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

January 6, 2023

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

RE: **Notice of Exempt Modification for T-Mobile: CT11142A**
Crown Site ID# 806383
Cosgrove Road Whifford Hill, West Willington, CT 06279
Latitude: 41° 53′ 32.92″ / Longitude: -72° 15′ 38.15″

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 101-foot mount level on the existing 155'-6" self-support tower located at Cosgrove Road Whifford Hill, West Willington CT. T-Mobile to remove all antenna equipment and antenna mount at the 101' level. The property is owned by Isabella Drobney and the tower is owned by Crown Castle. T-Mobile now intends to replace six (6) existing Sprint antennas with nine (9) new antennas and ancillary equipment at the 125' mount level. This modification/proposal includes hardware that is both 4G (LTE) and 5G capable through remote software configuration and either or both services may be turned on or off at various times.

Panned Modification:

Tower:

Installed New @125' level:
- (3) Ericsson Air 6419 B41 Antennas
- (3) Commscope- W-65A-R1 Antennas
- (3) RFS – APXVAALL24_43-U-NA20 Antenna
- (3) Ericsson-Radio 4460 B25+ B66 RRU
- (3) Ericsson-Radio 4480 B71+ B85 RRU
- (3) Hybrid Cable 6x24

Remove @125' Level:
- (6) Antennas
- (6) RRHs
- (3) Sector Frames
- (12) 1-1/4" Coaxial Cables

Remove @101' Level:
- (3) RFS – APXVAARR24_43-U-NA20 Antenna
- (3) Ericsson 4415 B66A RRU
- (3) Ericsson-Radio 4449 B71+ B85 RRU

(3) Ericsson Twin Style 1BX -KRY 112 144/2 TMAs
(3) Generic Twin Style 1A-PCS TMAs
(3) Hybrid Cable (6x12)

Ground:

Install New:
(1) 6160 Cabinet
(1.) B160 Battery Cabinet
(1^) CSR IXRE V2 (GEN2)
(2) RP 6651

Remove:
(2) Cabinets

The tower was approved by the Connecticut Siting Council Docket No. 58 on March 13, 1997.

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 Erika G. Wiecenski, First Selectwoman and Michael D'Amato, Zoning Agent, Town of Willington. Isabella Drobney, Property Owner. Crown Castle is the tower owner.

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

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

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

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

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

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

Sincerely,

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

Attachments
cc:

Erika G. Wiecenski, First Selectwoman
Town Office Building
40 Old Farms Road
Willington, CT 06279
860-487-3100

Michael D'Amato, Zoning Agent
40 Old Farms Road
Willington, CT 06279
860-487-3123

Isabella Drobney, Property Owner
56 Cosgrove Road
Willington, CT 06279

Crown Castle - Tower Owner

TOWN OF WILLINGTON
APPLICATION FOR ZONING AND BUILDING PERMIT

NOTICE: This application must be typed or printed in ink and filed

The undersigned hereby applies for a permit to: ERECT (X), ALTER ( ), ENLARGE ( ), REPAIR ( ), REMOVE ( ), DEMOLISH ( ), a building or structure herein described and in accordance with plans and specifications submitted in duplicate, herewith, as shown on accompanying survey map).

LOCATION Whitford Hill, Willington, CT E. ( ), W. ( ), S. ( ), N. ( ) side
[Street & Number or nearest cross street] [If at corner it is entered indicate above on which side of street]

LOT # ..... ZONE ..... INTENDED USE OF BUILDING To house electrical equipment for mobile telephone system

SIZE OF LOT: #FT. FRONT ..... #FT. DEEP ..... AREA OF LOT .....

SIZE OF BUILDING: 15½ FT. X 21 FT. NO. OF STORIES 1 TOTAL FLOOR AREA 325.5 SQ. FT.

DISTANCE OF BUILDING FROM LOT LINES: FRONT SEE ATTACHED PLAN SIDE ..... SIDE ..... REAR .....

WORK WILL START ON OR ABOUT November 1, 1986

OWNER OF LAND Martin W. & Isabella M. Drobney ADDRESS Cosgrove Rd., N. Willington,

OWNER OF BUILDING METRO MOBILE CTS of Hartford ADDRESS C/O METRO MOBILE CTS of New H 5 Eversley Ave., Norwalk, CT

ARCHITECT CON-SERV, INC. 617-667-1804 ADDRESS 7 Karen Cir., S-3, Billerica, 740 A Main Street 01

BUILDER NORTHEAST ENGINEERING & CONSTRUCTION CORP. ADDRESS Woburn, MA 01801

HOME IMPROVEMENT CONT. REG. # N/A

This space to be used for Buildings to be Altered, Enlarged, Repaired, Removed or Demolished, Change in use and Special Permit Application.

STATE PROPOSED WORK TO BE DONE OR CHANGE IN USE IN DETAIL: (Attach separate sheet if necessary)

Terry D. II
Agar 1-800-318-2833

HOW IS BUILDING PRESENTLY HEATED .....

HOW WILL BUILDING BE HEATED .....

If building is to be demolished or removed, have you notified the proper authorities or utilities, to have their respective service connections, removed or sealed and plugged. Water ( ), Sewer ( ), Electric ( ), Gas ( ).

I hereby agree to comply with the requirements of the Zoning Regulations of the Town of Willington and the provisions of the State Building Code and all other State and Health Codes. The plans and specifications submitted herewith have been prepared in accordance with and are intended to meet these requirements. I hereby certify that I am familiar with the regulations or that I have employed competent persons to assist me in the preparation of the plans and specifications. I further agree that as owner or agent for the owner that the work will be done in accordance with these regulations and that I will employ whatever competent assistance or workmen as may be needed to carry on the work in accordance with the regulations and to remove, replace, or repair any work not found to be in accordance with the regulations by any authority.

Tel. of Person responsible 617-331-4875 Date of Submission 10/30/86

IMPORTANT: I hereby certify that I have read and understand the foregoing information.

SIGNED [signature] Owner or Duly Authorized Agent (Affidavit)

ADDRESS .....

DO NOT WRITE BELOW THIS LINE

PERMIT NO. /DATE Map/Parcel

COMMENTS/CONDITIONS:

CERTIFICATE OF SITING COUNCIL OR CT NEEDED (FOUND)

Est. Cost.Const. $90,000

Tower 28,000
Fence 12,000
Build 35,000
Site 15,000
90,000

Building	465
Zoning	15
Driveway	
Heating	
Electrical	
Plumbing	
Septic	
Other	
TOTAL FD.	480 p.c.
(chk #/cash)	

[signature] 11/24/86 ZONING AGENT/DATE

[signature] 12-11-86 BUILDING OFFICIAL/DATE

PLANNING & ZONING COMMISSION
Willington, Connecticut 06279
ZONING PERMIT

Date of Application ..... 19 ...

This permit is hereby applied for in accordance with the requirements of the Willington Zoning Regulations for:

☒ new construction ☐ swimming pool ☐ change of use ☒ other .....
☐ addition ☐ sign ☐ excavating/filling .....

Zoning District ..... Lot Area ..... Lot Frontage ..... Required Approvals ..... (all that)

Record Map # ..... Subdivision ..... Lot No. ..... Special Permit, yes ☐, no ☐

Location ..... (House Number) (Street) ..... Site Plan Approval, yes ☐, no ☐

Property Owner ..... Address ..... Phone .....

PROPERTY USE: ☐ Single Family Residence ☐ Multi-Family Residence ☐ Commercial ☐ Industrial ☐ Other .....

PROPOSED STRUCTURES

Existing Structures: No. ..... Use .....

1. Description .....
2. Dimensions .....
3. Livable Floor Area .....
4. Estimated Cost of Construction $ .....
5. Health Dept. Approval: # ..... Date: .....
6. Driveway permit: # ..... Date: .....

Conditions of Approval:

Reasons for Denial:

☐ Plot Plan Attached
☐ Conforming All Aspects
☐ Non Conforming

☐ Variance granted to .....

SIGN PERMIT ONLY — Permanent ☐ Temporary ☐
☐ Signed Legend

	Blackboard	Lettering
Color		
Dimensions		
Area		
Building Frontage		
Permitted Area		

Letter Style _____
Material _____
Finish _____
Lighting _____
Front Set-Back _____
Sketch to Scale Attached ☐

Approved by _____
Date _____

For ..... Date ..... 19 .....

Permit void if:
a. Work or activity not commenced within 3 months of the date of issuance
b. Construction authorized not completed within 1 year of the date of issuance.

This permit, if issued, is based upon the plot 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 Willington Zoning Regulations.

..... Permit hereby ☐ Issued ☐ Denied
Signature of owner or authorized agent (Agent's phone)

Fee of ..... PAID .....
Date ..... 19 ..
Permit # .....

by _____
LAND USE AGENT
WILLINGTON LAND USE AGENCY

Zip # .....

ZONING CERTIFICATE OF COMPLIANCE
Willington, Connecticut 06279

Issued to ..... Address ..... Zone .....

For ..... (Premises covered by certificate)
(House No.) (Street)

Lot # ..... Record # ..... Subdivision # .....

To verify that a plot plan (attached) certified by ..... on ..... 19 ..... of the above-referenced lot and the structures thereon has been presented to the Zoning Enforcement Officer, and such plan indicates that the construction or use is in conformance with all the applicable Zoning Regulations. Such lot, structures, and/or use are hereby authorized for occupancy. This certificate is based on the certified plot plan submitted. Falsification, by mis-representation or omission shall constitute a violation of the Willington Zoning Regulations and shall invalidate this Certificate.

Date ..... 19 ... by _____
LAND USE AGENT
PLANNING ZONING COMMISSION

56 COSGROVE RD

Location	56 COSGROVE RD	**Mblu**	33/ / 024-00/ /
Acct#	00058300	**Owner**	DROBNEY ISABEL N
Assessment	$170,580	**Appraisal**	$243,690
PID	3010	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$191,840	$51,850	$243,690
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$134,290	$36,290	$170,580

Owner of Record

Owner	DROBNEY ISABEL N	**Sale Price**	$0
Co-Owner	AKA ISABELLA	**Certificate**	
Address	56 COSGROVE RD	**Book & Page**	204/369
	WILLINGTON, CT 06279	**Sale Date**	05/29/2013

Building Information

Building 1 : Section 1

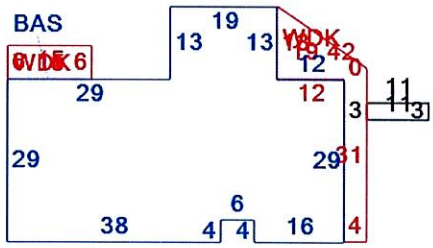
Year Built:	1958
Living Area:	1,963
Replacement Cost:	$260,459
Building Percent Good:	69
Replacement Cost Less Depreciation:	$179,720

Building Attributes	
Field	**Description**
Style	Ranch
Model	Residential
Grade:	Good
Stories:	1
Occupancy	1
Exterior Wall 1	Stucco/Masonry
Exterior Wall 2	Brick Veneer
Roof Structure:	Gable or Hip
Roof Cover	Asbestos Shing
Interior Wall 1	Drywall/Sheet
Interior Wall 2	Wood Panel
Interior Flr 1	Hardwood
Interior Flr 2	Linoleum
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	None
Total Bedrooms:	4 Bedrooms
Total Bthrms:	2
Total Half Baths:	0
Total Xtra Fixtrs:	1
Total Rooms:	6
Bath Style:	Average
Kitchen Style:	Average
Fireplaces	2
Bsmt Garage	2 BGR

Building Photo

(https://images.vgsi.com/photos/WillingtonCTPhotos//00\00\04\82.jpg)

Building Layout



(ParcelSketch.ashx?pid=3010&bid=3010)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,963	1,963
RRM	Rec Room	0	0
UBM	Unfinished Basement	0	0
WDK	Wood Deck	326	0
		2,289	1,963

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	1010
Description	Single Fam MDL-01
Zone	R80
Neighborhood	110
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	4.2
Frontage	
Depth	
Assessed Value	$36,290
Appraised Value	$51,850

Outbuildings

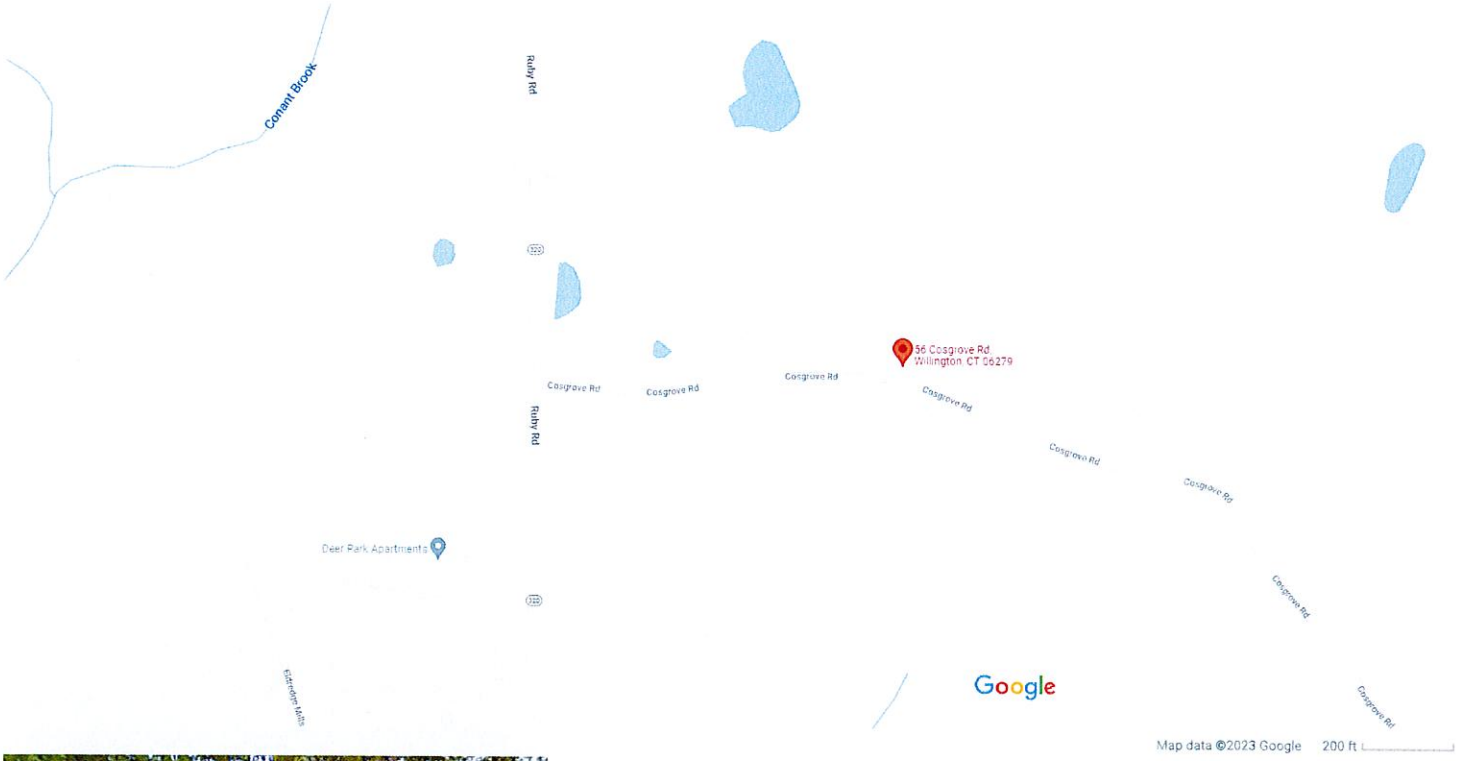
Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
SHD1	SHED FRAME			312.00 S.F.	$1,870	1
FGR3	GARAGE-POOR			1424.00 S.F.	$10,250	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$191,840	$51,850	$243,690

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$134,290	$36,290	$170,580

Google Maps 56 Cosgrove Rd



56 Cosgrove Rd

Directions Save Nearby Send to phone Share

56 Cosgrove Rd, Willington, CT 06279

VPRP+2W Willington, Connecticut

Photos

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Monday, January 9, 2023 11:11 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 770967165504: Your package has been delivered

Hi. Your package was delivered Mon, 01/09/2023 at 11:04am.

Delivered to 40 OLD FARMS RD, WILLINGTON, CT 06279

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 770967165504

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town Office Building Erika Wiecenski, First Selectwoman 40 Old Farms Road WILLINGTON, CT, US, 06279
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Fri 1/06/2023 08:00 PM
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	WILLINGTON, CT, US, 06279
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Monday, January 9, 2023 11:11 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 770967193982: Your package has been delivered

Hi. Your package was delivered Mon, 01/09/2023 at 11:04am.

Delivered to 40 OLD FARMS RD, WILLINGTON, CT 06279

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 770967193982

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town Office Building Michael D'Amato, Zoning Agent 40 Old Farms Road WILLINGTON, CT, US, 06279
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Fri 1/06/2023 08:00 PM
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	WILLINGTON, CT, US, 06279
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

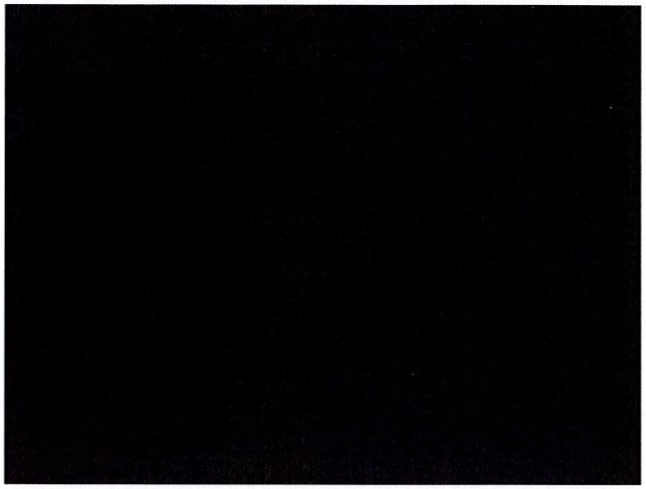
Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Monday, January 9, 2023 11:12 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 770967236728: Your package has been delivered
Attachments: DeliveryPicture.jpeg

Hi. Your package was delivered Mon, 01/09/2023 at 11:05am.

Delivered to 56 COSGROVE RD, WILLINGTON, CT 06279

OBTAIN PROOF OF DELIVERY



Delivery picture not showing? View in browser.

TRACKING NUMBER	770967236728
FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Property Owner Isabella Drobney 56 Cosgrove Road WILLINGTON, CT, US, 06279
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Fri 1/06/2023 08:00 PM
DELIVERED TO	Residence
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	WILLINGTON, CT, US, 06279
SPECIAL HANDLING	Deliver Weekday Residential Delivery
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	0.50 LB
SERVICE TYPE	FedEx Priority Overnight

November 16, 2022

Tower Engineering Professionals
326 Tryon Road
Raleigh, NC 27603
(919) 661-6351
CrownMA@tepgroup.net

Subject:	**Mount Analysis**	
Carrier Designation:	***T-Mobile* Reconfiguration**	
	Client Site Number:	CT03XC205
	Client Site Name:	CT11142A
Crown Castle Designation:	**Crown Castle BU Number:**	806383
	Crown Castle Site Name:	HRT 087 943325
	Crown Castle JDE Job Number:	735229
	Crown Castle Order Number:	637956 Rev. 0
Engineering Firm Designation:	**TEP Project Number:**	217457.787763
Site Data:	**Cosgrove Rd Whifford Hill, West Willington, Tolland Co, CT 06279** **Latitude *41° 53' 32.92"*, Longitude *-72° 15' 38.15"***	
Structure Information:	**Tower Height & Type:**	140.0± ft Self-Supporting Tower
	Mount Elevation:	125.0 ft
	Mount Width & Type:	15.0 ft Sector Mount

Tower Engineering Professionals is pleased to submit this **"Mount Analysis"** to determine the structural integrity of T-Mobile's antenna mounting system with proposed appurtenance and equipment addition on the above-mentioned 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.

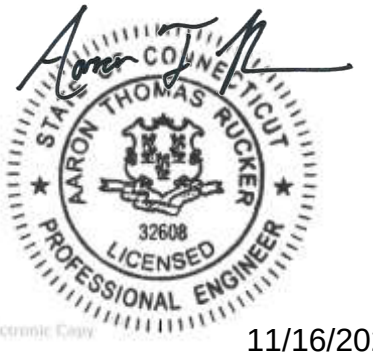
The purpose of the analysis is to determine acceptability of the mount stress level. Based on our analysis, we have determined the mount stress level to be:

Sector Mount **Sufficient Capacity**

This analysis utilizes an ultimate 3-second gust wind speed of 118 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Jordan Marks / DJM

Respectfully submitted by:



Aaron T. Rucker, P.E.
Structural Division Manager
919-661-6351
arucker@tepgroup.net

11/16/2022

TABLE OF CONTENTS

1) INTRODUCTION

The mount is an existing 15.0-ft 3-sector Sector mount, designed by Rohn. The mount is installed at the 125.0 ft elevation on the 140.0± ft Self-Supporting Tower.

2) ANALYSIS CRITERIA

Building Code:	2022 Connecticut State Building Code
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	118 mph
Exposure Category:	B
Topographic Category at Base:	1.0
Topographic Category at Mount:	1.0
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Seismic Design Category:	B
Seismic S_s:	0.18
Seismic S_1:	0.055
Live Loading Wind Speed:	30 mph
Live Loading at Mid/End-Points:	250 lb
Man Live Loading 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
125.0	125.0	3	Commscope	VV-65B-R1_TMO	(3) Sector Mounts
		3	Ericsson	AIR 6419 B41_TMO_CCIV2	
		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
Mount Manufacturer Drawings	Rohn	DWG No. 0930522	TEP
Loading Application	T-Mobile	Order 637956 Rev. 0	CCIsites
RFDS	T-Mobile	Site ID: CT11142A	CCIsites

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 mount and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A and Appendix C.

TEP Mount Analysis Tool, a tool internally developed by TEP using Microsoft Excel, was used to calculate member loading 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 mount was built in accordance with the manufacturer's specifications.
2) The mount has been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, mounts and other appurtenances are as specified in Table 1. All mount components have been assumed to be in sufficient condition to carry their full design capacity for this analysis. Refer to the issued mapping for any structural and/or maintenance issues found during our site visit if applicable.
4) All mount components are in sufficient condition to carry their full design capacity.
5) All material grades used for this analysis, unless verified by mount manufacturer design, were assumed per AISC Table 2-4, 15th Edition. See RISA-3D output for confirmation on grades used in this analysis.

This analysis may be affected if any assumptions are not valid or have been made in error. Tower Engineering Professionals 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 Mount)[3]

Notes	Component	Critical Member	Mount Centerline (ft)	% Capacity	Pass / Fail
1	Face Horizontals	FFBH-L	125.0	16.7	Pass
1	Support Horizontals	SF2-BH	125.0	25.0	Pass
1	Bracing	SF3-V3	125.0	39.4	Pass
1	Stab Arms	SA-1	125.0	3.3	Pass
1	Mount Pipes	MP-1	125.0	28.6	Pass
2	Connection Bolts	-	125.0	27.8	Pass

Structure Rating (max from all components) =	39.4%

Notes:
1) See additional documentation in "Appendix C - Analysis Output" for calculations supporting the % capacity listed.
2) See additional documentation in "Appendix D - Additional Calculations" for calculations supporting the % capacity listed.
3) All sectors are typical.

Table 4 - Tieback Connection Data Table

Tower Connection Node No.	Existing/ Proposed	Resultant End Reaction (lb)	Connected Member Type	Connected Member Size	Member Compressive Capacity (lb)[3]	Notes
SA-1B	Existing	850	Leg	ROHN 2 STD	1,842	1

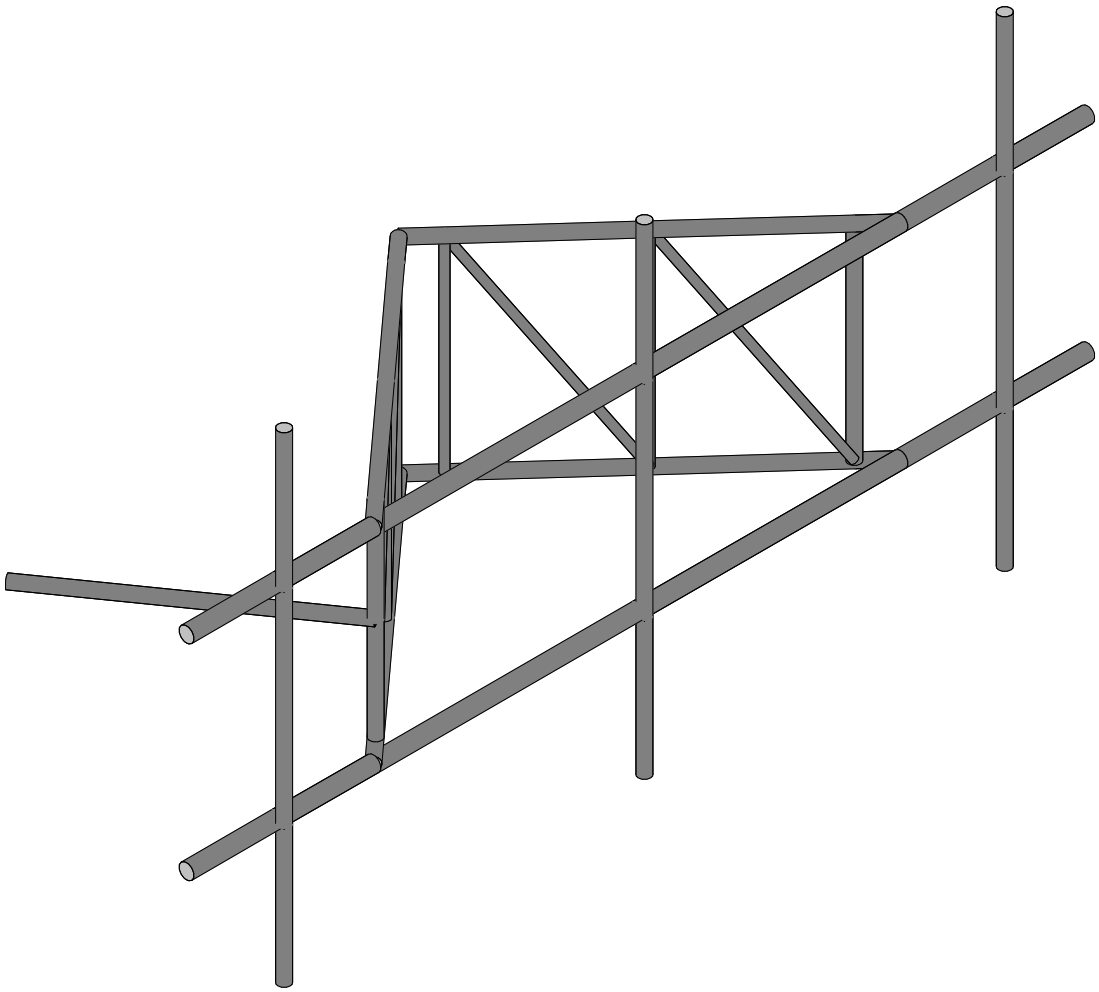
Notes:
1) Tieback connection point is within 25% of either end of the connected tower member.
2) Tower connection point is NOT within 25% of either end of the connected tower member.
3) Reduced member compressive capacity according to CED-STD-10294 *Standard for Installation of Mounts and Appurtenances.*

4.1) Recommendations

1) If the load differs from that described in Table 1 of this report or the provisions of this analysis are found to be invalid, another structural analysis should be performed.
2) The mount and its connection have sufficient capacity to carry the proposed loading configuration. No modifications are required at this time.

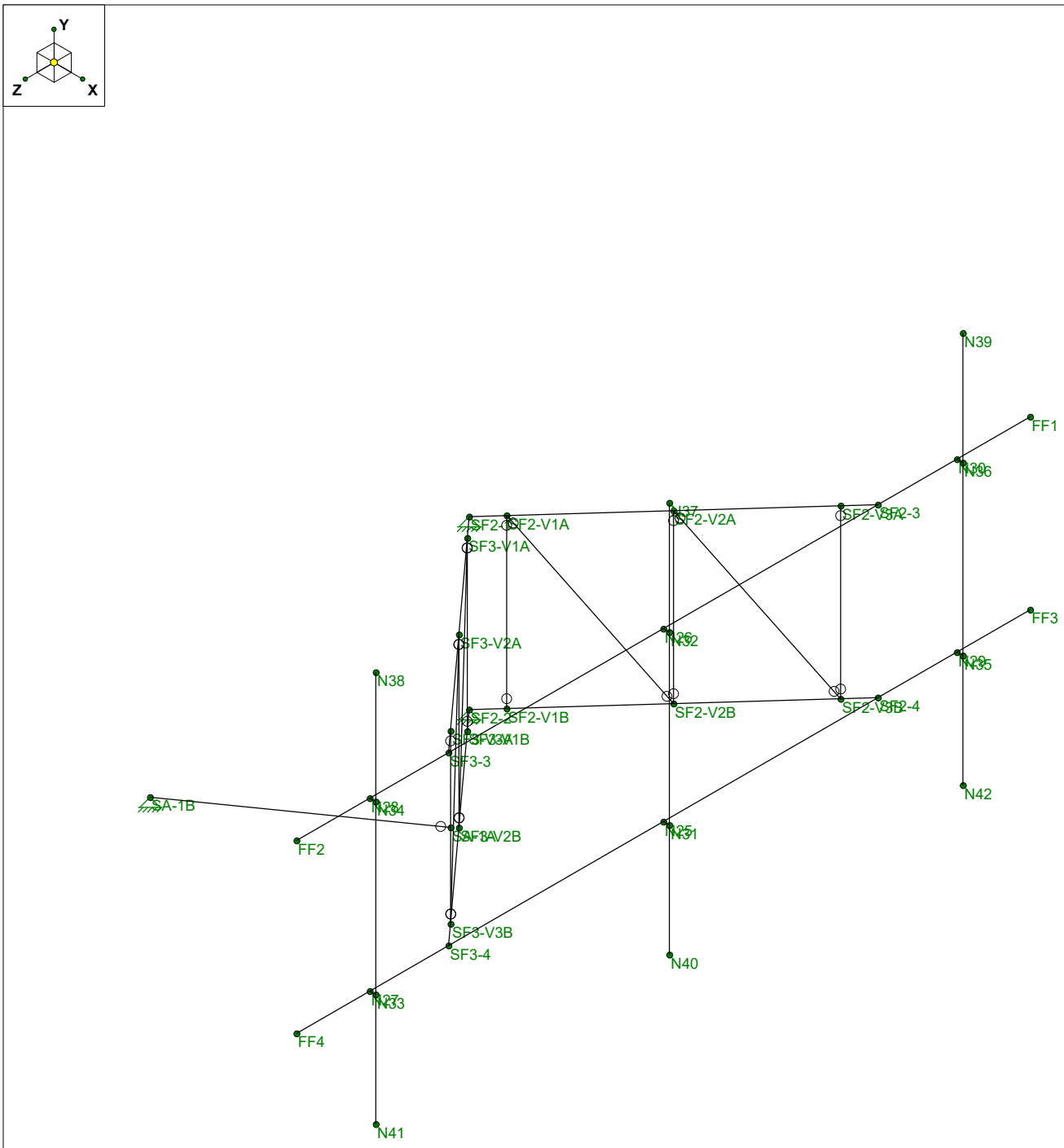
APPENDIX A

WIRE FRAME AND RENDERED MODELS



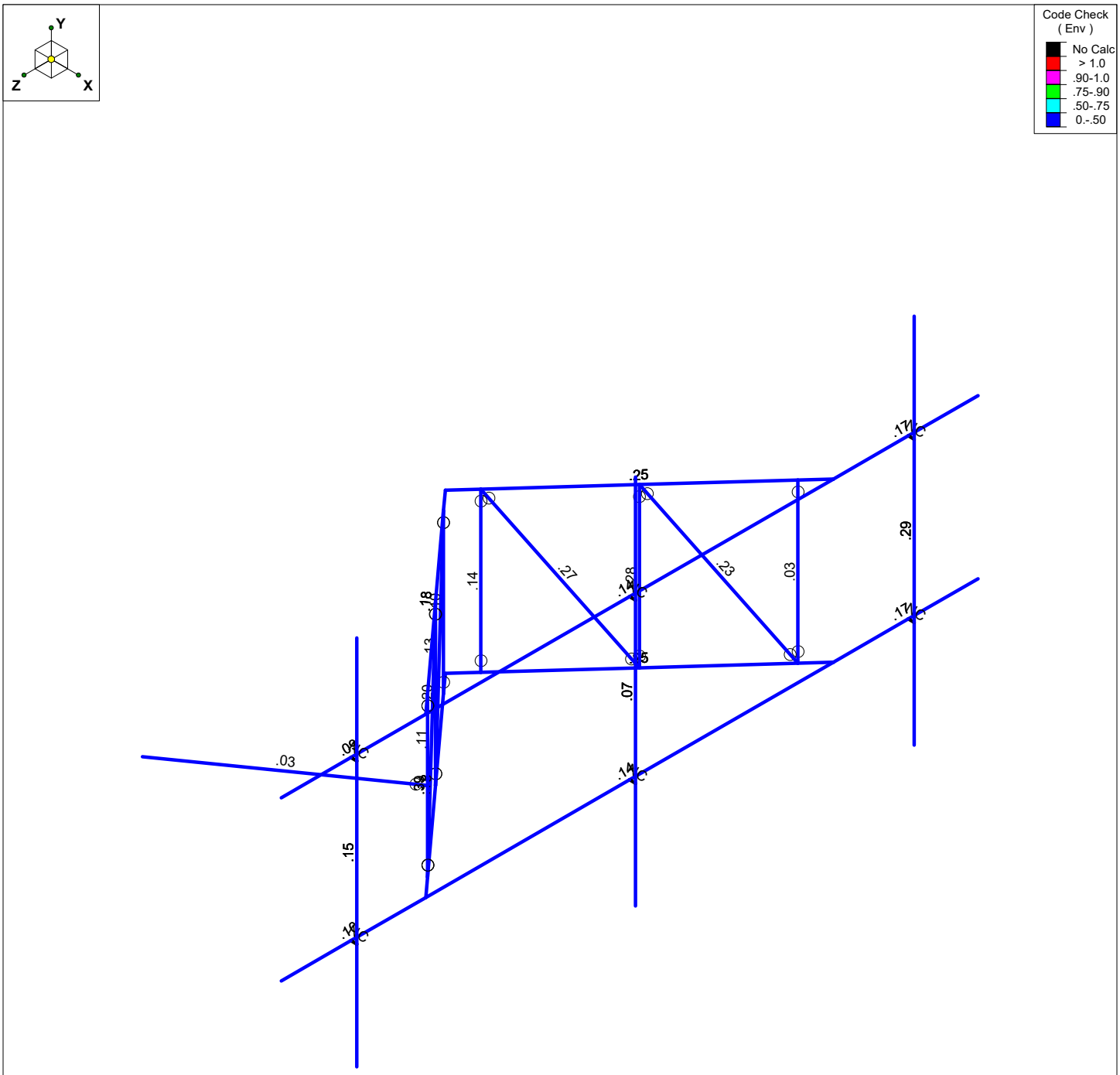
Envelope Only Solution

Tower Engineering Profes...	CCI BU No. 806383	SK - 1
JCM		Nov 16, 2022 at 1:21 PM
TEP No. 217457.787763		S-2 Sector Mount (15-ft).r3d



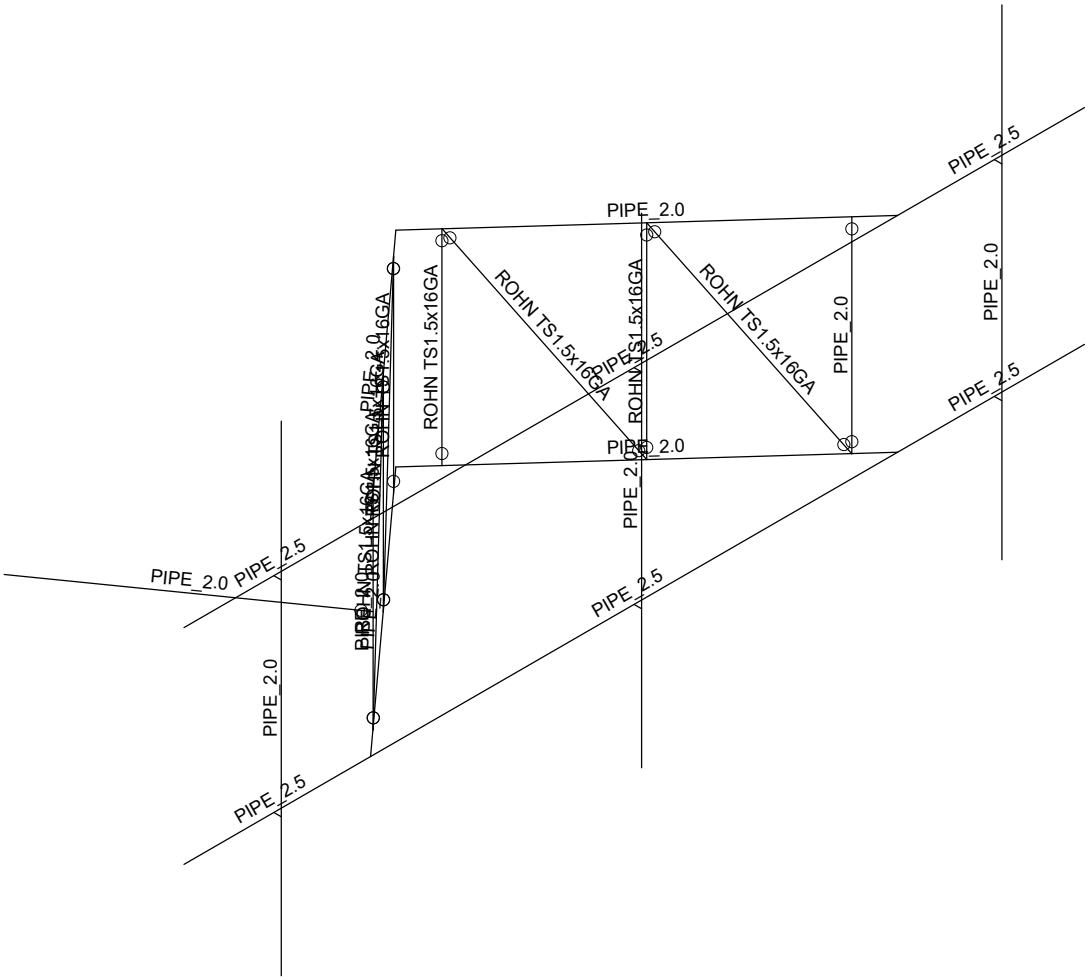
Envelope Only Solution

Tower Engineering Profes...	CCI BU No. 806383	SK - 2
JCM		Nov 16, 2022 at 1:27 PM
TEP No. 217457.787763		S-2 Sector Mount (15-ft).r3d



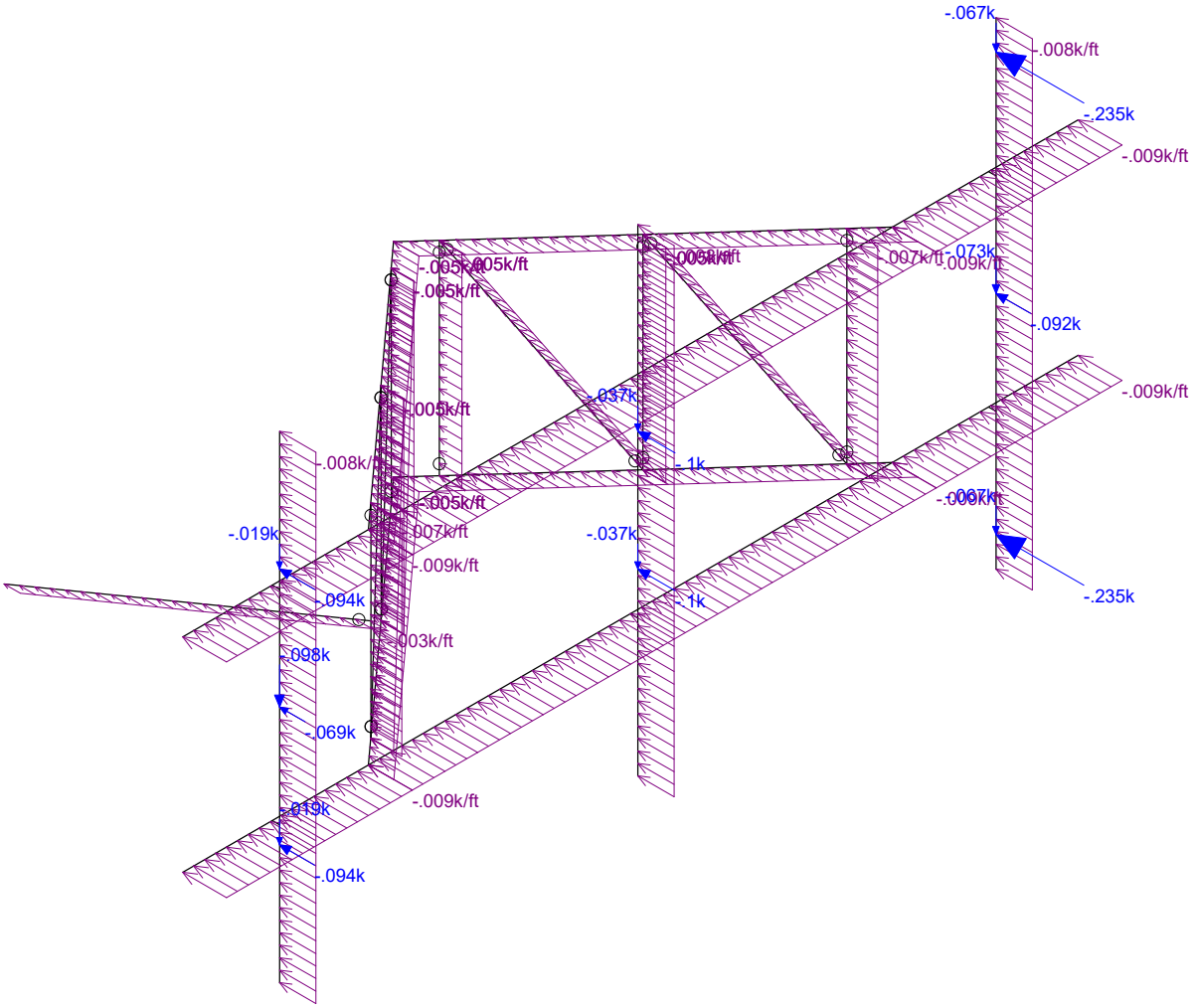
Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Tower Engineering Profes...	CCI BU No. 806383	SK - 3
JCM		Nov 16, 2022 at 1:27 PM
TEP No. 217457.787763		S-2 Sector Mount (15-ft).r3d



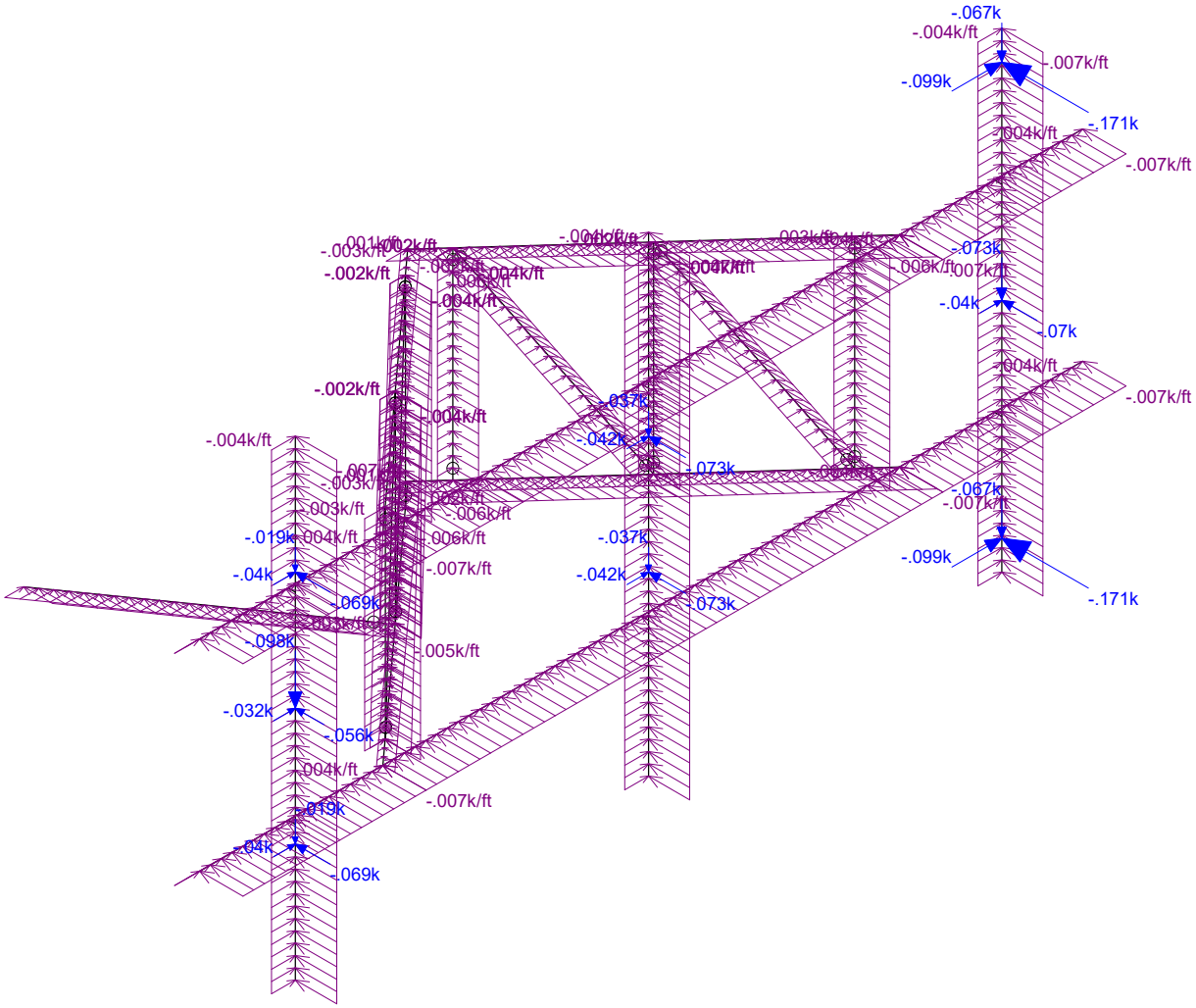
Envelope Only Solution

Tower Engineering Profes...	CCI BU No. 806383	SK - 4
JCM		Nov 16, 2022 at 1:27 PM
TEP No. 217457.787763		S-2 Sector Mount (15-ft).r3d



