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

August 16, 2022

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

RE: **Notice of Exempt Modification for T-Mobile: CT1103H**
Crown Site ID#806363
49B (48) Cow Hill Road, Clinton, CT 06413
Latitude: 41° 17′ 20.20″ / Longitude: -72° 32′ 18.50″

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 199-foot mount on the existing 212-foot self-support tower located at 49B (48) Cow Hill Road, Clinton, CT. T-Mobile to remove all of Sprint antenna equipment at the 139' mount level. The property and tower are owned by Crown Castle. T-Mobile now intends to replace six (6) antennas, add three (3) new antennas and ancillary equipment at the 199' level of the tower. This modification/proposal includes hardware that is both 4G (LTE) and 5G capable through remote software configuration and either or both services may be turned on or off at various times.

Panned Modification:

Tower:

Installed New:
(3) Ericsson – AIR6419 B41 Antennas
(3) Commscope W-65B-R1 Antennas
(3) RFS APXVAALL24_43-U-NA20 Antennas
(3) Ericsson- 4460 B25+B66 RRH
(3) Ericsson-Radio 4480_B71+B85 RRU
(3) Hybrid Cable 6x24

Remove:
(3) Ericsson AIR21 KRC118023-1-B2P-B4A Antennas
(3) RFS APXVAAR24-43-U-NA20 Antennas
(3) Ericsson AIR21 KRC118023-1-B2A-B4P Antennas
(3) RFS APXSPP18-C-A20 Antennas
(3) RFS APXVTM14-C-120 Antennas
(3) Ericsson 4449 B71+B85 RRH
(3) Generic Twin Style 1B-AWS TMA
(3) Alcatel Lucent - TD-RRH8x20-25 RRH
(3) Alcatel Lucent – 800MHZ 2X50W RRH
(3) Alcatel Lucent – 1900MHZ RRH

(6) 1-5/8" Coaxial Cables
(4) 1-1/4 Hybrid Cables
(3) 6x12 Hybrid Cables
(3) 3x6 Hybrid Cables

Ground:

Install New:
(1) 6160 Cabinet
(1.) RP6651
(2^) PSU 4813 vR2A
(1) CRS IXRc V2
(1^) Emerson Cabinet

Remove:
(1) DUW 30.
(6) RU22
(1) Nortel Cabinet

The facility was approved by the Connecticut Siting Council Docket No. 148 on May 5, 1992.

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 Karl Kilduff, Town Manager, Town of Clinton and Kathleen King, Zoning Enforcement Officer, Town of Clinton. Crown Castle is the property and tower owner.

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

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

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

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

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

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

Sincerely,

Jeffrey Barbadora
Site Acquisition Specialist
1800 W. Park Drive, STE 250
Westborough, MA 01581
(781) 970-0053
Jeff.Barbadora@crowncastle.com

Attachments
cc:

Karl Kilduff, Town Manager
Town of Clinton
54 E. Main Street
Clinton, CT 06413
(860) 669-9333

Kathleen King, ZEO
Town of Clinton
54 E. Main Street
Clinton, CT 06413
(860) 669-6133

Crown Castle, Property and Tower Owner

DOCKET NO. 148 - An application of Metro Mobile CTS of Hartford, Inc., for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a cellular telephone tower and associated equipment in the Town of Clinton, Connecticut. The proposed site is located on an interior portion of a 59 acre parcel off Glenwood Road approximately 3,500 feet north of I-95. The alternate site is located on a six acre parcel off Cow Hill Road, approximately 300 feet north of I-95.

Connecticut

Siting

Council

May 5, 1992

DECISION AND ORDER

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a cellular telecommunications tower and equipment building at the proposed Clinton, Connecticut, alternate site including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need as provided by section 16-50k of the Connecticut General Statutes (CGS), be issued to Metro Mobile CTS of Hartford, Inc., (Metro Mobile), for the construction, operation, and maintenance of a cellular telecommunications tower, associated equipment, and equipment building at the proposed alternate site off Cow Hill Road in Clinton, Connecticut.

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

1. The self-supporting lattice tower shall be no taller than necessary to provide the proposed communications service and in no event shall the tower exceed a total height of 223 feet above ground level, with antennas and appurtenances.

2. Prior to the commencement of construction, the Certificate Holder shall prepare a Development and Management (D&M) plan for this site in compliance with sections 16-50j-75 through 16-50j-77 of the Regulations of State Agencies. The D&M plan shall

include detailed plans of the tower, tower foundation, tower anti-climb sections, tower marking and lighting, and the locations of the equipment buildings, access road, and security fence, and all cellular antennas on the tower. In addition, the D&M plan shall include detailed plans for clearing; a site plan orienting the facility, utilities, and access road avoiding inland wetlands; and detailed plans for erosion and sedimentation control.

3. If and when tower marking and lighting become unnecessary pursuant to a determination by the Federal Aviation Administration, within six months of such determination, such tower marking and lighting shall be removed at the expense of the Certificate Holder.

4. The Certificate Holder shall comply with any existing and future radio frequency (RF) standard promulgated by State or federal regulatory agencies. Upon the establishment of any new governmental RF standards, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall provide the Council a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels originally calculated and provided in the application.

6. The Certificate Holder shall permit public or private entities, including Springwich Cellular Limited Partnership (Springwich) which by contract was allowed to share space on the tower, and the Town of Clinton, to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing. Provisions shall also be made for the location of a separate Springwich equipment building.

7. If the facility does not initially provide, or permanently ceases to provide cellular service following completion of construction, this Decision and Order shall be void, and the tower and all associated equipment shall be dismantled and removed or reapplication for any new use shall be made to the Council before any such new use is made.

8. Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within three

years of the effective date of this Decision and Order or within three years after all appeals to this Decision and Order have been resolved.

Pursuant to CGS Section 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the New Haven Register, Clinton Recorder, Hartford Courant, and the Middletown Press.

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

The parties and intervenor to this proceeding are:

PARTY	ITS REPRESENTATIVE
Metro Mobile CTS of Hartford 20 Alexander Drive Wallingford, CT 06492 Attn: David S. Malko Mgr. Engr, & Reg. Serv.	Earl W. Phillips, Jr., Esq. Robinson & Cole One Commercial Plaza Hartford, CT 06103-3597 (203) 275-8200
Town of Clinton	Lynda Batter Munro Gould, Larson, Bennet and Munro 35 Plains Road P.O. Box 959 Essex, CT 06426
INTERVENOR	
Springwich Cellular Limited Partnership	Peter J. Tyrrell Senior Attorney Springwich Cellular Limited Partnership 227 Church St., Rm. 1021 New Haven, CT 06506 (203) 771-7381

CERTIFICATION

The undersigned members of the Connecticut Siting Council (Council) hereby certify that they have heard this case, or read the record thereof, in DOCKET NO. 148 - An application of Metro Mobile CTS of Hartford, Inc., for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a cellular telephone tower and associated equipment in the Town of Clinton, Connecticut, and voted as follows to approve the proposed alternate tower site off of Cow Hill Road, approximately 300 feet north of I-95:

Council Members	Vote Cast
Mortimer A. Gelston Chairman	Yes
Commissioner Clifton A. Leonhardt Designee: Commissioner Richard G. Patterson	Yes
Commissioner Timothy R.E. Keeney Designee: Brian Emerick	Absent
Harry E. Covey	Yes
Daniel P. Lynch, Jr.	Yes
Gloria Dibble Pond	Absent
Paulann H. Sheets	Absent
William H. Smith	Yes
Colin C. Tait	Absent

Dated at New Britain, Connecticut, May 5, 1992.

6060E-2

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL
136 Main Street, Suite 401
New Britain, Connecticut 06051
Phone: 827-7682

CERTIFICATE

OF

ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED

DOCKET NO. 148

Pursuant to section 16-50k of the General Statutes of Connecticut, as amended, the Connecticut Siting Council hereby issues a Certificate of Environmental Compatibility and Public Need to Metro Mobile CTS of Hartford, Inc., for the construction, maintenance, and operation of a cellular telephone tower and associated equipment on a six acre parcel off Cow Hill Road approximately 300 feet north of I-95, in the Town of Clinton, Connecticut. This Certificate is issued in accordance with and subject to the terms and conditions set forth in the Decision and Order of the Council on May 5, 1992.

By order of the Council,

Mortimer A. Gelston, Chairman

May 5, 1992

6060E-5

49B COW HILL RD

Location	49B COW HILL RD	**Mblu**	32/ 6/ 48/ H026570/A
Acct#	H0265701	**Owner**	HESER DALE TRUSTEE
Assessment	$645,500	**Appraisal**	$922,100
PID	106785	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$772,100	$150,000	$922,100
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$540,500	$105,000	$645,500

Owner of Record

Owner	HESER DALE TRUSTEE
Co-Owner	CROWN CASTLE ATLANTIC CO LLC
Address	4017 WASHINGTON RD PMB353 MCMURRAY , PA 15317

Sale Price	$0
Certificate	
Book & Page	525/568
Sale Date	10/05/2020
Instrument	1

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
HESER DALE TRUSTEE	$0		525/568	1	10/05/2020
HESER RAYMOND E TRUSTEE	$0		0496/0599	4	10/17/2016
HESER RAYMOND	$0		0088/0061		08/21/1970
HESER RAYMOND	$0		/0		

Building Information

Building 1 : Section 1

Year Built:	1993
Living Area:	1,104
Replacement Cost:	$139,987

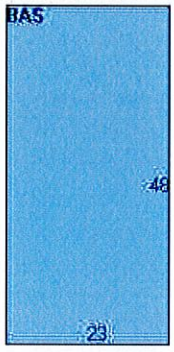
Building Percent Good: 84
Replacement Cost Less Depreciation: $117,600

Building Attributes	
Field	**Description**
STYLE	Telephone Bldg
MODEL	Ind/Comm
Grade	Average
Stories:	1
Occupancy	1.00
Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Tar & Gravel
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Hot Air-no Duc
AC Type	Central
Struct Class	
Bldg Use	TEL X STA M96
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	4300
Heat/AC	NONE
Frame Type	STEEL
Baths/Plumbing	NONE
Ceiling/Wall	NONE
Rooms/Prtns	AVERAGE
Wall Height	12.00
% Comn Wall	

Building Photo

(https://images.vgsi.com/photos/ClintonCTPhotos/\00\00\71\32.jpg)

Building Layout



(https://images.vgsi.com/photos/ClintonCTPhotos//Sketches/106785_6797

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,104	1,104
		1,104	1,104

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	4300
Description	TEL X STA M96
Zone	I-P
Neighborhood	
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0.18
Frontage	
Depth	
Assessed Value	$105,000
Appraised Value	$150,000

Outbuildings

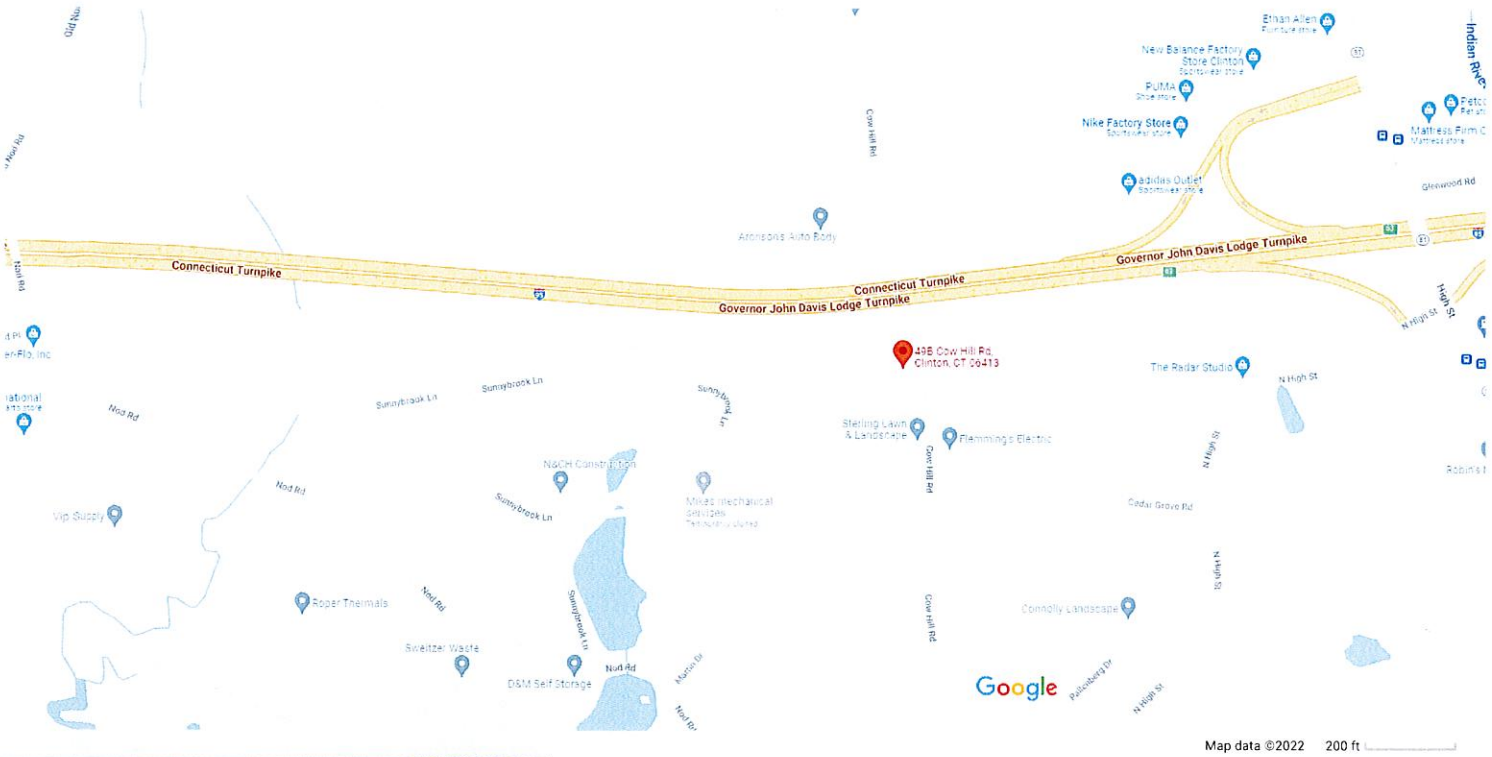
Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
FN4	FENCE-8' CHAIN			360.00 L.F.	$2,500	1
PAV2	PAVING-CONC			1296.00 S.F.	$2,600	1
SHD5	COMM WOOD			200.00 S.F.	$2,500	1
MSC51	TOWER			250.00 UNIT	$140,600	1
MSC1				3.00 UNIT	$506,300	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$772,100	$150,000	$922,100
2019	$234,600	$641,500	$876,100
2018	$234,600	$641,500	$876,100

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$540,500	$105,000	$645,500
2019	$164,200	$449,100	$613,300
2018	$164,200	$449,100	$613,300

49B Cow Hill Rd



49B Cow Hill Rd

Clinton, CT 06413

Directions Save Nearby Send to phone Share

7FP7+PH Clinton, Connecticut

Photos

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, August 18, 2022 10:04 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 777678116510: Your package has been delivered

Hi. Your package was delivered Thu, 08/18/2022 at 10:01am.

Delivered to 54 E MAIN ST, CLINTON, CT 06413
Received by S.SHERRY

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 777678116510

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of Clinton Karl Kilduff, Town Manager 54 E. Main Street CLINTON, CT, US, 06413
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Wed 8/17/2022 05:40 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	CLINTON, CT, US, 06413
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	0.50 LB
SERVICE TYPE	FedEx Priority Overnight

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, August 18, 2022 10:04 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 777678136317: Your package has been delivered

Hi. Your package was delivered Thu, 08/18/2022 at 10:01am.

Delivered to 54 E MAIN ST, CLINTON, CT 06413
Received by S.SHERRY

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 777678136317

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of Clinton Kathleen King, ZEO 54 E. Main Street CLINTON, CT, US, 06413
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Wed 8/17/2022 05:40 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	CLINTON, CT, US, 06413
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	0.50 LB
SERVICE TYPE	FedEx Priority Overnight

Date: **June 29, 2022**

Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317
(724) 416-2000

Subject:	**Structural Analysis Report**	
Carrier Designation:	***Carrier* Co-Locate** **Site Number:**	 CT11030H
Crown Castle Designation:	**BU Number:** **Site Name:** **JDE Job Number:** **Work Order Number:** **Order Number:**	806363 HRT 105 943201 721303 2130299 621344 Rev. 0
Engineering Firm Designation:	**Crown Castle Project Number:**	2130299
Site Data:	**48 COW HILL ROAD, CLINTON, MIDDLESEX County, CT** **Latitude *41° 17' 20.2"*, Longitude *-72° 32' 18.5"*** **212.625 Foot - Self Support Tower**	

Crown Castle 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 - 81.5%**

This analysis utilizes an ultimate 3-second gust wind speed of 130 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - "Analysis Criteria".

Structural analysis prepared by: Michael Lopienski

Respectfully submitted by:

STATE OF CONNECTICUT
TERRY P. STYRAN
31522
LICENSED
PROFESSIONAL ENGINEER

Terry P Styran
2022.06.30
11:51:56 -04'00'

Terry P. Styran, P.E.
Senior Project Engineer

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 212.625 ft Self Support tower designed by ROHN.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	130 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)
199.0	199.0	1	tower mounts	Sector Mount [SM 505-3]	3	1-5/8
	198.0	3	commscope	VV-65B-R1_TMO w/ Mount Pipe		
		3	ericsson	AIR 6419 B41_TMO w/ Mount Pipe		
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	ericsson	Radio 4480_TMOV2		
		3	rfs celwave	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe		
51.0	51.0	1	tower mounts	Side Arm Mount	1	1/2
		1	gps	GPS_A		

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)
208.0	209.0	6	antel	LPA-80080/6CF w/ Mount Pipe	17	1-5/8
		3	commscope	CBC1923T-DS-43		
		6	commscope	JAHH-65B-R3B w/ Mount Pipe		
		2	rfs celwave	DB-B1-6C-12AB-0Z		
		3	samsung telecommunications	MT6407-77A w/ Mount Pipe		
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		
	208.0	1	tower mounts	Sector Mount [SM 510-3]		
189.0	190.0	3	andrew	SBNHH-1D65A w/ Mount Pipe	4	13/16
		3	cci antennas	DMP65R-BU4D w/ Mount Pipe	3	3/8
		3	cci antennas	OPA65R-BU4D w/ Mount Pipe	2	7/8
		3	ericsson	RRUS 32 B30	12	1-5/8

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		3	ericsson	RRUS 32 B66		
		3	ericsson	RRUS 4415 B25		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 4478 B14		
		3	powerwave technologies	7770.00 w/ Mount Pipe		
		3	raycap	DC6-48-60-18-8F		
	189.0	1		(3)SitePro1 (Part# VFA14-WLL-30120		
183.0	183.0	3	rfs celwave	APXV18-206517LS	-	-
		1	tower mounts	Pipe Mount [PM 601-3]		
175.0	179.0	2	andrew	HPD2-23	12	1-1/4
		2	tower mounts	6' x 2" Mount Pipe		
	176.0	12	decibel	DB844H90E-XY w/ Mount Pipe		
	175.0	1	tower mounts	Sector Mount		
167.0	173.0	1	rfs celwave	1151-3	1	7/8
	167.0	1	tower mounts	Side Arm Mount [SO 306-1]		
	160.0	1	sinclair	SD310-HL		
164.0	173.0	1	rfs celwave	1151-3	1	7/8
	164.0	1	tower mounts	Side Arm Mount [SO 306-1]		
147.0	153.0	1	rfs celwave	1151-3	1	7/8
	147.0	1	tower mounts	Side Arm Mount [SO 306-1]		
145.0	148.0	1	sinclair	SD310-HL	1	7/8
	145.0	1	tower mounts	Side Arm Mount [SO 306-1]		
139.0	140.0	3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	6 3 9	1-1/4 1-3/8 1-5/8
		3	ericsson	ERICSSON AIR 21 B4A B2P w/ Mount Pipe		
		3	ericsson	KRY 112 144/1		
		3	ericsson	RADIO 4449 B12/B71		
		3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
	139.0	1	tower mounts	(3) Site Pro 1 VFA12-HD		
128.0	132.0	1	rfs celwave	1142-2C	1	7/8
	128.0	1	tower mounts	Side Arm Mount		
118.0	118.0	3	fujitsu	TA08025-B604	1	1-1/2
		3	fujitsu	TA08025-B605		
		3	jma wireless	MX08FRO665-20 w/ Mount Pipe		
		1	raycap	RDIDC-9181-PF-48		
		1	tower mounts	Commscope MTC3975083 (3)		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	262276	CCISITES
4-POST-MODIFICATION INSPECTION	2146143	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	262273	CCISITES
4-TOWER MANUFACTURER DRAWINGS	262274	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	2169576	CCISITES

3.1) Analysis Method

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

3.2) Assumptions

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

This analysis may be affected if any assumptions are not valid or have been made in error. Crown Castle 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	212.625 - 202.458	Leg	ROHN 2.5 STD	2	-4.938	59.463	8.3	Pass
T2	202.458 - 182.292	Leg	ROHN 3 EH	30	-24.943	98.582	25.3	Pass
T3	182.292 - 162.104	Leg	ROHN 4 EH	69	-75.037	167.222	44.9	Pass
T4	162.104 - 141.896	Leg	ROHN 5 EH	108	-109.983	250.620	43.9	Pass
T5	141.896 - 121.688	Leg	ROHN 6 EHS	147	-139.238	255.080	54.6	Pass
T6	121.688 - 101.479	Leg	ROHN 6 EH	174	-174.874	317.349	55.1	Pass
T7	101.479 - 81.2708	Leg	ROHN 6 EH	201	-208.296	317.349	65.6	Pass
T8	81.2708 - 61	Leg	ROHN 8 EHS	228	-239.796	404.230	59.3	Pass
T9	61 - 40.6667	Leg	ROHN 8 EHS	255	-270.341	403.942	66.9	Pass
T10	40.6667 - 20.3333	Leg	ROHN 8 EH	282	-284.653	528.398	53.9	Pass
T11	20.3333 - 0	Leg	ROHN 8 EH	315	-312.908	528.520	59.2	Pass
T1	212.625 - 202.458	Diagonal	ROHN 2 STD	12	-2.470	25.020	9.9	Pass
T2	202.458 - 182.292	Diagonal	ROHN 2 STD	38	-8.635	18.418	46.9	Pass
T3	182.292 - 162.104	Diagonal	ROHN 2 STD	78	-8.968	15.917	56.3	Pass
T4	162.104 - 141.896	Diagonal	ROHN 2 STD	117	-8.520	13.677	62.3	Pass
T5	141.896 - 121.688	Diagonal	ROHN 2.5 STD	156	-12.076	17.101	70.6	Pass
T6	121.688 - 101.479	Diagonal	ROHN 2.5 STD	183	-12.226	14.992	81.5	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T7	101.479 - 81.2708	Diagonal	ROHN 3 STD	210	-12.316	25.935	47.5	Pass
T8	81.2708 - 61	Diagonal	ROHN 3 STD	237	-12.196	22.903	53.3	Pass
T9	61 - 40.6667	Diagonal	ROHN 3 STD	264	-13.117	20.104	65.2	Pass
T10	40.6667 - 20.3333	Diagonal	ROHN 3 STD	303	-18.330	32.714	56.0	Pass
T11	20.3333 - 0	Diagonal	ROHN 3 STD	336	-20.873	31.089	67.1	Pass
T1	212.625 - 202.458	Horizontal	ROHN 1.5 STD	10	-1.751	23.711	7.4	Pass
T2	202.458 - 182.292	Horizontal	ROHN 1.5 STD	37	-4.612	23.646	19.5	Pass
T3	182.292 - 162.104	Horizontal	ROHN 1.5 STD	76	-5.735	20.100	28.5	Pass
T4	162.104 - 141.896	Horizontal	ROHN 2 STD	115	-5.791	28.570	20.3	Pass
T5	141.896 - 121.688	Horizontal	ROHN 2 STD	154	-7.199	23.772	30.3	Pass
T6	121.688 - 101.479	Horizontal	ROHN 2 STD	181	-7.969	17.707	45.0	Pass
T7	101.479 - 81.2708	Horizontal	ROHN 2.5 STD	208	-8.528	30.294	28.1	Pass
T8	81.2708 - 61	Horizontal	ROHN 2.5 STD	235	-8.862	23.656	37.5	Pass
T9	61 - 40.6667	Horizontal	ROHN 2.5 STD	262	-9.878	18.711	52.8	Pass
T10	40.6667 - 20.3333	Horizontal	ROHN 3 STD	299	-10.082	33.233	30.3	Pass
T11	20.3333 - 0	Horizontal	ROHN 3 STD	332	-11.860	27.041	43.9	Pass
T1	212.625 - 202.458	Top Girt	ROHN 1.5 STD	5	-0.223	23.767	0.9	Pass
T10	40.6667 - 20.3333	Redund Horz 1 Bracing	ROHN 1.5 STD	295	-4.941	13.657	36.2	Pass
T11	20.3333 - 0	Redund Horz 1 Bracing	ROHN 1.5 STD	328	-5.428	11.606	46.8	Pass
T10	40.6667 - 20.3333	Redund Diag 1 Bracing	ROHN 2 STD	296	-4.564	9.252	49.3	Pass
T11	20.3333 - 0	Redund Diag 1 Bracing	ROHN 2 STD	329	-4.688	8.517	55.0	Pass
T10	40.6667 - 20.3333	Redund Hip 1 Bracing	ROHN 1.5 STD	306	-0.050	12.533	0.4	Pass
T11	20.3333 - 0	Redund Hip 1 Bracing	ROHN 1.5 STD	339	-0.051	10.543	0.5	Pass
T10	40.6667 - 20.3333	Redund Hip Diagonal 1 Bracing	ROHN 2.5 STD	309	-0.079	10.900	0.7	Pass
T11	20.3333 - 0	Redund Hip Diagonal 1 Bracing	ROHN 2.5 STD	342	-0.073	9.815	0.7	Pass
T1	212.625 - 202.458	Inner Bracing	L2x2x1/8	17	-0.003	8.802	0.4	Pass
T2	202.458 - 182.292	Inner Bracing	L2x2x1/8	41	-0.006	8.646	0.4	Pass
T3	182.292 - 162.104	Inner Bracing	L2x2x1/8	80	-0.006	6.373	0.5	Pass
T4	162.104 - 141.896	Inner Bracing	L2x2x1/8	120	-0.006	4.367	0.6	Pass
T5	141.896 - 121.688	Inner Bracing	L2x2x1/8	158	-0.009	3.300	0.7	Pass
T6	121.688 - 101.479	Inner Bracing	L2 1/2x2 1/2x3/16	184	-0.010	6.951	0.5	Pass
T7	101.479 - 81.2708	Inner Bracing	L3x3x3/16	211	-0.013	9.153	0.6	Pass
T8	81.2708 - 61	Inner Bracing	L3 1/2x3 1/2x1/4	240	-0.015	14.894	0.4	Pass
T9	61 - 40.6667	Inner Bracing	L3 1/2x3 1/2x1/4	267	-0.015	11.869	0.4	Pass
T10	40.6667 - 20.3333	Inner Bracing	ROHN 3 STD	311	-0.019	31.363	0.4	Pass
T11	20.3333 - 0	Inner Bracing	ROHN 3 STD	345	-0.017	25.662	0.4	Pass
							Summary	
						Leg (T9)	66.9	Pass
						Diagonal (T6)	81.5	Pass
						Horizontal (T9)	52.8	Pass
						Top Girt (T1)	0.9	Pass
						Redund Horz 1 Bracing (T11)	46.8	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
						Redund Diag 1 Bracing (T11)	55.0	Pass
						Redund Hip 1 Bracing (T11)	0.5	Pass
						Redund Hip Diagonal 1 Bracing (T11)	0.7	Pass
						Inner Bracing (T5)	0.7	Pass
						Bolt Checks	49.4	Pass
						Rating =	81.5	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	46.4	Pass
1	Base Foundation (Structure)	0	22.1	Pass
1	Base Foundation (Soil Interaction)	0	47.3	Pass

Structure Rating (max from all components) =	**81.5%**

Notes:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.

4.1) Recommendations

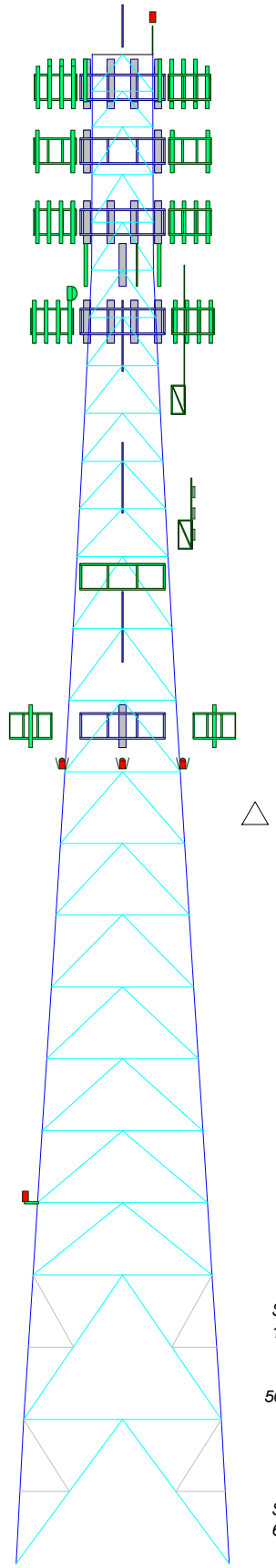
The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

Section	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs	ROHN 8 EH		ROHN 8 EHS		ROHN 6 EH		ROHN 6 EHS	ROHN 5 EH	ROHN 4 EH	ROHN 3 EH	A
Leg Grade	A572-50										
Diagonals	ROHN 3 STD			ROHN 2.5 STD				ROHN 2 STD			
Diagonal Grade	A572-50										
Top Girts	N.A.										B
Horizontals	ROHN 3 STD			ROHN 2.5 STD			ROHN 2 STD		ROHN 1.5 STD		
Red. Horizontals	ROHN 1.5 STD						N.A.				
Red. Diagonals	ROHN 2 STD						N.A.				
Red. Hips	ROHN 1.5 STD						N.A.				
Inner Bracing	ROHN 3 STD		L3 1/2x3 1/2x1/4		L3x3x3/16	L2 1/2x2 1/2x3/16		L2x2x1/8			
Face Width (ft) 30.0417	27.8333	25.1771	22.6771	20.0417	17.5417	15.0417	12.7917	10.7083	8.625	8.54167	8.5
# Panels @ (ft)	2 @ 20.3333	5.3	2 @ 10.1667	4.7	2 @ 10.1354	4.5	6 @ 10.1042	3.1	3 @ 6.73611	2.6	3 @ 6.72917	2.3	3 @ 6.72222	1.8	2 @ 5.08333	1.4	0.6
Weight (K) 35.7	5.5			3.8													

212.6 ft
202.5 ft
182.3 ft
162.1 ft
141.9 ft
121.7 ft
101.5 ft
81.3 ft
61.0 ft
40.7 ft
20.3 ft
0.0 ft



SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	ROHN 2.5 STD	B	ROHN 1.5 STD

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi			

TOWER DESIGN NOTES

1. Tower is located in Middlesex County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 130 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TIA-222-H Annex S
9. TOWER RATING: 81.5%

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 343 K
SHEAR: 40 K

UPLIFT: -277 K
SHEAR: 35 K

AXIAL 228 K
SHEAR 17 K *MOMENT 2205 kip-ft*
TORQUE 22 kip-ft
50 mph WIND - 1.500 in ICE

AXIAL 107 K
SHEAR 66 K *MOMENT 8033 kip-ft*
TORQUE 78 kip-ft
REACTIONS - 130 mph WIND

CROWN CASTLE
The Pathway to Possible
Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317
Phone: (724) 416-2000
FAX:

Job: *BU# 806869*			
Project:			
Client: Crown Castle	Drawn by: MLopienski	App'd:	
Code: TIA-222-H	Date: 06/29/22	Scale: NTS	
Path: C:\Work Area\806363\WO 2130299 - SA\Prod\806363.eri		Dwg No. E-1	

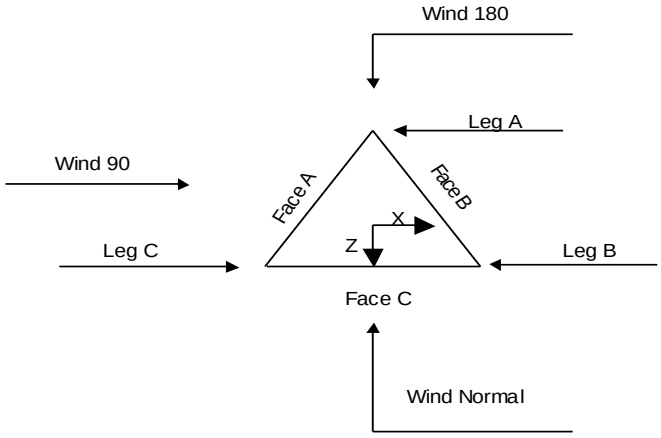
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 212.625 ft above the ground line.
The base of the tower is set at an elevation of 0.000 ft above the ground line.
The face width of the tower is 8.500 ft at the top and 30.042 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

- Tower is located in Middlesex County, Connecticut.
- Tower base elevation above sea level: 18.950 ft.
- Basic wind speed of 130 mph.
- Risk Category II.
- Exposure Category B.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.000 ft.
- 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 ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	212.625-202.458			8.500	1	10.167
T2	202.458-182.292			8.542	1	20.167
T3	182.292-162.104			8.625	1	20.188
T4	162.104-141.896			10.708	1	20.208
T5	141.896-121.688			12.792	1	20.208
T6	121.688-101.479			15.042	1	20.208
T7	101.479-81.271			17.542	1	20.208
T8	81.271-61.000			20.042	1	20.271
T9	61.000-40.667			22.677	1	20.333
T10	40.667-20.333			25.177	1	20.333
T11	20.333-0.000			27.833	1	20.333

Tower Section Geometry *(cont'd)*

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
T1	212.625-202.458	5.083	K Brace Down	No	Yes	0.000	0.000
T2	202.458-182.292	6.722	K Brace Down	No	Yes	0.000	0.000
T3	182.292-162.104	6.729	K Brace Down	No	Yes	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
T4	162.104-141.896	6.736	K Brace Down	No	Yes	0.000	0.000
T5	141.896-121.688	10.104	K Brace Down	No	Yes	0.000	0.000
T6	121.688-101.479	10.104	K Brace Down	No	Yes	0.000	0.000
T7	101.479-81.271	10.104	K Brace Down	No	Yes	0.000	0.000
T8	81.271-61.000	10.135	K Brace Down	No	Yes	0.000	0.000
T9	61.000-40.667	10.167	K Brace Down	No	Yes	0.000	0.000
T10	40.667-20.333	20.333	K1 Down	No	Yes	0.000	0.000
T11	20.333-0.000	20.333	K1 Down	No	Yes	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 212.625-202.458	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)
T2 202.458-182.292	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)
T3 182.292-162.104	Pipe	ROHN 4 EH	A572-50 (50 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)
T4 162.104-141.896	Pipe	ROHN 5 EH	A572-50 (50 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)
T5 141.896-121.688	Pipe	ROHN 6 EHS	A572-50 (50 ksi)	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)
T6 121.688-101.479	Pipe	ROHN 6 EH	A572-50 (50 ksi)	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)
T7 101.479-81.271	Pipe	ROHN 6 EH	A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T8 81.271-61.000	Pipe	ROHN 8 EHS	A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T9 61.000-40.667	Pipe	ROHN 8 EHS	A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T10 40.667-20.333	Pipe	ROHN 8 EH	A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T11 20.333-0.000	Pipe	ROHN 8 EH	A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T1 212.625-202.458	None	Single Angle		A572-50 (50 ksi)	Pipe	ROHN 1.5 STD	A572-50 (50 ksi)
T2 202.458-182.292	None	Single Angle		A572-50 (50 ksi)	Pipe	ROHN 1.5 STD	A572-50 (50 ksi)
T3 182.292-162.104	None	Single Angle		A572-50 (50 ksi)	Pipe	ROHN 1.5 STD	A572-50 (50 ksi)
T4 162.104-141.896	None	Single Angle		A572-50 (50 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)
T5 141.896-121.688	None	Single Angle		A572-50 (50 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)
T6 121.688-101.479	None	Single Angle		A572-50 (50 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)
T7 101.479-81.271	None	Single Angle		A572-50 (50 ksi)	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T8 81.271-61.000	None	Single Angle		A572-50 (50 ksi)	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)
T9 61.000-40.667	None	Single Angle		A572-50 (50 ksi)	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)
T10 40.667-20.333	None	Single Angle		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T11 20.333-0.000	None	Single Angle		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T1 212.625-202.458	Single Angle		A572-50 (50 ksi)	Equal Angle	L2x2x1/8	A36 (36 ksi)
T2 202.458-182.292	Single Angle		A572-50 (50 ksi)	Equal Angle	L2x2x1/8	A36 (36 ksi)
T3 182.292-162.104	Single Angle		A572-50 (50 ksi)	Equal Angle	L2x2x1/8	A36 (36 ksi)
T4 162.104-141.896	Single Angle		A572-50 (50 ksi)	Equal Angle	L2x2x1/8	A36 (36 ksi)
T5 141.896-121.688	Single Angle		A572-50 (50 ksi)	Equal Angle	L2x2x1/8	A36 (36 ksi)
T6 121.688-101.479	Single Angle		A572-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T7 101.479-81.271	Single Angle		A572-50 (50 ksi)	Equal Angle	L3x3x3/16	A36 (36 ksi)
T8 81.271-61.000	Single Angle		A572-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A572-50 (50 ksi)
T9 61.000-40.667	Single Angle		A572-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A572-50 (50 ksi)
T10 40.667-20.333	Single Angle		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)
T11 20.333-0.000	Single Angle		A572-50 (50 ksi)	Pipe	ROHN 3 STD	A572-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Redundant Bracing Grade		Redundant Type	Redundant Size	K Factor
T10 40.667-20.333	A36 (36 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Diagonal (1)	Pipe	ROHN 2 STD	1
		Hip (1)	Pipe	ROHN 1.5 STD	1
		Hip Diagonal (1)	Pipe	ROHN 2.5 STD	1
T11 20.333-0.000	A36 (36 ksi)	Horizontal (1)	Pipe	ROHN 1.5 STD	1
		Diagonal (1)	Pipe	ROHN 2 STD	1
		Hip (1)	Pipe	ROHN 1.5 STD	1
		Hip Diagonal (1)	Pipe	ROHN 2.5 STD	1

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 212.625-202.458	0.000	0.000	A36 (36 ksi)	1	1	1	Mid-Pt	Mid-Pt	Mid-Pt
T2 202.458-182.292	0.000	0.000	A36 (36 ksi)	1	1	1	Mid-Pt	Mid-Pt	Mid-Pt
T3 182.292-162.104	0.000	0.000	A36 (36 ksi)	1	1	1	Mid-Pt	Mid-Pt	Mid-Pt
T4 162.104-141.896	0.000	0.000	A36 (36 ksi)	1	1	1	Mid-Pt	Mid-Pt	Mid-Pt
T5 141.896-121.688	0.000	0.000	A36 (36 ksi)	1	1	1	Mid-Pt	Mid-Pt	Mid-Pt
T6 121.688-101.479	0.000	0.000	A36 (36 ksi)	1	1	1	Mid-Pt	Mid-Pt	Mid-Pt
T7 101.479-81.271	0.000	0.000	A36 (36 ksi)	1	1	1	Mid-Pt	Mid-Pt	Mid-Pt
T8 81.271-61.000	0.000	0.000	A36 (36 ksi)	1	1	1	Mid-Pt	Mid-Pt	Mid-Pt
T9 61.000-40.667	0.000	0.000	A36 (36 ksi)	1	1	1	Mid-Pt	Mid-Pt	Mid-Pt
T10 40.667-20.333	0.000	0.000	A36 (36 ksi)	1	1	1	Mid-Pt	Mid-Pt	Mid-Pt
T11 20.333-0.000	0.000	0.000	A36 (36 ksi)	1	1	1	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 212.625-202.458	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T2 202.458-182.292	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T3 182.292-162.104	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T4 162.104-141.896	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T5 141.896-121.688	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T6 121.688-101.479	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T7 101.479-81.271	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T8 81.271-61.000	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T9 61.000-40.667	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T10 40.667-20.333	No	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T11 20.333-0.000	No	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 212.625-202.458	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	1	0.000	0.75
T2 202.458-182.292	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	1	0.000	0.75
T3 182.292-162.104	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	1	0.000	0.75
T4 162.104-141.896	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	1	0.000	0.75
T5 141.896-121.688	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	1	0.000	0.75
T6 121.688-101.479	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	1	0.000	0.75
T7 101.479-81.271	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	1	0.000	0.75
T8 81.271-61.000	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	1	0.000	0.75
T9 61.000-40.667	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	1	0.000	0.75
T10 40.667-20.333	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	1	0.000	0.75
T11 20.333-0.000	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	1	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 212.625-202.458	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 202.458-182.292	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 182.292-162.104	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 162.104-141.896	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 141.896-121.688	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 121.688-101.479	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 101.479-81.271	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
T8 81.271-61.000	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
T9 61.000-40.667	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
T10 40.667-20.333	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
T11 20.333-0.000	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 212.625-202.458	Flange	0.750 A325N	4	0.625 A325N	3	0.625 A325N	0	0.625 A325X	0	0.625 A325X	0	0.625 A325N	2	0.625 A325X	0
T2 202.458-182.292	Flange	0.875 A325N	4	0.625 A325N	3	0.625 A325N	0	0.625 A325X	0	0.625 A325X	0	0.625 A325N	2	0.625 A325X	0
T3 182.292-162.104	Flange	1.000 A325N	4	0.625 A325N	3	0.625 A325N	0	0.625 A325X	0	0.625 A325X	0	0.625 A325N	2	0.625 A325X	0
T4 162.104-141.896	Flange	1.000 A325N	6	0.625 A325N	3	0.625 A325N	0	0.625 A325X	0	0.625 A325X	0	0.625 A325N	2	0.625 A325X	0
T5 141.896-121.688	Flange	1.000 A325N	6	0.625 A325N	3	0.625 A325N	0	0.625 A325X	0	0.625 A325X	0	0.625 A325N	2	0.625 A325X	0
T6 121.688-101.479	Flange	1.000 A325N	6	0.625 A325N	3	0.625 A325N	0	0.625 A325X	0	0.625 A325X	0	0.625 A325N	2	0.625 A325X	0
T7 101.479-81.271	Flange	1.000 A325N	8	0.625 A325N	3	0.625 A325N	0	0.625 A325X	0	0.625 A325X	0	0.625 A325N	2	0.625 A325X	0
T8 81.271-61.000	Flange	1.000 A325N	8	0.625 A325N	3	0.625 A325N	0	0.625 A325X	0	0.625 A325X	0	0.625 A325N	2	0.625 A325X	0
T9 61.000-40.667	Flange	1.000 A325N	8	0.625 A325N	3	0.625 A325N	0	0.625 A325X	0	0.625 A325X	0	0.625 A325N	2	0.625 A325X	0
T10 40.667-20.333	Flange	1.000 A325N	8	0.750 A325N	3	0.625 A325N	0	0.625 A325X	0	0.625 A325X	0	0.750 A325N	2	0.625 A325X	0
T11 20.333-0.000	Flange	1.000 A354-BC	0	0.750 A325N	3	0.625 A325N	0	0.625 A325X	0	0.625 A325X	0	0.750 A325N	2	0.625 A325X	0

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	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 212.625-202.458	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0
T2 202.458-182.292	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0
T3 182.292-162.104	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0
T4 162.104-141.896	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0
T5 141.896-121.688	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0
T6 121.688-101.479	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0
T7 101.479-81.271	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0
T8 81.271-61.000	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0
T9 61.000-40.667	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0
T10 40.667-20.333	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0	0.625 A325N	0
T11 20.333-0.000	0.625 A325N	1	0.625 A325N	1	0.625 A325N	0	0.625 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

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
LDF4-50A(1/2")	A	No	No	Ar (CaAa)	51.000 - 0.000	0.000	0.46	1	1	0.630	0.630		0.000
HB158-21U6S24-xxM_TMO(1-5/8)	A	No	No	Ar (CaAa)	199.000 - 0.000	0.000	0.42	3	3	1.000	1.996		0.003
Feedline Ladder (Af) ***	A	No	No	Af (CaAa)	199.000 - 0.000	0.000	0.43	1	1	3.000	3.000		0.008
LDF5-50A(7/8")	A	No	No	Ar (CaAa)	128.000 - 0.000	0.000	-0.4	5	5	1.000	1.090		0.000
LDF5-50A(7/8")	A	No	No	Ar (CaAa)	145.000 - 128.000	0.000	-0.4	4	4	1.000	1.090		0.000
LDF5-50A(7/8")	A	No	No	Ar (CaAa)	147.000 - 145.000	0.000	-0.4	3	3	1.000	1.090		0.000
LDF5-50A(7/8")	A	No	No	Ar (CaAa)	164.000 - 147.000	0.000	-0.4	2	2	1.000	1.090		0.000
LDF5-50A(7/8") ***	A	No	No	Ar (CaAa)	167.000 - 164.000	0.000	-0.4	1	1	1.000	1.090		0.000
CR 50 1873(1-5/8")	A	No	No	Ar (CaAa)	189.000 - 0.000	0.000	-0.44	12	6	0.850 0.750	1.980		0.001
3" Conduit	A	No	No	Ar (CaAa)	189.000 - 0.000	0.000	-0.4	1	1	3.000	3.000		0.003
PWRT-608-S(13/16)	A	No	No	Ar (CaAa)	189.000 - 0.000	0.000	-0.36	4	2	0.850 0.750	0.820		0.001
LDF2-50(3/8")	A	No	No	Ar (CaAa)	189.000 - 0.000	0.000	-0.36	3	3	0.440	0.440		0.000
PWRT-606-S(7/8) ***	A	No	No	Ar (CaAa)	189.000 - 0.000	0.000	-0.34	2	2	0.920	0.920		0.001
LDF1-50A(1/4")	A	No	No	Ar (CaAa)	175.000 - 0.000	0.000	-0.47	4	2	0.345	0.345		0.000
LDF2-50(3/8")	A	No	No	Ar (CaAa)	162.000 - 0.000	0.000	-0.48	1	1	0.440	0.440		0.000
Feedline Ladder (Af) ***	A	No	No	Af (CaAa)	189.000 - 0.000	0.000	-0.4	1	1	3.000	3.000		0.008
Safety Line 3/8 ***	A	No	No	Ar (CaAa)	212.625 - 0.000	0.000	0.5	1	1	0.375	0.375		0.000
LDF6-50A(1 1/4")	B	No	No	Ar (CaAa)	139.000 - 0.000	0.000	-0.41	6	3	1.550	1.550		0.001
HCS 6X12 6AWG(1-3/8")	B	No	No	Ar (CaAa)	139.000 - 0.000	6.000	-0.41	3	3	1.380	1.380		0.002
MLE HYBRID 9POWER/18 FIBER RL 2(1-5/8)	B	No	No	Ar (CaAa)	139.000 - 0.000	0.000	-0.44	9	3	1.625	1.625		0.001
Feedline Ladder (Af) ***	B	No	No	Af (CaAa)	139.000 - 0.000	0.000	-0.45	1	1	3.000	3.000		0.008
Feedline Ladder (Af) ***	B	No	No	Af (CaAa)	175.000 - 0.000	0.000	0.4	1	1	3.000	3.000		0.008
LDF7-50A(1-5/8)	C	No	No	Ar (CaAa)	208.000 - 0.000	0.000	0	15	8	1.000	1.980		0.001
HB158-1-08U8-S8J18(1-5/8)	C	No	No	Ar (CaAa)	208.000 - 0.000	2.000	0.45	2	2	1.000	1.980		0.001
Feedline Ladder (Af)	C	No	No	Af (CaAa)	208.000 - 0.000	0.000	0.43	1	1	3.000	3.000		0.008
Feedline Ladder (Af) ***	C	No	No	Af (CaAa)	183.000 - 0.000	0.000	-0.45	1	1	3.000	3.000		0.008
LDF4-	A	No	No	Ar (CaAa)	112.000 -	0.000	-0.49	1	1	0.300	0.630		0.000

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
50A(1/2") LDF4-50A(1/2") ***	C	No	No	Ar (CaAa)	0.000 212.625 - 0.000	0.000	0.49	1	1	0.300	0.630		0.000
CU12PSM9P6XXX(1-1/2) ***	C	No	No	Ar (CaAa)	118.000 - 0.000	0.000	-0.49	1	1	1.600	1.600		0.002

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	212.625-202.458	A	0.000	0.000	0.381	0.000	0.002
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	22.065	0.000	0.131
T2	202.458-182.292	A	0.000	0.000	44.741	0.000	0.442
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	79.589	0.000	0.479
T3	182.292-162.104	A	0.000	0.000	102.575	0.000	0.849
		B	0.000	0.000	6.448	0.000	0.108
		C	0.000	0.000	89.410	0.000	0.643
T4	162.104-141.896	A	0.000	0.000	109.132	0.000	0.867
		B	0.000	0.000	10.104	0.000	0.170
		C	0.000	0.000	89.503	0.000	0.644
T5	141.896-121.688	A	0.000	0.000	113.335	0.000	0.880
		B	0.000	0.000	67.348	0.000	0.639
		C	0.000	0.000	89.503	0.000	0.644
T6	121.688-101.479	A	0.000	0.000	115.513	0.000	0.886
		B	0.000	0.000	76.923	0.000	0.717
		C	0.000	0.000	92.146	0.000	0.682
T7	101.479-81.271	A	0.000	0.000	116.123	0.000	0.887
		B	0.000	0.000	76.923	0.000	0.717
		C	0.000	0.000	92.736	0.000	0.691
T8	81.271-61.000	A	0.000	0.000	116.482	0.000	0.890
		B	0.000	0.000	77.161	0.000	0.719
		C	0.000	0.000	93.023	0.000	0.693
T9	61.000-40.667	A	0.000	0.000	117.492	0.000	0.894
		B	0.000	0.000	77.399	0.000	0.722
		C	0.000	0.000	93.310	0.000	0.695
T10	40.667-20.333	A	0.000	0.000	118.122	0.000	0.896
		B	0.000	0.000	77.399	0.000	0.722
		C	0.000	0.000	93.310	0.000	0.695
T11	20.333-0.000	A	0.000	0.000	118.122	0.000	0.896
		B	0.000	0.000	77.399	0.000	0.722
		C	0.000	0.000	93.310	0.000	0.695

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	212.625-202.458	A	1.532	0.000	0.000	3.497	0.000	0.039
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	33.577	0.000	0.607
T2	202.458-182.292	A	1.521	0.000	0.000	90.107	0.000	1.509
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	116.295	0.000	2.142
T3	182.292-162.104	A	1.504	0.000	0.000	198.518	0.000	3.195
		B		0.000	0.000	10.327	0.000	0.242
		C		0.000	0.000	131.654	0.000	2.494
T4	162.104-141.896	A	1.485	0.000	0.000	227.601	0.000	3.441
		B		0.000	0.000	16.108	0.000	0.375
		C		0.000	0.000	131.316	0.000	2.476
T5	141.896-121.688	A	1.464	0.000	0.000	235.273	0.000	3.526
		B		0.000	0.000	115.140	0.000	2.348
		C		0.000	0.000	130.782	0.000	2.452
T6	121.688-101.479	A	1.440	0.000	0.000	240.740	0.000	3.563
		B		0.000	0.000	131.020	0.000	2.652
		C		0.000	0.000	137.570	0.000	2.553
T7	101.479-81.271	A	1.412	0.000	0.000	242.086	0.000	3.541
		B		0.000	0.000	130.197	0.000	2.620
		C		0.000	0.000	138.384	0.000	2.547
T8	81.271-61.000	A	1.377	0.000	0.000	240.310	0.000	3.481
		B		0.000	0.000	129.587	0.000	2.589
		C		0.000	0.000	137.782	0.000	2.513
T9	61.000-40.667	A	1.331	0.000	0.000	241.154	0.000	3.435
		B		0.000	0.000	128.664	0.000	2.547
		C		0.000	0.000	136.861	0.000	2.467
T10	40.667-20.333	A	1.265	0.000	0.000	239.374	0.000	3.332
		B		0.000	0.000	126.738	0.000	2.474
		C		0.000	0.000	134.900	0.000	2.389
T11	20.333-0.000	A	1.133	0.000	0.000	229.318	0.000	3.070
		B		0.000	0.000	122.918	0.000	2.334
		C		0.000	0.000	131.013	0.000	2.238

