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

May 10, 2022

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

RE: **Notice of Exempt Modification for T-Mobile: CT11376A**
Crown Site#870800
376 Deercliff Road, Avon, CT 06001
Latitude: 41° 46′ 29.95″ / Longitude: -72° 48′ 2.07″

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 240-foot mount on the existing 560-foot guyed tower located at 376 Deercliff Road, Avon, CT. The property is owned by Homeowners Finance Co and the tower is owned by Crown Castle. T-Mobile now intends to replace three (3) antennas and ancillary equipment at the 240ft level. This modification/proposal includes hardware that is both 4G (LTE) and 5G capable through remote software configuration and either or both services may be turned on or off at various times.

Panned Modification:

Tower:

Installed New:
(3) Ericsson – AIR6449 B41 Antennas
(3) Ericsson- Radio 4460 B25+B66
(1) 6x24 4AWG Trunk

Remove:
(3) Ericsson – APX16WV-16DWV-S-E-A20 Antennas
(3) Ericsson- 4415 B66A RRH
(3) Ericsson- 4415 B25 RRH

Ground:

Install New:
(1) RP 6651 for N2500 To enclosure 6160
(1) RP 6651 for L2500 To enclosure 6160H Frame
(1) PSU 4813 Voltage Booster to RBS 6160

The facility was approved by the Town of Avon by Planning and Zoning on November 20, 1985.

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 Brandon Robertson, Town Manager, Town of Avon, Hiram Peck III, Director of Planning and Community Development, Town of Avon, Homeowners Finance Co, Property Owner and Crown Castle is the tower owner.

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

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

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

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

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

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

Sincerely,

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

Attachments
cc:

Brandon Robertson, Town Manager
Town Manager's Office
60 West Main Street
Avon, CT 06001
(860) 409-4300

Hiram Peck III, Director of Planning and Community Development
Planning & Community Development
60 West Main Street
Avon, CT 06001
(860) 409-4328

Homeowners Finance CO – Property Owner
530 Silas Deane Highway
Wethersfield, CT 06109
(860) 529-8628

Crown Castle, Tower Owner

TOWN OF AVON

P.O. BOX 578
60 WEST MAIN ST.
AVON, CT 06001
TEL. (203) 677-2634

November 20, 1985

CERTIFIED MAIL

Mr. Richard P. Ramirez, Managing General Partner
Astroline Communications Company Limited Partnership
18 Garden Street
Hartford, CT

Dear Mr. Ramirez:

At a Special Meeting held on Tuesday, November 19, 1985, the Planning and Zoning Commission of the Town of Avon voted as follows:

App. #1430 - Astroline Communications Company Limited Partnership, owner/applicant, request for Special Exception under Section IV.A.4.a. of the Avon Zoning Regulations, to permit communication transmission station and tower; and under Section III.B.2.a. for waiver of height provisions, 376 Deercliff Road, 30.343 acres, Parcel Nos. 24, 25, and 26 on Assessor's Map 15, in a RU-2A Zone - APPROVED WITH CONDITIONS.

App. #1431 - Astroline Communications Company Limited Partnership, owner/applicant, request for Special Exception under Section IV.A.4.a. of the Avon Zoning Regulations, to permit a satellite dish as part of a Communication Transmission Station, and under Section III.B.2.a. for a waiver of the height provisions, 376 Deercliff Road, 30.343 acres, Parcel Nos. 24, 25, and 26 on Assessor's Map 15, in a RU-2A Zone - APPROVED WITH CONDITIONS.

App. #1432 - Astroline Communications Company Limited Partnership, owner/applicant, request for Site Plan Approval, communication tower and building and residence, 376 Deercliff Road, 30.343 acres, Parcel Nos. 24, 25, and 26 on Assessor's Map 15, in a RU-2A Zone - APPROVED WITH CONDITIONS.

The Commission granted approval of App. #1430, #1431 and #1432 (above) subject to the following conditions:

1. No part or portion of any tower, antenna, or other structure shall exceed a height of 750 feet above ground; and no part or portion of any tower, antenna, or other structure shall exceed a height of 1425 feet above mean sea level.

2. As proposed by the applicant in a September 30, 1985 letter, the tower shall be restricted to the use of standard red lights only. No other color lights shall be installed or illuminated and no strobe lights shall be installed or illuminated.

COPY

As proposed by the applicant in a September 30, 1985 letter, should the FAA require any other type of lighting system on the tower, the tower shall not be built. If after the tower is constructed, the FAA requires the addition of any other type of lighting system, the owner shall decrease the height of the tower to a level which would be approved for red lighting or remove the tower completely.

3. As proposed by the applicant in a September 4, 1985 letter, the existing tower, all buildings, structures and transmission facilities presently located at 580 Deercliff Road will be completely dismantled and removed from the site within 90 days of the time when broadcasting operations begin from the new tower. Further, all pavement and debris will be removed from the 580 Deercliff Road site and the disturbed area will be loamed and seeded. Prior to the issuance of any building permit to construct any portion of the tower or building, a cash bond or letter of credit in a form acceptable to the Town Attorney and in an amount acceptable to the Town Engineer shall be submitted. The Town Engineer shall determine an amount sufficient to cover all costs associated with the work required by this condition. Failure of the owner to strictly adhere to this condition will be considered a violation of this permit, and will result in appropriate enforcement action by the Town to whatever degree is necessary to eliminate the violation. This condition shall be recorded on the land records with reference to 580 Deercliff Road.

4. The building will contain no living quarters or studio facilities. No employees shall be employed at the site on a daily basis. Except for unusual occasions, such as the construction period and periods of replacement, repair or maintenance of facilities and equipment, only occasional visits by employees shall be permitted.

5. Prior to the issuance of a building permit, construction plans for the tower shall be submitted to the Town Engineer by a structural engineer. Upon completion of the tower and prior to any broadcasting or transmission, the Town Engineer shall select an independent structural engineer who shall, at the expense of the owner, conduct an inspection and structural evaluation of the tower and submit a report to the Town Engineer.

6. Noise levels from the tower and equipment, as measured at any point on the property line of the nearest abutting residence, shall not exceed the maximum allowable noise level for commercial and industrial uses at residential zone boundaries as stated in Section V of the Avon Zoning Regulations. The owner shall provide to the Town Engineer a report showing acoustic readings taken at a time when the transmission equipment, cooling equipment and all other equipment operated during normal broadcasting is in full operation. Noise levels in excess of the prescribed standards shall be considered a violation of this permit and shall require zoning enforcement action by the Town, to whatever degree is necessary to eliminate the violation.

7. As recommended by the Town Health Director, a maximum power density level is established at 0.01 mW (or 10μW) per square centimeter which cannot be exceeded at any frequency by any radiation source on the tower or building or equipment on the site, singly or in combination with other sources on the tower, as measured at the nearest part of the nearest abutting residential property.

   The owner shall submit reports of field measurements of this radiation level in order to verify compliance with this condition. An initial report is required within 30 days after the transmission facility begins operation, and subsequent reports shall be filed with the Town on a quarterly basis.

   Failure to file the required reports shall be considered a violation of this permit and shall require zoning enforcement action by the Town.

   Measurements in excess of the established level shall be considered a violation and shall require zoning enforcement action by the Town to whatever degree necessary to eliminate the violation.

8. The owner shall provide from beginning of construction forward a convenient means of access acceptable to the Chief of Police. That access shall allow police, fire, ambulance and other emergency vehicles to drive up to the building and tower base. It shall also allow police and fire personnel and other emergency personnel access to all parts of the building, tower base and guy anchors.

9. All deliveries to the site of materials and equipment associated with construction shall occur between 9:00 AM and 4:00 PM on Mondays through Fridays which are not legal holidays in order not to conflict with heavy traffic. All construction work shall occur between the hours of 7:00 AM and 5:00 PM on the same days, so as not to unduly inconvenience neighbors.

10. The owner shall provide reasonable space on the tower and in the building for such communications equipment that the Town determines is appropriate for the public safety of the residents.

11. These approvals shall take effect upon December 1, 1985, unless before that date the Town Attorney notifies the Commission that one of the above conditions is illegal or unenforceable.

Please note, additionally, that prior to your Special Exception Applications (App. #1430 and #1431) becoming effective, a certified copy must be filed with the Town Clerk. The filing fee is $5 per page. Please fill in the enclosed form and return it to this office for the Chairman's signature.

Upon compliance with the above conditions, the Chairman of the Planning and Zoning Commission has been authorized to sign the mylar maps for filing. The mylar maps must be signed and on file prior to the issuance of any building permits for the above construction.

Very truly yours,

Elizabeth P. Dennis, Clerk
Planning and Zoning Commission

cc: Mark Oland, Esq.
William Richter
Robert C. Hunt, Jr., Esq.

Enclosure

TOWN OF AVON

P.O. BOX 578
60 WEST MAIN ST.
AVON, CT 06001
TEL. (203) 677-2634

December 15, 1986

CERTIFIED MAIL

Mr. Richard P. Ramirez, Managing General Partner
Astroline Communications Company Limited Partnership
18 Garden Street
Hartford, CT

Dear Mr. Ramirez:

At a meeting held on Tuesday, December 9, 1986, the Planning and Zoning Commission of the Town of Avon voted as follows:

App. #1525 - Astroline Company, owner, Astroline Communications Company Limited Partnership, applicant, request for Special Exception under Sections IV.A.4.a. and III.B.2.a. of the Avon Zoning Regulations to permit modification of condition No. 1 of the approval of Applications #1430 and #1431 to provide: the total height of any tower, antenna, or other structure shall be no less than 625 feet above ground nor any higher than 750 feet above ground; the total height of any tower, antenna, or other structure shall be no less than 1300 feet above mean sea level nor any higher than 1425 feet above mean sea level, 376 Deercliff Road, 30.343 acres, in a RU-2A Zone - APPROVED.

App. #1526 - Astroline Company, owner, Astroline Communications Company, Limited Partnership, applicant, request for Modification to Site Plan Approval (App. #1432) communication tower, building and residence, 376 Deercliff Road, 30.343 acres, in a RU-2A Zone - APPROVED.

Please note that prior to your Special Exception becoming effective, a certified copy must be filed with the Town Clerk. The fee is $5. Please fill in the enclosed form and return it to this office for the Chairman's signature.

Very truly yours,

Elizabeth P. Dennis, Clerk
Planning and Zoning Commission

Enclosure

cc: Building Dept.
Assessor
M. Oland, Esq.

COPY

Property at 00376 DEERCLIFF ROAD | LOT1 | Prop ID 2090376 | Printed 16-Aug-2021 5:20 PM | Design and Layout (C) Right/Angles

Administrative Information

Owner name: HOMEOWNERS FINANCE CO
Second name:
Address: 530 SILAS DEANE HIGHWAY
City/state: WETHERSFIELD CT Zip: 06109

Location Information

Map: 027 Clerk map: 16 016
Lot: 2090376 Neigh.: Zone: RU2A Vol: 763 Page: 084

Assessments

Assmt category	Qty	Amount
Resident Land	2.00	140,000
Resident Outbldg	2.00	2,570
Resident Excess	.22	1,140

Exemptions

Exempt	Cat	Amount

Last sale

Sale date: 20-Jul-2021
Sale price:
Sale valid: 14

Values

Mkt value :
Cost value: 205,300

Summary

Total assessments	143,710
Total exemptions	
Net assessment	143,710

Utilities

Water	Well
Sewer	Septic
Gas	None

Sales ratios

Cost/sale :
Mkt/sale :
Assmt/sale:

Land Information

Type	Use	Acres/SqFt	Rate	Total	Infl Fact	Value	70% Value
PRIM	11	2.000	200,000	200,000		200,000	140,000
Primary Site		87,120					
RES	12	.217	7,500	1,628		1,628	1,140
Residual		9,453					
		2.217 acres		Total land value		201,628	141,140

Residential Dwelling Information

Subject	Code	Description
Style	17	Old style
Exterior Walls	04	Vinyl Siding
Roof Material	01	Asphalt Shingles
Roof Type	01	Gable
Foundation	01	Poured Concrete
Interior Walls	01	Plaster
Floors		Unknown
Heating System	02	Forced Hot Air
Fuel	01	Oil
Attic	02	Unfinished
Grade	33	C+
Garage	32	Detached 2 car
Area Over Gar.	99	None
Basement	01	Full
Bsmt Fin Qual	01	Unfinished
Air Condition	01	Central Air
Interior Cond	05	Good
Exterior Cond	05	Good

Condominium

Story Height 2.0

Total Rooms	8	Garage cars	2
Bedrooms	4	Unfinished area	
Family Rooms		Dormer linear f	
Full Baths	2	Masonry trim sf	
Half Baths		Finish bsmt sz	
Addtn'l fixtures		Rec Room Size	
Whirlpools		Living area	1,630
Saunas		# Living Units	1
M/F stacks			
W/B stacks	1		
W/B openings	1		

Actual Year Built: 1807

Building Valuation Summary

			Area	
Dwelling	Frame	2 story w/bsmt	720	165,970
Basement	Full			
Heating	Yes	A/C Yes		5,030
Plumbing	2 F/B	H/B Add'l fix. Wh/p Saunas		3,600
Attic	Unfinished	Attic size: 720		9,184
Additions				23,368
Other Features		WB Stks		5,000
Sub-Total				212,152
Grade	C+	Factor 1.0800		229,124
CDU		C&D Factor 1.00		229,124
Depreciation		100 %		
		Computed cost value @ 70%		

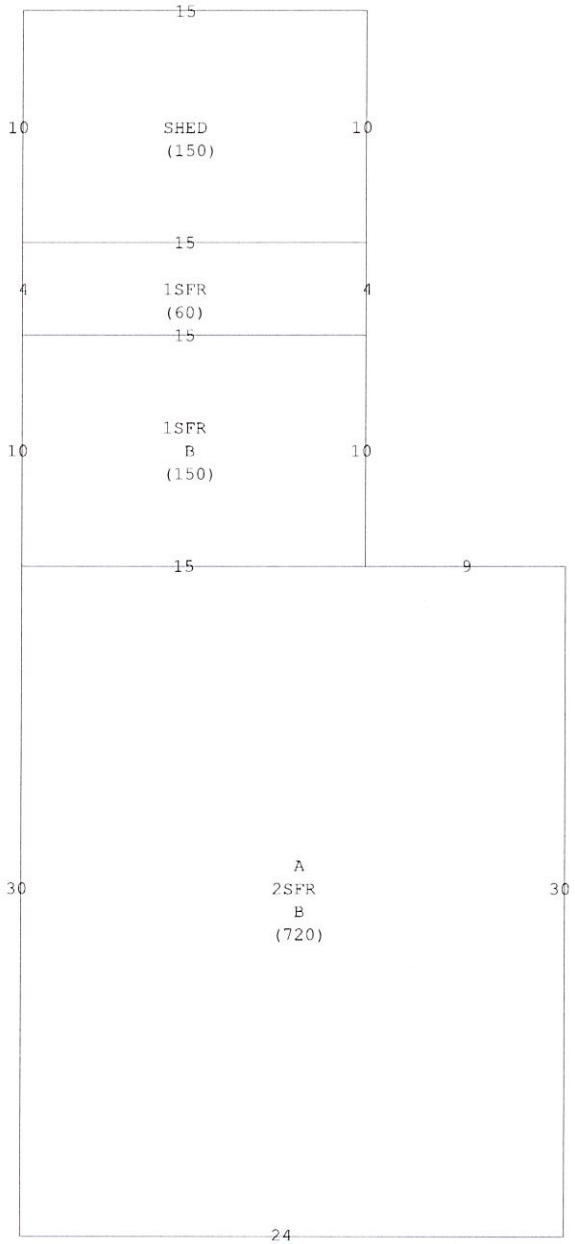
Building additions

Category		Type		Area	Value
L	Living Area	FRFF	Frame first floor	150	12,720
L	Living Area	BSMT	Basement addition	150	2,048
L	Living Area	FRFF	Frame first floor	60	5,088
P	Porches, Patios, Decks	UTIL	Utility building	150	3,174
L	Living Area	AIR	Air conditioning	150	338
			Total additions		23,368