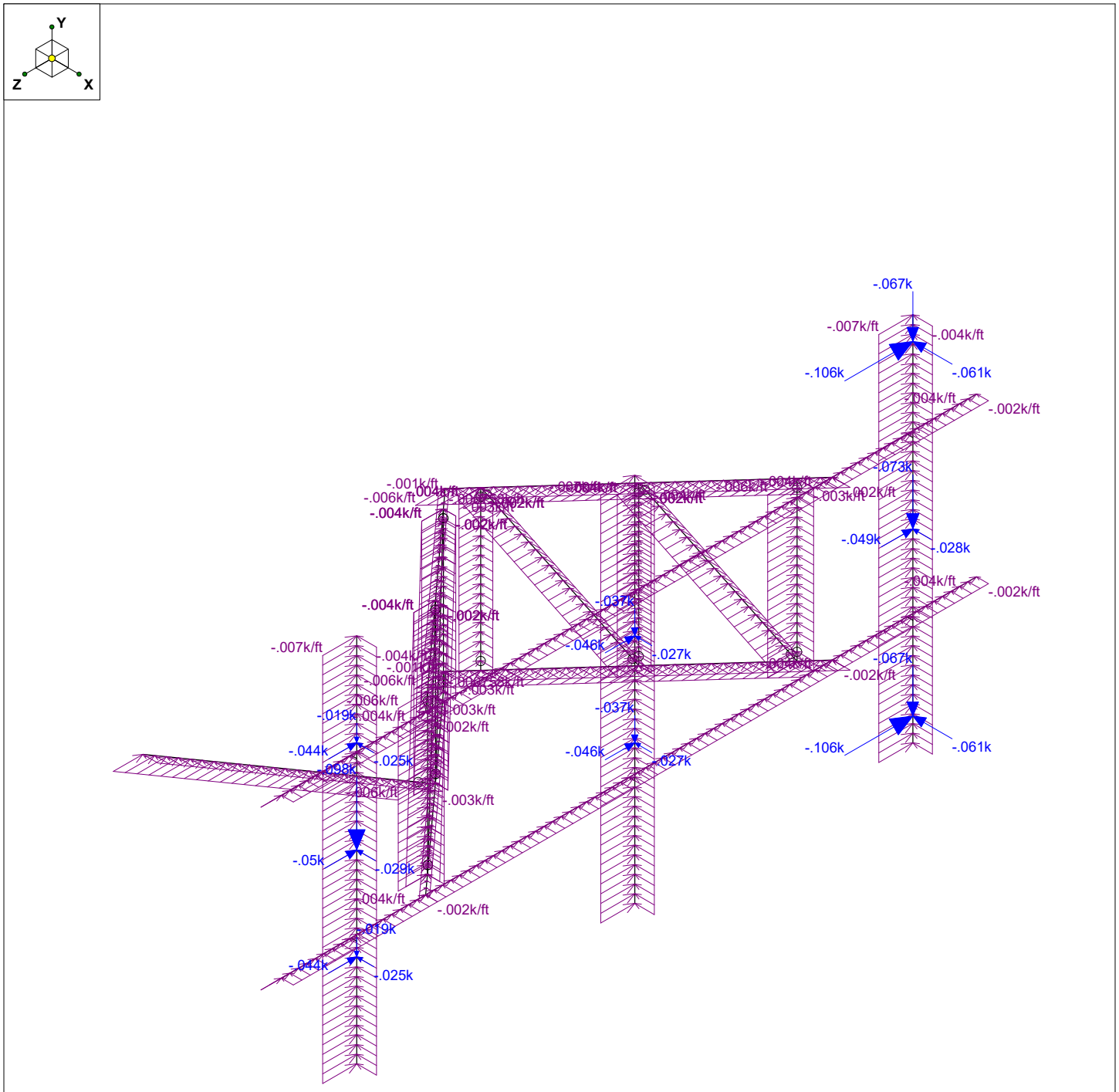
Loads: LC 2, 0.9D+1.0 0-Wind
Envelope Only Solution

Tower Engineering Profes...	CCI BU No. 806383	SK - 5
JCM		Nov 16, 2022 at 1:27 PM
TEP No. 217457.787763		S-2 Sector Mount (15-ft).r3d



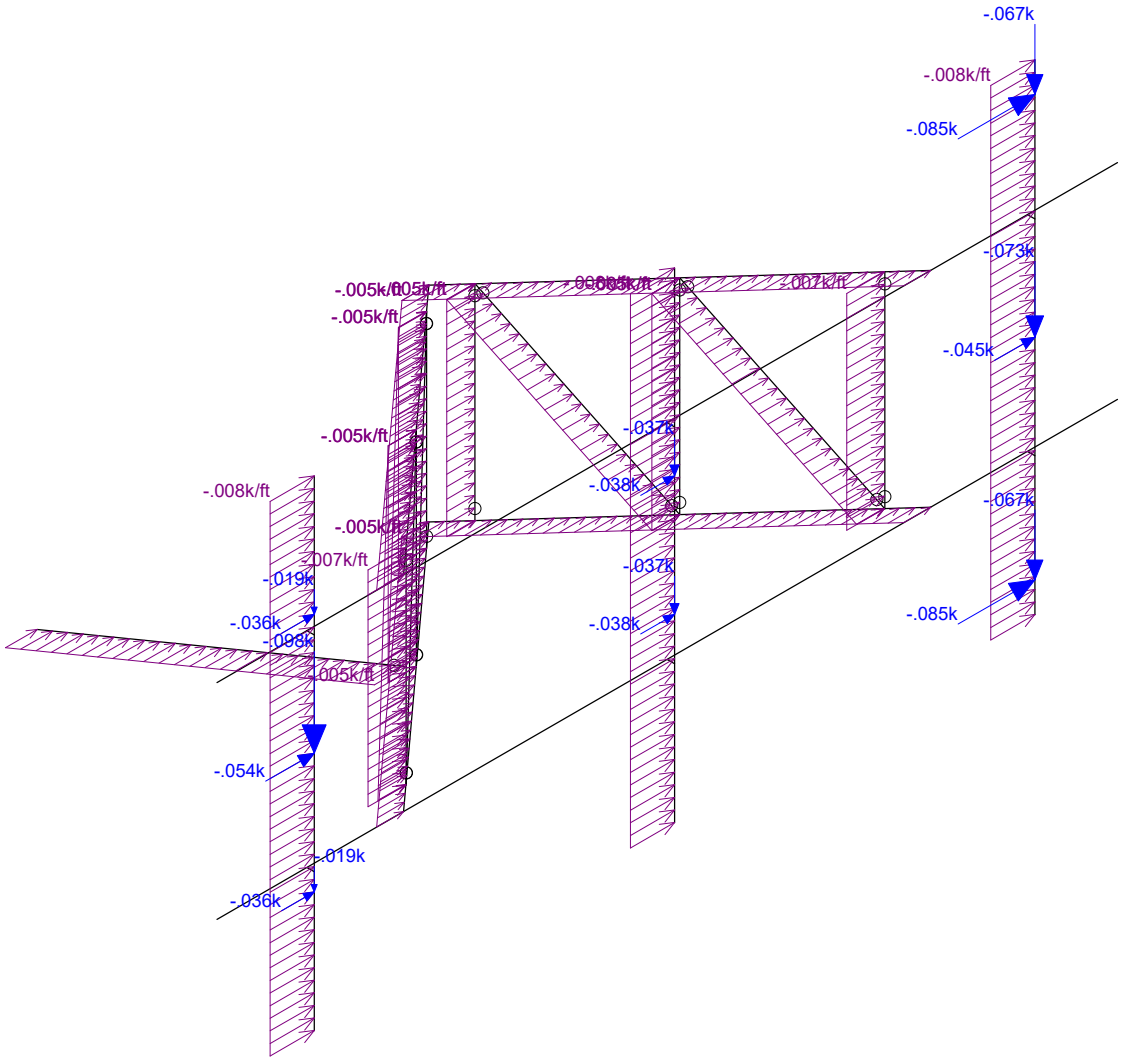
Loads: LC 3, 0.9D+1.0 30-Wind
Envelope Only Solution

Tower Engineering Profes...	CCI BU No. 806383	SK - 6
JCM		Nov 16, 2022 at 1:27 PM
TEP No. 217457.787763		S-2 Sector Mount (15-ft).r3d



Loads: LC 5, 0.9D+1.0 60-Wind
Envelope Only Solution

Tower Engineering Profes...	CCI BU No. 806383	SK - 7
JCM		Nov 16, 2022 at 1:28 PM
TEP No. 217457.787763		S-2 Sector Mount (15-ft).r3d



Loads: LC 6, 0.9D+1.0 90-Wind
Envelope Only Solution

Tower Engineering Profes...	CCI BU No. 806383	SK - 8
JCM		Nov 16, 2022 at 1:28 PM
TEP No. 217457.787763		S-2 Sector Mount (15-ft).r3d

APPENDIX B

SOFTWARE INPUT CALCULATIONS

TOWER ENGINEERING PROFESSIONALS

CCI BU No. 806383
TEP No. 217457.787763
Analysis By: JCM 11/16/2022
Checked By: DJM 11/16/2022

Code Revisions:	TIA-222-H	IBC 2018
Tower Type:	3 Sided Self-Support	

Wind Inputs:

Ult. Wind Velocity:	118	mph
Live Load Velocity:	30	mph
Ice Wind Velocity:	50	mph
Base Ice Thickness:	1.50	inches
Mount Centerline:	125.0	ft
Antenna Centerline:	125.0	ft
Exposure Category:	B	
Topo Category:	1	
Risk Category:	II	
Ground Elevation:	42	ft

Wind Calculations:

K_{zt}:	1.000	Section 2.6.6
K_d:	0.950	
$K_{z\text{-}Mount}$:	1.053	Section 2.6.5.2
$K_{z\text{-}Antenna}$:	1.053	Section 2.6.5.2
K_{iz}:	1.142	Section 2.6.10
Ice Thickness:	1.714	inches - Section 2.6.10
K_e:	0.998	Table 2-6

Without Ice - (psf)		With Ice - (psf)	
$(q_zG_h)_{Mount}$:	35.61	$(q_zG_h)_{Mount}$:	6.39
$(q_zG_h)_{Antenna}$:	35.61	$(q_zG_h)_{Antenna}$:	6.39

Seismic Code Revisions:	TIA-222-H
Seismic Risk Category:	II

Seismic Input

S_{DS}:	0.192	Design Short Period Spectral Accel.
I_p:	1.0	Importance Factor
R_p:	2.0	Response Modification Factor
ρ:	1.0	
A_s:	1.0	Applification Factor - TIA-222-H Section 2.7.8.1
S_1:	0.055	Spectral Acceleration at a Period of 1 Second

Seismic Design Force TIA-H Sec 2.7.7.1.1

Cs:	0.096	kips/kip	TIA-H Sec 2.7.7.1.1
Cs-min:	0.030	kips/kip	

TOWER ENGINEERING PROFESSIONALS

CCI BU No. 806383

TEP No.	217457.787763	
Analysis By:	JCM	11/16/2022
Checked By:	DJM	11/16/2022

Antenna Loads are Calculated in Accordance with TIA-222-H

Azimuth is the absolute angle measured clockwise from RISA-3D global X-axis.

										Distance from start node of the member		
MFR	Model	Height (in)	Width (in)	Depth (in)	Wt. (lbs)	Azimuth°	Qty	Shape	Member Label	Location #1 (ft,%)	Location #2 (ft,%)	Location #3 (ft,%)
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMO	95.90	24.00	8.50	149.90	0.00	1	Flat	MP-1	0.50	7.50	
ERICSSON	AIR 6419 B41_TMO_CCIV2	34.49	19.92	7.99	81.84	0.00	1	Flat	MP-2	3.00	5.00	
COMMSCOPE	VV-65B-R1_TMO	70.35	12.01	4.65	41.67	0.00	1	Flat	MP-3	2.00	6.00	
ERICSSON	RADIO 4480_TMOV2	22.00	15.70	7.50	81.00	0.00	1	Flat	MP-1	4.00		
ERICSSON	RADIO 4460 B2/B25 B66_TMO	17.00	15.10	11.90	109.00	0.00	1	Flat	MP-3	4.00		

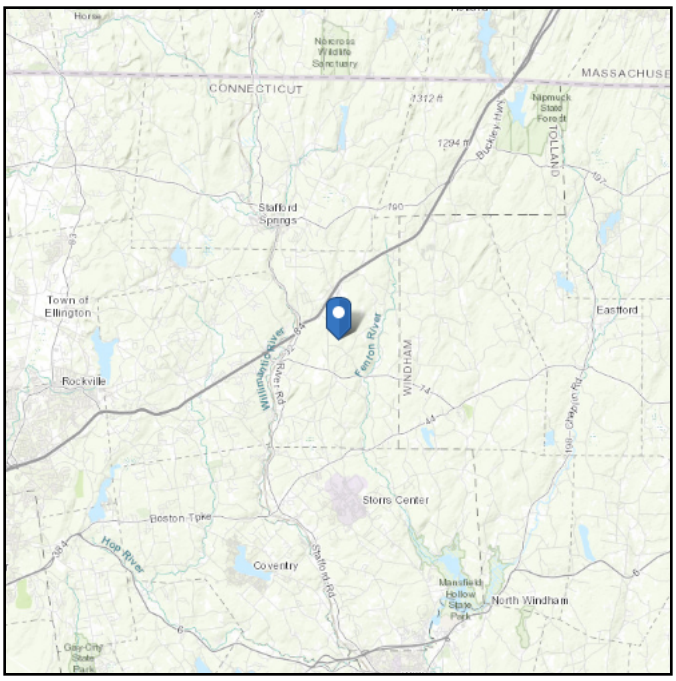
Member Forces are Calculated in Accordance with TIA-222-H

Member Name	Wind Proj. (in)	Length (in)	Shape	θ (°)	Perimeter (in)
FFBH-L	2.875	180.00	Round	90.00	9.03
FFBH-M	2.875	180.00	Round	90.00	9.03
FFBH-R	2.875	180.00	Round	90.00	9.03
FFTH-L	2.875	180.00	Round	90.00	9.03
FFTH-M	2.875	180.00	Round	90.00	9.03
FFTH-R	2.875	180.00	Round	90.00	9.03
SA-1	2.375	52.89	Round	35.11	7.46
SF2-D1	1.500	50.22	Round		4.71
SF2-D2	1.500	50.22	Round		4.71
SF3-D1	1.500	50.22	Round		4.71
SF3-D2	1.500	50.22	Round		4.71
SF2-BH	2.375	71.00	Round	47.87	7.46
SF2-TH	2.375	71.00	Round	47.87	7.46
SF3-BH	2.375	71.00	Round	-47.87	7.46
SF3-TH	2.375	71.00	Round	-47.87	7.46
SF2-V1	1.500	41.00	Round		4.71
SF2-V2	1.500	41.00	Round		4.71
SF3-V1	1.500	41.00	Round		4.71
SF3-V2	1.500	41.00	Round		4.71
SF2-V3	2.375	41.00	Round		7.46
SF3-V3	2.375	41.00	Round		7.46
MP-1	2.375	96.00	Round		7.46
MP-2	2.375	96.00	Round		7.46
MP-3	2.375	96.00	Round		7.46

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	41.892478
Risk Category:	II	**Longitude:**	-72.260597
Soil Class:	D - Default (see Section 11.4.3)	**Elevation:**	933.47 ft (NAVD 88)



Wind

Results:

Wind Speed	118 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	98 Vmph

Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed:	Mon Nov 14 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

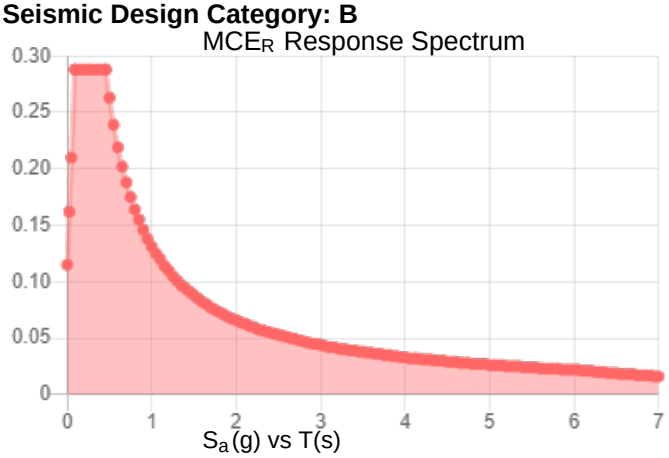
D - Default (see Section 11.4.3)

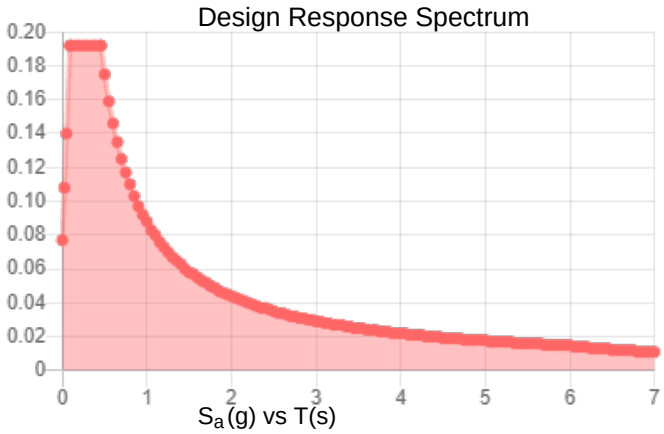
Site Soil Class:

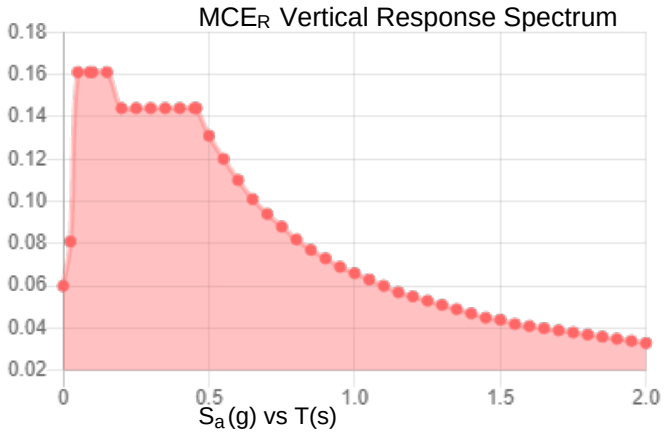
Results:

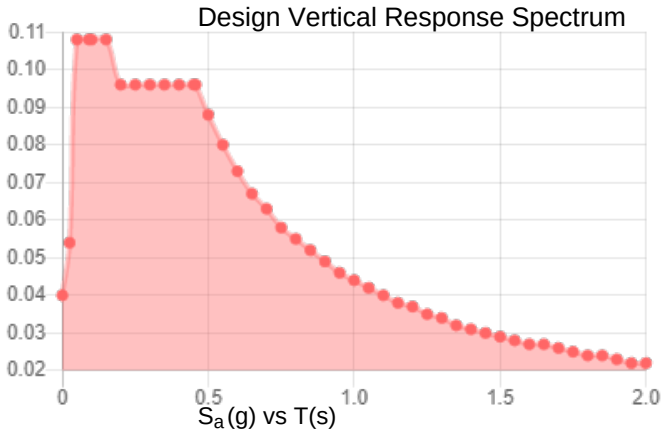
S_S :	0.18	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.096
F_v :	2.4	PGA_M :	0.153
S_{MS} :	0.288	F_{PGA} :	1.6
S_{M1} :	0.131	I_e :	1
S_{DS} :	0.192	C_v :	0.7

Seismic Design Category: B









Data Accessed: **Mon Nov 14 2022**

Date Source:

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

Ice

Results:

Ice Thickness:	1.50 in.
Concurrent Temperature:	5 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Mon Nov 14 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.

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 (ft/sec^2)	32.2
Wall Mesh Size (in)	24
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 15th(360-16): LRFD
Adjust Stiffness?	No
RISAConnection Code	None
Cold Formed Steel Code	None
Wood Code	None
Wood Temperature	< 100F
Concrete Code	None
Masonry Code	None
Aluminum Code	None - Building
Stainless Steel Code	None

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

Company : Tower Engineering Professionals, Inc.
Designer : JCM
Job Number : TEP No. 217457.787763
Model Name : CCI BU No. 806383

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(Global) Model Settings, Continued

Seismic Code	ASCE 7-16
Seismic Base Elevation (ft)	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 (/1...	Density[k/f...	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	.49	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.49	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A53-B-42	29000	11154	.3	.65	.49	42	1.4	63	1.3

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Face Horizontal	PIPE_2.5	None	None	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
2	Support Horizontal	PIPE_2.0	None	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
3	Support Vertical 1	ROHN TS1.5x16GA	None	None	A53-B-42	Typical	.263	.068	.068	.137
4	Support Vertical 2	PIPE_2.0	None	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
5	Support Diagonal	ROHN TS1.5x16GA	None	None	A53-B-42	Typical	.263	.068	.068	.137
6	Stabilizer Arm	PIPE_2.0	None	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
7	Mount Pipe	PIPE_2.0	None	None	A53 Gr.B	Typical	1.02	.627	.627	1.25

Cold Formed Steel Section Sets

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

Material Takeoff

	Material	Size	Pieces	Length[ft]	Weight[K]
1	General				
2	RIGID		6	.7	0
3	Total General		6	.7	0
4					
5	Hot Rolled Steel				
6	A53 Gr.B	PIPE_2.0	10	58.9	.204
7	A53 Gr.B	PIPE_2.5	6	30	.164
8	A53-B-42	ROHN TS1.5x16GA	8	30.4	.027

Material Takeoff (Continued)

	Material	Size	Pieces	Length[ft]	Weight[K]
9	Total HR Steel		24	119.3	.396

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	SF2-1	Reaction	Reaction	Reaction			
2	SF2-2	Reaction	Reaction	Reaction			
3	SA-1B	Reaction	Reaction	Reaction			

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design R...
1	FFBH-L	FF3	SF2-4			Face Horizontal	None	None	A53 Gr.B	Typical
2	FFBH-M	SF2-4	SF3-4			Face Horizontal	None	None	A53 Gr.B	Typical
3	FFBH-R	SF3-4	FF4			Face Horizontal	None	None	A53 Gr.B	Typical
4	FFTH-L	FF1	SF2-3			Face Horizontal	None	None	A53 Gr.B	Typical
5	FFTH-M	SF2-3	SF3-3			Face Horizontal	None	None	A53 Gr.B	Typical
6	FFTH-R	SF3-3	FF2			Face Horizontal	None	None	A53 Gr.B	Typical
7	SA-1	SA-1A	SA-1B			Stabilizer Arm	None	None	A53 Gr.B	Typical
8	SF2-D1	SF2-V1A	SF2-V2B			Support Diagonal	None	None	A53-B-42	Typical
9	SF2-D2	SF2-V2A	SF2-V3B			Support Diagonal	None	None	A53-B-42	Typical
10	SF3-D1	SF3-V1A	SF3-V2B			Support Diagonal	None	None	A53-B-42	Typical
11	SF3-D2	SF3-V2A	SF3-V3B			Support Diagonal	None	None	A53-B-42	Typical
12	SF2-BH	SF2-2	SF2-4			Support Horizontal	None	None	A53 Gr.B	Typical
13	SF2-TH	SF2-1	SF2-3			Support Horizontal	None	None	A53 Gr.B	Typical
14	SF3-BH	SF2-2	SF3-4			Support Horizontal	None	None	A53 Gr.B	Typical
15	SF3-TH	SF2-1	SF3-3			Support Horizontal	None	None	A53 Gr.B	Typical
16	SF2-V1	SF2-V1A	SF2-V1B			Support Vertical 1	None	None	A53-B-42	Typical
17	SF2-V2	SF2-V2A	SF2-V2B			Support Vertical 1	None	None	A53-B-42	Typical
18	SF3-V1	SF3-V1A	SF3-V1B			Support Vertical 1	None	None	A53-B-42	Typical
19	SF3-V2	SF3-V2A	SF3-V2B			Support Vertical 1	None	None	A53-B-42	Typical
20	SF2-V3	SF2-V3A	SF2-V3B			Support Vertical 2	None	None	A53 Gr.B	Typical
21	SF3-V3	SF3-V3A	SF3-V3B			Support Vertical 2	None	None	A53 Gr.B	Typical
22	M22	N36	N30			RIGID	None	None	RIGID	Typical
23	M23	N35	N29			RIGID	None	None	RIGID	Typical
24	M24	N32	N26			RIGID	None	None	RIGID	Typical
25	M25	N31	N25			RIGID	None	None	RIGID	Typical
26	M26	N34	N28			RIGID	None	None	RIGID	Typical
27	M27	N33	N27			RIGID	None	None	RIGID	Typical
28	MP-1	N39	N42			Mount Pipe	None	None	A53 Gr.B	Typical
29	MP-2	N37	N40			Mount Pipe	None	None	A53 Gr.B	Typical
30	MP-3	N38	N41			Mount Pipe	None	None	A53 Gr.B	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra...	Analysis ...	Inactive	Seismic Desig...
1	FFBH-L						Yes	** NA **			None
2	FFBH-M						Yes	** NA **			None
3	FFBH-R						Yes	** NA **			None
4	FFTH-L						Yes	** NA **			None
5	FFTH-M						Yes	** NA **			None
6	FFTH-R						Yes	** NA **			None
7	SA-1	BenPIN					Yes	** NA **			None
8	SF2-D1	BenPIN	BenPIN				Yes	** NA **			None
9	SF2-D2	BenPIN	BenPIN				Yes	** NA **			None
10	SF3-D1	BenPIN	BenPIN				Yes	** NA **			None
11	SF3-D2	BenPIN	BenPIN				Yes	** NA **			None
12	SF2-BH						Yes	** NA **			None
13	SF2-TH						Yes	** NA **			None
14	SF3-BH						Yes	** NA **			None
15	SF3-TH						Yes	** NA **			None

Company : Tower Engineering Professionals, Inc.
Designer : JCM
Job Number : TEP No. 217457.787763
Model Name : CCI BU No. 806383

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Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra...	Analysis ...	Inactive	Seismic Desig...
16	SF2-V1	BenPIN	BenPIN				Yes	** NA **			None
17	SF2-V2	BenPIN	BenPIN				Yes	** NA **			None
18	SF3-V1	BenPIN	BenPIN				Yes	** NA **			None
19	SF3-V2	BenPIN	BenPIN				Yes	** NA **			None
20	SF2-V3	BenPIN	BenPIN				Yes	** NA **			None
21	SF3-V3	BenPIN	BenPIN				Yes	** NA **			None
22	M22						Yes	** NA **			None
23	M23						Yes	** NA **			None
24	M24						Yes	** NA **			None
25	M25						Yes	** NA **			None
26	M26						Yes	** NA **			None
27	M27						Yes	** NA **			None
28	MP-1						Yes	** NA **			None
29	MP-2						Yes	** NA **			None
30	MP-3						Yes	** NA **			None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[...	Lbyy[ft]	Lbzz[ft]	Lcomp top...	Lcomp bot...	L-torq...	Kyy	Kzz	Cb	Funct...
1	FFBH-L	Face Horizontal	3.112						2.1	2.1		Lateral
2	FFBH-M	Face Horizontal	8.776						1	1		Lateral
3	FFBH-R	Face Horizontal	3.112						2.1	2.1		Lateral
4	FFTH-L	Face Horizontal	3.112						2.1	2.1		Lateral
5	FFTH-M	Face Horizontal	8.776						1	1		Lateral
6	FFTH-R	Face Horizontal	3.112						2.1	2.1		Lateral
7	SA-1	Stabilizer Arm	4.407						1	1		Lateral
8	SF2-D1	Support Diagonal	4.185						1	1		Lateral
9	SF2-D2	Support Diagonal	4.185						1	1		Lateral
10	SF3-D1	Support Diagonal	4.185						1	1		Lateral
11	SF3-D2	Support Diagonal	4.185						1	1		Lateral
12	SF2-BH	Support Horizontal	5.917		2.417				.8	.8		Lateral
13	SF2-TH	Support Horizontal	5.917		2.417				.8	.8		Lateral
14	SF3-BH	Support Horizontal	5.917		2.417				.8	.8		Lateral
15	SF3-TH	Support Horizontal	5.917		2.417				.8	.8		Lateral
16	SF2-V1	Support Vertical 1	3.417						1	1		Lateral
17	SF2-V2	Support Vertical 1	3.417						1	1		Lateral
18	SF3-V1	Support Vertical 1	3.417						1	1		Lateral
19	SF3-V2	Support Vertical 1	3.417						1	1		Lateral
20	SF2-V3	Support Vertical 2	3.417						1	1		Lateral
21	SF3-V3	Support Vertical 2	3.417						1	1		Lateral
22	MP-1	Mount Pipe	8	Segment	Segment				2.1	2.1		Lateral
23	MP-2	Mount Pipe	8	Segment	Segment				2.1	2.1		Lateral
24	MP-3	Mount Pipe	8	Segment	Segment				2.1	2.1		Lateral

Cold Formed Steel Design Parameters

Label	Shape	Lengt...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp b...	Kyy	Kzz	Cm-yy	Cm-zz	Cb	R	y swayz	sway
No Data to Print ...														

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Member)	Surface(...
1	Dead	None		-1			8			
2	0 Wind - No Ice	None					8	24		
3	30 Wind - No Ice	None					16	48		
4	45 Wind - No Ice	None					16	48		
5	60 Wind - No Ice	None					16	48		
6	90 Wind - No Ice	None					8	24		
7	120 Wind - No Ice	None					16	48		
8	135 Wind - No Ice	None					16	48		
9	150 Wind - No Ice	None					16	48		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Member)	Surface(...
10	180 Wind - No Ice	None					8	24		
11	210 Wind - No Ice	None					16	48		
12	225 Wind - No Ice	None					16	48		
13	240 Wind - No Ice	None					16	48		
14	270 Wind - No Ice	None					8	24		
15	300 Wind - No Ice	None					16	48		
16	315 Wind - No Ice	None					16	48		
17	330 Wind - No Ice	None					16	48		
18	Ice Weight	None					8	24		
19	0 Wind - Ice	None					8	24		
20	30 Wind - Ice	None					16	48		
21	45 Wind - Ice	None					16	48		
22	60 Wind - Ice	None					16	48		
23	90 Wind - Ice	None					8	24		
24	120 Wind - Ice	None					16	48		
25	135 Wind - Ice	None					16	48		
26	150 Wind - Ice	None					16	48		
27	180 Wind - Ice	None					8	24		
28	210 Wind - Ice	None					16	48		
29	225 Wind - Ice	None					16	48		
30	240 Wind - Ice	None					16	48		
31	270 Wind - Ice	None					8	24		
32	300 Wind - Ice	None					16	48		
33	315 Wind - Ice	None					16	48		
34	330 Wind - Ice	None					16	48		
35	Lm	None				1				
36	Lv	None				1				
37	Seismic Load X	ELX	-1				8			
38	Seismic Load Z	ELZ			-1		8			

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	1.4D	Yes	Y		1	1.4																				
2	0.9D+1.0 0-Wind	Yes	Y		1	.9	2	1																		
3	0.9D+1.0 30-Wind	Yes	Y		1	.9	3	1																		
4	0.9D+1.0 45-Wind	Yes	Y		1	.9	4	1																		
5	0.9D+1.0 60-Wind	Yes	Y		1	.9	5	1																		
6	0.9D+1.0 90-Wind	Yes	Y		1	.9	6	1																		
7	0.9D+1.0 120-Wind	Yes	Y		1	.9	7	1																		
8	0.9D+1.0 135-Wind	Yes	Y		1	.9	8	1																		
9	0.9D+1.0 150-Wind	Yes	Y		1	.9	9	1																		
10	0.9D+1.0 180-Wind	Yes	Y		1	.9	10	1																		
11	0.9D+1.0 210-Wind	Yes	Y		1	.9	11	1																		
12	0.9D+1.0 225-Wind	Yes	Y		1	.9	12	1																		
13	0.9D+1.0 240-Wind	Yes	Y		1	.9	13	1																		
14	0.9D+1.0 270-Wind	Yes	Y		1	.9	14	1																		
15	0.9D+1.0 300-Wind	Yes	Y		1	.9	15	1																		
16	0.9D+1.0 315-Wind	Yes	Y		1	.9	16	1																		
17	0.9D+1.0 330-Wind	Yes	Y		1	.9	17	1																		
18	1.2D+1.0 0-Wind	Yes	Y		1	1.2	2	1																		
19	1.2D+1.0 30-Wind	Yes	Y		1	1.2	3	1																		
20	1.2D+1.0 45-Wind	Yes	Y		1	1.2	4	1																		
21	1.2D+1.0 60-Wind	Yes	Y		1	1.2	5	1																		
22	1.2D+1.0 90-Wind	Yes	Y		1	1.2	6	1																		
23	1.2D+1.0 120-Wind	Yes	Y		1	1.2	7	1																		
24	1.2D+1.0 135-Wind	Yes	Y		1	1.2	8	1																		
25	1.2D+1.0 150-Wind	Yes	Y		1	1.2	9	1																		
26	1.2D+1.0 180-Wind	Yes	Y		1	1.2	10	1																		
27	1.2D+1.0 210-Wind	Yes	Y		1	1.2	11	1																		
28	1.2D+1.0 225-Wind	Yes	Y		1	1.2	12	1																		
29	1.2D+1.0 240-Wind	Yes	Y		1	1.2	13	1																		

Company : Tower Engineering Professionals, Inc.
Designer : JCM
Job Number : TEP No. 217457.787763
Model Name : CCI BU No. 806383

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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...
30	1.2D+1.0 270-Wind	Yes	Y		1	1.2	14	1																		
31	1.2D+1.0 300-Wind	Yes	Y		1	1.2	15	1																		
32	1.2D+1.0 315-Wind	Yes	Y		1	1.2	16	1																		
33	1.2D+1.0 330-Wind	Yes	Y		1	1.2	17	1																		
34	1.2D+1.0Di+1.0 0-...	Yes	Y		1	1.2	18	1	19	1																
35	1.2D+1.0Di+1.0 30-...	Yes	Y		1	1.2	18	1	20	1																
36	1.2D+1.0Di+1.0 45-...	Yes	Y		1	1.2	18	1	21	1																
37	1.2D+1.0Di+1.0 60-...	Yes	Y		1	1.2	18	1	22	1																
38	1.2D+1.0Di+1.0 90-...	Yes	Y		1	1.2	18	1	23	1																
39	1.2D+1.0Di+1.0 120...	Yes	Y		1	1.2	18	1	24	1																
40	1.2D+1.0Di+1.0 135...	Yes	Y		1	1.2	18	1	25	1																
41	1.2D+1.0Di+1.0 150...	Yes	Y		1	1.2	18	1	26	1																
42	1.2D+1.0Di+1.0 180...	Yes	Y		1	1.2	18	1	27	1																
43	1.2D+1.0Di+1.0 210...	Yes	Y		1	1.2	18	1	28	1																
44	1.2D+1.0Di+1.0 225...	Yes	Y		1	1.2	18	1	29	1																
45	1.2D+1.0Di+1.0 240...	Yes	Y		1	1.2	18	1	30	1																
46	1.2D+1.0Di+1.0 270...	Yes	Y		1	1.2	18	1	31	1																
47	1.2D+1.0Di+1.0 300...	Yes	Y		1	1.2	18	1	32	1																
48	1.2D+1.0Di+1.0 315...	Yes	Y		1	1.2	18	1	33	1																
49	1.2D+1.0Di+1.0 330...	Yes	Y		1	1.2	18	1	34	1																
50	1.2D+1.5Lv	Yes	Y		36	1.5	1	1.2																		
51	1.2D+1.5Lm+1.0 0-...	Yes	Y		1	1.2	2	.065	35	1.5																
52	1.2D+1.5Lm+1.0 30...	Yes	Y		1	1.2	3	.065	35	1.5																
53	1.2D+1.5Lm+1.0 45...	Yes	Y		1	1.2	4	.065	35	1.5																
54	1.2D+1.5Lm+1.0 60...	Yes	Y		1	1.2	5	.065	35	1.5																
55	1.2D+1.5Lm+1.0 90...	Yes	Y		1	1.2	6	.065	35	1.5																
56	1.2D+1.5Lm+1.0 12...	Yes	Y		1	1.2	7	.065	35	1.5																
57	1.2D+1.5Lm+1.0 13...	Yes	Y		1	1.2	8	.065	35	1.5																
58	1.2D+1.5Lm+1.0 15...	Yes	Y		1	1.2	9	.065	35	1.5																
59	1.2D+1.5Lm+1.0 18...	Yes	Y		1	1.2	10	.065	35	1.5																
60	1.2D+1.5Lm+1.0 21...	Yes	Y		1	1.2	11	.065	35	1.5																
61	1.2D+1.5Lm+1.0 22...	Yes	Y		1	1.2	12	.065	35	1.5																
62	1.2D+1.5Lm+1.0 24...	Yes	Y		1	1.2	13	.065	35	1.5																
63	1.2D+1.5Lm+1.0 27...	Yes	Y		1	1.2	14	.065	35	1.5																
64	1.2D+1.5Lm+1.0 30...	Yes	Y		1	1.2	15	.065	35	1.5																
65	1.2D+1.5Lm+1.0 31...	Yes	Y		1	1.2	16	.065	35	1.5																
66	1.2D+1.5Lm+1.0 33...	Yes	Y		1	1.2	17	.065	35	1.5																
67	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.238	ELX	.096	0																	
68	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.238	ELX	.083	ELZ	.048																
69	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.238	ELX	.068	ELZ	.068																
70	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.238	ELX	.048	ELZ	.083																
71	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.238	0		ELZ	.096																
72	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.238	ELX	-.048	ELZ	.083																
73	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.238	ELX	-.068	ELZ	.068																
74	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.238	ELX	-.083	ELZ	.048																
75	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.238	ELX	-.096	0																	
76	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.238	ELX	-.083	ELZ	-.048																
77	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.238	ELX	-.068	ELZ	-.068																
78	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.238	ELX	-.048	ELZ	-.083																
79	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.238	0		ELZ	-.096																
80	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.238	ELX	.048	ELZ	-.083																
81	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.238	ELX	.068	ELZ	-.068																
82	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.238	ELX	.083	ELZ	-.048																
83	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.862	ELX	.096	0																	
84	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.862	ELX	.083	ELZ	.048																
85	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.862	ELX	.068	ELZ	.068																
86	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.862	ELX	.048	ELZ	.083																
87	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.862	0		ELZ	.096																
88	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.862	ELX	-.048	ELZ	.083																
89	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.862	ELX	-.068	ELZ	.068																
90	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.862	ELX	-.083	ELZ	.048																
91	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.862	ELX	-.096	0																	
92	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.862	ELX	-.083	ELZ	-.048																

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...
93	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.862	ELX	-.068	ELZ	-.068														
94	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.862	ELX	-.048	ELZ	-.083														
95	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.862	0		ELZ	-.096														
96	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.862	ELX	.048	ELZ	-.083														
97	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.862	ELX	.068	ELZ	-.068														
98	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.862	ELX	.083	ELZ	-.048														

Joint Loads and Enforced Displacements (BLC 35 : Lm)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft...
1	N35	L	Y	-.5

Joint Loads and Enforced Displacements (BLC 36 : Lv)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft...
1	FF3	L	Y	-.25

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	Y	-.075	.5
2	MP-2	Y	-.041	3
3	MP-3	Y	-.021	2
4	MP-1	Y	-.081	4
5	MP-3	Y	-.109	4
6	MP-1	Y	-.075	7.5
7	MP-2	Y	-.041	5
8	MP-3	Y	-.021	6

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.235	.5
2	MP-2	X	-.1	3
3	MP-3	X	-.094	2
4	MP-1	X	-.092	4
5	MP-3	X	-.069	4
6	MP-1	X	-.235	7.5
7	MP-2	X	-.1	5
8	MP-3	X	-.094	6

Member Point Loads (BLC 3 : 30 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.171	.5
2	MP-2	X	-.073	3
3	MP-3	X	-.069	2
4	MP-1	X	-.07	4
5	MP-3	X	-.056	4
6	MP-1	X	-.171	7.5
7	MP-2	X	-.073	5
8	MP-3	X	-.069	6
9	MP-1	Z	-.099	.5
10	MP-2	Z	-.042	3
11	MP-3	Z	-.04	2
12	MP-1	Z	-.04	4
13	MP-3	Z	-.032	4
14	MP-1	Z	-.099	7.5
15	MP-2	Z	-.042	5
16	MP-3	Z	-.04	6

Member Point Loads (BLC 4 : 45 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]

Company : Tower Engineering Professionals, Inc.
Designer : JCM
Job Number : TEP No. 217457.787763
Model Name : CCI BU No. 806383

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Member Point Loads (BLC 4 : 45 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.113	.5
2	MP-2	X	-.049	3
3	MP-3	X	-.046	2
4	MP-1	X	-.048	4
5	MP-3	X	-.043	4
6	MP-1	X	-.113	7.5
7	MP-2	X	-.049	5
8	MP-3	X	-.046	6
9	MP-1	Z	-.113	.5
10	MP-2	Z	-.049	3
11	MP-3	Z	-.046	2
12	MP-1	Z	-.048	4
13	MP-3	Z	-.043	4
14	MP-1	Z	-.113	7.5
15	MP-2	Z	-.049	5
16	MP-3	Z	-.046	6

Member Point Loads (BLC 5 : 60 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.061	.5
2	MP-2	X	-.027	3
3	MP-3	X	-.025	2
4	MP-1	X	-.028	4
5	MP-3	X	-.029	4
6	MP-1	X	-.061	7.5
7	MP-2	X	-.027	5
8	MP-3	X	-.025	6
9	MP-1	Z	-.106	.5
10	MP-2	Z	-.046	3
11	MP-3	Z	-.044	2
12	MP-1	Z	-.049	4
13	MP-3	Z	-.05	4
14	MP-1	Z	-.106	7.5
15	MP-2	Z	-.046	5
16	MP-3	Z	-.044	6

Member Point Loads (BLC 6 : 90 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	Z	-.085	.5
2	MP-2	Z	-.038	3
3	MP-3	Z	-.036	2
4	MP-1	Z	-.045	4
5	MP-3	Z	-.054	4
6	MP-1	Z	-.085	7.5
7	MP-2	Z	-.038	5
8	MP-3	Z	-.036	6

Member Point Loads (BLC 7 : 120 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.061	.5
2	MP-2	X	.027	3
3	MP-3	X	.025	2
4	MP-1	X	.028	4
5	MP-3	X	.029	4
6	MP-1	X	.061	7.5
7	MP-2	X	.027	5
8	MP-3	X	.025	6
9	MP-1	Z	-.106	.5
10	MP-2	Z	-.046	3
11	MP-3	Z	-.044	2
12	MP-1	Z	-.049	4

Member Point Loads (BLC 7 : 120 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
13	MP-3	Z	-.05	4
14	MP-1	Z	-.106	7.5
15	MP-2	Z	-.046	5
16	MP-3	Z	-.044	6

Member Point Loads (BLC 8 : 135 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.113	.5
2	MP-2	X	.049	3
3	MP-3	X	.046	2
4	MP-1	X	.048	4
5	MP-3	X	.043	4
6	MP-1	X	.113	7.5
7	MP-2	X	.049	5
8	MP-3	X	.046	6
9	MP-1	Z	-.113	.5
10	MP-2	Z	-.049	3
11	MP-3	Z	-.046	2
12	MP-1	Z	-.048	4
13	MP-3	Z	-.043	4
14	MP-1	Z	-.113	7.5
15	MP-2	Z	-.049	5
16	MP-3	Z	-.046	6

Member Point Loads (BLC 9 : 150 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.171	.5
2	MP-2	X	.073	3
3	MP-3	X	.069	2
4	MP-1	X	.07	4
5	MP-3	X	.056	4
6	MP-1	X	.171	7.5
7	MP-2	X	.073	5
8	MP-3	X	.069	6
9	MP-1	Z	-.099	.5
10	MP-2	Z	-.042	3
11	MP-3	Z	-.04	2
12	MP-1	Z	-.04	4
13	MP-3	Z	-.032	4
14	MP-1	Z	-.099	7.5
15	MP-2	Z	-.042	5
16	MP-3	Z	-.04	6

Member Point Loads (BLC 10 : 180 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.235	.5
2	MP-2	X	.1	3
3	MP-3	X	.094	2
4	MP-1	X	.092	4
5	MP-3	X	.069	4
6	MP-1	X	.235	7.5
7	MP-2	X	.1	5
8	MP-3	X	.094	6

Member Point Loads (BLC 11 : 210 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.171	.5
2	MP-2	X	.073	3
3	MP-3	X	.069	2
4	MP-1	X	.07	4
5	MP-3	X	.056	4

Company : Tower Engineering Professionals, Inc.
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Member Point Loads (BLC 11 : 210 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
6	MP-1	X	.171	7.5
7	MP-2	X	.073	5
8	MP-3	X	.069	6
9	MP-1	Z	.099	.5
10	MP-2	Z	.042	3
11	MP-3	Z	.04	2
12	MP-1	Z	.04	4
13	MP-3	Z	.032	4
14	MP-1	Z	.099	7.5
15	MP-2	Z	.042	5
16	MP-3	Z	.04	6

Member Point Loads (BLC 12 : 225 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.113	.5
2	MP-2	X	.049	3
3	MP-3	X	.046	2
4	MP-1	X	.048	4
5	MP-3	X	.043	4
6	MP-1	X	.113	7.5
7	MP-2	X	.049	5
8	MP-3	X	.046	6
9	MP-1	Z	.113	.5
10	MP-2	Z	.049	3
11	MP-3	Z	.046	2
12	MP-1	Z	.048	4
13	MP-3	Z	.043	4
14	MP-1	Z	.113	7.5
15	MP-2	Z	.049	5
16	MP-3	Z	.046	6

Member Point Loads (BLC 13 : 240 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.061	.5
2	MP-2	X	.027	3
3	MP-3	X	.025	2
4	MP-1	X	.028	4
5	MP-3	X	.029	4
6	MP-1	X	.061	7.5
7	MP-2	X	.027	5
8	MP-3	X	.025	6
9	MP-1	Z	.106	.5
10	MP-2	Z	.046	3
11	MP-3	Z	.044	2
12	MP-1	Z	.049	4
13	MP-3	Z	.05	4
14	MP-1	Z	.106	7.5
15	MP-2	Z	.046	5
16	MP-3	Z	.044	6

Member Point Loads (BLC 14 : 270 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	Z	.085	.5
2	MP-2	Z	.038	3
3	MP-3	Z	.036	2
4	MP-1	Z	.045	4
5	MP-3	Z	.054	4
6	MP-1	Z	.085	7.5
7	MP-2	Z	.038	5
8	MP-3	Z	.036	6

Member Point Loads (BLC 15 : 300 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.061	.5
2	MP-2	X	-.027	3
3	MP-3	X	-.025	2
4	MP-1	X	-.028	4
5	MP-3	X	-.029	4
6	MP-1	X	-.061	7.5
7	MP-2	X	-.027	5
8	MP-3	X	-.025	6
9	MP-1	Z	.106	.5
10	MP-2	Z	.046	3
11	MP-3	Z	.044	2
12	MP-1	Z	.049	4
13	MP-3	Z	.05	4
14	MP-1	Z	.106	7.5
15	MP-2	Z	.046	5
16	MP-3	Z	.044	6

Member Point Loads (BLC 16 : 315 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.113	.5
2	MP-2	X	-.049	3
3	MP-3	X	-.046	2
4	MP-1	X	-.048	4
5	MP-3	X	-.043	4
6	MP-1	X	-.113	7.5
7	MP-2	X	-.049	5
8	MP-3	X	-.046	6
9	MP-1	Z	.113	.5
10	MP-2	Z	.049	3
11	MP-3	Z	.046	2
12	MP-1	Z	.048	4
13	MP-3	Z	.043	4
14	MP-1	Z	.113	7.5
15	MP-2	Z	.049	5
16	MP-3	Z	.046	6

Member Point Loads (BLC 17 : 330 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.171	.5
2	MP-2	X	-.073	3
3	MP-3	X	-.069	2
4	MP-1	X	-.07	4
5	MP-3	X	-.056	4
6	MP-1	X	-.171	7.5
7	MP-2	X	-.073	5
8	MP-3	X	-.069	6
9	MP-1	Z	.099	.5
10	MP-2	Z	.042	3
11	MP-3	Z	.04	2
12	MP-1	Z	.04	4
13	MP-3	Z	.032	4
14	MP-1	Z	.099	7.5
15	MP-2	Z	.042	5
16	MP-3	Z	.04	6

Member Point Loads (BLC 18 : Ice Weight)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	Y	-.21	.5
2	MP-2	Y	-.075	3
3	MP-3	Y	-.085	2
4	MP-1	Y	-.088	4

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Designer : JCM
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Model Name : CCI BU No. 806383

