	0.20
		C	0.000	0.000	30.199	0.000	0.31
L27	84.72-83.72	A	0.000	0.000	3.312	0.000	0.02
		B	0.000	0.000	3.720	0.000	0.01
		C	0.000	0.000	3.877	0.000	0.04

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
L28	83.72-82.83	A	0.000	0.000	3.184	0.000	0.02
		B	0.000	0.000	3.767	0.000	0.01
		C	0.000	0.000	3.684	0.000	0.03
L29	82.83-82.58	A	0.000	0.000	0.900	0.000	0.00
		B	0.000	0.000	1.065	0.000	0.00
		C	0.000	0.000	1.042	0.000	0.01
L30	82.58-77.58	A	0.000	0.000	18.010	0.000	0.09
		B	0.000	0.000	21.313	0.000	0.06
		C	0.000	0.000	20.845	0.000	0.18
L31	77.58-73.42	A	0.000	0.000	18.344	0.000	0.08
		B	0.000	0.000	19.432	0.000	0.05
		C	0.000	0.000	19.042	0.000	0.15
L32	73.42-73.17	A	0.000	0.000	1.317	0.000	0.00
		B	0.000	0.000	1.274	0.000	0.00
		C	0.000	0.000	1.251	0.000	0.01
L33	73.17-72.42	A	0.000	0.000	3.908	0.000	0.01
		B	0.000	0.000	3.780	0.000	0.01
		C	0.000	0.000	3.683	0.000	0.03
L34	72.42-72.17	A	0.000	0.000	1.296	0.000	0.00
		B	0.000	0.000	1.253	0.000	0.00
		C	0.000	0.000	1.209	0.000	0.01
L35	72.17-68.08	A	0.000	0.000	20.925	0.000	0.08
		B	0.000	0.000	18.323	0.000	0.05
		C	0.000	0.000	18.002	0.000	0.15
L36	68.08-67.83	A	0.000	0.000	1.296	0.000	0.00
		B	0.000	0.000	1.050	0.000	0.00
		C	0.000	0.000	1.022	0.000	0.01
L37	67.83-65.58	A	0.000	0.000	11.667	0.000	0.04
		B	0.000	0.000	11.120	0.000	0.03
		C	0.000	0.000	10.863	0.000	0.08
L38	65.58-65.33	A	0.000	0.000	1.296	0.000	0.00
		B	0.000	0.000	1.259	0.000	0.00
		C	0.000	0.000	1.230	0.000	0.01
L39	65.33-64.25	A	0.000	0.000	5.600	0.000	0.02
		B	0.000	0.000	5.438	0.000	0.01
		C	0.000	0.000	5.314	0.000	0.04
L40	64.25-64.00	A	0.000	0.000	1.296	0.000	0.00
		B	0.000	0.000	1.259	0.000	0.00
		C	0.000	0.000	1.230	0.000	0.01
L41	64.00-59.00	A	0.000	0.000	23.114	0.000	0.09
		B	0.000	0.000	22.363	0.000	0.06
		C	0.000	0.000	18.977	0.000	0.18
L42	59.00-54.00	A	0.000	0.000	22.177	0.000	0.09
		B	0.000	0.000	22.639	0.000	0.06
		C	0.000	0.000	18.317	0.000	0.18
L43	54.00-43.83	A	0.000	0.000	50.727	0.000	0.19
		B	0.000	0.000	53.275	0.000	0.13
		C	0.000	0.000	44.480	0.000	0.37
L44	43.83-42.83	A	0.000	0.000	4.999	0.000	0.02
		B	0.000	0.000	4.913	0.000	0.01
		C	0.000	0.000	3.818	0.000	0.04
L45	42.83-41.75	A	0.000	0.000	5.405	0.000	0.02
		B	0.000	0.000	5.333	0.000	0.01
		C	0.000	0.000	4.133	0.000	0.04
L46	41.75-41.50	A	0.000	0.000	1.255	0.000	0.00
		B	0.000	0.000	1.238	0.000	0.00
		C	0.000	0.000	0.959	0.000	0.01
L47	41.50-36.50	A	0.000	0.000	25.093	0.000	0.09
		B	0.000	0.000	24.758	0.000	0.06
		C	0.000	0.000	19.186	0.000	0.18
L48	36.50-32.75	A	0.000	0.000	19.383	0.000	0.07
		B	0.000	0.000	19.478	0.000	0.05
		C	0.000	0.000	14.736	0.000	0.14
L49	32.75-32.50	A	0.000	0.000	1.317	0.000	0.00
		B	0.000	0.000	1.332	0.000	0.00
		C	0.000	0.000	0.991	0.000	0.01
L50	32.50-32.25	A	0.000	0.000	1.317	0.000	0.00
		B	0.000	0.000	1.332	0.000	0.00
		C	0.000	0.000	0.991	0.000	0.01

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
L51	32.25-32.00	A	0.000	0.000	1.317	0.000	0.00
		B	0.000	0.000	1.332	0.000	0.00
		C	0.000	0.000	0.991	0.000	0.01
L52	32.00-30.33	A	0.000	0.000	9.200	0.000	0.03
		B	0.000	0.000	9.298	0.000	0.02
		C	0.000	0.000	7.441	0.000	0.06
L53	30.33-30.08	A	0.000	0.000	1.567	0.000	0.00
		B	0.000	0.000	1.582	0.000	0.00
		C	0.000	0.000	1.491	0.000	0.01
L54	30.08-28.25	A	0.000	0.000	11.490	0.000	0.03
		B	0.000	0.000	11.599	0.000	0.02
		C	0.000	0.000	10.930	0.000	0.07
L55	28.25-28.00	A	0.000	0.000	1.567	0.000	0.00
		B	0.000	0.000	1.582	0.000	0.00
		C	0.000	0.000	1.491	0.000	0.01
L56	28.00-23.00	A	0.000	0.000	25.406	0.000	0.09
		B	0.000	0.000	28.052	0.000	0.06
		C	0.000	0.000	29.792	0.000	0.18
L57	23.00-19.25	A	0.000	0.000	18.820	0.000	0.07
		B	0.000	0.000	19.194	0.000	0.05
		C	0.000	0.000	20.639	0.000	0.14
L58	19.25-19.00	A	0.000	0.000	1.255	0.000	0.00
		B	0.000	0.000	1.280	0.000	0.00
		C	0.000	0.000	1.376	0.000	0.01
L59	19.00-14.50	A	0.000	0.000	20.147	0.000	0.08
		B	0.000	0.000	20.595	0.000	0.06
		C	0.000	0.000	19.892	0.000	0.16
L60	14.50-14.25	A	0.000	0.000	1.067	0.000	0.00
		B	0.000	0.000	1.092	0.000	0.00
		C	0.000	0.000	1.001	0.000	0.01
L61	14.25-12.75	A	0.000	0.000	6.403	0.000	0.03
		B	0.000	0.000	6.553	0.000	0.02
		C	0.000	0.000	6.006	0.000	0.05
L62	12.75-12.50	A	0.000	0.000	1.067	0.000	0.00
		B	0.000	0.000	1.092	0.000	0.00
		C	0.000	0.000	1.001	0.000	0.01
L63	12.50-7.50	A	0.000	0.000	18.635	0.000	0.09
		B	0.000	0.000	19.133	0.000	0.06
		C	0.000	0.000	20.019	0.000	0.18
L64	7.50-3.50	A	0.000	0.000	11.861	0.000	0.05
		B	0.000	0.000	12.428	0.000	0.02
		C	0.000	0.000	15.859	0.000	0.09
L65	3.50-3.25	A	0.000	0.000	0.708	0.000	0.00
		B	0.000	0.000	0.750	0.000	0.00
		C	0.000	0.000	0.985	0.000	0.00
L66	3.25-0.00	A	0.000	0.000	9.208	0.000	0.03
		B	0.000	0.000	9.750	0.000	0.00
		C	0.000	0.000	12.809	0.000	0.04

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	168.50-163.50	A	0.999	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	2.538	0.000	0.10
L2	163.50-158.50	A	0.996	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	2.532	0.000	0.11
L3	158.50-153.50	A	0.993	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	2.526	0.000	0.14
L4	153.50-148.50	A	0.990	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	2.519	0.000	0.15

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
L5	148.50-143.50	A	0.986	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	1.608	0.000	0.02
		C		0.000	0.000	2.513	0.000	0.15
L6	143.50-138.50	A	0.983	0.000	0.000	1.295	0.000	0.01
		B		0.000	0.000	3.078	0.000	0.04
		C		0.000	0.000	5.095	0.000	0.16
L7	138.50-138.00	A	0.981	0.000	0.000	0.431	0.000	0.00
		B		0.000	0.000	0.610	0.000	0.01
		C		0.000	0.000	1.113	0.000	0.02
L8	138.00-137.75	A	0.981	0.000	0.000	0.402	0.000	0.00
		B		0.000	0.000	0.305	0.000	0.00
		C		0.000	0.000	0.556	0.000	0.01
L9	137.75-130.67	A	0.978	0.000	0.000	11.371	0.000	0.14
		B		0.000	0.000	8.626	0.000	0.08
		C		0.000	0.000	15.751	0.000	0.28
L10	130.67-129.33	A	0.975	0.000	0.000	2.151	0.000	0.03
		B		0.000	0.000	1.632	0.000	0.01
		C		0.000	0.000	2.980	0.000	0.05
L11	129.33-125.75	A	0.973	0.000	0.000	7.225	0.000	0.08
		B		0.000	0.000	6.561	0.000	0.08
		C		0.000	0.000	9.433	0.000	0.15
L12	125.75-125.50	A	0.972	0.000	0.000	0.636	0.000	0.01
		B		0.000	0.000	0.620	0.000	0.01
		C		0.000	0.000	0.791	0.000	0.01
L13	125.50-120.50	A	0.970	0.000	0.000	13.937	0.000	0.13
		B		0.000	0.000	13.602	0.000	0.16
		C		0.000	0.000	15.804	0.000	0.23
L14	120.50-120.25	A	0.967	0.000	0.000	0.838	0.000	0.01
		B		0.000	0.000	0.821	0.000	0.01
		C		0.000	0.000	0.790	0.000	0.01
L15	120.25-115.25	A	0.965	0.000	0.000	22.224	0.000	0.23
		B		0.000	0.000	21.889	0.000	0.25
		C		0.000	0.000	21.254	0.000	0.31
L16	115.25-113.83	A	0.963	0.000	0.000	7.652	0.000	0.07
		B		0.000	0.000	7.557	0.000	0.08
		C		0.000	0.000	7.376	0.000	0.10
L17	113.83-113.48	A	0.962	0.000	0.000	1.890	0.000	0.02
		B		0.000	0.000	1.866	0.000	0.02
		C		0.000	0.000	1.822	0.000	0.02
L18	113.48-113.25	A	0.962	0.000	0.000	1.258	0.000	0.01
		B		0.000	0.000	1.242	0.000	0.01
		C		0.000	0.000	1.213	0.000	0.02
L19	113.25-112.00	A	0.961	0.000	0.000	6.747	0.000	0.07
		B		0.000	0.000	6.664	0.000	0.07
		C		0.000	0.000	6.504	0.000	0.08
L20	112.00-111.75	A	0.960	0.000	0.000	1.147	0.000	0.01
		B		0.000	0.000	1.130	0.000	0.01
		C		0.000	0.000	1.301	0.000	0.02
L21	111.75-106.75	A	0.958	0.000	0.000	20.136	0.000	0.22
		B		0.000	0.000	19.801	0.000	0.24
		C		0.000	0.000	20.418	0.000	0.30
L22	106.75-101.75	A	0.954	0.000	0.000	18.611	0.000	0.21
		B		0.000	0.000	18.276	0.000	0.23
		C		0.000	0.000	17.391	0.000	0.28
L23	101.75-98.42	A	0.950	0.000	0.000	14.429	0.000	0.15
		B		0.000	0.000	16.180	0.000	0.18
		C		0.000	0.000	13.544	0.000	0.20
L24	98.42-98.17	A	0.948	0.000	0.000	1.185	0.000	0.01
		B		0.000	0.000	1.397	0.000	0.01
		C		0.000	0.000	1.097	0.000	0.02
L25	98.17-93.17	A	0.945	0.000	0.000	23.683	0.000	0.24
		B		0.000	0.000	27.915	0.000	0.29
		C		0.000	0.000	21.917	0.000	0.31
L26	93.17-84.72	A	0.939	0.000	0.000	39.099	0.000	0.39
		B		0.000	0.000	46.232	0.000	0.48
		C		0.000	0.000	32.835	0.000	0.53
L27	84.72-83.72	A	0.933	0.000	0.000	4.365	0.000	0.05
		B		0.000	0.000	3.661	0.000	0.04
		C		0.000	0.000	2.990	0.000	0.06

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
L28	83.72-82.83	A	0.932	0.000	0.000	4.173	0.000	0.04
		B		0.000	0.000	3.189	0.000	0.04
		C		0.000	0.000	2.959	0.000	0.06
L29	82.83-82.58	A	0.932	0.000	0.000	1.180	0.000	0.01
		B		0.000	0.000	0.902	0.000	0.01
		C		0.000	0.000	0.837	0.000	0.02
L30	82.58-77.58	A	0.929	0.000	0.000	23.583	0.000	0.23
		B		0.000	0.000	18.026	0.000	0.22
		C		0.000	0.000	16.725	0.000	0.33
L31	77.58-73.42	A	0.923	0.000	0.000	19.622	0.000	0.21
		B		0.000	0.000	17.042	0.000	0.19
		C		0.000	0.000	15.958	0.000	0.28
L32	73.42-73.17	A	0.921	0.000	0.000	1.177	0.000	0.01
		B		0.000	0.000	1.154	0.000	0.01
		C		0.000	0.000	1.089	0.000	0.02
L33	73.17-72.42	A	0.920	0.000	0.000	3.464	0.000	0.04
		B		0.000	0.000	3.396	0.000	0.04
		C		0.000	0.000	3.253	0.000	0.05
L34	72.42-72.17	A	0.919	0.000	0.000	1.137	0.000	0.01
		B		0.000	0.000	1.115	0.000	0.01
		C		0.000	0.000	1.089	0.000	0.02
L35	72.17-68.08	A	0.917	0.000	0.000	18.244	0.000	0.22
		B		0.000	0.000	15.746	0.000	0.18
		C		0.000	0.000	16.140	0.000	0.28
L36	68.08-67.83	A	0.914	0.000	0.000	1.136	0.000	0.01
		B		0.000	0.000	0.886	0.000	0.01
		C		0.000	0.000	0.921	0.000	0.02
L37	67.83-65.58	A	0.912	0.000	0.000	10.215	0.000	0.12
		B		0.000	0.000	9.998	0.000	0.11
		C		0.000	0.000	10.315	0.000	0.16
L38	65.58-65.33	A	0.910	0.000	0.000	1.135	0.000	0.01
		B		0.000	0.000	1.139	0.000	0.01
		C		0.000	0.000	1.174	0.000	0.02
L39	65.33-64.25	A	0.909	0.000	0.000	4.900	0.000	0.06
		B		0.000	0.000	4.918	0.000	0.05
		C		0.000	0.000	5.069	0.000	0.08
L40	64.25-64.00	A	0.908	0.000	0.000	1.134	0.000	0.01
		B		0.000	0.000	1.138	0.000	0.01
		C		0.000	0.000	1.173	0.000	0.02
L41	64.00-59.00	A	0.905	0.000	0.000	19.440	0.000	0.25
		B		0.000	0.000	19.521	0.000	0.22
		C		0.000	0.000	23.435	0.000	0.32
L42	59.00-54.00	A	0.897	0.000	0.000	18.328	0.000	0.25
		B		0.000	0.000	19.768	0.000	0.22
		C		0.000	0.000	24.740	0.000	0.32
L43	54.00-43.83	A	0.884	0.000	0.000	37.159	0.000	0.52
		B		0.000	0.000	48.266	0.000	0.49
		C		0.000	0.000	58.328	0.000	0.69
L44	43.83-42.83	A	0.873	0.000	0.000	3.883	0.000	0.05
		B		0.000	0.000	3.836	0.000	0.04
		C		0.000	0.000	5.056	0.000	0.06
L45	42.83-41.75	A	0.871	0.000	0.000	4.190	0.000	0.05
		B		0.000	0.000	4.117	0.000	0.05
		C		0.000	0.000	5.446	0.000	0.07
L46	41.75-41.50	A	0.870	0.000	0.000	0.972	0.000	0.01
		B		0.000	0.000	0.955	0.000	0.01
		C		0.000	0.000	1.264	0.000	0.02
L47	41.50-36.50	A	0.864	0.000	0.000	19.415	0.000	0.25
		B		0.000	0.000	19.080	0.000	0.22
		C		0.000	0.000	25.236	0.000	0.31
L48	36.50-32.75	A	0.854	0.000	0.000	15.085	0.000	0.19
		B		0.000	0.000	14.965	0.000	0.17
		C		0.000	0.000	19.004	0.000	0.24
L49	32.75-32.50	A	0.849	0.000	0.000	1.029	0.000	0.01
		B		0.000	0.000	1.025	0.000	0.01
		C		0.000	0.000	1.268	0.000	0.02
L50	32.50-32.25	A	0.848	0.000	0.000	1.029	0.000	0.01
		B		0.000	0.000	1.025	0.000	0.01
		C		0.000	0.000	1.268	0.000	0.02

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
L51	32.25-32.00	A	0.848	0.000	0.000	1.029	0.000	0.01
		B		0.000	0.000	1.024	0.000	0.01
		C		0.000	0.000	1.268	0.000	0.02
L52	32.00-30.33	A	0.845	0.000	0.000	7.345	0.000	0.09
		B		0.000	0.000	7.314	0.000	0.08
		C		0.000	0.000	8.450	0.000	0.11
L53	30.33-30.08	A	0.843	0.000	0.000	1.320	0.000	0.01
		B		0.000	0.000	1.315	0.000	0.01
		C		0.000	0.000	1.266	0.000	0.02
L54	30.08-28.25	A	0.840	0.000	0.000	9.671	0.000	0.10
		B		0.000	0.000	9.638	0.000	0.09
		C		0.000	0.000	9.278	0.000	0.13
L55	28.25-28.00	A	0.837	0.000	0.000	1.318	0.000	0.01
		B		0.000	0.000	1.314	0.000	0.01
		C		0.000	0.000	1.264	0.000	0.02
L56	28.00-23.00	A	0.828	0.000	0.000	30.355	0.000	0.25
		B		0.000	0.000	22.111	0.000	0.23
		C		0.000	0.000	17.075	0.000	0.35
L57	23.00-19.25	A	0.813	0.000	0.000	22.851	0.000	0.19
		B		0.000	0.000	14.505	0.000	0.16
		C		0.000	0.000	10.563	0.000	0.25
L58	19.25-19.00	A	0.805	0.000	0.000	1.521	0.000	0.01
		B		0.000	0.000	0.965	0.000	0.01
		C		0.000	0.000	0.702	0.000	0.02
L59	19.00-14.50	A	0.794	0.000	0.000	24.557	0.000	0.21
		B		0.000	0.000	14.576	0.000	0.17
		C		0.000	0.000	12.591	0.000	0.28
L60	14.50-14.25	A	0.782	0.000	0.000	1.302	0.000	0.01
		B		0.000	0.000	0.749	0.000	0.01
		C		0.000	0.000	0.697	0.000	0.01
L61	14.25-12.75	A	0.777	0.000	0.000	7.802	0.000	0.07
		B		0.000	0.000	4.485	0.000	0.06
		C		0.000	0.000	4.172	0.000	0.09
L62	12.75-12.50	A	0.772	0.000	0.000	1.299	0.000	0.01
		B		0.000	0.000	0.747	0.000	0.01
		C		0.000	0.000	0.694	0.000	0.01
L63	12.50-7.50	A	0.754	0.000	0.000	22.784	0.000	0.20
		B		0.000	0.000	11.773	0.000	0.17
		C		0.000	0.000	13.791	0.000	0.29
L64	7.50-3.50	A	0.711	0.000	0.000	13.993	0.000	0.11
		B		0.000	0.000	5.422	0.000	0.08
		C		0.000	0.000	10.346	0.000	0.16
L65	3.50-3.25	A	0.677	0.000	0.000	0.810	0.000	0.01
		B		0.000	0.000	0.284	0.000	0.00
		C		0.000	0.000	0.621	0.000	0.01
L66	3.25-0.00	A	0.629	0.000	0.000	10.435	0.000	0.07
		B		0.000	0.000	3.659	0.000	0.04
		C		0.000	0.000	7.944	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	168.50-163.50	0.0000	0.8275	0.0000	1.8937
L2	163.50-158.50	0.0000	0.8292	0.0000	1.9090
L3	158.50-153.50	0.0000	0.8309	0.0000	1.9229
L4	153.50-148.50	0.0000	0.8324	0.0000	1.9355
L5	148.50-143.50	0.9691	0.3299	1.0763	1.2798
L6	143.50-138.50	0.2693	0.4628	0.5798	1.1389
L7	138.50-138.00	-0.4578	0.6298	-0.1255	1.0451
L8	138.00-137.75	-0.8083	-0.2904	-0.6168	-0.2013
L9	137.75-130.67	-0.8218	-0.2953	-0.6271	-0.2042
L10	130.67-129.33	-0.8288	-0.2979	-0.6324	-0.2057
L11	129.33-125.75	-0.5320	-0.3355	-0.2870	-0.3205

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L12	125.75-125.50	-0.3660	-0.3206	-0.1197	-0.3454
L13	125.50-120.50	-0.3514	-0.6691	-0.1165	-0.6272
L14	120.50-120.25	-0.3175	-1.3544	-0.1078	-1.1982
L15	120.25-115.25	-0.2459	-1.0485	-0.0871	-0.9638
L16	115.25-113.83	-0.2073	-0.8835	-0.0754	-0.8298
L17	113.83-113.48	-0.1928	-0.8214	-0.0758	-0.8332
L18	113.48-113.25	-0.1931	-0.8226	-0.0759	-0.8344
L19	113.25-112.00	-0.2094	-0.8919	-0.0763	-0.8374
L20	112.00-111.75	-0.2328	-0.2037	-0.0838	-0.2355
L21	111.75-106.75	0.0070	-0.4019	0.1575	-0.4205
L22	106.75-101.75	0.1750	-0.5464	0.3245	-0.5525
L23	101.75-98.42	1.4468	-0.7205	1.3572	-0.8023
L24	98.42-98.17	1.9899	-0.9539	1.8199	-1.0543
L25	98.17-93.17	2.0133	-0.9648	1.8406	-1.0654
L26	93.17-84.72	1.6386	-1.4917	1.5555	-2.2149
L27	84.72-83.72	1.1482	-1.1074	0.1942	-2.6241
L28	83.72-82.83	1.3183	-1.1716	-0.1466	-2.2679
L29	82.83-82.58	1.3215	-1.1745	-0.1470	-2.2731
L30	82.58-77.58	1.6862	-0.4376	0.1581	-1.6395
L31	77.58-73.42	1.3825	-0.1393	0.7232	-0.8769
L32	73.42-73.17	0.8182	-0.3184	1.0374	-0.5950
L33	73.17-72.42	0.8908	-0.3865	1.0494	-0.5425
L34	72.42-72.17	0.9022	-0.4423	1.0634	-0.4738
L35	72.17-68.08	0.1610	-1.2003	0.3661	-1.0786
L36	68.08-67.83	-0.4033	-2.1182	-0.1696	-1.8282
L37	67.83-65.58	0.7841	-0.5326	0.9648	-0.3115
L38	65.58-65.33	0.9224	-0.3549	1.0979	-0.1403
L39	65.33-64.25	0.9248	-0.3558	1.1006	-0.1406
L40	64.25-64.00	0.9271	-0.3566	1.1031	-0.1410
L41	64.00-59.00	1.0762	-1.1012	1.2455	0.4518
L42	59.00-54.00	1.3855	-1.2206	1.5148	0.8075
L43	54.00-43.83	1.4092	-1.0205	2.0380	1.1152
L44	43.83-42.83	1.1411	-1.5671	1.2143	0.8592
L45	42.83-41.75	1.1601	-1.5770	1.1974	0.8683
L46	41.75-41.50	1.1628	-1.5806	1.2000	0.8703
L47	41.50-36.50	1.1735	-1.5949	1.2099	0.8781
L48	36.50-32.75	0.8797	-2.9090	0.8560	-0.3963
L49	32.75-32.50	0.7960	-3.4864	0.7461	-0.9535
L50	32.50-32.25	0.7967	-3.4894	0.7467	-0.9543
L51	32.25-32.00	0.7974	-3.4924	0.7473	-0.9551
L52	32.00-30.33	0.7556	-3.0213	0.7150	-1.1904
L53	30.33-30.08	0.6499	-1.8590	0.6301	-1.7771
L54	30.08-28.25	0.6523	-1.8657	0.6323	-1.7833
L55	28.25-28.00	0.6547	-1.8725	0.6345	-1.7896
L56	28.00-23.00	1.1740	-1.0370	-0.6073	-3.4549
L57	23.00-19.25	0.8194	-1.3195	-1.1394	-4.0058
L58	19.25-19.00	0.8247	-1.3279	-1.1468	-4.0315
L59	19.00-14.50	0.9429	-2.2522	-1.2834	-3.8349
L60	14.50-14.25	1.0020	-2.6906	-1.3510	-3.7648
L61	14.25-12.75	1.0047	-2.6978	-1.3547	-3.7751
L62	12.75-12.50	1.0072	-2.7045	-1.3582	-3.7846
L63	12.50-7.50	0.7267	-0.9702	-1.8025	-2.2748
L64	7.50-3.50	0.3215	1.5545	-2.6025	0.0624
L65	3.50-3.25	0.2741	1.8714	-2.7929	0.4331
L66	3.25-0.00	0.2754	1.8804	-2.8001	0.4090