Outbuilding Information

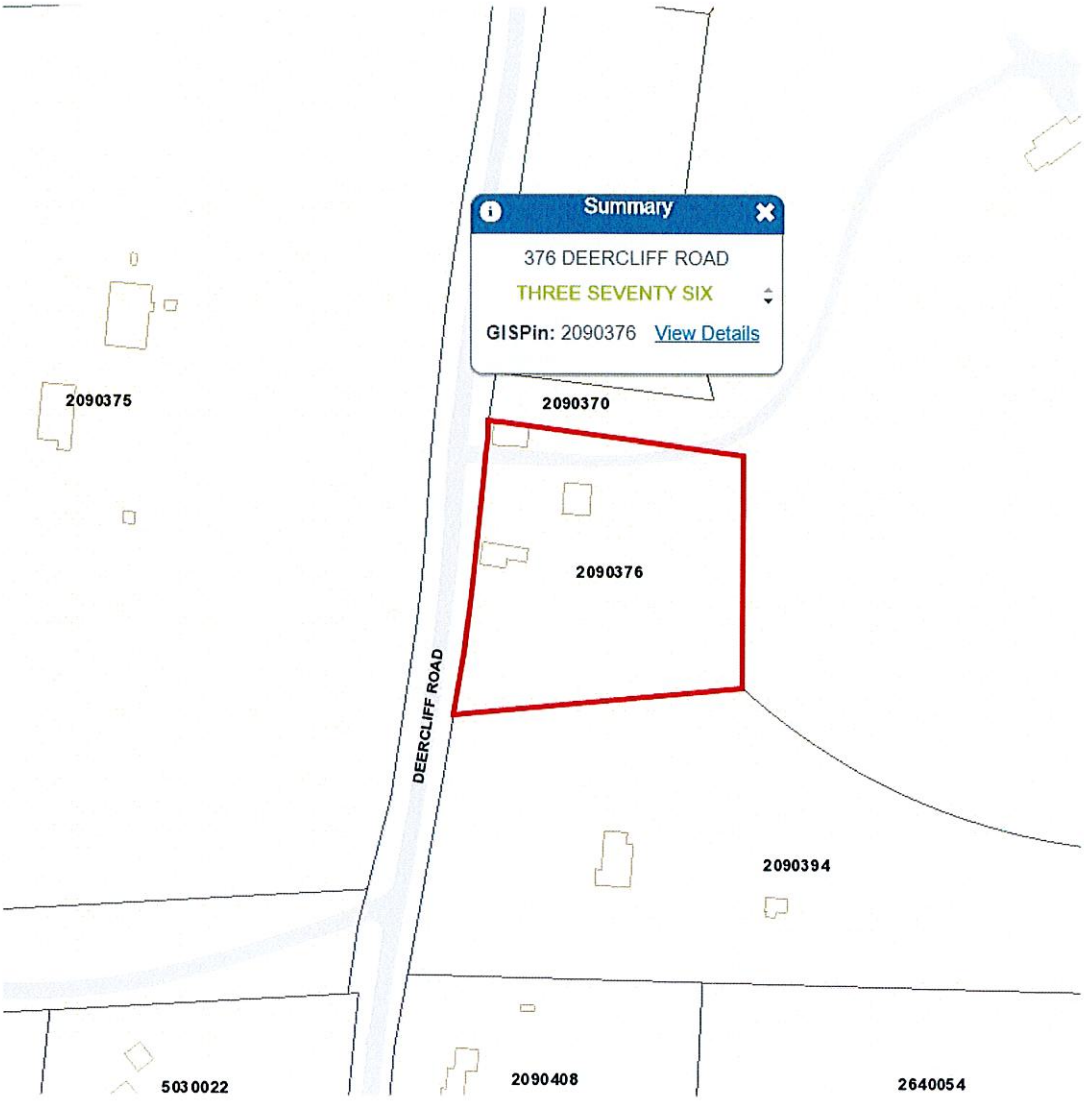
Description	Wid	Len	Area	Rate	Year	Cnd	RCN	Depr	Value
RG1 Frame or Con Block Detach Garage	24	40	960	29.01		C	27,850	90	2,790
RS1 Frame Utility Shed	20	22	440	20.00		C	8,800	90	880
			1						
Value at 70%			2,569			Value at 100%			3,670

Property at 00376 DEERCLIFF ROAD LOT1 Prop ID 2090376 Card 01 Scale: 1" = 8.14 feet



CERT FORECLOSURE 5-3-10 VOL 605 PG 986-988 DEED IN LIEU OF FORECLOSURE V763 P84 7-20-21

SALE 9-23-16 $530,000 5 LOTS-340,350,360,370,376 DEERCLIFF ROAD


Summary
376 DEERCLIFF ROAD
THREE SEVENTY SIX
GISPin: 2090376 View Details
2090375
2090370
2090376
DEERCLIFF ROAD
2090394
5030022
2090408
2640054

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Wednesday, May 11, 2022 10:14 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 776819052733: Your package has been delivered

Hi. Your package was delivered Wed, 05/11/2022 at 10:12am.

Delivered to 60 WEST MAIN ST, AVON, CT 06001
Received by X.MANSON

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 776819052733

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of Avon Brandon Robertson, Town Manager 60 West Main Street AVON, CT, US, 06001
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Tue 5/10/2022 05:42 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	AVON, CT, US, 06001
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: Wednesday, May 11, 2022 10:14 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 776819091925: Your package has been delivered

Hi. Your package was delivered Wed, 05/11/2022 at 10:12am.

Delivered to 60 WEST MAIN ST, AVON, CT 06001
Received by X.MANSON

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 776819091925

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of Avon Hiram Peck III, Director of Plan 60 West Main Street AVON, CT, US, 06001
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Tue 5/10/2022 05:42 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	AVON, CT, US, 06001
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: Wednesday, May 11, 2022 9:45 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 776819142389: Your package has been delivered

FedEx®

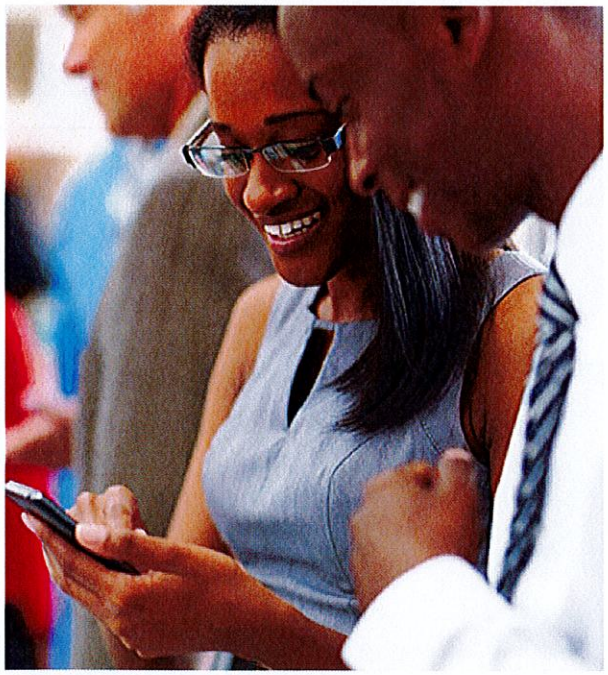
Hi. Your package was delivered Wed, 05/11/2022 at 9:42am.

Delivered to 530 SILAS DEANE HWY, WETHERSFIELD, CT 06109

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER	776819142389
FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581

TO	Homeowners Finance Co Property Owner 530 Silas Deane Highway WETHERSFIELD, CT, US, 06109
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Tue 5/10/2022 05:42 PM
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	WETHERSFIELD, CT, US, 06109
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight



Date: **April 15, 2022**

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

Subject:	**Structural Analysis Report**	
Carrier Designation:	***T-Mobile* Co-Locate**	
	Site Number:	CT11376A
	Site Name:	Farmington1/RT10
Crown Castle Designation:	**BU Number:**	870800
	Site Name:	Avon (Deercliff Rd.)
	JDE Job Number:	711443
	Work Order Number:	2094552
	Order Number:	610493 Rev. 0
Engineering Firm Designation:	**B+T Group Project Number:**	83041.012.01
Site Data:	**376 Deercliff Road, Avon, Hartford County, CT**	
	Latitude *41° 46' 29.95"*, Longitude *-72° 48' 2.07"*	
	560 Foot - Guyed Tower	

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

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

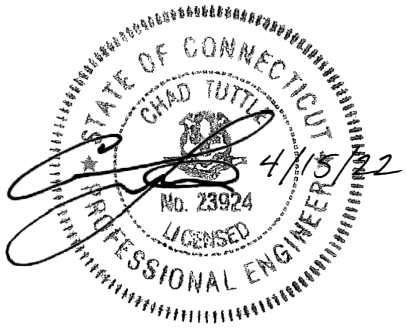
LC7: Proposed Equipment Configuration **Sufficient Capacity**

This analysis utilizes an ultimate 3-second gust wind speed of 117 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: Massood Sattari

Respectfully submitted by: B+T Engineering, Inc.

COA: PEC.0001564; Expires: 02/10/2022



Chad E. Tuttle, P.E.

tnxTower Report - version 8.1.1.0

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 560 ft Guyed tower designed by Stainless Inc., in November of 1986 and mapped by Pinnacle Towers in 1999. This tower has been modified by GPD Group in October of 2007 and those modifications are incorporated in this analysis.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	117 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)
239.0	240.0	3	Ericsson	AIR 6419 B41_TMO	4	1-5/8
		3	Ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		3	Ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	Rfs Celwave	APXVAALL24_43-U-NA20		
	239.0	1	--	Sector Mount [SM 201-3]		
76.0	76.0	1	--	Side Arm Mount [SO 301-1]	1	1/2
		1	Trimble	Acutime 2000		

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)
553.0	553.0	3	Kathrein	AP19-1670/090D/DT2	1	1-5/8
		1	Rfs Celwave	PDS3DE-698/2700		
		1	--	Pipe Mount [PM 601-3]		
514.0	528.0	1	Telewave	ANT150F6	1	1-5/8
	519.0	1	Andrew	PG1NOF-0093-8	1	1-1/4
	514.0	2	--	Side Arm Mount [SO 312-1]		
505.0	505.0	1	--	Flush Mount	--	--
492.0	500.0	1	Tx Rx Systems	101-68-10-0-03N	1	1-1/4
	492.0	1	--	Side Arm Mount [SO 308-1]		
490.0	505.0	1	--	Side Arm Mount	1	4-1/16
	495.0	1	--	Side Arm Mount		
	490.0	1	Andrew	ATW25H3-H50-46		
	485.0	1	--	Side Arm Mount		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
	475.0	1	--	Side Arm Mount		
465.0	475.0	1	Telewave	ANT150F6	1	7/8
	465.0	1	--	Side Arm Mount [SO 312-1]		
442.0	450.0	1	Tx Rx Systems	101-68-10-0-03N	1	1-1/4
	442.0	1	--	Side Arm Mount [SO 308-1]		
438.0	448.0	2	Telewave	ANT150F6	2	7/8
	438.0	1	--	Side Arm Mount [SO 308-1]		
415.0	425.0	1	Telewave	TPRD-1554	1	1/2
		1	Tx Rx Systems	101D-90-06-0-03	1	1-5/8
	415.0	1	--	Side Arm Mount [SO 308-1]		
388.0	402.0	1	Sinclair	SC233	1	1-5/8
	388.0	1	--	Side Arm Mount [SO 306-1]		
324.0	329.0	2	Decibel	DB636-C	2	1-5/8
	324.0	2	--	Side Arm Mount [SO 307-1]	1	1/2
294.0	303.0	1	Decibel	DB540K-E	1	1/2
	294.0	1	--	Side Arm Mount [SO 306-1]		
288.0	293.0	1	Decibel	DB636-C	1	1-5/8
	288.0	1	Andrew	P2F-52	1	1/2
		1	--	Side Arm Mount [SO 307-1]		
270.0	273.0	1	Tx Rx Systems	CC806-06	1	1-5/8
	270.0	1	--	Side Arm Mount [SO 306-1]		
254.0	258.0	1	Decibel	DB809KT6E-XT	--	--
	254.0	1	--	Side Arm Mount [SO 306-1]		
214.0	214.0	3	Kathrein	742 213	6	1-5/8
212.0	222.0	1	Telewave	ANT150F6	1	7/8
	212.0	1	--	Side Arm Mount [SO 306-1]		
202.0	202.0	3	Fujitsu	TA08025-B604	1	1-3/4
		3	Fujitsu	TA08025-B605		
		3	Jma Wireless	MX08FRO665-21		
		1	Raycap	RDIDC-9181-PF-48		
		1	--	Commscope MTC3975083 (3)		
175.0	185.0	1	Telewave	ANT150F6	1	7/8
	175.0	1	--	Side Arm Mount [SO 602-1]		
145.0	146.0	1	--	Side Arm Mount [SO 202-1]	1	EW52
138.0	138.0	1	Cci Antennas	TMADB7821VG12A	1	1/2
		1	Radiowaves	SPD2-5.8		
		1	--	Pipe Mount [PM 601-1]		
		1	--	Side Arm Mount [SO 201-1]		
134.0	134.0	1	Cci Antennas	TMADB7821VG12A	2	1/2
		1	Radiowaves	SPD2-5.8		
112.0	116.0	1	Rfs Celwave	201-8	1	3/8
	112.0	1	--	Flush Mount		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
91.0	94.0	1	Telewave	ANT150F2	1	1/2
	91.0	1	--	Flush Mount		
80.0	81.0	1	Dragonwave	A-ANT-11G-4-C	1	3/8
	80.0	1	--	Side Arm Mount [SO 301-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
Tower Manufacturer Drawing	1579707	CCI Sites
Tower Details	4093610	CCI Sites
Tower Mapping	1579694	CCI Sites
Tower Modification Drawing	2124272	CCI Sites
Post Modification Inspection	2236822	CCI Sites
Foundation Mapping	1341932	CCI Sites
Geotech Report	1579662	CCI Sites
Crown CAD Package	Date: 03/23/2022	CCI Sites