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Member Point Loads (BLC 18 : Ice Weight) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
5	MP-3	Y	-.089	4
6	MP-1	Y	-.21	7.5
7	MP-2	Y	-.075	5
8	MP-3	Y	-.085	6

Member Point Loads (BLC 19 : 0 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.049	.5
2	MP-2	X	-.022	3
3	MP-3	X	-.022	2
4	MP-1	X	-.023	4
5	MP-3	X	-.018	4
6	MP-1	X	-.049	7.5
7	MP-2	X	-.022	5
8	MP-3	X	-.022	6

Member Point Loads (BLC 20 : 30 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.036	.5
2	MP-2	X	-.017	3
3	MP-3	X	-.017	2
4	MP-1	X	-.018	4
5	MP-3	X	-.015	4
6	MP-1	X	-.036	7.5
7	MP-2	X	-.017	5
8	MP-3	X	-.017	6
9	MP-1	Z	-.021	.5
10	MP-2	Z	-.01	3
11	MP-3	Z	-.01	2
12	MP-1	Z	-.01	4
13	MP-3	Z	-.009	4
14	MP-1	Z	-.021	7.5
15	MP-2	Z	-.01	5
16	MP-3	Z	-.01	6

Member Point Loads (BLC 21 : 45 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.025	.5
2	MP-2	X	-.012	3
3	MP-3	X	-.012	2
4	MP-1	X	-.013	4
5	MP-3	X	-.012	4
6	MP-1	X	-.025	7.5
7	MP-2	X	-.012	5
8	MP-3	X	-.012	6
9	MP-1	Z	-.025	.5
10	MP-2	Z	-.012	3
11	MP-3	Z	-.012	2
12	MP-1	Z	-.013	4
13	MP-3	Z	-.012	4
14	MP-1	Z	-.025	7.5
15	MP-2	Z	-.012	5
16	MP-3	Z	-.012	6

Member Point Loads (BLC 22 : 60 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.014	.5
2	MP-2	X	-.007	3
3	MP-3	X	-.007	2
4	MP-1	X	-.008	4
5	MP-3	X	-.008	4

Member Point Loads (BLC 22 : 60 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
6	MP-1	X	-.014	7.5
7	MP-2	X	-.007	5
8	MP-3	X	-.007	6
9	MP-1	Z	-.024	.5
10	MP-2	Z	-.012	3
11	MP-3	Z	-.012	2
12	MP-1	Z	-.014	4
13	MP-3	Z	-.014	4
14	MP-1	Z	-.024	7.5
15	MP-2	Z	-.012	5
16	MP-3	Z	-.012	6

Member Point Loads (BLC 23 : 90 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	Z	-.021	.5
2	MP-2	Z	-.01	3
3	MP-3	Z	-.011	2
4	MP-1	Z	-.013	4
5	MP-3	Z	-.015	4
6	MP-1	Z	-.021	7.5
7	MP-2	Z	-.01	5
8	MP-3	Z	-.011	6

Member Point Loads (BLC 24 : 120 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.014	.5
2	MP-2	X	.007	3
3	MP-3	X	.007	2
4	MP-1	X	.008	4
5	MP-3	X	.008	4
6	MP-1	X	.014	7.5
7	MP-2	X	.007	5
8	MP-3	X	.007	6
9	MP-1	Z	-.024	.5
10	MP-2	Z	-.012	3
11	MP-3	Z	-.012	2
12	MP-1	Z	-.014	4
13	MP-3	Z	-.014	4
14	MP-1	Z	-.024	7.5
15	MP-2	Z	-.012	5
16	MP-3	Z	-.012	6

Member Point Loads (BLC 25 : 135 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.025	.5
2	MP-2	X	.012	3
3	MP-3	X	.012	2
4	MP-1	X	.013	4
5	MP-3	X	.012	4
6	MP-1	X	.025	7.5
7	MP-2	X	.012	5
8	MP-3	X	.012	6
9	MP-1	Z	-.025	.5
10	MP-2	Z	-.012	3
11	MP-3	Z	-.012	2
12	MP-1	Z	-.013	4
13	MP-3	Z	-.012	4
14	MP-1	Z	-.025	7.5
15	MP-2	Z	-.012	5
16	MP-3	Z	-.012	6

Company : Tower Engineering Professionals, Inc.
Designer : JCM
Job Number : TEP No. 217457.787763
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Member Point Loads (BLC 26 : 150 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.036	.5
2	MP-2	X	.017	3
3	MP-3	X	.017	2
4	MP-1	X	.018	4
5	MP-3	X	.015	4
6	MP-1	X	.036	7.5
7	MP-2	X	.017	5
8	MP-3	X	.017	6
9	MP-1	Z	-.021	.5
10	MP-2	Z	-.01	3
11	MP-3	Z	-.01	2
12	MP-1	Z	-.01	4
13	MP-3	Z	-.009	4
14	MP-1	Z	-.021	7.5
15	MP-2	Z	-.01	5
16	MP-3	Z	-.01	6

Member Point Loads (BLC 27 : 180 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.049	.5
2	MP-2	X	.022	3
3	MP-3	X	.022	2
4	MP-1	X	.023	4
5	MP-3	X	.018	4
6	MP-1	X	.049	7.5
7	MP-2	X	.022	5
8	MP-3	X	.022	6

Member Point Loads (BLC 28 : 210 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.036	.5
2	MP-2	X	.017	3
3	MP-3	X	.017	2
4	MP-1	X	.018	4
5	MP-3	X	.015	4
6	MP-1	X	.036	7.5
7	MP-2	X	.017	5
8	MP-3	X	.017	6
9	MP-1	Z	.021	.5
10	MP-2	Z	.01	3
11	MP-3	Z	.01	2
12	MP-1	Z	.01	4
13	MP-3	Z	.009	4
14	MP-1	Z	.021	7.5
15	MP-2	Z	.01	5
16	MP-3	Z	.01	6

Member Point Loads (BLC 29 : 225 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.025	.5
2	MP-2	X	.012	3
3	MP-3	X	.012	2
4	MP-1	X	.013	4
5	MP-3	X	.012	4
6	MP-1	X	.025	7.5
7	MP-2	X	.012	5
8	MP-3	X	.012	6
9	MP-1	Z	.025	.5
10	MP-2	Z	.012	3
11	MP-3	Z	.012	2
12	MP-1	Z	.013	4

Member Point Loads (BLC 29 : 225 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
13	MP-3	Z	.012	4
14	MP-1	Z	.025	7.5
15	MP-2	Z	.012	5
16	MP-3	Z	.012	6

Member Point Loads (BLC 30 : 240 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.014	.5
2	MP-2	X	.007	3
3	MP-3	X	.007	2
4	MP-1	X	.008	4
5	MP-3	X	.008	4
6	MP-1	X	.014	7.5
7	MP-2	X	.007	5
8	MP-3	X	.007	6
9	MP-1	Z	.024	.5
10	MP-2	Z	.012	3
11	MP-3	Z	.012	2
12	MP-1	Z	.014	4
13	MP-3	Z	.014	4
14	MP-1	Z	.024	7.5
15	MP-2	Z	.012	5
16	MP-3	Z	.012	6

Member Point Loads (BLC 31 : 270 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	Z	.021	.5
2	MP-2	Z	.01	3
3	MP-3	Z	.011	2
4	MP-1	Z	.013	4
5	MP-3	Z	.015	4
6	MP-1	Z	.021	7.5
7	MP-2	Z	.01	5
8	MP-3	Z	.011	6

Member Point Loads (BLC 32 : 300 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.014	.5
2	MP-2	X	-.007	3
3	MP-3	X	-.007	2
4	MP-1	X	-.008	4
5	MP-3	X	-.008	4
6	MP-1	X	-.014	7.5
7	MP-2	X	-.007	5
8	MP-3	X	-.007	6
9	MP-1	Z	.024	.5
10	MP-2	Z	.012	3
11	MP-3	Z	.012	2
12	MP-1	Z	.014	4
13	MP-3	Z	.014	4
14	MP-1	Z	.024	7.5
15	MP-2	Z	.012	5
16	MP-3	Z	.012	6

Member Point Loads (BLC 33 : 315 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.025	.5
2	MP-2	X	-.012	3
3	MP-3	X	-.012	2
4	MP-1	X	-.013	4
5	MP-3	X	-.012	4

Company : Tower Engineering Professionals, Inc.
Designer : JCM
Job Number : TEP No. 217457.787763
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Member Point Loads (BLC 33 : 315 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
6	MP-1	X	-.025	7.5
7	MP-2	X	-.012	5
8	MP-3	X	-.012	6
9	MP-1	Z	.025	.5
10	MP-2	Z	.012	3
11	MP-3	Z	.012	2
12	MP-1	Z	.013	4
13	MP-3	Z	.012	4
14	MP-1	Z	.025	7.5
15	MP-2	Z	.012	5
16	MP-3	Z	.012	6

Member Point Loads (BLC 34 : 330 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.036	.5
2	MP-2	X	-.017	3
3	MP-3	X	-.017	2
4	MP-1	X	-.018	4
5	MP-3	X	-.015	4
6	MP-1	X	-.036	7.5
7	MP-2	X	-.017	5
8	MP-3	X	-.017	6
9	MP-1	Z	.021	.5
10	MP-2	Z	.01	3
11	MP-3	Z	.01	2
12	MP-1	Z	.01	4
13	MP-3	Z	.009	4
14	MP-1	Z	.021	7.5
15	MP-2	Z	.01	5
16	MP-3	Z	.01	6

Member Point Loads (BLC 37 : Seismic Load X)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.075	.5
2	MP-2	X	-.041	3
3	MP-3	X	-.021	2
4	MP-1	X	-.081	4
5	MP-3	X	-.109	4
6	MP-1	X	-.075	7.5
7	MP-2	X	-.041	5
8	MP-3	X	-.021	6

Member Point Loads (BLC 38 : Seismic Load Z)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	Z	-.075	.5
2	MP-2	Z	-.041	3
3	MP-3	Z	-.021	2
4	MP-1	Z	-.081	4
5	MP-3	Z	-.109	4
6	MP-1	Z	-.075	7.5
7	MP-2	Z	-.041	5
8	MP-3	Z	-.021	6

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

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	-.009	-.009	0	%100
2	FFBH-M	X	-.009	-.009	0	%100
3	FFBH-R	X	-.009	-.009	0	%100
4	FFTH-L	X	-.009	-.009	0	%100
5	FFTH-M	X	-.009	-.009	0	%100

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

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
6	FFTH-R	X	-.009	-.009	0	%100
7	SA-1	X	-.003	-.003	0	%100
8	SF2-D1	X	-.005	-.005	0	%100
9	SF2-D2	X	-.005	-.005	0	%100
10	SF3-D1	X	-.005	-.005	0	%100
11	SF3-D2	X	-.005	-.005	0	%100
12	SF2-BH	X	-.005	-.005	0	%100
13	SF2-TH	X	-.005	-.005	0	%100
14	SF3-BH	X	-.005	-.005	0	%100
15	SF3-TH	X	-.005	-.005	0	%100
16	SF2-V1	X	-.005	-.005	0	%100
17	SF2-V2	X	-.005	-.005	0	%100
18	SF3-V1	X	-.005	-.005	0	%100
19	SF3-V2	X	-.005	-.005	0	%100
20	SF2-V3	X	-.007	-.007	0	%100
21	SF3-V3	X	-.007	-.007	0	%100
22	MP-1	X	-.008	-.008	0	%100
23	MP-2	X	-.008	-.008	0	%100
24	MP-3	X	-.008	-.008	0	%100

Member Distributed Loads (BLC 3 : 30 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	-.007	-.007	0	%100
2	FFBH-M	X	-.007	-.007	0	%100
3	FFBH-R	X	-.007	-.007	0	%100
4	FFTH-L	X	-.007	-.007	0	%100
5	FFTH-M	X	-.007	-.007	0	%100
6	FFTH-R	X	-.007	-.007	0	%100
7	SA-1	X	-.005	-.005	0	%100
8	SF2-D1	X	-.004	-.004	0	%100
9	SF2-D2	X	-.004	-.004	0	%100
10	SF3-D1	X	-.004	-.004	0	%100
11	SF3-D2	X	-.004	-.004	0	%100
12	SF2-BH	X	-.006	-.006	0	%100
13	SF2-TH	X	-.006	-.006	0	%100
14	SF3-BH	X	-.002	-.002	0	%100
15	SF3-TH	X	-.002	-.002	0	%100
16	SF2-V1	X	-.004	-.004	0	%100
17	SF2-V2	X	-.004	-.004	0	%100
18	SF3-V1	X	-.004	-.004	0	%100
19	SF3-V2	X	-.004	-.004	0	%100
20	SF2-V3	X	-.006	-.006	0	%100
21	SF3-V3	X	-.006	-.006	0	%100
22	MP-1	X	-.007	-.007	0	%100
23	MP-2	X	-.007	-.007	0	%100
24	MP-3	X	-.007	-.007	0	%100
25	FFBH-L	Z	-.004	-.004	0	%100
26	FFBH-M	Z	-.004	-.004	0	%100
27	FFBH-R	Z	-.004	-.004	0	%100
28	FFTH-L	Z	-.004	-.004	0	%100
29	FFTH-M	Z	-.004	-.004	0	%100
30	FFTH-R	Z	-.004	-.004	0	%100
31	SA-1	Z	-.003	-.003	0	%100
32	SF2-D1	Z	-.002	-.002	0	%100
33	SF2-D2	Z	-.002	-.002	0	%100
34	SF3-D1	Z	-.002	-.002	0	%100
35	SF3-D2	Z	-.002	-.002	0	%100
36	SF2-BH	Z	-.003	-.003	0	%100
37	SF2-TH	Z	-.003	-.003	0	%100
38	SF3-BH	Z	-.001	-.001	0	%100
39	SF3-TH	Z	-.001	-.001	0	%100
40	SF2-V1	Z	-.002	-.002	0	%100

Company : Tower Engineering Professionals, Inc.
Designer : JCM
Job Number : TEP No. 217457.787763
Model Name : CCI BU No. 806383

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Member Distributed Loads (BLC 3 : 30 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
41	SF2-V2	Z	-.002	-.002	0	%100
42	SF3-V1	Z	-.002	-.002	0	%100
43	SF3-V2	Z	-.002	-.002	0	%100
44	SF2-V3	Z	-.003	-.003	0	%100
45	SF3-V3	Z	-.003	-.003	0	%100
46	MP-1	Z	-.004	-.004	0	%100
47	MP-2	Z	-.004	-.004	0	%100
48	MP-3	Z	-.004	-.004	0	%100

Member Distributed Loads (BLC 4 : 45 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	-.005	-.005	0	%100
2	FFBH-M	X	-.005	-.005	0	%100
3	FFBH-R	X	-.005	-.005	0	%100
4	FFTH-L	X	-.005	-.005	0	%100
5	FFTH-M	X	-.005	-.005	0	%100
6	FFTH-R	X	-.005	-.005	0	%100
7	SA-1	X	-.004	-.004	0	%100
8	SF2-D1	X	-.003	-.003	0	%100
9	SF2-D2	X	-.003	-.003	0	%100
10	SF3-D1	X	-.003	-.003	0	%100
11	SF3-D2	X	-.003	-.003	0	%100
12	SF2-BH	X	-.005	-.005	0	%100
13	SF2-TH	X	-.005	-.005	0	%100
14	SF3-BH	X	-.000255	-.000255	0	%100
15	SF3-TH	X	-.000255	-.000255	0	%100
16	SF2-V1	X	-.003	-.003	0	%100
17	SF2-V2	X	-.003	-.003	0	%100
18	SF3-V1	X	-.003	-.003	0	%100
19	SF3-V2	X	-.003	-.003	0	%100
20	SF2-V3	X	-.005	-.005	0	%100
21	SF3-V3	X	-.005	-.005	0	%100
22	MP-1	X	-.005	-.005	0	%100
23	MP-2	X	-.005	-.005	0	%100
24	MP-3	X	-.005	-.005	0	%100
25	FFBH-L	Z	-.005	-.005	0	%100
26	FFBH-M	Z	-.005	-.005	0	%100
27	FFBH-R	Z	-.005	-.005	0	%100
28	FFTH-L	Z	-.005	-.005	0	%100
29	FFTH-M	Z	-.005	-.005	0	%100
30	FFTH-R	Z	-.005	-.005	0	%100
31	SA-1	Z	-.005	-.005	0	%100
32	SF2-D1	Z	-.003	-.003	0	%100
33	SF2-D2	Z	-.003	-.003	0	%100
34	SF3-D1	Z	-.003	-.003	0	%100
35	SF3-D2	Z	-.003	-.003	0	%100
36	SF2-BH	Z	-.005	-.005	0	%100
37	SF2-TH	Z	-.005	-.005	0	%100
38	SF3-BH	Z	-.000245	-.000245	0	%100
39	SF3-TH	Z	-.000245	-.000245	0	%100
40	SF2-V1	Z	-.003	-.003	0	%100
41	SF2-V2	Z	-.003	-.003	0	%100
42	SF3-V1	Z	-.003	-.003	0	%100
43	SF3-V2	Z	-.003	-.003	0	%100
44	SF2-V3	Z	-.005	-.005	0	%100
45	SF3-V3	Z	-.005	-.005	0	%100
46	MP-1	Z	-.005	-.005	0	%100
47	MP-2	Z	-.005	-.005	0	%100
48	MP-3	Z	-.005	-.005	0	%100

Member Distributed Loads (BLC 5 : 60 Wind - No Ice)

Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]

Member Distributed Loads (BLC 5 : 60 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	-.002	-.002	0	%100
2	FFBH-M	X	-.002	-.002	0	%100
3	FFBH-R	X	-.002	-.002	0	%100
4	FFTH-L	X	-.002	-.002	0	%100
5	FFTH-M	X	-.002	-.002	0	%100
6	FFTH-R	X	-.002	-.002	0	%100
7	SA-1	X	-.003	-.003	0	%100
8	SF2-D1	X	-.002	-.002	0	%100
9	SF2-D2	X	-.002	-.002	0	%100
10	SF3-D1	X	-.002	-.002	0	%100
11	SF3-D2	X	-.002	-.002	0	%100
12	SF2-BH	X	-.003	-.003	0	%100
13	SF2-TH	X	-.003	-.003	0	%100
14	SF3-BH	X	-.000758	-.000758	0	%100
15	SF3-TH	X	-.000758	-.000758	0	%100
16	SF2-V1	X	-.002	-.002	0	%100
17	SF2-V2	X	-.002	-.002	0	%100
18	SF3-V1	X	-.002	-.002	0	%100
19	SF3-V2	X	-.002	-.002	0	%100
20	SF2-V3	X	-.003	-.003	0	%100
21	SF3-V3	X	-.003	-.003	0	%100
22	MP-1	X	-.004	-.004	0	%100
23	MP-2	X	-.004	-.004	0	%100
24	MP-3	X	-.004	-.004	0	%100
25	FFBH-L	Z	-.004	-.004	0	%100
26	FFBH-M	Z	-.004	-.004	0	%100
27	FFBH-R	Z	-.004	-.004	0	%100
28	FFTH-L	Z	-.004	-.004	0	%100
29	FFTH-M	Z	-.004	-.004	0	%100
30	FFTH-R	Z	-.004	-.004	0	%100
31	SA-1	Z	-.006	-.006	0	%100
32	SF2-D1	Z	-.004	-.004	0	%100
33	SF2-D2	Z	-.004	-.004	0	%100
34	SF3-D1	Z	-.004	-.004	0	%100
35	SF3-D2	Z	-.004	-.004	0	%100
36	SF2-BH	Z	-.006	-.006	0	%100
37	SF2-TH	Z	-.006	-.006	0	%100
38	SF3-BH	Z	-.001	-.001	0	%100
39	SF3-TH	Z	-.001	-.001	0	%100
40	SF2-V1	Z	-.004	-.004	0	%100
41	SF2-V2	Z	-.004	-.004	0	%100
42	SF3-V1	Z	-.004	-.004	0	%100
43	SF3-V2	Z	-.004	-.004	0	%100
44	SF2-V3	Z	-.006	-.006	0	%100
45	SF3-V3	Z	-.006	-.006	0	%100
46	MP-1	Z	-.007	-.007	0	%100
47	MP-2	Z	-.007	-.007	0	%100
48	MP-3	Z	-.007	-.007	0	%100

Member Distributed Loads (BLC 6 : 90 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	Z	0	0	0	%100
2	FFBH-M	Z	0	0	0	%100
3	FFBH-R	Z	0	0	0	%100
4	FFTH-L	Z	0	0	0	%100
5	FFTH-M	Z	0	0	0	%100
6	FFTH-R	Z	0	0	0	%100
7	SA-1	Z	-.005	-.005	0	%100
8	SF2-D1	Z	-.005	-.005	0	%100
9	SF2-D2	Z	-.005	-.005	0	%100
10	SF3-D1	Z	-.005	-.005	0	%100
11	SF3-D2	Z	-.005	-.005	0	%100

Company : Tower Engineering Professionals, Inc.
Designer : JCM
Job Number : TEP No. 217457.787763
Model Name : CCI BU No. 806383

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Member Distributed Loads (BLC 6 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
12	SF2-BH	Z	-.005	-.005	0	%100
13	SF2-TH	Z	-.005	-.005	0	%100
14	SF3-BH	Z	-.005	-.005	0	%100
15	SF3-TH	Z	-.005	-.005	0	%100
16	SF2-V1	Z	-.005	-.005	0	%100
17	SF2-V2	Z	-.005	-.005	0	%100
18	SF3-V1	Z	-.005	-.005	0	%100
19	SF3-V2	Z	-.005	-.005	0	%100
20	SF2-V3	Z	-.007	-.007	0	%100
21	SF3-V3	Z	-.007	-.007	0	%100
22	MP-1	Z	-.008	-.008	0	%100
23	MP-2	Z	-.008	-.008	0	%100
24	MP-3	Z	-.008	-.008	0	%100

Member Distributed Loads (BLC 7 : 120 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	.002	.002	0	%100
2	FFBH-M	X	.002	.002	0	%100
3	FFBH-R	X	.002	.002	0	%100
4	FFTH-L	X	.002	.002	0	%100
5	FFTH-M	X	.002	.002	0	%100
6	FFTH-R	X	.002	.002	0	%100
7	SA-1	X	.001	.001	0	%100
8	SF2-D1	X	.002	.002	0	%100
9	SF2-D2	X	.002	.002	0	%100
10	SF3-D1	X	.002	.002	0	%100
11	SF3-D2	X	.002	.002	0	%100
12	SF2-BH	X	.000758	.000758	0	%100
13	SF2-TH	X	.000758	.000758	0	%100
14	SF3-BH	X	.003	.003	0	%100
15	SF3-TH	X	.003	.003	0	%100
16	SF2-V1	X	.002	.002	0	%100
17	SF2-V2	X	.002	.002	0	%100
18	SF3-V1	X	.002	.002	0	%100
19	SF3-V2	X	.002	.002	0	%100
20	SF2-V3	X	.003	.003	0	%100
21	SF3-V3	X	.003	.003	0	%100
22	MP-1	X	.004	.004	0	%100
23	MP-2	X	.004	.004	0	%100
24	MP-3	X	.004	.004	0	%100
25	FFBH-L	Z	-.004	-.004	0	%100
26	FFBH-M	Z	-.004	-.004	0	%100
27	FFBH-R	Z	-.004	-.004	0	%100
28	FFTH-L	Z	-.004	-.004	0	%100
29	FFTH-M	Z	-.004	-.004	0	%100
30	FFTH-R	Z	-.004	-.004	0	%100
31	SA-1	Z	-.002	-.002	0	%100
32	SF2-D1	Z	-.004	-.004	0	%100
33	SF2-D2	Z	-.004	-.004	0	%100
34	SF3-D1	Z	-.004	-.004	0	%100
35	SF3-D2	Z	-.004	-.004	0	%100
36	SF2-BH	Z	-.001	-.001	0	%100
37	SF2-TH	Z	-.001	-.001	0	%100
38	SF3-BH	Z	-.006	-.006	0	%100
39	SF3-TH	Z	-.006	-.006	0	%100
40	SF2-V1	Z	-.004	-.004	0	%100
41	SF2-V2	Z	-.004	-.004	0	%100
42	SF3-V1	Z	-.004	-.004	0	%100
43	SF3-V2	Z	-.004	-.004	0	%100
44	SF2-V3	Z	-.006	-.006	0	%100
45	SF3-V3	Z	-.006	-.006	0	%100
46	MP-1	Z	-.007	-.007	0	%100

Member Distributed Loads (BLC 7 : 120 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
47	MP-2	Z	-.007	-.007	0	%100
48	MP-3	Z	-.007	-.007	0	%100

Member Distributed Loads (BLC 8 : 135 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	.005	.005	0	%100
2	FFBH-M	X	.005	.005	0	%100
3	FFBH-R	X	.005	.005	0	%100
4	FFTH-L	X	.005	.005	0	%100
5	FFTH-M	X	.005	.005	0	%100
6	FFTH-R	X	.005	.005	0	%100
7	SA-1	X	.000716	.000716	0	%100
8	SF2-D1	X	.003	.003	0	%100
9	SF2-D2	X	.003	.003	0	%100
10	SF3-D1	X	.003	.003	0	%100
11	SF3-D2	X	.003	.003	0	%100
12	SF2-BH	X	.000255	.000255	0	%100
13	SF2-TH	X	.000255	.000255	0	%100
14	SF3-BH	X	.005	.005	0	%100
15	SF3-TH	X	.005	.005	0	%100
16	SF2-V1	X	.003	.003	0	%100
17	SF2-V2	X	.003	.003	0	%100
18	SF3-V1	X	.003	.003	0	%100
19	SF3-V2	X	.003	.003	0	%100
20	SF2-V3	X	.005	.005	0	%100
21	SF3-V3	X	.005	.005	0	%100
22	MP-1	X	.005	.005	0	%100
23	MP-2	X	.005	.005	0	%100
24	MP-3	X	.005	.005	0	%100
25	FFBH-L	Z	-.005	-.005	0	%100
26	FFBH-M	Z	-.005	-.005	0	%100
27	FFBH-R	Z	-.005	-.005	0	%100
28	FFTH-L	Z	-.005	-.005	0	%100
29	FFTH-M	Z	-.005	-.005	0	%100
30	FFTH-R	Z	-.005	-.005	0	%100
31	SA-1	Z	-.000809	-.000809	0	%100
32	SF2-D1	Z	-.003	-.003	0	%100
33	SF2-D2	Z	-.003	-.003	0	%100
34	SF3-D1	Z	-.003	-.003	0	%100
35	SF3-D2	Z	-.003	-.003	0	%100
36	SF2-BH	Z	-.000245	-.000245	0	%100
37	SF2-TH	Z	-.000245	-.000245	0	%100
38	SF3-BH	Z	-.005	-.005	0	%100
39	SF3-TH	Z	-.005	-.005	0	%100
40	SF2-V1	Z	-.003	-.003	0	%100
41	SF2-V2	Z	-.003	-.003	0	%100
42	SF3-V1	Z	-.003	-.003	0	%100
43	SF3-V2	Z	-.003	-.003	0	%100
44	SF2-V3	Z	-.005	-.005	0	%100
45	SF3-V3	Z	-.005	-.005	0	%100
46	MP-1	Z	-.005	-.005	0	%100
47	MP-2	Z	-.005	-.005	0	%100
48	MP-3	Z	-.005	-.005	0	%100

Member Distributed Loads (BLC 9 : 150 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	.007	.007	0	%100
2	FFBH-M	X	.007	.007	0	%100
3	FFBH-R	X	.007	.007	0	%100
4	FFTH-L	X	.007	.007	0	%100
5	FFTH-M	X	.007	.007	0	%100
6	FFTH-R	X	.007	.007	0	%100

Company : Tower Engineering Professionals, Inc.
Designer : JCM
Job Number : TEP No. 217457.787763
Model Name : CCI BU No. 806383

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Member Distributed Loads (BLC 9 : 150 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
7	SA-1	X	.000454	.000454	0	%100
8	SF2-D1	X	.004	.004	0	%100
9	SF2-D2	X	.004	.004	0	%100
10	SF3-D1	X	.004	.004	0	%100
11	SF3-D2	X	.004	.004	0	%100
12	SF2-BH	X	.002	.002	0	%100
13	SF2-TH	X	.002	.002	0	%100
14	SF3-BH	X	.006	.006	0	%100
15	SF3-TH	X	.006	.006	0	%100
16	SF2-V1	X	.004	.004	0	%100
17	SF2-V2	X	.004	.004	0	%100
18	SF3-V1	X	.004	.004	0	%100
19	SF3-V2	X	.004	.004	0	%100
20	SF2-V3	X	.006	.006	0	%100
21	SF3-V3	X	.006	.006	0	%100
22	MP-1	X	.007	.007	0	%100
23	MP-2	X	.007	.007	0	%100
24	MP-3	X	.007	.007	0	%100
25	FFBH-L	Z	-.004	-.004	0	%100
26	FFBH-M	Z	-.004	-.004	0	%100
27	FFBH-R	Z	-.004	-.004	0	%100
28	FFTH-L	Z	-.004	-.004	0	%100
29	FFTH-M	Z	-.004	-.004	0	%100
30	FFTH-R	Z	-.004	-.004	0	%100
31	SA-1	Z	-.000296	-.000296	0	%100
32	SF2-D1	Z	-.002	-.002	0	%100
33	SF2-D2	Z	-.002	-.002	0	%100
34	SF3-D1	Z	-.002	-.002	0	%100
35	SF3-D2	Z	-.002	-.002	0	%100
36	SF2-BH	Z	-.001	-.001	0	%100
37	SF2-TH	Z	-.001	-.001	0	%100
38	SF3-BH	Z	-.003	-.003	0	%100
39	SF3-TH	Z	-.003	-.003	0	%100
40	SF2-V1	Z	-.002	-.002	0	%100
41	SF2-V2	Z	-.002	-.002	0	%100
42	SF3-V1	Z	-.002	-.002	0	%100
43	SF3-V2	Z	-.002	-.002	0	%100
44	SF2-V3	Z	-.003	-.003	0	%100
45	SF3-V3	Z	-.003	-.003	0	%100
46	MP-1	Z	-.004	-.004	0	%100
47	MP-2	Z	-.004	-.004	0	%100
48	MP-3	Z	-.004	-.004	0	%100

Member Distributed Loads (BLC 10 : 180 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	.009	.009	0	%100
2	FFBH-M	X	.009	.009	0	%100
3	FFBH-R	X	.009	.009	0	%100
4	FFTH-L	X	.009	.009	0	%100
5	FFTH-M	X	.009	.009	0	%100
6	FFTH-R	X	.009	.009	0	%100
7	SA-1	X	.003	.003	0	%100
8	SF2-D1	X	.005	.005	0	%100
9	SF2-D2	X	.005	.005	0	%100
10	SF3-D1	X	.005	.005	0	%100
11	SF3-D2	X	.005	.005	0	%100
12	SF2-BH	X	.005	.005	0	%100
13	SF2-TH	X	.005	.005	0	%100
14	SF3-BH	X	.005	.005	0	%100
15	SF3-TH	X	.005	.005	0	%100
16	SF2-V1	X	.005	.005	0	%100
17	SF2-V2	X	.005	.005	0	%100

Member Distributed Loads (BLC 10 : 180 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
18	SF3-V1	X	.005	.005	0	%100
19	SF3-V2	X	.005	.005	0	%100
20	SF2-V3	X	.007	.007	0	%100
21	SF3-V3	X	.007	.007	0	%100
22	MP-1	X	.008	.008	0	%100
23	MP-2	X	.008	.008	0	%100
24	MP-3	X	.008	.008	0	%100

Member Distributed Loads (BLC 11 : 210 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	.007	.007	0	%100
2	FFBH-M	X	.007	.007	0	%100
3	FFBH-R	X	.007	.007	0	%100
4	FFTH-L	X	.007	.007	0	%100
5	FFTH-M	X	.007	.007	0	%100
6	FFTH-R	X	.007	.007	0	%100
7	SA-1	X	.005	.005	0	%100
8	SF2-D1	X	.004	.004	0	%100
9	SF2-D2	X	.004	.004	0	%100
10	SF3-D1	X	.004	.004	0	%100
11	SF3-D2	X	.004	.004	0	%100
12	SF2-BH	X	.006	.006	0	%100
13	SF2-TH	X	.006	.006	0	%100
14	SF3-BH	X	.002	.002	0	%100
15	SF3-TH	X	.002	.002	0	%100
16	SF2-V1	X	.004	.004	0	%100
17	SF2-V2	X	.004	.004	0	%100
18	SF3-V1	X	.004	.004	0	%100
19	SF3-V2	X	.004	.004	0	%100
20	SF2-V3	X	.006	.006	0	%100
21	SF3-V3	X	.006	.006	0	%100
22	MP-1	X	.007	.007	0	%100
23	MP-2	X	.007	.007	0	%100
24	MP-3	X	.007	.007	0	%100
25	FFBH-L	Z	.004	.004	0	%100
26	FFBH-M	Z	.004	.004	0	%100
27	FFBH-R	Z	.004	.004	0	%100
28	FFTH-L	Z	.004	.004	0	%100
29	FFTH-M	Z	.004	.004	0	%100
30	FFTH-R	Z	.004	.004	0	%100
31	SA-1	Z	.003	.003	0	%100
32	SF2-D1	Z	.002	.002	0	%100
33	SF2-D2	Z	.002	.002	0	%100
34	SF3-D1	Z	.002	.002	0	%100
35	SF3-D2	Z	.002	.002	0	%100
36	SF2-BH	Z	.003	.003	0	%100
37	SF2-TH	Z	.003	.003	0	%100
38	SF3-BH	Z	.001	.001	0	%100
39	SF3-TH	Z	.001	.001	0	%100
40	SF2-V1	Z	.002	.002	0	%100
41	SF2-V2	Z	.002	.002	0	%100
42	SF3-V1	Z	.002	.002	0	%100
43	SF3-V2	Z	.002	.002	0	%100
44	SF2-V3	Z	.003	.003	0	%100
45	SF3-V3	Z	.003	.003	0	%100
46	MP-1	Z	.004	.004	0	%100
47	MP-2	Z	.004	.004	0	%100
48	MP-3	Z	.004	.004	0	%100

Member Distributed Loads (BLC 12 : 225 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	.005	.005	0	%100

Company : Tower Engineering Professionals, Inc.
Designer : JCM
Job Number : TEP No. 217457.787763
Model Name : CCI BU No. 806383

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Member Distributed Loads (BLC 12 : 225 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
2	FFBH-M	X	.005	.005	0	%100
3	FFBH-R	X	.005	.005	0	%100
4	FFTH-L	X	.005	.005	0	%100
5	FFTH-M	X	.005	.005	0	%100
6	FFTH-R	X	.005	.005	0	%100
7	SA-1	X	.004	.004	0	%100
8	SF2-D1	X	.003	.003	0	%100
9	SF2-D2	X	.003	.003	0	%100
10	SF3-D1	X	.003	.003	0	%100
11	SF3-D2	X	.003	.003	0	%100
12	SF2-BH	X	.005	.005	0	%100
13	SF2-TH	X	.005	.005	0	%100
14	SF3-BH	X	.000255	.000255	0	%100
15	SF3-TH	X	.000255	.000255	0	%100
16	SF2-V1	X	.003	.003	0	%100
17	SF2-V2	X	.003	.003	0	%100
18	SF3-V1	X	.003	.003	0	%100
19	SF3-V2	X	.003	.003	0	%100
20	SF2-V3	X	.005	.005	0	%100
21	SF3-V3	X	.005	.005	0	%100
22	MP-1	X	.005	.005	0	%100
23	MP-2	X	.005	.005	0	%100
24	MP-3	X	.005	.005	0	%100
25	FFBH-L	Z	.005	.005	0	%100
26	FFBH-M	Z	.005	.005	0	%100
27	FFBH-R	Z	.005	.005	0	%100
28	FFTH-L	Z	.005	.005	0	%100
29	FFTH-M	Z	.005	.005	0	%100
30	FFTH-R	Z	.005	.005	0	%100
31	SA-1	Z	.005	.005	0	%100
32	SF2-D1	Z	.003	.003	0	%100
33	SF2-D2	Z	.003	.003	0	%100
34	SF3-D1	Z	.003	.003	0	%100
35	SF3-D2	Z	.003	.003	0	%100
36	SF2-BH	Z	.005	.005	0	%100
37	SF2-TH	Z	.005	.005	0	%100
38	SF3-BH	Z	.000245	.000245	0	%100
39	SF3-TH	Z	.000245	.000245	0	%100
40	SF2-V1	Z	.003	.003	0	%100
41	SF2-V2	Z	.003	.003	0	%100
42	SF3-V1	Z	.003	.003	0	%100
43	SF3-V2	Z	.003	.003	0	%100
44	SF2-V3	Z	.005	.005	0	%100
45	SF3-V3	Z	.005	.005	0	%100
46	MP-1	Z	.005	.005	0	%100
47	MP-2	Z	.005	.005	0	%100
48	MP-3	Z	.005	.005	0	%100

Member Distributed Loads (BLC 13 : 240 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	.002	.002	0	%100
2	FFBH-M	X	.002	.002	0	%100
3	FFBH-R	X	.002	.002	0	%100
4	FFTH-L	X	.002	.002	0	%100
5	FFTH-M	X	.002	.002	0	%100
6	FFTH-R	X	.002	.002	0	%100
7	SA-1	X	.003	.003	0	%100
8	SF2-D1	X	.002	.002	0	%100
9	SF2-D2	X	.002	.002	0	%100
10	SF3-D1	X	.002	.002	0	%100
11	SF3-D2	X	.002	.002	0	%100
12	SF2-BH	X	.003	.003	0	%100

Member Distributed Loads (BLC 13 : 240 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
13	SF2-TH	X	.003	.003	0	%100
14	SF3-BH	X	.000758	.000758	0	%100
15	SF3-TH	X	.000758	.000758	0	%100
16	SF2-V1	X	.002	.002	0	%100
17	SF2-V2	X	.002	.002	0	%100
18	SF3-V1	X	.002	.002	0	%100
19	SF3-V2	X	.002	.002	0	%100
20	SF2-V3	X	.003	.003	0	%100
21	SF3-V3	X	.003	.003	0	%100
22	MP-1	X	.004	.004	0	%100
23	MP-2	X	.004	.004	0	%100
24	MP-3	X	.004	.004	0	%100
25	FFBH-L	Z	.004	.004	0	%100
26	FFBH-M	Z	.004	.004	0	%100
27	FFBH-R	Z	.004	.004	0	%100
28	FFTH-L	Z	.004	.004	0	%100
29	FFTH-M	Z	.004	.004	0	%100
30	FFTH-R	Z	.004	.004	0	%100
31	SA-1	Z	.006	.006	0	%100
32	SF2-D1	Z	.004	.004	0	%100
33	SF2-D2	Z	.004	.004	0	%100
34	SF3-D1	Z	.004	.004	0	%100
35	SF3-D2	Z	.004	.004	0	%100
36	SF2-BH	Z	.006	.006	0	%100
37	SF2-TH	Z	.006	.006	0	%100
38	SF3-BH	Z	.001	.001	0	%100
39	SF3-TH	Z	.001	.001	0	%100
40	SF2-V1	Z	.004	.004	0	%100
41	SF2-V2	Z	.004	.004	0	%100
42	SF3-V1	Z	.004	.004	0	%100
43	SF3-V2	Z	.004	.004	0	%100
44	SF2-V3	Z	.006	.006	0	%100
45	SF3-V3	Z	.006	.006	0	%100
46	MP-1	Z	.007	.007	0	%100
47	MP-2	Z	.007	.007	0	%100
48	MP-3	Z	.007	.007	0	%100

Member Distributed Loads (BLC 14 : 270 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	Z	0	0	0	%100
2	FFBH-M	Z	0	0	0	%100
3	FFBH-R	Z	0	0	0	%100
4	FFTH-L	Z	0	0	0	%100
5	FFTH-M	Z	0	0	0	%100
6	FFTH-R	Z	0	0	0	%100
7	SA-1	Z	.005	.005	0	%100
8	SF2-D1	Z	.005	.005	0	%100
9	SF2-D2	Z	.005	.005	0	%100
10	SF3-D1	Z	.005	.005	0	%100
11	SF3-D2	Z	.005	.005	0	%100
12	SF2-BH	Z	.005	.005	0	%100
13	SF2-TH	Z	.005	.005	0	%100
14	SF3-BH	Z	.005	.005	0	%100
15	SF3-TH	Z	.005	.005	0	%100
16	SF2-V1	Z	.005	.005	0	%100
17	SF2-V2	Z	.005	.005	0	%100
18	SF3-V1	Z	.005	.005	0	%100
19	SF3-V2	Z	.005	.005	0	%100
20	SF2-V3	Z	.007	.007	0	%100
21	SF3-V3	Z	.007	.007	0	%100
22	MP-1	Z	.008	.008	0	%100
23	MP-2	Z	.008	.008	0	%100

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Designer : JCM
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Member Distributed Loads (BLC 14 : 270 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
24	MP-3	Z	.008	.008	0	%100

Member Distributed Loads (BLC 15 : 300 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	-.002	-.002	0	%100
2	FFBH-M	X	-.002	-.002	0	%100
3	FFBH-R	X	-.002	-.002	0	%100
4	FFTH-L	X	-.002	-.002	0	%100
5	FFTH-M	X	-.002	-.002	0	%100
6	FFTH-R	X	-.002	-.002	0	%100
7	SA-1	X	-.001	-.001	0	%100
8	SF2-D1	X	-.002	-.002	0	%100
9	SF2-D2	X	-.002	-.002	0	%100
10	SF3-D1	X	-.002	-.002	0	%100
11	SF3-D2	X	-.002	-.002	0	%100
12	SF2-BH	X	-.000758	-.000758	0	%100
13	SF2-TH	X	-.000758	-.000758	0	%100
14	SF3-BH	X	-.003	-.003	0	%100
15	SF3-TH	X	-.003	-.003	0	%100
16	SF2-V1	X	-.002	-.002	0	%100
17	SF2-V2	X	-.002	-.002	0	%100
18	SF3-V1	X	-.002	-.002	0	%100
19	SF3-V2	X	-.002	-.002	0	%100
20	SF2-V3	X	-.003	-.003	0	%100
21	SF3-V3	X	-.003	-.003	0	%100
22	MP-1	X	-.004	-.004	0	%100
23	MP-2	X	-.004	-.004	0	%100
24	MP-3	X	-.004	-.004	0	%100
25	FFBH-L	Z	.004	.004	0	%100
26	FFBH-M	Z	.004	.004	0	%100
27	FFBH-R	Z	.004	.004	0	%100
28	FFTH-L	Z	.004	.004	0	%100
29	FFTH-M	Z	.004	.004	0	%100
30	FFTH-R	Z	.004	.004	0	%100
31	SA-1	Z	.002	.002	0	%100
32	SF2-D1	Z	.004	.004	0	%100
33	SF2-D2	Z	.004	.004	0	%100
34	SF3-D1	Z	.004	.004	0	%100
35	SF3-D2	Z	.004	.004	0	%100
36	SF2-BH	Z	.001	.001	0	%100
37	SF2-TH	Z	.001	.001	0	%100
38	SF3-BH	Z	.006	.006	0	%100
39	SF3-TH	Z	.006	.006	0	%100
40	SF2-V1	Z	.004	.004	0	%100
41	SF2-V2	Z	.004	.004	0	%100
42	SF3-V1	Z	.004	.004	0	%100
43	SF3-V2	Z	.004	.004	0	%100
44	SF2-V3	Z	.006	.006	0	%100
45	SF3-V3	Z	.006	.006	0	%100
46	MP-1	Z	.007	.007	0	%100
47	MP-2	Z	.007	.007	0	%100
48	MP-3	Z	.007	.007	0	%100

Member Distributed Loads (BLC 16 : 315 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	-.005	-.005	0	%100
2	FFBH-M	X	-.005	-.005	0	%100
3	FFBH-R	X	-.005	-.005	0	%100
4	FFTH-L	X	-.005	-.005	0	%100
5	FFTH-M	X	-.005	-.005	0	%100
6	FFTH-R	X	-.005	-.005	0	%100
7	SA-1	X	-.000716	-.000716	0	%100

Member Distributed Loads (BLC 16 : 315 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
8	SF2-D1	X	-.003	-.003	0	%100
9	SF2-D2	X	-.003	-.003	0	%100
10	SF3-D1	X	-.003	-.003	0	%100
11	SF3-D2	X	-.003	-.003	0	%100
12	SF2-BH	X	-.000255	-.000255	0	%100
13	SF2-TH	X	-.000255	-.000255	0	%100
14	SF3-BH	X	-.005	-.005	0	%100
15	SF3-TH	X	-.005	-.005	0	%100
16	SF2-V1	X	-.003	-.003	0	%100
17	SF2-V2	X	-.003	-.003	0	%100
18	SF3-V1	X	-.003	-.003	0	%100
19	SF3-V2	X	-.003	-.003	0	%100
20	SF2-V3	X	-.005	-.005	0	%100
21	SF3-V3	X	-.005	-.005	0	%100
22	MP-1	X	-.005	-.005	0	%100
23	MP-2	X	-.005	-.005	0	%100
24	MP-3	X	-.005	-.005	0	%100
25	FFBH-L	Z	.005	.005	0	%100
26	FFBH-M	Z	.005	.005	0	%100
27	FFBH-R	Z	.005	.005	0	%100
28	FFTH-L	Z	.005	.005	0	%100
29	FFTH-M	Z	.005	.005	0	%100
30	FFTH-R	Z	.005	.005	0	%100
31	SA-1	Z	.000809	.000809	0	%100
32	SF2-D1	Z	.003	.003	0	%100
33	SF2-D2	Z	.003	.003	0	%100
34	SF3-D1	Z	.003	.003	0	%100
35	SF3-D2	Z	.003	.003	0	%100
36	SF2-BH	Z	.000245	.000245	0	%100
37	SF2-TH	Z	.000245	.000245	0	%100
38	SF3-BH	Z	.005	.005	0	%100
39	SF3-TH	Z	.005	.005	0	%100
40	SF2-V1	Z	.003	.003	0	%100
41	SF2-V2	Z	.003	.003	0	%100
42	SF3-V1	Z	.003	.003	0	%100
43	SF3-V2	Z	.003	.003	0	%100
44	SF2-V3	Z	.005	.005	0	%100
45	SF3-V3	Z	.005	.005	0	%100
46	MP-1	Z	.005	.005	0	%100
47	MP-2	Z	.005	.005	0	%100
48	MP-3	Z	.005	.005	0	%100

Member Distributed Loads (BLC 17 : 330 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	-.007	-.007	0	%100
2	FFBH-M	X	-.007	-.007	0	%100
3	FFBH-R	X	-.007	-.007	0	%100
4	FFTH-L	X	-.007	-.007	0	%100
5	FFTH-M	X	-.007	-.007	0	%100
6	FFTH-R	X	-.007	-.007	0	%100
7	SA-1	X	-.000454	-.000454	0	%100
8	SF2-D1	X	-.004	-.004	0	%100
9	SF2-D2	X	-.004	-.004	0	%100
10	SF3-D1	X	-.004	-.004	0	%100
11	SF3-D2	X	-.004	-.004	0	%100
12	SF2-BH	X	-.002	-.002	0	%100
13	SF2-TH	X	-.002	-.002	0	%100
14	SF3-BH	X	-.006	-.006	0	%100
15	SF3-TH	X	-.006	-.006	0	%100
16	SF2-V1	X	-.004	-.004	0	%100
17	SF2-V2	X	-.004	-.004	0	%100
18	SF3-V1	X	-.004	-.004	0	%100

Company : Tower Engineering Professionals, Inc.
Designer : JCM
Job Number : TEP No. 217457.787763
Model Name : CCI BU No. 806383