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"	163.50 - 168.50	1.0000	1.0000
L1	3	Climbing Pegs	163.50 - 168.50	1.0000	1.0000
L2	2	Safety Line 3/8"	158.50 - 163.50	1.0000	1.0000
L2	3	Climbing Pegs	158.50 - 163.50	1.0000	1.0000
L3	2	Safety Line 3/8"	153.50 - 158.50	1.0000	1.0000
L3	3	Climbing Pegs	153.50 - 158.50	1.0000	1.0000
L4	2	Safety Line 3/8"	148.50 - 153.50	1.0000	1.0000
L4	3	Climbing Pegs	148.50 - 153.50	1.0000	1.0000
L5	2	Safety Line 3/8"	143.50 - 148.50	1.0000	1.0000
L5	3	Climbing Pegs	143.50 - 148.50	1.0000	1.0000
L5	24	CU12PSM9P6XXX(1-1/2)	143.50 - 148.00	1.0000	1.0000
L6	2	Safety Line 3/8"	138.50 - 143.50	1.0000	1.0000
L6	3	Climbing Pegs	138.50 - 143.50	1.0000	1.0000
L6	24	CU12PSM9P6XXX(1-1/2)	138.50 - 143.50	1.0000	1.0000
L6	88	CCI-SFP-040125	138.50 - 140.00	1.0000	1.0000
L6	89	CCI-SFP-040125	138.50 - 140.00	1.0000	1.0000
L6	90	CCI-SFP-040125	138.50 - 140.00	1.0000	1.0000
L6	91	CCI-SFP-040125	138.50 - 140.00	1.0000	1.0000
L7	2	Safety Line 3/8"	138.00 - 138.50	1.0000	1.0000
L7	3	Climbing Pegs	138.00 - 138.50	1.0000	1.0000
L7	24	CU12PSM9P6XXX(1-1/2)	138.00 - 138.50	1.0000	1.0000
L7	88	CCI-SFP-040125	138.00 - 138.50	1.0000	1.0000
L7	89	CCI-SFP-040125	138.00 - 138.50	1.0000	1.0000
L7	90	CCI-SFP-040125	138.00 - 138.50	1.0000	1.0000
L7	91	CCI-SFP-040125	138.00 - 138.50	1.0000	1.0000
L8	2	Safety Line 3/8"	137.75 - 138.00	1.0000	1.0000
L8	3	Climbing Pegs	137.75 - 138.00	1.0000	1.0000
L8	24	CU12PSM9P6XXX(1-1/2)	137.75 - 138.00	1.0000	1.0000
L8	27	HB158-1-08U8-S8J18(1-5/8)	137.75 - 138.00	1.0000	1.0000
L8	28	HB114-U6S12-XXX-LI(1-1/4)	137.75 - 138.00	1.0000	1.0000
L8	88	CCI-SFP-040125	137.75 - 138.00	1.0000	1.0000
L8	89	CCI-SFP-040125	137.75 - 138.00	1.0000	1.0000
L8	90	CCI-SFP-040125	137.75 - 138.00	1.0000	1.0000
L8	91	CCI-SFP-040125	137.75 - 138.00	1.0000	1.0000
L9	2	Safety Line 3/8"	130.67 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L9	3	Climbing Pegs	137.75 130.67 - 137.75	1.0000	1.0000
L9	24	CU12PSM9P6XXX(1-1/2)	130.67 - 137.75	1.0000	1.0000
L9	27	HB158-1-08U8-S8J18(1-5/8)	130.67 - 137.75	1.0000	1.0000
L9	28	HB114-U6S12-XXX-LI(1-1/4)	130.67 - 137.75	1.0000	1.0000
L9	88	CCI-SFP-040125	130.67 - 137.75	1.0000	1.0000
L9	89	CCI-SFP-040125	130.67 - 137.75	1.0000	1.0000
L9	90	CCI-SFP-040125	130.67 - 137.75	1.0000	1.0000
L9	91	CCI-SFP-040125	130.67 - 137.75	1.0000	1.0000
L10	2	Safety Line 3/8"	129.33 - 130.67	1.0000	1.0000
L10	3	Climbing Pegs	129.33 - 130.67	1.0000	1.0000
L10	24	CU12PSM9P6XXX(1-1/2)	129.33 - 130.67	1.0000	1.0000
L10	27	HB158-1-08U8-S8J18(1-5/8)	129.33 - 130.67	1.0000	1.0000
L10	28	HB114-U6S12-XXX-LI(1-1/4)	129.33 - 130.67	1.0000	1.0000
L10	88	CCI-SFP-040125	129.33 - 130.67	1.0000	1.0000
L10	89	CCI-SFP-040125	129.33 - 130.67	1.0000	1.0000
L10	90	CCI-SFP-040125	129.33 - 130.67	1.0000	1.0000
L10	91	CCI-SFP-040125	129.33 - 130.67	1.0000	1.0000
L11	2	Safety Line 3/8"	125.75 - 129.33	1.0000	1.0000
L11	3	Climbing Pegs	125.75 - 129.33	1.0000	1.0000
L11	24	CU12PSM9P6XXX(1-1/2)	125.75 - 129.33	1.0000	1.0000
L11	27	HB158-1-08U8-S8J18(1-5/8)	125.75 - 129.33	1.0000	1.0000
L11	28	HB114-U6S12-XXX-LI(1-1/4)	125.75 - 129.33	1.0000	1.0000
L11	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	125.75 - 128.00	1.0000	1.0000
L11	75	CCI-SFP-045100	125.75 - 127.33	1.0000	1.0000
L11	76	CCI-SFP-045100	125.75 - 127.33	1.0000	1.0000
L11	77	CCI-SFP-045100	125.75 - 127.33	1.0000	1.0000
L11	88	CCI-SFP-040125	125.75 - 129.33	1.0000	1.0000
L11	89	CCI-SFP-040125	125.75 - 129.33	1.0000	1.0000
L11	90	CCI-SFP-040125	125.75 - 129.33	1.0000	1.0000
L11	91	CCI-SFP-040125	125.75 - 129.33	1.0000	1.0000
L12	2	Safety Line 3/8"	125.50 - 125.75	1.0000	1.0000
L12	3	Climbing Pegs	125.50 - 125.75	1.0000	1.0000
L12	24	CU12PSM9P6XXX(1-1/2)	125.50 - 125.75	1.0000	1.0000
L12	27	HB158-1-08U8-S8J18(1-	125.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		5/8)	125.75		
L12	28	HB114-U6S12-XXX-LI(1-1/4)	125.50 - 125.75	1.0000	1.0000
L12	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	125.50 - 125.75	1.0000	1.0000
L12	75	CCI-SFP-045100	125.50 - 125.75	1.0000	1.0000
L12	76	CCI-SFP-045100	125.50 - 125.75	1.0000	1.0000
L12	77	CCI-SFP-045100	125.50 - 125.75	1.0000	1.0000
L12	88	CCI-SFP-040125	125.50 - 125.75	1.0000	1.0000
L12	89	CCI-SFP-040125	125.50 - 125.75	1.0000	1.0000
L12	90	CCI-SFP-040125	125.50 - 125.75	1.0000	1.0000
L12	91	CCI-SFP-040125	125.50 - 125.75	1.0000	1.0000
L13	2	Safety Line 3/8"	120.50 - 125.50	1.0000	1.0000
L13	3	Climbing Pegs	120.50 - 125.50	1.0000	1.0000
L13	24	CU12PSM9P6XXX(1-1/2)	120.50 - 125.50	1.0000	1.0000
L13	27	HB158-1-08U8-S8J18(1-5/8)	120.50 - 125.50	1.0000	1.0000
L13	28	HB114-U6S12-XXX-LI(1-1/4)	120.50 - 125.50	1.0000	1.0000
L13	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	120.50 - 125.50	1.0000	1.0000
L13	75	CCI-SFP-045100	120.50 - 125.50	1.0000	1.0000
L13	76	CCI-SFP-045100	120.50 - 125.50	1.0000	1.0000
L13	77	CCI-SFP-045100	120.50 - 125.50	1.0000	1.0000
L13	79	CCI-SFP-040125	120.50 - 122.00	1.0000	1.0000
L13	80	CCI-SFP-040125	120.50 - 122.00	1.0000	1.0000
L13	88	CCI-SFP-040125	120.50 - 125.50	1.0000	1.0000
L13	89	CCI-SFP-040125	120.50 - 125.50	1.0000	1.0000
L13	90	CCI-SFP-040125	120.50 - 125.50	1.0000	1.0000
L13	91	CCI-SFP-040125	120.50 - 125.50	1.0000	1.0000
L14	2	Safety Line 3/8"	120.25 - 120.50	1.0000	1.0000
L14	3	Climbing Pegs	120.25 - 120.50	1.0000	1.0000
L14	24	CU12PSM9P6XXX(1-1/2)	120.25 - 120.50	1.0000	1.0000
L14	27	HB158-1-08U8-S8J18(1-5/8)	120.25 - 120.50	1.0000	1.0000
L14	28	HB114-U6S12-XXX-LI(1-1/4)	120.25 - 120.50	1.0000	1.0000
L14	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	120.25 - 120.50	1.0000	1.0000
L14	75	CCI-SFP-045100	120.25 - 120.50	1.0000	1.0000
L14	76	CCI-SFP-045100	120.25 - 120.50	1.0000	1.0000
L14	77	CCI-SFP-045100	120.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L14	79	CCI-SFP-040125	120.50 120.25 - 120.50	1.0000	1.0000
L14	80	CCI-SFP-040125	120.25 - 120.50	1.0000	1.0000
L14	88	CCI-SFP-040125	120.25 - 120.50	1.0000	1.0000
L14	89	CCI-SFP-040125	120.25 - 120.50	1.0000	1.0000
L14	90	CCI-SFP-040125	120.25 - 120.50	1.0000	1.0000
L14	91	CCI-SFP-040125	120.25 - 120.50	1.0000	1.0000
L15	2	Safety Line 3/8"	115.25 - 120.25	1.0000	1.0000
L15	3	Climbing Pegs	115.25 - 120.25	1.0000	1.0000
L15	24	CU12PSM9P6XXX(1-1/2)	115.25 - 120.25	1.0000	1.0000
L15	27	HB158-1-08U8-S8J18(1-5/8)	115.25 - 120.25	1.0000	1.0000
L15	28	HB114-U6S12-XXX-LI(1-1/4)	115.25 - 120.25	1.0000	1.0000
L15	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	115.25 - 120.25	1.0000	1.0000
L15	39	Shaft Rinforcement [#PL0.625x5]	115.25 - 120.00	1.0000	1.0000
L15	40	Shaft Rinforcement [#PL0.625x5]	115.25 - 120.00	1.0000	1.0000
L15	41	Shaft Rinforcement [#PL0.625x5]	115.25 - 120.00	1.0000	1.0000
L15	55	Shaft Rinforcement [#PL1.25x5]	115.25 - 115.83	1.0000	1.0000
L15	56	Shaft Rinforcement [#PL1.25x5]	115.25 - 115.83	1.0000	1.0000
L15	57	Shaft Rinforcement [#PL1.25x5]	115.25 - 115.83	1.0000	1.0000
L15	75	CCI-SFP-045100	115.25 - 120.25	1.0000	1.0000
L15	76	CCI-SFP-045100	115.25 - 120.25	1.0000	1.0000
L15	77	CCI-SFP-045100	115.25 - 120.25	1.0000	1.0000
L15	79	CCI-SFP-040125	115.25 - 120.25	1.0000	1.0000
L15	80	CCI-SFP-040125	115.25 - 120.25	1.0000	1.0000
L15	88	CCI-SFP-040125	115.25 - 120.25	1.0000	1.0000
L15	89	CCI-SFP-040125	115.25 - 120.25	1.0000	1.0000
L15	90	CCI-SFP-040125	115.25 - 120.25	1.0000	1.0000
L15	91	CCI-SFP-040125	115.25 - 120.25	1.0000	1.0000
L16	2	Safety Line 3/8"	113.83 - 115.25	1.0000	1.0000
L16	3	Climbing Pegs	113.83 - 115.25	1.0000	1.0000
L16	24	CU12PSM9P6XXX(1-1/2)	113.83 - 115.25	1.0000	1.0000
L16	27	HB158-1-08U8-S8J18(1-5/8)	113.83 - 115.25	1.0000	1.0000
L16	28	HB114-U6S12-XXX-LI(1-1/4)	113.83 - 115.25	1.0000	1.0000
L16	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	113.83 - 115.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L16	39	Shaft Rinforcement [#PL0.625x5]	113.83 - 115.25	1.0000	1.0000
L16	40	Shaft Rinforcement [#PL0.625x5]	113.83 - 115.25	1.0000	1.0000
L16	41	Shaft Rinforcement [#PL0.625x5]	113.83 - 115.25	1.0000	1.0000
L16	55	Shaft Rinforcement [#PL1.25x5]	113.83 - 115.25	1.0000	1.0000
L16	56	Shaft Rinforcement [#PL1.25x5]	113.83 - 115.25	1.0000	1.0000
L16	57	Shaft Rinforcement [#PL1.25x5]	113.83 - 115.25	1.0000	1.0000
L16	75	CCI-SFP-045100	113.83 - 115.25	1.0000	1.0000
L16	76	CCI-SFP-045100	113.83 - 115.25	1.0000	1.0000
L16	77	CCI-SFP-045100	113.83 - 115.25	1.0000	1.0000
L16	79	CCI-SFP-040125	113.83 - 115.25	1.0000	1.0000
L16	80	CCI-SFP-040125	113.83 - 115.25	1.0000	1.0000
L16	88	CCI-SFP-040125	113.83 - 115.25	1.0000	1.0000
L16	89	CCI-SFP-040125	113.83 - 115.25	1.0000	1.0000
L16	90	CCI-SFP-040125	113.83 - 115.25	1.0000	1.0000
L16	91	CCI-SFP-040125	113.83 - 115.25	1.0000	1.0000
L17	2	Safety Line 3/8"	113.48 - 113.83	1.0000	1.0000
L17	3	Climbing Pegs	113.48 - 113.83	1.0000	1.0000
L17	24	CU12PSM9P6XXX(1-1/2)	113.48 - 113.83	1.0000	1.0000
L17	27	HB158-1-08U8-S8J18(1-5/8)	113.48 - 113.83	1.0000	1.0000
L17	28	HB114-U6S12-XXX-LI(1-1/4)	113.48 - 113.83	1.0000	1.0000
L17	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	113.48 - 113.83	1.0000	1.0000
L17	39	Shaft Rinforcement [#PL0.625x5]	113.48 - 113.83	1.0000	1.0000
L17	40	Shaft Rinforcement [#PL0.625x5]	113.48 - 113.83	1.0000	1.0000
L17	41	Shaft Rinforcement [#PL0.625x5]	113.48 - 113.83	1.0000	1.0000
L17	55	Shaft Rinforcement [#PL1.25x5]	113.48 - 113.83	1.0000	1.0000
L17	56	Shaft Rinforcement [#PL1.25x5]	113.48 - 113.83	1.0000	1.0000
L17	57	Shaft Rinforcement [#PL1.25x5]	113.48 - 113.83	1.0000	1.0000
L17	75	CCI-SFP-045100	113.48 - 113.83	1.0000	1.0000
L17	76	CCI-SFP-045100	113.48 - 113.83	1.0000	1.0000
L17	77	CCI-SFP-045100	113.48 - 113.83	1.0000	1.0000
L17	79	CCI-SFP-040125	113.48 - 113.83	1.0000	1.0000
L17	80	CCI-SFP-040125	113.48 - 113.83	1.0000	1.0000
L17	88	CCI-SFP-040125	113.48 - 113.83	1.0000	1.0000
L17	89	CCI-SFP-040125	113.48 - 113.83	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L17	90	CCI-SFP-040125	113.48 - 113.83	1.0000	1.0000
L17	91	CCI-SFP-040125	113.48 - 113.83	1.0000	1.0000
L18	2	Safety Line 3/8"	113.25 - 113.48	1.0000	1.0000
L18	3	Climbing Pegs	113.25 - 113.48	1.0000	1.0000
L18	24	CU12PSM9P6XXX(1-1/2)	113.25 - 113.48	1.0000	1.0000
L18	27	HB158-1-08U8-S8J18(1-5/8)	113.25 - 113.48	1.0000	1.0000
L18	28	HB114-U6S12-XXX-LI(1-1/4)	113.25 - 113.48	1.0000	1.0000
L18	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	113.25 - 113.48	1.0000	1.0000
L18	39	Shaft Rinforcement [#PL0.625x5]	113.25 - 113.48	1.0000	1.0000
L18	40	Shaft Rinforcement [#PL0.625x5]	113.25 - 113.48	1.0000	1.0000
L18	41	Shaft Rinforcement [#PL0.625x5]	113.25 - 113.48	1.0000	1.0000
L18	55	Shaft Rinforcement [#PL1.25x5]	113.25 - 113.48	1.0000	1.0000
L18	56	Shaft Rinforcement [#PL1.25x5]	113.25 - 113.48	1.0000	1.0000
L18	57	Shaft Rinforcement [#PL1.25x5]	113.25 - 113.48	1.0000	1.0000
L18	75	CCI-SFP-045100	113.25 - 113.48	1.0000	1.0000
L18	76	CCI-SFP-045100	113.25 - 113.48	1.0000	1.0000
L18	77	CCI-SFP-045100	113.25 - 113.48	1.0000	1.0000
L18	79	CCI-SFP-040125	113.25 - 113.48	1.0000	1.0000
L18	80	CCI-SFP-040125	113.25 - 113.48	1.0000	1.0000
L18	88	CCI-SFP-040125	113.25 - 113.48	1.0000	1.0000
L18	89	CCI-SFP-040125	113.25 - 113.48	1.0000	1.0000
L18	90	CCI-SFP-040125	113.25 - 113.48	1.0000	1.0000
L18	91	CCI-SFP-040125	113.25 - 113.48	1.0000	1.0000
L19	2	Safety Line 3/8"	112.00 - 113.25	1.0000	1.0000
L19	3	Climbing Pegs	112.00 - 113.25	1.0000	1.0000
L19	24	CU12PSM9P6XXX(1-1/2)	112.00 - 113.25	1.0000	1.0000
L19	27	HB158-1-08U8-S8J18(1-5/8)	112.00 - 113.25	1.0000	1.0000
L19	28	HB114-U6S12-XXX-LI(1-1/4)	112.00 - 113.25	1.0000	1.0000
L19	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	112.00 - 113.25	1.0000	1.0000
L19	39	Shaft Rinforcement [#PL0.625x5]	112.00 - 113.25	1.0000	1.0000
L19	40	Shaft Rinforcement [#PL0.625x5]	112.00 - 113.25	1.0000	1.0000
L19	41	Shaft Rinforcement [#PL0.625x5]	112.00 - 113.25	1.0000	1.0000
L19	55	Shaft Rinforcement [#PL1.25x5]	112.00 - 113.25	1.0000	1.0000
L19	56	Shaft Rinforcement	112.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		[#PL1.25x5]	113.25		
L19	57	Shaft Rinforcement [#PL1.25x5]	112.00 - 113.25	1.0000	1.0000
L19	75	CCI-SFP-045100	112.00 - 113.25	1.0000	1.0000
L19	76	CCI-SFP-045100	112.00 - 113.25	1.0000	1.0000
L19	77	CCI-SFP-045100	112.00 - 113.25	1.0000	1.0000
L19	79	CCI-SFP-040125	112.00 - 113.25	1.0000	1.0000
L19	80	CCI-SFP-040125	112.00 - 113.25	1.0000	1.0000
L19	88	CCI-SFP-040125	112.00 - 113.25	1.0000	1.0000
L19	89	CCI-SFP-040125	112.00 - 113.25	1.0000	1.0000
L19	90	CCI-SFP-040125	112.00 - 113.25	1.0000	1.0000
L19	91	CCI-SFP-040125	112.00 - 113.25	1.0000	1.0000
L20	2	Safety Line 3/8"	111.75 - 112.00	1.0000	1.0000
L20	3	Climbing Pegs	111.75 - 112.00	1.0000	1.0000
L20	24	CU12PSM9P6XXX(1-1/2)	111.75 - 112.00	1.0000	1.0000
L20	27	HB158-1-08U8-S8J18(1-5/8)	111.75 - 112.00	1.0000	1.0000
L20	28	HB114-U6S12-XXX-LI(1-1/4)	111.75 - 112.00	1.0000	1.0000
L20	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	111.75 - 112.00	1.0000	1.0000
L20	39	Shaft Rinforcement [#PL0.625x5]	111.75 - 112.00	1.0000	1.0000
L20	40	Shaft Rinforcement [#PL0.625x5]	111.75 - 112.00	1.0000	1.0000
L20	41	Shaft Rinforcement [#PL0.625x5]	111.75 - 112.00	1.0000	1.0000
L20	55	Shaft Rinforcement [#PL1.25x5]	111.75 - 112.00	1.0000	1.0000
L20	56	Shaft Rinforcement [#PL1.25x5]	111.75 - 112.00	1.0000	1.0000
L20	57	Shaft Rinforcement [#PL1.25x5]	111.75 - 112.00	1.0000	1.0000
L20	75	CCI-SFP-045100	111.75 - 112.00	1.0000	1.0000
L20	76	CCI-SFP-045100	111.75 - 112.00	1.0000	1.0000
L20	77	CCI-SFP-045100	111.75 - 112.00	1.0000	1.0000
L20	88	CCI-SFP-040125	111.75 - 112.00	1.0000	1.0000
L20	89	CCI-SFP-040125	111.75 - 112.00	1.0000	1.0000
L20	90	CCI-SFP-040125	111.75 - 112.00	1.0000	1.0000
L20	91	CCI-SFP-040125	111.75 - 112.00	1.0000	1.0000
L21	2	Safety Line 3/8"	106.75 - 111.75	1.0000	1.0000
L21	3	Climbing Pegs	106.75 - 111.75	1.0000	1.0000
L21	24	CU12PSM9P6XXX(1-1/2)	106.75 - 111.75	1.0000	1.0000
L21	27	HB158-1-08U8-S8J18(1-5/8)	106.75 - 111.75	1.0000	1.0000
L21	28	HB114-U6S12-XXX-LI(1-	106.75 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		1/4)	111.75		
L21	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	106.75 - 111.75	1.0000	1.0000
L21	39	Shaft Rinforcement [#PL0.625x5]	106.75 - 111.75	1.0000	1.0000
L21	40	Shaft Rinforcement [#PL0.625x5]	106.75 - 111.75	1.0000	1.0000
L21	41	Shaft Rinforcement [#PL0.625x5]	106.75 - 111.75	1.0000	1.0000
L21	55	Shaft Rinforcement [#PL1.25x5]	106.75 - 111.75	1.0000	1.0000
L21	56	Shaft Rinforcement [#PL1.25x5]	106.75 - 111.75	1.0000	1.0000
L21	57	Shaft Rinforcement [#PL1.25x5]	106.75 - 111.75	1.0000	1.0000
L21	75	CCI-SFP-045100	106.75 - 111.75	1.0000	1.0000
L21	76	CCI-SFP-045100	106.75 - 111.75	1.0000	1.0000
L21	77	CCI-SFP-045100	106.75 - 111.75	1.0000	1.0000
L21	88	CCI-SFP-040125	110.00 - 111.75	1.0000	1.0000
L21	89	CCI-SFP-040125	110.00 - 111.75	1.0000	1.0000
L21	90	CCI-SFP-040125	110.00 - 111.75	1.0000	1.0000
L21	91	CCI-SFP-040125	110.00 - 111.75	1.0000	1.0000
L22	2	Safety Line 3/8"	101.75 - 106.75	1.0000	1.0000
L22	3	Climbing Pegs	101.75 - 106.75	1.0000	1.0000
L22	24	CU12PSM9P6XXX(1-1/2)	101.75 - 106.75	1.0000	1.0000
L22	27	HB158-1-08U8-S8J18(1-5/8)	101.75 - 106.75	1.0000	1.0000
L22	28	HB114-U6S12-XXX-LI(1-1/4)	101.75 - 106.75	1.0000	1.0000
L22	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	101.75 - 106.75	1.0000	1.0000
L22	39	Shaft Rinforcement [#PL0.625x5]	101.75 - 106.75	1.0000	1.0000
L22	40	Shaft Rinforcement [#PL0.625x5]	101.75 - 106.75	1.0000	1.0000
L22	41	Shaft Rinforcement [#PL0.625x5]	101.75 - 106.75	1.0000	1.0000
L22	55	Shaft Rinforcement [#PL1.25x5]	101.75 - 106.75	1.0000	1.0000
L22	56	Shaft Rinforcement [#PL1.25x5]	101.75 - 106.75	1.0000	1.0000
L22	57	Shaft Rinforcement [#PL1.25x5]	101.75 - 106.75	1.0000	1.0000
L22	75	CCI-SFP-045100	101.75 - 106.75	1.0000	1.0000
L22	76	CCI-SFP-045100	101.75 - 106.75	1.0000	1.0000
L22	77	CCI-SFP-045100	101.75 - 106.75	1.0000	1.0000
L23	2	Safety Line 3/8"	98.42 - 101.75	1.0000	1.0000
L23	3	Climbing Pegs	98.42 - 101.75	1.0000	1.0000
L23	24	CU12PSM9P6XXX(1-1/2)	98.42 - 101.75	1.0000	1.0000
L23	27	HB158-1-08U8-S8J18(1-5/8)	98.42 - 101.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L23	28	HB114-U6S12-XXX-LI(1-1/4)	98.42 - 101.75	1.0000	1.0000
L23	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	98.42 - 101.75	1.0000	1.0000
L23	39	Shaft Rinforcement [#PL0.625x5]	98.42 - 101.75	1.0000	1.0000
L23	40	Shaft Rinforcement [#PL0.625x5]	98.42 - 101.75	1.0000	1.0000
L23	41	Shaft Rinforcement [#PL0.625x5]	98.42 - 101.75	1.0000	1.0000
L23	55	Shaft Rinforcement [#PL1.25x5]	98.42 - 101.75	1.0000	1.0000
L23	56	Shaft Rinforcement [#PL1.25x5]	98.42 - 101.75	1.0000	1.0000
L23	57	Shaft Rinforcement [#PL1.25x5]	98.42 - 101.75	1.0000	1.0000
L23	75	CCI-SFP-045100	98.42 - 101.75	1.0000	1.0000
L23	76	CCI-SFP-045100	98.42 - 101.75	1.0000	1.0000
L23	77	CCI-SFP-045100	98.42 - 101.75	1.0000	1.0000
L23	93	CCI-SFP-050125	98.42 - 100.42	1.0000	1.0000
L23	95	CCI-SFP-050125	98.42 - 100.58	1.0000	1.0000
L23	96	CCI-SFP-050125	98.42 - 100.42	1.0000	1.0000
L23	98	CCI-SFP-050125	98.42 - 100.58	1.0000	1.0000
L24	2	Safety Line 3/8"	98.17 - 98.42	1.0000	1.0000
L24	3	Climbing Pegs	98.17 - 98.42	1.0000	1.0000
L24	24	CU12PSM9P6XXX(1-1/2)	98.17 - 98.42	1.0000	1.0000
L24	27	HB158-1-08U8-S8J18(1-5/8)	98.17 - 98.42	1.0000	1.0000
L24	28	HB114-U6S12-XXX-LI(1-1/4)	98.17 - 98.42	1.0000	1.0000
L24	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	98.17 - 98.42	1.0000	1.0000
L24	39	Shaft Rinforcement [#PL0.625x5]	98.17 - 98.42	1.0000	1.0000
L24	40	Shaft Rinforcement [#PL0.625x5]	98.17 - 98.42	1.0000	1.0000
L24	41	Shaft Rinforcement [#PL0.625x5]	98.17 - 98.42	1.0000	1.0000
L24	55	Shaft Rinforcement [#PL1.25x5]	98.17 - 98.42	1.0000	1.0000
L24	56	Shaft Rinforcement [#PL1.25x5]	98.17 - 98.42	1.0000	1.0000
L24	57	Shaft Rinforcement [#PL1.25x5]	98.17 - 98.42	1.0000	1.0000
L24	75	CCI-SFP-045100	98.17 - 98.42	1.0000	1.0000
L24	76	CCI-SFP-045100	98.17 - 98.42	1.0000	1.0000
L24	77	CCI-SFP-045100	98.17 - 98.42	1.0000	1.0000
L24	93	CCI-SFP-050125	98.17 - 98.42	1.0000	1.0000
L24	95	CCI-SFP-050125	98.17 - 98.42	1.0000	1.0000
L24	96	CCI-SFP-050125	98.17 - 98.42	1.0000	1.0000
L24	98	CCI-SFP-050125	98.17 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			98.42		
L25	2	Safety Line 3/8"	93.17 - 98.17	1.0000	1.0000
L25	3	Climbing Pegs	93.17 - 98.17	1.0000	1.0000
L25	24	CU12PSM9P6XXX(1-1/2)	93.17 - 98.17	1.0000	1.0000
L25	27	HB158-1-08U8-S8J18(1-5/8)	93.17 - 98.17	1.0000	1.0000
L25	28	HB114-U6S12-XXX-LI(1-1/4)	93.17 - 98.17	1.0000	1.0000
L25	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	93.17 - 98.17	1.0000	1.0000
L25	39	Shaft Rinforcement [#PL0.625x5]	93.17 - 98.17	1.0000	1.0000
L25	40	Shaft Rinforcement [#PL0.625x5]	93.17 - 98.17	1.0000	1.0000
L25	41	Shaft Rinforcement [#PL0.625x5]	93.17 - 98.17	1.0000	1.0000
L25	55	Shaft Rinforcement [#PL1.25x5]	93.17 - 98.17	1.0000	1.0000
L25	56	Shaft Rinforcement [#PL1.25x5]	93.17 - 98.17	1.0000	1.0000
L25	57	Shaft Rinforcement [#PL1.25x5]	93.17 - 98.17	1.0000	1.0000
L25	75	CCI-SFP-045100	93.17 - 98.17	1.0000	1.0000
L25	76	CCI-SFP-045100	93.17 - 98.17	1.0000	1.0000
L25	77	CCI-SFP-045100	93.17 - 98.17	1.0000	1.0000
L25	93	CCI-SFP-050125	93.17 - 98.17	1.0000	1.0000
L25	95	CCI-SFP-050125	93.17 - 98.17	1.0000	1.0000
L25	96	CCI-SFP-050125	93.17 - 98.17	1.0000	1.0000
L25	98	CCI-SFP-050125	93.17 - 98.17	1.0000	1.0000
L26	2	Safety Line 3/8"	84.72 - 93.17	1.0000	1.0000
L26	3	Climbing Pegs	84.72 - 93.17	1.0000	1.0000
L26	24	CU12PSM9P6XXX(1-1/2)	84.72 - 93.17	1.0000	1.0000
L26	27	HB158-1-08U8-S8J18(1-5/8)	84.72 - 93.17	1.0000	1.0000
L26	28	HB114-U6S12-XXX-LI(1-1/4)	84.72 - 93.17	1.0000	1.0000
L26	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	84.72 - 93.17	1.0000	1.0000
L26	39	Shaft Rinforcement [#PL0.625x5]	84.72 - 93.17	1.0000	1.0000
L26	40	Shaft Rinforcement [#PL0.625x5]	84.72 - 93.17	1.0000	1.0000
L26	41	Shaft Rinforcement [#PL0.625x5]	84.72 - 93.17	1.0000	1.0000
L26	52	Shaft Rinforcement [#PL1.25x5]	84.72 - 87.92	1.0000	1.0000
L26	53	Shaft Rinforcement [#PL1.25x5]	84.72 - 87.92	1.0000	1.0000
L26	54	Shaft Rinforcement [#PL1.25x5]	84.72 - 87.92	1.0000	1.0000
L26	55	Shaft Rinforcement [#PL1.25x5]	85.83 - 93.17	1.0000	1.0000
L26	56	Shaft Rinforcement [#PL1.25x5]	85.83 - 93.17	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L26	57	Shaft Rinforcement [#PL1.25x5]	85.83 - 93.17	1.0000	1.0000
L26	75	CCI-SFP-045100	87.92 - 93.17	1.0000	1.0000
L26	76	CCI-SFP-045100	87.92 - 93.17	1.0000	1.0000
L26	77	CCI-SFP-045100	87.92 - 93.17	1.0000	1.0000
L26	81	CCI-SFP-050125	84.72 - 90.50	1.0000	1.0000
L26	82	CCI-SFP-050125	84.72 - 90.50	1.0000	1.0000
L26	93	CCI-SFP-050125	84.72 - 93.17	1.0000	1.0000
L26	95	CCI-SFP-050125	90.50 - 93.17	1.0000	1.0000
L26	96	CCI-SFP-050125	84.72 - 93.17	1.0000	1.0000
L26	98	CCI-SFP-050125	90.50 - 93.17	1.0000	1.0000
L27	2	Safety Line 3/8"	83.72 - 84.72	1.0000	1.0000
L27	3	Climbing Pegs	83.72 - 84.72	1.0000	1.0000
L27	24	CU12PSM9P6XXX(1-1/2)	83.72 - 84.72	1.0000	1.0000
L27	27	HB158-1-08U8-S8J18(1-5/8)	83.72 - 84.72	1.0000	1.0000
L27	28	HB114-U6S12-XXX-LI(1-1/4)	83.72 - 84.72	1.0000	1.0000
L27	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	83.72 - 84.72	1.0000	1.0000
L27	37	Shaft Rinforcement [#PL0.625x5]	83.72 - 84.67	1.0000	1.0000
L27	38	Shaft Rinforcement [#PL0.625x5]	83.72 - 84.67	1.0000	1.0000
L27	39	Shaft Rinforcement [#PL0.625x5]	84.67 - 84.72	1.0000	1.0000
L27	40	Shaft Rinforcement [#PL0.625x5]	84.67 - 84.72	1.0000	1.0000
L27	41	Shaft Rinforcement [#PL0.625x5]	84.67 - 84.72	1.0000	1.0000
L27	52	Shaft Rinforcement [#PL1.25x5]	83.72 - 84.72	1.0000	1.0000
L27	53	Shaft Rinforcement [#PL1.25x5]	83.72 - 84.72	1.0000	1.0000
L27	54	Shaft Rinforcement [#PL1.25x5]	83.72 - 84.72	1.0000	1.0000
L27	63	CCI-SFP-045100	83.72 - 84.33	1.0000	1.0000
L27	64	CCI-SFP-045100	83.72 - 84.33	1.0000	1.0000
L27	65	CCI-SFP-045100	83.72 - 84.33	1.0000	1.0000
L27	81	CCI-SFP-050125	83.72 - 84.72	1.0000	1.0000
L27	82	CCI-SFP-050125	83.72 - 84.72	1.0000	1.0000
L27	93	CCI-SFP-050125	83.72 - 84.72	1.0000	1.0000
L27	96	CCI-SFP-050125	83.72 - 84.72	1.0000	1.0000
L28	2	Safety Line 3/8"	82.83 - 83.72	1.0000	1.0000
L28	3	Climbing Pegs	82.83 - 83.72	1.0000	1.0000
L28	24	CU12PSM9P6XXX(1-1/2)	82.83 - 83.72	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L28	27	HB158-1-08U8-S8J18(1-5/8)	82.83 - 83.72	1.0000	1.0000
L28	28	HB114-U6S12-XXX-LI(1-1/4)	82.83 - 83.72	1.0000	1.0000
L28	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	82.83 - 83.72	1.0000	1.0000
L28	37	Shaft Rinforcement [#PL0.625x5]	82.83 - 83.72	1.0000	1.0000
L28	38	Shaft Rinforcement [#PL0.625x5]	82.83 - 83.72	1.0000	1.0000
L28	52	Shaft Rinforcement [#PL1.25x5]	82.83 - 83.72	1.0000	1.0000
L28	53	Shaft Rinforcement [#PL1.25x5]	82.83 - 83.72	1.0000	1.0000
L28	54	Shaft Rinforcement [#PL1.25x5]	82.83 - 83.72	1.0000	1.0000
L28	63	CCI-SFP-045100	82.83 - 83.72	1.0000	1.0000
L28	64	CCI-SFP-045100	82.83 - 83.72	1.0000	1.0000
L28	65	CCI-SFP-045100	82.83 - 83.72	1.0000	1.0000
L28	81	CCI-SFP-050125	82.83 - 83.72	1.0000	1.0000
L28	82	CCI-SFP-050125	82.83 - 83.72	1.0000	1.0000
L28	93	CCI-SFP-050125	82.83 - 83.72	1.0000	1.0000
L28	96	CCI-SFP-050125	82.83 - 83.72	1.0000	1.0000
L29	2	Safety Line 3/8"	82.58 - 82.83	1.0000	1.0000
L29	3	Climbing Pegs	82.58 - 82.83	1.0000	1.0000
L29	24	CU12PSM9P6XXX(1-1/2)	82.58 - 82.83	1.0000	1.0000
L29	27	HB158-1-08U8-S8J18(1-5/8)	82.58 - 82.83	1.0000	1.0000
L29	28	HB114-U6S12-XXX-LI(1-1/4)	82.58 - 82.83	1.0000	1.0000
L29	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	82.58 - 82.83	1.0000	1.0000
L29	37	Shaft Rinforcement [#PL0.625x5]	82.58 - 82.83	1.0000	1.0000
L29	38	Shaft Rinforcement [#PL0.625x5]	82.58 - 82.83	1.0000	1.0000
L29	52	Shaft Rinforcement [#PL1.25x5]	82.58 - 82.83	1.0000	1.0000
L29	53	Shaft Rinforcement [#PL1.25x5]	82.58 - 82.83	1.0000	1.0000
L29	54	Shaft Rinforcement [#PL1.25x5]	82.58 - 82.83	1.0000	1.0000
L29	63	CCI-SFP-045100	82.58 - 82.83	1.0000	1.0000
L29	64	CCI-SFP-045100	82.58 - 82.83	1.0000	1.0000
L29	65	CCI-SFP-045100	82.58 - 82.83	1.0000	1.0000
L29	81	CCI-SFP-050125	82.58 - 82.83	1.0000	1.0000
L29	82	CCI-SFP-050125	82.58 - 82.83	1.0000	1.0000
L29	93	CCI-SFP-050125	82.58 - 82.83	1.0000	1.0000
L29	96	CCI-SFP-050125	82.58 - 82.83	1.0000	1.0000
L30	2	Safety Line 3/8"	77.58 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			82.58		
L30	3	Climbing Pegs	77.58 - 82.58	1.0000	1.0000
L30	24	CU12PSM9P6XXX(1-1/2)	77.58 - 82.58	1.0000	1.0000
L30	27	HB158-1-08U8-S8J18(1-5/8)	77.58 - 82.58	1.0000	1.0000
L30	28	HB114-U6S12-XXX-LI(1-1/4)	77.58 - 82.58	1.0000	1.0000
L30	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	77.58 - 82.58	1.0000	1.0000
L30	37	Shaft Rinforcement [#PL0.625x5]	77.58 - 82.58	1.0000	1.0000
L30	38	Shaft Rinforcement [#PL0.625x5]	77.58 - 82.58	1.0000	1.0000
L30	52	Shaft Rinforcement [#PL1.25x5]	77.58 - 82.58	1.0000	1.0000
L30	53	Shaft Rinforcement [#PL1.25x5]	77.58 - 82.58	1.0000	1.0000
L30	54	Shaft Rinforcement [#PL1.25x5]	77.58 - 82.58	1.0000	1.0000
L30	63	CCI-SFP-045100	77.58 - 82.58	1.0000	1.0000
L30	64	CCI-SFP-045100	77.58 - 82.58	1.0000	1.0000
L30	65	CCI-SFP-045100	77.58 - 82.58	1.0000	1.0000
L30	81	CCI-SFP-050125	80.50 - 82.58	1.0000	1.0000
L30	82	CCI-SFP-050125	80.50 - 82.58	1.0000	1.0000
L30	93	CCI-SFP-050125	77.58 - 82.58	1.0000	1.0000
L30	94	CCI-SFP-050125	77.58 - 80.50	1.0000	1.0000
L30	96	CCI-SFP-050125	77.58 - 82.58	1.0000	1.0000
L30	97	CCI-SFP-050125	77.58 - 80.50	1.0000	1.0000
L31	2	Safety Line 3/8"	73.42 - 77.58	1.0000	1.0000
L31	3	Climbing Pegs	73.42 - 77.58	1.0000	1.0000
L31	24	CU12PSM9P6XXX(1-1/2)	73.42 - 77.58	1.0000	1.0000
L31	27	HB158-1-08U8-S8J18(1-5/8)	73.42 - 77.58	1.0000	1.0000
L31	28	HB114-U6S12-XXX-LI(1-1/4)	73.42 - 77.58	1.0000	1.0000
L31	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	73.42 - 77.58	1.0000	1.0000
L31	37	Shaft Rinforcement [#PL0.625x5]	73.42 - 77.58	1.0000	1.0000
L31	38	Shaft Rinforcement [#PL0.625x5]	73.42 - 77.58	1.0000	1.0000
L31	49	Shaft Rinforcement [#PL1.25x5]	73.42 - 75.42	1.0000	1.0000
L31	50	Shaft Rinforcement [#PL1.25x5]	73.42 - 75.42	1.0000	1.0000
L31	51	Shaft Rinforcement [#PL1.25x5]	73.42 - 75.42	1.0000	1.0000
L31	52	Shaft Rinforcement [#PL1.25x5]	73.42 - 77.58	1.0000	1.0000
L31	53	Shaft Rinforcement [#PL1.25x5]	73.42 - 77.58	1.0000	1.0000
L31	54	Shaft Rinforcement [#PL1.25x5]	73.42 - 77.58	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L31	63	CCI-SFP-045100	73.42 - 77.58	1.0000	1.0000
L31	64	CCI-SFP-045100	73.42 - 77.58	1.0000	1.0000
L31	65	CCI-SFP-045100	73.42 - 77.58	1.0000	1.0000
L31	93	CCI-SFP-050125	73.42 - 77.58	1.0000	1.0000
L31	94	CCI-SFP-050125	73.42 - 77.58	1.0000	1.0000
L31	96	CCI-SFP-050125	73.42 - 77.58	1.0000	1.0000
L31	97	CCI-SFP-050125	73.42 - 77.58	1.0000	1.0000
L32	2	Safety Line 3/8"	73.17 - 73.42	1.0000	1.0000
L32	3	Climbing Pegs	73.17 - 73.42	1.0000	1.0000
L32	24	CU12PSM9P6XXX(1-1/2)	73.17 - 73.42	1.0000	1.0000
L32	27	HB158-1-08U8-S8J18(1-5/8)	73.17 - 73.42	1.0000	1.0000
L32	28	HB114-U6S12-XXX-LI(1-1/4)	73.17 - 73.42	1.0000	1.0000
L32	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	73.17 - 73.42	1.0000	1.0000
L32	37	Shaft Rinforcement [#PL0.625x5]	73.17 - 73.42	1.0000	1.0000
L32	38	Shaft Rinforcement [#PL0.625x5]	73.17 - 73.42	1.0000	1.0000
L32	49	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	1.0000	1.0000
L32	50	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	1.0000	1.0000
L32	51	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	1.0000	1.0000
L32	52	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	1.0000	1.0000
L32	53	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	1.0000	1.0000
L32	54	Shaft Rinforcement [#PL1.25x5]	73.17 - 73.42	1.0000	1.0000
L32	63	CCI-SFP-045100	73.17 - 73.42	1.0000	1.0000
L32	64	CCI-SFP-045100	73.17 - 73.42	1.0000	1.0000
L32	65	CCI-SFP-045100	73.17 - 73.42	1.0000	1.0000
L32	93	CCI-SFP-050125	73.17 - 73.42	1.0000	1.0000
L32	94	CCI-SFP-050125	73.17 - 73.42	1.0000	1.0000
L32	96	CCI-SFP-050125	73.17 - 73.42	1.0000	1.0000
L32	97	CCI-SFP-050125	73.17 - 73.42	1.0000	1.0000
L33	2	Safety Line 3/8"	72.42 - 73.17	1.0000	1.0000
L33	3	Climbing Pegs	72.42 - 73.17	1.0000	1.0000
L33	24	CU12PSM9P6XXX(1-1/2)	72.42 - 73.17	1.0000	1.0000
L33	27	HB158-1-08U8-S8J18(1-5/8)	72.42 - 73.17	1.0000	1.0000
L33	28	HB114-U6S12-XXX-LI(1-1/4)	72.42 - 73.17	1.0000	1.0000
L33	30	MLE HYBRID 3POWER/6FIBER RL 2(1-	72.42 - 73.17	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		1/4)			
L33	37	Shaft Rinforcement [#PL0.625x5]	72.42 - 73.17	1.0000	1.0000
L33	38	Shaft Rinforcement [#PL0.625x5]	72.42 - 73.17	1.0000	1.0000
L33	49	Shaft Rinforcement [#PL1.25x5]	72.42 - 73.17	1.0000	1.0000
L33	50	Shaft Rinforcement [#PL1.25x5]	72.42 - 73.17	1.0000	1.0000
L33	51	Shaft Rinforcement [#PL1.25x5]	72.42 - 73.17	1.0000	1.0000
L33	52	Shaft Rinforcement [#PL1.25x5]	72.75 - 73.17	1.0000	1.0000
L33	53	Shaft Rinforcement [#PL1.25x5]	72.75 - 73.17	1.0000	1.0000
L33	54	Shaft Rinforcement [#PL1.25x5]	72.75 - 73.17	1.0000	1.0000
L33	63	CCI-SFP-045100	72.42 - 73.17	1.0000	1.0000
L33	64	CCI-SFP-045100	72.42 - 73.17	1.0000	1.0000
L33	65	CCI-SFP-045100	72.42 - 73.17	1.0000	1.0000
L33	71	CCI-SFP-045100	72.42 - 72.75	1.0000	1.0000
L33	72	CCI-SFP-045100	72.42 - 72.75	1.0000	1.0000
L33	73	CCI-SFP-045100	72.42 - 72.75	1.0000	1.0000
L33	93	CCI-SFP-050125	72.42 - 73.17	1.0000	1.0000
L33	94	CCI-SFP-050125	72.42 - 73.17	1.0000	1.0000
L33	96	CCI-SFP-050125	72.42 - 73.17	1.0000	1.0000
L33	97	CCI-SFP-050125	72.42 - 73.17	1.0000	1.0000
L34	2	Safety Line 3/8"	72.17 - 72.42	1.0000	1.0000
L34	3	Climbing Pegs	72.17 - 72.42	1.0000	1.0000
L34	24	CU12PSM9P6XXX(1-1/2)	72.17 - 72.42	1.0000	1.0000
L34	27	HB158-1-08U8-S8J18(1-5/8)	72.17 - 72.42	1.0000	1.0000
L34	28	HB114-U6S12-XXX-LI(1-1/4)	72.17 - 72.42	1.0000	1.0000
L34	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	72.17 - 72.42	1.0000	1.0000
L34	37	Shaft Rinforcement [#PL0.625x5]	72.17 - 72.42	1.0000	1.0000
L34	38	Shaft Rinforcement [#PL0.625x5]	72.17 - 72.42	1.0000	1.0000
L34	49	Shaft Rinforcement [#PL1.25x5]	72.17 - 72.42	1.0000	1.0000
L34	50	Shaft Rinforcement [#PL1.25x5]	72.17 - 72.42	1.0000	1.0000
L34	51	Shaft Rinforcement [#PL1.25x5]	72.17 - 72.42	1.0000	1.0000
L34	63	CCI-SFP-045100	72.17 - 72.42	1.0000	1.0000
L34	64	CCI-SFP-045100	72.17 - 72.42	1.0000	1.0000
L34	65	CCI-SFP-045100	72.17 - 72.42	1.0000	1.0000
L34	71	CCI-SFP-045100	72.17 - 72.42	1.0000	1.0000
L34	72	CCI-SFP-045100	72.17 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			72.42		
L34	73	CCI-SFP-045100	72.17 - 72.42	1.0000	1.0000
L34	93	CCI-SFP-050125	72.17 - 72.42	1.0000	1.0000
L34	94	CCI-SFP-050125	72.17 - 72.42	1.0000	1.0000
L34	96	CCI-SFP-050125	72.17 - 72.42	1.0000	1.0000
L34	97	CCI-SFP-050125	72.17 - 72.42	1.0000	1.0000
L35	2	Safety Line 3/8"	68.08 - 72.17	1.0000	1.0000
L35	3	Climbing Pegs	68.08 - 72.17	1.0000	1.0000
L35	24	CU12PSM9P6XXX(1-1/2)	68.08 - 72.17	1.0000	1.0000
L35	27	HB158-1-08U8-S8J18(1-5/8)	68.08 - 72.17	1.0000	1.0000
L35	28	HB114-U6S12-XXX-LI(1-1/4)	68.08 - 72.17	1.0000	1.0000
L35	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	68.08 - 72.17	1.0000	1.0000
L35	35	LDF4-50A(1/2)	68.08 - 70.00	1.0000	1.0000
L35	37	Shaft Rinforcement [#PL0.625x5]	68.08 - 72.17	1.0000	1.0000
L35	38	Shaft Rinforcement [#PL0.625x5]	68.08 - 72.17	1.0000	1.0000
L35	49	Shaft Rinforcement [#PL1.25x5]	68.08 - 72.17	1.0000	1.0000
L35	50	Shaft Rinforcement [#PL1.25x5]	68.08 - 72.17	1.0000	1.0000
L35	51	Shaft Rinforcement [#PL1.25x5]	68.08 - 72.17	1.0000	1.0000
L35	63	CCI-SFP-045100	68.08 - 72.17	1.0000	1.0000
L35	64	CCI-SFP-045100	68.08 - 72.17	1.0000	1.0000
L35	65	CCI-SFP-045100	68.08 - 72.17	1.0000	1.0000
L35	71	CCI-SFP-045100	68.08 - 72.17	1.0000	1.0000
L35	72	CCI-SFP-045100	68.08 - 72.17	1.0000	1.0000
L35	73	CCI-SFP-045100	68.08 - 72.17	1.0000	1.0000
L35	93	CCI-SFP-050125	70.42 - 72.17	1.0000	1.0000
L35	94	CCI-SFP-050125	70.42 - 72.17	1.0000	1.0000
L35	96	CCI-SFP-050125	70.42 - 72.17	1.0000	1.0000
L35	97	CCI-SFP-050125	70.42 - 72.17	1.0000	1.0000
L35	100	CCI-SFP-050125	68.08 - 70.08	1.0000	1.0000
L35	101	CCI-SFP-050125	68.08 - 70.08	1.0000	1.0000
L36	2	Safety Line 3/8"	67.83 - 68.08	1.0000	1.0000
L36	3	Climbing Pegs	67.83 - 68.08	1.0000	1.0000
L36	24	CU12PSM9P6XXX(1-1/2)	67.83 - 68.08	1.0000	1.0000
L36	27	HB158-1-08U8-S8J18(1-5/8)	67.83 - 68.08	1.0000	1.0000
L36	28	HB114-U6S12-XXX-LI(1-	67.83 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		1/4)	68.08		
L36	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	67.83 - 68.08	1.0000	1.0000
L36	35	LDF4-50A(1/2)	67.83 - 68.08	1.0000	1.0000
L36	37	Shaft Rinforcement [#PL0.625x5]	67.83 - 68.08	1.0000	1.0000
L36	38	Shaft Rinforcement [#PL0.625x5]	67.83 - 68.08	1.0000	1.0000
L36	49	Shaft Rinforcement [#PL1.25x5]	67.83 - 68.08	1.0000	1.0000
L36	50	Shaft Rinforcement [#PL1.25x5]	67.83 - 68.08	1.0000	1.0000
L36	51	Shaft Rinforcement [#PL1.25x5]	67.83 - 68.08	1.0000	1.0000
L36	63	CCI-SFP-045100	67.83 - 68.08	1.0000	1.0000
L36	64	CCI-SFP-045100	67.83 - 68.08	1.0000	1.0000
L36	65	CCI-SFP-045100	67.83 - 68.08	1.0000	1.0000
L36	71	CCI-SFP-045100	67.83 - 68.08	1.0000	1.0000
L36	72	CCI-SFP-045100	67.83 - 68.08	1.0000	1.0000
L36	73	CCI-SFP-045100	67.83 - 68.08	1.0000	1.0000
L36	100	CCI-SFP-050125	67.83 - 68.08	1.0000	1.0000
L36	101	CCI-SFP-050125	67.83 - 68.08	1.0000	1.0000
L37	2	Safety Line 3/8"	65.58 - 67.83	1.0000	1.0000
L37	3	Climbing Pegs	65.58 - 67.83	1.0000	1.0000
L37	24	CU12PSM9P6XXX(1-1/2)	65.58 - 67.83	1.0000	1.0000
L37	27	HB158-1-08U8-S8J18(1-5/8)	65.58 - 67.83	1.0000	1.0000
L37	28	HB114-U6S12-XXX-LI(1-1/4)	65.58 - 67.83	1.0000	1.0000
L37	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	65.58 - 67.83	1.0000	1.0000
L37	35	LDF4-50A(1/2)	65.58 - 67.83	1.0000	1.0000
L37	37	Shaft Rinforcement [#PL0.625x5]	65.58 - 67.83	1.0000	1.0000
L37	38	Shaft Rinforcement [#PL0.625x5]	65.58 - 67.83	1.0000	1.0000
L37	49	Shaft Rinforcement [#PL1.25x5]	65.58 - 67.83	1.0000	1.0000
L37	50	Shaft Rinforcement [#PL1.25x5]	65.58 - 67.83	1.0000	1.0000
L37	51	Shaft Rinforcement [#PL1.25x5]	65.58 - 67.83	1.0000	1.0000
L37	63	CCI-SFP-045100	65.58 - 67.83	1.0000	1.0000
L37	64	CCI-SFP-045100	65.58 - 67.83	1.0000	1.0000
L37	65	CCI-SFP-045100	65.58 - 67.83	1.0000	1.0000
L37	71	CCI-SFP-045100	65.58 - 67.83	1.0000	1.0000
L37	72	CCI-SFP-045100	65.58 - 67.83	1.0000	1.0000
L37	73	CCI-SFP-045100	65.58 - 67.83	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L37	100	CCI-SFP-050125	65.58 - 67.83	1.0000	1.0000
L37	101	CCI-SFP-050125	65.58 - 67.83	1.0000	1.0000
L37	102	CCI-SFP-050125	65.58 - 67.58	1.0000	1.0000
L37	103	CCI-SFP-050125	65.58 - 67.58	1.0000	1.0000
L38	2	Safety Line 3/8"	65.33 - 65.58	1.0000	1.0000
L38	3	Climbing Pegs	65.33 - 65.58	1.0000	1.0000
L38	24	CU12PSM9P6XXX(1-1/2)	65.33 - 65.58	1.0000	1.0000
L38	27	HB158-1-08U8-S8J18(1-5/8)	65.33 - 65.58	1.0000	1.0000
L38	28	HB114-U6S12-XXX-LI(1-1/4)	65.33 - 65.58	1.0000	1.0000
L38	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	65.33 - 65.58	1.0000	1.0000
L38	35	LDF4-50A(1/2)	65.33 - 65.58	1.0000	1.0000
L38	37	Shaft Rinforcement [#PL0.625x5]	65.33 - 65.58	1.0000	1.0000
L38	38	Shaft Rinforcement [#PL0.625x5]	65.33 - 65.58	1.0000	1.0000
L38	49	Shaft Rinforcement [#PL1.25x5]	65.33 - 65.58	1.0000	1.0000
L38	50	Shaft Rinforcement [#PL1.25x5]	65.33 - 65.58	1.0000	1.0000
L38	51	Shaft Rinforcement [#PL1.25x5]	65.33 - 65.58	1.0000	1.0000
L38	63	CCI-SFP-045100	65.33 - 65.58	1.0000	1.0000
L38	64	CCI-SFP-045100	65.33 - 65.58	1.0000	1.0000
L38	65	CCI-SFP-045100	65.33 - 65.58	1.0000	1.0000
L38	71	CCI-SFP-045100	65.33 - 65.58	1.0000	1.0000
L38	72	CCI-SFP-045100	65.33 - 65.58	1.0000	1.0000
L38	73	CCI-SFP-045100	65.33 - 65.58	1.0000	1.0000
L38	100	CCI-SFP-050125	65.33 - 65.58	1.0000	1.0000
L38	101	CCI-SFP-050125	65.33 - 65.58	1.0000	1.0000
L38	102	CCI-SFP-050125	65.33 - 65.58	1.0000	1.0000
L38	103	CCI-SFP-050125	65.33 - 65.58	1.0000	1.0000
L39	2	Safety Line 3/8"	64.25 - 65.33	1.0000	1.0000
L39	3	Climbing Pegs	64.25 - 65.33	1.0000	1.0000
L39	24	CU12PSM9P6XXX(1-1/2)	64.25 - 65.33	1.0000	1.0000
L39	27	HB158-1-08U8-S8J18(1-5/8)	64.25 - 65.33	1.0000	1.0000
L39	28	HB114-U6S12-XXX-LI(1-1/4)	64.25 - 65.33	1.0000	1.0000
L39	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	64.25 - 65.33	1.0000	1.0000
L39	35	LDF4-50A(1/2)	64.25 - 65.33	1.0000	1.0000
L39	37	Shaft Rinforcement	64.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		[#PL0.625x5]	65.33		
L39	38	Shaft Rinforcement [#PL0.625x5]	64.25 - 65.33	1.0000	1.0000
L39	49	Shaft Rinforcement [#PL1.25x5]	64.25 - 65.33	1.0000	1.0000
L39	50	Shaft Rinforcement [#PL1.25x5]	64.25 - 65.33	1.0000	1.0000
L39	51	Shaft Rinforcement [#PL1.25x5]	64.25 - 65.33	1.0000	1.0000
L39	63	CCI-SFP-045100	64.25 - 65.33	1.0000	1.0000
L39	64	CCI-SFP-045100	64.25 - 65.33	1.0000	1.0000
L39	65	CCI-SFP-045100	64.25 - 65.33	1.0000	1.0000
L39	71	CCI-SFP-045100	64.25 - 65.33	1.0000	1.0000
L39	72	CCI-SFP-045100	64.25 - 65.33	1.0000	1.0000
L39	73	CCI-SFP-045100	64.25 - 65.33	1.0000	1.0000
L39	100	CCI-SFP-050125	64.25 - 65.33	1.0000	1.0000
L39	101	CCI-SFP-050125	64.25 - 65.33	1.0000	1.0000
L39	102	CCI-SFP-050125	64.25 - 65.33	1.0000	1.0000
L39	103	CCI-SFP-050125	64.25 - 65.33	1.0000	1.0000
L40	2	Safety Line 3/8"	64.00 - 64.25	1.0000	1.0000
L40	3	Climbing Pegs	64.00 - 64.25	1.0000	1.0000
L40	24	CU12PSM9P6XXX(1-1/2)	64.00 - 64.25	1.0000	1.0000
L40	27	HB158-1-08U8-S8J18(1-5/8)	64.00 - 64.25	1.0000	1.0000
L40	28	HB114-U6S12-XXX-LI(1-1/4)	64.00 - 64.25	1.0000	1.0000
L40	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	64.00 - 64.25	1.0000	1.0000
L40	35	LDF4-50A(1/2)	64.00 - 64.25	1.0000	1.0000
L40	37	Shaft Rinforcement [#PL0.625x5]	64.00 - 64.25	1.0000	1.0000
L40	38	Shaft Rinforcement [#PL0.625x5]	64.00 - 64.25	1.0000	1.0000
L40	49	Shaft Rinforcement [#PL1.25x5]	64.00 - 64.25	1.0000	1.0000
L40	50	Shaft Rinforcement [#PL1.25x5]	64.00 - 64.25	1.0000	1.0000
L40	51	Shaft Rinforcement [#PL1.25x5]	64.00 - 64.25	1.0000	1.0000
L40	63	CCI-SFP-045100	64.00 - 64.25	1.0000	1.0000
L40	64	CCI-SFP-045100	64.00 - 64.25	1.0000	1.0000
L40	65	CCI-SFP-045100	64.00 - 64.25	1.0000	1.0000
L40	71	CCI-SFP-045100	64.00 - 64.25	1.0000	1.0000
L40	72	CCI-SFP-045100	64.00 - 64.25	1.0000	1.0000
L40	73	CCI-SFP-045100	64.00 - 64.25	1.0000	1.0000
L40	100	CCI-SFP-050125	64.00 - 64.25	1.0000	1.0000
L40	101	CCI-SFP-050125	64.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			64.25		
L40	102	CCI-SFP-050125	64.00 - 64.25	1.0000	1.0000
L40	103	CCI-SFP-050125	64.00 - 64.25	1.0000	1.0000
L41	2	Safety Line 3/8"	59.00 - 64.00	1.0000	1.0000
L41	3	Climbing Pegs	59.00 - 64.00	1.0000	1.0000
L41	24	CU12PSM9P6XXX(1-1/2)	59.00 - 64.00	1.0000	1.0000
L41	27	HB158-1-08U8-S8J18(1-5/8)	59.00 - 64.00	1.0000	1.0000
L41	28	HB114-U6S12-XXX-LI(1-1/4)	59.00 - 64.00	1.0000	1.0000
L41	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	59.00 - 64.00	1.0000	1.0000
L41	35	LDF4-50A(1/2)	59.00 - 64.00	1.0000	1.0000
L41	37	Shaft Rinforcement [#PL0.625x5]	59.00 - 64.00	1.0000	1.0000
L41	38	Shaft Rinforcement [#PL0.625x5]	59.00 - 64.00	1.0000	1.0000
L41	49	Shaft Rinforcement [#PL1.25x5]	59.00 - 64.00	1.0000	1.0000
L41	50	Shaft Rinforcement [#PL1.25x5]	59.00 - 64.00	1.0000	1.0000
L41	51	Shaft Rinforcement [#PL1.25x5]	59.00 - 64.00	1.0000	1.0000
L41	63	CCI-SFP-045100	59.00 - 64.00	1.0000	1.0000
L41	64	CCI-SFP-045100	59.00 - 64.00	1.0000	1.0000
L41	65	CCI-SFP-045100	59.00 - 64.00	1.0000	1.0000
L41	71	CCI-SFP-045100	62.75 - 64.00	1.0000	1.0000
L41	72	CCI-SFP-045100	62.75 - 64.00	1.0000	1.0000
L41	73	CCI-SFP-045100	62.75 - 64.00	1.0000	1.0000
L41	100	CCI-SFP-050125	59.00 - 64.00	1.0000	1.0000
L41	101	CCI-SFP-050125	59.00 - 64.00	1.0000	1.0000
L41	102	CCI-SFP-050125	59.00 - 64.00	1.0000	1.0000
L41	103	CCI-SFP-050125	59.00 - 64.00	1.0000	1.0000
L42	2	Safety Line 3/8"	54.00 - 59.00	1.0000	1.0000
L42	3	Climbing Pegs	54.00 - 59.00	1.0000	1.0000
L42	24	CU12PSM9P6XXX(1-1/2)	54.00 - 59.00	1.0000	1.0000
L42	27	HB158-1-08U8-S8J18(1-5/8)	54.00 - 59.00	1.0000	1.0000
L42	28	HB114-U6S12-XXX-LI(1-1/4)	54.00 - 59.00	1.0000	1.0000
L42	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	54.00 - 59.00	1.0000	1.0000
L42	35	LDF4-50A(1/2)	54.00 - 59.00	1.0000	1.0000
L42	37	Shaft Rinforcement [#PL0.625x5]	54.00 - 59.00	1.0000	1.0000
L42	38	Shaft Rinforcement [#PL0.625x5]	54.00 - 59.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L42	49	Shaft Rinforcement [#PL1.25x5]	54.00 - 59.00	1.0000	1.0000
L42	50	Shaft Rinforcement [#PL1.25x5]	54.00 - 59.00	1.0000	1.0000
L42	51	Shaft Rinforcement [#PL1.25x5]	54.00 - 59.00	1.0000	1.0000
L42	63	CCI-SFP-045100	54.00 - 59.00	1.0000	1.0000
L42	64	CCI-SFP-045100	54.00 - 59.00	1.0000	1.0000
L42	65	CCI-SFP-045100	54.00 - 59.00	1.0000	1.0000
L42	83	CCI-SFP-050125	54.00 - 55.50	1.0000	1.0000
L42	84	CCI-SFP-050125	54.00 - 55.50	1.0000	1.0000
L42	100	CCI-SFP-050125	54.00 - 59.00	1.0000	1.0000
L42	101	CCI-SFP-050125	54.00 - 59.00	1.0000	1.0000
L42	102	CCI-SFP-050125	54.00 - 59.00	1.0000	1.0000
L42	103	CCI-SFP-050125	54.00 - 59.00	1.0000	1.0000
L43	2	Safety Line 3/8"	43.83 - 54.00	1.0000	1.0000
L43	3	Climbing Pegs	43.83 - 54.00	1.0000	1.0000
L43	24	CU12PSM9P6XXX(1-1/2)	43.83 - 54.00	1.0000	1.0000
L43	27	HB158-1-08U8-S8J18(1-5/8)	43.83 - 54.00	1.0000	1.0000
L43	28	HB114-U6S12-XXX-LI(1-1/4)	43.83 - 54.00	1.0000	1.0000
L43	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	43.83 - 54.00	1.0000	1.0000
L43	35	LDF4-50A(1/2)	43.83 - 54.00	1.0000	1.0000
L43	37	Shaft Rinforcement [#PL0.625x5]	43.83 - 54.00	1.0000	1.0000
L43	38	Shaft Rinforcement [#PL0.625x5]	43.83 - 54.00	1.0000	1.0000
L43	46	Shaft Rinforcement [#PL1.25x6]	43.83 - 47.92	1.0000	1.0000
L43	47	Shaft Rinforcement [#PL1.25x6]	43.83 - 47.92	1.0000	1.0000
L43	48	Shaft Rinforcement [#PL1.25x6]	43.83 - 47.92	1.0000	1.0000
L43	49	Shaft Rinforcement [#PL1.25x5]	45.38 - 54.00	1.0000	1.0000
L43	50	Shaft Rinforcement [#PL1.25x5]	45.38 - 54.00	1.0000	1.0000
L43	51	Shaft Rinforcement [#PL1.25x5]	45.38 - 54.00	1.0000	1.0000
L43	63	CCI-SFP-045100	43.83 - 54.00	1.0000	1.0000
L43	64	CCI-SFP-045100	43.83 - 54.00	1.0000	1.0000
L43	65	CCI-SFP-045100	43.83 - 54.00	1.0000	1.0000
L43	83	CCI-SFP-050125	45.50 - 54.00	1.0000	1.0000
L43	84	CCI-SFP-050125	45.50 - 54.00	1.0000	1.0000
L43	100	CCI-SFP-050125	43.83 - 54.00	1.0000	1.0000
L43	101	CCI-SFP-050125	43.83 - 54.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L43	102	CCI-SFP-050125	43.83 - 54.00	1.0000	1.0000
L43	103	CCI-SFP-050125	43.83 - 54.00	1.0000	1.0000
L44	2	Safety Line 3/8"	42.83 - 43.83	1.0000	1.0000
L44	3	Climbing Pegs	42.83 - 43.83	1.0000	1.0000
L44	24	CU12PSM9P6XXX(1-1/2)	42.83 - 43.83	1.0000	1.0000
L44	27	HB158-1-08U8-S8J18(1-5/8)	42.83 - 43.83	1.0000	1.0000
L44	28	HB114-U6S12-XXX-LI(1-1/4)	42.83 - 43.83	1.0000	1.0000
L44	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	42.83 - 43.83	1.0000	1.0000
L44	35	LDF4-50A(1/2)	42.83 - 43.83	1.0000	1.0000
L44	37	Shaft Rinforcement [#PL0.625x5]	42.83 - 43.83	1.0000	1.0000
L44	38	Shaft Rinforcement [#PL0.625x5]	42.83 - 43.83	1.0000	1.0000
L44	46	Shaft Rinforcement [#PL1.25x6]	42.83 - 43.83	1.0000	1.0000
L44	47	Shaft Rinforcement [#PL1.25x6]	42.83 - 43.83	1.0000	1.0000
L44	48	Shaft Rinforcement [#PL1.25x6]	42.83 - 43.83	1.0000	1.0000
L44	59	CCI-SFP-060100	42.83 - 43.75	1.0000	1.0000
L44	60	CCI-SFP-060100	42.83 - 43.75	1.0000	1.0000
L44	61	CCI-SFP-060100	42.83 - 43.75	1.0000	1.0000
L44	63	CCI-SFP-045100	43.75 - 43.83	1.0000	1.0000
L44	64	CCI-SFP-045100	43.75 - 43.83	1.0000	1.0000
L44	65	CCI-SFP-045100	43.75 - 43.83	1.0000	1.0000
L44	100	CCI-SFP-050125	42.83 - 43.83	1.0000	1.0000
L44	101	CCI-SFP-050125	42.83 - 43.83	1.0000	1.0000
L44	102	CCI-SFP-050125	42.83 - 43.83	1.0000	1.0000
L44	103	CCI-SFP-050125	42.83 - 43.83	1.0000	1.0000
L45	2	Safety Line 3/8"	41.75 - 42.83	1.0000	1.0000
L45	3	Climbing Pegs	41.75 - 42.83	1.0000	1.0000
L45	24	CU12PSM9P6XXX(1-1/2)	41.75 - 42.83	1.0000	1.0000
L45	27	HB158-1-08U8-S8J18(1-5/8)	41.75 - 42.83	1.0000	1.0000
L45	28	HB114-U6S12-XXX-LI(1-1/4)	41.75 - 42.83	1.0000	1.0000
L45	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	41.75 - 42.83	1.0000	1.0000
L45	35	LDF4-50A(1/2)	41.75 - 42.83	1.0000	1.0000
L45	37	Shaft Rinforcement [#PL0.625x5]	41.75 - 42.83	1.0000	1.0000
L45	38	Shaft Rinforcement [#PL0.625x5]	41.75 - 42.83	1.0000	1.0000
L45	46	Shaft Rinforcement	41.75 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		[#PL1.25x6]	42.83		
L45	47	Shaft Rinforcement [#PL1.25x6]	41.75 - 42.83	1.0000	1.0000
L45	48	Shaft Rinforcement [#PL1.25x6]	41.75 - 42.83	1.0000	1.0000
L45	59	CCI-SFP-060100	41.75 - 42.83	1.0000	1.0000
L45	60	CCI-SFP-060100	41.75 - 42.83	1.0000	1.0000
L45	61	CCI-SFP-060100	41.75 - 42.83	1.0000	1.0000
L45	100	CCI-SFP-050125	41.75 - 42.83	1.0000	1.0000
L45	101	CCI-SFP-050125	41.75 - 42.83	1.0000	1.0000
L45	102	CCI-SFP-050125	41.75 - 42.83	1.0000	1.0000
L45	103	CCI-SFP-050125	41.75 - 42.83	1.0000	1.0000
L46	2	Safety Line 3/8"	41.50 - 41.75	1.0000	1.0000
L46	3	Climbing Pegs	41.50 - 41.75	1.0000	1.0000
L46	24	CU12PSM9P6XXX(1-1/2)	41.50 - 41.75	1.0000	1.0000
L46	27	HB158-1-08U8-S8J18(1-5/8)	41.50 - 41.75	1.0000	1.0000
L46	28	HB114-U6S12-XXX-LI(1-1/4)	41.50 - 41.75	1.0000	1.0000
L46	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	41.50 - 41.75	1.0000	1.0000
L46	35	LDF4-50A(1/2)	41.50 - 41.75	1.0000	1.0000
L46	37	Shaft Rinforcement [#PL0.625x5]	41.50 - 41.75	1.0000	1.0000
L46	38	Shaft Rinforcement [#PL0.625x5]	41.50 - 41.75	1.0000	1.0000
L46	46	Shaft Rinforcement [#PL1.25x6]	41.50 - 41.75	1.0000	1.0000
L46	47	Shaft Rinforcement [#PL1.25x6]	41.50 - 41.75	1.0000	1.0000
L46	48	Shaft Rinforcement [#PL1.25x6]	41.50 - 41.75	1.0000	1.0000
L46	59	CCI-SFP-060100	41.50 - 41.75	1.0000	1.0000
L46	60	CCI-SFP-060100	41.50 - 41.75	1.0000	1.0000
L46	61	CCI-SFP-060100	41.50 - 41.75	1.0000	1.0000
L46	100	CCI-SFP-050125	41.50 - 41.75	1.0000	1.0000
L46	101	CCI-SFP-050125	41.50 - 41.75	1.0000	1.0000
L46	102	CCI-SFP-050125	41.50 - 41.75	1.0000	1.0000
L46	103	CCI-SFP-050125	41.50 - 41.75	1.0000	1.0000
L47	2	Safety Line 3/8"	36.50 - 41.50	1.0000	1.0000
L47	3	Climbing Pegs	36.50 - 41.50	1.0000	1.0000
L47	24	CU12PSM9P6XXX(1-1/2)	36.50 - 41.50	1.0000	1.0000
L47	27	HB158-1-08U8-S8J18(1-5/8)	36.50 - 41.50	1.0000	1.0000
L47	28	HB114-U6S12-XXX-LI(1-1/4)	36.50 - 41.50	1.0000	1.0000
L47	30	MLE HYBRID	36.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		3POWER/6FIBER RL 2(1-1/4)	41.50		
L47	35	LDF4-50A(1/2)	36.50 - 41.50	1.0000	1.0000
L47	37	Shaft Rinforcement [#PL0.625x5]	36.50 - 41.50	1.0000	1.0000
L47	38	Shaft Rinforcement [#PL0.625x5]	36.50 - 41.50	1.0000	1.0000
L47	46	Shaft Rinforcement [#PL1.25x6]	36.50 - 41.50	1.0000	1.0000
L47	47	Shaft Rinforcement [#PL1.25x6]	36.50 - 41.50	1.0000	1.0000
L47	48	Shaft Rinforcement [#PL1.25x6]	36.50 - 41.50	1.0000	1.0000
L47	59	CCI-SFP-060100	36.50 - 41.50	1.0000	1.0000
L47	60	CCI-SFP-060100	36.50 - 41.50	1.0000	1.0000
L47	61	CCI-SFP-060100	36.50 - 41.50	1.0000	1.0000
L47	100	CCI-SFP-050125	36.50 - 41.50	1.0000	1.0000
L47	101	CCI-SFP-050125	36.50 - 41.50	1.0000	1.0000
L47	102	CCI-SFP-050125	36.50 - 41.50	1.0000	1.0000
L47	103	CCI-SFP-050125	36.50 - 41.50	1.0000	1.0000
L48	2	Safety Line 3/8"	32.75 - 36.50	1.0000	1.0000
L48	3	Climbing Pegs	32.75 - 36.50	1.0000	1.0000
L48	24	CU12PSM9P6XXX(1-1/2)	32.75 - 36.50	1.0000	1.0000
L48	27	HB158-1-08U8-S8J18(1-5/8)	32.75 - 36.50	1.0000	1.0000
L48	28	HB114-U6S12-XXX-LI(1-1/4)	32.75 - 36.50	1.0000	1.0000
L48	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	32.75 - 36.50	1.0000	1.0000
L48	35	LDF4-50A(1/2)	32.75 - 36.50	1.0000	1.0000
L48	37	Shaft Rinforcement [#PL0.625x5]	32.75 - 36.50	1.0000	1.0000
L48	38	Shaft Rinforcement [#PL0.625x5]	32.75 - 36.50	1.0000	1.0000
L48	46	Shaft Rinforcement [#PL1.25x6]	32.75 - 36.50	1.0000	1.0000
L48	47	Shaft Rinforcement [#PL1.25x6]	32.75 - 36.50	1.0000	1.0000
L48	48	Shaft Rinforcement [#PL1.25x6]	32.75 - 36.50	1.0000	1.0000
L48	59	CCI-SFP-060100	32.75 - 36.50	1.0000	1.0000
L48	60	CCI-SFP-060100	32.75 - 36.50	1.0000	1.0000
L48	61	CCI-SFP-060100	32.75 - 36.50	1.0000	1.0000
L48	85	CCI-SFP-065125	32.75 - 35.50	1.0000	1.0000
L48	86	CCI-SFP-065125	32.75 - 35.50	1.0000	1.0000
L48	100	CCI-SFP-050125	35.00 - 36.50	1.0000	1.0000
L48	101	CCI-SFP-050125	35.00 - 36.50	1.0000	1.0000
L48	102	CCI-SFP-050125	35.50 - 36.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L48	103	CCI-SFP-050125	35.50 - 36.50	1.0000	1.0000
L48	105	CCI-SFP-065125	32.75 - 35.00	1.0000	1.0000
L48	106	CCI-SFP-065125	32.75 - 35.00	1.0000	1.0000
L49	2	Safety Line 3/8"	32.50 - 32.75	1.0000	1.0000
L49	3	Climbing Pegs	32.50 - 32.75	1.0000	1.0000
L49	24	CU12PSM9P6XXX(1-1/2)	32.50 - 32.75	1.0000	1.0000
L49	27	HB158-1-08U8-S8J18(1-5/8)	32.50 - 32.75	1.0000	1.0000
L49	28	HB114-U6S12-XXX-LI(1-1/4)	32.50 - 32.75	1.0000	1.0000
L49	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	32.50 - 32.75	1.0000	1.0000
L49	35	LDF4-50A(1/2)	32.50 - 32.75	1.0000	1.0000
L49	37	Shaft Rinforcement [#PL0.625x5]	32.50 - 32.75	1.0000	1.0000
L49	38	Shaft Rinforcement [#PL0.625x5]	32.50 - 32.75	1.0000	1.0000
L49	46	Shaft Rinforcement [#PL1.25x6]	32.50 - 32.75	1.0000	1.0000
L49	47	Shaft Rinforcement [#PL1.25x6]	32.50 - 32.75	1.0000	1.0000
L49	48	Shaft Rinforcement [#PL1.25x6]	32.50 - 32.75	1.0000	1.0000
L49	59	CCI-SFP-060100	32.50 - 32.75	1.0000	1.0000
L49	60	CCI-SFP-060100	32.50 - 32.75	1.0000	1.0000
L49	61	CCI-SFP-060100	32.50 - 32.75	1.0000	1.0000
L49	85	CCI-SFP-065125	32.50 - 32.75	1.0000	1.0000
L49	86	CCI-SFP-065125	32.50 - 32.75	1.0000	1.0000
L49	105	CCI-SFP-065125	32.50 - 32.75	1.0000	1.0000
L49	106	CCI-SFP-065125	32.50 - 32.75	1.0000	1.0000
L50	2	Safety Line 3/8"	32.25 - 32.50	1.0000	1.0000
L50	3	Climbing Pegs	32.25 - 32.50	1.0000	1.0000
L50	24	CU12PSM9P6XXX(1-1/2)	32.25 - 32.50	1.0000	1.0000
L50	27	HB158-1-08U8-S8J18(1-5/8)	32.25 - 32.50	1.0000	1.0000
L50	28	HB114-U6S12-XXX-LI(1-1/4)	32.25 - 32.50	1.0000	1.0000
L50	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	32.25 - 32.50	1.0000	1.0000
L50	35	LDF4-50A(1/2)	32.25 - 32.50	1.0000	1.0000
L50	37	Shaft Rinforcement [#PL0.625x5]	32.25 - 32.50	1.0000	1.0000
L50	38	Shaft Rinforcement [#PL0.625x5]	32.25 - 32.50	1.0000	1.0000
L50	46	Shaft Rinforcement [#PL1.25x6]	32.25 - 32.50	1.0000	1.0000
L50	47	Shaft Rinforcement [#PL1.25x6]	32.25 - 32.50	1.0000	1.0000
L50	48	Shaft Rinforcement	32.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		[#PL1.25x6]	32.50		
L50	59	CCI-SFP-060100	32.25 - 32.50	1.0000	1.0000
L50	60	CCI-SFP-060100	32.25 - 32.50	1.0000	1.0000
L50	61	CCI-SFP-060100	32.25 - 32.50	1.0000	1.0000
L50	85	CCI-SFP-065125	32.25 - 32.50	1.0000	1.0000
L50	86	CCI-SFP-065125	32.25 - 32.50	1.0000	1.0000
L50	105	CCI-SFP-065125	32.25 - 32.50	1.0000	1.0000
L50	106	CCI-SFP-065125	32.25 - 32.50	1.0000	1.0000
L51	2	Safety Line 3/8"	32.00 - 32.25	1.0000	1.0000
L51	3	Climbing Pegs	32.00 - 32.25	1.0000	1.0000
L51	24	CU12PSM9P6XXX(1-1/2)	32.00 - 32.25	1.0000	1.0000
L51	27	HB158-1-08U8-S8J18(1-5/8)	32.00 - 32.25	1.0000	1.0000
L51	28	HB114-U6S12-XXX-LI(1-1/4)	32.00 - 32.25	1.0000	1.0000
L51	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	32.00 - 32.25	1.0000	1.0000
L51	35	LDF4-50A(1/2)	32.00 - 32.25	1.0000	1.0000
L51	37	Shaft Rinforcement [#PL0.625x5]	32.00 - 32.25	1.0000	1.0000
L51	38	Shaft Rinforcement [#PL0.625x5]	32.00 - 32.25	1.0000	1.0000
L51	46	Shaft Rinforcement [#PL1.25x6]	32.00 - 32.25	1.0000	1.0000
L51	47	Shaft Rinforcement [#PL1.25x6]	32.00 - 32.25	1.0000	1.0000
L51	48	Shaft Rinforcement [#PL1.25x6]	32.00 - 32.25	1.0000	1.0000
L51	59	CCI-SFP-060100	32.00 - 32.25	1.0000	1.0000
L51	60	CCI-SFP-060100	32.00 - 32.25	1.0000	1.0000
L51	61	CCI-SFP-060100	32.00 - 32.25	1.0000	1.0000
L51	85	CCI-SFP-065125	32.00 - 32.25	1.0000	1.0000
L51	86	CCI-SFP-065125	32.00 - 32.25	1.0000	1.0000
L51	105	CCI-SFP-065125	32.00 - 32.25	1.0000	1.0000
L51	106	CCI-SFP-065125	32.00 - 32.25	1.0000	1.0000
L52	2	Safety Line 3/8"	30.33 - 32.00	1.0000	1.0000
L52	3	Climbing Pegs	30.33 - 32.00	1.0000	1.0000
L52	24	CU12PSM9P6XXX(1-1/2)	30.33 - 32.00	1.0000	1.0000
L52	27	HB158-1-08U8-S8J18(1-5/8)	30.33 - 32.00	1.0000	1.0000
L52	28	HB114-U6S12-XXX-LI(1-1/4)	30.33 - 32.00	1.0000	1.0000
L52	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	30.33 - 32.00	1.0000	1.0000
L52	35	LDF4-50A(1/2)	30.33 - 32.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L52	37	Shaft Rinforcement [#PL0.625x5]	30.33 - 32.00	1.0000	1.0000
L52	38	Shaft Rinforcement [#PL0.625x5]	30.33 - 32.00	1.0000	1.0000
L52	43	Shaft Rinforcement [#PL1.25x6]	30.33 - 30.75	1.0000	1.0000
L52	44	Shaft Rinforcement [#PL1.25x6]	30.33 - 30.75	1.0000	1.0000
L52	45	Shaft Rinforcement [#PL1.25x6]	30.33 - 30.75	1.0000	1.0000
L52	46	Shaft Rinforcement [#PL1.25x6]	30.33 - 32.00	1.0000	1.0000
L52	47	Shaft Rinforcement [#PL1.25x6]	30.33 - 32.00	1.0000	1.0000
L52	48	Shaft Rinforcement [#PL1.25x6]	30.33 - 32.00	1.0000	1.0000
L52	59	CCI-SFP-060100	30.33 - 32.00	1.0000	1.0000
L52	60	CCI-SFP-060100	30.33 - 32.00	1.0000	1.0000
L52	61	CCI-SFP-060100	30.33 - 32.00	1.0000	1.0000
L52	85	CCI-SFP-065125	30.33 - 32.00	1.0000	1.0000
L52	86	CCI-SFP-065125	30.33 - 32.00	1.0000	1.0000
L52	105	CCI-SFP-065125	30.33 - 32.00	1.0000	1.0000
L52	106	CCI-SFP-065125	30.33 - 32.00	1.0000	1.0000
L53	2	Safety Line 3/8"	30.08 - 30.33	1.0000	1.0000
L53	3	Climbing Pegs	30.08 - 30.33	1.0000	1.0000
L53	24	CU12PSM9P6XXX(1-1/2)	30.08 - 30.33	1.0000	1.0000
L53	27	HB158-1-08U8-S8J18(1-5/8)	30.08 - 30.33	1.0000	1.0000
L53	28	HB114-U6S12-XXX-LI(1-1/4)	30.08 - 30.33	1.0000	1.0000
L53	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	30.08 - 30.33	1.0000	1.0000
L53	35	LDF4-50A(1/2)	30.08 - 30.33	1.0000	1.0000
L53	37	Shaft Rinforcement [#PL0.625x5]	30.08 - 30.33	1.0000	1.0000
L53	38	Shaft Rinforcement [#PL0.625x5]	30.08 - 30.33	1.0000	1.0000
L53	43	Shaft Rinforcement [#PL1.25x6]	30.08 - 30.33	1.0000	1.0000
L53	44	Shaft Rinforcement [#PL1.25x6]	30.08 - 30.33	1.0000	1.0000
L53	45	Shaft Rinforcement [#PL1.25x6]	30.08 - 30.33	1.0000	1.0000
L53	46	Shaft Rinforcement [#PL1.25x6]	30.08 - 30.33	1.0000	1.0000
L53	47	Shaft Rinforcement [#PL1.25x6]	30.08 - 30.33	1.0000	1.0000
L53	48	Shaft Rinforcement [#PL1.25x6]	30.08 - 30.33	1.0000	1.0000
L53	59	CCI-SFP-060100	30.08 - 30.33	1.0000	1.0000
L53	60	CCI-SFP-060100	30.08 - 30.33	1.0000	1.0000
L53	61	CCI-SFP-060100	30.08 - 30.33	1.0000	1.0000
L53	85	CCI-SFP-065125	30.08 - 30.33	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L53	86	CCI-SFP-065125	30.08 - 30.33	1.0000	1.0000
L53	105	CCI-SFP-065125	30.08 - 30.33	1.0000	1.0000
L53	106	CCI-SFP-065125	30.08 - 30.33	1.0000	1.0000
L54	2	Safety Line 3/8"	28.25 - 30.08	1.0000	1.0000
L54	3	Climbing Pegs	28.25 - 30.08	1.0000	1.0000
L54	24	CU12PSM9P6XXX(1-1/2)	28.25 - 30.08	1.0000	1.0000
L54	27	HB158-1-08U8-S8J18(1-5/8)	28.25 - 30.08	1.0000	1.0000
L54	28	HB114-U6S12-XXX-LI(1-1/4)	28.25 - 30.08	1.0000	1.0000
L54	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	28.25 - 30.08	1.0000	1.0000
L54	35	LDF4-50A(1/2)	28.25 - 30.08	1.0000	1.0000
L54	37	Shaft Rinforcement [#PL0.625x5]	28.25 - 30.08	1.0000	1.0000
L54	38	Shaft Rinforcement [#PL0.625x5]	28.25 - 30.08	1.0000	1.0000
L54	43	Shaft Rinforcement [#PL1.25x6]	28.25 - 30.08	1.0000	1.0000
L54	44	Shaft Rinforcement [#PL1.25x6]	28.25 - 30.08	1.0000	1.0000
L54	45	Shaft Rinforcement [#PL1.25x6]	28.25 - 30.08	1.0000	1.0000
L54	46	Shaft Rinforcement [#PL1.25x6]	28.25 - 30.08	1.0000	1.0000
L54	47	Shaft Rinforcement [#PL1.25x6]	28.25 - 30.08	1.0000	1.0000
L54	48	Shaft Rinforcement [#PL1.25x6]	28.25 - 30.08	1.0000	1.0000
L54	59	CCI-SFP-060100	28.25 - 30.08	1.0000	1.0000
L54	60	CCI-SFP-060100	28.25 - 30.08	1.0000	1.0000
L54	61	CCI-SFP-060100	28.25 - 30.08	1.0000	1.0000
L54	85	CCI-SFP-065125	28.25 - 30.08	1.0000	1.0000
L54	86	CCI-SFP-065125	28.25 - 30.08	1.0000	1.0000
L54	105	CCI-SFP-065125	28.25 - 30.08	1.0000	1.0000
L54	106	CCI-SFP-065125	28.25 - 30.08	1.0000	1.0000
L55	2	Safety Line 3/8"	28.00 - 28.25	1.0000	1.0000
L55	3	Climbing Pegs	28.00 - 28.25	1.0000	1.0000
L55	24	CU12PSM9P6XXX(1-1/2)	28.00 - 28.25	1.0000	1.0000
L55	27	HB158-1-08U8-S8J18(1-5/8)	28.00 - 28.25	1.0000	1.0000
L55	28	HB114-U6S12-XXX-LI(1-1/4)	28.00 - 28.25	1.0000	1.0000
L55	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	28.00 - 28.25	1.0000	1.0000
L55	35	LDF4-50A(1/2)	28.00 - 28.25	1.0000	1.0000
L55	37	Shaft Rinforcement [#PL0.625x5]	28.00 - 28.25	1.0000	1.0000
L55	38	Shaft Rinforcement	28.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		[#PL0.625x5]	28.25		
L55	43	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	1.0000	1.0000
L55	44	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	1.0000	1.0000
L55	45	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	1.0000	1.0000
L55	46	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	1.0000	1.0000
L55	47	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	1.0000	1.0000
L55	48	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	1.0000	1.0000
L55	59	CCI-SFP-060100	28.00 - 28.25	1.0000	1.0000
L55	60	CCI-SFP-060100	28.00 - 28.25	1.0000	1.0000
L55	61	CCI-SFP-060100	28.00 - 28.25	1.0000	1.0000
L55	85	CCI-SFP-065125	28.00 - 28.25	1.0000	1.0000
L55	86	CCI-SFP-065125	28.00 - 28.25	1.0000	1.0000
L55	105	CCI-SFP-065125	28.00 - 28.25	1.0000	1.0000
L55	106	CCI-SFP-065125	28.00 - 28.25	1.0000	1.0000
L56	2	Safety Line 3/8"	23.00 - 28.00	1.0000	1.0000
L56	3	Climbing Pegs	23.00 - 28.00	1.0000	1.0000
L56	24	CU12PSM9P6XXX(1-1/2)	23.00 - 28.00	1.0000	1.0000
L56	27	HB158-1-08U8-S8J18(1-5/8)	23.00 - 28.00	1.0000	1.0000
L56	28	HB114-U6S12-XXX-LI(1-1/4)	23.00 - 28.00	1.0000	1.0000
L56	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	23.00 - 28.00	1.0000	1.0000
L56	35	LDF4-50A(1/2)	23.00 - 28.00	1.0000	1.0000
L56	37	Shaft Rinforcement [#PL0.625x5]	23.00 - 28.00	1.0000	1.0000
L56	38	Shaft Rinforcement [#PL0.625x5]	23.00 - 28.00	1.0000	1.0000
L56	43	Shaft Rinforcement [#PL1.25x6]	23.00 - 28.00	1.0000	1.0000
L56	44	Shaft Rinforcement [#PL1.25x6]	23.00 - 28.00	1.0000	1.0000
L56	45	Shaft Rinforcement [#PL1.25x6]	23.00 - 28.00	1.0000	1.0000
L56	46	Shaft Rinforcement [#PL1.25x6]	27.75 - 28.00	1.0000	1.0000
L56	47	Shaft Rinforcement [#PL1.25x6]	27.75 - 28.00	1.0000	1.0000
L56	48	Shaft Rinforcement [#PL1.25x6]	27.75 - 28.00	1.0000	1.0000
L56	59	CCI-SFP-060100	23.00 - 28.00	1.0000	1.0000
L56	60	CCI-SFP-060100	23.00 - 28.00	1.0000	1.0000
L56	61	CCI-SFP-060100	23.00 - 28.00	1.0000	1.0000
L56	67	CCI-SFP-045100	23.00 - 27.75	1.0000	1.0000
L56	68	CCI-SFP-045100	23.00 - 27.75	1.0000	1.0000
L56	69	CCI-SFP-045100	23.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			27.75		
L56	85	CCI-SFP-065125	25.50 - 28.00	1.0000	1.0000
L56	86	CCI-SFP-065125	25.50 - 28.00	1.0000	1.0000
L56	105	CCI-SFP-065125	23.00 - 28.00	1.0000	1.0000
L56	106	CCI-SFP-065125	23.00 - 28.00	1.0000	1.0000
L57	2	Safety Line 3/8"	19.25 - 23.00	1.0000	1.0000
L57	3	Climbing Pegs	19.25 - 23.00	1.0000	1.0000
L57	24	CU12PSM9P6XXX(1-1/2)	19.25 - 23.00	1.0000	1.0000
L57	27	HB158-1-08U8-S8J18(1-5/8)	19.25 - 23.00	1.0000	1.0000
L57	28	HB114-U6S12-XXX-LI(1-1/4)	19.25 - 23.00	1.0000	1.0000
L57	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	19.25 - 23.00	1.0000	1.0000
L57	35	LDF4-50A(1/2)	19.25 - 23.00	1.0000	1.0000
L57	37	Shaft Rinforcement [#PL0.625x5]	19.25 - 23.00	1.0000	1.0000
L57	38	Shaft Rinforcement [#PL0.625x5]	19.25 - 23.00	1.0000	1.0000
L57	43	Shaft Rinforcement [#PL1.25x6]	19.25 - 23.00	1.0000	1.0000
L57	44	Shaft Rinforcement [#PL1.25x6]	19.25 - 23.00	1.0000	1.0000
L57	45	Shaft Rinforcement [#PL1.25x6]	19.25 - 23.00	1.0000	1.0000
L57	59	CCI-SFP-060100	19.25 - 23.00	1.0000	1.0000
L57	60	CCI-SFP-060100	19.25 - 23.00	1.0000	1.0000
L57	61	CCI-SFP-060100	19.25 - 23.00	1.0000	1.0000
L57	67	CCI-SFP-045100	19.25 - 23.00	1.0000	1.0000
L57	68	CCI-SFP-045100	19.25 - 23.00	1.0000	1.0000
L57	69	CCI-SFP-045100	19.25 - 23.00	1.0000	1.0000
L57	105	CCI-SFP-065125	19.25 - 23.00	1.0000	1.0000
L57	106	CCI-SFP-065125	19.25 - 23.00	1.0000	1.0000
L58	2	Safety Line 3/8"	19.00 - 19.25	1.0000	1.0000
L58	3	Climbing Pegs	19.00 - 19.25	1.0000	1.0000
L58	24	CU12PSM9P6XXX(1-1/2)	19.00 - 19.25	1.0000	1.0000
L58	27	HB158-1-08U8-S8J18(1-5/8)	19.00 - 19.25	1.0000	1.0000
L58	28	HB114-U6S12-XXX-LI(1-1/4)	19.00 - 19.25	1.0000	1.0000
L58	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	19.00 - 19.25	1.0000	1.0000
L58	35	LDF4-50A(1/2)	19.00 - 19.25	1.0000	1.0000
L58	37	Shaft Rinforcement [#PL0.625x5]	19.00 - 19.25	1.0000	1.0000
L58	38	Shaft Rinforcement [#PL0.625x5]	19.00 - 19.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L58	43	Shaft Rinforcement [#PL1.25x6]	19.00 - 19.25	1.0000	1.0000
L58	44	Shaft Rinforcement [#PL1.25x6]	19.00 - 19.25	1.0000	1.0000
L58	45	Shaft Rinforcement [#PL1.25x6]	19.00 - 19.25	1.0000	1.0000
L58	59	CCI-SFP-060100	19.00 - 19.25	1.0000	1.0000
L58	60	CCI-SFP-060100	19.00 - 19.25	1.0000	1.0000
L58	61	CCI-SFP-060100	19.00 - 19.25	1.0000	1.0000
L58	67	CCI-SFP-045100	19.00 - 19.25	1.0000	1.0000
L58	68	CCI-SFP-045100	19.00 - 19.25	1.0000	1.0000
L58	69	CCI-SFP-045100	19.00 - 19.25	1.0000	1.0000
L58	105	CCI-SFP-065125	19.00 - 19.25	1.0000	1.0000
L58	106	CCI-SFP-065125	19.00 - 19.25	1.0000	1.0000
L59	2	Safety Line 3/8"	14.50 - 19.00	1.0000	1.0000
L59	3	Climbing Pegs	14.50 - 19.00	1.0000	1.0000
L59	24	CU12PSM9P6XXX(1-1/2)	14.50 - 19.00	1.0000	1.0000
L59	27	HB158-1-08U8-S8J18(1-5/8)	14.50 - 19.00	1.0000	1.0000
L59	28	HB114-U6S12-XXX-LI(1-1/4)	14.50 - 19.00	1.0000	1.0000
L59	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	14.50 - 19.00	1.0000	1.0000
L59	35	LDF4-50A(1/2)	14.50 - 19.00	1.0000	1.0000
L59	37	Shaft Rinforcement [#PL0.625x5]	14.50 - 19.00	1.0000	1.0000
L59	38	Shaft Rinforcement [#PL0.625x5]	14.50 - 19.00	1.0000	1.0000
L59	43	Shaft Rinforcement [#PL1.25x6]	14.50 - 19.00	1.0000	1.0000
L59	44	Shaft Rinforcement [#PL1.25x6]	14.50 - 19.00	1.0000	1.0000
L59	45	Shaft Rinforcement [#PL1.25x6]	14.50 - 19.00	1.0000	1.0000
L59	59	CCI-SFP-060100	14.50 - 19.00	1.0000	1.0000
L59	60	CCI-SFP-060100	14.50 - 19.00	1.0000	1.0000
L59	61	CCI-SFP-060100	14.50 - 19.00	1.0000	1.0000
L59	67	CCI-SFP-045100	17.75 - 19.00	1.0000	1.0000
L59	68	CCI-SFP-045100	17.75 - 19.00	1.0000	1.0000
L59	69	CCI-SFP-045100	17.75 - 19.00	1.0000	1.0000
L59	105	CCI-SFP-065125	14.50 - 19.00	1.0000	1.0000
L59	106	CCI-SFP-065125	14.50 - 19.00	1.0000	1.0000
L60	2	Safety Line 3/8"	14.25 - 14.50	1.0000	1.0000
L60	3	Climbing Pegs	14.25 - 14.50	1.0000	1.0000
L60	24	CU12PSM9P6XXX(1-1/2)	14.25 - 14.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L60	27	HB158-1-08U8-S8J18(1-5/8)	14.25 - 14.50	1.0000	1.0000
L60	28	HB114-U6S12-XXX-LI(1-1/4)	14.25 - 14.50	1.0000	1.0000
L60	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	14.25 - 14.50	1.0000	1.0000
L60	35	LDF4-50A(1/2)	14.25 - 14.50	1.0000	1.0000
L60	37	Shaft Rinforcement [#PL0.625x5]	14.25 - 14.50	1.0000	1.0000
L60	38	Shaft Rinforcement [#PL0.625x5]	14.25 - 14.50	1.0000	1.0000
L60	43	Shaft Rinforcement [#PL1.25x6]	14.25 - 14.50	1.0000	1.0000
L60	44	Shaft Rinforcement [#PL1.25x6]	14.25 - 14.50	1.0000	1.0000
L60	45	Shaft Rinforcement [#PL1.25x6]	14.25 - 14.50	1.0000	1.0000
L60	59	CCI-SFP-060100	14.25 - 14.50	1.0000	1.0000
L60	60	CCI-SFP-060100	14.25 - 14.50	1.0000	1.0000
L60	61	CCI-SFP-060100	14.25 - 14.50	1.0000	1.0000
L60	105	CCI-SFP-065125	14.25 - 14.50	1.0000	1.0000
L60	106	CCI-SFP-065125	14.25 - 14.50	1.0000	1.0000
L61	2	Safety Line 3/8"	12.75 - 14.25	1.0000	1.0000
L61	3	Climbing Pegs	12.75 - 14.25	1.0000	1.0000
L61	24	CU12PSM9P6XXX(1-1/2)	12.75 - 14.25	1.0000	1.0000
L61	27	HB158-1-08U8-S8J18(1-5/8)	12.75 - 14.25	1.0000	1.0000
L61	28	HB114-U6S12-XXX-LI(1-1/4)	12.75 - 14.25	1.0000	1.0000
L61	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	12.75 - 14.25	1.0000	1.0000
L61	35	LDF4-50A(1/2)	12.75 - 14.25	1.0000	1.0000
L61	37	Shaft Rinforcement [#PL0.625x5]	12.75 - 14.25	1.0000	1.0000
L61	38	Shaft Rinforcement [#PL0.625x5]	12.75 - 14.25	1.0000	1.0000
L61	43	Shaft Rinforcement [#PL1.25x6]	12.75 - 14.25	1.0000	1.0000
L61	44	Shaft Rinforcement [#PL1.25x6]	12.75 - 14.25	1.0000	1.0000
L61	45	Shaft Rinforcement [#PL1.25x6]	12.75 - 14.25	1.0000	1.0000
L61	59	CCI-SFP-060100	12.75 - 14.25	1.0000	1.0000
L61	60	CCI-SFP-060100	12.75 - 14.25	1.0000	1.0000
L61	61	CCI-SFP-060100	12.75 - 14.25	1.0000	1.0000
L61	105	CCI-SFP-065125	12.75 - 14.25	1.0000	1.0000
L61	106	CCI-SFP-065125	12.75 - 14.25	1.0000	1.0000
L62	2	Safety Line 3/8"	12.50 - 12.75	1.0000	1.0000
L62	3	Climbing Pegs	12.50 - 12.75	1.0000	1.0000
L62	24	CU12PSM9P6XXX(1-1/2)	12.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			12.75		
L62	27	HB158-1-08U8-S8J18(1-5/8)	12.50 - 12.75	1.0000	1.0000
L62	28	HB114-U6S12-XXX-LI(1-1/4)	12.50 - 12.75	1.0000	1.0000
L62	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	12.50 - 12.75	1.0000	1.0000
L62	35	LDF4-50A(1/2)	12.50 - 12.75	1.0000	1.0000
L62	37	Shaft Rinforcement [#PL0.625x5]	12.50 - 12.75	1.0000	1.0000
L62	38	Shaft Rinforcement [#PL0.625x5]	12.50 - 12.75	1.0000	1.0000
L62	43	Shaft Rinforcement [#PL1.25x6]	12.50 - 12.75	1.0000	1.0000
L62	44	Shaft Rinforcement [#PL1.25x6]	12.50 - 12.75	1.0000	1.0000
L62	45	Shaft Rinforcement [#PL1.25x6]	12.50 - 12.75	1.0000	1.0000
L62	59	CCI-SFP-060100	12.50 - 12.75	1.0000	1.0000
L62	60	CCI-SFP-060100	12.50 - 12.75	1.0000	1.0000
L62	61	CCI-SFP-060100	12.50 - 12.75	1.0000	1.0000
L62	105	CCI-SFP-065125	12.50 - 12.75	1.0000	1.0000
L62	106	CCI-SFP-065125	12.50 - 12.75	1.0000	1.0000
L63	2	Safety Line 3/8"	7.50 - 12.50	1.0000	1.0000
L63	3	Climbing Pegs	7.50 - 12.50	1.0000	1.0000
L63	24	CU12PSM9P6XXX(1-1/2)	7.50 - 12.50	1.0000	1.0000
L63	27	HB158-1-08U8-S8J18(1-5/8)	7.50 - 12.50	1.0000	1.0000
L63	28	HB114-U6S12-XXX-LI(1-1/4)	7.50 - 12.50	1.0000	1.0000
L63	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	7.50 - 12.50	1.0000	1.0000
L63	35	LDF4-50A(1/2)	7.50 - 12.50	1.0000	1.0000
L63	37	Shaft Rinforcement [#PL0.625x5]	7.50 - 12.50	1.0000	1.0000
L63	38	Shaft Rinforcement [#PL0.625x5]	7.50 - 12.50	1.0000	1.0000
L63	43	Shaft Rinforcement [#PL1.25x6]	7.50 - 12.50	1.0000	1.0000
L63	44	Shaft Rinforcement [#PL1.25x6]	7.50 - 12.50	1.0000	1.0000
L63	45	Shaft Rinforcement [#PL1.25x6]	7.50 - 12.50	1.0000	1.0000
L63	59	CCI-SFP-060100	7.50 - 12.50	1.0000	1.0000
L63	60	CCI-SFP-060100	7.50 - 12.50	1.0000	1.0000
L63	61	CCI-SFP-060100	7.50 - 12.50	1.0000	1.0000
L63	105	CCI-SFP-065125	10.00 - 12.50	1.0000	1.0000
L63	106	CCI-SFP-065125	10.00 - 12.50	1.0000	1.0000
L64	2	Safety Line 3/8"	3.50 - 7.50	1.0000	1.0000
L64	3	Climbing Pegs	3.50 - 7.50	1.0000	1.0000
L64	24	CU12PSM9P6XXX(1-1/2)	6.00 - 7.50	1.0000	1.0000
L64	27	HB158-1-08U8-S8J18(1-5/8)	6.00 - 7.50	1.0000	1.0000
L64	28	HB114-U6S12-XXX-LI(1-1/4)	6.00 - 7.50	1.0000	1.0000
L64	30	MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	6.00 - 7.50	1.0000	1.0000
L64	35	LDF4-50A(1/2)	6.00 - 7.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L64	37	Shaft Rinforcement [#PL0.625x5]	3.50 - 7.50	1.0000	1.0000
L64	38	Shaft Rinforcement [#PL0.625x5]	3.50 - 7.50	1.0000	1.0000
L64	43	Shaft Rinforcement [#PL1.25x6]	3.50 - 7.50	1.0000	1.0000
L64	44	Shaft Rinforcement [#PL1.25x6]	3.50 - 7.50	1.0000	1.0000
L64	45	Shaft Rinforcement [#PL1.25x6]	3.50 - 7.50	1.0000	1.0000
L64	59	CCI-SFP-060100	3.50 - 7.50	1.0000	1.0000
L64	60	CCI-SFP-060100	3.50 - 7.50	1.0000	1.0000
L64	61	CCI-SFP-060100	3.50 - 7.50	1.0000	1.0000
L65	2	Safety Line 3/8"	3.25 - 3.50	1.0000	1.0000
L65	3	Climbing Pegs	3.25 - 3.50	1.0000	1.0000
L65	37	Shaft Rinforcement [#PL0.625x5]	3.25 - 3.50	1.0000	1.0000
L65	38	Shaft Rinforcement [#PL0.625x5]	3.25 - 3.50	1.0000	1.0000
L65	43	Shaft Rinforcement [#PL1.25x6]	3.25 - 3.50	1.0000	1.0000
L65	44	Shaft Rinforcement [#PL1.25x6]	3.25 - 3.50	1.0000	1.0000
L65	45	Shaft Rinforcement [#PL1.25x6]	3.25 - 3.50	1.0000	1.0000
L65	59	CCI-SFP-060100	3.25 - 3.50	1.0000	1.0000
L65	60	CCI-SFP-060100	3.25 - 3.50	1.0000	1.0000
L65	61	CCI-SFP-060100	3.25 - 3.50	1.0000	1.0000
L66	2	Safety Line 3/8"	0.00 - 3.25	1.0000	1.0000
L66	3	Climbing Pegs	0.00 - 3.25	1.0000	1.0000
L66	37	Shaft Rinforcement [#PL0.625x5]	0.00 - 3.25	1.0000	1.0000
L66	38	Shaft Rinforcement [#PL0.625x5]	0.00 - 3.25	1.0000	1.0000
L66	43	Shaft Rinforcement [#PL1.25x6]	0.00 - 3.25	1.0000	1.0000
L66	44	Shaft Rinforcement [#PL1.25x6]	0.00 - 3.25	1.0000	1.0000
L66	45	Shaft Rinforcement [#PL1.25x6]	0.00 - 3.25	1.0000	1.0000
L66	59	CCI-SFP-060100	0.00 - 3.25	1.0000	1.0000
L66	60	CCI-SFP-060100	0.00 - 3.25	1.0000	1.0000
L66	61	CCI-SFP-060100	0.00 - 3.25	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
L6	88	CCI-SFP-040125	138.50 - 140.00	Auto	0.0318
L6	89	CCI-SFP-040125	138.50 - 140.00	Auto	0.0318
L6	90	CCI-SFP-040125	138.50 - 140.00	Auto	0.0318
L6	91	CCI-SFP-040125	138.50 - 140.00	Auto	0.0318
L7	88	CCI-SFP-040125	138.00 - 138.50	Auto	0.0244
L7	89	CCI-SFP-040125	138.00 -	Auto	0.0244

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L7	90	CCI-SFP-040125	138.50 138.00 -	Auto	0.0244
L7	91	CCI-SFP-040125	138.50 138.00 -	Auto	0.0244
L8	88	CCI-SFP-040125	138.50 137.75 -	Auto	0.1317
L8	89	CCI-SFP-040125	138.00 137.75 -	Auto	0.1317
L8	90	CCI-SFP-040125	138.00 137.75 -	Auto	0.1317
L8	91	CCI-SFP-040125	138.00 137.75 -	Auto	0.1317
L9	88	CCI-SFP-040125	138.00 130.67 -	Auto	0.1047
L9	89	CCI-SFP-040125	137.75 130.67 -	Auto	0.1047
L9	90	CCI-SFP-040125	137.75 130.67 -	Auto	0.1047
L9	91	CCI-SFP-040125	137.75 130.67 -	Auto	0.1047
L10	88	CCI-SFP-040125	137.75 129.33 -	Auto	0.1155
L10	89	CCI-SFP-040125	130.67 129.33 -	Auto	0.1155
L10	90	CCI-SFP-040125	130.67 129.33 -	Auto	0.1155
L10	91	CCI-SFP-040125	130.67 129.33 -	Auto	0.1155
L11	75	CCI-SFP-045100	130.67 125.75 -	Auto	0.1891
L11	76	CCI-SFP-045100	127.33 125.75 -	Auto	0.1891
L11	77	CCI-SFP-045100	127.33 125.75 -	Auto	0.1891
L11	88	CCI-SFP-040125	127.33 125.75 -	Auto	0.0950
L11	89	CCI-SFP-040125	129.33 125.75 -	Auto	0.0950
L11	90	CCI-SFP-040125	129.33 125.75 -	Auto	0.0950
L11	91	CCI-SFP-040125	129.33 125.75 -	Auto	0.0950
L12	75	CCI-SFP-045100	129.33 125.50 -	Auto	0.2321
L12	76	CCI-SFP-045100	125.75 125.50 -	Auto	0.2321
L12	77	CCI-SFP-045100	125.75 125.50 -	Auto	0.2321
L12	88	CCI-SFP-040125	125.75 125.50 -	Auto	0.1361
L12	89	CCI-SFP-040125	125.75 125.50 -	Auto	0.1361
L12	90	CCI-SFP-040125	125.75 125.50 -	Auto	0.1361
L12	91	CCI-SFP-040125	125.75 125.50 -	Auto	0.1361
L13	75	CCI-SFP-045100	125.75 120.50 -	Auto	0.2103
L13	76	CCI-SFP-045100	125.50 120.50 -	Auto	0.2103
L13	77	CCI-SFP-045100	125.50 120.50 -	Auto	0.2103
L13	79	CCI-SFP-040125	125.50 120.50 -	Auto	0.0989
L13	80	CCI-SFP-040125	122.00 120.50 -	Auto	0.0989
L13	88	CCI-SFP-040125	122.00 120.50 -	Auto	0.1116

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L13	89	CCI-SFP-040125	125.50 120.50 - 125.50	Auto	0.1116
L13	90	CCI-SFP-040125	120.50 - 125.50	Auto	0.1116
L13	91	CCI-SFP-040125	120.50 - 125.50	Auto	0.1116
L14	75	CCI-SFP-045100	120.25 - 120.50	Auto	0.2912
L14	76	CCI-SFP-045100	120.25 - 120.50	Auto	0.2912
L14	77	CCI-SFP-045100	120.25 - 120.50	Auto	0.2912
L14	79	CCI-SFP-040125	120.25 - 120.50	Auto	0.2026
L14	80	CCI-SFP-040125	120.25 - 120.50	Auto	0.2026
L14	88	CCI-SFP-040125	120.25 - 120.50	Auto	0.2026
L14	89	CCI-SFP-040125	120.25 - 120.50	Auto	0.2026
L14	90	CCI-SFP-040125	120.25 - 120.50	Auto	0.2026
L14	91	CCI-SFP-040125	120.25 - 120.50	Auto	0.2026
L15	39	Shaft Rinforcement [#PL0.625x5]	115.25 - 120.00	Auto	0.3417
L15	40	Shaft Rinforcement [#PL0.625x5]	115.25 - 120.00	Auto	0.3417
L15	41	Shaft Rinforcement [#PL0.625x5]	115.25 - 120.00	Auto	0.3417
L15	55	Shaft Rinforcement [#PL1.25x5]	115.25 - 115.83	Auto	0.3296
L15	56	Shaft Rinforcement [#PL1.25x5]	115.25 - 115.83	Auto	0.3296
L15	57	Shaft Rinforcement [#PL1.25x5]	115.25 - 115.83	Auto	0.3296
L15	75	CCI-SFP-045100	115.25 - 120.25	Auto	0.2694
L15	76	CCI-SFP-045100	115.25 - 120.25	Auto	0.2694
L15	77	CCI-SFP-045100	115.25 - 120.25	Auto	0.2694
L15	79	CCI-SFP-040125	115.25 - 120.25	Auto	0.1781
L15	80	CCI-SFP-040125	115.25 - 120.25	Auto	0.1781
L15	88	CCI-SFP-040125	115.25 - 120.25	Auto	0.1781
L15	89	CCI-SFP-040125	115.25 - 120.25	Auto	0.1781
L15	90	CCI-SFP-040125	115.25 - 120.25	Auto	0.1781
L15	91	CCI-SFP-040125	115.25 - 120.25	Auto	0.1781
L16	39	Shaft Rinforcement [#PL0.625x5]	113.83 - 115.25	Auto	0.3195
L16	40	Shaft Rinforcement [#PL0.625x5]	113.83 - 115.25	Auto	0.3195
L16	41	Shaft Rinforcement [#PL0.625x5]	113.83 - 115.25	Auto	0.3195
L16	55	Shaft Rinforcement [#PL1.25x5]	113.83 - 115.25	Auto	0.3195
L16	56	Shaft Rinforcement [#PL1.25x5]	113.83 - 115.25	Auto	0.3195
L16	57	Shaft Rinforcement [#PL1.25x5]	113.83 - 115.25	Auto	0.3195
L16	75	CCI-SFP-045100	113.83 -	Auto	0.2438

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L16	76	CCI-SFP-045100	115.25 - 113.83	Auto	0.2438
L16	77	CCI-SFP-045100	115.25 - 113.83	Auto	0.2438
L16	79	CCI-SFP-040125	115.25 - 113.83	Auto	0.1493
L16	80	CCI-SFP-040125	115.25 - 113.83	Auto	0.1493
L16	88	CCI-SFP-040125	115.25 - 113.83	Auto	0.1493
L16	89	CCI-SFP-040125	115.25 - 113.83	Auto	0.1493
L16	90	CCI-SFP-040125	115.25 - 113.83	Auto	0.1493
L16	91	CCI-SFP-040125	115.25 - 113.83	Auto	0.1493
L17	39	Shaft Rinforcement [#PL0.625x5]	113.48 - 113.83	Auto	0.3275
L17	40	Shaft Rinforcement [#PL0.625x5]	113.48 - 113.83	Auto	0.3275
L17	41	Shaft Rinforcement [#PL0.625x5]	113.48 - 113.83	Auto	0.3275
L17	55	Shaft Rinforcement [#PL1.25x5]	113.48 - 113.83	Auto	0.3275
L17	56	Shaft Rinforcement [#PL1.25x5]	113.48 - 113.83	Auto	0.3275
L17	57	Shaft Rinforcement [#PL1.25x5]	113.48 - 113.83	Auto	0.3275
L17	75	CCI-SFP-045100	113.48 - 113.83	Auto	0.2528
L17	76	CCI-SFP-045100	113.48 - 113.83	Auto	0.2528
L17	77	CCI-SFP-045100	113.48 - 113.83	Auto	0.2528
L17	79	CCI-SFP-040125	113.48 - 113.83	Auto	0.1594
L17	80	CCI-SFP-040125	113.48 - 113.83	Auto	0.1594
L17	88	CCI-SFP-040125	113.48 - 113.83	Auto	0.1594
L17	89	CCI-SFP-040125	113.48 - 113.83	Auto	0.1594
L17	90	CCI-SFP-040125	113.48 - 113.83	Auto	0.1594
L17	91	CCI-SFP-040125	113.48 - 113.83	Auto	0.1594
L18	39	Shaft Rinforcement [#PL0.625x5]	113.25 - 113.48	Auto	0.3258
L18	40	Shaft Rinforcement [#PL0.625x5]	113.25 - 113.48	Auto	0.3258
L18	41	Shaft Rinforcement [#PL0.625x5]	113.25 - 113.48	Auto	0.3258
L18	55	Shaft Rinforcement [#PL1.25x5]	113.25 - 113.48	Auto	0.3258
L18	56	Shaft Rinforcement [#PL1.25x5]	113.25 - 113.48	Auto	0.3258
L18	57	Shaft Rinforcement [#PL1.25x5]	113.25 - 113.48	Auto	0.3258
L18	75	CCI-SFP-045100	113.25 - 113.48	Auto	0.2509
L18	76	CCI-SFP-045100	113.25 - 113.48	Auto	0.2509
L18	77	CCI-SFP-045100	113.25 - 113.48	Auto	0.2509
L18	79	CCI-SFP-040125	113.25 - 113.48	Auto	0.1573
L18	80	CCI-SFP-040125	113.25 -	Auto	0.1573