3.1) Analysis Method

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

3.2) Assumptions

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

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T1	560 - 553.75	Leg	4	2	-0.714	393.544	0.2	Pass
T2	553.75 - 547.5	Leg	4	14	-2.280	393.544	0.6	Pass
T3	547.5 - 541.25	Leg	4	26	-6.738	393.544	1.7	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T4	541.25 - 535	Leg	4	39	-10.737	393.544	2.7	Pass
T5	535 - 510	Leg	4	51	-33.708	393.544	8.6	Pass
T6	510 - 485	Leg	4 1/2	90	-72.386	542.982	13.3	Pass
T7	485 - 460	Leg	4 1/2	127	-89.924	542.982	16.6	Pass
T8	460 - 435	Leg	4 3/4	166	-106.941	625.480	17.1	Pass
T9	435 - 410	Leg	4 3/4	205	-110.808	625.480	17.7	Pass
T10	410 - 385	Leg	4 3/4	244	-110.068	625.480	17.6	Pass
T11	385 - 360	Leg	4 3/4	283	-99.368	625.480	15.9	Pass
T12	360 - 335	Leg	4 3/4	324	-117.145	625.480	18.7	Pass
T13	335 - 310	Leg	5 1/4	363	-161.210	805.605	20.0	Pass
T14	310 - 285	Leg	5	402	-155.359	713.043	21.8	Pass
T15	285 - 260	Leg	4 3/4	439	-150.456	625.480	24.1	Pass
T16	260 - 235	Leg	4 3/4	478	-161.400	625.480	25.8	Pass
T17	235 - 210	Leg	4 3/4	517	-163.786	625.480	26.2	Pass
T18	210 - 185	Leg	5	556	-164.017	713.043	23.0	Pass
T19	185 - 160	Leg	5 1/4	595	-178.196	805.605	22.1	Pass
T20	160 - 135	Leg	5 1/2	634	-198.167	903.111	21.9	Pass
T21	135 - 110	Leg	5 1/4	673	-196.086	805.605	24.3	Pass
T22	110 - 85	Leg	5 1/4	712	-209.971	805.605	26.1	Pass
T23	85 - 60	Leg	5 1/4	751	-218.122	805.605	27.1	Pass
T24	60 - 35	Leg	5 1/4	790	-220.899	805.605	27.4	Pass
T25	35 - 10	Leg	5 1/4	829	-220.713	805.605	27.4	Pass
T26	10 - 0	Leg	5 1/4	868	-240.297	849.753	28.3	Pass
T1	560 - 553.75	Diagonal	2L3x3x1/4x3/8	7	-0.396	79.388	0.5	Pass
T2	553.75 - 547.5	Diagonal	2L2 1/2x2x3/16x3/8	17	-1.251	27.459	4.6	Pass
T3	547.5 - 541.25	Diagonal	1	32	2.436	26.719	9.1	Pass
T4	541.25 - 535	Diagonal	1	44	3.074	26.719	11.5	Pass
T5	535 - 510	Diagonal	1	60	5.555	26.719	20.8	Pass
T6	510 - 485	Diagonal	1 1/4	95	9.168	41.749	22.0	Pass
T7	485 - 460	Diagonal	1	161	8.858	26.719	33.2	Pass
T8	460 - 435	Diagonal	3/4	200	5.535	15.030	36.8	Pass
T9	435 - 410	Diagonal	5/8	215	2.317	10.437	22.2	Pass
T10	410 - 385	Diagonal	5/8	254	5.372	10.437	51.5	Pass
T11	385 - 360	Diagonal	3/4	293	8.209	15.030	54.6	Pass
T12	360 - 335	Diagonal	1	332	11.186	26.719	41.9	Pass
T13	335 - 310	Diagonal	1 1/4	389	13.090	41.749	31.4	Pass
T14	310 - 285	Diagonal	1	434	12.479	26.719	46.7	Pass
T15	285 - 260	Diagonal	3/4	473	8.979	15.030	59.7	Pass
T16	260 - 235	Diagonal	5/8	511	5.980	10.437	57.3	Pass
T17	235 - 210	Diagonal	5/8	528	4.759	10.437	45.6	Pass
T18	210 - 185	Diagonal	7/8	567	9.739	20.457	47.6	Pass
T19	185 - 160	Diagonal	1	601	13.031	26.719	48.8	Pass
T20	160 - 135	Diagonal	1 1/4	667	12.782	41.749	30.6	Pass
T21	135 - 110	Diagonal	1	710	8.625	26.719	32.3	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T22	110 - 85	Diagonal	7/8	749	5.632	20.457	27.5	Pass
T23	85 - 60	Diagonal	7/8	789	2.547	20.457	12.5	Pass
T24	60 - 35	Diagonal	7/8	797	4.983	20.457	24.4	Pass
T25	35 - 10	Diagonal	7/8	836	6.943	20.457	33.9	Pass
T26	10 - 0	Diagonal	L3x3 1/2x5/16	882	-2.204	40.474	5.4	Pass
T2	553.75 - 547.5	Horizontal	2L3x2 1/2x1/4x3/8	16	0.750	72.966	1.0	Pass
T5	535 - 510	Horizontal	2L3x2 1/2x1/4x3/8	63	-3.959	57.169	6.9	Pass
T6	510 - 485	Horizontal	2L3x2 1/2x1/4x3/8	101	15.581	75.107	20.7	Pass
T7	485 - 460	Horizontal	2L3x2 1/2x1/4x3/8	157	-6.789	57.614	11.8	Pass
T8	460 - 435	Horizontal	2L2 1/2x2x3/16x3/8	196	-4.211	24.086	17.5	Pass
T9	435 - 410	Horizontal	2L2 1/2x2x3/16x3/8	219	-1.919	24.086	8.0	Pass
T10	410 - 385	Horizontal	2L2 1/2x2x3/16x3/8	258	-3.990	24.086	16.6	Pass
T11	385 - 360	Horizontal	2L2x2x1/4x3/8	297	-6.320	28.003	22.6	Pass
T12	360 - 335	Horizontal	2L3x2 1/2x1/4x3/8	336	-8.652	57.835	15.0	Pass
T13	335 - 310	Horizontal	2L3x2 1/2x1/4x3/8	374	17.792	75.107	23.7	Pass
T14	310 - 285	Horizontal	2L3x2 1/2x1/4x3/8	430	-9.713	58.056	16.7	Pass
T15	285 - 260	Horizontal	2L2 1/2x2x3/16x3/8	469	-6.986	24.086	29.0	Pass
T16	260 - 235	Horizontal	2L2 1/2x2x3/16x3/8	508	-4.619	24.086	19.2	Pass
T17	235 - 210	Horizontal	2L2 1/2x2x3/16x3/8	531	-3.516	24.086	14.6	Pass
T18	210 - 185	Horizontal	2L2 1/2x2x3/16x3/8	570	-7.428	24.216	30.7	Pass
T19	185 - 160	Horizontal	2L3x2 1/2x1/4x3/8	607	-10.078	58.276	17.3	Pass
T20	160 - 135	Horizontal	2L3x2 1/2x1/4x3/8	665	19.293	75.107	25.7	Pass
T21	135 - 110	Horizontal	2L3x2 1/2x1/4x3/8	705	-6.618	58.276	11.4	Pass
T22	110 - 85	Horizontal	2L2 1/2x2x3/16x3/8	744	-4.232	24.347	17.4	Pass
T23	85 - 60	Horizontal	2L2 1/2x2x3/16x3/8	783	-3.778	24.347	15.5	Pass
T24	60 - 35	Horizontal	2L2 1/2x2x3/16x3/8	804	-3.826	24.347	15.7	Pass
T25	35 - 10	Horizontal	2L2 1/2x2x3/16x3/8	850	-5.184	24.347	21.3	Pass
T26	10 - 0	Horizontal	L3x5x1/2	880	-4.467	115.670	3.9	Pass
T1	560 - 553.75	Top Girt	C10x20	4	-0.117	118.522	0.1	Pass
T3	547.5 - 541.25	Top Girt	2C6x8.2x0.375	29	-0.991	92.005	1.1	Pass
T4	541.25 - 535	Top Girt	2L3x2 1/2x1/4x3/8	40	-2.156	57.169	3.8	Pass
T5	535 - 510	Top Girt	2L3x2 1/2x1/4x3/8	52	-2.626	57.169	4.6	Pass
T6	510 - 485	Top Girt	2L3x2 1/2x1/4x3/8	93	-4.815	57.614	8.4	Pass
T7	485 - 460	Top Girt	2L3x2 1/2x1/4x3/8	130	-6.989	57.614	12.1	Pass
T8	460 - 435	Top Girt	2L2 1/2x2x3/16x3/8	169	-4.806	24.086	20.0	Pass
T9	435 - 410	Top Girt	2L2 1/2x2x3/16x3/8	208	-2.253	24.086	9.4	Pass
T10	410 - 385	Top Girt	2L2 1/2x2x3/16x3/8	249	-2.192	24.086	9.1	Pass
T11	385 - 360	Top Girt	2L2x2x1/4x3/8	288	-4.719	28.003	16.9	Pass
T12	360 - 335	Top Girt	2L3x2 1/2x1/4x3/8	327	-7.029	57.835	12.2	Pass
T13	335 - 310	Top Girt	2L3x2 1/2x1/4x3/8	366	-9.288	58.276	15.9	Pass
T14	310 - 285	Top Girt	2L3x2 1/2x1/4x3/8	403	-9.686	58.056	16.7	Pass
T15	285 - 260	Top Girt	2L2 1/2x2x3/16x3/8	442	-7.611	24.086	31.6	Pass
T16	260 - 235	Top Girt	2L2 1/2x2x3/16x3/8	481	-5.273	24.086	21.9	Pass
T17	235 - 210	Top Girt	2L2 1/2x2x3/16x3/8	522	-2.837	24.086	11.8	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T18	210 - 185	Top Girt	2L2 1/2x2x3/16x3/8	561	-4.401	24.216	18.2	Pass
T19	185 - 160	Top Girt	2L3x2 1/2x1/4x3/8	600	-8.176	58.276	14.0	Pass
T20	160 - 135	Top Girt	2L3x2 1/2x1/4x3/8	637	-9.967	58.496	17.0	Pass
T21	135 - 110	Top Girt	2L3x2 1/2x1/4x3/8	678	-7.308	58.276	12.5	Pass
T22	110 - 85	Top Girt	2L2 1/2x2x3/16x3/8	717	-4.809	24.347	19.8	Pass
T23	85 - 60	Top Girt	2L2 1/2x2x3/16x3/8	756	-3.778	24.347	15.5	Pass
T24	60 - 35	Top Girt	2L2 1/2x2x3/16x3/8	795	-3.826	24.347	15.7	Pass
T25	35 - 10	Top Girt	2L2 1/2x2x3/16x3/8	832	-4.242	24.347	17.4	Pass
T26	10 - 0	Top Girt	2L4x3x1/2	872	57.078	221.130	25.8	Pass
T6	510 - 485	Guy A@491.25	1 3/4 (ECP - 24000)	891	83.657	236.880	35.3	Pass
T13	335 - 310	Guy A@316.25	1 1/2 (ECP - 24000)	888	64.040	173.880	36.8	Pass
T20	160 - 135	Guy A@153.75	1 1/4 (ECP - 24000)	885	45.155	120.960	37.3	Pass
T6	510 - 485	Guy B@491.25	1 3/4 (ECP - 24000)	890	84.118	236.880	35.5	Pass
T13	335 - 310	Guy B@316.25	1 1/2 (ECP - 24000)	887	64.110	173.880	36.9	Pass
T20	160 - 135	Guy B@153.75	1 1/4 (ECP - 24000)	884	44.938	120.960	37.2	Pass
T6	510 - 485	Guy C@491.25	1 3/4 (ECP - 24000)	889	83.837	236.880	35.4	Pass
T13	335 - 310	Guy C@316.25	1 1/2 (ECP - 24000)	886	66.110	173.880	38.0	Pass
T20	160 - 135	Guy C@153.75	1 1/4 (ECP - 24000)	883	46.575	120.960	38.5	Pass
							Summary	
						Leg (T26)	28.3	Pass
						Diagonal (T15)	59.7	Pass
						Horizontal (T18)	30.7	Pass
						Top Girt (T15)	31.6	Pass
						Guy A (T20)	37.3	Pass
						Guy B (T20)	37.2	Pass
						Guy C (T20)	38.5	Pass
						Bolt Checks	41.2	Pass
						Rating =	59.7	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Base Foundation (Structure)	Base	38.4	Pass
1	Base Foundation (Soil Interaction)	Base	35.7	Pass
1,3	Guy Anchor Foundation	Base	31.9	Pass

Structure Rating (max from all components) =	59.7%

Notes:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.
2) Rating per TIA-222-H Section 15.5
3) Foundation capacity determined by comparing analysis reactions to original design reactions.

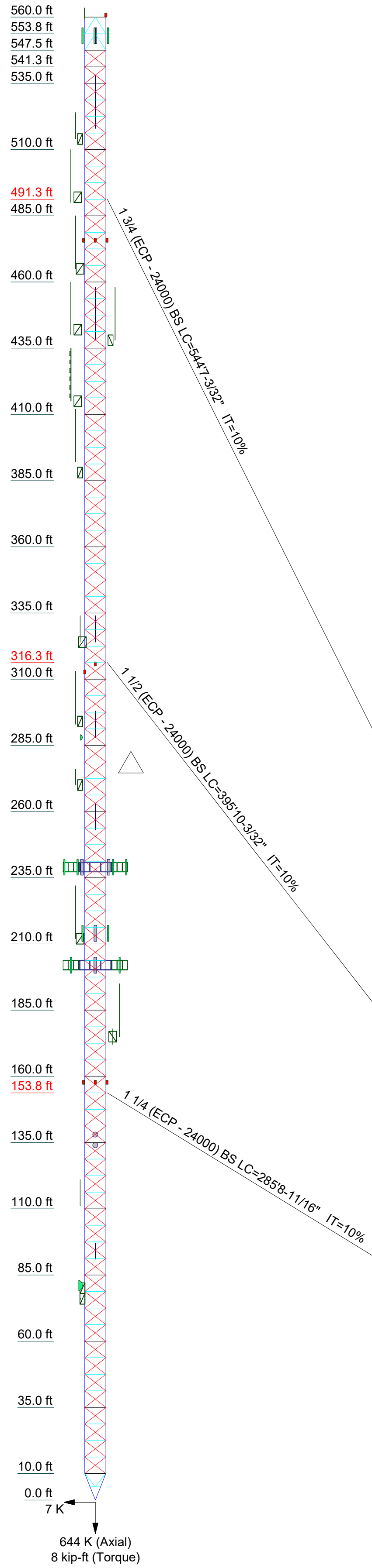
4.1) Recommendations

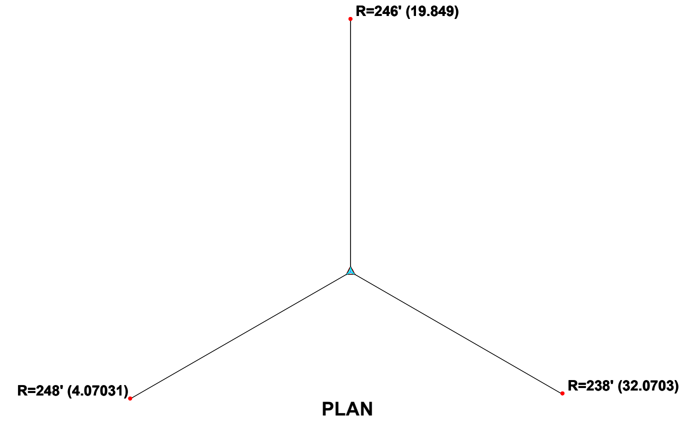
The tower and its base and anchor foundations have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