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Member Distributed Loads (BLC 17 : 330 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
19	SF3-V2	X	-.004	-.004	0	%100
20	SF2-V3	X	-.006	-.006	0	%100
21	SF3-V3	X	-.006	-.006	0	%100
22	MP-1	X	-.007	-.007	0	%100
23	MP-2	X	-.007	-.007	0	%100
24	MP-3	X	-.007	-.007	0	%100
25	FFBH-L	Z	.004	.004	0	%100
26	FFBH-M	Z	.004	.004	0	%100
27	FFBH-R	Z	.004	.004	0	%100
28	FFTH-L	Z	.004	.004	0	%100
29	FFTH-M	Z	.004	.004	0	%100
30	FFTH-R	Z	.004	.004	0	%100
31	SA-1	Z	.000296	.000296	0	%100
32	SF2-D1	Z	.002	.002	0	%100
33	SF2-D2	Z	.002	.002	0	%100
34	SF3-D1	Z	.002	.002	0	%100
35	SF3-D2	Z	.002	.002	0	%100
36	SF2-BH	Z	.001	.001	0	%100
37	SF2-TH	Z	.001	.001	0	%100
38	SF3-BH	Z	.003	.003	0	%100
39	SF3-TH	Z	.003	.003	0	%100
40	SF2-V1	Z	.002	.002	0	%100
41	SF2-V2	Z	.002	.002	0	%100
42	SF3-V1	Z	.002	.002	0	%100
43	SF3-V2	Z	.002	.002	0	%100
44	SF2-V3	Z	.003	.003	0	%100
45	SF3-V3	Z	.003	.003	0	%100
46	MP-1	Z	.004	.004	0	%100
47	MP-2	Z	.004	.004	0	%100
48	MP-3	Z	.004	.004	0	%100

Member Distributed Loads (BLC 18 : Ice Weight)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	Y	-.01	-.01	0	%100
2	FFBH-M	Y	-.01	-.01	0	%100
3	FFBH-R	Y	-.01	-.01	0	%100
4	FFTH-L	Y	-.01	-.01	0	%100
5	FFTH-M	Y	-.01	-.01	0	%100
6	FFTH-R	Y	-.01	-.01	0	%100
7	SA-1	Y	-.009	-.009	0	%100
8	SF2-D1	Y	-.007	-.007	0	%100
9	SF2-D2	Y	-.007	-.007	0	%100
10	SF3-D1	Y	-.007	-.007	0	%100
11	SF3-D2	Y	-.007	-.007	0	%100
12	SF2-BH	Y	-.009	-.009	0	%100
13	SF2-TH	Y	-.009	-.009	0	%100
14	SF3-BH	Y	-.009	-.009	0	%100
15	SF3-TH	Y	-.009	-.009	0	%100
16	SF2-V1	Y	-.007	-.007	0	%100
17	SF2-V2	Y	-.007	-.007	0	%100
18	SF3-V1	Y	-.007	-.007	0	%100
19	SF3-V2	Y	-.007	-.007	0	%100
20	SF2-V3	Y	-.009	-.009	0	%100
21	SF3-V3	Y	-.009	-.009	0	%100
22	MP-1	Y	-.009	-.009	0	%100
23	MP-2	Y	-.009	-.009	0	%100
24	MP-3	Y	-.009	-.009	0	%100

Member Distributed Loads (BLC 19 : 0 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	-.004	-.004	0	%100
2	FFBH-M	X	-.004	-.004	0	%100

Member Distributed Loads (BLC 19 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
3	FFBH-R	X	-.004	-.004	0	%100
4	FFTH-L	X	-.004	-.004	0	%100
5	FFTH-M	X	-.004	-.004	0	%100
6	FFTH-R	X	-.004	-.004	0	%100
7	SA-1	X	-.002	-.002	0	%100
8	SF2-D1	X	-.002	-.002	0	%100
9	SF2-D2	X	-.002	-.002	0	%100
10	SF3-D1	X	-.002	-.002	0	%100
11	SF3-D2	X	-.002	-.002	0	%100
12	SF2-BH	X	-.003	-.003	0	%100
13	SF2-TH	X	-.003	-.003	0	%100
14	SF3-BH	X	-.003	-.003	0	%100
15	SF3-TH	X	-.003	-.003	0	%100
16	SF2-V1	X	-.002	-.002	0	%100
17	SF2-V2	X	-.002	-.002	0	%100
18	SF3-V1	X	-.002	-.002	0	%100
19	SF3-V2	X	-.002	-.002	0	%100
20	SF2-V3	X	-.002	-.002	0	%100
21	SF3-V3	X	-.002	-.002	0	%100
22	MP-1	X	-.003	-.003	0	%100
23	MP-2	X	-.003	-.003	0	%100
24	MP-3	X	-.003	-.003	0	%100

Member Distributed Loads (BLC 20 : 30 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	-.003	-.003	0	%100
2	FFBH-M	X	-.003	-.003	0	%100
3	FFBH-R	X	-.003	-.003	0	%100
4	FFTH-L	X	-.003	-.003	0	%100
5	FFTH-M	X	-.003	-.003	0	%100
6	FFTH-R	X	-.003	-.003	0	%100
7	SA-1	X	-.002	-.002	0	%100
8	SF2-D1	X	-.002	-.002	0	%100
9	SF2-D2	X	-.002	-.002	0	%100
10	SF3-D1	X	-.002	-.002	0	%100
11	SF3-D2	X	-.002	-.002	0	%100
12	SF2-BH	X	-.002	-.002	0	%100
13	SF2-TH	X	-.002	-.002	0	%100
14	SF3-BH	X	-.000666	-.000666	0	%100
15	SF3-TH	X	-.000666	-.000666	0	%100
16	SF2-V1	X	-.002	-.002	0	%100
17	SF2-V2	X	-.002	-.002	0	%100
18	SF3-V1	X	-.002	-.002	0	%100
19	SF3-V2	X	-.002	-.002	0	%100
20	SF2-V3	X	-.002	-.002	0	%100
21	SF3-V3	X	-.002	-.002	0	%100
22	MP-1	X	-.002	-.002	0	%100
23	MP-2	X	-.002	-.002	0	%100
24	MP-3	X	-.002	-.002	0	%100
25	FFBH-L	Z	-.001	-.001	0	%100
26	FFBH-M	Z	-.001	-.001	0	%100
27	FFBH-R	Z	-.001	-.001	0	%100
28	FFTH-L	Z	-.001	-.001	0	%100
29	FFTH-M	Z	-.001	-.001	0	%100
30	FFTH-R	Z	-.001	-.001	0	%100
31	SA-1	Z	-.001	-.001	0	%100
32	SF2-D1	Z	-.001	-.001	0	%100
33	SF2-D2	Z	-.001	-.001	0	%100
34	SF3-D1	Z	-.001	-.001	0	%100
35	SF3-D2	Z	-.001	-.001	0	%100
36	SF2-BH	Z	-.001	-.001	0	%100
37	SF2-TH	Z	-.001	-.001	0	%100

Company : Tower Engineering Professionals, Inc.
Designer : JCM
Job Number : TEP No. 217457.787763
Model Name : CCI BU No. 806383

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Member Distributed Loads (BLC 20 : 30 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
38	SF3-BH	Z	-.000376	-.000376	0	%100
39	SF3-TH	Z	-.000376	-.000376	0	%100
40	SF2-V1	Z	-.001	-.001	0	%100
41	SF2-V2	Z	-.001	-.001	0	%100
42	SF3-V1	Z	-.001	-.001	0	%100
43	SF3-V2	Z	-.001	-.001	0	%100
44	SF2-V3	Z	-.001	-.001	0	%100
45	SF3-V3	Z	-.001	-.001	0	%100
46	MP-1	Z	-.001	-.001	0	%100
47	MP-2	Z	-.001	-.001	0	%100
48	MP-3	Z	-.001	-.001	0	%100

Member Distributed Loads (BLC 21 : 45 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	-.002	-.002	0	%100
2	FFBH-M	X	-.002	-.002	0	%100
3	FFBH-R	X	-.002	-.002	0	%100
4	FFTH-L	X	-.002	-.002	0	%100
5	FFTH-M	X	-.002	-.002	0	%100
6	FFTH-R	X	-.002	-.002	0	%100
7	SA-1	X	-.002	-.002	0	%100
8	SF2-D1	X	-.001	-.001	0	%100
9	SF2-D2	X	-.001	-.001	0	%100
10	SF3-D1	X	-.001	-.001	0	%100
11	SF3-D2	X	-.001	-.001	0	%100
12	SF2-BH	X	-.002	-.002	0	%100
13	SF2-TH	X	-.002	-.002	0	%100
14	SF3-BH	X	-8.9e-5	-8.9e-5	0	%100
15	SF3-TH	X	-8.9e-5	-8.9e-5	0	%100
16	SF2-V1	X	-.001	-.001	0	%100
17	SF2-V2	X	-.001	-.001	0	%100
18	SF3-V1	X	-.001	-.001	0	%100
19	SF3-V2	X	-.001	-.001	0	%100
20	SF2-V3	X	-.002	-.002	0	%100
21	SF3-V3	X	-.002	-.002	0	%100
22	MP-1	X	-.002	-.002	0	%100
23	MP-2	X	-.002	-.002	0	%100
24	MP-3	X	-.002	-.002	0	%100
25	FFBH-L	Z	-.002	-.002	0	%100
26	FFBH-M	Z	-.002	-.002	0	%100
27	FFBH-R	Z	-.002	-.002	0	%100
28	FFTH-L	Z	-.002	-.002	0	%100
29	FFTH-M	Z	-.002	-.002	0	%100
30	FFTH-R	Z	-.002	-.002	0	%100
31	SA-1	Z	-.002	-.002	0	%100
32	SF2-D1	Z	-.002	-.002	0	%100
33	SF2-D2	Z	-.002	-.002	0	%100
34	SF3-D1	Z	-.002	-.002	0	%100
35	SF3-D2	Z	-.002	-.002	0	%100
36	SF2-BH	Z	-.002	-.002	0	%100
37	SF2-TH	Z	-.002	-.002	0	%100
38	SF3-BH	Z	-8.7e-5	-8.7e-5	0	%100
39	SF3-TH	Z	-8.7e-5	-8.7e-5	0	%100
40	SF2-V1	Z	-.002	-.002	0	%100
41	SF2-V2	Z	-.002	-.002	0	%100
42	SF3-V1	Z	-.002	-.002	0	%100
43	SF3-V2	Z	-.002	-.002	0	%100
44	SF2-V3	Z	-.002	-.002	0	%100
45	SF3-V3	Z	-.002	-.002	0	%100
46	MP-1	Z	-.002	-.002	0	%100
47	MP-2	Z	-.002	-.002	0	%100
48	MP-3	Z	-.002	-.002	0	%100

Member Distributed Loads (BLC 22 : 60 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	-.000924	-.000924	0	%100
2	FFBH-M	X	-.000924	-.000924	0	%100
3	FFBH-R	X	-.000924	-.000924	0	%100
4	FFTH-L	X	-.000924	-.000924	0	%100
5	FFTH-M	X	-.000924	-.000924	0	%100
6	FFTH-R	X	-.000924	-.000924	0	%100
7	SA-1	X	-.001	-.001	0	%100
8	SF2-D1	X	-.001	-.001	0	%100
9	SF2-D2	X	-.001	-.001	0	%100
10	SF3-D1	X	-.001	-.001	0	%100
11	SF3-D2	X	-.001	-.001	0	%100
12	SF2-BH	X	-.001	-.001	0	%100
13	SF2-TH	X	-.001	-.001	0	%100
14	SF3-BH	X	-.000263	-.000263	0	%100
15	SF3-TH	X	-.000263	-.000263	0	%100
16	SF2-V1	X	-.000973	-.000973	0	%100
17	SF2-V2	X	-.000973	-.000973	0	%100
18	SF3-V1	X	-.000973	-.000973	0	%100
19	SF3-V2	X	-.000973	-.000973	0	%100
20	SF2-V3	X	-.001	-.001	0	%100
21	SF3-V3	X	-.001	-.001	0	%100
22	MP-1	X	-.001	-.001	0	%100
23	MP-2	X	-.001	-.001	0	%100
24	MP-3	X	-.001	-.001	0	%100
25	FFBH-L	Z	-.001	-.001	0	%100
26	FFBH-M	Z	-.001	-.001	0	%100
27	FFBH-R	Z	-.001	-.001	0	%100
28	FFTH-L	Z	-.001	-.001	0	%100
29	FFTH-M	Z	-.001	-.001	0	%100
30	FFTH-R	Z	-.001	-.001	0	%100
31	SA-1	Z	-.002	-.002	0	%100
32	SF2-D1	Z	-.002	-.002	0	%100
33	SF2-D2	Z	-.002	-.002	0	%100
34	SF3-D1	Z	-.002	-.002	0	%100
35	SF3-D2	Z	-.002	-.002	0	%100
36	SF2-BH	Z	-.002	-.002	0	%100
37	SF2-TH	Z	-.002	-.002	0	%100
38	SF3-BH	Z	-.000446	-.000446	0	%100
39	SF3-TH	Z	-.000446	-.000446	0	%100
40	SF2-V1	Z	-.002	-.002	0	%100
41	SF2-V2	Z	-.002	-.002	0	%100
42	SF3-V1	Z	-.002	-.002	0	%100
43	SF3-V2	Z	-.002	-.002	0	%100
44	SF2-V3	Z	-.002	-.002	0	%100
45	SF3-V3	Z	-.002	-.002	0	%100
46	MP-1	Z	-.003	-.003	0	%100
47	MP-2	Z	-.003	-.003	0	%100
48	MP-3	Z	-.003	-.003	0	%100

Member Distributed Loads (BLC 23 : 90 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	Z	0	0	0	%100
2	FFBH-M	Z	0	0	0	%100
3	FFBH-R	Z	0	0	0	%100
4	FFTH-L	Z	0	0	0	%100
5	FFTH-M	Z	0	0	0	%100
6	FFTH-R	Z	0	0	0	%100
7	SA-1	Z	-.002	-.002	0	%100
8	SF2-D1	Z	-.002	-.002	0	%100
9	SF2-D2	Z	-.002	-.002	0	%100
10	SF3-D1	Z	-.002	-.002	0	%100
11	SF3-D2	Z	-.002	-.002	0	%100

Company : Tower Engineering Professionals, Inc.
Designer : JCM
Job Number : TEP No. 217457.787763
Model Name : CCI BU No. 806383

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Member Distributed Loads (BLC 23 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
12	SF2-BH	Z	-.002	-.002	0	%100
13	SF2-TH	Z	-.002	-.002	0	%100
14	SF3-BH	Z	-.002	-.002	0	%100
15	SF3-TH	Z	-.002	-.002	0	%100
16	SF2-V1	Z	-.002	-.002	0	%100
17	SF2-V2	Z	-.002	-.002	0	%100
18	SF3-V1	Z	-.002	-.002	0	%100
19	SF3-V2	Z	-.002	-.002	0	%100
20	SF2-V3	Z	-.002	-.002	0	%100
21	SF3-V3	Z	-.002	-.002	0	%100
22	MP-1	Z	-.003	-.003	0	%100
23	MP-2	Z	-.003	-.003	0	%100
24	MP-3	Z	-.003	-.003	0	%100

Member Distributed Loads (BLC 24 : 120 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	.000924	.000924	0	%100
2	FFBH-M	X	.000924	.000924	0	%100
3	FFBH-R	X	.000924	.000924	0	%100
4	FFTH-L	X	.000924	.000924	0	%100
5	FFTH-M	X	.000924	.000924	0	%100
6	FFTH-R	X	.000924	.000924	0	%100
7	SA-1	X	.000483	.000483	0	%100
8	SF2-D1	X	.001	.001	0	%100
9	SF2-D2	X	.001	.001	0	%100
10	SF3-D1	X	.001	.001	0	%100
11	SF3-D2	X	.001	.001	0	%100
12	SF2-BH	X	.000263	.000263	0	%100
13	SF2-TH	X	.000263	.000263	0	%100
14	SF3-BH	X	.001	.001	0	%100
15	SF3-TH	X	.001	.001	0	%100
16	SF2-V1	X	.000973	.000973	0	%100
17	SF2-V2	X	.000973	.000973	0	%100
18	SF3-V1	X	.000973	.000973	0	%100
19	SF3-V2	X	.000973	.000973	0	%100
20	SF2-V3	X	.001	.001	0	%100
21	SF3-V3	X	.001	.001	0	%100
22	MP-1	X	.001	.001	0	%100
23	MP-2	X	.001	.001	0	%100
24	MP-3	X	.001	.001	0	%100
25	FFBH-L	Z	-.001	-.001	0	%100
26	FFBH-M	Z	-.001	-.001	0	%100
27	FFBH-R	Z	-.001	-.001	0	%100
28	FFTH-L	Z	-.001	-.001	0	%100
29	FFTH-M	Z	-.001	-.001	0	%100
30	FFTH-R	Z	-.001	-.001	0	%100
31	SA-1	Z	-.000889	-.000889	0	%100
32	SF2-D1	Z	-.002	-.002	0	%100
33	SF2-D2	Z	-.002	-.002	0	%100
34	SF3-D1	Z	-.002	-.002	0	%100
35	SF3-D2	Z	-.002	-.002	0	%100
36	SF2-BH	Z	-.000446	-.000446	0	%100
37	SF2-TH	Z	-.000446	-.000446	0	%100
38	SF3-BH	Z	-.002	-.002	0	%100
39	SF3-TH	Z	-.002	-.002	0	%100
40	SF2-V1	Z	-.002	-.002	0	%100
41	SF2-V2	Z	-.002	-.002	0	%100
42	SF3-V1	Z	-.002	-.002	0	%100
43	SF3-V2	Z	-.002	-.002	0	%100
44	SF2-V3	Z	-.002	-.002	0	%100
45	SF3-V3	Z	-.002	-.002	0	%100
46	MP-1	Z	-.003	-.003	0	%100

Member Distributed Loads (BLC 24 : 120 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
47	MP-2	Z	-.003	-.003	0	%100
48	MP-3	Z	-.003	-.003	0	%100

Member Distributed Loads (BLC 25 : 135 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	.002	.002	0	%100
2	FFBH-M	X	.002	.002	0	%100
3	FFBH-R	X	.002	.002	0	%100
4	FFTH-L	X	.002	.002	0	%100
5	FFTH-M	X	.002	.002	0	%100
6	FFTH-R	X	.002	.002	0	%100
7	SA-1	X	.000279	.000279	0	%100
8	SF2-D1	X	.001	.001	0	%100
9	SF2-D2	X	.001	.001	0	%100
10	SF3-D1	X	.001	.001	0	%100
11	SF3-D2	X	.001	.001	0	%100
12	SF2-BH	X	8.9e-5	8.9e-5	0	%100
13	SF2-TH	X	8.9e-5	8.9e-5	0	%100
14	SF3-BH	X	.002	.002	0	%100
15	SF3-TH	X	.002	.002	0	%100
16	SF2-V1	X	.001	.001	0	%100
17	SF2-V2	X	.001	.001	0	%100
18	SF3-V1	X	.001	.001	0	%100
19	SF3-V2	X	.001	.001	0	%100
20	SF2-V3	X	.002	.002	0	%100
21	SF3-V3	X	.002	.002	0	%100
22	MP-1	X	.002	.002	0	%100
23	MP-2	X	.002	.002	0	%100
24	MP-3	X	.002	.002	0	%100
25	FFBH-L	Z	-.002	-.002	0	%100
26	FFBH-M	Z	-.002	-.002	0	%100
27	FFBH-R	Z	-.002	-.002	0	%100
28	FFTH-L	Z	-.002	-.002	0	%100
29	FFTH-M	Z	-.002	-.002	0	%100
30	FFTH-R	Z	-.002	-.002	0	%100
31	SA-1	Z	-.000296	-.000296	0	%100
32	SF2-D1	Z	-.002	-.002	0	%100
33	SF2-D2	Z	-.002	-.002	0	%100
34	SF3-D1	Z	-.002	-.002	0	%100
35	SF3-D2	Z	-.002	-.002	0	%100
36	SF2-BH	Z	-8.7e-5	-8.7e-5	0	%100
37	SF2-TH	Z	-8.7e-5	-8.7e-5	0	%100
38	SF3-BH	Z	-.002	-.002	0	%100
39	SF3-TH	Z	-.002	-.002	0	%100
40	SF2-V1	Z	-.002	-.002	0	%100
41	SF2-V2	Z	-.002	-.002	0	%100
42	SF3-V1	Z	-.002	-.002	0	%100
43	SF3-V2	Z	-.002	-.002	0	%100
44	SF2-V3	Z	-.002	-.002	0	%100
45	SF3-V3	Z	-.002	-.002	0	%100
46	MP-1	Z	-.002	-.002	0	%100
47	MP-2	Z	-.002	-.002	0	%100
48	MP-3	Z	-.002	-.002	0	%100

Member Distributed Loads (BLC 26 : 150 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	.003	.003	0	%100
2	FFBH-M	X	.003	.003	0	%100
3	FFBH-R	X	.003	.003	0	%100
4	FFTH-L	X	.003	.003	0	%100
5	FFTH-M	X	.003	.003	0	%100
6	FFTH-R	X	.003	.003	0	%100

Company : Tower Engineering Professionals, Inc.
Designer : JCM
Job Number : TEP No. 217457.787763
Model Name : CCI BU No. 806383

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Member Distributed Loads (BLC 26 : 150 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
7	SA-1	X	.000177	.000177	0	%100
8	SF2-D1	X	.002	.002	0	%100
9	SF2-D2	X	.002	.002	0	%100
10	SF3-D1	X	.002	.002	0	%100
11	SF3-D2	X	.002	.002	0	%100
12	SF2-BH	X	.000666	.000666	0	%100
13	SF2-TH	X	.000666	.000666	0	%100
14	SF3-BH	X	.002	.002	0	%100
15	SF3-TH	X	.002	.002	0	%100
16	SF2-V1	X	.002	.002	0	%100
17	SF2-V2	X	.002	.002	0	%100
18	SF3-V1	X	.002	.002	0	%100
19	SF3-V2	X	.002	.002	0	%100
20	SF2-V3	X	.002	.002	0	%100
21	SF3-V3	X	.002	.002	0	%100
22	MP-1	X	.002	.002	0	%100
23	MP-2	X	.002	.002	0	%100
24	MP-3	X	.002	.002	0	%100
25	FFBH-L	Z	-.001	-.001	0	%100
26	FFBH-M	Z	-.001	-.001	0	%100
27	FFBH-R	Z	-.001	-.001	0	%100
28	FFTH-L	Z	-.001	-.001	0	%100
29	FFTH-M	Z	-.001	-.001	0	%100
30	FFTH-R	Z	-.001	-.001	0	%100
31	SA-1	Z	-.000109	-.000109	0	%100
32	SF2-D1	Z	-.001	-.001	0	%100
33	SF2-D2	Z	-.001	-.001	0	%100
34	SF3-D1	Z	-.001	-.001	0	%100
35	SF3-D2	Z	-.001	-.001	0	%100
36	SF2-BH	Z	-.000376	-.000376	0	%100
37	SF2-TH	Z	-.000376	-.000376	0	%100
38	SF3-BH	Z	-.001	-.001	0	%100
39	SF3-TH	Z	-.001	-.001	0	%100
40	SF2-V1	Z	-.001	-.001	0	%100
41	SF2-V2	Z	-.001	-.001	0	%100
42	SF3-V1	Z	-.001	-.001	0	%100
43	SF3-V2	Z	-.001	-.001	0	%100
44	SF2-V3	Z	-.001	-.001	0	%100
45	SF3-V3	Z	-.001	-.001	0	%100
46	MP-1	Z	-.001	-.001	0	%100
47	MP-2	Z	-.001	-.001	0	%100
48	MP-3	Z	-.001	-.001	0	%100

Member Distributed Loads (BLC 27 : 180 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	.004	.004	0	%100
2	FFBH-M	X	.004	.004	0	%100
3	FFBH-R	X	.004	.004	0	%100
4	FFTH-L	X	.004	.004	0	%100
5	FFTH-M	X	.004	.004	0	%100
6	FFTH-R	X	.004	.004	0	%100
7	SA-1	X	.002	.002	0	%100
8	SF2-D1	X	.002	.002	0	%100
9	SF2-D2	X	.002	.002	0	%100
10	SF3-D1	X	.002	.002	0	%100
11	SF3-D2	X	.002	.002	0	%100
12	SF2-BH	X	.003	.003	0	%100
13	SF2-TH	X	.003	.003	0	%100
14	SF3-BH	X	.003	.003	0	%100
15	SF3-TH	X	.003	.003	0	%100
16	SF2-V1	X	.002	.002	0	%100
17	SF2-V2	X	.002	.002	0	%100

Member Distributed Loads (BLC 27 : 180 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
18	SF3-V1	X	.002	.002	0	%100
19	SF3-V2	X	.002	.002	0	%100
20	SF2-V3	X	.002	.002	0	%100
21	SF3-V3	X	.002	.002	0	%100
22	MP-1	X	.003	.003	0	%100
23	MP-2	X	.003	.003	0	%100
24	MP-3	X	.003	.003	0	%100

Member Distributed Loads (BLC 28 : 210 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	.003	.003	0	%100
2	FFBH-M	X	.003	.003	0	%100
3	FFBH-R	X	.003	.003	0	%100
4	FFTH-L	X	.003	.003	0	%100
5	FFTH-M	X	.003	.003	0	%100
6	FFTH-R	X	.003	.003	0	%100
7	SA-1	X	.002	.002	0	%100
8	SF2-D1	X	.002	.002	0	%100
9	SF2-D2	X	.002	.002	0	%100
10	SF3-D1	X	.002	.002	0	%100
11	SF3-D2	X	.002	.002	0	%100
12	SF2-BH	X	.002	.002	0	%100
13	SF2-TH	X	.002	.002	0	%100
14	SF3-BH	X	.000666	.000666	0	%100
15	SF3-TH	X	.000666	.000666	0	%100
16	SF2-V1	X	.002	.002	0	%100
17	SF2-V2	X	.002	.002	0	%100
18	SF3-V1	X	.002	.002	0	%100
19	SF3-V2	X	.002	.002	0	%100
20	SF2-V3	X	.002	.002	0	%100
21	SF3-V3	X	.002	.002	0	%100
22	MP-1	X	.002	.002	0	%100
23	MP-2	X	.002	.002	0	%100
24	MP-3	X	.002	.002	0	%100
25	FFBH-L	Z	.001	.001	0	%100
26	FFBH-M	Z	.001	.001	0	%100
27	FFBH-R	Z	.001	.001	0	%100
28	FFTH-L	Z	.001	.001	0	%100
29	FFTH-M	Z	.001	.001	0	%100
30	FFTH-R	Z	.001	.001	0	%100
31	SA-1	Z	.001	.001	0	%100
32	SF2-D1	Z	.001	.001	0	%100
33	SF2-D2	Z	.001	.001	0	%100
34	SF3-D1	Z	.001	.001	0	%100
35	SF3-D2	Z	.001	.001	0	%100
36	SF2-BH	Z	.001	.001	0	%100
37	SF2-TH	Z	.001	.001	0	%100
38	SF3-BH	Z	.000376	.000376	0	%100
39	SF3-TH	Z	.000376	.000376	0	%100
40	SF2-V1	Z	.001	.001	0	%100
41	SF2-V2	Z	.001	.001	0	%100
42	SF3-V1	Z	.001	.001	0	%100
43	SF3-V2	Z	.001	.001	0	%100
44	SF2-V3	Z	.001	.001	0	%100
45	SF3-V3	Z	.001	.001	0	%100
46	MP-1	Z	.001	.001	0	%100
47	MP-2	Z	.001	.001	0	%100
48	MP-3	Z	.001	.001	0	%100

Member Distributed Loads (BLC 29 : 225 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	.002	.002	0	%100

Company : Tower Engineering Professionals, Inc.
Designer : JCM
Job Number : TEP No. 217457.787763
Model Name : CCI BU No. 806383

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Member Distributed Loads (BLC 29 : 225 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
2	FFBH-M	X	.002	.002	0	%100
3	FFBH-R	X	.002	.002	0	%100
4	FFTH-L	X	.002	.002	0	%100
5	FFTH-M	X	.002	.002	0	%100
6	FFTH-R	X	.002	.002	0	%100
7	SA-1	X	.002	.002	0	%100
8	SF2-D1	X	.001	.001	0	%100
9	SF2-D2	X	.001	.001	0	%100
10	SF3-D1	X	.001	.001	0	%100
11	SF3-D2	X	.001	.001	0	%100
12	SF2-BH	X	.002	.002	0	%100
13	SF2-TH	X	.002	.002	0	%100
14	SF3-BH	X	8.9e-5	8.9e-5	0	%100
15	SF3-TH	X	8.9e-5	8.9e-5	0	%100
16	SF2-V1	X	.001	.001	0	%100
17	SF2-V2	X	.001	.001	0	%100
18	SF3-V1	X	.001	.001	0	%100
19	SF3-V2	X	.001	.001	0	%100
20	SF2-V3	X	.002	.002	0	%100
21	SF3-V3	X	.002	.002	0	%100
22	MP-1	X	.002	.002	0	%100
23	MP-2	X	.002	.002	0	%100
24	MP-3	X	.002	.002	0	%100
25	FFBH-L	Z	.002	.002	0	%100
26	FFBH-M	Z	.002	.002	0	%100
27	FFBH-R	Z	.002	.002	0	%100
28	FFTH-L	Z	.002	.002	0	%100
29	FFTH-M	Z	.002	.002	0	%100
30	FFTH-R	Z	.002	.002	0	%100
31	SA-1	Z	.002	.002	0	%100
32	SF2-D1	Z	.002	.002	0	%100
33	SF2-D2	Z	.002	.002	0	%100
34	SF3-D1	Z	.002	.002	0	%100
35	SF3-D2	Z	.002	.002	0	%100
36	SF2-BH	Z	.002	.002	0	%100
37	SF2-TH	Z	.002	.002	0	%100
38	SF3-BH	Z	8.7e-5	8.7e-5	0	%100
39	SF3-TH	Z	8.7e-5	8.7e-5	0	%100
40	SF2-V1	Z	.002	.002	0	%100
41	SF2-V2	Z	.002	.002	0	%100
42	SF3-V1	Z	.002	.002	0	%100
43	SF3-V2	Z	.002	.002	0	%100
44	SF2-V3	Z	.002	.002	0	%100
45	SF3-V3	Z	.002	.002	0	%100
46	MP-1	Z	.002	.002	0	%100
47	MP-2	Z	.002	.002	0	%100
48	MP-3	Z	.002	.002	0	%100

Member Distributed Loads (BLC 30 : 240 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	.000924	.000924	0	%100
2	FFBH-M	X	.000924	.000924	0	%100
3	FFBH-R	X	.000924	.000924	0	%100
4	FFTH-L	X	.000924	.000924	0	%100
5	FFTH-M	X	.000924	.000924	0	%100
6	FFTH-R	X	.000924	.000924	0	%100
7	SA-1	X	.001	.001	0	%100
8	SF2-D1	X	.001	.001	0	%100
9	SF2-D2	X	.001	.001	0	%100
10	SF3-D1	X	.001	.001	0	%100
11	SF3-D2	X	.001	.001	0	%100
12	SF2-BH	X	.001	.001	0	%100

Member Distributed Loads (BLC 30 : 240 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
13	SF2-TH	X	.001	.001	0	%100
14	SF3-BH	X	.000263	.000263	0	%100
15	SF3-TH	X	.000263	.000263	0	%100
16	SF2-V1	X	.000973	.000973	0	%100
17	SF2-V2	X	.000973	.000973	0	%100
18	SF3-V1	X	.000973	.000973	0	%100
19	SF3-V2	X	.000973	.000973	0	%100
20	SF2-V3	X	.001	.001	0	%100
21	SF3-V3	X	.001	.001	0	%100
22	MP-1	X	.001	.001	0	%100
23	MP-2	X	.001	.001	0	%100
24	MP-3	X	.001	.001	0	%100
25	FFBH-L	Z	.001	.001	0	%100
26	FFBH-M	Z	.001	.001	0	%100
27	FFBH-R	Z	.001	.001	0	%100
28	FFTH-L	Z	.001	.001	0	%100
29	FFTH-M	Z	.001	.001	0	%100
30	FFTH-R	Z	.001	.001	0	%100
31	SA-1	Z	.002	.002	0	%100
32	SF2-D1	Z	.002	.002	0	%100
33	SF2-D2	Z	.002	.002	0	%100
34	SF3-D1	Z	.002	.002	0	%100
35	SF3-D2	Z	.002	.002	0	%100
36	SF2-BH	Z	.002	.002	0	%100
37	SF2-TH	Z	.002	.002	0	%100
38	SF3-BH	Z	.000446	.000446	0	%100
39	SF3-TH	Z	.000446	.000446	0	%100
40	SF2-V1	Z	.002	.002	0	%100
41	SF2-V2	Z	.002	.002	0	%100
42	SF3-V1	Z	.002	.002	0	%100
43	SF3-V2	Z	.002	.002	0	%100
44	SF2-V3	Z	.002	.002	0	%100
45	SF3-V3	Z	.002	.002	0	%100
46	MP-1	Z	.003	.003	0	%100
47	MP-2	Z	.003	.003	0	%100
48	MP-3	Z	.003	.003	0	%100

Member Distributed Loads (BLC 31 : 270 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	Z	0	0	0	%100
2	FFBH-M	Z	0	0	0	%100
3	FFBH-R	Z	0	0	0	%100
4	FFTH-L	Z	0	0	0	%100
5	FFTH-M	Z	0	0	0	%100
6	FFTH-R	Z	0	0	0	%100
7	SA-1	Z	.002	.002	0	%100
8	SF2-D1	Z	.002	.002	0	%100
9	SF2-D2	Z	.002	.002	0	%100
10	SF3-D1	Z	.002	.002	0	%100
11	SF3-D2	Z	.002	.002	0	%100
12	SF2-BH	Z	.002	.002	0	%100
13	SF2-TH	Z	.002	.002	0	%100
14	SF3-BH	Z	.002	.002	0	%100
15	SF3-TH	Z	.002	.002	0	%100
16	SF2-V1	Z	.002	.002	0	%100
17	SF2-V2	Z	.002	.002	0	%100
18	SF3-V1	Z	.002	.002	0	%100
19	SF3-V2	Z	.002	.002	0	%100
20	SF2-V3	Z	.002	.002	0	%100
21	SF3-V3	Z	.002	.002	0	%100
22	MP-1	Z	.003	.003	0	%100
23	MP-2	Z	.003	.003	0	%100

Company : Tower Engineering Professionals, Inc.
Designer : JCM
Job Number : TEP No. 217457.787763
Model Name : CCI BU No. 806383

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Member Distributed Loads (BLC 31 : 270 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
24	MP-3	Z	.003	.003	0	%100

Member Distributed Loads (BLC 32 : 300 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	-.000924	-.000924	0	%100
2	FFBH-M	X	-.000924	-.000924	0	%100
3	FFBH-R	X	-.000924	-.000924	0	%100
4	FFTH-L	X	-.000924	-.000924	0	%100
5	FFTH-M	X	-.000924	-.000924	0	%100
6	FFTH-R	X	-.000924	-.000924	0	%100
7	SA-1	X	-.000483	-.000483	0	%100
8	SF2-D1	X	-.001	-.001	0	%100
9	SF2-D2	X	-.001	-.001	0	%100
10	SF3-D1	X	-.001	-.001	0	%100
11	SF3-D2	X	-.001	-.001	0	%100
12	SF2-BH	X	-.000263	-.000263	0	%100
13	SF2-TH	X	-.000263	-.000263	0	%100
14	SF3-BH	X	-.001	-.001	0	%100
15	SF3-TH	X	-.001	-.001	0	%100
16	SF2-V1	X	-.000973	-.000973	0	%100
17	SF2-V2	X	-.000973	-.000973	0	%100
18	SF3-V1	X	-.000973	-.000973	0	%100
19	SF3-V2	X	-.000973	-.000973	0	%100
20	SF2-V3	X	-.001	-.001	0	%100
21	SF3-V3	X	-.001	-.001	0	%100
22	MP-1	X	-.001	-.001	0	%100
23	MP-2	X	-.001	-.001	0	%100
24	MP-3	X	-.001	-.001	0	%100
25	FFBH-L	Z	.001	.001	0	%100
26	FFBH-M	Z	.001	.001	0	%100
27	FFBH-R	Z	.001	.001	0	%100
28	FFTH-L	Z	.001	.001	0	%100
29	FFTH-M	Z	.001	.001	0	%100
30	FFTH-R	Z	.001	.001	0	%100
31	SA-1	Z	.000889	.000889	0	%100
32	SF2-D1	Z	.002	.002	0	%100
33	SF2-D2	Z	.002	.002	0	%100
34	SF3-D1	Z	.002	.002	0	%100
35	SF3-D2	Z	.002	.002	0	%100
36	SF2-BH	Z	.000446	.000446	0	%100
37	SF2-TH	Z	.000446	.000446	0	%100
38	SF3-BH	Z	.002	.002	0	%100
39	SF3-TH	Z	.002	.002	0	%100
40	SF2-V1	Z	.002	.002	0	%100
41	SF2-V2	Z	.002	.002	0	%100
42	SF3-V1	Z	.002	.002	0	%100
43	SF3-V2	Z	.002	.002	0	%100
44	SF2-V3	Z	.002	.002	0	%100
45	SF3-V3	Z	.002	.002	0	%100
46	MP-1	Z	.003	.003	0	%100
47	MP-2	Z	.003	.003	0	%100
48	MP-3	Z	.003	.003	0	%100

Member Distributed Loads (BLC 33 : 315 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	-.002	-.002	0	%100
2	FFBH-M	X	-.002	-.002	0	%100
3	FFBH-R	X	-.002	-.002	0	%100
4	FFTH-L	X	-.002	-.002	0	%100
5	FFTH-M	X	-.002	-.002	0	%100
6	FFTH-R	X	-.002	-.002	0	%100
7	SA-1	X	-.000279	-.000279	0	%100

Member Distributed Loads (BLC 33 : 315 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
8	SF2-D1	X	-.001	-.001	0	%100
9	SF2-D2	X	-.001	-.001	0	%100
10	SF3-D1	X	-.001	-.001	0	%100
11	SF3-D2	X	-.001	-.001	0	%100
12	SF2-BH	X	-8.9e-5	-8.9e-5	0	%100
13	SF2-TH	X	-8.9e-5	-8.9e-5	0	%100
14	SF3-BH	X	-.002	-.002	0	%100
15	SF3-TH	X	-.002	-.002	0	%100
16	SF2-V1	X	-.001	-.001	0	%100
17	SF2-V2	X	-.001	-.001	0	%100
18	SF3-V1	X	-.001	-.001	0	%100
19	SF3-V2	X	-.001	-.001	0	%100
20	SF2-V3	X	-.002	-.002	0	%100
21	SF3-V3	X	-.002	-.002	0	%100
22	MP-1	X	-.002	-.002	0	%100
23	MP-2	X	-.002	-.002	0	%100
24	MP-3	X	-.002	-.002	0	%100
25	FFBH-L	Z	.002	.002	0	%100
26	FFBH-M	Z	.002	.002	0	%100
27	FFBH-R	Z	.002	.002	0	%100
28	FFTH-L	Z	.002	.002	0	%100
29	FFTH-M	Z	.002	.002	0	%100
30	FFTH-R	Z	.002	.002	0	%100
31	SA-1	Z	.000296	.000296	0	%100
32	SF2-D1	Z	.002	.002	0	%100
33	SF2-D2	Z	.002	.002	0	%100
34	SF3-D1	Z	.002	.002	0	%100
35	SF3-D2	Z	.002	.002	0	%100
36	SF2-BH	Z	8.7e-5	8.7e-5	0	%100
37	SF2-TH	Z	8.7e-5	8.7e-5	0	%100
38	SF3-BH	Z	.002	.002	0	%100
39	SF3-TH	Z	.002	.002	0	%100
40	SF2-V1	Z	.002	.002	0	%100
41	SF2-V2	Z	.002	.002	0	%100
42	SF3-V1	Z	.002	.002	0	%100
43	SF3-V2	Z	.002	.002	0	%100
44	SF2-V3	Z	.002	.002	0	%100
45	SF3-V3	Z	.002	.002	0	%100
46	MP-1	Z	.002	.002	0	%100
47	MP-2	Z	.002	.002	0	%100
48	MP-3	Z	.002	.002	0	%100

Member Distributed Loads (BLC 34 : 330 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	FFBH-L	X	-.003	-.003	0	%100
2	FFBH-M	X	-.003	-.003	0	%100
3	FFBH-R	X	-.003	-.003	0	%100
4	FFTH-L	X	-.003	-.003	0	%100
5	FFTH-M	X	-.003	-.003	0	%100
6	FFTH-R	X	-.003	-.003	0	%100
7	SA-1	X	-.000177	-.000177	0	%100
8	SF2-D1	X	-.002	-.002	0	%100
9	SF2-D2	X	-.002	-.002	0	%100
10	SF3-D1	X	-.002	-.002	0	%100
11	SF3-D2	X	-.002	-.002	0	%100
12	SF2-BH	X	-.000666	-.000666	0	%100
13	SF2-TH	X	-.000666	-.000666	0	%100
14	SF3-BH	X	-.002	-.002	0	%100
15	SF3-TH	X	-.002	-.002	0	%100
16	SF2-V1	X	-.002	-.002	0	%100
17	SF2-V2	X	-.002	-.002	0	%100
18	SF3-V1	X	-.002	-.002	0	%100

Company : Tower Engineering Professionals, Inc.
Designer : JCM
Job Number : TEP No. 217457.787763
Model Name : CCI BU No. 806383

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Member Distributed Loads (BLC 34 : 330 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
19	SF3-V2	X	-.002	-.002	0	%100
20	SF2-V3	X	-.002	-.002	0	%100
21	SF3-V3	X	-.002	-.002	0	%100
22	MP-1	X	-.002	-.002	0	%100
23	MP-2	X	-.002	-.002	0	%100
24	MP-3	X	-.002	-.002	0	%100
25	FFBH-L	Z	.001	.001	0	%100
26	FFBH-M	Z	.001	.001	0	%100
27	FFBH-R	Z	.001	.001	0	%100
28	FFTH-L	Z	.001	.001	0	%100
29	FFTH-M	Z	.001	.001	0	%100
30	FFTH-R	Z	.001	.001	0	%100
31	SA-1	Z	.000109	.000109	0	%100
32	SF2-D1	Z	.001	.001	0	%100
33	SF2-D2	Z	.001	.001	0	%100
34	SF3-D1	Z	.001	.001	0	%100
35	SF3-D2	Z	.001	.001	0	%100
36	SF2-BH	Z	.000376	.000376	0	%100
37	SF2-TH	Z	.000376	.000376	0	%100
38	SF3-BH	Z	.001	.001	0	%100
39	SF3-TH	Z	.001	.001	0	%100
40	SF2-V1	Z	.001	.001	0	%100
41	SF2-V2	Z	.001	.001	0	%100
42	SF3-V1	Z	.001	.001	0	%100
43	SF3-V2	Z	.001	.001	0	%100
44	SF2-V3	Z	.001	.001	0	%100
45	SF3-V3	Z	.001	.001	0	%100
46	MP-1	Z	.001	.001	0	%100
47	MP-2	Z	.001	.001	0	%100
48	MP-3	Z	.001	.001	0	%100

Member Area Loads

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
No Data to Print ...						

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	SF2-1	max	.194	2	1.639	34	1.497	56	0	98	0	98	0	98
2		min	-3.434	42	.363	10	-.214	15	0	1	0	1	0	1
3	SF2-2	max	3.435	34	1.345	42	.213	7	0	98	0	98	0	98
4		min	-.195	10	.293	2	-1.496	64	0	1	0	1	0	1
5	SA-1B	max	.684	28	.03	36	.498	4	0	98	0	98	0	98
6		min	-.685	4	.007	95	-.497	28	0	1	0	1	0	1
7	Totals:	max	1.81	18	2.99	35	1.042	21						
8		min	-1.81	10	.74	89	-1.042	13						

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Lo...	...	...	phi*P...	phi*P...	phi*...	phi*...	...	Eqn
1	SF3-V3	PIPE_2.0	.394	1.708	20	.046	3.4...		...	27.933	32.13	1.872	1.872	...	H1-...
2	MP-1	PIPE_2.0	.286	5.667	50	.036	2.3...		...	17.332	32.13	1.872	1.872	...	H1-...
3	SF2-V2	ROHN TS1.5x16GA	.275	1.993	35	.007	0		...	6.68	9.932	.38	.38	...	H1-...
4	SF2-D1	ROHN TS1.5x16GA	.274	2.049	47	.011	4.1...		...	5.478	9.932	.38	.38	...	H1-...
5	SF2-BH	PIPE_2.0	.250	.555	34	.114	0		...	24.561	32.13	1.872	1.872	...	H1-...
6	SF2-TH	PIPE_2.0	.246	.555	42	.138	0		...	24.561	32.13	1.872	1.872	...	H1-...
7	SF2-D2	ROHN TS1.5x16GA	.234	2.049	47	.011	4.1...		...	5.478	9.932	.38	.38	...	H1-...
8	SF3-V2	ROHN TS1.5x16GA	.196	3.417	37	.008	0		...	6.68	9.932	.38	.38	...	H1-...
9	SF3-BH	PIPE_2.0	.181	.555	35	.092	0		...	24.561	32.13	1.872	1.872	...	H1-...
10	SF3-TH	PIPE_2.0	.178	.555	43	.114	0		...	24.561	32.13	1.872	1.872	...	H1-...

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Lo...	...	...	phi*P...	phi*P...	phi*...	phi*...	...	Eqn
11	FFBH-L	PIPE_2.5	.167	3.112	18	.091	3.1...		...	35.756	50.715	3.596	3.596	...	H1-...
12	FFTH-L	PIPE_2.5	.166	3.112	26	.091	3.1...		...	35.756	50.715	3.596	3.596	...	H1-...
13	MP-3	PIPE_2.0	.150	5.667	37	.027	2.3...		...	17.332	32.13	1.872	1.872	...	H1-...
14	FFBH-M	PIPE_2.5	.145	0	42	.038	0		...	27.003	50.715	3.596	3.596	...	H1-...
15	FFTH-M	PIPE_2.5	.140	0	34	.037	0		...	27.003	50.715	3.596	3.596	...	H1-...
16	SF2-V1	ROHN TS1.5x16GA	.137	3.417	43	.008	0		...	6.68	9.932	.38	.38	...	H1-...
17	SF3-D1	ROHN TS1.5x16GA	.126	2.092	37	.016	0		...	5.478	9.932	.38	.38	...	H1-...
18	SF3-D2	ROHN TS1.5x16GA	.109	2.092	37	.014	0		...	5.478	9.932	.38	.38	...	H1-...
19	SF3-V1	ROHN TS1.5x16GA	.102	3.417	42	.009	0		...	6.68	9.932	.38	.38	...	H1-...
20	FFBH-R	PIPE_2.5	.095	0	18	.044	0		...	35.756	50.715	3.596	3.596	...	H1-...
21	FFTH-R	PIPE_2.5	.095	0	26	.043	0		...	35.756	50.715	3.596	3.596	...	H1-...
22	MP-2	PIPE_2.0	.075	2.333	50	.022	2.3...		...	17.332	32.13	1.872	1.872	...	H1-...
23	SA-1	PIPE_2.0	.033	0	28	.003	0		...	25.455	32.13	1.872	1.872	...	H1-...
24	SF2-V3	PIPE_2.0	.031	3.417	48	.007	0		...	27.933	32.13	1.872	1.872	...	H1-...

Envelope None Cold Formed Steel Code Checks

Member	Shape	Code Check	Loc[ft]	LC	Shea...	Loc[ft]	Dir	LC	Pn[k]	Tn[k]	Mnyy[k...	Mnzz[k...	Cb	Cmyy	Cmzz	Eqn
No Data to Print ...																