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L18	88	CCI-SFP-040125	113.48 113.25 -	Auto	0.1573
L18	89	CCI-SFP-040125	113.48 113.25 -	Auto	0.1573
L18	90	CCI-SFP-040125	113.48 113.25 -	Auto	0.1573
L18	91	CCI-SFP-040125	113.48 113.25 -	Auto	0.1573
L19	39	Shaft Rinforcement [#PL0.625x5]	113.48 112.00 -	Auto	0.3171
L19	40	Shaft Rinforcement [#PL0.625x5]	113.25 112.00 -	Auto	0.3171
L19	41	Shaft Rinforcement [#PL0.625x5]	113.25 112.00 -	Auto	0.3171
L19	55	Shaft Rinforcement [#PL1.25x5]	113.25 112.00 -	Auto	0.3171
L19	56	Shaft Rinforcement [#PL1.25x5]	113.25 112.00 -	Auto	0.3171
L19	57	Shaft Rinforcement [#PL1.25x5]	113.25 112.00 -	Auto	0.3171
L19	75	CCI-SFP-045100	113.25 112.00 -	Auto	0.2413
L19	76	CCI-SFP-045100	113.25 112.00 -	Auto	0.2413
L19	77	CCI-SFP-045100	113.25 112.00 -	Auto	0.2413
L19	79	CCI-SFP-040125	113.25 112.00 -	Auto	0.1464
L19	80	CCI-SFP-040125	113.25 112.00 -	Auto	0.1464
L19	88	CCI-SFP-040125	113.25 112.00 -	Auto	0.1464
L19	89	CCI-SFP-040125	113.25 112.00 -	Auto	0.1464
L19	90	CCI-SFP-040125	113.25 112.00 -	Auto	0.1464
L19	91	CCI-SFP-040125	113.25 112.00 -	Auto	0.1464
L20	39	Shaft Rinforcement [#PL0.625x5]	113.25 111.75 -	Auto	0.2424
L20	40	Shaft Rinforcement [#PL0.625x5]	112.00 111.75 -	Auto	0.2424
L20	41	Shaft Rinforcement [#PL0.625x5]	112.00 111.75 -	Auto	0.2424
L20	55	Shaft Rinforcement [#PL1.25x5]	112.00 111.75 -	Auto	0.2424
L20	56	Shaft Rinforcement [#PL1.25x5]	112.00 111.75 -	Auto	0.2424
L20	57	Shaft Rinforcement [#PL1.25x5]	112.00 111.75 -	Auto	0.2424
L20	75	CCI-SFP-045100	112.00 111.75 -	Auto	0.1582
L20	76	CCI-SFP-045100	112.00 111.75 -	Auto	0.1582
L20	77	CCI-SFP-045100	112.00 111.75 -	Auto	0.1582
L20	88	CCI-SFP-040125	112.00 111.75 -	Auto	0.0530
L20	89	CCI-SFP-040125	112.00 111.75 -	Auto	0.0530
L20	90	CCI-SFP-040125	112.00 111.75 -	Auto	0.0530
L20	91	CCI-SFP-040125	112.00 111.75 -	Auto	0.0530
L21	39	Shaft Rinforcement [#PL0.625x5]	112.00 106.75 -	Auto	0.2228
L21	40	Shaft Rinforcement	111.75 106.75 -	Auto	0.2228

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
		[#PL0.625x5]	111.75		
L21	41	Shaft Rinforcement	106.75 -	Auto	0.2228
		[#PL0.625x5]	111.75		
L21	55	Shaft Rinforcement	106.75 -	Auto	0.2228
		[#PL1.25x5]	111.75		
L21	56	Shaft Rinforcement	106.75 -	Auto	0.2228
		[#PL1.25x5]	111.75		
L21	57	Shaft Rinforcement	106.75 -	Auto	0.2228
		[#PL1.25x5]	111.75		
L21	75	CCI-SFP-045100	106.75 -	Auto	0.1364
			111.75		
L21	76	CCI-SFP-045100	106.75 -	Auto	0.1364
			111.75		
L21	77	CCI-SFP-045100	106.75 -	Auto	0.1364
			111.75		
L21	88	CCI-SFP-040125	110.00 -	Auto	0.0403
			111.75		
L21	89	CCI-SFP-040125	110.00 -	Auto	0.0403
			111.75		
L21	90	CCI-SFP-040125	110.00 -	Auto	0.0403
			111.75		
L21	91	CCI-SFP-040125	110.00 -	Auto	0.0403
			111.75		
L22	39	Shaft Rinforcement	101.75 -	Auto	0.1894
		[#PL0.625x5]	106.75		
L22	40	Shaft Rinforcement	101.75 -	Auto	0.1894
		[#PL0.625x5]	106.75		
L22	41	Shaft Rinforcement	101.75 -	Auto	0.1894
		[#PL0.625x5]	106.75		
L22	55	Shaft Rinforcement	101.75 -	Auto	0.1894
		[#PL1.25x5]	106.75		
L22	56	Shaft Rinforcement	101.75 -	Auto	0.1894
		[#PL1.25x5]	106.75		
L22	57	Shaft Rinforcement	101.75 -	Auto	0.1894
		[#PL1.25x5]	106.75		
L22	75	CCI-SFP-045100	101.75 -	Auto	0.0994
			106.75		
L22	76	CCI-SFP-045100	101.75 -	Auto	0.0994
			106.75		
L22	77	CCI-SFP-045100	101.75 -	Auto	0.0994
			106.75		
L23	39	Shaft Rinforcement	98.42 -	Auto	0.1609
		[#PL0.625x5]	101.75		
L23	40	Shaft Rinforcement	98.42 -	Auto	0.1609
		[#PL0.625x5]	101.75		
L23	41	Shaft Rinforcement	98.42 -	Auto	0.1609
		[#PL0.625x5]	101.75		
L23	55	Shaft Rinforcement	98.42 -	Auto	0.1609
		[#PL1.25x5]	101.75		
L23	56	Shaft Rinforcement	98.42 -	Auto	0.1609
		[#PL1.25x5]	101.75		
L23	57	Shaft Rinforcement	98.42 -	Auto	0.1609
		[#PL1.25x5]	101.75		
L23	75	CCI-SFP-045100	98.42 -	Auto	0.0677
			101.75		
L23	76	CCI-SFP-045100	98.42 -	Auto	0.0677
			101.75		
L23	77	CCI-SFP-045100	98.42 -	Auto	0.0677
			101.75		
L23	93	CCI-SFP-050125	98.42 -	Auto	0.1570
			100.42		
L23	95	CCI-SFP-050125	98.42 -	Auto	0.1575
			100.58		
L23	96	CCI-SFP-050125	98.42 -	Auto	0.1570
			100.42		
L23	98	CCI-SFP-050125	98.42 -	Auto	0.1575
			100.58		
L24	39	Shaft Rinforcement	98.17 -	Auto	0.2693

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
		[#PL0.625x5]	98.42		
L24	40	Shaft Rinforcement [#PL0.625x5]	98.17 - 98.42	Auto	0.2693
L24	41	Shaft Rinforcement [#PL0.625x5]	98.17 - 98.42	Auto	0.2693
L24	55	Shaft Rinforcement [#PL1.25x5]	98.17 - 98.42	Auto	0.2693
L24	56	Shaft Rinforcement [#PL1.25x5]	98.17 - 98.42	Auto	0.2693
L24	57	Shaft Rinforcement [#PL1.25x5]	98.17 - 98.42	Auto	0.2693
L24	75	CCI-SFP-045100	98.17 - 98.42	Auto	0.1881
L24	76	CCI-SFP-045100	98.17 - 98.42	Auto	0.1881
L24	77	CCI-SFP-045100	98.17 - 98.42	Auto	0.1881
L24	93	CCI-SFP-050125	98.17 - 98.42	Auto	0.2693
L24	95	CCI-SFP-050125	98.17 - 98.42	Auto	0.2693
L24	96	CCI-SFP-050125	98.17 - 98.42	Auto	0.2693
L24	98	CCI-SFP-050125	98.17 - 98.42	Auto	0.2693
L25	39	Shaft Rinforcement [#PL0.625x5]	93.17 - 98.17	Auto	0.2497
L25	40	Shaft Rinforcement [#PL0.625x5]	93.17 - 98.17	Auto	0.2497
L25	41	Shaft Rinforcement [#PL0.625x5]	93.17 - 98.17	Auto	0.2497
L25	55	Shaft Rinforcement [#PL1.25x5]	93.17 - 98.17	Auto	0.2497
L25	56	Shaft Rinforcement [#PL1.25x5]	93.17 - 98.17	Auto	0.2497
L25	57	Shaft Rinforcement [#PL1.25x5]	93.17 - 98.17	Auto	0.2497
L25	75	CCI-SFP-045100	93.17 - 98.17	Auto	0.1663
L25	76	CCI-SFP-045100	93.17 - 98.17	Auto	0.1663
L25	77	CCI-SFP-045100	93.17 - 98.17	Auto	0.1663
L25	93	CCI-SFP-050125	93.17 - 98.17	Auto	0.2497
L25	95	CCI-SFP-050125	93.17 - 98.17	Auto	0.2497
L25	96	CCI-SFP-050125	93.17 - 98.17	Auto	0.2497
L25	98	CCI-SFP-050125	93.17 - 98.17	Auto	0.2497
L26	39	Shaft Rinforcement [#PL0.625x5]	84.72 - 93.17	Auto	0.2063
L26	40	Shaft Rinforcement [#PL0.625x5]	84.72 - 93.17	Auto	0.2063
L26	41	Shaft Rinforcement [#PL0.625x5]	84.72 - 93.17	Auto	0.2063
L26	52	Shaft Rinforcement [#PL1.25x5]	84.72 - 87.92	Auto	0.1911
L26	53	Shaft Rinforcement [#PL1.25x5]	84.72 - 87.92	Auto	0.1911
L26	54	Shaft Rinforcement [#PL1.25x5]	84.72 - 87.92	Auto	0.1911
L26	55	Shaft Rinforcement [#PL1.25x5]	85.83 - 93.17	Auto	0.2096
L26	56	Shaft Rinforcement [#PL1.25x5]	85.83 - 93.17	Auto	0.2096
L26	57	Shaft Rinforcement	85.83 -	Auto	0.2096

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
		[#PL1.25x5]	93.17		
L26	75	CCI-SFP-045100	87.92 - 93.17	Auto	0.1285
L26	76	CCI-SFP-045100	87.92 - 93.17	Auto	0.1285
L26	77	CCI-SFP-045100	87.92 - 93.17	Auto	0.1285
L26	81	CCI-SFP-050125	84.72 - 90.50	Auto	0.1986
L26	82	CCI-SFP-050125	84.72 - 90.50	Auto	0.1986
L26	93	CCI-SFP-050125	84.72 - 93.17	Auto	0.2063
L26	95	CCI-SFP-050125	90.50 - 93.17	Auto	0.2231
L26	96	CCI-SFP-050125	84.72 - 93.17	Auto	0.2063
L26	98	CCI-SFP-050125	90.50 - 93.17	Auto	0.2231
L27	37	Shaft Rinforcement [#PL0.625x5]	83.72 - 84.67	Auto	0.1745
L27	38	Shaft Rinforcement [#PL0.625x5]	83.72 - 84.67	Auto	0.1745
L27	39	Shaft Rinforcement [#PL0.625x5]	84.67 - 84.72	Auto	0.1774
L27	40	Shaft Rinforcement [#PL0.625x5]	84.67 - 84.72	Auto	0.1774
L27	41	Shaft Rinforcement [#PL0.625x5]	84.67 - 84.72	Auto	0.1774
L27	52	Shaft Rinforcement [#PL1.25x5]	83.72 - 84.72	Auto	0.1746
L27	53	Shaft Rinforcement [#PL1.25x5]	83.72 - 84.72	Auto	0.1746
L27	54	Shaft Rinforcement [#PL1.25x5]	83.72 - 84.72	Auto	0.1746
L27	63	CCI-SFP-045100	83.72 - 84.33	Auto	0.0817
L27	64	CCI-SFP-045100	83.72 - 84.33	Auto	0.0817
L27	65	CCI-SFP-045100	83.72 - 84.33	Auto	0.0817
L27	81	CCI-SFP-050125	83.72 - 84.72	Auto	0.1746
L27	82	CCI-SFP-050125	83.72 - 84.72	Auto	0.1746
L27	93	CCI-SFP-050125	83.72 - 84.72	Auto	0.1746
L27	96	CCI-SFP-050125	83.72 - 84.72	Auto	0.1746
L28	37	Shaft Rinforcement [#PL0.625x5]	82.83 - 83.72	Auto	0.1692
L28	38	Shaft Rinforcement [#PL0.625x5]	82.83 - 83.72	Auto	0.1692
L28	52	Shaft Rinforcement [#PL1.25x5]	82.83 - 83.72	Auto	0.1692
L28	53	Shaft Rinforcement [#PL1.25x5]	82.83 - 83.72	Auto	0.1692
L28	54	Shaft Rinforcement [#PL1.25x5]	82.83 - 83.72	Auto	0.1692
L28	63	CCI-SFP-045100	82.83 - 83.72	Auto	0.0769
L28	64	CCI-SFP-045100	82.83 - 83.72	Auto	0.0769
L28	65	CCI-SFP-045100	82.83 - 83.72	Auto	0.0769
L28	81	CCI-SFP-050125	82.83 - 83.72	Auto	0.1692
L28	82	CCI-SFP-050125	82.83 -	Auto	0.1692

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L28	93	CCI-SFP-050125	83.72 82.83 -	Auto	0.1692
L28	96	CCI-SFP-050125	83.72 82.83 -	Auto	0.1692
L29	37	Shaft Rinforcement [#PL0.625x5]	83.72 82.58 -	Auto	0.2099
L29	38	Shaft Rinforcement [#PL0.625x5]	82.83 82.58 -	Auto	0.2099
L29	52	Shaft Rinforcement [#PL1.25x5]	82.83 82.58 -	Auto	0.2099
L29	53	Shaft Rinforcement [#PL1.25x5]	82.83 82.58 -	Auto	0.2099
L29	54	Shaft Rinforcement [#PL1.25x5]	82.83 82.58 -	Auto	0.2099
L29	63	CCI-SFP-045100	82.83 82.58 -	Auto	0.1221
L29	64	CCI-SFP-045100	82.83 82.58 -	Auto	0.1221
L29	65	CCI-SFP-045100	82.83 82.58 -	Auto	0.1221
L29	81	CCI-SFP-050125	82.83 82.58 -	Auto	0.2099
L29	82	CCI-SFP-050125	82.83 82.58 -	Auto	0.2099
L29	93	CCI-SFP-050125	82.83 82.58 -	Auto	0.2099
L29	96	CCI-SFP-050125	82.83 82.58 -	Auto	0.2099
L30	37	Shaft Rinforcement [#PL0.625x5]	82.83 77.58 -	Auto	0.1859
L30	38	Shaft Rinforcement [#PL0.625x5]	82.58 77.58 -	Auto	0.1859
L30	52	Shaft Rinforcement [#PL1.25x5]	82.58 77.58 -	Auto	0.1859
L30	53	Shaft Rinforcement [#PL1.25x5]	82.58 77.58 -	Auto	0.1859
L30	54	Shaft Rinforcement [#PL1.25x5]	82.58 77.58 -	Auto	0.1859
L30	63	CCI-SFP-045100	82.58 77.58 -	Auto	0.0955
L30	64	CCI-SFP-045100	82.58 77.58 -	Auto	0.0955
L30	65	CCI-SFP-045100	82.58 77.58 -	Auto	0.0955
L30	81	CCI-SFP-050125	82.58 80.50 -	Auto	0.1944
L30	82	CCI-SFP-050125	82.58 80.50 -	Auto	0.1944
L30	93	CCI-SFP-050125	82.58 77.58 -	Auto	0.1859
L30	94	CCI-SFP-050125	82.58 77.58 -	Auto	0.1799
L30	96	CCI-SFP-050125	80.50 77.58 -	Auto	0.1859
L30	97	CCI-SFP-050125	82.58 77.58 -	Auto	0.1799
L31	37	Shaft Rinforcement [#PL0.625x5]	80.50 73.42 -	Auto	0.1507
L31	38	Shaft Rinforcement [#PL0.625x5]	77.58 73.42 -	Auto	0.1507
L31	49	Shaft Rinforcement [#PL1.25x5]	77.58 73.42 -	Auto	0.1444
L31	50	Shaft Rinforcement [#PL1.25x5]	75.42 73.42 -	Auto	0.1444
L31	51	Shaft Rinforcement [#PL1.25x5]	75.42 73.42 -	Auto	0.1444
L31	52	Shaft Rinforcement	75.42 73.42 -	Auto	0.1507

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
		[#PL1.25x5]	77.58		
L31	53	Shaft Rinforcement	73.42 -	Auto	0.1507
		[#PL1.25x5]	77.58		
L31	54	Shaft Rinforcement	73.42 -	Auto	0.1507
		[#PL1.25x5]	77.58		
L31	63	CCI-SFP-045100	73.42 -	Auto	0.0563
			77.58		
L31	64	CCI-SFP-045100	73.42 -	Auto	0.0563
			77.58		
L31	65	CCI-SFP-045100	73.42 -	Auto	0.0563
			77.58		
L31	93	CCI-SFP-050125	73.42 -	Auto	0.1507
			77.58		
L31	94	CCI-SFP-050125	73.42 -	Auto	0.1507
			77.58		
L31	96	CCI-SFP-050125	73.42 -	Auto	0.1507
			77.58		
L31	97	CCI-SFP-050125	73.42 -	Auto	0.1507
			77.58		
L32	37	Shaft Rinforcement	73.17 -	Auto	0.2347
		[#PL0.625x5]	73.42		
L32	38	Shaft Rinforcement	73.17 -	Auto	0.2347
		[#PL0.625x5]	73.42		
L32	49	Shaft Rinforcement	73.17 -	Auto	0.2347
		[#PL1.25x5]	73.42		
L32	50	Shaft Rinforcement	73.17 -	Auto	0.2347
		[#PL1.25x5]	73.42		
L32	51	Shaft Rinforcement	73.17 -	Auto	0.2347
		[#PL1.25x5]	73.42		
L32	52	Shaft Rinforcement	73.17 -	Auto	0.2347
		[#PL1.25x5]	73.42		
L32	53	Shaft Rinforcement	73.17 -	Auto	0.2347
		[#PL1.25x5]	73.42		
L32	54	Shaft Rinforcement	73.17 -	Auto	0.2347
		[#PL1.25x5]	73.42		
L32	63	CCI-SFP-045100	73.17 -	Auto	0.1497
			73.42		
L32	64	CCI-SFP-045100	73.17 -	Auto	0.1497
			73.42		
L32	65	CCI-SFP-045100	73.17 -	Auto	0.1497
			73.42		
L32	93	CCI-SFP-050125	73.17 -	Auto	0.2347
			73.42		
L32	94	CCI-SFP-050125	73.17 -	Auto	0.2347
			73.42		
L32	96	CCI-SFP-050125	73.17 -	Auto	0.2347
			73.42		
L32	97	CCI-SFP-050125	73.17 -	Auto	0.2347
			73.42		
L33	37	Shaft Rinforcement	72.42 -	Auto	0.2318
		[#PL0.625x5]	73.17		
L33	38	Shaft Rinforcement	72.42 -	Auto	0.2318
		[#PL0.625x5]	73.17		
L33	49	Shaft Rinforcement	72.42 -	Auto	0.2318
		[#PL1.25x5]	73.17		
L33	50	Shaft Rinforcement	72.42 -	Auto	0.2318
		[#PL1.25x5]	73.17		
L33	51	Shaft Rinforcement	72.42 -	Auto	0.2318
		[#PL1.25x5]	73.17		
L33	52	Shaft Rinforcement	72.75 -	Auto	0.2328
		[#PL1.25x5]	73.17		
L33	53	Shaft Rinforcement	72.75 -	Auto	0.2328
		[#PL1.25x5]	73.17		
L33	54	Shaft Rinforcement	72.75 -	Auto	0.2328
		[#PL1.25x5]	73.17		
L33	63	CCI-SFP-045100	72.42 -	Auto	0.1465
			73.17		
L33	64	CCI-SFP-045100	72.42 -	Auto	0.1465

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L33	65	CCI-SFP-045100	73.17 72.42 -	Auto	0.1465
L33	71	CCI-SFP-045100	73.17 72.42 -	Auto	0.1451
L33	72	CCI-SFP-045100	72.75 72.42 -	Auto	0.1451
L33	73	CCI-SFP-045100	72.75 72.42 -	Auto	0.1451
L33	93	CCI-SFP-050125	72.75 72.42 -	Auto	0.2318
L33	94	CCI-SFP-050125	73.17 72.42 -	Auto	0.2318
L33	96	CCI-SFP-050125	73.17 72.42 -	Auto	0.2318
L33	97	CCI-SFP-050125	73.17 72.42 -	Auto	0.2318
L34	37	Shaft Rinforcement [#PL0.625x5]	73.17 72.17 -	Auto	0.1278
L34	38	Shaft Rinforcement [#PL0.625x5]	72.42 72.17 -	Auto	0.1278
L34	49	Shaft Rinforcement [#PL1.25x5]	72.42 72.17 -	Auto	0.1278
L34	50	Shaft Rinforcement [#PL1.25x5]	72.42 72.17 -	Auto	0.1278
L34	51	Shaft Rinforcement [#PL1.25x5]	72.42 72.17 -	Auto	0.1278
L34	63	CCI-SFP-045100	72.42 72.17 -	Auto	0.0308
L34	64	CCI-SFP-045100	72.42 72.17 -	Auto	0.0308
L34	65	CCI-SFP-045100	72.42 72.17 -	Auto	0.0308
L34	71	CCI-SFP-045100	72.42 72.17 -	Auto	0.0308
L34	72	CCI-SFP-045100	72.42 72.17 -	Auto	0.0308
L34	73	CCI-SFP-045100	72.42 72.17 -	Auto	0.0308
L34	93	CCI-SFP-050125	72.42 72.17 -	Auto	0.1278
L34	94	CCI-SFP-050125	72.42 72.17 -	Auto	0.1278
L34	96	CCI-SFP-050125	72.42 72.17 -	Auto	0.1278
L34	97	CCI-SFP-050125	72.42 72.17 -	Auto	0.1278
L35	37	Shaft Rinforcement [#PL0.625x5]	72.42 68.08 -	Auto	0.1108
L35	38	Shaft Rinforcement [#PL0.625x5]	72.17 68.08 -	Auto	0.1108
L35	49	Shaft Rinforcement [#PL1.25x5]	72.17 68.08 -	Auto	0.1108
L35	50	Shaft Rinforcement [#PL1.25x5]	72.17 68.08 -	Auto	0.1108
L35	51	Shaft Rinforcement [#PL1.25x5]	72.17 68.08 -	Auto	0.1108
L35	63	CCI-SFP-045100	72.17 68.08 -	Auto	0.0120
L35	64	CCI-SFP-045100	72.17 68.08 -	Auto	0.0120
L35	65	CCI-SFP-045100	72.17 68.08 -	Auto	0.0120
L35	71	CCI-SFP-045100	72.17 68.08 -	Auto	0.0120
L35	72	CCI-SFP-045100	72.17 68.08 -	Auto	0.0120
L35	73	CCI-SFP-045100	72.17 68.08 -	Auto	0.0120

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L35	93	CCI-SFP-050125	72.17 70.42 -	Auto	0.1176
L35	94	CCI-SFP-050125	72.17 70.42 -	Auto	0.1176
L35	96	CCI-SFP-050125	72.17 70.42 -	Auto	0.1176
L35	97	CCI-SFP-050125	72.17 70.42 -	Auto	0.1176
L35	100	CCI-SFP-050125	72.17 68.08 -	Auto	0.1048
L35	101	CCI-SFP-050125	70.08 68.08 -	Auto	0.1048
L36	37	Shaft Rinforcement [#PL0.625x5]	70.08 67.83 -	Auto	0.0983
L36	38	Shaft Rinforcement [#PL0.625x5]	68.08 67.83 -	Auto	0.0983
L36	49	Shaft Rinforcement [#PL1.25x5]	68.08 67.83 -	Auto	0.0983
L36	50	Shaft Rinforcement [#PL1.25x5]	68.08 67.83 -	Auto	0.0983
L36	51	Shaft Rinforcement [#PL1.25x5]	68.08 67.83 -	Auto	0.0983
L36	63	CCI-SFP-045100	68.08 67.83 -	Auto	0.0000
L36	64	CCI-SFP-045100	68.08 67.83 -	Auto	0.0000
L36	65	CCI-SFP-045100	68.08 67.83 -	Auto	0.0000
L36	71	CCI-SFP-045100	68.08 67.83 -	Auto	0.0000
L36	72	CCI-SFP-045100	68.08 67.83 -	Auto	0.0000
L36	73	CCI-SFP-045100	68.08 67.83 -	Auto	0.0000
L36	100	CCI-SFP-050125	68.08 67.83 -	Auto	0.0983
L36	101	CCI-SFP-050125	68.08 67.83 -	Auto	0.0983
L37	37	Shaft Rinforcement [#PL0.625x5]	68.08 65.58 -	Auto	0.0911
L37	38	Shaft Rinforcement [#PL0.625x5]	67.83 65.58 -	Auto	0.0911
L37	49	Shaft Rinforcement [#PL1.25x5]	67.83 65.58 -	Auto	0.0911
L37	50	Shaft Rinforcement [#PL1.25x5]	67.83 65.58 -	Auto	0.0911
L37	51	Shaft Rinforcement [#PL1.25x5]	67.83 65.58 -	Auto	0.0911
L37	63	CCI-SFP-045100	67.83 65.58 -	Auto	0.0000
L37	64	CCI-SFP-045100	67.83 65.58 -	Auto	0.0000
L37	65	CCI-SFP-045100	67.83 65.58 -	Auto	0.0000
L37	71	CCI-SFP-045100	67.83 65.58 -	Auto	0.0000
L37	72	CCI-SFP-045100	67.83 65.58 -	Auto	0.0000
L37	73	CCI-SFP-045100	67.83 65.58 -	Auto	0.0000
L37	100	CCI-SFP-050125	67.83 65.58 -	Auto	0.0911
L37	101	CCI-SFP-050125	67.83 65.58 -	Auto	0.0911
L37	102	CCI-SFP-050125	67.83 65.58 -	Auto	0.0903
L37	103	CCI-SFP-050125	67.58 65.58 -	Auto	0.0903

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
			67.58		
L38	37	Shaft Rinforcement [#PL0.625x5]	65.33 - 65.58	Auto	0.1718
L38	38	Shaft Rinforcement [#PL0.625x5]	65.33 - 65.58	Auto	0.1718
L38	49	Shaft Rinforcement [#PL1.25x5]	65.33 - 65.58	Auto	0.1718
L38	50	Shaft Rinforcement [#PL1.25x5]	65.33 - 65.58	Auto	0.1718
L38	51	Shaft Rinforcement [#PL1.25x5]	65.33 - 65.58	Auto	0.1718
L38	63	CCI-SFP-045100	65.33 - 65.58	Auto	0.0798
L38	64	CCI-SFP-045100	65.33 - 65.58	Auto	0.0798
L38	65	CCI-SFP-045100	65.33 - 65.58	Auto	0.0798
L38	71	CCI-SFP-045100	65.33 - 65.58	Auto	0.0798
L38	72	CCI-SFP-045100	65.33 - 65.58	Auto	0.0798
L38	73	CCI-SFP-045100	65.33 - 65.58	Auto	0.0798
L38	100	CCI-SFP-050125	65.33 - 65.58	Auto	0.1718
L38	101	CCI-SFP-050125	65.33 - 65.58	Auto	0.1718
L38	102	CCI-SFP-050125	65.33 - 65.58	Auto	0.1718
L38	103	CCI-SFP-050125	65.33 - 65.58	Auto	0.1718
L39	37	Shaft Rinforcement [#PL0.625x5]	64.25 - 65.33	Auto	0.1680
L39	38	Shaft Rinforcement [#PL0.625x5]	64.25 - 65.33	Auto	0.1680
L39	49	Shaft Rinforcement [#PL1.25x5]	64.25 - 65.33	Auto	0.1680
L39	50	Shaft Rinforcement [#PL1.25x5]	64.25 - 65.33	Auto	0.1680
L39	51	Shaft Rinforcement [#PL1.25x5]	64.25 - 65.33	Auto	0.1680
L39	63	CCI-SFP-045100	64.25 - 65.33	Auto	0.0755
L39	64	CCI-SFP-045100	64.25 - 65.33	Auto	0.0755
L39	65	CCI-SFP-045100	64.25 - 65.33	Auto	0.0755
L39	71	CCI-SFP-045100	64.25 - 65.33	Auto	0.0755
L39	72	CCI-SFP-045100	64.25 - 65.33	Auto	0.0755
L39	73	CCI-SFP-045100	64.25 - 65.33	Auto	0.0755
L39	100	CCI-SFP-050125	64.25 - 65.33	Auto	0.1680
L39	101	CCI-SFP-050125	64.25 - 65.33	Auto	0.1680
L39	102	CCI-SFP-050125	64.25 - 65.33	Auto	0.1680
L39	103	CCI-SFP-050125	64.25 - 65.33	Auto	0.1680
L40	37	Shaft Rinforcement [#PL0.625x5]	64.00 - 64.25	Auto	0.0938
L40	38	Shaft Rinforcement [#PL0.625x5]	64.00 - 64.25	Auto	0.0938
L40	49	Shaft Rinforcement [#PL1.25x5]	64.00 - 64.25	Auto	0.0938
L40	50	Shaft Rinforcement	64.00 -	Auto	0.0938

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
		[#PL1.25x5]	64.25		
L40	51	Shaft Rinforcement [#PL1.25x5]	64.00 - 64.25	Auto	0.0938
L40	63	CCI-SFP-045100	64.00 - 64.25	Auto	0.0000
L40	64	CCI-SFP-045100	64.00 - 64.25	Auto	0.0000
L40	65	CCI-SFP-045100	64.00 - 64.25	Auto	0.0000
L40	71	CCI-SFP-045100	64.00 - 64.25	Auto	0.0000
L40	72	CCI-SFP-045100	64.00 - 64.25	Auto	0.0000
L40	73	CCI-SFP-045100	64.00 - 64.25	Auto	0.0000
L40	100	CCI-SFP-050125	64.00 - 64.25	Auto	0.0938
L40	101	CCI-SFP-050125	64.00 - 64.25	Auto	0.0938
L40	102	CCI-SFP-050125	64.00 - 64.25	Auto	0.0938
L40	103	CCI-SFP-050125	64.00 - 64.25	Auto	0.0938
L41	37	Shaft Rinforcement [#PL0.625x5]	59.00 - 64.00	Auto	0.0742
L41	38	Shaft Rinforcement [#PL0.625x5]	59.00 - 64.00	Auto	0.0742
L41	49	Shaft Rinforcement [#PL1.25x5]	59.00 - 64.00	Auto	0.0742
L41	50	Shaft Rinforcement [#PL1.25x5]	59.00 - 64.00	Auto	0.0742
L41	51	Shaft Rinforcement [#PL1.25x5]	59.00 - 64.00	Auto	0.0742
L41	63	CCI-SFP-045100	59.00 - 64.00	Auto	0.0000
L41	64	CCI-SFP-045100	59.00 - 64.00	Auto	0.0000
L41	65	CCI-SFP-045100	59.00 - 64.00	Auto	0.0000
L41	71	CCI-SFP-045100	62.75 - 64.00	Auto	0.0000
L41	72	CCI-SFP-045100	62.75 - 64.00	Auto	0.0000
L41	73	CCI-SFP-045100	62.75 - 64.00	Auto	0.0000
L41	100	CCI-SFP-050125	59.00 - 64.00	Auto	0.0742
L41	101	CCI-SFP-050125	59.00 - 64.00	Auto	0.0742
L41	102	CCI-SFP-050125	59.00 - 64.00	Auto	0.0742
L41	103	CCI-SFP-050125	59.00 - 64.00	Auto	0.0742
L42	37	Shaft Rinforcement [#PL0.625x5]	54.00 - 59.00	Auto	0.0409
L42	38	Shaft Rinforcement [#PL0.625x5]	54.00 - 59.00	Auto	0.0409
L42	49	Shaft Rinforcement [#PL1.25x5]	54.00 - 59.00	Auto	0.0409
L42	50	Shaft Rinforcement [#PL1.25x5]	54.00 - 59.00	Auto	0.0409
L42	51	Shaft Rinforcement [#PL1.25x5]	54.00 - 59.00	Auto	0.0409
L42	63	CCI-SFP-045100	54.00 - 59.00	Auto	0.0000
L42	64	CCI-SFP-045100	54.00 - 59.00	Auto	0.0000
L42	65	CCI-SFP-045100	54.00 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
			59.00		
L42	83	CCI-SFP-050125	54.00 - 55.50	Auto	0.0308
L42	84	CCI-SFP-050125	54.00 - 55.50	Auto	0.0308
L42	100	CCI-SFP-050125	54.00 - 59.00	Auto	0.0409
L42	101	CCI-SFP-050125	54.00 - 59.00	Auto	0.0409
L42	102	CCI-SFP-050125	54.00 - 59.00	Auto	0.0409
L42	103	CCI-SFP-050125	54.00 - 59.00	Auto	0.0409
L43	37	Shaft Rinforcement [#PL0.625x5]	43.83 - 54.00	Auto	0.0027
L43	38	Shaft Rinforcement [#PL0.625x5]	43.83 - 54.00	Auto	0.0027
L43	46	Shaft Rinforcement [#PL1.25x6]	43.83 - 47.92	Auto	0.1423
L43	47	Shaft Rinforcement [#PL1.25x6]	43.83 - 47.92	Auto	0.1423
L43	48	Shaft Rinforcement [#PL1.25x6]	43.83 - 47.92	Auto	0.1423
L43	49	Shaft Rinforcement [#PL1.25x5]	45.38 - 54.00	Auto	0.0031
L43	50	Shaft Rinforcement [#PL1.25x5]	45.38 - 54.00	Auto	0.0031
L43	51	Shaft Rinforcement [#PL1.25x5]	45.38 - 54.00	Auto	0.0031
L43	63	CCI-SFP-045100	43.83 - 54.00	Auto	0.0000
L43	64	CCI-SFP-045100	43.83 - 54.00	Auto	0.0000
L43	65	CCI-SFP-045100	43.83 - 54.00	Auto	0.0000
L43	83	CCI-SFP-050125	45.50 - 54.00	Auto	0.0032
L43	84	CCI-SFP-050125	45.50 - 54.00	Auto	0.0032
L43	100	CCI-SFP-050125	43.83 - 54.00	Auto	0.0027
L43	101	CCI-SFP-050125	43.83 - 54.00	Auto	0.0027
L43	102	CCI-SFP-050125	43.83 - 54.00	Auto	0.0027
L43	103	CCI-SFP-050125	43.83 - 54.00	Auto	0.0027
L44	37	Shaft Rinforcement [#PL0.625x5]	42.83 - 43.83	Auto	0.0008
L44	38	Shaft Rinforcement [#PL0.625x5]	42.83 - 43.83	Auto	0.0008
L44	46	Shaft Rinforcement [#PL1.25x6]	42.83 - 43.83	Auto	0.1667
L44	47	Shaft Rinforcement [#PL1.25x6]	42.83 - 43.83	Auto	0.1667
L44	48	Shaft Rinforcement [#PL1.25x6]	42.83 - 43.83	Auto	0.1667
L44	59	CCI-SFP-060100	42.83 - 43.75	Auto	0.1666
L44	60	CCI-SFP-060100	42.83 - 43.75	Auto	0.1666
L44	61	CCI-SFP-060100	42.83 - 43.75	Auto	0.1666
L44	63	CCI-SFP-045100	43.75 - 43.83	Auto	0.0000
L44	64	CCI-SFP-045100	43.75 - 43.83	Auto	0.0000
L44	65	CCI-SFP-045100	43.75 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L44	100	CCI-SFP-050125	43.83 42.83 - 43.83	Auto	0.0008
L44	101	CCI-SFP-050125	42.83 - 43.83	Auto	0.0008
L44	102	CCI-SFP-050125	42.83 - 43.83	Auto	0.0008
L44	103	CCI-SFP-050125	42.83 - 43.83	Auto	0.0008
L45	37	Shaft Rinforcement [#PL0.625x5]	41.75 - 42.83	Auto	0.0000
L45	38	Shaft Rinforcement [#PL0.625x5]	41.75 - 42.83	Auto	0.0000
L45	46	Shaft Rinforcement [#PL1.25x6]	41.75 - 42.83	Auto	0.1617
L45	47	Shaft Rinforcement [#PL1.25x6]	41.75 - 42.83	Auto	0.1617
L45	48	Shaft Rinforcement [#PL1.25x6]	41.75 - 42.83	Auto	0.1617
L45	59	CCI-SFP-060100	41.75 - 42.83	Auto	0.1617
L45	60	CCI-SFP-060100	41.75 - 42.83	Auto	0.1617
L45	61	CCI-SFP-060100	41.75 - 42.83	Auto	0.1617
L45	100	CCI-SFP-050125	41.75 - 42.83	Auto	0.0000
L45	101	CCI-SFP-050125	41.75 - 42.83	Auto	0.0000
L45	102	CCI-SFP-050125	41.75 - 42.83	Auto	0.0000
L45	103	CCI-SFP-050125	41.75 - 42.83	Auto	0.0000
L46	37	Shaft Rinforcement [#PL0.625x5]	41.50 - 41.75	Auto	0.0000
L46	38	Shaft Rinforcement [#PL0.625x5]	41.50 - 41.75	Auto	0.0000
L46	46	Shaft Rinforcement [#PL1.25x6]	41.50 - 41.75	Auto	0.1659
L46	47	Shaft Rinforcement [#PL1.25x6]	41.50 - 41.75	Auto	0.1659
L46	48	Shaft Rinforcement [#PL1.25x6]	41.50 - 41.75	Auto	0.1659
L46	59	CCI-SFP-060100	41.50 - 41.75	Auto	0.1659
L46	60	CCI-SFP-060100	41.50 - 41.75	Auto	0.1659
L46	61	CCI-SFP-060100	41.50 - 41.75	Auto	0.1659
L46	100	CCI-SFP-050125	41.50 - 41.75	Auto	0.0000
L46	101	CCI-SFP-050125	41.50 - 41.75	Auto	0.0000
L46	102	CCI-SFP-050125	41.50 - 41.75	Auto	0.0000
L46	103	CCI-SFP-050125	41.50 - 41.75	Auto	0.0000
L47	37	Shaft Rinforcement [#PL0.625x5]	36.50 - 41.50	Auto	0.0000
L47	38	Shaft Rinforcement [#PL0.625x5]	36.50 - 41.50	Auto	0.0000
L47	46	Shaft Rinforcement [#PL1.25x6]	36.50 - 41.50	Auto	0.1460
L47	47	Shaft Rinforcement [#PL1.25x6]	36.50 - 41.50	Auto	0.1460
L47	48	Shaft Rinforcement [#PL1.25x6]	36.50 - 41.50	Auto	0.1460
L47	59	CCI-SFP-060100	36.50 -	Auto	0.1460

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L47	60	CCI-SFP-060100	41.50 36.50 - 41.50	Auto	0.1460
L47	61	CCI-SFP-060100	36.50 - 41.50	Auto	0.1460
L47	100	CCI-SFP-050125	36.50 - 41.50	Auto	0.0000
L47	101	CCI-SFP-050125	36.50 - 41.50	Auto	0.0000
L47	102	CCI-SFP-050125	36.50 - 41.50	Auto	0.0000
L47	103	CCI-SFP-050125	36.50 - 41.50	Auto	0.0000
L48	37	Shaft Rinforcement [#PL0.625x5]	32.75 - 36.50	Auto	0.0000
L48	38	Shaft Rinforcement [#PL0.625x5]	32.75 - 36.50	Auto	0.0000
L48	46	Shaft Rinforcement [#PL1.25x6]	32.75 - 36.50	Auto	0.1249
L48	47	Shaft Rinforcement [#PL1.25x6]	32.75 - 36.50	Auto	0.1249
L48	48	Shaft Rinforcement [#PL1.25x6]	32.75 - 36.50	Auto	0.1249
L48	59	CCI-SFP-060100	32.75 - 36.50	Auto	0.1249
L48	60	CCI-SFP-060100	32.75 - 36.50	Auto	0.1249
L48	61	CCI-SFP-060100	32.75 - 36.50	Auto	0.1249
L48	85	CCI-SFP-065125	32.75 - 35.50	Auto	0.1900
L48	86	CCI-SFP-065125	32.75 - 35.50	Auto	0.1900
L48	100	CCI-SFP-050125	35.00 - 36.50	Auto	0.0000
L48	101	CCI-SFP-050125	35.00 - 36.50	Auto	0.0000
L48	102	CCI-SFP-050125	35.50 - 36.50	Auto	0.0000
L48	103	CCI-SFP-050125	35.50 - 36.50	Auto	0.0000
L48	105	CCI-SFP-065125	32.75 - 35.00	Auto	0.1889
L48	106	CCI-SFP-065125	32.75 - 35.00	Auto	0.1889
L49	37	Shaft Rinforcement [#PL0.625x5]	32.50 - 32.75	Auto	0.0000
L49	38	Shaft Rinforcement [#PL0.625x5]	32.50 - 32.75	Auto	0.0000
L49	46	Shaft Rinforcement [#PL1.25x6]	32.50 - 32.75	Auto	0.1300
L49	47	Shaft Rinforcement [#PL1.25x6]	32.50 - 32.75	Auto	0.1300
L49	48	Shaft Rinforcement [#PL1.25x6]	32.50 - 32.75	Auto	0.1300
L49	59	CCI-SFP-060100	32.50 - 32.75	Auto	0.1300
L49	60	CCI-SFP-060100	32.50 - 32.75	Auto	0.1300
L49	61	CCI-SFP-060100	32.50 - 32.75	Auto	0.1300
L49	85	CCI-SFP-065125	32.50 - 32.75	Auto	0.1969
L49	86	CCI-SFP-065125	32.50 - 32.75	Auto	0.1969
L49	105	CCI-SFP-065125	32.50 - 32.75	Auto	0.1969
L49	106	CCI-SFP-065125	32.50 -	Auto	0.1969

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
			32.75		
L50	37	Shaft Rinforcement [#PL0.625x5]	32.25 - 32.50	Auto	0.0000
L50	38	Shaft Rinforcement [#PL0.625x5]	32.25 - 32.50	Auto	0.0000
L50	46	Shaft Rinforcement [#PL1.25x6]	32.25 - 32.50	Auto	0.1288
L50	47	Shaft Rinforcement [#PL1.25x6]	32.25 - 32.50	Auto	0.1288
L50	48	Shaft Rinforcement [#PL1.25x6]	32.25 - 32.50	Auto	0.1288
L50	59	CCI-SFP-060100	32.25 - 32.50	Auto	0.1288
L50	60	CCI-SFP-060100	32.25 - 32.50	Auto	0.1288
L50	61	CCI-SFP-060100	32.25 - 32.50	Auto	0.1288
L50	85	CCI-SFP-065125	32.25 - 32.50	Auto	0.1958
L50	86	CCI-SFP-065125	32.25 - 32.50	Auto	0.1958
L50	105	CCI-SFP-065125	32.25 - 32.50	Auto	0.1958
L50	106	CCI-SFP-065125	32.25 - 32.50	Auto	0.1958
L51	37	Shaft Rinforcement [#PL0.625x5]	32.00 - 32.25	Auto	0.0000
L51	38	Shaft Rinforcement [#PL0.625x5]	32.00 - 32.25	Auto	0.0000
L51	46	Shaft Rinforcement [#PL1.25x6]	32.00 - 32.25	Auto	0.1349
L51	47	Shaft Rinforcement [#PL1.25x6]	32.00 - 32.25	Auto	0.1349
L51	48	Shaft Rinforcement [#PL1.25x6]	32.00 - 32.25	Auto	0.1349
L51	59	CCI-SFP-060100	32.00 - 32.25	Auto	0.1349
L51	60	CCI-SFP-060100	32.00 - 32.25	Auto	0.1349
L51	61	CCI-SFP-060100	32.00 - 32.25	Auto	0.1349
L51	85	CCI-SFP-065125	32.00 - 32.25	Auto	0.2015
L51	86	CCI-SFP-065125	32.00 - 32.25	Auto	0.2015
L51	105	CCI-SFP-065125	32.00 - 32.25	Auto	0.2015
L51	106	CCI-SFP-065125	32.00 - 32.25	Auto	0.2015
L52	37	Shaft Rinforcement [#PL0.625x5]	30.33 - 32.00	Auto	0.0000
L52	38	Shaft Rinforcement [#PL0.625x5]	30.33 - 32.00	Auto	0.0000
L52	43	Shaft Rinforcement [#PL1.25x6]	30.33 - 30.75	Auto	0.1200
L52	44	Shaft Rinforcement [#PL1.25x6]	30.33 - 30.75	Auto	0.1200
L52	45	Shaft Rinforcement [#PL1.25x6]	30.33 - 30.75	Auto	0.1200
L52	46	Shaft Rinforcement [#PL1.25x6]	30.33 - 32.00	Auto	0.1230
L52	47	Shaft Rinforcement [#PL1.25x6]	30.33 - 32.00	Auto	0.1230
L52	48	Shaft Rinforcement [#PL1.25x6]	30.33 - 32.00	Auto	0.1230
L52	59	CCI-SFP-060100	30.33 - 32.00	Auto	0.1230
L52	60	CCI-SFP-060100	30.33 -	Auto	0.1230

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L52	61	CCI-SFP-060100	32.00 30.33 - 32.00	Auto	0.1230
L52	85	CCI-SFP-065125	30.33 - 32.00	Auto	0.1905
L52	86	CCI-SFP-065125	30.33 - 32.00	Auto	0.1905
L52	105	CCI-SFP-065125	30.33 - 32.00	Auto	0.1905
L52	106	CCI-SFP-065125	30.33 - 32.00	Auto	0.1905
L53	37	Shaft Rinforcement [#PL0.625x5]	30.08 - 30.33	Auto	0.0000
L53	38	Shaft Rinforcement [#PL0.625x5]	30.08 - 30.33	Auto	0.0000
L53	43	Shaft Rinforcement [#PL1.25x6]	30.08 - 30.33	Auto	0.0891
L53	44	Shaft Rinforcement [#PL1.25x6]	30.08 - 30.33	Auto	0.0891
L53	45	Shaft Rinforcement [#PL1.25x6]	30.08 - 30.33	Auto	0.0891
L53	46	Shaft Rinforcement [#PL1.25x6]	30.08 - 30.33	Auto	0.0891
L53	47	Shaft Rinforcement [#PL1.25x6]	30.08 - 30.33	Auto	0.0891
L53	48	Shaft Rinforcement [#PL1.25x6]	30.08 - 30.33	Auto	0.0891
L53	59	CCI-SFP-060100	30.08 - 30.33	Auto	0.0891
L53	60	CCI-SFP-060100	30.08 - 30.33	Auto	0.0891
L53	61	CCI-SFP-060100	30.08 - 30.33	Auto	0.0891
L53	85	CCI-SFP-065125	30.08 - 30.33	Auto	0.1591
L53	86	CCI-SFP-065125	30.08 - 30.33	Auto	0.1591
L53	105	CCI-SFP-065125	30.08 - 30.33	Auto	0.1591
L53	106	CCI-SFP-065125	30.08 - 30.33	Auto	0.1591
L54	37	Shaft Rinforcement [#PL0.625x5]	28.25 - 30.08	Auto	0.0000
L54	38	Shaft Rinforcement [#PL0.625x5]	28.25 - 30.08	Auto	0.0000
L54	43	Shaft Rinforcement [#PL1.25x6]	28.25 - 30.08	Auto	0.0841
L54	44	Shaft Rinforcement [#PL1.25x6]	28.25 - 30.08	Auto	0.0841
L54	45	Shaft Rinforcement [#PL1.25x6]	28.25 - 30.08	Auto	0.0841
L54	46	Shaft Rinforcement [#PL1.25x6]	28.25 - 30.08	Auto	0.0841
L54	47	Shaft Rinforcement [#PL1.25x6]	28.25 - 30.08	Auto	0.0841
L54	48	Shaft Rinforcement [#PL1.25x6]	28.25 - 30.08	Auto	0.0841
L54	59	CCI-SFP-060100	28.25 - 30.08	Auto	0.0841
L54	60	CCI-SFP-060100	28.25 - 30.08	Auto	0.0841
L54	61	CCI-SFP-060100	28.25 - 30.08	Auto	0.0841
L54	85	CCI-SFP-065125	28.25 - 30.08	Auto	0.1545
L54	86	CCI-SFP-065125	28.25 - 30.08	Auto	0.1545
L54	105	CCI-SFP-065125	28.25 -	Auto	0.1545

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L54	106	CCI-SFP-065125	30.08 28.25 - 30.08	Auto	0.1545
L55	37	Shaft Rinforcement [#PL0.625x5]	28.00 - 28.25	Auto	0.0000
L55	38	Shaft Rinforcement [#PL0.625x5]	28.00 - 28.25	Auto	0.0000
L55	43	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	Auto	0.0937
L55	44	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	Auto	0.0937
L55	45	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	Auto	0.0937
L55	46	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	Auto	0.0937
L55	47	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	Auto	0.0937
L55	48	Shaft Rinforcement [#PL1.25x6]	28.00 - 28.25	Auto	0.0937
L55	59	CCI-SFP-060100	28.00 - 28.25	Auto	0.0937
L55	60	CCI-SFP-060100	28.00 - 28.25	Auto	0.0937
L55	61	CCI-SFP-060100	28.00 - 28.25	Auto	0.0937
L55	85	CCI-SFP-065125	28.00 - 28.25	Auto	0.1634
L55	86	CCI-SFP-065125	28.00 - 28.25	Auto	0.1634
L55	105	CCI-SFP-065125	28.00 - 28.25	Auto	0.1634
L55	106	CCI-SFP-065125	28.00 - 28.25	Auto	0.1634
L56	37	Shaft Rinforcement [#PL0.625x5]	23.00 - 28.00	Auto	0.0000
L56	38	Shaft Rinforcement [#PL0.625x5]	23.00 - 28.00	Auto	0.0000
L56	43	Shaft Rinforcement [#PL1.25x6]	23.00 - 28.00	Auto	0.0738
L56	44	Shaft Rinforcement [#PL1.25x6]	23.00 - 28.00	Auto	0.0738
L56	45	Shaft Rinforcement [#PL1.25x6]	23.00 - 28.00	Auto	0.0738
L56	46	Shaft Rinforcement [#PL1.25x6]	27.75 - 28.00	Auto	0.0852
L56	47	Shaft Rinforcement [#PL1.25x6]	27.75 - 28.00	Auto	0.0852
L56	48	Shaft Rinforcement [#PL1.25x6]	27.75 - 28.00	Auto	0.0852
L56	59	CCI-SFP-060100	23.00 - 28.00	Auto	0.0738
L56	60	CCI-SFP-060100	23.00 - 28.00	Auto	0.0738
L56	61	CCI-SFP-060100	23.00 - 28.00	Auto	0.0738
L56	67	CCI-SFP-045100	23.00 - 27.75	Auto	0.0000
L56	68	CCI-SFP-045100	23.00 - 27.75	Auto	0.0000
L56	69	CCI-SFP-045100	23.00 - 27.75	Auto	0.0000
L56	85	CCI-SFP-065125	25.50 - 28.00	Auto	0.1506
L56	86	CCI-SFP-065125	25.50 - 28.00	Auto	0.1506
L56	105	CCI-SFP-065125	23.00 - 28.00	Auto	0.1450
L56	106	CCI-SFP-065125	23.00 -	Auto	0.1450

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
			28.00		
L57	37	Shaft Rinforcement [#PL0.625x5]	19.25 - 23.00	Auto	0.0000
L57	38	Shaft Rinforcement [#PL0.625x5]	19.25 - 23.00	Auto	0.0000
L57	43	Shaft Rinforcement [#PL1.25x6]	19.25 - 23.00	Auto	0.0528
L57	44	Shaft Rinforcement [#PL1.25x6]	19.25 - 23.00	Auto	0.0528
L57	45	Shaft Rinforcement [#PL1.25x6]	19.25 - 23.00	Auto	0.0528
L57	59	CCI-SFP-060100	19.25 - 23.00	Auto	0.0528
L57	60	CCI-SFP-060100	19.25 - 23.00	Auto	0.0528
L57	61	CCI-SFP-060100	19.25 - 23.00	Auto	0.0528
L57	67	CCI-SFP-045100	19.25 - 23.00	Auto	0.0000
L57	68	CCI-SFP-045100	19.25 - 23.00	Auto	0.0000
L57	69	CCI-SFP-045100	19.25 - 23.00	Auto	0.0000
L57	105	CCI-SFP-065125	19.25 - 23.00	Auto	0.1256
L57	106	CCI-SFP-065125	19.25 - 23.00	Auto	0.1256
L58	37	Shaft Rinforcement [#PL0.625x5]	19.00 - 19.25	Auto	0.0000
L58	38	Shaft Rinforcement [#PL0.625x5]	19.00 - 19.25	Auto	0.0000
L58	43	Shaft Rinforcement [#PL1.25x6]	19.00 - 19.25	Auto	0.0102
L58	44	Shaft Rinforcement [#PL1.25x6]	19.00 - 19.25	Auto	0.0102
L58	45	Shaft Rinforcement [#PL1.25x6]	19.00 - 19.25	Auto	0.0102
L58	59	CCI-SFP-060100	19.00 - 19.25	Auto	0.0102
L58	60	CCI-SFP-060100	19.00 - 19.25	Auto	0.0102
L58	61	CCI-SFP-060100	19.00 - 19.25	Auto	0.0102
L58	67	CCI-SFP-045100	19.00 - 19.25	Auto	0.0000
L58	68	CCI-SFP-045100	19.00 - 19.25	Auto	0.0000
L58	69	CCI-SFP-045100	19.00 - 19.25	Auto	0.0000
L58	105	CCI-SFP-065125	19.00 - 19.25	Auto	0.0863
L58	106	CCI-SFP-065125	19.00 - 19.25	Auto	0.0863
L59	37	Shaft Rinforcement [#PL0.625x5]	14.50 - 19.00	Auto	0.0000
L59	38	Shaft Rinforcement [#PL0.625x5]	14.50 - 19.00	Auto	0.0000
L59	43	Shaft Rinforcement [#PL1.25x6]	14.50 - 19.00	Auto	0.0008
L59	44	Shaft Rinforcement [#PL1.25x6]	14.50 - 19.00	Auto	0.0008
L59	45	Shaft Rinforcement [#PL1.25x6]	14.50 - 19.00	Auto	0.0008
L59	59	CCI-SFP-060100	14.50 - 19.00	Auto	0.0008
L59	60	CCI-SFP-060100	14.50 - 19.00	Auto	0.0008
L59	61	CCI-SFP-060100	14.50 -	Auto	0.0008

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L59	67	CCI-SFP-045100	19.00 17.75 - 19.00	Auto	0.0000
L59	68	CCI-SFP-045100	17.75 - 19.00	Auto	0.0000
L59	69	CCI-SFP-045100	17.75 - 19.00	Auto	0.0000
L59	105	CCI-SFP-065125	14.50 - 19.00	Auto	0.0724
L59	106	CCI-SFP-065125	14.50 - 19.00	Auto	0.0724
L60	37	Shaft Rinforcement [#PL0.625x5]	14.25 - 14.50	Auto	0.0000
L60	38	Shaft Rinforcement [#PL0.625x5]	14.25 - 14.50	Auto	0.0000
L60	43	Shaft Rinforcement [#PL1.25x6]	14.25 - 14.50	Auto	0.1157
L60	44	Shaft Rinforcement [#PL1.25x6]	14.25 - 14.50	Auto	0.1157
L60	45	Shaft Rinforcement [#PL1.25x6]	14.25 - 14.50	Auto	0.1157
L60	59	CCI-SFP-060100	14.25 - 14.50	Auto	0.1157
L60	60	CCI-SFP-060100	14.25 - 14.50	Auto	0.1157
L60	61	CCI-SFP-060100	14.25 - 14.50	Auto	0.1157
L60	105	CCI-SFP-065125	14.25 - 14.50	Auto	0.1837
L60	106	CCI-SFP-065125	14.25 - 14.50	Auto	0.1837
L61	37	Shaft Rinforcement [#PL0.625x5]	12.75 - 14.25	Auto	0.0000
L61	38	Shaft Rinforcement [#PL0.625x5]	12.75 - 14.25	Auto	0.0000
L61	43	Shaft Rinforcement [#PL1.25x6]	12.75 - 14.25	Auto	0.1115
L61	44	Shaft Rinforcement [#PL1.25x6]	12.75 - 14.25	Auto	0.1115
L61	45	Shaft Rinforcement [#PL1.25x6]	12.75 - 14.25	Auto	0.1115
L61	59	CCI-SFP-060100	12.75 - 14.25	Auto	0.1115
L61	60	CCI-SFP-060100	12.75 - 14.25	Auto	0.1115
L61	61	CCI-SFP-060100	12.75 - 14.25	Auto	0.1115
L61	105	CCI-SFP-065125	12.75 - 14.25	Auto	0.1798
L61	106	CCI-SFP-065125	12.75 - 14.25	Auto	0.1798
L62	37	Shaft Rinforcement [#PL0.625x5]	12.50 - 12.75	Auto	0.0000
L62	38	Shaft Rinforcement [#PL0.625x5]	12.50 - 12.75	Auto	0.0000
L62	43	Shaft Rinforcement [#PL1.25x6]	12.50 - 12.75	Auto	0.0266
L62	44	Shaft Rinforcement [#PL1.25x6]	12.50 - 12.75	Auto	0.0266
L62	45	Shaft Rinforcement [#PL1.25x6]	12.50 - 12.75	Auto	0.0266
L62	59	CCI-SFP-060100	12.50 - 12.75	Auto	0.0266
L62	60	CCI-SFP-060100	12.50 - 12.75	Auto	0.0266
L62	61	CCI-SFP-060100	12.50 - 12.75	Auto	0.0266
L62	105	CCI-SFP-065125	12.50 -	Auto	0.1015

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L62	106	CCI-SFP-065125	12.75 12.50 - 12.75	Auto	0.1015
L63	37	Shaft Rinforcement [#PL0.625x5]	7.50 - 12.50	Auto	0.0000
L63	38	Shaft Rinforcement [#PL0.625x5]	7.50 - 12.50	Auto	0.0000
L63	43	Shaft Rinforcement [#PL1.25x6]	7.50 - 12.50	Auto	0.0073
L63	44	Shaft Rinforcement [#PL1.25x6]	7.50 - 12.50	Auto	0.0073
L63	45	Shaft Rinforcement [#PL1.25x6]	7.50 - 12.50	Auto	0.0073
L63	59	CCI-SFP-060100	7.50 - 12.50	Auto	0.0073
L63	60	CCI-SFP-060100	7.50 - 12.50	Auto	0.0073
L63	61	CCI-SFP-060100	7.50 - 12.50	Auto	0.0073
L63	105	CCI-SFP-065125	10.00 - 12.50	Auto	0.0886
L63	106	CCI-SFP-065125	10.00 - 12.50	Auto	0.0886
L64	37	Shaft Rinforcement [#PL0.625x5]	3.50 - 7.50	Auto	0.0000
L64	38	Shaft Rinforcement [#PL0.625x5]	3.50 - 7.50	Auto	0.0000
L64	43	Shaft Rinforcement [#PL1.25x6]	3.50 - 7.50	Auto	0.0000
L64	44	Shaft Rinforcement [#PL1.25x6]	3.50 - 7.50	Auto	0.0000
L64	45	Shaft Rinforcement [#PL1.25x6]	3.50 - 7.50	Auto	0.0000
L64	59	CCI-SFP-060100	3.50 - 7.50	Auto	0.0000
L64	60	CCI-SFP-060100	3.50 - 7.50	Auto	0.0000
L64	61	CCI-SFP-060100	3.50 - 7.50	Auto	0.0000
L65	37	Shaft Rinforcement [#PL0.625x5]	3.25 - 3.50	Auto	0.0000
L65	38	Shaft Rinforcement [#PL0.625x5]	3.25 - 3.50	Auto	0.0000
L65	43	Shaft Rinforcement [#PL1.25x6]	3.25 - 3.50	Auto	0.0555
L65	44	Shaft Rinforcement [#PL1.25x6]	3.25 - 3.50	Auto	0.0555
L65	45	Shaft Rinforcement [#PL1.25x6]	3.25 - 3.50	Auto	0.0555
L65	59	CCI-SFP-060100	3.25 - 3.50	Auto	0.0555
L65	60	CCI-SFP-060100	3.25 - 3.50	Auto	0.0555
L65	61	CCI-SFP-060100	3.25 - 3.50	Auto	0.0555
L66	37	Shaft Rinforcement [#PL0.625x5]	0.00 - 3.25	Auto	0.0000
L66	38	Shaft Rinforcement [#PL0.625x5]	0.00 - 3.25	Auto	0.0000
L66	43	Shaft Rinforcement [#PL1.25x6]	0.00 - 3.25	Auto	0.0398
L66	44	Shaft Rinforcement [#PL1.25x6]	0.00 - 3.25	Auto	0.0398
L66	45	Shaft Rinforcement [#PL1.25x6]	0.00 - 3.25	Auto	0.0398
L66	59	CCI-SFP-060100	0.00 - 3.25	Auto	0.0398
L66	60	CCI-SFP-060100	0.00 - 3.25	Auto	0.0398
L66	61	CCI-SFP-060100	0.00 - 3.25	Auto	0.0398

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
******									
DMP65R-BU8D w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	15.89 16.81 17.76	7.89 8.74 9.60	0.14 0.25 0.38
DMP65R-BU6D w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	11.96 12.70 13.46	5.97 6.63 7.30	0.11 0.20 0.30
RRUS 4415 B25	B	From Leg	4.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	0.68 0.79 0.91	0.04 0.06 0.07
(2) RRUS 4415 B25	C	From Leg	4.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	0.68 0.79 0.91	0.04 0.06 0.07
RRUS 4449 B5/B12	A	From Leg	4.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	1.97 2.14 2.33	1.41 1.56 1.73	0.07 0.09 0.11
(2) RRUS 4449 B5/B12	B	From Leg	4.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	1.97 2.14 2.33	1.41 1.56 1.73	0.07 0.09 0.11
(2) DC6-48-60-18-8F	A	From Leg	1.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	0.92 1.46 1.64	0.92 1.46 1.64	0.02 0.04 0.06
DC6-48-60-18-8F	C	From Leg	1.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	0.92 1.46 1.64	0.92 1.46 1.64	0.02 0.04 0.06
(3) RRUS E2 B29	A	From Leg	4.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	3.15 3.36 3.59	1.29 1.44 1.60	0.06 0.08 0.11
(3) RRUS 32 B2	C	From Leg	4.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	2.73 2.95 3.18	1.67 1.86 2.05	0.05 0.07 0.10
(3) RRUS 32 B30	B	From Leg	4.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	2.69 2.91 3.14	1.57 1.76 1.95	0.06 0.08 0.10
5' x 2" Pipe Mount	A	From Leg	1.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	1.19 1.50 1.81	1.19 1.50 1.81	0.02 0.03 0.04
5' x 2" Pipe Mount	B	From Leg	1.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	1.19 1.50 1.81	1.19 1.50 1.81	0.02 0.03 0.04
5' x 2" Pipe Mount	C	From Leg	1.00 0.00 0.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	1.19 1.50 1.81	1.19 1.50 1.81	0.02 0.03 0.04
Platform Mount [LP 303-1_KCKR-HR-1]	C	None		0.0000	168.00	No Ice 1/2" Ice 1" Ice	28.31 35.69 43.11	28.31 35.69 43.11	1.77 2.30 2.94
***									
AIR 6419 B77G w/ Mount Pipe	A	From Leg	4.00 0.00 4.00	0.0000	168.00	No Ice 1/2" Ice	4.32 4.74 5.17	2.49 2.84 3.21	0.08 0.11 0.15

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
AIR 6419 B77G w/ Mount Pipe	B	From Leg	4.00 0.00 4.00	0.0000	168.00	1" Ice No Ice 1/2" Ice 1" Ice	4.32 4.74 5.17	2.49 2.84 3.21	0.08 0.11 0.15
AIR 6419 B77G w/ Mount Pipe	C	From Leg	4.00 0.00 4.00	0.0000	168.00	1" Ice No Ice 1/2" Ice 1" Ice	4.32 4.74 5.17	2.49 2.84 3.21	0.08 0.11 0.15
MS-MBA-3.2-H4-L4 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	168.00	1" Ice No Ice 1/2" Ice 1" Ice	13.48 14.22 14.97	14.23 14.98 15.74	0.16 0.31 0.47
QD6616-7 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	168.00	1" Ice No Ice 1/2" Ice 1" Ice	12.56 13.30 14.06	6.93 7.60 8.28	0.16 0.25 0.36
AIR 6449 B77D w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	168.00	1" Ice No Ice 1/2" Ice 1" Ice	3.58 3.92 4.27	2.31 2.60 2.91	0.09 0.13 0.17
AIR 6449 B77D w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	168.00	1" Ice No Ice 1/2" Ice 1" Ice	3.58 3.92 4.27	2.31 2.60 2.91	0.09 0.13 0.17
AIR 6449 B77D w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	168.00	1" Ice No Ice 1/2" Ice 1" Ice	3.58 3.92 4.27	2.31 2.60 2.91	0.09 0.13 0.17
QD8616-7 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	168.00	1" Ice No Ice 1/2" Ice 1" Ice	16.93 17.87 18.83	9.31 10.17 11.05	0.18 0.31 0.45
QD8616-7 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	168.00	1" Ice No Ice 1/2" Ice 1" Ice	16.93 17.87 18.83	9.31 10.17 11.05	0.18 0.31 0.45
DC9-48-60-24-8C-EV	B	From Leg	1.00 0.00 2.00	0.0000	168.00	1" Ice No Ice 1/2" Ice 1" Ice	2.74 2.96 3.20	4.78 5.06 5.35	0.03 0.06 0.10
RRUS 4426 B66	B	From Leg	4.00 0.00 2.00	0.0000	168.00	1" Ice No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	0.73 0.84 0.97	0.05 0.06 0.08
RRUS 4426 B66	C	From Leg	4.00 0.00 2.00	0.0000	168.00	1" Ice No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	0.73 0.84 0.97	0.05 0.06 0.08
RRUS 8843 B2/B66A	A	From Leg	4.00 0.00 2.00	0.0000	168.00	1" Ice No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	1.35 1.50 1.65	0.07 0.09 0.11
RRUS 8843 B2/B66A	B	From Leg	4.00 0.00 2.00	0.0000	168.00	1" Ice No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	1.35 1.50 1.65	0.07 0.09 0.11
RRUS 8843 B2/B66A	C	From Leg	4.00 0.00 2.00	0.0000	168.00	1" Ice No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	1.35 1.50 1.65	0.07 0.09 0.11
(2) DBC0051F3V51-2	A	From Leg	4.00 0.00 2.00	0.0000	168.00	1" Ice No Ice 1/2" Ice 1" Ice	0.41 0.50 0.59	0.29 0.37 0.45	0.01 0.02 0.02

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
DBC0051F3V51-2	B	From Leg	4.00 0.00 2.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	0.41 0.50 0.59	0.29 0.37 0.45	0.01 0.02 0.02
(2) DBC0051F3V51-2	C	From Leg	4.00 0.00 2.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	0.41 0.50 0.59	0.29 0.37 0.45	0.01 0.02 0.02
DC6-48-60-18-8F	A	From Leg	4.00 0.00 1.00	0.0000	168.00	No Ice 1/2" Ice 1" Ice	0.92 1.46 1.64	0.92 1.46 1.64	0.02 0.04 0.06
****** ***									
AIR 6419 B41_TMO	A	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	7.00 7.53 8.07	2.83 3.24 3.67	0.10 0.14 0.19
AIR 6419 B41_TMO	B	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	7.00 7.53 8.07	2.83 3.24 3.67	0.10 0.14 0.19
AIR 6419 B41_TMO	C	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	7.00 7.53 8.07	2.83 3.24 3.67	0.10 0.14 0.19
APXVAALL24_43-U-NA20_TMO	A	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	14.67 15.43 16.21	5.32 5.99 6.68	0.15 0.26 0.38
APXVAALL24_43-U-NA20_TMO	B	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	14.67 15.43 16.21	5.32 5.99 6.68	0.15 0.26 0.38
APXVAALL24_43-U-NA20_TMO	C	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	14.67 15.43 16.21	5.32 5.99 6.68	0.15 0.26 0.38
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	2.14 2.32 2.51	1.69 1.85 2.02	0.11 0.13 0.16
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	2.14 2.32 2.51	1.69 1.85 2.02	0.11 0.13 0.16
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	2.14 2.32 2.51	1.69 1.85 2.02	0.11 0.13 0.16
Radio 4480_TMOV2	A	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	2.88 3.09 3.31	1.40 1.56 1.73	0.08 0.10 0.13
Radio 4480_TMOV2	B	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	2.88 3.09 3.31	1.40 1.56 1.73	0.08 0.10 0.13
Radio 4480_TMOV2	C	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	2.88 3.09 3.31	1.40 1.56 1.73	0.08 0.10 0.13
(4) 10' Mount Pipe [#P2STD, Sch. 40]	A	From Leg	4.00 0.00 0.00	0.0000	158.00	No Ice 1/2" Ice	2.38 3.40 4.45	2.38 3.40 4.45	0.04 0.05 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" Ice			
(4) 10' Mount Pipe	B	From Leg	4.00	0.0000	158.00	No Ice	2.38	2.38	0.04
[#P2STD, Sch. 40]			0.00			1/2"	3.40	3.40	0.05
			0.00			Ice	4.45	4.45	0.08
						1" Ice			
(4) 10' Mount Pipe	C	From Leg	4.00	0.0000	158.00	No Ice	2.38	2.38	0.04
[#P2STD, Sch. 40]			0.00			1/2"	3.40	3.40	0.05
			0.00			Ice	4.45	4.45	0.08
						1" Ice			
Monopole Sector Frame	C	None		0.0000	158.00	No Ice	6.67	6.67	0.79
Attachment Assembly						1/2"	7.70	7.70	1.06
[#MSFAA]						Ice	8.74	8.74	1.34
						1" Ice			
12' HD V-Frame Mount	A	From Leg	2.00	0.0000	158.00	No Ice	13.20	9.20	0.66
[#VFA12-HD]			0.00			1/2"	19.50	14.60	0.80
			0.00			Ice	25.80	19.50	1.01
						1" Ice			
12' HD V-Frame Mount	B	From Leg	2.00	0.0000	158.00	No Ice	13.20	9.20	0.66
[#VFA12-HD]			0.00			1/2"	19.50	14.60	0.80
			0.00			Ice	25.80	19.50	1.01
						1" Ice			
12' HD V-Frame Mount	C	From Leg	2.00	0.0000	158.00	No Ice	13.20	9.20	0.66
[#VFA12-HD]			0.00			1/2"	19.50	14.60	0.80
			0.00			Ice	25.80	19.50	1.01
						1" Ice			
******									
MX08FRO665-21 w/	A	From Leg	4.00	0.0000	148.00	No Ice	8.01	4.23	0.11
Mount Pipe			0.00			1/2"	8.52	4.69	0.19
			0.00			Ice	9.04	5.16	0.29
						1" Ice			
MX08FRO665-21 w/	B	From Leg	4.00	0.0000	148.00	No Ice	8.01	4.23	0.11
Mount Pipe			0.00			1/2"	8.52	4.69	0.19
			0.00			Ice	9.04	5.16	0.29
						1" Ice			
MX08FRO665-21 w/	C	From Leg	4.00	0.0000	148.00	No Ice	8.01	4.23	0.11
Mount Pipe			0.00			1/2"	8.52	4.69	0.19
			0.00			Ice	9.04	5.16	0.29
						1" Ice			
TA08025-B604	A	From Leg	4.00	0.0000	148.00	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			
TA08025-B604	B	From Leg	4.00	0.0000	148.00	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			
TA08025-B604	C	From Leg	4.00	0.0000	148.00	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			
TA08025-B605	A	From Leg	4.00	0.0000	148.00	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			
TA08025-B605	B	From Leg	4.00	0.0000	148.00	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			
TA08025-B605	C	From Leg	4.00	0.0000	148.00	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			
RDIDC-9181-PF-48	A	From Leg	4.00	0.0000	148.00	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