Section	Legs	Leg Grade	Diagonals	Diagonal Grade	Top Girts	Horizontals	Face Width (ft)	# Panels @ (ft)	Weight (K)
T1	SR 4	A572-50	A	A36	D	E	8	88 @ 6.25	1.8
T2	SR 4	A572-50	B	A36	E	I	8	88 @ 6.25	1.3
T3	SR 4	A572-50	SR 1	A36	F	N.A.	8	88 @ 6.25	1.4
T4	SR 4	A572-50	SR 1	A36	2L3x2 1/2x1/4x3/8	N.A.	8	88 @ 6.25	1.2
T5	SR 4	A572-50	SR 1	A36	2L3x2 1/2x1/4x3/8	2L3x2 1/2x1/4x3/8	8	88 @ 6.25	5.0
T6	SR 4 1/2	A572-50	SR 1 1/4	A36	2L3x2 1/2x1/4x3/8	2L3x2 1/2x1/4x3/8	8	88 @ 6.25	6.2
T7	SR 4 1/2	A572-50	SR 1	A36	2L3x2 1/2x1/4x3/8	2L3x2 1/2x1/4x3/8	8	88 @ 6.25	5.8
T8	SR 4 3/4	A572-50	SR 3/4	A36	2L2 1/2x2x3/16x3/8	2L2 1/2x2x3/16x3/8	8	88 @ 6.25	5.7
T9	SR 4 3/4	A572-50	SR 5/8	A36	2L2 1/2x2x3/16x3/8	2L2 1/2x2x3/16x3/8	8	88 @ 6.25	5.6
T10	SR 4 3/4	A572-50	SR 5/8	A36	2L2 1/2x2x3/16x3/8	2L2 1/2x2x3/16x3/8	8	88 @ 6.25	5.6
T11	SR 4 3/4	A572-50	SR 3/4	A36	G	G	8	88 @ 6.25	5.8
T12	SR 4 3/4	A572-50	SR 1	A36	2L3x2 1/2x1/4x3/8	2L3x2 1/2x1/4x3/8	8	88 @ 6.25	6.3
T13	SR 5 1/4	A572-50	SR 1 1/4	A36	2L3x2 1/2x1/4x3/8	2L3x2 1/2x1/4x3/8	8	88 @ 6.25	7.8
T14	SR 5	A572-50	SR 1	A36	2L3x2 1/2x1/4x3/8	2L3x2 1/2x1/4x3/8	8	88 @ 6.25	6.8
T15	SR 4 3/4	A572-50	SR 3/4	A36	2L2 1/2x2x3/16x3/8	2L2 1/2x2x3/16x3/8	8	88 @ 6.25	5.7
T16	SR 4 3/4	A572-50	SR 5/8	A36	2L2 1/2x2x3/16x3/8	2L2 1/2x2x3/16x3/8	8	88 @ 6.25	5.6
T17	SR 4 3/4	A572-50	SR 5/8	A36	2L2 1/2x2x3/16x3/8	2L2 1/2x2x3/16x3/8	8	88 @ 6.25	5.6
T18	SR 5	A572-50	SR 7/8	A36	2L2 1/2x2x3/16x3/8	2L2 1/2x2x3/16x3/8	8	88 @ 6.25	6.3
T19	SR 5 1/4	A572-50	SR 1	A36	2L3x2 1/2x1/4x3/8	2L3x2 1/2x1/4x3/8	8	88 @ 6.25	7.4
T20	SR 5 1/2	A572-50	SR 1 1/4	A36	2L3x2 1/2x1/4x3/8	2L3x2 1/2x1/4x3/8	8	88 @ 6.25	8.3
T21	SR 5 1/4	A572-50	SR 1	A36	2L3x2 1/2x1/4x3/8	2L3x2 1/2x1/4x3/8	8	88 @ 6.25	7.4
T22	SR 5 1/4	A572-50	SR 7/8	A36	2L2 1/2x2x3/16x3/8	2L2 1/2x2x3/16x3/8	8	88 @ 6.25	6.9
T23	SR 5 1/4	A572-50	SR 7/8	A36	2L2 1/2x2x3/16x3/8	2L2 1/2x2x3/16x3/8	8	88 @ 6.25	6.9
T24	SR 5 1/4	A572-50	SR 7/8	A36	2L2 1/2x2x3/16x3/8	2L2 1/2x2x3/16x3/8	8	88 @ 6.25	6.9
T25	SR 5 1/4	A572-50	SR 7/8	A36	2L2 1/2x2x3/16x3/8	2L2 1/2x2x3/16x3/8	8	88 @ 6.25	6.9
T26	SR 5 1/4	A572-50	C	A36	H	J	8	K	3.5
									143.7





SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	2L3x3x1/4x3/8	G	2L2x2x1/4x3/8
B	2L2 1/2x2x3/16x3/8	H	2L4x3x1/2
C	L3x3 1/2x5/16	I	2L3x2 1/2x1/4x3/8
D	C10x20	J	L3x5x1/2
E	N.A.	K	2 @ 5
F	2C6x8.2x0.375		

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

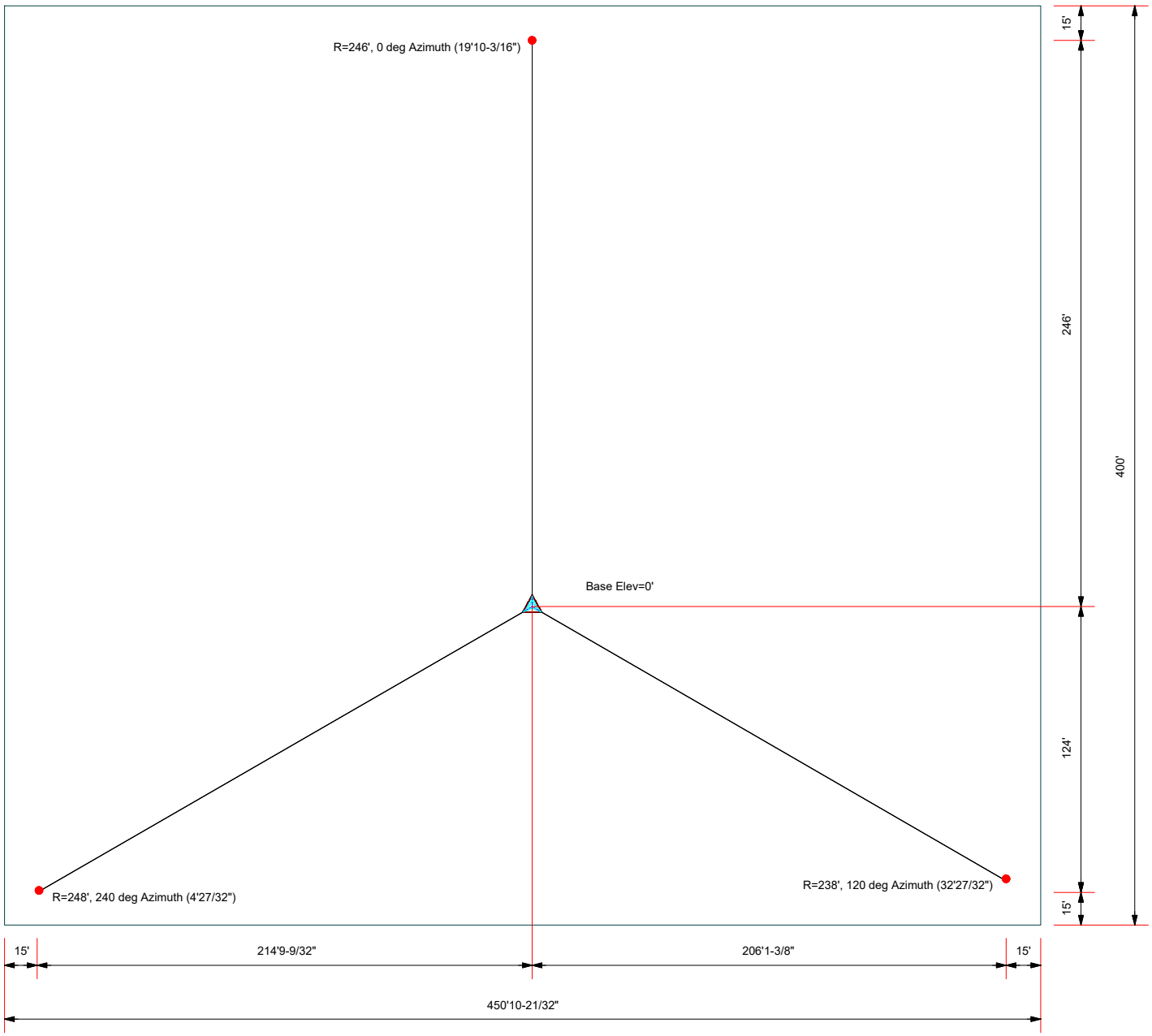
1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 117 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness 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'
8. TIA-222-H Annex S
9. TOWER RATING: 59.7%

ALL REACTIONS ARE FACTORED

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

Job: 83041.012.01 - Avon (Deercliff Rd.), CT (BU# 87080		
Project:		
Client: Crown Castle	Drawn by: Shashank.S.Rao	App'd:
Code: TIA-222-H	Date: 04/15/22	Scale: NTS
Path:		Dwg No. E-1

Plot Plan
Total Area - 4.14 Acres



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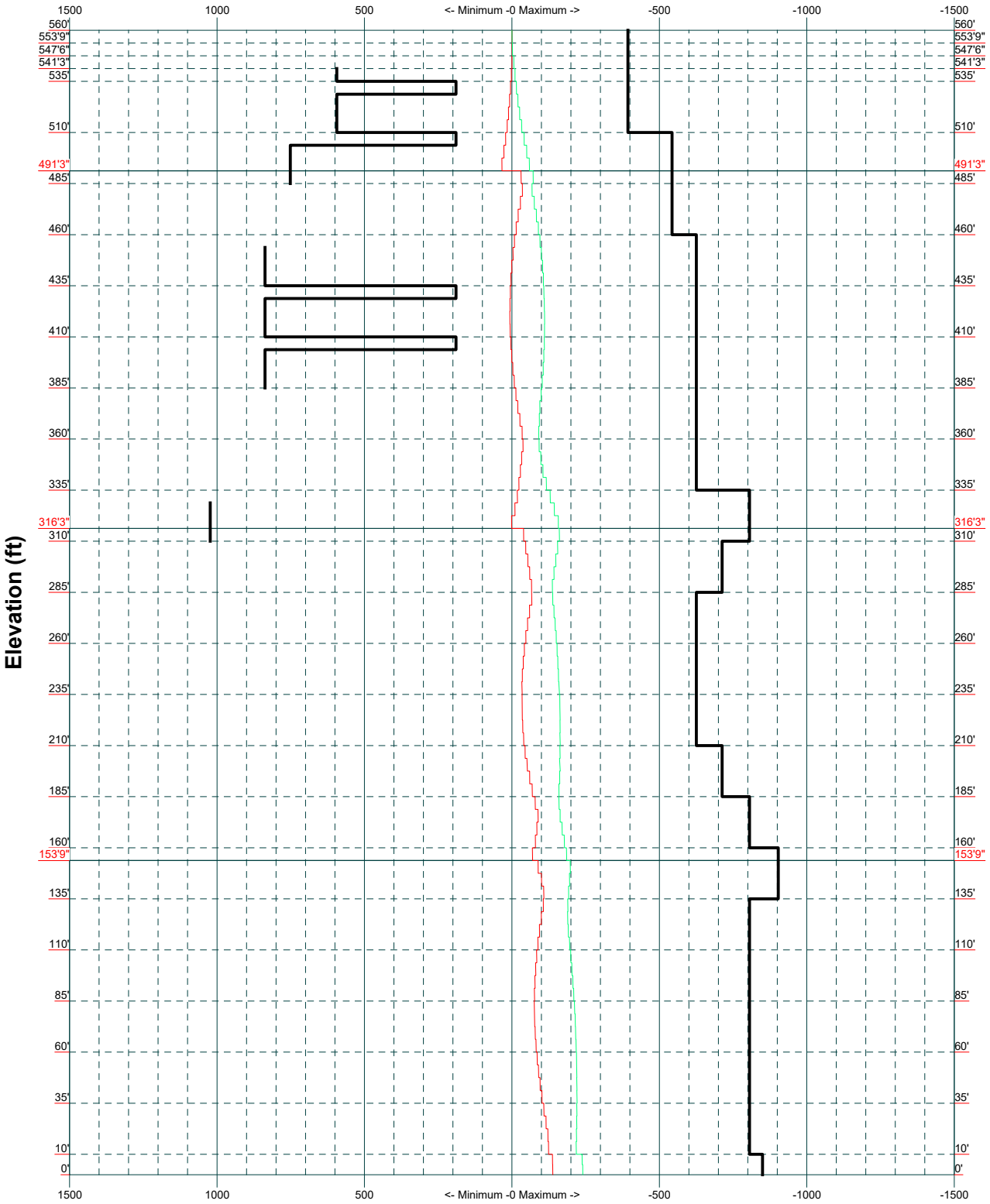
Job: 83041.012.01 - Avon (Deercliff Rd.), CT (BU# 870800			
Project:			
Client: Crown Castle	Drawn by: Shashank.S.Rao	App'd:	
Code: TIA-222-H	Date: 04/15/22	Scale: NTS	
Path:		Dwg No. E-2	

TIA-222-H - 117 mph/50 mph 1.500 in Ice Exposure B

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



B+T GRP

B+T Group
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Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

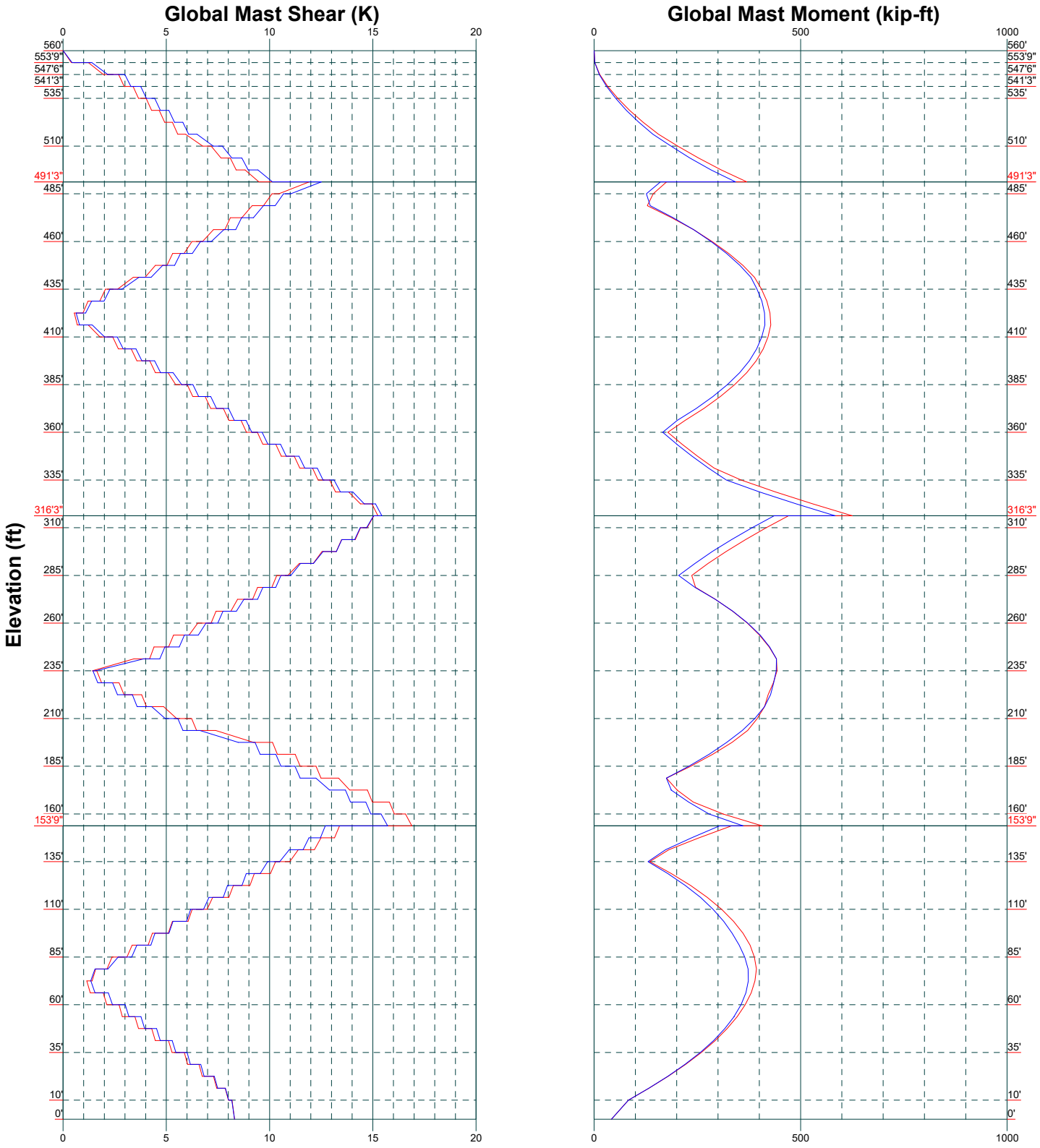
Job: ***83041.012.01 - Avon (Deercliff Rd.), CT (BU# 870800***			
Project:			
Client: Crown Castle	Drawn by: Shashank.S.Rao	App'd:	
Code: TIA-222-H	Date: 04/15/22	Scale: NTS	
Path:		Dwg No. E-3	