APPENDIX D

ADDITIONAL CALCULATIONS

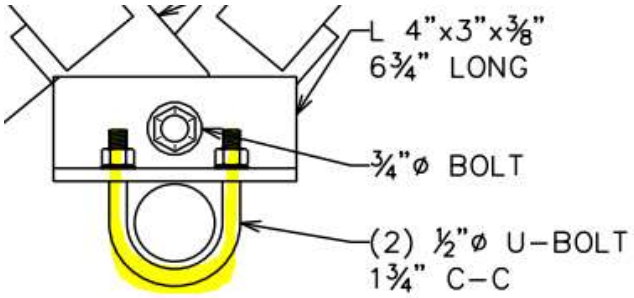
Job Name: CCI BU No. 806383
TEP#217457.787763
Calc: JCM Check: DJM
Date: 11/16/2022

Moment Bolt Group (Rohn Sector Mount) - Tower Leg

Bolt Size:	0.5	in
# Bolts:	2	
Plate Width:	6.75	in
Plate Height:	4	in
Bolt H Gap:	2.875	in
Bolt V Gap:	1.75	in
Plate T:	0.375	in
Tower Leg Ø:	2.375	in
Bolt Grade:	A36	
Fu_{bolt}	58	ksi
r:	1.6829	in
J:	5.66	in^4/in^2
$Bolt_{Area}$:	0.196	in^2
$Bolt_{Area, Net Tensile}$:	0.142	in^2
Pretension:	6	kips
Slotted Holes:	No	

Code Checks Per ANSI/TIA-222-H:

Bolt Capacity =	**27.8%**	**PASS**
Single Bolt Capacity=	**17.5%**	**PASS**

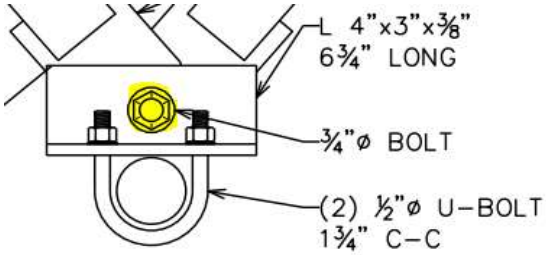


Single Bolt Check

Bolt Size:	0.75	in
Bolt F_u:	120	ksi
$Bolt_{A, Net Tensile}$:	0.334	in^2

Bolts: A325N

V_{max}=	3.485	kips
$ØR_{NV}$ =	19.880	kips
T_{max} =	1.639	kips
$ØR_{NT}$ =	30.060	kips



Date: **December 20, 2022**

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

Subject:	**Structural Analysis Report**	
Carrier Designation:	**Site Number:**	CT11142A
	Site Name:	CT03XC205
Crown Castle Designation:	**BU Number:**	806383
	Site Name:	HRT 087 943325
	JDE Job Number:	735229
	Work Order Number:	2190002
	Order Number:	637956 Rev. 1
Engineering Firm Designation:	**B+T Group Project Number:**	155990.003.01.0002
Site Data:	**Cosgrove Roadwhifford Hill, West Willington, Tolland County, CT** **Latitude *41° 53' 32.92"*, Longitude *-72° 15' 38.15"*** **140 Foot - Self Support Tower**	

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

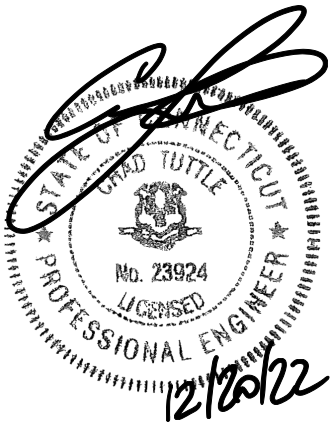
The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity- 72.6%**

This analysis utilizes an ultimate 3-second gust wind speed of 118 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Austin Steward

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



Chad E. Tuttle, P.E.

tnxTower Report - version 8.1.1.0

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 140 ft. Self-Support tower designed by ROHN.

The tower has been modified per reinforcement drawings prepared by FDH Velocitel in May of 2015. Reinforcement consists of foundation repairs.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	118 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1.5 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)
125.0	125.0	3	Commscope	VV-65B-R1_TMO	3	1-5/8
		3	Ericsson	AIR 6419 B41_TMO_CCIV2		
		3	Ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	Ericsson	Radio 4480_TMOV2		
		3	RFS Celwave	APXVAALL24_43-U-NA20_TMO		
		1	--	Sector Mount [SM 505-3]		
50.0	50.0	1	GPS	GPS_A	1	1/2

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)
137.0	139.0	3	Andrew	LNX-8513DS-A1M	14 1	1-5/8 3/8
		6	Commscope	NHH-65B-R2B		
		2	RFS Celwave	DB-T1-6Z-8AB-0Z		
		3	Samsung Telecom.	MT6407-77A		
		3	Samsung Telecom.	RF4439D-25A		
		3	Samsung Telecom.	RF4440D-13A		
	137.0	3	Commscope	BSAMNT-SBS-1-2 Bracket		
		1	--	Sector Mount [SM 510-3]		
114.0	114.0	3	Fujitsu	TA08025-B604	1	1-1/2
		3	Fujitsu	TA08025-B605		
		1	Raycap	RDIDC-9181-PF-48		
		3	JMA Wireless	MX08FRO665-21		
		1	--	Commscope MTC3975083 (3)		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
101.0	102.0	3	Commscope	VV-65A-R1_TMO	2 3	1-5/8 1-1/4
		3	Ericsson	AIR 6419 B41_TMO		
		3	Ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		3	Ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	RFS Celwave	APXVAARR24_43-U-NA20		
	101.0	3	Site Pro 1	VFA12-HD Sector Mount		
60.0	60.0	1	GPS	GPS_A	1	1/2
		1	--	Side Arm Mount [SO 305-1]		
50.0	50.0	1	GPS	GPS_RESERVED	--	--

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
Tower Manufacturer Drawing	1069394	CCI Sites
Tower Modification Drawing	5670805	CCI Sites
Post Modification Inspection	5786395	CCI Sites
Foundation Drawing	1069383	CCI Sites
Geotech Report	1069386	CCI Sites
Crown CAD Package	Date: 12/15/2022	CCI Sites

3.1) Analysis Method

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

3.2) Assumptions

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

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T1	140 - 120	Leg	ROHN 2 STD	3	-16.577	38.684	42.9	Pass
T2	120 - 100	Leg	ROHN 2.5 EH	39	-42.619	78.149	54.5	Pass
T3	100 - 80	Leg	ROHN 3 EH	69	-67.974	99.059	68.6	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T4	80 - 60	Leg	ROHN 3.5 EH	90	-91.902	132.012	69.6	Pass
T5	60 - 40	Leg	ROHN 4 X-STR	111	-113.878	167.898	67.8	Pass
T6	40 - 20	Leg	ROHN 5 EH	132	-133.151	211.314	63.0	Pass
T7	20 - 0	Leg	ROHN 5 X-STR	147	-153.394	211.314	72.6	Pass
T1	140 - 120	Diagonal	L1 3/4x1 3/4x3/16	12	-3.042	11.646	26.1	Pass
T2	120 - 100	Diagonal	L1 3/4x1 3/4x3/16	47	-3.234	6.716	48.2	Pass
T3	100 - 80	Diagonal	L2x2x3/16	75	-4.288	6.312	67.9	Pass
T4	80 - 60	Diagonal	L2 1/2x2 1/2x3/16	96	-4.408	9.655	45.7	Pass
T5	60 - 40	Diagonal	L3x3x3/16	117	-4.618	13.193	35.0	Pass
T6	40 - 20	Diagonal	L3x3x3/16	137	-5.514	9.055	60.9	Pass
T7	20 - 0	Diagonal	L3x3x1/4	152	-5.964	9.907	60.2	Pass
T1	140 - 120	Top Girt	L2x2x1/8	4	-0.363	4.273	8.5	Pass
T2	120 - 100	Top Girt	L2x2x1/8	41	-0.739	4.273	17.3	Pass
							Summary	
						Leg (T7)	72.6	Pass
						Diagonal (T3)	67.9	Pass
						Top Girt (T2)	17.3	Pass
						Bolt Checks	69.9	Pass
						Rating =	72.6	Pass

Table 5 - Tower Component Stresses vs. Capacity- LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2	Anchor Rods	Base	56.1	Pass
1,2	Base Foundation (Structure)	Base	26.4	Pass
1,2	Base Foundation (Soil Interaction)	Base	52.2	Pass

Structure Rating (max from all components) =	72.6%

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

4.1) Recommendations

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

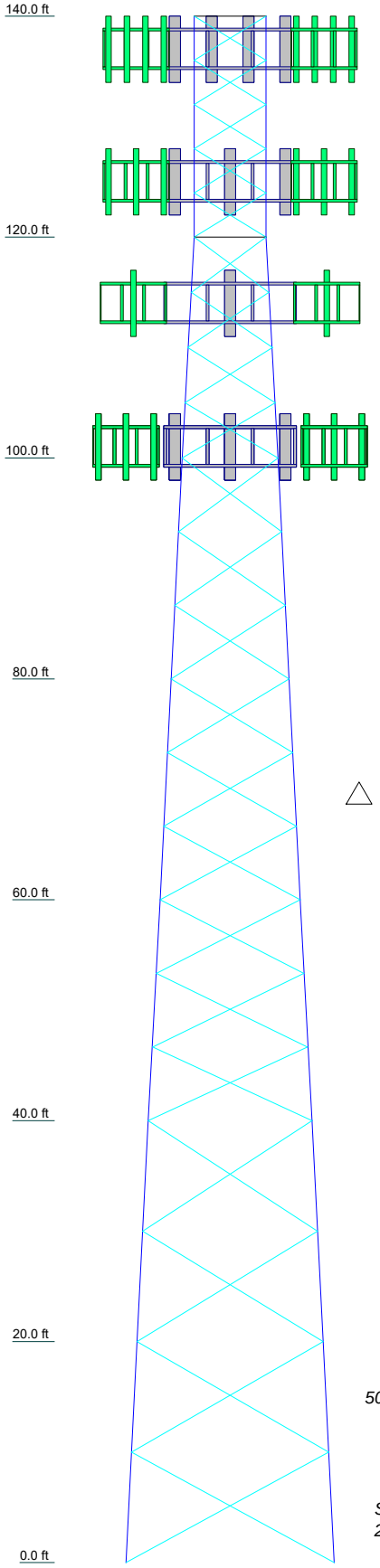
APPENDIX A

TNXTOWER OUTPUT

Section	T1	T2	T3	T4	T5	T6	T7
Legs	ROHN 2 STD	ROHN 2.5 EH	ROHN 3 EH	ROHN 3.5 EH	ROHN 4 X-STR	ROHN 5 EH	ROHN 5 X-STR
Leg Grade	A572-50						
Diagonals	L1 3/4x1 3/4x3/16		L2x2x3/16	L2 1/2x2 1/2x3/16	L3x3x3/16		L3x3x1/4
Diagonal Grade	A36						A572-50
Top Girts	L2x2x1/8				N.A.		
Face Width (ft)	6.52083	6.5625	8.60417	10.6354	12.6771	14.7708	16.7708
# Panels @ (ft)	5 @ 4	4 @ 5	9 @ 6.66667			4 @ 10	
Weight (K)	0.8	1.0	1.2	1.6	2.0	2.2	2.6

18.7708

11.3



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

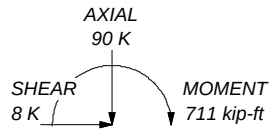
TOWER DESIGN NOTES

1. Tower designed for Exposure B to the TIA-222-H Standard.
2. Tower designed for a 118 mph basic wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 50 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0'
7. TIA-222-H Annex S
8. TOWER RATING: 72.6%

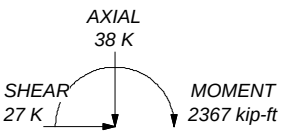
ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 158 K
SHEAR: 17 K

UPLIFT: -129 K
SHEAR: 15 K



TORQUE 4 kip-ft
50 mph WIND - 1.500 in ICE



TORQUE 19 kip-ft
REACTIONS - 118 mph WIND

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Phone: (918) 587-4630
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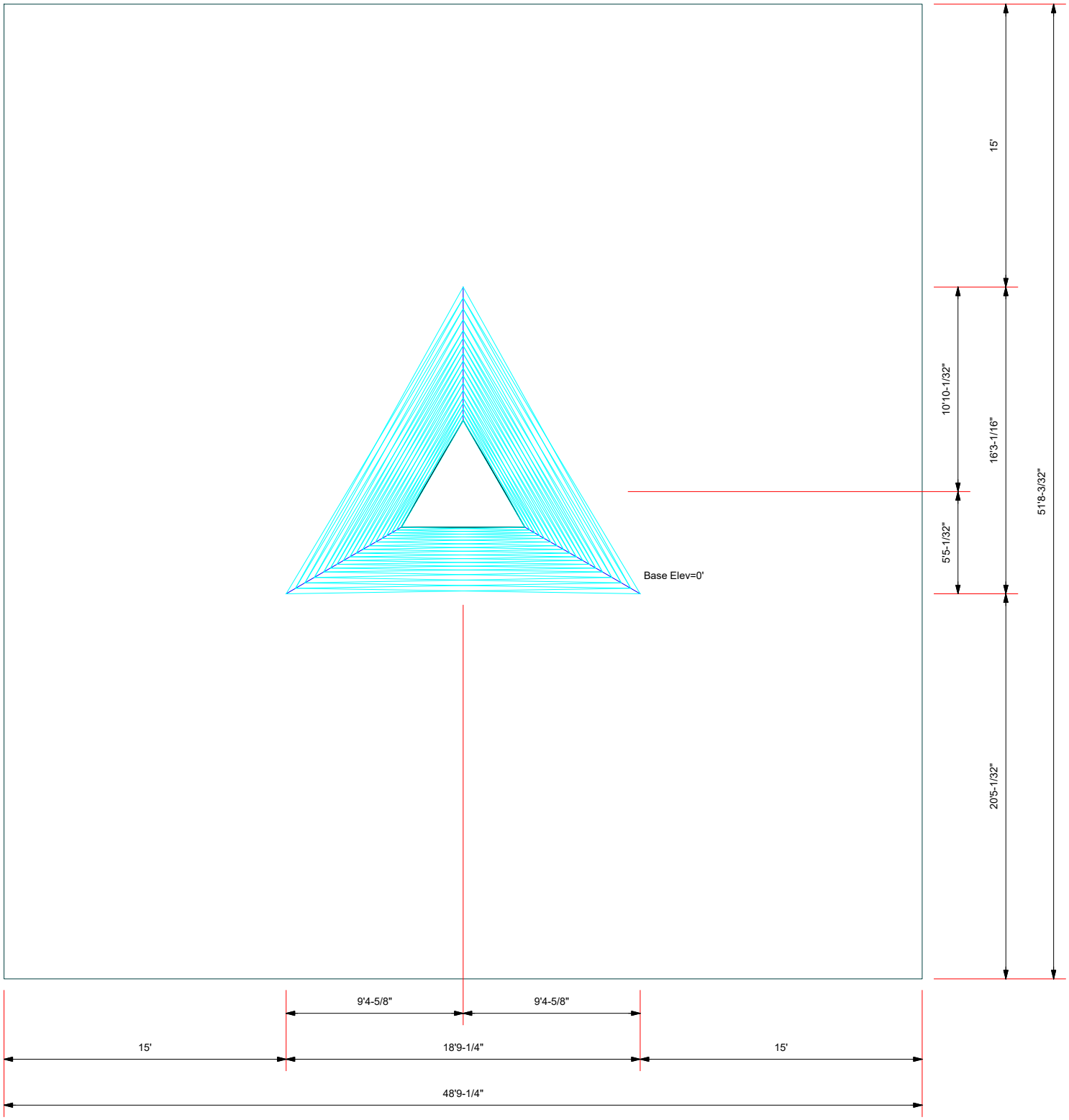
Job: 155990.003.01.0002 - HRT 087 943325, CT (BU# 80638			
Project:			
Client: Crown Castle	Drawn by: GURUPRASAD	App'd:	
Code: TIA-222-H	Date: 12/20/22	Scale: NTS	
Path:		Dwg No. E-1	

Plot Plan
Total Area - 0.06 Acres



B+T GRP

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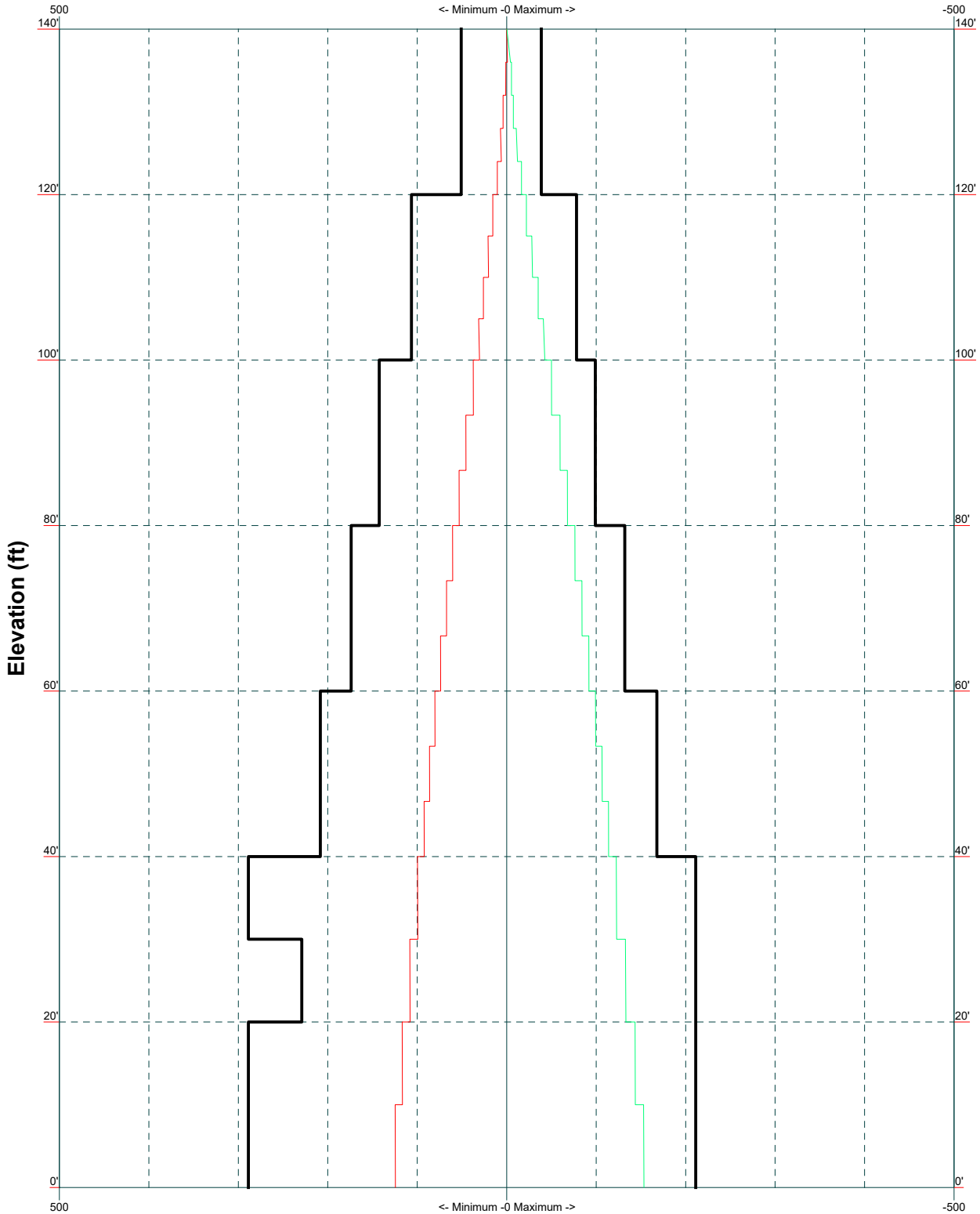
Job: ***155990.003.01.0002 - HRT 087 943325, CT (BU# 80638***			
Project:			
Client: Crown Castle	Drawn by: GURUPRASAD	App'd:	
Code: TIA-222-H	Date: 12/20/22	Scale: NTS	
Path:		Dwg No. E-2	

TIA-222-H - 118 mph/50 mph 1.500 in Ice Exposure B

Leg Capacity ——— **Leg Compression (K)**



B+T GRP

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Job: *155990.003.01.0002 - HRT 087 943325, CT (BU# 80638*		
Project:		
Client: Crown Castle	Drawn by: GURUPRASAD	App'd:
Code: TIA-222-H	Date: 12/20/22	Scale: NTS
Path:		Dwg No. E-3

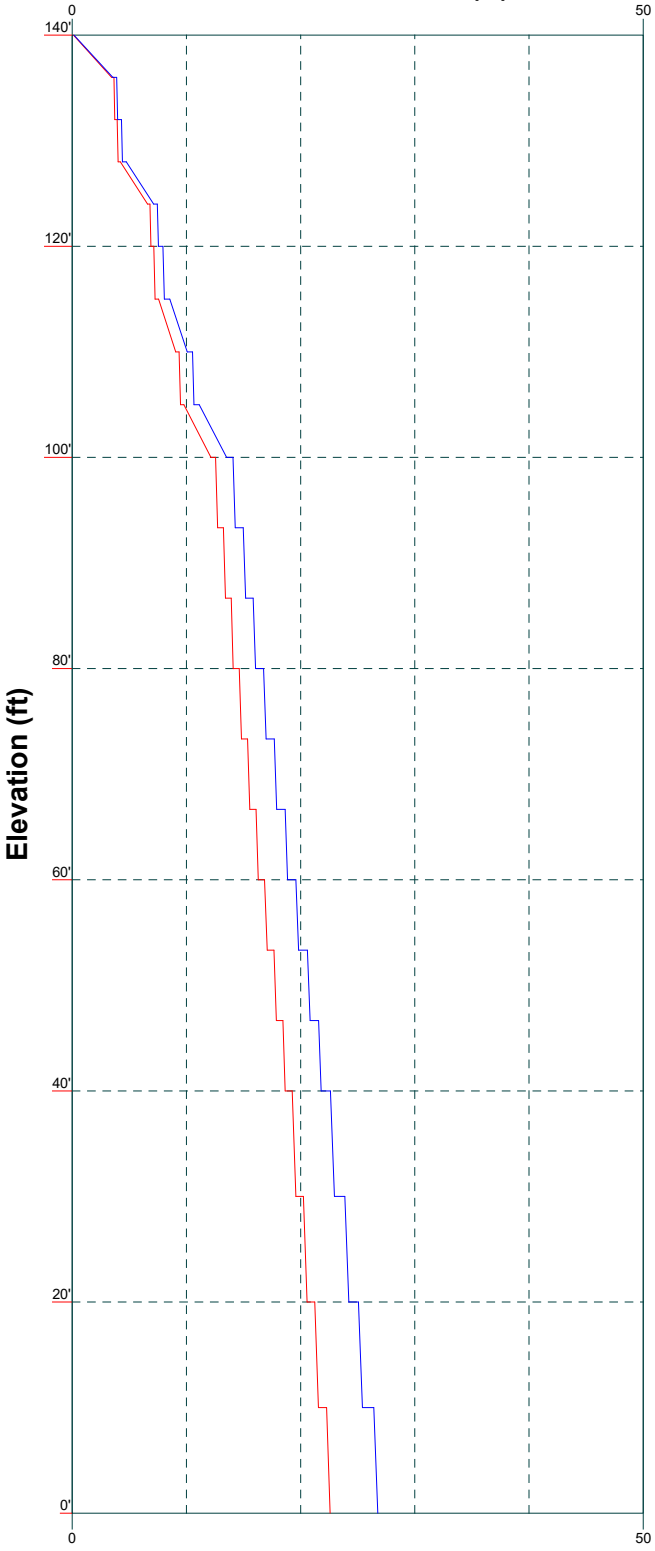
TIA-222-H - 118 mph/50 mph 1.500 in Ice Exposure B

Vx Vz

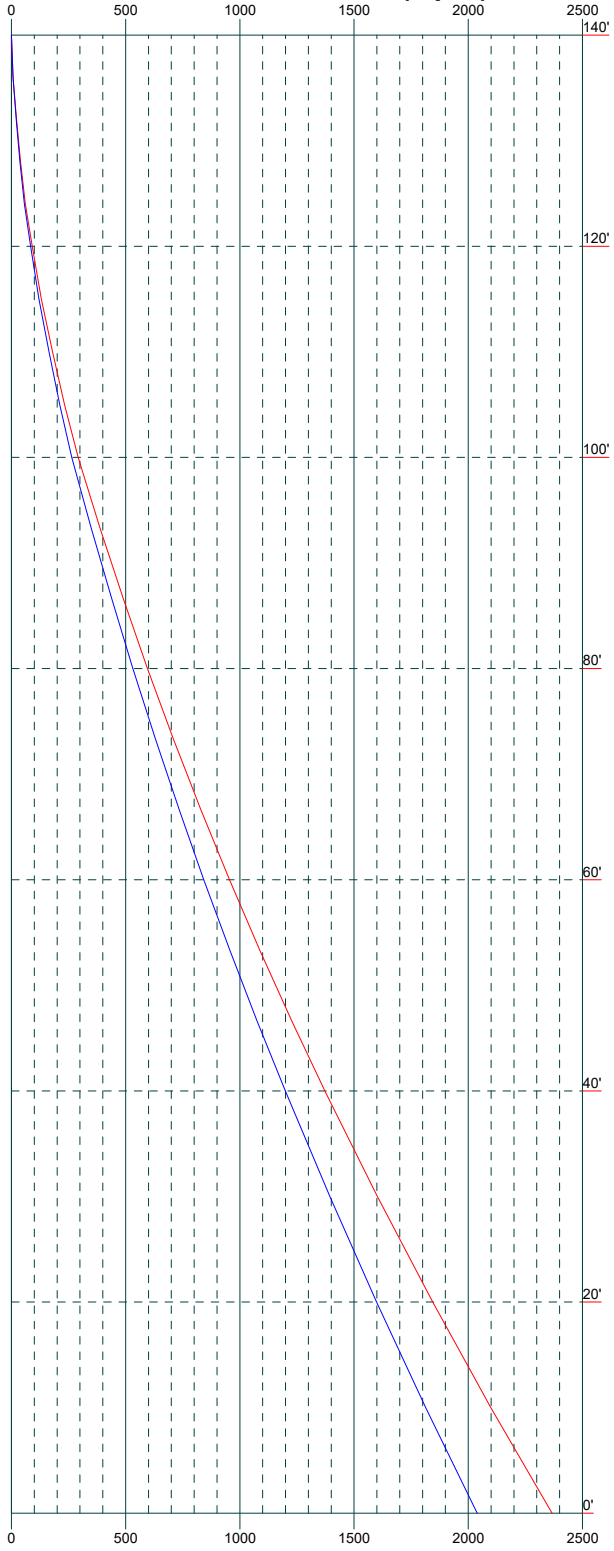
Maximum Values

Mx Mz

Global Mast Shear (K)



Global Mast Moment (kip-ft)



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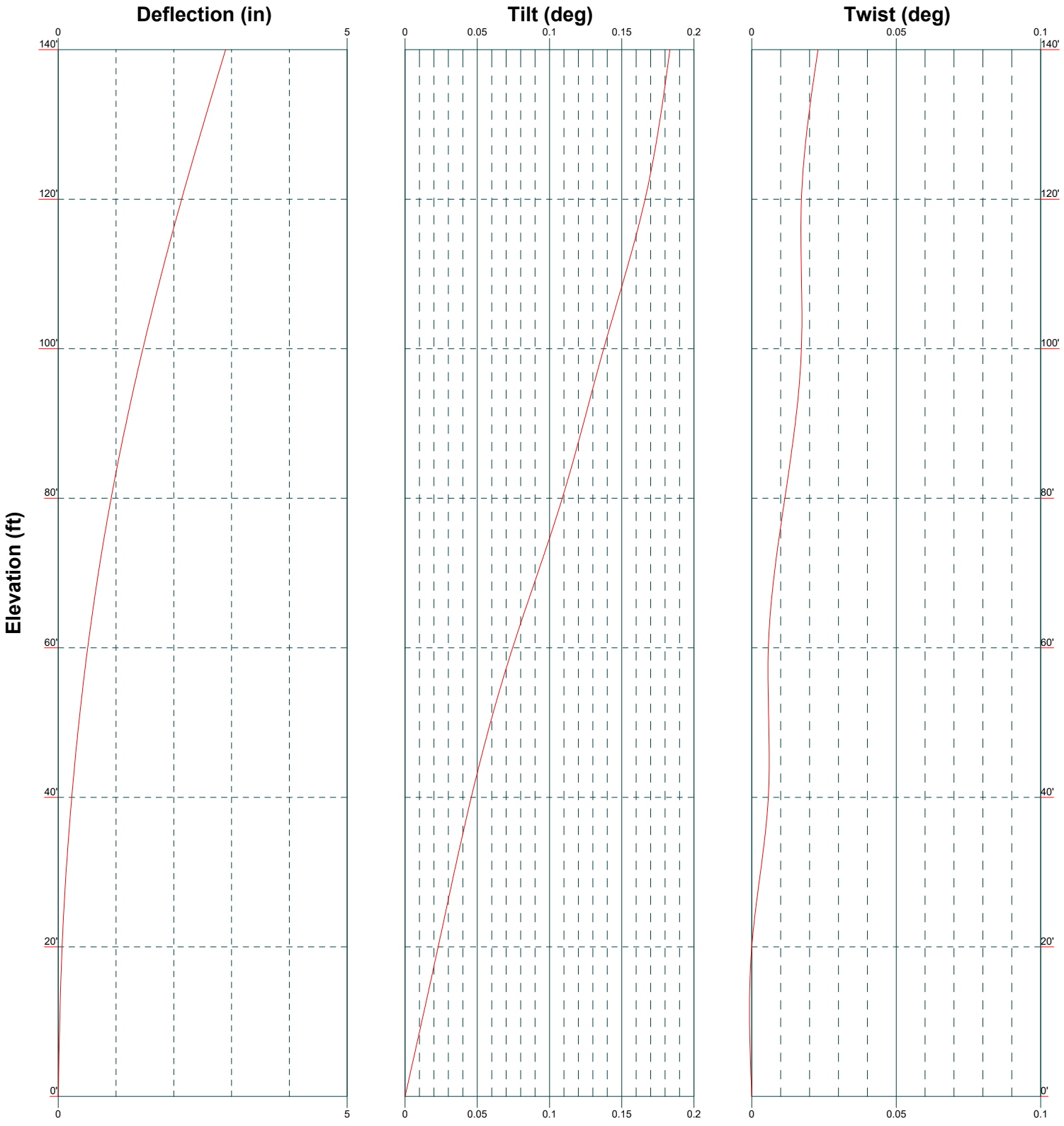
Job: 155990.003.01.0002 - HRT 087 943325, CT (BU# 80638		
Project:		
Client: Crown Castle	Drawn by: GURUPRASAD	App'd:
Code: TIA-222-H	Date: 12/20/22	Scale: NTS
Path:		Dwg No. E-4

TIA-222-H - Service - 60 mph

Maximum Values



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Phone: (918) 587-4630
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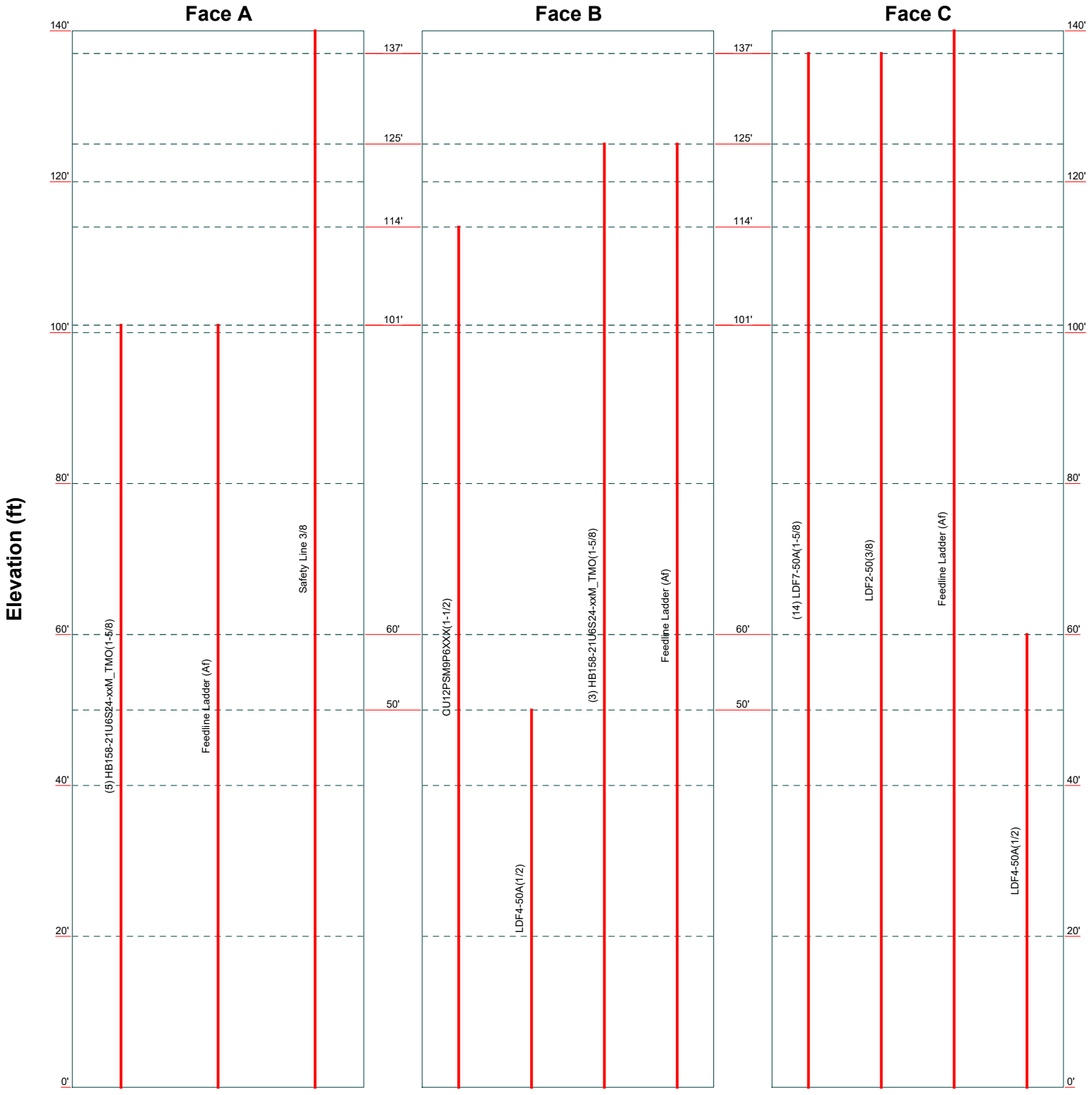
Job: ***155990.003.01.0002 - HRT 087 943325, CT (BU# 80638***		
Project:		
Client: Crown Castle	Drawn by: GURUPRASAD	App'd:
Code: TIA-222-H	Date: 12/20/22	Scale: NTS
Path:		Dwg No. E-5

Feed Line Distribution Chart
0' - 140'

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



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Phone: (918) 587-4630
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Job: 155990.003.01.0002 - HRT 087 943325, CT (BU# 80638		
Project:		
Client: Crown Castle	Drawn by: GURUPRASAD	App'd:
Code: TIA-222-H	Date: 12/20/22	Scale: NTS
Path:		Dwg No. E-7

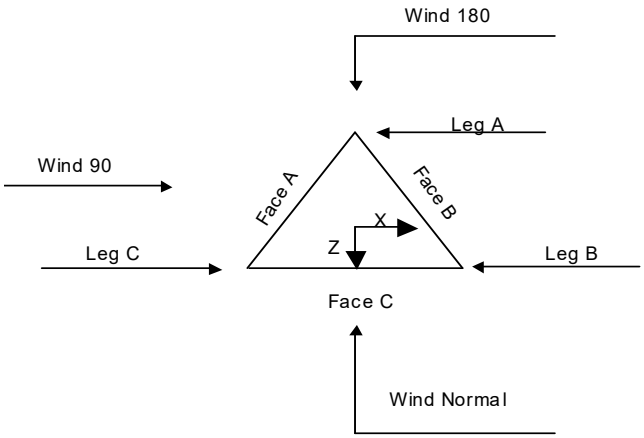
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 140' above the ground line.
The base of the tower is set at an elevation of 0' above the ground line.
The face width of the tower is 6'6-1/4" at the top and 18'9-1/4" at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower base elevation above sea level: 934'.
Basic wind speed of 118 mph.
Risk Category II.
Exposure Category B.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0'.
Nominal ice thickness of 1.500 in.
Ice thickness is considered to increase with height.
Ice density of 56.000 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50.000 °F.
Deflections calculated using a wind speed of 60 mph.
TIA-222-H Annex S.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member 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



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	140'-120'			6'6-1/4"	1	20'
T2	120'-100'			6'6-3/4"	1	20'
T3	100'-80'			8'7-1/4"	1	20'
T4	80'-60'			10'7-5/8"	1	20'
T5	60'-40'			12'8-1/8"	1	20'
T6	40'-20'			14'9-1/4"	1	20'
T7	20'-0'			16'9-1/4"	1	20'

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	140'-120'	4'	X Brace	No	No	0.000	0.000
T2	120'-100'	5'	X Brace	No	No	0.000	0.000
T3	100'-80'	6'8"	X Brace	No	No	0.000	0.000
T4	80'-60'	6'8"	X Brace	No	No	0.000	0.000
T5	60'-40'	6'8"	X Brace	No	No	0.000	0.000
T6	40'-20'	10'	X Brace	No	No	0.000	0.000

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T7	20'-0'	10'	X Brace	No	No	0.000	0.000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 140'-120'	Pipe	ROHN 2 STD	A572-50 (50 ksi)	Single Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T2 120'-100'	Pipe	ROHN 2.5 EH	A572-50 (50 ksi)	Single Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T3 100'-80'	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T4 80'-60'	Pipe	ROHN 3.5 EH	A572-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T5 60'-40'	Pipe	ROHN 4 X-STR	A572-50 (50 ksi)	Single Angle	L3x3x3/16	A36 (36 ksi)
T6 40'-20'	Pipe	ROHN 5 EH	A572-50 (50 ksi)	Single Angle	L3x3x3/16	A36 (36 ksi)
T7 20'-0'	Pipe	ROHN 5 X-STR	A572-50 (50 ksi)	Single Angle	L3x3x1/4	A572-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 140'-120'	Equal Angle	L2x2x1/8	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T2 120'-100'	Single Angle	L2x2x1/8	A36 (36 ksi)	Single Angle		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

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
T1 140'-120'	0.000	0.188	A36 (36 ksi)	1.05	1	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T2 120'-100'	0.000	0.188	A36 (36 ksi)	1.05	1	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T3 100'-80'	0.000	0.188	A36 (36 ksi)	1.05	1	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T4 80'-60'	0.000	0.188	A36 (36 ksi)	1.05	1	1.05	Mid-Pt	Mid-Pt	Mid-Pt

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
T5 60'-40'	0.000	0.188	A36 (36 ksi)	1.05	1	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T6 40'-20'	0.000	0.250	A36 (36 ksi)	1.05	1	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T7 20'-0'	0.000	0.250	A36 (36 ksi)	1.05	1	1.05	Mid-Pt	Mid-Pt	Mid-Pt

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1 140'-120'	Yes	No	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T2 120'-100'	Yes	No	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T3 100'-80'	Yes	No	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T4 80'-60'	Yes	No	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T5 60'-40'	Yes	No	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T6 40'-20'	Yes	No	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T7 20'-0'	Yes	No	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 140'-120'	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T2 120'-100'	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T3 100'-80'	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T4 80'-60'	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T5 60'-40'	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T6 40'-20'	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T7 20'-0'	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 140'-120'	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T2 120'-100'	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T3 100'-80'	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T4 80'-60'	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T5 60'-40'	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T6 40'-20'	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T7 20'-0'	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 140'-120'	Flange	0.625 A325N	4	0.500 A325N	1	0.500 A325N	1	0.500 A325N	0	0.500 A325N	0	0.500 A325N	0	0.500 A325N	0
T2 120'-100'	Flange	0.750 A325N	4	0.500 A325N	1	0.500 A325N	1	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0
T3 100'-80'	Flange	0.875 A325N	4	0.500 A325N	1	0.500 A325N	0	0.000 A325N	0	0.500 A325N	0	0.500 A325N	0	0.500 A325N	0
T4 80'-60'	Flange	0.875 A325N	4	0.500 A325N	1	0.500 A325N	0	0.500 A325N	0	0.500 A325N	0	0.500 A325N	0	0.500 A325N	0
T5 60'-40'	Flange	1.000 A325N	4	0.500 A325N	1	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0
T6 40'-20'	Flange	1.000 A325N	4	0.625 A325N	1	0.625 A325N	0	0.000 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0
T7 20'-0'	Flange	1.000 A449	0	0.625 A325N	1	0.625 A325N	0	0.000 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
Face A													
HB158-21U6S24-xxM_TMO (1-5/8)	A	No	No	Ar (CaAa)	101' - 0'	0.000	0.44	5	4	1.000 0.750	1.996		0.003
Feedline Ladder (Af) *	A	No	No	Af (CaAa)	101' - 0'	0.000	0.43	1	1	3.000	3.000		0.008
Safety Line 3/8 *	A	No	No	Ar (CaAa)	140' - 0'	0.000	0.5	1	1	0.375	0.375		0.000
Face B													
CU12PSM9P6	B	No	No	Ar (CaAa)	114' - 0'	0.000	-0.49	1	1	1.600	1.600		0.002

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
XXX(1-1/2) *													
LDF4-50A(1/2) *	B	No	No	Ar (CaAa)	50' - 0'	0.000	-0.065	1	1	0.630	0.630		0.000
HB158-21U6S24-xxM_TMO (1-5/8)	B	No	No	Ar (CaAa)	125' - 0'	0.000	-0.04	3	3	0.850 0.750	1.996		0.003
Feedline Ladder (Af) *	B	No	No	Af (CaAa)	125' - 0'	0.000	-0.08	1	1	3.000	3.000		0.008
Face C													
LDF7-50A(1-5/8)	C	No	No	Ar (CaAa)	137' - 0'	0.000	0.35	14	8	1.000 0.750	1.980		0.001
LDF2-50(3/8)	C	No	No	Ar (CaAa)	137' - 0'	0.000	0.29	1	1	0.440	0.440		0.000
Feedline Ladder (Af) *	C	No	No	Af (CaAa)	140' - 0'	0.000	0.35	1	1	3.000	3.000		0.008
LDF4-50A(1/2) *	C	No	No	Ar (CaAa)	60' - 0'	5.500	0.302	1	1	0.630	0.630		0.000

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 klf
*								
*								
*								

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
T1	140'-120'	A	0.000	0.000	0.750	0.000	0.004
		B	0.000	0.000	5.494	0.000	0.080
		C	0.000	0.000	57.872	0.000	0.365
T2	120'-100'	A	0.000	0.000	2.248	0.000	0.025
		B	0.000	0.000	24.216	0.000	0.351
		C	0.000	0.000	66.320	0.000	0.399
T3	100'-80'	A	0.000	0.000	30.710	0.000	0.422
		B	0.000	0.000	25.176	0.000	0.365
		C	0.000	0.000	66.320	0.000	0.399
T4	80'-60'	A	0.000	0.000	30.710	0.000	0.422
		B	0.000	0.000	25.176	0.000	0.365
		C	0.000	0.000	66.320	0.000	0.399
T5	60'-40'	A	0.000	0.000	30.710	0.000	0.422

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
		B	0.000	0.000	25.806	0.000	0.366
		C	0.000	0.000	67.580	0.000	0.402
T6	40'-20'	A	0.000	0.000	30.710	0.000	0.422
		B	0.000	0.000	26.436	0.000	0.368
		C	0.000	0.000	67.580	0.000	0.402
T7	20'-0'	A	0.000	0.000	30.710	0.000	0.422
		B	0.000	0.000	26.436	0.000	0.368
		C	0.000	0.000	67.580	0.000	0.402

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
T1	140'-120'	A	1.462	0.000	0.000	6.599	0.000	0.070
		B		0.000	0.000	11.274	0.000	0.203
		C		0.000	0.000	78.673	0.000	1.464
T2	120'-100'	A	1.438	0.000	0.000	9.267	0.000	0.122
		B		0.000	0.000	51.103	0.000	0.908
		C		0.000	0.000	89.415	0.000	1.640
T3	100'-80'	A	1.410	0.000	0.000	61.372	0.000	1.124
		B		0.000	0.000	53.371	0.000	0.941
		C		0.000	0.000	89.009	0.000	1.619
T4	80'-60'	A	1.375	0.000	0.000	60.855	0.000	1.105
		B		0.000	0.000	52.860	0.000	0.923
		C		0.000	0.000	88.512	0.000	1.594
T5	60'-40'	A	1.329	0.000	0.000	60.183	0.000	1.080
		B		0.000	0.000	55.483	0.000	0.935
		C		0.000	0.000	94.443	0.000	1.627
T6	40'-20'	A	1.263	0.000	0.000	59.205	0.000	1.045
		B		0.000	0.000	57.540	0.000	0.932
		C		0.000	0.000	93.239	0.000	1.575
T7	20'-0'	A	1.132	0.000	0.000	57.265	0.000	0.978
		B		0.000	0.000	55.098	0.000	0.862
		C		0.000	0.000	90.852	0.000	1.473

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	140'-120'	-10.434	3.615	-8.749	2.566
T2	120'-100'	-10.228	-0.171	-7.839	-1.659
T3	100'-80'	-11.564	-11.092	-9.134	-12.073
T4	80'-60'	-12.222	-11.552	-10.051	-13.217
T5	60'-40'	-12.617	-11.397	-10.993	-12.890
T6	40'-20'	-14.897	-13.616	-12.560	-15.367
T7	20'-0'	-16.111	-14.698	-13.800	-16.633