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	212.625-202.458	-4.125	5.229	-6.296	3.827
T2	202.458-182.292	-8.642	2.528	-11.351	1.100
T3	182.292-162.104	-11.581	7.797	-14.302	6.438
T4	162.104-141.896	-13.628	9.759	-17.716	9.025
T5	141.896-121.688	-12.743	-5.830	-16.950	-4.257
T6	121.688-101.479	-13.506	-8.051	-17.841	-5.486
T7	101.479-81.271	-14.726	-8.417	-19.941	-5.493
T8	81.271-61.000	-16.033	-9.076	-21.579	-5.987
T9	61.000-40.667	-17.596	-10.207	-23.427	-7.496
T10	40.667-20.333	-19.644	-11.673	-25.644	-9.261
T11	20.333-0.000	-21.163	-12.524	-27.128	-10.175

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	22	Safety Line 3/8	202.46 - 212.63	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	32	LDF7-50A(1-5/8)	202.46 - 208.00	0.6000	0.6000
T1	33	HB158-1-08U8-S8J18(1-5/8)	202.46 - 208.00	0.6000	0.6000
T1	34	Feedline Ladder (Af)	202.46 - 208.00	0.6000	0.6000
T1	38	LDF4-50A(1/2")	202.46 - 212.63	0.6000	0.6000
T2	3	HB158-21U6S24-xxM_TMO(1-5/8)	182.29 - 199.00	0.6000	0.6000
T2	4	Feedline Ladder (Af)	182.29 - 199.00	0.6000	0.6000
T2	12	CR 50 1873(1-5/8")	182.29 - 189.00	0.6000	0.6000
T2	13	3" Conduit	182.29 - 189.00	0.6000	0.6000
T2	14	PWRT-608-S(13/16)	182.29 - 189.00	0.0000	0.0000
T2	15	LDF2-50(3/8")	182.29 - 189.00	0.6000	0.6000
T2	16	PWRT-606-S(7/8)	182.29 - 189.00	0.6000	0.6000
T2	20	Feedline Ladder (Af)	182.29 - 189.00	0.6000	0.6000
T2	22	Safety Line 3/8	182.29 - 202.46	0.6000	0.6000
T2	32	LDF7-50A(1-5/8)	182.29 - 202.46	0.6000	0.6000
T2	33	HB158-1-08U8-S8J18(1-5/8)	182.29 - 202.46	0.6000	0.6000
T2	34	Feedline Ladder (Af)	182.29 - 202.46	0.6000	0.6000
T2	35	Feedline Ladder (Af)	182.29 - 183.00	0.6000	0.6000
T2	38	LDF4-50A(1/2")	182.29 - 202.46	0.6000	0.6000
T3	3	HB158-21U6S24-xxM_TMO(1-5/8)	162.10 - 182.29	0.6000	0.6000
T3	4	Feedline Ladder (Af)	162.10 - 182.29	0.6000	0.6000
T3	9	LDF5-50A(7/8")	162.10 - 164.00	0.6000	0.6000
T3	10	LDF5-50A(7/8")	164.00 - 167.00	0.6000	0.6000
T3	12	CR 50 1873(1-5/8")	162.10 - 182.29	0.6000	0.6000
T3	13	3" Conduit	162.10 - 182.29	0.6000	0.6000
T3	14	PWRT-608-S(13/16)	162.10 - 182.29	0.0000	0.0000
T3	15	LDF2-50(3/8")	162.10 - 182.29	0.6000	0.6000
T3	16	PWRT-606-S(7/8)	162.10 - 182.29	0.6000	0.6000
T3	18	LDF1-50A(1/4")	162.10 - 175.00	0.6000	0.6000
T3	20	Feedline Ladder (Af)	162.10 - 182.29	0.6000	0.6000
T3	22	Safety Line 3/8	162.10 - 182.29	0.6000	0.6000
T3	30	Feedline Ladder (Af)	162.10 - 175.00	0.6000	0.6000
T3	32	LDF7-50A(1-5/8)	162.10 - 182.29	0.6000	0.6000
T3	33	HB158-1-08U8-S8J18(1-5/8)	162.10 - 182.29	0.6000	0.6000
T3	34	Feedline Ladder (Af)	162.10 - 182.29	0.6000	0.6000
T3	35	Feedline Ladder (Af)	162.10 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T3	38	LDF4-50A(1/2")	182.29 - 162.10	0.6000	0.6000
T4	3	HB158-21U6S24-xxM_TMO(1-5/8)	182.29 - 141.90	0.6000	0.6000
T4	4	Feedline Ladder (Af)	162.10 - 141.90	0.6000	0.6000
T4	7	LDF5-50A(7/8")	162.10 - 141.90	0.6000	0.6000
T4	8	LDF5-50A(7/8")	145.00 - 145.00	0.6000	0.6000
T4	9	LDF5-50A(7/8")	147.00 - 147.00	0.6000	0.6000
T4	12	CR 50 1873(1-5/8")	162.10 - 141.90	0.6000	0.6000
T4	13	3" Conduit	162.10 - 141.90	0.6000	0.6000
T4	14	PWRT-608-S(13/16)	162.10 - 141.90	0.0000	0.0000
T4	15	LDF2-50(3/8")	162.10 - 141.90	0.6000	0.6000
T4	16	PWRT-606-S(7/8)	162.10 - 141.90	0.6000	0.6000
T4	18	LDF1-50A(1/4")	162.10 - 141.90	0.6000	0.6000
T4	19	LDF2-50(3/8")	162.00 - 141.90	0.6000	0.6000
T4	20	Feedline Ladder (Af)	162.10 - 141.90	0.6000	0.6000
T4	22	Safety Line 3/8	162.10 - 141.90	0.6000	0.6000
T4	30	Feedline Ladder (Af)	162.10 - 141.90	0.6000	0.6000
T4	32	LDF7-50A(1-5/8)	162.10 - 141.90	0.6000	0.6000
T4	33	HB158-1-08U8-S8J18(1-5/8)	162.10 - 141.90	0.6000	0.6000
T4	34	Feedline Ladder (Af)	162.10 - 141.90	0.6000	0.6000
T4	35	Feedline Ladder (Af)	162.10 - 141.90	0.6000	0.6000
T4	38	LDF4-50A(1/2")	162.10 - 141.90	0.6000	0.6000
T5	3	HB158-21U6S24-xxM_TMO(1-5/8)	141.90 - 121.69	0.6000	0.6000
T5	4	Feedline Ladder (Af)	141.90 - 121.69	0.6000	0.6000
T5	6	LDF5-50A(7/8")	141.90 - 128.00	0.6000	0.6000
T5	7	LDF5-50A(7/8")	128.00 - 121.69	0.6000	0.6000
T5	12	CR 50 1873(1-5/8")	141.90 - 121.69	0.6000	0.6000
T5	13	3" Conduit	141.90 - 121.69	0.6000	0.6000
T5	14	PWRT-608-S(13/16)	141.90 - 121.69	0.0000	0.0000
T5	15	LDF2-50(3/8")	141.90 - 121.69	0.6000	0.6000
T5	16	PWRT-606-S(7/8)	141.90 - 121.69	0.6000	0.6000
T5	18	LDF1-50A(1/4")	141.90 - 121.69	0.6000	0.6000
T5	19	LDF2-50(3/8")	141.90 - 121.69	0.6000	0.6000
T5	20	Feedline Ladder (Af)	141.90 - 121.69	0.6000	0.6000
T5	22	Safety Line 3/8	141.90 - 121.69	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T5	25	LDF6-50A(1 1/4")	121.69 - 139.00	0.6000	0.6000
T5	26	HCS 6X12 6AWG(1-3/8")	121.69 - 139.00	0.6000	0.6000
T5	27	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	121.69 - 139.00	0.6000	0.6000
T5	28	Feedline Ladder (Af)	121.69 - 139.00	0.6000	0.6000
T5	30	Feedline Ladder (Af)	121.69 - 141.90	0.6000	0.6000
T5	32	LDF7-50A(1-5/8)	121.69 - 141.90	0.6000	0.6000
T5	33	HB158-1-08U8-S8J18(1-5/8)	121.69 - 141.90	0.6000	0.6000
T5	34	Feedline Ladder (Af)	121.69 - 141.90	0.6000	0.6000
T5	35	Feedline Ladder (Af)	121.69 - 141.90	0.6000	0.6000
T5	38	LDF4-50A(1/2")	121.69 - 141.90	0.6000	0.6000
T6	3	HB158-21U6S24-xxM_TMO(1-5/8)	101.48 - 121.69	0.6000	0.6000
T6	4	Feedline Ladder (Af)	101.48 - 121.69	0.6000	0.6000
T6	6	LDF5-50A(7/8")	101.48 - 121.69	0.6000	0.6000
T6	12	CR 50 1873(1-5/8")	101.48 - 121.69	0.6000	0.6000
T6	13	3" Conduit	101.48 - 121.69	0.6000	0.6000
T6	14	PWRT-608-S(13/16)	101.48 - 121.69	0.0000	0.0000
T6	15	LDF2-50(3/8")	101.48 - 121.69	0.6000	0.6000
T6	16	PWRT-606-S(7/8)	101.48 - 121.69	0.6000	0.6000
T6	18	LDF1-50A(1/4")	101.48 - 121.69	0.6000	0.6000
T6	19	LDF2-50(3/8")	101.48 - 121.69	0.6000	0.6000
T6	20	Feedline Ladder (Af)	101.48 - 121.69	0.6000	0.6000
T6	22	Safety Line 3/8	101.48 - 121.69	0.6000	0.6000
T6	25	LDF6-50A(1 1/4")	101.48 - 121.69	0.6000	0.6000
T6	26	HCS 6X12 6AWG(1-3/8")	101.48 - 121.69	0.6000	0.6000
T6	27	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	101.48 - 121.69	0.6000	0.6000
T6	28	Feedline Ladder (Af)	101.48 - 121.69	0.6000	0.6000
T6	30	Feedline Ladder (Af)	101.48 - 121.69	0.6000	0.6000
T6	32	LDF7-50A(1-5/8)	101.48 - 121.69	0.6000	0.6000
T6	33	HB158-1-08U8-S8J18(1-5/8)	101.48 - 121.69	0.6000	0.6000
T6	34	Feedline Ladder (Af)	101.48 - 121.69	0.6000	0.6000
T6	35	Feedline Ladder (Af)	101.48 - 121.69	0.6000	0.6000
T6	37	LDF4-50A(1/2")	101.48 - 112.00	0.6000	0.6000
T6	38	LDF4-50A(1/2")	101.48 - 121.69	0.6000	0.6000
T6	40	CU12PSM9P6XXX(1-1/2)	101.48 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			118.00		
T7	3	HB158-21U6S24-xxM_TMO(1-5/8)	81.27 - 101.48	0.6000	0.6000
T7	4	Feedline Ladder (Af)	81.27 - 101.48	0.6000	0.6000
T7	6	LDF5-50A(7/8")	81.27 - 101.48	0.6000	0.6000
T7	12	CR 50 1873(1-5/8")	81.27 - 101.48	0.6000	0.6000
T7	13	3" Conduit	81.27 - 101.48	0.6000	0.6000
T7	14	PWRT-608-S(13/16)	81.27 - 101.48	0.0000	0.0000
T7	15	LDF2-50(3/8")	81.27 - 101.48	0.6000	0.6000
T7	16	PWRT-606-S(7/8)	81.27 - 101.48	0.6000	0.6000
T7	18	LDF1-50A(1/4")	81.27 - 101.48	0.6000	0.6000
T7	19	LDF2-50(3/8")	81.27 - 101.48	0.6000	0.6000
T7	20	Feedline Ladder (Af)	81.27 - 101.48	0.6000	0.6000
T7	22	Safety Line 3/8	81.27 - 101.48	0.6000	0.6000
T7	25	LDF6-50A(1 1/4")	81.27 - 101.48	0.6000	0.6000
T7	26	HCS 6X12 6AWG(1-3/8")	81.27 - 101.48	0.6000	0.6000
T7	27	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	81.27 - 101.48	0.6000	0.6000
T7	28	Feedline Ladder (Af)	81.27 - 101.48	0.6000	0.6000
T7	30	Feedline Ladder (Af)	81.27 - 101.48	0.6000	0.6000
T7	32	LDF7-50A(1-5/8)	81.27 - 101.48	0.6000	0.6000
T7	33	HB158-1-08U8-S8J18(1-5/8)	81.27 - 101.48	0.6000	0.6000
T7	34	Feedline Ladder (Af)	81.27 - 101.48	0.6000	0.6000
T7	35	Feedline Ladder (Af)	81.27 - 101.48	0.6000	0.6000
T7	37	LDF4-50A(1/2")	81.27 - 101.48	0.6000	0.6000
T7	38	LDF4-50A(1/2")	81.27 - 101.48	0.6000	0.6000
T7	40	CU12PSM9P6XXX(1-1/2)	81.27 - 101.48	0.6000	0.6000
T8	3	HB158-21U6S24-xxM_TMO(1-5/8)	61.00 - 81.27	0.6000	0.6000
T8	4	Feedline Ladder (Af)	61.00 - 81.27	0.6000	0.6000
T8	6	LDF5-50A(7/8")	61.00 - 81.27	0.6000	0.6000
T8	12	CR 50 1873(1-5/8")	61.00 - 81.27	0.6000	0.6000
T8	13	3" Conduit	61.00 - 81.27	0.6000	0.6000
T8	14	PWRT-608-S(13/16)	61.00 - 81.27	0.0000	0.0000
T8	15	LDF2-50(3/8")	61.00 - 81.27	0.6000	0.6000
T8	16	PWRT-606-S(7/8)	61.00 - 81.27	0.6000	0.6000
T8	18	LDF1-50A(1/4")	61.00 - 81.27	0.6000	0.6000
T8	19	LDF2-50(3/8")	61.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			81.27		
T8	20	Feedline Ladder (Af)	61.00 - 81.27	0.6000	0.6000
T8	22	Safety Line 3/8	61.00 - 81.27	0.6000	0.6000
T8	25	LDF6-50A(1 1/4")	61.00 - 81.27	0.6000	0.6000
T8	26	HCS 6X12 6AWG(1-3/8")	61.00 - 81.27	0.6000	0.6000
T8	27	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	61.00 - 81.27	0.6000	0.6000
T8	28	Feedline Ladder (Af)	61.00 - 81.27	0.6000	0.6000
T8	30	Feedline Ladder (Af)	61.00 - 81.27	0.6000	0.6000
T8	32	LDF7-50A(1-5/8)	61.00 - 81.27	0.6000	0.6000
T8	33	HB158-1-08U8-S8J18(1-5/8)	61.00 - 81.27	0.6000	0.6000
T8	34	Feedline Ladder (Af)	61.00 - 81.27	0.6000	0.6000
T8	35	Feedline Ladder (Af)	61.00 - 81.27	0.6000	0.6000
T8	37	LDF4-50A(1/2")	61.00 - 81.27	0.6000	0.6000
T8	38	LDF4-50A(1/2")	61.00 - 81.27	0.6000	0.6000
T8	40	CU12PSM9P6XXX(1-1/2)	61.00 - 81.27	0.6000	0.6000
T9	1	LDF4-50A(1/2")	40.67 - 51.00	0.6000	0.6000
T9	3	HB158-21U6S24-xxM_TMO(1-5/8)	40.67 - 61.00	0.6000	0.6000
T9	4	Feedline Ladder (Af)	40.67 - 61.00	0.6000	0.6000
T9	6	LDF5-50A(7/8")	40.67 - 61.00	0.6000	0.6000
T9	12	CR 50 1873(1-5/8")	40.67 - 61.00	0.6000	0.6000
T9	13	3" Conduit	40.67 - 61.00	0.6000	0.6000
T9	14	PWRT-608-S(13/16)	40.67 - 61.00	0.0000	0.0000
T9	15	LDF2-50(3/8")	40.67 - 61.00	0.6000	0.6000
T9	16	PWRT-606-S(7/8)	40.67 - 61.00	0.6000	0.6000
T9	18	LDF1-50A(1/4")	40.67 - 61.00	0.6000	0.6000
T9	19	LDF2-50(3/8")	40.67 - 61.00	0.6000	0.6000
T9	20	Feedline Ladder (Af)	40.67 - 61.00	0.6000	0.6000
T9	22	Safety Line 3/8	40.67 - 61.00	0.6000	0.6000
T9	25	LDF6-50A(1 1/4")	40.67 - 61.00	0.6000	0.6000
T9	26	HCS 6X12 6AWG(1-3/8")	40.67 - 61.00	0.6000	0.6000
T9	27	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	40.67 - 61.00	0.6000	0.6000
T9	28	Feedline Ladder (Af)	40.67 - 61.00	0.6000	0.6000
T9	30	Feedline Ladder (Af)	40.67 - 61.00	0.6000	0.6000
T9	32	LDF7-50A(1-5/8)	40.67 - 61.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T9	33	HB158-1-08U8-S8J18(1-5/8)	40.67 - 61.00	0.6000	0.6000
T9	34	Feedline Ladder (Af)	40.67 - 61.00	0.6000	0.6000
T9	35	Feedline Ladder (Af)	40.67 - 61.00	0.6000	0.6000
T9	37	LDF4-50A(1/2")	40.67 - 61.00	0.6000	0.6000
T9	38	LDF4-50A(1/2")	40.67 - 61.00	0.6000	0.6000
T9	40	CU12PSM9P6XXX(1-1/2)	40.67 - 61.00	0.6000	0.6000
T10	1	LDF4-50A(1/2")	20.33 - 40.67	0.6000	0.6000
T10	3	HB158-21U6S24-xxM_TMO(1-5/8)	20.33 - 40.67	0.6000	0.6000
T10	4	Feedline Ladder (Af)	20.33 - 40.67	0.6000	0.6000
T10	6	LDF5-50A(7/8")	20.33 - 40.67	0.6000	0.6000
T10	12	CR 50 1873(1-5/8")	20.33 - 40.67	0.6000	0.6000
T10	13	3" Conduit	20.33 - 40.67	0.6000	0.6000
T10	14	PWRT-608-S(13/16)	20.33 - 40.67	0.0000	0.0000
T10	15	LDF2-50(3/8")	20.33 - 40.67	0.6000	0.6000
T10	16	PWRT-606-S(7/8)	20.33 - 40.67	0.6000	0.6000
T10	18	LDF1-50A(1/4")	20.33 - 40.67	0.6000	0.6000
T10	19	LDF2-50(3/8")	20.33 - 40.67	0.6000	0.6000
T10	20	Feedline Ladder (Af)	20.33 - 40.67	0.6000	0.6000
T10	22	Safety Line 3/8	20.33 - 40.67	0.6000	0.6000
T10	25	LDF6-50A(1 1/4")	20.33 - 40.67	0.6000	0.6000
T10	26	HCS 6X12 6AWG(1-3/8")	20.33 - 40.67	0.6000	0.6000
T10	27	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	20.33 - 40.67	0.6000	0.6000
T10	28	Feedline Ladder (Af)	20.33 - 40.67	0.6000	0.6000
T10	30	Feedline Ladder (Af)	20.33 - 40.67	0.6000	0.6000
T10	32	LDF7-50A(1-5/8)	20.33 - 40.67	0.6000	0.6000
T10	33	HB158-1-08U8-S8J18(1-5/8)	20.33 - 40.67	0.6000	0.6000
T10	34	Feedline Ladder (Af)	20.33 - 40.67	0.6000	0.6000
T10	35	Feedline Ladder (Af)	20.33 - 40.67	0.6000	0.6000
T10	37	LDF4-50A(1/2")	20.33 - 40.67	0.6000	0.6000
T10	38	LDF4-50A(1/2")	20.33 - 40.67	0.6000	0.6000
T10	40	CU12PSM9P6XXX(1-1/2)	20.33 - 40.67	0.6000	0.6000
T11	1	LDF4-50A(1/2")	0.00 - 20.33	0.6000	0.6000
T11	3	HB158-21U6S24-xxM_TMO(1-5/8)	0.00 - 20.33	0.6000	0.6000
T11	4	Feedline Ladder (Af)	0.00 - 20.33	0.6000	0.6000
T11	6	LDF5-50A(7/8")	0.00 - 20.33	0.6000	0.6000
T11	12	CR 50 1873(1-5/8")	0.00 - 20.33	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T11	13	3" Conduit	0.00 - 20.33	0.6000	0.6000
T11	14	PWRT-608-S(13/16)	0.00 - 20.33	0.0000	0.0000
T11	15	LDF2-50(3/8")	0.00 - 20.33	0.6000	0.6000
T11	16	PWRT-606-S(7/8)	0.00 - 20.33	0.6000	0.6000
T11	18	LDF1-50A(1/4")	0.00 - 20.33	0.6000	0.6000
T11	19	LDF2-50(3/8")	0.00 - 20.33	0.6000	0.6000
T11	20	Feedline Ladder (Af)	0.00 - 20.33	0.6000	0.6000
T11	22	Safety Line 3/8	0.00 - 20.33	0.6000	0.6000
T11	25	LDF6-50A(1 1/4")	0.00 - 20.33	0.6000	0.6000
T11	26	HCS 6X12 6AWG(1-3/8")	0.00 - 20.33	0.6000	0.6000
T11	27	MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	0.00 - 20.33	0.6000	0.6000
T11	28	Feedline Ladder (Af)	0.00 - 20.33	0.6000	0.6000
T11	30	Feedline Ladder (Af)	0.00 - 20.33	0.6000	0.6000
T11	32	LDF7-50A(1-5/8)	0.00 - 20.33	0.6000	0.6000
T11	33	HB158-1-08U8-S8J18(1-5/8)	0.00 - 20.33	0.6000	0.6000
T11	34	Feedline Ladder (Af)	0.00 - 20.33	0.6000	0.6000
T11	35	Feedline Ladder (Af)	0.00 - 20.33	0.6000	0.6000
T11	37	LDF4-50A(1/2")	0.00 - 20.33	0.6000	0.6000
T11	38	LDF4-50A(1/2")	0.00 - 20.33	0.6000	0.6000
T11	40	CU12PSM9P6XXX(1-1/2)	0.00 - 20.33	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
Lightning Rod 5/8" x 6'	A	From Leg	0.000 0.000 3.000	0.000	213.625
Climb Leg Extension	A	From Leg	0.000 0.000 2.000	0.000	212.625
Flash Beacon Lighting	B	From Leg	0.000 0.000 0.500	0.000	216.625
4' x 2" Pipe Mount	B	From Leg	0.000 0.000 2.000	0.000	212.625
Side Lighting	A	From Leg	0.500 0.000 0.000	0.000	112.000
Side Lighting	B	From Leg	0.500 0.000 0.000	0.000	112.000
Side Lighting	C	From Leg	0.500 0.000 0.000	0.000	112.000
***					
MT6407-77A w/ Mount Pipe	A	From Leg	4.000 0.000 1.000	0.000	208.000
MT6407-77A w/ Mount Pipe	B	From Leg	4.000 0.000 1.000	0.000	208.000
MT6407-77A w/ Mount Pipe	C	From Leg	4.000	0.000	208.000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft
			0.000 1.000		
(2) LPA-80080/6CF w/ Mount Pipe	A	From Leg	4.000 0.000 1.000	0.000	208.000
(2) LPA-80080/6CF w/ Mount Pipe	B	From Leg	4.000 0.000 1.000	0.000	208.000
(2) LPA-80080/6CF w/ Mount Pipe	C	From Leg	4.000 0.000 1.000	0.000	208.000
(2) JAHH-65B-R3B w/ Mount Pipe	A	From Leg	4.000 0.000 1.000	0.000	208.000
(2) JAHH-65B-R3B w/ Mount Pipe	B	From Leg	4.000 0.000 1.000	0.000	208.000
(2) JAHH-65B-R3B w/ Mount Pipe	C	From Leg	4.000 0.000 1.000	0.000	208.000
CBC1923T-DS-43	A	From Leg	4.000 0.000 1.000	0.000	208.000
CBC1923T-DS-43	B	From Leg	4.000 0.000 1.000	0.000	208.000
CBC1923T-DS-43	C	From Leg	4.000 0.000 1.000	0.000	208.000
DB-B1-6C-12AB-0Z	A	From Leg	4.000 0.000 1.000	0.000	208.000
DB-B1-6C-12AB-0Z	B	From Leg	4.000 0.000 1.000	0.000	208.000
RFV01U-D1A	A	From Leg	4.000 0.000 1.000	0.000	208.000
RFV01U-D1A	B	From Leg	4.000 0.000 1.000	0.000	208.000
RFV01U-D1A	C	From Leg	4.000 0.000 1.000	0.000	208.000
RFV01U-D2A	A	From Leg	4.000 0.000 1.000	0.000	208.000
RFV01U-D2A	B	From Leg	4.000 0.000 1.000	0.000	208.000
RFV01U-D2A	C	From Leg	4.000 0.000 1.000	0.000	208.000
Sector Mount [SM 510-3]	C	None		0.000	208.000
***					
Sector Mount [SM 505-3]	C	None		0.000	199.000
VV-65B-R1_TMO w/ Mount Pipe	A	From Leg	4.000 0.000 -1.000	0.000	199.000
VV-65B-R1_TMO w/ Mount Pipe	B	From Leg	4.000 0.000 -1.000	0.000	199.000
VV-65B-R1_TMO w/ Mount Pipe	C	From Leg	4.000 0.000 -1.000	0.000	199.000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft
AIR 6419 B41_TMO w/ Mount Pipe	A	From Leg	4.000 0.000 -1.000	0.000	199.000
AIR 6419 B41_TMO w/ Mount Pipe	B	From Leg	4.000 0.000 -1.000	0.000	199.000
AIR 6419 B41_TMO w/ Mount Pipe	C	From Leg	4.000 0.000 -1.000	0.000	199.000
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Leg	4.000 0.000 -1.000	0.000	199.000
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Leg	4.000 0.000 -1.000	0.000	199.000
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	C	From Leg	4.000 0.000 -1.000	0.000	199.000
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.000 0.000 -1.000	0.000	199.000
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.000 0.000 -1.000	0.000	199.000
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.000 0.000 -1.000	0.000	199.000
Radio 4480_TMOV2	A	From Leg	4.000 0.000 -1.000	0.000	199.000
Radio 4480_TMOV2	B	From Leg	4.000 0.000 -1.000	0.000	199.000
Radio 4480_TMOV2	C	From Leg	4.000 0.000 -1.000	0.000	199.000
(3) Empty Mount Pipes	A	From Leg	4.000 0.000 0.000	0.000	199.000
(3) Empty Mount Pipes	B	From Leg	4.000 0.000 0.000	0.000	199.000
(3) Empty Mount Pipes	C	From Leg	4.000 0.000 0.000	0.000	199.000
***					
Sector Mount [SM 502-3]	C	None		0.000	189.000
DMP65R-BU4D w/ Mount Pipe	A	From Leg	4.000 0.000 1.000	0.000	189.000
DMP65R-BU4D w/ Mount Pipe	B	From Leg	4.000 0.000 1.000	0.000	189.000
DMP65R-BU4D w/ Mount Pipe	C	From Leg	4.000 0.000 1.000	0.000	189.000
OPA65R-BU4D w/ Mount Pipe	A	From Leg	4.000 0.000 1.000	0.000	189.000
OPA65R-BU4D w/ Mount Pipe	B	From Leg	4.000 0.000 1.000	0.000	189.000
OPA65R-BU4D w/ Mount Pipe	C	From Leg	4.000 0.000 1.000	0.000	189.000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Vert ft	Azimuth Adjustment °	Placement ft
RRUS 32 B30	A	From Leg	4.000	0.000	1.000	0.000	189.000
RRUS 32 B30	B	From Leg	4.000	0.000	1.000	0.000	189.000
RRUS 32 B30	C	From Leg	4.000	0.000	1.000	0.000	189.000
RRUS 4415 B25	A	From Leg	4.000	0.000	1.000	0.000	189.000
RRUS 4415 B25	B	From Leg	4.000	0.000	1.000	0.000	189.000
RRUS 4415 B25	C	From Leg	4.000	0.000	1.000	0.000	189.000
RRUS 4449 B5/B12	A	From Leg	4.000	0.000	1.000	0.000	189.000
RRUS 4449 B5/B12	B	From Leg	4.000	0.000	1.000	0.000	189.000
RRUS 4449 B5/B12	C	From Leg	4.000	0.000	1.000	0.000	189.000
RRUS 4478 B14	A	From Leg	4.000	0.000	1.000	0.000	189.000
RRUS 4478 B14	B	From Leg	4.000	0.000	1.000	0.000	189.000
RRUS 4478 B14	C	From Leg	4.000	0.000	1.000	0.000	189.000
DC6-48-60-18-8F	A	From Leg	4.000	0.000	1.000	0.000	189.000
SBNHH-1D65A w/ Mount Pipe	A	From Leg	4.000	0.000	1.000	0.000	189.000
SBNHH-1D65A w/ Mount Pipe	B	From Leg	4.000	0.000	1.000	0.000	189.000
SBNHH-1D65A w/ Mount Pipe	C	From Leg	4.000	0.000	1.000	0.000	189.000
7770.00 w/ Mount Pipe	A	From Leg	4.000	0.000	1.000	0.000	189.000
7770.00 w/ Mount Pipe	B	From Leg	4.000	0.000	1.000	0.000	189.000
7770.00 w/ Mount Pipe	C	From Leg	4.000	0.000	1.000	0.000	189.000
RRUS 32 B66	A	From Leg	4.000	0.000	1.000	0.000	189.000
RRUS 32 B66	B	From Leg	4.000	0.000	1.000	0.000	189.000
RRUS 32 B66	C	From Leg	4.000	0.000	1.000	0.000	189.000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft
DC6-48-60-18-8F	A	From Leg	1.000 4.000 0.000	0.000	189.000
DC6-48-60-18-8F	C	From Leg	1.000 4.000 0.000	0.000	189.000
***			1.000		
Pipe Mount [PM 601-3]	C	None		0.000	183.000
APXV18-206517LS	A	From Leg	1.000 0.000	0.000	183.000
APXV18-206517LS	B	From Leg	0.000 1.000 0.000	0.000	183.000
APXV18-206517LS	C	From Leg	0.000 1.000 0.000	0.000	183.000
***			0.000		
Sector Mount	C	None		0.000	175.000
(4) DB844H90E-XY w/ Mount Pipe	A	From Leg	4.000 0.000	0.000	175.000
(4) DB844H90E-XY w/ Mount Pipe	B	From Leg	1.000 4.000 0.000	0.000	175.000
(4) DB844H90E-XY w/ Mount Pipe	C	From Leg	1.000 4.000 0.000	0.000	175.000
6' x 2" Mount Pipe	C	From Face	1.000 2.000 0.000	0.000	175.000
6' x 2" Mount Pipe	C	From Face	4.000 2.000 0.000	0.000	175.000
***			4.000		
Side Arm Mount [SO 306-1]	A	From Leg	3.000 0.000	0.000	167.000
1151-3	A	From Leg	0.000 4.000 0.000	0.000	167.000
SD310-HL	A	From Leg	6.000 4.000 0.000	0.000	167.000
***			-7.000		
Side Arm Mount [SO 306-1]	B	From Leg	3.000 0.000	0.000	164.000
1151-3	B	From Leg	0.000 4.000 0.000	0.000	164.000
***			9.000		
Side Arm Mount [SO 306-1]	A	From Leg	3.000 0.000	0.000	147.000
1151-3	A	From Leg	0.000 4.000 0.000	0.000	147.000
***			6.000		
Side Arm Mount [SO 306-1]	B	From Leg	3.000 0.000	0.000	145.000
SD310-HL	B	From Leg	0.000 4.000 0.000	0.000	145.000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
			3.000		
***					
(3) Site Pro 1 VFA12-HD	C	None		0.000	139.000
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Leg	4.000 0.000 1.000	0.000	139.000
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.000 0.000 1.000	0.000	139.000
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.000 0.000 1.000	0.000	139.000
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	A	From Leg	4.000 0.000 1.000	0.000	139.000
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	B	From Leg	4.000 0.000 1.000	0.000	139.000
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	C	From Leg	4.000 0.000 1.000	0.000	139.000
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.000 0.000 1.000	0.000	139.000
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.000 0.000 1.000	0.000	139.000
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.000 0.000 1.000	0.000	139.000
KRY 112 144/1	A	From Leg	4.000 0.000 1.000	0.000	139.000
KRY 112 144/1	B	From Leg	4.000 0.000 1.000	0.000	139.000
KRY 112 144/1	C	From Leg	4.000 0.000 1.000	0.000	139.000
RADIO 4449 B12/B71	A	From Leg	4.000 0.000 1.000	0.000	139.000
RADIO 4449 B12/B71	B	From Leg	4.000 0.000 1.000	0.000	139.000
RADIO 4449 B12/B71	C	From Leg	4.000 0.000 1.000	0.000	139.000
***					
Side Arm Mount	A	From Leg	3.000 0.000 0.000	0.000	128.000
1142-2C	A	From Leg	6.000 0.000 4.000	0.000	128.000
***					
Side Arm Mount	C	From Leg	1.000 0.000 0.000	0.000	51.000
GPS_A	C	From Leg	2.000 0.000 0.000	0.000	51.000
***					
MX08FRO665-20 w/ Mount Pipe	A	From Leg	4.000 0.000	0.000	118.000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
MX08FRO665-20 w/ Mount Pipe	B	From Leg	0.000 4.000 0.000	0.000	118.000
MX08FRO665-20 w/ Mount Pipe	C	From Leg	0.000 4.000 0.000	0.000	118.000
TA08025-B604	A	From Leg	0.000 4.000 0.000	0.000	118.000
TA08025-B604	B	From Leg	0.000 4.000 0.000	0.000	118.000
TA08025-B604	C	From Leg	0.000 4.000 0.000	0.000	118.000
TA08025-B605	A	From Leg	0.000 4.000 0.000	0.000	118.000
TA08025-B605	B	From Leg	0.000 4.000 0.000	0.000	118.000
TA08025-B605	C	From Leg	0.000 4.000 0.000	0.000	118.000
RDIDC-9181-PF-48	A	From Leg	0.000 4.000 0.000	0.000	118.000
(2) 8' x 2" Mount Pipe	A	From Leg	0.000 4.000 0.000	0.000	118.000
(2) 8' x 2" Mount Pipe	B	From Leg	0.000 4.000 0.000	0.000	118.000
(2) 8' x 2" Mount Pipe	C	From Leg	0.000 4.000 0.000	0.000	118.000
Commscope MTC3975083 (3)	C	None	0.000	0.000	118.000
* *					

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft
HPD2-23	C	Paraboloid w/Shroud (HP)	From Leg	2.000 0.000 4.000	50.000		175.000	2.000
HPD2-23	C	Paraboloid w/Shroud (HP)	From Leg	2.000 0.000 4.000	-90.000		175.000	2.000
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Load Combinations

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	212.625 - 202.458	Leg	Max Tension	7	0.077	-0.000	-0.000
			Max. Compression	31	-4.938	0.075	-0.004
			Max. Mx	2	-2.132	-0.380	-0.002
			Max. My	8	-1.710	-0.002	-0.394
			Max. Vy	2	-1.235	0.186	-0.002
			Max. Vx	4	1.249	-0.002	-0.182
		Diagonal	Max Tension	24	2.398	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	24	-2.470	0.000	0.000
			Max. Mx	38	0.533	0.042	0.000
			Max. My	2	-0.091	0.000	0.000
			Max. Vy	38	-0.025	0.000	0.000
			Max. Vx	2	-0.000	0.000	0.000
		Horizontal	Max Tension	14	1.794	-0.009	0.002
			Max. Compression	2	-1.751	-0.010	-0.002
			Max. Mx	29	-0.133	-0.027	-0.001
			Max. My	14	-0.815	-0.010	-0.005
			Max. Vy	29	-0.027	-0.027	-0.001
			Max. Vx	14	0.001	-0.010	-0.005
		Top Girt	Max Tension	14	0.223	-0.007	0.000
			Max. Compression	2	-0.223	-0.008	-0.000
			Max. Mx	29	-0.028	-0.022	-0.000
			Max. My	22	-0.086	-0.009	-0.001
			Max. Vy	29	-0.026	-0.022	-0.000
			Max. Vx	14	0.000	-0.009	-0.001
		Inner Bracing	Max Tension	2	0.003	0.000	0.000
			Max. Compression	14	-0.003	0.000	0.000
			Max. Mx	26	-0.000	-0.023	0.000
			Max. My	27	0.001	0.000	-0.000
			Max. Vy	26	0.022	0.000	0.000
			Max. Vx	27	0.000	0.000	0.000
T2	202.458 - 182.292	Leg	Max Tension	15	16.022	0.145	-0.015
			Max. Compression	2	-24.943	0.246	0.079
			Max. Mx	6	-0.058	1.480	0.001
			Max. My	24	-3.608	-0.001	-1.501
			Max. Vy	6	-1.119	0.142	-0.000
			Max. Vx	12	-1.147	-0.000	0.120
		Diagonal	Max Tension	4	8.561	0.000	0.000
			Max. Compression	4	-8.635	0.000	0.000
			Max. Mx	38	2.033	0.050	0.000
			Max. My	2	-0.035	0.000	0.000
			Max. Vy	38	-0.025	0.000	0.000
			Max. Vx	2	-0.000	0.000	0.000
		Horizontal	Max Tension	4	4.652	-0.012	-0.000
			Max. Compression	4	-4.612	-0.012	-0.000
			Max. Mx	37	-0.104	-0.035	-0.003
			Max. My	14	-0.651	-0.020	-0.011
			Max. Vy	37	-0.029	-0.035	-0.003
			Max. Vx	14	0.003	-0.020	-0.011
		Inner Bracing	Max Tension	2	0.006	0.000	0.000
			Max. Compression	14	-0.006	0.000	0.000
			Max. Mx	26	-0.000	-0.023	0.000
			Max. My	27	0.002	0.000	-0.000
			Max. Vy	26	0.022	0.000	0.000
			Max. Vx	27	0.000	0.000	0.000
T3	182.292 - 162.104	Leg	Max Tension	15	49.578	-0.525	-0.011
			Max. Compression	2	-75.037	-0.039	-0.009
			Max. Mx	14	47.773	0.643	-0.012
			Max. My	12	-6.515	-0.048	-0.399
			Max. Vy	6	-0.811	-0.307	-0.051
			Max. Vx	12	-0.841	-0.048	-0.399
		Diagonal	Max Tension	16	8.878	0.000	0.000
			Max. Compression	16	-8.968	0.000	0.000
			Max. Mx	38	1.729	0.067	0.000
			Max. My	2	0.408	0.000	0.000
			Max. Vy	38	-0.031	0.000	0.000
			Max. Vx	2	-0.000	0.000	0.000
		Horizontal	Max Tension	16	5.350	-0.015	0.000
			Max. Compression	16	-5.735	-0.015	0.000
			Max. Mx	37	-0.250	-0.042	-0.002
			Max. My	14	-0.351	-0.022	-0.011
			Max. Vy	37	-0.032	-0.042	-0.002
			Max. Vx	2	-0.002	-0.001	0.010
		Inner Bracing	Max Tension	25	0.005	0.000	0.000
			Max. Compression	14	-0.007	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	26	-0.004	-0.031	0.000
			Max. My	27	-0.002	0.000	-0.000
			Max. Vy	26	0.025	0.000	0.000
			Max. Vx	27	0.000	0.000	0.000
T4	162.104 - 141.896	Leg	Max Tension	23	81.177	-0.330	0.005
			Max. Compression	2	-109.983	0.160	0.026
			Max. Mx	22	68.643	-1.682	0.050
			Max. My	12	-7.955	-0.062	-1.361
			Max. Vy	22	0.655	-1.682	0.050
			Max. Vx	4	0.287	-0.391	-1.223
		Diagonal	Max Tension	16	8.758	0.000	0.000
			Max. Compression	16	-8.865	0.000	0.000
			Max. Mx	38	1.755	0.085	0.000
			Max. My	2	0.529	0.000	0.000
			Max. Vy	38	0.037	0.000	0.000
			Max. Vx	2	-0.000	0.000	0.000
		Horizontal	Max Tension	14	5.850	-0.015	0.007
			Max. Compression	16	-5.812	-0.024	0.000
			Max. Mx	29	0.055	-0.069	-0.003
			Max. My	14	0.104	-0.037	-0.015
			Max. Vy	29	-0.046	-0.069	-0.003
			Max. Vx	14	0.003	-0.037	-0.015
		Inner Bracing	Max Tension	13	0.006	0.000	0.000
			Max. Compression	14	-0.008	0.000	0.000
			Max. Mx	26	-0.004	-0.045	0.000
			Max. My	27	-0.003	0.000	-0.000
			Max. Vy	26	-0.030	0.000	0.000
			Max. Vx	27	0.000	0.000	0.000
T5	141.896 - 121.688	Leg	Max Tension	15	103.250	-0.911	-0.069
			Max. Compression	2	-139.238	0.873	0.104
			Max. Mx	22	78.584	-1.682	0.050
			Max. My	12	-8.575	-0.062	-1.361
			Max. Vy	22	-0.789	-1.682	0.050
			Max. Vx	12	-0.760	-0.062	-1.361
		Diagonal	Max Tension	16	11.894	0.000	0.000
			Max. Compression	16	-12.076	0.000	0.000
			Max. Mx	38	2.706	0.175	0.000
			Max. My	2	1.195	0.000	0.001
			Max. Vy	38	-0.056	0.000	0.000
			Max. Vx	2	-0.000	0.000	0.000
		Horizontal	Max Tension	14	7.221	-0.020	0.007
			Max. Compression	16	-7.199	-0.033	-0.000
			Max. Mx	29	-0.051	-0.091	-0.004
			Max. My	14	-0.765	-0.056	-0.016
			Max. Vy	29	-0.052	-0.091	-0.004
			Max. Vx	14	0.003	-0.056	-0.016
		Inner Bracing	Max Tension	25	0.005	0.000	0.000
			Max. Compression	14	-0.009	0.000	0.000
			Max. Mx	26	-0.007	-0.058	0.000
			Max. My	27	-0.005	0.000	-0.000
			Max. Vy	26	-0.034	0.000	0.000
			Max. Vx	27	0.000	0.000	0.000
T6	121.688 - 101.479	Leg	Max Tension	15	133.895	-0.957	-0.047
			Max. Compression	2	-174.874	0.814	0.129
			Max. Mx	14	128.606	-0.975	-0.043
			Max. My	24	-16.225	-0.018	1.005
			Max. Vy	14	-0.484	-0.960	-0.073
			Max. Vx	12	-0.493	-0.069	-0.956
		Diagonal	Max Tension	16	11.995	0.000	0.000
			Max. Compression	16	-12.226	0.000	0.000
			Max. Mx	38	2.600	0.214	0.000
			Max. My	2	1.233	0.000	0.001
			Max. Vy	38	-0.064	0.000	0.000
			Max. Vx	2	-0.000	0.000	0.000
		Horizontal	Max Tension	14	7.963	-0.031	0.007
			Max. Compression	16	-7.969	-0.041	-0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	29	0.036	-0.107	-0.003
			Max. My	14	-0.575	-0.057	-0.015
			Max. Vy	29	-0.058	-0.107	-0.003
			Max. Vx	14	0.002	-0.057	-0.015
		Inner Bracing	Max Tension	25	0.003	0.000	0.000
			Max. Compression	37	-0.010	0.000	0.000
			Max. Mx	26	-0.008	-0.103	0.000
			Max. My	2	0.001	0.000	-0.000
			Max. Vy	26	0.051	0.000	0.000
			Max. Vx	2	0.000	0.000	0.000
T7	101.479 - 81.2708	Leg	Max Tension	15	163.454	-0.597	-0.053
			Max. Compression	2	-208.296	0.740	0.085
			Max. Mx	14	143.436	-0.825	-0.111
			Max. My	24	-17.372	-0.018	1.005
			Max. Vy	14	-0.111	-0.825	-0.111
			Max. Vx	24	0.175	-0.018	1.005
		Diagonal	Max Tension	16	11.960	0.000	0.000
			Max. Compression	16	-12.316	0.000	0.000
			Max. Mx	38	2.419	0.314	0.000
			Max. My	2	1.199	0.000	0.001
			Max. Vy	38	-0.088	0.000	0.000
			Max. Vx	2	-0.000	0.000	0.000
		Horizontal	Max Tension	14	8.532	-0.065	0.009
			Max. Compression	16	-8.528	-0.086	-0.000
			Max. Mx	37	0.104	-0.189	-0.005
			Max. My	14	0.173	-0.119	-0.019
			Max. Vy	37	-0.088	-0.189	-0.005
			Max. Vx	14	0.002	-0.119	-0.019
		Inner Bracing	Max Tension	25	0.002	0.000	0.000
			Max. Compression	37	-0.013	0.000	0.000
			Max. Mx	26	-0.011	-0.157	0.000
			Max. My	2	-0.000	0.000	-0.000
			Max. Vy	26	0.067	0.000	0.000
			Max. Vx	2	0.000	0.000	0.000
T8	81.2708 - 61	Leg	Max Tension	15	190.515	-1.221	-0.040
			Max. Compression	2	-239.796	0.693	0.071
			Max. Mx	14	184.133	-1.226	-0.036
			Max. My	24	-21.059	-0.038	1.208
			Max. Vy	14	0.148	-1.226	-0.036
			Max. Vx	24	-0.185	-0.038	1.208
		Diagonal	Max Tension	17	11.730	0.000	0.000
			Max. Compression	16	-12.196	0.000	0.000
			Max. Mx	38	2.204	0.374	0.000
			Max. My	2	1.167	0.000	0.001
			Max. Vy	38	-0.098	0.000	0.000
			Max. Vx	2	-0.000	0.000	0.000
		Horizontal	Max Tension	14	8.970	-0.090	0.008
			Max. Compression	16	-8.862	-0.106	-0.000
			Max. Mx	37	0.211	-0.224	-0.004
			Max. My	14	0.082	-0.127	-0.018
			Max. Vy	37	-0.096	-0.224	-0.004
			Max. Vx	14	0.002	-0.127	-0.018
		Inner Bracing	Max Tension	25	0.000	0.000	0.000
			Max. Compression	37	-0.015	0.000	0.000
			Max. Mx	26	-0.014	-0.250	0.000
			Max. My	2	-0.002	0.000	-0.000
			Max. Vy	26	0.094	0.000	0.000
			Max. Vx	2	0.000	0.000	0.000
T9	61 - 40.6667	Leg	Max Tension	15	216.366	-1.700	0.002
			Max. Compression	2	-270.341	-2.772	0.288
			Max. Mx	2	-270.341	-2.772	0.288
			Max. My	24	-26.095	-0.675	3.609
			Max. Vy	2	0.533	2.028	0.008
			Max. Vx	24	-0.431	-0.675	3.609
		Diagonal	Max Tension	17	12.597	0.000	0.000
			Max. Compression	16	-13.117	0.000	0.000
			Max. Mx	38	2.344	0.432	0.000
			Max. My	2	1.135	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	38	-0.107	0.000	0.000
			Max. Vx	2	-0.000	0.000	0.000
		Horizontal	Max Tension	16	10.051	-0.131	-0.000
			Max. Compression	17	-9.878	-0.098	-0.000
			Max. Mx	37	0.558	-0.268	-0.004
			Max. My	14	0.734	-0.146	-0.017
			Max. Vy	37	-0.105	-0.268	-0.004
			Max. Vx	14	0.002	-0.146	-0.017
		Inner Bracing	Max Tension	1	0.000	0.000	0.000
			Max. Compression	33	-0.015	0.000	0.000
			Max. Mx	26	-0.014	-0.306	0.000
			Max. My	2	-0.003	0.000	-0.000
			Max. Vy	26	0.102	0.000	0.000
			Max. Vx	2	0.000	0.000	0.000
T10	40.6667 - 20.3333	Leg	Max Tension	15	227.009	1.254	-0.237
			Max. Compression	2	-284.653	-8.023	0.626
			Max. Mx	2	-284.199	9.099	-0.472
			Max. My	24	-28.407	-1.412	5.955
			Max. Vy	2	1.725	9.099	-0.472
			Max. Vx	24	-1.035	-1.412	5.955
		Diagonal	Max Tension	15	17.910	-0.159	0.085
			Max. Compression	16	-18.330	0.000	0.000
			Max. Mx	22	14.219	-0.185	0.061
			Max. My	4	-17.323	0.001	-0.107
			Max. Vy	37	-0.071	-0.169	0.002
			Max. Vx	4	-0.009	0.000	0.000
		Horizontal	Max Tension	14	9.907	-0.157	0.012
			Max. Compression	3	-10.082	-0.188	-0.012
			Max. Mx	37	-0.603	-0.384	-0.006
			Max. My	2	-0.092	-0.119	0.025
			Max. Vy	37	0.134	-0.384	-0.006
			Max. Vx	2	-0.002	-0.119	0.025
		Redund Horz 1 Bracing	Max Tension	14	1.939	0.000	0.000
			Max. Compression	3	-1.714	0.000	0.000
			Max. Mx	26	0.445	0.040	0.000
			Max. My	12	0.773	0.000	-0.000
			Max. Vy	26	-0.026	0.000	0.000
		Redund Diag 1 Bracing	Max Tension	5	1.721	0.000	0.000
			Max. Compression	14	-1.709	0.000	0.000
			Max. Mx	38	-0.229	0.082	0.000
			Max. My	16	-1.492	0.000	-0.000
			Max. Vy	38	-0.028	0.000	0.000
			Max. Vx	16	0.000	0.000	0.000
		Redund Hip 1 Bracing	Max Tension	1	0.000	0.000	0.000
			Max. Compression	16	-0.050	0.000	0.000
			Max. Mx	26	-0.013	0.040	0.000
			Max. Vy	26	-0.026	0.000	0.000
		Redund Hip Diagonal 1 Bracing	Max Tension	16	0.092	0.000	0.000
			Max. Compression	38	-0.079	0.000	0.000
			Max. Mx	38	0.068	0.287	0.000
			Max. My	24	0.031	0.000	0.000
			Max. Vy	38	-0.076	0.000	0.000
			Max. Vx	24	-0.000	0.000	0.000
		Inner Bracing	Max Tension	15	0.001	0.000	0.000
			Max. Compression	34	-0.019	0.000	0.000
			Max. Mx	26	-0.016	0.326	0.000
			Max. My	2	-0.004	0.000	0.000
			Max. Vy	26	-0.104	0.000	0.000
			Max. Vx	2	-0.000	0.000	0.000
T11	20.3333 - 0	Leg	Max Tension	15	249.711	4.709	-0.535
			Max. Compression	2	-312.908	-0.000	-0.000
			Max. Mx	2	-312.393	8.321	-0.445
			Max. My	24	-30.743	-1.413	5.953
			Max. Vy	2	-1.655	8.321	-0.445