TIA-222-H - 117 mph/50 mph 1.500 in Ice Exposure B

Vx Vz

Maximum Values

Mx Mz



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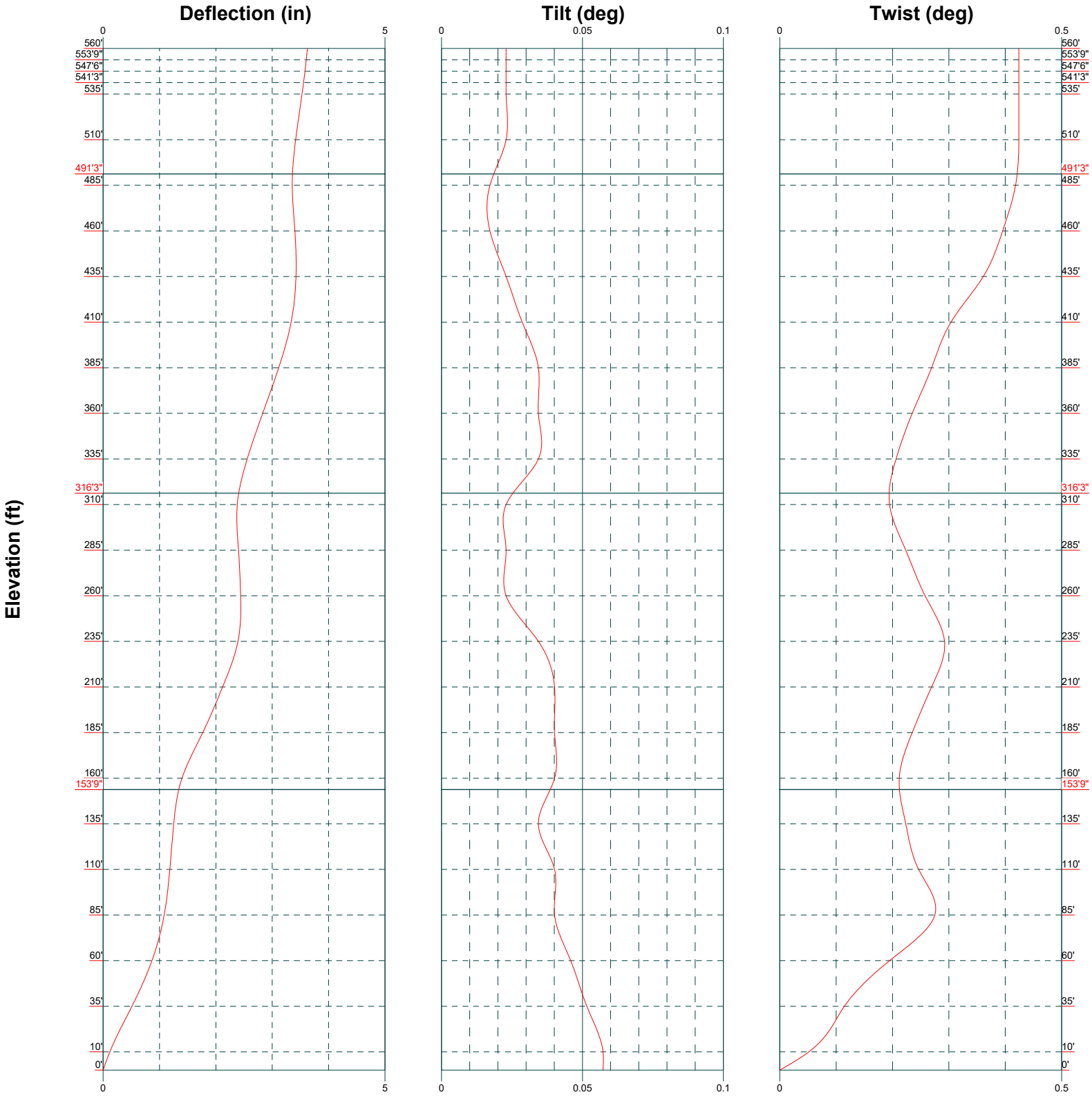
Job: 83041.012.01 - Avon (Deercliff Rd.), CT (BU# 870800			
Project:			
Client: Crown Castle	Drawn by: Shashank.S.Rao	App'd:	
Code: TIA-222-H	Date: 04/15/22	Scale: NTS	
Path:		Dwg No. E-4	

TIA-222-H - Service - 60 mph

Maximum Values



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Job: ***83041.012.01 - Avon (Deercliff Rd.), CT (BU# 870800***			
Project:			
Client: Crown Castle	Drawn by: Shashank.S.Rao	App'd:	
Code: TIA-222-H	Date: 04/15/22	Scale: NTS	
Path:		Dwg No. E-5	

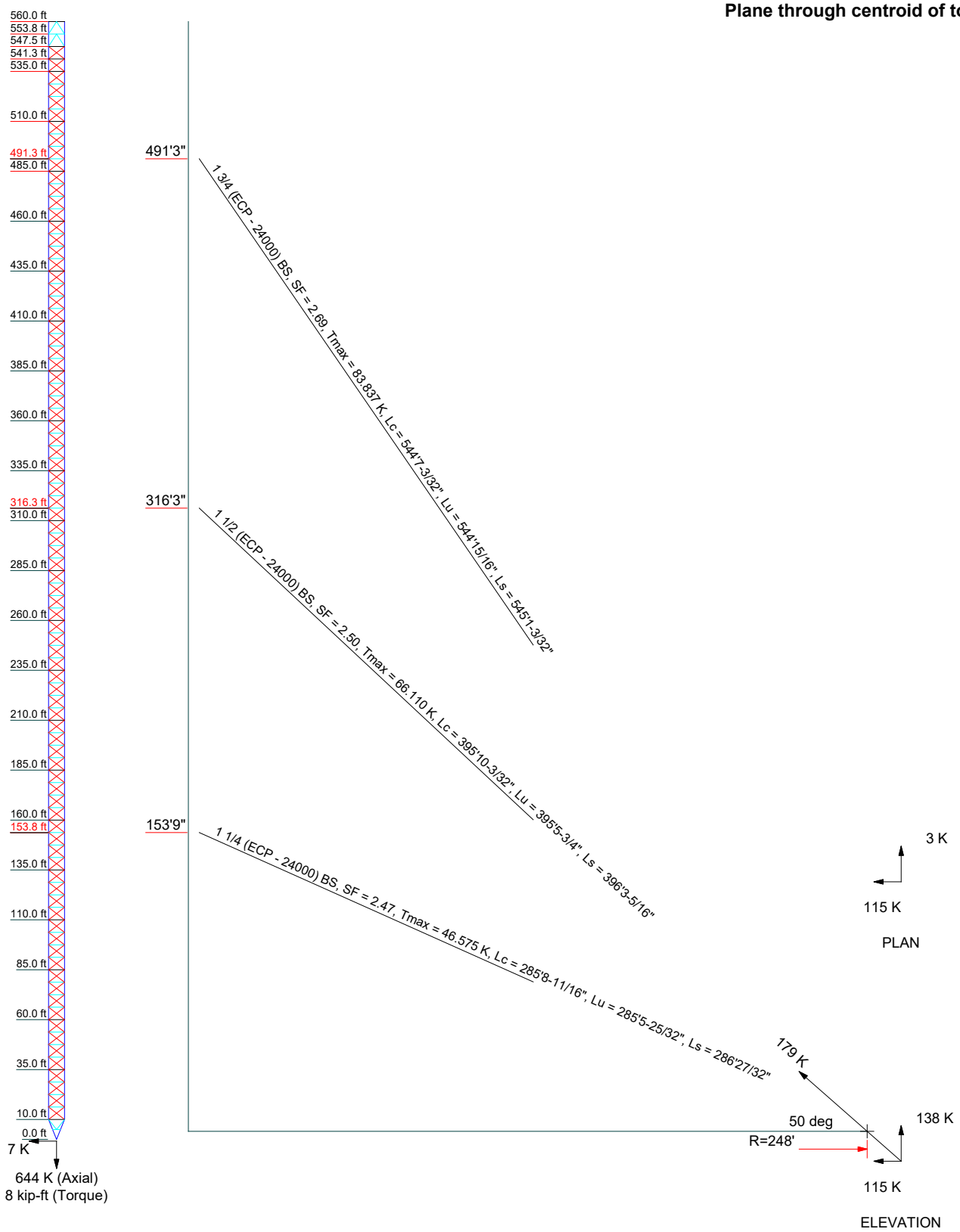
Guy Tensions and Tower Reactions

TIA-222-H - 117 mph/50 mph 1.500 in Ice Exposure B

Maximum Values

Anchor 'C'@248 ft Azimuth 240 deg Elev 4.07031 ft

Plane through centroid of tower



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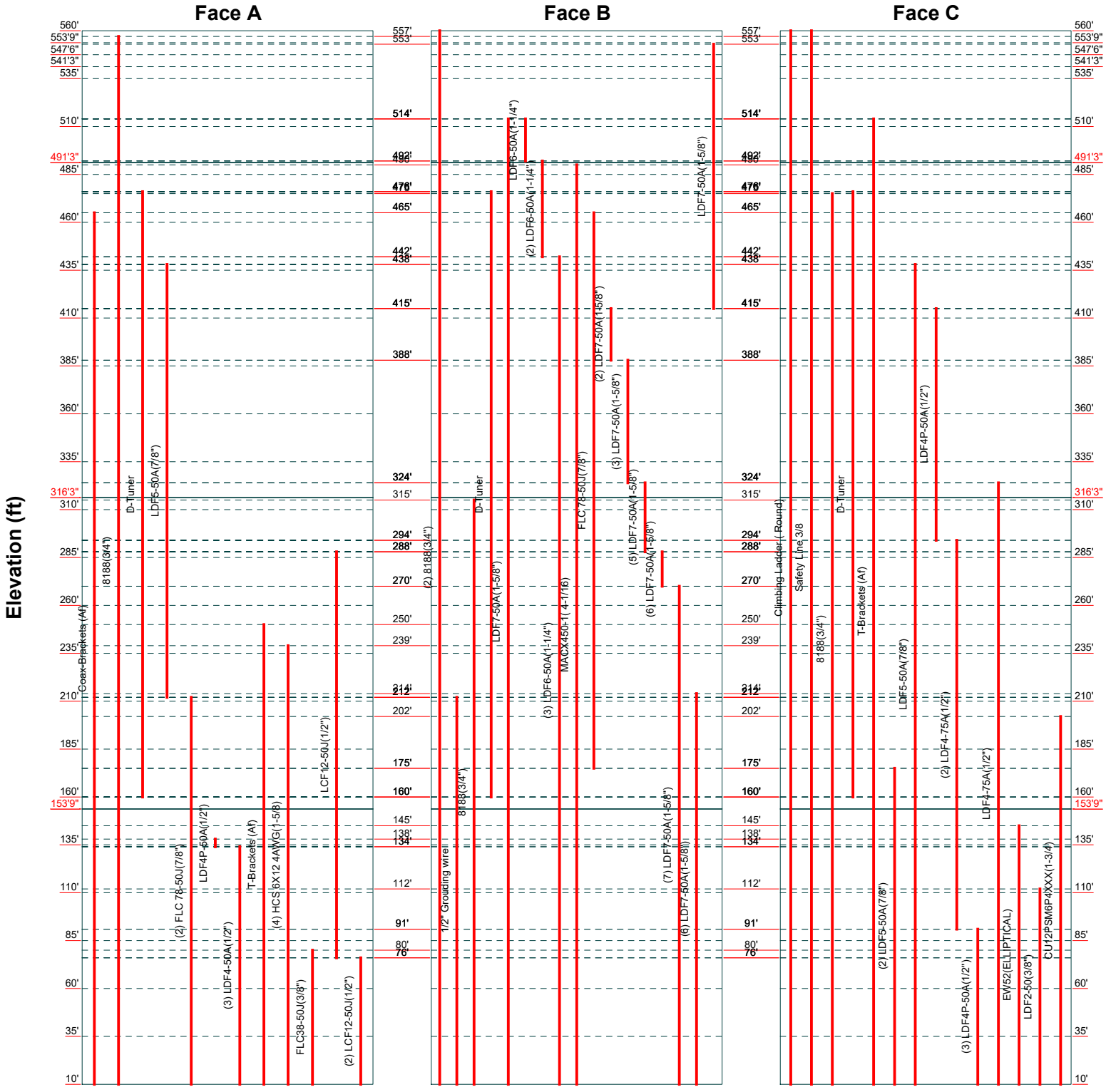
Job: ***83041.012.01 - Avon (Deercliff Rd.), CT (BU# 870800***			
Project:			
Client: Crown Castle	Drawn by: Shashank.S.Rao	App'd:	
Code: TIA-222-H	Date: 04/15/22	Scale: NTS	
Path:		Dwg No. E-6	

Feed Line Distribution Chart
10' - 560'

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



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Job:	***83041.012.01 - Avon (Deercliff Rd.), CT (BU# 870800***		
Project:			
Client: Crown Castle	Drawn by: Shashank.S.Rao	App'd:	
Code: TIA-222-H	Date: 04/15/22	Scale: NTS	
Path:		Dwg No. E-7	

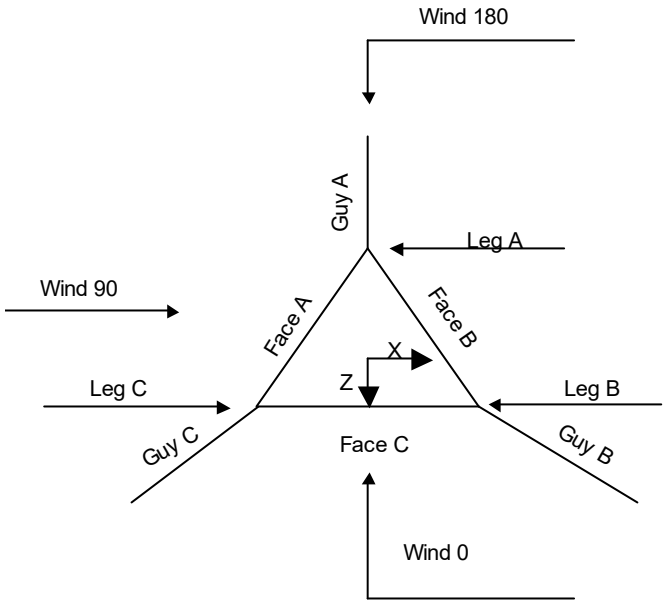
Tower Input Data

The main tower is a 3x guyed tower with an overall height of 560' above the ground line.
The base of the tower is set at an elevation of 0' above the ground line.
The face width of the tower is 8' at the top and tapered at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower is located in Hartford County, Connecticut.
Tower base elevation above sea level: 686'.
Basic wind speed of 117 mph.
Risk Category II.
Exposure Category B.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0'.
Nominal ice thickness of 1.500 in.
Ice thickness is considered to increase with height.
Ice density of 56.000 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50.000 °F.
Deflections calculated using a wind speed of 60 mph.
TIA-222-H Annex S.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Safety factor used in guy 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