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	8	Safety Line 3/8	120.00 - 140.00	0.6000	0.6000
T1	17	HB158-21U6S24-xxM_TMO (1-5/8)	120.00 - 125.00	0.6000	0.6000
T1	18	Feedline Ladder (Af)	120.00 - 125.00	0.6000	0.6000
T1	21	LDF7-50A(1-5/8)	120.00 - 137.00	0.6000	0.6000
T1	22	LDF2-50(3/8)	120.00 - 137.00	0.6000	0.6000
T1	23	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T2	4	HB158-21U6S24-xxM_TMO (1-5/8)	100.00 - 101.00	0.6000	0.6000
T2	6	Feedline Ladder (Af)	100.00 - 101.00	0.6000	0.6000
T2	8	Safety Line 3/8	100.00 - 120.00	0.6000	0.6000
T2	11	CU12PSM9P6XXX(1-1/2)	100.00 - 114.00	0.6000	0.6000
T2	17	HB158-21U6S24-xxM_TMO (1-5/8)	100.00 - 120.00	0.6000	0.6000
T2	18	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T2	21	LDF7-50A(1-5/8)	100.00 - 120.00	0.6000	0.6000
T2	22	LDF2-50(3/8)	100.00 - 120.00	0.6000	0.6000
T2	23	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T3	4	HB158-21U6S24-xxM_TMO (1-5/8)	80.00 - 100.00	0.6000	0.6000
T3	6	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T3	8	Safety Line 3/8	80.00 - 100.00	0.6000	0.6000
T3	11	CU12PSM9P6XXX(1-1/2)	80.00 - 100.00	0.6000	0.6000
T3	17	HB158-21U6S24-xxM_TMO (1-5/8)	80.00 - 100.00	0.6000	0.6000
T3	18	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T3	21	LDF7-50A(1-5/8)	80.00 - 100.00	0.6000	0.6000
T3	22	LDF2-50(3/8)	80.00 - 100.00	0.6000	0.6000
T3	23	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T4	4	HB158-21U6S24-xxM_TMO (1-5/8)	60.00 - 80.00	0.6000	0.6000
T4	6	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T4	8	Safety Line 3/8	60.00 - 80.00	0.6000	0.6000
T4	11	CU12PSM9P6XXX(1-1/2)	60.00 - 80.00	0.6000	0.6000
T4	17	HB158-21U6S24-xxM_TMO (1-5/8)	60.00 - 80.00	0.6000	0.6000
T4	18	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T4	21	LDF7-50A(1-5/8)	60.00 - 80.00	0.6000	0.6000
T4	22	LDF2-50(3/8)	60.00 - 80.00	0.6000	0.6000
T4	23	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T5	4	HB158-21U6S24-xxM_TMO (1-5/8)	40.00 - 60.00	0.6000	0.6000
T5	6	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T5	8	Safety Line 3/8	40.00 - 60.00	0.6000	0.6000
T5	11	CU12PSM9P6XXX(1-1/2)	40.00 - 60.00	0.6000	0.6000
T5	13	LDF4-50A(1/2)	40.00 - 50.00	0.6000	0.6000
T5	17	HB158-21U6S24-xxM_TMO	40.00 - 60.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		(1-5/8)			
T5	18	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T5	21	LDF7-50A(1-5/8)	40.00 - 60.00	0.6000	0.6000
T5	22	LDF2-50(3/8)	40.00 - 60.00	0.6000	0.6000
T5	23	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T5	25	LDF4-50A(1/2)	40.00 - 60.00	0.6000	0.6000
T6	4	HB158-21U6S24-xxM_TMO (1-5/8)	20.00 - 40.00	0.6000	0.6000
T6	6	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T6	8	Safety Line 3/8	20.00 - 40.00	0.6000	0.6000
T6	11	CU12PSM9P6XXX(1-1/2)	20.00 - 40.00	0.6000	0.6000
T6	13	LDF4-50A(1/2)	20.00 - 40.00	0.6000	0.6000
T6	17	HB158-21U6S24-xxM_TMO (1-5/8)	20.00 - 40.00	0.6000	0.6000
T6	18	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T6	21	LDF7-50A(1-5/8)	20.00 - 40.00	0.6000	0.6000
T6	22	LDF2-50(3/8)	20.00 - 40.00	0.6000	0.6000
T6	23	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T6	25	LDF4-50A(1/2)	20.00 - 40.00	0.6000	0.6000
T7	4	HB158-21U6S24-xxM_TMO (1-5/8)	0.00 - 20.00	0.6000	0.6000
T7	6	Feedline Ladder (Af)	0.00 - 20.00	0.6000	0.6000
T7	8	Safety Line 3/8	0.00 - 20.00	0.6000	0.6000
T7	11	CU12PSM9P6XXX(1-1/2)	0.00 - 20.00	0.6000	0.6000
T7	13	LDF4-50A(1/2)	0.00 - 20.00	0.6000	0.6000
T7	17	HB158-21U6S24-xxM_TMO (1-5/8)	0.00 - 20.00	0.6000	0.6000
T7	18	Feedline Ladder (Af)	0.00 - 20.00	0.6000	0.6000
T7	21	LDF7-50A(1-5/8)	0.00 - 20.00	0.6000	0.6000
T7	22	LDF2-50(3/8)	0.00 - 20.00	0.6000	0.6000
T7	23	Feedline Ladder (Af)	0.00 - 20.00	0.6000	0.6000
T7	25	LDF4-50A(1/2)	0.00 - 20.00	0.6000	0.6000

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
LNX-8513DS-A1M w/ Mount Pipe	A	From Leg	4.000 0' 2'	0.000	137'	No Ice 1/2" Ice 1" Ice 2" Ice	4.090 4.490 4.890 5.710	3.300 3.680 4.060 4.870	0.065 0.128 0.202 0.384
LNX-8513DS-A1M w/ Mount Pipe	B	From Leg	4.000 0' 2'	0.000	137'	No Ice 1/2" Ice 1" Ice 2" Ice	4.090 4.490 4.890 5.710	3.300 3.680 4.060 4.870	0.065 0.128 0.202 0.384
LNX-8513DS-A1M w/ Mount Pipe	C	From Leg	4.000 0' 2'	0.000	137'	No Ice 1/2" Ice 1" Ice 2" Ice	4.090 4.490 4.890 5.710	3.300 3.680 4.060 4.870	0.065 0.128 0.202 0.384
DB-T1-6Z-8AB-0Z	A	From Leg	4.000	0.000	137'	No Ice	4.800	2.000	0.044

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0'			1/2" Ice	5.070	2.193	0.080
			2'			1" Ice	5.348	2.393	0.120
						2" Ice	5.926	2.815	0.213
DB-T1-6Z-8AB-0Z	B	From Leg	4.000	0.000	137'	No Ice	4.800	2.000	0.044
			0'			1/2" Ice	5.070	2.193	0.080
			2'			1" Ice	5.348	2.393	0.120
						2" Ice	5.926	2.815	0.213
(2) NHH-65B-R2B w/ Mount Pipe	A	From Leg	4.000	0.000	137'	No Ice	4.095	3.295	0.069
			0'			1/2" Ice	4.483	3.672	0.132
			2'			1" Ice	4.880	4.058	0.205
						2" Ice	5.701	4.857	0.385
(2) NHH-65B-R2B w/ Mount Pipe	B	From Leg	4.000	0.000	137'	No Ice	4.095	3.295	0.069
			0'			1/2" Ice	4.483	3.672	0.132
			2'			1" Ice	4.880	4.058	0.205
						2" Ice	5.701	4.857	0.385
(2) NHH-65B-R2B w/ Mount Pipe	C	From Leg	4.000	0.000	137'	No Ice	4.095	3.295	0.069
			0'			1/2" Ice	4.483	3.672	0.132
			2'			1" Ice	4.880	4.058	0.205
						2" Ice	5.701	4.857	0.385
MT6407-77A w/ Mount Pipe	A	From Leg	4.000	0.000	137'	No Ice	4.907	2.682	0.096
			0'			1/2" Ice	5.256	3.145	0.136
			2'			1" Ice	5.615	3.624	0.180
						2" Ice	6.362	4.631	0.288
MT6407-77A w/ Mount Pipe	B	From Leg	4.000	0.000	137'	No Ice	4.907	2.682	0.096
			0'			1/2" Ice	5.256	3.145	0.136
			2'			1" Ice	5.615	3.624	0.180
						2" Ice	6.362	4.631	0.288
MT6407-77A w/ Mount Pipe	C	From Leg	4.000	0.000	137'	No Ice	4.907	2.682	0.096
			0'			1/2" Ice	5.256	3.145	0.136
			2'			1" Ice	5.615	3.624	0.180
						2" Ice	6.362	4.631	0.288
RF4440D-13A	A	From Leg	4.000	0.000	137'	No Ice	1.865	1.129	0.073
			0'			1/2" Ice	2.035	1.267	0.090
			2'			1" Ice	2.212	1.411	0.110
						2" Ice	2.589	1.723	0.159
RF4440D-13A	B	From Leg	4.000	0.000	137'	No Ice	1.865	1.129	0.073
			0'			1/2" Ice	2.035	1.267	0.090
			2'			1" Ice	2.212	1.411	0.110
						2" Ice	2.589	1.723	0.159
RF4440D-13A	C	From Leg	4.000	0.000	137'	No Ice	1.865	1.129	0.073
			0'			1/2" Ice	2.035	1.267	0.090
			2'			1" Ice	2.212	1.411	0.110
						2" Ice	2.589	1.723	0.159
RF4439D-25A	A	From Leg	4.000	0.000	137'	No Ice	1.865	1.252	0.075
			0'			1/2" Ice	2.035	1.394	0.093
			2'			1" Ice	2.212	1.544	0.114
						2" Ice	2.589	1.866	0.165
RF4439D-25A	B	From Leg	4.000	0.000	137'	No Ice	1.865	1.252	0.075
			0'			1/2" Ice	2.035	1.394	0.093
			2'			1" Ice	2.212	1.544	0.114
						2" Ice	2.589	1.866	0.165
RF4439D-25A	C	From Leg	4.000	0.000	137'	No Ice	1.865	1.252	0.075
			0'			1/2" Ice	2.035	1.394	0.093
			2'			1" Ice	2.212	1.544	0.114
						2" Ice	2.589	1.866	0.165
Side Arm Mount [SO 102-3]	C	None		0.000	137'	No Ice	3.600	3.600	0.075
						1/2" Ice	4.180	4.180	0.105

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						1" Ice	4.750	4.750	0.135
						2" Ice	5.900	5.900	0.195
Sector Mount [SM 510-3]	C	None		0.000	137'	No Ice	39.970	39.970	2.396
						1/2" Ice	56.450	56.450	3.077
						1" Ice	72.590	72.590	3.960
						2" Ice	104.060	104.060	6.296
Mount Reinforcement Specifications	C	None		0.000	137'	No Ice	28.630	28.630	0.280
						1/2" Ice	37.310	37.310	0.670
						1" Ice	45.800	45.800	0.940
						2" Ice	62.380	62.380	1.630
*									
APXVAALL24_43-U-NA20 _TMO w/ Mount Pipe	A	From Leg	4.000 0'	0.000	125'	No Ice	14.694	6.873	0.183
			0'			1/2" Ice	15.455	7.554	0.311
						1" Ice	16.230	8.247	0.453
						2" Ice	17.816	9.670	0.782
APXVAALL24_43-U-NA20 _TMO w/ Mount Pipe	B	From Leg	4.000 0'	0.000	125'	No Ice	14.694	6.873	0.183
			0'			1/2" Ice	15.455	7.554	0.311
						1" Ice	16.230	8.247	0.453
						2" Ice	17.816	9.670	0.782
APXVAALL24_43-U-NA20 _TMO w/ Mount Pipe	C	From Leg	4.000 0'	0.000	125'	No Ice	14.694	6.873	0.183
			0'			1/2" Ice	15.455	7.554	0.311
						1" Ice	16.230	8.247	0.453
						2" Ice	17.816	9.670	0.782
VV-65B-R1_TMO w/ Mount Pipe	A	From Leg	4.000 0'	0.000	125'	No Ice	5.817	3.479	0.067
			0'			1/2" Ice	6.374	4.003	0.122
						1" Ice	6.944	4.540	0.187
						2" Ice	8.125	5.654	0.350
VV-65B-R1_TMO w/ Mount Pipe	B	From Leg	4.000 0'	0.000	125'	No Ice	5.817	3.479	0.067
			0'			1/2" Ice	6.374	4.003	0.122
						1" Ice	6.944	4.540	0.187
						2" Ice	8.125	5.654	0.350
VV-65B-R1_TMO w/ Mount Pipe	C	From Leg	4.000 0'	0.000	125'	No Ice	5.817	3.479	0.067
			0'			1/2" Ice	6.374	4.003	0.122
						1" Ice	6.944	4.540	0.187
						2" Ice	8.125	5.654	0.350
AIR 6419 B41_TMO_CCIV2 w/ Mount Pipe	A	From Leg	4.000 0'	0.000	125'	No Ice	5.790	2.970	0.096
			0'			1/2" Ice	6.240	3.340	0.141
						1" Ice	6.710	3.730	0.194
						2" Ice	7.710	4.560	0.321
AIR 6419 B41_TMO_CCIV2 w/ Mount Pipe	B	From Leg	4.000 0'	0.000	125'	No Ice	5.790	2.970	0.096
			0'			1/2" Ice	6.240	3.340	0.141
						1" Ice	6.710	3.730	0.194
						2" Ice	7.710	4.560	0.321
AIR 6419 B41_TMO_CCIV2 w/ Mount Pipe	C	From Leg	4.000 0'	0.000	125'	No Ice	5.790	2.970	0.096
			0'			1/2" Ice	6.240	3.340	0.141
						1" Ice	6.710	3.730	0.194
						2" Ice	7.710	4.560	0.321
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.000 0'	0.000	125'	No Ice	2.139	1.686	0.109
			0'			1/2" Ice	2.321	1.850	0.131
						1" Ice	2.511	2.022	0.156
						2" Ice	2.912	2.387	0.217
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.000 0'	0.000	125'	No Ice	2.139	1.686	0.109
			0'			1/2" Ice	2.321	1.850	0.131
						1" Ice	2.511	2.022	0.156
						2" Ice	2.912	2.387	0.217
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.000 0'	0.000	125'	No Ice	2.139	1.686	0.109
						1/2" Ice	2.321	1.850	0.131

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0'			1" Ice	2.511	2.022	0.156
						2" Ice	2.912	2.387	0.217
Radio 4480_TMOV2	A	From Leg	4.000	0.000	125'	No Ice	2.878	1.397	0.081
			0'			1/2" Ice	3.091	1.558	0.103
			0'			1" Ice	3.312	1.727	0.128
						2" Ice	3.775	2.090	0.188
Radio 4480_TMOV2	B	From Leg	4.000	0.000	125'	No Ice	2.878	1.397	0.081
			0'			1/2" Ice	3.091	1.558	0.103
			0'			1" Ice	3.312	1.727	0.128
						2" Ice	3.775	2.090	0.188
Radio 4480_TMOV2	C	From Leg	4.000	0.000	125'	No Ice	2.878	1.397	0.081
			0'			1/2" Ice	3.091	1.558	0.103
			0'			1" Ice	3.312	1.727	0.128
						2" Ice	3.775	2.090	0.188
4' x 2" Pipe Mount	A	From Leg	4.000	0.000	125'	No Ice	0.785	0.785	0.029
			0'			1/2" Ice	1.028	1.028	0.035
			0'			1" Ice	1.281	1.281	0.044
						2" Ice	1.814	1.814	0.072
4' x 2" Pipe Mount	B	From Leg	4.000	0.000	125'	No Ice	0.785	0.785	0.029
			0'			1/2" Ice	1.028	1.028	0.035
			0'			1" Ice	1.281	1.281	0.044
						2" Ice	1.814	1.814	0.072
4' x 2" Pipe Mount	C	From Leg	4.000	0.000	125'	No Ice	0.785	0.785	0.029
			0'			1/2" Ice	1.028	1.028	0.035
			0'			1" Ice	1.281	1.281	0.044
						2" Ice	1.814	1.814	0.072
Sector Mount [SM 505-3]	C	None		0.000	125'	No Ice	31.660	31.660	1.725
						1/2" Ice	44.640	44.640	2.356
						1" Ice	57.440	57.440	3.189
						2" Ice	82.680	82.680	5.447
*									
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.000	0.000	114'	No Ice	8.009	4.233	0.108
			0'			1/2" Ice	8.518	4.689	0.194
			0'			1" Ice	9.038	5.156	0.292
						2" Ice	10.109	6.122	0.522
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.000	0.000	114'	No Ice	8.009	4.233	0.108
			0'			1/2" Ice	8.518	4.689	0.194
			0'			1" Ice	9.038	5.156	0.292
						2" Ice	10.109	6.122	0.522
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.000	0.000	114'	No Ice	8.009	4.233	0.108
			0'			1/2" Ice	8.518	4.689	0.194
			0'			1" Ice	9.038	5.156	0.292
						2" Ice	10.109	6.122	0.522
TA08025-B605	A	From Leg	4.000	0.000	114'	No Ice	1.964	1.129	0.075
			0'			1/2" Ice	2.138	1.267	0.093
			0'			1" Ice	2.320	1.411	0.114
						2" Ice	2.705	1.723	0.164
TA08025-B605	B	From Leg	4.000	0.000	114'	No Ice	1.964	1.129	0.075
			0'			1/2" Ice	2.138	1.267	0.093
			0'			1" Ice	2.320	1.411	0.114
						2" Ice	2.705	1.723	0.164
TA08025-B605	C	From Leg	4.000	0.000	114'	No Ice	1.964	1.129	0.075
			0'			1/2" Ice	2.138	1.267	0.093
			0'			1" Ice	2.320	1.411	0.114
						2" Ice	2.705	1.723	0.164
TA08025-B604	A	From Leg	4.000	0.000	114'	No Ice	1.964	0.981	0.064
			0'			1/2" Ice	2.138	1.112	0.081

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0'			1" Ice	2.320	1.250	0.100
						2" Ice	2.705	1.548	0.148
TA08025-B604	B	From Leg	4.000	0.000	114'	No Ice	1.964	0.981	0.064
			0'			1/2" Ice	2.138	1.112	0.081
			0'			1" Ice	2.320	1.250	0.100
						2" Ice	2.705	1.548	0.148
TA08025-B604	C	From Leg	4.000	0.000	114'	No Ice	1.964	0.981	0.064
			0'			1/2" Ice	2.138	1.112	0.081
			0'			1" Ice	2.320	1.250	0.100
						2" Ice	2.705	1.548	0.148
RDIDC-9181-PF-48	A	From Leg	4.000	0.000	114'	No Ice	2.012	1.168	0.022
			0'			1/2" Ice	2.189	1.311	0.040
			0'			1" Ice	2.373	1.461	0.060
						2" Ice	2.763	1.784	0.110
(2) 8' x 2" Mount Pipe	A	From Leg	4.000	0.000	114'	No Ice	1.900	1.900	0.029
			0'			1/2" Ice	2.728	2.728	0.044
			0'			1" Ice	3.401	3.401	0.063
						2" Ice	4.396	4.396	0.119
(2) 8' x 2" Mount Pipe	B	From Leg	4.000	0.000	114'	No Ice	1.900	1.900	0.029
			0'			1/2" Ice	2.728	2.728	0.044
			0'			1" Ice	3.401	3.401	0.063
						2" Ice	4.396	4.396	0.119
(2) 8' x 2" Mount Pipe	C	From Leg	4.000	0.000	114'	No Ice	1.900	1.900	0.029
			0'			1/2" Ice	2.728	2.728	0.044
			0'			1" Ice	3.401	3.401	0.063
						2" Ice	4.396	4.396	0.119
Commscope MTC3975083 (3)	C	None		0.000	114'	No Ice	23.850	23.850	1.260
						1/2" Ice	34.120	34.120	1.803
						1" Ice	44.390	44.390	2.345
						2" Ice	64.930	64.930	3.431
*									
APXVAARR24_43-U-NA20	A	From Leg	4.000	0.000	101'	No Ice	14.666	5.322	0.153
			0'			1/2" Ice	15.434	5.992	0.266
			1'			1" Ice	16.214	6.675	0.387
						2" Ice	17.814	8.079	0.656
APXVAARR24_43-U-NA20	B	From Leg	4.000	0.000	101'	No Ice	14.666	5.322	0.153
			0'			1/2" Ice	15.434	5.992	0.266
			1'			1" Ice	16.214	6.675	0.387
						2" Ice	17.814	8.079	0.656
APXVAARR24_43-U-NA20	C	From Leg	4.000	0.000	101'	No Ice	14.666	5.322	0.153
			0'			1/2" Ice	15.434	5.992	0.266
			1'			1" Ice	16.214	6.675	0.387
						2" Ice	17.814	8.079	0.656
VV-65A-R1_TMO	A	From Leg	4.000	0.000	101'	No Ice	4.482	1.737	0.033
			0'			1/2" Ice	4.943	2.148	0.067
			1'			1" Ice	5.418	2.573	0.105
						2" Ice	6.408	3.462	0.197
VV-65A-R1_TMO	B	From Leg	4.000	0.000	101'	No Ice	4.482	1.737	0.033
			0'			1/2" Ice	4.943	2.148	0.067
			1'			1" Ice	5.418	2.573	0.105
						2" Ice	6.408	3.462	0.197
VV-65A-R1_TMO	C	From Leg	4.000	0.000	101'	No Ice	4.482	1.737	0.033
			0'			1/2" Ice	4.943	2.148	0.067
			1'			1" Ice	5.418	2.573	0.105
						2" Ice	6.408	3.462	0.197
AIR 6419 B41_TMO	A	From Leg	4.000	0.000	101'	No Ice	6.998	2.830	0.097
			0'			1/2" Ice	7.527	3.243	0.140

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			1'			1" Ice	8.073	3.675	0.188
						2" Ice	9.219	4.591	0.298
AIR 6419 B41_TMO	B	From Leg	4.000	0.000	101'	No Ice	6.998	2.830	0.097
			0'			1/2" Ice	7.527	3.243	0.140
			1'			1" Ice	8.073	3.675	0.188
						2" Ice	9.219	4.591	0.298
AIR 6419 B41_TMO	C	From Leg	4.000	0.000	101'	No Ice	6.998	2.830	0.097
			0'			1/2" Ice	7.527	3.243	0.140
			1'			1" Ice	8.073	3.675	0.188
						2" Ice	9.219	4.591	0.298
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	4.000	0.000	101'	No Ice	1.970	1.587	0.073
			0'			1/2" Ice	2.147	1.749	0.093
			1'			1" Ice	2.331	1.918	0.116
						2" Ice	2.721	2.280	0.170
RADIO 4449 B71 B85A_T-MOBILE	B	From Leg	4.000	0.000	101'	No Ice	1.970	1.587	0.073
			0'			1/2" Ice	2.147	1.749	0.093
			1'			1" Ice	2.331	1.918	0.116
						2" Ice	2.721	2.280	0.170
RADIO 4449 B71 B85A_T-MOBILE	C	From Leg	4.000	0.000	101'	No Ice	1.970	1.587	0.073
			0'			1/2" Ice	2.147	1.749	0.093
			1'			1" Ice	2.331	1.918	0.116
						2" Ice	2.721	2.280	0.170
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.000	0.000	101'	No Ice	2.139	1.686	0.109
			0'			1/2" Ice	2.321	1.850	0.131
			1'			1" Ice	2.511	2.022	0.156
						2" Ice	2.912	2.387	0.217
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.000	0.000	101'	No Ice	2.139	1.686	0.109
			0'			1/2" Ice	2.321	1.850	0.131
			1'			1" Ice	2.511	2.022	0.156
						2" Ice	2.912	2.387	0.217
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.000	0.000	101'	No Ice	2.139	1.686	0.109
			0'			1/2" Ice	2.321	1.850	0.131
			1'			1" Ice	2.511	2.022	0.156
						2" Ice	2.912	2.387	0.217
(3) 10' x 2" Mount Pipe	A	From Leg	4.000	0.000	101'	No Ice	2.375	2.375	0.037
			0'			1/2" Ice	3.403	3.403	0.054
			0'			1" Ice	4.448	4.448	0.079
						2" Ice	5.911	5.911	0.148
(3) 10' x 2" Mount Pipe	B	From Leg	4.000	0.000	101'	No Ice	2.375	2.375	0.037
			0'			1/2" Ice	3.403	3.403	0.054
			0'			1" Ice	4.448	4.448	0.079
						2" Ice	5.911	5.911	0.148
(3) 10' x 2" Mount Pipe	C	From Leg	4.000	0.000	101'	No Ice	2.375	2.375	0.037
			0'			1/2" Ice	3.403	3.403	0.054
			0'			1" Ice	4.448	4.448	0.079
						2" Ice	5.911	5.911	0.148
VFA12-HD	A	From Leg	2.000	0.000	101'	No Ice	13.200	9.200	0.658
			0'			1/2" Ice	19.500	14.600	0.804
			0'			1" Ice	25.800	19.500	1.015
						2" Ice	38.400	29.300	1.437
VFA12-HD	B	From Leg	2.000	0.000	101'	No Ice	13.200	9.200	0.658
			0'			1/2" Ice	19.500	14.600	0.804
			0'			1" Ice	25.800	19.500	1.015
						2" Ice	38.400	29.300	1.437
VFA12-HD	C	From Leg	2.000	0.000	101'	No Ice	13.200	9.200	0.658
			0'			1/2" Ice	19.500	14.600	0.804
			0'			1" Ice	25.800	19.500	1.015

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	38.400	29.300	1.437
*									
GPS_A	A	From Leg	3.000 0' 0'	0.000	60'	No Ice 1/2" Ice 1" Ice 2" Ice	0.255 0.320 0.393 0.561	0.255 0.320 0.393 0.561	0.001 0.005 0.010 0.025
Side Arm Mount [SO 305-1]	A	From Leg	1.500 0' 0'	0.000	60'	No Ice 1/2" Ice 1" Ice 2" Ice	0.530 0.780 1.060 1.730	1.520 2.070 2.660 3.910	0.030 0.044 0.064 0.125
*									
GPS_A	A	From Leg	0.500 0' 0'	0.000	50'	No Ice 1/2" Ice 1" Ice 2" Ice	0.255 0.320 0.393 0.561	0.255 0.320 0.393 0.561	0.001 0.005 0.010 0.025
2' Horiz 2"x2" angle	A	From Leg	0.250 0' 0'	0.000	50'	No Ice 1/2" Ice 1" Ice 2" Ice	0.520 0.640 0.770 1.060	0.010 0.050 0.110 0.280	0.006 0.011 0.022 0.034
*									
GPS_RESERVED	B	From Leg	0.500 0' 0'	0.000	50'	No Ice 1/2" Ice 1" Ice 2" Ice	0.000 0.000 0.000 0.000	0.000 0.000 0.000 0.000	0.000 0.000 0.000 0.000
*									

Load Combinations

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

Comb. No.	Description
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
T1	140 - 120	Leg	Max Tension	15	10.497	0.072	-0.017
			Max. Compression	2	-16.577	0.224	0.008
			Max. Mx	2	-2.141	-0.532	0.001
			Max. My	16	-1.728	0.006	-0.573
			Max. Vy	2	-0.945	0.409	0.001
			Max. Vx	24	-0.924	0.003	0.356
		Diagonal	Max Tension	5	2.909	0.000	0.000
			Max. Compression	16	-3.042	0.000	0.000
			Max. Mx	35	0.603	0.026	-0.000
			Max. My	16	-1.588	0.003	-0.004
			Max. Vy	35	-0.023	0.026	-0.000
			Max. Vx	16	0.001	0.000	0.000
		Top Girt	Max Tension	14	0.397	0.000	0.000
			Max. Compression	3	-0.363	0.000	0.000
			Max. Mx	37	0.151	-0.052	0.000
			Max. My	27	0.088	0.000	0.000
			Max. Vy	37	0.032	0.000	0.000
			Max. Vx	27	-0.000	0.000	0.000
T2	120 - 100	Leg	Max Tension	15	31.354	-0.135	-0.014
			Max. Compression	2	-42.619	0.380	0.021
			Max. Mx	14	28.946	-0.430	-0.021
			Max. My	4	-6.229	-0.023	0.342
			Max. Vy	14	0.739	-0.430	-0.021
			Max. Vx	24	-0.665	-0.024	0.321

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Diagonal	Max Tension	4	3.213	0.000	0.000
			Max. Compression	4	-3.234	0.000	0.000
			Max. Mx	35	0.768	0.029	-0.003
			Max. My	33	0.839	0.027	-0.004
			Max. Vy	38	0.026	0.026	0.004
			Max. Vx	27	-0.001	0.000	0.000
		Top Girt	Max Tension	7	0.235	0.000	0.000
			Max. Compression	18	-0.245	0.000	0.000
			Max. Mx	26	-0.006	-0.052	0.000
			Max. My	27	0.026	0.000	0.002
			Max. Vy	26	-0.031	0.000	0.000
			Max. Vx	27	0.001	0.000	0.000
T3	100 - 80	Leg	Max Tension	15	53.217	-0.144	-0.026
			Max. Compression	2	-67.974	0.111	0.030
			Max. Mx	14	35.920	-0.430	-0.021
			Max. My	25	-5.099	-0.017	0.322
			Max. Vy	14	-0.096	-0.430	-0.021
			Max. Vx	3	0.078	-0.221	0.292
		Diagonal	Max Tension	4	4.279	0.000	0.000
			Max. Compression	4	-4.418	0.000	0.000
			Max. Mx	35	0.926	0.044	-0.006
			Max. My	14	-3.903	0.004	-0.007
			Max. Vy	37	0.034	0.042	-0.006
			Max. Vx	38	0.002	0.000	0.000
T4	80 - 60	Leg	Max Tension	15	73.951	-0.142	-0.024
			Max. Compression	2	-91.902	0.249	0.029
			Max. Mx	31	-42.810	0.249	0.004
			Max. My	24	-8.477	-0.025	0.244
			Max. Vy	31	-0.062	0.249	0.004
			Max. Vx	2	-0.074	-0.090	0.226
		Diagonal	Max Tension	16	4.324	0.000	0.000
			Max. Compression	16	-4.408	0.000	0.000
			Max. Mx	27	1.150	0.078	-0.008
			Max. My	27	-0.058	0.068	0.010
			Max. Vy	37	0.049	0.075	-0.009
			Max. Vx	27	0.003	0.000	0.000
T5	60 - 40	Leg	Max Tension	15	92.343	-0.197	-0.019
			Max. Compression	2	-113.878	0.321	0.036
			Max. Mx	33	5.452	-0.560	-0.011
			Max. My	24	-9.268	-0.020	0.271
			Max. Vy	33	0.146	-0.560	-0.011
			Max. Vx	2	0.070	-0.122	0.255
		Diagonal	Max Tension	16	4.547	0.000	0.000
			Max. Compression	16	-4.618	0.000	0.000
			Max. Mx	27	1.061	0.112	-0.012
			Max. My	33	-0.731	0.077	-0.014
			Max. Vy	37	0.062	0.107	-0.013
			Max. Vx	33	-0.003	0.000	0.000
T6	40 - 20	Leg	Max Tension	15	108.339	-0.322	-0.043
			Max. Compression	2	-133.151	0.601	0.057
			Max. Mx	33	6.931	-0.953	-0.011
			Max. My	24	-10.758	-0.058	0.654
			Max. Vy	33	0.173	-0.953	-0.011
			Max. Vx	24	0.131	-0.058	0.654
		Diagonal	Max Tension	16	5.276	0.000	0.000
			Max. Compression	2	-5.514	0.000	0.000
			Max. Mx	37	0.514	0.135	-0.017
			Max. My	33	-1.729	0.116	-0.019
			Max. Vy	38	0.068	0.121	0.017
			Max. Vx	33	-0.004	0.000	0.000
T7	20 - 0	Leg	Max Tension	15	124.670	-0.376	-0.053

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	2	-153.394	-0.000	-0.000
			Max. Mx	33	9.749	-0.953	-0.011
			Max. My	24	-12.223	-0.077	0.894
			Max. Vy	33	-0.188	-0.953	-0.011
			Max. Vx	2	0.162	-0.246	0.832
		Diagonal	Max Tension	16	5.522	0.000	0.000
			Max. Compression	2	-5.964	0.000	0.000
			Max. Mx	37	0.149	0.185	-0.021
			Max. My	33	-2.293	0.171	-0.024
			Max. Vy	37	0.078	0.185	-0.021
			Max. Vx	33	0.004	0.000	0.000

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg C	Max. Vert	18	145.310	13.298	-8.019
	Max. H_x	18	145.310	13.298	-8.019
	Max. H_z	5	-108.513	-10.038	7.267
	Min. Vert	7	-117.274	-11.252	6.806
	Min. H_x	7	-117.274	-11.252	6.806
	Min. H_z	16	131.029	11.396	-8.100
Leg B	Max. Vert	10	144.584	-13.405	-7.842
	Max. H_x	23	-118.071	11.377	6.652
	Max. H_z	23	-118.071	11.377	6.652
	Min. Vert	23	-118.071	11.377	6.652
	Min. H_x	10	144.584	-13.405	-7.842
	Min. H_z	10	144.584	-13.405	-7.842
Leg A	Max. Vert	2	158.398	-0.576	17.014
	Max. H_x	21	10.578	2.012	0.699
	Max. H_z	2	158.398	-0.576	17.014
	Min. Vert	15	-128.547	0.577	-14.615
	Min. H_x	8	13.542	-2.027	0.905
	Min. H_z	15	-128.547	0.577	-14.615

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	32.018	0.000	0.000	-13.152	6.775	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	38.421	-0.028	-27.166	-2366.735	12.142	-18.744
0.9 Dead+1.0 Wind 0 deg - No Ice	28.816	-0.028	-27.166	-2358.953	10.081	-18.734
1.2 Dead+1.0 Wind 30 deg - No Ice	38.421	12.644	-21.961	-1942.945	-1099.290	-11.720
0.9 Dead+1.0 Wind 30 deg - No Ice	28.816	12.644	-21.961	-1935.822	-1099.535	-11.712
1.2 Dead+1.0 Wind 60 deg - No Ice	38.421	20.169	-11.648	-1048.956	-1780.166	-9.107
0.9 Dead+1.0 Wind 60 deg - No	28.816	20.169	-11.648	-1043.281	-1779.283	-9.093

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
Ice						
1.2 Dead+1.0 Wind 90 deg - No Ice	38.421	22.923	0.028	-11.948	-2022.577	-11.493
0.9 Dead+1.0 Wind 90 deg - No Ice	28.816	22.923	0.028	-7.978	-2021.296	-11.474
1.2 Dead+1.0 Wind 120 deg - No Ice	38.421	21.342	12.357	1066.578	-1857.781	-2.582
0.9 Dead+1.0 Wind 120 deg - No Ice	28.816	21.342	12.357	1068.788	-1856.794	-2.576
1.2 Dead+1.0 Wind 150 deg - No Ice	38.421	12.664	21.940	1906.087	-1100.821	14.024
0.9 Dead+1.0 Wind 150 deg - No Ice	28.816	12.664	21.940	1906.929	-1101.070	14.016
1.2 Dead+1.0 Wind 180 deg - No Ice	38.421	0.028	25.830	2245.518	4.296	18.739
0.9 Dead+1.0 Wind 180 deg - No Ice	28.816	0.028	25.830	2245.809	2.249	18.729
1.2 Dead+1.0 Wind 210 deg - No Ice	38.421	-12.644	21.961	1911.222	1115.678	11.719
0.9 Dead+1.0 Wind 210 deg - No Ice	28.816	-12.644	21.962	1912.049	1111.820	11.711
1.2 Dead+1.0 Wind 240 deg - No Ice	38.421	-21.327	12.316	1061.982	1874.059	9.111
0.9 Dead+1.0 Wind 240 deg - No Ice	28.816	-21.327	12.316	1064.201	1868.963	9.096
1.2 Dead+1.0 Wind 270 deg - No Ice	38.421	-22.923	-0.028	-19.800	2038.934	11.494
0.9 Dead+1.0 Wind 270 deg - No Ice	28.816	-22.923	-0.028	-15.814	2033.545	11.475
1.2 Dead+1.0 Wind 300 deg - No Ice	38.421	-20.185	-11.689	-1053.529	1796.616	2.582
0.9 Dead+1.0 Wind 300 deg - No Ice	28.816	-20.185	-11.689	-1047.845	1791.625	2.576
1.2 Dead+1.0 Wind 330 deg - No Ice	38.421	-12.664	-21.940	-1937.756	1117.240	-14.024
0.9 Dead+1.0 Wind 330 deg - No Ice	28.816	-12.664	-21.940	-1930.646	1113.379	-14.016
1.2 Dead+1.0 Ice+1.0 Temp	90.136	0.000	0.000	-23.238	34.721	-0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	90.136	-0.005	-7.648	-709.845	35.504	-4.199
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	90.136	3.681	-6.385	-601.190	-298.004	-3.392
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	90.136	6.114	-3.529	-344.493	-521.594	-3.294
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	90.136	6.975	0.005	-22.474	-599.557	-3.878
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	90.136	6.279	3.631	304.471	-531.245	-1.803
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	90.136	3.679	6.371	552.628	-297.685	2.318
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	90.136	0.005	7.441	649.818	33.967	4.198
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	90.136	-3.681	6.385	554.714	367.467	3.392
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	90.136	-6.293	3.633	304.788	602.796	3.295
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	90.136	-6.975	-0.005	-24.009	669.019	3.878
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	90.136	-6.100	-3.527	-344.173	588.970	1.803
1.2 Dead+1.0 Wind 330	90.136	-3.679	-6.371	-599.101	367.153	-2.318

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
deg+1.0 Ice+1.0 Temp						
Dead+Wind 0 deg - Service	32.018	-0.008	-7.406	-652.586	7.881	-5.100
Dead+Wind 30 deg - Service	32.018	3.447	-5.988	-537.316	-294.394	-3.186
Dead+Wind 60 deg - Service	32.018	5.500	-3.176	-294.183	-479.590	-2.476
Dead+Wind 90 deg - Service	32.018	6.251	0.008	-12.135	-545.525	-3.126
Dead+Wind 120 deg - Service	32.018	5.819	3.369	281.199	-500.701	-0.703
Dead+Wind 150 deg - Service	32.018	3.453	5.982	509.517	-294.819	3.817
Dead+Wind 180 deg - Service	32.018	0.008	7.042	601.833	5.745	5.099
Dead+Wind 210 deg - Service	32.018	-3.447	5.988	510.910	308.018	3.186
Dead+Wind 240 deg - Service	32.018	-5.815	3.358	279.952	514.295	2.477
Dead+Wind 270 deg - Service	32.018	-6.251	-0.008	-14.266	559.132	3.127
Dead+Wind 300 deg - Service	32.018	-5.504	-3.187	-295.429	493.231	0.702
Dead+Wind 330 deg - Service	32.018	-3.453	-5.982	-535.916	308.441	-3.817

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.000	-32.018	0.000	0.000	32.018	0.000	0.000%
2	-0.028	-38.421	-27.166	0.028	38.421	27.166	0.000%
3	-0.028	-28.816	-27.166	0.028	28.816	27.166	0.000%
4	12.644	-38.421	-21.961	-12.644	38.421	21.961	0.000%
5	12.644	-28.816	-21.961	-12.644	28.816	21.961	0.001%
6	20.169	-38.421	-11.648	-20.169	38.421	11.648	0.000%
7	20.169	-28.816	-11.648	-20.169	28.816	11.648	0.000%
8	22.923	-38.421	0.028	-22.923	38.421	-0.028	0.000%
9	22.923	-28.816	0.028	-22.923	28.816	-0.028	0.000%
10	21.342	-38.421	12.357	-21.342	38.421	-12.357	0.000%
11	21.342	-28.816	12.357	-21.342	28.816	-12.357	0.000%
12	12.664	-38.421	21.940	-12.664	38.421	-21.940	0.000%
13	12.664	-28.816	21.940	-12.664	28.816	-21.940	0.000%
14	0.028	-38.421	25.830	-0.028	38.421	-25.830	0.000%
15	0.028	-28.816	25.830	-0.028	28.816	-25.830	0.000%
16	-12.644	-38.421	21.961	12.644	38.421	-21.961	0.000%
17	-12.644	-28.816	21.961	12.644	28.816	-21.962	0.001%
18	-21.327	-38.421	12.316	21.327	38.421	-12.316	0.000%
19	-21.327	-28.816	12.316	21.327	28.816	-12.316	0.000%
20	-22.923	-38.421	-0.028	22.923	38.421	0.028	0.000%
21	-22.923	-28.816	-0.028	22.923	28.816	0.028	0.000%
22	-20.185	-38.421	-11.689	20.185	38.421	11.689	0.000%
23	-20.185	-28.816	-11.689	20.185	28.816	11.689	0.000%
24	-12.664	-38.421	-21.940	12.664	38.421	21.940	0.000%
25	-12.664	-28.816	-21.940	12.664	28.816	21.940	0.000%
26	0.000	-90.136	0.000	-0.000	90.136	-0.000	0.000%
27	-0.005	-90.136	-7.648	0.005	90.136	7.648	0.000%
28	3.681	-90.136	-6.385	-3.681	90.136	6.385	0.000%
29	6.114	-90.136	-3.529	-6.114	90.136	3.529	0.000%
30	6.975	-90.136	0.005	-6.975	90.136	-0.005	0.000%
31	6.279	-90.136	3.631	-6.279	90.136	-3.631	0.000%
32	3.679	-90.136	6.371	-3.679	90.136	-6.371	0.000%
33	0.005	-90.136	7.441	-0.005	90.136	-7.441	0.000%
34	-3.681	-90.136	6.385	3.681	90.136	-6.385	0.000%
35	-6.293	-90.136	3.633	6.293	90.136	-3.633	0.000%
36	-6.975	-90.136	-0.005	6.975	90.136	0.005	0.000%
37	-6.100	-90.136	-3.527	6.100	90.136	3.527	0.000%
38	-3.679	-90.136	-6.371	3.679	90.136	6.371	0.000%
39	-0.008	-32.018	-7.406	0.008	32.018	7.406	0.000%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
40	3.447	-32.018	-5.988	-3.447	32.018	5.988	0.000%
41	5.500	-32.018	-3.176	-5.500	32.018	3.176	0.000%
42	6.251	-32.018	0.008	-6.251	32.018	-0.008	0.000%
43	5.819	-32.018	3.369	-5.819	32.018	-3.369	0.000%
44	3.453	-32.018	5.982	-3.453	32.018	-5.982	0.000%
45	0.008	-32.018	7.042	-0.008	32.018	-7.042	0.000%
46	-3.447	-32.018	5.988	3.447	32.018	-5.988	0.000%
47	-5.815	-32.018	3.358	5.815	32.018	-3.358	0.000%
48	-6.251	-32.018	-0.008	6.251	32.018	0.008	0.000%
49	-5.504	-32.018	-3.187	5.504	32.018	3.187	0.000%
50	-3.453	-32.018	-5.982	3.453	32.018	5.982	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	4	0.00000001	0.00000001
3	Yes	4	0.00000001	0.00000001
4	Yes	4	0.00000001	0.00000196
5	Yes	4	0.00000001	0.00000204
6	Yes	4	0.00000001	0.00000230
7	Yes	4	0.00000001	0.00000001
8	Yes	4	0.00000001	0.00000001
9	Yes	4	0.00000001	0.00000001
10	Yes	4	0.00000001	0.00000001
11	Yes	4	0.00000001	0.00000001
12	Yes	4	0.00000001	0.00000196
13	Yes	4	0.00000001	0.00000001
14	Yes	4	0.00000001	0.00000262
15	Yes	4	0.00000001	0.00000208
16	Yes	4	0.00000001	0.00000196
17	Yes	4	0.00000001	0.00000205
18	Yes	4	0.00000001	0.00000001
19	Yes	4	0.00000001	0.00000001
20	Yes	4	0.00000001	0.00000001
21	Yes	4	0.00000001	0.00000001
22	Yes	4	0.00000001	0.00000232
23	Yes	4	0.00000001	0.00000001
24	Yes	4	0.00000001	0.00000198
25	Yes	4	0.00000001	0.00000001
26	Yes	4	0.00000001	0.00000001
27	Yes	4	0.00000001	0.00000996
28	Yes	4	0.00000001	0.00000978
29	Yes	4	0.00000001	0.00000957
30	Yes	4	0.00000001	0.00000929
31	Yes	4	0.00000001	0.00000932
32	Yes	4	0.00000001	0.00000967
33	Yes	4	0.00000001	0.00001001
34	Yes	4	0.00000001	0.00000998
35	Yes	4	0.00000001	0.00000989
36	Yes	4	0.00000001	0.00000995
37	Yes	4	0.00000001	0.00001011
38	Yes	4	0.00000001	0.00001009
39	Yes	4	0.00000001	0.00000001
40	Yes	4	0.00000001	0.00000001

41	Yes	4	0.00000001	0.00000001
42	Yes	4	0.00000001	0.00000001
43	Yes	4	0.00000001	0.00000001
44	Yes	4	0.00000001	0.00000001
45	Yes	4	0.00000001	0.00000001
46	Yes	4	0.00000001	0.00000001
47	Yes	4	0.00000001	0.00000001
48	Yes	4	0.00000001	0.00000001
49	Yes	4	0.00000001	0.00000001
50	Yes	4	0.00000001	0.00000001

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	140 - 120	2.897	39	0.183	0.021
T2	120 - 100	2.136	39	0.167	0.020
T3	100 - 80	1.465	39	0.139	0.016
T4	80 - 60	0.916	39	0.107	0.012
T5	60 - 40	0.510	39	0.075	0.008
T6	40 - 20	0.234	39	0.045	0.005
T7	20 - 0	0.067	39	0.023	0.002

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
137'	LNX-8513DS-A1M w/ Mount Pipe	39	2.780	0.181	0.021	179101
125'	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	39	2.321	0.172	0.020	59700
114'	MX08FRO665-21 w/ Mount Pipe	39	1.923	0.160	0.019	43566
101'	APXVAARR24_43-U-NA20	39	1.496	0.141	0.016	40269
60'	GPS_A	39	0.510	0.075	0.008	36041
50'	GPS_A	39	0.357	0.059	0.007	41277

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	140 - 120	10.568	2	0.669	0.077
T2	120 - 100	7.784	2	0.611	0.072
T3	100 - 80	5.333	2	0.508	0.058
T4	80 - 60	3.334	2	0.390	0.043
T5	60 - 40	1.854	2	0.272	0.030
T6	40 - 20	0.851	2	0.165	0.018
T7	20 - 0	0.244	2	0.084	0.008

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
137'	LNX-8513DS-A1M w/ Mount Pipe	2	10.140	0.662	0.077	49296
125'	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	2	8.458	0.629	0.074	16432
114'	MX08FRO665-21 w/ Mount Pipe	2	7.005	0.584	0.068	11850
101'	APXVAARR24_43-U-NA20	2	5.446	0.514	0.059	10905
60'	GPS_A	2	1.854	0.272	0.030	9897
50'	GPS_A	2	1.300	0.216	0.024	11352

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	140	Leg	A325N	0.625	4	2.624	20.340	0.129 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.500	1	2.909	6.199	0.469 ✔	1.05	Member Bearing
		Top Girt	A325N	0.500	1	0.397	4.133	0.096 ✔	1.05	Member Bearing
T2	120	Leg	A325N	0.750	4	7.839	30.101	0.260 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.500	1	3.213	6.199	0.518 ✔	1.05	Member Bearing
		Top Girt	A325N	0.500	1	0.739	4.133	0.179 ✔	1.05	Member Bearing
T3	100	Leg	A325N	0.875	4	13.304	41.556	0.320 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.500	1	4.279	6.199	0.690 ✔	1.05	Member Bearing
T4	80	Leg	A325N	0.875	4	18.488	41.556	0.445 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.500	1	4.324	6.199	0.697 ✔	1.05	Member Bearing
T5	60	Leg	A325N	1.000	4	23.086	54.517	0.423 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.500	1	4.547	6.199	0.733 ✔	1.05	Member Bearing
T6	40	Leg	A325N	1.000	4	27.085	54.517	0.497 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.625	1	5.276	8.482	0.622 ✔	1.05	Member Bearing
T7	20	Diagonal	A325N	0.625	1	5.521	12.675	0.436 ✔	1.05	Member Bearing

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	140 - 120	ROHN 2 STD	20'	4'	61.0 K=1.00	1.075	-16.577	36.842	0.450 [1] ✔
T2	120 - 100	ROHN 2.5 EH	20'13/32"	5'3/32"	65.0 K=1.00	2.254	-42.619	74.427	0.573 [1] ✔
T3	100 - 80	ROHN 3 EH	20'13/32"	6'8-1/8"	70.5 K=1.00	3.016	-67.974	94.342	0.721 [1] ✔
T4	80 - 60	ROHN 3.5 EH	20'13/32"	6'8-1/8"	61.3 K=1.00	3.678	-91.902	125.726	0.731 [1] ✔
T5	60 - 40	ROHN 4 X-STR	20'7/16"	6'8-5/32"	54.3 K=1.00	4.407	-113.878	159.903	0.712 [1] ✔
T6	40 - 20	ROHN 5 EH	20'13/32"	10'7/32"	65.4 K=1.00	6.112	-133.151	201.251	0.662 [1] ✔
T7	20 - 0	ROHN 5 X-STR	20'13/32"	10'7/32"	65.4 K=1.00	6.112	-153.394	201.251	0.762 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	140 - 120	L1 3/4x1 3/4x3/16	7'8-3/16"	3'7-15/32"	126.6 K=1.00	0.621	-3.042	11.092	0.274 [1] ✔
T2	120 - 100	L1 3/4x1 3/4x3/16	9'8-25/32"	4'9-1/4"	166.7 K=1.00	0.621	-3.234	6.396	0.506 [1] ✔
T3	100 - 80	L2x2x3/16	12'3-7/32"	6'11/16"	184.5 K=1.00	0.715	-4.288	6.012	0.713 [1] ✔
T4	80 - 60	L2 1/2x2 1/2x3/16	14'9/32"	6'10-15/16"	167.6 K=1.00	0.902	-4.408	9.195	0.479 [1] ✔
T5	60 - 40	L3x3x3/16	15'10-21/32"	7'9-29/32"	157.6 K=1.00	1.090	-4.618	12.565	0.368 [1] ✔
T6	40 - 20	L3x3x3/16	19'1-3/16"	9'5-3/8"	190.2 K=1.00	1.090	-5.514	8.624	0.639 [1] ✔
T7	20 - 0	L3x3x1/4	20'9-31/32"	10'3-23/32"	209.0 K=1.00	1.440	-5.964	9.435	0.632 [1] ✔
		KL/R > 200 (C) - 152							