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" Ice			
(2) 8' x 2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
(2) 8' x 2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
(2) 8' x 2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	148.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
Commscope MC-PK8-DSH	C	None		0.0000	148.00	No Ice 1/2" Ice 1" Ice	34.24 62.95 91.66	34.24 62.95 91.66	1.75 2.10 2.45
******									
BXA-70063/4CF w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	4.84 5.35 5.88	3.54 4.03 4.53	0.04 0.08 0.12
BXA-70063/4CF w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	4.84 5.35 5.88	3.54 4.03 4.53	0.04 0.08 0.12
BXA-70063/4CF w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	4.84 5.35 5.88	3.54 4.03 4.53	0.04 0.08 0.12
RFV01U-D1A	A	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.25 1.39 1.54	0.08 0.10 0.12
RFV01U-D1A	B	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.25 1.39 1.54	0.08 0.10 0.12
RFV01U-D1A	C	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.25 1.39 1.54	0.08 0.10 0.12
RFV01U-D2A	A	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.01 1.14 1.28	0.07 0.09 0.11
RFV01U-D2A	B	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.01 1.14 1.28	0.07 0.09 0.11
RFV01U-D2A	C	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.01 1.14 1.28	0.07 0.09 0.11
RVZDC-6627-PF-48	B	From Leg	4.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice	3.79 4.04 4.30	2.51 2.73 2.95	0.03 0.06 0.10
Platform Mount [LP 303-1]	C	None		0.0000	138.00	No Ice 1/2" Ice 1" Ice	14.69 18.01 21.34	14.69 18.01 21.34	1.25 1.57 1.94
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MT6407-77A w/ Mount Pipe	A	From Leg	4.00 0.00	0.0000	138.00	No Ice 1/2"	4.91 5.26	2.68 3.14	0.10 0.14

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			2.00			Ice	5.61	3.62	0.18
						1" Ice			
MT6407-77A w/ Mount Pipe	B	From Leg	4.00	0.0000	138.00	No Ice	4.91	2.68	0.10
			0.00			1/2"	5.26	3.14	0.14
			2.00			Ice	5.61	3.62	0.18
						1" Ice			
MT6407-77A w/ Mount Pipe	C	From Leg	4.00	0.0000	138.00	No Ice	4.91	2.68	0.10
			0.00			1/2"	5.26	3.14	0.14
			2.00			Ice	5.61	3.62	0.18
						1" Ice			
NHH-65B-R2B w/ Mount Pipe	A	From Leg	4.00	0.0000	138.00	No Ice	4.09	3.29	0.07
			0.00			1/2"	4.48	3.67	0.13
			2.00			Ice	4.88	4.06	0.21
						1" Ice			
NHH-65B-R2B w/ Mount Pipe	B	From Leg	4.00	0.0000	138.00	No Ice	4.09	3.29	0.07
			0.00			1/2"	4.48	3.67	0.13
			2.00			Ice	4.88	4.06	0.21
						1" Ice			
NHH-65B-R2B w/ Mount Pipe	C	From Leg	4.00	0.0000	138.00	No Ice	4.09	3.29	0.07
			0.00			1/2"	4.48	3.67	0.13
			2.00			Ice	4.88	4.06	0.21
						1" Ice			
NHHSS-65B-R2B w/ Mount Pipe	A	From Leg	4.00	0.0000	138.00	No Ice	3.89	3.14	0.09
			0.00			1/2"	4.27	3.50	0.15
			2.00			Ice	4.65	3.87	0.23
						1" Ice			
NHHSS-65B-R2B w/ Mount Pipe	B	From Leg	4.00	0.0000	138.00	No Ice	3.89	3.14	0.09
			0.00			1/2"	4.27	3.50	0.15
			2.00			Ice	4.65	3.87	0.23
						1" Ice			
NHHSS-65B-R2B w/ Mount Pipe	C	From Leg	4.00	0.0000	138.00	No Ice	3.89	3.14	0.09
			0.00			1/2"	4.27	3.50	0.15
			2.00			Ice	4.65	3.87	0.23
						1" Ice			
CBRS RT4401-48A	A	From Leg	4.00	0.0000	138.00	No Ice	0.99	0.50	0.02
			0.00			1/2"	1.12	0.60	0.03
			2.00			Ice	1.26	0.70	0.04
						1" Ice			
CBRS RT4401-48A	B	From Leg	4.00	0.0000	138.00	No Ice	0.99	0.50	0.02
			0.00			1/2"	1.12	0.60	0.03
			2.00			Ice	1.26	0.70	0.04
						1" Ice			
CBRS RT4401-48A	C	From Leg	4.00	0.0000	138.00	No Ice	0.99	0.50	0.02
			0.00			1/2"	1.12	0.60	0.03
			2.00			Ice	1.26	0.70	0.04
						1" Ice			
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ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Leg	4.00	0.0000	128.00	No Ice	3.14	2.59	0.11
			0.00			1/2"	3.45	2.88	0.16
			2.00			Ice	3.77	3.19	0.23
						1" Ice			
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.00	0.0000	128.00	No Ice	3.14	2.59	0.11
			0.00			1/2"	3.45	2.88	0.16
			2.00			Ice	3.77	3.19	0.23
						1" Ice			
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.00	0.0000	128.00	No Ice	3.14	2.59	0.11
			0.00			1/2"	3.45	2.88	0.16
			2.00			Ice	3.77	3.19	0.23
						1" Ice			
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	A	From Leg	4.00	0.0000	128.00	No Ice	3.14	2.59	0.11
			0.00			1/2"	3.45	2.88	0.16
			2.00			Ice	3.77	3.19	0.22
						1" Ice			
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	B	From Leg	4.00	0.0000	128.00	No Ice	3.14	2.59	0.11
			0.00			1/2"	3.45	2.88	0.16

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			2.00			Ice 1" Ice	3.77	3.19	0.22
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	3.14 3.45 3.77	2.59 2.88 3.19	0.11 0.16 0.22
KRY 112 144/1	A	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	0.35 0.43 0.51	0.17 0.23 0.30	0.01 0.01 0.02
KRY 112 144/1	B	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	0.35 0.43 0.51	0.17 0.23 0.30	0.01 0.01 0.02
KRY 112 144/1	C	From Leg	4.00 0.00 2.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	0.35 0.43 0.51	0.17 0.23 0.30	0.01 0.01 0.02
6' x 2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
6' x 2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
6' x 2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	128.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
Platform Mount [LP 303-1]	C	None		0.0000	128.00	No Ice 1/2" Ice 1" Ice	14.69 18.01 21.34	14.69 18.01 21.34	1.25 1.57 1.94
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GPS_A	A	From Leg	3.00 0.00 0.00	0.0000	70.00	No Ice 1/2" Ice 1" Ice	0.26 0.32 0.39	0.26 0.32 0.39	0.00 0.00 0.01
Side Arm Mount [SO 701-1]	A	From Leg	1.50 0.00 0.00	0.0000	70.00	No Ice 1/2" Ice 1" Ice	0.85 1.14 1.43	1.67 2.34 3.01	0.07 0.08 0.09
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Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	168.5 - 163.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-10.23	-0.79	-0.88
			Max. Mx	8	-4.72	-47.25	0.94
			Max. My	14	-4.68	0.89	-48.22
			Max. Vy	8	8.49	-47.25	0.94
			Max. Vx	14	8.69	0.89	-48.22
			Max. Torque	17			2.13
L2	163.5 - 158.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-10.74	-0.80	-0.92
			Max. Mx	8	-5.05	-90.51	2.08
			Max. My	14	-5.02	2.04	-92.47
			Max. Vy	8	8.82	-90.51	2.08
			Max. Vx	14	9.01	2.04	-92.47
			Max. Torque	17			2.13
L3	158.5 - 153.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-20.07	-0.82	-0.96
			Max. Mx	8	-10.26	-159.52	3.26

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	14	-10.21	3.22	-162.49
			Max. Vy	8	14.50	-159.52	3.26
			Max. Vx	14	14.70	3.22	-162.49
			Max. Torque	17			2.13
L4	153.5 - 148.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-20.65	-0.83	-1.00
			Max. Mx	8	-10.72	-232.72	4.45
			Max. My	14	-10.68	4.42	-236.71
			Max. Vy	8	14.80	-232.72	4.45
			Max. Vx	14	15.00	4.42	-236.71
			Max. Torque	17			2.12
L5	148.5 - 143.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.19	-0.87	-0.71
			Max. Mx	8	-14.10	-322.76	5.75
			Max. My	14	-14.05	5.61	-327.78
			Max. Vy	8	18.49	-322.76	5.75
			Max. Vx	14	18.72	5.61	-327.78
			Max. Torque	17			2.12
L6	143.5 - 138.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.86	-0.91	-0.74
			Max. Mx	8	-14.68	-415.77	6.96
			Max. My	14	-14.64	6.81	-421.95
			Max. Vy	8	18.74	-415.77	6.96
			Max. Vx	14	18.97	6.81	-421.95
			Max. Torque	17			2.02
L7	138.5 - 138	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.94	-0.91	-0.75
			Max. Mx	8	-14.75	-425.14	7.08
			Max. My	14	-14.71	6.93	-431.43
			Max. Vy	8	18.75	-425.14	7.08
			Max. Vx	14	18.98	6.93	-431.43
			Max. Torque	5			-2.01
L8	138 - 137.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.53	-1.36	-1.01
			Max. Mx	8	-17.71	-435.17	7.03
			Max. My	14	-17.67	6.83	-441.41
			Max. Vy	8	21.95	-435.17	7.03
			Max. Vx	14	22.16	6.83	-441.41
			Max. Torque	17			2.48
L9	137.75 - 130.667	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-33.38	-1.35	-1.02
			Max. Mx	8	-18.37	-510.70	7.80
			Max. My	14	-18.33	7.59	-517.66
			Max. Vy	8	22.19	-510.70	7.80
			Max. Vx	14	22.40	7.59	-517.66
			Max. Torque	17			2.48
L10	130.667 - 129.327	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.36	-1.32	-1.04
			Max. Mx	8	-19.94	-622.76	8.93
			Max. My	14	-19.90	8.72	-630.78
			Max. Vy	8	22.63	-622.76	8.93
			Max. Vx	14	22.85	8.72	-630.78
			Max. Torque	17			2.48
L11	129.327 - 125.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.24	-1.31	-1.04
			Max. Mx	8	-23.03	-709.16	9.74
			Max. My	14	-22.99	9.52	-717.95
			Max. Vy	8	24.55	-709.16	9.74
			Max. Vx	14	24.77	9.52	-717.95
			Max. Torque	17			2.48
L12	125.75 - 125.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.33	-1.31	-1.04

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	8	-23.11	-715.30	9.80
			Max. My	14	-23.07	9.58	-724.14
			Max. Vy	8	24.56	-715.30	9.80
			Max. Vx	14	24.77	9.58	-724.14
			Max. Torque	17			2.48
L13	125.5 - 120.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.15	-1.30	-1.04
			Max. Mx	8	-24.55	-839.01	10.94
			Max. My	14	-24.52	10.71	-848.91
			Max. Vy	8	24.94	-839.01	10.94
			Max. Vx	14	25.15	10.71	-848.91
			Max. Torque	17			2.48
L14	120.5 - 120.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.26	-1.30	-1.04
			Max. Mx	8	-24.65	-845.24	11.00
			Max. My	14	-24.61	10.77	-855.19
			Max. Vy	8	24.95	-845.24	11.00
			Max. Vx	14	25.16	10.77	-855.19
			Max. Torque	17			2.48
L15	120.25 - 115.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.58	-1.29	-1.01
			Max. Mx	8	-26.44	-971.07	12.14
			Max. My	14	-26.39	11.90	-982.63
			Max. Vy	8	25.40	-971.07	12.14
			Max. Vx	14	25.83	11.90	-982.63
			Max. Torque	17			2.48
L16	115.25 - 113.833	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.27	-1.29	-1.00
			Max. Mx	8	-26.95	-1007.18	12.47
			Max. My	14	-26.90	12.22	-1019.35
			Max. Vy	8	25.59	-1007.18	12.47
			Max. Vx	14	26.02	12.22	-1019.35
			Max. Torque	17			2.48
L17	113.833 - 113.483	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.46	-1.29	-1.00
			Max. Mx	8	-27.10	-1016.14	12.55
			Max. My	14	-27.05	12.30	-1028.46
			Max. Vy	8	25.62	-1016.14	12.55
			Max. Vx	14	26.06	12.30	-1028.46
			Max. Torque	17			2.48
L18	113.483 - 113.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.58	-1.29	-1.00
			Max. Mx	8	-27.20	-1022.11	12.60
			Max. My	14	-27.14	12.35	-1034.54
			Max. Vy	8	25.66	-1022.11	12.60
			Max. Vx	14	26.09	12.35	-1034.54
			Max. Torque	17			2.48
L19	113.25 - 112	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.24	-1.29	-0.99
			Max. Mx	8	-27.69	-1054.28	12.89
			Max. My	14	-27.64	12.64	-1067.25
			Max. Vy	8	25.83	-1054.28	12.89
			Max. Vx	14	26.27	12.64	-1067.25
			Max. Torque	17			2.48
L20	112 - 111.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.35	-1.29	-0.99
			Max. Mx	8	-27.78	-1060.74	12.95
			Max. My	14	-27.73	12.70	-1073.82
			Max. Vy	8	25.85	-1060.74	12.95
			Max. Vx	14	26.28	12.70	-1073.82
			Max. Torque	17			2.48
L21	111.75 - 106.75	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	-48.47	-1.28	-0.98
			Max. Mx	8	-29.44	-1191.00	14.09
			Max. My	14	-29.40	13.83	-1206.11
			Max. Vy	8	26.28	-1191.00	14.09
			Max. Vx	14	26.65	13.83	-1206.11
			Max. Torque	17			2.48
L22	106.75 - 101.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.57	-1.28	-0.96
			Max. Mx	8	-31.14	-1323.30	15.24
			Max. My	14	-31.10	14.97	-1340.15
			Max. Vy	8	26.68	-1323.30	15.24
			Max. Vx	14	27.00	14.97	-1340.15
			Max. Torque	17			2.48
L23	101.75 - 98.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.03	-1.30	-0.93
			Max. Mx	8	-32.27	-1412.52	16.00
			Max. My	14	-32.24	15.72	-1430.35
			Max. Vy	8	26.95	-1412.52	16.00
			Max. Vx	14	27.22	15.72	-1430.35
			Max. Torque	17			2.47
L24	98.42 - 98.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.17	-1.31	-0.92
			Max. Mx	8	-32.40	-1419.25	16.05
			Max. My	14	-32.37	15.78	-1437.16
			Max. Vy	20	-26.96	1417.71	-16.92
			Max. Vx	14	27.24	15.78	-1437.16
			Max. Torque	17			2.47
L25	98.17 - 93.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.91	-1.37	-0.86
			Max. Mx	8	-34.57	-1555.25	17.19
			Max. My	14	-34.53	16.91	-1575.00
			Max. Vy	20	-27.47	1553.75	-18.05
			Max. Vx	14	27.92	16.91	-1575.00
			Max. Torque	17			2.47
L26	93.17 - 84.717	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.06	-1.40	-0.80
			Max. Mx	8	-36.28	-1662.86	18.08
			Max. My	14	-36.25	17.79	-1684.23
			Max. Vy	20	-27.87	1661.39	-18.93
			Max. Vx	14	28.23	17.79	-1684.23
			Max. Torque	17			2.47
L27	84.717 - 83.717	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-61.82	-1.43	-0.73
			Max. Mx	8	-40.21	-1819.69	19.34
			Max. My	14	-40.18	19.06	-1842.84
			Max. Vy	20	-28.57	1818.30	-20.21
			Max. Vx	14	28.82	19.06	-1842.84
			Max. Torque	17			2.47
L28	83.717 - 82.833	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.30	-1.42	-0.72
			Max. Mx	8	-40.59	-1844.95	19.54
			Max. My	14	-40.56	19.28	-1868.33
			Max. Vy	20	-28.65	1843.59	-20.42
			Max. Vx	14	28.88	19.28	-1868.33
			Max. Torque	17			2.47
L29	82.833 - 82.583	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.45	-1.42	-0.72
			Max. Mx	8	-40.72	-1852.10	19.59
			Max. My	14	-40.70	19.34	-1875.56
			Max. Vy	20	-28.67	1850.75	-20.48
			Max. Vx	14	28.89	19.34	-1875.56

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	17			2.47
L30	82.583 - 77.583	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.52	-1.38	-0.72
			Max. Mx	8	-43.23	-1996.48	20.70
			Max. My	14	-43.21	20.55	-2020.97
			Max. Vy	20	-29.15	1995.33	-21.66
			Max. Vx	14	29.28	20.55	-2020.97
			Max. Torque	17			2.47
L31	77.583 - 73.417	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-68.14	-1.35	-0.72
			Max. Mx	8	-45.34	-2118.55	21.61
			Max. My	14	-45.33	21.56	-2143.56
			Max. Vy	20	-29.53	2117.56	-22.64
			Max. Vx	14	29.59	21.56	-2143.56
			Max. Torque	17			2.47
L32	73.417 - 73.167	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-68.32	-1.35	-0.72
			Max. Mx	8	-45.50	-2125.93	21.66
			Max. My	14	-45.49	21.62	-2150.96
			Max. Vy	20	-29.55	2124.95	-22.70
			Max. Vx	14	29.61	21.62	-2150.96
			Max. Torque	17			2.47
L33	73.167 - 72.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-68.85	-1.35	-0.72
			Max. Mx	8	-45.93	-2148.01	21.83
			Max. My	14	-45.91	21.80	-2173.12
			Max. Vy	20	-29.63	2147.06	-22.87
			Max. Vx	14	29.72	21.80	-2173.12
			Max. Torque	17			2.47
L34	72.42 - 72.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-69.00	-1.34	-0.72
			Max. Mx	8	-46.05	-2155.41	21.88
			Max. My	14	-46.04	21.86	-2180.55
			Max. Vy	20	-29.65	2154.47	-22.93
			Max. Vx	14	29.73	21.86	-2180.55
			Max. Torque	17			2.47
L35	72.17 - 68.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-71.59	-1.27	-0.36
			Max. Mx	8	-48.10	-2277.43	23.00
			Max. My	14	-48.09	22.85	-2302.59
			Max. Vy	20	-30.10	2276.66	-23.67
			Max. Vx	14	30.07	22.85	-2302.59
			Max. Torque	17			2.47
L36	68.08 - 67.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-71.76	-1.27	-0.36
			Max. Mx	8	-48.24	-2284.95	23.05
			Max. My	14	-48.24	22.91	-2310.11
			Max. Vy	20	-30.11	2284.19	-23.73
			Max. Vx	14	30.08	22.91	-2310.11
			Max. Torque	17			2.35
L37	67.83 - 65.58	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.26	-1.24	-0.36
			Max. Mx	8	-49.45	-2352.84	23.54
			Max. My	14	-49.44	23.46	-2377.96
			Max. Vy	20	-30.32	2352.18	-24.26
			Max. Vx	14	30.25	23.46	-2377.96
			Max. Torque	17			2.35
L38	65.58 - 65.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.44	-1.24	-0.36
			Max. Mx	8	-49.60	-2360.41	23.60

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	14	-49.60	23.52	-2385.52
			Max. Vy	20	-30.33	2359.76	-24.32
			Max. Vx	14	30.25	23.52	-2385.52
			Max. Torque	17			2.35
L39	65.33 - 64.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-74.21	-1.23	-0.36
			Max. Mx	8	-50.23	-2393.19	23.83
			Max. My	14	-50.23	23.78	-2418.24
			Max. Vy	20	-30.44	2392.58	-24.57
			Max. Vx	14	30.34	23.78	-2418.24
			Max. Torque	17			2.35
L40	64.25 - 64	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-74.38	-1.22	-0.36
			Max. Mx	8	-50.37	-2400.80	23.89
			Max. My	14	-50.37	23.84	-2425.82
			Max. Vy	20	-30.46	2400.20	-24.63
			Max. Vx	14	30.35	23.84	-2425.82
			Max. Torque	17			2.35
L41	64 - 59	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-77.54	-1.17	-0.35
			Max. Mx	8	-52.95	-2553.90	24.97
			Max. My	14	-52.95	25.05	-2578.40
			Max. Vy	20	-30.86	2553.51	-25.80
			Max. Vx	14	30.69	25.05	-2578.40
			Max. Torque	17			2.35
L42	59 - 54	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-80.71	-1.13	-0.34
			Max. Mx	8	-55.57	-2708.93	26.05
			Max. My	14	-55.57	26.26	-2732.59
			Max. Vy	20	-31.24	2708.76	-26.97
			Max. Vx	14	31.00	26.26	-2732.59
			Max. Torque	17			2.35
L43	54 - 43.827	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-83.85	-1.10	-0.34
			Max. Mx	20	-58.11	2860.61	-28.09
			Max. My	14	-58.12	27.42	-2883.04
			Max. Vy	20	-31.61	2860.61	-28.09
			Max. Vx	14	31.29	27.42	-2883.04
			Max. Torque	17			2.35
L44	43.827 - 42.827	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-90.82	-1.06	-0.34
			Max. Mx	20	-64.03	3063.21	-29.56
			Max. My	14	-64.04	28.94	-3083.16
			Max. Vy	20	-32.27	3063.21	-29.56
			Max. Vx	14	31.84	28.94	-3083.16
			Max. Torque	17			2.34
L45	42.827 - 41.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-91.57	-1.05	-0.33
			Max. Mx	20	-64.66	3097.99	-29.81
			Max. My	14	-64.67	29.20	-3117.47
			Max. Vy	20	-32.34	3097.99	-29.81
			Max. Vx	14	31.90	29.20	-3117.47
			Max. Torque	17			2.34
L46	41.75 - 41.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-91.75	-1.05	-0.33
			Max. Mx	20	-64.82	3106.07	-29.87
			Max. My	14	-64.83	29.26	-3125.44
			Max. Vy	20	-32.33	3106.07	-29.87
			Max. Vx	14	31.89	29.26	-3125.44
			Max. Torque	17			2.34
L47	41.5 - 36.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-95.35	-0.99	-0.31
			Max. Mx	20	-67.86	3268.52	-31.02
			Max. My	14	-67.87	30.46	-3285.53
			Max. Vy	20	-32.64	3268.52	-31.02
			Max. Vx	14	32.16	30.46	-3285.53

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	17			2.34
L48	36.5 - 32.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-98.07	-0.94	-0.27
			Max. Mx	20	-70.16	3391.31	-31.88
			Max. My	14	-70.17	31.36	-3406.38
			Max. Vy	20	-32.87	3391.31	-31.88
			Max. Vx	14	32.34	31.36	-3406.38
			Max. Torque	17			2.34
L49	32.75 - 32.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-98.26	-0.93	-0.27
			Max. Mx	20	-70.33	3399.53	-31.93
			Max. My	14	-70.34	31.42	-3414.46
			Max. Vy	20	-32.86	3399.53	-31.93
			Max. Vx	14	32.32	31.42	-3414.46
			Max. Torque	17			2.34
L50	32.5 - 32.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-98.44	-0.93	-0.27
			Max. Mx	20	-70.49	3407.75	-31.99
			Max. My	14	-70.50	31.48	-3422.55
			Max. Vy	20	-32.87	3407.75	-31.99
			Max. Vx	14	32.33	31.48	-3422.55
			Max. Torque	17			2.34
L51	32.25 - 32	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-98.63	-0.92	-0.26
			Max. Mx	20	-70.65	3415.97	-32.05
			Max. My	14	-70.66	31.53	-3430.63
			Max. Vy	20	-32.89	3415.97	-32.05
			Max. Vx	14	32.35	31.53	-3430.63
			Max. Torque	17			2.34
L52	32 - 30.333	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-99.91	-0.90	-0.24
			Max. Mx	20	-71.71	3470.91	-32.43
			Max. My	14	-71.72	31.93	-3484.62
			Max. Vy	20	-33.03	3470.91	-32.43
			Max. Vx	14	32.46	31.93	-3484.62
			Max. Torque	17			2.34
L53	30.333 - 30.083	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-100.09	-0.89	-0.24
			Max. Mx	20	-71.88	3479.16	-32.49
			Max. My	14	-71.89	31.99	-3492.73
			Max. Vy	20	-33.01	3479.16	-32.49
			Max. Vx	14	32.43	31.99	-3492.73
			Max. Torque	17			2.34
L54	30.083 - 28.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-101.44	-0.86	-0.23
			Max. Mx	20	-72.96	3539.79	-32.90
			Max. My	14	-72.98	32.42	-3552.25
			Max. Vy	20	-33.16	3539.79	-32.90
			Max. Vx	14	32.55	32.42	-3552.25
			Max. Torque	17			2.34
L55	28.25 - 28	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-101.64	-0.86	-0.23
			Max. Mx	20	-73.15	3548.07	-32.96
			Max. My	14	-73.16	32.48	-3560.38
			Max. Vy	20	-33.13	3548.07	-32.96
			Max. Vx	14	32.52	32.48	-3560.38
			Max. Torque	17			2.34
L56	28 - 23	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-105.53	-0.78	-0.23
			Max. Mx	20	-76.43	3714.46	-34.09
			Max. My	14	-76.44	33.66	-3723.42
			Max. Vy	20	-33.41	3714.46	-34.09
			Max. Vx	14	32.72	33.66	-3723.42
			Max. Torque	17			2.34
L57	23 - 19.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-108.43	-0.70	-0.22
			Max. Mx	20	-78.92	3840.03	-34.93

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	14	-78.93	34.54	-3846.27
			Max. Vy	20	-33.58	3840.03	-34.93
			Max. Vx	14	32.84	34.54	-3846.27
			Max. Torque	17			2.34
L58	19.25 - 19	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-108.61	-0.69	-0.22
			Max. Mx	20	-79.08	3848.42	-34.99
			Max. My	14	-79.09	34.60	-3854.48
			Max. Vy	20	-33.56	3848.42	-34.99
			Max. Vx	14	32.82	34.60	-3854.48
			Max. Torque	17			2.34
L59	19 - 14.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-111.72	-0.60	-0.19
			Max. Mx	20	-81.75	3999.74	-35.99
			Max. My	14	-81.76	35.65	-4002.35
			Max. Vy	20	-33.69	3999.74	-35.99
			Max. Vx	14	32.93	35.65	-4002.35
			Max. Torque	17			2.34
L60	14.5 - 14.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-111.92	-0.59	-0.19
			Max. Mx	20	-81.95	4008.16	-36.04
			Max. My	14	-81.96	35.71	-4010.58
			Max. Vy	20	-33.67	4008.16	-36.04
			Max. Vx	14	32.91	35.71	-4010.58
			Max. Torque	17			2.34
L61	14.25 - 12.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-113.15	-0.56	-0.18
			Max. Mx	20	-83.02	4058.73	-36.37
			Max. My	14	-83.03	36.06	-4059.99
			Max. Vy	20	-33.76	4058.73	-36.37
			Max. Vx	14	32.99	36.06	-4059.99
			Max. Torque	17			2.34
L62	12.75 - 12.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-113.34	-0.56	-0.18
			Max. Mx	20	-83.20	4067.17	-36.43
			Max. My	14	-83.21	36.11	-4068.23
			Max. Vy	20	-33.74	4067.17	-36.43
			Max. Vx	14	32.97	36.11	-4068.23
			Max. Torque	17			2.34
L63	12.5 - 7.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-117.07	-0.45	-0.20
			Max. Mx	20	-86.51	4236.27	-37.52
			Max. My	14	-86.52	37.26	-4233.37
			Max. Vy	20	-33.89	4236.27	-37.52
			Max. Vx	14	33.10	37.26	-4233.37
			Max. Torque	17			2.34
L64	7.5 - 3.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-119.87	-0.36	-0.29
			Max. Mx	20	-89.05	4371.96	-38.41
			Max. My	14	-89.05	38.18	-4365.90
			Max. Vy	20	-33.97	4371.96	-38.41
			Max. Vx	14	33.19	38.18	-4365.90
			Max. Torque	17			2.34
L65	3.5 - 3.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-120.05	-0.35	-0.30
			Max. Mx	20	-89.23	4380.45	-38.47
			Max. My	14	-89.23	38.24	-4374.20
			Max. Vy	20	-33.96	4380.45	-38.47
			Max. Vx	14	33.17	38.24	-4374.20
			Max. Torque	17			2.34
L66	3.25 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-122.37	-0.28	-0.38
			Max. Mx	20	-91.36	4491.02	-39.19
			Max. My	14	-91.36	38.97	-4482.21
			Max. Vy	20	-34.08	4491.02	-39.19
			Max. Vx	14	33.29	38.97	-4482.21
			Max. Torque	17			2.34

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	122.37	-0.00	-0.00
	Max. H_x	20	91.37	34.05	-0.21
	Max. H_z	2	91.37	-0.21	32.58
	Max. M_x	2	4403.52	-0.21	32.58
	Max. M_z	8	4488.65	-34.04	0.21
	Max. Torsion	17	2.34	16.49	-28.51
	Min. Vert	11	68.53	-27.96	-16.10
	Min. H_x	9	68.53	-34.04	0.21
	Min. H_z	15	68.53	0.21	-33.27
	Min. M_x	14	-4482.21	0.21	-33.27
	Min. M_z	20	-4491.02	34.05	-0.21
	Min. Torsion	5	-2.34	-16.50	28.51

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	76.14	0.00	0.00	0.81	0.65	-0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	91.37	0.21	-32.58	-4403.52	-37.39	2.00
0.9 Dead+1.0 Wind 0 deg - No Ice	68.53	0.21	-32.58	-4322.77	-36.76	2.01
1.2 Dead+1.0 Wind 30 deg - No Ice	91.37	16.50	-28.51	-3850.84	-2228.29	2.33
0.9 Dead+1.0 Wind 30 deg - No Ice	68.53	16.50	-28.51	-3780.31	-2187.51	2.34
1.2 Dead+1.0 Wind 60 deg - No Ice	91.37	29.22	-17.07	-2297.99	-3913.88	2.04
0.9 Dead+1.0 Wind 60 deg - No Ice	68.53	29.22	-17.07	-2256.15	-3842.59	2.05
1.2 Dead+1.0 Wind 90 deg - No Ice	91.37	34.04	-0.21	-37.18	-4488.65	1.19
0.9 Dead+1.0 Wind 90 deg - No Ice	68.53	34.04	-0.21	-36.63	-4407.23	1.20
1.2 Dead+1.0 Wind 120 deg - No Ice	91.37	27.96	16.10	2169.89	-3764.88	0.01
0.9 Dead+1.0 Wind 120 deg - No Ice	68.53	27.96	16.10	2129.81	-3695.92	0.01
1.2 Dead+1.0 Wind 150 deg - No Ice	91.37	17.18	30.11	3973.05	-2253.60	-1.17
0.9 Dead+1.0 Wind 150 deg - No Ice	68.53	17.18	30.11	3900.77	-2213.06	-1.18
1.2 Dead+1.0 Wind 180 deg - No Ice	91.37	-0.21	33.27	4482.21	38.97	-2.03
0.9 Dead+1.0 Wind 180 deg - No Ice	68.53	-0.21	33.27	4399.85	37.97	-2.03
1.2 Dead+1.0 Wind 210 deg - No Ice	91.37	-16.49	28.51	3851.89	2229.32	-2.33
0.9 Dead+1.0 Wind 210 deg - No Ice	68.53	-16.49	28.51	3780.84	2188.17	-2.34
1.2 Dead+1.0 Wind 240 deg - No Ice	91.37	-29.03	16.96	2287.91	3894.53	-2.01
0.9 Dead+1.0 Wind 240 deg - No Ice	68.53	-29.03	16.96	2245.72	3823.17	-2.02
1.2 Dead+1.0 Wind 270 deg - No Ice	91.37	-34.05	0.21	39.19	4491.02	-1.17
0.9 Dead+1.0 Wind 270 deg - No Ice	68.53	-34.05	0.21	38.10	4409.24	-1.17
1.2 Dead+1.0 Wind 300 deg	91.37	-28.56	-16.45	-2206.44	3833.25	-0.01

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
- No Ice 0.9 Dead+1.0 Wind 300 deg	68.53	-28.56	-16.45	-2166.37	3763.01	-0.01
- No Ice 1.2 Dead+1.0 Wind 330 deg	91.37	-17.18	-30.11	-3970.92	2255.12	1.15
- No Ice 0.9 Dead+1.0 Wind 330 deg	68.53	-17.18	-30.11	-3899.19	2214.21	1.16
- No Ice 1.2 Dead+1.0 Ice+1.0 Temp	122.37	0.00	0.00	0.38	-0.28	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	122.37	0.04	-9.46	-1296.51	-8.09	0.39
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	122.37	4.75	-8.22	-1126.56	-652.34	0.43
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	122.37	8.19	-4.77	-654.77	-1122.16	0.36
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	122.37	9.44	-0.04	-7.17	-1291.03	0.18
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	122.37	8.15	4.70	642.35	-1114.29	-0.04
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	122.37	4.74	8.27	1131.24	-645.68	-0.25
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	122.37	-0.04	9.47	1297.90	7.18	-0.39
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	122.37	-4.75	8.22	1127.50	651.43	-0.43
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	122.37	-8.19	4.77	655.58	1121.03	-0.36
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	122.37	-9.44	0.04	8.10	1290.11	-0.18
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	122.37	-8.16	-4.70	-641.59	1113.69	0.04
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	122.37	-4.74	-8.27	-1130.29	644.76	0.25
Dead+Wind 0 deg - Service	76.14	0.05	-8.21	-1098.24	-8.88	0.52
Dead+Wind 30 deg - Service	76.14	4.16	-7.19	-960.36	-555.64	0.60
Dead+Wind 60 deg - Service	76.14	7.37	-4.30	-572.88	-976.35	0.52
Dead+Wind 90 deg - Service	76.14	8.58	-0.05	-8.65	-1119.76	0.30
Dead+Wind 120 deg - Service	76.14	7.05	4.06	542.04	-939.00	-0.00
Dead+Wind 150 deg - Service	76.14	4.33	7.59	992.17	-562.03	-0.30
Dead+Wind 180 deg - Service	76.14	-0.05	8.39	1119.15	10.13	-0.52
Dead+Wind 210 deg - Service	76.14	-4.16	7.19	961.83	556.75	-0.60
Dead+Wind 240 deg - Service	76.14	-7.32	4.28	571.57	972.36	-0.52
Dead+Wind 270 deg - Service	76.14	-8.58	0.05	10.36	1121.22	-0.30
Dead+Wind 300 deg - Service	76.14	-7.20	-4.15	-550.00	956.99	0.00
Dead+Wind 330 deg - Service	76.14	-4.33	-7.59	-990.44	563.27	0.30

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	-76.14	0.00	0.00	76.14	0.00	0.000%
2	0.21	-91.37	-32.58	-0.21	91.37	32.58	0.000%
3	0.21	-68.53	-32.58	-0.21	68.53	32.58	0.000%
4	16.50	-91.37	-28.51	-16.50	91.37	28.51	0.000%
5	16.50	-68.53	-28.51	-16.50	68.53	28.51	0.000%
6	29.22	-91.37	-17.07	-29.22	91.37	17.07	0.000%
7	29.22	-68.53	-17.07	-29.22	68.53	17.07	0.000%
8	34.04	-91.37	-0.21	-34.04	91.37	0.21	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
9	34.04	-68.53	-0.21	-34.04	68.53	0.21	0.000%
10	27.96	-91.37	16.10	-27.96	91.37	-16.10	0.000%
11	27.96	-68.53	16.10	-27.96	68.53	-16.10	0.000%
12	17.18	-91.37	30.11	-17.18	91.37	-30.11	0.000%
13	17.18	-68.53	30.11	-17.18	68.53	-30.11	0.000%
14	-0.21	-91.37	33.27	0.21	91.37	-33.27	0.000%
15	-0.21	-68.53	33.27	0.21	68.53	-33.27	0.000%
16	-16.49	-91.37	28.51	16.49	91.37	-28.51	0.000%
17	-16.49	-68.53	28.51	16.49	68.53	-28.51	0.000%
18	-29.03	-91.37	16.96	29.03	91.37	-16.96	0.000%
19	-29.03	-68.53	16.96	29.03	68.53	-16.96	0.000%
20	-34.05	-91.37	0.21	34.05	91.37	-0.21	0.000%
21	-34.05	-68.53	0.21	34.05	68.53	-0.21	0.000%
22	-28.56	-91.37	-16.45	28.56	91.37	16.45	0.000%
23	-28.56	-68.53	-16.45	28.56	68.53	16.45	0.000%
24	-17.18	-91.37	-30.11	17.18	91.37	30.11	0.000%
25	-17.18	-68.53	-30.11	17.18	68.53	30.11	0.000%
26	0.00	-122.37	0.00	-0.00	122.37	-0.00	0.000%
27	0.04	-122.37	-9.46	-0.04	122.37	9.46	0.000%
28	4.75	-122.37	-8.22	-4.75	122.37	8.22	0.000%
29	8.19	-122.37	-4.77	-8.19	122.37	4.77	0.000%
30	9.44	-122.37	-0.04	-9.44	122.37	0.04	0.000%
31	8.15	-122.37	4.70	-8.15	122.37	-4.70	0.000%
32	4.74	-122.37	8.27	-4.74	122.37	-8.27	0.000%
33	-0.04	-122.37	9.47	0.04	122.37	-9.47	0.000%
34	-4.75	-122.37	8.22	4.75	122.37	-8.22	0.000%
35	-8.19	-122.37	4.77	8.19	122.37	-4.77	0.000%
36	-9.44	-122.37	0.04	9.44	122.37	-0.04	0.000%
37	-8.16	-122.37	-4.70	8.16	122.37	4.70	0.000%
38	-4.74	-122.37	-8.27	4.74	122.37	8.27	0.000%
39	0.05	-76.14	-8.21	-0.05	76.14	8.21	0.000%
40	4.16	-76.14	-7.19	-4.16	76.14	7.19	0.000%
41	7.37	-76.14	-4.30	-7.37	76.14	4.30	0.000%
42	8.58	-76.14	-0.05	-8.58	76.14	0.05	0.000%
43	7.05	-76.14	4.06	-7.05	76.14	-4.06	0.000%
44	4.33	-76.14	7.59	-4.33	76.14	-7.59	0.000%
45	-0.05	-76.14	8.39	0.05	76.14	-8.39	0.000%
46	-4.16	-76.14	7.19	4.16	76.14	-7.19	0.000%
47	-7.32	-76.14	4.28	7.32	76.14	-4.28	0.000%
48	-8.58	-76.14	0.05	8.58	76.14	-0.05	0.000%
49	-7.20	-76.14	-4.15	7.20	76.14	4.15	0.000%
50	-4.33	-76.14	-7.59	4.33	76.14	7.59	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	6	0.00000001	0.00049088
3	Yes	6	0.00000001	0.00017766
4	Yes	7	0.00000001	0.00062086
5	Yes	7	0.00000001	0.00015356
6	Yes	7	0.00000001	0.00060932
7	Yes	7	0.00000001	0.00014857
8	Yes	6	0.00000001	0.00008162
9	Yes	5	0.00000001	0.00041407
10	Yes	7	0.00000001	0.00057818
11	Yes	7	0.00000001	0.00014398
12	Yes	7	0.00000001	0.00062029
13	Yes	7	0.00000001	0.00015290
14	Yes	6	0.00000001	0.00014090
15	Yes	5	0.00000001	0.00088851
16	Yes	7	0.00000001	0.00058824
17	Yes	7	0.00000001	0.00014420
18	Yes	7	0.00000001	0.00063330

19	Yes	7	0.00000001	0.00015585
20	Yes	6	0.00000001	0.00039053
21	Yes	6	0.00000001	0.00013955
22	Yes	7	0.00000001	0.00059075
23	Yes	7	0.00000001	0.00014647
24	Yes	7	0.00000001	0.00060468
25	Yes	7	0.00000001	0.00014851
26	Yes	4	0.00000001	0.00015876
27	Yes	7	0.00000001	0.00034853
28	Yes	7	0.00000001	0.00047347
29	Yes	7	0.00000001	0.00046816
30	Yes	7	0.00000001	0.00034739
31	Yes	7	0.00000001	0.00046093
32	Yes	7	0.00000001	0.00046875
33	Yes	7	0.00000001	0.00034948
34	Yes	7	0.00000001	0.00046777
35	Yes	7	0.00000001	0.00047112
36	Yes	7	0.00000001	0.00034582
37	Yes	7	0.00000001	0.00045740
38	Yes	7	0.00000001	0.00046248
39	Yes	5	0.00000001	0.00031839
40	Yes	6	0.00000001	0.00013122
41	Yes	6	0.00000001	0.00011986
42	Yes	5	0.00000001	0.00021903
43	Yes	6	0.00000001	0.00011350
44	Yes	6	0.00000001	0.00012758
45	Yes	5	0.00000001	0.00027090
46	Yes	6	0.00000001	0.00011366
47	Yes	6	0.00000001	0.00013392
48	Yes	5	0.00000001	0.00025920
49	Yes	6	0.00000001	0.00011580
50	Yes	6	0.00000001	0.00011817

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	168.5 - 163.5	32.637	41	2.0196	0.0111
L2	163.5 - 158.5	30.530	41	2.0021	0.0095
L3	158.5 - 153.5	28.454	41	1.9606	0.0079
L4	153.5 - 148.5	26.433	41	1.8948	0.0065
L5	148.5 - 143.5	24.496	41	1.8024	0.0053
L6	143.5 - 138.5	22.668	41	1.6862	0.0042
L7	138.5 - 138	20.973	41	1.5474	0.0033
L8	138 - 137.75	20.812	41	1.5325	0.0032
L9	137.75 - 130.667	20.732	41	1.5292	0.0032
L10	134.327 - 129.327	19.653	41	1.4807	0.0029
L11	129.327 - 125.75	18.123	41	1.4335	0.0026
L12	125.75 - 125.5	17.070	41	1.3769	0.0023
L13	125.5 - 120.5	16.998	41	1.3736	0.0023
L14	120.5 - 120.25	15.596	41	1.3040	0.0020
L15	120.25 - 115.25	15.528	41	1.3014	0.0020
L16	115.25 - 113.833	14.193	41	1.2472	0.0018
L17	113.833 - 113.483	13.826	41	1.2314	0.0018
L18	113.483 - 113.25	13.736	41	1.2276	0.0018
L19	113.25 - 112	13.676	41	1.2251	0.0018
L20	112 - 111.75	13.357	44	1.2113	0.0017
L21	111.75 - 106.75	13.294	44	1.2078	0.0017
L22	106.75 - 101.75	12.073	44	1.1337	0.0015
L23	101.75 - 98.42	10.930	44	1.0566	0.0013
L24	98.42 - 98.17	10.214	44	1.0034	0.0012
L25	98.17 - 93.17	10.161	44	1.0007	0.0012
L26	93.17 - 84.717	9.144	44	0.9463	0.0011
L27	89.277 - 83.717	8.391	44	0.9032	0.0010
L28	83.717 - 82.833	7.360	44	0.8640	0.0009

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L29	82.833 - 82.583	7.201	44	0.8531	0.0009
L30	82.583 - 77.583	7.157	44	0.8504	0.0009
L31	77.583 - 73.417	6.296	44	0.7942	0.0008
L32	73.417 - 73.167	5.624	44	0.7467	0.0007
L33	73.167 - 72.42	5.585	44	0.7445	0.0007
L34	72.42 - 72.17	5.469	44	0.7378	0.0007
L35	72.17 - 68.08	5.430	44	0.7349	0.0007
L36	68.08 - 67.83	4.821	44	0.6875	0.0006
L37	67.83 - 65.58	4.785	44	0.6846	0.0006
L38	65.58 - 65.33	4.469	44	0.6586	0.0006
L39	65.33 - 64.25	4.434	44	0.6563	0.0006
L40	64.25 - 64	4.287	44	0.6464	0.0006
L41	64 - 59	4.253	44	0.6436	0.0006
L42	59 - 54	3.608	44	0.5884	0.0005
L43	54 - 43.827	3.021	44	0.5330	0.0005
L44	49.167 - 42.827	2.509	44	0.4786	0.0004
L45	42.827 - 41.75	1.897	44	0.4381	0.0004
L46	41.75 - 41.5	1.800	44	0.4265	0.0003
L47	41.5 - 36.5	1.778	44	0.4238	0.0003
L48	36.5 - 32.75	1.362	44	0.3698	0.0003
L49	32.75 - 32.5	1.087	44	0.3298	0.0003
L50	32.5 - 32.25	1.070	44	0.3273	0.0003
L51	32.25 - 32	1.053	44	0.3248	0.0003
L52	32 - 30.333	1.036	44	0.3223	0.0003
L53	30.333 - 30.083	0.926	44	0.3057	0.0002
L54	30.083 - 28.25	0.911	44	0.3029	0.0002
L55	28.25 - 28	0.798	44	0.2829	0.0002
L56	28 - 23	0.783	44	0.2803	0.0002
L57	23 - 19.25	0.518	44	0.2271	0.0002
L58	19.25 - 19	0.355	44	0.1877	0.0001
L59	19 - 14.5	0.345	44	0.1848	0.0001
L60	14.5 - 14.25	0.196	44	0.1316	0.0001
L61	14.25 - 12.75	0.189	44	0.1297	0.0001
L62	12.75 - 12.5	0.150	44	0.1181	0.0001
L63	12.5 - 7.5	0.144	44	0.1156	0.0001
L64	7.5 - 3.5	0.049	44	0.0662	0.0000
L65	3.5 - 3.25	0.010	44	0.0272	0.0000
L66	3.25 - 0	0.009	44	0.0253	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
168.00	DMP65R-BU8D w/ Mount Pipe	41	32.426	2.0183	0.0110	9412
158.00	AIR 6419 B41_TMO	41	28.249	1.9551	0.0078	5148
148.00	MX08FRO665-21 w/ Mount Pipe	41	24.308	1.7916	0.0052	2679
138.00	BXA-70063/4CF w/ Mount Pipe	41	20.812	1.5325	0.0032	2736
128.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	41	17.728	1.4131	0.0025	4047
70.00	GPS_A	44	5.102	0.7096	0.0007	5017

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	168.5 - 163.5	130.568	6	8.0867	0.0440
L2	163.5 - 158.5	122.174	6	8.0188	0.0378
L3	158.5 - 153.5	113.902	6	7.8548	0.0314
L4	153.5 - 148.5	105.847	6	7.5936	0.0258

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L5	148.5 - 143.5	98.117	6	7.2254	0.0209
L6	143.5 - 138.5	90.817	6	6.7613	0.0167
L7	138.5 - 138	84.046	6	6.2067	0.0129
L8	138 - 137.75	83.401	6	6.1474	0.0126
L9	137.75 - 130.667	83.081	6	6.1340	0.0125
L10	134.327 - 129.327	78.766	6	5.9403	0.0112
L11	129.327 - 125.75	72.646	6	5.7514	0.0102
L12	125.75 - 125.5	68.433	6	5.5249	0.0092
L13	125.5 - 120.5	68.145	6	5.5117	0.0091
L14	120.5 - 120.25	62.532	6	5.2331	0.0080
L15	120.25 - 115.25	62.259	6	5.2227	0.0080
L16	115.25 - 113.833	56.915	6	5.0055	0.0072
L17	113.833 - 113.483	55.442	6	4.9422	0.0070
L18	113.483 - 113.25	55.081	6	4.9270	0.0070
L19	113.25 - 112	54.842	6	4.9168	0.0070
L20	112 - 111.75	53.564	6	4.8616	0.0068
L21	111.75 - 106.75	53.311	6	4.8473	0.0068
L22	106.75 - 101.75	48.399	6	4.5505	0.0060
L23	101.75 - 98.42	43.815	12	4.2410	0.0052
L24	98.42 - 98.17	40.944	12	4.0279	0.0047
L25	98.17 - 93.17	40.735	12	4.0171	0.0047
L26	93.17 - 84.717	36.658	12	3.7989	0.0042
L27	89.277 - 83.717	33.640	12	3.6258	0.0039
L28	83.717 - 82.833	29.508	12	3.4686	0.0036
L29	82.833 - 82.583	28.871	12	3.4248	0.0036
L30	82.583 - 77.583	28.692	12	3.4138	0.0035
L31	77.583 - 73.417	25.242	12	3.1883	0.0032
L32	73.417 - 73.167	22.547	12	2.9965	0.0029
L33	73.167 - 72.42	22.391	12	2.9874	0.0029
L34	72.42 - 72.17	21.926	12	2.9604	0.0028
L35	72.17 - 68.08	21.771	12	2.9488	0.0028
L36	68.08 - 67.83	19.329	12	2.7581	0.0026
L37	67.83 - 65.58	19.185	12	2.7465	0.0025
L38	65.58 - 65.33	17.916	12	2.6421	0.0024
L39	65.33 - 64.25	17.778	12	2.6329	0.0024
L40	64.25 - 64	17.187	12	2.5931	0.0023
L41	64 - 59	17.052	12	2.5821	0.0023
L42	59 - 54	14.466	12	2.3603	0.0021
L43	54 - 43.827	12.112	12	2.1378	0.0018
L44	49.167 - 42.827	10.059	12	1.9195	0.0016
L45	42.827 - 41.75	7.606	12	1.7571	0.0014
L46	41.75 - 41.5	7.215	12	1.7104	0.0014
L47	41.5 - 36.5	7.126	12	1.6997	0.0014
L48	36.5 - 32.75	5.460	12	1.4831	0.0012
L49	32.75 - 32.5	4.359	12	1.3225	0.0010
L50	32.5 - 32.25	4.290	12	1.3124	0.0010
L51	32.25 - 32	4.221	12	1.3022	0.0010
L52	32 - 30.333	4.153	12	1.2923	0.0010
L53	30.333 - 30.083	3.714	12	1.2256	0.0009
L54	30.083 - 28.25	3.650	12	1.2145	0.0009
L55	28.25 - 28	3.199	12	1.1343	0.0009
L56	28 - 23	3.140	12	1.1238	0.0008
L57	23 - 19.25	2.075	12	0.9104	0.0007
L58	19.25 - 19	1.422	12	0.7525	0.0005
L59	19 - 14.5	1.383	12	0.7408	0.0005
L60	14.5 - 14.25	0.786	12	0.5275	0.0004
L61	14.25 - 12.75	0.758	12	0.5197	0.0004
L62	12.75 - 12.5	0.602	12	0.4731	0.0003
L63	12.5 - 7.5	0.578	12	0.4634	0.0003
L64	7.5 - 3.5	0.197	12	0.2652	0.0002
L65	3.5 - 3.25	0.040	12	0.1090	0.0001
L66	3.25 - 0	0.034	12	0.1013	0.0001

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
168.00	DMP65R-BU8D w/ Mount Pipe	6	129.727	8.0819	0.0441	2507
158.00	AIR 6419 B41_TMO	6	113.085	7.8330	0.0313	1350
148.00	MX08FRO665-21 w/ Mount Pipe	6	97.366	7.1824	0.0208	694
138.00	BXA-70063/4CF w/ Mount Pipe	6	83.401	6.1474	0.0127	701
128.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	6	71.064	5.6698	0.0099	1032
70.00	GPS_A	12	20.455	2.8469	0.0027	1256

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	168.5 - 163.5 (1)	TP19.8343x19x0.1875	5.00	0.00	0.0	11.6923	-4.66	684.00	0.007
L2	163.5 - 158.5 (2)	TP20.6685x19.8343x0.1875	5.00	0.00	0.0	12.1888	-4.99	713.04	0.007
L3	158.5 - 153.5 (3)	TP21.5028x20.6685x0.1875	5.00	0.00	0.0	12.6853	-10.19	742.09	0.014
L4	153.5 - 148.5 (4)	TP22.337x21.5028x0.1875	5.00	0.00	0.0	13.1817	-10.66	771.13	0.014
L5	148.5 - 143.5 (5)	TP23.1713x22.337x0.1875	5.00	0.00	0.0	13.6782	-14.03	800.18	0.018
L6	143.5 - 138.5 (6)	TP24.0056x23.1713x0.1875	5.00	0.00	0.0	14.1747	-14.63	829.22	0.018
L7	138.5 - 138 (7)	TP24.089x24.0056x0.1875	0.50	0.00	0.0	14.2244	-14.70	832.13	0.018
L8	138 - 137.75 (8)	TP24.1307x24.089x0.4375	0.25	0.00	0.0	32.9010	-17.66	1924.71	0.009
L9	137.75 - 130.667 (9)	TP25.3125x24.1307x0.4375	7.08	0.00	0.0	33.6940	-18.32	1971.10	0.009
L10	130.667 - 129.327 (10)	TP25.1499x24.3268x0.4938	5.00	0.00	0.0	38.6402	-19.89	2260.45	0.009
L11	129.327 - 125.75 (11)	TP25.7387x25.1499x0.4875	3.58	0.00	0.0	39.0718	-22.98	2285.70	0.010
L12	125.75 - 125.5 (12)	TP25.7798x25.7387x0.6125	0.25	0.00	0.0	48.9272	-23.06	2862.24	0.008
L13	125.5 - 120.5 (13)	TP26.6029x25.7798x0.6	5.00	0.00	0.0	49.5199	-24.51	2896.92	0.008
L14	120.5 - 120.25 (14)	TP26.6441x26.6029x0.85	0.25	0.00	0.0	69.5898	-24.60	4071.00	0.006
L15	120.25 - 115.25 (15)	TP27.4671x26.6441x0.8375	5.00	0.00	0.0	70.7875	-26.34	4141.07	0.006
L16	115.25 - 113.833 (16)	TP27.7004x27.4671x0.825	1.42	0.00	0.0	70.3745	-26.85	4116.91	0.007
L17	113.833 - 113.483 (17)	TP27.758x27.7004x0.8625	0.35	0.00	0.0	73.6284	-27.00	4307.26	0.006
L18	113.483 - 113.25 (18)	TP27.7963x27.758x0.8625	0.23	0.00	0.0	73.7334	-27.10	4313.40	0.006
L19	113.25 - 112 (19)	TP28.0021x27.7963x0.85	1.25	0.00	0.0	73.2537	-27.59	4285.34	0.006
L20	112 - 111.75 (20)	TP28.0433x28.0021x0.65	0.25	0.00	0.0	56.5150	-27.68	3306.13	0.008
L21	111.75 - 106.75 (21)	TP28.8663x28.0433x0.6375	5.00	0.00	0.0	57.1189	-29.35	3341.46	0.009
L22	106.75 - 101.75 (22)	TP29.6894x28.8663x0.625	5.00	0.00	0.0	57.6564	-31.05	3372.90	0.009

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L23	101.75 - 98.42 (23)	TP30.2375x29.6894x0.6125	3.33	0.00	0.0	57.5933	-32.20	3369.21	0.010
L24	98.42 - 98.17 (24)	TP30.2787x30.2375x0.95	0.25	0.00	0.0	88.4348	-32.32	5173.43	0.006
L25	98.17 - 93.17 (25)	TP31.1017x30.2787x0.9375	5.00	0.00	0.0	89.7575	-34.50	5250.81	0.007
L26	93.17 - 84.717 (26)	TP32.4932x31.1017x0.925	8.45	0.00	0.0	90.4789	-36.22	5293.01	0.007
L27	84.717 - 83.717 (27)	TP32.1551x31.2426x0.8625	5.56	0.00	0.0	85.6659	-40.15	5011.45	0.008
L28	83.717 - 82.833 (28)	TP32.3002x32.1551x0.8625	0.88	0.00	0.0	86.0631	-40.53	5034.69	0.008
L29	82.833 - 82.583 (29)	TP32.3412x32.3002x0.9875	0.25	0.00	0.0	98.2728	-40.67	5748.96	0.007
L30	82.583 - 77.583 (30)	TP33.1619x32.3412x0.9625	5.00	0.00	0.0	98.3682	-43.18	5754.54	0.008
L31	77.583 - 73.417 (31)	TP33.8456x33.1619x0.9375	4.17	0.00	0.0	97.9222	-45.30	5728.45	0.008
L32	73.417 - 73.167 (32)	TP33.8866x33.8456x1.2125	0.25	0.00	0.0	125.7460	-45.45	7356.12	0.006
L33	73.167 - 72.42 (33)	TP34.0092x33.8866x1.2125	0.75	0.00	0.0	126.2170	-45.88	7383.72	0.006
L34	72.42 - 72.17 (34)	TP34.0503x34.0092x0.925	0.25	0.00	0.0	97.2542	-46.01	5689.37	0.008
L35	72.17 - 68.08 (35)	TP34.7216x34.0503x0.9125	4.09	0.00	0.0	97.9203	-48.06	5728.34	0.008
L36	68.08 - 67.83 (36)	TP34.7626x34.7216x0.9125	0.25	0.00	0.0	98.0391	-48.20	5735.29	0.008
L37	67.83 - 65.58 (37)	TP35.1319x34.7626x0.9125	2.25	0.00	0.0	99.1087	-49.41	5797.86	0.009
L38	65.58 - 65.33 (38)	TP35.1729x35.1319x1.1625	0.25	0.00	0.0	125.4910	-49.57	7341.21	0.007
L39	65.33 - 64.25 (39)	TP35.3502x35.1729x1.1625	1.08	0.00	0.0	126.1450	-50.20	7379.47	0.007
L40	64.25 - 64 (40)	TP35.3912x35.3502x0.9625	0.25	0.00	0.0	105.1790	-50.33	6152.96	0.008
L41	64 - 59 (41)	TP36.2118x35.3912x0.95	5.00	0.00	0.0	106.3250	-52.92	6220.01	0.009
L42	59 - 54 (42)	TP37.0324x36.2118x0.9375	5.00	0.00	0.0	107.4050	-55.54	6283.19	0.009
L43	54 - 43.827 (43)	TP38.7021x37.0324x0.9125	10.17	0.00	0.0	106.9110	-58.09	6254.28	0.009
L44	43.827 - 42.827 (44)	TP38.2386x37.2007x0.975	6.34	0.00	0.0	115.3180	-64.01	6746.09	0.009
L45	42.827 - 41.75 (45)	TP38.4149x38.2386x0.975	1.08	0.00	0.0	115.8630	-64.64	6778.01	0.010
L46	41.75 - 41.5 (46)	TP38.4559x38.4149x1	0.25	0.00	0.0	118.8850	-64.81	6954.77	0.009
L47	41.5 - 36.5 (47)	TP39.2744x38.4559x0.975	5.00	0.00	0.0	118.5230	-67.83	6933.62	0.010
L48	36.5 - 32.75 (48)	TP39.8884x39.2744x0.975	3.75	0.00	0.0	120.4230	-70.13	7044.76	0.010
L49	32.75 - 32.5 (49)	TP39.9293x39.8884x1.025	0.25	0.00	0.0	126.5690	-70.30	7404.30	0.009
L50	32.5 - 32.25 (50)	TP39.9702x39.9293x1.025	0.25	0.00	0.0	126.7020	-70.46	7412.09	0.010
L51	32.25 - 32 (51)	TP40.0111x39.9702x1.05	0.25	0.00	0.0	129.8460	-70.62	7595.98	0.009
L52	32 - 30.333 (52)	TP40.2841x40.0111x1.025	1.67	0.00	0.0	127.7230	-71.69	7471.82	0.010
L53	30.333 - 30.083 (53)	TP40.325x40.2841x0.925	0.25	0.00	0.0	115.6760	-71.85	6767.07	0.011
L54	30.083 - 28.25 (54)	TP40.6251x40.325x0.925	1.83	0.00	0.0	116.5570	-72.94	6818.61	0.011
L55	28.25 - 28 (55)	TP40.666x40.6251x0.975	0.25	0.00	0.0	122.8300	-73.12	7185.54	0.010
L56	28 - 23 (56)	TP41.4846x40.666x0.95	5.00	0.00	0.0	122.2240	-76.41	7150.10	0.011
L57	23 - 19.25	TP42.0985x41.4846x0.95	3.75	0.00	0.0	124.07	-78.90	7258.39	0.011

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
	(57)					50			
L58	19.25 - 19 (58)	TP42.1394x42.0985x0.8375	0.25	0.00	0.0	109.7900	-79.06	6422.71	0.012
L59	19 - 14.5 (59)	TP42.8761x42.1394x0.825	4.50	0.00	0.0	110.1130	-81.74	6441.61	0.013
L60	14.5 - 14.25 (60)	TP42.9171x42.8761x1.275	0.25	0.00	0.0	168.5190	-81.94	9858.38	0.008
L61	14.25 - 12.75 (61)	TP43.1626x42.9171x1.275	1.50	0.00	0.0	169.5130	-83.01	9916.51	0.008
L62	12.75 - 12.5 (62)	TP43.2036x43.1626x1	0.25	0.00	0.0	133.9540	-83.19	7836.32	0.011
L63	12.5 - 7.5 (63)	TP44.0221x43.2036x0.975	5.00	0.00	0.0	133.2160	-86.51	7793.13	0.011
L64	7.5 - 3.5 (64)	TP44.677x44.0221x0.975	4.00	0.00	0.0	135.2420	-89.05	7911.68	0.011
L65	3.5 - 3.25 (65)	TP44.7179x44.677x1.25	0.25	0.00	0.0	172.4590	-89.22	10088.90	0.009
L66	3.25 - 0 (66)	TP45.25x44.7179x1.225	3.25	0.00	0.0	171.1760	-91.36	10013.80	0.009

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	168.5 - 163.5 (1)	TP19.8343x19x0.1875	48.67	341.82	0.142	0.00	341.82	0.000
L2	163.5 - 158.5 (2)	TP20.6685x19.8343x0.1875	93.65	367.36	0.255	0.00	367.36	0.000
L3	158.5 - 153.5 (3)	TP21.5028x20.6685x0.1875	164.41	393.44	0.418	0.00	393.44	0.000
L4	153.5 - 148.5 (4)	TP22.337x21.5028x0.1875	239.37	420.00	0.570	0.00	420.00	0.000
L5	148.5 - 143.5 (5)	TP23.1713x22.337x0.1875	331.15	447.02	0.741	0.00	447.02	0.000
L6	143.5 - 138.5 (6)	TP24.0056x23.1713x0.1875	426.01	474.44	0.898	0.00	474.44	0.000
L7	138.5 - 138 (7)	TP24.089x24.0056x0.1875	435.57	477.20	0.913	0.00	477.20	0.000
L8	138 - 137.75 (8)	TP24.1307x24.089x0.4375	445.46	1178.53	0.378	0.00	1178.53	0.000
L9	137.75 - 130.667 (9)	TP25.3125x24.1307x0.4375	522.14	1236.55	0.422	0.00	1236.55	0.000
L10	130.667 - 129.327 (10)	TP25.1499x24.3268x0.4938	635.90	1438.15	0.442	0.00	1438.15	0.000
L11	129.327 - 125.75 (11)	TP25.7387x25.1499x0.4875	723.51	1490.37	0.485	0.00	1490.37	0.000
L12	125.75 - 125.5 (12)	TP25.7798x25.7387x0.6125	729.73	1850.96	0.394	0.00	1850.96	0.000
L13	125.5 - 120.5 (13)	TP26.6029x25.7798x0.6	855.12	1937.97	0.441	0.00	1937.97	0.000
L14	120.5 - 120.25 (14)	TP26.6441x26.6029x0.85	861.43	2675.69	0.322	0.00	2675.69	0.000
L15	120.25 - 115.25 (15)	TP27.4671x26.6441x0.8375	989.29	2814.01	0.352	0.00	2814.01	0.000
L16	115.25 - 113.833 (16)	TP27.7004x27.4671x0.825	1026.47	2825.47	0.363	0.00	2825.47	0.000
L17	113.833 - 113.483 (17)	TP27.758x27.7004x0.8625	1035.70	2954.39	0.351	0.00	2954.39	0.000
L18	113.483 - 113.25 (18)	TP27.7963x27.758x0.8625	1041.86	2962.96	0.352	0.00	2962.96	0.000
L19	113.25 - 112 (19)	TP28.0021x27.7963x0.85	1074.98	2969.60	0.362	0.00	2969.60	0.000
L20	112 - 111.75 (20)	TP28.0433x28.0021x0.65	1081.63	2328.49	0.465	0.00	2328.49	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 $\frac{M_{uy}}{\phi M_{ny}}$
L21	111.75 - 106.75 (21)	TP28.8663x28.0433x0.6375	1215.66	2427.88	0.501	0.00	2427.88	0.000
L22	106.75 - 101.75 (22)	TP29.6894x28.8663x0.625	1351.55	2525.93	0.535	0.00	2525.93	0.000
L23	101.75 - 98.42 (23)	TP30.2375x29.6894x0.6125	1443.07	2573.92	0.561	0.00	2573.92	0.000
L24	98.42 - 98.17 (24)	TP30.2787x30.2375x0.95	1449.97	3868.32	0.375	0.00	3868.32	0.000
L25	98.17 - 93.17 (25)	TP31.1017x30.2787x0.9375	1589.33	4043.18	0.393	0.00	4043.18	0.000
L26	93.17 - 84.717 (26)	TP32.4932x31.1017x0.925	1699.43	4168.25	0.408	0.00	4168.25	0.000
L27	84.717 - 83.717 (27)	TP32.1551x31.2426x0.8625	1859.41	4016.93	0.463	0.00	4016.93	0.000
L28	83.717 - 82.833 (28)	TP32.3002x32.1551x0.8625	1885.12	4054.76	0.465	0.00	4054.76	0.000
L29	82.833 - 82.583 (29)	TP32.3412x32.3002x0.9875	1892.40	4599.47	0.411	0.00	4599.47	0.000
L30	82.583 - 77.583 (30)	TP33.1619x32.3412x0.9625	2039.13	4735.47	0.431	0.00	4735.47	0.000
L31	77.583 - 73.417 (31)	TP33.8456x33.1619x0.9375	2162.99	4824.32	0.448	0.00	4824.32	0.000
L32	73.417 - 73.167 (32)	TP33.8866x33.8456x1.2125	2170.47	6099.93	0.356	0.00	6099.93	0.000
L33	73.167 - 72.42 (33)	TP34.0092x33.8866x1.2125	2192.88	6146.62	0.357	0.00	6146.62	0.000
L34	72.42 - 72.17 (34)	TP34.0503x34.0092x0.925	2200.39	4825.68	0.456	0.00	4825.68	0.000
L35	72.17 - 68.08 (35)	TP34.7216x34.0503x0.9125	2324.20	4963.54	0.468	0.00	4963.54	0.000
L36	68.08 - 67.83 (36)	TP34.7626x34.7216x0.9125	2331.81	4975.76	0.469	0.00	4975.76	0.000
L37	67.83 - 65.58 (37)	TP35.1319x34.7626x0.9125	2400.50	5086.35	0.472	0.00	5086.35	0.000
L38	65.58 - 65.33 (38)	TP35.1729x35.1319x1.1625	2408.16	6354.47	0.379	0.00	6354.47	0.000
L39	65.33 - 64.25 (39)	TP35.3502x35.1729x1.1625	2441.30	6421.97	0.380	0.00	6421.97	0.000
L40	64.25 - 64 (40)	TP35.3912x35.3502x0.9625	2448.98	5424.07	0.452	0.00	5424.07	0.000
L41	64 - 59 (41)	TP36.2118x35.3912x0.95	2603.64	5621.42	0.463	0.00	5621.42	0.000
L42	59 - 54 (42)	TP37.0324x36.2118x0.9375	2760.07	5818.17	0.474	0.00	5818.17	0.000
L43	54 - 43.827 (43)	TP38.7021x37.0324x0.9125	2912.84	5929.92	0.491	0.00	5929.92	0.000
L44	43.827 - 42.827 (44)	TP38.2386x37.2007x0.975	3116.22	6447.87	0.483	0.00	6447.87	0.000
L45	42.827 - 41.75 (45)	TP38.4149x38.2386x0.975	3151.09	6509.82	0.484	0.00	6509.82	0.000
L46	41.75 - 41.5 (46)	TP38.4559x38.4149x1	3159.20	6678.14	0.473	0.00	6678.14	0.000
L47	41.5 - 36.5 (47)	TP39.2744x38.4559x0.975	3322.72	6816.02	0.487	0.00	6816.02	0.000
L48	36.5 - 32.75 (48)	TP39.8884x39.2744x0.975	3447.92	7039.04	0.490	0.00	7039.04	0.000
L49	32.75 - 32.5 (49)	TP39.9293x39.8884x1.025	3456.29	7387.27	0.468	0.00	7387.27	0.000
L50	32.5 - 32.25 (50)	TP39.9702x39.9293x1.025	3464.67	7403.02	0.468	0.00	7403.02	0.000
L51	32.25 - 32 (51)	TP40.0111x39.9702x1.05	3473.05	7585.12	0.458	0.00	7585.12	0.000
L52	32 - 30.333 (52)	TP40.2841x40.0111x1.025	3529.03	7524.36	0.469	0.00	7524.36	0.000
L53	30.333 - 30.083 (53)	TP40.325x40.2841x0.925	3537.45	6856.69	0.516	0.00	6856.69	0.000
L54	30.083 - 28.25 (54)	TP40.6251x40.325x0.925	3599.23	6962.75	0.517	0.00	6962.75	0.000
L55	28.25 - 28 (55)	TP40.666x40.6251x0.975	3607.68	7326.70	0.492	0.00	7326.70	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 $\frac{M_{uy}}{\phi M_{ny}}$
L56	28 - 23 (56)	TP41.4846x40.666x0.95	3777.18	7453.72	0.507	0.00	7453.72	0.000
L57	23 - 19.25 (57)	TP42.0985x41.4846x0.95	3905.06	7683.83	0.508	0.00	7683.83	0.000
L58	19.25 - 19 (58)	TP42.1394x42.0985x0.8375	3913.61	6843.31	0.572	0.00	6843.31	0.000
L59	19 - 14.5 (59)	TP42.8761x42.1394x0.825	4067.66	6992.47	0.582	0.00	6992.47	0.000
L60	14.5 - 14.25 (60)	TP42.9171x42.8761x1.275	4076.23	10484.25	0.389	0.00	10484.25	0.000
L61	14.25 - 12.75 (61)	TP43.1626x42.9171x1.275	4127.72	10610.08	0.389	0.00	10610.08	0.000
L62	12.75 - 12.5 (62)	TP43.2036x43.1626x1	4136.31	8503.25	0.486	0.00	8503.25	0.000
L63	12.5 - 7.5 (63)	TP44.0221x43.2036x0.975	4308.42	8634.25	0.499	0.00	8634.25	0.000
L64	7.5 - 3.5 (64)	TP44.677x44.0221x0.975	4446.52	8901.92	0.500	0.00	8901.92	0.000
L65	3.5 - 3.25 (65)	TP44.7179x44.677x1.25	4455.17	11220.00	0.397	0.00	11220.00	0.000
L66	3.25 - 0 (66)	TP45.25x44.7179x1.225	4567.70	11289.50	0.405	0.00	11289.50	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	168.5 - 163.5 (1)	TP19.8343x19x0.1875	8.83	205.20	0.043	2.11	353.06	0.006
L2	163.5 - 158.5 (2)	TP20.6685x19.8343x0.1875	9.16	213.91	0.043	2.11	383.68	0.006
L3	158.5 - 153.5 (3)	TP21.5028x20.6685x0.1875	14.85	222.63	0.067	2.11	415.57	0.005
L4	153.5 - 148.5 (4)	TP22.337x21.5028x0.1875	15.15	231.34	0.065	2.11	448.74	0.005
L5	148.5 - 143.5 (5)	TP23.1713x22.337x0.1875	18.86	240.05	0.079	2.00	483.18	0.004
L6	143.5 - 138.5 (6)	TP24.0056x23.1713x0.1875	19.11	248.77	0.077	2.00	518.89	0.004
L7	138.5 - 138 (7)	TP24.089x24.0056x0.1875	19.12	249.64	0.077	2.00	522.53	0.004
L8	138 - 137.75 (8)	TP24.1307x24.089x0.4375	22.29	577.41	0.039	2.48	1198.09	0.002
L9	137.75 - 130.667 (9)	TP25.3125x24.1307x0.4375	22.53	591.33	0.038	2.47	1256.55	0.002
L10	130.667 - 129.327 (10)	TP25.1499x24.3268x0.4938	22.97	678.13	0.034	2.47	1464.27	0.002
L11	129.327 - 125.75 (11)	TP25.7387x25.1499x0.4875	24.89	685.71	0.036	2.47	1516.36	0.002
L12	125.75 - 125.5 (12)	TP25.7798x25.7387x0.6125	24.91	858.67	0.029	2.47	1892.54	0.001
L13	125.5 - 120.5 (13)	TP26.6029x25.7798x0.6	25.27	869.08	0.029	2.47	1979.06	0.001
L14	120.5 - 120.25 (14)	TP26.6441x26.6029x0.85	25.30	1221.30	0.021	2.47	2758.82	0.001
L15	120.25 - 115.25 (15)	TP27.4671x26.6441x0.8375	26.16	1242.32	0.021	2.26	2897.20	0.001
L16	115.25 - 113.833 (16)	TP27.7004x27.4671x0.825	26.35	1235.07	0.021	2.26	2906.88	0.001
L17	113.833 - 113.483 (17)	TP27.758x27.7004x0.8625	26.39	1292.18	0.020	2.26	3043.56	0.001
L18	113.483 - 113.25 (18)	TP27.7963x27.758x0.8625	26.43	1294.02	0.020	2.26	3052.25	0.001
L19	113.25 - 112 (19)	TP28.0021x27.7963x0.85	26.60	1285.60	0.021	2.26	3056.96	0.001
L20	112 - 111.75 (20)	TP28.0433x28.0021x0.65	26.62	991.84	0.027	2.26	2379.38	0.001
L21	111.75 -	TP28.8663x28.0433x0.63	27.02	1002.44	0.027	2.26	2478.16	0.001