Corner & Starmount Guyed Tower

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	560'-553'9"			8'	1	6'3"
T2	553'9"-547'6"			8'	1	6'3"
T3	547'6"-541'3"			8'	1	6'3"
T4	541'3"-535'			8'	1	6'3"
T5	535'-510'			8'	1	25'
T6	510'-485'			8'	1	25'
T7	485'-460'			8'	1	25'
T8	460'-435'			8'	1	25'
T9	435'-410'			8'	1	25'
T10	410'-385'			8'	1	25'
T11	385'-360'			8'	1	25'
T12	360'-335'			8'	1	25'
T13	335'-310'			8'	1	25'
T14	310'-285'			8'	1	25'
T15	285'-260'			8'	1	25'
T16	260'-235'			8'	1	25'
T17	235'-210'			8'	1	25'
T18	210'-185'			8'	1	25'
T19	185'-160'			8'	1	25'
T20	160'-135'			8'	1	25'

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T21	135'-110'			8'	1	25'
T22	110'-85'			8'	1	25'
T23	85'-60'			8'	1	25'
T24	60'-35'			8'	1	25'
T25	35'-10'			8'	1	25'
T26	10'-0'			8'	1	10'

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	560'-553'9"	6'3"	K Brace Down	No	Yes	0.000	0.000
T2	553'9"-547'6"	6'3"	K Brace Down	No	Yes	0.000	0.000
T3	547'6"-541'3"	6'3"	TX Brace	No	Yes	0.000	0.000
T4	541'3"-535'	6'3"	TX Brace	No	Yes	0.000	0.000
T5	535'-510'	6'3"	TX Brace	No	Yes	0.000	0.000
T6	510'-485'	6'3"	TX Brace	No	Yes	0.000	0.000
T7	485'-460'	6'3"	TX Brace	No	Yes	0.000	0.000
T8	460'-435'	6'3"	TX Brace	No	Yes	0.000	0.000
T9	435'-410'	6'3"	TX Brace	No	Yes	0.000	0.000
T10	410'-385'	6'3"	TX Brace	No	Yes	0.000	0.000
T11	385'-360'	6'3"	TX Brace	No	Yes	0.000	0.000
T12	360'-335'	6'3"	TX Brace	No	Yes	0.000	0.000
T13	335'-310'	6'3"	TX Brace	No	Yes	0.000	0.000
T14	310'-285'	6'3"	TX Brace	No	Yes	0.000	0.000
T15	285'-260'	6'3"	TX Brace	No	Yes	0.000	0.000
T16	260'-235'	6'3"	TX Brace	No	Yes	0.000	0.000
T17	235'-210'	6'3"	TX Brace	No	Yes	0.000	0.000
T18	210'-185'	6'3"	TX Brace	No	Yes	0.000	0.000
T19	185'-160'	6'3"	TX Brace	No	Yes	0.000	0.000
T20	160'-135'	6'3"	TX Brace	No	Yes	0.000	0.000
T21	135'-110'	6'3"	TX Brace	No	Yes	0.000	0.000
T22	110'-85'	6'3"	TX Brace	No	Yes	0.000	0.000
T23	85'-60'	6'3"	TX Brace	No	Yes	0.000	0.000
T24	60'-35'	6'3"	TX Brace	No	Yes	0.000	0.000
T25	35'-10'	6'3"	TX Brace	No	Yes	0.000	0.000
T26	10'-0'	5'	K Brace Up	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 560'-553'9"	Solid Round	4	A572-50 (50 ksi)	Double Angle	2L3x3x1/4x3/8	A36 (36 ksi)
T2 553'9"-547'6"	Solid Round	4	A572-50 (50 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T3 547'6"-541'3"	Solid Round	4	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T4 541'3"-535'	Solid Round	4	A572-50	Solid Round	1	A36

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T5 535'-510'	Solid Round	4	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T6 510'-485'	Solid Round	4 1/2	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T7 485'-460'	Solid Round	4 1/2	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T8 460'-435'	Solid Round	4 3/4	A572-50 (50 ksi)	Solid Round	3/4	A36 (36 ksi)
T9 435'-410'	Solid Round	4 3/4	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T10 410'-385'	Solid Round	4 3/4	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T11 385'-360'	Solid Round	4 3/4	A572-50 (50 ksi)	Solid Round	3/4	A36 (36 ksi)
T12 360'-335'	Solid Round	4 3/4	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T13 335'-310'	Solid Round	5 1/4	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T14 310'-285'	Solid Round	5	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T15 285'-260'	Solid Round	4 3/4	A572-50 (50 ksi)	Solid Round	3/4	A36 (36 ksi)
T16 260'-235'	Solid Round	4 3/4	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T17 235'-210'	Solid Round	4 3/4	A572-50 (50 ksi)	Solid Round	5/8	A36 (36 ksi)
T18 210'-185'	Solid Round	5	A572-50 (50 ksi)	Solid Round	7/8	A36 (36 ksi)
T19 185'-160'	Solid Round	5 1/4	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T20 160'-135'	Solid Round	5 1/2	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T21 135'-110'	Solid Round	5 1/4	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T22 110'-85'	Solid Round	5 1/4	A572-50 (50 ksi)	Solid Round	7/8	A36 (36 ksi)
T23 85'-60'	Solid Round	5 1/4	A572-50 (50 ksi)	Solid Round	7/8	A36 (36 ksi)
T24 60'-35'	Solid Round	5 1/4	A572-50 (50 ksi)	Solid Round	7/8	A36 (36 ksi)
T25 35'-10'	Solid Round	5 1/4	A572-50 (50 ksi)	Solid Round	7/8	A36 (36 ksi)
T26 10'-0'	Solid Round	5 1/4	A572-50 (50 ksi)	Single Angle	L3x3 1/2x5/16	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T3 547'6"-541'3"	Double Channel	2C6x8.2x0.375	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T4 541'3"-535'	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)	Double Angle		A36 (36 ksi)
T5 535'-510'	Double Angle	2L3x2 1/2x1/4x3/8	A36	Double Angle		A36

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T6 510'-485'	Double Angle	2L3x2 1/2x1/4x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T7 485'-460'	Double Angle	2L3x2 1/2x1/4x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T8 460'-435'	Double Angle	2L2 1/2x2x3/16x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T9 435'-410'	Double Angle	2L2 1/2x2x3/16x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T10 410'-385'	Double Angle	2L2 1/2x2x3/16x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T11 385'-360'	Double Angle	2L2x2x1/4x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T12 360'-335'	Double Angle	2L3x2 1/2x1/4x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T13 335'-310'	Double Angle	2L3x2 1/2x1/4x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T14 310'-285'	Double Angle	2L3x2 1/2x1/4x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T15 285'-260'	Double Angle	2L2 1/2x2x3/16x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T16 260'-235'	Double Angle	2L2 1/2x2x3/16x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T17 235'-210'	Double Angle	2L2 1/2x2x3/16x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T18 210'-185'	Double Angle	2L2 1/2x2x3/16x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T19 185'-160'	Double Angle	2L3x2 1/2x1/4x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T20 160'-135'	Double Angle	2L3x2 1/2x1/4x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T21 135'-110'	Double Angle	2L3x2 1/2x1/4x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T22 110'-85'	Double Angle	2L2 1/2x2x3/16x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T23 85'-60'	Double Angle	2L2 1/2x2x3/16x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T24 60'-35'	Double Angle	2L2 1/2x2x3/16x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T25 35'-10'	Double Angle	2L2 1/2x2x3/16x3/8	(36 ksi) A36 (36 ksi)	Double Angle		(36 ksi) A36 (36 ksi)
T26 10'-0'	Double Angle	2L4x3x1/2	(36 ksi) A36 (36 ksi)	Flat Bar	12x1/2	(36 ksi) A36 (36 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 560'-553'9"	None	Flat Bar		A36 (36 ksi)	Channel	C10x20	A36 (36 ksi)
T2 553'9"-547'6"	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T3 547'6"-541'3"	None	Flat Bar		A36 (36 ksi)	Double Channel	2C6x8.2x0.375	A36 (36 ksi)

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T4 541'3"-535'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T5 535'-510'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T6 510'-485'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T7 485'-460'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T8 460'-435'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T9 435'-410'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T10 410'-385'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T11 385'-360'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2x2x1/4x3/8	A36 (36 ksi)
T12 360'-335'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T13 335'-310'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T14 310'-285'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T15 285'-260'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T16 260'-235'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T17 235'-210'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T18 210'-185'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T19 185'-160'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T20 160'-135'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T21 135'-110'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T22 110'-85'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T23 85'-60'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T24 60'-35'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T25 35'-10'	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2x3/16x3/8	A36 (36 ksi)
T26 10'-0'	None	Flat Bar		A36 (36 ksi)	Single Angle	L3x5x1/2	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 560'-553'9"	0.000	0.375	A36	1.15	1	1.05	Mid-Pt	Mid-Pt	Mid-Pt

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T2 553'9"-547'6"	0.000	0.375	A36 (36 ksi)	1.15	1	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T3 547'6"-541'3"	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T4 541'3"-535'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T5 535'-510'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T6 510'-485'	0.000	0.375	A36 (36 ksi)	1.3	1	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T7 485'-460'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T8 460'-435'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T9 435'-410'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T10 410'-385'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T11 385'-360'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T12 360'-335'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T13 335'-310'	0.000	0.375	A36 (36 ksi)	1.3	1	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T14 310'-285'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T15 285'-260'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T16 260'-235'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T17 235'-210'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T18 210'-185'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T19 185'-160'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T20 160'-135'	0.000	0.375	A36 (36 ksi)	1.3	1	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T21 135'-110'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T22 110'-85'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T23 85'-60'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T24 60'-35'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T25 35'-10'	0.000	0.375	A36 (36 ksi)	1	1.15	1.05	Mid-Pt	Mid-Pt	Mid-Pt
T26 10'-0'	0.000	0.000	A36 (36 ksi)	1	1	1.05	Mid-Pt	96.000	Mid-Pt

Tower Section Geometry *(cont'd)*

K Factors[1]

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	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	Yes	Yes	1	1	1	1	1	1	1	1
560'-553'9"				1	1	1	1	1	1	1
T2	Yes	Yes	1	1	1	1	1	1	1	1
553'9"-547'6"				1	1	1	1	1	1	1
T3	Yes	Yes	1	1	1	1	1	1	1	1
547'6"-541'3"				1	1	1	1	1	1	1
T4	Yes	Yes	1	1	1	1	1	1	1	1
541'3"-535'				1	1	1	1	1	1	1
T5 535'-510'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T6 510'-485'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T7 485'-460'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T8 460'-435'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T9 435'-410'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T10 410'-385'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T11 385'-360'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T12 360'-335'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T13 335'-310'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T14 310'-285'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T15 285'-260'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T16 260'-235'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T17 235'-210'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T18 210'-185'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T19 185'-160'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T20 160'-135'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T21 135'-110'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T22 110'-85'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T23 85'-60'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T24 60'-35'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T25 35'-10'	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1
T26 10'-0'	Yes	Yes	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 560'-553'9"	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T2 553'9"-547'6"	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T3 547'6"-541'3"	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T4 541'3"-535'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T5 535'-510'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T6 510'-485'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T7 485'-460'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T8 460'-435'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T9 435'-410'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T10 410'-385'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T11 385'-360'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T12 360'-335'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T13 335'-310'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T14 310'-285'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T15 285'-260'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T16 260'-235'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T17 235'-210'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T18 210'-185'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T19 185'-160'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T20 160'-135'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T21 135'-110'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T22 110'-85'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T23 85'-60'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T24 60'-35'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T25 35'-10'	0.000	1	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T26 10'-0'	0.000	1	0.000	0.75	0.000	0.75	0.000	1	0.000	0.75	0.000	0.75	0.000	0.75

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 560'-553'9"	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 553'9"-547'6"	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 547'6"-541'3"	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 541'3"-535'	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 535'-510'	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 510'-485'	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 485'-460'	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 460'-435'	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 435'-410'	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 410'-385'	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 385'-360'	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
T12 360'-335'	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
T13 335'-310'	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
T14 310'-285'	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 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
T15 285'-260'	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
T16 260'-235'	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
T17 235'-210'	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
T18 210'-185'	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
T19 185'-160'	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
T20 160'-135'	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
T21 135'-110'	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
T22 110'-85'	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
T23 85'-60'	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T24 60'-35'	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
T25 35'-10'	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
T26 10'-0'	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 560'-553'9"	Flange	0.000 A325N	0	1.000 A325N	2	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T2 553'9"-547'6"	Flange	0.000 A325N	0	0.625 A325N	2	0.000 A325N	0	0.000 A325N	0	0.625 A325N	0	0.875 A325N	2	0.625 A325N	0
T3 547'6"-541'3"	Flange	0.000 A325N	0	0.875 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T4 541'3"-535'	Flange	0.000 A325N	0	0.875 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T5 535'-510'	Flange	0.750 A325N	6	0.875 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T6 510'-485'	Flange	0.750 A325N	6	1.000 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T7 485'-460'	Flange	0.750 A325N	6	0.875 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T8 460'-435'	Flange	0.750 A325N	6	0.625 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T9 435'-410'	Flange	0.750 A325N	6	0.625 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T10 410'-385'	Flange	0.750 A325N	6	0.625 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T11 385'-360'	Flange	0.750 A325N	6	0.625 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T12 360'-335'	Flange	0.750 A325N	6	0.875 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T13 335'-310'	Flange	1.000 A325N	6	1.000 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T14 310'-285'	Flange	1.000 A325N	6	0.875 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T15 285'-260'	Flange	0.750 A325N	6	0.625 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T16 260'-235'	Flange	0.750 A325N	6	0.625 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0

Tower Elevation ft	Leg Connection Type	Leg Bolt Size in	Leg No.	Diagonal Bolt Size in	Diagonal No.	Top Girt Bolt Size in	Top Girt No.	Bottom Girt Bolt Size in	Bottom Girt No.	Mid Girt Bolt Size in	Mid Girt No.	Long Horizontal Bolt Size in	Long Horizontal No.	Short Horizontal Bolt Size in	Short Horizontal No.
T17 235'-210'	Flange	0.750 A325N	6	0.625 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T18 210'-185'	Flange	0.750 A325N	6	0.750 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T19 185'-160'	Flange	1.000 A325N	6	0.875 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T20 160'-135'	Flange	1.000 A325N	6	1.000 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T21 135'-110'	Flange	1.000 A325N	6	0.875 A325N	2	0.750 A325N	2	0.000 A325N	0	0.625 A325N	0	0.750 A325N	2	0.625 A325N	0
T22 110'-85'	Flange	1.000 A325N	6	0.750 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T23 85'-60'	Flange	1.000 A325N	6	0.750 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T24 60'-35'	Flange	1.000 A325N	6	0.750 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T25 35'-10'	Flange	1.000 A325N	6	0.750 A325N	2	0.625 A325N	2	0.000 A325N	0	0.625 A325N	0	0.625 A325N	2	0.625 A325N	0
T26 10'-0'	Flange	0.750 A325N	8	0.000 A325N	0 *	0.000 A325N	0 *	0.000 A325N	0 *	0.625 A325N	0	0.000 A325N	0 *	0.625 A325N	0

* Out-of-plane partial restraint assumed

Guy Data

Guy Elevation ft	Guy Grade	Guy Size	Initial Tension K	%	Guy Modulus ksi	Guy Weight plf	L_u ft	Anchor Radius ft	Anchor Azimuth Adj. °	Anchor Elevation ft	End Fitting Efficiency %
153.75	BS	A 1 1/4 (ECP - 24000)	19.200	10%	24000.000	3.280	275'9-25/32"	246'	0.000	19'10-3/16"	100%
		B 1 1/4 (ECP - 24000)	19.200	10%	24000.000	3.280	262'11-27/32"	238'	0.000	32'27/32"	100%
		C 1 1/4 (ECP - 24000)	19.200	10%	24000.000	3.280	285'5-31/32"	248'	0.000	4'27/32"	100%
316.25	BS	A 1 1/2 (ECP - 24000)	27.600	10%	24000.000	4.730	381'11-3/8"	246'	0.000	19'10-3/16"	100%
		B 1 1/2 (ECP - 24000)	27.600	10%	24000.000	4.730	367'5-3/16"	238'	0.000	32'27/32"	100%
		C 1 1/2 (ECP - 24000)	27.600	10%	24000.000	4.730	395'6-9/32"	248'	0.000	4'27/32"	100%
491.25	BS	A 1 3/4 (ECP - 24000)	37.600	10%	24000.000	6.430	529'2-1/16"	246'	0.000	19'10-3/16"	100%
		B 1 3/4 (ECP - 24000)	37.600	10%	24000.000	6.430	514'7-15/16"	238'	0.000	32'27/32"	100%
		C 1 3/4 (ECP - 24000)	37.600	10%	24000.000	6.430	544'1-23/32"	248'	0.000	4'27/32"	100%