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	24	1.007	-1.413	5.953
		Diagonal	Max Tension	15	20.066	-0.156	0.082
			Max. Compression	16	-20.873	0.000	0.000
			Max. Mx	4	9.139	-0.186	0.026
			Max. My	4	-20.533	-0.023	-0.106
			Max. Vy	37	-0.072	-0.176	0.002
			Max. Vx	4	-0.008	0.000	0.000
		Horizontal	Max Tension	16	11.816	-0.234	-0.000
			Max. Compression	17	-11.860	-0.179	-0.000
			Max. Mx	37	0.599	-0.397	-0.007
			Max. My	14	1.114	-0.304	-0.025
			Max. Vy	37	-0.136	-0.397	-0.007
			Max. Vx	14	0.002	-0.304	-0.025
		Redund Horz 1 Bracing	Max Tension	14	1.418	0.000	0.000
			Max. Compression	5	-1.439	0.000	0.000
			Max. Mx	34	0.450	0.045	0.000
			Max. Vy	34	-0.026	0.000	0.000
		Redund Diag 1 Bracing	Max Tension	5	1.383	0.000	0.000
			Max. Compression	14	-1.137	0.000	0.000
			Max. Mx	27	-0.235	0.089	0.000
			Max. My	10	-0.805	0.000	-0.000
			Max. Vy	27	-0.030	0.000	0.000
			Max. Vx	10	0.000	0.000	0.000
		Redund Hip 1 Bracing	Max Tension	1	0.000	0.000	0.000
			Max. Compression	16	-0.051	0.000	0.000
			Max. Mx	26	-0.010	0.045	0.000
			Max. Vy	26	-0.026	0.000	0.000
		Redund Hip Diagonal 1 Bracing	Max Tension	16	0.096	0.000	0.000
			Max. Compression	38	-0.073	0.000	0.000
			Max. Mx	37	0.063	0.310	0.000
			Max. My	2	0.049	0.000	0.000
			Max. Vy	37	-0.077	0.000	0.000
			Max. Vx	2	-0.000	0.000	0.000
		Inner Bracing	Max Tension	17	0.003	0.000	0.000
			Max. Compression	16	-0.018	0.000	0.000
			Max. Mx	26	-0.014	0.376	0.000
			Max. My	2	-0.004	0.000	0.000
			Max. Vy	26	-0.108	0.000	0.000
			Max. Vx	2	-0.000	0.000	0.000

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg C	Max. Vert	18	316.120	31.323	-19.021
	Max. H_x	18	316.120	31.323	-19.021
	Max. H_z	5	-225.115	-22.836	17.509
	Min. Vert	7	-257.094	-27.764	16.979
	Min. H_x	7	-257.094	-27.764	16.979
	Min. H_z	16	284.291	26.560	-19.434
Leg B	Max. Vert	10	332.821	-33.819	-18.668
	Max. H_x	23	-269.282	30.285	16.495
	Max. H_z	25	-239.363	25.703	16.924
	Min. Vert	23	-269.282	30.285	16.495
	Min. H_x	10	332.821	-33.819	-18.668
	Min. H_z	12	302.856	-29.436	-19.009
Leg A	Max. Vert	2	343.244	-1.018	39.600
	Max. H_x	21	28.624	6.492	2.001
	Max. H_z	2	343.244	-1.018	39.600
	Min. Vert	15	-276.799	1.123	-35.420

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Min. H_x	9	27.906	-6.456	1.940
	Min. H_z	15	-276.799	1.123	-35.420

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	89.333	-0.000	0.000	-40.441	-31.225	-0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	107.199	-0.047	-65.492	-8000.464	-28.648	-56.065
0.9 Dead+1.0 Wind 0 deg - No Ice	80.399	-0.047	-65.498	-7976.151	-19.103	-56.180
1.2 Dead+1.0 Wind 30 deg - No Ice	107.199	30.763	-53.289	-6571.830	-3801.805	-32.909
0.9 Dead+1.0 Wind 30 deg - No Ice	80.399	30.766	-53.294	-6549.617	-3786.521	-32.955
1.2 Dead+1.0 Wind 60 deg - No Ice	107.199	52.268	-30.069	-3711.950	-6415.090	-42.477
0.9 Dead+1.0 Wind 60 deg - No Ice	80.399	52.273	-30.072	-3694.111	-6395.839	-42.447
1.2 Dead+1.0 Wind 90 deg - No Ice	107.199	61.090	0.040	-41.042	-7447.593	-22.299
0.9 Dead+1.0 Wind 90 deg - No Ice	80.399	61.095	0.040	-28.779	-7426.821	-22.204
1.2 Dead+1.0 Wind 120 deg - No Ice	107.199	55.288	31.894	3809.144	-6725.810	41.683
0.9 Dead+1.0 Wind 120 deg - No Ice	80.399	55.293	31.896	3815.608	-6706.173	41.824
1.2 Dead+1.0 Wind 150 deg - No Ice	107.199	33.134	57.249	6880.725	-4052.226	78.197
0.9 Dead+1.0 Wind 150 deg - No Ice	80.399	33.137	57.254	6882.547	-4036.647	78.345
1.2 Dead+1.0 Wind 180 deg - No Ice	107.199	0.053	65.467	7898.413	-47.856	55.886
0.9 Dead+1.0 Wind 180 deg - No Ice	80.399	0.054	65.473	7898.671	-38.309	56.000
1.2 Dead+1.0 Wind 210 deg - No Ice	107.199	-30.789	53.272	6471.159	3730.973	32.691
0.9 Dead+1.0 Wind 210 deg - No Ice	80.399	-30.791	53.277	6473.522	3734.767	32.733
1.2 Dead+1.0 Wind 240 deg - No Ice	107.199	-52.235	30.098	3619.422	6333.609	42.796
0.9 Dead+1.0 Wind 240 deg - No Ice	80.399	-52.240	30.100	3626.138	6333.457	42.767
1.2 Dead+1.0 Wind 270 deg - No Ice	107.199	-61.069	-0.057	-59.779	7368.175	22.312
0.9 Dead+1.0 Wind 270 deg - No Ice	80.399	-61.074	-0.057	-47.473	7366.497	22.217
1.2 Dead+1.0 Wind 300 deg - No Ice	107.199	-55.282	-31.904	-3908.440	6649.262	-41.707
0.9 Dead+1.0 Wind 300 deg - No Ice	80.399	-55.287	-31.907	-3890.337	6648.713	-41.848
1.2 Dead+1.0 Wind 330 deg - No Ice	107.199	-33.128	-57.258	-6979.648	3975.903	-78.253
0.9 Dead+1.0 Wind 330 deg - No Ice	80.399	-33.131	-57.263	-6956.904	3979.412	-78.401
1.2 Dead+1.0 Ice+1.0 Temp	228.443	0.000	0.000	-59.210	111.756	0.002
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	228.443	0.004	-16.858	-2124.372	111.817	-18.917
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	228.443	8.182	-14.131	-1795.339	-892.956	-14.295
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	228.443	14.010	-8.060	-1045.939	-1603.732	-13.030
1.2 Dead+1.0 Wind 90	228.443	16.524	-0.005	-60.584	-1898.743	-5.035

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	228.443	14.777	8.503	971.467	-1681.494	11.601
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	228.443	8.626	14.899	1753.484	-938.393	21.793
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	228.443	-0.003	16.853	2003.751	112.579	18.884
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	228.443	-8.186	14.128	1674.998	1118.454	14.256
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	228.443	-14.004	8.065	927.156	1827.232	13.090
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	228.443	-16.519	0.003	-59.745	2122.610	5.034
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	228.443	-14.776	-8.504	-1091.540	1905.865	-11.605
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	228.443	-8.624	-14.900	-1873.517	1162.787	-21.803
Dead+Wind 0 deg - Service	89.333	-0.011	-15.186	-1860.044	-29.297	-12.595
Dead+Wind 30 deg - Service	89.333	7.148	-12.382	-1534.904	-893.652	-7.397
Dead+Wind 60 deg - Service	89.333	12.153	-6.993	-880.274	-1493.069	-9.541
Dead+Wind 90 deg - Service	89.333	14.199	0.009	-38.812	-1729.470	-5.002
Dead+Wind 120 deg - Service	89.333	12.831	7.402	842.773	-1562.655	9.358
Dead+Wind 150 deg - Service	89.333	7.680	13.271	1544.826	-949.802	17.555
Dead+Wind 180 deg - Service	89.333	0.012	15.181	1777.919	-33.635	12.550
Dead+Wind 210 deg - Service	89.333	-7.154	12.379	1453.077	831.990	7.348
Dead+Wind 240 deg - Service	89.333	-12.146	6.999	800.258	1428.986	9.609
Dead+Wind 270 deg - Service	89.333	-14.194	-0.013	-43.003	1665.884	5.006
Dead+Wind 300 deg - Service	89.333	-12.830	-7.404	-924.289	1499.701	-9.366
Dead+Wind 330 deg - Service	89.333	-7.679	-13.272	-1626.282	886.833	-17.567

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.000	-89.333	0.000	0.000	89.333	-0.000	0.000%
2	-0.047	-107.199	-65.515	0.047	107.199	65.492	0.018%
3	-0.047	-80.399	-65.515	0.047	80.399	65.498	0.016%
4	30.773	-107.199	-53.308	-30.763	107.199	53.289	0.017%
5	30.773	-80.399	-53.308	-30.766	80.399	53.294	0.016%
6	52.286	-107.199	-30.079	-52.268	107.199	30.069	0.017%
7	52.286	-80.399	-30.079	-52.273	80.399	30.072	0.015%
8	61.111	-107.199	0.040	-61.090	107.199	-0.040	0.017%
9	61.111	-80.399	0.040	-61.095	80.399	-0.040	0.015%
10	55.307	-107.199	31.904	-55.288	107.199	-31.894	0.017%
11	55.307	-80.399	31.904	-55.293	80.399	-31.896	0.016%
12	33.146	-107.199	57.268	-33.134	107.199	-57.249	0.017%
13	33.146	-80.399	57.268	-33.137	80.399	-57.254	0.016%
14	0.054	-107.199	65.489	-0.053	107.199	-65.467	0.017%
15	0.054	-80.399	65.489	-0.054	80.399	-65.473	0.015%
16	-30.799	-107.199	53.290	30.789	107.199	-53.272	0.017%
17	-30.799	-80.399	53.290	30.791	80.399	-53.277	0.015%
18	-52.253	-107.199	30.108	52.235	107.199	-30.098	0.017%
19	-52.253	-80.399	30.108	52.240	80.399	-30.100	0.015%
20	-61.089	-107.199	-0.057	61.069	107.199	0.057	0.016%
21	-61.089	-80.399	-0.057	61.074	80.399	0.057	0.015%
22	-55.300	-107.199	-31.914	55.282	107.199	31.904	0.017%
23	-55.300	-80.399	-31.914	55.287	80.399	31.907	0.015%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
24	-33.139	-107.199	-57.277	33.128	107.199	57.258	0.018%
25	-33.139	-80.399	-57.277	33.131	80.399	57.263	0.016%
26	0.000	-228.443	0.000	-0.000	228.443	-0.000	0.000%
27	0.004	-228.443	-16.863	-0.004	228.443	16.858	0.002%
28	8.184	-228.443	-14.135	-8.182	228.443	14.131	0.002%
29	14.014	-228.443	-8.062	-14.010	228.443	8.060	0.002%
30	16.528	-228.443	-0.006	-16.524	228.443	0.005	0.002%
31	14.782	-228.443	8.505	-14.777	228.443	-8.503	0.002%
32	8.628	-228.443	14.903	-8.626	228.443	-14.899	0.002%
33	-0.003	-228.443	16.858	0.003	228.443	-16.853	0.002%
34	-8.189	-228.443	14.132	8.186	228.443	-14.128	0.002%
35	-14.008	-228.443	8.068	14.004	228.443	-8.065	0.002%
36	-16.524	-228.443	0.002	16.519	228.443	-0.003	0.002%
37	-14.780	-228.443	-8.507	14.776	228.443	8.504	0.002%
38	-8.627	-228.443	-14.905	8.624	228.443	14.900	0.002%
39	-0.010	-89.333	-15.190	0.011	89.333	15.186	0.005%
40	7.150	-89.333	-12.386	-7.148	89.333	12.382	0.005%
41	12.157	-89.333	-6.995	-12.153	89.333	6.993	0.005%
42	14.203	-89.333	0.009	-14.199	89.333	-0.009	0.005%
43	12.835	-89.333	7.404	-12.831	89.333	-7.402	0.005%
44	7.682	-89.333	13.274	-7.680	89.333	-13.271	0.005%
45	0.012	-89.333	15.184	-0.012	89.333	-15.181	0.004%
46	-7.156	-89.333	12.382	7.154	89.333	-12.379	0.004%
47	-12.150	-89.333	7.001	12.146	89.333	-6.999	0.004%
48	-14.198	-89.333	-0.013	14.194	89.333	0.013	0.004%
49	-12.833	-89.333	-7.406	12.830	89.333	7.404	0.004%
50	-7.681	-89.333	-13.276	7.679	89.333	13.272	0.005%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00007801
2	Yes	4	0.00037581	0.00093015
3	Yes	4	0.00028103	0.00070269
4	Yes	4	0.00036784	0.00091093
5	Yes	4	0.00027302	0.00068333
6	Yes	4	0.00035875	0.00088765
7	Yes	4	0.00026410	0.00066064
8	Yes	4	0.00036674	0.00090620
9	Yes	4	0.00027206	0.00067972
10	Yes	4	0.00037450	0.00092479
11	Yes	4	0.00027999	0.00069897
12	Yes	4	0.00036485	0.00090096
13	Yes	4	0.00027089	0.00067617
14	Yes	4	0.00035532	0.00087714
15	Yes	4	0.00026163	0.00065310
16	Yes	4	0.00036563	0.00090160
17	Yes	4	0.00027157	0.00067779
18	Yes	4	0.00037467	0.00092241
19	Yes	4	0.00028029	0.00069877
20	Yes	4	0.00036557	0.00090016
21	Yes	4	0.00027158	0.00067695
22	Yes	4	0.00035525	0.00087648
23	Yes	4	0.00026165	0.00065286
24	Yes	4	0.00036470	0.00090155
25	Yes	4	0.00027063	0.00067600
26	Yes	4	0.00000001	0.00004172
27	Yes	5	0.00000001	0.00048142
28	Yes	5	0.00000001	0.00046882
29	Yes	5	0.00000001	0.00045457
30	Yes	5	0.00000001	0.00044907
31	Yes	5	0.00000001	0.00044983
32	Yes	5	0.00000001	0.00044850
33	Yes	5	0.00000001	0.00044430

34	Yes	5	0.00000001	0.00044276
35	Yes	5	0.00000001	0.00044701
36	Yes	5	0.00000001	0.00045668
37	Yes	5	0.00000001	0.00046986
38	Yes	5	0.00000001	0.00048102
39	Yes	4	0.00000001	0.00065589
40	Yes	4	0.00000001	0.00065137
41	Yes	4	0.00000001	0.00064314
42	Yes	4	0.00000001	0.00064185
43	Yes	4	0.00000001	0.00064137
44	Yes	4	0.00000001	0.00063204
45	Yes	4	0.00000001	0.00061700
46	Yes	4	0.00000001	0.00060545
47	Yes	4	0.00000001	0.00060217
48	Yes	4	0.00000001	0.00060457
49	Yes	4	0.00000001	0.00061793
50	Yes	4	0.00000001	0.00064084

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	212.625 - 202.458	3.757	39	0.156	0.043
T2	202.458 - 182.292	3.422	39	0.156	0.043
T3	182.292 - 162.104	2.749	39	0.149	0.041
T4	162.104 - 141.896	2.122	39	0.132	0.034
T5	141.896 - 121.688	1.590	39	0.110	0.028
T6	121.688 - 101.479	1.151	39	0.091	0.022
T7	101.479 - 81.2708	0.785	39	0.074	0.017
T8	81.2708 - 61	0.501	39	0.056	0.014
T9	61 - 40.6667	0.287	50	0.040	0.010
T10	40.6667 - 20.3333	0.134	44	0.024	0.007
T11	20.3333 - 0	0.046	44	0.012	0.003

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
216.625	Flash Beacon Lighting	39	3.757	0.156	0.043	264439
213.625	Lightning Rod 5/8" x 6'	39	3.757	0.156	0.043	264439
212.625	Climb Leg Extension	39	3.757	0.156	0.043	264439
208.000	MT6407-77A w/ Mount Pipe	39	3.605	0.156	0.043	264439
199.000	Sector Mount [SM 505-3]	39	3.307	0.155	0.043	230247
189.000	Sector Mount [SM 502-3]	39	2.972	0.152	0.042	172884
183.000	Pipe Mount [PM 601-3]	39	2.773	0.150	0.041	90792
179.000	HPD2-23	39	2.642	0.147	0.040	80460
175.000	Sector Mount	39	2.514	0.144	0.039	68213
167.000	Side Arm Mount [SO 306-1]	39	2.266	0.137	0.036	51894
164.000	Side Arm Mount [SO 306-1]	39	2.177	0.134	0.035	47939
147.000	Side Arm Mount [SO 306-1]	39	1.715	0.116	0.029	47251
145.000	Side Arm Mount [SO 306-1]	39	1.665	0.114	0.029	45952
139.000	(3) Site Pro 1 VFA12-HD	39	1.522	0.107	0.027	45982
128.000	Side Arm Mount	39	1.280	0.096	0.024	63912
118.000	MX08FRO665-20 w/ Mount Pipe	39	1.079	0.087	0.021	72270

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
112.000	Side Lighting	39	0.966	0.082	0.020	63695
51.000	Side Arm Mount	50	0.204	0.032	0.009	76035

Maximum Tower Deflections - Design Wind

Section No.	Elevation	Horz. Deflection	Gov. Load Comb.	Tilt	Twist
	ft	in		°	°
T1	212.625 - 202.458	15.871	2	0.643	0.191
T2	202.458 - 182.292	14.489	2	0.642	0.192
T3	182.292 - 162.104	11.705	2	0.613	0.184
T4	162.104 - 141.896	9.109	2	0.546	0.154
T5	141.896 - 121.688	6.846	2	0.468	0.124
T6	121.688 - 101.479	4.970	24	0.387	0.099
T7	101.479 - 81.2708	3.396	24	0.316	0.076
T8	81.2708 - 61	2.176	24	0.239	0.060
T9	61 - 40.6667	1.244	24	0.171	0.045
T10	40.6667 - 20.3333	0.580	12	0.103	0.030
T11	20.3333 - 0	0.194	13	0.051	0.015

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
216.625	Flash Beacon Lighting	2	15.871	0.643	0.191	59748
213.625	Lightning Rod 5/8" x 6'	2	15.871	0.643	0.191	59748
212.625	Climb Leg Extension	2	15.871	0.643	0.191	59748
208.000	MT6407-77A w/ Mount Pipe	2	15.245	0.643	0.191	59748
199.000	Sector Mount [SM 505-3]	2	14.011	0.640	0.192	52116
189.000	Sector Mount [SM 502-3]	2	12.624	0.628	0.189	42022
183.000	Pipe Mount [PM 601-3]	2	11.801	0.615	0.184	21311
179.000	HPD2-23	2	11.262	0.605	0.180	18916
175.000	Sector Mount	2	10.734	0.592	0.175	17665
167.000	Side Arm Mount [SO 306-1]	2	9.711	0.565	0.162	15654
164.000	Side Arm Mount [SO 306-1]	2	9.340	0.553	0.157	15013
147.000	Side Arm Mount [SO 306-1]	2	7.381	0.488	0.131	12188
145.000	Side Arm Mount [SO 306-1]	2	7.168	0.480	0.128	11941
139.000	(3) Site Pro 1 VFA12-HD	2	6.554	0.456	0.120	11963
128.000	Side Arm Mount	24	5.520	0.411	0.106	16070
118.000	MX08FRO665-20 w/ Mount Pipe	24	4.660	0.373	0.094	17560
112.000	Side Lighting	24	4.175	0.352	0.087	15082
51.000	Side Arm Mount	24	0.882	0.136	0.038	17628

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	212.625	Leg	A325N	0.750	4	0.412	30.101	0.014	1.05	Bolt Tension
		Diagonal	A325N	0.625	3	0.824	13.806	0.060	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	0.897	13.806	0.065	1.05	Bolt Shear
T2	202.458	Leg	A325N	0.875	4	4.005	41.556	0.096	1.05	Bolt Tension
		Diagonal	A325N	0.625	3	2.878	13.806	0.208	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	2.326	13.806	0.168	1.05	Bolt Shear
T3	182.292	Leg	A325N	1.000	4	12.395	54.517	0.227	1.05	Bolt Tension
		Diagonal	A325N	0.625	3	2.989	13.806	0.217	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	2.868	13.806	0.208	1.05	Bolt Shear
T4	162.104	Leg	A325N	1.000	6	13.530	54.517	0.248	1.05	Bolt Tension
		Diagonal	A325N	0.625	3	2.955	13.806	0.214	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	2.925	13.806	0.212	1.05	Bolt Shear
T5	141.896	Leg	A325N	1.000	6	17.208	54.517	0.316	1.05	Bolt Tension
		Diagonal	A325N	0.625	3	4.025	13.806	0.292	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	3.610	13.806	0.262	1.05	Bolt Shear
T6	121.688	Leg	A325N	1.000	6	22.316	54.517	0.409	1.05	Bolt Tension
		Diagonal	A325N	0.625	3	4.075	13.806	0.295	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	3.984	13.806	0.289	1.05	Bolt Shear
T7	101.479	Leg	A325N	1.000	8	20.432	54.517	0.375	1.05	Bolt Tension
		Diagonal	A325N	0.625	3	4.105	13.806	0.297	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	4.266	13.806	0.309	1.05	Bolt Shear
T8	81.2708	Leg	A325N	1.000	8	23.814	54.517	0.437	1.05	Bolt Tension
		Diagonal	A325N	0.625	3	4.065	13.806	0.294	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	4.485	13.806	0.325	1.05	Bolt Shear
T9	61	Leg	A325N	1.000	8	27.046	54.517	0.496	1.05	Bolt Tension
		Diagonal	A325N	0.625	3	4.372	13.806	0.317	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	5.025	13.806	0.364	1.05	Bolt Shear
T10	40.6667	Leg	A325N	1.000	8	28.297	54.517	0.519	1.05	Bolt Tension
		Diagonal	A325N	0.750	3	6.110	19.880	0.307	1.05	Bolt Shear
		Horizontal	A325N	0.750	2	5.041	19.880	0.254	1.05	Bolt Shear
		Redund Horz 1 Bracing	A325N	0.625	1	4.941	12.110	0.408	1.05	Member Bearing
		Redund Diag 1 Bracing	A325N	0.625	1	4.564	12.862	0.355	1.05	Member Bearing
T11	20.3333	Diagonal	A325N	0.750	3	6.958	19.880	0.350	1.05	Bolt Shear
		Horizontal	A325N	0.750	2	5.930	19.880	0.298	1.05	Bolt Shear
		Redund Horz 1 Bracing	A325N	0.625	1	5.428	12.110	0.448	1.05	Member Bearing
		Redund Diag 1 Bracing	A325N	0.625	1	4.688	12.862	0.365	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 $\frac{P_u}{\phi P_n}$
T1	212.625 - 202.458	ROHN 2.5 STD	10.167	5.083	64.4 K=1.00	1.704	-4.938	56.631	0.087 [1]
T2	202.458 - 182.292	ROHN 3 EH	20.167	6.722	71.0 K=1.00	3.016	-24.943	93.888	0.266 [1]
T3	182.292 - 162.104	ROHN 4 EH	20.223	6.741	54.8 K=1.00	4.407	-75.037	159.259	0.471 [1]
T4	162.104 - 141.896	ROHN 5 EH	20.244	6.748	44.0 K=1.00	6.112	-109.983	238.686	0.461 [1]
T5	141.896 - 121.688	ROHN 6 EHS	20.250	10.125	54.6 K=1.00	6.713	-139.238	242.933	0.573 [1]
T6	121.688 - 101.479	ROHN 6 EH	20.260	10.130	55.4 K=1.00	8.405	-174.874	302.237	0.579 [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	101.479 - 81.2708	ROHN 6 EH	20.260	10.130	55.4 K=1.00	8.405	-208.296	302.237	0.689 [1]
T8	81.2708 - 61	ROHN 8 EHS	20.328	10.164	41.8 K=1.00	9.719	-239.796	384.981	0.623 [1]
T9	61 - 40.6667	ROHN 8 EHS	20.384	10.192	41.9 K=1.00	9.719	-270.341	384.707	0.703 [1]
T10	40.6667 - 20.3333	ROHN 8 EH	20.391	10.196	42.5 K=1.00	12.763	-284.653	503.236	0.566 [1]
T11	20.3333 - 0	ROHN 8 EH	20.373	10.187	42.5 K=1.00	12.763	-312.908	503.352	0.622 [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	212.625 - 202.458	ROHN 2 STD	6.639	6.453	98.4 K=1.00	1.075	-2.470	23.829	0.104 [1]
T2	202.458 - 182.292	ROHN 2 STD	7.987	7.717	117.6 K=1.00	1.075	-8.635	17.541	0.492 [1]
T3	182.292 - 162.104	ROHN 2 STD	8.602	8.301	126.5 K=1.00	1.075	-8.968	15.159	0.592 [1]
T4	162.104 - 141.896	ROHN 2 STD	9.291	8.954	136.5 K=1.00	1.075	-8.520	13.026	0.654 [1]
T5	141.896 - 121.688	ROHN 2.5 STD	12.600	12.138	153.7 K=1.00	1.704	-12.076	16.287	0.741 [1]
T6	121.688 - 101.479	ROHN 2.5 STD	13.385	12.964	164.2 K=1.00	1.704	-12.226	14.278	0.856 [1]
T7	101.479 - 81.2708	ROHN 3 STD	14.235	13.843	142.8 K=1.00	2.228	-12.316	24.700	0.499 [1]
T8	81.2708 - 61	ROHN 3 STD	15.213	14.731	151.9 K=1.00	2.228	-12.196	21.813	0.559 [1]
T9	61 - 40.6667	ROHN 3 STD	16.185	15.723	162.2 K=1.00	2.228	-13.117	19.146	0.685 [1]
T10	40.6667 - 20.3333	ROHN 3 STD	24.652	12.326	127.1 K=1.00	2.228	-18.330	31.156	0.588 [1]
T11	20.3333 - 0	ROHN 3 STD	25.288	12.644	130.4 K=1.00	2.228	-20.873	29.608	0.705 [1]

[1] P_u / ϕP_n controls

Horizontal 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	212.625 - 202.458	ROHN 1.5 STD	8.521	4.141	79.8 K=1.00	0.799	-1.751	22.582	0.078 [1]
T2	202.458 - 182.292	ROHN 1.5 STD	8.597	4.153	80.0 K=1.00	0.799	-4.612	22.520	0.205 [1]
T3	182.292 - 162.104	ROHN 1.5 STD	10.014	4.819	92.9 K=1.00	0.799	-5.735	19.143	0.300 [1]
T4	162.104 - 141.896	ROHN 2 STD	12.097	5.817	88.7 K=1.00	1.075	-5.791	27.209	0.213 [1]
T5	141.896 - 121.688	ROHN 2 STD	13.917	6.682	101.9 K=1.00	1.075	-7.199	22.640	0.318 [1]
T6	121.688 - 101.479	ROHN 2 STD	16.292	7.870	120.0 K=1.00	1.075	-7.969	16.864	0.473 [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	101.479 - 81.2708	ROHN 2.5 STD	18.792	9.120	115.5 K=1.00	1.704	-8.528	28.852	0.296 [1]
T8	81.2708 - 61	ROHN 2.5 STD	21.359	10.320	130.7 K=1.00	1.704	-8.862	22.530	0.393 [1]
T9	61 - 40.6667	ROHN 2.5 STD	23.927	11.604	147.0 K=1.00	1.704	-9.878	17.820	0.554 [1]
T10	40.6667 - 20.3333	ROHN 3 STD	25.177	12.229	126.1 K=1.00	2.228	-10.082	31.651	0.319 [1]
T11	20.3333 - 0	ROHN 3 STD	27.833	13.557	139.8 K=1.00	2.228	-11.860	25.753	0.461 [1]

[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	212.625 - 202.458	ROHN 1.5 STD	8.500	4.130	79.6 K=1.00	0.799	-0.223	22.635	0.010 [1]

[1] P_u / ϕP_n controls

Redundant Horizontal (1) 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 $\frac{P_u}{\phi P_n}$
T10	40.6667 - 20.3333	ROHN 1.5 STD	6.294	5.935	114.4 K=1.00	0.799	-4.941	13.007	0.380 [1]
T11	20.3333 - 0	ROHN 1.5 STD	6.958	6.599	127.2 K=1.00	0.799	-5.428	11.053	0.491 [1]

[1] P_u / ϕP_n controls

Redundant Diagonal (1) 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 $\frac{P_u}{\phi P_n}$
T10	40.6667 - 20.3333	ROHN 2 STD	11.628	10.887	166.0 K=1.00	1.075	-4.564	8.811	0.518 [1]
T11	20.3333 - 0	ROHN 2 STD	12.021	11.347	173.0 K=1.00	1.075	-4.688	8.111	0.578 [1]

[1] P_u / ϕP_n controls

Redundant Hip (1) 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 $\frac{P_u}{\phi P_n}$
T10	40.6667 - 20.3333	ROHN 1.5 STD	6.294	6.294	121.3 K=1.00	0.799	-0.050	11.936	0.004 [1]
T11	20.3333 - 0	ROHN 1.5 STD	6.958	6.958	134.1 K=1.00	0.799	-0.051	10.041	0.005 [1]

[1] P_u / ϕP_n controls

Redundant Hip Diagonal (1) 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 $\frac{P_u}{\phi P_n}$
T10	40.6667 - 20.3333	ROHN 2.5 STD	15.204	15.204	192.6 K=1.00	1.704	-0.079	10.381	0.008 [1]
T11	20.3333 - 0	ROHN 2.5 STD	16.022	16.022	202.9 K=1.00	1.704	-0.073	9.348	0.008 [1]

[1] P_u / ϕP_n controls

Inner Bracing 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	212.625 - 202.458	L2x2x1/8	4.260	4.260	128.6 K=1.00	0.484	-0.003	8.383	0.000 [1]
T2	202.458 - 182.292	L2x2x1/8	4.299	4.299	129.8 K=1.00	0.484	-0.006	8.234	0.001 [1]
T3	182.292 - 162.104	L2x2x1/8	5.007	5.007	151.1 K=1.00	0.484	-0.006	6.069	0.001 [1]
T4	162.104 - 141.896	L2x2x1/8	6.049	6.049	182.6 K=1.00	0.484	-0.007	4.159	0.002 [1]
T5	141.896 - 121.688	L2x2x1/8	6.958	6.958	210.0 K=1.00	0.484	-0.009	3.142	0.003 [1]
T6	121.688 - 101.479	L2 1/2x2 1/2x3/16	8.146	8.146	197.5 K=1.00	0.902	-0.010	6.620	0.002 [1]
T7	101.479 - 81.2708	L3x3x3/16	9.396	9.396	189.2 K=1.00	1.090	-0.013	8.717	0.002 [1]
T8	81.2708 - 61	L3 1/2x3 1/2x1/4	10.680	10.680	184.7 K=1.00	1.690	-0.015	14.185	0.001 [1]
T9	61 - 40.6667	L3 1/2x3 1/2x1/4	11.964	11.964	206.9 K=1.00	1.690	-0.015	11.304	0.001 [1]
T10	40.6667 - 20.3333	ROHN 3 STD	12.589	12.589	129.8 K=1.00	2.228	-0.019	29.869	0.001 [1]
T11	20.3333 - 0	ROHN 3 STD	13.917	13.917	143.5 K=1.00	2.228	-0.018	24.440	0.001 [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	212.625 - 202.458	ROHN 2.5 STD	10.167	5.083	64.4	1.704	0.078	76.682	0.001 [1]
T2	202.458 - 182.292	ROHN 3 EH	20.167	6.722	71.0	3.016	16.022	135.717	0.118 [1]
T3	182.292 - 162.104	ROHN 4 EH	20.223	6.741	54.8	4.407	49.578	198.335	0.250 [1]
T4	162.104 - 141.896	ROHN 5 EH	20.244	6.748	44.0	6.112	81.177	275.039	0.295 [1]
T5	141.896 - 121.688	ROHN 6 EHS	20.250	10.125	54.6	6.713	103.250	302.097	0.342 [1]
T6	121.688 - 101.479	ROHN 6 EH	20.260	10.130	55.4	8.405	133.895	378.222	0.354 [1]
T7	101.479 - 81.2708	ROHN 6 EH	20.260	10.130	55.4	8.405	163.454	378.222	0.432 [1]
T8	81.2708 - 61	ROHN 8 EHS	20.328	10.164	41.8	9.719	190.515	437.369	0.436 [1]
T9	61 - 40.6667	ROHN 8 EHS	20.384	10.192	41.9	9.719	216.366	437.369	0.495 [1]
T10	40.6667 - 20.3333	ROHN 8 EH	20.391	10.196	42.5	12.763	227.009	574.322	0.395 [1]
T11	20.3333 - 0	ROHN 8 EH	20.373	10.187	42.5	12.763	249.711	574.322	0.435 [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	212.625 - 202.458	ROHN 2 STD	6.639	6.453	98.4	1.075	2.398	48.354	0.050 [1]
T2	202.458 - 182.292	ROHN 2 STD	7.987	7.717	117.6	1.075	8.561	48.354	0.177 [1]
T3	182.292 - 162.104	ROHN 2 STD	8.602	8.301	126.5	1.075	8.878	48.354	0.184 [1]
T4	162.104 - 141.896	ROHN 2 STD	8.827	8.491	129.4	1.075	8.758	48.354	0.181 [1]
T5	141.896 - 121.688	ROHN 2.5 STD	12.600	12.138	153.7	1.704	11.894	76.682	0.155 [1]
T6	121.688 - 101.479	ROHN 2.5 STD	13.385	12.964	164.2	1.704	11.995	76.682	0.156 [1]
T7	101.479 - 81.2708	ROHN 3 STD	13.802	13.410	138.3	2.228	11.960	100.281	0.119 [1]
T8	81.2708 - 61	ROHN 3 STD	15.213	14.731	151.9	2.228	11.730	100.281	0.117 [1]
T9	61 - 40.6667	ROHN 3 STD	16.185	15.723	162.2	2.228	12.597	100.281	0.126 [1]
T10	40.6667 - 20.3333	ROHN 3 STD	24.652	12.326	127.1	2.228	17.910	100.281	0.179 [1]
T11	20.3333 - 0	ROHN 3 STD	25.288	12.644	130.4	2.228	20.066	100.281	0.200 [1]

[1] P_u / ϕP_n controls

Horizontal 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	212.625 - 202.458	ROHN 1.5 STD	8.521	4.141	79.8	0.799	1.795	35.976	0.050 [1]
T2	202.458 - 182.292	ROHN 1.5 STD	8.597	4.153	80.0	0.799	4.652	35.976	0.129 [1]
T3	182.292 - 162.104	ROHN 1.5 STD	10.014	4.819	92.9	0.799	5.350	35.976	0.149 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T4	162.104 - 141.896	ROHN 2 STD	12.097	5.817	88.7	1.075	5.850	48.354	0.121 [1]
T5	141.896 - 121.688	ROHN 2 STD	13.917	6.682	101.9	1.075	7.221	48.354	0.149 [1]
T6	121.688 - 101.479	ROHN 2 STD	16.292	7.870	120.0	1.075	7.963	48.354	0.165 [1]
T7	101.479 - 81.2708	ROHN 2.5 STD	18.792	9.120	115.5	1.704	8.532	76.682	0.111 [1]
T8	81.2708 - 61	ROHN 2.5 STD	21.359	10.320	130.7	1.704	8.970	76.682	0.117 [1]
T9	61 - 40.6667	ROHN 2.5 STD	23.927	11.604	147.0	1.704	10.051	76.682	0.131 [1]
T10	40.6667 - 20.3333	ROHN 3 STD	25.177	12.229	126.1	2.228	9.907	100.281	0.099 [1]
T11	20.3333 - 0	ROHN 3 STD	27.833	13.557	139.8	2.228	11.816	100.281	0.118 [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	212.625 - 202.458	ROHN 1.5 STD	8.500	4.130	79.6	0.799	0.223	35.976	0.006 [1]

[1] P_u / ϕP_n controls

Redundant Horizontal (1) 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 $\frac{P_u}{\phi P_n}$
T10	40.6667 - 20.3333	ROHN 1.5 STD	6.294	5.935	114.4	0.799	4.941	25.902	0.191 [1]
T11	20.3333 - 0	ROHN 1.5 STD	6.958	6.599	127.2	0.799	5.428	25.902	0.210 [1]

[1] P_u / ϕP_n controls

Redundant Diagonal (1) 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 $\frac{P_u}{\phi P_n}$
T10	40.6667 - 20.3333	ROHN 2 STD	11.628	10.887	166.0	1.075	4.564	34.815	0.131 [1]
T11	20.3333 - 0	ROHN 2 STD	12.021	11.347	173.0	1.075	4.688	34.815	0.135 [1]

[1] P_u / ϕP_n controls

Redundant Hip Diagonal (1) 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 $\frac{P_u}{\phi P_n}$
T10	40.6667 - 20.3333	ROHN 2.5 STD	15.204	15.204	192.6	1.704	0.092	55.211	0.002 [1]
T11	20.3333 - 0	ROHN 2.5 STD	16.022	16.022	202.9	1.704	0.096	55.211	0.002 [1]

[1] P_u / ϕP_n controls

Inner Bracing 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	212.625 - 202.458	L2x2x1/8	4.260	4.260	81.6	0.484	0.003	15.694	0.000 [1]
T2	202.458 - 182.292	L2x2x1/8	4.299	4.299	82.4	0.484	0.006	15.694	0.000 [1]
T3	182.292 - 162.104	L2x2x1/8	4.660	4.660	89.3	0.484	0.005	15.694	0.000 [1]
T4	162.104 - 141.896	L2x2x1/8	5.354	5.354	102.6	0.484	0.006	15.694	0.000 [1]
T5	141.896 - 121.688	L2x2x1/8	6.396	6.396	122.6	0.484	0.005	15.694	0.000 [1]
T6	121.688 - 101.479	L2 1/2x2 1/2x3/16	7.521	7.521	116.0	0.902	0.003	29.225	0.000 [1]
T7	101.479 - 81.2708	L3x3x3/16	8.771	8.771	112.1	1.090	0.002	35.316	0.000 [1]
T8	81.2708 - 61	L3 1/2x3 1/2x1/4	10.021	10.021	110.3	1.690	0.000	76.050	0.000 [1]
T10	40.6667 - 20.3333	ROHN 3 STD	12.589	12.589	129.8	2.228	0.001	100.281	0.000 [1]
T11	20.3333 - 0	ROHN 3 STD	13.917	13.917	143.5	2.228	0.003	100.281	0.000 [1]

[1] P_u / ϕP_n controls

Section Capacity Table

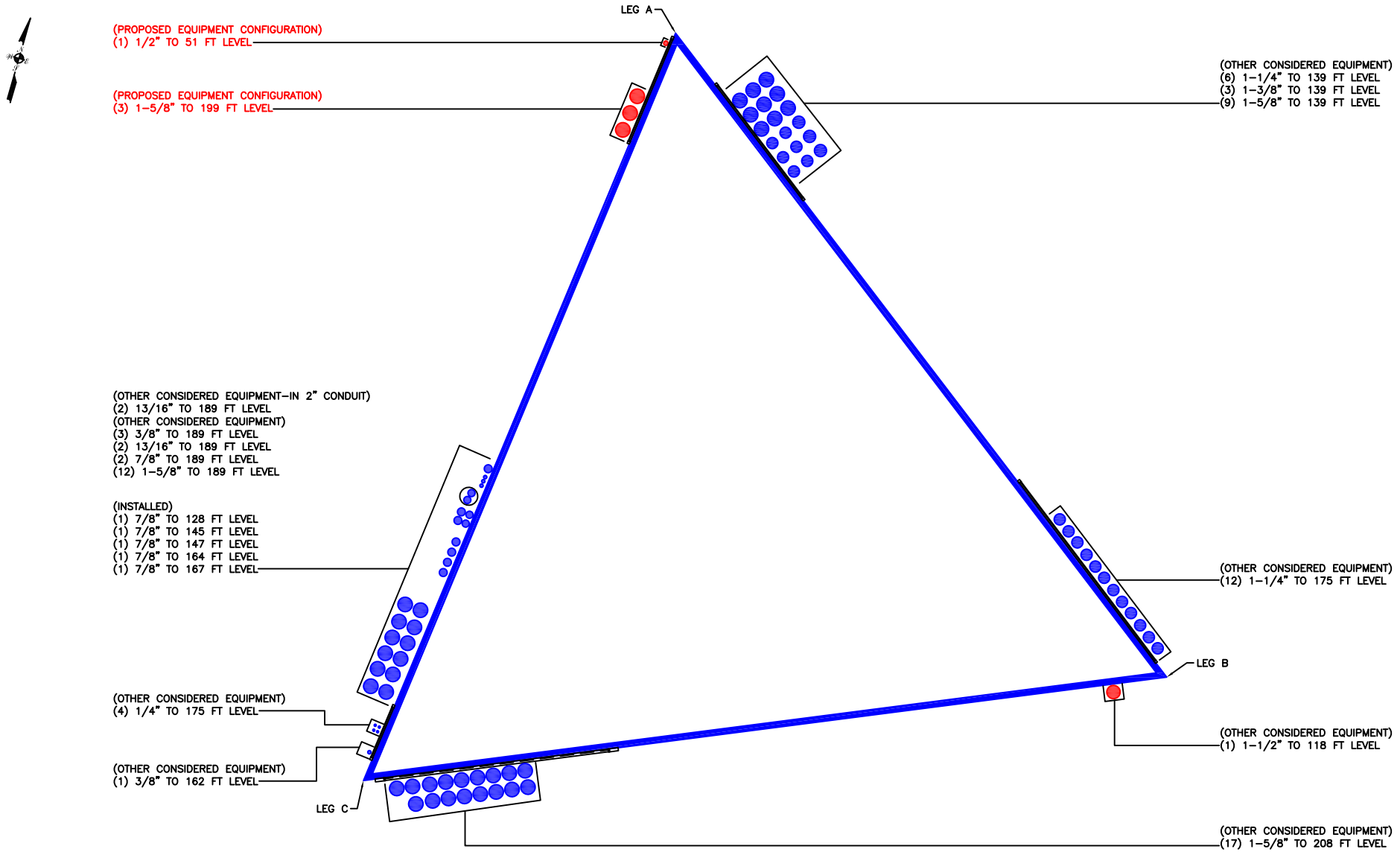
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	212.625 - 202.458	Leg	ROHN 2.5 STD	2	-4.938	59.463	8.3	Pass
T2	202.458 - 182.292	Leg	ROHN 3 EH	30	-24.943	98.582	25.3	Pass
T3	182.292 - 162.104	Leg	ROHN 4 EH	69	-75.037	167.222	44.9	Pass
T4	162.104 - 141.896	Leg	ROHN 5 EH	108	-109.983	250.620	43.9	Pass
T5	141.896 - 121.688	Leg	ROHN 6 EHS	147	-139.238	255.080	54.6	Pass
T6	121.688 - 101.479	Leg	ROHN 6 EH	174	-174.874	317.349	55.1	Pass
T7	101.479 - 81.2708	Leg	ROHN 6 EH	201	-208.296	317.349	65.6	Pass
T8	81.2708 - 61	Leg	ROHN 8 EHS	228	-239.796	404.230	59.3	Pass
T9	61 - 40.6667	Leg	ROHN 8 EHS	255	-270.341	403.942	66.9	Pass
T10	40.6667 - 20.3333	Leg	ROHN 8 EH	282	-284.653	528.398	53.9	Pass
T11	20.3333 - 0	Leg	ROHN 8 EH	315	-312.908	528.520	59.2	Pass
T1	212.625 - 202.458	Diagonal	ROHN 2 STD	12	-2.470	25.020	9.9	Pass
T2	202.458 - 182.292	Diagonal	ROHN 2 STD	38	-8.635	18.418	46.9	Pass
T3	182.292 -	Diagonal	ROHN 2 STD	78	-8.968	15.917	56.3	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
	162.104							
T4	162.104 - 141.896	Diagonal	ROHN 2 STD	117	-8.520	13.677	62.3	Pass
T5	141.896 - 121.688	Diagonal	ROHN 2.5 STD	156	-12.076	17.101	70.6	Pass
T6	121.688 - 101.479	Diagonal	ROHN 2.5 STD	183	-12.226	14.992	81.5	Pass
T7	101.479 - 81.2708	Diagonal	ROHN 3 STD	210	-12.316	25.935	47.5	Pass
T8	81.2708 - 61	Diagonal	ROHN 3 STD	237	-12.196	22.903	53.3	Pass
T9	61 - 40.6667	Diagonal	ROHN 3 STD	264	-13.117	20.104	65.2	Pass
T10	40.6667 - 20.3333	Diagonal	ROHN 3 STD	303	-18.330	32.714	56.0	Pass
T11	20.3333 - 0	Diagonal	ROHN 3 STD	336	-20.873	31.089	67.1	Pass
T1	212.625 - 202.458	Horizontal	ROHN 1.5 STD	10	-1.751	23.711	7.4	Pass
T2	202.458 - 182.292	Horizontal	ROHN 1.5 STD	37	-4.612	23.646	19.5	Pass
T3	182.292 - 162.104	Horizontal	ROHN 1.5 STD	76	-5.735	20.100	28.5	Pass
T4	162.104 - 141.896	Horizontal	ROHN 2 STD	115	-5.791	28.570	20.3	Pass
T5	141.896 - 121.688	Horizontal	ROHN 2 STD	154	-7.199	23.772	30.3	Pass
T6	121.688 - 101.479	Horizontal	ROHN 2 STD	181	-7.969	17.707	45.0	Pass
T7	101.479 - 81.2708	Horizontal	ROHN 2.5 STD	208	-8.528	30.294	28.1	Pass
T8	81.2708 - 61	Horizontal	ROHN 2.5 STD	235	-8.862	23.656	37.5	Pass
T9	61 - 40.6667	Horizontal	ROHN 2.5 STD	262	-9.878	18.711	52.8	Pass
T10	40.6667 - 20.3333	Horizontal	ROHN 3 STD	299	-10.082	33.233	30.3	Pass
T11	20.3333 - 0	Horizontal	ROHN 3 STD	332	-11.860	27.041	43.9	Pass
T1	212.625 - 202.458	Top Girt	ROHN 1.5 STD	5	-0.223	23.767	0.9	Pass
T10	40.6667 - 20.3333	Redund Horz 1 Bracing	ROHN 1.5 STD	295	-4.941	13.657	36.2	Pass
T11	20.3333 - 0	Redund Horz 1 Bracing	ROHN 1.5 STD	328	-5.428	11.606	46.8	Pass
T10	40.6667 - 20.3333	Redund Diag 1 Bracing	ROHN 2 STD	296	-4.564	9.252	49.3	Pass
T11	20.3333 - 0	Redund Diag 1 Bracing	ROHN 2 STD	329	-4.688	8.517	55.0	Pass
T10	40.6667 - 20.3333	Redund Hip 1 Bracing	ROHN 1.5 STD	306	-0.050	12.533	0.4	Pass
T11	20.3333 - 0	Redund Hip 1 Bracing	ROHN 1.5 STD	339	-0.051	10.543	0.5	Pass
T10	40.6667 - 20.3333	Redund Hip Diagonal 1 Bracing	ROHN 2.5 STD	309	-0.079	10.900	0.7	Pass
T11	20.3333 - 0	Redund Hip Diagonal 1 Bracing	ROHN 2.5 STD	342	-0.073	9.815	0.7	Pass
T1	212.625 - 202.458	Inner Bracing	L2x2x1/8	17	-0.003	8.802	0.4	Pass
T2	202.458 - 182.292	Inner Bracing	L2x2x1/8	41	-0.006	8.646	0.4	Pass
T3	182.292 - 162.104	Inner Bracing	L2x2x1/8	80	-0.006	6.373	0.5	Pass
T4	162.104 - 141.896	Inner Bracing	L2x2x1/8	120	-0.006	4.367	0.6	Pass
T5	141.896 - 121.688	Inner Bracing	L2x2x1/8	158	-0.009	3.300	0.7	Pass
T6	121.688 - 101.479	Inner Bracing	L2 1/2x2 1/2x3/16	184	-0.010	6.951	0.5	Pass
T7	101.479 - 81.2708	Inner Bracing	L3x3x3/16	211	-0.013	9.153	0.6	Pass
T8	81.2708 - 61	Inner Bracing	L3 1/2x3 1/2x1/4	240	-0.015	14.894	0.4	Pass
T9	61 - 40.6667	Inner Bracing	L3 1/2x3 1/2x1/4	267	-0.015	11.869	0.4	Pass
T10	40.6667 - 20.3333	Inner Bracing	ROHN 3 STD	311	-0.019	31.363	0.4	Pass
T11	20.3333 - 0	Inner Bracing	ROHN 3 STD	345	-0.017	25.662	0.4	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$øP_{allow}$ K	% Capacity	Pass Fail
						Summary		
						Leg (T9)	66.9	Pass
						Diagonal (T6)	81.5	Pass
						Horizontal (T9)	52.8	Pass
						Top Girt (T1)	0.9	Pass
						Redund Horz 1 Bracing (T11)	46.8	Pass
						Redund Diag 1 Bracing (T11)	55.0	Pass
						Redund Hip 1 Bracing (T11)	0.5	Pass
						Redund Hip Diagonal 1 Bracing (T11)	0.7	Pass
						Inner Bracing (T5)	0.7	Pass
						Bolt Checks	49.4	Pass
						RATING =	**81.5**	**Pass**

APPENDIX B

BASE LEVEL DRAWING


LEG A
(PROPOSED EQUIPMENT CONFIGURATION)
(1) 1/2" TO 51 FT LEVEL
(PROPOSED EQUIPMENT CONFIGURATION)
(3) 1-5/8" TO 199 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(6) 1-1/4" TO 139 FT LEVEL
(3) 1-3/8" TO 139 FT LEVEL
(9) 1-5/8" TO 139 FT LEVEL
(OTHER CONSIDERED EQUIPMENT-IN 2" CONDUIT)
(2) 13/16" TO 189 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(3) 3/8" TO 189 FT LEVEL
(2) 13/16" TO 189 FT LEVEL
(2) 7/8" TO 189 FT LEVEL
(12) 1-5/8" TO 189 FT LEVEL
(INSTALLED)
(1) 7/8" TO 128 FT LEVEL
(1) 7/8" TO 145 FT LEVEL
(1) 7/8" TO 147 FT LEVEL
(1) 7/8" TO 164 FT LEVEL
(1) 7/8" TO 167 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(12) 1-1/4" TO 175 FT LEVEL
LEG B
(OTHER CONSIDERED EQUIPMENT)
(4) 1/4" TO 175 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 1-1/2" TO 118 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 3/8" TO 162 FT LEVEL
LEG C
(OTHER CONSIDERED EQUIPMENT)
(17) 1-5/8" TO 208 FT LEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

Self Support Anchor Rod Capacity

Site Info	
BU #	806363
Site Name	HRT 105 943201
Order #	621344 Rev. 0

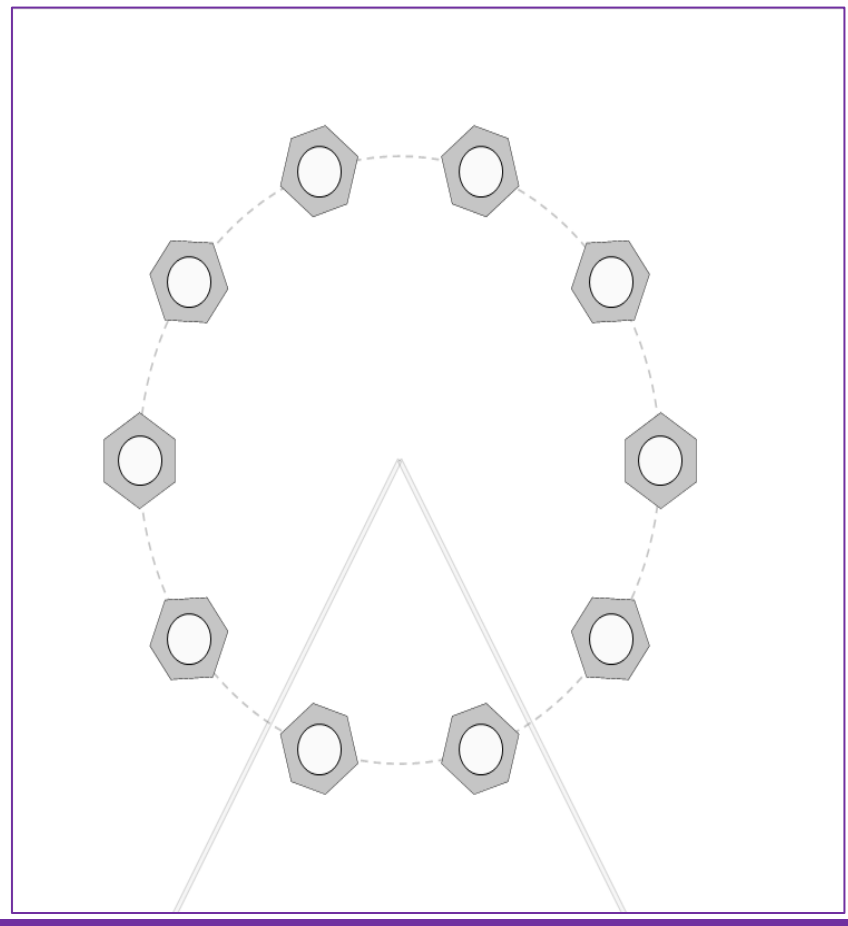
Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	Yes
l_{ar} (in)	1.25