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 $\frac{T_u}{\phi T_n}$
	106.75 (21)	75						
L22	106.75 - 101.75 (22)	TP29.6894x28.8663x0.625	27.37	1011.87	0.027	2.26	2575.53	0.001
L23	101.75 - 98.42 (23)	TP30.2375x29.6894x0.6125	27.63	1010.76	0.027	2.26	2622.33	0.001
L24	98.42 - 98.17 (24)	TP30.2787x30.2375x0.95	27.64	1552.03	0.018	2.26	3986.32	0.001
L25	98.17 - 93.17 (25)	TP31.1017x30.2787x0.9375	28.12	1575.24	0.018	2.25	4161.22	0.001
L26	93.17 - 84.717 (26)	TP32.4932x31.1017x0.925	28.46	1587.90	0.018	2.25	4285.51	0.001
L27	84.717 - 83.717 (27)	TP32.1551x31.2426x0.8625	29.08	1503.44	0.019	2.25	4120.09	0.001
L28	83.717 - 82.833 (28)	TP32.3002x32.1551x0.8625	29.15	1510.41	0.019	2.25	4158.38	0.001
L29	82.833 - 82.583 (29)	TP32.3412x32.3002x0.9875	29.16	1724.69	0.017	2.25	4735.65	0.000
L30	82.583 - 77.583 (30)	TP33.1619x32.3412x0.9625	29.59	1726.36	0.017	2.25	4868.10	0.000
L31	77.583 - 73.417 (31)	TP33.8456x33.1619x0.9375	29.94	1718.53	0.017	2.25	4952.69	0.000
L32	73.417 - 73.167 (32)	TP33.8866x33.8456x1.2125	29.97	2206.84	0.014	2.25	6314.72	0.000
L33	73.167 - 72.42 (33)	TP34.0092x33.8866x1.2125	30.07	2215.12	0.014	2.25	6362.20	0.000
L34	72.42 - 72.17 (34)	TP34.0503x34.0092x0.925	30.09	1706.81	0.018	2.25	4951.37	0.000
L35	72.17 - 68.08 (35)	TP34.7216x34.0503x0.9125	30.47	1718.50	0.018	2.04	5088.18	0.000
L36	68.08 - 67.83 (36)	TP34.7626x34.7216x0.9125	30.47	1720.59	0.018	2.04	5100.54	0.000
L37	67.83 - 65.58 (37)	TP35.1319x34.7626x0.9125	30.66	1739.36	0.018	2.04	5212.43	0.000
L38	65.58 - 65.33 (38)	TP35.1729x35.1319x1.1625	30.66	2202.36	0.014	2.04	6559.65	0.000
L39	65.33 - 64.25 (39)	TP35.3502x35.1729x1.1625	30.77	2213.84	0.014	2.04	6628.20	0.000
L40	64.25 - 64 (40)	TP35.3912x35.3502x0.9625	30.78	1845.89	0.017	2.04	5565.52	0.000
L41	64 - 59 (41)	TP36.2118x35.3912x0.95	31.15	1866.00	0.017	2.04	5762.32	0.000
L42	59 - 54 (42)	TP37.0324x36.2118x0.9375	31.50	1884.96	0.017	2.04	5958.37	0.000
L43	54 - 43.827 (43)	TP38.7021x37.0324x0.9125	31.81	1876.28	0.017	2.04	6065.40	0.000
L44	43.827 - 42.827 (44)	TP38.2386x37.2007x0.975	32.40	2023.83	0.016	2.04	6604.48	0.000
L45	42.827 - 41.75 (45)	TP38.4149x38.2386x0.975	32.46	2033.40	0.016	2.04	6667.12	0.000
L46	41.75 - 41.5 (46)	TP38.4559x38.4149x1	32.46	2086.43	0.016	2.04	6843.90	0.000
L47	41.5 - 36.5 (47)	TP39.2744x38.4559x0.975	33.30	2080.08	0.016	1.18	6976.75	0.000
L48	36.5 - 32.75 (48)	TP39.8884x39.2744x0.975	33.52	2113.43	0.016	1.18	7202.22	0.000
L49	32.75 - 32.5 (49)	TP39.9293x39.8884x1.025	33.51	2221.29	0.015	1.18	7568.03	0.000
L50	32.5 - 32.25 (50)	TP39.9702x39.9293x1.025	33.53	2223.63	0.015	1.18	7583.97	0.000
L51	32.25 - 32 (51)	TP40.0111x39.9702x1.05	33.54	2278.79	0.015	1.18	7775.29	0.000
L52	32 - 30.333 (52)	TP40.2841x40.0111x1.025	33.68	2241.55	0.015	1.18	7706.68	0.000
L53	30.333 - 30.083 (53)	TP40.325x40.2841x0.925	33.66	2030.12	0.017	1.18	7004.83	0.000
L54	30.083 - 28.25 (54)	TP40.6251x40.325x0.925	33.81	2045.58	0.017	1.18	7111.95	0.000
L55	28.25 - 28 (55)	TP40.666x40.6251x0.975	33.78	2155.66	0.016	1.18	7492.95	0.000
L56	28 - 23 (56)	TP41.4846x40.666x0.95	34.06	2145.03	0.016	1.18	7614.46	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 $\frac{T_u}{\phi T_n}$
L57	23 - 19.25 (57)	TP42.0985x41.4846x0.95	34.22	2177.52	0.016	1.18	7846.86	0.000
L58	19.25 - 19 (58)	TP42.1394x42.0985x0.8375	34.20	1926.81	0.018	1.17	6969.31	0.000
L59	19 - 14.5 (59)	TP42.8761x42.1394x0.825	34.32	1932.48	0.018	1.17	7116.62	0.000
L60	14.5 - 14.25 (60)	TP42.9171x42.8761x1.275	34.30	2957.51	0.012	1.17	10785.50	0.000
L61	14.25 - 12.75 (61)	TP43.1626x42.9171x1.275	34.39	2974.95	0.012	1.17	10913.08	0.000
L62	12.75 - 12.5 (62)	TP43.2036x43.1626x1	34.37	2350.90	0.015	1.17	8688.83	0.000
L63	12.5 - 7.5 (63)	TP44.0221x43.2036x0.975	34.51	2337.94	0.015	1.17	8813.67	0.000
L64	7.5 - 3.5 (64)	TP44.677x44.0221x0.975	34.59	2373.50	0.015	1.17	9083.92	0.000
L65	3.5 - 3.25 (65)	TP44.7179x44.677x1.25	34.58	3026.66	0.011	1.17	11521.58	0.000
L66	3.25 - 0 (66)	TP45.25x44.7179x1.225	34.70	3004.14	0.012	1.17	11582.42	0.000

Pole Interaction Design Data

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
L1	168.5 - 163.5 (1)	0.007	0.142	0.000	0.043	0.006	0.152	1.050	4.8.2
L2	163.5 - 158.5 (2)	0.007	0.255	0.000	0.043	0.006	0.264	1.050	4.8.2
L3	158.5 - 153.5 (3)	0.014	0.418	0.000	0.067	0.005	0.437	1.050	4.8.2
L4	153.5 - 148.5 (4)	0.014	0.570	0.000	0.065	0.005	0.589	1.050	4.8.2
L5	148.5 - 143.5 (5)	0.018	0.741	0.000	0.079	0.004	0.765	1.050	4.8.2
L6	143.5 - 138.5 (6)	0.018	0.898	0.000	0.077	0.004	0.922	1.050	4.8.2
L7	138.5 - 138 (7)	0.018	0.913	0.000	0.077	0.004	0.937	1.050	4.8.2
L8	138 - 137.75 (8)	0.009	0.378	0.000	0.039	0.002	0.389	1.050	4.8.2
L9	137.75 - 130.667 (9)	0.009	0.422	0.000	0.038	0.002	0.433	1.050	4.8.2
L10	130.667 - 129.327 (10)	0.009	0.442	0.000	0.034	0.002	0.452	1.050	4.8.2
L11	129.327 - 125.75 (11)	0.010	0.485	0.000	0.036	0.002	0.497	1.050	4.8.2
L12	125.75 - 125.5 (12)	0.008	0.394	0.000	0.029	0.001	0.403	1.050	4.8.2
L13	125.5 - 120.5 (13)	0.008	0.441	0.000	0.029	0.001	0.451	1.050	4.8.2
L14	120.5 - 120.25 (14)	0.006	0.322	0.000	0.021	0.001	0.328	1.050	4.8.2
L15	120.25 - 115.25 (15)	0.006	0.352	0.000	0.021	0.001	0.358	1.050	4.8.2
L16	115.25 - 113.833 (16)	0.007	0.363	0.000	0.021	0.001	0.370	1.050	4.8.2
L17	113.833 - 113.483 (17)	0.006	0.351	0.000	0.020	0.001	0.357	1.050	4.8.2
L18	113.483 - 113.25 (18)	0.006	0.352	0.000	0.020	0.001	0.358	1.050	4.8.2
L19	113.25 - 112 (19)	0.006	0.362	0.000	0.021	0.001	0.369	1.050	4.8.2
L20	112 - 111.75 (20)	0.008	0.465	0.000	0.027	0.001	0.474	1.050	4.8.2

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
L21	111.75 - 106.75 (21)	0.009	0.501	0.000	0.027	0.001	0.510	1.050	4.8.2
L22	106.75 - 101.75 (22)	0.009	0.535	0.000	0.027	0.001	0.545	1.050	4.8.2
L23	101.75 - 98.42 (23)	0.010	0.561	0.000	0.027	0.001	0.571	1.050	4.8.2
L24	98.42 - 98.17 (24)	0.006	0.375	0.000	0.018	0.001	0.381	1.050	4.8.2
L25	98.17 - 93.17 (25)	0.007	0.393	0.000	0.018	0.001	0.400	1.050	4.8.2
L26	93.17 - 84.717 (26)	0.007	0.408	0.000	0.018	0.001	0.415	1.050	4.8.2
L27	84.717 - 83.717 (27)	0.008	0.463	0.000	0.019	0.001	0.471	1.050	4.8.2
L28	83.717 - 82.833 (28)	0.008	0.465	0.000	0.019	0.001	0.473	1.050	4.8.2
L29	82.833 - 82.583 (29)	0.007	0.411	0.000	0.017	0.000	0.419	1.050	4.8.2
L30	82.583 - 77.583 (30)	0.008	0.431	0.000	0.017	0.000	0.438	1.050	4.8.2
L31	77.583 - 73.417 (31)	0.008	0.448	0.000	0.017	0.000	0.457	1.050	4.8.2
L32	73.417 - 73.167 (32)	0.006	0.356	0.000	0.014	0.000	0.362	1.050	4.8.2
L33	73.167 - 72.42 (33)	0.006	0.357	0.000	0.014	0.000	0.363	1.050	4.8.2
L34	72.42 - 72.17 (34)	0.008	0.456	0.000	0.018	0.000	0.464	1.050	4.8.2
L35	72.17 - 68.08 (35)	0.008	0.468	0.000	0.018	0.000	0.477	1.050	4.8.2
L36	68.08 - 67.83 (36)	0.008	0.469	0.000	0.018	0.000	0.477	1.050	4.8.2
L37	67.83 - 65.58 (37)	0.009	0.472	0.000	0.018	0.000	0.481	1.050	4.8.2
L38	65.58 - 65.33 (38)	0.007	0.379	0.000	0.014	0.000	0.386	1.050	4.8.2
L39	65.33 - 64.25 (39)	0.007	0.380	0.000	0.014	0.000	0.387	1.050	4.8.2
L40	64.25 - 64 (40)	0.008	0.452	0.000	0.017	0.000	0.460	1.050	4.8.2
L41	64 - 59 (41)	0.009	0.463	0.000	0.017	0.000	0.472	1.050	4.8.2
L42	59 - 54 (42)	0.009	0.474	0.000	0.017	0.000	0.484	1.050	4.8.2
L43	54 - 43.827 (43)	0.009	0.491	0.000	0.017	0.000	0.501	1.050	4.8.2
L44	43.827 - 42.827 (44)	0.009	0.483	0.000	0.016	0.000	0.493	1.050	4.8.2
L45	42.827 - 41.75 (45)	0.010	0.484	0.000	0.016	0.000	0.494	1.050	4.8.2
L46	41.75 - 41.5 (46)	0.009	0.473	0.000	0.016	0.000	0.483	1.050	4.8.2
L47	41.5 - 36.5 (47)	0.010	0.487	0.000	0.016	0.000	0.498	1.050	4.8.2
L48	36.5 - 32.75 (48)	0.010	0.490	0.000	0.016	0.000	0.500	1.050	4.8.2
L49	32.75 - 32.5 (49)	0.009	0.468	0.000	0.015	0.000	0.478	1.050	4.8.2
L50	32.5 - 32.25 (50)	0.010	0.468	0.000	0.015	0.000	0.478	1.050	4.8.2
L51	32.25 - 32 (51)	0.009	0.458	0.000	0.015	0.000	0.467	1.050	4.8.2
L52	32 - 30.333 (52)	0.010	0.469	0.000	0.015	0.000	0.479	1.050	4.8.2
L53	30.333 - 30.083 (53)	0.011	0.516	0.000	0.017	0.000	0.527	1.050	4.8.2
L54	30.083 - 28.25 (54)	0.011	0.517	0.000	0.017	0.000	0.528	1.050	4.8.2
L55	28.25 - 28 (55)	0.010	0.492	0.000	0.016	0.000	0.503	1.050	4.8.2
L56	28 - 23 (56)	0.011	0.507	0.000	0.016	0.000	0.518	1.050	4.8.2

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
L57	23 - 19.25 (57)	0.011	0.508	0.000	0.016	0.000	0.519	1.050	4.8.2
L58	19.25 - 19 (58)	0.012	0.572	0.000	0.018	0.000	0.585	1.050	4.8.2
L59	19 - 14.5 (59)	0.013	0.582	0.000	0.018	0.000	0.595	1.050	4.8.2
L60	14.5 - 14.25 (60)	0.008	0.389	0.000	0.012	0.000	0.397	1.050	4.8.2
L61	14.25 - 12.75 (61)	0.008	0.389	0.000	0.012	0.000	0.398	1.050	4.8.2
L62	12.75 - 12.5 (62)	0.011	0.486	0.000	0.015	0.000	0.497	1.050	4.8.2
L63	12.5 - 7.5 (63)	0.011	0.499	0.000	0.015	0.000	0.510	1.050	4.8.2
L64	7.5 - 3.5 (64)	0.011	0.500	0.000	0.015	0.000	0.511	1.050	4.8.2
L65	3.5 - 3.25 (65)	0.009	0.397	0.000	0.011	0.000	0.406	1.050	4.8.2
L66	3.25 - 0 (66)	0.009	0.405	0.000	0.012	0.000	0.414	1.050	4.8.2

Section Capacity Table

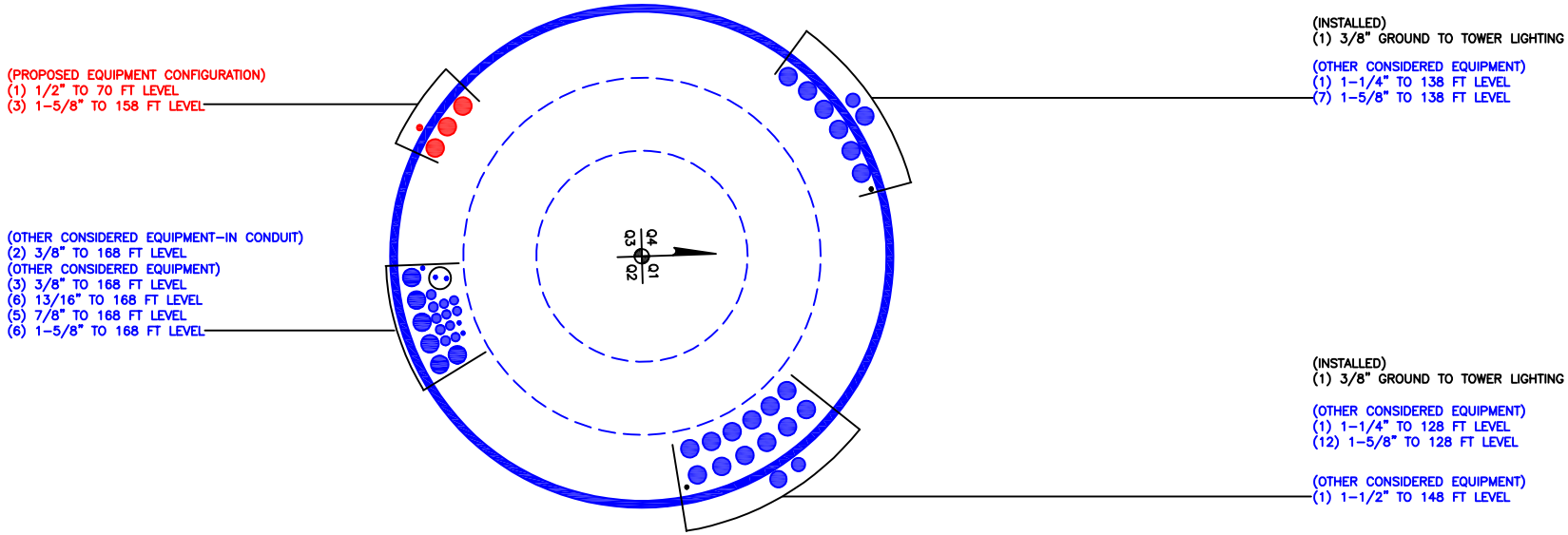
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	168.5 - 163.5	Pole	TP19.8343x19x0.1875	1	-4.66	718.20	14.4	Pass
L2	163.5 - 158.5	Pole	TP20.6685x19.8343x0.1875	2	-4.99	748.70	25.2	Pass
L3	158.5 - 153.5	Pole	TP21.5028x20.6685x0.1875	3	-10.19	779.19	41.6	Pass
L4	153.5 - 148.5	Pole	TP22.337x21.5028x0.1875	4	-10.66	809.69	56.1	Pass
L5	148.5 - 143.5	Pole	TP23.1713x22.337x0.1875	5	-14.03	840.18	72.9	Pass
L6	143.5 - 138.5	Pole	TP24.0056x23.1713x0.1875	6	-14.63	870.68	87.8	Pass
L7	138.5 - 138	Pole	TP24.089x24.0056x0.1875	7	-14.70	873.73	89.2	Pass
L8	138 - 137.75	Pole	TP24.1307x24.089x0.4375	8	-17.66	2020.95	37.0	Pass
L9	137.75 - 130.667	Pole	TP25.3125x24.1307x0.4375	9	-18.32	2069.65	41.3	Pass
L10	130.667 - 129.327	Pole	TP25.1499x24.3268x0.4938	10	-19.89	2373.47	43.1	Pass
L11	129.327 - 125.75	Pole	TP25.7387x25.1499x0.4875	11	-22.98	2399.98	47.3	Pass
L12	125.75 - 125.5	Pole	TP25.7798x25.7387x0.6125	12	-23.06	3005.35	38.4	Pass
L13	125.5 - 120.5	Pole	TP26.6029x25.7798x0.6	13	-24.51	3041.77	42.9	Pass
L14	120.5 - 120.25	Pole	TP26.6441x26.6029x0.85	14	-24.60	4274.55	31.3	Pass
L15	120.25 - 115.25	Pole	TP27.4671x26.6441x0.8375	15	-26.34	4348.12	34.1	Pass
L16	115.25 - 113.833	Pole	TP27.7004x27.4671x0.825	16	-26.85	4322.76	35.3	Pass
L17	113.833 - 113.483	Pole	TP27.758x27.7004x0.8625	17	-27.00	4522.62	34.0	Pass
L18	113.483 - 113.25	Pole	TP27.7963x27.758x0.8625	18	-27.10	4529.07	34.1	Pass
L19	113.25 - 112	Pole	TP28.0021x27.7963x0.85	19	-27.59	4499.61	35.1	Pass
L20	112 - 111.75	Pole	TP28.0433x28.0021x0.65	20	-27.68	3471.44	45.1	Pass
L21	111.75 - 106.75	Pole	TP28.8663x28.0433x0.6375	21	-29.35	3508.53	48.6	Pass
L22	106.75 - 101.75	Pole	TP29.6894x28.8663x0.625	22	-31.05	3541.54	51.9	Pass
L23	101.75 - 98.42	Pole	TP30.2375x29.6894x0.6125	23	-32.20	3537.67	54.4	Pass
L24	98.42 - 98.17	Pole	TP30.2787x30.2375x0.95	24	-32.32	5432.10	36.3	Pass
L25	98.17 - 93.17	Pole	TP31.1017x30.2787x0.9375	25	-34.50	5513.35	38.1	Pass
L26	93.17 - 84.717	Pole	TP32.4932x31.1017x0.925	26	-36.22	5557.66	39.5	Pass
L27	84.717 - 83.717	Pole	TP32.1551x31.2426x0.8625	27	-40.15	5262.02	44.9	Pass
L28	83.717 - 82.833	Pole	TP32.3002x32.1551x0.8625	28	-40.53	5286.42	45.1	Pass
L29	82.833 - 82.583	Pole	TP32.3412x32.3002x0.9875	29	-40.67	6036.41	39.9	Pass
L30	82.583 - 77.583	Pole	TP33.1619x32.3412x0.9625	30	-43.18	6042.27	41.8	Pass
L31	77.583 - 73.417	Pole	TP33.8456x33.1619x0.9375	31	-45.30	6014.87	43.5	Pass
L32	73.417 - 73.167	Pole	TP33.8866x33.8456x1.2125	32	-45.45	7723.93	34.5	Pass
L33	73.167 - 72.42	Pole	TP34.0092x33.8866x1.2125	33	-45.88	7752.91	34.6	Pass
L34	72.42 - 72.17	Pole	TP34.0503x34.0092x0.925	34	-46.01	5973.84	44.2	Pass
L35	72.17 - 68.08	Pole	TP34.7216x34.0503x0.9125	35	-48.06	6014.76	45.4	Pass
L36	68.08 - 67.83	Pole	TP34.7626x34.7216x0.9125	36	-48.20	6022.05	45.5	Pass
L37	67.83 - 65.58	Pole	TP35.1319x34.7626x0.9125	37	-49.41	6087.75	45.8	Pass
L38	65.58 - 65.33	Pole	TP35.1729x35.1319x1.1625	38	-49.57	7708.27	36.8	Pass
L39	65.33 - 64.25	Pole	TP35.3502x35.1729x1.1625	39	-50.20	7748.44	36.9	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L40	64.25 - 64	Pole	TP35.3912x35.3502x0.9625	40	-50.33	6460.61	43.8	Pass
L41	64 - 59	Pole	TP36.2118x35.3912x0.95	41	-52.92	6531.01	44.9	Pass
L42	59 - 54	Pole	TP37.0324x36.2118x0.9375	42	-55.54	6597.35	46.0	Pass
L43	54 - 43.827	Pole	TP38.7021x37.0324x0.9125	43	-58.09	6566.99	47.7	Pass
L44	43.827 - 42.827	Pole	TP38.2386x37.2007x0.975	44	-64.01	7083.39	47.0	Pass
L45	42.827 - 41.75	Pole	TP38.4149x38.2386x0.975	45	-64.64	7116.91	47.0	Pass
L46	41.75 - 41.5	Pole	TP38.4559x38.4149x1	46	-64.81	7302.51	46.0	Pass
L47	41.5 - 36.5	Pole	TP39.2744x38.4559x0.975	47	-67.83	7280.30	47.4	Pass
L48	36.5 - 32.75	Pole	TP39.8884x39.2744x0.975	48	-70.13	7397.00	47.6	Pass
L49	32.75 - 32.5	Pole	TP39.9293x39.8884x1.025	49	-70.30	7774.51	45.5	Pass
L50	32.5 - 32.25	Pole	TP39.9702x39.9293x1.025	50	-70.46	7782.69	45.5	Pass
L51	32.25 - 32	Pole	TP40.0111x39.9702x1.05	51	-70.62	7975.78	44.5	Pass
L52	32 - 30.333	Pole	TP40.2841x40.0111x1.025	52	-71.69	7845.41	45.6	Pass
L53	30.333 - 30.083	Pole	TP40.325x40.2841x0.925	53	-71.85	7105.42	50.2	Pass
L54	30.083 - 28.25	Pole	TP40.6251x40.325x0.925	54	-72.94	7159.54	50.3	Pass
L55	28.25 - 28	Pole	TP40.666x40.6251x0.975	55	-73.12	7544.82	47.9	Pass
L56	28 - 23	Pole	TP41.4846x40.666x0.95	56	-76.41	7507.60	49.3	Pass
L57	23 - 19.25	Pole	TP42.0985x41.4846x0.95	57	-78.90	7621.31	49.5	Pass
L58	19.25 - 19	Pole	TP42.1394x42.0985x0.8375	58	-79.06	6743.85	55.7	Pass
L59	19 - 14.5	Pole	TP42.8761x42.1394x0.825	59	-81.74	6763.69	56.6	Pass
L60	14.5 - 14.25	Pole	TP42.9171x42.8761x1.275	60	-81.94	10351.30	37.8	Pass
L61	14.25 - 12.75	Pole	TP43.1626x42.9171x1.275	61	-83.01	10412.34	37.9	Pass
L62	12.75 - 12.5	Pole	TP43.2036x43.1626x1	62	-83.19	8228.14	47.4	Pass
L63	12.5 - 7.5	Pole	TP44.0221x43.2036x0.975	63	-86.51	8182.79	48.6	Pass
L64	7.5 - 3.5	Pole	TP44.677x44.0221x0.975	64	-89.05	8307.26	48.7	Pass
L65	3.5 - 3.25	Pole	TP44.7179x44.677x1.25	65	-89.22	10593.34	38.7	Pass
L66	3.25 - 0	Pole	TP45.25x44.7179x1.225	66	-91.36	10514.49	39.4	Pass
							Summary	
						Pole (L7)	89.2	Pass
						RATING =	**89.2**	**Pass**

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

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 842859 TOWER ID:C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 842859

Work Order: 2132702

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	168.5	37.833	3.66	18	19	25.3125	0.1875	Auto	A572-65
2	134.327	49.61	4.56	18	24.33	32.4932	0.25	Auto	A572-65
3	89.277	45.45	5.34	18	31.24	38.7021	0.3125	Auto	A572-65
4	49.167	49.167	0	18	37.20	45.25	0.375	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	13	14	15	16	17	18
1	87.833	113.833	plate	PL5"x1.25"	3				E2						E2						E2		
2	73.417	85.917	plate	PL5"x1.25"	4			E2					E2						E2				E2
3	47.354	73.417	plate	PL5"x1.25"	4		E2				E2					E2				E2			
4	30.333	45.417	plate	PL6"x1.25"	4			E2					E2						E2				E2
5	0	28.25	plate	PL6"x1.25" (Welded)	4		E2				E2					E2				E2			
6	3.5	41.75	plate	CCI-CFP-060100	4	E4						E4			E4						E4		
7	41.75	82.833	plate	CCI-CFP-045100	4	E4						E4			E4						E4		
8	19.25	30.333	plate	CCI-SFP-045100	4			E4					E4						E4				E4
9	64.25	73.417	plate	CCI-SFP-045100	4			E4					E4						E4				E4
10	85.917	125.75	plate	CCI-SFP-045100 (MOD	3			E4					E4						E4				
11	28.25	32.75	plate	CCI-SFP-065125	2					E5							E5						
12	32.75	65.58	plate	CCI-SFP-050125	2					P8							P8						
13	72.42	98.42	plate	CCI-SFP-050125	4					P8				P8			P8					P8	
14	113.5	120.5	plate	CCI-SFP-040125	1									E5									
15	113.5	120.5	plate	PL3.125"x1.25"	1																		E5
16	0	3.5	plate	TS 1.25"x7"	4	E1					E1				E1						E1		
17	112	138	plate	CCI-AFP-040125	4		P8				P8						P8			P8			
18	32.25	68.08	plate	CCI-SFP-050125	2									P8								P8	
19	12.75	32.25	plate	CCI-SFP-065125	2									P8								P8	
20	0	14.5	plate	TS 1.25"x6.5"	4			P8		P8							P8		P8				
21																							

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	5	1.25	6.25	0.625	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	18.000	4.688	1.1875	A572-65
2	5	1.25	6.25	0.625	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	18.000	4.688	1.1875	A572-65
3	5	1.25	6.25	0.625	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	18.000	4.688	1.1875	A572-65
4	6	1.25	7.5	0.625	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	30.000	18.000	5.938	1.1875	A572-65
5	6	1.25	7.5	0.625	Welded	n/a	PC 8.8 - M20 (100)	30.000	18.000	5.938	1.1875	A572-65
6	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	12.000	4.750	1.1875	A572-65
7	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	12.000	3.250	1.1875	A572-65
8	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
9	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
10	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	19.000	20.000	3.250	1.1875	A572-65
11	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	33	PC 8.8 - M20 (100)	33.000	19.000	6.563	1.1875	A572-65
12	5	1.25	6.25	0.625	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	23.000	4.688	1.1875	A572-65
13	5	1.25	6.25	0.625	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	23.000	4.688	1.1875	A572-65
14	4	1.25	5	0.625	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	27.000	3.438	1.1875	A572-65
15	3.125	1.25	3.90625	0.625	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	27.000	2.344	1.1875	A572-65
16	1.25	7	8.75	3.5	Welded	n/a	Welded	n/a	0.500	8.750	0.0000	A572-65
17	4	1.25	5	0.625	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	27.000	3.438	1.1875	A572-65
18	5	1.25	6.25	0.625	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	23.000	4.688	1.1875	A572-65
19	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	33	PC 8.8 - M20 (100)	33.000	19.000	6.563	1.1875	A572-65
20	1.25	6.5	8.125	3.25	Welded	n/a	Welded	n/a	0.750	8.125	0.0000	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)
PL5"x1.25"	Top	8	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	8	N	3	3	-	-	-	-	-	-	-	-	-
PL6"x1.25"	Top	10	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	10	N	3	3	-	-	-	-	-	-	-	-	-
PL6"x1.25" (Welded)	Top	10	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	-	-	-	-	70	None	-	-	-	-	36	0.375	-
CCI-CFP-045100	Top	6	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	6	N	3	3	-	-	-	-	-	-	-	-	-
CCI-CFP-060100	Top	8	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	8	N	3	3	-	-	-	-	-	-	-	-	-
CCI-SFP-045100 (MOD)	Top	7	N	3	1	-	-	-	-	-	-	-	-	-
	Bottom	6	N	3	3	-	-	-	-	-	-	-	-	-
PL3.125"x1.25"	Top	6	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	6	N	3	3	-	-	-	-	-	-	-	-	-
TS 1.25"x7"	Top	-	-	-	-	80	None	-	-	-	-	44.5	0.375	-
	Bottom	-	-	-	-	80	CJP Groove	13	0.625	45	0.375	-	-	-
TS 1.25"x6.5"	Top	-	-	-	-	80	None	-	-	-	-	196.75	0.313	-
	Bottom	-	-	-	-	80	CJP Groove	11.5	0.625	45	0.3125	-	-	-

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	168.5 - 163.5	5		18	19.000	19.834	0.1875	A572-65	1.000
2	163.5 - 158.5	5		18	19.834	20.669	0.1875	A572-65	1.000
3	158.5 - 153.5	5		18	20.669	21.503	0.1875	A572-65	1.000
4	153.5 - 148.5	5		18	21.503	22.337	0.1875	A572-65	1.000
5	148.5 - 143.5	5		18	22.337	23.171	0.1875	A572-65	1.000
6	143.5 - 138.5	5		18	23.171	24.006	0.1875	A572-65	1.000
7	138.5 - 138	0.5		18	24.006	24.089	0.1875	A572-65	1.000
8	138 - 137.75	0.25		18	24.089	24.131	0.4375	A572-65	1.041
9	137.75 - 134.327	7.083	3.66	18	24.131	25.313	0.4375	A572-65	1.027
10	134.327 - 129.327	5		18	24.327	25.150	0.49375	A572-65	1.029
11	129.327 - 125.75	3.577		18	25.150	25.739	0.4875	A572-65	1.030
12	125.75 - 125.5	0.25		18	25.739	25.780	0.6125	A572-65	1.099
13	125.5 - 120.5	5		18	25.780	26.603	0.6	A572-65	1.099
14	120.5 - 120.25	0.25		18	26.603	26.644	0.85	A572-65	0.910
15	120.25 - 115.25	5		18	26.644	27.467	0.8375	A572-65	0.904
16	115.25 - 113.833	1.417		18	27.467	27.700	0.825	A572-65	0.912
17	113.833 - 113.483	0.35		18	27.700	27.758	0.8625	A572-65	1.006
18	113.483 - 113.25	0.233		18	27.758	27.796	0.8625	A572-65	1.005
19	113.25 - 112	1.25		18	27.796	28.002	0.85	A572-65	1.014
20	112 - 111.75	0.25		18	28.002	28.043	0.65	A572-65	0.961
21	111.75 - 106.75	5		18	28.043	28.866	0.6375	A572-65	0.962
22	106.75 - 101.75	5		18	28.866	29.689	0.625	A572-65	0.965
23	101.75 - 98.42	3.33		18	29.689	30.238	0.6125	A572-65	0.973
24	98.42 - 98.17	0.25		18	30.238	30.279	0.95	A572-65	0.917
25	98.17 - 93.17	5		18	30.279	31.102	0.9375	A572-65	0.911
26	93.17 - 89.277	8.453	4.56	18	31.102	32.493	0.925	A572-65	0.909
27	89.277 - 83.717	5.56		18	31.243	32.155	0.8625	A572-65	0.952
28	83.717 - 82.833	0.884		18	32.155	32.300	0.8625	A572-65	0.950
29	82.833 - 82.583	0.25		18	32.300	32.341	0.9875	A572-65	1.015
30	82.583 - 77.583	5		18	32.341	33.162	0.9625	A572-65	1.023
31	77.583 - 73.417	4.166		18	33.162	33.846	0.9375	A572-65	1.034
32	73.417 - 73.167	0.25		18	33.846	33.887	1.2125	A572-65	0.949
33	73.167 - 72.42	0.747		18	33.887	34.009	1.2125	A572-65	0.946
34	72.42 - 72.17	0.25		18	34.009	34.050	0.925	A572-65	0.971
35	72.17 - 68.08	4.09		18	34.050	34.722	0.9125	A572-65	0.972
36	68.08 - 67.83	0.25		18	34.722	34.763	0.9125	A572-65	1.098
37	67.83 - 65.58	2.25		18	34.763	35.132	0.9125	A572-65	1.090
38	65.58 - 65.33	0.25		18	35.132	35.173	1.1625	A572-65	0.961
39	65.33 - 64.25	1.08		18	35.173	35.350	1.1625	A572-65	0.957
40	64.25 - 64	0.25		18	35.350	35.391	0.9625	A572-65	0.977
41	64 - 59	5		18	35.391	36.212	0.95	A572-65	0.974
42	59 - 54	5		18	36.212	37.032	0.9375	A572-65	0.972
43	54 - 49.167	10.173	5.34	18	37.032	38.702	0.9125	A572-65	0.984
44	49.167 - 42.827	6.34		18	37.201	38.239	0.975	A572-65	1.024
45	42.827 - 41.75	1.077		18	38.239	38.415	0.975	A572-65	1.021
46	41.75 - 41.5	0.25		18	38.415	38.456	1	A572-65	1.046
47	41.5 - 36.5	5		18	38.456	39.274	0.975	A572-65	1.057
48	36.5 - 32.75	3.75		18	39.274	39.888	0.975	A572-65	1.047
49	32.75 - 32.5	0.25		18	39.888	39.929	1.025	A572-65	1.026
50	32.5 - 32.25	0.25		18	39.929	39.970	1.025	A572-65	1.025
51	32.25 - 32	0.25		18	39.970	40.011	1.05	A572-65	1.030
52	32 - 30.333	1.667		18	40.011	40.284	1.025	A572-65	1.049
53	30.333 - 30.083	0.25		18	40.284	40.325	0.925	A572-65	1.055
54	30.083 - 28.25	1.833		18	40.325	40.625	0.925	A572-65	1.050
55	28.25 - 28	0.25		18	40.625	40.666	0.975	A572-65	1.109
56	28 - 23	5		18	40.666	41.485	0.95	A572-65	1.122
57	23 - 19.25	3.75		18	41.485	42.099	0.95	A572-65	1.112
58	19.25 - 19	0.25		18	42.099	42.139	0.8375	A572-65	1.093
59	19 - 14.5	4.5		18	42.139	42.876	0.825	A572-65	1.097
60	14.5 - 14.25	0.25		18	42.876	42.917	1.275	A572-65	0.910
61	14.25 - 12.75	1.5		18	42.917	43.163	1.275	A572-65	0.907
62	12.75 - 12.5	0.25		18	43.163	43.204	1	A572-65	1.026
63	12.5 - 7.5	5		18	43.204	44.022	0.975	A572-65	1.039
64	7.5 - 3.5	4		18	44.022	44.677	0.975	A572-65	1.030
65	3.5 - 3.25	0.25		18	44.677	44.718	1.25	A572-65	0.871
66	3.25 - 0	3.25		18	44.718	45.250	1.225	A572-65	0.882

TNX Section Forces

Increment (ft):	5	TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	168.5 - 163.5	4.66	48.67	8.83
2	163.5 - 158.5	4.99	93.65	9.16
3	158.5 - 153.5	10.19	164.41	14.85
4	153.5 - 148.5	10.66	239.37	15.15
5	148.5 - 143.5	14.03	331.15	18.86
6	143.5 - 138.5	14.63	426.02	19.11
7	138.5 - 138	14.70	435.57	19.12
8	138 - 137.75	17.66	445.46	22.29
9	137.75 - 134.327	18.32	522.14	22.53
10	134.327 - 129.327	19.89	635.90	22.97
11	129.327 - 125.75	22.98	723.51	24.89
12	125.75 - 125.5	23.06	729.73	24.91
13	125.5 - 120.5	24.51	855.12	25.27
14	120.5 - 120.25	24.60	861.44	25.30
15	120.25 - 115.25	26.34	989.29	26.16
16	115.25 - 113.833	26.85	1026.48	26.35
17	113.833 - 113.483	27.00	1035.70	26.39
18	113.483 - 113.25	27.10	1041.85	26.43
19	113.25 - 112	27.59	1074.98	26.60
20	112 - 111.75	27.68	1081.63	26.62
21	111.75 - 106.75	29.35	1215.66	27.02
22	106.75 - 101.75	31.05	1351.55	27.37
23	101.75 - 98.42	32.20	1443.07	27.63
24	98.42 - 98.17	32.32	1449.98	27.64
25	98.17 - 93.17	34.50	1589.33	28.12
26	93.17 - 89.277	36.22	1699.43	28.46
27	89.277 - 83.717	40.15	1859.41	29.08
28	83.717 - 82.833	40.53	1885.12	29.15
29	82.833 - 82.583	40.67	1892.40	29.16
30	82.583 - 77.583	43.18	2039.13	29.59
31	77.583 - 73.417	45.30	2162.99	29.94
32	73.417 - 73.167	45.45	2170.47	29.97
33	73.167 - 72.42	45.88	2192.87	30.07
34	72.42 - 72.17	46.01	2200.39	30.09
35	72.17 - 68.08	48.06	2324.20	30.47
36	68.08 - 67.83	48.20	2331.81	30.47
37	67.83 - 65.58	49.41	2400.50	30.66
38	65.58 - 65.33	49.57	2408.16	30.66
39	65.33 - 64.25	50.20	2441.30	30.77
40	64.25 - 64	50.33	2448.98	30.78
41	64 - 59	52.92	2603.64	31.15
42	59 - 54	55.54	2760.07	31.50
43	54 - 49.167	58.09	2912.84	31.81
44	49.167 - 42.827	64.01	3116.22	32.40
45	42.827 - 41.75	64.64	3151.09	32.46
46	41.75 - 41.5	64.81	3159.20	32.46
47	41.5 - 36.5	67.83	3322.73	33.30
48	36.5 - 32.75	70.13	3447.91	33.52
49	32.75 - 32.5	70.30	3456.29	33.51
50	32.5 - 32.25	70.46	3464.67	33.53
51	32.25 - 32	70.62	3473.05	33.54
52	32 - 30.333	71.69	3529.04	33.68
53	30.333 - 30.083	71.85	3537.45	33.66
54	30.083 - 28.25	72.94	3599.23	33.81
55	28.25 - 28	73.12	3607.67	33.78
56	28 - 23	76.41	3777.18	34.06
57	23 - 19.25	78.90	3905.06	34.22
58	19.25 - 19	79.06	3913.61	34.20
59	19 - 14.5	81.74	4067.66	34.32
60	14.5 - 14.25	81.94	4076.23	34.30
61	14.25 - 12.75	83.01	4127.72	34.39
62	12.75 - 12.5	83.19	4136.31	34.37
63	12.5 - 7.5	86.51	4308.41	34.51
64	7.5 - 3.5	89.05	4446.52	34.59
65	3.5 - 3.25	89.22	4455.16	34.58
66	3.25 - 0	91.36	4567.70	34.70

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
168.5 - 163.5	Pole	TP19.834x19x0.1875	Pole	14.4%	Pass
163.5 - 158.5	Pole	TP20.669x19.834x0.1875	Pole	25.1%	Pass
158.5 - 153.5	Pole	TP21.503x20.669x0.1875	Pole	41.5%	Pass
153.5 - 148.5	Pole	TP22.337x21.503x0.1875	Pole	56.0%	Pass
148.5 - 143.5	Pole	TP23.171x22.337x0.1875	Pole	72.8%	Pass
143.5 - 138.5	Pole	TP24.006x23.171x0.1875	Pole	87.8%	Pass
138.5 - 138	Pole	TP24.089x24.006x0.1875	Pole	89.2%	Pass
138 - 137.75	Pole + Reinf.	TP24.131x24.089x0.4375	Reinf. 17 Tension Rupture	64.0%	Pass
137.75 - 134.33	Pole + Reinf.	TP25.313x24.131x0.4375	Reinf. 17 Tension Rupture	72.5%	Pass
134.33 - 129.33	Pole + Reinf.	TP25.15x24.327x0.4938	Reinf. 17 Tension Rupture	75.1%	Pass
129.33 - 125.75	Pole + Reinf.	TP25.739x25.15x0.4875	Reinf. 17 Tension Rupture	82.6%	Pass
125.75 - 125.5	Pole + Reinf.	TP25.78x25.739x0.6125	Reinf. 10 Tension Rupture	66.0%	Pass
125.5 - 120.5	Pole + Reinf.	TP26.603x25.78x0.6	Reinf. 10 Tension Rupture	73.9%	Pass
120.5 - 120.25	Pole + Reinf.	TP26.644x26.603x0.85	Reinf. 15 Tension Rupture	66.3%	Pass
120.25 - 115.25	Pole + Reinf.	TP27.467x26.644x0.8375	Reinf. 15 Tension Rupture	73.2%	Pass
115.25 - 113.83	Pole + Reinf.	TP27.7x27.467x0.825	Reinf. 15 Tension Rupture	75.1%	Pass
113.83 - 113.48	Pole + Reinf.	TP27.758x27.7x0.8625	Reinf. 10 Tension Rupture	59.0%	Pass
113.48 - 113.25	Pole + Reinf.	TP27.796x27.758x0.8625	Reinf. 10 Tension Rupture	59.2%	Pass
113.25 - 112	Pole + Reinf.	TP28.002x27.796x0.85	Reinf. 10 Tension Rupture	60.5%	Pass
112 - 111.75	Pole + Reinf.	TP28.043x28.002x0.65	Reinf. 10 Tension Rupture	75.9%	Pass
111.75 - 106.75	Pole + Reinf.	TP28.866x28.043x0.6375	Reinf. 10 Tension Rupture	81.9%	Pass
106.75 - 101.75	Pole + Reinf.	TP29.689x28.866x0.625	Reinf. 10 Tension Rupture	87.6%	Pass
101.75 - 98.42	Pole + Reinf.	TP30.238x29.689x0.6125	Reinf. 10 Tension Rupture	91.1%	Pass
98.42 - 98.17	Pole + Reinf.	TP30.279x30.238x0.95	Reinf. 10 Tension Rupture	64.9%	Pass
98.17 - 93.17	Pole + Reinf.	TP31.102x30.279x0.9375	Reinf. 10 Tension Rupture	68.7%	Pass
93.17 - 89.28	Pole + Reinf.	TP32.493x31.102x0.925	Reinf. 10 Tension Rupture	71.6%	Pass
89.28 - 83.72	Pole + Reinf.	TP32.155x31.243x0.8625	Reinf. 13 Tension Rupture	75.4%	Pass
83.72 - 82.83	Pole + Reinf.	TP32.3x32.155x0.8625	Reinf. 13 Tension Rupture	75.9%	Pass
82.83 - 82.58	Pole + Reinf.	TP32.341x32.3x0.9875	Reinf. 13 Tension Rupture	67.0%	Pass
82.58 - 77.58	Pole + Reinf.	TP33.162x32.341x0.9625	Reinf. 13 Tension Rupture	69.8%	Pass
77.58 - 73.42	Pole + Reinf.	TP33.846x33.162x0.9375	Reinf. 13 Tension Rupture	72.1%	Pass
73.42 - 73.17	Pole + Reinf.	TP33.887x33.846x1.2125	Reinf. 9 Tension Rupture	60.0%	Pass
73.17 - 72.42	Pole + Reinf.	TP34.009x33.887x1.2125	Reinf. 9 Tension Rupture	60.3%	Pass
72.42 - 72.17	Pole + Reinf.	TP34.05x34.009x0.925	Reinf. 9 Tension Rupture	76.7%	Pass
72.17 - 68.08	Pole + Reinf.	TP34.722x34.05x0.9125	Reinf. 9 Tension Rupture	78.9%	Pass
68.08 - 67.83	Pole + Reinf.	TP34.763x34.722x0.9125	Reinf. 9 Tension Rupture	76.5%	Pass
67.83 - 65.58	Pole + Reinf.	TP35.132x34.763x0.9125	Reinf. 9 Tension Rupture	77.6%	Pass
65.58 - 65.33	Pole + Reinf.	TP35.173x35.132x1.1625	Reinf. 9 Tension Rupture	63.5%	Pass
65.33 - 64.25	Pole + Reinf.	TP35.35x35.173x1.1625	Reinf. 9 Tension Rupture	63.9%	Pass
64.25 - 64	Pole + Reinf.	TP35.391x35.35x0.9625	Reinf. 12 Tension Rupture	73.1%	Pass
64 - 59	Pole + Reinf.	TP36.212x35.391x0.95	Reinf. 12 Tension Rupture	75.4%	Pass
59 - 54	Pole + Reinf.	TP37.032x36.212x0.9375	Reinf. 12 Tension Rupture	77.5%	Pass
54 - 49.17	Pole + Reinf.	TP38.702x37.032x0.9125	Reinf. 12 Tension Rupture	79.5%	Pass
49.17 - 42.83	Pole + Reinf.	TP38.239x37.201x0.975	Reinf. 12 Tension Rupture	78.7%	Pass
42.83 - 41.75	Pole + Reinf.	TP38.415x38.239x0.975	Reinf. 12 Tension Rupture	79.1%	Pass
41.75 - 41.5	Pole + Reinf.	TP38.456x38.415x1	Reinf. 12 Tension Rupture	76.5%	Pass
41.5 - 36.5	Pole + Reinf.	TP39.274x38.456x0.975	Reinf. 12 Tension Rupture	78.2%	Pass
36.5 - 32.75	Pole + Reinf.	TP39.888x39.274x0.975	Reinf. 12 Tension Rupture	79.4%	Pass
32.75 - 32.5	Pole + Reinf.	TP39.929x39.888x1.025	Reinf. 4 Tension Rupture	71.2%	Pass
32.5 - 32.25	Pole + Reinf.	TP39.97x39.929x1.025	Reinf. 4 Tension Rupture	71.3%	Pass
32.25 - 32	Pole + Reinf.	TP40.011x39.97x1.05	Reinf. 4 Tension Rupture	70.7%	Pass
32 - 30.33	Pole + Reinf.	TP40.284x40.011x1.025	Reinf. 4 Tension Rupture	71.2%	Pass
30.33 - 30.08	Pole + Reinf.	TP40.325x40.284x0.925	Reinf. 8 Tension Rupture	87.1%	Pass
30.08 - 28.25	Pole + Reinf.	TP40.625x40.325x0.925	Reinf. 8 Tension Rupture	87.7%	Pass
28.25 - 28	Pole + Reinf.	TP40.666x40.625x0.975	Reinf. 8 Tension Rupture	81.3%	Pass
28 - 23	Pole + Reinf.	TP41.485x40.666x0.95	Reinf. 8 Tension Rupture	82.8%	Pass
23 - 19.25	Pole + Reinf.	TP42.099x41.485x0.95	Reinf. 8 Tension Rupture	83.9%	Pass
19.25 - 19	Pole + Reinf.	TP42.139x42.099x0.8375	Reinf. 5 Tension Rupture	84.5%	Pass
19 - 14.5	Pole + Reinf.	TP42.876x42.139x0.825	Reinf. 5 Tension Rupture	85.6%	Pass
14.5 - 14.25	Pole + Reinf.	TP42.917x42.876x1.275	Reinf. 6 Tension Rupture	59.0%	Pass
14.25 - 12.75	Pole + Reinf.	TP43.163x42.917x1.275	Reinf. 6 Tension Rupture	59.3%	Pass
12.75 - 12.5	Pole + Reinf.	TP43.204x43.163x1	Reinf. 6 Tension Rupture	71.9%	Pass
12.5 - 7.5	Pole + Reinf.	TP44.022x43.204x0.975	Reinf. 6 Tension Rupture	73.0%	Pass
7.5 - 3.5	Pole + Reinf.	TP44.677x44.022x0.975	Reinf. 6 Tension Rupture	73.9%	Pass
3.5 - 3.25	Pole + Reinf.	TP44.718x44.677x1.25	Reinf. 5 Tension Rupture	60.0%	Pass
3.25 - 0	Pole + Reinf.	TP45.25x44.718x1.225	Reinf. 5 Tension Rupture	60.6%	Pass
				Summary	
			Pole	89.2%	Pass
			Reinforcement	91.1%	Pass
			Overall	91.1%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity*																		
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20
168.5 - 163.5	570	n/a	570	11.69	n/a	11.69	14.4%																				
163.5 - 158.5	646	n/a	646	12.19	n/a	12.19	25.1%																				
158.5 - 153.5	728	n/a	728	12.68	n/a	12.68	41.5%																				
153.5 - 148.5	817	n/a	817	13.18	n/a	13.18	56.0%																				
148.5 - 143.5	913	n/a	913	13.68	n/a	13.68	72.8%																				
143.5 - 138.5	1016	n/a	1016	14.17	n/a	14.17	87.8%																				
138.5 - 138	1026	n/a	1026	14.22	n/a	14.22	89.2%																				
138 - 137.75	1033	1317	2350	14.25	20.00	34.25	40.7%																	64.0%			
137.75 - 134.33	1108	1376	2485	14.59	20.00	34.59	46.5%																	72.5%			
134.33 - 129.33	1548	1424	2972	19.76	20.00	39.76	44.2%																	75.1%			
129.33 - 125.75	1661	1488	3148	20.22	20.00	40.22	48.9%																	82.6%			
125.75 - 125.5	1668	2243	3910	20.26	33.50	53.76	39.3%										66.0%							64.0%			
125.5 - 120.5	1834	2380	4214	20.91	33.50	54.41	44.3%										73.9%							71.7%			
120.5 - 120.25	1844	4063	5907	20.94	42.41	63.35	32.0%										53.5%				56.3%	66.3%		57.3%			
120.25 - 115.25	2021	4305	6326	21.60	42.41	64.00	35.6%										59.0%				62.1%	73.2%		63.2%			
115.25 - 113.83	2074	4375	6449	21.78	42.41	64.19	36.6%										60.6%				63.8%	75.1%		64.8%			
113.83 - 113.48	2086	4645	6731	21.83	52.25	74.08	35.3%	57.2%									59.0%							58.4%			
113.48 - 113.25	2095	4657	6752	21.86	52.25	74.11	35.5%	57.4%									59.2%							58.6%			
113.25 - 112	2142	4723	6865	22.02	52.25	74.27	36.4%	58.7%									60.5%							59.9%			
112 - 111.75	2155	3210	5364	22.05	32.25	54.30	48.1%	75.3%									75.9%										
111.75 - 106.75	2352	3391	5743	22.71	32.25	54.96	52.3%	81.2%									81.9%										
106.75 - 101.75	2560	3578	6138	23.36	32.25	55.61	56.4%	86.8%									87.6%										
101.75 - 98.42	2706	3705	6411	23.79	32.25	56.04	59.1%	90.3%									91.1%										
98.42 - 98.17	2725	6988	9713	23.83	57.25	81.08	40.0%	62.4%									64.9%			64.1%							
98.17 - 93.17	2956	7355	10311	24.48	57.25	81.73	42.8%	66.1%									68.7%			67.9%							
93.17 - 89.28	3143	7648	10791	24.99	57.25	82.24	45.0%	68.9%									71.6%			70.7%							
89.28 - 83.72	4045	6509	10554	31.58	50.00	81.58	45.8%		75.4%											75.4%							
83.72 - 82.83	4100	6565	10665	31.73	50.00	81.73	46.2%		75.9%											75.9%							
82.83 - 82.58	4116	8021	12137	31.77	68.00	99.77	40.7%		67.0%					59.2%						67.0%							
82.58 - 77.58	4440	8415	12855	32.58	68.00	100.58	42.8%		69.8%					61.8%						69.8%							
77.58 - 73.42	4723	8750	13473	33.26	68.00	101.26	44.5%		72.1%					63.9%						72.1%							
73.42 - 73.17	4741	12181	16923	33.30	86.00	119.30	35.9%			56.1%				55.3%		60.0%				57.9%							
73.17 - 72.42	4794	12266	17060	33.42	86.00	119.42	36.2%			56.5%				55.6%		60.3%				58.2%							
72.42 - 72.17	4811	8664	13475	33.46	61.00	94.46	46.0%			73.7%				72.9%		76.7%											
72.17 - 68.08	5104	8996	14100	34.13	61.00	95.13	47.6%			75.8%				75.1%		78.9%											
68.08 - 67.83	5122	9208	14329	34.17	73.50	107.67	46.8%			69.9%				64.9%		76.5%									56.9%		
67.83 - 65.58	5288	9396	14685	34.54	73.50	108.04	47.7%			71.0%				65.9%		77.6%									57.8%		
65.58 - 65.33	5308	13085	18392	34.58	86.00	120.58	38.5%			59.4%				58.5%		63.5%			61.2%						54.7%		
65.33 - 64.25	5389	13212	18601	34.75	86.00	120.75	38.8%			59.9%				59.0%		63.9%			61.7%						55.1%		
64.25 - 64	5408	10467	15876	34.79	68.00	102.79	45.7%			72.9%				72.3%					73.1%						67.1%		
64 - 59	5797	10939	16735	35.61	68.00	103.61	47.5%			75.2%				74.6%					75.4%						69.2%		
59 - 54	6203	11420	17624	36.42	68.00	104.42	49.3%			77.4%				76.8%					77.5%						71.3%		
54 - 49.17	6614	11896	18510	37.21	68.00	105.21	50.9%			79.4%				78.8%					79.5%						73.2%		
49.17 - 42.83	8161	11979	20139	45.07	73.00	118.07	48.0%				74.3%			71.0%					78.7%						64.4%		
42.83 - 41.75	8275	12085	20360	45.28	73.00	118.28	48.3%				74.7%			71.3%					79.1%						64.8%		
41.75 - 41.5	8302	12802	21104	45.32	79.00	124.32	46.7%				72.3%		62.0%						76.5%						60.8%		
41.5 - 36.5	8849	13330	22179	46.30	79.00	125.30	48.0%				73.9%		63.4%						78.2%						62.2%		
36.5 - 32.75	9274	13734	23008	47.03	79.00	126.03	49.0%				75.0%		64.4%						79.4%						63.3%		
32.75 - 32.5	9303	15089	24392	47.08	82.75	129.83	46.4%				71.2%		62.4%					69.7%							62.4%		
32.5 - 32.25	9332	15119	24451	47.13	82.75	129.88	46.4%				71.3%		62.5%					69.8%							62.5%		
32.25 - 32	9361	15327	24687	47.18	86.50	133.68	46.1%				70.7%		60.6%					69.2%								55.4%	
32 - 30.33	9555	15528	25084	47.50	86.50	134.00	46.5%				71.2%		61.0%					69.7%								55.8%	
30.33 - 30.08	9589	13068	22657	47.55	74.50	122.05	52.3%						68.8%		87.1%			77.8%								62.3%	
30.08 - 28.25	9807	13256	23063	47.91	74.50	122.41	52.8%						69.3%		87.7%			78.3%								62.8%	
28.25 - 28	9833	14592	24425	47.95	88.25	136.20	49.7%					70.0%	62.4%		81.3%											54.9%	
28 - 23	10444	15162	25607	48.93	88.25	137.18	50.9%					71.3%	63.6%		82.8%											56.1%	
23 - 19.25	10919	15598	26517	49.66	88.25	137.91	51.8%					72.3%	64.5%		83.9%											56.9%	
19.25 - 19	10962	12617	23579	49.71	70.25	119.96	58.6%					84.5%	74.2%													63.4%	
19 - 14.5	11552	13045	24598	50.59	70.25	120.84	59.7%					85.6%	75.3%													64.3%	
14.5 - 14.25	11575	25653	37228	50.63	102.75	153.38	39.6%					57.4%	59.0%													58.9%	50.4%
14.25 - 12.75	11777	25932	37709	50.93	102.75	153.68	39.9%					57.7%	59.3%													59.2%	50.7%
12.75 - 12.5	11809	18172	29982	50.97	86.50	137.47	49.8%					65.6%	71.9%														53.0%
12.5 - 7.5	12499	18832	31332	51.95	86.50	138.45	50.9%					66.6%	73.0%														53.9%
7.5 - 3.5	13070	19369	32440	52.73	86.50	139.23	51.7%					67.4%	73.9%														54.5%
3.5 - 3.25	13120	28143	41263	52.78	97.50	150.28	41.8%					60.0%											58.9%				49.7%
3.25 - 0	13598	28743	42341	53.41	97.50	150.91	42.4%					60.6%											59.4%				50.2%

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

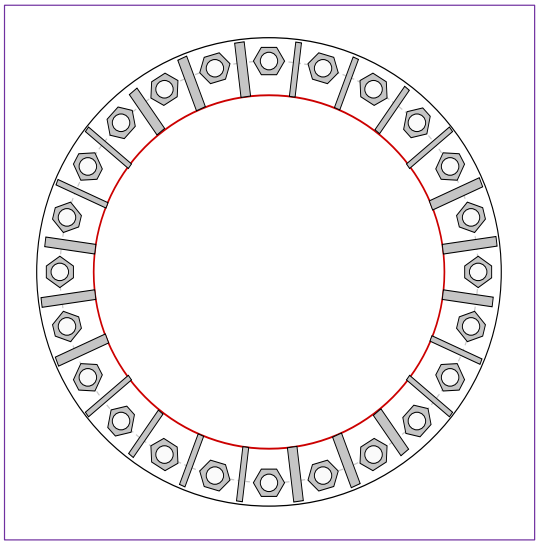
Monopole Base Plate Connection

Site Info	
BU #	842859
Site Name	Bristol Center
Order #	621871 Rev. 1

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

Applied Loads	
Moment (kip-ft)	4567.70
Axial Force (kips)	91.36
Shear Force (kips)	34.70

**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 54" BC
GROUP 2: (12) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 54" BC

Base Plate Data

60" OD x 2" Plate (A572-60; Fy=60 ksi, Fu=75 ksi)

Stiffener Data

Group 1: (12) 15"H x 7"W x 0.75"T, Notch: 0.75"
plate: Fy= 65 ksi ; weld: Fy= 80 ksi
horiz. weld: 0.375" groove, 45° dbl bevel, 0.375" fillet
vert. weld: 0.3125" fillet

Group 2: (4) 45"H x 7"W x 1.25"T, Notch: 0.5"
plate: Fy= 65 ksi ; weld: Fy= 70 ksi
horiz. weld: 0.625" groove, 45° dbl bevel, 0.375" fillet
vert. weld: 0.375" fillet

Group 3: (4) 65"H x 7"W x 1.25"T, Notch: 0.75"
plate: Fy= 65 ksi ; weld: Fy= 80 ksi
horiz. weld: 0.625" groove, 45° dbl bevel, 0.3125" fillet
vert. weld: 0.3125" fillet

Group 4: (4) 198"H x 6.5"W x 1.25"T, Notch: 0.75" horiz. x 1.25" vert.
plate: Fy= 65 ksi ; weld: Fy= 80 ksi
horiz. weld: 0.625" groove, 45° dbl bevel, 0.3125" fillet
vert. weld: 0.3125" fillet

Pole Data

45.25" x 0.375" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

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

GROUP 1:		
Pu_t = 165.25	ϕPn_t = 243.75	**Stress Rating**
Vu = 1.45	ϕVn = 149.1	**64.6%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 2:		
Pu_t = 165.25	ϕPn_t = 243.75	**Stress Rating**
Vu = 1.45	ϕVn = 149.1	**64.6%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	28.12	(Roark's Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	**49.6%**	**Pass**

Stiffener Summary

Horizontal Weld:	**44.0%**	**Pass**
Vertical Weld:	**57.1%**	**Pass**
Plate Flexure+Shear:	**18.8%**	**Pass**
Plate Tension+Shear:	**43.1%**	**Pass**
Plate Compression:	**55.2%**	**Pass**

Pole Summary

Punching Shear:	**18.4%**	**Pass**

CCIplate

Elevation (ft)	0	*(Base)*

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

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

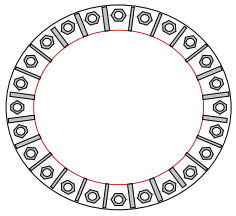
Custom Bolt Connection

Bolt	Bolt Group ID	Location (deg.)	Diameter (in)	Material	Bolt Circle (in)	Eta Factor, η:	I_{sr} (in):	Thread Type	Area Override, in^2	Tension Only
1	1	0	2.25	A615-75	54	0.55	1.8125	N-Included		No
2	1	30	2.25	A615-75	54	0.55	1.8125	N-Included		No
3	1	60	2.25	A615-75	54	0.55	1.8125	N-Included		No
4	1	90	2.25	A615-75	54	0.55	1.8125	N-Included		No
5	1	120	2.25	A615-75	54	0.55	1.8125	N-Included		No
6	1	150	2.25	A615-75	54	0.55	1.8125	N-Included		No
7	1	180	2.25	A615-75	54	0.55	1.8125	N-Included		No
8	1	210	2.25	A615-75	54	0.55	1.8125	N-Included		No
9	1	240	2.25	A615-75	54	0.55	1.8125	N-Included		No
10	1	270	2.25	A615-75	54	0.55	1.8125	N-Included		No
11	1	300	2.25	A615-75	54	0.55	1.8125	N-Included		No
12	1	330	2.25	A615-75	54	0.55	1.8125	N-Included		No
13	2	15	2.25	A615-75	54	0.55	1.8125	N-Included		No
14	2	45	2.25	A615-75	54	0.55	1.8125	N-Included		No
15	2	75	2.25	A615-75	54	0.55	1.8125	N-Included		No
16	2	105	2.25	A615-75	54	0.55	1.8125	N-Included		No
17	2	135	2.25	A615-75	54	0.55	1.8125	N-Included		No
18	2	165	2.25	A615-75	54	0.55	1.8125	N-Included		No
19	2	195	2.25	A615-75	54	0.55	1.8125	N-Included		No
20	2	225	2.25	A615-75	54	0.55	1.8125	N-Included		No
21	2	255	2.25	A615-75	54	0.55	1.8125	N-Included		No
22	2	285	2.25	A615-75	54	0.55	1.8125	N-Included		No
23	2	315	2.25	A615-75	54	0.55	1.8125	N-Included		No
24	2	345	2.25	A615-75	54	0.55	1.8125	N-Included		No

Custom Stiffener Connection

Stiffener	Stiffener Group ID	Location (deg.)	Width (in)	Height (in)	Thickness (in)	H. Notch (in)	V. Notch (in)	Grade (ksi)	Weld Type	Groove Depth (in)	Groove Angle (deg.)	H. Fillet Weld Size (in)	V. Fillet Weld Size (in)	Weld Strength (ksi)
1	1	37.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
2	1	52.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
3	1	67.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
4	1	82.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
5	1	142.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
6	1	157.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
7	1	217.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
8	1	232.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
9	1	247.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
10	1	262.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
11	1	322.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
12	1	337.5	7	15	0.75	0.75	0.75	65	Both	0.375	45	0.375	0.3125	80
13	2	7.5	7	45	1.25	0.5	0.5	65	Both	0.625	45	0.375	0.375	70
14	2	112.5	7	45	1.25	0.5	0.5	65	Both	0.625	45	0.375	0.375	70
15	2	187.5	7	45	1.25	0.5	0.5	65	Both	0.625	45	0.375	0.375	70
16	2	292.5	7	45	1.25	0.5	0.5	65	Both	0.625	45	0.375	0.375	70
17	3	22.5	7	65	1.25	0.75	0.75	65	Both	0.625	45	0.3125	0.3125	80
18	3	97.5	7	65	1.25	0.75	0.75	65	Both	0.625	45	0.3125	0.3125	80
19	3	202.5	7	65	1.25	0.75	0.75	65	Both	0.625	45	0.3125	0.3125	80
20	3	277.5	7	65	1.25	0.75	0.75	65	Both	0.625	45	0.3125	0.3125	80
21	4	127.5	6.5	198	1.25	0.75	1.25	65	Both	0.625	45	0.3125	0.3125	80
22	4	172.5	6.5	198	1.25	0.75	1.25	65	Both	0.625	45	0.3125	0.3125	80
23	4	307.5	6.5	198	1.25	0.75	1.25	65	Both	0.625	45	0.3125	0.3125	80
24	4	352.5	6.5	198	1.25	0.75	1.25	65	Both	0.625	45	0.3125	0.3125	80

Plot Graphic



Drilled Pier Foundation

BU # :	842859
Site Name:	Bristol Center
Order Number:	621871 Rev. 1
TIA-222 Revison:	H
Tower Type:	Monopole

Check Limitation	
Apply TIA-222-H Section 15.5:	☑
N/A	☐
Additional Longitudinal Rebar	
Input Effective Depths (else Actual):	☐
Shear Design Options	
Check Shear along Depth of Pier:	☑
Utilize Shear-Friction Methodology:	☐
Override Critical Depth:	☐

Go to Soil Calculations

Applied Loads	Comp.	Uplift
Moment (kip-ft)	4567.7	
Axial Force (kips)	91.37	
Shear Force (kips)	34.67	

Material Properties			Rebar 2, Fy Override (ksi)
Concrete Strength, f'c:	4	ksi	
Rebar Strength, Fy:	60	ksi	60
Tie Yield Strength, Fyt:	60	ksi	

Pier Design Data		
Depth	26	ft
Ext. Above Grade	1	ft
Pier Section 1		
From 1' above grade to 19' below grade		
Pier Diameter	6.5	ft
Rebar Quantity	16	
Rebar Size	11	
Rebar Cage Diameter	67	in
Tie Size	5	
Tie Spacing	12	in
Rebar Quantity	8	
Rebar Size	11	
Rebar Cage Diameter	64	in
Pier Section 2		
From 19' below grade to 26' below grade		
Pier Diameter	6.5	ft
Rebar Quantity	16	
Rebar Size	11	
Rebar Cage Diameter	67	in
Tie Size	5	
Tie Spacing	12	in

Rebar & Pier Options

Embedded Pole Inputs

Belled Pier Inputs

Analysis Results		
Soil Lateral Check	*Compression*	*Uplift*
$D_{v=0}$ (ft from TOC)	7.97	-
Soil Safety Factor	2.16	-
Max Moment (kip-ft)	4835.77	-
Rating*	*58.6%*	-
Soil Vertical Check	*Compression*	*Uplift*
Skin Friction (kips)	529.45	-
End Bearing (kips)	412.76	-
Weight of Concrete (kips)	161.27	-
Total Capacity (kips)	942.20	-
Axial (kips)	252.64	-
Rating*	*25.5%*	-
Reinforced Concrete Flexure	*Compression*	*Uplift*
Critical Depth (ft from TOC)	16.66	-
Critical Moment (kip-ft)	3611.53	-
Critical Moment Capacity	3920.33	-
Rating*	*87.7%*	-
Reinforced Concrete Shear	*Compression*	*Uplift*
Critical Depth (ft from TOC)	20.76	-
Critical Shear (kip)	552.52	-
Critical Shear Capacity	599.51	-
Rating*	*87.8%*	-

Structural Foundation Rating*	**87.8%**
Soil Interaction Rating*	**58.6%**

*Rating per TIA-222-H Section 15.5

Soil Profile

Groundwater Depth	N/A

# of Layers	8

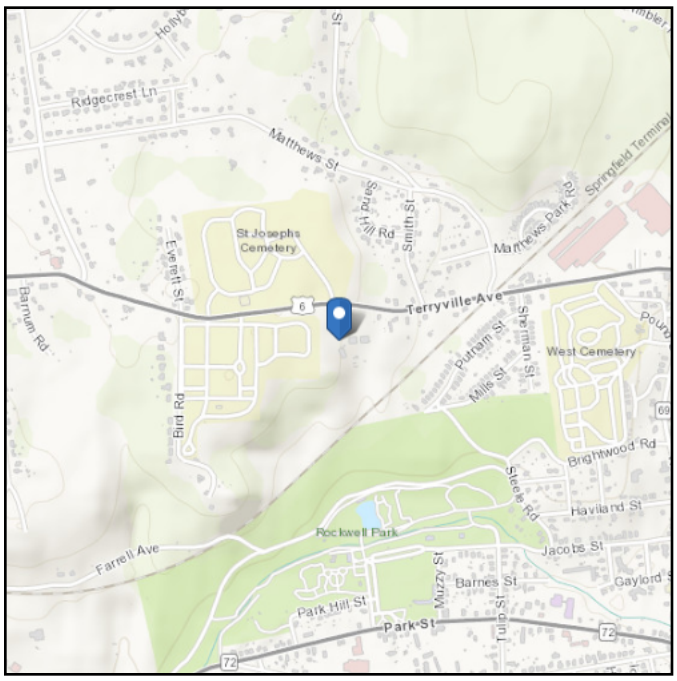
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ_{soil} (pcf)	$\gamma_{concrete}$ (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Net Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	4	4	105	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	4	5	1	110	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
3	5	6	1	110	150	0	30	0.000	0.000	1.35	1.35			Cohesionless
4	6	8	2	115	150	0	31	0.000	0.000	0.57	0.57			Cohesionless
5	8	12	4	120	150	0	33	0.000	0.000	1.19	1.19			Cohesionless
6	12	20	8	115	150	0	31	0.000	0.000	1.73	1.73			Cohesionless
7	20	25	5	125	150	0	35	0.00	0.00	2.22	2.22			Cohesionless
8	25	26	1	130	150	0	37	0.00	0.00	2.38	2.38	13.56		Cohesionless

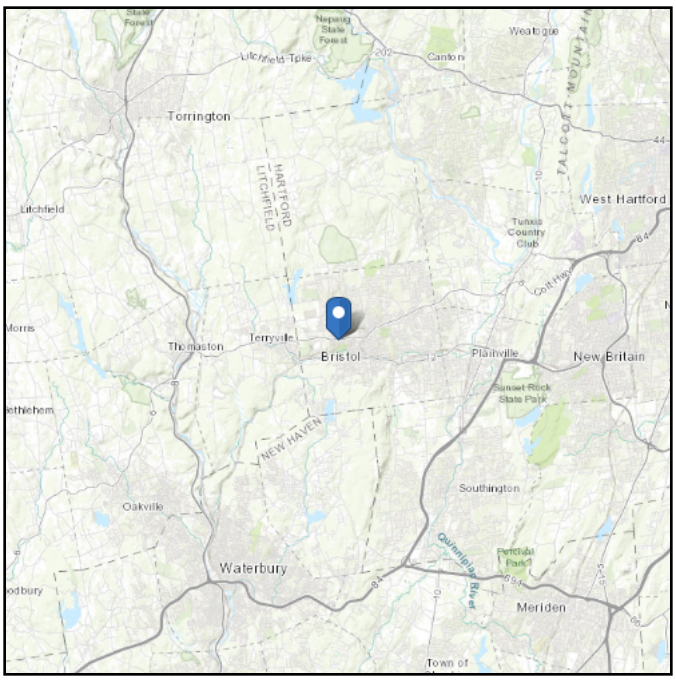
ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 564.8 ft (NAVD 88)
Latitude: 41.679919
Longitude: -72.96255





Wind

Results:

Wind Speed	116 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	96 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Thu Jun 30 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.