Guy Data*(cont'd)*

Guy Elevation ft	Mount Type	Torque-Arm Spread ft	Torque-Arm Leg Angle °	Torque-Arm Style	Torque-Arm Grade	Torque-Arm Type	Torque-Arm Size
153.75	Corner						
316.25	Corner						
491.25	Corner						

Guy Data *(cont'd)*

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
153'9"	A572-50 (50 ksi)	Solid Round				A36 (36 ksi)	Equal Angle	
316'3"	A572-50 (50 ksi)	Solid Round				A36 (36 ksi)	Equal Angle	
491'3"	A572-50 (50 ksi)	Solid Round				A36 (36 ksi)	Equal Angle	

Guy Data *(cont'd)*

Guy Elevation ft	Cable Weight A K	Cable Weight B K	Cable Weight C K	Cable Weight D K	Tower Intercept A ft	Tower Intercept B ft	Tower Intercept C ft	Tower Intercept D ft
153.75	0.905	0.863	0.936		6'5-3/16" 4.4 sec/pulse	5'10-1/4" 4.2 sec/pulse	6'10-9/16" 4.5 sec/pulse	
316.25	1.807	1.738	1.871		12'2-7/16" 6.0 sec/pulse	11'3-21/32" 5.8 sec/pulse	13'13/16" 6.2 sec/pulse	
491.25	3.403	3.309	3.499		23'15/32" 8.3 sec/pulse	21'9-25/32" 8.1 sec/pulse	24'3-31/32" 8.5 sec/pulse	

Guy Data *(cont'd)*

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm K_x	Torque Arm K_y	Pull Off K_x	Pull Off K_y	Diagonal K_x	Diagonal K_y
153.75	No	No			1	1	1	1
316.25	No	No			1	1	1	1
491.25	No	No			1	1	1	1

Guy Data *(cont'd)*

Guy Elevation ft	Torque-Arm Bolt Size in	Torque-Arm Number	Torque-Arm Net Width Deduct in	Torque-Arm U	Pull Off Bolt Size in	Pull Off Number	Pull Off Net Width Deduct in	Pull Off U	Diagonal Bolt Size in	Diagonal Number	Diagonal Net Width Deduct in	Diagonal U
153.75	0.625 A325N	0	0.000	0.75	0.000 A325N	0	0.000	0.75	0.000 A325N	0	0.000	1
316.25	0.625 A325N	0	0.000	0.75	0.000 A325N	0	0.000	0.75	0.000 A325N	0	0.000	1
491.25	0.625 A325N	0	0.000	0.75	0.000 A325N	0	0.000	0.75	0.000 A325N	0	0.000	1

Guy Pressures

Guy Elevation ft	Guy Location	z ft	q_z ksf	q_z Ice ksf	Ice Thickness in
153.75	A	86'9-19/32"	0.026	0.005	1.404
	B	92'10-29/32"	0.027	0.005	1.414
	C	78'10-29/32"	0.025	0.005	1.391
316.25	A	168'19/32"	0.032	0.006	1.500
	B	174'1-29/32"	0.032	0.006	1.506
	C	160'1-29/32"	0.031	0.006	1.493
491.25	A	255'6-19/32"	0.036	0.007	1.565
	B	261'7-29/32"	0.036	0.007	1.568
	C	247'7-29/32"	0.035	0.006	1.560

Guy-Mast Forces (Excluding Wind) - No Ice

Guy Elevation ft	Guy Location	Chord Angle °	Guy Tension Top Bottom K	F_x K	F_y K	F_z K	M_x kip-ft	M_y kip-ft	M_z kip-ft
153.75	A	29.018	19.639 19.200	0.000	9.872	-16.977	-45.596	0.000	0.000
	B	27.537	19.599 19.200	14.894	9.399	8.599	21.707	0.000	-37.597
	C	31.592	19.691 19.200	-14.341	10.654	8.280	24.605	-0.000	42.616
			Sum:	**0.553**	29.925	**-0.099**	**0.715**	0.000	**5.019**
316.25	A	50.842	29.001 27.600	0.000	22.846	-17.864	-105.521	0.000	0.000
	B	50.606	28.943 27.600	15.533	22.716	8.968	52.459	0.000	-90.862
	C	52.059	29.075 27.600	-15.083	23.282	8.708	53.768	-0.000	93.129
			Sum:	**0.450**	68.844	**-0.188**	**0.707**	0.000	**2.267**
491.25	A	62.885	40.628 37.600	0.000	36.514	-17.815	-168.653	0.000	0.000
	B	63.058	40.550 37.600	15.323	36.486	8.846	84.262	0.000	-145.946
	C	63.455	40.730 37.600	-15.147	36.783	8.745	84.947	-0.000	147.133
			Sum:	**0.175**	109.784	**-0.223**	**0.556**	0.000	**1.187**

Guy-Mast Forces (Excluding Wind) - Ice

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
153.75	A	29.018	29.659 28.611	0.000	15.211	-25.462	-70.257	0.000	0.000
	B	27.537	29.504 28.546	22.276	14.453	12.861	33.378	0.000	-57.812
	C	31.592	29.721 28.560	-21.482	16.372	12.403	37.809	-0.000	65.487
			Sum:	**0.794**	46.036	**-0.198**	**0.929**	0.000	**7.675**
316.25	A	50.842	42.968 39.939	0.000	34.092	-26.153	-157.464	0.000	0.000
	B	50.606	42.765 39.852	22.685	33.803	13.097	78.066	0.000	-135.214
	C	52.059	43.081 39.903	-22.073	34.733	12.744	80.213	-0.000	138.933
			Sum:	**0.613**	102.629	**-0.312**	**0.814**	0.000	**3.719**
491.25	A	62.885	59.151 53.139	0.000	53.346	-25.555	-246.392	0.000	0.000
	B	63.058	58.909 53.042	21.936	53.185	12.665	122.825	0.000	-212.739
	C	63.455	59.310 53.110	-21.725	53.743	12.543	124.115	-0.000	214.973
			Sum:	**0.211**	160.274	**-0.348**	**0.547**	0.000	**2.234**

Guy-Mast Forces (Excluding Wind) - Service

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
153.75	A	29.018	19.639 19.200	0.000	9.872	-16.977	-45.596	0.000	0.000
	B	27.537	19.599 19.200	14.894	9.399	8.599	21.707	0.000	-37.597
	C	31.592	19.691 19.200	-14.341	10.654	8.280	24.605	-0.000	42.616
			Sum:	**0.553**	29.925	**-0.099**	**0.715**	0.000	**5.019**
316.25	A	50.842	29.001 27.600	0.000	22.846	-17.864	-105.521	0.000	0.000
	B	50.606	28.943 27.600	15.533	22.716	8.968	52.459	0.000	-90.862
	C	52.059	29.075 27.600	-15.083	23.282	8.708	53.768	-0.000	93.129
			Sum:	**0.450**	68.844	**-0.188**	**0.707**	0.000	**2.267**
491.25	A	62.885	40.628 37.600	0.000	36.514	-17.815	-168.653	0.000	0.000
	B	63.058	40.550 37.600	15.323	36.486	8.846	84.262	0.000	-145.946
	C	63.455	40.730	-15.147	36.783	8.745	84.947	-0.000	147.133

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
			37.600						
			Sum:	0.175	109.784	-0.223	0.556	0.000	1.187

Guy-Tensioning Information

				Temperature At Time Of Tensioning													
				0 F		20 F		40 F		60 F		80 F		100 F		120 F	
Guy Elevation		H	V	Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept
ft		ft	ft	K	ft	K	ft	K	ft	K	ft	K	ft	K	ft	K	ft
153.75	A	241.38	133.90	25.268	4.90	23.194	5.33	21.167	5.84	19.200	6.43	17.314	7.12	15.532	7.93	13.881	8.86
	B	233.38	121.68	25.485	4.42	23.339	4.82	21.239	5.30	19.200	5.85	17.243	6.51	15.395	7.28	13.684	8.18
	C	243.38	149.68	24.940	5.31	22.979	5.76	21.061	6.28	19.200	6.88	17.412	7.58	15.716	8.39	14.136	9.31
316.25	A	241.38	296.40	32.087	10.53	30.567	11.04	29.070	11.60	27.600	12.20	26.160	12.86	24.756	13.57	23.392	14.34
	B	233.38	284.18	32.166	9.73	30.621	10.21	29.097	10.73	27.600	11.31	26.133	11.93	24.700	12.60	23.308	13.33
	C	243.38	312.18	31.842	11.36	30.406	11.89	28.991	12.46	27.600	13.07	26.237	13.73	24.906	14.45	23.610	15.22
491.25	A	241.38	471.40	40.766	21.31	39.701	21.86	38.645	22.44	37.600	23.04	36.566	23.67	35.544	24.33	34.534	25.01
	B	233.38	459.18	40.751	20.18	39.692	20.70	38.641	21.25	37.600	21.82	36.569	22.41	35.550	23.03	34.543	23.68
	C	243.38	487.18	40.637	22.57	39.616	23.13	38.603	23.72	37.600	24.33	36.607	24.97	35.625	25.63	34.656	26.32

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
Climbing Ladder (Round)	C	No	No	Af (CaAa)	560' - 8'	-10.000	0.3	1	1	0.500	2.340		0.005
Safety Line 3/8	C	No	No	Ar (CaAa)	560' - 8'	-10.000	0.3	1	1	0.375	0.375		0.000
8188(3/4")	B	No	No	Ar (CaAa)	560' - 8'	-7.000	0.16	2	1	1.500	0.750		0.000
1/2" Grouding wire	B	No	No	Ar (CaAa)	212' - 0'	0.000	0	1	1	0.630	0.630		0.000
Coax-Brackets (Af)	A	No	No	Af (CaAa)	465' - 8'	-1.000	0.35	1	1	1.000	1.000		0.008
8188(3/4")	A	No	No	Ar (CaAa)	557' - 8'	-1.500	0.1	1	1	0.750	0.750		0.000
8188(3/4")	C	No	No	Ar (CaAa)	475' - 8'	-1.000	0.4	1	1	0.750	0.750		0.000
8188(3/4") *	B	No	No	Ar (CaAa)	315' - 8'	-1.000	-0.09	1	1	0.750	0.750		0.000
D-Tuner	A	No	No	Ar (CaAa)	476' - 160'	12.000	0	1	1	0.000	0.500		0.000
D-Tuner	B	No	No	Ar (CaAa)	476' - 160'	12.000	0	1	1	0.000	0.500		0.000
D-Tuner *	C	No	No	Ar (CaAa)	476' - 160'	12.000	0	1	1	0.000	0.500		0.000
LDF7-50A(1-5/8")	B	No	No	Ar (CaAa)	514' - 8'	-7.000	0.17	1	1	1.980	1.980		0.001
T-Brackets (Af) *	C	No	No	Af (CaAa)	514' - 8'	-10.000	-0.35	1	1	1.000	1.000		0.008
LDF6-50A(1-1/4")	B	No	No	Ar (CaAa)	514' - 492'	-10.000	-0.4	1	1	0.500	1.550		0.001
LDF6-50A(1-	B	No	No	Ar (CaAa)	492' - 442'	-10.000	-0.4	2	2	0.500	1.550		0.001

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
1/4")													
LDF6-50A(1-1/4") *	B	No	No	Ar (CaAa)	442' - 8'	-10.000	-0.4	3	3	0.500	1.550		0.001
MACX450-1(4-1/16) *	B	No	No	Ar (CaAa)	490' - 8'	-1.000	-0.2	1	1	4.062	4.062		0.004
FLC 78-50J(7/8")	B	No	No	Ar (CaAa)	465' - 175'	-1.000	0.4	1	1	1.112	1.112		0.000
LDF5-50A(7/8") *	C	No	No	Ar (CaAa)	175' - 8'	-1.000	0.4	2	2	1.090	1.090		0.000
LDF5-50A(7/8") *	C	No	No	Ar (CaAa)	438' - 8'	-15.000	0.18	1	1	1.090	1.090		0.000
LDF5-50A(7/8")	A	No	No	Ar (CaAa)	438' - 212'	-1.500	-0.46	1	1	0.500	1.090		0.000
FLC 78-50J(7/8") *	A	No	No	Ar (CaAa)	212' - 8'	-1.500	-0.46	2	2	1.112	1.112		0.000
LDF7-50A(1-5/8")	B	No	No	Ar (CaAa)	415' - 388'	-13.000	0.3	2	2	0.500	1.980		0.001
LDF7-50A(1-5/8")	B	No	No	Ar (CaAa)	388' - 324'	-13.000	0.3	3	3	0.500	1.980		0.001
LDF7-50A(1-5/8")	B	No	No	Ar (CaAa)	324' - 288'	-13.000	0.3	5	5	0.500	1.980		0.001
LDF7-50A(1-5/8")	B	No	No	Ar (CaAa)	288' - 270'	-13.000	0.3	6	6	0.500	1.980		0.001
LDF7-50A(1-5/8") *	B	No	No	Ar (CaAa)	270' - 8'	-13.000	0.3	7	7	0.500	1.980		0.001
LDF4P-50A(1/2")	C	No	No	Ar (CaAa)	415' - 294'	-1.500	0.4	1	1	0.630	0.630		0.000
LDF4-75A(1/2")	C	No	No	Ar (CaAa)	294' - 91'	-1.500	0.4	2	2	0.630	0.630		0.000
LDF4P-50A(1/2") *	C	No	No	Ar (CaAa)	91' - 8'	-1.500	0.4	3	3	0.630	0.630		0.000
LDF4P-50A(1/2")	A	No	No	Ar (CaAa)	138' - 134'	-7.500	0.43	1	1	0.500	0.630		0.000
LDF4-50A(1/2") *	A	No	No	Ar (CaAa)	134' - 8'	-7.500	0.43	3	1	0.500	0.630		0.000
LDF4-75A(1/2") *	C	No	No	Ar (CaAa)	324' - 8'	-1.500	0.32	1	1	0.630	0.630		0.000
T-Brackets (Af) *	A	No	No	Af (CaAa)	250' - 8'	-5.000	0.38	1	1	1.000	1.000		0.008
HCS 6X12 4AWG(1-5/8) *	A	No	No	Ar (CaAa)	239' - 8'	-1.500	-0.35	4	4	0.500	1.660		0.002
LDF7-50A(1-5/8") *	B	No	No	Ar (CaAa)	214' - 8'	-5.000	0.4	6	3	0.500	1.980		0.001
EW52(ELLIPTICAL) *	C	No	No	Ar (CaAa)	145' - 8'	-1.000	0.4	1	1	2.250	0.870		0.001
LDF2-50(3/8") *	C	No	No	Ar (CaAa)	112' - 8'	-1.000	0.4	1	1	0.440	0.440		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
FLC38-50J(3/8") *	A	No	No	Ar (CaAa)	80' - 8'	-1.500	-0.38	1	1	0.440	0.440		0.000
LCF12-50J(1/2")	A	No	No	Ar (CaAa)	288' - 76'	-1.500	-0.41	1	1	0.640	0.640		0.000
LCF12-50J(1/2") *	A	No	No	Ar (CaAa)	76' - 8'	-1.500	-0.41	2	2	0.640	0.640		0.000
LDF7-50A(1-5/8") *	B	No	No	Ar (CaAa)	553' - 415'	-13.000	0.3	1	1	0.500	1.980		0.001
CU12PSM6P4XXX(1-3/4) *	C	No	No	Ar (CaAa)	202' - 0'	0.000	0.5	1	1	1.750	1.750		0.003