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	140 - 120	L2x2x1/8	6'6-1/4"	6'1-3/8"	184.6 K=1.00	0.484	-0.363	4.070	0.089 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	120 - 100	L2x2x1/8	6'6-3/4"	6'1-3/8"	184.6 K=1.00	0.484	-0.739	4.070	0.182 [1] ✔

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	140 - 120	ROHN 2 STD	20'	4'	61.0	1.075	10.497	48.354	0.217 [1] ✔
T2	120 - 100	ROHN 2.5 EH	20'13/32"	5'3/32"	65.0	2.254	31.354	101.409	0.309 [1] ✔
T3	100 - 80	ROHN 3 EH	20'13/32"	6'8-1/8"	70.5	3.016	53.217	135.717	0.392 [1] ✔
T4	80 - 60	ROHN 3.5 EH	20'13/32"	6'8-1/8"	61.3	3.678	73.951	165.529	0.447 [1] ✔
T5	60 - 40	ROHN 4 X-STR	20'7/16"	6'8-5/32"	54.3	4.407	92.343	198.335	0.466 [1] ✔
T6	40 - 20	ROHN 5 EH	20'13/32"	10'7/32"	65.4	6.112	108.339	275.039	0.394 [1] ✔
T7	20 - 0	ROHN 5 X-STR	20'13/32"	10'7/32"	65.4	6.112	124.670	275.039	0.453 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	140 - 120	L1 3/4x1 3/4x3/16	7'8-3/16"	3'7-15/32"	83.3	0.378	2.909	16.440	0.177 [1] ✔
T2	120 - 100	L1 3/4x1 3/4x3/16	9'8-25/32"	4'9-1/4"	109.0	0.378	3.213	16.440	0.195 [1] ✔
T3	100 - 80	L2x2x3/16	11'1-7/8"	5'6-1/8"	109.2	0.448	4.279	19.504	0.219 [1] ✔
T4	80 - 60	L2 1/2x2 1/2x3/16	14'9/32"	6'10-15/16"	108.2	0.589	4.324	25.605	0.169 [1] ✔
T5	60 - 40	L3x3x3/16	15'10-21/32"	7'9-29/32"	101.3	0.730	4.547	31.738	0.143 [1] ✔
T6	40 - 20	L3x3x3/16	19'1-3/1	9'5-3/8"	122.3	0.712	5.276	30.973	0.170 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T7	20 - 0	L3x3x1/4	6" 20'9-31/32"	10'3-23/32"	134.7	0.939	5.521	45.794	0.121 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	140 - 120	L2x2x1/8	6'6-1/4"	6'1-3/8"	121.2	0.305	0.397	13.254	0.030 [1]
T2	120 - 100	L2x2x1/8	6'6-3/4"	6'1-3/8"	121.2	0.305	0.739	13.254	0.056 [1]

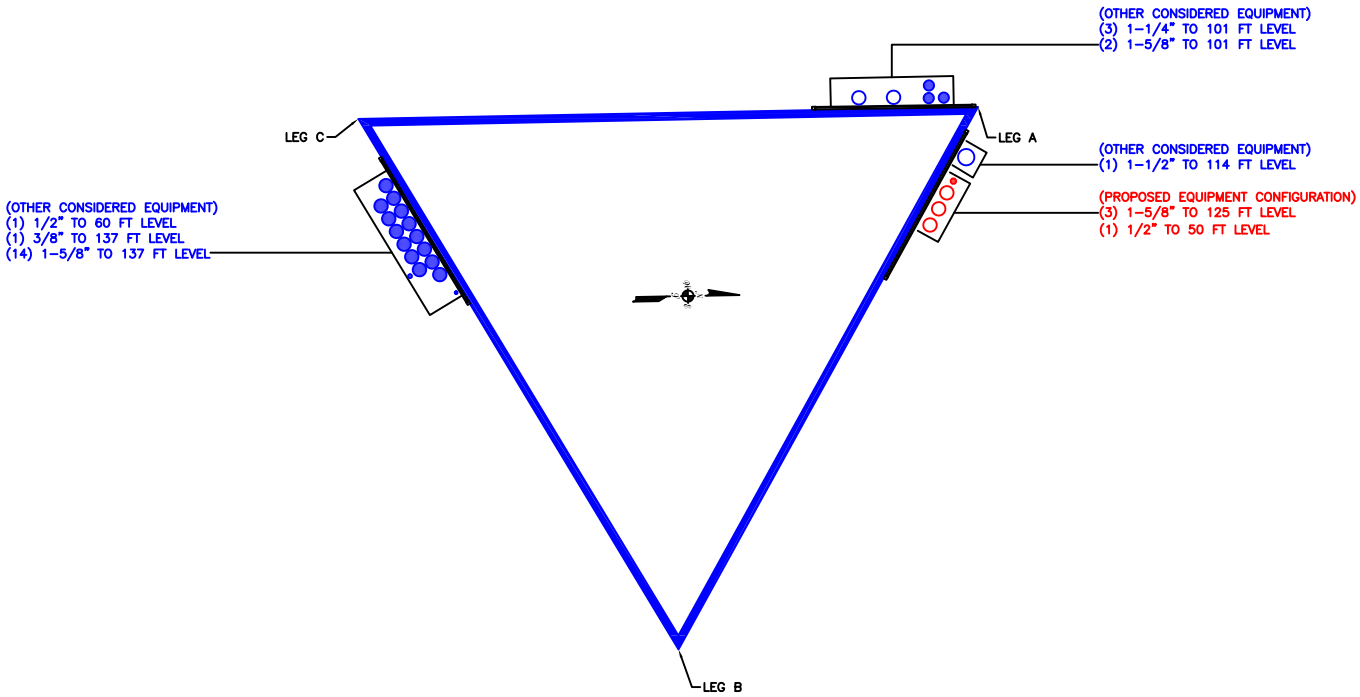
[1] P_u / ϕP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	140 - 120	Leg	ROHN 2 STD	3	-16.577	38.684	42.9	Pass
T2	120 - 100	Leg	ROHN 2.5 EH	39	-42.619	78.149	54.5	Pass
T3	100 - 80	Leg	ROHN 3 EH	69	-67.974	99.059	68.6	Pass
T4	80 - 60	Leg	ROHN 3.5 EH	90	-91.902	132.012	69.6	Pass
T5	60 - 40	Leg	ROHN 4 X-STR	111	-113.878	167.898	67.8	Pass
T6	40 - 20	Leg	ROHN 5 EH	132	-133.151	211.314	63.0	Pass
T7	20 - 0	Leg	ROHN 5 X-STR	147	-153.394	211.314	72.6	Pass
T1	140 - 120	Diagonal	L1 3/4x1 3/4x3/16	12	-3.042	11.646	26.1	Pass
T2	120 - 100	Diagonal	L1 3/4x1 3/4x3/16	47	-3.234	6.716	48.2	Pass
T3	100 - 80	Diagonal	L2x2x3/16	75	-4.288	6.312	67.9	Pass
T4	80 - 60	Diagonal	L2 1/2x2 1/2x3/16	96	-4.408	9.655	45.7	Pass
T5	60 - 40	Diagonal	L3x3x3/16	117	-4.618	13.193	35.0	Pass
T6	40 - 20	Diagonal	L3x3x3/16	137	-5.514	9.055	60.9	Pass
T7	20 - 0	Diagonal	L3x3x1/4	152	-5.964	9.907	60.2	Pass
T1	140 - 120	Top Girt	L2x2x1/8	4	-0.363	4.273	8.5	Pass
T2	120 - 100	Top Girt	L2x2x1/8	41	-0.739	4.273	17.3	Pass
							Summary	
						Leg (T7)	72.6	Pass
						Diagonal (T3)	67.9	Pass
						Top Girt (T2)	17.3	Pass
						Bolt Checks	69.9	Pass
						RATING =	**72.6**	**Pass**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 806383

APPENDIX C

ADDITIONAL CALCULATIONS

Self Support Anchor Rod Capacity

Site Info	
BU #	806383
Site Name	HRT 087 943325, CT
Order #	637956 Rev# 1

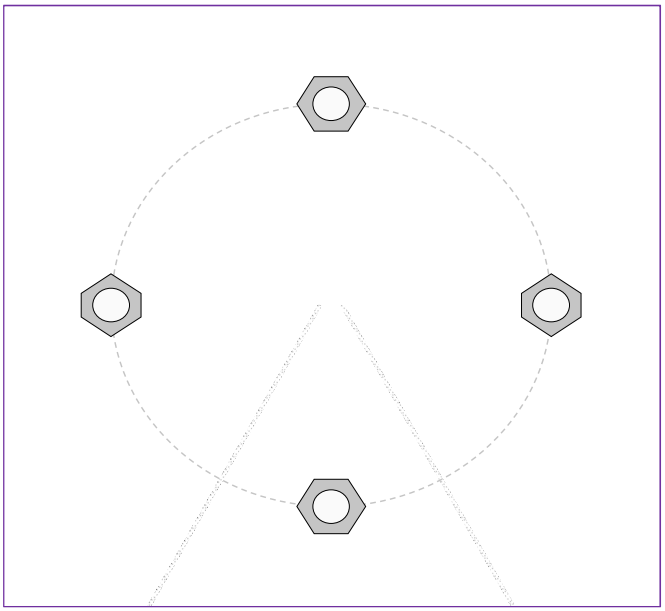
Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	Yes
l_{ar} (in)	0

Applied Loads		
	Comp.	Uplift
Axial Force (kips)	158.40	128.55
Shear Force (kips)	17.02	14.63

**TIA-222-H Section 15.5 Applied*

Considered Eccentricity	
Leg Mod Eccentricity (in)	0.000
Anchor Rod N.A Shift (in)	0.000
Total Eccentricity (in)	0.000

**Anchor Rod Eccentricity Applied*



Connection Properties

Anchor Rod Data

(4) 1" ø bolts (A449 N; Fy=92 ksi, Fu=120 ksi)

l_{ar} (in): 0

Analysis Results

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

Pu_t = 32.14	ϕPn_t = 54.54	**Stress Rating**
Vu = 3.66	ϕVn = 35.34	**56.1%**
Mu = n/a	ϕMn = n/a	**Pass**

Pier and Pad Foundation

BU # :	806383
Site Name:	HRT 087 943325, C
App. Number:	637956 Rev# 1

TIA-222 Revision:	H
Tower Type:	Self Support

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

Superstructure Analysis Reactions

Compression, P_{comp}:	158.4	kips
Compression Shear, Vu_comp:	17.02	kips
Uplift, P_{uplift}:	128.55	kips
Uplift Shear, V_{u_uplift}:	14.63	kips
Tower Height, **H**:	140	ft
Base Face Width, **BW**:	18.770833	ft
BP Dist. Above Fdn, bp_{dist}:	1	in

Pier Properties

Pier Shape:	Circular	
Pier Diameter, **dpier**:	3	ft
Ext. Above Grade, **E**:	0.5	ft
Pier Rebar Size, **Sc**:	8	
Pier Rebar Quantity, **mc**:	16	
Pier Tie/Spiral Size, **St**:	3	
Pier Tie/Spiral Quantity, **mt**:	12	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties

Depth, **D**:	12.5	ft
Pad Width, W_1:	7	ft
Pad Thickness, **T**:	2	ft
Pad Rebar Size (Bottom dir. 2), Sp_2:	6	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	8	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties

Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	3	ksi
Dry Concrete Density, δ**c**:	150	pcf

Soil Properties

Total Soil Unit Weight, γ:	115	pcf
Ultimate Net Bearing, Qnet:	16.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	35	degrees
SPT Blow Count, N_{blows}:	100	
Base Friction, μ:		
Neglected Depth, **N**:	3.33	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

Foundation Analysis Checks

	Capacity	Demand	Rating*	Check
Uplift (kips)	234.38	128.55	**52.2%**	**Pass**
Lateral (Sliding) (kips)	98.58	14.63	**14.1%**	**Pass**
Bearing Pressure (ksf)	13.08	5.12	**37.3%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	830.66	187.22	**21.5%**	**Pass**
*Pier Flexure (Tension) (kip*ft)*	622.52	160.93	**24.6%**	**Pass**
Pier Compression (kip)	1727.31	172.40	**9.5%**	**Pass**
*Pad Flexure (kip*ft)*	307.01	46.33	**14.4%**	**Pass**
Pad Shear - 1-way (kips)	137.16	7.96	**5.5%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.164	0.028	**16.3%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	614.02	112.33	**17.4%**	**Pass**
Pad Shear - 2-way (Uplift) (ksi)	0.164	0.045	**26.4%**	**Pass**
*Flexural 2-way (Tension) (kip*ft)*	614.02	96.56	**15.0%**	**Pass**

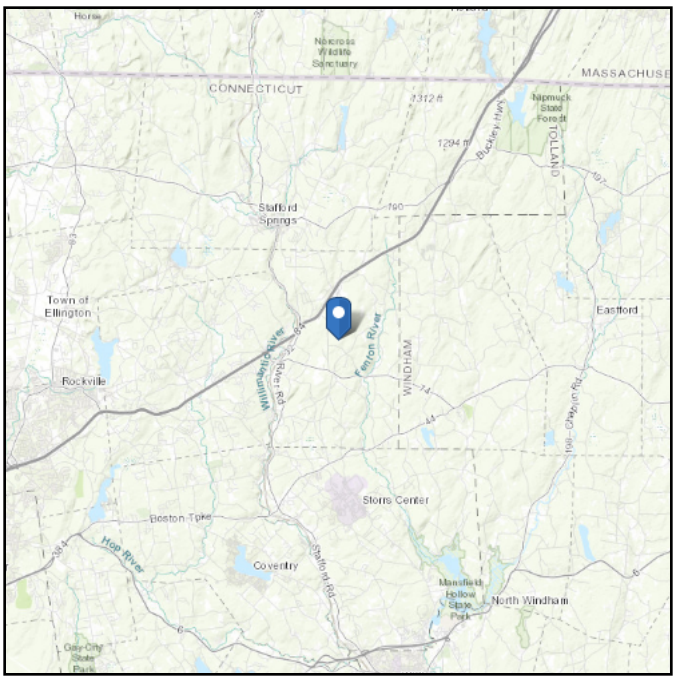
**Rating per TIA-222-H Section 15.5*

Structural Rating*:	**26.4%**
Soil Rating*:	**52.2%**

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	41.892478
Risk Category:	II	**Longitude:**	-72.260597
Soil Class:	D - Default (see Section 11.4.3)	**Elevation:**	933.47 ft (NAVD 88)



Wind

Results:

Wind Speed	118 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	98 Vmph

Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed:	Mon Dec 19 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

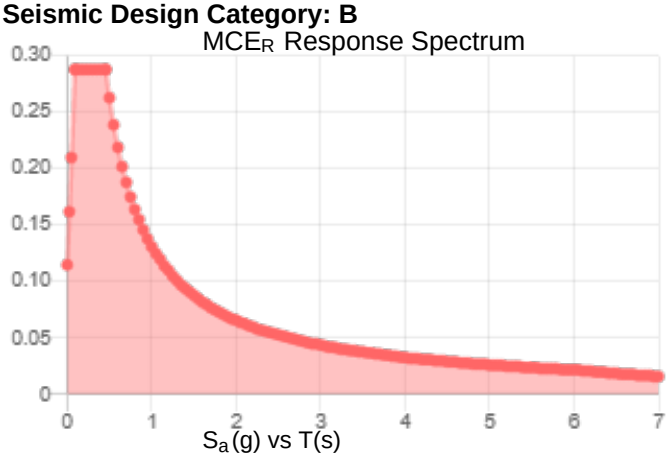
D - Default (see Section 11.4.3)

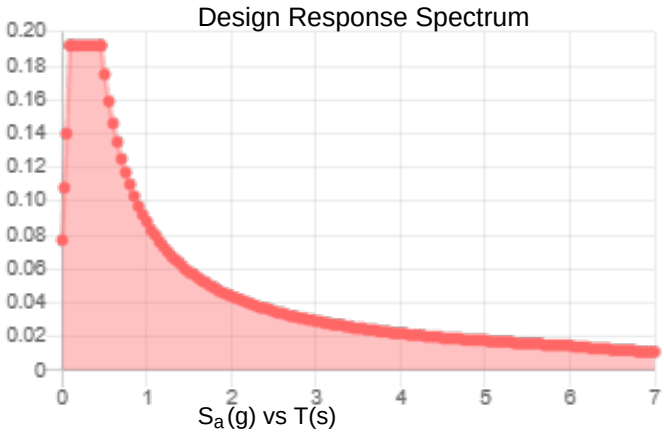
Site Soil Class:

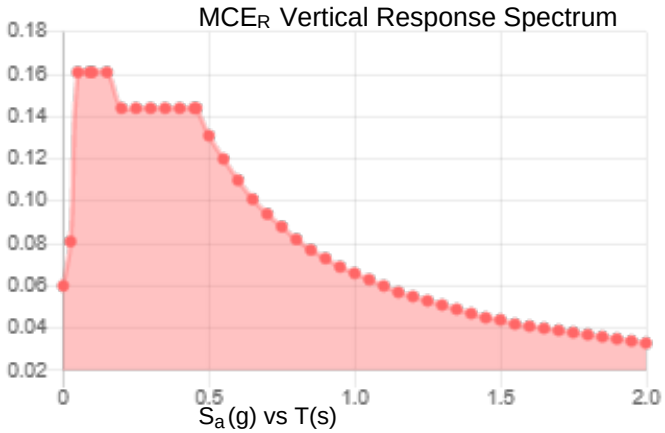
Results:

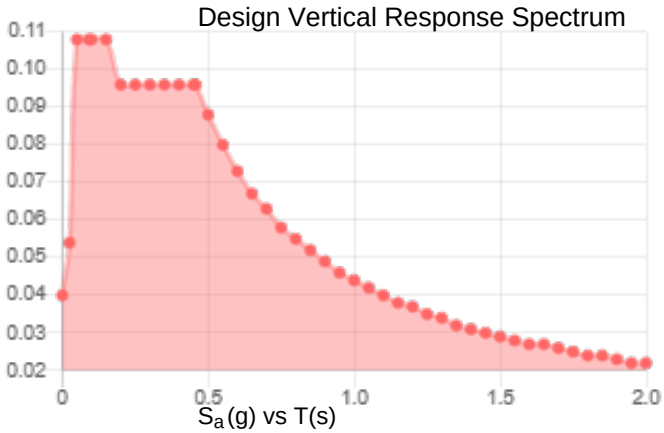
S_S :	0.18	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.096
F_v :	2.4	PGA_M :	0.153
S_{MS} :	0.288	F_{PGA} :	1.6
S_{M1} :	0.131	I_e :	1
S_{DS} :	0.192	C_v :	0.7

Seismic Design Category: B









Data Accessed: **Mon Dec 19 2022**

Date Source:

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

Ice

Results:

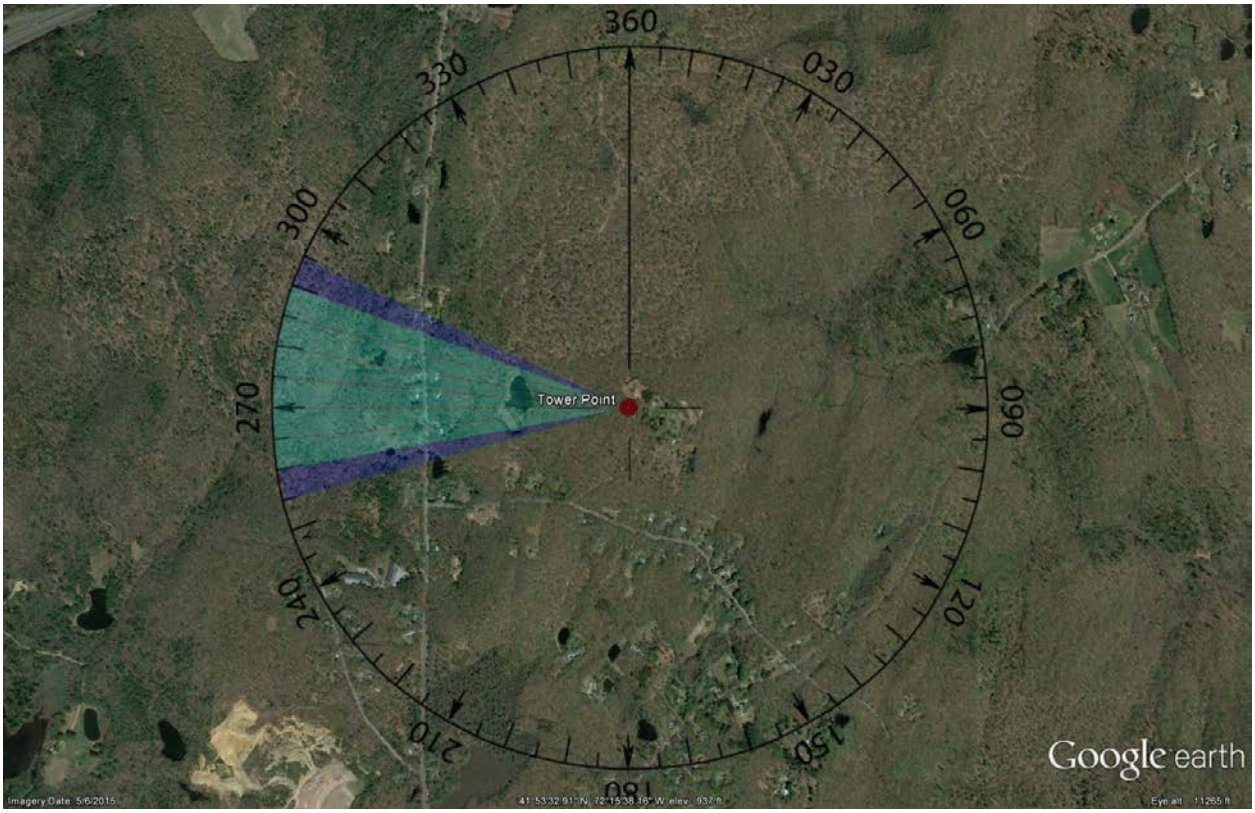
Ice Thickness:	1.50 in.
Concurrent Temperature:	5 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Mon Dec 19 2022

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.

Exposure Category Determination
BU#806383

- Latitude/Longitude = 41° 53' 32.92",-72° 15' 38.15"
- Tower Height = 140 ft
- Upwind Fetch Radius = Greater of 25 x Tower Height or 3250 ft = 3500 ft
- Minimum Open Patch = 164 ft x 164 ft
- Maximum continuous surface roughness category C arc angle = 0 degrees
- Kmz file saved in folder … R:\SA Models - Letters\Work Area\Exposure_Topo_KMZ



Exposure Category for this site is B.

The determination is based on Crown Castle standard ENG-PRC-10202, Determination of Exposure Category, revision C.

Completed by: Erin Doyle

Date: 11/09/2015

Approved by: Jason Hedrich

Date: 11/09/2015

Unmitigated Percentage (B/C)

Inputs

Tower Height (ft):	140'
Starting Azimuth:	260°
Upwind Fetch Radius (ft):	3500'
20% Unmitigated Limit (ft):	700'
Overlay Size Selected:	30°

Subsector (Degrees)	Total Unmitigated Length (ft)	Percentage of Subsector Unmitigated
245°		0.0%
250°		0.0%
255°	'	0.0%
260°	'	0.0%
265°	'	0.0%
270°	255'	7.3%
275°	240'	6.9%
280°	210'	6.0%
285°	'	0.0%
290°	'	0.0%
295°		0.0%
300°		0.0%
305°		0.0%
310°		0.0%

THIS SITE IS EXPOSURE:	B

Length measurements should be taken to the nearest 5' increment.

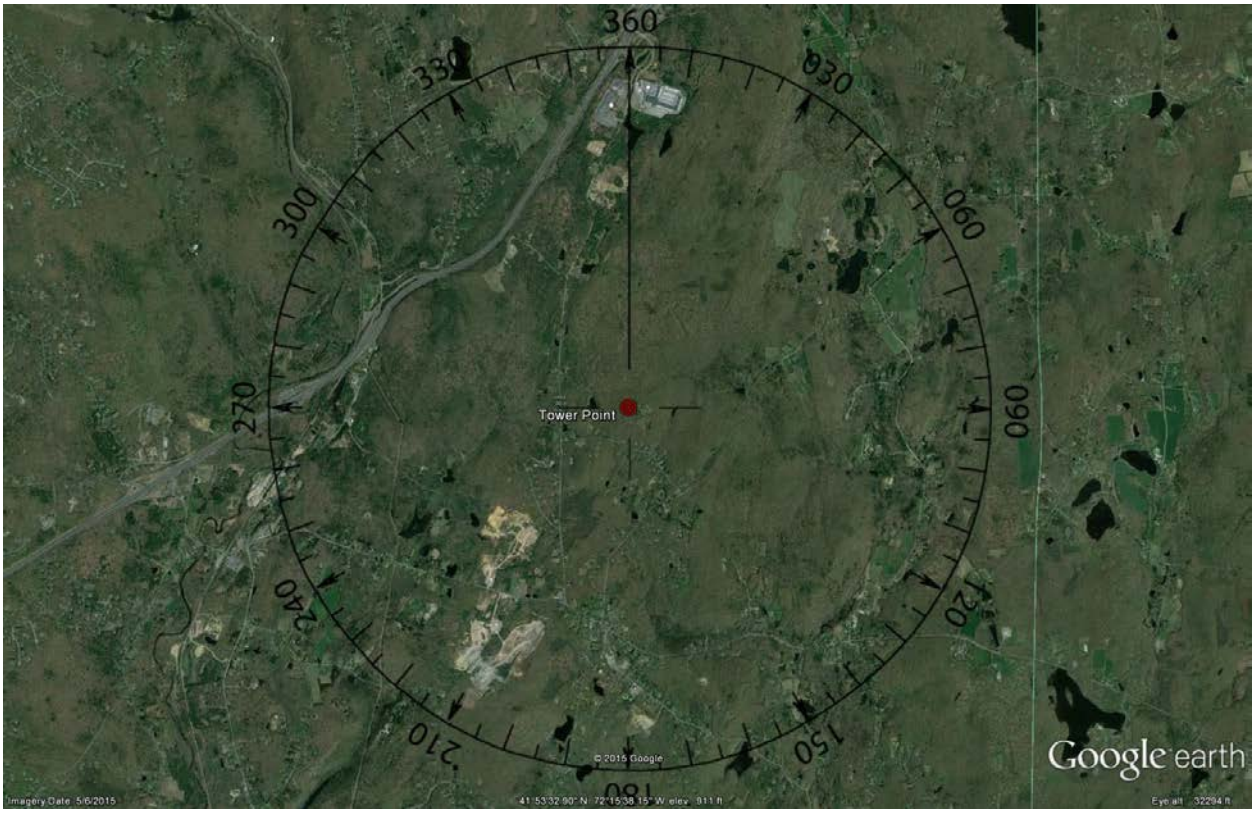
The determination is based on Crown Castle standard ENG-PRC-10202, Determination of Exposure Category, revision C.

This chart is intended only for use with Exposures B and C and is <u>Not</u> applicable for Exposure D.

LEGEND	
	Considered Subsector
	Bookending Subsector

Topographic Factor Determination
BU#806383

- Latitude/Longitude = 41° 53' 32.92",-72° 15' 38.15"
- Tower Height = 140 ft
- Topo Radius = 10,560 ft
- Maximum continuous effective topo arc angle = 0 degrees
- Critical wind azimuth used in topo tool = 0
- Kmz file saved in folder … R:\SA Models - Letters\Work Area\Exposure_Topo_KMZ



Exposure Category for this site is B.
No topo feature.
Topographic Factor (K_{ZT}) at base is 1.0.

The determination is based on Crown Castle standard ENG-PRC-10040, Determination of Topographic Factor, initial release.

Completed by:	Erin Doyle	Approved by:	Jason Hedrich
Date:	11/09/2015	Date:	11/09/2015

FOX HILL TELECOM

Radio Frequency Emissions Analysis Report

T-Mobile

Site ID: CT11142A

Willington/ Rt-320/Cosg_1
56 Cosgrove Road
Willington, CT 06279

January 3, 2023

Fox Hill Telecom Project Number: 222021

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	8.94 %

FOX HILL TELECOM

January 3, 2023

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

Emissions Analysis for Site: **CT11142A – Willington/ Rt-320/Cosg_1**

Fox Hill Telecom, Inc ("Fox Hill") was directed to analyze the proposed upgrades to the T-MOBILE facility located at **56 Cosgrove Road, Willington, 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 **56 Cosgrove Road, Willington, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65 for far field modeling calculations.

In OET-65, plane wave power densities in the Far Field of an antenna are calculated by considering antenna gain and reflective waves that would contribute to exposure.

Since the radiation pattern of an antenna has developed in the **Far Field** region the power gain in specific directions needs to be considered in exposure predictions to yield an Effective Radiated Power (ERP) in each specific direction from the antenna. Also, since the vertical radiation pattern of the antenna is considered, the exposure calculations would most likely be reduced significantly at ground level, resulting in a more realistic estimate of the actual exposure levels. To determine a worst-case scenario at each point along the calculation radials, each point was calculated using the antenna gain value at each angle of incident and compared against the result using an isotropic radiator at the antenna height with the greater of the two used to yield the more pessimistic far field value for each point along the calculation radial.

Additionally, to model a truly "worst case" prediction of exposure levels at or near a surface, such as at ground-level or on a rooftop, reflection off the surface of antenna radiation power can be assumed, resulting in a potential 1.6 times increase in power density in calculating far field power density values.

With these factors Considered, the worst case **Far Field prediction model** utilized in this analysis is determined by the following equation:

Equation 9 per FCC OET65 for Far Field Modeling

$$S = \frac{33.4\ ERP}{R^2}$$

S = Power Density (in μw/cm^2)
ERP = Effective Radiated Power from antenna (watts)
R = Distance from the antenna (meters)

Predicted far field power density values for all carriers identified in this report were calculated 6 feet above the ground level and are displayed as a percentage of the applicable FCC standards. All emissions values for other carriers were calculated using the same Far Field model outlined above, using industry standard radio configurations and frequency band selection based upon available licenses in this geographic area for emissions contribution estimates.

For each T-Mobile 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 T-Mobile 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.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	RFS APXVAARR24_43-U-NA20	125
A	2	Commscope VV-65B-R1	125
A	3	Ericsson AIR6419 B41	125
B	1	RFS APXVAARR24_43-U-NA20	125
B	2	Commscope VV-65B-R1	125
B	3	Ericsson AIR6419 B41	125
C	1	RFS APXVAARR24_43-U-NA20	125
C	2	Commscope VV-65B-R1	125
C	3	Ericsson AIR6419 B41	125

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 APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.73
Antenna A2	Commscope VV-65B-R1	1900 MHz (PCS) / 2100 MHz (AWS)	16.55 / 16.85	9	335	15,654.24	0.86
Antenna A3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	0.81
						Sector A Composite MPE%	**2.40**
Antenna B1	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.73
Antenna B2	Commscope VV-65B-R1	1900 MHz (PCS) / 2100 MHz (AWS)	16.55 / 16.85	9	335	15,654.24	0.86
Antenna B3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	0.81
						Sector B Composite MPE%	**2.40**
Antenna C1	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.73
Antenna C2	Commscope VV-65B-R1	1900 MHz (PCS) / 2100 MHz (AWS)	16.55 / 16.85	9	335	15,654.24	0.86
Antenna C3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	0.81
						Sector C Composite MPE%	**2.40**

Table 3: T-MOBILE Emissions Levels

The Following table (*table 4*) shows all additional identified carriers on site and their emissions contribution estimates, 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 T-Mobile 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 estimated MPE value for the site.

Site Composite MPE%	
Carrier	**MPE%**
T-MOBILE – Max Per Sector Value	**2.40 %**
Dish	2.91 %
Sprint	1.20 %
Verizon Wireless	2.33 %
Willington FD	0.10 %
Site Total MPE %:	**8.94 %**

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	2.40 %
T-MOBILE Sector B Total:	2.40 %
T-MOBILE Sector C Total:	2.40 %
Site Total:	8.94 %

Table 5: Site MPE Summary

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 T-Mobile 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	788.97	125	2.04	600 MHz	400	0.51%
T-Mobile 700 MHz LTE	2	432.54	125	1.03	700 MHz	467	0.22%
T-Mobile 1900 MHz (PCS) LTE	4	1,807.42	125	4.10	1900 MHz (PCS)	1000	0.41%
T-Mobile 1900 MHz (PCS) GSM	1	677.78	125	0.40	1900 MHz (PCS)	1000	0.04%
T-Mobile 2100 MHz (AWS) LTE	4	1,936.69	125	4.10	2100 MHz (AWS)	1000	0.41%
T-Mobile 2500 MHz (BRS) LTE / 5G NR	8	2,825.08	125	8.10	2500 MHz (BRS)	1000	0.81%
						Total:	**2.40 %**

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 estimates 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:	2.40 %
Sector B:	2.40 %
Sector C:	2.40 %
T-MOBILE Maximum Total (per sector):	2.40 %
Site Total:	8.94 %
Site Compliance Status:	**COMPLIANT**

The estimated composite MPE value for this site assuming all carriers present is **8.94 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon the far field calculations performed for all carriers identified in this report.

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 estimated values calculated were well within the allowable 100% threshold standard per the federal government.

Scott Heffernan
Principal RF Engineer
Fox Hill Telecom, Inc
Worcester, MA 01609
(978)660-3998

T-Mobile

T-MOBILE SITE NUMBER: CT11142A
T-MOBILE SITE NAME: WILLINGTON/ RT-320/COSG_1
T-MOBILE PROJECT: T-MOBILE ANCHOR
CONFIGURATION: 67E5D998E_1xAIR+1OP+1QP

BUSINESS UNIT #: 806383
SITE ADDRESS: COSGROVE ROAD WHIFFORD HILL
WEST WILLINGTON, CT 06279
COUNTY: TOLLAND
SITE TYPE: SELF SUPPORT
TOWER HEIGHT: 140'-0"

SITE INFORMATION

CROWN CASTLE USA INC.	
SITE NAME:	HRT 087 943325
BU NUMBER:	806383
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	T-MOBILE 12920 SE 38TH STREET BELLEVUE, WA 98006
SITE ADDRESS:	COSGROVE ROAD WHIFFORD HILL WEST WILLINGTON, CT 06279
COUNTY:	TOLLAND
LATITUDE:	41.89247777777778°
LONGITUDE:	-72.26059722222222°
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	±960 FT
AREA OF CONSTRUCTION:	EXISTING
CURRENT ZONING:	TBD
MAP/PARCEL #:	WILL-000033-000000-000024-B000000
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	DROBNEY, MARTIN & ISABELL 56 COSGROVE RD WILLINGTON, CT 06279
JURISDICTION:	CT - CONNECTICUT SITING COUNCIL TEN FRANKLIN SQUARE NEW BRITAIN, CT 06051
ELECTRIC PROVIDER:	CONNECTICUT LIGHT & POWER CO 8009224455
TELCO PROVIDER:	FIBER APP TBD

PROJECT TEAM

A&E FIRM:	INFINIGY 500 WEST OFFICE CENTER DRIVE / SUITE 150 FORT WASHINGTON, PA 19034
CROWN CASTLE USA INC. DISTRICT CONTACTS:	8020 KATY FREEWAY HOUSTON, TX 77024
	TRICIA PELON - PROJECT MANAGER 5184242396
	JASON D'AMICO - CONSTRUCTION MANAGER +18602090104
	JENNIFER MERSING - AES JENNIFER.MERSING@CROWNCASTLE.COM

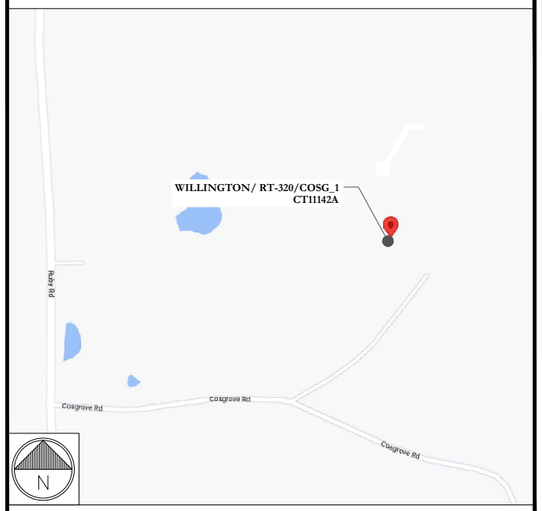
DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TTILE SHEET
T-2	GENERAL NOTES
C-1.1	COMPOUND PLAN
C-1.2	EQUIPMENT PLANS
C-2	TOWER ELEVATIONS
C-3	ANTENNA PLANS
C-4	ANTENNA & CABLE SCHEDULE
C-5	EQUIPMENT SPECS
C-6	EQUIPMENT SPECS
E-1	AC PANEL SCHEDULES & ONE LINE DIAGRAM
G-1	ANTENNA GROUNDING DIAGRAM
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 22X34. 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.

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

LOCATION MAP



NO SCALE

PHOTO

NO SCALE

PROJECT DESCRIPTION

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

TOWER SCOPE OF WORK:
- REMOVE (6) ANTENNAS
- REMOVE (6) TMAS
- REMOVE (6) RRHS
- REMOVE (3) HYBRID CABLES
- REMOVE (12) COAX CABLES
- REMOVE CURRENT T-MOBILE EXISTING ANTENNA MOUNTS AT 102"-0"
- UTILIZE EXISTING SECTOR MOUNTS AT 125'-0"
- INSTALL (9) ANTENNAS
- INSTALL (6) RRHS
- INSTALL (3) HYBRID CABLES
- INSTALL (3) SECTOR FRAMES

GROUND SCOPE OF WORK:
- REMOVE (2) CABINETS
- INSTALL (1) 6160 & (1) B160 BATTERY CABINET
- INSTALL (1) CSR IXRE V2 ROUTER IN (P) CABINET
- INSTALL (2) RP 6651 IN (P) CABINET

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

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	2022 CONNECTICUT BUILDING CODE/2021 IBC
MECHANICAL	2022 CONNECTICUT BUILDING CODE/2021 IMC
ELECTRICAL	2022 CONNECTICUT BUILDING CODE/2020 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	B+T GROUP
DATED:	12/20/22
MOUNT ANALYSIS:	TOWER ENGINEERING PROFESSIONALS
DATED:	11/16/22
RFDS REVISION:	5
DATED:	10/07/22
ORDER ID:	637956
REVISION:	0

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8020 KATY FREEWAY
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06279

EXISTING 140'-0" SELF SUPPORT

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	08/12/22	RCD	PRELIMINARY	CB
0	09/12/22	RCD	100% FINALS	CB
1	11/21/22	DGD	100% FINALS	CB
2	01/03/22	DGD	100% FINALS	CB

STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
1/3/23
LICENSED
PROFESSIONAL ENGINEER

SHEET NUMBER: T-1
REVISION: 2

TEMPLATE NAME: BASE TEMPLATE

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 "########".
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

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

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

APWA UNIFORM COLOR CODE:

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

ABBREVIATIONS:

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

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COSGROVE ROAD
WHIFFORD HILL
WEST WILLINGTON, CT
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EXISTING 140'-0" SELF SUPPORT

ISSUED FOR:

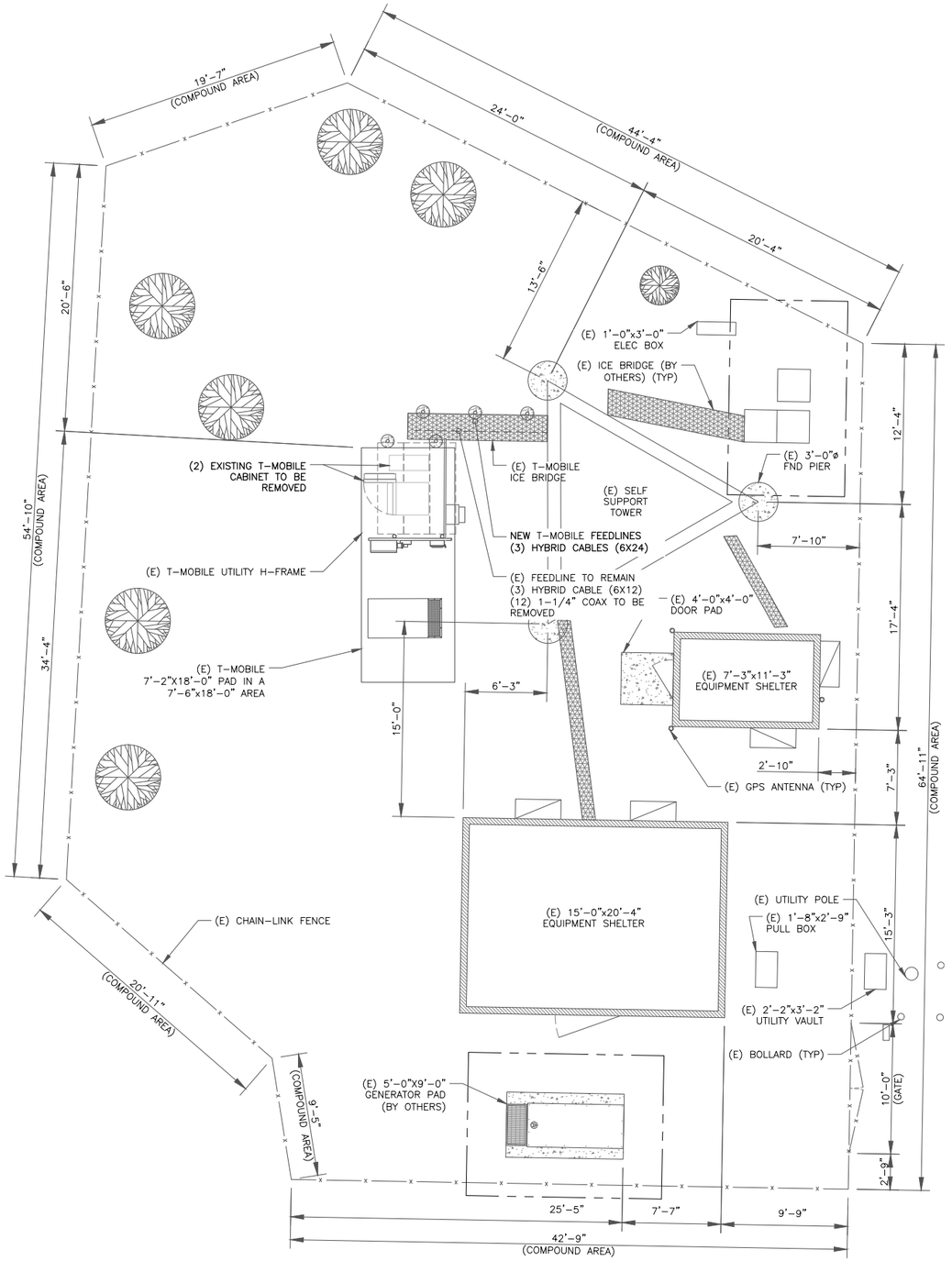
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	08/12/22	RCD	PRELIMINARY	CB
0	09/12/22	RCD	100% FINALS	CB
1	11/21/22	DGD	100% FINALS	CB
2	01/03/22	DGD	100% FINALS	CB

STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
1/3/23
LICENSED
PROFESSIONAL ENGINEER

SHEET NUMBER: T-2
REVISION: 2

NOTE:

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



1 SITE PLAN

SCALE: 4' 2' 0 4' 3/16"=1'-0" (FULL SIZE) 3/32"=1'-0" (11x17)

N

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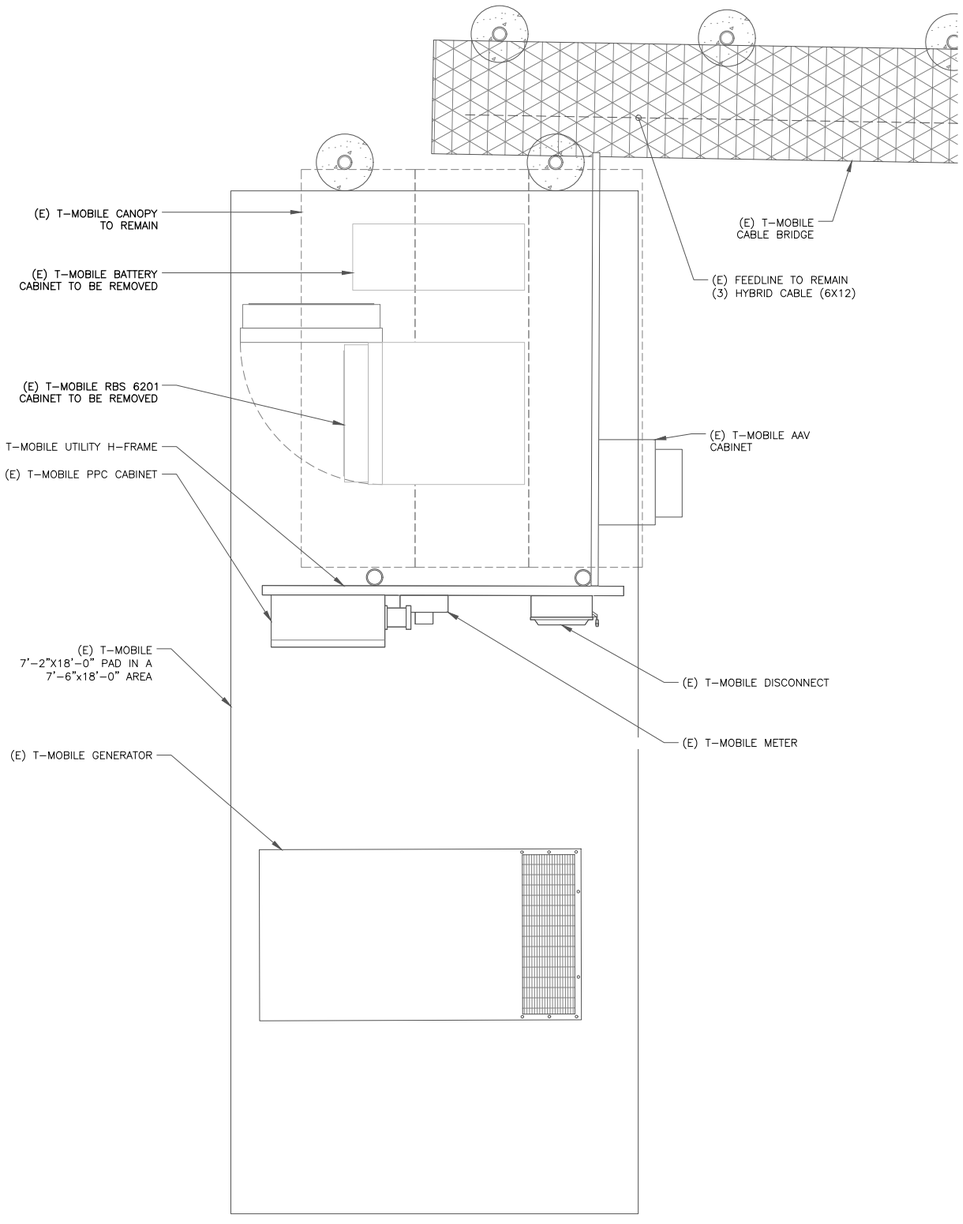
STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
1/3/23
LICENSED PROFESSIONAL ENGINEER