Applied Loads		
	Comp.	Uplift
Axial Force (kips)	343.24	276.80
Shear Force (kips)	39.61	35.44

**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

(10) 1" ø bolts (A354-BC N; Fy=109 ksi, Fu=125 ksi)

l_{ar} (in): 1.25

Analysis Results

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

Pu_t = 27.68	ϕPn_t = 56.81	**Stress Rating**
Vu = 3.54	ϕVn = 36.82	**46.4%**
Mu = n/a	ϕMn = n/a	**Pass**

SST Unit Base Foundation

BU # :	806363
Site Name:	HRT 105 943201
App. Number:	621344 Rev. 0

TIA-222 Revision: H

Top & Bot. Pad Rein. Different?:	☐
Tower Centroid Offset?:	☐
Block Foundation?:	☑
Rectangular Pad?:	☐

Superstructure Analysis Reactions		
Global Moment, **M**:	8032.64	ft-kips
Global Axial, **P**:	107.2	kips
Global Shear, **V**:	66.15	kips
Leg Compression, $\mathbf{P_{comp}}$:	343.24	kips
Leg Comp. Shear, $\mathbf{V_{u\_comp}}$:	39.61	kips
Leg Uplift, $\mathbf{P_{uplift}}$:	276.8	kips
Leg Uplift. Shear, $\mathbf{V_{u\_uplift}}$:	35.44	kips
Tower Height, **H**:	212.62	ft
Base Face Width, **BW**:	30.04	ft
BP Dist. Above Fdn, $\mathbf{bp_{dist}}$:	3	in
Anchor Bolt Circle, **BC**:	12	in

Foundation Analysis Checks	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	337.44	66.15	**18.7%**	**Pass**
Bearing Pressure (ksf)	6.00	1.34	**21.3%**	**Pass**
*Overturning (kip*ft)*	17636.81	8346.85	**47.3%**	**Pass**
*Pad Flexure (kip*ft)*	7259.23	1682.78	**22.1%**	**Pass**
Pad Shear - 1-way (kips)	1971.72	193.74	**9.4%**	**Pass**
Pad Shear - Comp 2-way (ksi)	0.164	0.035	**20.3%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	3668.31	0.00	**0.0%**	**Pass**
Pad Shear - Tension 2-way (ksi)	0.164	0.028	**16.4%**	**Pass**
*Flexural 2-way (Tension) (kip*ft)*	3668.31	0.00	**0.0%**	**Pass**

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

Structural Rating*:	**22.1%**
Soil Rating*:	**47.3%**

Pad Properties		
Depth, **D**:	4.00	ft
Pad Width, $\mathbf{W_1}$:	40.25	ft
Pad Thickness, **T**:	4.50	ft
Pad Rebar Size (Bottom dir. 2), $\mathbf{Sp_2}$:	7	
Pad Rebar Quantity (Bottom dir. 2), $\mathbf{mp_2}$:	55	
Pad Clear Cover, $\mathbf{cc_{pad}}$:	3	in

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

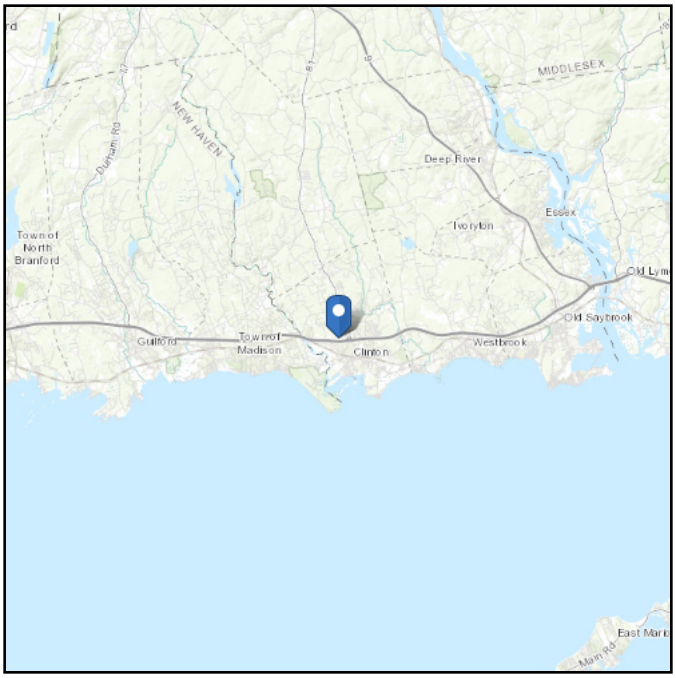
Soil Properties		
Total Soil Unit Weight, γ:	120	pcf
Ultimate Gross Bearing, Qult:	8.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	35	degrees
SPT Blow Count, $\mathbf{N_{blows}}$:	11	
Base Friction, μ:		
Neglected Depth, **N**:	3.5	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	3	ft

<-- Toggle between Gross and Net

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-10	**Elevation:**	18.95 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.288944
Soil Class:	D - Stiff Soil	**Longitude:**	-72.538472



Wind

Results:

Wind Speed:	130 Vmph
10-year MRI	78 Vmph
25-year MRI	88 Vmph
50-year MRI	97 Vmph
100-year MRI	106 Vmph

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

Date Accessed: Tue Apr 13 2021

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

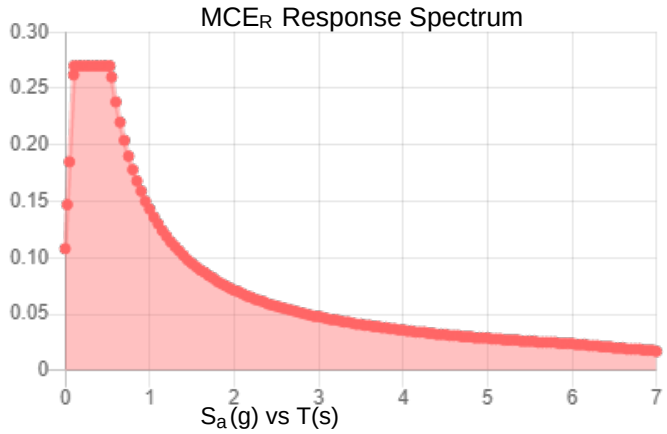
Seismic

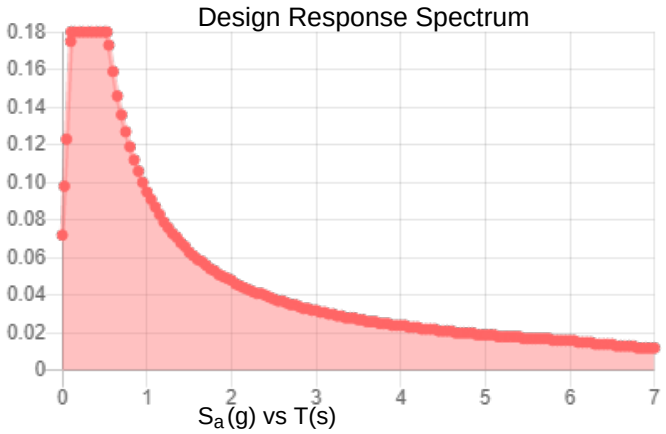
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.169	S_{DS} :	0.18
S_1 :	0.059	S_{D1} :	0.095
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.085
S_{MS} :	0.27	PGA_M :	0.137
S_{M1} :	0.143	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Tue Apr 13 2021

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

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Tue Apr 13 2021

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

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Date: **June 23, 2022**

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

Subject:	**Mount Analysis Report**	
Carrier Designation:	***T-Mobile* Equipment Change-Out**	
	Site Number:	CT11030H
	Site Name:	N/A
Crown Castle Designation:	**BU Number:**	806363
	Site Name:	HRT 105 943201
	JDE Job Number:	721303
	Order Number:	621344 Rev. 0
Engineering Firm Designation:	**TEP Project Number:**	217464.714142
Site Data:	**48 Cow Hill Road, Clinton, Middlesex County, CT 06413** **Latitude *41° 17' 20.20"*, Longitude *-72° 32' 18.50"***	
Structure Information:	**Tower Height & Type:**	212.6±ft Self-Supporting Tower
	Mount Elevation:	199.0 ft
	Mount Width & Type:	15.0 ft Sector Mount

Tower Engineering Professionals is pleased to submit this **"Mount Analysis Report"** to determine the structural integrity of T-Mobile's antenna mounting system with the 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:

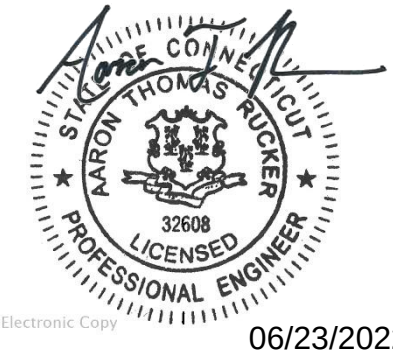
Sector Mount (typical) **Sufficient**

This analysis utilizes an ultimate 3-second gust wind speed of 124 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Andrew Samson, E.I. / PHX

Respectfully submitted by:

Aaron T. Rucker, P.E.
Division Manager
(919) 661-6351 Ext. 4113
arucker@tepgroup.net



Electronic Copy

06/23/2022

TABLE OF CONTENTS

1) INTRODUCTION

This is an existing, 3-sector, 15.0' Sector mount designed by Rohn.

2) ANALYSIS CRITERIA

Building Code:	2018 Connecticut State Building Code
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	124 mph
Exposure Category:	B
Topographic Factor at Base:	1
Ice Thickness:	1.0 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.205
Seismic S_1:	0.054
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
199.0	198.0	3	Commscope	VV-65B-R1_TMO	(3) Sector Mounts
		3	Ericsson	AIR 6419 B41_TMO	
		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	D930522	TEP
Previous Tower Structural Analysis	Crown Castle	12011688	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 antenna mounting system and calculate member stresses for various loading cases.

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

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

3.2) Assumptions

1) The antenna mounting system was properly fabricated, installed, and maintained in good condition in accordance with its original design, TIA Standards, and/or manufacturer's specifications.
2) The configuration of antennas, mounts, and other appurtenances are as specified in Table 1 and the referenced drawings.
3) All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.

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)[3,4]

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1	Face Horizontals	1FF-BH3	199.0	25.5	Pass
	Support Horizontals	1SF-BH		20.4	Pass
	Support Bracing	1SF2-V3		43.8	Pass
	Stabilizers	SA-A		16.9	Pass
	Mount Pipes	MP-5		46.2	Pass
2	Connection Bolts	-		11.5	Pass

Structure Rating (max from all components)[4] =	46.2%

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

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	1,491	Leg	Rohn 3 EH	4,694	1, 3

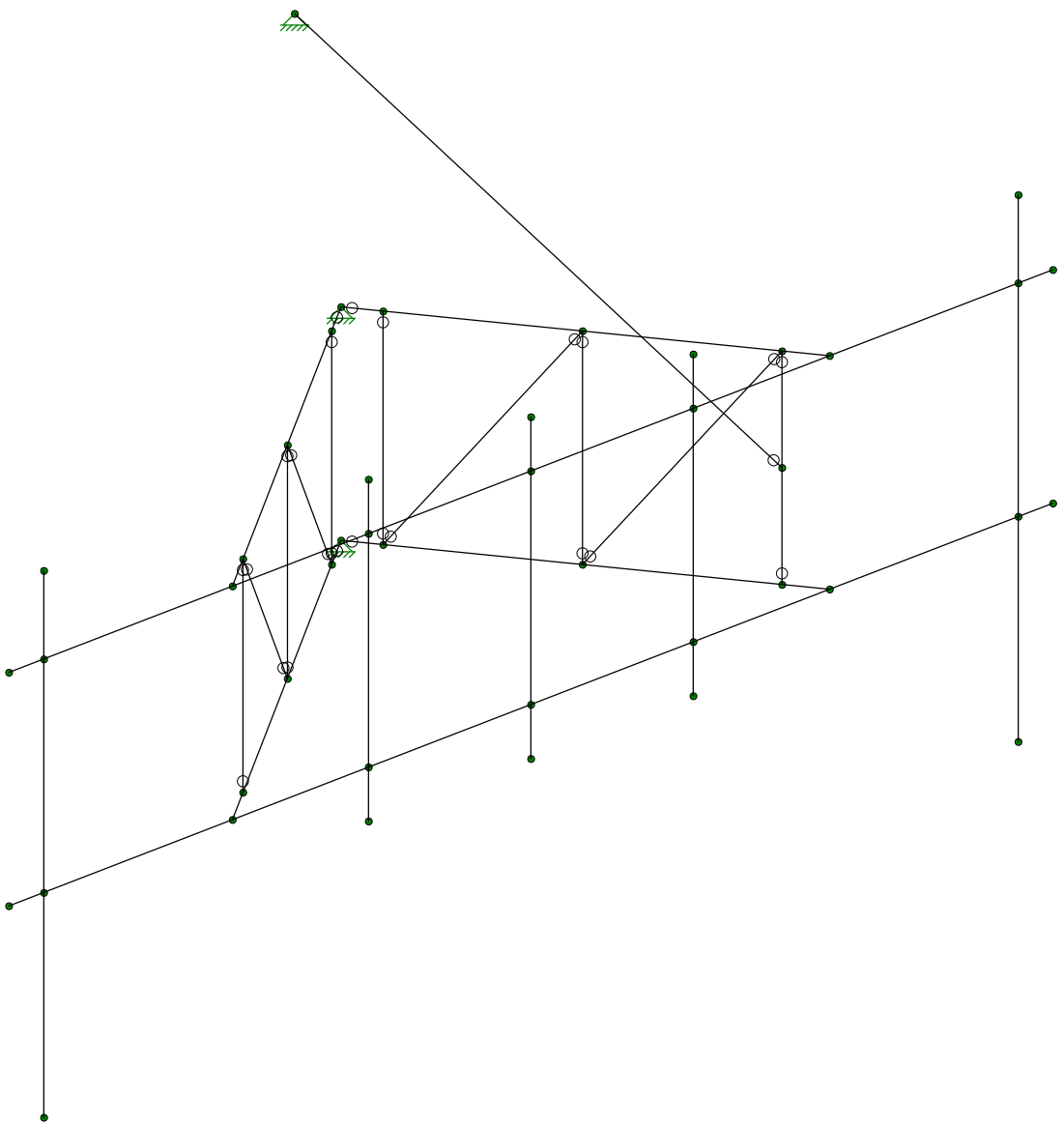
Notes:
1) Tieback connection point is within 25% of either end of the connected tower member.
2) Tower connection point is NOT within 25% of either end of the connected tower member.
3) Reduce member compressive capacity according to CED-STD-10294 *Standard for Installation of Mounts and Appurtenances.*

4.1) Recommendations

1) The mount has 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...	HRT 105 943201 (BU 806363)	SK - 1
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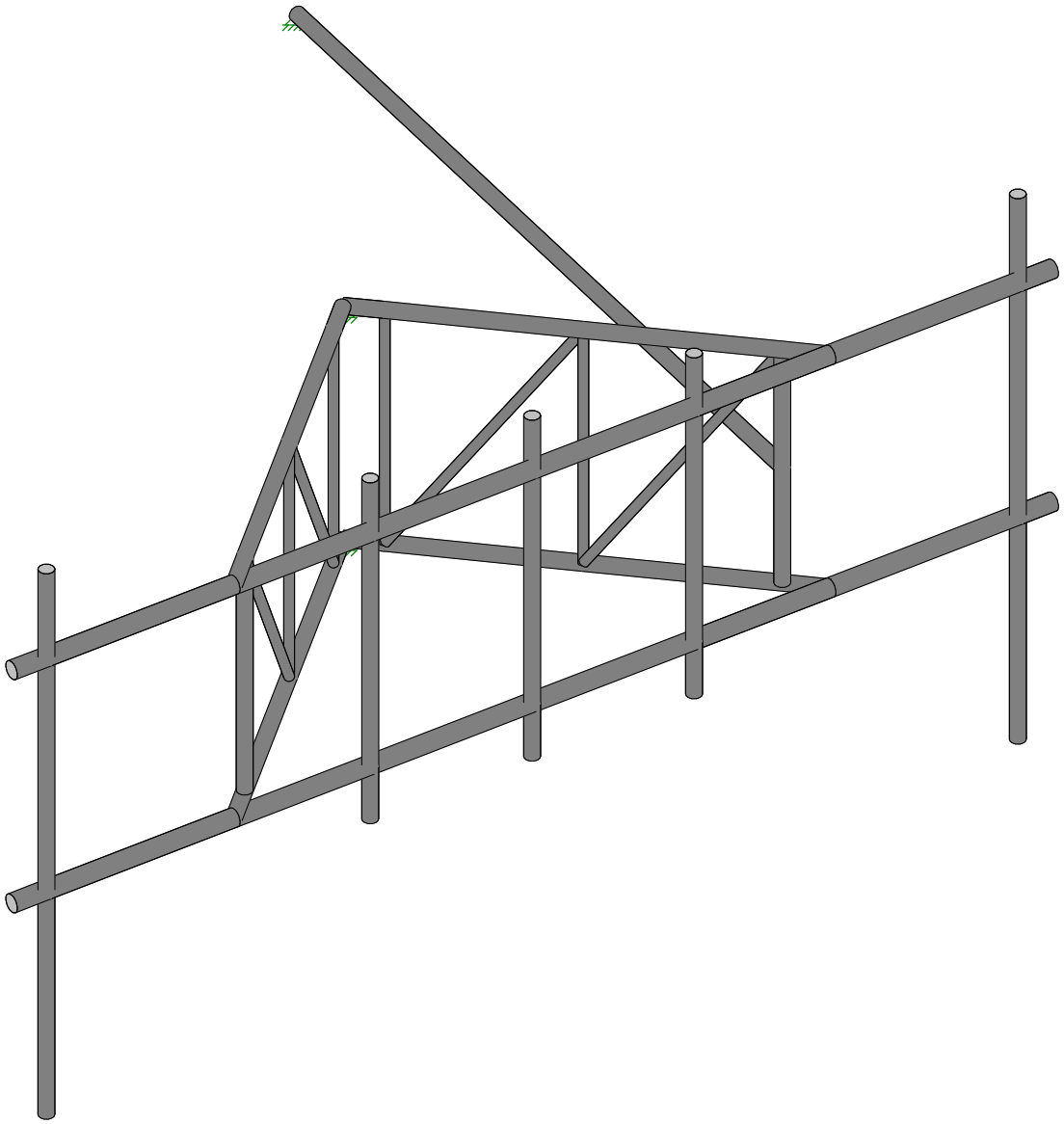

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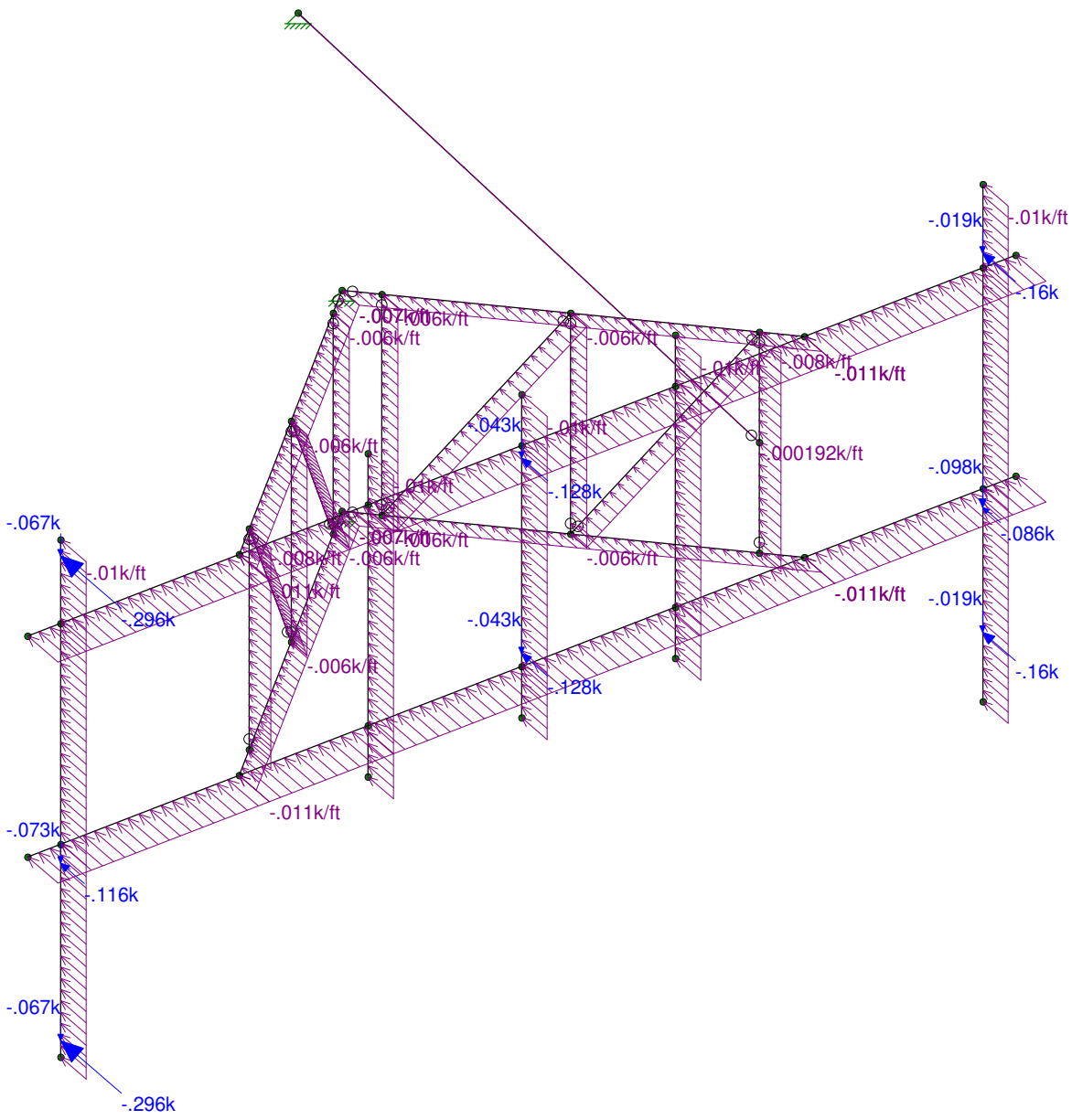

Loads: LC 2, 0.9D+1.0 0-Wind
Envelope Only Solution

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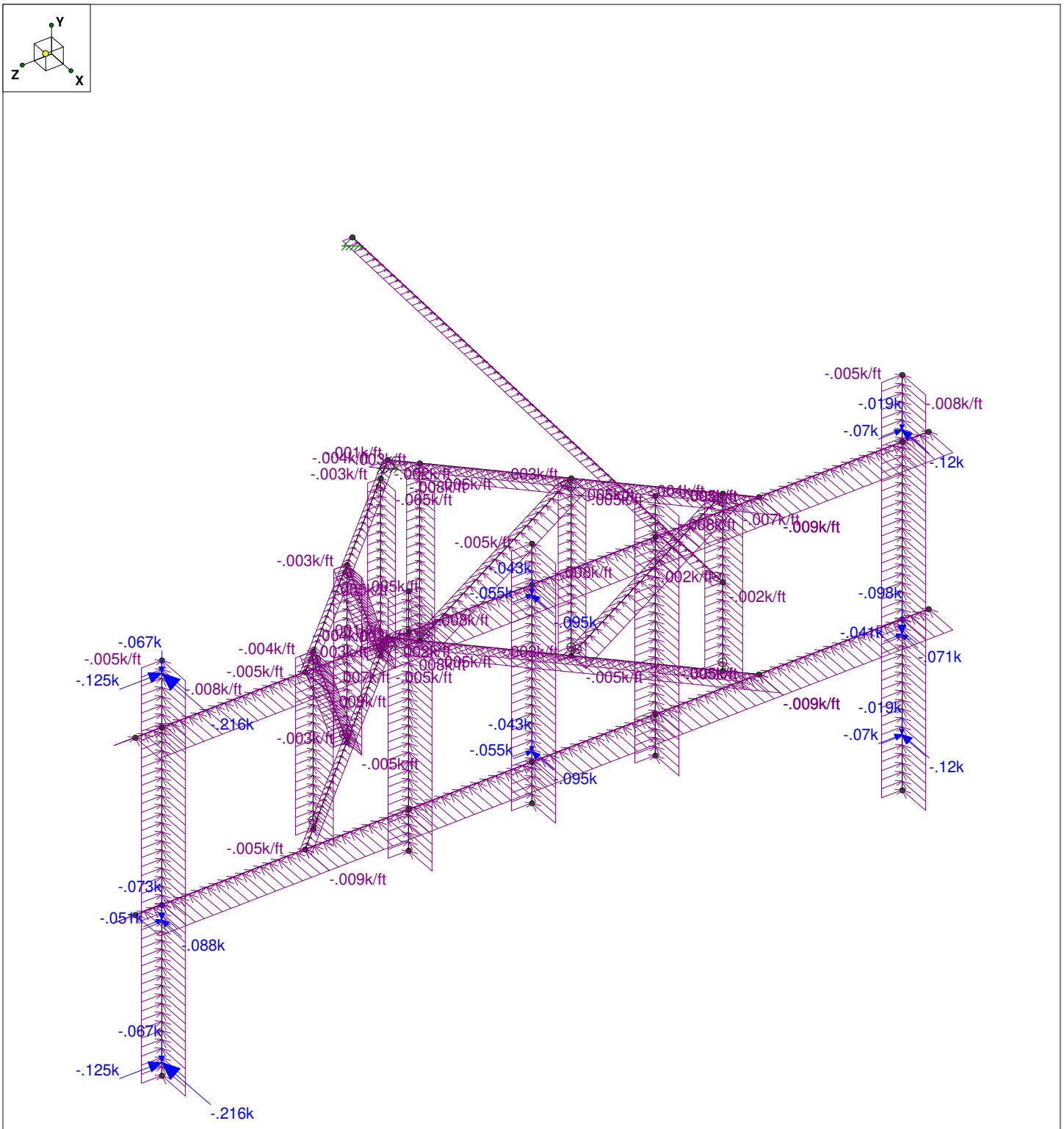

Loads: LC 3, 0.9D+1.0 30-Wind
Envelope Only Solution

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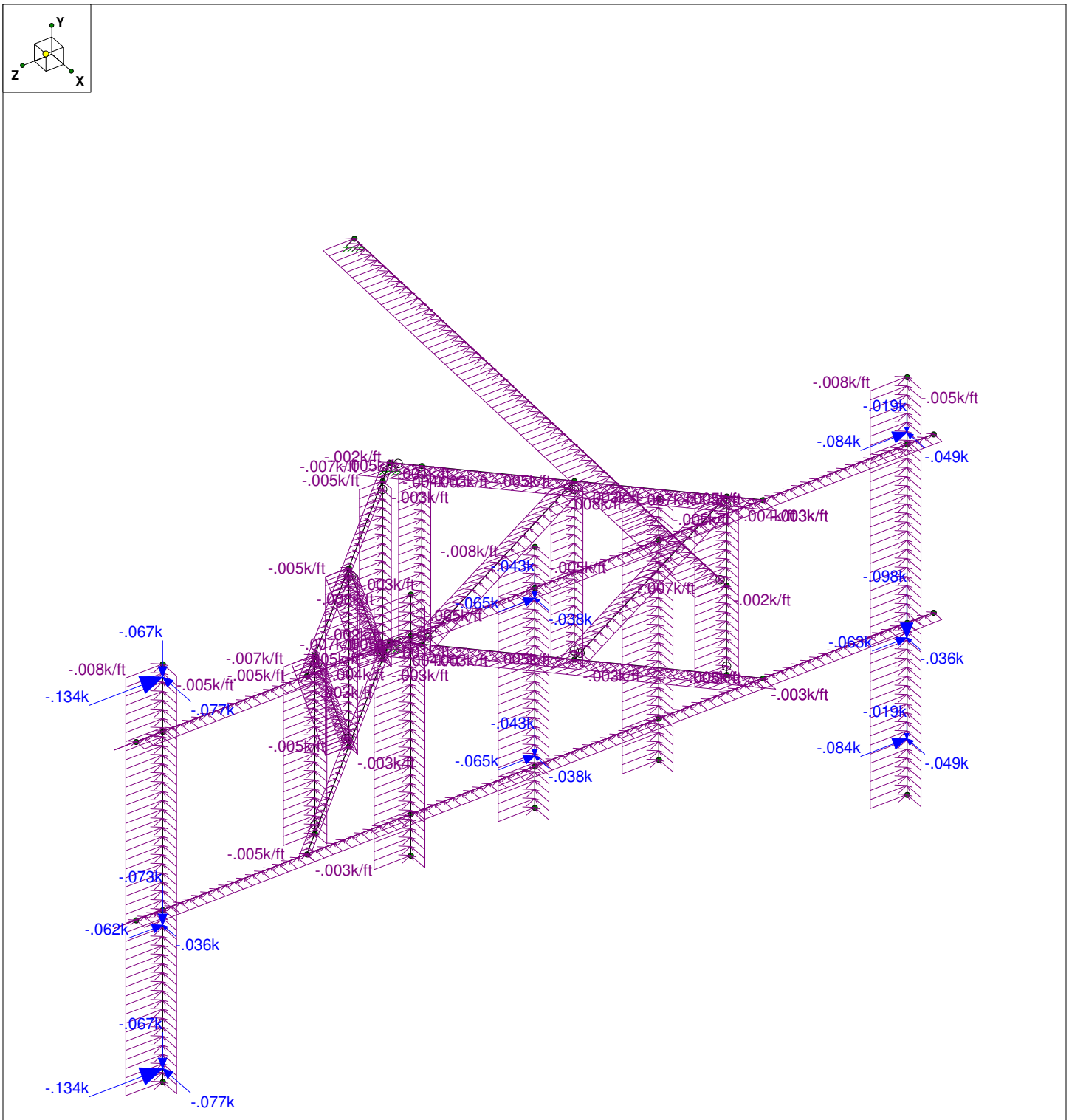

Loads: LC 5, 0.9D+1.0 60-Wind
Envelope Only Solution

Tower Engineering Profes...	HRT 105 943201 (BU 806363)	SK - 5
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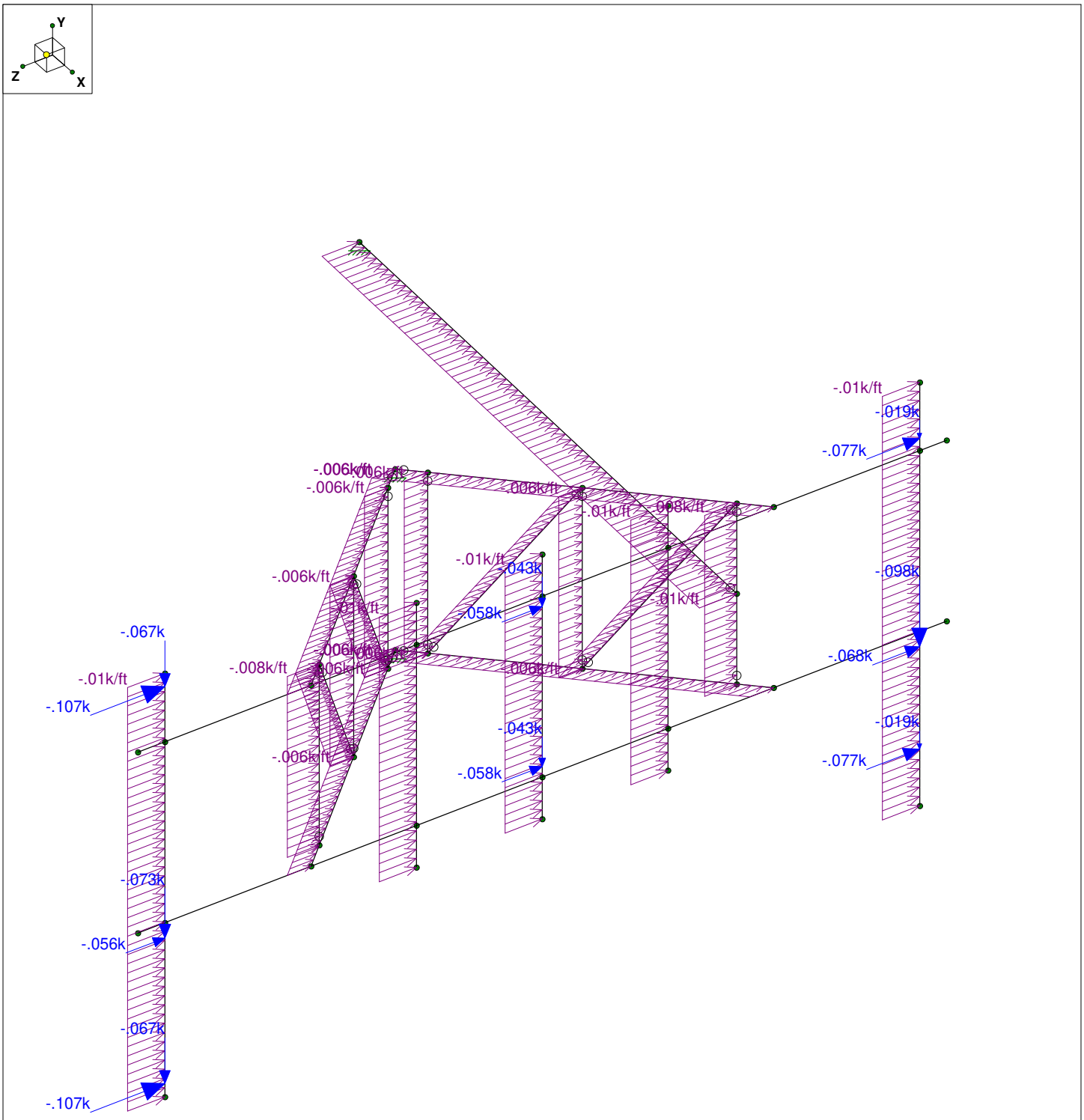

Loads: LC 6, 0.9D+1.0 90-Wind
Envelope Only Solution

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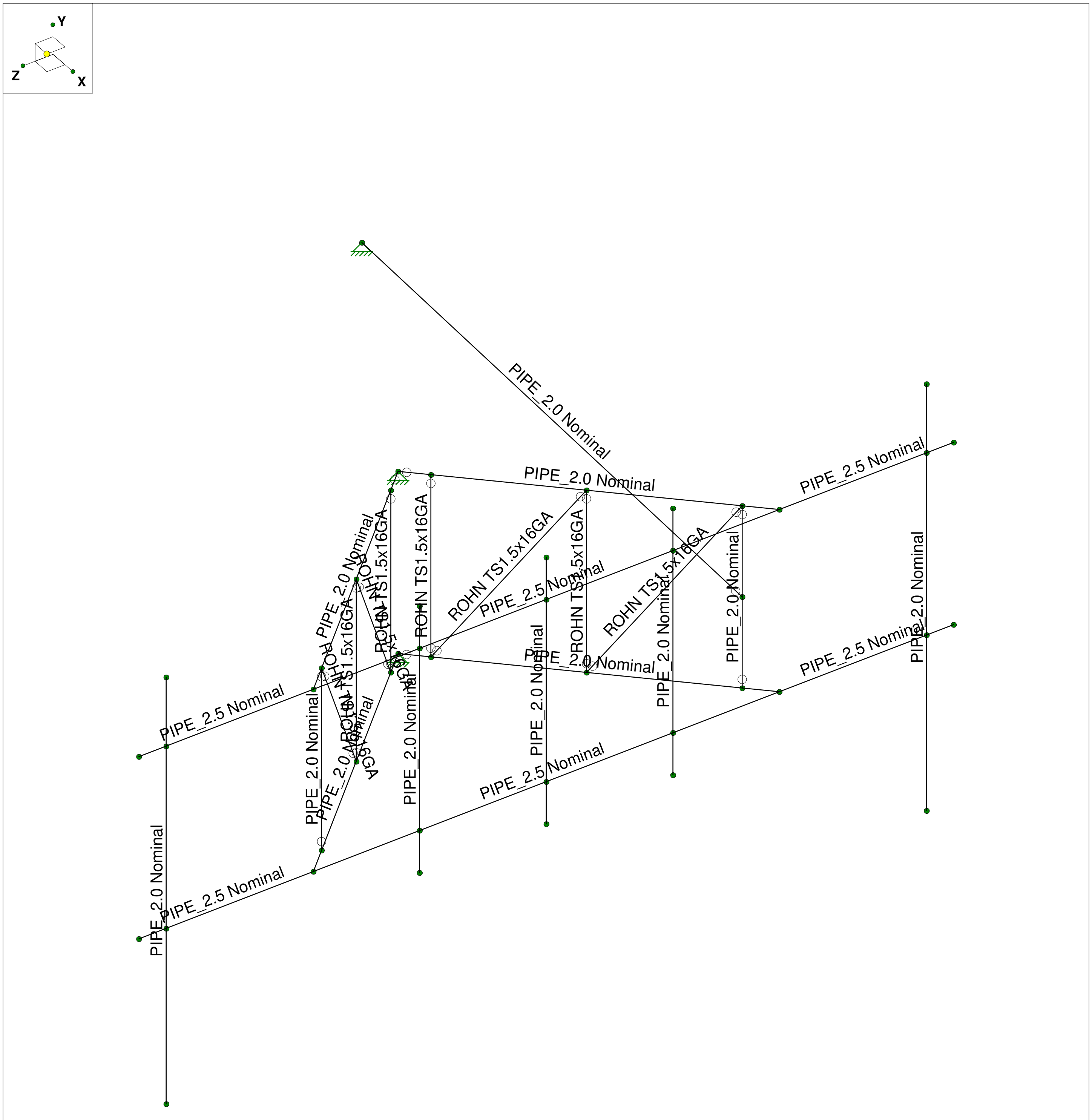

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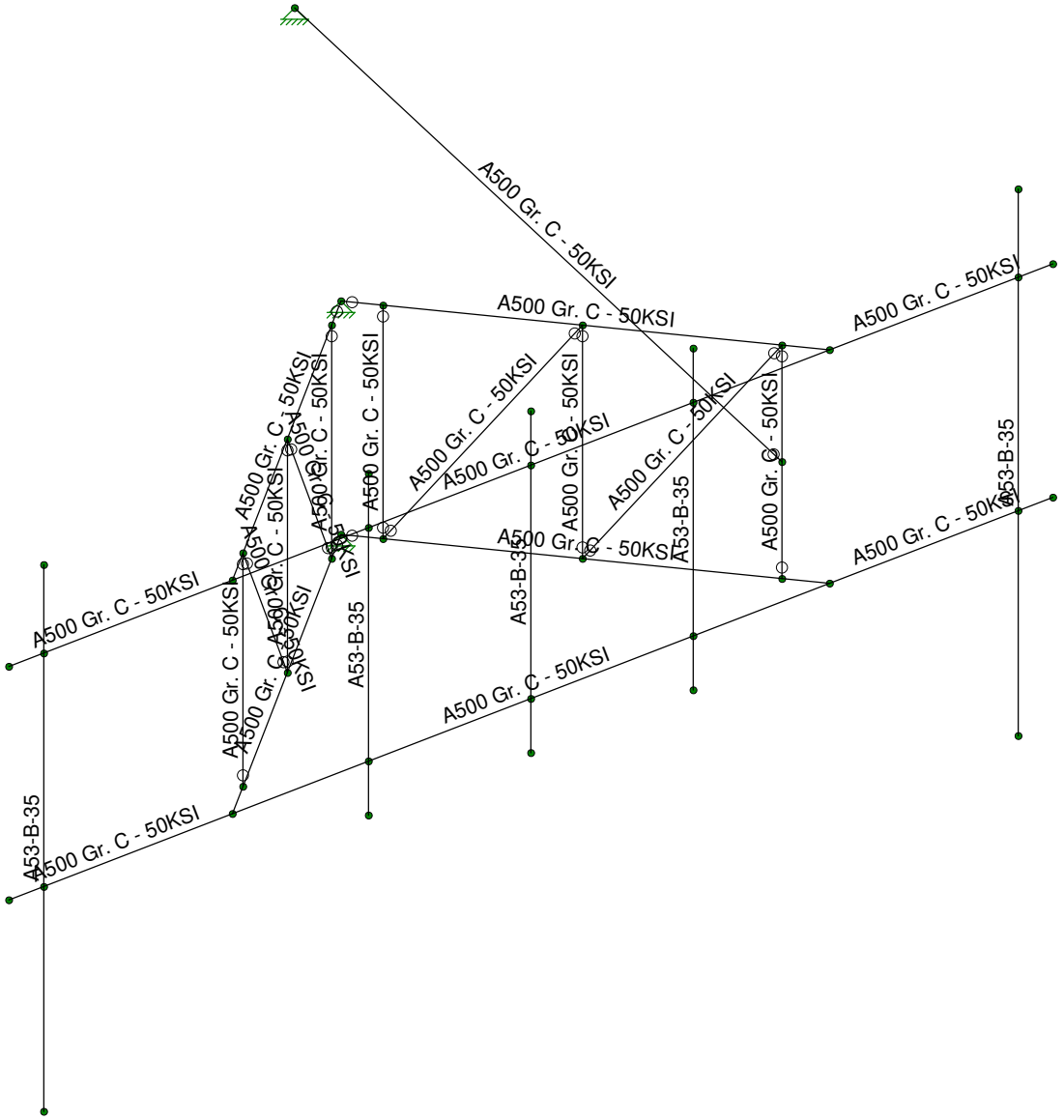

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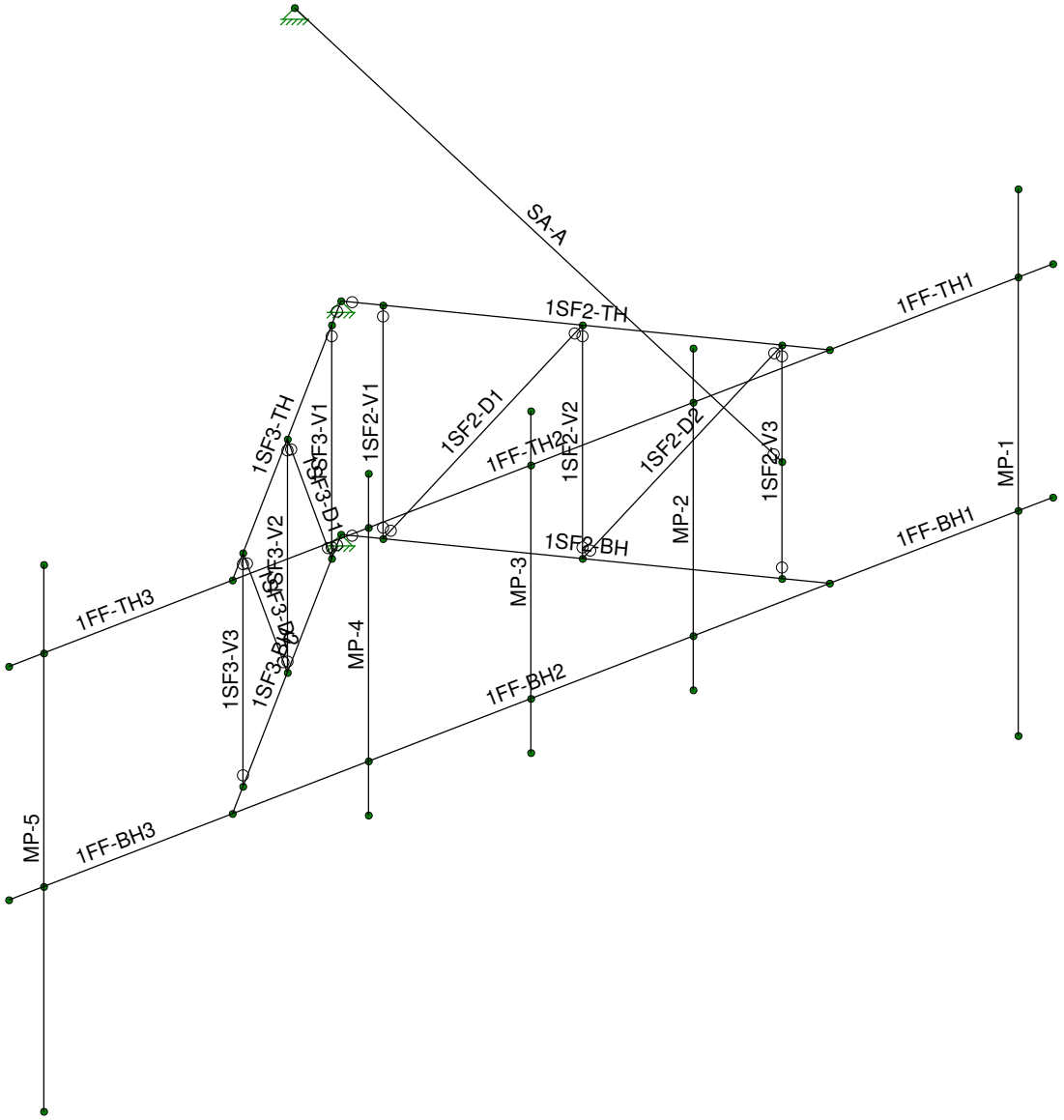

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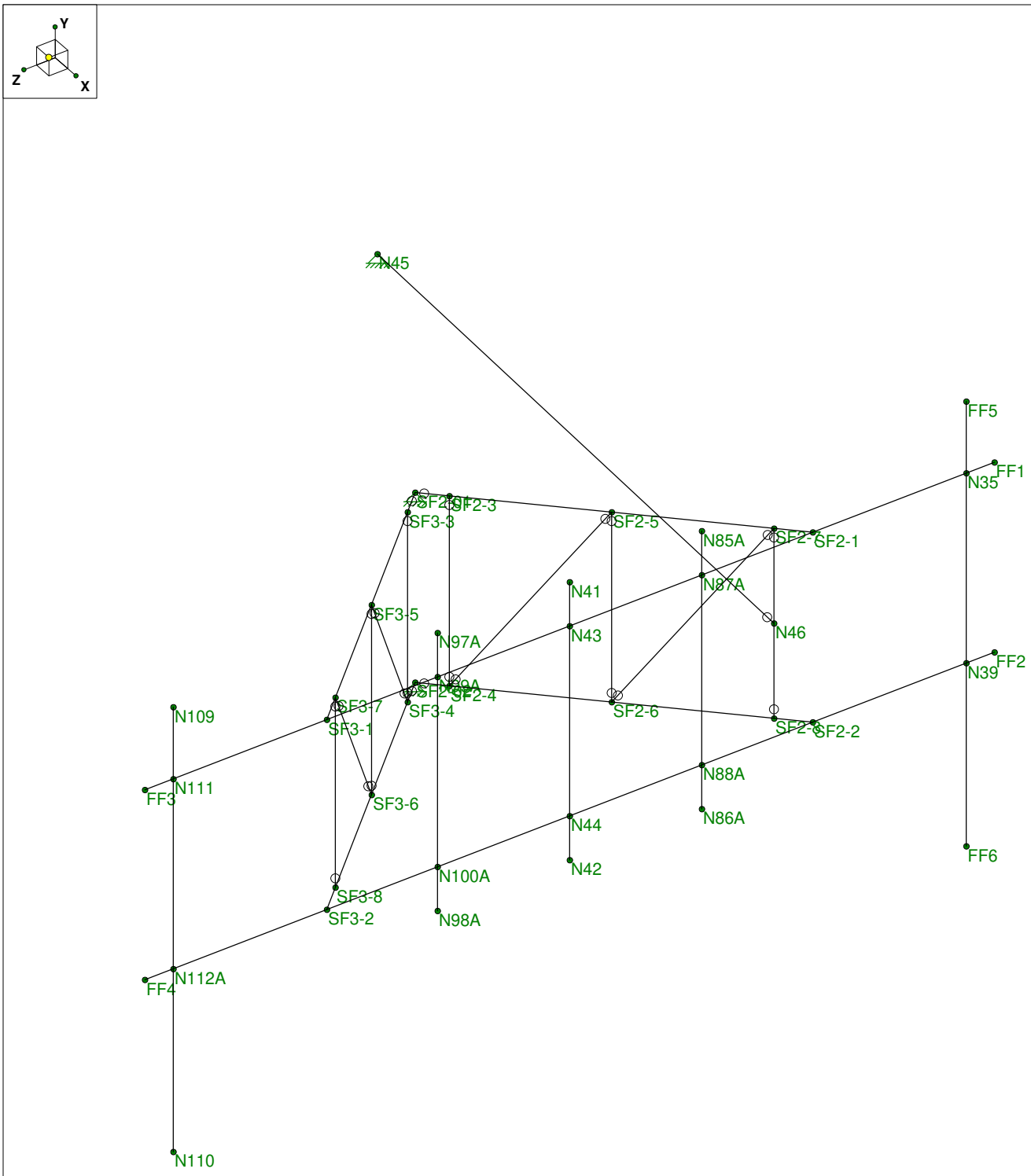

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APPENDIX B

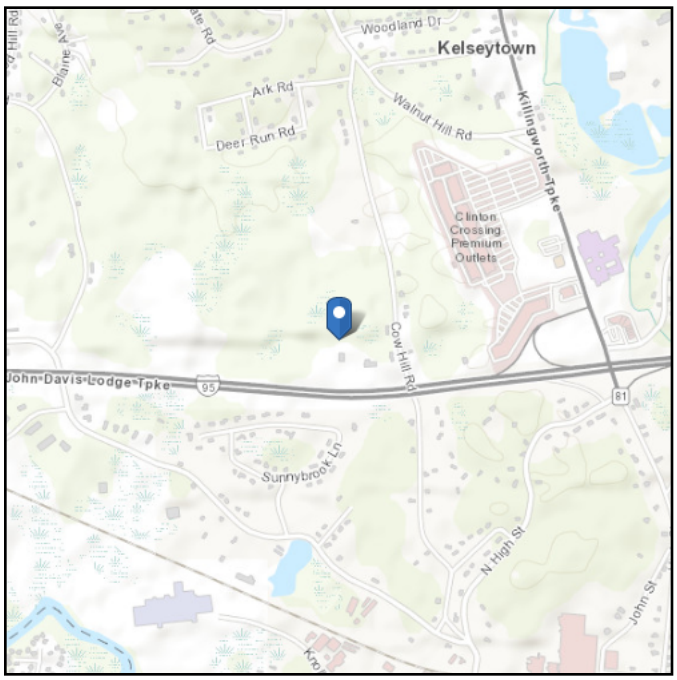
SOFTWARE INPUT CALCULATIONS

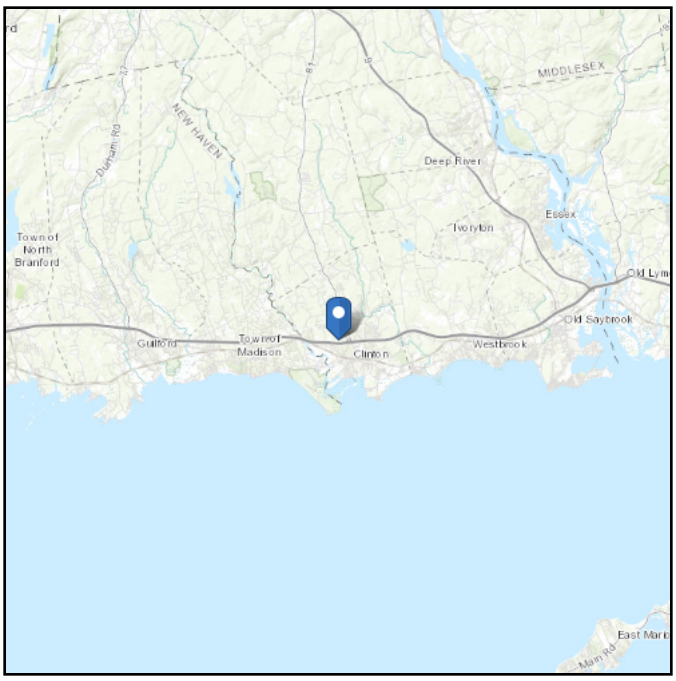
ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 18.95 ft (NAVD 88)
Latitude: 41.288944
Longitude: -72.538472