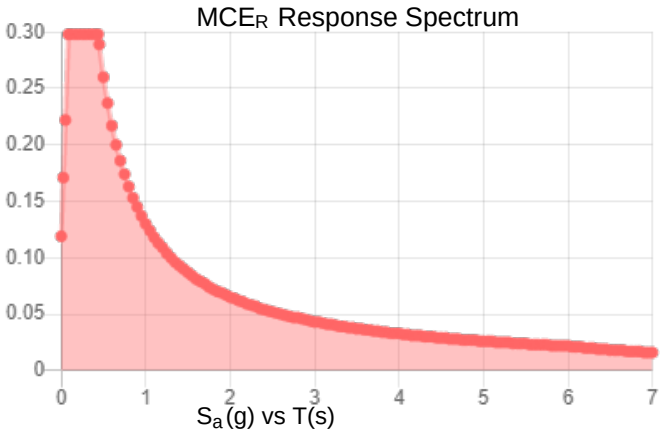
Seismic

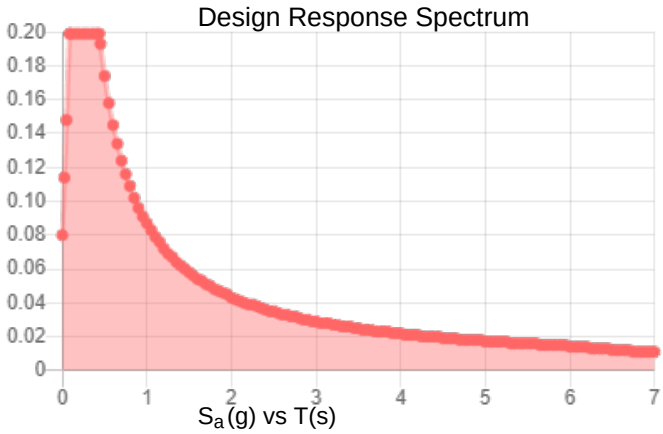
Site Soil Class: D - Stiff Soil

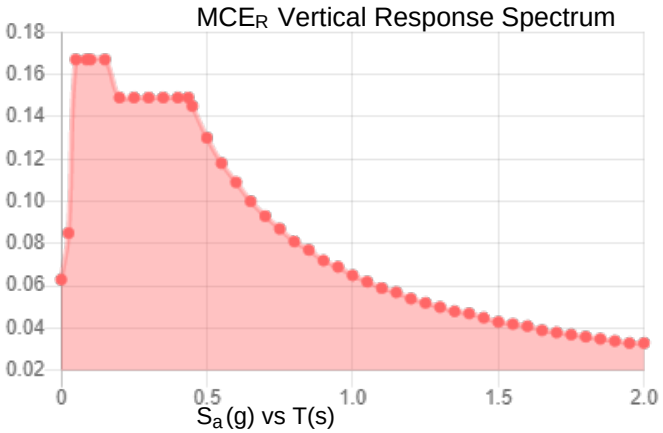
Results:

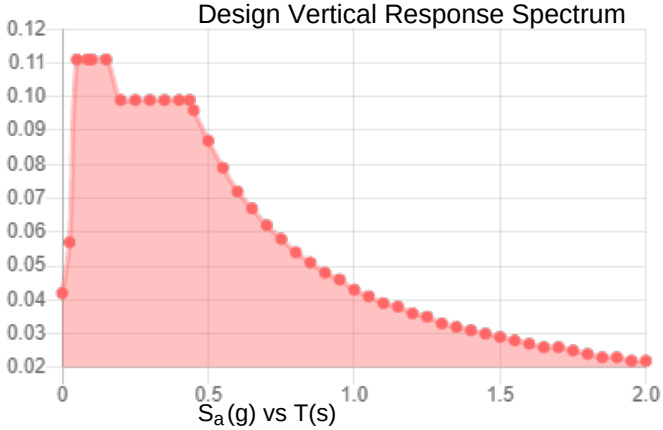
S_S :	0.186	S_{D1} :	0.087
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.101
F_v :	2.4	PGA_M :	0.161
S_{MS} :	0.298	F_{PGA} :	1.598
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.199	C_v :	0.7

Seismic Design Category B









Data Accessed: **Thu Jun 30 2022**

Date Source:

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

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Thu Jun 30 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: **June 24, 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:	CTHA114B
	Carrier Site Name:	CT54XC710
Crown Castle Designation:	**BU Number:**	842859
	Site Name:	Bristol Center
	JDE Job Number:	721831
	Order Number:	621871 Rev. 0
Engineering Firm Designation:	**Trylon Report Designation:**	212049
Site Data:	**371 Terryville Avenue, Bristol, Hartford County, CT, 06010** **Latitude 41°40'47.71" Longitude -72°57'45.18"**	
Structure Information:	**Tower Height & Type:**	**168.5 ft Monopole**
	Mount Elevation:	**158.0 ft**
	Mount Width & Type:	**12.5 ft Sector Frame**

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:

Sector Frame **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 120 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: Ioana Gurgu

Respectfully Submitted by:
Cliff Abernathy, P.E.

TABLE OF CONTENTS

1) INTRODUCTION

This is a proposed 3 sector 12.5 ft Sector Frame, designed by Site Pro 1.

2) ANALYSIS CRITERIA

Building Code:	2015 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	120 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:	0.185
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
158.0	158.0	3	Ericsson	AIR 6419 B41_TMO	12.5 ft Sector Frame **[Site Pro 1, VFA12-HD with MSFAA]**
		3	RFS/Celwave	APXVAALL24_43-U-NA20_TMO	
		3	Ericsson	RADIO 4460 B2/B25 B66_TMO	
		3	Ericsson	Radio 4480_TMOV2	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	T-Mobile Application	621871, Rev. 0	CCI Sites
Structural Analysis Report	Morrison Hershfield	9830417	CCI Sites
Mount Manufacturer Drawings	Site Pro 1	VFA12-HD	Trylon
Mount Assembly Drawings	Site Pro 1	MSFAA	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 (Sector Frame, All Sectors)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1,2,3,4	Mount Pipe(s)	MP2	158.0	48.5	Pass
	Horizontal(s)	M126		31.4	Pass
	Standoff(s)	M130		20.0	Pass
	Plate(s)	M70		53.4	Pass
	Vertical(s)	M163		19.7	Pass
	Tieback(s)	M171A		9.0	Pass
	Mount Connection(s)	-		27.5	Pass

Structure Rating (max from all components) =	**53.4%**

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

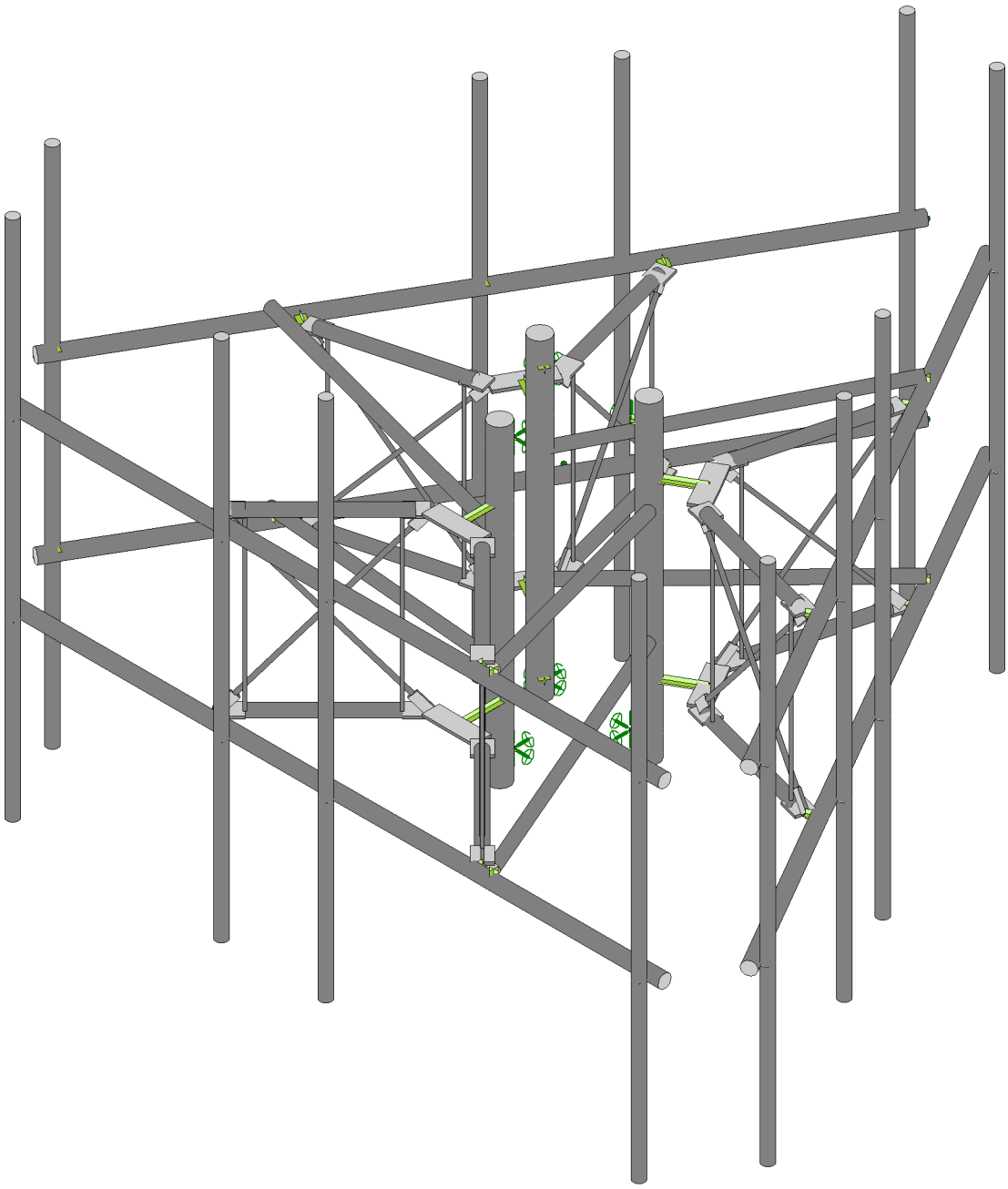
The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the proposed mount listed below must be installed.

1. Site Pro 1, VFA12-HD.
2. Site Pro 1, MSFAA-Q.
3. Install 2.375" O.D., Sch.40, 10-ft. long Antenna Mounting Pipes.
4. Install the tiebacks as recommended in manufacturer's drawings (Tie-Back Position 3). Connect the tiebacks with the opposite Mast Pipe.

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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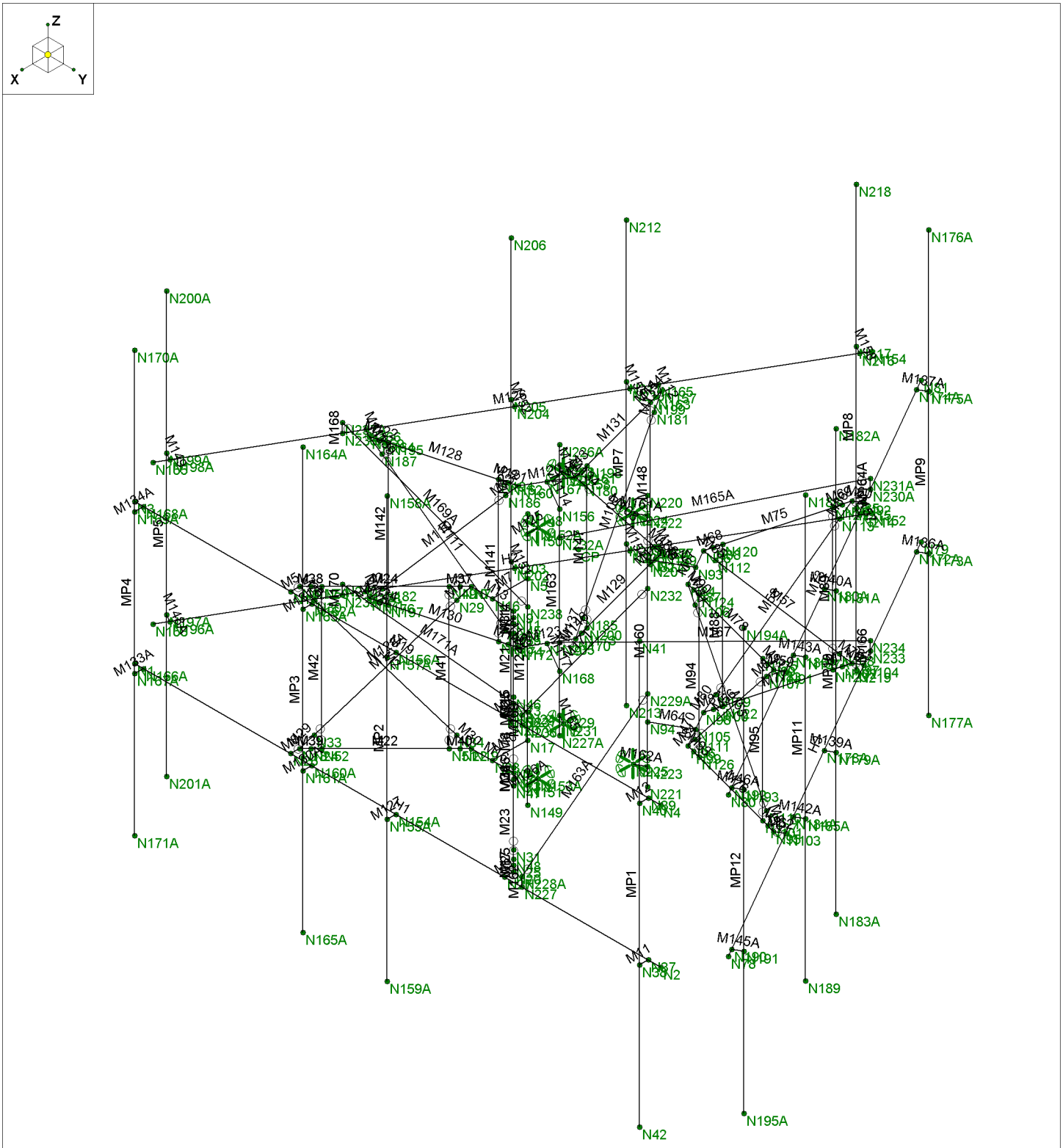

Envelope Only Solution

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APPENDIX B

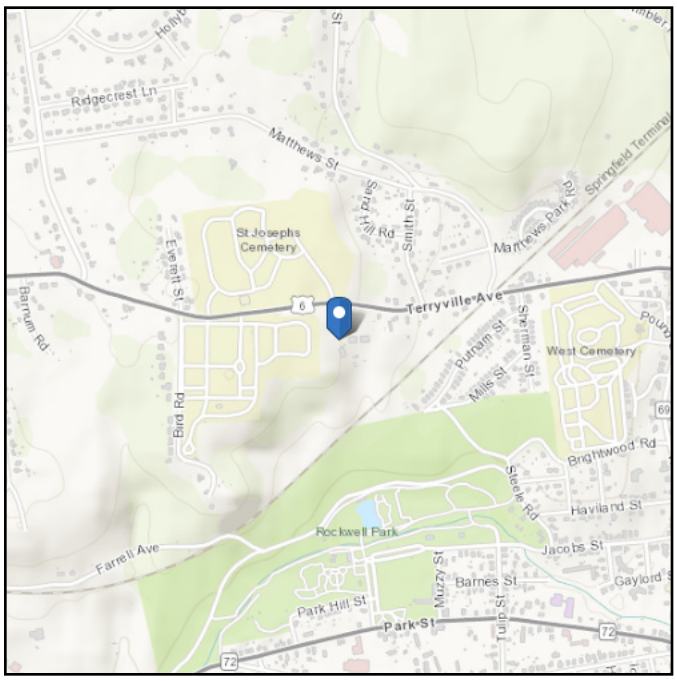
SOFTWARE INPUT CALCULATIONS

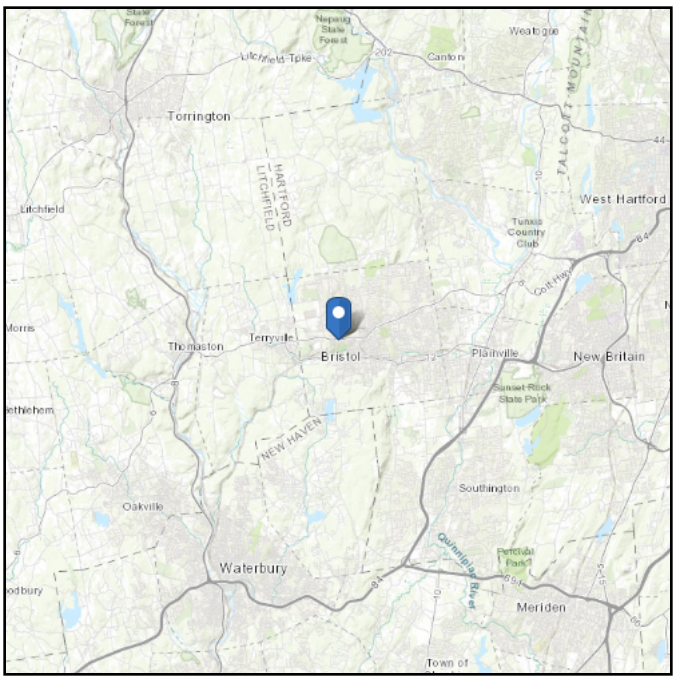
ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 564.8 ft (NAVD 88)
Latitude: 41.679919
Longitude: -72.96255





Wind

Results:

Wind Speed	120 Vmph
10-year MRI	76 Vmph
25-year MRI	86 Vmph
50-year MRI	91 Vmph
100-year MRI	98 Vmph

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Date Accessed: Thu Jun 23 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 7-10 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 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

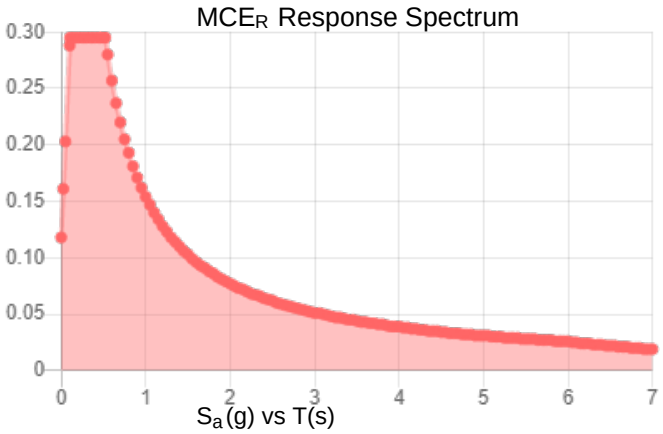
Seismic

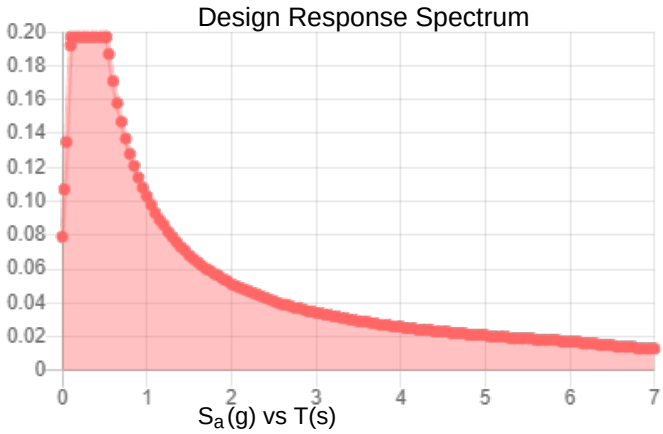
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.185	S_{DS} :	0.197
S_1 :	0.064	S_{D1} :	0.103
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.094
S_{MS} :	0.295	PGA_M :	0.151
S_{M1} :	0.154	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: **Thu Jun 23 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:	Thu Jun 23 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:	212049
Carrier Site ID:	CTHA114B
Carrier Site Name:	CT54XC710

CODES AND STANDARDS	
Building Code:	2015 IBC
Local Building Code:	2018 CSBC
Design Standard:	TIA-222-H

STRUCTURE DETAILS		
Mount Type:	Sector Frame	--
Mount Elevation:	158.0	ft.
Number of Sectors:	3	--
Structure Type:	Monopole	--
Structure Height:	168.5	ft.

ANALYSIS CRITERIA		
Structure Risk Category:	II	--
Exposure Category:	C	--
Site Class:	D - Default	--
Ground Elevation:	564.8	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:	120	mph
Wind Escalation Factor (K_s):	1.00	--
Velocity Coefficient (K_z):	1.39	--
Directionality Factor (K_d):	0.95	--
Gust Effect Factor (Gh):	1.00	--
Shielding Factor (K_a):	0.90	--
Velocity Pressure (q_z):	47.82	psf
Ground Elevation Factor (K_e):	0.98	--

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}):	6.97	psf
Mount Ice Thickness (t_{iz}):	2.34	in

WIND STRUCTURE CALCULATIONS		
Flat Member Pressure:	86.07	psf
Round Member Pressure:	51.64	psf
Ice Wind Pressure:	7.52	psf

SEISMIC PARAMETERS		
Importance Factor (I_e):	1.00	--
Short Period Accel .(S_s):	0.185	g
1 Second Accel (S_1):	0.064	g
Short Period Des. (S_{DS}):	0.20	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	158	No Ice	7	2.83	96.50
--	--	--	w/ Ice	9.29	4.66	243.34
APXVAALL24_43-U-NA20_TMO	3	158	No Ice	14.67	5.32	149.90
--	--	--	w/ Ice	17.86	8.13	597.83
RADIO 4460 B2/B25 B66_TMO	3	158	No Ice	2.14	1.69	109.00
--	--	--	w/ Ice	2.76	2.25	131.35
Radio 4480_TMOV2	3	158	No Ice	2.88	1.40	81.00
--	--	--	w/ Ice	3.59	1.98	130.61
			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			
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			No Ice			
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			No Ice			
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			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 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	158	1.00	1.39	0.95	2.34	47.82	8.30
XVAALL24_43-U-NA20_TI	3	158	1.00	1.39	0.95	2.34	47.82	8.30
ADIO 4460 B2/B25 B66_TM	3	158	1.00	1.39	0.95	2.34	47.82	8.30
Radio 4480_TMOV2	3	158	1.00	1.39	0.95	2.34	47.82	8.30

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	301.24	166.65	256.38	121.79	256.38	166.65
--	--	w/ Ice	69.39	43.44	60.74	34.79	60.74	43.44
APXVAALL24_43-U-NA20_TMO	3	No Ice	631.31	329.53	530.72	228.94	530.72	329.53
--	--	w/ Ice	133.42	78.90	115.25	60.73	115.25	78.90
RADIO 4460 B2/B25 B66_TMO	3	No Ice	92.06	77.43	87.18	72.55	87.18	77.43
--	--	w/ Ice	20.60	17.77	19.66	16.83	19.66	17.77
Radio 4480_TMOV2	3	No Ice	123.87	76.06	107.93	60.12	107.93	76.06
--	--	w/ Ice	26.84	17.81	23.83	14.80	23.83	17.81
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
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		No Ice						
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		No Ice						
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		No Ice						
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		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						

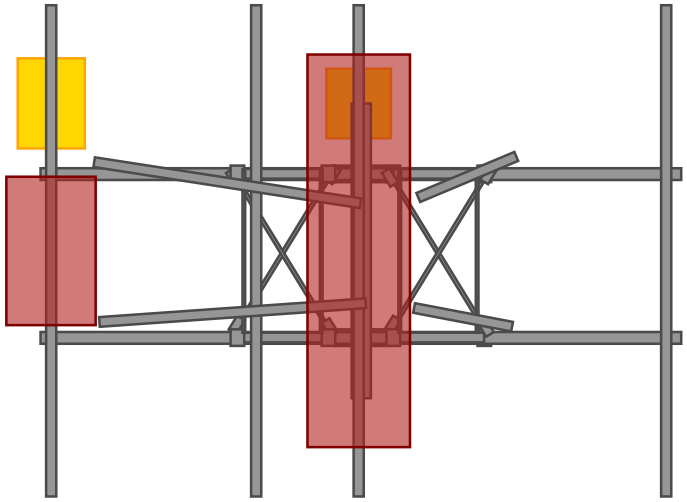
EQUIPMENT LATERAL WIND FORCE CALCULATIONS [CONT.]

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	158	96.5	11.43
APXVAALL24_43-U-NA20_TMO	3	158	149.9	17.75
RADIO 4460 B2/B25 B66_TMO	3	158	109	12.91
Radio 4480_TMOV2	3	158	81	9.59

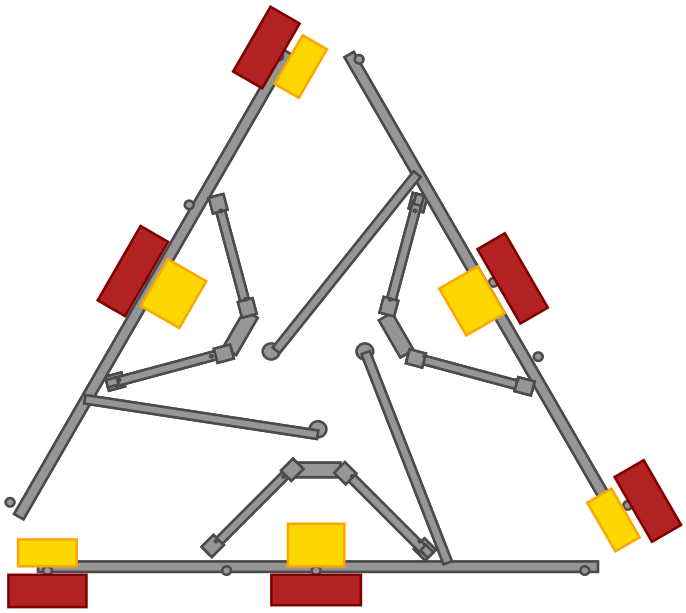
ELEVATION VIEW



*these drawings are intended to show approximate locations of equipment on the mount and should not be used to determine exact placement of equipment or additional hardware

**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	158	MP4/MP8/MP12	30/150/270
APXVAALL24_43-U-NA20_TMO	3	158	MP2/MP6/MP10	30/150/270
RADIO 4460 B2/B25 B66_TMO	3	158	MP2/MP6/MP10	30/150/270
Radio 4480_TMOV2	3	158	MP4/MP8/MP12	30/150/270

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	AISC 14th(360-10): LRFD
Adjust Stiffness?	Yes(Iterative)

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 (/1E5 F)	Density[k/ft^3]	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

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 L...	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	PIPE_2.0	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
2	PIPE_2.5	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
3	SR 3/4	SR 3/4	Beam	BAR	A36 Gr.36	Typical	.442	.016	.016	.031
4	PL 4"x0.625"	PL 4"x0.625"	Beam	RECT	A36 Gr.36	Typical	2.5	.081	3.333	.293
5	SR 5/8	SR 5/8	Beam	BAR	A36 Gr.36	Typical	.307	.007	.007	.015
6	PL 2"x0.625"	PL 2"x0.625"	Beam	RECT	A36 Gr.36	Typical	1.25	.041	.417	.131
7	PIPE_4.0	PIPE_4.0_HRA	Beam	Pipe	A53 Gr.B	Typical	2.96	6.82	6.82	13.6

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Ru...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	CF1	162T125-18	Beam	None	A653 SS ...	Typical	.078	.013	.042	9e-6

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	N5						
2	N17						
3	N82						
4	N94						
5	N156						
6	N168						
7	N148						
8	N149						
9	N150						
10	N151						
11	N152A	Reaction	Reaction	Reaction	Reaction	Reaction	
12	N153A	Reaction	Reaction	Reaction	Reaction	Reaction	
13	N220						
14	N221						
15	N222						
16	N223						
17	N224	Reaction	Reaction	Reaction	Reaction	Reaction	
18	N225	Reaction	Reaction	Reaction	Reaction	Reaction	
19	N226A						
20	N227A						
21	N228						
22	N229						
23	N230	Reaction	Reaction	Reaction	Reaction	Reaction	
24	N231	Reaction	Reaction	Reaction	Reaction	Reaction	
25	N232						
26	N229A						
27	N232A						
28	N235						
29	N238						
30	N241						

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	DistributedArea(Me...	Surface(...
1	Self Weight	DL			-1		18			
2	Structure Wind X	WLX						171		
3	Structure Wind Y	WLY						171		
4	Wind Load 0 AZI	WLX					36			
5	Wind Load 30 AZI	None					36			
6	Wind Load 45 AZI	None					36			
7	Wind Load 60 AZI	None					36			
8	Wind Load 90 AZI	WLY					36			
9	Wind Load 120 AZI	None					36			
10	Wind Load 135 AZI	None					36			
11	Wind Load 150 AZI	None					36			

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
12	Ice Weight	OL1					18	171		
13	Ice Structure Wind X	OL2						171		
14	Ice Structure Wind Y	OL3						171		
15	Ice Wind Load 0 AZI	OL2					36			
16	Ice Wind Load 30 AZI	None					36			
17	Ice Wind Load 45 AZI	None					36			
18	Ice Wind Load 60 AZI	None					36			
19	Ice Wind Load 90 AZI	OL3					36			
20	Ice Wind Load 120 AZI	None					36			
21	Ice Wind Load 135 AZI	None					36			
22	Ice Wind Load 150 AZI	None					36			
23	Seismic Load X	ELX	-.118				18			
24	Seismic Load Y	ELY		-.118			18			
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			
34	Maintenance Load 1 (Lm)	None					1			
35	Maintenance Load 2 (Lm)	None					1			
36	Maintenance Load 3 (Lm)	None					1			
37	Maintenance Load 4 (Lm)	None					1			
38	Maintenance Load 5 (Lm)	None					1			
39	Maintenance Load 6 (Lm)	None					1			
40	Maintenance Load 7 (Lm)	None					1			
41	Maintenance Load 8 (Lm)	None					1			
42	Maintenance Load 9 (Lm)	None					1			
43	Maintenance Load 10 (Lm)	None					1			
44	Maintenance Load 11 (Lm)	None					1			
45	Maintenance Load 12 (Lm)	None					1			

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..	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														

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...
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 + 1W Li 0 ...	Yes	Y		DL	1.2	OL1	1	13	1	14		15	1												
35	1.2DL + 1DLi + 1W Li 30...	Yes	Y		DL	1.2	OL1	1	13	.866	14	.5	16	1												
36	1.2DL + 1DLi + 1W Li 45...	Yes	Y		DL	1.2	OL1	1	13	.707	14	.707	17	1												
37	1.2DL + 1DLi + 1W Li 60...	Yes	Y		DL	1.2	OL1	1	13	.5	14	.866	18	1												
38	1.2DL + 1DLi + 1W Li 90...	Yes	Y		DL	1.2	OL1	1	13		14	1	19	1												
39	1.2DL + 1DLi + 1W Li 12...	Yes	Y		DL	1.2	OL1	1	13	-.5	14	.866	20	1												
40	1.2DL + 1DLi + 1W Li 13...	Yes	Y		DL	1.2	OL1	1	13	-.707	14	.707	21	1												
41	1.2DL + 1DLi + 1W Li 15...	Yes	Y		DL	1.2	OL1	1	13	-.866	14	.5	22	1												
42	1.2DL + 1DLi + 1W Li 18...	Yes	Y		DL	1.2	OL1	1	13	-1	14		15	-1												
43	1.2DL + 1DLi + 1W Li 21...	Yes	Y		DL	1.2	OL1	1	13	-.866	14	-.5	16	-1												
44	1.2DL + 1DLi + 1W Li 22...	Yes	Y		DL	1.2	OL1	1	13	-.707	14	-.707	17	-1												
45	1.2DL + 1DLi + 1W Li 24...	Yes	Y		DL	1.2	OL1	1	13	-.5	14	-.866	18	-1												
46	1.2DL + 1DLi + 1W Li 27...	Yes	Y		DL	1.2	OL1	1	13		14	-1	19	-1												
47	1.2DL + 1DLi + 1W Li 30...	Yes	Y		DL	1.2	OL1	1	13	.5	14	-.866	20	-1												
48	1.2DL + 1DLi + 1W Li 31...	Yes	Y		DL	1.2	OL1	1	13	.707	14	-.707	21	-1												
49	1.2DL + 1DLi + 1W Li 33...	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																

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...
66	(0.9-0.2Sds)DL + 1E 0 ...	Yes	Y		DL	.861	23	1	24																	
67	(0.9-0.2Sds)DL + 1E 30...	Yes	Y		DL	.861	23	.866	24	.5																
68	(0.9-0.2Sds)DL + 1E 45...	Yes	Y		DL	.861	23	.707	24	.707																
69	(0.9-0.2Sds)DL + 1E 60...	Yes	Y		DL	.861	23	.5	24	.866																
70	(0.9-0.2Sds)DL + 1E 90...	Yes	Y		DL	.861	23		24	1																
71	(0.9-0.2Sds)DL + 1E 12...	Yes	Y		DL	.861	23	-.5	24	.866																
72	(0.9-0.2Sds)DL + 1E 13...	Yes	Y		DL	.861	23	-.707	24	.707																
73	(0.9-0.2Sds)DL + 1E 15...	Yes	Y		DL	.861	23	-.866	24	.5																
74	(0.9-0.2Sds)DL + 1E 18...	Yes	Y		DL	.861	23	-1	24																	
75	(0.9-0.2Sds)DL + 1E 21...	Yes	Y		DL	.861	23	-.866	24	-.5																
76	(0.9-0.2Sds)DL + 1E 22...	Yes	Y		DL	.861	23	-.707	24	-.707																
77	(0.9-0.2Sds)DL + 1E 24...	Yes	Y		DL	.861	23	-.5	24	-.866																
78	(0.9-0.2Sds)DL + 1E 27...	Yes	Y		DL	.861	23		24	-1																
79	(0.9-0.2Sds)DL + 1E 30...	Yes	Y		DL	.861	23	.5	24	-.866																
80	(0.9-0.2Sds)DL + 1E 31...	Yes	Y		DL	.861	23	.707	24	-.707																
81	(0.9-0.2Sds)DL + 1E 33...	Yes	Y		DL	.861	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																		
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	.063	3		4	.063												
92	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	.054	3	.031	5	.063												
93	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	.044	3	.044	6	.063												
94	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	.031	3	.054	7	.063												
95	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2		3	.063	8	.063												
96	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	-.031	3	.054	9	.063												
97	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	-.044	3	.044	10	.063												
98	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	-.054	3	.031	11	.063												
99	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	-.063	3		4	-.063												
100	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	-.054	3	-.031	5	-.063												
101	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	-.044	3	-.044	6	-.063												
102	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	-.031	3	-.054	7	-.063												
103	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2		3	-.063	8	-.063												
104	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	.031	3	-.054	9	-.063												
105	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	.044	3	-.044	10	-.063												
106	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	34	1.5	2	.054	3	-.031	11	-.063												
107	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	.063	3		4	.063												
108	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	.054	3	.031	5	.063												
109	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	.044	3	.044	6	.063												
110	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	.031	3	.054	7	.063												
111	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2		3	.063	8	.063												
112	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	-.031	3	.054	9	.063												
113	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	-.044	3	.044	10	.063												
114	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	-.054	3	.031	11	.063												
115	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	-.063	3		4	-.063												
116	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	-.054	3	-.031	5	-.063												
117	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	-.044	3	-.044	6	-.063												

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...
118	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	-.031	3	-.054	7	-.063										
119	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2		3	-.063	8	-.063										
120	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	.031	3	-.054	9	-.063										
121	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	.044	3	-.044	10	-.063										
122	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	35	1.5	2	.054	3	-.031	11	-.063										
123	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	.063	3		4	.063										
124	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	.054	3	.031	5	.063										
125	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	.044	3	.044	6	.063										
126	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	.031	3	.054	7	.063										
127	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2		3	.063	8	.063										
128	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	-.031	3	.054	9	.063										
129	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	-.044	3	.044	10	.063										
130	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	-.054	3	.031	11	.063										
131	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	-.063	3		4	-.063										
132	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	-.054	3	-.031	5	-.063										
133	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	-.044	3	-.044	6	-.063										
134	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	-.031	3	-.054	7	-.063										
135	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2		3	-.063	8	-.063										
136	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	.031	3	-.054	9	-.063										
137	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	.044	3	-.044	10	-.063										
138	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	36	1.5	2	.054	3	-.031	11	-.063										
139	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.063	3		4	.063										
140	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.054	3	.031	5	.063										
141	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.044	3	.044	6	.063										
142	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.031	3	.054	7	.063										
143	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2		3	.063	8	.063										
144	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.031	3	.054	9	.063										
145	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.044	3	.044	10	.063										
146	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.054	3	.031	11	.063										
147	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.063	3		4	-.063										
148	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.054	3	-.031	5	-.063										
149	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.044	3	-.044	6	-.063										
150	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	-.031	3	-.054	7	-.063										
151	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2		3	-.063	8	-.063										
152	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.031	3	-.054	9	-.063										
153	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.044	3	-.044	10	-.063										
154	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	37	1.5	2	.054	3	-.031	11	-.063										
155	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.063	3		4	.063										
156	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.054	3	.031	5	.063										
157	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.044	3	.044	6	.063										
158	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.031	3	.054	7	.063										
159	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2		3	.063	8	.063										
160	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.031	3	.054	9	.063										
161	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.044	3	.044	10	.063										
162	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.054	3	.031	11	.063										
163	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.063	3		4	-.063										
164	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.054	3	-.031	5	-.063										
165	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.044	3	-.044	6	-.063										
166	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	-.031	3	-.054	7	-.063										
167	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2		3	-.063	8	-.063										
168	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.031	3	-.054	9	-.063										
169	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.044	3	-.044	10	-.063										

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...
170	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	38	1.5	2	.054	3	-.031	11	-.063										
171	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.063	3		4	.063										
172	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.054	3	.031	5	.063										
173	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.044	3	.044	6	.063										
174	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.031	3	.054	7	.063										
175	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2		3	.063	8	.063										
176	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.031	3	.054	9	.063										
177	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.044	3	.044	10	.063										
178	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.054	3	.031	11	.063										
179	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.063	3		4	-.063										
180	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.054	3	-.031	5	-.063										
181	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.044	3	-.044	6	-.063										
182	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	-.031	3	-.054	7	-.063										
183	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2		3	-.063	8	-.063										
184	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.031	3	-.054	9	-.063										
185	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.044	3	-.044	10	-.063										
186	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	39	1.5	2	.054	3	-.031	11	-.063										
187	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.063	3		4	.063										
188	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.054	3	.031	5	.063										
189	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.044	3	.044	6	.063										
190	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.031	3	.054	7	.063										
191	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2		3	.063	8	.063										
192	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	-.031	3	.054	9	.063										
193	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	-.044	3	.044	10	.063										
194	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	-.054	3	.031	11	.063										
195	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	-.063	3		4	-.063										
196	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	-.054	3	-.031	5	-.063										
197	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	-.044	3	-.044	6	-.063										
198	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	-.031	3	-.054	7	-.063										
199	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2		3	-.063	8	-.063										
200	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.031	3	-.054	9	-.063										
201	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.044	3	-.044	10	-.063										
202	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	40	1.5	2	.054	3	-.031	11	-.063										
203	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	.063	3		4	.063										
204	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	.054	3	.031	5	.063										
205	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	.044	3	.044	6	.063										
206	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	.031	3	.054	7	.063										
207	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2		3	.063	8	.063										
208	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	-.031	3	.054	9	.063										
209	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	-.044	3	.044	10	.063										
210	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	-.054	3	.031	11	.063										
211	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	-.063	3		4	-.063										
212	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	-.054	3	-.031	5	-.063										
213	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	-.044	3	-.044	6	-.063										
214	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	-.031	3	-.054	7	-.063										
215	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2		3	-.063	8	-.063										
216	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	.031	3	-.054	9	-.063										
217	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	.044	3	-.044	10	-.063										
218	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	41	1.5	2	.054	3	-.031	11	-.063										
219	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	.063	3		4	.063										
220	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	.054	3	.031	5	.063										
221	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	.044	3	.044	6	.063										

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...
222	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	.031	3	.054	7	.063										
223	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2		3	.063	8	.063										
224	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	-.031	3	.054	9	.063										
225	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	-.044	3	.044	10	.063										
226	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	-.054	3	.031	11	.063										
227	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	-.063	3		4	-.063										
228	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	-.054	3	-.031	5	-.063										
229	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	-.044	3	-.044	6	-.063										
230	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	-.031	3	-.054	7	-.063										
231	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2		3	-.063	8	-.063										
232	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	.031	3	-.054	9	-.063										
233	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	.044	3	-.044	10	-.063										
234	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	42	1.5	2	.054	3	-.031	11	-.063										
235	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	.063	3		4	.063										
236	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	.054	3	.031	5	.063										
237	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	.044	3	.044	6	.063										
238	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	.031	3	.054	7	.063										
239	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2		3	.063	8	.063										
240	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	-.031	3	.054	9	.063										
241	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	-.044	3	.044	10	.063										
242	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	-.054	3	.031	11	.063										
243	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	-.063	3		4	-.063										
244	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	-.054	3	-.031	5	-.063										
245	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	-.044	3	-.044	6	-.063										
246	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	-.031	3	-.054	7	-.063										
247	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2		3	-.063	8	-.063										
248	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	.031	3	-.054	9	-.063										
249	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	.044	3	-.044	10	-.063										
250	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	43	1.5	2	.054	3	-.031	11	-.063										
251	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	.063	3		4	.063										
252	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	.054	3	.031	5	.063										
253	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	.044	3	.044	6	.063										
254	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	.031	3	.054	7	.063										
255	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2		3	.063	8	.063										
256	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	-.031	3	.054	9	.063										
257	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	-.044	3	.044	10	.063										
258	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	-.054	3	.031	11	.063										
259	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	-.063	3		4	-.063										
260	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	-.054	3	-.031	5	-.063										
261	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	-.044	3	-.044	6	-.063										
262	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	-.031	3	-.054	7	-.063										
263	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2		3	-.063	8	-.063										
264	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	.031	3	-.054	9	-.063										
265	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	.044	3	-.044	10	-.063										
266	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	44	1.5	2	.054	3	-.031	11	-.063										
267	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	.063	3		4	.063										
268	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	.054	3	.031	5	.063										
269	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	.044	3	.044	6	.063										
270	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	.031	3	.054	7	.063										
271	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2		3	.063	8	.063										
272	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	-.031	3	.054	9	.063										
273	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	-.044	3	.044	10	.063										

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...
274	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	-.054	3	.031	11	.063												
275	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	-.063	3		4	-.063												
276	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	-.054	3	-.031	5	-.063												
277	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	-.044	3	-.044	6	-.063												
278	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	-.031	3	-.054	7	-.063												
279	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2		3	-.063	8	-.063												
280	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	.031	3	-.054	9	-.063												
281	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	.044	3	-.044	10	-.063												
282	1.2DL + 1.5Lm + 1Wm ...	Yes	Y		DL	1.2	45	1.5	2	.054	3	-.031	11	-.063												

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	N152A	max	1975.091	19	1585.705	3	2047.972	42	1294.331	2	1707.136	11	0	282
2		min	-3094.204	11	-968.882	27	121.633	18	-1026.358	26	-1569.384	19	0	1
3	N153A	max	3011.257	35	1027.699	18	2025.506	35	1371.728	10	1604.917	3	0	282
4		min	-1816.945	27	-1643.737	10	178.201	27	-1103.767	18	-1439.87	27	0	1
5	N224	max	2276.698	16	943.624	25	2032.459	47	852.619	26	1754.841	8	0	282
6		min	-2251.004	24	-2910.565	49	153.869	23	-1114.382	2	-1591.658	32	0	1
7	N225	max	2108.979	32	2916.859	41	2022.465	41	834.03	18	1693.577	16	0	282
8		min	-2148.767	8	-924.696	33	181.821	32	-1104.418	10	-1544.27	24	0	1
9	N230	max	2148.002	41	3363.653	6	2046.667	37	2047.966	22	731.02	33	0	282
10		min	-184.945	33	-2702.974	30	118.477	29	-2063.425	14	-1040.52	9	0	1
11	N231	max	475.617	25	2467.424	22	2031.938	46	1943.433	29	867.56	25	0	282
12		min	-2225.712	49	-3153.706	14	157.238	22	-1932.238	21	-1175.503	17	0	1
13	Totals:	max	5419.838	18	5215.948	22	11708.867	49						
14		min	-5419.839	10	-5215.95	14	2414.599	74						

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

	Member	Shape	Code Check	Loc[in]	LC	She...	Loc[in]	Dir	L...	phi*Pn...	phi*Pn...	phi*M...	phi*M...	...	Eqn
1	M70	PL 4"x0.625"	.561	6	39	.122	6	y	2...	76418...	81000	1054.6...	6750	1...	H1-1b
2	M16	PL 4"x0.625"	.561	6	34	.122	6	y	1...	76418...	81000	1054.6...	6750	1...	H1-1b
3	M123	PL 4"x0.625"	.558	6	45	.122	6	y	2...	76418...	81000	1054.6...	6750	1...	H1-1b
4	M67	PL 4"x0.625"	.556	6	47	.117	6	y	2...	76418...	81000	1054.6...	6750	1	H1-1b
5	M13	PL 4"x0.625"	.555	6	42	.117	6	y	1...	76418...	81000	1054.6...	6750	1	H1-1b
6	M120	PL 4"x0.625"	.553	6	36	.117	6	y	2...	76418...	81000	1054.6...	6750	1	H1-1b
7	MP2	PIPE 2.0	.509	40	2	.063	40		2	9836.5...	32130	1871.6...	1871.6...	4...	H1-1b
8	MP6	PIPE 2.0	.504	40	5	.063	40		13	9836.5...	32130	1871.6...	1871.6...	1	H1-1b
9	MP10	PIPE 2.0	.504	40	15	.063	40		8	9836.5...	32130	1871.6...	1871.6...	1...	H1-1b
10	MP8	PIPE 2.0	.454	80	273	.059	80		13	9836.5...	32130	1871.6...	1871.6...	1	H1-1b
11	MP12	PIPE 2.0	.454	80	203	.059	80		7	9836.5...	32130	1871.6...	1871.6...	1	H1-1b
12	MP4	PIPE 2.0	.454	80	150	.059	80		2	9836.5...	32130	1871.6...	1871.6...	4...	H1-1b
13	MP1	PIPE 2.0	.368	80	95	.047	40		3	9836.5...	32130	1871.6...	1871.6...	1	H1-1b
14	MP9	PIPE 2.0	.368	80	159	.048	40		9	9836.5...	32130	1871.6...	1871.6...	4...	H1-1b
15	MP5	PIPE 2.0	.368	80	234	.052	40		14	9836.5...	32130	1871.6...	1871.6...	4...	H1-1b
16	M19	PIPE 2.5	.330	45.313	10	.128	106.25		4	41048...	50715	3596.25	3596.25	1	H1-1b
17	M126	PIPE 2.5	.325	45.312	5	.148	106.25		15	41048...	50715	3596.25	3596.25	1	H1-1b
18	M73	PIPE 2.5	.324	45.312	15	.139	106.25		10	41048...	50715	3596.25	3596.25	1	H1-1b
19	H1	PIPE 2.5	.280	43.75	139	.213	106.25		11	41048...	50715	3596.25	3596.25	1	H1-1b
20	H2	PIPE 2.5	.280	43.75	278	.232	106.25		6	41048...	50715	3596.25	3596.25	1	H1-1b

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

	Member	Shape	Code Check	Loc[in]	LC	She...	Loc[in]	Dir	L...	phi*Pn...	phi*Pn...	phi*M...	phi*M...	...	Eqn
21	H3	PIPE_2.5	.280	43.75	208	.217	106.25		17	41048...	50715	3596.25	3596.25	1	H1-1b
22	M38	PL 4"x0.625"	.219	4.512	34	.129	4.512	y	34	79311...	81000	1054.6...	6750	1...	H1-1b
23	M144	PL 4"x0.625"	.219	4.512	45	.129	4.512	y	45	79311...	81000	1054.6...	6750	1...	H1-1b
24	M91	PL 4"x0.625"	.218	4.512	39	.129	4.512	y	39	79311...	81000	1054.6...	6750	1...	H1-1b
25	M130	PIPE_2.0	.210	2.188	6	.050	27.813		46	29810...	32130	1871.6...	1871.6...	1	H1-1b
26	MP7	PIPE_2.0	.208	40	5	.037	80		2...	9836.5...	32130	1871.6...	1871.6...	1	H1-1b
27	MP3	PIPE_2.0	.207	40	10	.037	80		1...	9836.5...	32130	1871.6...	1871.6...	1	H1-1b
28	M163	PIPE_4.0_HRA	.207	5.25	6	.150	5.25		6	83097...	93240	10631...	10631...	1	H1-1b
29	M39	PL 4"x0.625"	.206	4.512	42	.129	2.209	y	37	79311...	81000	1054.6...	6750	1	H1-1b
30	M145	PL 4"x0.625"	.206	4.512	37	.130	4.512	y	47	79311...	81000	1054.6...	6750	1	H1-1b
31	MP11	PIPE_2.0	.205	40	15	.037	80		2...	9836.5...	32130	1871.6...	1871.6...	2...	H1-1b
32	M92	PL 4"x0.625"	.205	4.512	47	.130	4.512	y	43	79311...	81000	1054.6...	6750	1	H1-1b
33	M124A	PIPE_4.0_HRA	.194	66.75	2	.137	5.25		11	83097...	93240	10631...	10631...	1	H1-1b
34	M160	PIPE_4.0_HRA	.193	5.25	16	.135	5.25		16	83097...	93240	10631...	10631...	3...	H1-1b
35	M128	PIPE_2.0	.191	2.188	14	.053	27.813		48	29810...	32130	1871.6...	1871.6...	1	H1-1b
36	M77	PIPE_2.0	.187	2.188	17	.050	27.813		48	29810...	32130	1871.6...	1871.6...	1	H1-1b
37	M23	PIPE_2.0	.185	2.188	11	.050	27.813		42	29810...	32130	1871.6...	1871.6...	1	H1-1b
38	M75	PIPE_2.0	.168	2.188	9	.053	27.813		43	29810...	32130	1871.6...	1871.6...	1	H1-1b
39	M21	PIPE_2.0	.166	2.188	3	.052	27.813		37	29810...	32130	1871.6...	1871.6...	1	H1-1b
40	M124	PL 4"x0.625"	.164	4.512	221	.093	4.512	y	47	79311...	81000	1054.6...	6750	1	H1-1b
41	M17	PL 4"x0.625"	.164	4.512	98	.092	2.209	y	36	79311...	81000	1054.6...	6750	1	H1-1b
42	M71	PL 4"x0.625"	.164	4.512	167	.093	4.512	y	42	79311...	81000	1054.6...	6750	1	H1-1b
43	M15	PL 4"x0.625"	.163	4.512	105	.091	2.209	y	43	79311...	81000	1054.6...	6750	1...	H1-1b
44	M146	PL 4"x0.625"	.163	4.511	46	.130	4.511	y	47	79311...	81000	1054.6...	6750	1	H1-1b
45	M122	PL 4"x0.625"	.163	4.512	227	.092	2.209	y	38	79311...	81000	1054.6...	6750	1...	H1-1b
46	M69	PL 4"x0.625"	.163	4.512	158	.091	2.209	y	49	79311...	81000	1054.6...	6750	1...	H1-1b
47	M93	PL 4"x0.625"	.161	4.511	41	.130	4.511	y	43	79311...	81000	1054.6...	6750	1	H1-1b
48	M40	PL 4"x0.625"	.161	4.512	35	.129	4.512	y	37	79311...	81000	1054.6...	6750	1	H1-1b
49	M90	PL 4"x0.625"	.157	0	46	.129	0	y	39	79311...	81000	1054.6...	6750	1...	H1-1b
50	M143	PL 4"x0.625"	.156	0	34	.129	2.303	y	45	79311...	81000	1054.6...	6750	1...	H1-1b
51	M37	PL 4"x0.625"	.154	0	41	.129	0	y	34	79311...	81000	1054.6...	6750	1...	H1-1b
52	M1	SR 3/4	.118	0	42	.018	44		35	4419.0...	14320.8	184.32	184.32	1	H1-1b*
53	M55	SR 3/4	.118	0	47	.018	0		42	4419.0...	14320.8	184.32	184.32	1	H1-1b*
54	M108	SR 3/4	.118	0	36	.019	44		46	4419.0...	14320.8	184.32	184.32	1	H1-1b*
55	M129	PIPE_2.0	.114	2.188	14	.074	27.813		49	29810...	32130	1871.6...	1871.6...	1	H1-1b
56	M140	PL 4"x0.625"	.113	4.511	14	.093	2.209	y	47	79311...	81000	1054.6...	6750	1	H1-1b
57	M121	PL 4"x0.625"	.108	0	6	.092	0	y	38	79311...	81000	1054.6...	6750	1	H1-1b
58	M131	PIPE_2.0	.105	2.188	277	.074	2.188		45	29810...	32130	1871.6...	1871.6...	2...	H1-1b
59	M78	PIPE_2.0	.105	2.188	208	.075	2.188		39	29810...	32130	1871.6...	1871.6...	2...	H1-1b
60	M24	PIPE_2.0	.105	2.188	139	.074	2.188		34	29810...	32130	1871.6...	1871.6...	2...	H1-1b
61	M87	PL 4"x0.625"	.105	4.511	162	.093	2.209	y	42	79311...	81000	1054.6...	6750	1	H1-1b
62	M34	PL 4"x0.625"	.105	4.512	92	.092	2.209	y	36	79311...	81000	1054.6...	6750	1	H1-1b
63	M68	PL 4"x0.625"	.105	0	170	.091	0	y	49	79311...	81000	1054.6...	6750	1	H1-1b
64	M14	PL 4"x0.625"	.105	0	100	.092	0	y	43	79311...	81000	1054.6...	6750	1	H1-1b
65	M22	PIPE_2.0	.103	27.813	141	.074	27.813		38	29810...	32130	1871.6...	1871.6...	2...	H1-1b
66	M76	PIPE_2.0	.103	27.813	211	.074	27.813		45	29810...	32130	1871.6...	1871.6...	2...	H1-1b
67	M171A	PIPE_2.0	.095	0	6	.047	0		2...	21751...	32130	1871.6...	1871.6...	1	H1-1b*
68	M167	PIPE_2.0	.088	0	17	.047	0		1...	21751...	32130	1871.6...	1871.6...	1	H1-1b*
69	M163A	PIPE_2.0	.087	0	11	.047	0		98	21751...	32130	1871.6...	1871.6...	1	H1-1b*
70	M147	SR 5/8	.077	40	4	.007	0		2...	2339.3...	9946.8	96.768	96.768	1	H1-1b*
71	M41	SR 5/8	.075	20	26	.007	0		1...	2339.3...	9946.8	96.768	96.768	1	H1-1b
72	M94	SR 5/8	.072	40	15	.007	0		2...	2339.3...	9946.8	96.768	96.768	1	H1-1b*

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

	Member	Shape	Code Check	Loc[in]	LC	She...	Loc[in]	Dir	L...	phi*Pn...	phi*Pn...	phi*M...	phi*M...	...	Eqn
73	M110	SR 3/4	.071	44	223	.014	44		5	4419.0...	14320.8	184.32	184.32	1	H1-1b*
74	M57	SR 3/4	.071	44	169	.012	0		15	4419.0...	14320.8	184.32	184.32	1	H1-1b*
75	M3	SR 3/4	.071	44	99	.013	0		10	4419.0...	14320.8	184.32	184.32	1	H1-1b*
76	M142	SR 5/8	.068	0	6	.007	0		2...	2339.3...	9946.8	96.768	96.768	1	H1-1b*
77	M169A	PIPE_2.0	.068	0	22	.043	63.801		2...	21618....	32130	1871.6...	1871.6...	1	H1-1b*
78	M36	SR 5/8	.064	20	11	.007	0		1...	2339.3...	9946.8	96.768	96.768	1	H1-1b
79	M89	SR 5/8	.063	20	17	.007	0		2...	2339.3...	9946.8	96.768	96.768	1	H1-1b
80	M165A	PIPE_2.0	.062	0	33	.043	0		1...	21618....	32130	1871.6...	1871.6...	1	H1-1b*
81	M171	PIPE_2.0	.060	0	27	.043	0		91	21618....	32130	1871.6...	1871.6...	1	H1-1b*
82	M88	SR 5/8	.059	20	18	.008	0		42	2339.3...	9946.8	96.768	96.768	1	H1-1b
83	M141	SR 5/8	.054	20	25	.008	0		2...	2339.3...	9946.8	96.768	96.768	1	H1-1b
84	M35	SR 5/8	.054	20	26	.008	0		34	2339.3...	9946.8	96.768	96.768	1	H1-1b
85	M95	SR 5/8	.052	19.167	34	.006	0		2...	2339.3...	9946.8	96.768	96.768	1	H1-1b
86	M148	SR 5/8	.051	19.167	42	.006	0		2...	2339.3...	9946.8	96.768	96.768	1	H1-1b
87	M42	SR 5/8	.049	19.167	42	.006	0		2	2339.3...	9946.8	96.768	96.768	1	H1-1b
88	M30	PL 2"x0.625"	.044	4.46	34	.007	4.46	y	38	39953....	40500	527.345	1687.5	1...	H1-1b*
89	M84	PL 2"x0.625"	.044	4.46	40	.008	4.46	y	38	39953....	40500	527.345	1687.5	1...	H1-1b*
90	M137	PL 2"x0.625"	.043	4.46	45	.008	4.46	y	39	39953....	40500	527.345	1687.5	1...	H1-1b*
91	M82	PL 2"x0.625"	.043	4.46	40	.007	0	y	38	39953....	40500	527.345	1687.5	1	H1-1b*
92	M28	PL 2"x0.625"	.043	4.46	34	.007	0	y	43	39953....	40500	527.345	1687.5	1	H1-1b*
93	M135	PL 2"x0.625"	.043	4.46	45	.007	0	y	39	39953....	40500	527.345	1687.5	1	H1-1b*
94	M83	PL 2"x0.625"	.029	4.46	34	.008	4.46	y	41	39953....	40500	527.345	1687.5	1...	H1-1b
95	M134	PL 2"x0.625"	.028	0	46	.007	0	y	46	39953....	40500	527.345	1687.5	1...	H1-1b
96	M81	PL 2"x0.625"	.028	0	42	.007	0	y	41	39953....	40500	527.345	1687.5	1...	H1-1b
97	M136	PL 2"x0.625"	.028	4.46	46	.008	4.46	y	46	39953....	40500	527.345	1687.5	1...	H1-1b
98	M29	PL 2"x0.625"	.028	4.46	45	.008	4.46	y	35	39953....	40500	527.345	1687.5	1...	H1-1b
99	M27	PL 2"x0.625"	.027	0	36	.007	0	y	35	39953....	40500	527.345	1687.5	1...	H1-1b
100	M133	PL 2"x0.625"	.025	0	231	.004	0	y	46	39953....	40500	527.345	1687.5	1...	H1-1b*
101	M26	PL 2"x0.625"	.025	0	92	.004	0	y	34	39953....	40500	527.345	1687.5	1...	H1-1b*
102	M80	PL 2"x0.625"	.025	0	162	.004	0	y	41	39953....	40500	527.345	1687.5	1...	H1-1b*
103	M139	PL 2"x0.625"	.025	0	231	.004	4.46	y	46	39953....	40500	527.345	1687.5	1	H1-1b*
104	M32	PL 2"x0.625"	.025	0	92	.004	4.46	y	34	39953....	40500	527.345	1687.5	1	H1-1b*
105	M86	PL 2"x0.625"	.025	0	162	.004	4.46	y	40	39953....	40500	527.345	1687.5	1	H1-1b*
106	M85	PL 2"x0.625"	.019	4.46	37	.005	4.46	y	16	39953....	40500	527.345	1687.5	1...	H1-1b
107	M138	PL 2"x0.625"	.019	4.46	42	.005	4.46	y	5	39953....	40500	527.345	1687.5	1...	H1-1b
108	M132	PL 2"x0.625"	.018	0	35	.005	0	y	5	39953....	40500	527.345	1687.5	1...	H1-1b
109	M79	PL 2"x0.625"	.018	0	46	.005	4.46	y	16	39953....	40500	527.345	1687.5	1...	H1-1b
110	M111	SR 3/4	.017	44	22	.010	44		46	4419.0...	14320.8	184.32	184.32	1	H1-1b*
111	M31	PL 2"x0.625"	.017	4.46	47	.005	4.46	y	10	39953....	40500	527.345	1687.5	1...	H1-1b
112	M25	PL 2"x0.625"	.017	0	41	.005	4.46	y	10	39953....	40500	527.345	1687.5	1...	H1-1b
113	M4	SR 3/4	.014	0	27	.009	0		34	4419.0...	14320.8	184.32	184.32	1	H1-1b*
114	M58	SR 3/4	.014	44	33	.009	44		40	4419.0...	14320.8	184.32	184.32	1	H1-1b*
115	M2	SR 3/4	.002	44	26	.017	44		38	4419.0...	14320.8	184.32	184.32	1	H1-1b*
116	M56	SR 3/4	.002	0	31	.018	44		38	4419.0...	14320.8	184.32	184.32	1	H1-1b*
117	M109	SR 3/4	.001	0	21	.018	44		39	4419.0...	14320.8	184.32	184.32	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

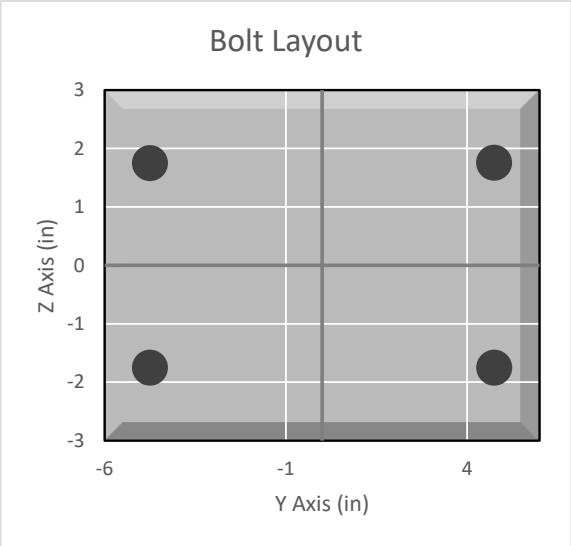
Analysis date: 6/24/2022

BOLT TOOL 1.5.2

Project Data	
Job Code:	212049
Carrier Site ID:	CTHA114B
Carrier Site Name:	CT54XC710

Code	
Design Standard:	TIA-222-H
Slip Check:	Yes
Pretension Standard:	TIA-222-H

Bolt Properties		
Connection Type:	Threaded Rod	
Diameter:	0.625	in
Grade:	AE J429 Gr.	--
Yield Strength (Fy):	57	ksi
Ultimate Strength (Fu):	74	ksi
Number of Bolts:	4	--
Threads Included:	Yes	--
Double Shear:	No	--
Connection Pipe Size:	9.5	in



Connection Description
Mount to 4.5 O.D. Pipe

Bolt Check*		
Tensile Capacity (ϕT_n):	12543.1	lbs
Shear Capacity (ϕV_n):	8513.6	lbs
Tension Force (T_u):	3616.8	lbs
Shear Force (V_u):	616.7	lbs
Tension Usage:	27.5%	--
Shear Usage:	6.9%	--
Interaction:	27.5%	Pass
Controlling Member:	M114	--
Controlling LC:	38	--

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

Slip Check*		
Sliding Capacity (ϕR_{ns}):	12963.1	lbs
Torsion Capacity (ϕR_{nr}):	5131.2	lb-ft
Sliding Force (V_{us}):	1937.7	lbs
Torsional Force (T_{ur}):	297.1	lb-ft
Sliding Usage:	14.2%	--
Torsion Usage:	6.4%	--
Interaction:	15.6%	Pass
Controlling Member:	M114	--
Controlling LC:	38	--

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

Trylon

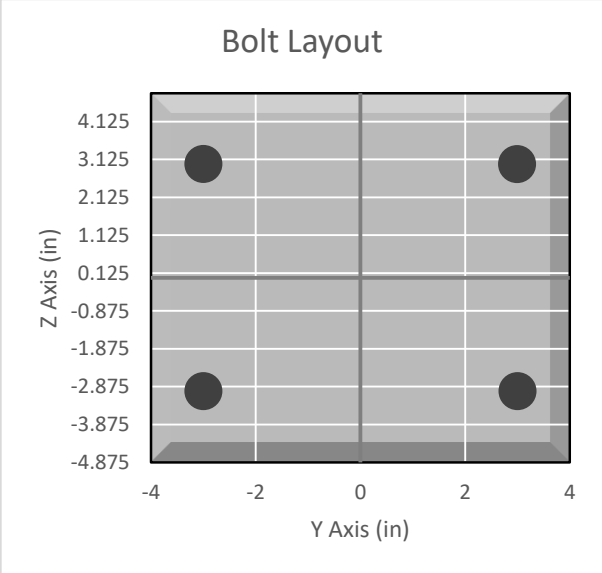
Analysis date: 6/24/2022

BOLT TOOL 1.5.2

Project Data	
Job Code:	212049
Carrier Site ID:	CTHA114B
Carrier Site Name:	CT54XC710

Code	
Design Standard:	TIA-222-H
Slip Check:	Yes
Pretension Standard:	TIA-222-H

Bolt Properties		
Connection Type:	Threaded Rod	
Diameter:	0.625	in
Grade:	SAE J429 Gr.	--
Yield Strength (Fy):	57	ksi
Ultimate Strength (Fu):	74	ksi
Number of Bolts:	4	--
Threads Included:	Yes	--
Double Shear:	No	--
Connection Pipe Size:	6	in



Connection Description
Mast Pipe to Collar

Bolt Check*		
Tensile Capacity (ϕT_n):	12543.1	lbs
Shear Capacity (ϕV_n):	8513.6	lbs
Tension Force (T_u):	2606.1	lbs
Shear Force (V_u):	720.8	lbs
Tension Usage:	19.8%	--
Shear Usage:	8.1%	--
Interaction:	19.8%	Pass
Controlling Member:	M164	--
Controlling LC:	6	--

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

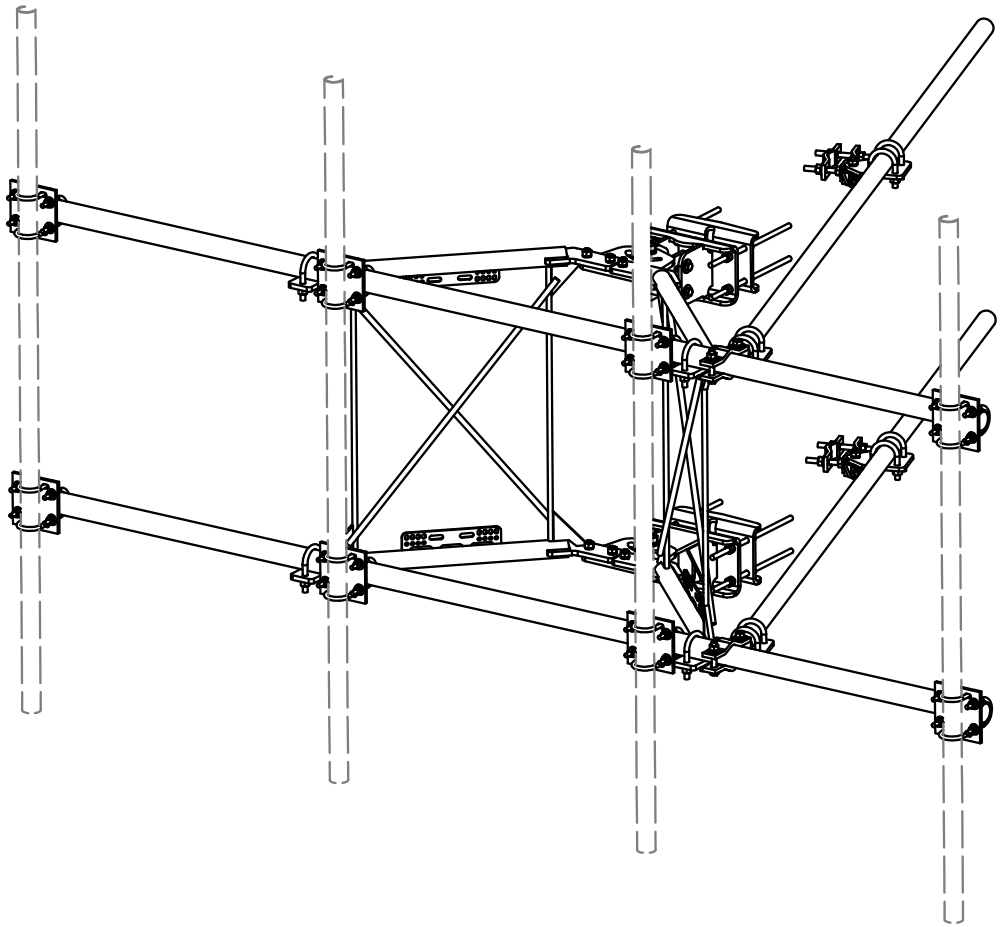
Slip Check*		
Sliding Capacity (ϕR_{ns}):	12949.1	lbs
Torsion Capacity (ϕR_{nr}):	3237.3	lb-ft
Sliding Force (V_{us}):	2048.0	lbs
Torsional Force (T_{ur}):	0.0	lb-ft
Sliding Usage:	15.1%	--
Torsion Usage:	0.0%	--
Interaction:	15.1%	Pass
Controlling Member:	M125	--
Controlling LC:	42	--