SHEET NUMBER: C-1.1

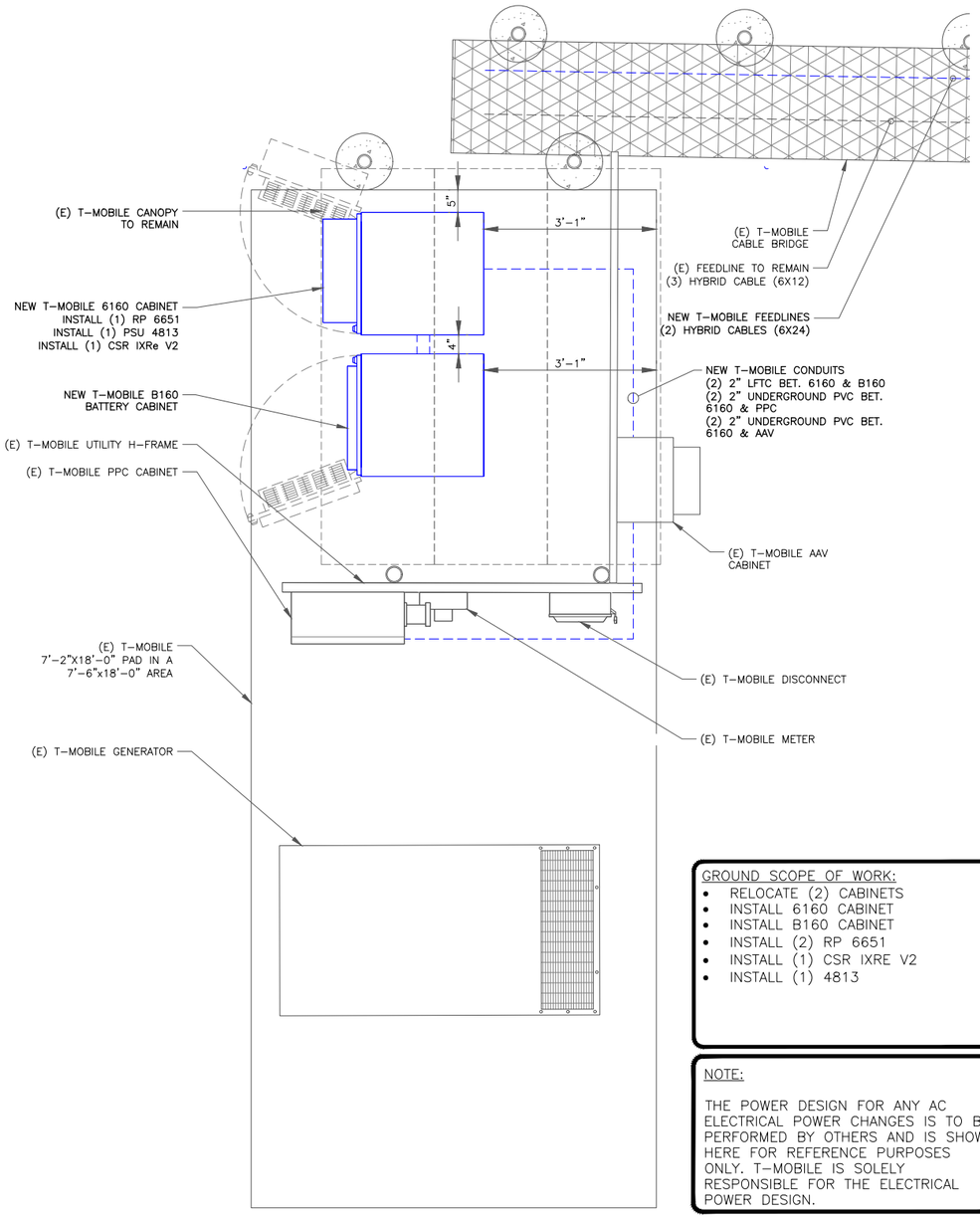
REVISION: 2



1 EXISTING EQUIPMENT PLAN

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

N



2 PROPOSED EQUIPMENT PLAN

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

N

GROUND SCOPE OF WORK:

- RELOCATE (2) CABINETS
- INSTALL 6160 CABINET
- INSTALL B160 CABINET
- INSTALL (2) RP 6651
- INSTALL (1) CSR IXRE V2
- INSTALL (1) 4813

NOTE:

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

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STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
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1/3/23
LICENSED PROFESSIONAL ENGINEER

SHEET NUMBER: C-1.2

REVISION: 2

NOTES:

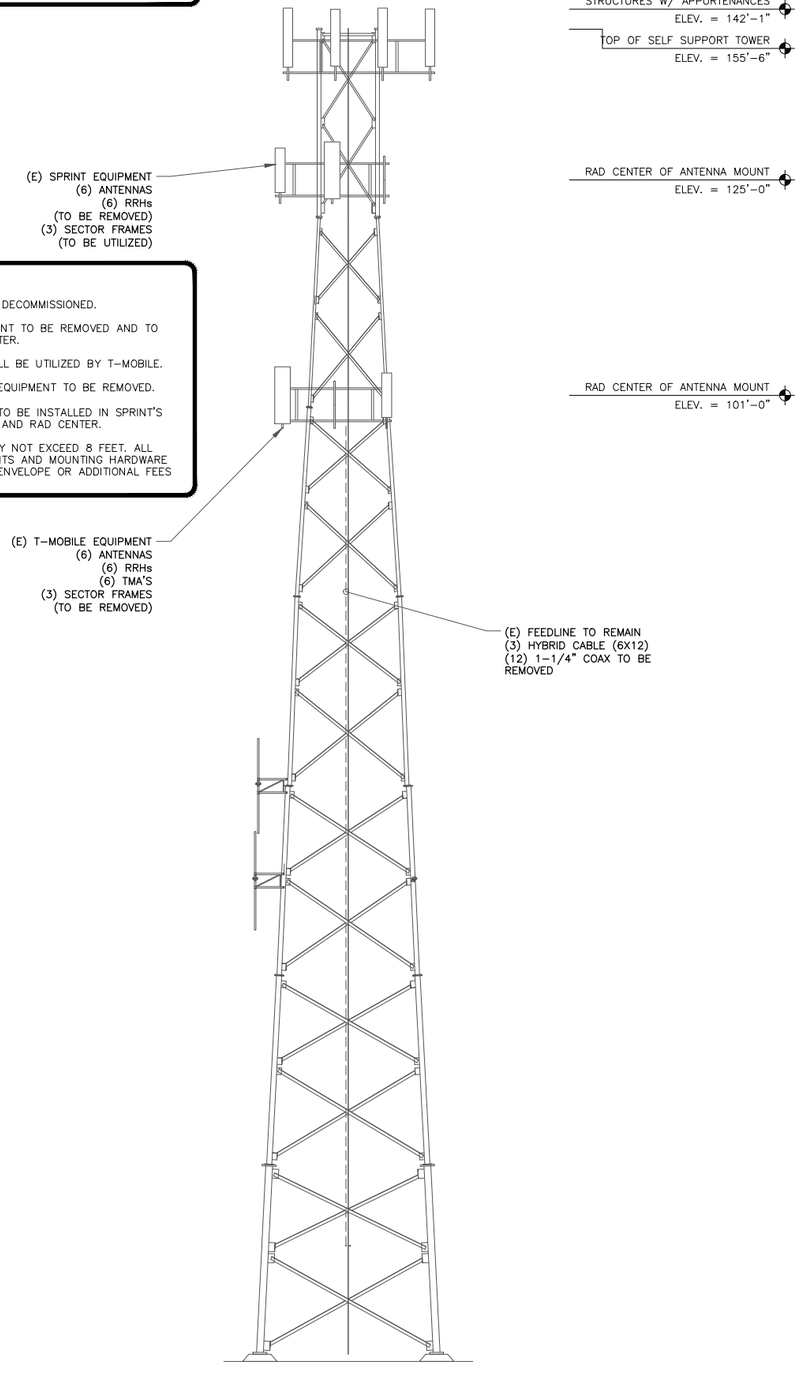
1. ELEVATION BASED ON DRAWING PROVIDED BY TOWER OWNER. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATION/ORIENTATION OF EXISTING EQUIPMENT.
2. INFINIGY HAS NOT EVALUATED THE TOWER OR MOUNT STRUCTURE AND ASSUMES NO RESPONSIBILITY FOR THEIR STRUCTURAL INTEGRITY REGARDING PROPOSED LOADINGS. FINAL INSTALLATION SHALL COMPLY WITH RESULTS OF PASSING STRUCTURAL ANALYSES PERFORMED BY OTHERS.

T-MOBILE EQUIPMENT

ANTENNA CL: 102'-0"
MOUNT CL: 102'-0"
(TO BE REMOVED)

PROJECT SPECIFIC NOTES:

1. SPRINT EQUIPMENT WILL BE DECOMMISSIONED.
2. ALL SPRINT TOWER EQUIPMENT TO BE REMOVED AND TO RELINQUISH THEIR RAD CENTER.
3. SPRINT ANTENNA MOUNT WILL BE UTILIZED BY T-MOBILE.
4. EXISTING T-MOBILE TOWER EQUIPMENT TO BE REMOVED.
5. NEW T-MOBILE EQUIPMENT TO BE INSTALLED IN SPRINT'S PREVIOUS ANTENNA MOUNT AND RAD CENTER.
6. VERTICAL TOWER SPACE MAY NOT EXCEED 8 FEET. ALL EQUIPMENT INCLUDING MOUNTS AND MOUNTING HARDWARE MUST FIT WITHIN VERTICAL ENVELOPE OR ADDITIONAL FEES MAY APPLY.



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

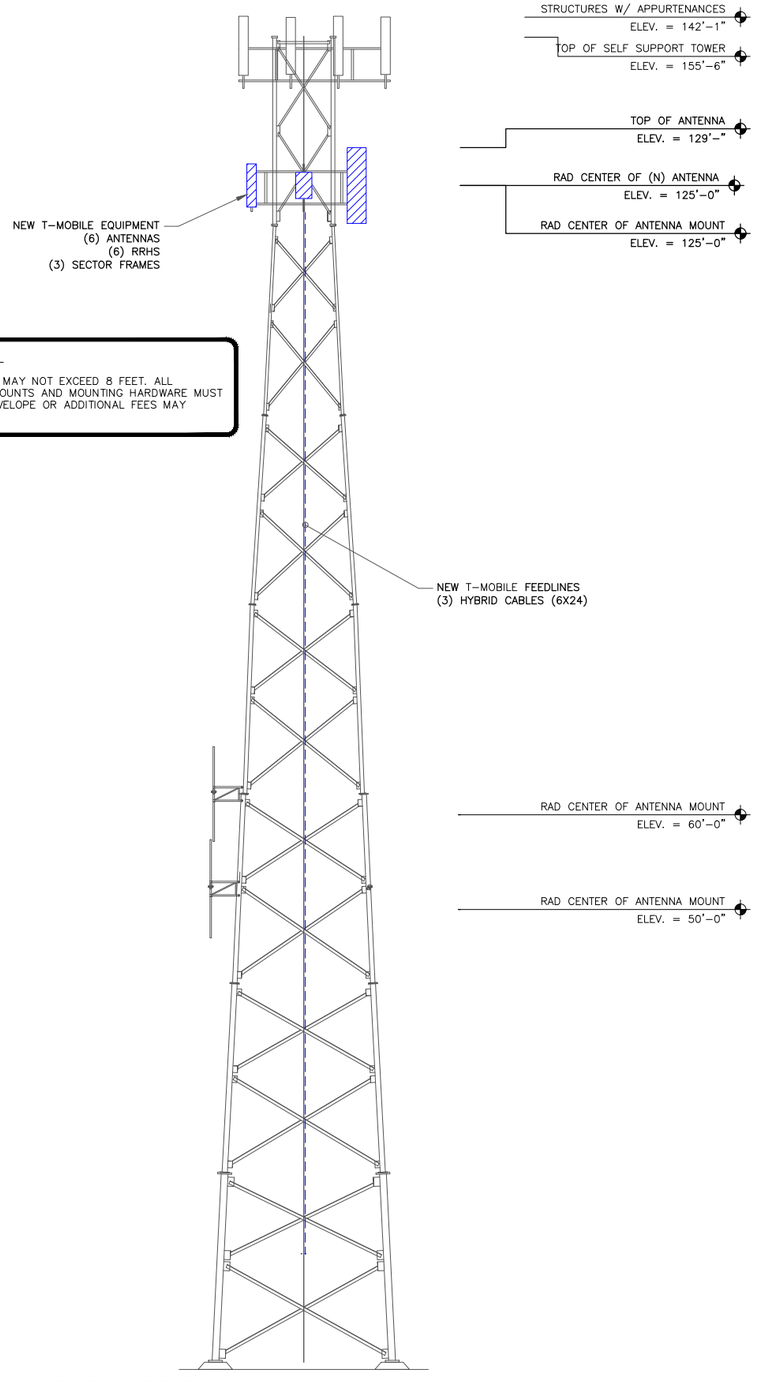
T-MOBILE EQUIPMENT

ANTENNA CL: 125'-0"
MOUNT CL: 125'-0"

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

PROJECT SPECIFIC NOTE:

VERTICAL TOWER SPACE MAY NOT EXCEED 8 FEET. ALL EQUIPMENT INCLUDING MOUNTS AND MOUNTING HARDWARE MUST FIT WITHIN VERTICAL ENVELOPE OR ADDITIONAL FEES MAY APPLY.



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

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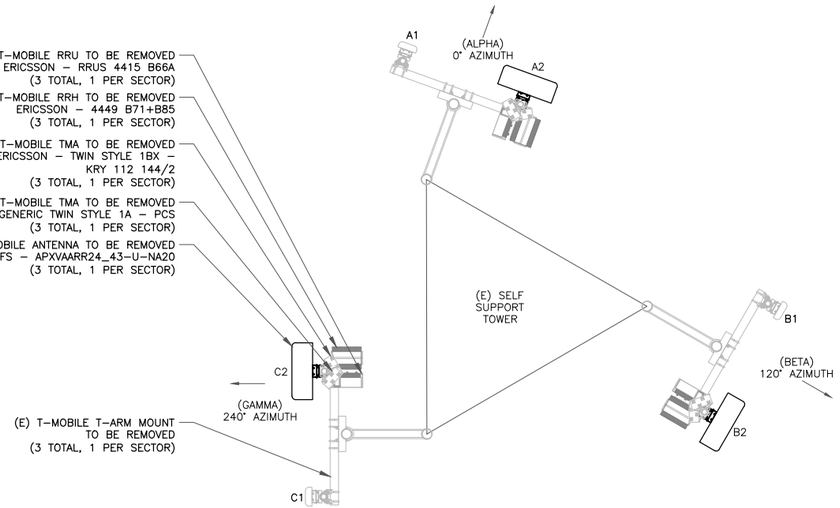
SHEET NUMBER: C-2

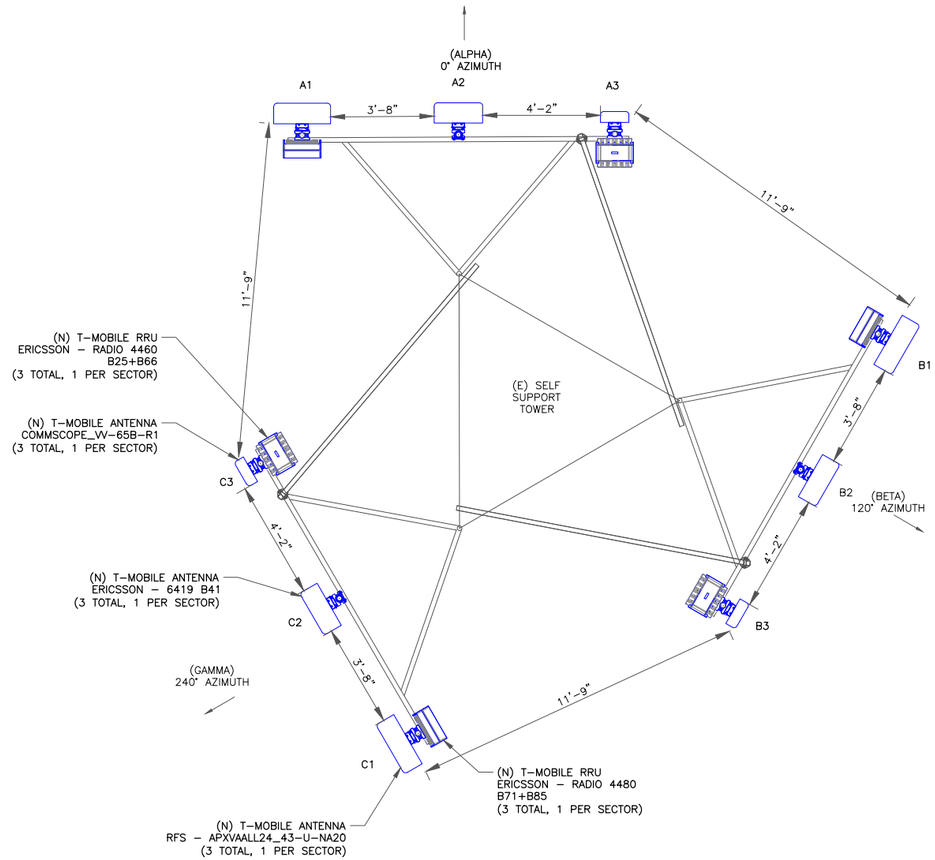
REVISION: 2



1 EXISTING ANTENNA PLAN (T-MOBILE @ 101'-0")

SCALE: 2' 1' 0 2' 3/8"=1'-0" (FULL SIZE) 3/16"=1'-0" (11x17)

N



2 FINAL ANTENNA PLAN (T-MOBILE @ 125'-0")

SCALE: 2' 1' 0 2' 3/8"=1'-0" (FULL SIZE) 3/16"=1'-0" (11x17)

N

MOUNT ANALYSIS NOTES:

1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS.
2. CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
3. ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY EOR.

TEMPLATE NAME: BASE TEMPLATE

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STATE OF CONNECTICUT
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SHEET NUMBER: C-3

REVISION: 2

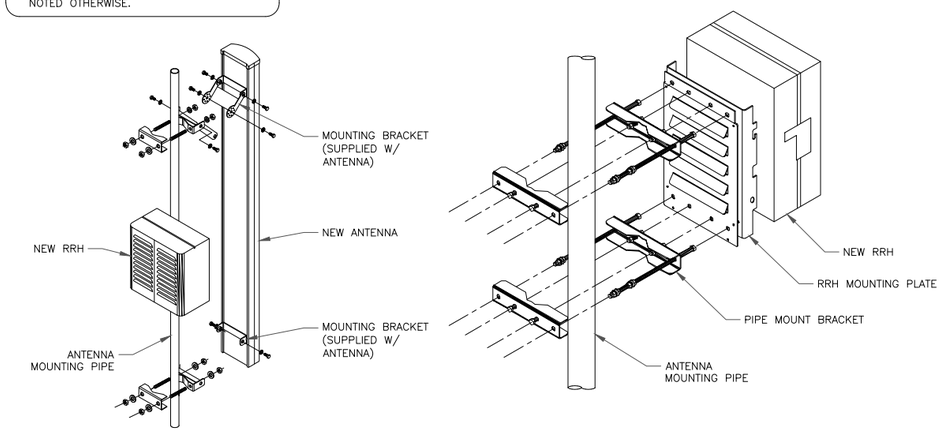
ANTENNA SCHEDULE

SECTOR	POS.	TECHNOLOGY	RAD CENTER	AZIMUTH	ANTENNA MANUFACTURER	ANTENNA MODEL	MECH. TILT	ELECT. TILT	TOWER MOUNTED EQUIPMENT	FEEDLINE TYPE
ALPHA	A1	L700, L600, N600	125'	0°	RFS	RFS – APXVAALL24_43–UNA20	0	2	(1) ERICSSON – RRUS 4480 B71+B85	–
ALPHA	A2	L2500, N2500	125'	0°	ERICSSON	ERICSSON – AIR6419 B41	0	2	–	(1) 6X24 HYBRID 50M IN LENGTH
ALPHA	A3	L2100, L1900, G1900	125'	0°	COMMSCOPE	COMMSCOPE – VV–65B–R1	0	2	(1) ERICSSON – RRUS 4460 B25+B66	–
BETA	B1	L700, L600, N600	125'	120°	RFS	RFS – APXVAALL24_43–UNA20	0	2	(1) ERICSSON – RRUS 4480 B71+B85	–
BETA	B2	L2500, N2500	125'	120°	ERICSSON	ERICSSON – AIR6419 B41	0	2	–	(1) 6X24 HYBRID 50M IN LENGTH
BETA	B3	L2100, L1900, G1900	125'	120°	COMMSCOPE	COMMSCOPE – VV–65B–R1	0	2	(1) ERICSSON – RRUS 4460 B25+B66	–
GAMMA	C1	L700, L600, N600	125'	240°	RFS	RFS – APXVAALL24_43–UNA20	0	2	(1) ERICSSON – RRUS 4480 B71+B85	–
GAMMA	C2	L2500, N2500	125'	240°	ERICSSON	ERICSSON – AIR6419 B41	0	2	–	(1) 6X24 HYBRID 50M IN LENGTH
GAMMA	C3	L2100, L1900, G1900	125'	240°	COMMSCOPE	COMMSCOPE – VV–65B–R1	0	2	(1) ERICSSON – RRUS 4460 B25+B66	–

1 ANTENNA AND CABLE SCHEDULE
SCALE: NOT TO SCALE

INSTALLER NOTES:

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



2 ANTENNA WITH RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

NOTE:

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

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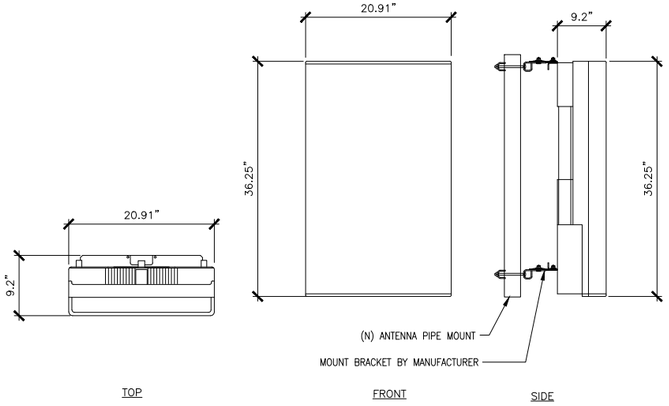
STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
1/3/23
LICENSED PROFESSIONAL ENGINEER

SHEET NUMBER: C-4

REVISION: 2

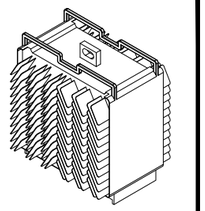
MANUFACTURER: ERICSSON
MODEL: AIR6419 B41
WEIGHT: 96.50 LBS (W/ MOUNT BRACKET 113)
DIMENSIONS: 36.25"H. X 20.91"W. X 9.2"D.
FREQUENCY: REFER TO RF DATA SHEET

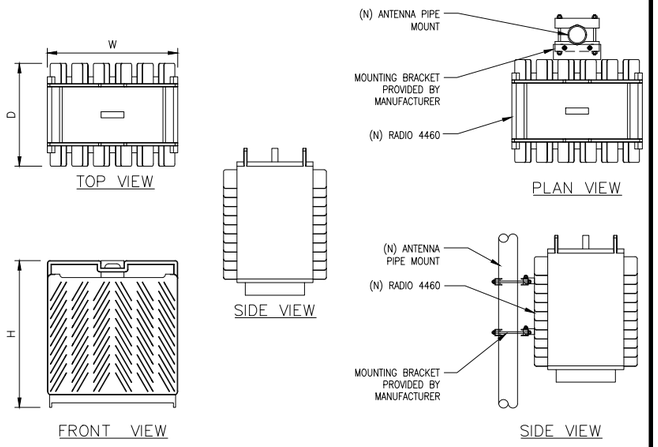


1 (N) AIR 6419 B41 ANTENNA SPEC
SCALE: NOT TO SCALE

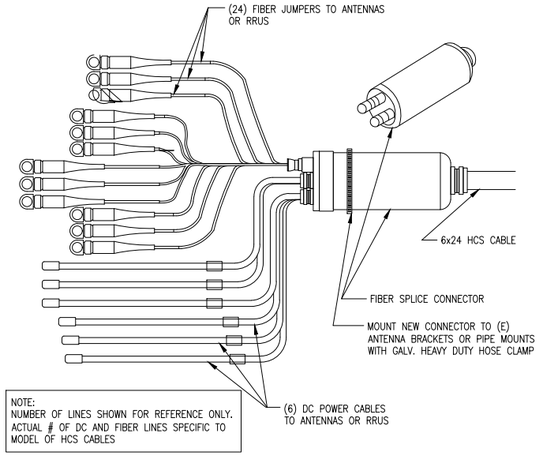
ERICSSON RADIO-4460 B25 B66

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

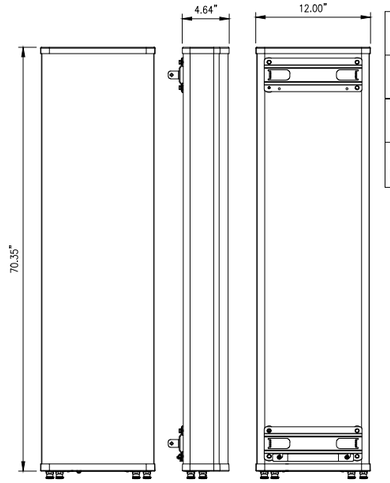




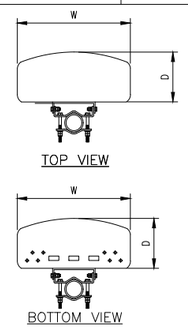
2 (N) RADIO 4460 SPEC
SCALE: NOT TO SCALE



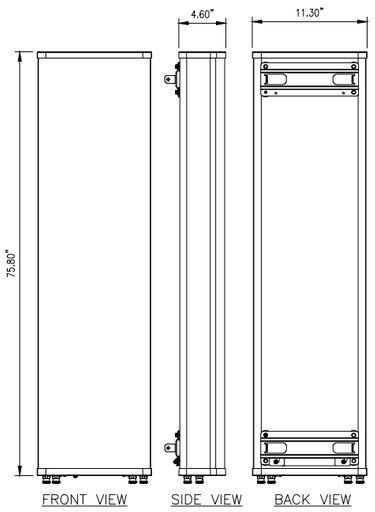
3 (N) 6X24 HCS CABLE DETAIL
SCALE: NOT TO SCALE



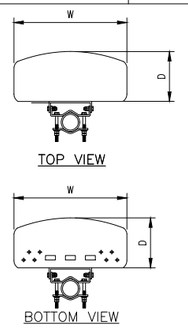
700MHz RFS ANTENNAS	
MODEL	WEIGHT (lb)
(4') VV-65B-R1	27.99
WEIGHT W/ MOUNTING BRACKET (lb):	50



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



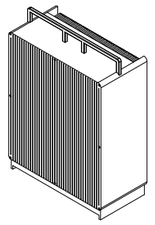
700MHz RFS ANTENNAS	
MODEL	WEIGHT (lb)
APXVAALL24_43-U-NA20	48.39
WEIGHT W/ MOUNTING BRACKET (lb):	154

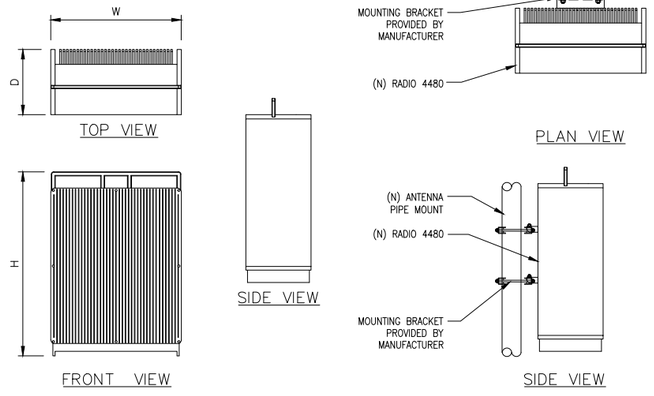


5 (N) APXVAALL24_43-U-NA20 ANTENNA SPEC
SCALE: NOT TO SCALE

ERICSSON RADIO-4480 B71 B85

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





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

TEMPLATE NAME: BASE TEMPLATE

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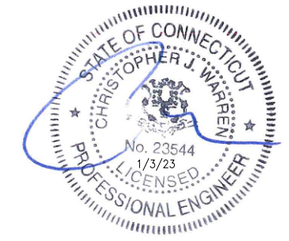
COSGROVE ROAD
WHIFFORD HILL
WEST WILLINGTON, CT
06279

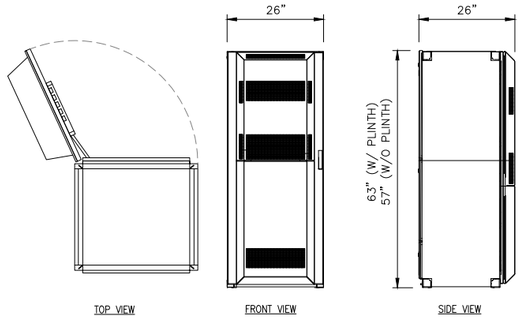
EXISTING 140'-0" SELF SUPPORT

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	08/12/22	RCD	PRELIMINARY	CB
0	09/12/22	RCD	100% FINALS	CB
1	11/21/22	DGD	100% FINALS	CB
2	01/03/22	DGD	100% FINALS	CB

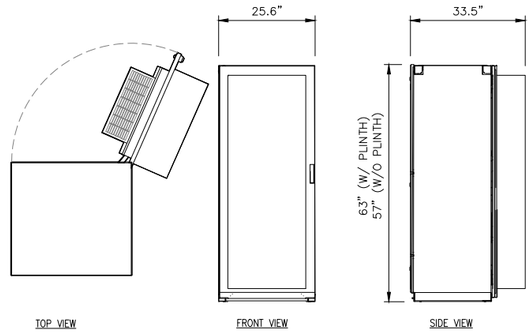


SHEET NUMBER: C-5
REVISION: 2



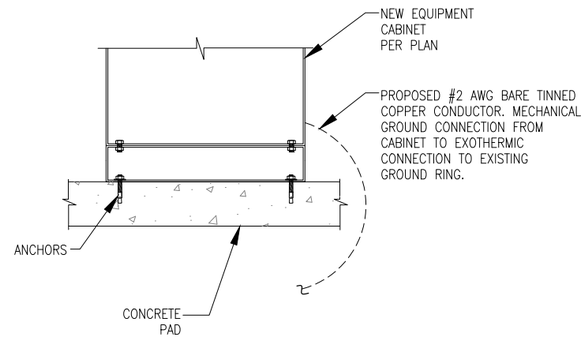
ERICSSON MODEL NO.:	B160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x26"x26" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	485 LBS
MAXIMUM WEIGHT:	2100± LBS

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

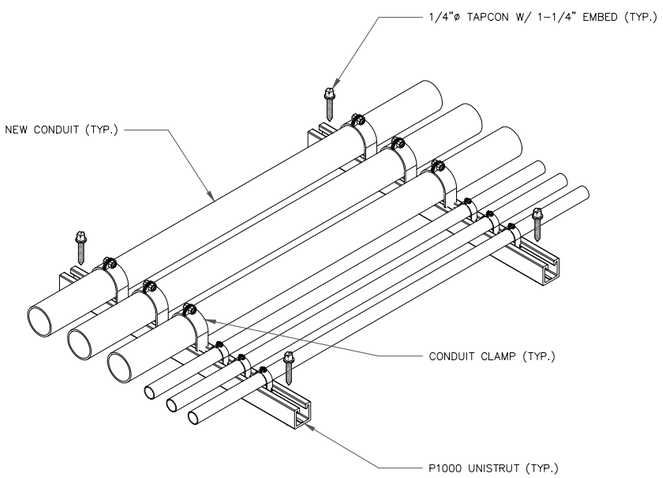


ERICSSON MODEL NO.:	6160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x25.6"x25.6" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	410 LBS
MAXIMUM WEIGHT:	770± LBS

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



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



4 CONDUIT PAD MOUNT DETAIL
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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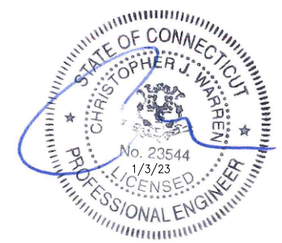


SHEET NUMBER: C-6
REVISION: 2

T-MOBILE PANEL SCHEDULE

MAIN: 200A MAIN BREAKER			**VOTAGE/PHASE:** 120/240V, 1-PHASE, 3-WIRE						**SHORT CIRCUIT CURRENT RATING:** --		
MOUNTING: INSIDE PPC ENCLOSURE			**ENCLOSURE:** NEMA 3R						**SURGE PROTECTION DEVICE:** YES		
DESCRIPTION	LOAD (VA)	C or NC	C/B	CIR No.	PHASE LOADS (VA) A	PHASE LOADS (VA) B	CIR No.	C/B	C or NC	LOAD (VA)	DESCRIPTION
SURGE	0	NC	60	1	0		2	100			SPARE
	0			3		0	4				
SAFETY LIGHT	200	NC	15	5	380		6	20	NC	180	TELCO PULG
6160	**3500**	**C**	**150**	7		4000	8	20	C	500	EMERSON
	3500			9	3500		10				
6160 GFI	**180**	**NC**	**20**	11		0	12				
				13	0		14				
				15		0	16				
				17	0		18				
				19		0	20				
				21	0		22				
				23		0	24				
BASE LOAD (VA) =					3880	4000					
25% OF CONTINUOUS LOAD (VA) =					1750	1750					
TOTAL LOAD (VA) =					5630	5750					
TOTAL LOAD (A) =					47	48					

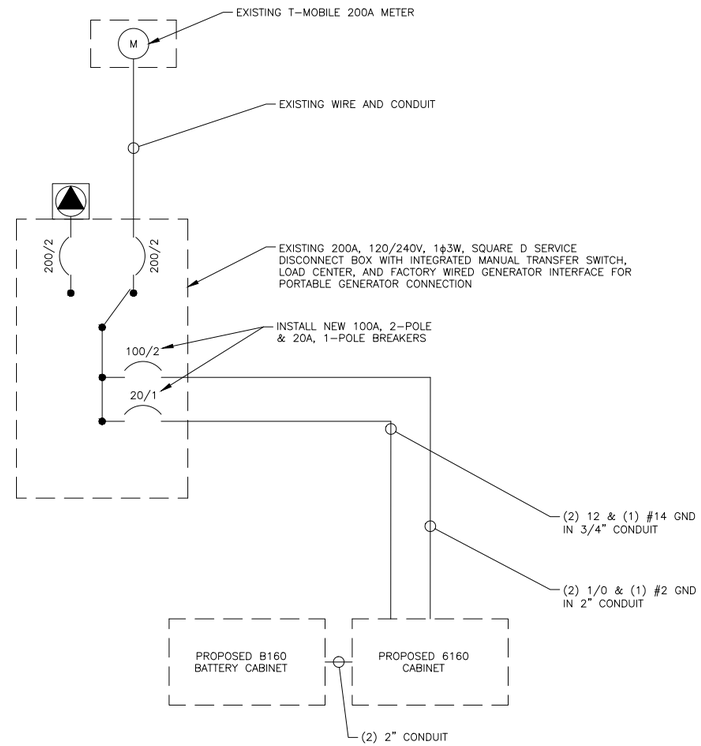
C = CONTINUOUS LOAD; NC = NON-CONTINUOUS LOAD

NEW BREAKER TO BE SAME TYPE AND HAVE SAME AIC RATING AS EXISTING. CUSTOMER HAS NOT PROVIDED LOADS FOR EQUIPMENT CABINETS THEREFORE THE CABINET LOADS SHOWN ARE ESTIMATED VALUES.

1 AC PANEL SCHEDULE
SCALE: NOT TO SCALE

NOTES:

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



2 ONE LINE DIAGRAM
SCALE: NOT TO SCALE

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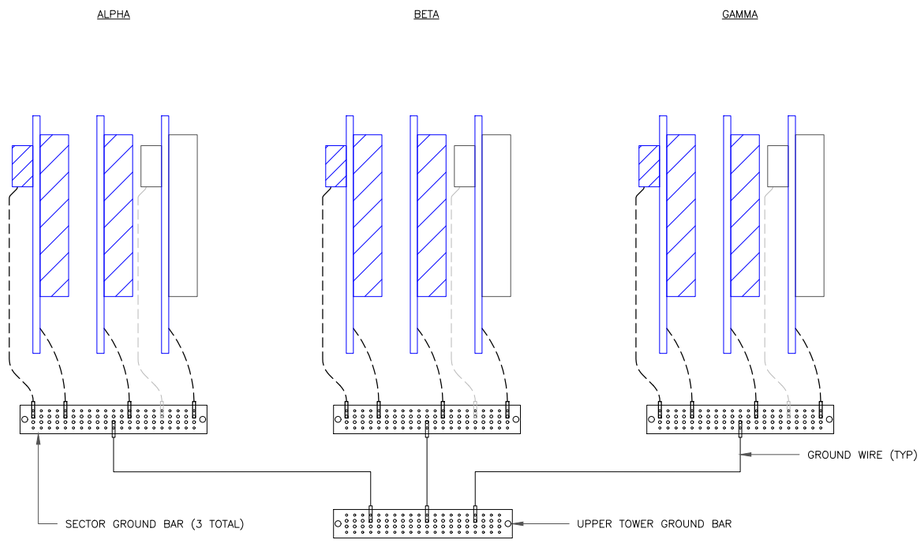
STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
1/3/23
LICENSED PROFESSIONAL ENGINEER

SHEET NUMBER: E-1

REVISION: 2



NOTE:

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

1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE

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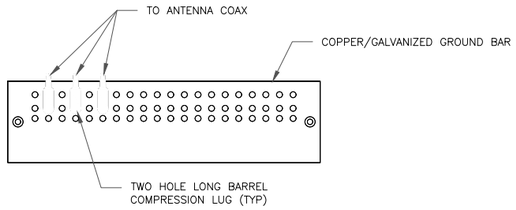
2	01/03/22	DGD	100% FINALS	CB

SHEET NUMBER: G-1

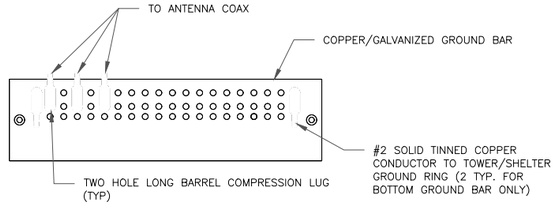
REVISION: 2



NOTES:

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

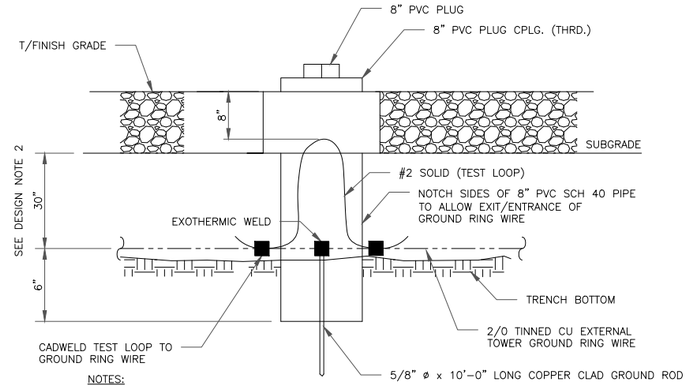
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

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

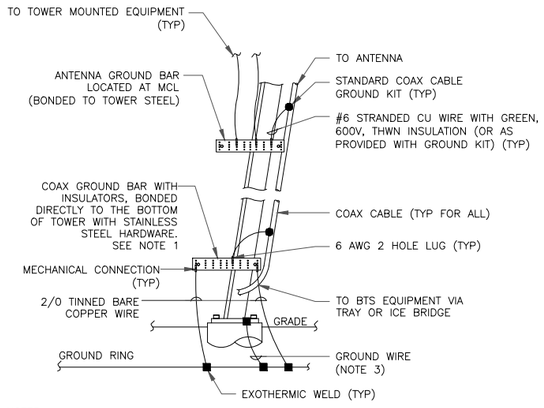
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

1. 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)

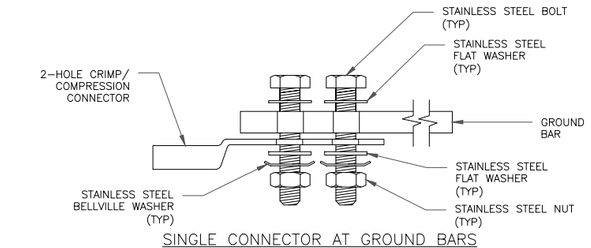
3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



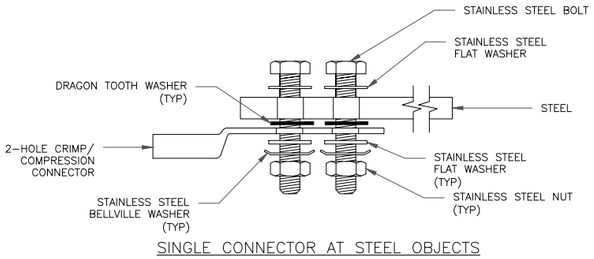
NOTES:

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.

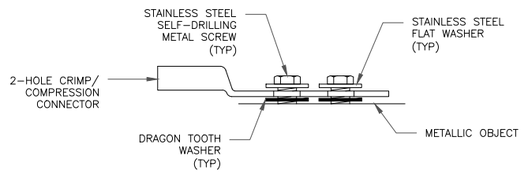
4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

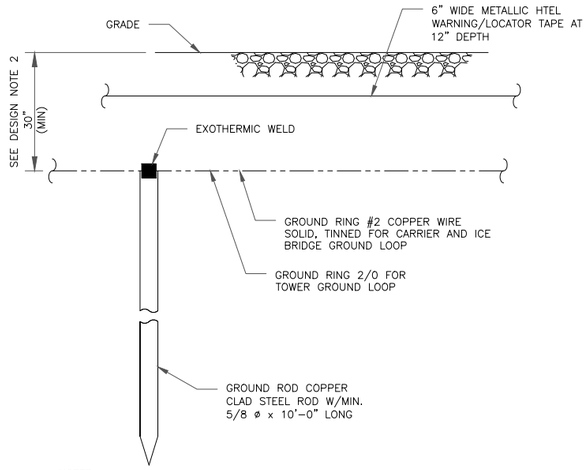


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

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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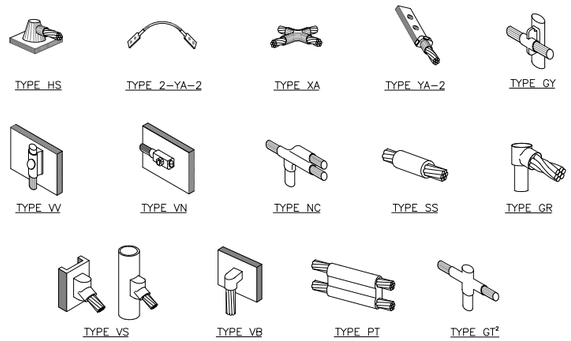
STATE OF CONNECTICUT
CHRISTOPHER J. WARREN
No. 23544
1/3/23
LICENSED PROFESSIONAL ENGINEER

SHEET NUMBER: G-2
REVISION: 2

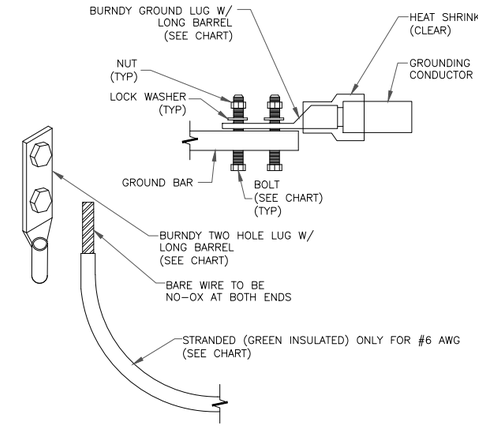


NOTE:

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

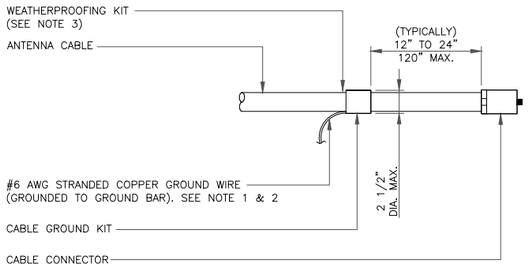
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



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.

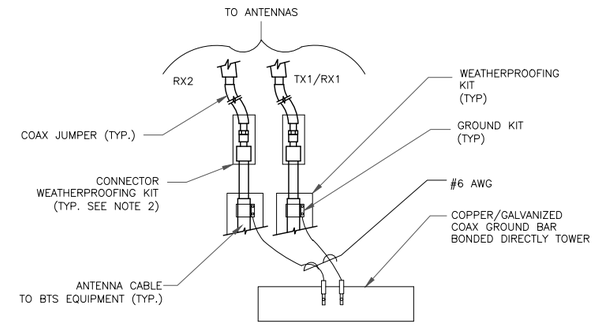
2 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



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.

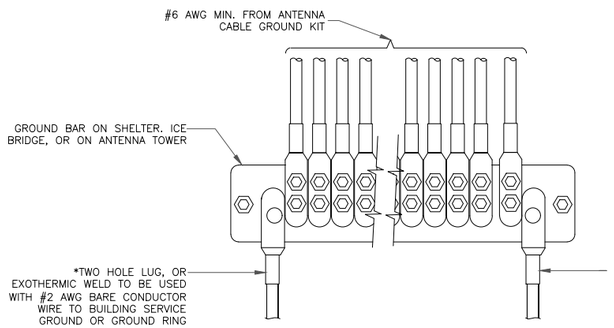
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



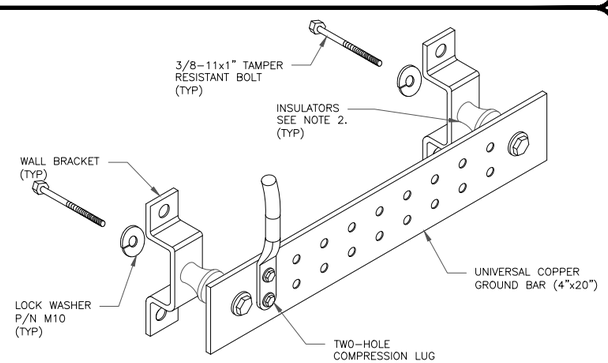
NOTES:

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



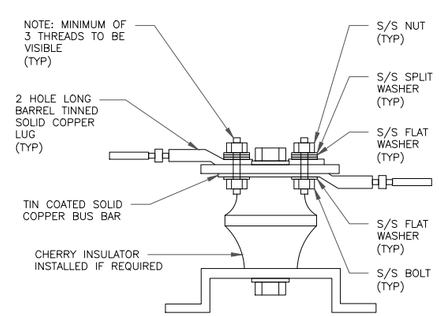
5 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



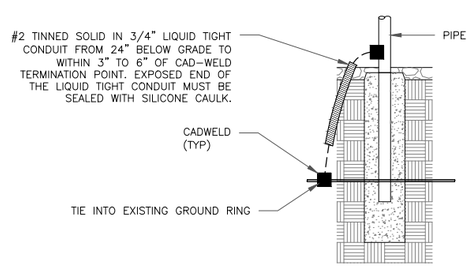
NOTES:

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

TEMPLATE NAME: BASE TEMPLATE

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SHEET NUMBER: G-3

REVISION: 2