Wind

Results:

Wind Speed	124 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	95 Vmph
100-year MRI	101 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Thu Jun 23 2022

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

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

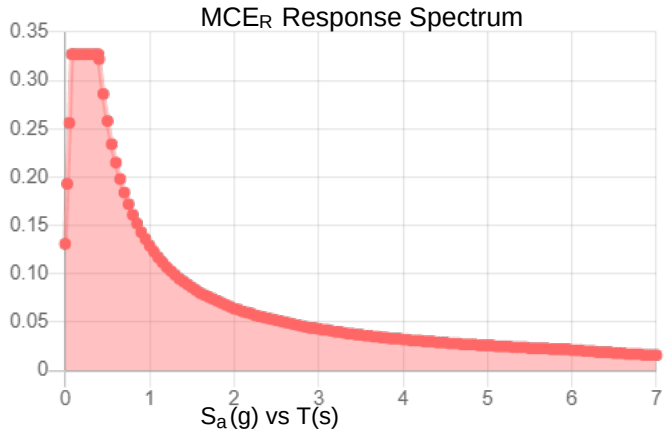
Seismic

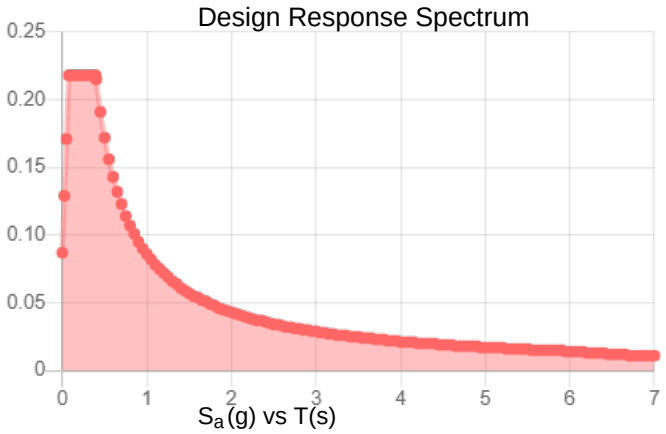
Site Soil Class: D - Default (see Section 11.4.3)

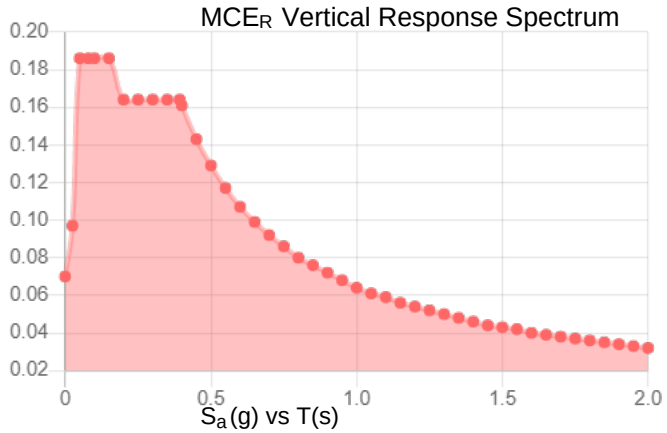
Results:

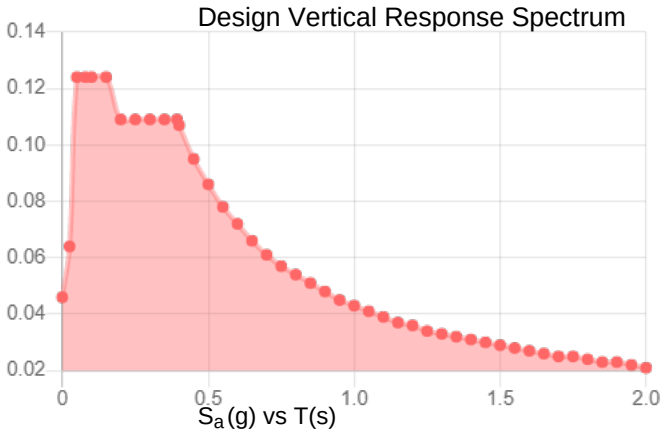
S_S :	0.205	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.114
F_v :	2.4	PGA_M :	0.18
S_{MS} :	0.327	F_{PGA} :	1.571
S_{M1} :	0.129	I_e :	1
S_{DS} :	0.218	C_v :	0.709

Seismic Design Category B









Data Accessed: **Thu Jun 23 2022**

Date Source:

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

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Thu Jun 23 2022

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

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

TOWER ENGINEERING PROFESSIONALS

HRT 105 943201 (BU 806363)

TEP No.	217464.714142	
Analysis By:	AJS	6/23/2022
Checked By:	PHX	6/23/2022

Code Revisions:	TIA-222-H	IBC 2015
Tower Type:	3 Sided Self-Support	

Wind Inputs:

Ult. Wind Velocity:	124.0	mph
Live Load Velocity:	30.0	mph
Ice Wind Velocity:	50.0	mph
Base Ice Thickness:	1.00	inches
Mount Centerline:	199.0	ft
Antenna Centerline:	198.0	ft
Exposure Category:	B	
Topo Category:	1	
Risk Category:	II	
Ground Elevation:	19	ft

Wind Calculations:

K_{zt}:	1.000	Section 2.6.6
K_d:	0.950	
$K_{z\text{-}Mount}$:	1.203	Section 2.6.5.2
$K_{z\text{-}Antenna}$:	1.201	Section 2.6.5.2
K_{iz}:	1.197	Section 2.6.10
Ice Thickness:	1.197	inches - Section 2.6.10

Without Ice - (psf)		With Ice - (psf)	
$(q_zG_h)_{Mount}$:	44.95	**$(q_zG_h)_{Mount}$:**	7.31
$(q_zG_h)_{Antenna}$:	44.89	**$(q_zG_h)_{Antenna}$:**	7.30

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

Seismic Input

S_{DS}:	0.218	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:	0.054	Spectral Acceleration at a Period of 1 Second

Seismic Design Force

Cs:	0.109	kips/kip	TIA-H Sec 2.7.7.1.1
Cs-min:	0.030	kips/kip	TIA-H Sec 2.7.7.1.1

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

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

MFR	Model	Height (in)	Width (in)	Depth (in)	Wt. (lbs)	Azimuth°	Qty	Shape	Member Label	Distance from start node of the member		
										Location #1 (ft,%)	Location #2 (ft,%)	Location #3 (ft,%)
COMMSCOPE	VV-65B-R1_TMO	70.35	12.01	4.65	41.67	0.00	1	Flat	MP-1	1.07	6.93	
ERICSSON	AIR 6419 B41_TMO	36.25	20.91	9.02	96.50	0.00	1	Flat	MP-3	0.99	4.01	
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMO	95.90	24.00	8.50	149.90	0.00	1	Flat	MP-5	0.25	7.75	
ERICSSON	RADIO 4460 B2/B25 B66_TMO	17.00	15.10	11.90	109.00	0.00	1	Flat	MP-1	5.00		
ERICSSON	Radio 4480_TMOV2	22.00	15.70	7.50	81.00	0.00	1	Flat	MP-5	5.00		

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

Member Name	Wind Proj. (in)	Length (in)	Shape	θ (°)	Perimeter (in)
1FF-BH1	2.875	180.00	Round	90.00	9.03
1FF-BH2	2.875	180.00	Round	90.00	9.03
1FF-BH3	2.875	180.00	Round	90.00	9.03
1FF-TH1	2.875	180.00	Round	90.00	9.03
1FF-TH2	2.875	180.00	Round	90.00	9.03
1FF-TH3	2.875	180.00	Round	90.00	9.03
1SF2-BH	2.375	71.09	Round	46.43	7.46
1SF2-D1	1.500	50.22	Round		4.71
1SF2-D2	1.500	50.22	Round		4.71
1SF2-TH	2.375	71.09	Round	46.43	7.46
1SF2-V1	1.500	41.00	Round		4.71
1SF2-V2	1.500	41.00	Round		4.71
1SF2-V3	2.375	41.00	Round		7.46
1SF3-BH	2.375	71.09	Round	-46.43	7.46
1SF3-D1	1.500	50.22	Round		4.71
1SF3-D2	1.500	50.22	Round		4.71
1SF3-TH	2.375	71.09	Round	-46.43	7.46
1SF3-V1	1.500	41.00	Round		4.71
1SF3-V2	1.500	41.00	Round		4.71
1SF3-V3	2.375	41.00	Round		7.46
MP-1	2.375	96.00	Round		7.46
MP-2	2.375	60.00	Round		7.46
MP-3	2.375	60.00	Round		7.46
MP-4	2.375	60.00	Round		7.46
MP-5	2.375	96.00	Round		7.46
SA-A	2.375	144.00	Round	-1.96	7.46

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)	12
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?	Yes
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
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(Global) Model Settings, Continued

Seismic Code	ASCE 7-05
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
Occupancy Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	4
Cd X	4
Rho Z	1
Rho X	1

Material Takeoff

	Material	Size	Pieces	Length[ft]	Weight[K]
1	Hot Rolled Steel				
2	A500 Gr. C - 50KSI	PIPE_2.0 Nominal	7	41.6	.152
3	A500 Gr. C - 50KSI	PIPE_2.5 Nominal	6	30	.174
4	A500 Gr. C - 50KSI	ROHN TS1.5x16GA	8	30.4	.027
5	A53-B-35	PIPE_2.0 Nominal	5	31	.113
6	Total HR Steel		26	133	.467

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
3	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.42	29000	11154	.3	.65	.49	42	1.4	58	1.3
5	A500 Gr.46	29000	11154	.3	.65	.49	46	1.4	58	1.3
6	A53-B-35	29000	11154	.3	.65	.49	35	1.5	60	1.2
7	A53-B-42	29000	11154	.3	.65	.49	42	1.4	58	1.3
8	A500 Gr. C - 50KSI	29000	11154	.3	.65	.49	50	1.5	62	1.2

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design ...	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Face Horizontal	PIPE_2.5 Nominal	None	None	A500 Gr. C - 50KSI	Typical	1.704	1.53	1.53	3.059
2	Mount Pipes	PIPE_2.0 Nominal	None	None	A53-B-35	Typical	1.075	.666	.666	1.331
3	Support Diagonals	ROHN TS1.5x16GA	None	None	A500 Gr. C - 50KSI	Typical	.263	.068	.068	.137
4	Support Vertical 1	ROHN TS1.5x16GA	None	None	A500 Gr. C - 50KSI	Typical	.263	.068	.068	.137
5	Support Horizontal	PIPE_2.0 Nominal	None	None	A500 Gr. C - 50KSI	Typical	1.075	.666	.666	1.331
6	Stabilizer Arm	PIPE_2.0 Nominal	None	None	A500 Gr. C - 50KSI	Typical	1.075	.666	.666	1.331
7	Support Vertical 2	PIPE_2.0 Nominal	None	None	A500 Gr. C - 50KSI	Typical	1.075	.666	.666	1.331

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Ru...
1	1FF-BH1	SF2-2	FF2			Face Horizontal	None	None	A500 Gr. C - 50...	Typical
2	1FF-BH2	SF2-2	SF3-2			Face Horizontal	None	None	A500 Gr. C - 50...	Typical
3	1FF-BH3	SF3-2	FF4			Face Horizontal	None	None	A500 Gr. C - 50...	Typical
4	1FF-TH1	SF2-1	FF1			Face Horizontal	None	None	A500 Gr. C - 50...	Typical
5	1FF-TH2	SF2-1	SF3-1			Face Horizontal	None	None	A500 Gr. C - 50...	Typical
6	1FF-TH3	SF3-1	FF3			Face Horizontal	None	None	A500 Gr. C - 50...	Typical
7	1SF2-BH	SF2-02	SF2-2			Support Horizontal	None	None	A500 Gr. C - 50...	Typical
8	1SF2-D1	SF2-4	SF2-5			Support Diagonals	None	None	A500 Gr. C - 50...	Typical
9	1SF2-D2	SF2-6	SF2-7			Support Diagonals	None	None	A500 Gr. C - 50...	Typical
10	1SF2-TH	SF2-01	SF2-1			Support Horizontal	None	None	A500 Gr. C - 50...	Typical
11	1SF2-V1	SF2-3	SF2-4			Support Vertical 1	None	None	A500 Gr. C - 50...	Typical
12	1SF2-V2	SF2-5	SF2-6			Support Vertical 1	None	None	A500 Gr. C - 50...	Typical
13	1SF2-V3	SF2-7	SF2-8			Support Vertical 2	None	None	A500 Gr. C - 50...	Typical
14	1SF3-BH	SF2-02	SF3-2			Support Horizontal	None	None	A500 Gr. C - 50...	Typical
15	1SF3-D1	SF3-4	SF3-5			Support Diagonals	None	None	A500 Gr. C - 50...	Typical
16	1SF3-D2	SF3-6	SF3-7			Support Diagonals	None	None	A500 Gr. C - 50...	Typical
17	1SF3-TH	SF2-01	SF3-1			Support Horizontal	None	None	A500 Gr. C - 50...	Typical
18	1SF3-V1	SF3-3	SF3-4			Support Vertical 1	None	None	A500 Gr. C - 50...	Typical
19	1SF3-V2	SF3-5	SF3-6			Support Vertical 1	None	None	A500 Gr. C - 50...	Typical
20	1SF3-V3	SF3-7	SF3-8			Support Vertical 2	None	None	A500 Gr. C - 50...	Typical
21	MP-1	FF5	FF6			Mount Pipes	None	None	A53-B-35	Typical
22	MP-2	N85A	N86A			Mount Pipes	None	None	A53-B-35	Typical
23	MP-3	N41	N42			Mount Pipes	None	None	A53-B-35	Typical
24	MP-4	N97A	N98A			Mount Pipes	None	None	A53-B-35	Typical
25	MP-5	N109	N110			Mount Pipes	None	None	A53-B-35	Typical
26	SA-A	N46	N45			Stabilizer Arm	None	None	A500 Gr. C - 50...	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra...	Analysis ...	Inactive	Seismi...
1	1FF-BH1						Yes	** NA **			None
2	1FF-BH2						Yes	** NA **			None
3	1FF-BH3						Yes	** NA **			None
4	1FF-TH1						Yes	** NA **			None
5	1FF-TH2						Yes	** NA **			None
6	1FF-TH3						Yes	** NA **			None
7	1SF2-BH	BenPIN					Yes	** NA **			None
8	1SF2-D1	BenPIN	BenPIN				Yes	** NA **			None
9	1SF2-D2	BenPIN	BenPIN				Yes	** NA **			None
10	1SF2-TH	BenPIN					Yes	** NA **			None
11	1SF2-V1	BenPIN	BenPIN				Yes	** NA **			None
12	1SF2-V2	BenPIN	BenPIN				Yes	** NA **			None
13	1SF2-V3	BenPIN	BenPIN				Yes	** NA **			None
14	1SF3-BH	BenPIN					Yes	** NA **			None
15	1SF3-D1	BenPIN	BenPIN				Yes	** NA **			None
16	1SF3-D2	BenPIN	BenPIN				Yes	** NA **			None
17	1SF3-TH	BenPIN					Yes	** NA **			None
18	1SF3-V1	BenPIN	BenPIN				Yes	** NA **			None
19	1SF3-V2	BenPIN	BenPIN				Yes	** NA **			None
20	1SF3-V3	BenPIN	BenPIN				Yes	** NA **			None
21	MP-1						Yes	** NA **			None
22	MP-2						Yes	** NA **			None
23	MP-3						Yes	** NA **			None
24	MP-4						Yes	** NA **			None
25	MP-5						Yes	** NA **			None

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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	Seismi...
26	SA-A	BenPIN					Yes	** NA **			None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top...	Lcomp bot[...	L-torq...	Kyy	Kzz	Cb	Functi...
1	1FF-BH1	Face Horizontal	3.208						2.1	2.1		Lateral
2	1FF-BH2	Face Horizontal	8.583						1	1		Lateral
3	1FF-BH3	Face Horizontal	3.208						2.1	2.1		Lateral
4	1FF-TH1	Face Horizontal	3.208						2.1	2.1		Lateral
5	1FF-TH2	Face Horizontal	8.583						1	1		Lateral
6	1FF-TH3	Face Horizontal	3.208						2.1	2.1		Lateral
7	1SF2-BH	Support Horizontal	5.924		2.417				.8	.8		Lateral
8	1SF2-D1	Support Diagonals	4.185						1	1		Lateral
9	1SF2-D2	Support Diagonals	4.185						1	1		Lateral
10	1SF2-TH	Support Horizontal	5.924		2.417				.8	.8		Lateral
11	1SF2-V1	Support Vertical 1	3.417						1	1		Lateral
12	1SF2-V2	Support Vertical 1	3.417						1	1		Lateral
13	1SF2-V3	Support Vertical 2	3.417						1	1		Lateral
14	1SF3-BH	Support Horizontal	5.924		2.417				.8	.8		Lateral
15	1SF3-D1	Support Diagonals	4.185						1	1		Lateral
16	1SF3-D2	Support Diagonals	4.185						1	1		Lateral
17	1SF3-TH	Support Horizontal	5.924		2.417				.8	.8		Lateral
18	1SF3-V1	Support Vertical 1	3.417						1	1		Lateral
19	1SF3-V2	Support Vertical 1	3.417						1	1		Lateral
20	1SF3-V3	Support Vertical 2	3.417						1	1		Lateral
21	MP-1	Mount Pipes	8	Segment	Segment				2.1	2.1		Lateral
22	MP-2	Mount Pipes	5	Segment	Segment				2.1	2.1		Lateral
23	MP-3	Mount Pipes	5	Segment	Segment				2.1	2.1		Lateral
24	MP-4	Mount Pipes	5	Segment	Segment				2.1	2.1		Lateral
25	MP-5	Mount Pipes	8	Segment	Segment				2.1	2.1		Lateral
26	SA-A	Stabilizer Arm	11.05						1	1		Lateral

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	SF2-01	Reaction	Reaction	Reaction			
2	SF2-02	Reaction	Reaction	Reaction			
3	N45	Reaction	Reaction	Reaction			

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Dead	None		-1			8			
2	0 Wind - No Ice	None					8	26		
3	30 Wind - No Ice	None					16	52		
4	45 Wind - No Ice	None					16	52		
5	60 Wind - No Ice	None					16	52		
6	90 Wind - No Ice	None					8	26		
7	120 Wind - No Ice	None					16	52		
8	135 Wind - No Ice	None					16	52		
9	150 Wind - No Ice	None					16	52		
10	180 Wind - No Ice	None					8	26		
11	210 Wind - No Ice	None					16	52		
12	225 Wind - No Ice	None					16	52		
13	240 Wind - No Ice	None					16	52		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
14	270 Wind - No Ice	None					8	26		
15	300 Wind - No Ice	None					16	52		
16	315 Wind - No Ice	None					16	52		
17	330 Wind - No Ice	None					16	52		
18	Ice Weight	None					8	26		
19	0 Wind - Ice	None					8	26		
20	30 Wind - Ice	None					16	52		
21	45 Wind - Ice	None					16	52		
22	60 Wind - Ice	None					16	52		
23	90 Wind - Ice	None					8	26		
24	120 Wind - Ice	None					16	52		
25	135 Wind - Ice	None					16	52		
26	150 Wind - Ice	None					16	52		
27	180 Wind - Ice	None					8	26		
28	210 Wind - Ice	None					16	52		
29	225 Wind - Ice	None					16	52		
30	240 Wind - Ice	None					16	52		
31	270 Wind - Ice	None					8	26		
32	300 Wind - Ice	None					16	52		
33	315 Wind - Ice	None					16	52		
34	330 Wind - Ice	None					16	52		
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																		

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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...
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																		
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 12...	Yes	Y		1	1.2	18	1	24	1																
40	1.2D+1.0Di+1.0 13...	Yes	Y		1	1.2	18	1	25	1																
41	1.2D+1.0Di+1.0 15...	Yes	Y		1	1.2	18	1	26	1																
42	1.2D+1.0Di+1.0 18...	Yes	Y		1	1.2	18	1	27	1																
43	1.2D+1.0Di+1.0 21...	Yes	Y		1	1.2	18	1	28	1																
44	1.2D+1.0Di+1.0 22...	Yes	Y		1	1.2	18	1	29	1																
45	1.2D+1.0Di+1.0 24...	Yes	Y		1	1.2	18	1	30	1																
46	1.2D+1.0Di+1.0 27...	Yes	Y		1	1.2	18	1	31	1																
47	1.2D+1.0Di+1.0 30...	Yes	Y		1	1.2	18	1	32	1																
48	1.2D+1.0Di+1.0 31...	Yes	Y		1	1.2	18	1	33	1																
49	1.2D+1.0Di+1.0 33...	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	.059	35	1.5																
52	1.2D+1.5Lm+1.0 30...	Yes	Y		1	1.2	3	.059	35	1.5																
53	1.2D+1.5Lm+1.0 45...	Yes	Y		1	1.2	4	.059	35	1.5																
54	1.2D+1.5Lm+1.0 60...	Yes	Y		1	1.2	5	.059	35	1.5																
55	1.2D+1.5Lm+1.0 90...	Yes	Y		1	1.2	6	.059	35	1.5																
56	1.2D+1.5Lm+1.0 12...	Yes	Y		1	1.2	7	.059	35	1.5																
57	1.2D+1.5Lm+1.0 13...	Yes	Y		1	1.2	8	.059	35	1.5																
58	1.2D+1.5Lm+1.0 15...	Yes	Y		1	1.2	9	.059	35	1.5																
59	1.2D+1.5Lm+1.0 18...	Yes	Y		1	1.2	10	.059	35	1.5																
60	1.2D+1.5Lm+1.0 21...	Yes	Y		1	1.2	11	.059	35	1.5																
61	1.2D+1.5Lm+1.0 22...	Yes	Y		1	1.2	12	.059	35	1.5																
62	1.2D+1.5Lm+1.0 24...	Yes	Y		1	1.2	13	.059	35	1.5																
63	1.2D+1.5Lm+1.0 27...	Yes	Y		1	1.2	14	.059	35	1.5																
64	1.2D+1.5Lm+1.0 30...	Yes	Y		1	1.2	15	.059	35	1.5																
65	1.2D+1.5Lm+1.0 31...	Yes	Y		1	1.2	16	.059	35	1.5																
66	1.2D+1.5Lm+1.0 33...	Yes	Y		1	1.2	17	.059	35	1.5																
67	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.244	ELX	.109	0																	
68	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.244	ELX	.094	ELZ	.054																
69	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.244	ELX	.077	ELZ	.077																
70	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.244	ELX	.054	ELZ	.094																
71	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.244	0		ELZ	.109																
72	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.244	ELX	-.054	ELZ	.094																
73	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.244	ELX	-.077	ELZ	.077																
74	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.244	ELX	-.094	ELZ	.054																
75	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.244	ELX	-.109	0																	
76	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.244	ELX	-.094	ELZ	-.054																
77	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.244	ELX	-.077	ELZ	-.077																
78	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.244	ELX	-.054	ELZ	-.094																
79	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.244	0		ELZ	-.109																
80	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.244	ELX	.054	ELZ	-.094																
81	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.244	ELX	.077	ELZ	-.077																
82	(1.2+0.2Sds)D+1.0 ...	Yes	Y		1	1.244	ELX	.094	ELZ	-.054																
83	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.856	ELX	.109	0																	
84	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.856	ELX	.094	ELZ	.054																

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...
85	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.856	ELX	.077	ELZ	.077														
86	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.856	ELX	.054	ELZ	.094														
87	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.856	0		ELZ	.109														
88	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.856	ELX	-.054	ELZ	.094														
89	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.856	ELX	-.077	ELZ	.077														
90	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.856	ELX	-.094	ELZ	.054														
91	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.856	ELX	-.109	0															
92	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.856	ELX	-.094	ELZ	-.054														
93	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.856	ELX	-.077	ELZ	-.077														
94	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.856	ELX	-.054	ELZ	-.094														
95	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.856	0		ELZ	-.109														
96	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.856	ELX	.054	ELZ	-.094														
97	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.856	ELX	.077	ELZ	-.077														
98	(0.9-0.2Sds)*DL+1....	Yes	Y		1	.856	ELX	.094	ELZ	-.054														

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	SF2-01	0	1.708335	0	0	
2	SF2-02	0	-1.708335	0	0	
3	SF2-1	4.0833	1.708335	-4.291667	0	
4	SF2-2	4.0833	-1.708335	-4.291667	0	
5	SF2-3	0.35183	1.708335	-0.369784	0	
6	SF2-4	0.35183	-1.708335	-0.369784	0	
7	SF2-5	2.017641	1.708335	-2.120599	0	
8	SF2-6	2.017641	-1.708335	-2.120599	0	
9	SF2-7	3.683451	1.708335	-3.871414	0	
10	SF2-8	3.683451	-1.708335	-3.871414	0	
11	SF3-1	4.0833	1.708335	4.291667	0	
12	SF3-2	4.0833	-1.708335	4.291667	0	
13	SF3-3	0.35183	1.708335	0.369784	0	
14	SF3-4	0.35183	-1.708335	0.369784	0	
15	SF3-5	2.017641	1.708335	2.120599	0	
16	SF3-6	2.017641	-1.708335	2.120599	0	
17	SF3-7	3.683451	1.708335	3.871414	0	
18	SF3-8	3.683451	-1.708335	3.871414	0	
19	FF1	4.0833	1.708335	-7.5	0	
20	FF2	4.0833	-1.708335	-7.5	0	
21	FF3	4.0833	1.708335	7.5	0	
22	FF4	4.0833	-1.708335	7.5	0	
23	FF5	4.0833	3	-7	0	
24	FF6	4.0833	-5	-7	0	
25	N35	4.0833	1.708335	-7	0	
26	N39	4.0833	-1.708335	-7	0	
27	N85A	4.0833	2.5	-2.333333	0	
28	N86A	4.0833	-2.5	-2.333333	0	
29	N87A	4.0833	1.708335	-2.333333	0	
30	N88A	4.0833	-1.708335	-2.333333	0	
31	N97A	4.0833	2.5	2.333334	0	
32	N98A	4.0833	-2.5	2.333334	0	
33	N99A	4.0833	1.708335	2.333334	0	
34	N100A	4.0833	-1.708335	2.333334	0	
35	N109	4.0833	3	7.000001	0	
36	N110	4.0833	-5	7.000001	0	
37	N111	4.0833	1.708335	7.000001	0	
38	N112A	4.0833	-1.708335	7.000001	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
39	N41	4.0833	2.5	0.000001	0	
40	N42	4.0833	-2.5	0.000001	0	
41	N43	4.0833	1.708335	0.000001	0	
42	N44	4.0833	-1.708335	0.000001	0	
43	N45	-7.36	0	-4.25	0	
44	N46	3.683451	0	-3.871414	0	

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	N110	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	FF4	L	Y	-.25

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	Y	-.021	1.069
2	MP-3	Y	-.048	.99
3	MP-5	Y	-.075	.25
4	MP-1	Y	-.109	5
5	MP-5	Y	-.081	5
6	MP-1	Y	-.021	6.931
7	MP-3	Y	-.048	4.01
8	MP-5	Y	-.075	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.16	1.069
2	MP-3	X	-.128	.99
3	MP-5	X	-.296	.25
4	MP-1	X	-.086	5
5	MP-5	X	-.116	5
6	MP-1	X	-.16	6.931
7	MP-3	X	-.128	4.01
8	MP-5	X	-.296	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.12	1.069
2	MP-3	X	-.095	.99
3	MP-5	X	-.216	.25
4	MP-1	X	-.071	5
5	MP-5	X	-.088	5
6	MP-1	X	-.12	6.931
7	MP-3	X	-.095	4.01
8	MP-5	X	-.216	7.75
9	MP-1	Z	-.07	1.069
10	MP-3	Z	-.055	.99
11	MP-5	Z	-.125	.25
12	MP-1	Z	-.041	5
13	MP-5	Z	-.051	5

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
14	MP-1	Z	-.07	6.931
15	MP-3	Z	-.055	4.01
16	MP-5	Z	-.125	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.084	1.069
2	MP-3	X	-.066	.99
3	MP-5	X	-.143	.25
4	MP-1	X	-.055	5
5	MP-5	X	-.061	5
6	MP-1	X	-.084	6.931
7	MP-3	X	-.066	4.01
8	MP-5	X	-.143	7.75
9	MP-1	Z	-.084	1.069
10	MP-3	Z	-.066	.99
11	MP-5	Z	-.143	.25
12	MP-1	Z	-.055	5
13	MP-5	Z	-.061	5
14	MP-1	Z	-.084	6.931
15	MP-3	Z	-.066	4.01
16	MP-5	Z	-.143	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.049	1.069
2	MP-3	X	-.038	.99
3	MP-5	X	-.077	.25
4	MP-1	X	-.036	5
5	MP-5	X	-.036	5
6	MP-1	X	-.049	6.931
7	MP-3	X	-.038	4.01
8	MP-5	X	-.077	7.75
9	MP-1	Z	-.084	1.069
10	MP-3	Z	-.065	.99
11	MP-5	Z	-.134	.25
12	MP-1	Z	-.063	5
13	MP-5	Z	-.062	5
14	MP-1	Z	-.084	6.931
15	MP-3	Z	-.065	4.01
16	MP-5	Z	-.134	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	Z	-.077	1.069
2	MP-3	Z	-.058	.99
3	MP-5	Z	-.107	.25
4	MP-1	Z	-.068	5
5	MP-5	Z	-.056	5
6	MP-1	Z	-.077	6.931
7	MP-3	Z	-.058	4.01
8	MP-5	Z	-.107	7.75

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

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

Company : Tower Engineering Professionals
Designer : AJS
Job Number : TEP No. 217464.714142
Model Name : HRT 105 943201 (BU 806363)

June 23, 2022
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Member Point Loads (BLC 7 : 120 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.049	1.069
2	MP-3	X	.038	.99
3	MP-5	X	.077	.25
4	MP-1	X	.036	5
5	MP-5	X	.036	5
6	MP-1	X	.049	6.931
7	MP-3	X	.038	4.01
8	MP-5	X	.077	7.75
9	MP-1	Z	-.084	1.069
10	MP-3	Z	-.065	.99
11	MP-5	Z	-.134	.25
12	MP-1	Z	-.063	5
13	MP-5	Z	-.062	5
14	MP-1	Z	-.084	6.931
15	MP-3	Z	-.065	4.01
16	MP-5	Z	-.134	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.084	1.069
2	MP-3	X	.066	.99
3	MP-5	X	.143	.25
4	MP-1	X	.055	5
5	MP-5	X	.061	5
6	MP-1	X	.084	6.931
7	MP-3	X	.066	4.01
8	MP-5	X	.143	7.75
9	MP-1	Z	-.084	1.069
10	MP-3	Z	-.066	.99
11	MP-5	Z	-.143	.25
12	MP-1	Z	-.055	5
13	MP-5	Z	-.061	5
14	MP-1	Z	-.084	6.931
15	MP-3	Z	-.066	4.01
16	MP-5	Z	-.143	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.12	1.069
2	MP-3	X	.095	.99
3	MP-5	X	.216	.25
4	MP-1	X	.071	5
5	MP-5	X	.088	5
6	MP-1	X	.12	6.931
7	MP-3	X	.095	4.01
8	MP-5	X	.216	7.75
9	MP-1	Z	-.07	1.069
10	MP-3	Z	-.055	.99
11	MP-5	Z	-.125	.25
12	MP-1	Z	-.041	5
13	MP-5	Z	-.051	5
14	MP-1	Z	-.07	6.931
15	MP-3	Z	-.055	4.01
16	MP-5	Z	-.125	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.16	1.069
2	MP-3	X	.128	.99
3	MP-5	X	.296	.25
4	MP-1	X	.086	5
5	MP-5	X	.116	5
6	MP-1	X	.16	6.931
7	MP-3	X	.128	4.01
8	MP-5	X	.296	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.12	1.069
2	MP-3	X	.095	.99
3	MP-5	X	.216	.25
4	MP-1	X	.071	5
5	MP-5	X	.088	5
6	MP-1	X	.12	6.931
7	MP-3	X	.095	4.01
8	MP-5	X	.216	7.75
9	MP-1	Z	.07	1.069
10	MP-3	Z	.055	.99
11	MP-5	Z	.125	.25
12	MP-1	Z	.041	5
13	MP-5	Z	.051	5
14	MP-1	Z	.07	6.931
15	MP-3	Z	.055	4.01
16	MP-5	Z	.125	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.084	1.069
2	MP-3	X	.066	.99
3	MP-5	X	.143	.25
4	MP-1	X	.055	5
5	MP-5	X	.061	5
6	MP-1	X	.084	6.931
7	MP-3	X	.066	4.01
8	MP-5	X	.143	7.75
9	MP-1	Z	.084	1.069
10	MP-3	Z	.066	.99
11	MP-5	Z	.143	.25
12	MP-1	Z	.055	5
13	MP-5	Z	.061	5
14	MP-1	Z	.084	6.931
15	MP-3	Z	.066	4.01
16	MP-5	Z	.143	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.049	1.069
2	MP-3	X	.038	.99
3	MP-5	X	.077	.25
4	MP-1	X	.036	5
5	MP-5	X	.036	5
6	MP-1	X	.049	6.931

Company : Tower Engineering Professionals
Designer : AJS
Job Number : TEP No. 217464.714142
Model Name : HRT 105 943201 (BU 806363)

June 23, 2022
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Member Point Loads (BLC 13 : 240 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
7	MP-3	X	.038	4.01
8	MP-5	X	.077	7.75
9	MP-1	Z	.084	1.069
10	MP-3	Z	.065	.99
11	MP-5	Z	.134	.25
12	MP-1	Z	.063	5
13	MP-5	Z	.062	5
14	MP-1	Z	.084	6.931
15	MP-3	Z	.065	4.01
16	MP-5	Z	.134	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	Z	.077	1.069
2	MP-3	Z	.058	.99
3	MP-5	Z	.107	.25
4	MP-1	Z	.068	5
5	MP-5	Z	.056	5
6	MP-1	Z	.077	6.931
7	MP-3	Z	.058	4.01
8	MP-5	Z	.107	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.049	1.069
2	MP-3	X	-.038	.99
3	MP-5	X	-.077	.25
4	MP-1	X	-.036	5
5	MP-5	X	-.036	5
6	MP-1	X	-.049	6.931
7	MP-3	X	-.038	4.01
8	MP-5	X	-.077	7.75
9	MP-1	Z	.084	1.069
10	MP-3	Z	.065	.99
11	MP-5	Z	.134	.25
12	MP-1	Z	.063	5
13	MP-5	Z	.062	5
14	MP-1	Z	.084	6.931
15	MP-3	Z	.065	4.01
16	MP-5	Z	.134	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.084	1.069
2	MP-3	X	-.066	.99
3	MP-5	X	-.143	.25
4	MP-1	X	-.055	5
5	MP-5	X	-.061	5
6	MP-1	X	-.084	6.931
7	MP-3	X	-.066	4.01
8	MP-5	X	-.143	7.75
9	MP-1	Z	.084	1.069
10	MP-3	Z	.066	.99
11	MP-5	Z	.143	.25
12	MP-1	Z	.055	5

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
13	MP-5	Z	.061	5
14	MP-1	Z	.084	6.931
15	MP-3	Z	.066	4.01
16	MP-5	Z	.143	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.12	1.069
2	MP-3	X	-.095	.99
3	MP-5	X	-.216	.25
4	MP-1	X	-.071	5
5	MP-5	X	-.088	5
6	MP-1	X	-.12	6.931
7	MP-3	X	-.095	4.01
8	MP-5	X	-.216	7.75
9	MP-1	Z	.07	1.069
10	MP-3	Z	.055	.99
11	MP-5	Z	.125	.25
12	MP-1	Z	.041	5
13	MP-5	Z	.051	5
14	MP-1	Z	.07	6.931
15	MP-3	Z	.055	4.01
16	MP-5	Z	.125	7.75

Member Point Loads (BLC 18 : Ice Weight)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	Y	-.056	1.069
2	MP-3	Y	-.056	.99
3	MP-5	Y	-.141	.25
4	MP-1	Y	-.058	5
5	MP-5	Y	-.058	5
6	MP-1	Y	-.056	6.931
7	MP-3	Y	-.056	4.01
8	MP-5	Y	-.141	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.031	1.069
2	MP-3	X	-.025	.99
3	MP-5	X	-.056	.25
4	MP-1	X	-.019	5
5	MP-5	X	-.024	5
6	MP-1	X	-.031	6.931
7	MP-3	X	-.025	4.01
8	MP-5	X	-.056	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.024	1.069
2	MP-3	X	-.019	.99
3	MP-5	X	-.042	.25
4	MP-1	X	-.015	5
5	MP-5	X	-.019	5
6	MP-1	X	-.024	6.931
7	MP-3	X	-.019	4.01

Company : Tower Engineering Professionals
Designer : AJS
Job Number : TEP No. 217464.714142
Model Name : HRT 105 943201 (BU 806363)

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
8	MP-5	X	-.042	7.75
9	MP-1	Z	-.014	1.069
10	MP-3	Z	-.011	.99
11	MP-5	Z	-.024	.25
12	MP-1	Z	-.009	5
13	MP-5	Z	-.011	5
14	MP-1	Z	-.014	6.931
15	MP-3	Z	-.011	4.01
16	MP-5	Z	-.024	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.017	1.069
2	MP-3	X	-.013	.99
3	MP-5	X	-.028	.25
4	MP-1	X	-.012	5
5	MP-5	X	-.013	5
6	MP-1	X	-.017	6.931
7	MP-3	X	-.013	4.01
8	MP-5	X	-.028	7.75
9	MP-1	Z	-.017	1.069
10	MP-3	Z	-.013	.99
11	MP-5	Z	-.028	.25
12	MP-1	Z	-.012	5
13	MP-5	Z	-.013	5
14	MP-1	Z	-.017	6.931
15	MP-3	Z	-.013	4.01
16	MP-5	Z	-.028	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.011	1.069
2	MP-3	X	-.008	.99
3	MP-5	X	-.016	.25
4	MP-1	X	-.008	5
5	MP-5	X	-.008	5
6	MP-1	X	-.011	6.931
7	MP-3	X	-.008	4.01
8	MP-5	X	-.016	7.75
9	MP-1	Z	-.018	1.069
10	MP-3	Z	-.013	.99
11	MP-5	Z	-.028	.25
12	MP-1	Z	-.014	5
13	MP-5	Z	-.014	5
14	MP-1	Z	-.018	6.931
15	MP-3	Z	-.013	4.01
16	MP-5	Z	-.028	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	Z	-.018	1.069
2	MP-3	Z	-.012	.99
3	MP-5	Z	-.024	.25
4	MP-1	Z	-.015	5
5	MP-5	Z	-.013	5

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
6	MP-1	Z	-.018	6.931
7	MP-3	Z	-.012	4.01
8	MP-5	Z	-.024	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.011	1.069
2	MP-3	X	.008	.99
3	MP-5	X	.016	.25
4	MP-1	X	.008	5
5	MP-5	X	.008	5
6	MP-1	X	.011	6.931
7	MP-3	X	.008	4.01
8	MP-5	X	.016	7.75
9	MP-1	Z	-.018	1.069
10	MP-3	Z	-.013	.99
11	MP-5	Z	-.028	.25
12	MP-1	Z	-.014	5
13	MP-5	Z	-.014	5
14	MP-1	Z	-.018	6.931
15	MP-3	Z	-.013	4.01
16	MP-5	Z	-.028	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.017	1.069
2	MP-3	X	.013	.99
3	MP-5	X	.028	.25
4	MP-1	X	.012	5
5	MP-5	X	.013	5
6	MP-1	X	.017	6.931
7	MP-3	X	.013	4.01
8	MP-5	X	.028	7.75
9	MP-1	Z	-.017	1.069
10	MP-3	Z	-.013	.99
11	MP-5	Z	-.028	.25
12	MP-1	Z	-.012	5
13	MP-5	Z	-.013	5
14	MP-1	Z	-.017	6.931
15	MP-3	Z	-.013	4.01
16	MP-5	Z	-.028	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.024	1.069
2	MP-3	X	.019	.99
3	MP-5	X	.042	.25
4	MP-1	X	.015	5
5	MP-5	X	.019	5
6	MP-1	X	.024	6.931
7	MP-3	X	.019	4.01
8	MP-5	X	.042	7.75
9	MP-1	Z	-.014	1.069
10	MP-3	Z	-.011	.99
11	MP-5	Z	-.024	.25

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
12	MP-1	Z	-.009	5
13	MP-5	Z	-.011	5
14	MP-1	Z	-.014	6.931
15	MP-3	Z	-.011	4.01
16	MP-5	Z	-.024	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.031	1.069
2	MP-3	X	.025	.99
3	MP-5	X	.056	.25
4	MP-1	X	.019	5
5	MP-5	X	.024	5
6	MP-1	X	.031	6.931
7	MP-3	X	.025	4.01
8	MP-5	X	.056	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.024	1.069
2	MP-3	X	.019	.99
3	MP-5	X	.042	.25
4	MP-1	X	.015	5
5	MP-5	X	.019	5
6	MP-1	X	.024	6.931
7	MP-3	X	.019	4.01
8	MP-5	X	.042	7.75
9	MP-1	Z	.014	1.069
10	MP-3	Z	.011	.99
11	MP-5	Z	.024	.25
12	MP-1	Z	.009	5
13	MP-5	Z	.011	5
14	MP-1	Z	.014	6.931
15	MP-3	Z	.011	4.01
16	MP-5	Z	.024	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.017	1.069
2	MP-3	X	.013	.99
3	MP-5	X	.028	.25
4	MP-1	X	.012	5
5	MP-5	X	.013	5
6	MP-1	X	.017	6.931
7	MP-3	X	.013	4.01
8	MP-5	X	.028	7.75
9	MP-1	Z	.017	1.069
10	MP-3	Z	.013	.99
11	MP-5	Z	.028	.25
12	MP-1	Z	.012	5
13	MP-5	Z	.013	5
14	MP-1	Z	.017	6.931
15	MP-3	Z	.013	4.01
16	MP-5	Z	.028	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	.011	1.069
2	MP-3	X	.008	.99
3	MP-5	X	.016	.25
4	MP-1	X	.008	5
5	MP-5	X	.008	5
6	MP-1	X	.011	6.931
7	MP-3	X	.008	4.01
8	MP-5	X	.016	7.75
9	MP-1	Z	.018	1.069
10	MP-3	Z	.013	.99
11	MP-5	Z	.028	.25
12	MP-1	Z	.014	5
13	MP-5	Z	.014	5
14	MP-1	Z	.018	6.931
15	MP-3	Z	.013	4.01
16	MP-5	Z	.028	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	Z	.018	1.069
2	MP-3	Z	.012	.99
3	MP-5	Z	.024	.25
4	MP-1	Z	.015	5
5	MP-5	Z	.013	5
6	MP-1	Z	.018	6.931
7	MP-3	Z	.012	4.01
8	MP-5	Z	.024	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.011	1.069
2	MP-3	X	-.008	.99
3	MP-5	X	-.016	.25
4	MP-1	X	-.008	5
5	MP-5	X	-.008	5
6	MP-1	X	-.011	6.931
7	MP-3	X	-.008	4.01
8	MP-5	X	-.016	7.75
9	MP-1	Z	.018	1.069
10	MP-3	Z	.013	.99
11	MP-5	Z	.028	.25
12	MP-1	Z	.014	5
13	MP-5	Z	.014	5
14	MP-1	Z	.018	6.931
15	MP-3	Z	.013	4.01
16	MP-5	Z	.028	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.017	1.069
2	MP-3	X	-.013	.99
3	MP-5	X	-.028	.25
4	MP-1	X	-.012	5
5	MP-5	X	-.013	5
6	MP-1	X	-.017	6.931

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
7	MP-3	X	-.013	4.01
8	MP-5	X	-.028	7.75
9	MP-1	Z	.017	1.069
10	MP-3	Z	.013	.99
11	MP-5	Z	.028	.25
12	MP-1	Z	.012	5
13	MP-5	Z	.013	5
14	MP-1	Z	.017	6.931
15	MP-3	Z	.013	4.01
16	MP-5	Z	.028	7.75

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.024	1.069
2	MP-3	X	-.019	.99
3	MP-5	X	-.042	.25
4	MP-1	X	-.015	5
5	MP-5	X	-.019	5
6	MP-1	X	-.024	6.931
7	MP-3	X	-.019	4.01
8	MP-5	X	-.042	7.75
9	MP-1	Z	.014	1.069
10	MP-3	Z	.011	.99
11	MP-5	Z	.024	.25
12	MP-1	Z	.009	5
13	MP-5	Z	.011	5
14	MP-1	Z	.014	6.931
15	MP-3	Z	.011	4.01
16	MP-5	Z	.024	7.75

Member Point Loads (BLC 37 : Seismic Load X)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	X	-.021	1.069
2	MP-3	X	-.048	.99
3	MP-5	X	-.075	.25
4	MP-1	X	-.109	5
5	MP-5	X	-.081	5
6	MP-1	X	-.021	6.931
7	MP-3	X	-.048	4.01
8	MP-5	X	-.075	7.75

Member Point Loads (BLC 38 : Seismic Load Z)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP-1	Z	-.021	1.069
2	MP-3	Z	-.048	.99
3	MP-5	Z	-.075	.25
4	MP-1	Z	-.109	5
5	MP-5	Z	-.081	5
6	MP-1	Z	-.021	6.931
7	MP-3	Z	-.048	4.01
8	MP-5	Z	-.075	7.75

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	1FF-BH1	X	-.011	-.011	0	%100
2	1FF-BH2	X	-.011	-.011	0	%100
3	1FF-BH3	X	-.011	-.011	0	%100
4	1FF-TH1	X	-.011	-.011	0	%100
5	1FF-TH2	X	-.011	-.011	0	%100
6	1FF-TH3	X	-.011	-.011	0	%100
7	1SF2-BH	X	-.007	-.007	0	%100
8	1SF2-D1	X	-.006	-.006	0	%100
9	1SF2-D2	X	-.006	-.006	0	%100
10	1SF2-TH	X	-.007	-.007	0	%100
11	1SF2-V1	X	-.006	-.006	0	%100
12	1SF2-V2	X	-.006	-.006	0	%100
13	1SF2-V3	X	-.008	-.008	0	%100
14	1SF3-BH	X	-.007	-.007	0	%100
15	1SF3-D1	X	-.006	-.006	0	%100
16	1SF3-D2	X	-.006	-.006	0	%100
17	1SF3-TH	X	-.007	-.007	0	%100
18	1SF3-V1	X	-.006	-.006	0	%100
19	1SF3-V2	X	-.006	-.006	0	%100
20	1SF3-V3	X	-.008	-.008	0	%100
21	MP-1	X	-.01	-.01	0	%100
22	MP-2	X	-.01	-.01	0	%100
23	MP-3	X	-.01	-.01	0	%100
24	MP-4	X	-.01	-.01	0	%100
25	MP-5	X	-.01	-.01	0	%100
26	SA-A	X	-.000192	-.000192	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	1FF-BH1	X	-.009	-.009	0	%100
2	1FF-BH2	X	-.009	-.009	0	%100
3	1FF-BH3	X	-.009	-.009	0	%100
4	1FF-TH1	X	-.009	-.009	0	%100
5	1FF-TH2	X	-.009	-.009	0	%100
6	1FF-TH3	X	-.009	-.009	0	%100
7	1SF2-BH	X	-.008	-.008	0	%100
8	1SF2-D1	X	-.005	-.005	0	%100
9	1SF2-D2	X	-.005	-.005	0	%100
10	1SF2-TH	X	-.008	-.008	0	%100
11	1SF2-V1	X	-.005	-.005	0	%100
12	1SF2-V2	X	-.005	-.005	0	%100
13	1SF2-V3	X	-.007	-.007	0	%100
14	1SF3-BH	X	-.002	-.002	0	%100
15	1SF3-D1	X	-.005	-.005	0	%100
16	1SF3-D2	X	-.005	-.005	0	%100
17	1SF3-TH	X	-.002	-.002	0	%100
18	1SF3-V1	X	-.005	-.005	0	%100
19	1SF3-V2	X	-.005	-.005	0	%100
20	1SF3-V3	X	-.007	-.007	0	%100
21	MP-1	X	-.008	-.008	0	%100
22	MP-2	X	-.008	-.008	0	%100
23	MP-3	X	-.008	-.008	0	%100
24	MP-4	X	-.008	-.008	0	%100
25	MP-5	X	-.008	-.008	0	%100
26	SA-A	X	-.002	-.002	0	%100

Company : Tower Engineering Professionals
Designer : AJS
Job Number : TEP No. 217464.714142
Model Name : HRT 105 943201 (BU 806363)

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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,%]
27	1FF-BH1	Z	-.005	-.005	0	%100
28	1FF-BH2	Z	-.005	-.005	0	%100
29	1FF-BH3	Z	-.005	-.005	0	%100
30	1FF-TH1	Z	-.005	-.005	0	%100
31	1FF-TH2	Z	-.005	-.005	0	%100
32	1FF-TH3	Z	-.005	-.005	0	%100
33	1SF2-BH	Z	-.004	-.004	0	%100
34	1SF2-D1	Z	-.003	-.003	0	%100
35	1SF2-D2	Z	-.003	-.003	0	%100
36	1SF2-TH	Z	-.004	-.004	0	%100
37	1SF2-V1	Z	-.003	-.003	0	%100
38	1SF2-V2	Z	-.003	-.003	0	%100
39	1SF2-V3	Z	-.004	-.004	0	%100
40	1SF3-BH	Z	-.001	-.001	0	%100
41	1SF3-D1	Z	-.003	-.003	0	%100
42	1SF3-D2	Z	-.003	-.003	0	%100
43	1SF3-TH	Z	-.001	-.001	0	%100
44	1SF3-V1	Z	-.003	-.003	0	%100
45	1SF3-V2	Z	-.003	-.003	0	%100
46	1SF3-V3	Z	-.004	-.004	0	%100
47	MP-1	Z	-.005	-.005	0	%100
48	MP-2	Z	-.005	-.005	0	%100
49	MP-3	Z	-.005	-.005	0	%100
50	MP-4	Z	-.005	-.005	0	%100
51	MP-5	Z	-.005	-.005	0	%100
52	SA-A	Z	-.002	-.002	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	1FF-BH1	X	-.006	-.006	0	%100
2	1FF-BH2	X	-.006	-.006	0	%100
3	1FF-BH3	X	-.006	-.006	0	%100
4	1FF-TH1	X	-.006	-.006	0	%100
5	1FF-TH2	X	-.006	-.006	0	%100
6	1FF-TH3	X	-.006	-.006	0	%100
7	1SF2-BH	X	-.006	-.006	0	%100
8	1SF2-D1	X	-.004	-.004	0	%100
9	1SF2-D2	X	-.004	-.004	0	%100
10	1SF2-TH	X	-.006	-.006	0	%100
11	1SF2-V1	X	-.004	-.004	0	%100
12	1SF2-V2	X	-.004	-.004	0	%100
13	1SF2-V3	X	-.006	-.006	0	%100
14	1SF3-BH	X	-.000159	-.000159	0	%100
15	1SF3-D1	X	-.004	-.004	0	%100
16	1SF3-D2	X	-.004	-.004	0	%100
17	1SF3-TH	X	-.000159	-.000159	0	%100
18	1SF3-V1	X	-.004	-.004	0	%100
19	1SF3-V2	X	-.004	-.004	0	%100
20	1SF3-V3	X	-.006	-.006	0	%100
21	MP-1	X	-.007	-.007	0	%100
22	MP-2	X	-.007	-.007	0	%100
23	MP-3	X	-.007	-.007	0	%100
24	MP-4	X	-.007	-.007	0	%100
25	MP-5	X	-.007	-.007	0	%100
26	SA-A	X	-.003	-.003	0	%100
27	1FF-BH1	Z	-.006	-.006	0	%100