**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	2	X-VFAW	SUPPORT ARM		71.41	142.81
2	1	X-HDCAMTBW	CLAMP WELDMENT FOR BCAM-HD		33.86	33.86
3	1	X-MHTPHD	MULTI-HOLE TAPER PLATE WELDMENT		36.24	36.24
4	2	X-VFAPL4	VFA-HD PIVOT PLATE	12 in	15.88	31.77
5	2	X-LCBP4	BENT BACKING PLATE	13 in	20.04	40.09
6	1	X-HDCAMSS	ANGLE ADJUSTMENT WELDMENT FOR BCAM-HD		16.39	16.39
7	4	X-SPTB	SLIDING PIPE TIE BACK PLATE	5 1/2 in	5.87	23.49
8	1	X-HDCAMSP	POSITIONING PLATE WELDMENT FOR BCAM-HD		2.58	2.58
9	4	X-TBCA	TIE BACK CLIP ANGLE		2.01	8.02
10	8	SCX2	CROSSOVER PLATE	7 in	4.80	38.37
11	4	MCP	CLAMP HALF 1/2" THICK, 11-5/8" LONG	12 1/16 in	3.59	14.37
12	8	DCP	1/2" THICK, 5-3/4" CNTER TO CENTER CLAMP HALF	8 1/8 in	2.36	18.90
13	2	P2126	2-3/8" X 126" (2" SCH. 40) GALVANIZED PIPE	126 in	40.75	81.50
14	2	P30150	2-7/8" X 150" (2-1/2" SCH. 40) GALVANIZED PIPE	150 in	76.94	153.87
15	4	A34212	3/4" x 2-1/2" UNC HEX BOLT (A325)	2 1/2 in	0.48	1.92
16	4	G34FW	3/4" HDG USS FLATWASHER		0.06	0.24
17	4	G34LW	3/4" HDG LOCKWASHER		0.04	0.17
18	4	G34NUT	3/4" HDG HEAVY 2H HEX NUT		0.21	0.85
19	8	G58R-18	5/8" x 18" THREADED ROD (HDG.)		1.57	12.54
20	4	G58R-12	5/8" x 12" THREADED ROD (HDG.)		1.05	4.18
21	4	G58R-8	5/8" x 8" THREADED ROD (HDG.)		0.70	2.79
22	4	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
23	8	X-UB5258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	8.00
24	2	G5807	5/8" x 7" HDG HEX BOLT GR5 FULL THREAD	7 in	0.70	1.41
25	1	G5806	5/8" x 6" HDG HEX BOLT GR5 FULL THREAD	6 in	0.62	0.62
26	8	G5804	5/8" x 4" HDG HEX BOLT GR5		0.44	3.55
27	4	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	1.08
28	8	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	2.50
29	25	G58FW	5/8" HDG USS FLATWASHER	1/8 in	0.07	1.76
30	66	G58LW	5/8" HDG LOCKWASHER		0.03	1.72
31	71	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	9.22
32	32	X-UB1300	1/2" X 3" X 5" X 2" GALV U-BOLT		0.74	23.64
33	16	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.60	9.56
34	64	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	2.18
35	64	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.89
36	64	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	4.58
					TOTAL WT. #	740.26

REVISION HISTORY

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
D	UPDATED BCAM VERSION 1 TO BCAM VERSION 2		CEK	6/29/2018
C	UPDATED PIN LEG CONNECTION TO B-CAM CONNECTION		CEK	12/7/2017
B	CHANGED TIE-BACK BACK CONNECTION		CEK	7/31/2017
A	CHANGED TIE-BACK FRONT CONNECTION		CEK	2/2/2017

TOLERANCE NOTES

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ALL OTHER ASSEMBLY *(± 0.060")*

DESCRIPTION
12' 6" HEAVY DUTY
V-FRAME ASSEMBLY
WITH TWO STIFF ARMS

SITE PRO 1
A valmont COMPANY

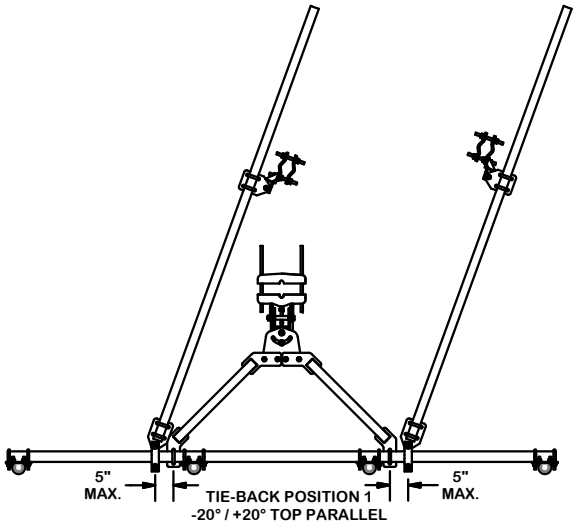
Engineering Support Team: 1-888-753-7446

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

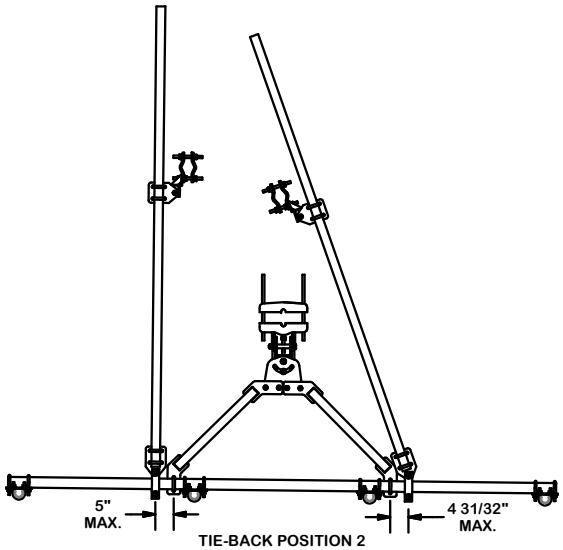
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.	PAGE
	CEK 1/25/2017		VFA12-HD	1 OF 5

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	CUSTOMER	BMC 12/13/2017	VFA12-HD

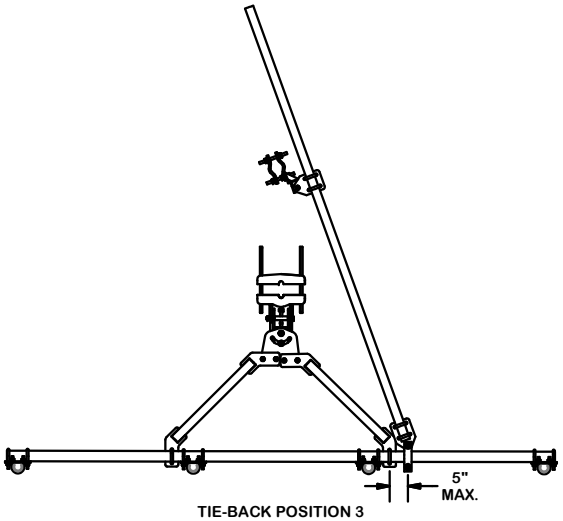
TIE-BACK POSITIONS



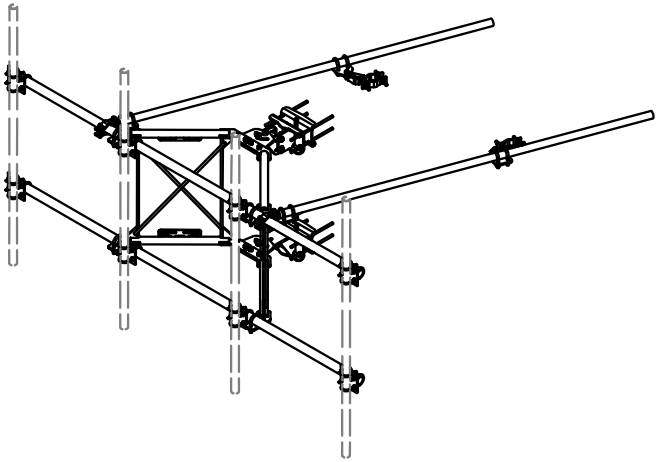
TIE-BACK POSITION 1
-20° / +20° TOP PARALLEL

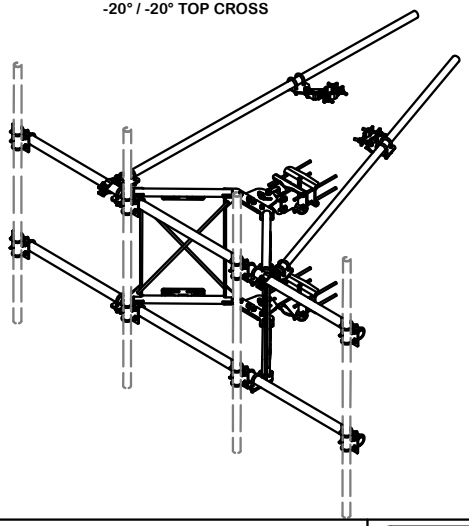


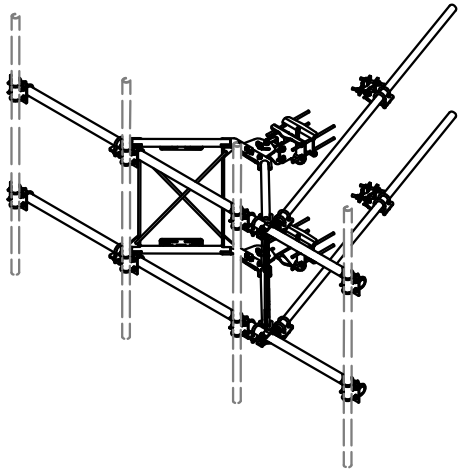
TIE-BACK POSITION 2
-20° / -20° TOP CROSS



TIE-BACK POSITION 3
-20° SAME SIDE STACKED







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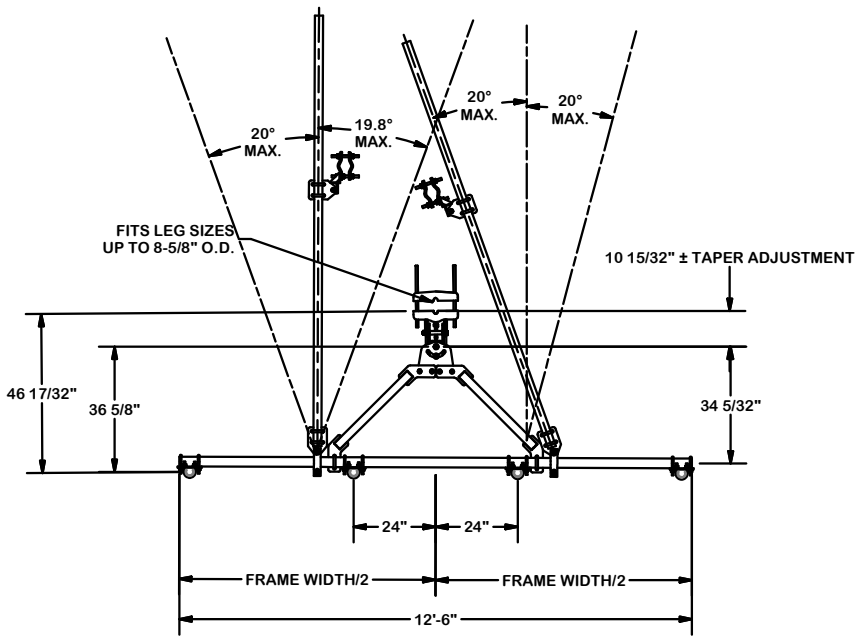
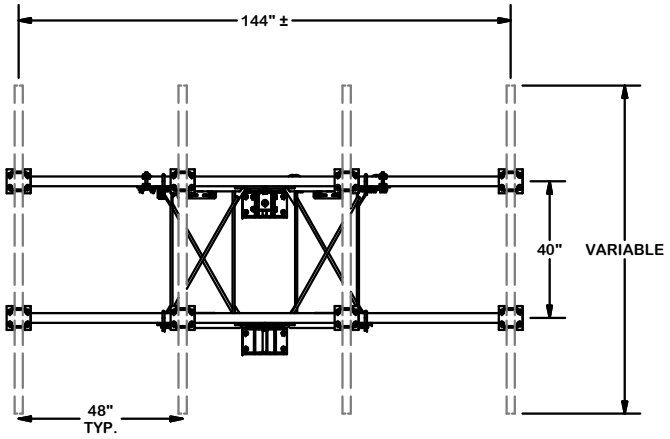
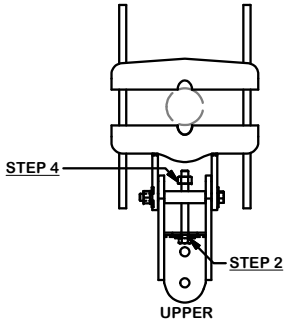
81	02	CUSTOMER	BMC 12/13/2017	VFA12-HD

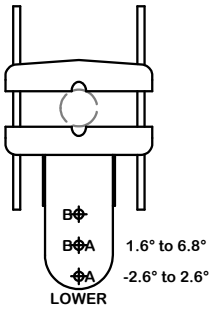


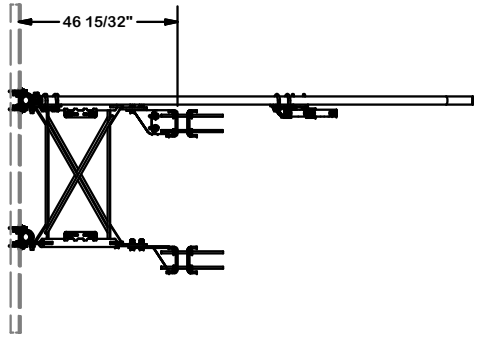


ANGLE CALIBRATING PROCEDURE:

1. MEASURE TOWER TAPER AND PICK LOWER BRACKET HOLE:
   - HOLE A = -2.6° TO 2.6°
   - HOLE B = 1.6° TO 6.8°
2. USE CALIBRATING BOLT TO ADJUST FRAME TO DESIRED TAPER
3. TORQUE LOCKING BOLTS TO 100 ft.-lbs.
4. ADVANCE LOCKING NUT TO POSITIONING PLATE, THEN TIGHTEN.







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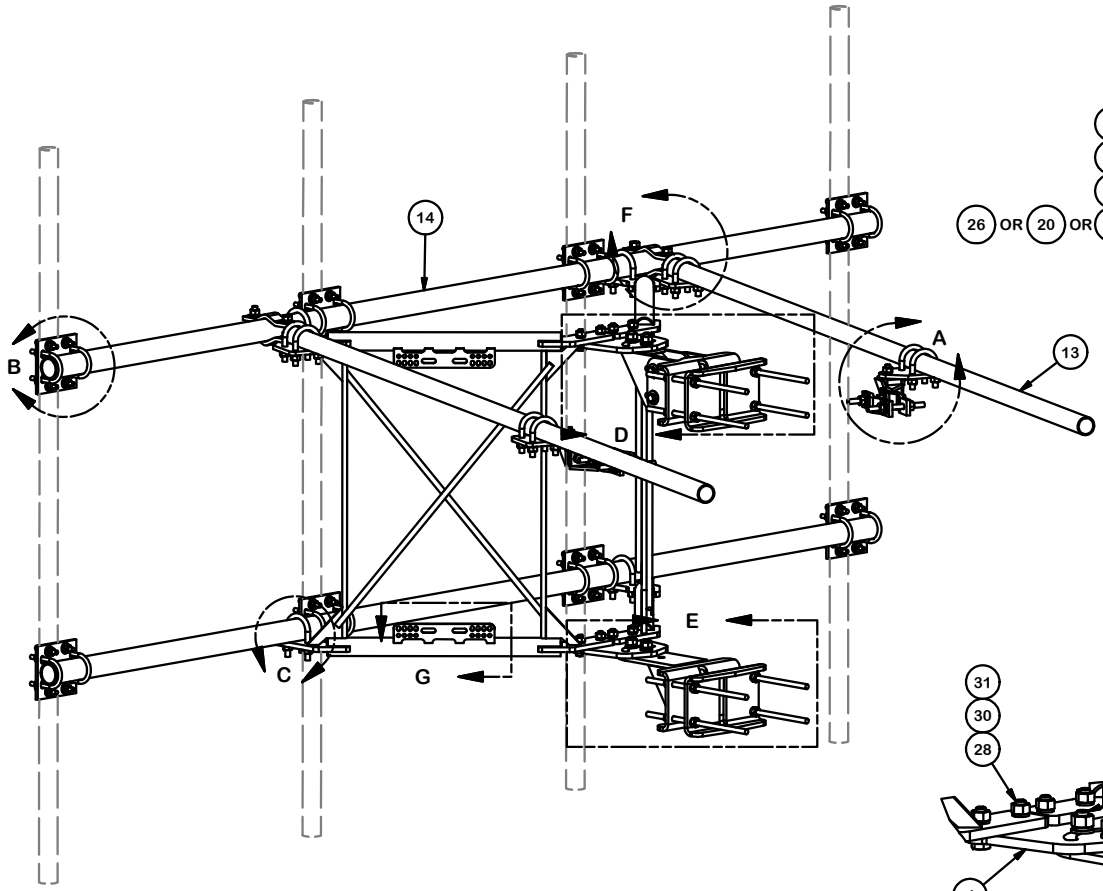
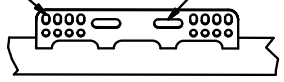
81	02	CUSTOMER	BMC 12/13/2017	VFA12-HD



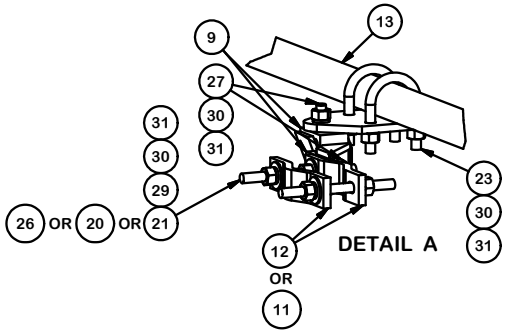
7/16" LUG HOLES

REVIEW CARRIER STANDARDS FOR PROPER SURFACE PREPARTION AND ASSEMBLY OF ELECTRICAL CONNECTIONS

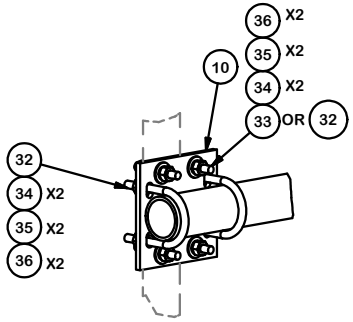
9/16" SLOTTED HOLE FOR EQUIPMENT PIPE U-BOLT



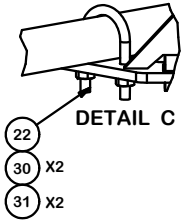
DETAIL G



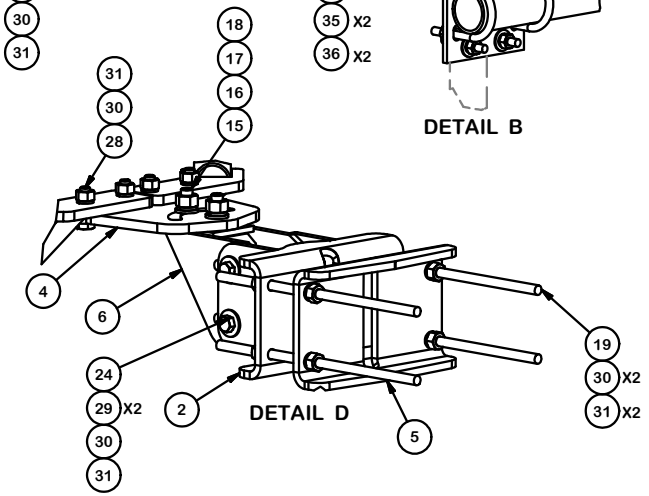
DETAIL A



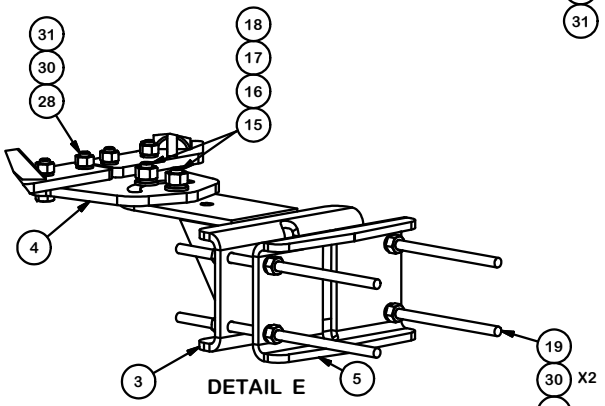
DETAIL B



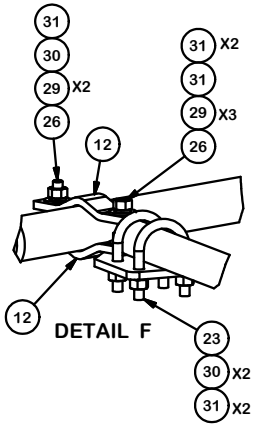
DETAIL C



DETAIL D



DETAIL E



DETAIL F

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
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REVISION HISTORY

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SITE PRO 1
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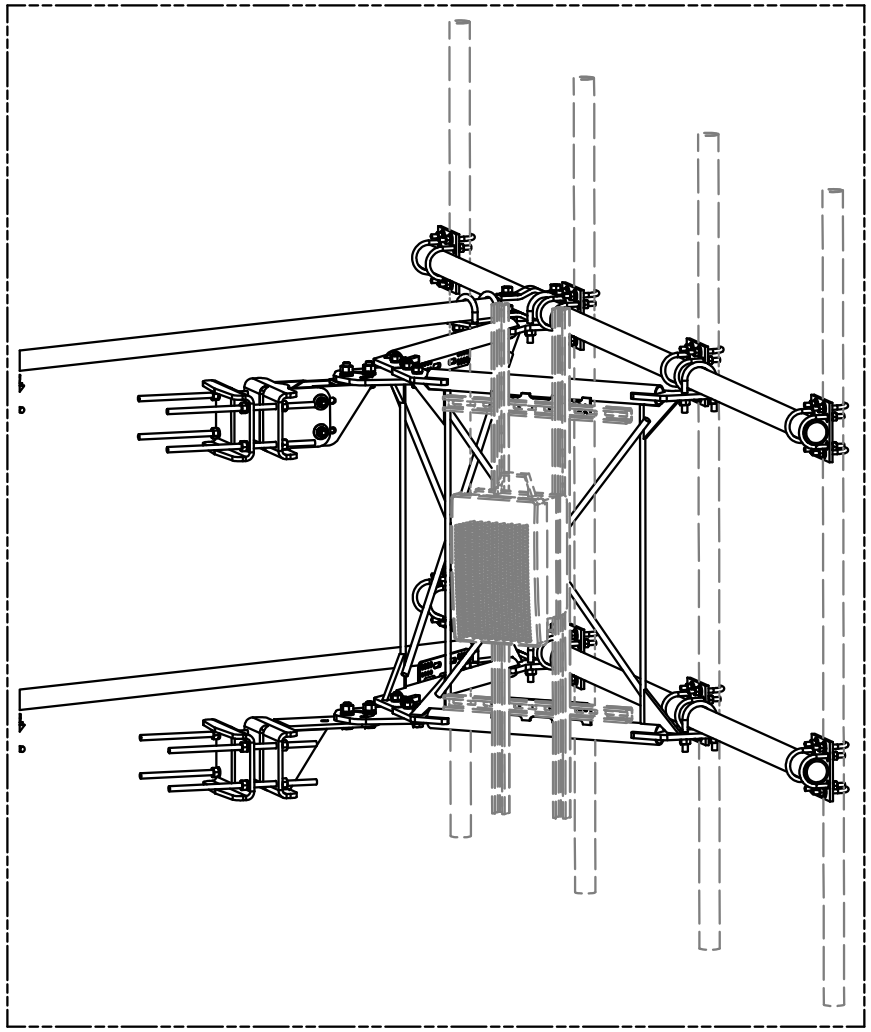
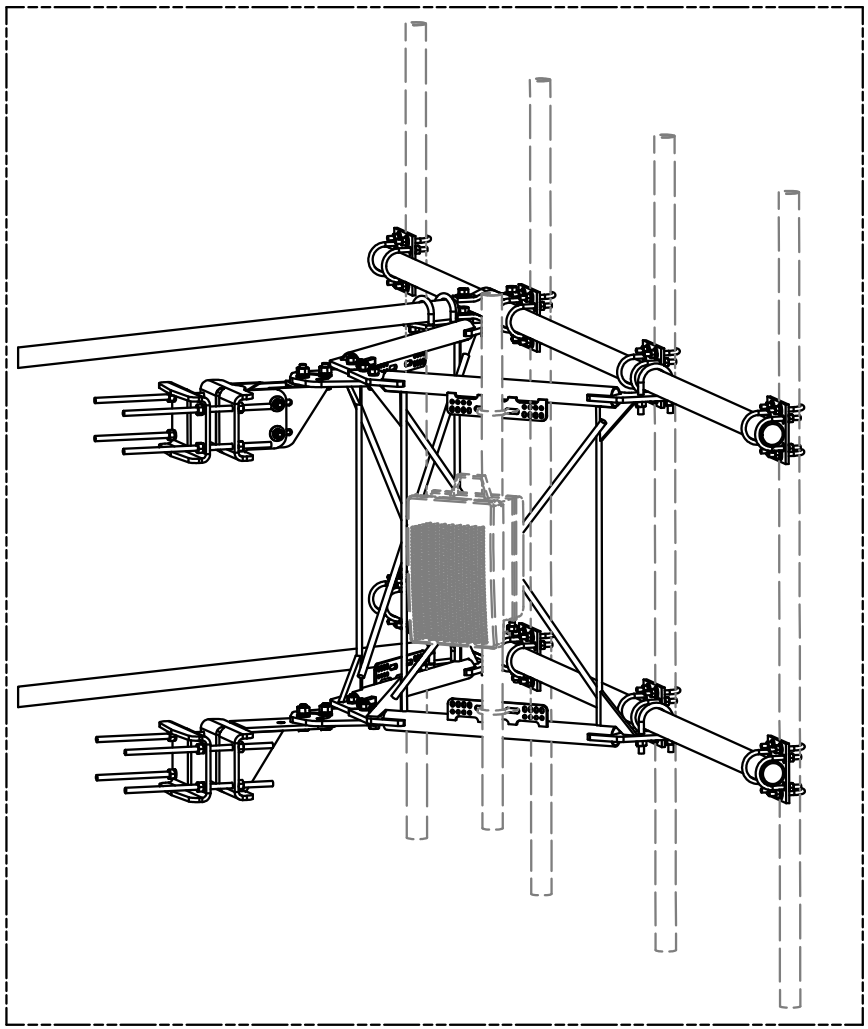
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
	CEK 1/25/2017		VFA12-HD

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	CUSTOMER	BMC 12/13/2017	VFA12-HD



UNISTRUT AND HARDWARE
SOLD SEPARATELY.

REQUIRES 3/8" HARDWARE



EQUIPMENT PIPE AND HARDWARE
SOLD SEPARATELY.

REQUIRES 1/2" HARDWARE
AND 2-3/8" TO 4-1/2" O.D. PIPE

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
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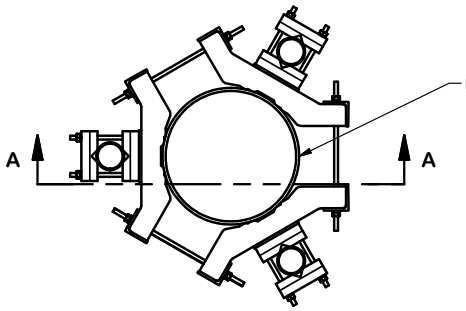
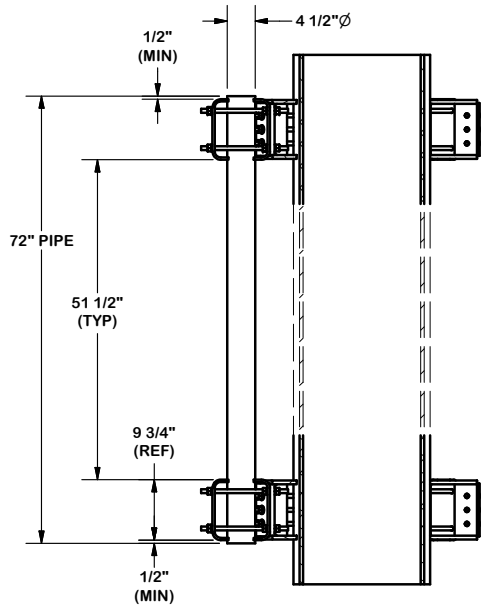
	CEK 1/25/2017		VFA12-HD

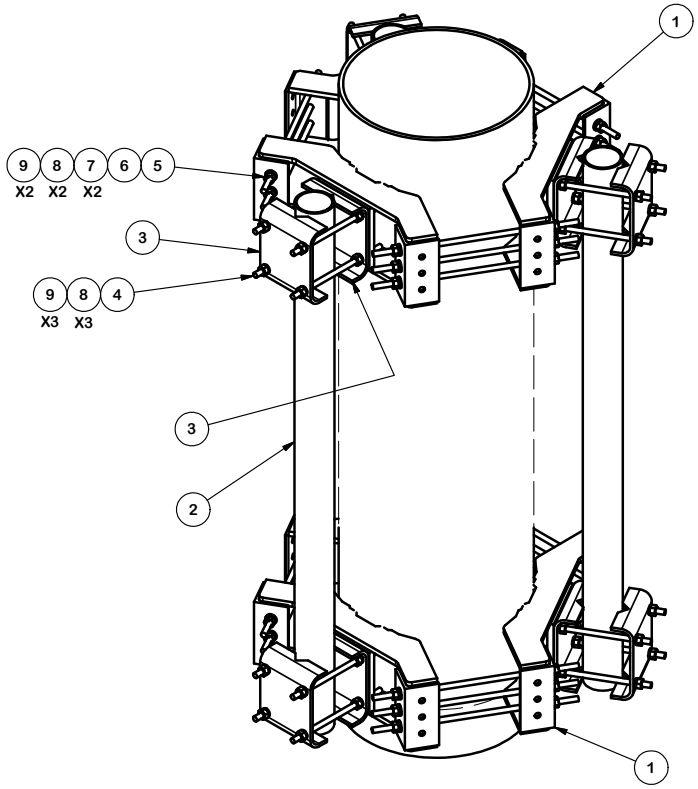
CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	CUSTOMER	BMC 12/13/2017	VFA12-HD

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT
1	6	X-LWRM	RING MOUNT WELDMENT		68.16	408.96
2	3	P472	4-1/2" X 72" SCH. 40 GALVANIZED PIPE	72 in	64.89	194.68
3	12	X-214130	BENT PLATE V-CLAMP	12 5/8 in	11.43	137.16
4	24	G58R-14	5/8" x 14" THREADED ROD (HDG.)	14 in	0.40	9.57
5	18	G58R-48	5/8" x 48" THREADED ROD (HDG.)	48 in	.55	9.90
6	18	G58R-24	5/8" x 24" THREADED ROD (HDG.)	24 in	.55	9.90
7	36	A58FW	5/8" HDG A325 FLATWASHER		.03	1.08
8	108	G58LW	5/8" HDG LOCKWASHER		0.03	3.24
9	108	A58NUT	5/8" HDG A325 HEX NUT		0.13	14.04
					TOTAL WT. #	788.53





SECTION A-A



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ALL OTHER ASSEMBLY *(± 0.060")*

DESCRIPTION: MONOPOLE SECTOR FRAME ATTACHMENT ASSEMBLY

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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 3/18/2016	3RD PARTY	MSFAA
CLASS / SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
01 / 01	CUSTOMER	BMC 5/2/2016	MSFAA

Fox Hill Telecom

Radio Frequency Emissions Analysis Report

T-Mobile

Site ID: CTHA114B

AT&T 27074
371 Terryville Avenue
Bristol, CT 06010

August 15, 2022

Fox Hill Telecom Project Number: 221567

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**24.81 %**

Fox Hill Telecom

August 15, 2022

T-MOBILE
Attn: RF Manager
35 Griffin Road South
Bloomfield, CT 06009

Emissions Analysis for Site: **CTHA114B – AT&T 27074**

Fox Hill Telecom, Inc ("Fox Hill") was directed to analyze the proposed upgrades to the T-MOBILE facility located at **371 Terryville Avenue, Bristol, CT**, 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 (μW/cm2). 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.

General population 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 & 700 MHz 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 2500 MHz (BRS) 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 performed for the proposed upgrades to the T-MOBILE antenna facility located at **371 Terryville Avenue, Bristol, CT**, 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 manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.

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. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20
LTE	1900 MHz (PCS)	4	40
GSM	1900 MHz (PCS)	1	15
LTE	2100 MHz (AWS)	4	40
LTE / 5G NR	2500 MHz (BRS)	8	20

Table 1: Channel Data Table

The following antennas listed in *Table 2* were used in the modeling for transmission in the 600 MHz, 700 MHz, 1900 MHz (PCS), 2100 MHz (AWS) and 2500 MHz (BRS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	RFS APXVAALL24_43-U-NA20	158
A	2	Ericsson AIR6419 B41	158
B	1	RFS APXVAALL24_43-U-NA20	158
B	2	Ericsson AIR6419 B41	158
C	1	RFS APXVAALL24_43-U-NA20	158
C	2	Ericsson AIR6419 B41	158

Table 2: Antenna Data

All calculations were done with respect to uncontrolled / general population threshold limits.

RESULTS

Per the calculations completed for the proposed T-MOBILE configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	13.65 / 13.85 / 16.65 / 16.95	13	455	18,843.43	3.53
Antenna A2	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	3.52
						Sector A Composite MPE%	**7.05**
Antenna B1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	13.65 / 13.85 / 16.65 / 16.95	13	455	18,843.43	3.53
Antenna B2	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	3.52
						Sector B Composite MPE%	**7.05**
Antenna C1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	13.65 / 13.85 / 16.65 / 16.95	13	455	18,843.43	3.53
Antenna C2	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	3.52
						Sector C Composite MPE%	**7.05**

Table 3: T-MOBILE Emissions Levels

The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum T-MOBILE MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each T-MOBILE Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	**MPE%**
T-MOBILE – Max Per Sector Value	**7.05 %**
DISH	0.79 %
Sprint	2.37 %
MetroPCS	0.54 %
AT&T	7.88 %
Verizon Wireless	6.18 %
Site Total MPE %:	**24.81 %**

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	7.05 %
T-MOBILE Sector B Total:	7.05 %
T-MOBILE Sector C Total:	7.05 %
Site Total:	24.81 %

Table 5: Site MPE Summary

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated T-MOBILE sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

T-MOBILE _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile 600 MHz LTE / 5G NR	2	926.96	158	2.88	600 MHz	400	0.72%
T-Mobile 700 MHz LTE	2	485.32	158	1.51	700 MHz	467	0.32%
T-Mobile 1900 MHz (PCS) LTE	4	1,849.52	158	11.51	1900 MHz (PCS)	1000	1.15%
T-Mobile 1900 MHz (PCS) GSM	1	693.57	158	1.08	1900 MHz (PCS)	1000	0.11%
T-Mobile 2100 MHz (AWS) LTE	4	1,981.80	158	12.33	2100 MHz (AWS)	1000	1.23%
T-Mobile 2500 MHz (BRS) LTE / 5G NR	8	2,825.08	158	35.17	2500 MHz (BRS)	1000	3.52%
						Total:	**7.05%**

Table 6: T-MOBILE Maximum Sector MPE Power Values

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:	7.05 %
Sector B:	7.05 %
Sector C:	7.05 %
T-MOBILE Maximum Total (per sector):	7.05 %
Site Total:	24.81 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **24.81 %** 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.

Scott Heffernan
Principal RF Engineer
Fox Hill Telecom, Inc
Holden, MA 01520
(978)660-3998

T-Mobile

T-MOBILE SITE NUMBER: CTHA114B
T-MOBILE SITE NAME: AT&T 27074
SITE TYPE: MONOPOLE
TOWER HEIGHT: 168'-6"

BUSINESS UNIT #: 842859
SITE ADDRESS: 371 TERRYVILLE AVENUE BRISTOL, CT 06010
COUNTY: HARTFORD
JURISDICTION: CONNECTICUT SITING COUNCIL

T-MOBILE ANCHOR SITE CONFIGURATION: 67E5D998E OUTDOOR

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	BRISTOL CENTER
SITE ADDRESS:	371 TERRYVILLE AVENUE BRISTOL, CT 06010
COUNTY:	HARTFORD
MAP/PARCEL #:	61-67-3_0272831
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41.679919°
LONGITUDE:	-72.962550°
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	531 FT
CURRENT ZONING:	I - GENERAL INDUSTRIAL
JURISDICTION:	CONNECTICUT SITING COUNCIL
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	LAVIERO REALTY LLC 70 MAUREEN DR BRISTOL, CT 06010
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	T-MOBILE 35 GRIFFIN ROAD BLOOMFIELD, CT 06002
ELECTRIC PROVIDER:	EVERSOURCE 888-783-6618
TELCO PROVIDER:	LIGHTOWER 888-583-4237

PROJECT TEAM

A&E FIRM:	B+T GROUP 1717 S. BOULDER AVE. TULSA, OK 74119 MARVIN PHILLIPS marvin.phillips@btgrp.com
CROWN CASTLE USA INC. DISTRICT CONTACTS:	3530 TORINGDON WAY, SUITE 300 CHARLOTTE, NC 28277 TRICIA PELON - PROJECT MANAGER TRICIA.PELON@CROWNCASTLE.COM JASON D'AMICO - CONSTRUCTION MANAGER JASON.DAMICO@CROWNCASTLE.COM

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	OVERALL SITE PLAN
C-1.2	SITE PLAN & ENLARGED SITE PLAN
C-2	FINAL ELEVATION & EXISTING ANTENNA PLANS
C-3	ANTENNA & CABLE SCHEDULE
C-4	PLUMBING DIAGRAM
C-5	EQUIPMENT SPECS
E-1	AC PANEL SCHEDULES & ONE LINE DIAGRAM
G-1	ANTENNA GROUNDING DIAGRAM
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
ATTACHED	MOUNT SPECS

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

PROJECT DESCRIPTION

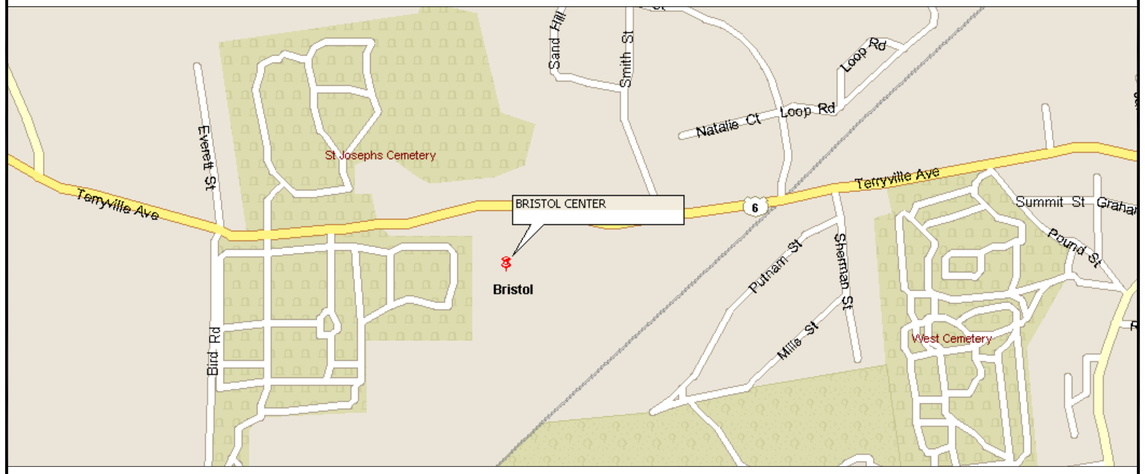
THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER SCOPE OF WORK:
- REMOVE (1) PLATFORM MOUNT AND ALL EQUIPMENT @ 128'-0"
- REMOVE (3) T-ARM MOUNTS @ 158'-0"
- REMOVE (6) ANTENNAS @ 158'-0"
- REMOVE (12) 1-5/8" COAX CABLES
- REMOVE (3) 1-1/4" COAX CABLES
- REMOVE (1) 9X18 HCS CABLE
- REMOVE (1) HB114-21U3M12-XXXF HYBRID CABLE
- REMOVE (3) TMAs
- REMOVE (9) RRHs
- INSTALL (3) SECTOR MOUNTS
- INSTALL (6) ANTENNAS
- INSTALL (6) RRHs
- INSTALL (3) 6/24 4AWG HYBRID TRUNKS

GROUND SCOPE OF WORK:
- REMOVE (1) S12000 OUTDOOR CABINET
- REMOVE (1) DUW30
- REMOVE (6) RU22 RADIOS
- INSTALL (1) ENCLOSURE 6160 AC V1 CABINET
- INSTALL (1) B160 BATTERY CABINET
- INSTALL (2) RP 6651
- INSTALL (2) PSU 4813 VR4A (KIT)
- INSTALL (1) CSR IXRe V2 (Gen2)
- ADD 125 AMP BREAKER FOR 6160

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 CT STATE BUILDING CODE/2015 IBC W/ CT AMENDMENTS
MECHANICAL	2018 CT STATE BUILDING CODE/2015 IMC W/ CT AMENDMENTS
ELECTRICAL	2018 CT STATE BUILDING CODE/2017 NEC W/ CT AMENDMENTS

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	MORRISON HERSHFIELD
DATED:	6/30/22
MOUNT REPLACEMENT ANALYSIS:	TRYLON
DATED:	6/24/22
RFDS REVISION:	7
DATED:	4/26/22
ORDER ID:	621871
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
4 SYLVAN WAY
PARSIPPANY, NJ 07054

CROWN CASTLE
3530 TORINGDON WAY, SUITE 300
CHARLOTTE, NC 28277

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

T-MOBILE SITE NUMBER:
CTHA114B

BU #: **842859**
BRISTOL CENTER

371 TERRYVILLE AVENUE
BRISTOL, CT 06010

EXISTING
168'-6" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	7/18/22	MEH	PRELIMINARY REVIEW	CV
0	8/12/22	DAS	CONSTRUCTION	ANP

STATE OF CONNECTICUT
No. 23924
LICENSED
PROFESSIONAL ENGINEER
8/12/22

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: T-1
REVISION: 0

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

T-Mobile
4 SYLVAN WAY
PARSIPPANY, NJ 07054

CROWN CASTLE
3530 TORINGDON WAY, SUITE 300
CHARLOTTE, NC 28277

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

T-MOBILE SITE NUMBER:
CTHA114B

BU #: **842859**
BRISTOL CENTER

371 TERRYVILLE AVENUE
BRISTOL, CT 06010

EXISTING
168'-6" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	7/18/22	MEH	PRELIMINARY REVIEW	CV
0	8/12/22	DAS	CONSTRUCTION	ANP

No. 23824
8/12/22

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

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

SHEET NUMBER:	REVISION:
T-2	0

SITE PLAN DISCLAIMER:

PROPERTY LINES AND STRUCTURES HAVE BEEN DIGITIZED FROM PREVIOUS PLAN SETS. CROWN CASTLE USA INC. HAS NOT COMPLETED A SITE SURVEY AND THEREFORE MAKES NO CLAIMS AS TO THE ACCURACY OF INFORMATION DEPICTED ON THIS SHEET.

1 OVERALL SITE PLAN
SCALE: 30' 15' 0 30' 1"=30'-0" (FULL SIZE) 1"=60'-0" (11x17)

N

T-Mobile
4 SYLVAN WAY
PARSIPPANY, NJ 07054

CROWN CASTLE
3530 TORINGDON WAY, SUITE 300
CHARLOTTE, NC 28277

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EXISTING
168'-6" MONOPOLE

ISSUED FOR:

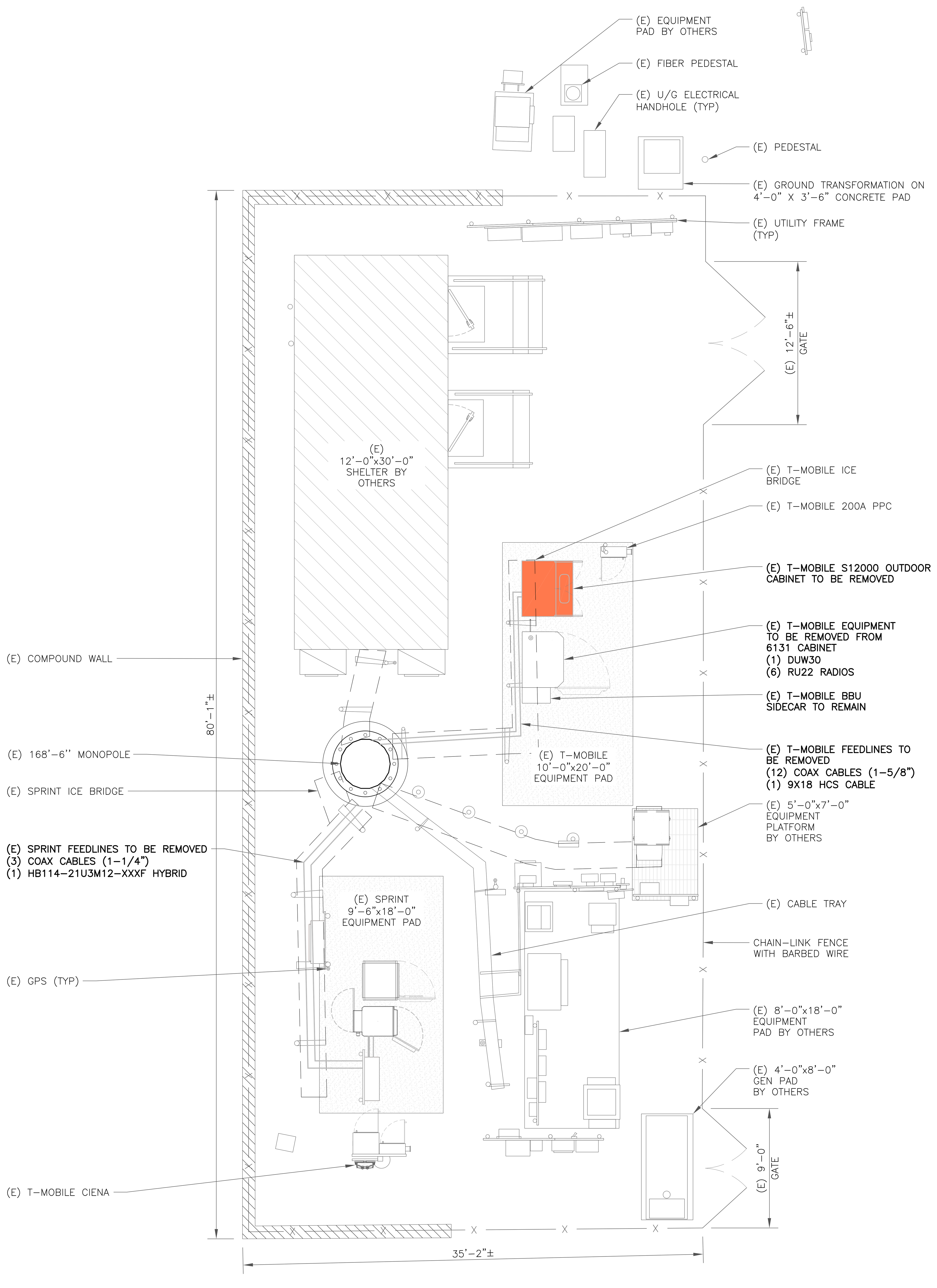
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	7/18/22	MEH	PRELIMINARY REVIEW	CV
0	8/12/22	DAS	CONSTRUCTION	ANP

STATE OF CONNECTICUT
CHRISTOPHER V. CUT
No. 23924
LICENSED
PROFESSIONAL ENGINEER
8/12/22

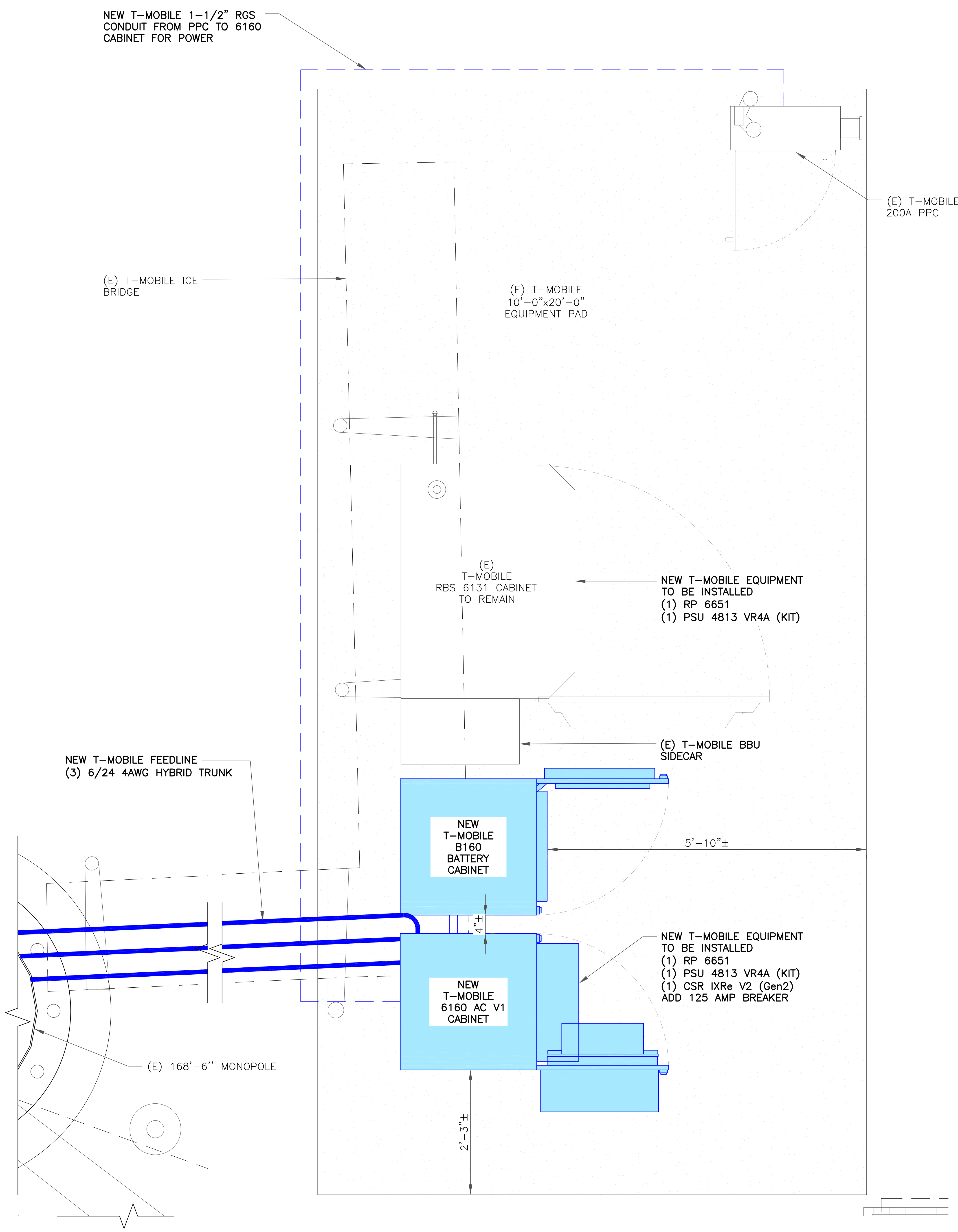
MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: C-1.1

REVISION: 0



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



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

T-Mobile
4 SYLVAN WAY
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T-MOBILE SITE NUMBER:
CTHA114B

BU #: **842859**
BRISTOL CENTER

371 TERRYVILLE AVENUE
BRISTOL, CT 06010

EXISTING
168'-6" MONOPOLE

ISSUED FOR:

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A	7/18/22	MEH	PRELIMINARY REVIEW	CV
0	8/12/22	DAS	CONSTRUCTION	ANP

No. 23924 LICENSED PROFESSIONAL ENGINEER 8/12/22

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

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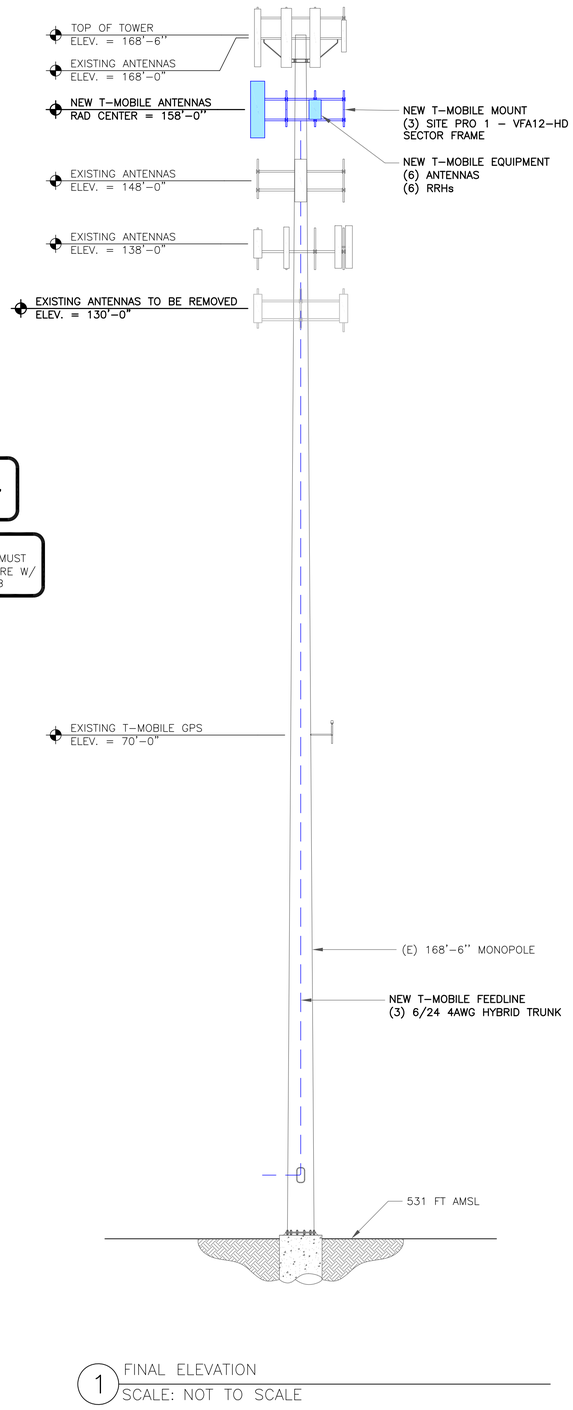
SHEET NUMBER: C-1.2
REVISION: 0

96712.015.01_BRISTOL CENTER.dwg – Sheet:C-1.2 – User: mwesel – Aug 12, 2022 – 6:10pm

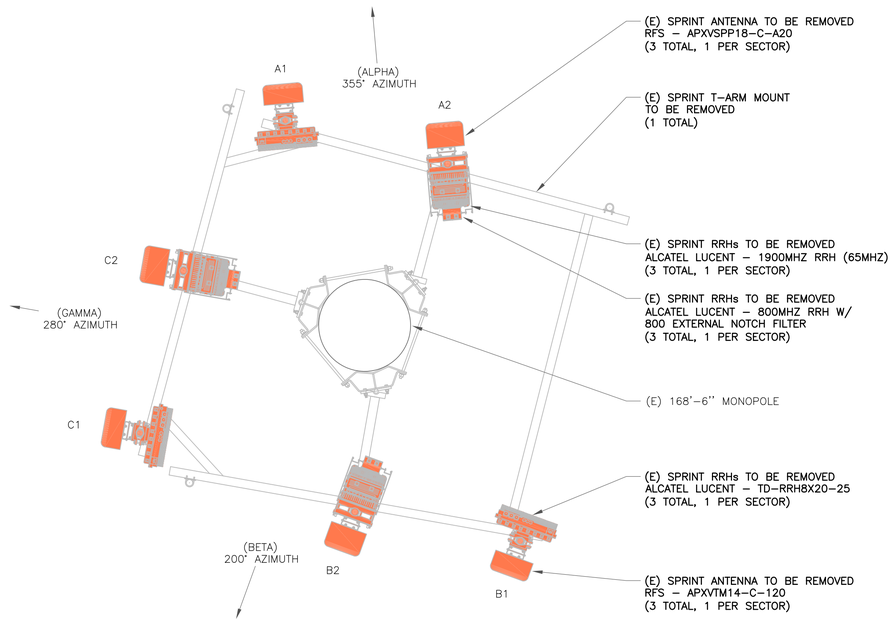


T-MOBILE EQUIPMENT

ANTENNA CL: 158'-0"
MOUNT CL: 158'-0"

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

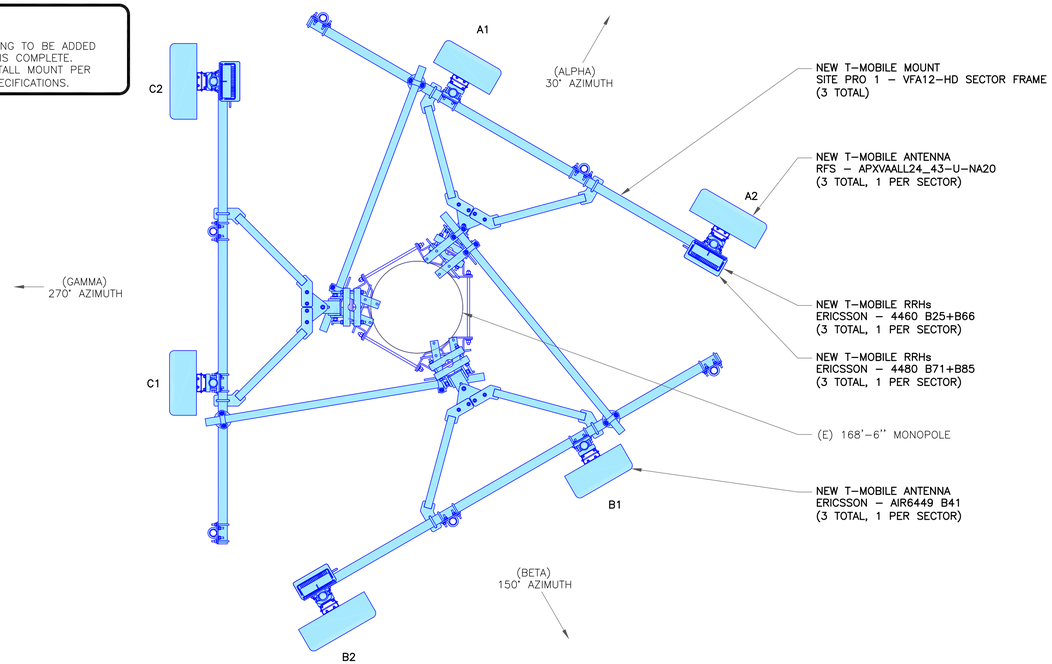
1 FINAL ELEVATION
SCALE: NOT TO SCALE



2 EXISTING ANTENNA LAYOUT
SCALE: NOT TO SCALE

INSTALLER NOTE:

NO PROPOSED LOADING TO BE ADDED UNTIL MOUNT SWAP IS COMPLETE. CONTRACTOR TO INSTALL MOUNT PER MANUFACTURER'S SPECIFICATIONS.



1 FINAL ANTENNA LAYOUT
SCALE: NOT TO SCALE

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ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	7/18/22	MEH	PRELIMINARY REVIEW	CV
0	8/12/22	DAS	CONSTRUCTION	ANP

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: C-2

REVISION: 0

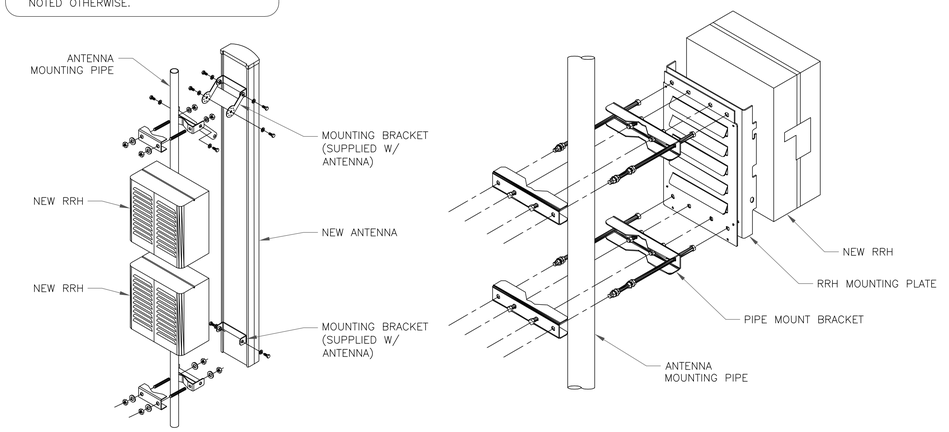
RF SYSTEM SCHEDULE

SECTOR	ANTENNA	TECH	MANUFACTURER	ANTENNA MODEL	AZIMUTH	M-TILT	E-TILT	RAD CENTER	TMA/RRU	FEEDLINE TYPE
ALPHA	A1	L2500/N2500	ERICSSON	AIR 6419 B41	30°	0°	–	158'-0''	–	–
	A2	L700/L600/N600/ L2100/G1900/L1900	RFS	APXVAALL24_43-U-NA20	30°	0°	–	158'-0''	(1) 4480 B71+B85 (1) 4460 B25+B66	(1) 1 5/8" HYBRID
BETA	B1	L2500/N2500	ERICSSON	AIR 6419 B41	150°	0°	–	158'-0''	–	–
	B2	L700/L600/N600/ L2100/G1900/L1900	RFS	APXVAALL24_43-U-NA20	150°	0°	–	158'-0''	(1) 4480 B71+B85 (1) 4460 B25+B66	(1) 1 5/8" HYBRID
GAMMA	C1	L2500/N2500	ERICSSON	AIR 6419 B41	270°	0°	–	158'-0''	–	–
	C2	L700/L600/N600/ L2100/G1900/L1900	RFS	APXVAALL24_43-U-NA20	270°	0°	–	158'-0''	(1) 4480 B71+B85 (1) 4460 B25+B66	(1) 1 5/8" HYBRID

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.



2 ANTENNA WITH RRHs MOUNTING DETAIL
SCALE: NOT TO SCALE

T-Mobile
4 SYLVAN WAY
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3530 TORINGDON WAY, SUITE 300
CHARLOTTE, NC 28277

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

T-MOBILE SITE NUMBER:
CTHA114B

BU #: **842859**
BRISTOL CENTER

371 TERRYVILLE AVENUE
BRISTOL, CT 06010

EXISTING
168'-6" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
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0	8/12/22	DAS	CONSTRUCTION	ANP

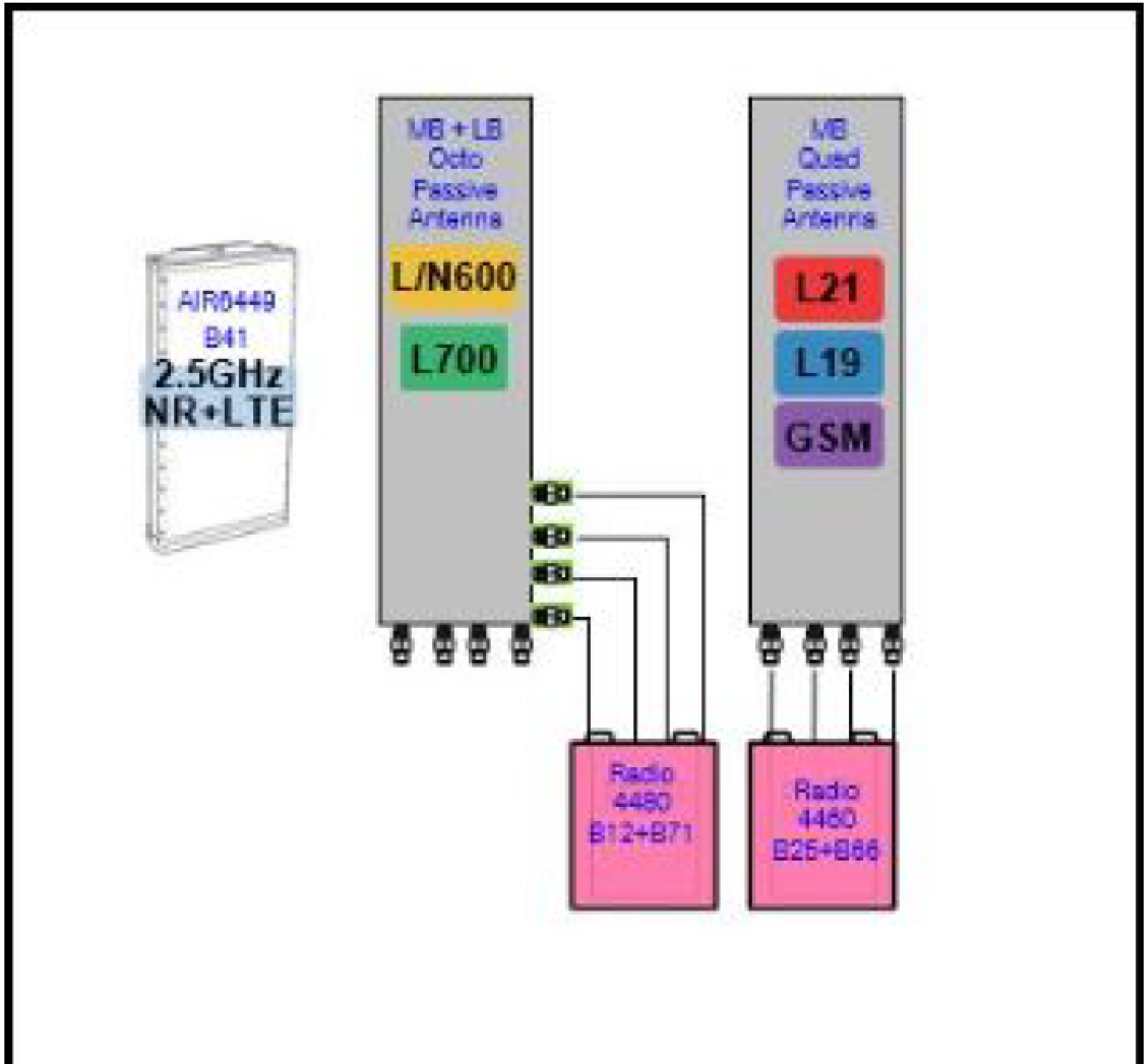
STATE OF CONNECTICUT
GREG P. NOLE
No. 23924
LICENSED
PROFESSIONAL ENGINEER
8/12/22

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: C-3

REVISION: 0

67E5D998E.JPG



Notes:

1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

T-Mobile

4 SYLVAN WAY
PARSIPPANY, NJ 07054

CROWN CASTLE

3530 TORINGDON WAY, SUITE 300
CHARLOTTE, NC 28277

B+T GRP

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EXISTING
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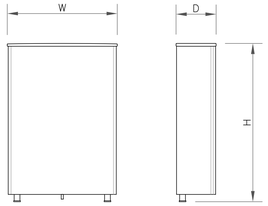
8/12/22

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

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

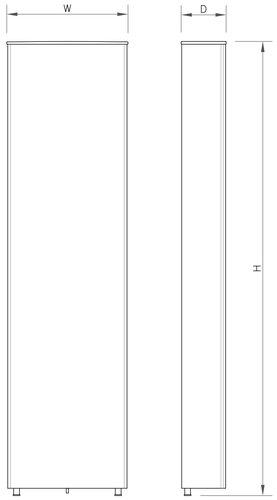
SHEET NUMBER: C-4

REVISION: 0



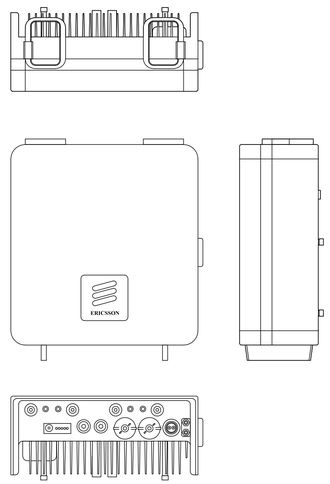
ANTENNA SPECS	
MANUFACTURER	ERICSSON
MODEL #	AIR 6419 B41
WIDTH	20.91"
DEPTH	9.02"
HEIGHT	36.25"
WEIGHT	96.50 LBS

1 ANTENNA SPECS
SCALE: NOT TO SCALE



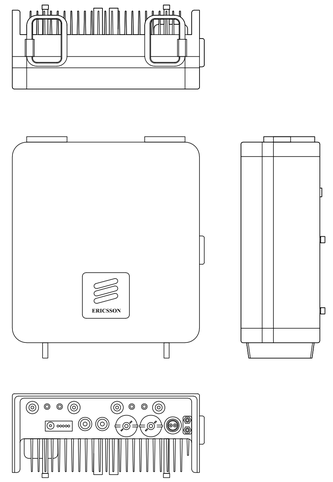
ANTENNA SPECS	
MANUFACTURER	RFS
MODEL #	APXVAALL24_43-U-NA20
WIDTH	24.0"
DEPTH	8.50"
HEIGHT	95.90"
WEIGHT	149.90 LBS

2 ANTENNA SPECS
SCALE: NOT TO SCALE



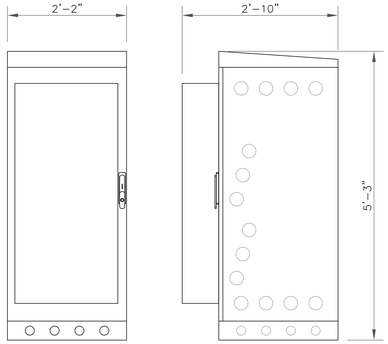
RRU SPECIFICATIONS	
MANUFACTURER	ERICSSON
MODEL #	4480 B71+B85
WIDTH	15.70"
DEPTH	7.50"
HEIGHT	22.0"
WEIGHT	81.0 LBS

3 RRU SPECS
SCALE: NOT TO SCALE



RRU SPECIFICATIONS	
MANUFACTURER	ERICSSON
MODEL #	4460 B25+B66
WIDTH	15.10"
DEPTH	11.90"
HEIGHT	17.0"
WEIGHT	109.0 LBS

4 RRU SPECS
SCALE: NOT TO SCALE



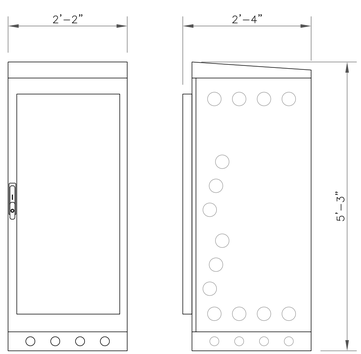
EQUIPMENT NOTES:

HEIGHTxWIDTHxDEPTH: 63.0" x 26.0" x 34.0"
(1600.0mm x 660.0mm x 864.0mm)

WEIGHT (EMPTY): 320 LBS (145 kg)

WEIGHT (FULLY LOADED): 1000 LBS (454 kg)

5 ERICSSON 6160 SSC
SCALE: NOT TO SCALE



EQUIPMENT NOTES:

HEIGHTxWIDTHxDEPTH: 63.0" x 26.0" x 28.0"
(1600.0mm x 660.0mm x 711.0mm)

WEIGHT (EMPTY): 295 LBS (134 kg)

WEIGHT (FULLY LOADED): 2000 LBS (908 kg)

6 ERICSSON B160 BATTERY CABINET
SCALE: NOT TO SCALE

7 NOT USED
SCALE: NOT TO SCALE

8 NOT USED
SCALE: NOT TO SCALE

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T-MOBILE SITE NUMBER:
CTHA114B

BU #: **842859**
BRISTOL CENTER

371 TERRYVILLE AVENUE
BRISTOL, CT 06010

EXISTING
168'-6" MONOPOLE

ISSUED FOR:

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0	8/12/22	DAS	CONSTRUCTION	ANP

8/12/22

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: C-5

REVISION: 0

NOTES:

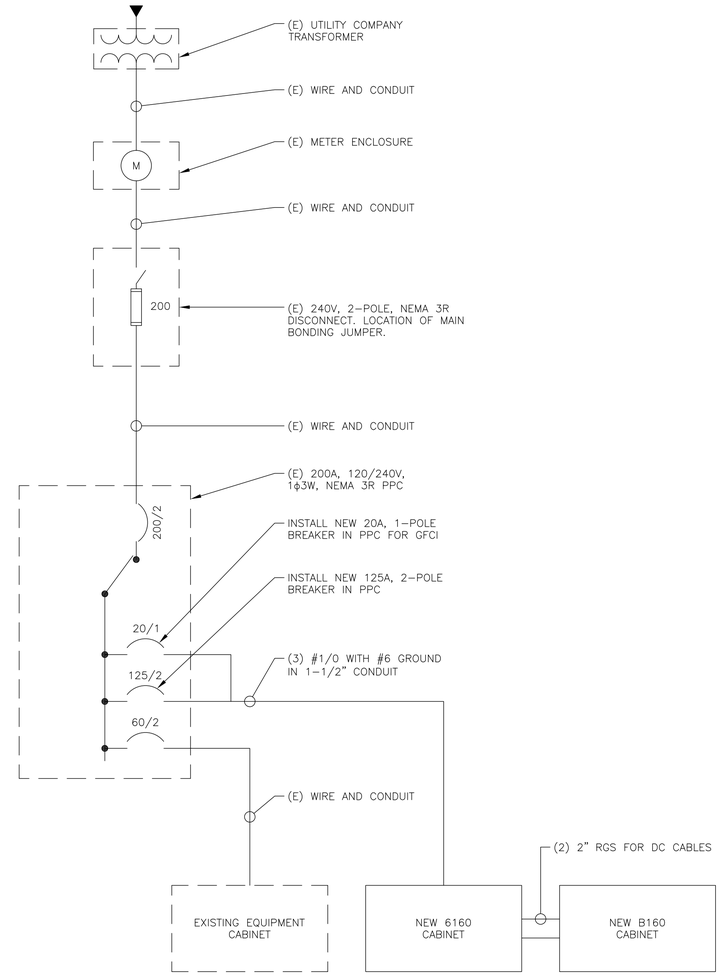
1. ALL NEW CONDUCTORS TO BE INSTALLED SHALL BE COPPER. ALL CONDUCTORS SHALL BE THHW, THWN, THWN-2, XHHW, OR XHHW-2 UNLESS NOTED OTHERWISE.
2. CONTRACTOR IS TO FIELD VERIFY ALL EXISTING ITEMS SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
3. ALL GROUNDING AND BONDING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

FINAL PANEL SCHEDULE							
LOAD	POLES	AMPS	BUS L1	BUS L2	AMPS	POLES	LOAD
SURGE	2	60A	1	2	20A	1	PANEL GFI
			3	4			
BTS 6102 CABINET	2	60A	5	6	60A	2	3106
			7	8	20A	1	LED LIGHT
			9	10	125A	2	6160 CABINET
			11	12			
			13	14	20A	1	GFCI
			15	16			
			17	18			
			19	20			
			21	22			
			23	24			

RATED VOLTAGE: ■120/240 □_____, 1 PHASE, 3 WIRE	BRANCH POLES: □12 ■24 □30 □42	APPROVED MF'RS
RATED AMPS: □100 ■200 □400 □_____,	CABINET: ■SURFACE □FLUSH	NEMA □1 ■3R □4X
□MAIN LUGS ONLY MAIN 200 AMPS ■BREAKER □FUSED SWITCH	■HINGED DOOR	■KEYED DOOR LATCH
□FUSED ■CIRCUIT BREAKER BRANCH DEVICES	□_____ TO BE GFCI BREAKERS	FULL NEUTRAL BUS GROUND BAR
ALL BREAKERS MUST BE RATED TO INTERRUPT A SHORT CIRCUIT ISC OF 10,000 AMPS SYMMETRICAL		

INSTALL NEW 2P 125A BREAKER IN POSITIONS 10 AND 12
INSTALL NEW 1P 20A BREAKER IN POSITION 14
IF 125A BREAKER WILL NOT PROPERLY FIT IN EXISTING PANEL, REPLACE (E) PANEL WITH SQUARE D PANEL QO12040M200RB (OR APPROVED EQUAL).
UPGRADE FEEDER WIRES TO MEET AMPACITY IF NEW PANEL IS REQUIRED.
FINAL PANEL DESIGN AND CALCULATIONS FOR WIRE SIZE WERE BASED OFF OF EXISTING DOCUMENTS AND PHOTOS

1 FINAL T-MOBILE PANEL DETAIL
SCALE: NOT TO SCALE



2 ONE LINE DIAGRAM
SCALE: NOT TO SCALE

T-Mobile
4 SYLVAN WAY
PARSIPPANY, NJ 07054

CROWN CASTLE
3530 TORINGDON WAY, SUITE 300
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T-MOBILE SITE NUMBER:
CTHA114B

BU #: **842859**
BRISTOL CENTER

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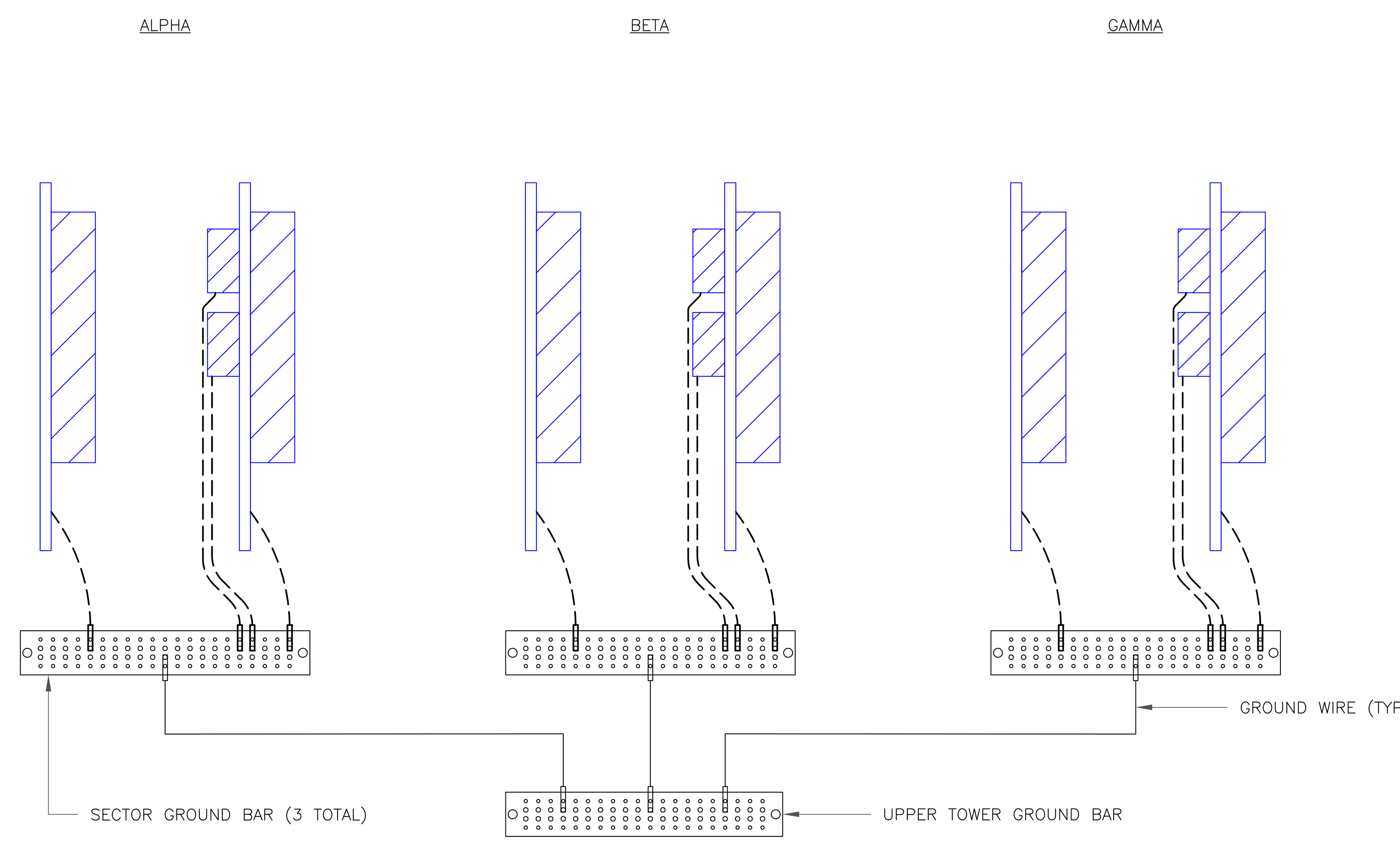
MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: E-1
REVISION: 0



NOTE:

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

1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE

T-Mobile
4 SYLVAN WAY
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BRISTOL CENTER

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BRISTOL, CT 06010

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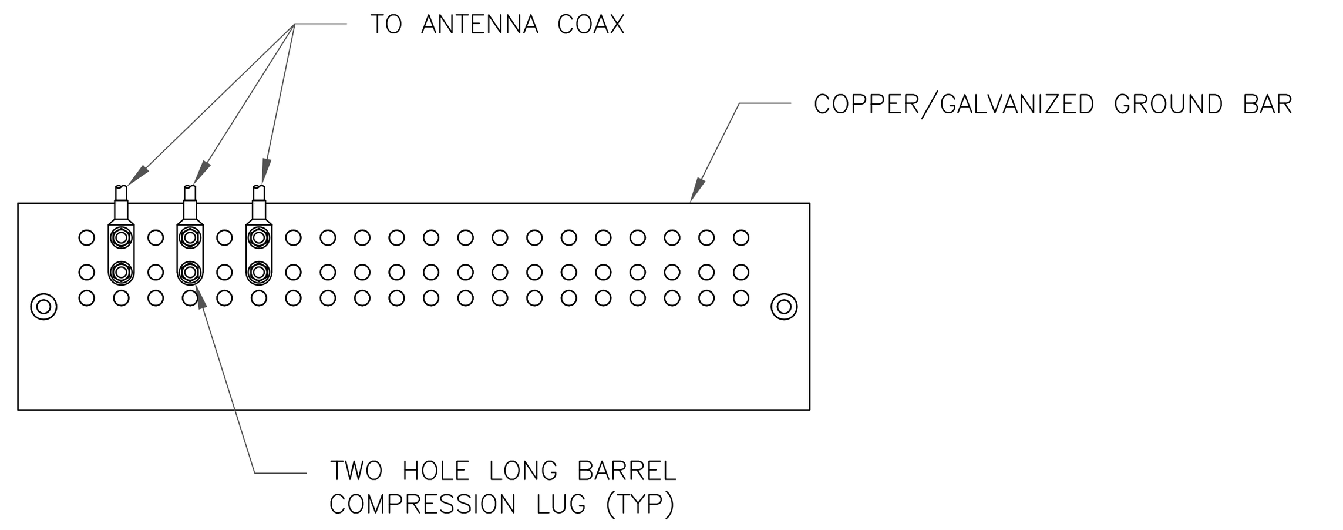
8/12/22

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

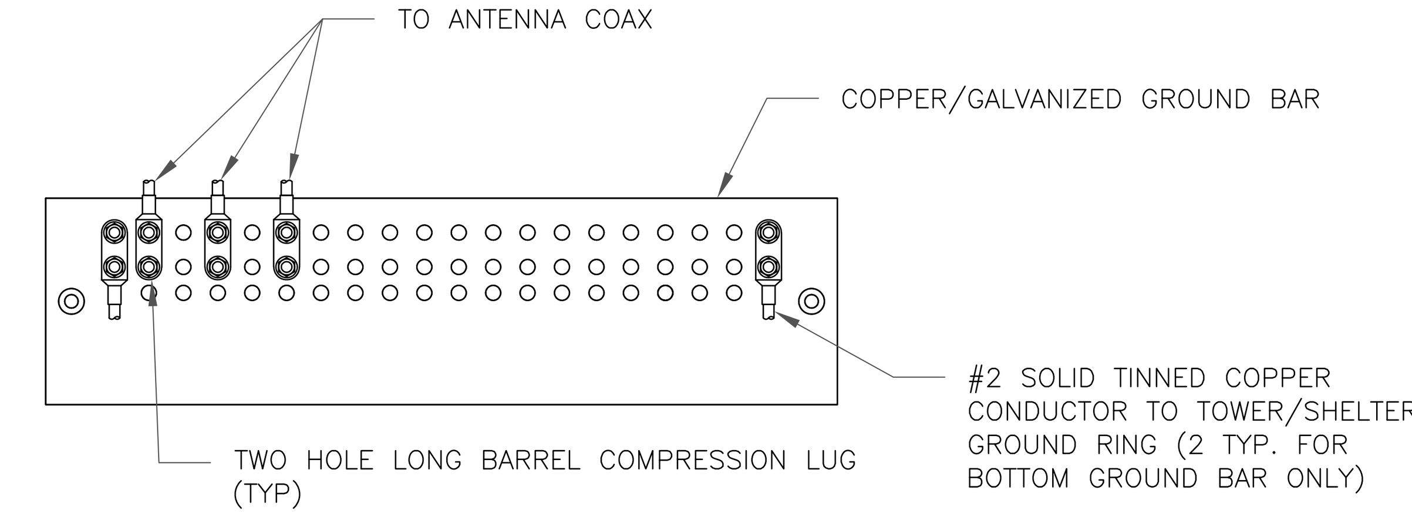
SHEET NUMBER: G-1
REVISION: 0



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.

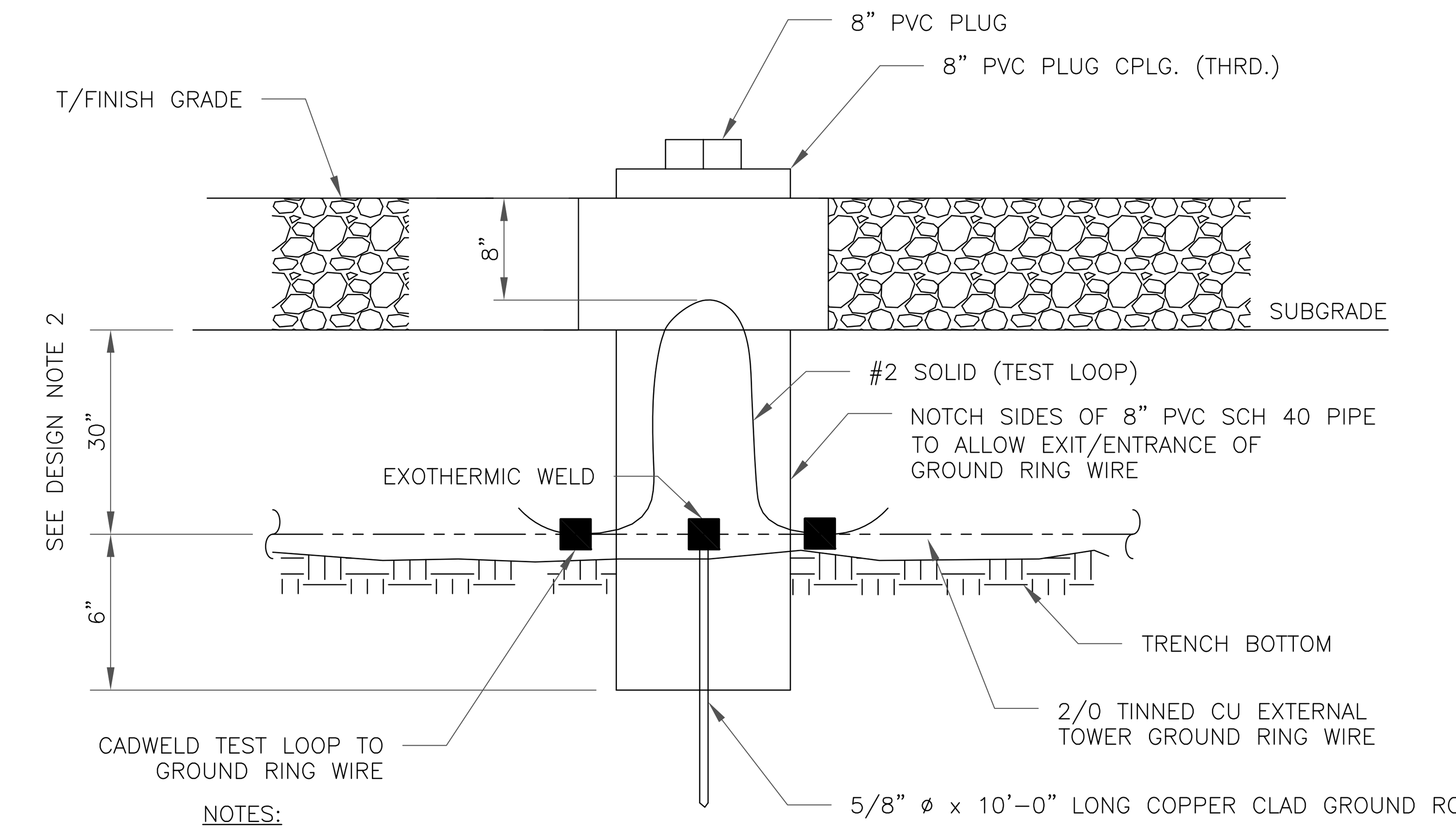
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



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.

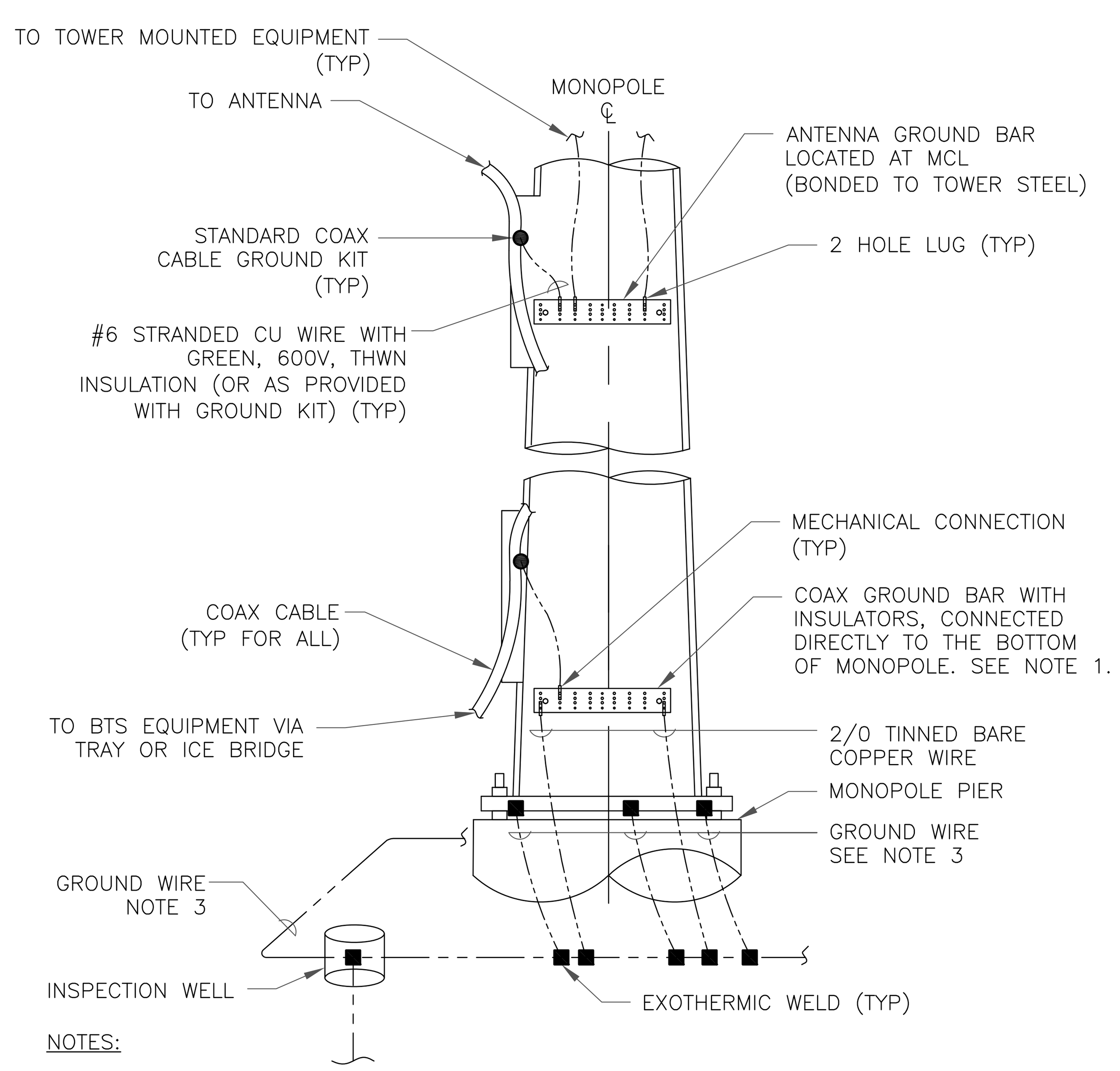
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

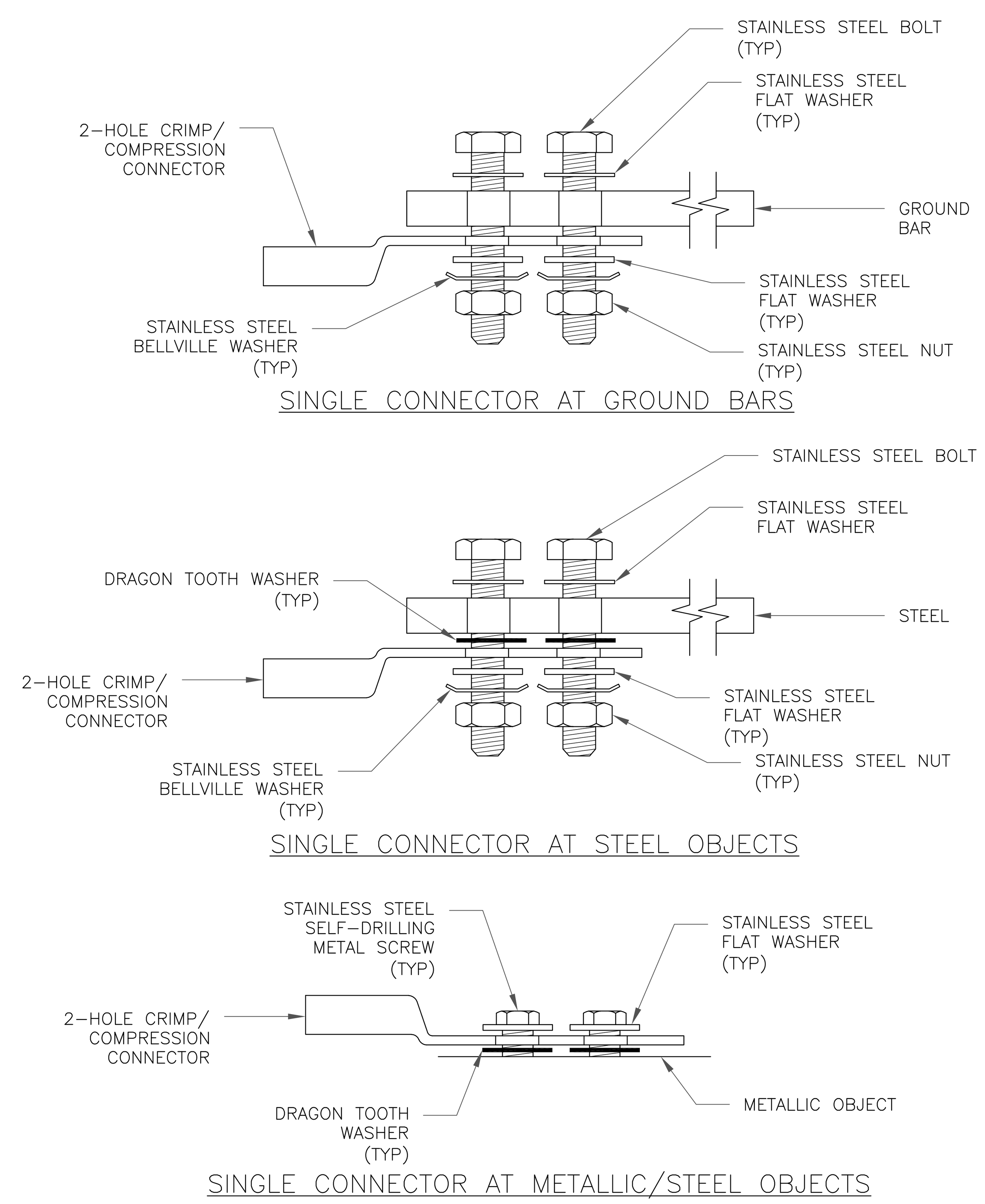
3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



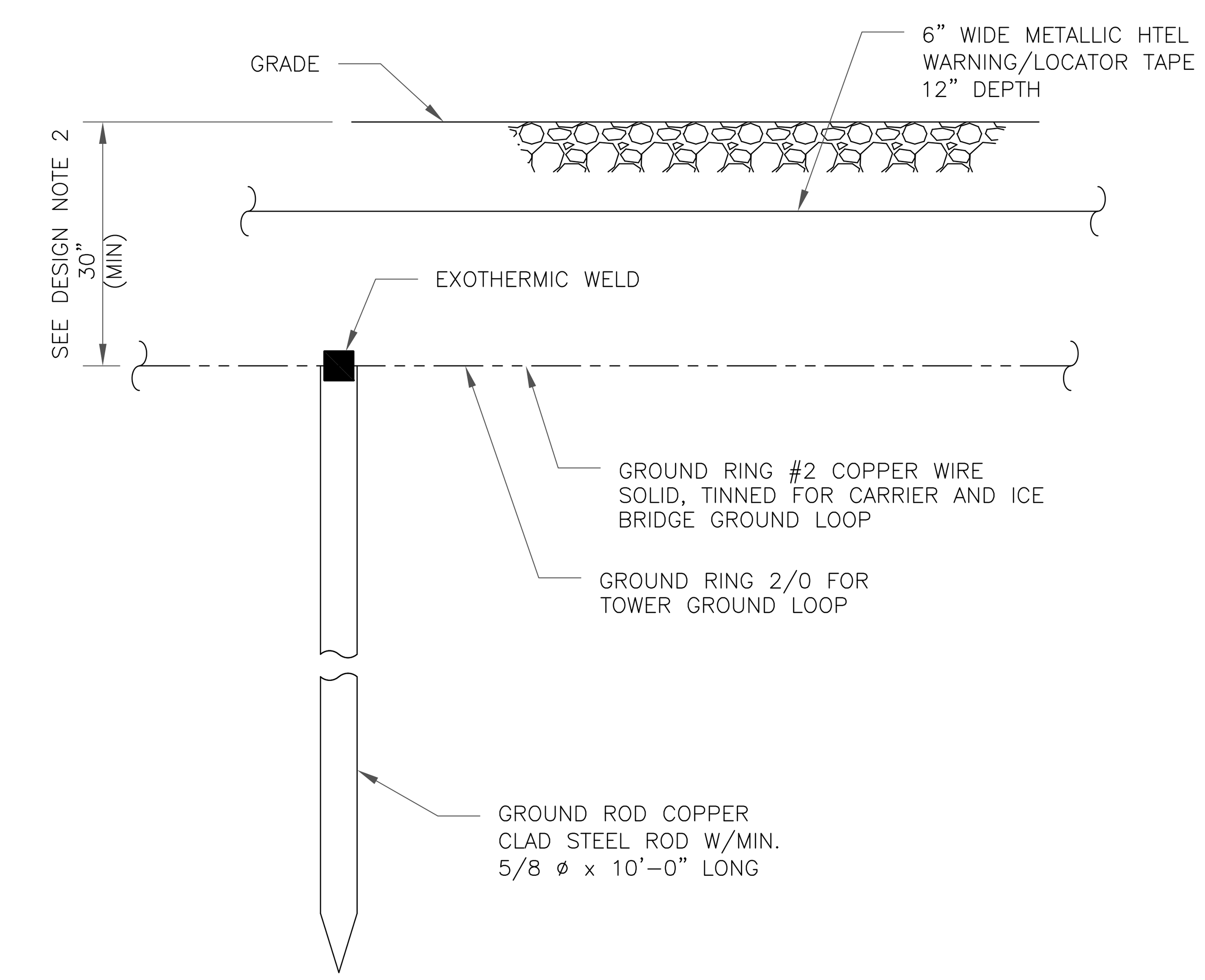
NOTES:

1. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. COAXIAL CABLES EXCEEDING 200 FEET ON THE TOWER SHALL HAVE GROUND KITS AT THE MIDPOINT. PROVIDE AS REQUIRED.
2. ONLY MECHANICAL CONNECTIONS ARE ALLOWED TO BE MADE TO CROWN CASTLE USA INC. TOWERS. ALL MECHANICAL CONNECTIONS SHALL BE TREATED WITH AN ANTI-OXIDANT COATING.
3. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE RECOGNIZED EDITION OF ANSI/TIA 222 AND NFPA 780.

4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

6 GROUND ROD DETAIL
SCALE: NOT TO SCALE

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BU #: **842859**
BRISTOL CENTER

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EXISTING
168'-6" MONOPOLE

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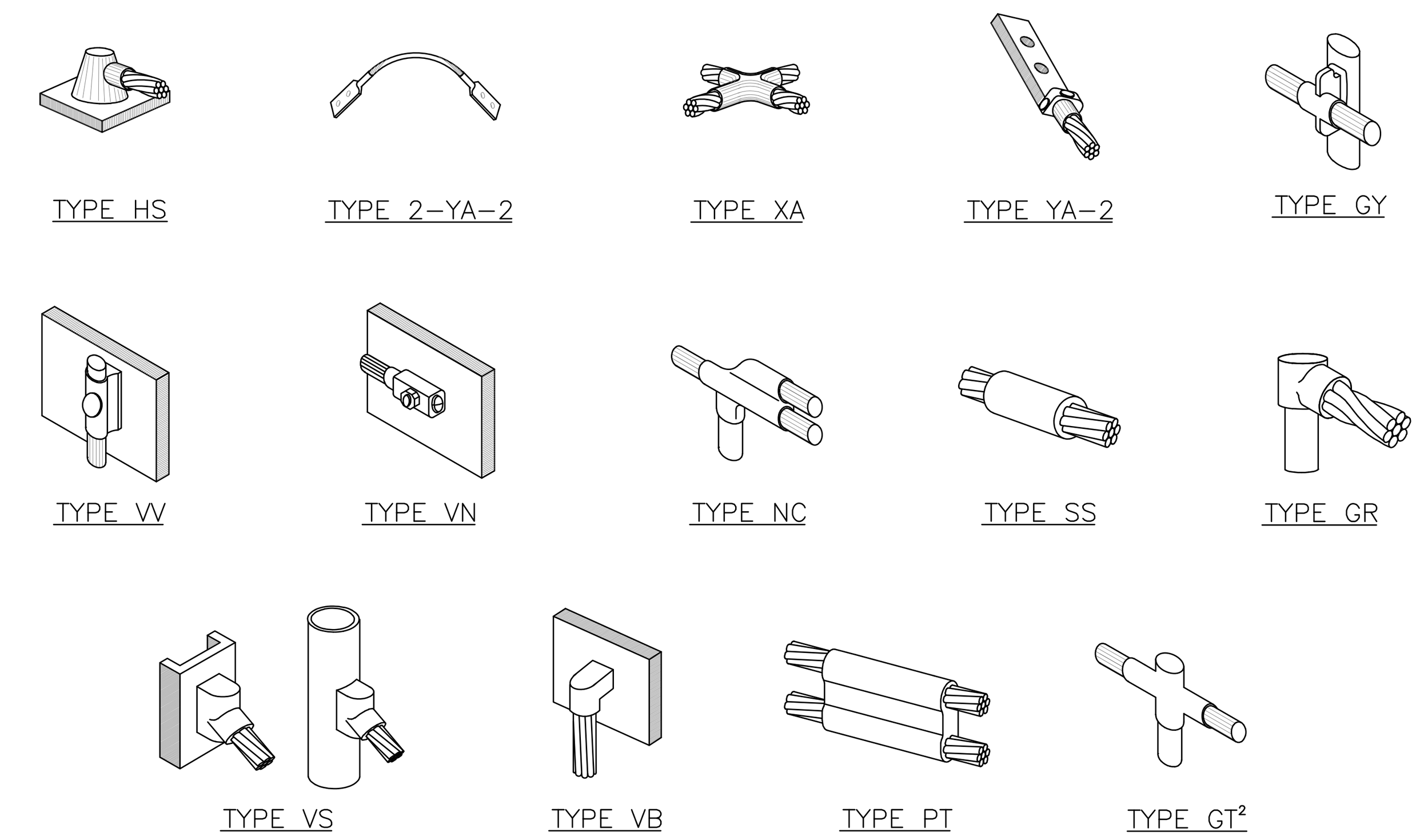
8/12/22

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: G-2
REVISION: 0

96712.015.01_BRISTOL CENTER.dwg – Sheet:G-2 – User: mwesel – Aug 12, 2022 – 6:10pm

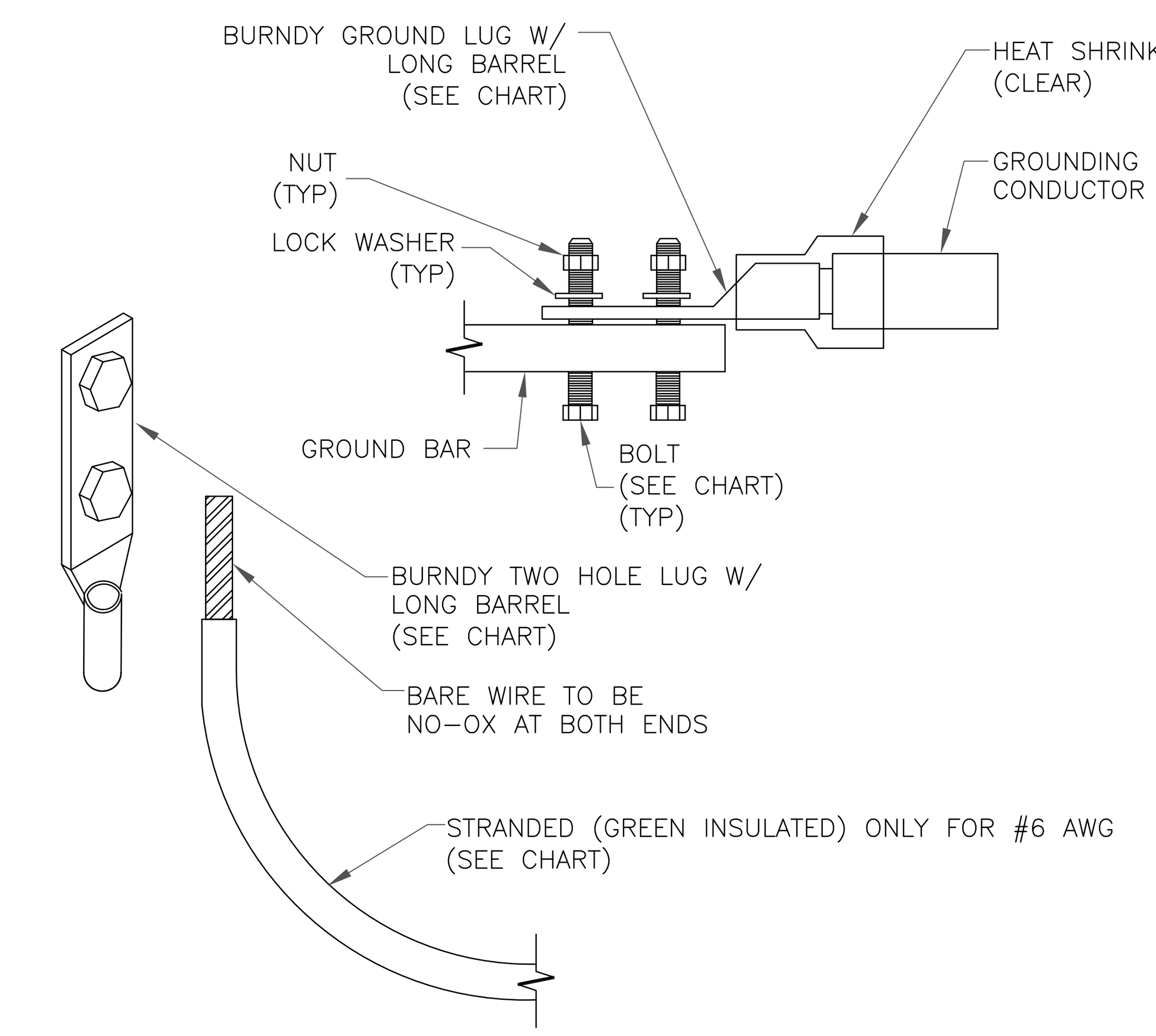


NOTE:

1. ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.
2. MOLD TYPE ONLY TO BE USED BELOW GRADE WHEN CONNECTING GROUND RING TO GROUND ROD.

1 CADWELD GROUNDING CONNECTIONS
SCALE: NOT TO SCALE

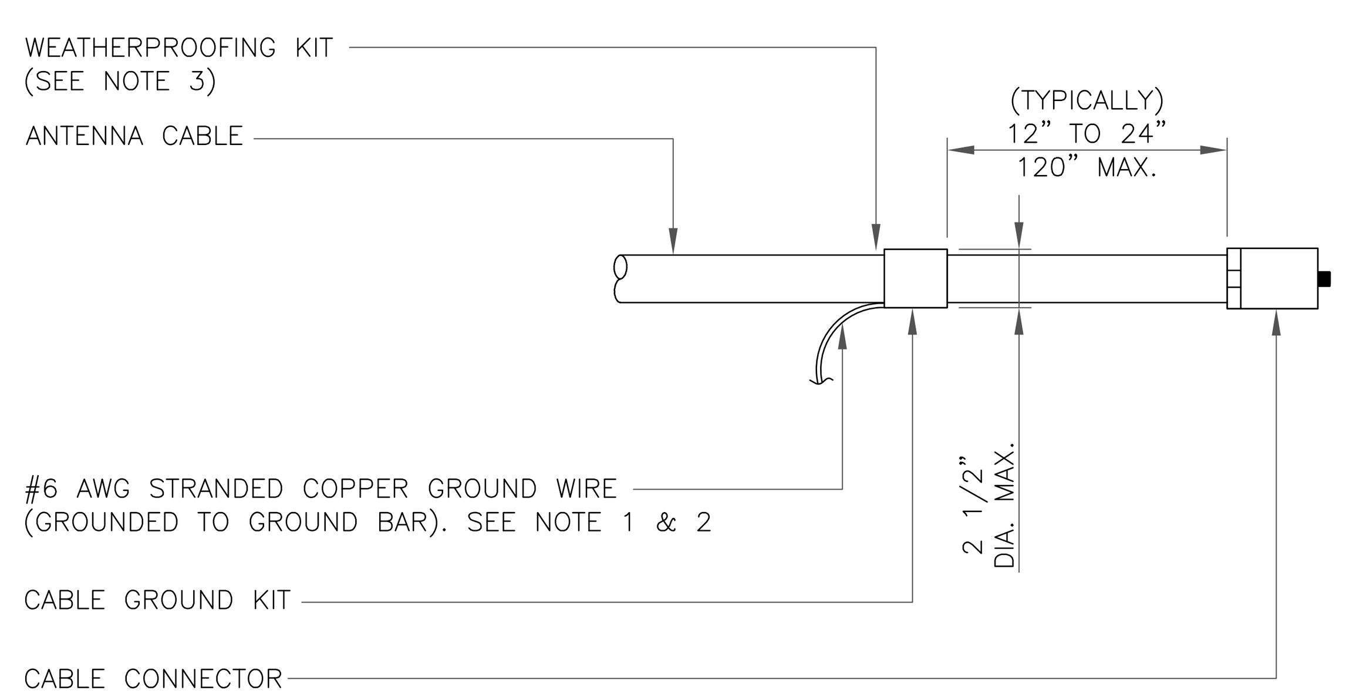
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



NOTES:

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

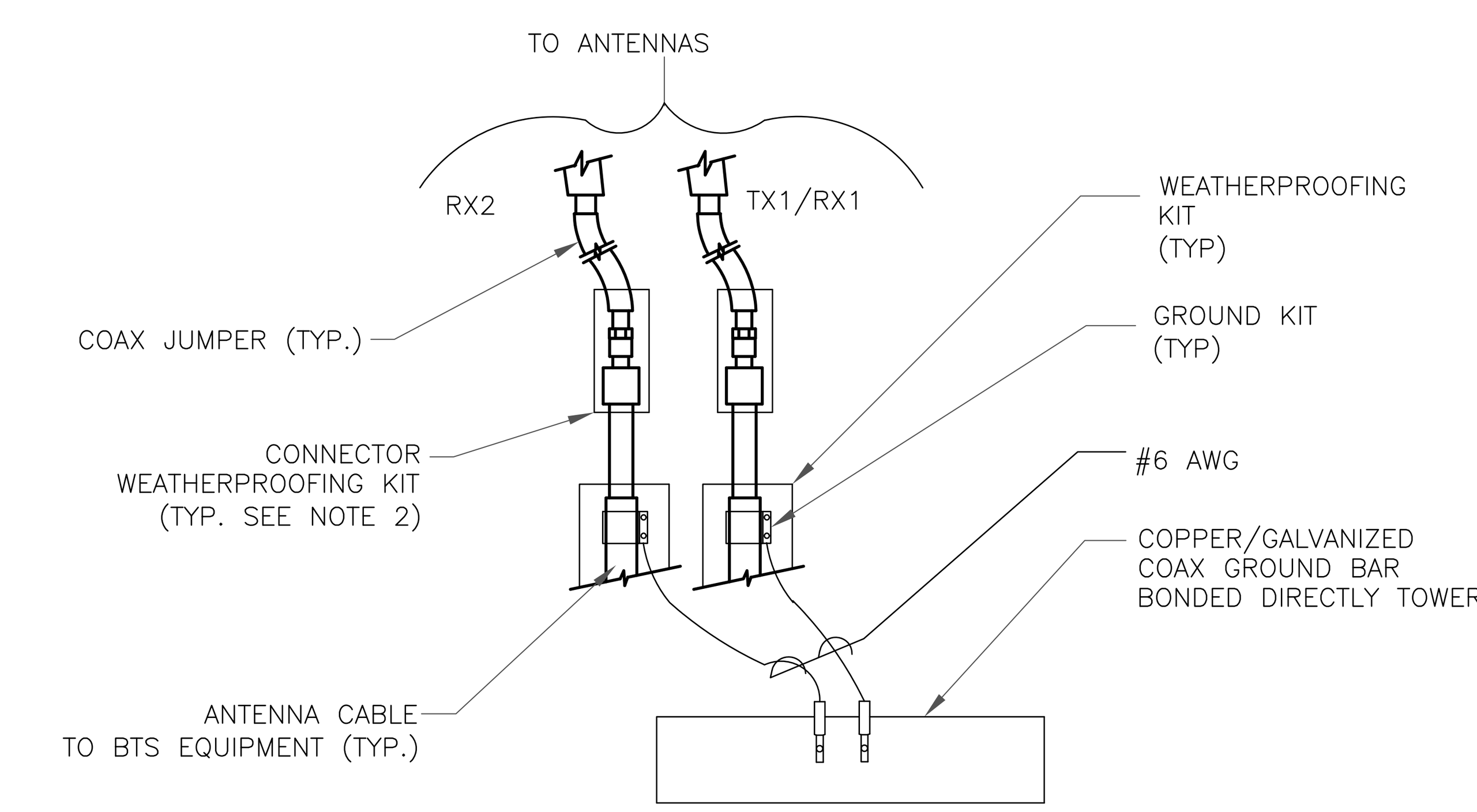
2 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



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.

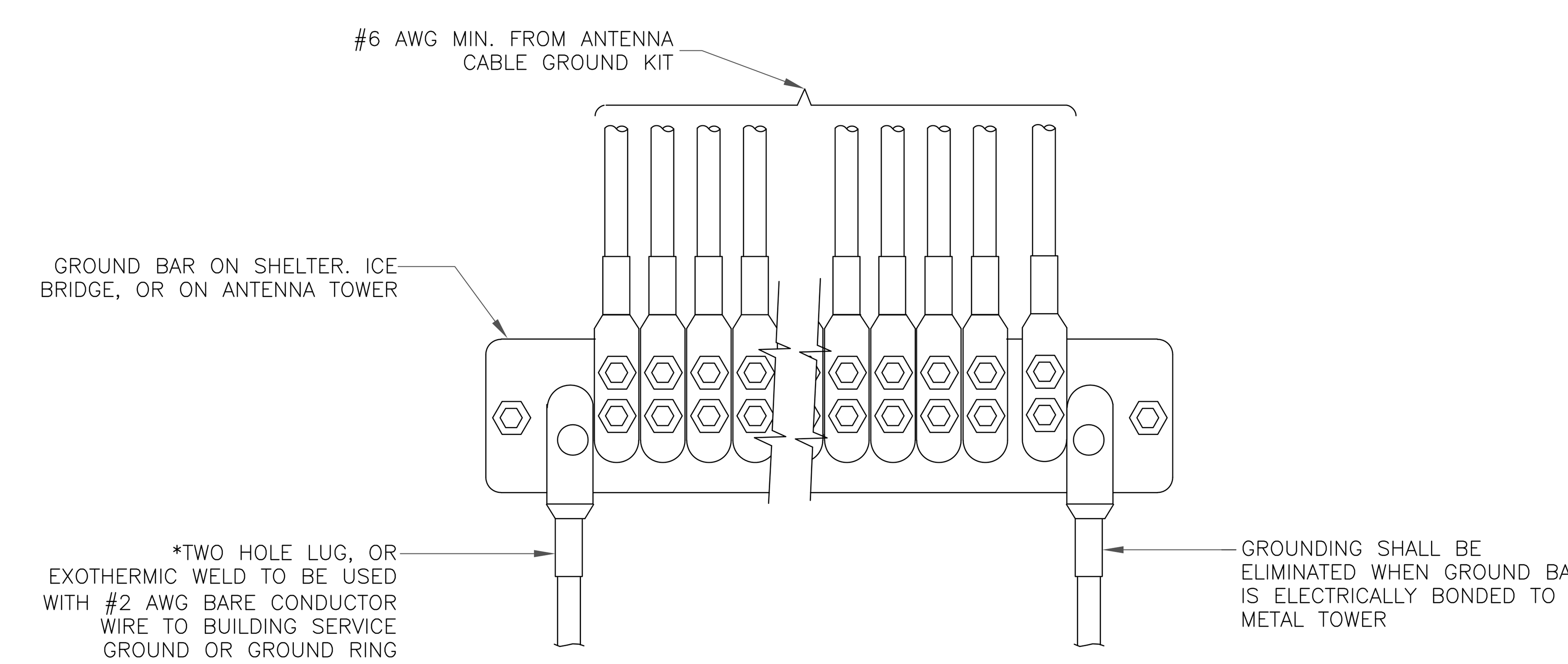
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



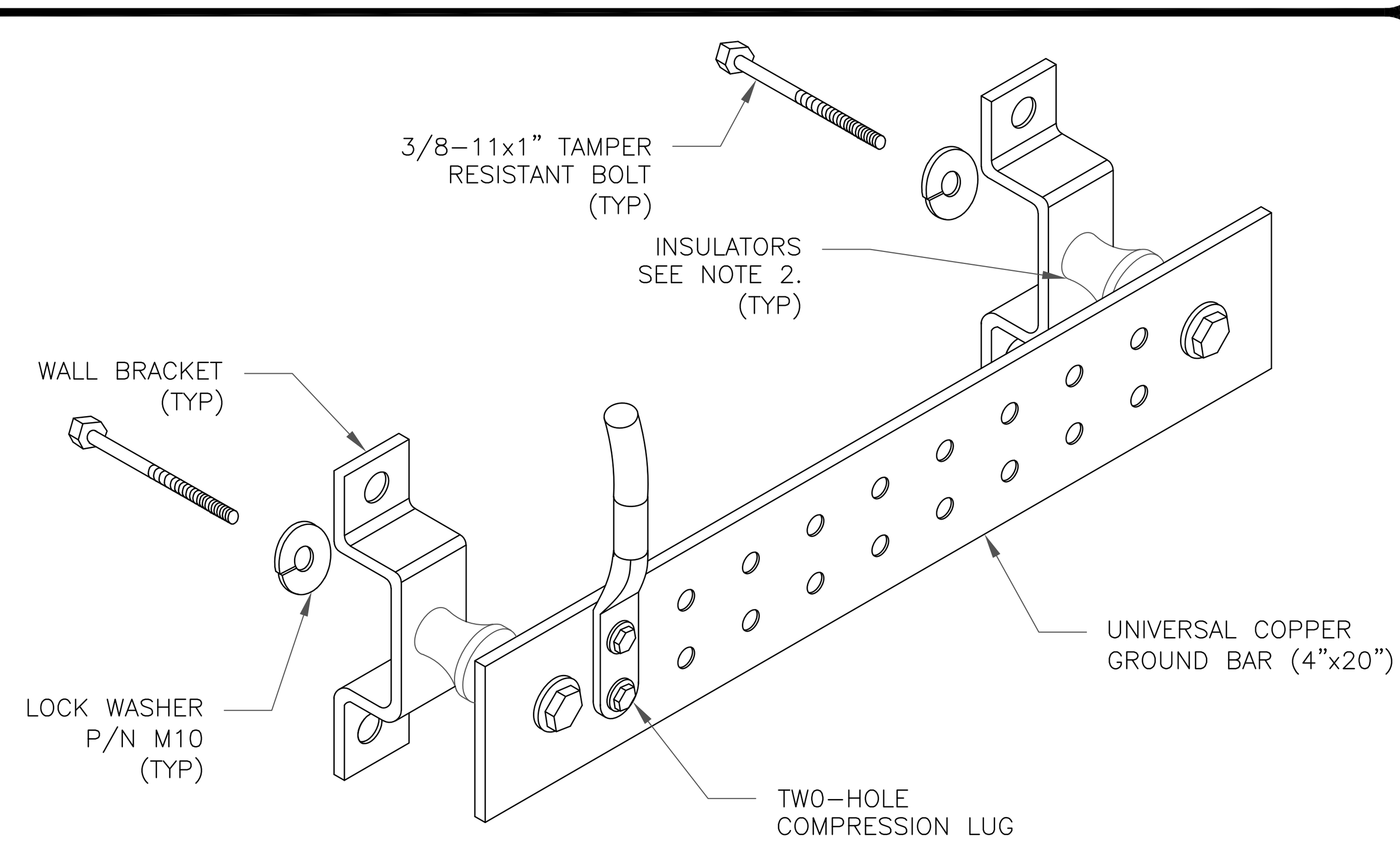
NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

4 GROUND CABLE CONNECTION
SCALE: NOT TO SCALE



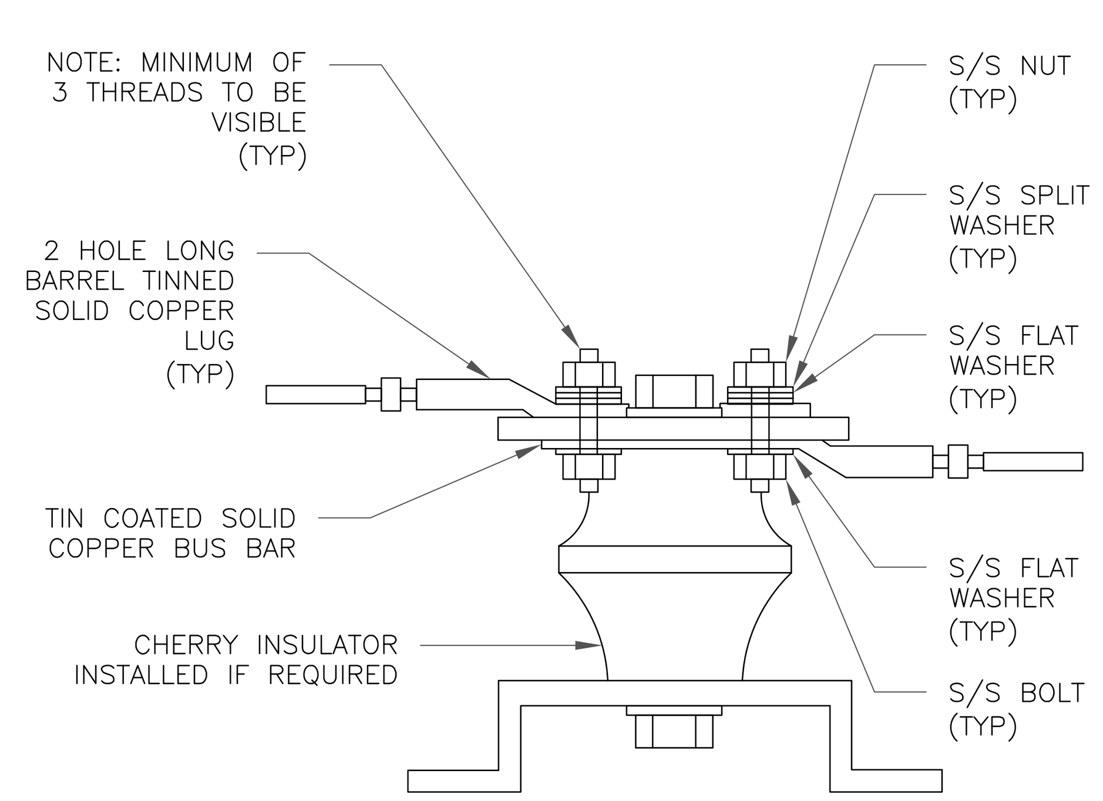
5 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



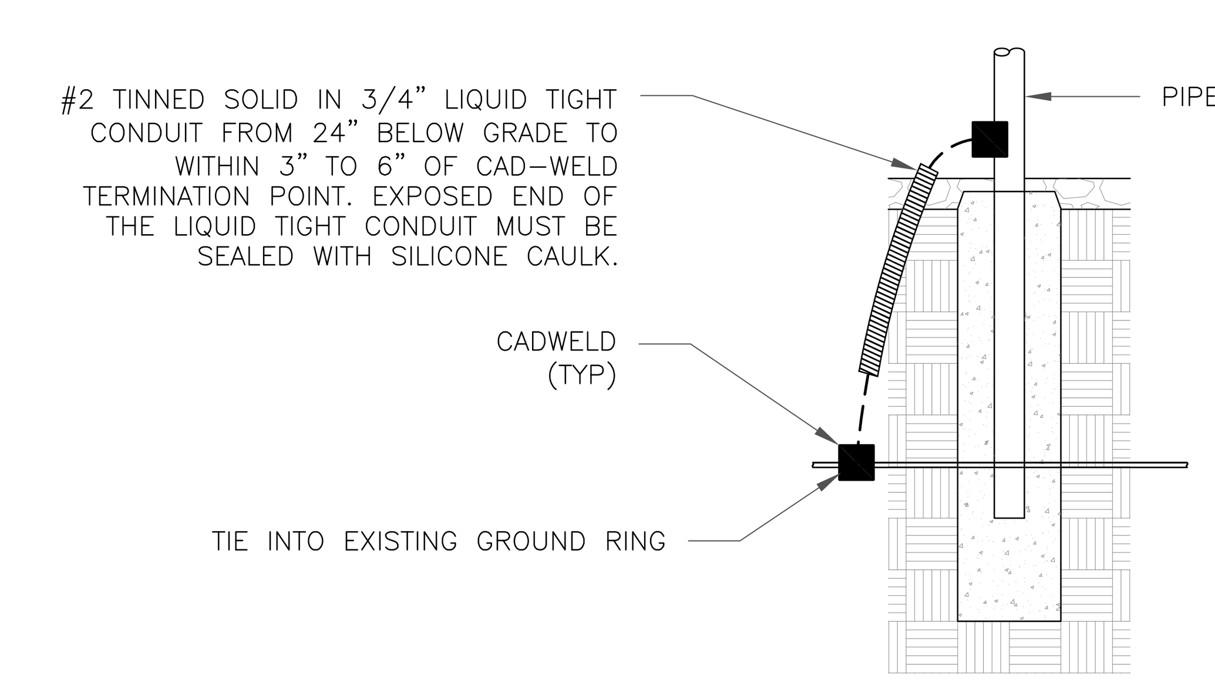
NOTES:

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

6 GROUND BAR DETAIL
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
SCALE: NOT TO SCALE

T-Mobile
4 SYLVAN WAY
PARSIPPANY, NJ 07054

CROWN CASTLE
3530 TORINGDON WAY, SUITE 300
CHARLOTTE, NC 28277

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

T-MOBILE SITE NUMBER:
CTHA114B

BU #: **842859**
BRISTOL CENTER

371 TERRYVILLE AVENUE
BRISTOL, CT 06010

EXISTING
168'-6" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	7/18/22	MEH	PRELIMINARY REVIEW	CV
0	8/12/22	DAS	CONSTRUCTION	ANP

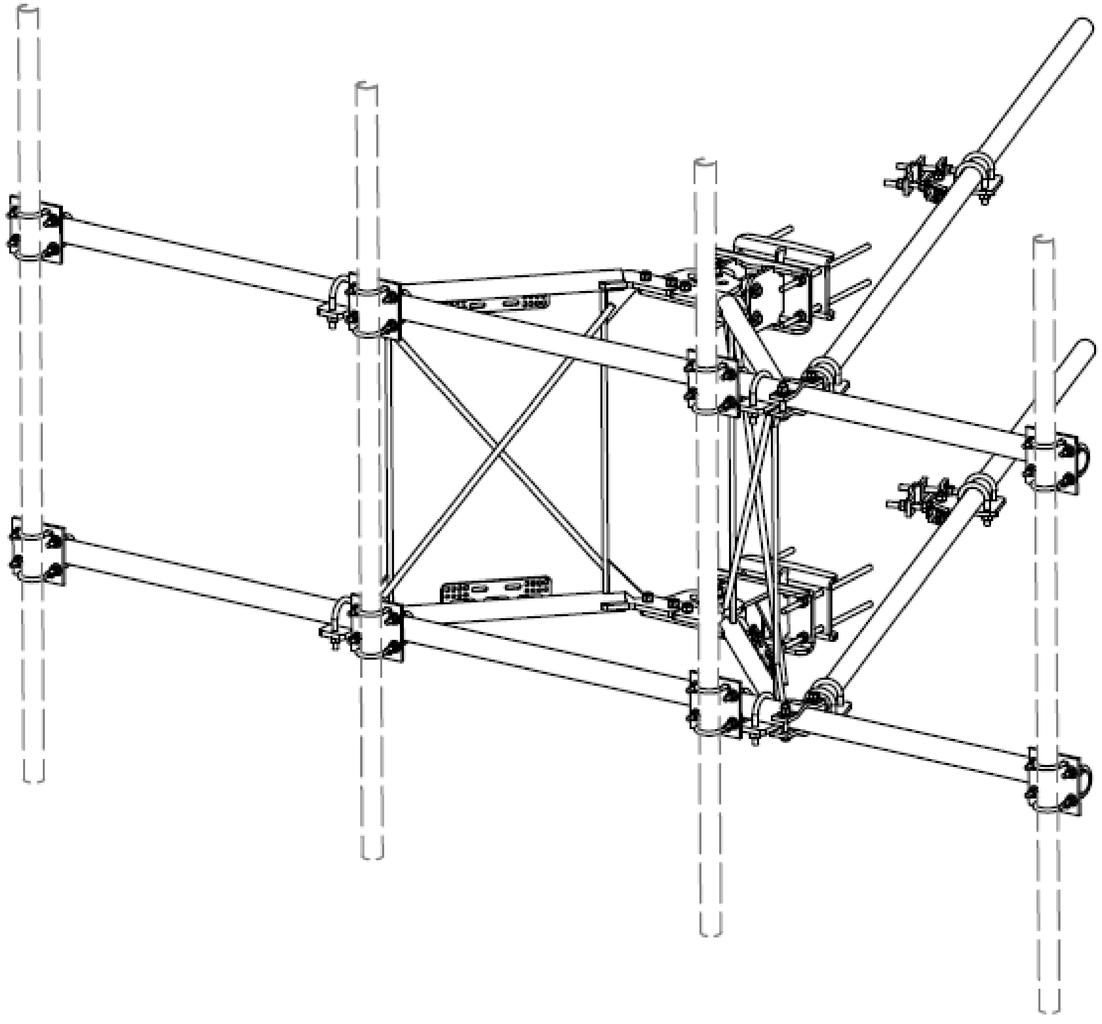
8/12/22

MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

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

SHEET NUMBER: G-3
REVISION: 0

96712.015.01_BRISTOL CENTER.dwg - Sheet:G-3 - User: mwesel - Aug 12, 2022 - 6:10pm



PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-VFAW	SUPPORT ARM		71.41	142.81
2	1	X-HDCAMTBW	CLAMP WELDMENT FOR BCAM-HD		33.86	33.86
3	1	X-MHTPHD	MULTI-HOLE TAPER PLATE WELDMENT		36.24	36.24
4	2	X-VFAPL4	VFA-HD PIVOT PLATE	12 in	15.88	31.77
5	2	X-LCBP4	BENT BACKING PLATE	13 in	20.04	40.09
6	1	X-HDCAMSS	ANGLE ADJUSTMENT WELDMENT FOR BCAM-HD		16.39	16.39
7	4	X-SPTB	SLIDING PIPE TIE BACK PLATE	5 1/2 in	5.87	23.49
8	1	X-HDCAMSP	POSITIONING PLATE WELDMENT FOR BCAM-HD		2.58	2.58
9	4	X-TBCA	TIE BACK CLIP ANGLE		2.01	8.02
10	8	SCX2	CROSSOVER PLATE	7 in	4.80	38.37
11	4	MCP	CLAMP HALF 1/2" THICK, 11-5/8" LONG	12 1/16 in	3.59	14.37
12	8	DCP	1/2" THICK, 5-3/4" CNTER TO CENTER CLAMP HALF	6 1/8 in	2.36	18.90
13	2	P2126	2-3/8" X 126" (2" SCH. 40) GALVANIZED PIPE	126 in	40.75	81.50
14	2	P30150	2-7/8" X 150" (2-1/2" SCH. 40) GALVANIZED PIPE	150 in	76.94	153.87
15	4	A34212	3/4" x 2-1/2" UNC HEX BOLT (A325)	2 1/2 in	0.48	1.92
16	4	G34FW	3/4" HDG USS FLATWASHER		0.06	0.24
17	4	G34LW	3/4" HDG LOCKWASHER		0.04	0.17
18	4	G34NUT	3/4" HDG HEAVY 2H HEX NUT		0.21	0.85
19	8	G58R-18	5/8" x 18" THREADED ROD (HDG.)		1.57	12.54
20	4	G58R-12	5/8" x 12" THREADED ROD (HDG.)		1.05	4.18
21	4	G58R-8	5/8" x 8" THREADED ROD (HDG.)		0.70	2.79
22	4	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
23	8	X-UB5258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	8.00
24	2	G5807	5/8" x 7" HDG HEX BOLT GR5 FULL THREAD	7 in	0.70	1.41
25	1	G5806	5/8" x 6" HDG HEX BOLT GR5 FULL THREAD	6 in	0.62	0.62
26	8	G5804	5/8" x 4" HDG HEX BOLT GR5		0.44	3.55
27	4	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	1.08
28	8	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	2.50
29	25	G58FW	5/8" HDG USS FLATWASHER	1/8 in	0.07	1.76
30	66	G58LW	5/8" HDG LOCKWASHER		0.03	1.72
31	71	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	9.22
32	32	X-UB1300	1/2" X 3" X 5" X 2" GALV U-BOLT		0.74	23.64
33	16	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.60	9.56
34	64	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	2.16
35	64	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.89
36	64	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	4.58
					TOTAL WT. #	740.26

REVISION HISTORY

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
D	UPDATED BCAM VERSION 1 TO BCAM VERSION 2		CEK	6/29/2018
C	UPDATED PIN LEG CONNECTION TO B-CAM CONNECTION		CEK	12/7/2017
B	CHANGED TIE-BACK BACK CONNECTION		CEK	7/31/2017
A	CHANGED TIE-BACK FRONT CONNECTION		CEK	2/2/2017

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
12' 6" HEAVY DUTY
V-FRAME ASSEMBLY
WITH TWO STIFF ARMS

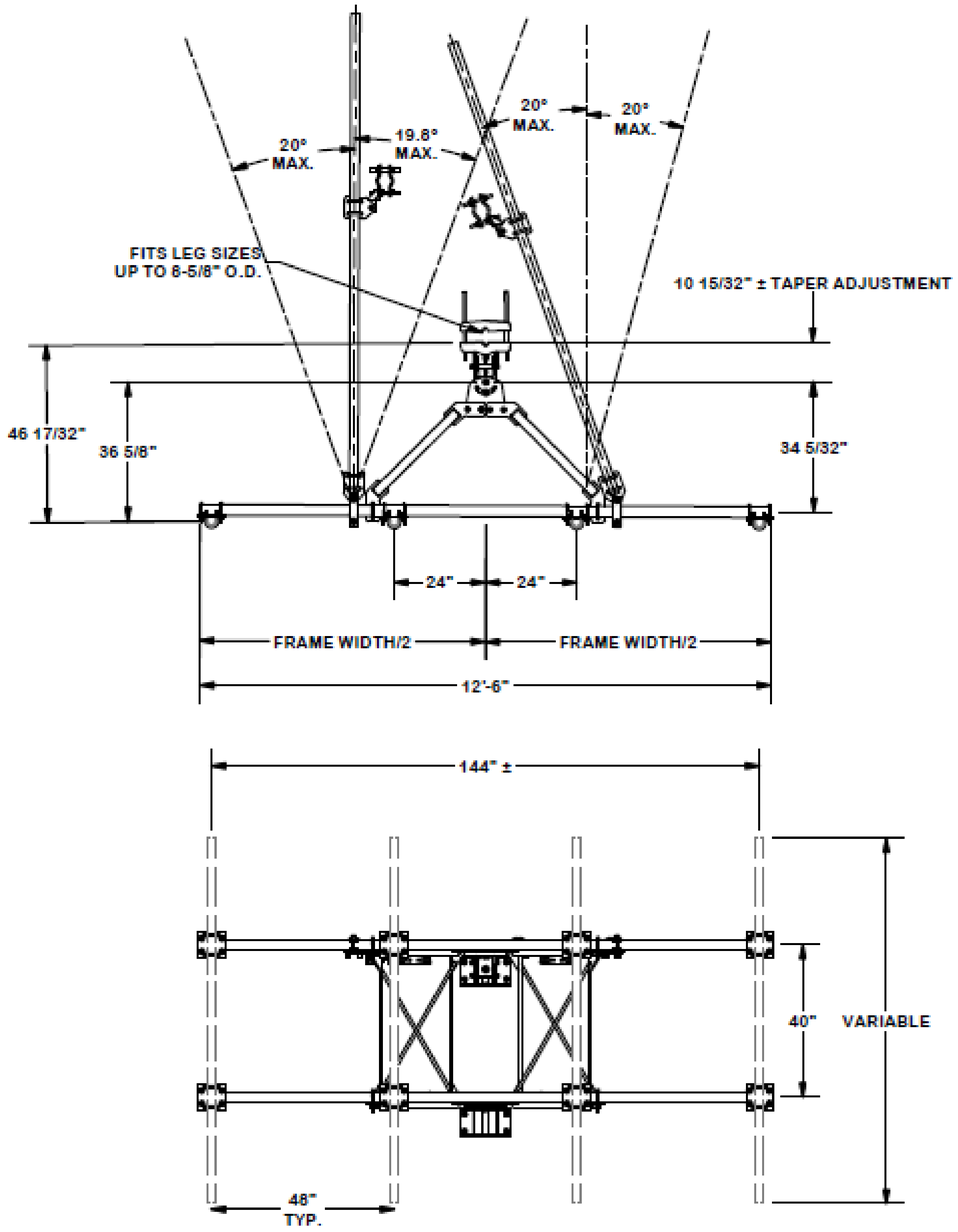
SITE PRO 1
A valmont COMPANY

Engineering Support Team:
1-888-753-7446

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

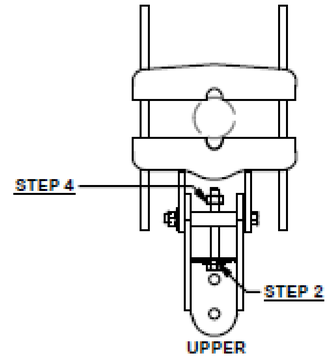
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
	CEK 1/25/2017		VFA12-HD

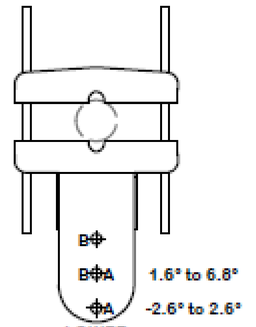
CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	CUSTOMER	BMC 12/13/2017	VFA12-HD

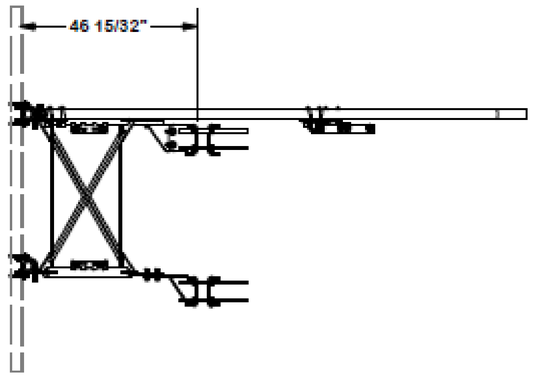


ANGLE CALIBRATING PROCEDURE:

1. MEASURE TOWER TAPER AND PICK LOWER BRACKET HOLE:
   - HOLE A = -2.6° TO 2.6°
   - HOLE B = 1.6° TO 6.8°
2. USE CALIBRATING BOLT TO ADJUST FRAME TO DESIRED TAPER
3. TORQUE LOCKING BOLTS TO 100 ft.-lbs.
4. ADVANCE LOCKING NUT TO POSITIONING PLATE, THEN TIGHTEN.







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