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

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F,...	Start Location[ft,%]	End Location[ft,%]
28	1FF-BH2	Z	-.006	-.006	0	%100
29	1FF-BH3	Z	-.006	-.006	0	%100
30	1FF-TH1	Z	-.006	-.006	0	%100
31	1FF-TH2	Z	-.006	-.006	0	%100
32	1FF-TH3	Z	-.006	-.006	0	%100
33	1SF2-BH	Z	-.006	-.006	0	%100
34	1SF2-D1	Z	-.004	-.004	0	%100
35	1SF2-D2	Z	-.004	-.004	0	%100
36	1SF2-TH	Z	-.006	-.006	0	%100
37	1SF2-V1	Z	-.004	-.004	0	%100
38	1SF2-V2	Z	-.004	-.004	0	%100
39	1SF2-V3	Z	-.006	-.006	0	%100
40	1SF3-BH	Z	-.000155	-.000155	0	%100
41	1SF3-D1	Z	-.004	-.004	0	%100
42	1SF3-D2	Z	-.004	-.004	0	%100
43	1SF3-TH	Z	-.000155	-.000155	0	%100
44	1SF3-V1	Z	-.004	-.004	0	%100
45	1SF3-V2	Z	-.004	-.004	0	%100
46	1SF3-V3	Z	-.006	-.006	0	%100
47	MP-1	Z	-.007	-.007	0	%100
48	MP-2	Z	-.007	-.007	0	%100
49	MP-3	Z	-.007	-.007	0	%100
50	MP-4	Z	-.007	-.007	0	%100
51	MP-5	Z	-.007	-.007	0	%100
52	SA-A	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,%]
1	1FF-BH1	X	-.003	-.003	0	%100
2	1FF-BH2	X	-.003	-.003	0	%100
3	1FF-BH3	X	-.003	-.003	0	%100
4	1FF-TH1	X	-.003	-.003	0	%100
5	1FF-TH2	X	-.003	-.003	0	%100
6	1FF-TH3	X	-.003	-.003	0	%100
7	1SF2-BH	X	-.004	-.004	0	%100
8	1SF2-D1	X	-.003	-.003	0	%100
9	1SF2-D2	X	-.003	-.003	0	%100
10	1SF2-TH	X	-.004	-.004	0	%100
11	1SF2-V1	X	-.003	-.003	0	%100
12	1SF2-V2	X	-.003	-.003	0	%100
13	1SF2-V3	X	-.004	-.004	0	%100
14	1SF3-BH	X	-.001	-.001	0	%100
15	1SF3-D1	X	-.003	-.003	0	%100
16	1SF3-D2	X	-.003	-.003	0	%100
17	1SF3-TH	X	-.001	-.001	0	%100
18	1SF3-V1	X	-.003	-.003	0	%100
19	1SF3-V2	X	-.003	-.003	0	%100
20	1SF3-V3	X	-.004	-.004	0	%100
21	MP-1	X	-.005	-.005	0	%100
22	MP-2	X	-.005	-.005	0	%100
23	MP-3	X	-.005	-.005	0	%100
24	MP-4	X	-.005	-.005	0	%100
25	MP-5	X	-.005	-.005	0	%100
26	SA-A	X	-.002	-.002	0	%100
27	1FF-BH1	Z	-.005	-.005	0	%100
28	1FF-BH2	Z	-.005	-.005	0	%100

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,%]
29	1FF-BH3	Z	-.005	-.005	0	%100
30	1FF-TH1	Z	-.005	-.005	0	%100
31	1FF-TH2	Z	-.005	-.005	0	%100
32	1FF-TH3	Z	-.005	-.005	0	%100
33	1SF2-BH	Z	-.007	-.007	0	%100
34	1SF2-D1	Z	-.005	-.005	0	%100
35	1SF2-D2	Z	-.005	-.005	0	%100
36	1SF2-TH	Z	-.007	-.007	0	%100
37	1SF2-V1	Z	-.005	-.005	0	%100
38	1SF2-V2	Z	-.005	-.005	0	%100
39	1SF2-V3	Z	-.007	-.007	0	%100
40	1SF3-BH	Z	-.002	-.002	0	%100
41	1SF3-D1	Z	-.005	-.005	0	%100
42	1SF3-D2	Z	-.005	-.005	0	%100
43	1SF3-TH	Z	-.002	-.002	0	%100
44	1SF3-V1	Z	-.005	-.005	0	%100
45	1SF3-V2	Z	-.005	-.005	0	%100
46	1SF3-V3	Z	-.007	-.007	0	%100
47	MP-1	Z	-.008	-.008	0	%100
48	MP-2	Z	-.008	-.008	0	%100
49	MP-3	Z	-.008	-.008	0	%100
50	MP-4	Z	-.008	-.008	0	%100
51	MP-5	Z	-.008	-.008	0	%100
52	SA-A	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	1FF-BH1	Z	0	0	0	%100
2	1FF-BH2	Z	0	0	0	%100
3	1FF-BH3	Z	0	0	0	%100
4	1FF-TH1	Z	0	0	0	%100
5	1FF-TH2	Z	0	0	0	%100
6	1FF-TH3	Z	0	0	0	%100
7	1SF2-BH	Z	-.006	-.006	0	%100
8	1SF2-D1	Z	-.006	-.006	0	%100
9	1SF2-D2	Z	-.006	-.006	0	%100
10	1SF2-TH	Z	-.006	-.006	0	%100
11	1SF2-V1	Z	-.006	-.006	0	%100
12	1SF2-V2	Z	-.006	-.006	0	%100
13	1SF2-V3	Z	-.008	-.008	0	%100
14	1SF3-BH	Z	-.006	-.006	0	%100
15	1SF3-D1	Z	-.006	-.006	0	%100
16	1SF3-D2	Z	-.006	-.006	0	%100
17	1SF3-TH	Z	-.006	-.006	0	%100
18	1SF3-V1	Z	-.006	-.006	0	%100
19	1SF3-V2	Z	-.006	-.006	0	%100
20	1SF3-V3	Z	-.008	-.008	0	%100
21	MP-1	Z	-.01	-.01	0	%100
22	MP-2	Z	-.01	-.01	0	%100
23	MP-3	Z	-.01	-.01	0	%100
24	MP-4	Z	-.01	-.01	0	%100
25	MP-5	Z	-.01	-.01	0	%100
26	SA-A	Z	-.01	-.01	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,%]

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,%]
1	1FF-BH1	X	.003	.003	0	%100
2	1FF-BH2	X	.003	.003	0	%100
3	1FF-BH3	X	.003	.003	0	%100
4	1FF-TH1	X	.003	.003	0	%100
5	1FF-TH2	X	.003	.003	0	%100
6	1FF-TH3	X	.003	.003	0	%100
7	1SF2-BH	X	.001	.001	0	%100
8	1SF2-D1	X	.003	.003	0	%100
9	1SF2-D2	X	.003	.003	0	%100
10	1SF2-TH	X	.001	.001	0	%100
11	1SF2-V1	X	.003	.003	0	%100
12	1SF2-V2	X	.003	.003	0	%100
13	1SF2-V3	X	.004	.004	0	%100
14	1SF3-BH	X	.004	.004	0	%100
15	1SF3-D1	X	.003	.003	0	%100
16	1SF3-D2	X	.003	.003	0	%100
17	1SF3-TH	X	.004	.004	0	%100
18	1SF3-V1	X	.003	.003	0	%100
19	1SF3-V2	X	.003	.003	0	%100
20	1SF3-V3	X	.004	.004	0	%100
21	MP-1	X	.005	.005	0	%100
22	MP-2	X	.005	.005	0	%100
23	MP-3	X	.005	.005	0	%100
24	MP-4	X	.005	.005	0	%100
25	MP-5	X	.005	.005	0	%100
26	SA-A	X	.002	.002	0	%100
27	1FF-BH1	Z	-.005	-.005	0	%100
28	1FF-BH2	Z	-.005	-.005	0	%100
29	1FF-BH3	Z	-.005	-.005	0	%100
30	1FF-TH1	Z	-.005	-.005	0	%100
31	1FF-TH2	Z	-.005	-.005	0	%100
32	1FF-TH3	Z	-.005	-.005	0	%100
33	1SF2-BH	Z	-.002	-.002	0	%100
34	1SF2-D1	Z	-.005	-.005	0	%100
35	1SF2-D2	Z	-.005	-.005	0	%100
36	1SF2-TH	Z	-.002	-.002	0	%100
37	1SF2-V1	Z	-.005	-.005	0	%100
38	1SF2-V2	Z	-.005	-.005	0	%100
39	1SF2-V3	Z	-.007	-.007	0	%100
40	1SF3-BH	Z	-.007	-.007	0	%100
41	1SF3-D1	Z	-.005	-.005	0	%100
42	1SF3-D2	Z	-.005	-.005	0	%100
43	1SF3-TH	Z	-.007	-.007	0	%100
44	1SF3-V1	Z	-.005	-.005	0	%100
45	1SF3-V2	Z	-.005	-.005	0	%100
46	1SF3-V3	Z	-.007	-.007	0	%100
47	MP-1	Z	-.008	-.008	0	%100
48	MP-2	Z	-.008	-.008	0	%100
49	MP-3	Z	-.008	-.008	0	%100
50	MP-4	Z	-.008	-.008	0	%100
51	MP-5	Z	-.008	-.008	0	%100
52	SA-A	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	1FF-BH1	X	.006	.006	0	%100

Company : Tower Engineering Professionals
Designer : AJS
Job Number : TEP No. 217464.714142
Model Name : HRT 105 943201 (BU 806363)

June 23, 2022
1:31 PM
Checked By: PHX

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

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F,...	Start Location[ft,%]	End Location[ft,%]
2	1FF-BH2	X	.006	.006	0	%100
3	1FF-BH3	X	.006	.006	0	%100
4	1FF-TH1	X	.006	.006	0	%100
5	1FF-TH2	X	.006	.006	0	%100
6	1FF-TH3	X	.006	.006	0	%100
7	1SF2-BH	X	.000159	.000159	0	%100
8	1SF2-D1	X	.004	.004	0	%100
9	1SF2-D2	X	.004	.004	0	%100
10	1SF2-TH	X	.000159	.000159	0	%100
11	1SF2-V1	X	.004	.004	0	%100
12	1SF2-V2	X	.004	.004	0	%100
13	1SF2-V3	X	.006	.006	0	%100
14	1SF3-BH	X	.006	.006	0	%100
15	1SF3-D1	X	.004	.004	0	%100
16	1SF3-D2	X	.004	.004	0	%100
17	1SF3-TH	X	.006	.006	0	%100
18	1SF3-V1	X	.004	.004	0	%100
19	1SF3-V2	X	.004	.004	0	%100
20	1SF3-V3	X	.006	.006	0	%100
21	MP-1	X	.007	.007	0	%100
22	MP-2	X	.007	.007	0	%100
23	MP-3	X	.007	.007	0	%100
24	MP-4	X	.007	.007	0	%100
25	MP-5	X	.007	.007	0	%100
26	SA-A	X	.003	.003	0	%100
27	1FF-BH1	Z	-.006	-.006	0	%100
28	1FF-BH2	Z	-.006	-.006	0	%100
29	1FF-BH3	Z	-.006	-.006	0	%100
30	1FF-TH1	Z	-.006	-.006	0	%100
31	1FF-TH2	Z	-.006	-.006	0	%100
32	1FF-TH3	Z	-.006	-.006	0	%100
33	1SF2-BH	Z	-.000155	-.000155	0	%100
34	1SF2-D1	Z	-.004	-.004	0	%100
35	1SF2-D2	Z	-.004	-.004	0	%100
36	1SF2-TH	Z	-.000155	-.000155	0	%100
37	1SF2-V1	Z	-.004	-.004	0	%100
38	1SF2-V2	Z	-.004	-.004	0	%100
39	1SF2-V3	Z	-.006	-.006	0	%100
40	1SF3-BH	Z	-.006	-.006	0	%100
41	1SF3-D1	Z	-.004	-.004	0	%100
42	1SF3-D2	Z	-.004	-.004	0	%100
43	1SF3-TH	Z	-.006	-.006	0	%100
44	1SF3-V1	Z	-.004	-.004	0	%100
45	1SF3-V2	Z	-.004	-.004	0	%100
46	1SF3-V3	Z	-.006	-.006	0	%100
47	MP-1	Z	-.007	-.007	0	%100
48	MP-2	Z	-.007	-.007	0	%100
49	MP-3	Z	-.007	-.007	0	%100
50	MP-4	Z	-.007	-.007	0	%100
51	MP-5	Z	-.007	-.007	0	%100
52	SA-A	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	1FF-BH1	X	.009	.009	0	%100
2	1FF-BH2	X	.009	.009	0	%100

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,%]
3	1FF-BH3	X	.009	.009	0	%100
4	1FF-TH1	X	.009	.009	0	%100
5	1FF-TH2	X	.009	.009	0	%100
6	1FF-TH3	X	.009	.009	0	%100
7	1SF2-BH	X	.002	.002	0	%100
8	1SF2-D1	X	.005	.005	0	%100
9	1SF2-D2	X	.005	.005	0	%100
10	1SF2-TH	X	.002	.002	0	%100
11	1SF2-V1	X	.005	.005	0	%100
12	1SF2-V2	X	.005	.005	0	%100
13	1SF2-V3	X	.007	.007	0	%100
14	1SF3-BH	X	.008	.008	0	%100
15	1SF3-D1	X	.005	.005	0	%100
16	1SF3-D2	X	.005	.005	0	%100
17	1SF3-TH	X	.008	.008	0	%100
18	1SF3-V1	X	.005	.005	0	%100
19	1SF3-V2	X	.005	.005	0	%100
20	1SF3-V3	X	.007	.007	0	%100
21	MP-1	X	.008	.008	0	%100
22	MP-2	X	.008	.008	0	%100
23	MP-3	X	.008	.008	0	%100
24	MP-4	X	.008	.008	0	%100
25	MP-5	X	.008	.008	0	%100
26	SA-A	X	.003	.003	0	%100
27	1FF-BH1	Z	-.005	-.005	0	%100
28	1FF-BH2	Z	-.005	-.005	0	%100
29	1FF-BH3	Z	-.005	-.005	0	%100
30	1FF-TH1	Z	-.005	-.005	0	%100
31	1FF-TH2	Z	-.005	-.005	0	%100
32	1FF-TH3	Z	-.005	-.005	0	%100
33	1SF2-BH	Z	-.001	-.001	0	%100
34	1SF2-D1	Z	-.003	-.003	0	%100
35	1SF2-D2	Z	-.003	-.003	0	%100
36	1SF2-TH	Z	-.001	-.001	0	%100
37	1SF2-V1	Z	-.003	-.003	0	%100
38	1SF2-V2	Z	-.003	-.003	0	%100
39	1SF2-V3	Z	-.004	-.004	0	%100
40	1SF3-BH	Z	-.004	-.004	0	%100
41	1SF3-D1	Z	-.003	-.003	0	%100
42	1SF3-D2	Z	-.003	-.003	0	%100
43	1SF3-TH	Z	-.004	-.004	0	%100
44	1SF3-V1	Z	-.003	-.003	0	%100
45	1SF3-V2	Z	-.003	-.003	0	%100
46	1SF3-V3	Z	-.004	-.004	0	%100
47	MP-1	Z	-.005	-.005	0	%100
48	MP-2	Z	-.005	-.005	0	%100
49	MP-3	Z	-.005	-.005	0	%100
50	MP-4	Z	-.005	-.005	0	%100
51	MP-5	Z	-.005	-.005	0	%100
52	SA-A	Z	-.003	-.003	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	1FF-BH1	X	.011	.011	0	%100
2	1FF-BH2	X	.011	.011	0	%100
3	1FF-BH3	X	.011	.011	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,%]
4	1FF-TH1	X	.011	.011	0	%100
5	1FF-TH2	X	.011	.011	0	%100
6	1FF-TH3	X	.011	.011	0	%100
7	1SF2-BH	X	.007	.007	0	%100
8	1SF2-D1	X	.006	.006	0	%100
9	1SF2-D2	X	.006	.006	0	%100
10	1SF2-TH	X	.007	.007	0	%100
11	1SF2-V1	X	.006	.006	0	%100
12	1SF2-V2	X	.006	.006	0	%100
13	1SF2-V3	X	.008	.008	0	%100
14	1SF3-BH	X	.007	.007	0	%100
15	1SF3-D1	X	.006	.006	0	%100
16	1SF3-D2	X	.006	.006	0	%100
17	1SF3-TH	X	.007	.007	0	%100
18	1SF3-V1	X	.006	.006	0	%100
19	1SF3-V2	X	.006	.006	0	%100
20	1SF3-V3	X	.008	.008	0	%100
21	MP-1	X	.01	.01	0	%100
22	MP-2	X	.01	.01	0	%100
23	MP-3	X	.01	.01	0	%100
24	MP-4	X	.01	.01	0	%100
25	MP-5	X	.01	.01	0	%100
26	SA-A	X	.000192	.000192	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	1FF-BH1	X	.009	.009	0	%100
2	1FF-BH2	X	.009	.009	0	%100
3	1FF-BH3	X	.009	.009	0	%100
4	1FF-TH1	X	.009	.009	0	%100
5	1FF-TH2	X	.009	.009	0	%100
6	1FF-TH3	X	.009	.009	0	%100
7	1SF2-BH	X	.008	.008	0	%100
8	1SF2-D1	X	.005	.005	0	%100
9	1SF2-D2	X	.005	.005	0	%100
10	1SF2-TH	X	.008	.008	0	%100
11	1SF2-V1	X	.005	.005	0	%100
12	1SF2-V2	X	.005	.005	0	%100
13	1SF2-V3	X	.007	.007	0	%100
14	1SF3-BH	X	.002	.002	0	%100
15	1SF3-D1	X	.005	.005	0	%100
16	1SF3-D2	X	.005	.005	0	%100
17	1SF3-TH	X	.002	.002	0	%100
18	1SF3-V1	X	.005	.005	0	%100
19	1SF3-V2	X	.005	.005	0	%100
20	1SF3-V3	X	.007	.007	0	%100
21	MP-1	X	.008	.008	0	%100
22	MP-2	X	.008	.008	0	%100
23	MP-3	X	.008	.008	0	%100
24	MP-4	X	.008	.008	0	%100
25	MP-5	X	.008	.008	0	%100
26	SA-A	X	.002	.002	0	%100
27	1FF-BH1	Z	.005	.005	0	%100
28	1FF-BH2	Z	.005	.005	0	%100
29	1FF-BH3	Z	.005	.005	0	%100
30	1FF-TH1	Z	.005	.005	0	%100

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

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F,...	Start Location[ft,%]	End Location[ft,%]
31	1FF-TH2	Z	.005	.005	0	%100
32	1FF-TH3	Z	.005	.005	0	%100
33	1SF2-BH	Z	.004	.004	0	%100
34	1SF2-D1	Z	.003	.003	0	%100
35	1SF2-D2	Z	.003	.003	0	%100
36	1SF2-TH	Z	.004	.004	0	%100
37	1SF2-V1	Z	.003	.003	0	%100
38	1SF2-V2	Z	.003	.003	0	%100
39	1SF2-V3	Z	.004	.004	0	%100
40	1SF3-BH	Z	.001	.001	0	%100
41	1SF3-D1	Z	.003	.003	0	%100
42	1SF3-D2	Z	.003	.003	0	%100
43	1SF3-TH	Z	.001	.001	0	%100
44	1SF3-V1	Z	.003	.003	0	%100
45	1SF3-V2	Z	.003	.003	0	%100
46	1SF3-V3	Z	.004	.004	0	%100
47	MP-1	Z	.005	.005	0	%100
48	MP-2	Z	.005	.005	0	%100
49	MP-3	Z	.005	.005	0	%100
50	MP-4	Z	.005	.005	0	%100
51	MP-5	Z	.005	.005	0	%100
52	SA-A	Z	.002	.002	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	1FF-BH1	X	.006	.006	0	%100
2	1FF-BH2	X	.006	.006	0	%100
3	1FF-BH3	X	.006	.006	0	%100
4	1FF-TH1	X	.006	.006	0	%100
5	1FF-TH2	X	.006	.006	0	%100
6	1FF-TH3	X	.006	.006	0	%100
7	1SF2-BH	X	.006	.006	0	%100
8	1SF2-D1	X	.004	.004	0	%100
9	1SF2-D2	X	.004	.004	0	%100
10	1SF2-TH	X	.006	.006	0	%100
11	1SF2-V1	X	.004	.004	0	%100
12	1SF2-V2	X	.004	.004	0	%100
13	1SF2-V3	X	.006	.006	0	%100
14	1SF3-BH	X	.000159	.000159	0	%100
15	1SF3-D1	X	.004	.004	0	%100
16	1SF3-D2	X	.004	.004	0	%100
17	1SF3-TH	X	.000159	.000159	0	%100
18	1SF3-V1	X	.004	.004	0	%100
19	1SF3-V2	X	.004	.004	0	%100
20	1SF3-V3	X	.006	.006	0	%100
21	MP-1	X	.007	.007	0	%100
22	MP-2	X	.007	.007	0	%100
23	MP-3	X	.007	.007	0	%100
24	MP-4	X	.007	.007	0	%100
25	MP-5	X	.007	.007	0	%100
26	SA-A	X	.003	.003	0	%100
27	1FF-BH1	Z	.006	.006	0	%100
28	1FF-BH2	Z	.006	.006	0	%100
29	1FF-BH3	Z	.006	.006	0	%100
30	1FF-TH1	Z	.006	.006	0	%100
31	1FF-TH2	Z	.006	.006	0	%100

Company : Tower Engineering Professionals
Designer : AJS
Job Number : TEP No. 217464.714142
Model Name : HRT 105 943201 (BU 806363)

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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,%]
32	1FF-TH3	Z	.006	.006	0	%100
33	1SF2-BH	Z	.006	.006	0	%100
34	1SF2-D1	Z	.004	.004	0	%100
35	1SF2-D2	Z	.004	.004	0	%100
36	1SF2-TH	Z	.006	.006	0	%100
37	1SF2-V1	Z	.004	.004	0	%100
38	1SF2-V2	Z	.004	.004	0	%100
39	1SF2-V3	Z	.006	.006	0	%100
40	1SF3-BH	Z	.000155	.000155	0	%100
41	1SF3-D1	Z	.004	.004	0	%100
42	1SF3-D2	Z	.004	.004	0	%100
43	1SF3-TH	Z	.000155	.000155	0	%100
44	1SF3-V1	Z	.004	.004	0	%100
45	1SF3-V2	Z	.004	.004	0	%100
46	1SF3-V3	Z	.006	.006	0	%100
47	MP-1	Z	.007	.007	0	%100
48	MP-2	Z	.007	.007	0	%100
49	MP-3	Z	.007	.007	0	%100
50	MP-4	Z	.007	.007	0	%100
51	MP-5	Z	.007	.007	0	%100
52	SA-A	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	1FF-BH1	X	.003	.003	0	%100
2	1FF-BH2	X	.003	.003	0	%100
3	1FF-BH3	X	.003	.003	0	%100
4	1FF-TH1	X	.003	.003	0	%100
5	1FF-TH2	X	.003	.003	0	%100
6	1FF-TH3	X	.003	.003	0	%100
7	1SF2-BH	X	.004	.004	0	%100
8	1SF2-D1	X	.003	.003	0	%100
9	1SF2-D2	X	.003	.003	0	%100
10	1SF2-TH	X	.004	.004	0	%100
11	1SF2-V1	X	.003	.003	0	%100
12	1SF2-V2	X	.003	.003	0	%100
13	1SF2-V3	X	.004	.004	0	%100
14	1SF3-BH	X	.001	.001	0	%100
15	1SF3-D1	X	.003	.003	0	%100
16	1SF3-D2	X	.003	.003	0	%100
17	1SF3-TH	X	.001	.001	0	%100
18	1SF3-V1	X	.003	.003	0	%100
19	1SF3-V2	X	.003	.003	0	%100
20	1SF3-V3	X	.004	.004	0	%100
21	MP-1	X	.005	.005	0	%100
22	MP-2	X	.005	.005	0	%100
23	MP-3	X	.005	.005	0	%100
24	MP-4	X	.005	.005	0	%100
25	MP-5	X	.005	.005	0	%100
26	SA-A	X	.002	.002	0	%100
27	1FF-BH1	Z	.005	.005	0	%100
28	1FF-BH2	Z	.005	.005	0	%100
29	1FF-BH3	Z	.005	.005	0	%100
30	1FF-TH1	Z	.005	.005	0	%100
31	1FF-TH2	Z	.005	.005	0	%100
32	1FF-TH3	Z	.005	.005	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,%]
33	1SF2-BH	Z	.007	.007	0	%100
34	1SF2-D1	Z	.005	.005	0	%100
35	1SF2-D2	Z	.005	.005	0	%100
36	1SF2-TH	Z	.007	.007	0	%100
37	1SF2-V1	Z	.005	.005	0	%100
38	1SF2-V2	Z	.005	.005	0	%100
39	1SF2-V3	Z	.007	.007	0	%100
40	1SF3-BH	Z	.002	.002	0	%100
41	1SF3-D1	Z	.005	.005	0	%100
42	1SF3-D2	Z	.005	.005	0	%100
43	1SF3-TH	Z	.002	.002	0	%100
44	1SF3-V1	Z	.005	.005	0	%100
45	1SF3-V2	Z	.005	.005	0	%100
46	1SF3-V3	Z	.007	.007	0	%100
47	MP-1	Z	.008	.008	0	%100
48	MP-2	Z	.008	.008	0	%100
49	MP-3	Z	.008	.008	0	%100
50	MP-4	Z	.008	.008	0	%100
51	MP-5	Z	.008	.008	0	%100
52	SA-A	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	1FF-BH1	Z	0	0	0	%100
2	1FF-BH2	Z	0	0	0	%100
3	1FF-BH3	Z	0	0	0	%100
4	1FF-TH1	Z	0	0	0	%100
5	1FF-TH2	Z	0	0	0	%100
6	1FF-TH3	Z	0	0	0	%100
7	1SF2-BH	Z	.006	.006	0	%100
8	1SF2-D1	Z	.006	.006	0	%100
9	1SF2-D2	Z	.006	.006	0	%100
10	1SF2-TH	Z	.006	.006	0	%100
11	1SF2-V1	Z	.006	.006	0	%100
12	1SF2-V2	Z	.006	.006	0	%100
13	1SF2-V3	Z	.008	.008	0	%100
14	1SF3-BH	Z	.006	.006	0	%100
15	1SF3-D1	Z	.006	.006	0	%100
16	1SF3-D2	Z	.006	.006	0	%100
17	1SF3-TH	Z	.006	.006	0	%100
18	1SF3-V1	Z	.006	.006	0	%100
19	1SF3-V2	Z	.006	.006	0	%100
20	1SF3-V3	Z	.008	.008	0	%100
21	MP-1	Z	.01	.01	0	%100
22	MP-2	Z	.01	.01	0	%100
23	MP-3	Z	.01	.01	0	%100
24	MP-4	Z	.01	.01	0	%100
25	MP-5	Z	.01	.01	0	%100
26	SA-A	Z	.01	.01	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	1FF-BH1	X	-.003	-.003	0	%100
2	1FF-BH2	X	-.003	-.003	0	%100
3	1FF-BH3	X	-.003	-.003	0	%100
4	1FF-TH1	X	-.003	-.003	0	%100

Company : Tower Engineering Professionals
Designer : AJS
Job Number : TEP No. 217464.714142
Model Name : HRT 105 943201 (BU 806363)

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

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F,...	Start Location[ft,%]	End Location[ft,%]
5	1FF-TH2	X	-.003	-.003	0	%100
6	1FF-TH3	X	-.003	-.003	0	%100
7	1SF2-BH	X	-.001	-.001	0	%100
8	1SF2-D1	X	-.003	-.003	0	%100
9	1SF2-D2	X	-.003	-.003	0	%100
10	1SF2-TH	X	-.001	-.001	0	%100
11	1SF2-V1	X	-.003	-.003	0	%100
12	1SF2-V2	X	-.003	-.003	0	%100
13	1SF2-V3	X	-.004	-.004	0	%100
14	1SF3-BH	X	-.004	-.004	0	%100
15	1SF3-D1	X	-.003	-.003	0	%100
16	1SF3-D2	X	-.003	-.003	0	%100
17	1SF3-TH	X	-.004	-.004	0	%100
18	1SF3-V1	X	-.003	-.003	0	%100
19	1SF3-V2	X	-.003	-.003	0	%100
20	1SF3-V3	X	-.004	-.004	0	%100
21	MP-1	X	-.005	-.005	0	%100
22	MP-2	X	-.005	-.005	0	%100
23	MP-3	X	-.005	-.005	0	%100
24	MP-4	X	-.005	-.005	0	%100
25	MP-5	X	-.005	-.005	0	%100
26	SA-A	X	-.002	-.002	0	%100
27	1FF-BH1	Z	.005	.005	0	%100
28	1FF-BH2	Z	.005	.005	0	%100
29	1FF-BH3	Z	.005	.005	0	%100
30	1FF-TH1	Z	.005	.005	0	%100
31	1FF-TH2	Z	.005	.005	0	%100
32	1FF-TH3	Z	.005	.005	0	%100
33	1SF2-BH	Z	.002	.002	0	%100
34	1SF2-D1	Z	.005	.005	0	%100
35	1SF2-D2	Z	.005	.005	0	%100
36	1SF2-TH	Z	.002	.002	0	%100
37	1SF2-V1	Z	.005	.005	0	%100
38	1SF2-V2	Z	.005	.005	0	%100
39	1SF2-V3	Z	.007	.007	0	%100
40	1SF3-BH	Z	.007	.007	0	%100
41	1SF3-D1	Z	.005	.005	0	%100
42	1SF3-D2	Z	.005	.005	0	%100
43	1SF3-TH	Z	.007	.007	0	%100
44	1SF3-V1	Z	.005	.005	0	%100
45	1SF3-V2	Z	.005	.005	0	%100
46	1SF3-V3	Z	.007	.007	0	%100
47	MP-1	Z	.008	.008	0	%100
48	MP-2	Z	.008	.008	0	%100
49	MP-3	Z	.008	.008	0	%100
50	MP-4	Z	.008	.008	0	%100
51	MP-5	Z	.008	.008	0	%100
52	SA-A	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	1FF-BH1	X	-.006	-.006	0	%100
2	1FF-BH2	X	-.006	-.006	0	%100
3	1FF-BH3	X	-.006	-.006	0	%100
4	1FF-TH1	X	-.006	-.006	0	%100
5	1FF-TH2	X	-.006	-.006	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,%]
6	1FF-TH3	X	-.006	-.006	0	%100
7	1SF2-BH	X	-.000159	-.000159	0	%100
8	1SF2-D1	X	-.004	-.004	0	%100
9	1SF2-D2	X	-.004	-.004	0	%100
10	1SF2-TH	X	-.000159	-.000159	0	%100
11	1SF2-V1	X	-.004	-.004	0	%100
12	1SF2-V2	X	-.004	-.004	0	%100
13	1SF2-V3	X	-.006	-.006	0	%100
14	1SF3-BH	X	-.006	-.006	0	%100
15	1SF3-D1	X	-.004	-.004	0	%100
16	1SF3-D2	X	-.004	-.004	0	%100
17	1SF3-TH	X	-.006	-.006	0	%100
18	1SF3-V1	X	-.004	-.004	0	%100
19	1SF3-V2	X	-.004	-.004	0	%100
20	1SF3-V3	X	-.006	-.006	0	%100
21	MP-1	X	-.007	-.007	0	%100
22	MP-2	X	-.007	-.007	0	%100
23	MP-3	X	-.007	-.007	0	%100
24	MP-4	X	-.007	-.007	0	%100
25	MP-5	X	-.007	-.007	0	%100
26	SA-A	X	-.003	-.003	0	%100
27	1FF-BH1	Z	.006	.006	0	%100
28	1FF-BH2	Z	.006	.006	0	%100
29	1FF-BH3	Z	.006	.006	0	%100
30	1FF-TH1	Z	.006	.006	0	%100
31	1FF-TH2	Z	.006	.006	0	%100
32	1FF-TH3	Z	.006	.006	0	%100
33	1SF2-BH	Z	.000155	.000155	0	%100
34	1SF2-D1	Z	.004	.004	0	%100
35	1SF2-D2	Z	.004	.004	0	%100
36	1SF2-TH	Z	.000155	.000155	0	%100
37	1SF2-V1	Z	.004	.004	0	%100
38	1SF2-V2	Z	.004	.004	0	%100
39	1SF2-V3	Z	.006	.006	0	%100
40	1SF3-BH	Z	.006	.006	0	%100
41	1SF3-D1	Z	.004	.004	0	%100
42	1SF3-D2	Z	.004	.004	0	%100
43	1SF3-TH	Z	.006	.006	0	%100
44	1SF3-V1	Z	.004	.004	0	%100
45	1SF3-V2	Z	.004	.004	0	%100
46	1SF3-V3	Z	.006	.006	0	%100
47	MP-1	Z	.007	.007	0	%100
48	MP-2	Z	.007	.007	0	%100
49	MP-3	Z	.007	.007	0	%100
50	MP-4	Z	.007	.007	0	%100
51	MP-5	Z	.007	.007	0	%100
52	SA-A	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	1FF-BH1	X	-.009	-.009	0	%100
2	1FF-BH2	X	-.009	-.009	0	%100
3	1FF-BH3	X	-.009	-.009	0	%100
4	1FF-TH1	X	-.009	-.009	0	%100
5	1FF-TH2	X	-.009	-.009	0	%100
6	1FF-TH3	X	-.009	-.009	0	%100

Company : Tower Engineering Professionals
Designer : AJS
Job Number : TEP No. 217464.714142
Model Name : HRT 105 943201 (BU 806363)

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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,%]
7	1SF2-BH	X	-.002	-.002	0	%100
8	1SF2-D1	X	-.005	-.005	0	%100
9	1SF2-D2	X	-.005	-.005	0	%100
10	1SF2-TH	X	-.002	-.002	0	%100
11	1SF2-V1	X	-.005	-.005	0	%100
12	1SF2-V2	X	-.005	-.005	0	%100
13	1SF2-V3	X	-.007	-.007	0	%100
14	1SF3-BH	X	-.008	-.008	0	%100
15	1SF3-D1	X	-.005	-.005	0	%100
16	1SF3-D2	X	-.005	-.005	0	%100
17	1SF3-TH	X	-.008	-.008	0	%100
18	1SF3-V1	X	-.005	-.005	0	%100
19	1SF3-V2	X	-.005	-.005	0	%100
20	1SF3-V3	X	-.007	-.007	0	%100
21	MP-1	X	-.008	-.008	0	%100
22	MP-2	X	-.008	-.008	0	%100
23	MP-3	X	-.008	-.008	0	%100
24	MP-4	X	-.008	-.008	0	%100
25	MP-5	X	-.008	-.008	0	%100
26	SA-A	X	-.003	-.003	0	%100
27	1FF-BH1	Z	.005	.005	0	%100
28	1FF-BH2	Z	.005	.005	0	%100
29	1FF-BH3	Z	.005	.005	0	%100
30	1FF-TH1	Z	.005	.005	0	%100
31	1FF-TH2	Z	.005	.005	0	%100
32	1FF-TH3	Z	.005	.005	0	%100
33	1SF2-BH	Z	.001	.001	0	%100
34	1SF2-D1	Z	.003	.003	0	%100
35	1SF2-D2	Z	.003	.003	0	%100
36	1SF2-TH	Z	.001	.001	0	%100
37	1SF2-V1	Z	.003	.003	0	%100
38	1SF2-V2	Z	.003	.003	0	%100
39	1SF2-V3	Z	.004	.004	0	%100
40	1SF3-BH	Z	.004	.004	0	%100
41	1SF3-D1	Z	.003	.003	0	%100
42	1SF3-D2	Z	.003	.003	0	%100
43	1SF3-TH	Z	.004	.004	0	%100
44	1SF3-V1	Z	.003	.003	0	%100
45	1SF3-V2	Z	.003	.003	0	%100
46	1SF3-V3	Z	.004	.004	0	%100
47	MP-1	Z	.005	.005	0	%100
48	MP-2	Z	.005	.005	0	%100
49	MP-3	Z	.005	.005	0	%100
50	MP-4	Z	.005	.005	0	%100
51	MP-5	Z	.005	.005	0	%100
52	SA-A	Z	.003	.003	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	1FF-BH1	Y	-.006	-.006	0	%100
2	1FF-BH2	Y	-.006	-.006	0	%100
3	1FF-BH3	Y	-.006	-.006	0	%100
4	1FF-TH1	Y	-.006	-.006	0	%100
5	1FF-TH2	Y	-.006	-.006	0	%100
6	1FF-TH3	Y	-.006	-.006	0	%100
7	1SF2-BH	Y	-.005	-.005	0	%100

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

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F,...	Start Location[ft,%]	End Location[ft,%]
8	1SF2-D1	Y	-.004	-.004	0	%100
9	1SF2-D2	Y	-.004	-.004	0	%100
10	1SF2-TH	Y	-.005	-.005	0	%100
11	1SF2-V1	Y	-.004	-.004	0	%100
12	1SF2-V2	Y	-.004	-.004	0	%100
13	1SF2-V3	Y	-.006	-.006	0	%100
14	1SF3-BH	Y	-.005	-.005	0	%100
15	1SF3-D1	Y	-.004	-.004	0	%100
16	1SF3-D2	Y	-.004	-.004	0	%100
17	1SF3-TH	Y	-.005	-.005	0	%100
18	1SF3-V1	Y	-.004	-.004	0	%100
19	1SF3-V2	Y	-.004	-.004	0	%100
20	1SF3-V3	Y	-.006	-.006	0	%100
21	MP-1	Y	-.005	-.005	0	%100
22	MP-2	Y	-.005	-.005	0	%100
23	MP-3	Y	-.005	-.005	0	%100
24	MP-4	Y	-.005	-.005	0	%100
25	MP-5	Y	-.005	-.005	0	%100
26	SA-A	Y	-.005	-.005	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	1FF-BH1	X	-.004	-.004	0	%100
2	1FF-BH2	X	-.004	-.004	0	%100
3	1FF-BH3	X	-.004	-.004	0	%100
4	1FF-TH1	X	-.004	-.004	0	%100
5	1FF-TH2	X	-.004	-.004	0	%100
6	1FF-TH3	X	-.004	-.004	0	%100
7	1SF2-BH	X	-.002	-.002	0	%100
8	1SF2-D1	X	-.002	-.002	0	%100
9	1SF2-D2	X	-.002	-.002	0	%100
10	1SF2-TH	X	-.002	-.002	0	%100
11	1SF2-V1	X	-.002	-.002	0	%100
12	1SF2-V2	X	-.002	-.002	0	%100
13	1SF2-V3	X	-.002	-.002	0	%100
14	1SF3-BH	X	-.002	-.002	0	%100
15	1SF3-D1	X	-.002	-.002	0	%100
16	1SF3-D2	X	-.002	-.002	0	%100
17	1SF3-TH	X	-.002	-.002	0	%100
18	1SF3-V1	X	-.002	-.002	0	%100
19	1SF3-V2	X	-.002	-.002	0	%100
20	1SF3-V3	X	-.002	-.002	0	%100
21	MP-1	X	-.003	-.003	0	%100
22	MP-2	X	-.002	-.002	0	%100
23	MP-3	X	-.002	-.002	0	%100
24	MP-4	X	-.002	-.002	0	%100
25	MP-5	X	-.003	-.003	0	%100
26	SA-A	X	-.002	-.002	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	1FF-BH1	X	-.003	-.003	0	%100
2	1FF-BH2	X	-.003	-.003	0	%100
3	1FF-BH3	X	-.003	-.003	0	%100
4	1FF-TH1	X	-.003	-.003	0	%100
5	1FF-TH2	X	-.003	-.003	0	%100

Company : Tower Engineering Professionals
Designer : AJS
Job Number : TEP No. 217464.714142
Model Name : HRT 105 943201 (BU 806363)

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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,%]
6	1FF-TH3	X	-.003	-.003	0	%100
7	1SF2-BH	X	-.002	-.002	0	%100
8	1SF2-D1	X	-.002	-.002	0	%100
9	1SF2-D2	X	-.002	-.002	0	%100
10	1SF2-TH	X	-.002	-.002	0	%100
11	1SF2-V1	X	-.002	-.002	0	%100
12	1SF2-V2	X	-.002	-.002	0	%100
13	1SF2-V3	X	-.002	-.002	0	%100
14	1SF3-BH	X	-.000593	-.000593	0	%100
15	1SF3-D1	X	-.002	-.002	0	%100
16	1SF3-D2	X	-.002	-.002	0	%100
17	1SF3-TH	X	-.000593	-.000593	0	%100
18	1SF3-V1	X	-.002	-.002	0	%100
19	1SF3-V2	X	-.002	-.002	0	%100
20	1SF3-V3	X	-.002	-.002	0	%100
21	MP-1	X	-.002	-.002	0	%100
22	MP-2	X	-.002	-.002	0	%100
23	MP-3	X	-.002	-.002	0	%100
24	MP-4	X	-.002	-.002	0	%100
25	MP-5	X	-.002	-.002	0	%100
26	SA-A	X	-.000757	-.000757	0	%100
27	1FF-BH1	Z	-.001	-.001	0	%100
28	1FF-BH2	Z	-.001	-.001	0	%100
29	1FF-BH3	Z	-.001	-.001	0	%100
30	1FF-TH1	Z	-.001	-.001	0	%100
31	1FF-TH2	Z	-.001	-.001	0	%100
32	1FF-TH3	Z	-.001	-.001	0	%100
33	1SF2-BH	Z	-.001	-.001	0	%100
34	1SF2-D1	Z	-.001	-.001	0	%100
35	1SF2-D2	Z	-.001	-.001	0	%100
36	1SF2-TH	Z	-.001	-.001	0	%100
37	1SF2-V1	Z	-.001	-.001	0	%100
38	1SF2-V2	Z	-.001	-.001	0	%100
39	1SF2-V3	Z	-.001	-.001	0	%100
40	1SF3-BH	Z	-.000338	-.000338	0	%100
41	1SF3-D1	Z	-.001	-.001	0	%100
42	1SF3-D2	Z	-.001	-.001	0	%100
43	1SF3-TH	Z	-.000338	-.000338	0	%100
44	1SF3-V1	Z	-.001	-.001	0	%100
45	1SF3-V2	Z	-.001	-.001	0	%100
46	1SF3-V3	Z	-.001	-.001	0	%100
47	MP-1	Z	-.001	-.001	0	%100
48	MP-2	Z	-.001	-.001	0	%100
49	MP-3	Z	-.001	-.001	0	%100
50	MP-4	Z	-.001	-.001	0	%100
51	MP-5	Z	-.001	-.001	0	%100
52	SA-A	Z	-.000749	-.000749	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	1FF-BH1	X	-.002	-.002	0	%100
2	1FF-BH2	X	-.002	-.002	0	%100
3	1FF-BH3	X	-.002	-.002	0	%100
4	1FF-TH1	X	-.002	-.002	0	%100
5	1FF-TH2	X	-.002	-.002	0	%100
6	1FF-TH3	X	-.002	-.002	0	%100

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

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F,...	Start Location[ft,%]	End Location[ft,%]
7	1SF2-BH	X	-.002	-.002	0	%100
8	1SF2-D1	X	-.001	-.001	0	%100
9	1SF2-D2	X	-.001	-.001	0	%100
10	1SF2-TH	X	-.002	-.002	0	%100
11	1SF2-V1	X	-.001	-.001	0	%100
12	1SF2-V2	X	-.001	-.001	0	%100
13	1SF2-V3	X	-.001	-.001	0	%100
14	1SF3-BH	X	-4.3e-5	-4.3e-5	0	%100
15	1SF3-D1	X	-.001	-.001	0	%100
16	1SF3-D2	X	-.001	-.001	0	%100
17	1SF3-TH	X	-4.3e-5	-4.3e-5	0	%100
18	1SF3-V1	X	-.001	-.001	0	%100
19	1SF3-V2	X	-.001	-.001	0	%100
20	1SF3-V3	X	-.001	-.001	0	%100
21	MP-1	X	-.002	-.002	0	%100
22	MP-2	X	-.002	-.002	0	%100
23	MP-3	X	-.002	-.002	0	%100
24	MP-4	X	-.002	-.002	0	%100
25	MP-5	X	-.002	-.002	0	%100
26	SA-A	X	-.000898	-.000898	0	%100
27	1FF-BH1	Z	-.002	-.002	0	%100
28	1FF-BH2	Z	-.002	-.002	0	%100
29	1FF-BH3	Z	-.002	-.002	0	%100
30	1FF-TH1	Z	-.002	-.002	0	%100
31	1FF-TH2	Z	-.002	-.002	0	%100
32	1FF-TH3	Z	-.002	-.002	0	%100
33	1SF2-BH	Z	-.002	-.002	0	%100
34	1SF2-D1	Z	-.001	-.001	0	%100
35	1SF2-D2	Z	-.001	-.001	0	%100
36	1SF2-TH	Z	-.002	-.002	0	%100
37	1SF2-V1	Z	-.001	-.001	0	%100
38	1SF2-V2	Z	-.001	-.001	0	%100
39	1SF2-V3	Z	-.002	-.002	0	%100
40	1SF3-BH	Z	-4.2e-5	-4.2e-5	0	%100
41	1SF3-D1	Z	-.001	-.001	0	%100
42	1SF3-D2	Z	-.001	-.001	0	%100
43	1SF3-TH	Z	-4.2e-5	-4.2e-5	0	%100
44	1SF3-V1	Z	-.001	-.001	0	%100
45	1SF3-V2	Z	-.001	-.001	0	%100
46	1SF3-V3	Z	-.002	-.002	0	%100
47	MP-1	Z	-.002	-.002	0	%100
48	MP-2	Z	-.002	-.002	0	%100
49	MP-3	Z	-.002	-.002	0	%100
50	MP-4	Z	-.002	-.002	0	%100
51	MP-5	Z	-.002	-.002	0	%100
52	SA-A	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	1FF-BH1	X	-.000878	-.000878	0	%100
2	1FF-BH2	X	-.000878	-.000878	0	%100
3	1FF-BH3	X	-.000878	-.000878	0	%100
4	1FF-TH1	X	-.000878	-.000878	0	%100
5	1FF-TH2	X	-.000878	-.000878	0	%100
6	1FF-TH3	X	-.000878	-.000878	0	%100
7	1SF2-BH	X	-.001	-.001	0	%100

Company : Tower Engineering Professionals
Designer : AJS
Job Number : TEP No. 217464.714142
Model Name : HRT 105 943201 (BU 806363)

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

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F,...	Start Location[ft,%]	End Location[ft,%]
8	1SF2-D1	X	-.000951	-.000951	0	%100
9	1SF2-D2	X	-.000951	-.000951	0	%100
10	1SF2-TH	X	-.001	-.001	0	%100
11	1SF2-V1	X	-.000907	-.000907	0	%100
12	1SF2-V2	X	-.000907	-.000907	0	%100
13	1SF2-V3	X	-.001	-.001	0	%100
14	1SF3-BH	X	-.000284	-.000284	0	%100
15	1SF3-D1	X	-.000951	-.000951	0	%100
16	1SF3-D2	X	-.000951	-.000951	0	%100
17	1SF3-TH	X	-.000284	-.000284	0	%100
18	1SF3-V1	X	-.000907	-.000907	0	%100
19	1SF3-V2	X	-.000907	-.000907	0	%100
20	1SF3-V3	X	-.001	-.001	0	%100
21	MP-1	X	-.001	-.001	0	%100
22	MP-2	X	-.001	-.001	0	%100
23	MP-3	X	-.001	-.001	0	%100
24	MP-4	X	-.001	-.001	0	%100
25	MP-5	X	-.001	-.001	0	%100
26	SA-A	X	-.000789	-.000789	0	%100
27	1FF-BH1	Z	-.001	-.001	0	%100
28	1FF-BH2	Z	-.001	-.001	0	%100
29	1FF-BH3	Z	-.001	-.001	0	%100
30	1FF-TH1	Z	-.001	-.001	0	%100
31	1FF-TH2	Z	-.001	-.001	0	%100
32	1FF-TH3	Z	-.001	-.001	0	%100
33	1SF2-BH	Z	-.002	-.002	0	%100
34	1SF2-D1	Z	-.002	-.002	0	%100
35	1SF2-D2	Z	-.002	-.002	0	%100
36	1SF2-TH	Z	-.002	-.002	0	%100
37	1SF2-V1	Z	-.002	-.002	0	%100
38	1SF2-V2	Z	-.002	-.002	0	%100
39	1SF2-V3	Z	-.002	-.002	0	%100
40	1SF3-BH	Z	-.000485	-.000485	0	%100
41	1SF3-D1	Z	-.002	-.002	0	%100
42	1SF3-D2	Z	-.002	-.002	0	%100
43	1SF3-TH	Z	-.000485	-.000485	0	%100
44	1SF3-V1	Z	-.002	-.002	0	%100
45	1SF3-V2	Z	-.002	-.002	0	%100
46	1SF3-V3	Z	-.002	-.002	0	%100
47	MP-1	Z	-.003	-.003	0	%100
48	MP-2	Z	-.002	-.002	0	%100
49	MP-3	Z	-.002	-.002	0	%100
50	MP-4	Z	-.002	-.002	0	%100
51	MP-5	Z	-.003	-.003	0	%100
52	SA-A	Z	-.002	-.002	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	1FF-BH1	Z	0	0	0	%100
2	1FF-BH2	Z	0	0	0	%100
3	1FF-BH3	Z	0	0	0	%100
4	1FF-TH1	Z	0	0	0	%100
5	1FF-TH2	Z	0	0	0	%100
6	1FF-TH3	Z	0	0	0	%100
7	1SF2-BH	Z	-.002	-.002	0	%100
8	1SF2-D1	Z	-.002	-.002	0	%100

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,%]
9	1SF2-D2	Z	-.002	-.002	0	%100
10	1SF2-TH	Z	-.002	-.002	0	%100
11	1SF2-V1	Z	-.002	-.002	0	%100
12	1SF2-V2	Z	-.002	-.002	0	%100
13	1SF2-V3	Z	-.002	-.002	0	%100
14	1SF3-BH	Z	-.002	-.002	0	%100
15	1SF3-D1	Z	-.002	-.002	0	%100
16	1SF3-D2	Z	-.002	-.002	0	%100
17	1SF3-TH	Z	-.002	-.002	0	%100
18	1SF3-V1	Z	-.002	-.002	0	%100
19	1SF3-V2	Z	-.002	-.002	0	%100
20	1SF3-V3	Z	-.002	-.002	0	%100
21	MP-1	Z	-.003	-.003	0	%100
22	MP-2	Z	-.003	-.003	0	%100
23	MP-3	Z	-.003	-.003	0	%100
24	MP-4	Z	-.003	-.003	0	%100
25	MP-5	Z	-.003	-.003	0	%100
26	SA-A	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	1FF-BH1	X	.000878	.000878	0	%100
2	1FF-BH2	X	.000878	.000878	0	%100
3	1FF-BH3	X	.000878	.000878	0	%100
4	1FF-TH1	X	.000878	.000878	0	%100
5	1FF-TH2	X	.000878	.000878	0	%100
6	1FF-TH3	X	.000878	.000878	0	%100
7	1SF2-BH	X	.000284	.000284	0	%100
8	1SF2-D1	X	.000951	.000951	0	%100
9	1SF2-D2	X	.000951	.000951	0	%100
10	1SF2-TH	X	.000284	.000284	0	%100
11	1SF2-V1	X	.000907	.000907	0	%100
12	1SF2-V2	X	.000907	.000907	0	%100
13	1SF2-V3	X	.001	.001	0	%100
14	1SF3-BH	X	.001	.001	0	%100
15	1SF3-D1	X	.000951	.000951	0	%100
16	1SF3-D2	X	.000951	.000951	0	%100
17	1SF3-TH	X	.001	.001	0	%100
18	1SF3-V1	X	.000907	.000907	0	%100
19	1SF3-V2	X	.000907	.000907	0	%100
20	1SF3-V3	X	.001	.001	0	%100
21	MP-1	X	.001	.001	0	%100
22	MP-2	X	.001	.001	0	%100
23	MP-3	X	.001	.001	0	%100
24	MP-4	X	.001	.001	0	%100
25	MP-5	X	.001	.001	0	%100
26	SA-A	X	.000821	.000821	0	%100
27	1FF-BH1	Z	-.001	-.001	0	%100
28	1FF-BH2	Z	-.001	-.001	0	%100
29	1FF-BH3	Z	-.001	-.001	0	%100
30	1FF-TH1	Z	-.001	-.001	0	%100
31	1FF-TH2	Z	-.001	-.001	0	%100
32	1FF-TH3	Z	-.001	-.001	0	%100
33	1SF2-BH	Z	-.000485	-.000485	0	%100
34	1SF2-D1	Z	-.002	-.002	0	%100
35	1SF2-D2	Z	-.002	-.002	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,%]
36	1SF2-TH	Z	-.000485	-.000485	0	%100
37	1SF2-V1	Z	-.002	-.002	0	%100
38	1SF2-V2	Z	-.002	-.002	0	%100
39	1SF2-V3	Z	-.002	-.002	0	%100
40	1SF3-BH	Z	-.002	-.002	0	%100
41	1SF3-D1	Z	-.002	-.002	0	%100
42	1SF3-D2	Z	-.002	-.002	0	%100
43	1SF3-TH	Z	-.002	-.002	0	%100
44	1SF3-V1	Z	-.002	-.002	0	%100
45	1SF3-V2	Z	-.002	-.002	0	%100
46	1SF3-V3	Z	-.002	-.002	0	%100
47	MP-1	Z	-.003	-.003	0	%100
48	MP-2	Z	-.002	-.002	0	%100
49	MP-3	Z	-.002	-.002	0	%100
50	MP-4	Z	-.002	-.002	0	%100
51	MP-5	Z	-.003	-.003	0	%100
52	SA-A	Z	-.002	-.002	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	1FF-BH1	X	.002	.002	0	%100
2	1FF-BH2	X	.002	.002	0	%100
3	1FF-BH3	X	.002	.002	0	%100
4	1FF-TH1	X	.002	.002	0	%100
5	1FF-TH2	X	.002	.002	0	%100
6	1FF-TH3	X	.002	.002	0	%100
7	1SF2-BH	X	4.3e-5	4.3e-5	0	%100
8	1SF2-D1	X	.001	.001	0	%100
9	1SF2-D2	X	.001	.001	0	%100
10	1SF2-TH	X	4.3e-5	4.3e-5	0	%100
11	1SF2-V1	X	.001	.001	0	%100
12	1SF2-V2	X	.001	.001	0	%100
13	1SF2-V3	X	.001	.001	0	%100
14	1SF3-BH	X	.002	.002	0	%100
15	1SF3-D1	X	.001	.001	0	%100
16	1SF3-D2	X	.001	.001	0	%100
17	1SF3-TH	X	.002	.002	0	%100
18	1SF3-V1	X	.001	.001	0	%100
19	1SF3-V2	X	.001	.001	0	%100
20	1SF3-V3	X	.001	.001	0	%100
21	MP-1	X	.002	.002	0	%100
22	MP-2	X	.002	.002	0	%100
23	MP-3	X	.002	.002	0	%100
24	MP-4	X	.002	.002	0	%100
25	MP-5	X	.002	.002	0	%100
26	SA-A	X	.000961	.000961	0	%100
27	1FF-BH1	Z	-.002	-.002	0	%100
28	1FF-BH2	Z	-.002	-.002	0	%100
29	1FF-BH3	Z	-.002	-.002	0	%100
30	1FF-TH1	Z	-.002	-.002	0	%100
31	1FF-TH2	Z	-.002	-.002	0	%100
32	1FF-TH3	Z	-.002	-.002	0	%100
33	1SF2-BH	Z	-4.2e-5	-4.2e-5	0	%100
34	1SF2-D1	Z	-.001	-.001	0	%100
35	1SF2-D2	Z	-.001	-.001	0	%100
36	1SF2-TH	Z	-4.2e-5	-4.2e-5	0	%100

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

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F,...	Start Location[ft,%]	End Location[ft,%]
37	1SF2-V1	Z	-.001	-.001	0	%100
38	1SF2-V2	Z	-.001	-.001	0	%100
39	1SF2-V3	Z	-.002	-.002	0	%100
40	1SF3-BH	Z	-.002	-.002	0	%100
41	1SF3-D1	Z	-.001	-.001	0	%100
42	1SF3-D2	Z	-.001	-.001	0	%100
43	1SF3-TH	Z	-.002	-.002	0	%100
44	1SF3-V1	Z	-.001	-.001	0	%100
45	1SF3-V2	Z	-.001	-.001	0	%100
46	1SF3-V3	Z	-.002	-.002	0	%100
47	MP-1	Z	-.002	-.002	0	%100
48	MP-2	Z	-.002	-.002	0	%100
49	MP-3	Z	-.002	-.002	0	%100
50	MP-4	Z	-.002	-.002	0	%100
51	MP-5	Z	-.002	-.002	0	%100
52	SA-A	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	1FF-BH1	X	.003	.003	0	%100
2	1FF-BH2	X	.003	.003	0	%100
3	1FF-BH3	X	.003	.003	0	%100
4	1FF-TH1	X	.003	.003	0	%100
5	1FF-TH2	X	.003	.003	0	%100
6	1FF-TH3	X	.003	.003	0	%100
7	1SF2-BH	X	.000593	.000593	0	%100
8	1SF2-D1	X	.002	.002	0	%100
9	1SF2-D2	X	.002	.002	0	%100
10	1SF2-TH	X	.000593	.000593	0	%100
11	1SF2-V1	X	.002	.002	0	%100
12	1SF2-V2	X	.002	.002	0	%100
13	1SF2-V3	X	.002	.002	0	%100
14	1SF3-BH	X	.002	.002	0	%100
15	1SF3-D1	X	.002	.002	0	%100
16	1SF3-D2	X	.002	.002	0	%100
17	1SF3-TH	X	.002	.002	0	%100
18	1SF3-V1	X	.002	.002	0	%100
19	1SF3-V2	X	.002	.002	0	%100
20	1SF3-V3	X	.002	.002	0	%100
21	MP-1	X	.002	.002	0	%100
22	MP-2	X	.002	.002	0	%100
23	MP-3	X	.002	.002	0	%100
24	MP-4	X	.002	.002	0	%100
25	MP-5	X	.002	.002	0	%100
26	SA-A	X	.000853	.000853	0	%100
27	1FF-BH1	Z	-.001	-.001	0	%100
28	1FF-BH2	Z	-.001	-.001	0	%100
29	1FF-BH3	Z	-.001	-.001	0	%100
30	1FF-TH1	Z	-.001	-.001	0	%100
31	1FF-TH2	Z	-.001	-.001	0	%100
32	1FF-TH3	Z	-.001	-.001	0	%100
33	1SF2-BH	Z	-.000338	-.000338	0	%100
34	1SF2-D1	Z	-.001	-.001	0	%100
35	1SF2-D2	Z	-.001	-.001	0	%100
36	1SF2-TH	Z	-.000338	-.000338	0	%100
37	1SF2-V1	Z	-.001	-.001	0	%100

Company : Tower Engineering Professionals
Designer : AJS
Job Number : TEP No. 217464.714142
Model Name : HRT 105 943201 (BU 806363)

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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,%]
38	1SF2-V2	Z	-.001	-.001	0	%100
39	1SF2-V3	Z	-.001	-.001	0	%100
40	1SF3-BH	Z	-.001	-.001	0	%100
41	1SF3-D1	Z	-.001	-.001	0	%100
42	1SF3-D2	Z	-.001	-.001	0	%100
43	1SF3-TH	Z	-.001	-.001	0	%100
44	1SF3-V1	Z	-.001	-.001	0	%100
45	1SF3-V2	Z	-.001	-.001	0	%100
46	1SF3-V3	Z	-.001	-.001	0	%100
47	MP-1	Z	-.001	-.001	0	%100
48	MP-2	Z	-.001	-.001	0	%100
49	MP-3	Z	-.001	-.001	0	%100
50	MP-4	Z	-.001	-.001	0	%100
51	MP-5	Z	-.001	-.001	0	%100
52	SA-A	Z	-.000844	-.000844	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	1FF-BH1	X	.004	.004	0	%100
2	1FF-BH2	X	.004	.004	0	%100
3	1FF-BH3	X	.004	.004	0	%100
4	1FF-TH1	X	.004	.004	0	%100
5	1FF-TH2	X	.004	.004	0	%100
6	1FF-TH3	X	.004	.004	0	%100
7	1SF2-BH	X	.002	.002	0	%100
8	1SF2-D1	X	.002	.002	0	%100
9	1SF2-D2	X	.002	.002	0	%100
10	1SF2-TH	X	.002	.002	0	%100
11	1SF2-V1	X	.002	.002	0	%100
12	1SF2-V2	X	.002	.002	0	%100
13	1SF2-V3	X	.002	.002	0	%100
14	1SF3-BH	X	.002	.002	0	%100
15	1SF3-D1	X	.002	.002	0	%100
16	1SF3-D2	X	.002	.002	0	%100
17	1SF3-TH	X	.002	.002	0	%100
18	1SF3-V1	X	.002	.002	0	%100
19	1SF3-V2	X	.002	.002	0	%100
20	1SF3-V3	X	.002	.002	0	%100
21	MP-1	X	.003	.003	0	%100
22	MP-2	X	.002	.002	0	%100
23	MP-3	X	.002	.002	0	%100
24	MP-4	X	.002	.002	0	%100
25	MP-5	X	.003	.003	0	%100
26	SA-A	X	.002	.002	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	1FF-BH1	X	.003	.003	0	%100
2	1FF-BH2	X	.003	.003	0	%100
3	1FF-BH3	X	.003	.003	0	%100
4	1FF-TH1	X	.003	.003	0	%100
5	1FF-TH2	X	.003	.003	0	%100
6	1FF-TH3	X	.003	.003	0	%100
7	1SF2-BH	X	.002	.002	0	%100
8	1SF2-D1	X	.002	.002	0	%100
9	1SF2-D2	X	.002	.002	0	%100

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

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F,...	Start Location[ft,%]	End Location[ft,%]
10	1SF2-TH	X	.002	.002	0	%100
11	1SF2-V1	X	.002	.002	0	%100
12	1SF2-V2	X	.002	.002	0	%100
13	1SF2-V3	X	.002	.002	0	%100
14	1SF3-BH	X	.000593	.000593	0	%100
15	1SF3-D1	X	.002	.002	0	%100
16	1SF3-D2	X	.002	.002	0	%100
17	1SF3-TH	X	.000593	.000593	0	%100
18	1SF3-V1	X	.002	.002	0	%100
19	1SF3-V2	X	.002	.002	0	%100
20	1SF3-V3	X	.002	.002	0	%100
21	MP-1	X	.002	.002	0	%100
22	MP-2	X	.002	.002	0	%100
23	MP-3	X	.002	.002	0	%100
24	MP-4	X	.002	.002	0	%100
25	MP-5	X	.002	.002	0	%100
26	SA-A	X	.000757	.000757	0	%100
27	1FF-BH1	Z	.001	.001	0	%100
28	1FF-BH2	Z	.001	.001	0	%100
29	1FF-BH3	Z	.001	.001	0	%100
30	1FF-TH1	Z	.001	.001	0	%100
31	1FF-TH2	Z	.001	.001	0	%100
32	1FF-TH3	Z	.001	.001	0	%100
33	1SF2-BH	Z	.001	.001	0	%100
34	1SF2-D1	Z	.001	.001	0	%100
35	1SF2-D2	Z	.001	.001	0	%100
36	1SF2-TH	Z	.001	.001	0	%100
37	1SF2-V1	Z	.001	.001	0	%100
38	1SF2-V2	Z	.001	.001	0	%100
39	1SF2-V3	Z	.001	.001	0	%100
40	1SF3-BH	Z	.000338	.000338	0	%100
41	1SF3-D1	Z	.001	.001	0	%100
42	1SF3-D2	Z	.001	.001	0	%100
43	1SF3-TH	Z	.000338	.000338	0	%100
44	1SF3-V1	Z	.001	.001	0	%100
45	1SF3-V2	Z	.001	.001	0	%100
46	1SF3-V3	Z	.001	.001	0	%100
47	MP-1	Z	.001	.001	0	%100
48	MP-2	Z	.001	.001	0	%100
49	MP-3	Z	.001	.001	0	%100
50	MP-4	Z	.001	.001	0	%100
51	MP-5	Z	.001	.001	0	%100
52	SA-A	Z	.000749	.000749	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	1FF-BH1	X	.002	.002	0	%100
2	1FF-BH2	X	.002	.002	0	%100
3	1FF-BH3	X	.002	.002	0	%100
4	1FF-TH1	X	.002	.002	0	%100
5	1FF-TH2	X	.002	.002	0	%100
6	1FF-TH3	X	.002	.002	0	%100
7	1SF2-BH	X	.002	.002	0	%100
8	1SF2-D1	X	.001	.001	0	%100
9	1SF2-D2	X	.001	.001	0	%100
10	1SF2-TH	X	.002	.002	0	%100

Company : Tower Engineering Professionals
Designer : AJS
Job Number : TEP No. 217464.714142
Model Name : HRT 105 943201 (BU 806363)

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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,%]
11	1SF2-V1	X	.001	.001	0	%100
12	1SF2-V2	X	.001	.001	0	%100
13	1SF2-V3	X	.001	.001	0	%100
14	1SF3-BH	X	4.3e-5	4.3e-5	0	%100
15	1SF3-D1	X	.001	.001	0	%100
16	1SF3-D2	X	.001	.001	0	%100
17	1SF3-TH	X	4.3e-5	4.3e-5	0	%100
18	1SF3-V1	X	.001	.001	0	%100
19	1SF3-V2	X	.001	.001	0	%100
20	1SF3-V3	X	.001	.001	0	%100
21	MP-1	X	.002	.002	0	%100
22	MP-2	X	.002	.002	0	%100
23	MP-3	X	.002	.002	0	%100
24	MP-4	X	.002	.002	0	%100
25	MP-5	X	.002	.002	0	%100
26	SA-A	X	.000898	.000898	0	%100
27	1FF-BH1	Z	.002	.002	0	%100
28	1FF-BH2	Z	.002	.002	0	%100
29	1FF-BH3	Z	.002	.002	0	%100
30	1FF-TH1	Z	.002	.002	0	%100
31	1FF-TH2	Z	.002	.002	0	%100
32	1FF-TH3	Z	.002	.002	0	%100
33	1SF2-BH	Z	.002	.002	0	%100
34	1SF2-D1	Z	.001	.001	0	%100
35	1SF2-D2	Z	.001	.001	0	%100
36	1SF2-TH	Z	.002	.002	0	%100
37	1SF2-V1	Z	.001	.001	0	%100
38	1SF2-V2	Z	.001	.001	0	%100
39	1SF2-V3	Z	.002	.002	0	%100
40	1SF3-BH	Z	4.2e-5	4.2e-5	0	%100
41	1SF3-D1	Z	.001	.001	0	%100
42	1SF3-D2	Z	.001	.001	0	%100
43	1SF3-TH	Z	4.2e-5	4.2e-5	0	%100
44	1SF3-V1	Z	.001	.001	0	%100
45	1SF3-V2	Z	.001	.001	0	%100
46	1SF3-V3	Z	.002	.002	0	%100
47	MP-1	Z	.002	.002	0	%100
48	MP-2	Z	.002	.002	0	%100
49	MP-3	Z	.002	.002	0	%100
50	MP-4	Z	.002	.002	0	%100
51	MP-5	Z	.002	.002	0	%100
52	SA-A	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	1FF-BH1	X	.000878	.000878	0	%100
2	1FF-BH2	X	.000878	.000878	0	%100
3	1FF-BH3	X	.000878	.000878	0	%100
4	1FF-TH1	X	.000878	.000878	0	%100
5	1FF-TH2	X	.000878	.000878	0	%100
6	1FF-TH3	X	.000878	.000878	0	%100
7	1SF2-BH	X	.001	.001	0	%100
8	1SF2-D1	X	.000951	.000951	0	%100
9	1SF2-D2	X	.000951	.000951	0	%100
10	1SF2-TH	X	.001	.001	0	%100
11	1SF2-V1	X	.000907	.000907	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,%]
12	1SF2-V2	X	.000907	.000907	0	%100
13	1SF2-V3	X	.001	.001	0	%100
14	1SF3-BH	X	.000284	.000284	0	%100
15	1SF3-D1	X	.000951	.000951	0	%100
16	1SF3-D2	X	.000951	.000951	0	%100
17	1SF3-TH	X	.000284	.000284	0	%100
18	1SF3-V1	X	.000907	.000907	0	%100
19	1SF3-V2	X	.000907	.000907	0	%100
20	1SF3-V3	X	.001	.001	0	%100
21	MP-1	X	.001	.001	0	%100
22	MP-2	X	.001	.001	0	%100
23	MP-3	X	.001	.001	0	%100
24	MP-4	X	.001	.001	0	%100
25	MP-5	X	.001	.001	0	%100
26	SA-A	X	.000789	.000789	0	%100
27	1FF-BH1	Z	.001	.001	0	%100
28	1FF-BH2	Z	.001	.001	0	%100
29	1FF-BH3	Z	.001	.001	0	%100
30	1FF-TH1	Z	.001	.001	0	%100
31	1FF-TH2	Z	.001	.001	0	%100
32	1FF-TH3	Z	.001	.001	0	%100
33	1SF2-BH	Z	.002	.002	0	%100
34	1SF2-D1	Z	.002	.002	0	%100
35	1SF2-D2	Z	.002	.002	0	%100
36	1SF2-TH	Z	.002	.002	0	%100
37	1SF2-V1	Z	.002	.002	0	%100
38	1SF2-V2	Z	.002	.002	0	%100
39	1SF2-V3	Z	.002	.002	0	%100
40	1SF3-BH	Z	.000485	.000485	0	%100
41	1SF3-D1	Z	.002	.002	0	%100
42	1SF3-D2	Z	.002	.002	0	%100
43	1SF3-TH	Z	.000485	.000485	0	%100
44	1SF3-V1	Z	.002	.002	0	%100
45	1SF3-V2	Z	.002	.002	0	%100
46	1SF3-V3	Z	.002	.002	0	%100
47	MP-1	Z	.003	.003	0	%100
48	MP-2	Z	.002	.002	0	%100
49	MP-3	Z	.002	.002	0	%100
50	MP-4	Z	.002	.002	0	%100
51	MP-5	Z	.003	.003	0	%100
52	SA-A	Z	.002	.002	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	1FF-BH1	Z	0	0	0	%100
2	1FF-BH2	Z	0	0	0	%100
3	1FF-BH3	Z	0	0	0	%100
4	1FF-TH1	Z	0	0	0	%100
5	1FF-TH2	Z	0	0	0	%100
6	1FF-TH3	Z	0	0	0	%100
7	1SF2-BH	Z	.002	.002	0	%100
8	1SF2-D1	Z	.002	.002	0	%100
9	1SF2-D2	Z	.002	.002	0	%100
10	1SF2-TH	Z	.002	.002	0	%100
11	1SF2-V1	Z	.002	.002	0	%100
12	1SF2-V2	Z	.002	.002	0	%100

Company : Tower Engineering Professionals
Designer : AJS
Job Number : TEP No. 217464.714142
Model Name : HRT 105 943201 (BU 806363)

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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,%]
13	1SF2-V3	Z	.002	.002	0	%100
14	1SF3-BH	Z	.002	.002	0	%100
15	1SF3-D1	Z	.002	.002	0	%100
16	1SF3-D2	Z	.002	.002	0	%100
17	1SF3-TH	Z	.002	.002	0	%100
18	1SF3-V1	Z	.002	.002	0	%100
19	1SF3-V2	Z	.002	.002	0	%100
20	1SF3-V3	Z	.002	.002	0	%100
21	MP-1	Z	.003	.003	0	%100
22	MP-2	Z	.003	.003	0	%100
23	MP-3	Z	.003	.003	0	%100
24	MP-4	Z	.003	.003	0	%100
25	MP-5	Z	.003	.003	0	%100
26	SA-A	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	1FF-BH1	X	-.000878	-.000878	0	%100
2	1FF-BH2	X	-.000878	-.000878	0	%100
3	1FF-BH3	X	-.000878	-.000878	0	%100
4	1FF-TH1	X	-.000878	-.000878	0	%100
5	1FF-TH2	X	-.000878	-.000878	0	%100
6	1FF-TH3	X	-.000878	-.000878	0	%100
7	1SF2-BH	X	-.000284	-.000284	0	%100
8	1SF2-D1	X	-.000951	-.000951	0	%100
9	1SF2-D2	X	-.000951	-.000951	0	%100
10	1SF2-TH	X	-.000284	-.000284	0	%100
11	1SF2-V1	X	-.000907	-.000907	0	%100
12	1SF2-V2	X	-.000907	-.000907	0	%100
13	1SF2-V3	X	-.001	-.001	0	%100
14	1SF3-BH	X	-.001	-.001	0	%100
15	1SF3-D1	X	-.000951	-.000951	0	%100
16	1SF3-D2	X	-.000951	-.000951	0	%100
17	1SF3-TH	X	-.001	-.001	0	%100
18	1SF3-V1	X	-.000907	-.000907	0	%100
19	1SF3-V2	X	-.000907	-.000907	0	%100
20	1SF3-V3	X	-.001	-.001	0	%100
21	MP-1	X	-.001	-.001	0	%100
22	MP-2	X	-.001	-.001	0	%100
23	MP-3	X	-.001	-.001	0	%100
24	MP-4	X	-.001	-.001	0	%100
25	MP-5	X	-.001	-.001	0	%100
26	SA-A	X	-.000821	-.000821	0	%100
27	1FF-BH1	Z	.001	.001	0	%100
28	1FF-BH2	Z	.001	.001	0	%100
29	1FF-BH3	Z	.001	.001	0	%100
30	1FF-TH1	Z	.001	.001	0	%100
31	1FF-TH2	Z	.001	.001	0	%100
32	1FF-TH3	Z	.001	.001	0	%100
33	1SF2-BH	Z	.000485	.000485	0	%100
34	1SF2-D1	Z	.002	.002	0	%100
35	1SF2-D2	Z	.002	.002	0	%100
36	1SF2-TH	Z	.000485	.000485	0	%100
37	1SF2-V1	Z	.002	.002	0	%100
38	1SF2-V2	Z	.002	.002	0	%100
39	1SF2-V3	Z	.002	.002	0	%100

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

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F,...	Start Location[ft,%]	End Location[ft,%]
40	1SF3-BH	Z	.002	.002	0	%100
41	1SF3-D1	Z	.002	.002	0	%100
42	1SF3-D2	Z	.002	.002	0	%100
43	1SF3-TH	Z	.002	.002	0	%100
44	1SF3-V1	Z	.002	.002	0	%100
45	1SF3-V2	Z	.002	.002	0	%100
46	1SF3-V3	Z	.002	.002	0	%100
47	MP-1	Z	.003	.003	0	%100
48	MP-2	Z	.002	.002	0	%100
49	MP-3	Z	.002	.002	0	%100
50	MP-4	Z	.002	.002	0	%100
51	MP-5	Z	.003	.003	0	%100
52	SA-A	Z	.002	.002	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	1FF-BH1	X	-.002	-.002	0	%100
2	1FF-BH2	X	-.002	-.002	0	%100
3	1FF-BH3	X	-.002	-.002	0	%100
4	1FF-TH1	X	-.002	-.002	0	%100
5	1FF-TH2	X	-.002	-.002	0	%100
6	1FF-TH3	X	-.002	-.002	0	%100
7	1SF2-BH	X	-4.3e-5	-4.3e-5	0	%100
8	1SF2-D1	X	-.001	-.001	0	%100
9	1SF2-D2	X	-.001	-.001	0	%100
10	1SF2-TH	X	-4.3e-5	-4.3e-5	0	%100
11	1SF2-V1	X	-.001	-.001	0	%100
12	1SF2-V2	X	-.001	-.001	0	%100
13	1SF2-V3	X	-.001	-.001	0	%100
14	1SF3-BH	X	-.002	-.002	0	%100
15	1SF3-D1	X	-.001	-.001	0	%100
16	1SF3-D2	X	-.001	-.001	0	%100
17	1SF3-TH	X	-.002	-.002	0	%100
18	1SF3-V1	X	-.001	-.001	0	%100
19	1SF3-V2	X	-.001	-.001	0	%100
20	1SF3-V3	X	-.001	-.001	0	%100
21	MP-1	X	-.002	-.002	0	%100
22	MP-2	X	-.002	-.002	0	%100
23	MP-3	X	-.002	-.002	0	%100
24	MP-4	X	-.002	-.002	0	%100
25	MP-5	X	-.002	-.002	0	%100
26	SA-A	X	-.000961	-.000961	0	%100
27	1FF-BH1	Z	.002	.002	0	%100
28	1FF-BH2	Z	.002	.002	0	%100
29	1FF-BH3	Z	.002	.002	0	%100
30	1FF-TH1	Z	.002	.002	0	%100
31	1FF-TH2	Z	.002	.002	0	%100
32	1FF-TH3	Z	.002	.002	0	%100
33	1SF2-BH	Z	4.2e-5	4.2e-5	0	%100
34	1SF2-D1	Z	.001	.001	0	%100
35	1SF2-D2	Z	.001	.001	0	%100
36	1SF2-TH	Z	4.2e-5	4.2e-5	0	%100
37	1SF2-V1	Z	.001	.001	0	%100
38	1SF2-V2	Z	.001	.001	0	%100
39	1SF2-V3	Z	.002	.002	0	%100
40	1SF3-BH	Z	.002	.002	0	%100

Company : Tower Engineering Professionals
Designer : AJS
Job Number : TEP No. 217464.714142
Model Name : HRT 105 943201 (BU 806363)

June 23, 2022
1:31 PM
Checked By: PHX

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,%]
41	1SF3-D1	Z	.001	.001	0	%100
42	1SF3-D2	Z	.001	.001	0	%100
43	1SF3-TH	Z	.002	.002	0	%100
44	1SF3-V1	Z	.001	.001	0	%100
45	1SF3-V2	Z	.001	.001	0	%100
46	1SF3-V3	Z	.002	.002	0	%100
47	MP-1	Z	.002	.002	0	%100
48	MP-2	Z	.002	.002	0	%100
49	MP-3	Z	.002	.002	0	%100
50	MP-4	Z	.002	.002	0	%100
51	MP-5	Z	.002	.002	0	%100
52	SA-A	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	1FF-BH1	X	-.003	-.003	0	%100
2	1FF-BH2	X	-.003	-.003	0	%100
3	1FF-BH3	X	-.003	-.003	0	%100
4	1FF-TH1	X	-.003	-.003	0	%100
5	1FF-TH2	X	-.003	-.003	0	%100
6	1FF-TH3	X	-.003	-.003	0	%100
7	1SF2-BH	X	-.000593	-.000593	0	%100
8	1SF2-D1	X	-.002	-.002	0	%100
9	1SF2-D2	X	-.002	-.002	0	%100
10	1SF2-TH	X	-.000593	-.000593	0	%100
11	1SF2-V1	X	-.002	-.002	0	%100
12	1SF2-V2	X	-.002	-.002	0	%100
13	1SF2-V3	X	-.002	-.002	0	%100
14	1SF3-BH	X	-.002	-.002	0	%100
15	1SF3-D1	X	-.002	-.002	0	%100
16	1SF3-D2	X	-.002	-.002	0	%100
17	1SF3-TH	X	-.002	-.002	0	%100
18	1SF3-V1	X	-.002	-.002	0	%100
19	1SF3-V2	X	-.002	-.002	0	%100
20	1SF3-V3	X	-.002	-.002	0	%100
21	MP-1	X	-.002	-.002	0	%100
22	MP-2	X	-.002	-.002	0	%100
23	MP-3	X	-.002	-.002	0	%100
24	MP-4	X	-.002	-.002	0	%100
25	MP-5	X	-.002	-.002	0	%100
26	SA-A	X	-.000853	-.000853	0	%100
27	1FF-BH1	Z	.001	.001	0	%100
28	1FF-BH2	Z	.001	.001	0	%100
29	1FF-BH3	Z	.001	.001	0	%100
30	1FF-TH1	Z	.001	.001	0	%100
31	1FF-TH2	Z	.001	.001	0	%100
32	1FF-TH3	Z	.001	.001	0	%100
33	1SF2-BH	Z	.000338	.000338	0	%100
34	1SF2-D1	Z	.001	.001	0	%100
35	1SF2-D2	Z	.001	.001	0	%100
36	1SF2-TH	Z	.000338	.000338	0	%100
37	1SF2-V1	Z	.001	.001	0	%100
38	1SF2-V2	Z	.001	.001	0	%100
39	1SF2-V3	Z	.001	.001	0	%100
40	1SF3-BH	Z	.001	.001	0	%100
41	1SF3-D1	Z	.001	.001	0	%100

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,%]
42	1SF3-D2	Z	.001	.001	0	%100
43	1SF3-TH	Z	.001	.001	0	%100
44	1SF3-V1	Z	.001	.001	0	%100
45	1SF3-V2	Z	.001	.001	0	%100
46	1SF3-V3	Z	.001	.001	0	%100
47	MP-1	Z	.001	.001	0	%100
48	MP-2	Z	.001	.001	0	%100
49	MP-3	Z	.001	.001	0	%100
50	MP-4	Z	.001	.001	0	%100
51	MP-5	Z	.001	.001	0	%100
52	SA-A	Z	.000844	.000844	0	%100

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	SF2-01	max	.385	17	1.112	34	.34	5	0	98	0	98	0	98
2		min	-2.91	41	.36	10	-1.73	62	0	1	0	1	0	1
3	SF2-02	max	3.203	33	1.296	42	1.757	54	0	98	0	98	0	98
4		min	-1.039	9	.427	2	-.816	13	0	1	0	1	0	1
5	N45	max	1.482	24	.054	47	.093	22	0	98	0	98	0	98
6		min	-1.489	32	.017	87	-.094	14	0	1	0	1	0	1
7	Totals:	max	2.409	18	2.453	49	1.496	23						
8		min	-2.409	10	.809	83	-1.496	15						

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

	Member	Shape	Code Check	Loc...	LC	Shea...	Loc...	Dir	LC	phi*Pn...	phi*Pn...	phi*M...	phi*M...	...	Eqn
1	MP-5	PIPE_2.0 Nominal	.485	4.75	26	.081	4.6...		18	19.172	33.848	1.997	1.997	1...	H1-1b
2	1SF2-V3	PIPE_2.0 Nominal	.460	1.7...	32	.056	3.4...		32	39.653	48.354	2.853	2.853	1...	H1-1b
3	1SF3-D1	ROHN TS1.5x16GA	.403	2.0...	58	.009	4.1...		24	5.823	11.824	.453	.453	1...	H1-1a
4	1SF3-D2	ROHN TS1.5x16GA	.379	2.0...	58	.011	0		19	5.823	11.824	.453	.453	1...	H1-1a
5	1SF2-D1	ROHN TS1.5x16GA	.270	2.0...	44	.005	4.1...		26	5.823	11.824	.453	.453	1...	H1-1a
6	1FF-BH3	PIPE_2.5 Nominal	.268	0	18	.125	0		26	45.024	76.682	5.445	5.445	1...	H1-1b
7	1SF2-D2	ROHN TS1.5x16GA	.222	2.0...	44	.013	4.1...		27	5.823	11.824	.453	.453	1...	H1-1a
8	1SF3-BH	PIPE_2.0 Nominal	.214	5.9...	26	.059	0		57	33.013	48.354	2.853	2.853	3	H1-1b
9	MP-1	PIPE_2.0 Nominal	.213	4.75	26	.053	4.6...		18	19.172	33.848	1.997	1.997	2...	H1-1b
10	1FF-BH2	PIPE_2.5 Nominal	.210	8.5...	26	.072	8.5...		18	32.313	76.682	5.445	5.445	4...	H1-1b
11	SA-A	PIPE_2.0 Nominal	.177	0	24	.004	0		30	8.554	48.354	2.853	2.853	1...	H1-1...
12	1FF-BH1	PIPE_2.5 Nominal	.173	0	18	.061	0		26	45.024	76.682	5.445	5.445	1...	H1-1b
13	1SF2-BH	PIPE_2.0 Nominal	.165	5.9...	26	.042	5.3...		24	33.013	48.354	2.853	2.853	2...	H1-1b
14	1FF-TH3	PIPE_2.5 Nominal	.161	0	26	.036	0		52	45.024	76.682	5.445	5.445	1...	H1-1b
15	1SF3-TH	PIPE_2.0 Nominal	.155	.555	58	.053	5.3...		52	33.013	48.354	2.853	2.853	1...	H1-1b
16	1FF-TH2	PIPE_2.5 Nominal	.144	8.5...	52	.022	0		18	32.313	76.682	5.445	5.445	2...	H1-1b
17	1SF2-TH	PIPE_2.0 Nominal	.129	5.9...	33	.044	5.3...		32	33.013	48.354	2.853	2.853	2...	H1-1b
18	MP-2	PIPE_2.0 Nominal	.108	4.1...	58	.026	.833		54	18.347	33.848	1.997	1.997	1...	H1-1b
19	MP-4	PIPE_2.0 Nominal	.104	4.1...	18	.020	4.1...		56	18.347	33.848	1.997	1.997	1...	H1-1b
20	1FF-TH1	PIPE_2.5 Nominal	.099	0	18	.018	0		27	45.024	76.682	5.445	5.445	2...	H1-1b
21	MP-3	PIPE_2.0 Nominal	.083	.833	57	.025	.833		57	18.347	33.848	1.997	1.997	1...	H1-1b
22	1SF3-V2	ROHN TS1.5x16GA	.079	1.6...	58	.007	0		53	7.374	11.824	.453	.453	1...	H1-1b
23	1SF2-V2	ROHN TS1.5x16GA	.053	1.6...	46	.008	3.4...		58	7.374	11.824	.453	.453	1	H1-1b
24	1SF3-V1	ROHN TS1.5x16GA	.039	1.6...	38	.009	3.4...		19	7.374	11.824	.453	.453	1	H1-1b
25	1SF2-V1	ROHN TS1.5x16GA	.033	1.7...	33	.010	3.4...		25	7.374	11.824	.453	.453	1...	H1-1b
26	1SF3-V3	PIPE_2.0 Nominal	.010	1.4...	60	.017	3.4...		26	39.653	48.354	2.853	2.853	1...	H1-1b

APPENDIX D

ADDITIONAL CALCULATIONS

TOWER ENGINEERING PROFESSIONALS

HRT 105 943201 (BU 806363)

TEP No.	217464.714142	
Analysis By:	AJS	6/23/2022
Checked By:	PHX	6/23/2022

Moment Bolt Group - Leg Connection

Code Revisions:	ANSI/TIA-222-H
Bolt Type:	U-Bolts

Connection Inputs:

Bolt Size:	0.5	in
# Bolt Legs:	4	
Plate Width:	N/A	in
Plate Height:	N/A	in
Bolt H Gap:	3.5	in
Bolt V Gap:	1.75	in
Plate T:	N/A	in
Slip Member Ø:	3.0	in
Bolt Grade:	A36	

Capacities:

Slip Capacity=	7.9%	PASS*
Bolt Capacity=	11.5%	PASS*

***Value Adjusted per TIA-H Section 15.5**

Bolt Properties:

Fy_{bolt}:	36.0	ksi
Fu_{bolt}:	58.0	ksi
r:	2.0	in
J:	15.3	in^4/in^2
A_{bolt}:	0.2	in^2
$A_{bolt,\ Net\ Tensile}$:	0.1	in^2
Pretension:	3.9	kips

Fox Hill Telecom

Radio Frequency Emissions Analysis Report

T-Mobile

Site ID: CT11030H

Clinton/ I-95/ X62/ Rive1
48 Cow Hill Road
Clinton, CT 06413

August 12, 2022

Fox Hill Telecom Project Number: 221554

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**14.90 %**

Fox Hill Telecom

August 12, 2022

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

Emissions Analysis for Site: **CT11030H – Clinton/ I-95/ X62/ Rive1**

Fox Hill Telecom, Inc ("Fox Hill") was directed to analyze the proposed upgrades to the T-MOBILE facility located at **48 Cow Hill Road, Clinton, 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 **48 Cow Hill Road, Clinton, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-MOBILE is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

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

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

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

Table 1: Channel Data Table

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

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	RFS APXVAALL24_43-U-NA20	198
A	2	Commscope VV-65B-R1	198
A	3	Ericsson AIR6419 B41	198
B	1	RFS APXVAALL24_43-U-NA20	198
B	2	Commscope VV-65B-R1	198
B	3	Ericsson AIR6419 B41	198
C	1	RFS APXVAALL24_43-U-NA20	198
C	2	Commscope VV-65B-R1	198
C	3	Ericsson AIR6419 B41	198

Table 2: Antenna Data

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

RESULTS

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

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	0.65
Antenna A2	Commscope VV-65B-R1	1900 MHz (PCS) / 2100 MHz (AWS)	16.55 / 16.85	9	335	15,654.24	1.54
Antenna A3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	2.20
						Sector A Composite MPE%	**4.39**
Antenna B1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	0.65
Antenna B2	Commscope VV-65B-R1	1900 MHz (PCS) / 2100 MHz (AWS)	16.55 / 16.85	9	335	15,654.24	1.54
Antenna B3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	2.20
						Sector B Composite MPE%	**4.39**
Antenna C1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	0.65
Antenna C2	Commscope VV-65B-R1	1900 MHz (PCS) / 2100 MHz (AWS)	16.55 / 16.85	9	335	15,654.24	1.54
Antenna C3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	2.20
						Sector C Composite MPE%	**4.39**

Table 3: T-MOBILE Emissions Levels

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

Site Composite MPE%	
Carrier	**MPE%**
T-MOBILE – Max Per Sector Value	**4.39 %**
AT&T	1.13 %
MetroPCS	0.22 %
Sprint	0.41 %
Verizon Wireless	1.36 %
Town	0.76 %
MediaFLO	6.63 %
Site Total MPE %:	**14.90 %**

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	4.39 %
T-MOBILE Sector B Total:	4.39 %
T-MOBILE Sector C Total:	4.39 %
Site Total:	14.90 %

Table 5: Site MPE Summary

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

T-MOBILE _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile 600 MHz LTE / 5G NR	2	926.96	198	1.81	600 MHz	400	0.45%
T-Mobile 700 MHz LTE	2	485.32	198	0.95	700 MHz	467	0.20%
T-Mobile 1900 MHz (PCS) LTE	4	1,807.42	198	7.05	1900 MHz (PCS)	1000	0.71%
T-Mobile 1900 MHz (PCS) GSM	1	677.78	198	0.66	1900 MHz (PCS)	1000	0.07%
T-Mobile 2100 MHz (AWS) LTE	4	1,936.69	198	7.55	2100 MHz (AWS)	1000	0.76%
T-Mobile 2500 MHz (BRS) LTE / 5G NR	8	2,825.08	198	22.04	2500 MHz (BRS)	1000	2.20%
						Total:	**4.39%**

Table 6: T-MOBILE Maximum Sector MPE Power Values

Summary

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

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

T-MOBILE Sector	Power Density Value (%)
Sector A:	4.39 %
Sector B:	4.39 %
Sector C:	4.39 %
T-MOBILE Maximum Total (per sector):	4.39 %
Site Total:	14.90 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **14.90 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

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

T-MOBILE SITE NUMBER: CT11030H
T-MOBILE SITE NAME: CLINTON/ I-95/ X62/ RIVE1
SITE TYPE: SELF-SUPPORT TOWER
TOWER HEIGHT: 212'-7"
BUSINESS UNIT #: 806363
SITE ADDRESS: 48 COW HILL ROAD CLINTON, CT 06413
COUNTY: MIDDLESEX
JURISDICTION: CONNECTICUT SITING COUNCIL
T-MOBILE ANCHOR SITE CONFIGURATION: 67E5D998E OUTDOOR

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	HRT 105 943201
SITE ADDRESS:	48 COW HILL ROAD CLINTON, CT 06413
COUNTY:	MIDDLESEX
MAP/PARCEL #:	32/6/48
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41.288944°
LONGITUDE:	-72.538472°
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	24.00 FT
CURRENT ZONING:	IP (INDUSTRIAL PARK DISTRICT)
JURISDICTION:	CONNECTICUT SITING COUNCIL
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	HESAR RAYMOND E TRUSTEE 110 KILLINGWORTH TPKE CLINTON, CT 06413
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	T-MOBILE 4 SYLVAN WAY PARSIPPANY, NJ 07054
ELECTRIC PROVIDER:	NORTHEAST UTILITIES (800) 286-5000
TELCO PROVIDER:	LIGHTOWER (855) 91-FIBER

PROJECT TEAM

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

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

PROJECT DESCRIPTION

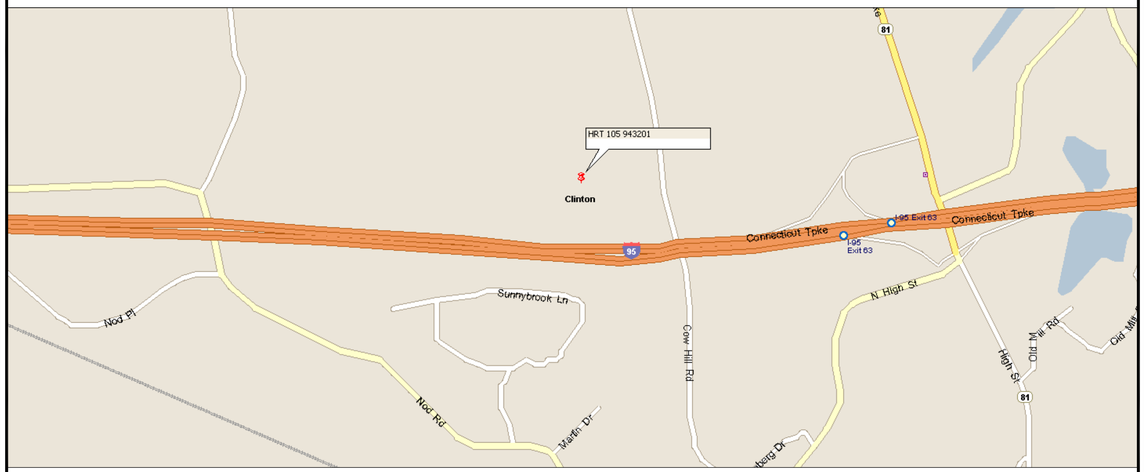
THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER SCOPE OF WORK:
- REMOVE (15) ANTENNAS
- REMOVE (12) RRHs
- REMOVE (3) TMAs
- REMOVE (6) 1-5/8" COAX CABLES
- REMOVE (4) 1-1/4" HYBRID CABLES, (3) 6x12 HYBRID CABLES & (3) 3x6 HYBRID CABLES
- INSTALL (9) ANTENNAS
- INSTALL (6) RRHs
- INSTALL (3) 6x24 HYBRID CABLES

GROUND SCOPE OF WORK:
- REMOVE (1) NORTEL CABINET
- REMOVE (1) DUW30
- REMOVE (6) RU22
- INSTALL (1) 6160 CABINET W/ (1) RP 6651, (1) PSU 4813 vR4A (Kit) & (1) CSR IXRe V2 (Gen2)
- INSTALL (1) B160 BATTERY CABINET
- INSTALL (1) PSU 4813 vR4A (Kit) IN RBS 6131 CABINET
- INSTALL (1) EMERSON AAV CABINET ON NEW H-FRAME

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

LOCATION MAP



NO SCALE

APPLICABLE CODES/REFERENCE DOCUMENTS

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING	2015 IBC
MECHANICAL	2015 IMC
ELECTRICAL	2017 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	CROWN CASTLE
DATED:	6/29/22
MOUNT ANALYSIS:	TOWER ENGINEERING PROFESSIONALS
DATED:	6/23/22
RFDS REVISION:	5.0
DATED:	4/26/22
ORDER ID:	621344
REVISION:	0

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APPROVALS

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

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

T-Mobile
4 SYLVAN WAY
PARSIPPANY, NJ 07054

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

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

T-MOBILE SITE NUMBER:
CT11030H

BU #: **806363**
HRT 105 943201

48 COW HILL ROAD
CLINTON, CT 06413

EXISTING
212'-7" SELF-SUPPORT
TOWER

ISSUED FOR:

REV.	DATE	DRWN	DESCRIPTION	DES./QA
A	7/13/22	DAS	PRELIMINARY REVIEW	CV
0	7/28/22	DAS	CONSTRUCTION	MTJ
1	8/9/22	DAS	CONSTRUCTION	LR

STATE OF CONNECTICUT · TODD A. GRAY · No. 23924 · LICENSED PROFESSIONAL ENGINEER
8/9/22

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

SHEET NUMBER: T-1

REVISION: 1

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

ELECTRICAL INSTALLATION NOTES:

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

CONDUCTOR COLOR CODE

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

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

APWA UNIFORM COLOR CODE:

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

ABBREVIATIONS:

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

T · · Mobile · · ·
4 SYLVAN WAY
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CROWN CASTLE
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B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

T-MOBILE SITE NUMBER:
CT11030H

BU #: **806363**
HRT 105 943201

48 COW HILL ROAD
CLINTON, CT 06413

EXISTING
212'-7" SELF-SUPPORT
TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	7/13/22	DAS	PRELIMINARY REVIEW	CV
0	7/28/22	DAS	CONSTRUCTION	MTJ
1	8/9/22	DAS	CONSTRUCTION	LR

STATE OF CONNECTICUT
No. 23924
LICENSED
PROFESSIONAL ENGINEER
8/9/22

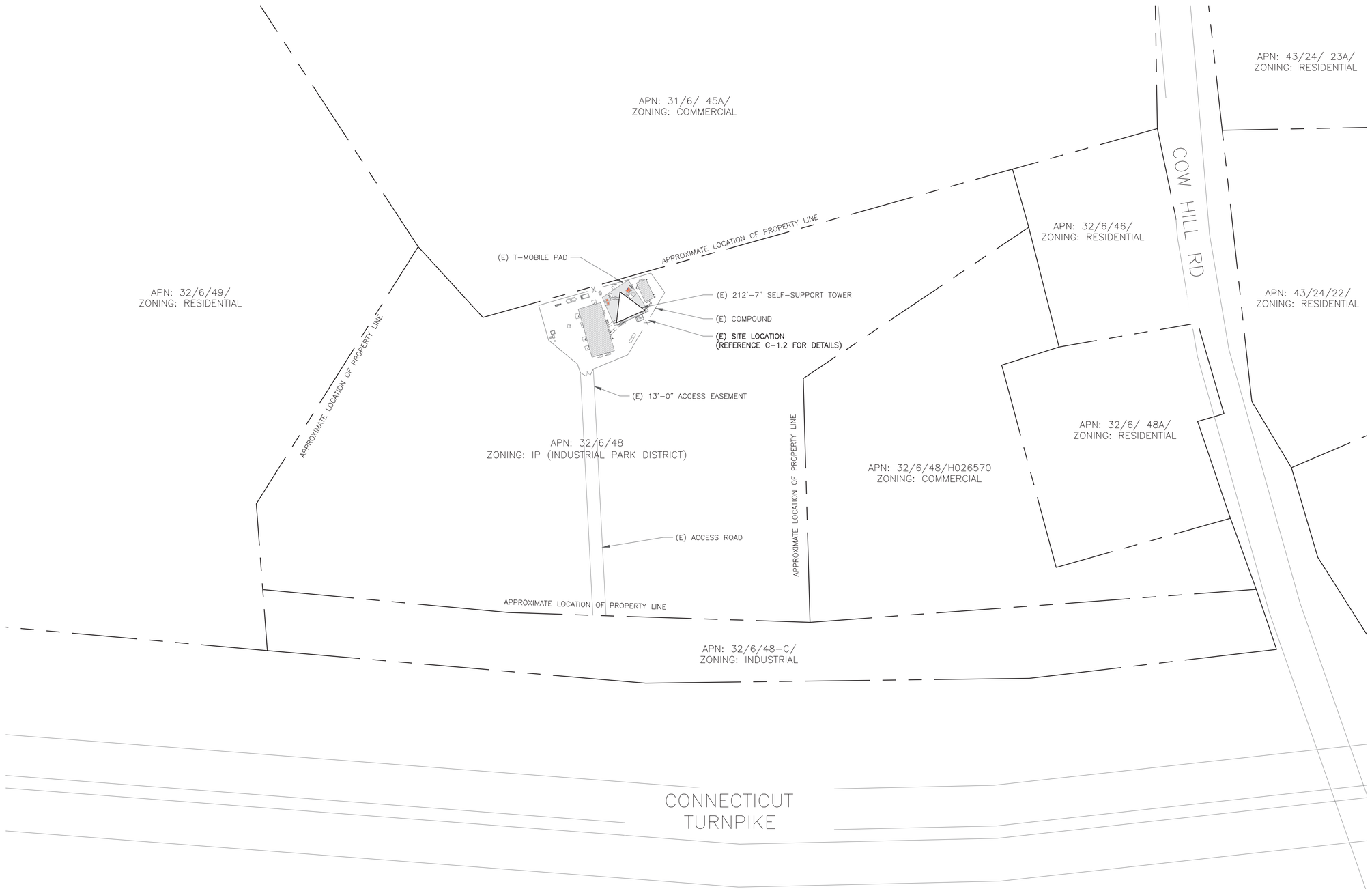
MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

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

SHEET NUMBER:	REVISION:
T-2	1

SITE PLAN DISCLAIMER:

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



1 OVERALL SITE PLAN
SCALE: 50' 25' 0 50' 1" = 50'-0" (FULL SIZE) 1" = 100'-0" (11x17)

N

T-Mobile
4 SYLVAN WAY
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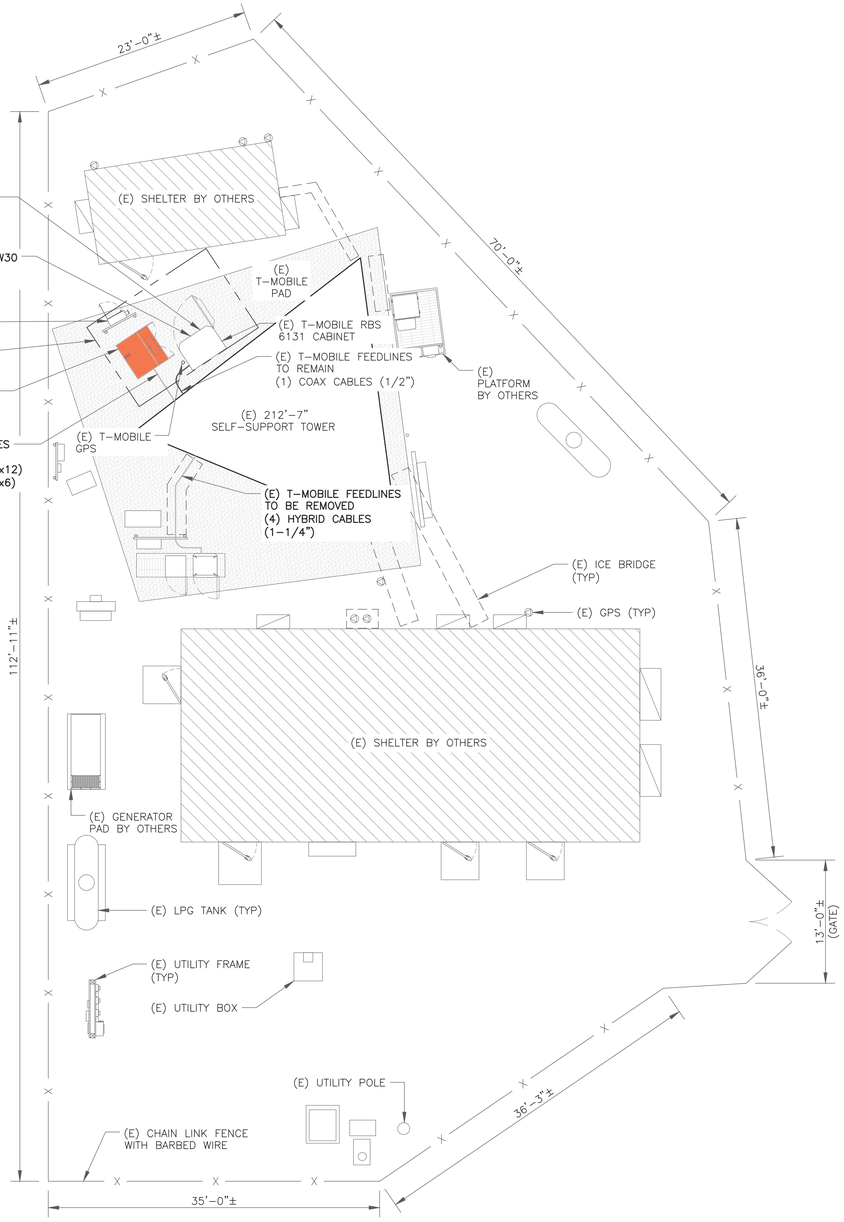
STATE OF CONNECTICUT
No. 23024
LICENSED
PROFESSIONAL ENGINEER
8/9/22

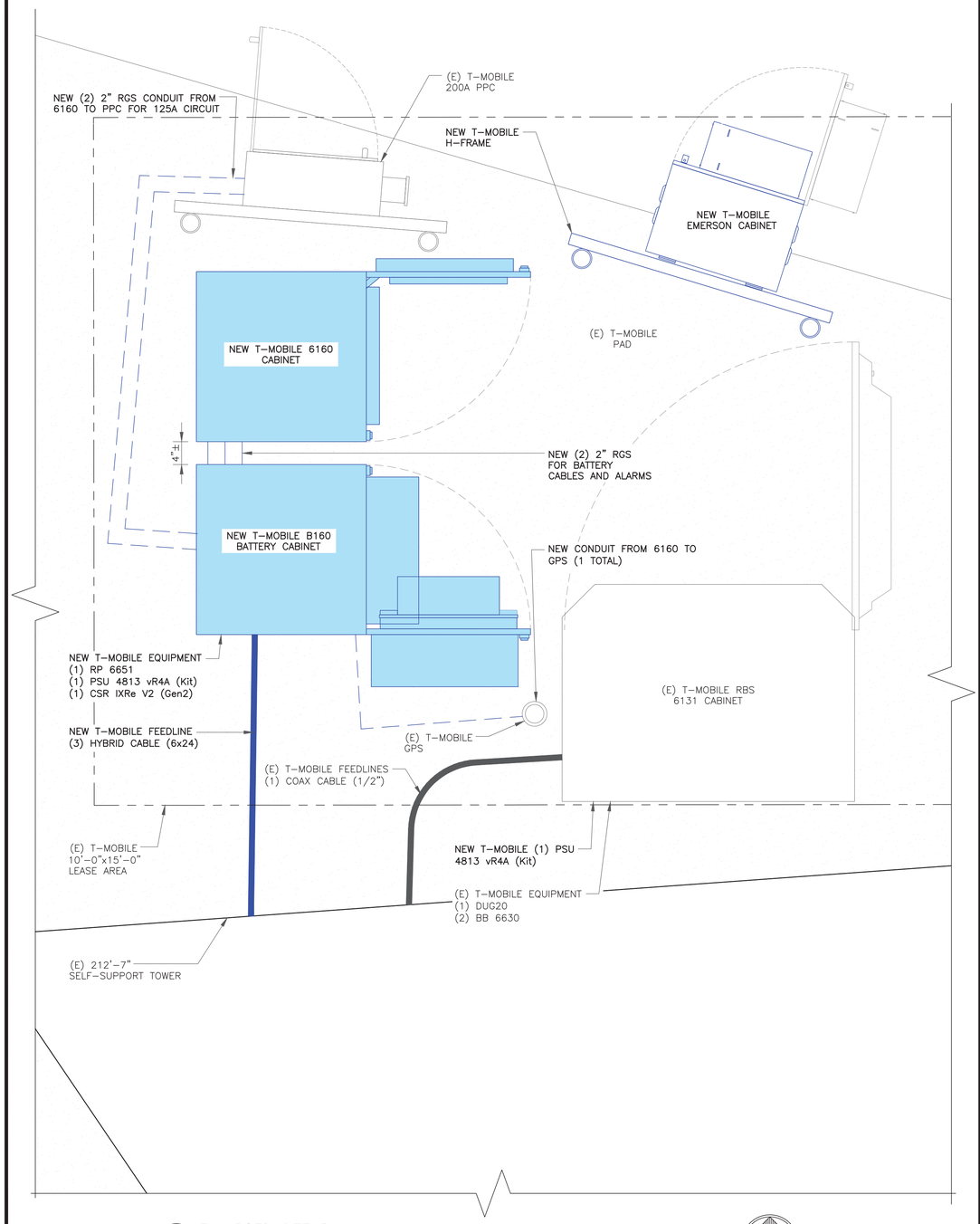
MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: C-1.1

REVISION: 1



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



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

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BU #: **806363**
HRT 105 943201

48 COW HILL ROAD
CLINTON, CT 06413

EXISTING
212'-7" SELF-SUPPORT
TOWER

ISSUED FOR:

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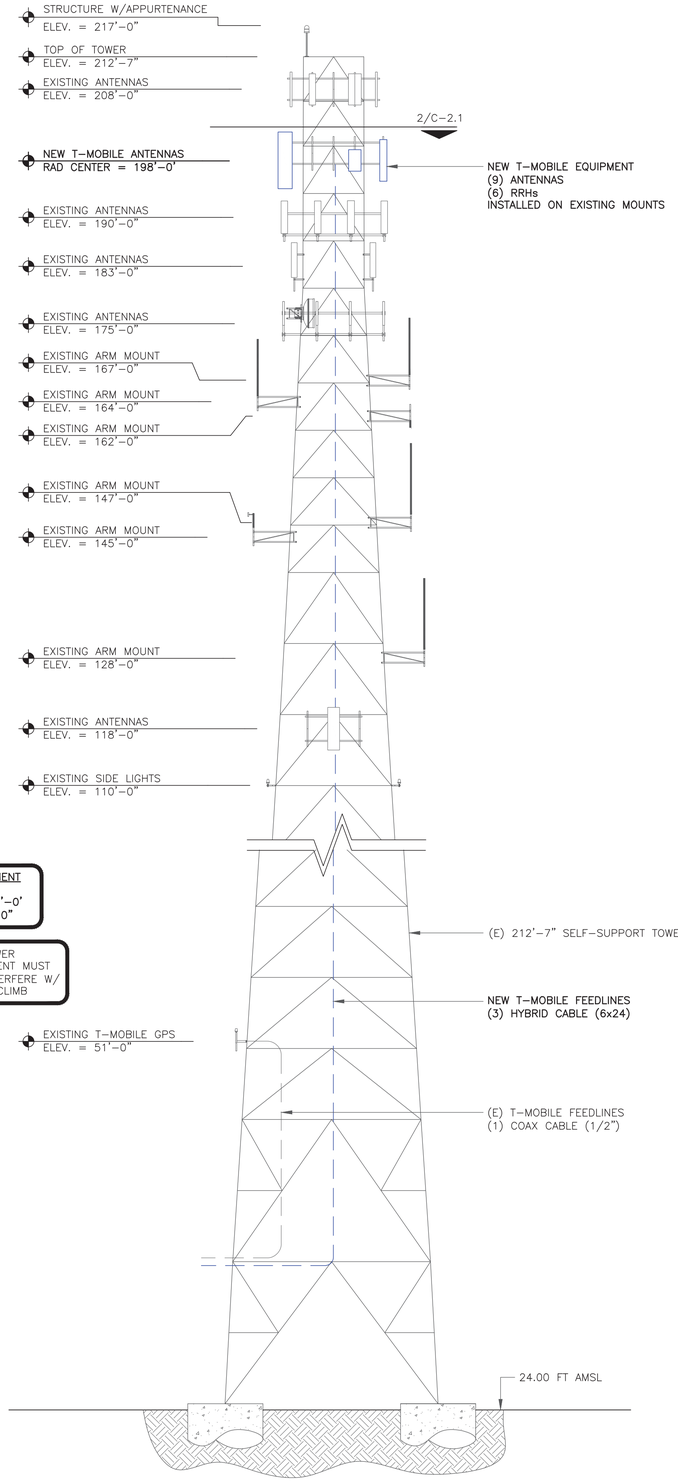
1	8/9/22	DAS	CONSTRUCTION	LR

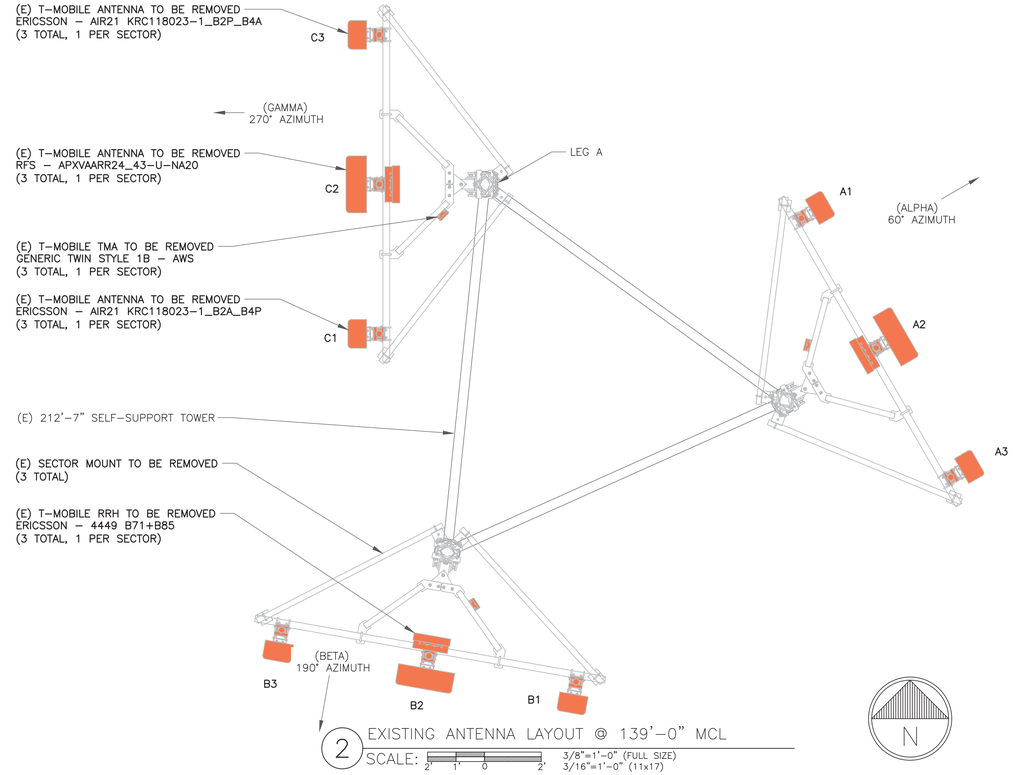
STATE OF CONNECTICUT
CHRISTOPHER M. VIGLIOTTI
No. 23024
LICENSED
PROFESSIONAL ENGINEER
8/9/22

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

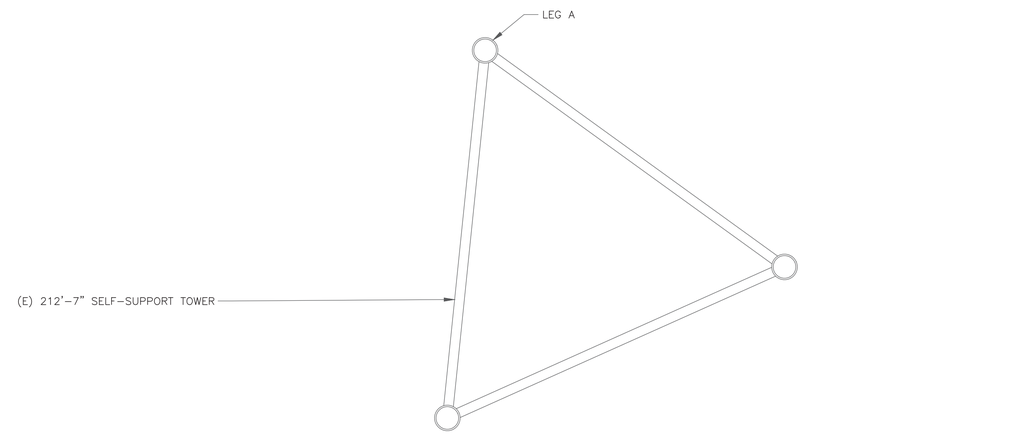
SHEET NUMBER: C-1.2
REVISION: 1



1 FINAL ELEVATION
SCALE: 8' 4' 0 8' 3/32"=1'-0" (FULL SIZE) 3/64"=1'-0" (11x17)



2 EXISTING ANTENNA LAYOUT @ 139'-0" MCL
SCALE: 2' 1' 0 2' 3/8"=1'-0" (FULL SIZE) 3/16"=1'-0" (11x17)



3 FINAL ANTENNA LAYOUT @ 139'-0" MCL
SCALE: 2' 1' 0 2' 3/8"=1'-0" (FULL SIZE) 3/16"=1'-0" (11x17)

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BU #: **806363**
HRT 105 943201

48 COW HILL ROAD
CLINTON, CT 06413

EXISTING
212'-7" SELF-SUPPORT
TOWER

ISSUED FOR:

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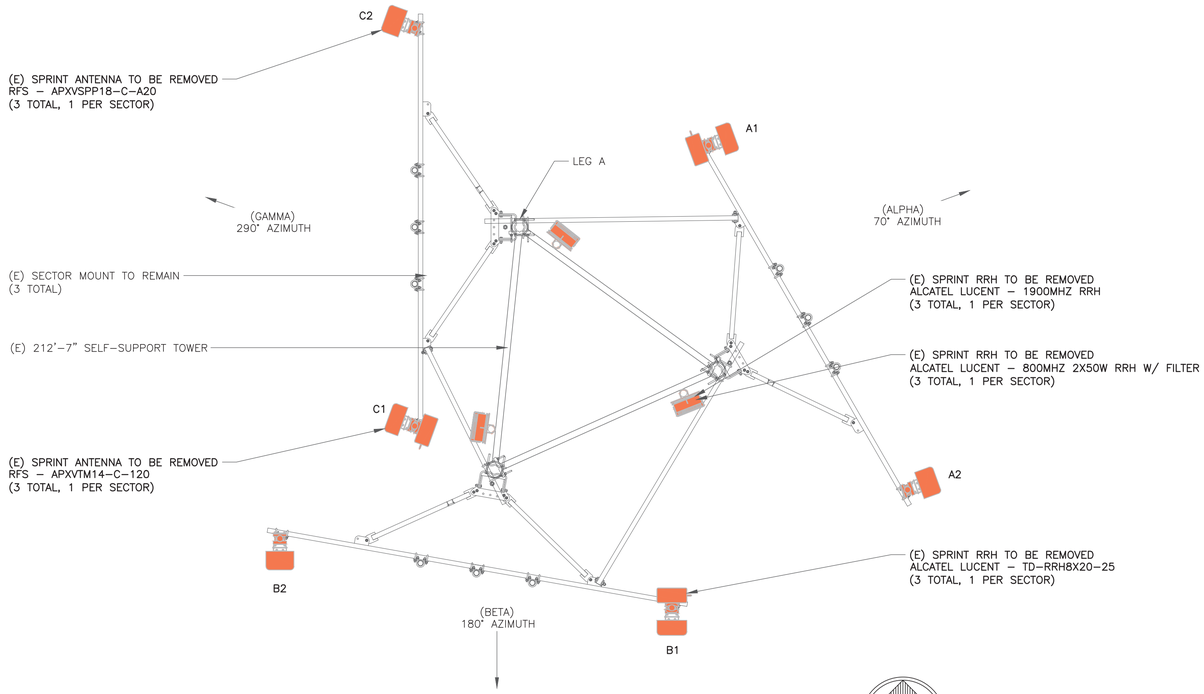
MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

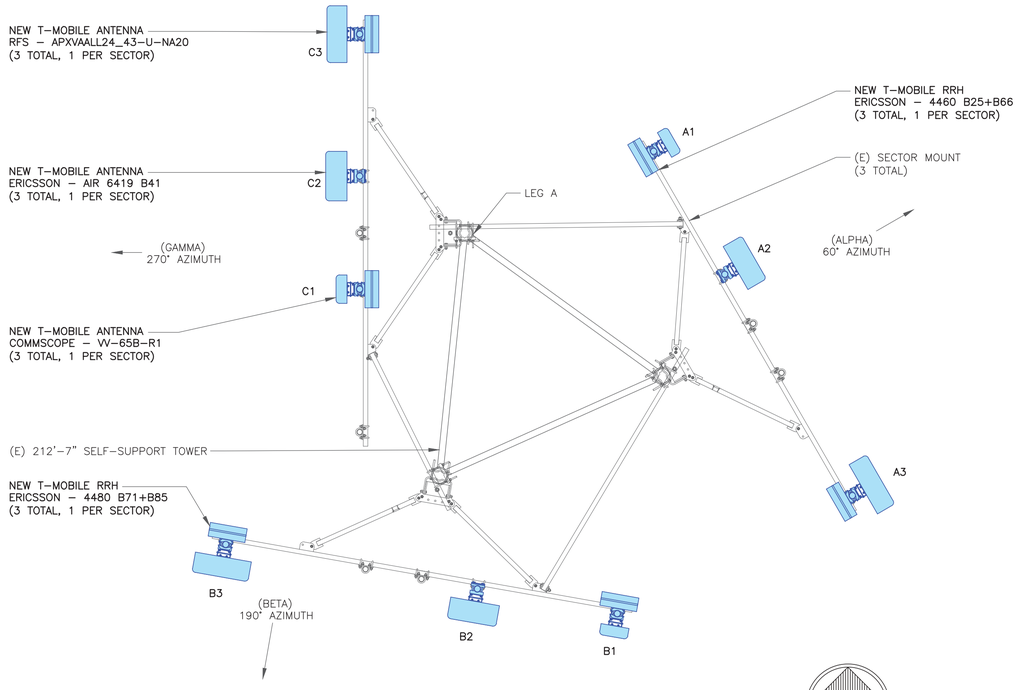
SHEET NUMBER: C-2

REVISION: 1



1 EXISTING ANTENNA LAYOUT @ 199'–0" MCL

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



2 FINAL ANTENNA LAYOUT @ 199'–0" MCL

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

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T-MOBILE SITE NUMBER:
CT11030H

BU #: **806363**
HRT 105 943201

48 COW HILL ROAD
CLINTON, CT 06413

EXISTING
212'-7" SELF-SUPPORT
TOWER

ISSUED FOR:

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

SHEET NUMBER: C-2.1

REVISION: 1

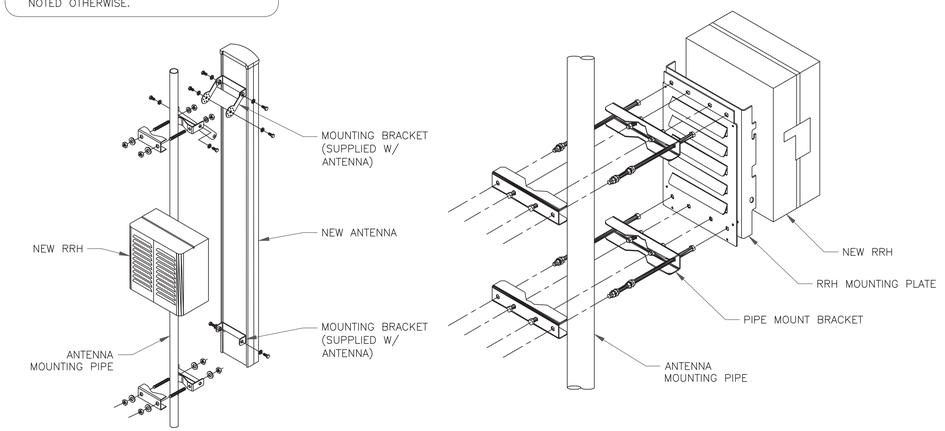
RF SYSTEM SCHEDULE

SECTOR	ANTENNA	TECH	MANUFACTURER	ANTENNA MODEL	AZIMUTH	M-TILT	E-TILT	RAD CENTER	TMA/RRU	FEEDLINE TYPE
ALPHA	A1	L2100/L1900/G1900	COMMSCOPE	VV-65B-R1	60°	0°	2°/2°	198'-0'	4460 B25+B66	(1) 6x24 HYBRID
	A2	L2500/N2500	ERICSSON	AIR 6419 B41	60°	0°	2°/2°	198'-0'	–	
	A3	L700/L600/N600	RFS	APXVAALL24_43-U-NA20	60°	0°	2°/2°	198'-0'	4480 B71+B85	
BETA	B1	L2100/L1900/G1900	COMMSCOPE	VV-65B-R1	190°	0°	2°/2°	198'-0'	4460 B25+B66	(1) 6x24 HYBRID
	B2	L2500/N2500	ERICSSON	AIR 6419 B41	190°	0°	2°/2°	198'-0'	–	
	B3	L700/L600/N600	RFS	APXVAALL24_43-U-NA20	190°	0°	2°/2°	198'-0'	4480 B71+B85	
GAMMA	C1	L2100/L1900/G1900	COMMSCOPE	VV-65B-R1	270°	0°	2°/2°	198'-0'	4460 B25+B66	(1) 6x24 HYBRID
	C2	L2500/N2500	ERICSSON	AIR 6419 B41	270°	0°	2°/2°	198'-0'	–	
	C3	L700/L600/N600	RFS	APXVAALL24_43-U-NA20	270°	0°	2°/2°	198'-0'	4480 B71+B85	

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

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T-MOBILE SITE NUMBER:
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BU #: **806363**
HRT 105 943201

48 COW HILL ROAD
CLINTON, CT 06413

EXISTING
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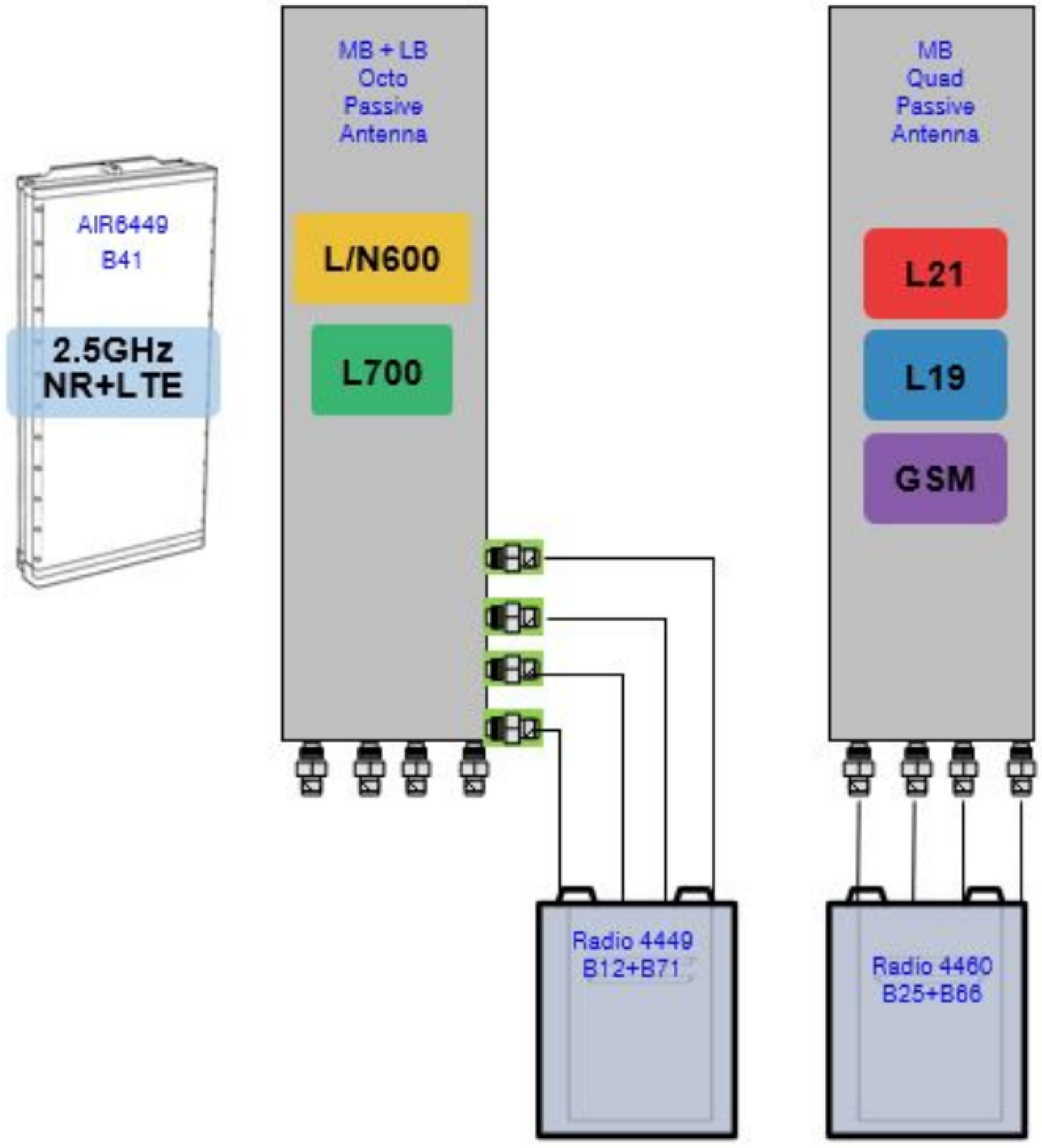
STATE OF CONNECTICUT
No. 23024
LICENSED
PROFESSIONAL ENGINEER
8/9/22

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

SHEET NUMBER: C-3

REVISION: 1



1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

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T-MOBILE SITE NUMBER:
CT11030H

BU #: **806363**
HRT 105 943201

48 COW HILL ROAD
CLINTON, CT 06413

EXISTING
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TOWER

ISSUED FOR:

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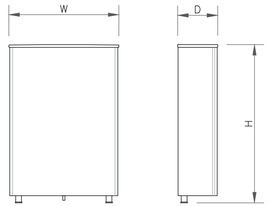
STATE OF CONNECTICUT
No. 23924
LICENSED
PROFESSIONAL ENGINEER
8/9/22

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

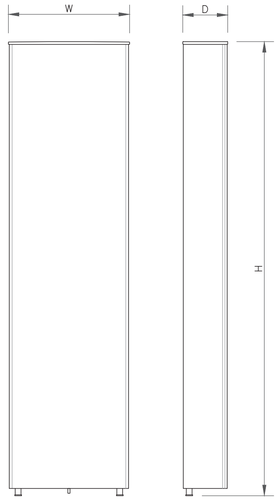
SHEET NUMBER: C-4

REVISION: 1



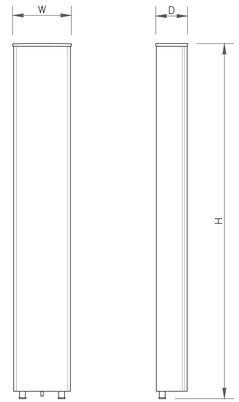
ANTENNA SPECS	
MANUFACTURER	ERICSSON
MODEL #	AIR 6419 B41
WIDTH	20.91"
DEPTH	9.02"
HEIGHT	36.25"
WEIGHT	96.50 LBS

1 ANTENNA SPECS
SCALE: NOT TO SCALE



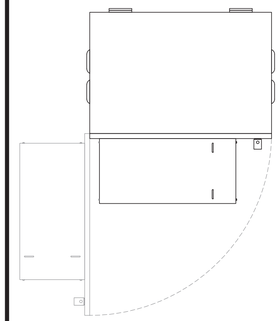
ANTENNA SPECS	
MANUFACTURER	RFS
MODEL #	APXVAALL24_43-U-NA20
WIDTH	24.00"
DEPTH	8.50"
HEIGHT	95.90"
WEIGHT	149.90 LBS

2 ANTENNA SPECS
SCALE: NOT TO SCALE



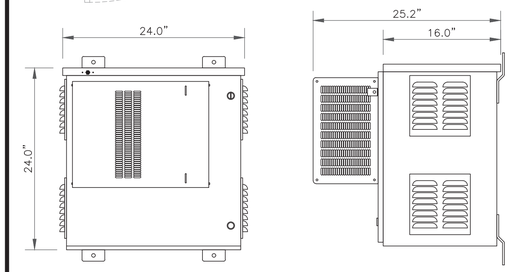
ANTENNA SPECS	
MANUFACTURER	COMMSCOPE
MODEL #	VV-65B-R1
WIDTH	12.01"
DEPTH	4.65"
HEIGHT	70.35"
WEIGHT	41.67 LBS

3 ANTENNA SPECS
SCALE: NOT TO SCALE

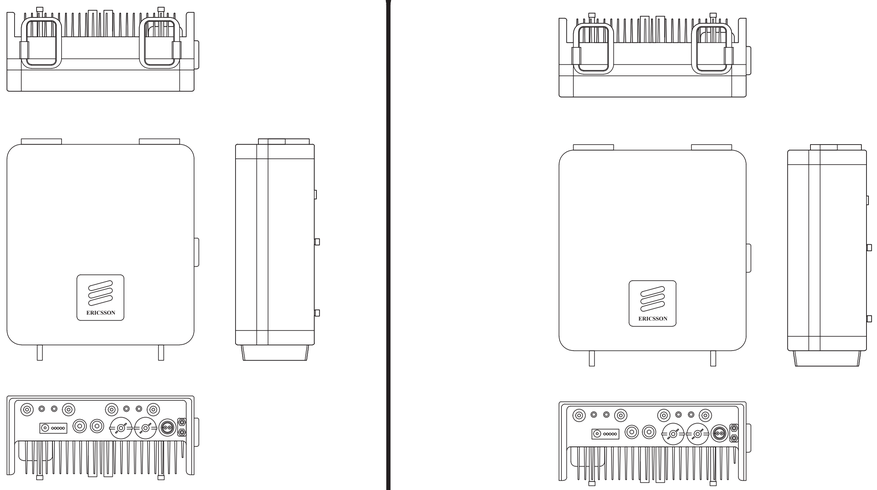


EQUIPMENT NOTES:

HEIGHTxWIDTHxDEPTH:
24.0" x 24.0" x 16.0"
(606mm x 606mm x 406mm)
APPROX. WEIGHT:
100 lbs. WITH EQUIPMENT
(45.4 kg)



4 EMERSON - F2014020
SCALE: NOT TO SCALE

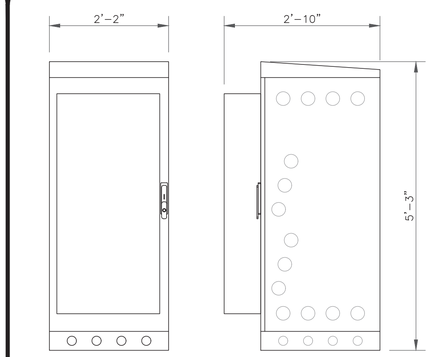


RRU SPECIFICATIONS	
MANUFACTURER	ERICSSON
MODEL #	4460 B25+B66
WIDTH	15.10"
DEPTH	11.90"
HEIGHT	17.00"
WEIGHT	109.00 LBS

5 RRU SPECS
SCALE: NOT TO SCALE

RRU SPECIFICATIONS	
MANUFACTURER	ERICSSON
MODEL #	4480 B71+B85
WIDTH	15.70"
DEPTH	7.50"
HEIGHT	22.00"
WEIGHT	81.00 LBS

6 RRU SPECS
SCALE: NOT TO SCALE



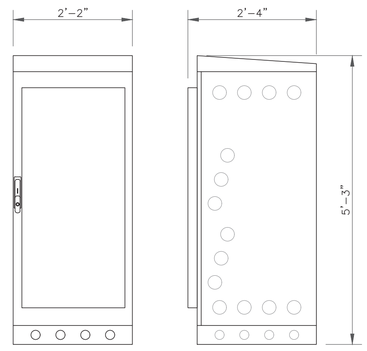
EQUIPMENT NOTES:

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

WEIGHT (EMPTY): 320 LBS (145 kg)

WEIGHT (FULLY LOADED): 1,500 LBS (681 kg)

7 ERICSSON - 6160
SCALE: NOT TO SCALE



EQUIPMENT NOTES:

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

WEIGHT (EMPTY): 295 LBS (134 kg)

WEIGHT (FULLY LOADED): 2,000 LBS (908 kg)

8 ERICSSON - B160
SCALE: NOT TO SCALE

T-Mobile
4 SYLVAN WAY
PARSIPPANY, NJ 07054

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

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SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

T-MOBILE SITE NUMBER:
CT11030H

BU #: **806363**
HRT 105 943201

48 COW HILL ROAD
CLINTON, CT 06413

EXISTING
212'-7" SELF-SUPPORT
TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	7/13/22	DAS	PRELIMINARY REVIEW	CV
0	7/28/22	DAS	CONSTRUCTION	MTJ
1	8/9/22	DAS	CONSTRUCTION	LR

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

SHEET NUMBER: C-5

REVISION: 1

FINAL PANEL SCHEDULE							
LOAD	POLES	AMPS	BUS L1	BUS L2	AMPS	POLES	LOAD
SURGE	2	30A	1	2	125A	2	6131
			3	4			
GFCI	1	20A	5	6	20A	1	TELCO GFCI
			7	8	15A	1	LIGHTS
			9	10	125A	2	6160
			11	12			
			13	14			
			15	16			
			17	18			
			19	20			
			21	22			
			23	24			

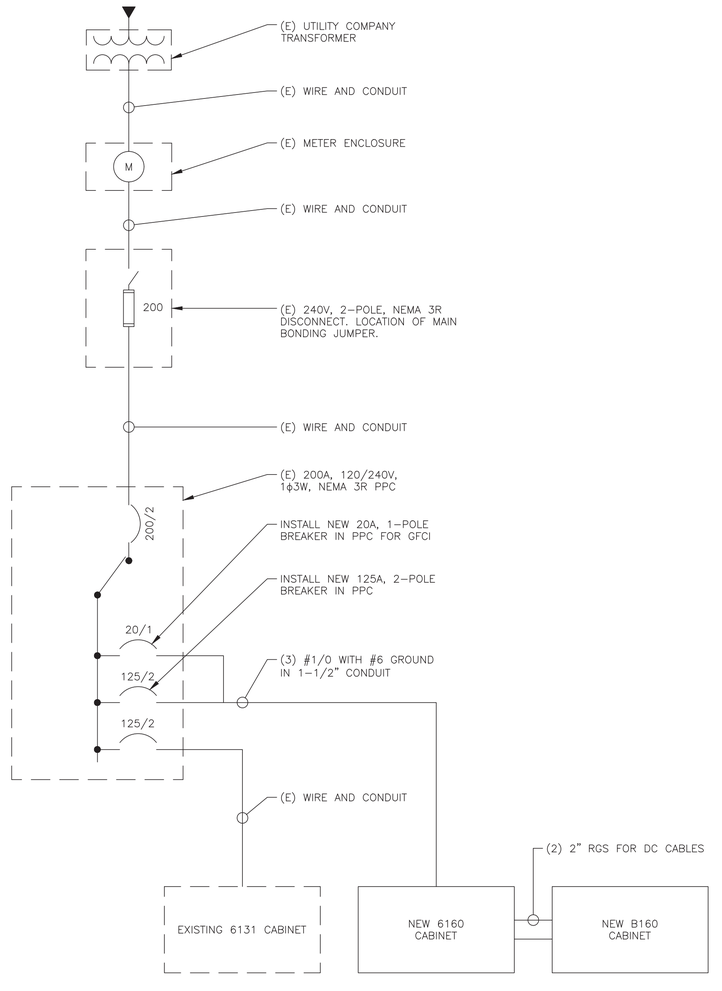
RATED VOLTAGE: ■120/240 □_____, 1 PHASE, 3 WIRE	BRANCH POLES: □12 ■24 □30 □42	APPROVED MF'RS	
RATED AMPS: □100 ■200 □400 □_____.	CABINET: ■SURFACE □FLUSH	NEMA □1 ■3R □4X	
□MAIN LUGS ONLY ■MAIN 200 AMPS ■BREAKER □FUSED SWITCH	■HINGED DOOR	■KEYED DOOR LATCH	
□FUSED ■CIRCUIT BREAKER BRANCH DEVICES	□_____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

INSTALL NEW 2P 125A BREAKER IN POSITIONS 10 AND 12
INSTALL NEW 1P 20A BREAKER IN POSITION 5
IF 125A BREAKER WILL NOT PROPERLY FIT IN EXISTING PANEL, REPLACE (E) PANEL WITH SQUARE D PANEL QO12040M200RB (OR APPROVED EQUAL).
UPGRADE FEEDER WIRES TO MEET AMPACITY IF NEW PANEL IS REQUIRED.
FINAL PANEL DESIGN AND CALCULATIONS FOR WIRE SIZE WERE BASED OFF OF EXISTING DOCUMENTS AND PHOTOS

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

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

T-Mobile
4 SYLVAN WAY
PARSIPPANY, NJ 07054

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

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T-MOBILE SITE NUMBER:
CT11030H

BU #: **806363**
HRT 105 943201

48 COW HILL ROAD
CLINTON, CT 06413

EXISTING
212'-7" SELF-SUPPORT
TOWER

ISSUED FOR:

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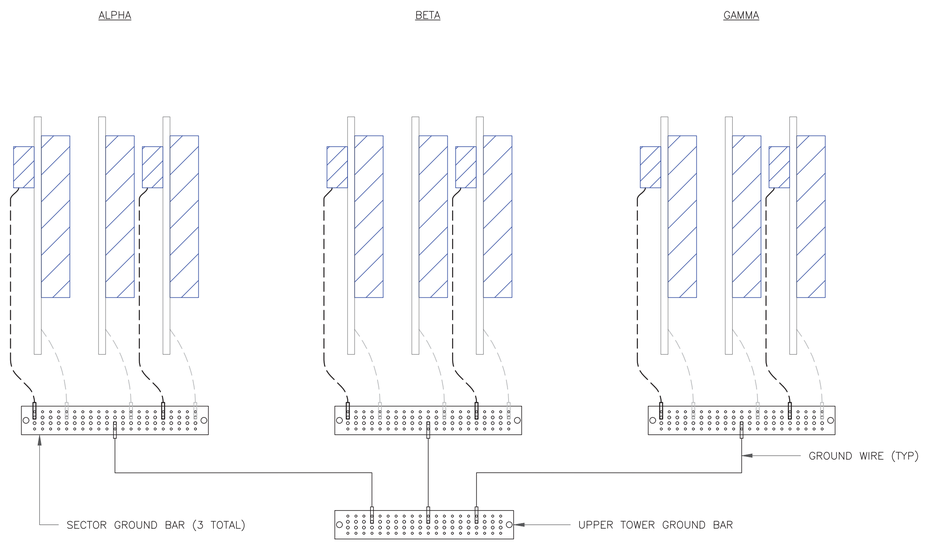
MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/23

SHEET NUMBER: E-1
REVISION: 1



NOTE:

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

1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE

T-Mobile
4 SYLVAN WAY
PARSIPPANY, NJ 07054

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T-MOBILE SITE NUMBER:
CT11030H

BU #: **806363**
HRT 105 943201

48 COW HILL ROAD
CLINTON, CT 06413

EXISTING
212'-7" SELF-SUPPORT
TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
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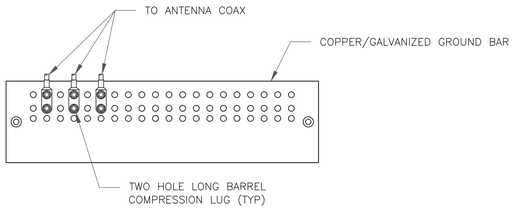
0	7/28/22	DAS	CONSTRUCTION	MTJ
1	8/9/22	DAS	CONSTRUCTION	LR

STATE OF CONNECTICUT
No. 23024
LICENSED
PROFESSIONAL ENGINEER
8/9/22

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

SHEET NUMBER: G-1

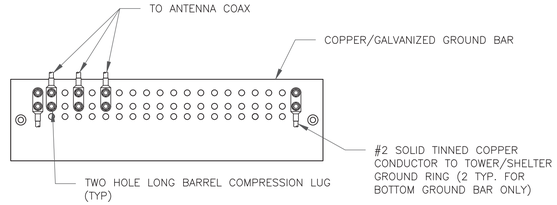
REVISION: 1



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.

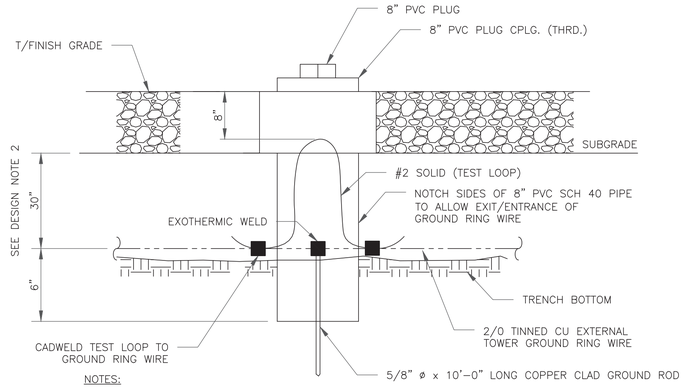
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



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.

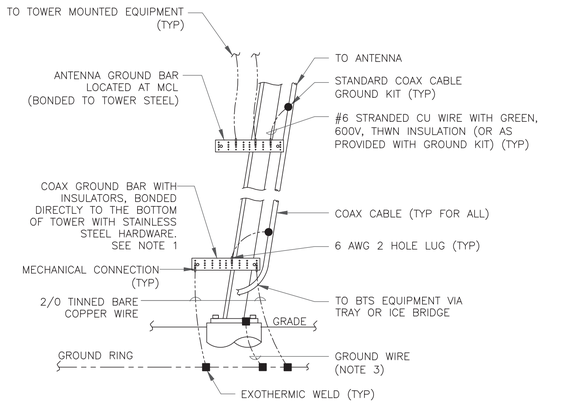
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



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)

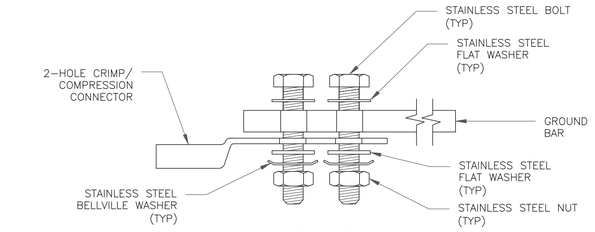
3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



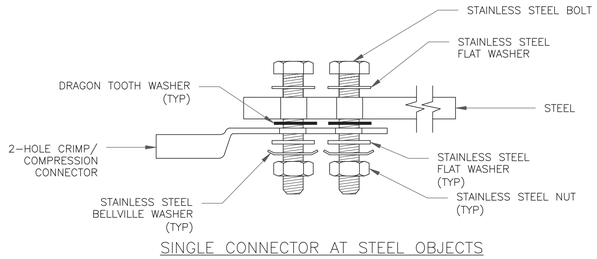
NOTES:

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.

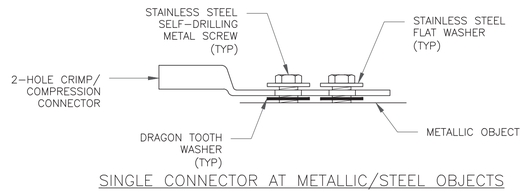
4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

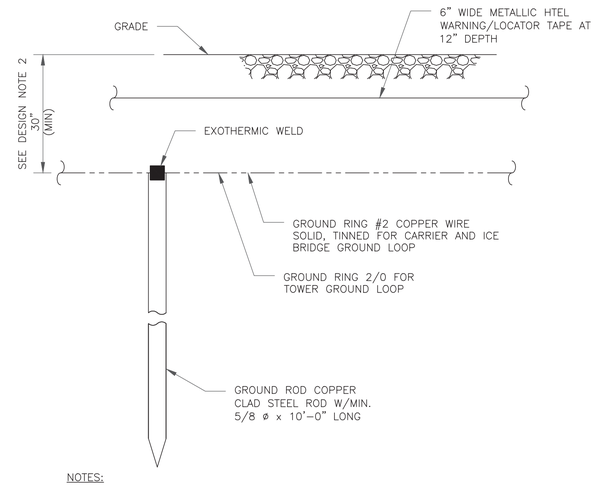


SINGLE CONNECTOR AT STEEL OBJECTS



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

T-Mobile
4 SYLVAN WAY
PARSIPPANY, NJ 07054

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

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

T-MOBILE SITE NUMBER:
CT11030H

BU #: **806363**
HRT 105 943201

48 COW HILL ROAD
CLINTON, CT 06413

EXISTING
212'-7" SELF-SUPPORT
TOWER

ISSUED FOR:

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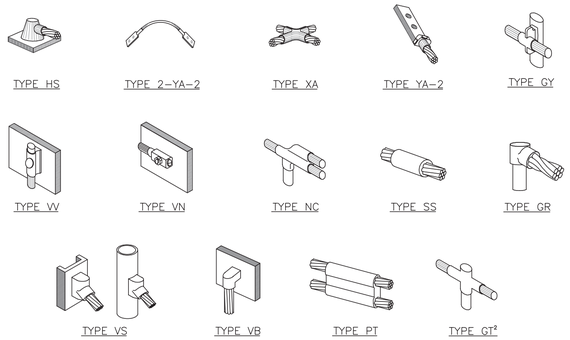
1	8/9/22	DAS	CONSTRUCTION	LR

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

SHEET NUMBER: G-2
REVISION: 1

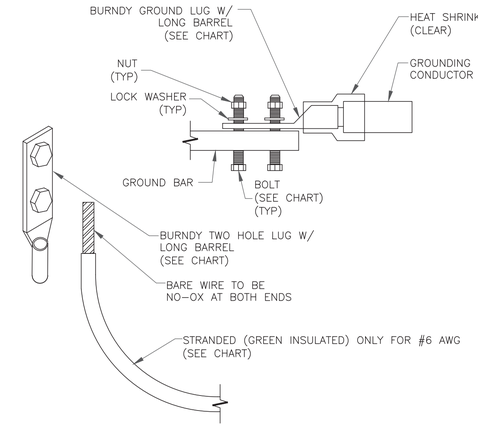


NOTE:

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

1 CADWELD GROUNDING CONNECTIONS
SCALE: NOT TO SCALE

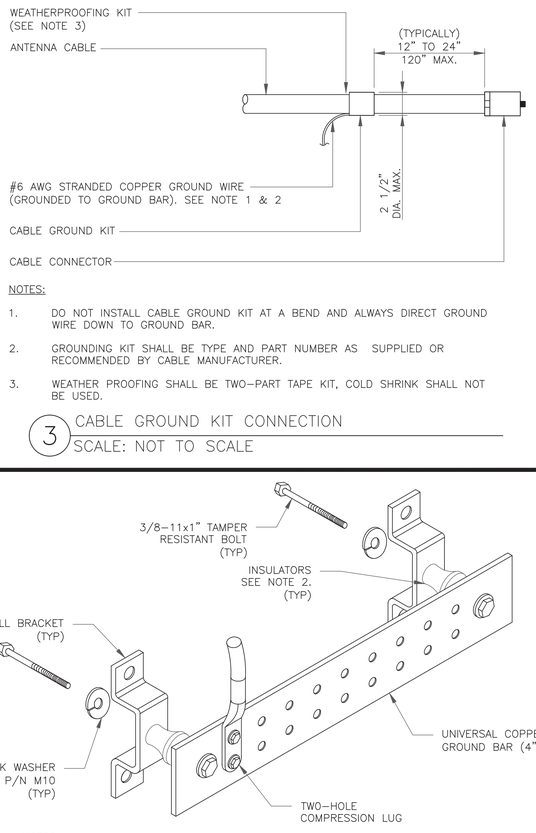
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



NOTES:

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

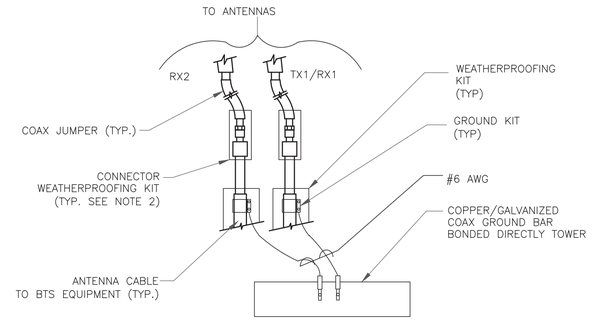
2 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

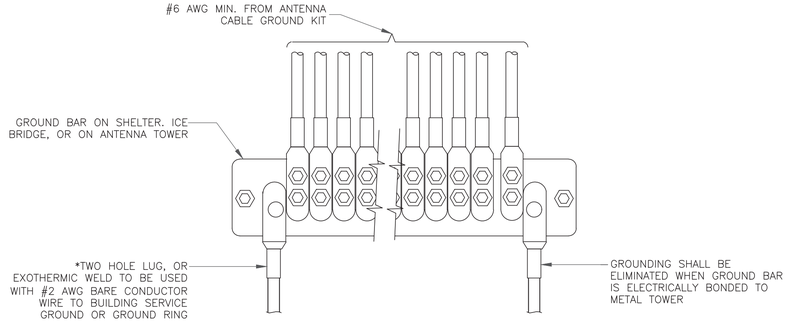
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



NOTES:

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

4 GROUND CABLE CONNECTION
SCALE: NOT TO SCALE

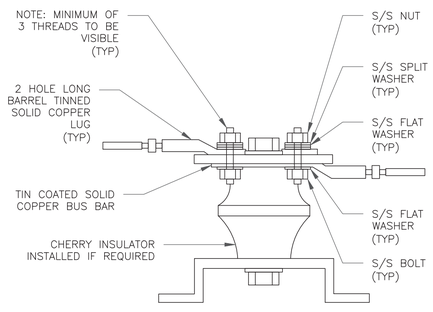


5 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE

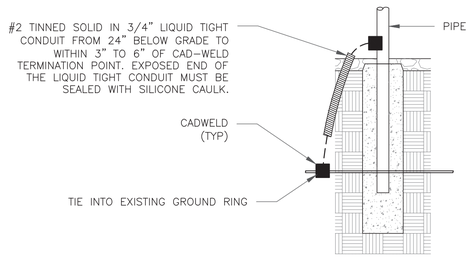
NOTES:

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

6 GROUND BAR DETAIL
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
SCALE: NOT TO SCALE

T-Mobile
4 SYLVAN WAY
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T-MOBILE SITE NUMBER:
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48 COW HILL ROAD
CLINTON, CT 06413

EXISTING
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1	8/9/22	DAS	CONSTRUCTION	LR

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

SHEET NUMBER: G-3

REVISION: 1