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	560'-553'9"	A	0.000	0.000	0.244	0.000	0.001
		B	0.000	0.000	0.938	0.000	0.004
		C	0.000	0.000	2.672	0.000	0.034
T2	553'9"-547'6"	A	0.000	0.000	0.469	0.000	0.002
		B	0.000	0.000	2.027	0.000	0.009
		C	0.000	0.000	2.672	0.000	0.034
T3	547'6"-541'3"	A	0.000	0.000	0.469	0.000	0.002
		B	0.000	0.000	2.175	0.000	0.009
		C	0.000	0.000	2.672	0.000	0.034
T4	541'3"-535'	A	0.000	0.000	0.469	0.000	0.002
		B	0.000	0.000	2.175	0.000	0.009
		C	0.000	0.000	2.672	0.000	0.034
T5	535'-510'	A	0.000	0.000	1.875	0.000	0.009
		B	0.000	0.000	10.112	0.000	0.044
		C	0.000	0.000	11.354	0.000	0.171
T6	510'-485'	A	0.000	0.000	1.875	0.000	0.009
		B	0.000	0.000	20.234	0.000	0.100
		C	0.000	0.000	14.854	0.000	0.347
T7	485'-460'	A	0.000	0.000	3.508	0.000	0.054
		B	0.000	0.000	30.915	0.000	0.201
		C	0.000	0.000	16.779	0.000	0.356
T8	460'-435'	A	0.000	0.000	7.619	0.000	0.225

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B	0.000	0.000	34.737	0.000	0.216
		C	0.000	0.000	18.306	0.000	0.362
T9	435'-410'	A	0.000	0.000	10.017	0.000	0.233
		B	0.000	0.000	38.585	0.000	0.232
		C	0.000	0.000	21.019	0.000	0.370
T10	410'-385'	A	0.000	0.000	10.017	0.000	0.233
		B	0.000	0.000	43.212	0.000	0.250
		C	0.000	0.000	22.279	0.000	0.373
T11	385'-360'	A	0.000	0.000	10.017	0.000	0.233
		B	0.000	0.000	47.646	0.000	0.269
		C	0.000	0.000	22.279	0.000	0.373
T12	360'-335'	A	0.000	0.000	10.017	0.000	0.233
		B	0.000	0.000	47.730	0.000	0.269
		C	0.000	0.000	22.279	0.000	0.373
T13	335'-310'	A	0.000	0.000	10.017	0.000	0.233
		B	0.000	0.000	53.740	0.000	0.293
		C	0.000	0.000	23.161	0.000	0.375
T14	310'-285'	A	0.000	0.000	10.209	0.000	0.233
		B	0.000	0.000	60.290	0.000	0.321
		C	0.000	0.000	24.421	0.000	0.379
T15	285'-260'	A	0.000	0.000	11.617	0.000	0.236
		B	0.000	0.000	66.736	0.000	0.347
		C	0.000	0.000	25.429	0.000	0.382
T16	260'-235'	A	0.000	0.000	16.773	0.000	0.401
		B	0.000	0.000	69.828	0.000	0.359
		C	0.000	0.000	25.429	0.000	0.382
T17	235'-210'	A	0.000	0.000	32.610	0.000	0.687
		B	0.000	0.000	74.843	0.000	0.379
		C	0.000	0.000	25.429	0.000	0.382
T18	210'-185'	A	0.000	0.000	35.218	0.000	0.698
		B	0.000	0.000	101.396	0.000	0.486
		C	0.000	0.000	28.404	0.000	0.428
T19	185'-160'	A	0.000	0.000	35.218	0.000	0.698
		B	0.000	0.000	99.909	0.000	0.480
		C	0.000	0.000	33.074	0.000	0.459
T20	160'-135'	A	0.000	0.000	34.157	0.000	0.693
		B	0.000	0.000	97.760	0.000	0.470
		C	0.000	0.000	34.874	0.000	0.466
T21	135'-110'	A	0.000	0.000	38.567	0.000	0.703
		B	0.000	0.000	98.019	0.000	0.470
		C	0.000	0.000	36.267	0.000	0.475
T22	110'-85'	A	0.000	0.000	38.693	0.000	0.704
		B	0.000	0.000	98.280	0.000	0.470
		C	0.000	0.000	37.657	0.000	0.478
T23	85'-60'	A	0.000	0.000	40.597	0.000	0.708
		B	0.000	0.000	98.280	0.000	0.470
		C	0.000	0.000	38.854	0.000	0.480
T24	60'-35'	A	0.000	0.000	41.393	0.000	0.710
		B	0.000	0.000	98.280	0.000	0.470
		C	0.000	0.000	38.854	0.000	0.480
T25	35'-10'	A	0.000	0.000	41.393	0.000	0.710
		B	0.000	0.000	98.280	0.000	0.470
		C	0.000	0.000	38.854	0.000	0.480
T26	10'-0'	A	0.000	0.000	3.311	0.000	0.057
		B	0.000	0.000	8.366	0.000	0.039
		C	0.000	0.000	4.508	0.000	0.060

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	560'-553'9"	A	1.691	0.000	0.000	1.343	0.000	0.018
		B		0.000	0.000	5.940	0.000	0.067
		C		0.000	0.000	6.900	0.000	0.117
T2	553'9"-547'6"	A	1.689	0.000	0.000	2.581	0.000	0.034
		B		0.000	0.000	8.884	0.000	0.113
		C		0.000	0.000	6.895	0.000	0.117
T3	547'6"-541'3"	A	1.688	0.000	0.000	2.578	0.000	0.034
		B		0.000	0.000	9.279	0.000	0.120
		C		0.000	0.000	6.891	0.000	0.117
T4	541'3"-535'	A	1.686	0.000	0.000	2.576	0.000	0.034
		B		0.000	0.000	9.272	0.000	0.119
		C		0.000	0.000	6.886	0.000	0.117
T5	535'-510'	A	1.681	0.000	0.000	10.278	0.000	0.134
		B		0.000	0.000	41.123	0.000	0.538
		C		0.000	0.000	29.505	0.000	0.527
T6	510'-485'	A	1.672	0.000	0.000	10.237	0.000	0.132
		B		0.000	0.000	70.170	0.000	0.966
		C		0.000	0.000	39.940	0.000	0.842
T7	485'-460'	A	1.664	0.000	0.000	18.815	0.000	0.281
		B		0.000	0.000	103.356	0.000	1.448
		C		0.000	0.000	52.052	0.000	0.991
T8	460'-435'	A	1.655	0.000	0.000	33.433	0.000	0.637
		B		0.000	0.000	116.825	0.000	1.626
		C		0.000	0.000	60.668	0.000	1.096
T9	435'-410'	A	1.645	0.000	0.000	42.922	0.000	0.762
		B		0.000	0.000	123.575	0.000	1.706
		C		0.000	0.000	72.023	0.000	1.241
T10	410'-385'	A	1.635	0.000	0.000	42.722	0.000	0.756
		B		0.000	0.000	136.809	0.000	1.801
		C		0.000	0.000	79.514	0.000	1.326
T11	385'-360'	A	1.625	0.000	0.000	42.511	0.000	0.751
		B		0.000	0.000	142.202	0.000	1.890
		C		0.000	0.000	79.143	0.000	1.316
T12	360'-335'	A	1.613	0.000	0.000	42.286	0.000	0.745
		B		0.000	0.000	141.691	0.000	1.875
		C		0.000	0.000	78.750	0.000	1.305
T13	335'-310'	A	1.601	0.000	0.000	42.046	0.000	0.739
		B		0.000	0.000	151.131	0.000	2.013
		C		0.000	0.000	83.696	0.000	1.357
T14	310'-285'	A	1.589	0.000	0.000	42.933	0.000	0.745
		B		0.000	0.000	165.573	0.000	2.207
		C		0.000	0.000	91.101	0.000	1.411
T15	285'-260'	A	1.575	0.000	0.000	50.984	0.000	0.835
		B		0.000	0.000	174.372	0.000	2.332
		C		0.000	0.000	97.078	0.000	1.427
T16	260'-235'	A	1.560	0.000	0.000	63.902	0.000	1.143
		B		0.000	0.000	178.108	0.000	2.375
		C		0.000	0.000	96.418	0.000	1.411
T17	235'-210'	A	1.543	0.000	0.000	101.247	0.000	1.807
		B		0.000	0.000	184.305	0.000	2.457
		C		0.000	0.000	95.696	0.000	1.393
T18	210'-185'	A	1.525	0.000	0.000	112.936	0.000	1.874
		B		0.000	0.000	224.633	0.000	3.043
		C		0.000	0.000	103.055	0.000	1.524
T19	185'-160'	A	1.504	0.000	0.000	112.079	0.000	1.852
		B		0.000	0.000	217.152	0.000	2.923
		C		0.000	0.000	119.955	0.000	1.699
T20	160'-135'	A	1.481	0.000	0.000	103.308	0.000	1.744
		B		0.000	0.000	203.013	0.000	2.732
		C		0.000	0.000	123.163	0.000	1.706

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
T21	135'-110'	A	1.454	0.000	0.000	122.102	0.000	1.987
		B		0.000	0.000	201.559	0.000	2.684
		C		0.000	0.000	128.017	0.000	1.749
T22	110'-85'	A	1.421	0.000	0.000	121.178	0.000	1.954
		B		0.000	0.000	199.809	0.000	2.627
		C		0.000	0.000	134.461	0.000	1.793
T23	85'-60'	A	1.379	0.000	0.000	131.822	0.000	1.993
		B		0.000	0.000	197.598	0.000	2.555
		C		0.000	0.000	134.391	0.000	1.767
T24	60'-35'	A	1.322	0.000	0.000	133.782	0.000	1.948
		B		0.000	0.000	194.556	0.000	2.458
		C		0.000	0.000	130.841	0.000	1.688
T25	35'-10'	A	1.227	0.000	0.000	128.642	0.000	1.826
		B		0.000	0.000	189.491	0.000	2.301
		C		0.000	0.000	124.928	0.000	1.562
T26	10'-0'	A	1.056	0.000	0.000	9.553	0.000	0.130
		B		0.000	0.000	16.625	0.000	0.181
		C		0.000	0.000	12.233	0.000	0.159

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	560'-553'9"	-0.695	0.392	-1.135	1.053
T2	553'9"-547'6"	-0.368	0.984	-0.662	1.775
T3	547'6"-541'3"	-0.283	1.085	-0.452	1.655
T4	541'3"-535'	-0.352	1.326	-0.513	1.862
T5	535'-510'	-0.066	1.180	-0.085	1.672
T6	510'-485'	1.399	-0.478	1.993	0.123
T7	485'-460'	1.910	-3.258	1.685	-1.502
T8	460'-435'	2.092	-3.737	1.741	-1.749
T9	435'-410'	1.106	-3.588	0.069	-0.904
T10	410'-385'	1.234	-2.767	-0.368	-0.053
T11	385'-360'	1.527	-2.274	-0.255	0.160
T12	360'-335'	1.412	-2.131	-0.242	0.150
T13	335'-310'	1.540	-1.410	-0.399	0.636
T14	310'-285'	1.698	-0.973	-0.520	0.803
T15	285'-260'	1.574	-0.224	-1.473	1.530
T16	260'-235'	1.373	-0.160	-1.648	1.138
T17	235'-210'	0.084	0.961	-2.555	1.676
T18	210'-185'	1.474	2.803	-1.431	2.994
T19	185'-160'	0.308	2.896	-3.015	3.256
T20	160'-135'	-0.355	2.940	-4.327	3.634
T21	135'-110'	-0.509	2.395	-4.462	2.796
T22	110'-85'	-0.719	2.471	-5.010	3.126
T23	85'-60'	-1.573	3.433	-5.713	3.411
T24	60'-35'	-1.688	3.471	-5.823	3.514
T25	35'-10'	-1.680	3.456	-5.700	3.515
T26	10'-0'	-0.901	1.567	-2.115	1.612

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	1	Climbing Ladder (Round)	553.75 - 560.00	0.6000	0.5302
T1	2	Safety Line 3/8	553.75 - 560.00	0.6000	0.5302
T1	3	8188(3/4")	553.75 - 560.00	0.6000	0.5302
T1	6	8188(3/4")	553.75 - 557.00	0.6000	0.5302
T2	1	Climbing Ladder (Round)	547.50 - 553.75	0.6000	0.6000
T2	2	Safety Line 3/8	547.50 - 553.75	0.6000	0.6000
T2	3	8188(3/4")	547.50 - 553.75	0.6000	0.6000
T2	6	8188(3/4")	547.50 - 553.75	0.6000	0.6000
T2	62	LDF7-50A(1-5/8")	547.50 - 553.00	0.6000	0.6000
T3	1	Climbing Ladder (Round)	541.25 - 547.50	0.6000	0.5671
T3	2	Safety Line 3/8	541.25 - 547.50	0.6000	0.5671
T3	3	8188(3/4")	541.25 - 547.50	0.6000	0.5671
T3	6	8188(3/4")	541.25 - 547.50	0.6000	0.5671
T3	62	LDF7-50A(1-5/8")	541.25 - 547.50	0.6000	0.5671
T4	1	Climbing Ladder (Round)	535.00 - 541.25	0.6000	0.6000
T4	2	Safety Line 3/8	535.00 - 541.25	0.6000	0.6000
T4	3	8188(3/4")	535.00 - 541.25	0.6000	0.6000
T4	6	8188(3/4")	535.00 - 541.25	0.6000	0.6000
T4	62	LDF7-50A(1-5/8")	535.00 - 541.25	0.6000	0.6000
T5	1	Climbing Ladder (Round)	510.00 - 535.00	0.6000	0.6000
T5	2	Safety Line 3/8	510.00 - 535.00	0.6000	0.6000
T5	3	8188(3/4")	510.00 - 535.00	0.6000	0.6000
T5	6	8188(3/4")	510.00 - 535.00	0.6000	0.6000
T5	14	LDF7-50A(1-5/8")	510.00 - 514.00	0.6000	0.6000
T5	15	T-Brackets (Af)	510.00 - 514.00	0.6000	0.6000
T5	17	LDF6-50A(1-1/4")	510.00 - 514.00	0.6000	0.6000
T5	62	LDF7-50A(1-5/8")	510.00 - 535.00	0.6000	0.6000
T6	1	Climbing Ladder (Round)	485.00 - 510.00	0.6000	0.6000
T6	2	Safety Line 3/8	485.00 - 510.00	0.6000	0.6000
T6	3	8188(3/4")	485.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T6	6	8188(3/4")	485.00 - 510.00	0.6000	0.6000
T6	14	LDF7-50A(1-5/8")	485.00 - 510.00	0.6000	0.6000
T6	15	T-Brackets (Af)	485.00 - 510.00	0.6000	0.6000
T6	17	LDF6-50A(1-1/4")	492.00 - 510.00	0.6000	0.6000
T6	18	LDF6-50A(1-1/4")	485.00 - 492.00	0.6000	0.6000
T6	21	MACX450-1(4-1/16)	485.00 - 490.00	1.0000	0.6000
T6	62	LDF7-50A(1-5/8")	485.00 - 510.00	0.6000	0.6000
T7	1	Climbing Ladder (Round)	460.00 - 485.00	0.6000	0.5980
T7	2	Safety Line 3/8	460.00 - 485.00	0.6000	0.5980
T7	3	8188(3/4")	460.00 - 485.00	0.6000	0.5980
T7	5	Coax-Brackets (Af)	460.00 - 465.00	0.6000	0.5980
T7	6	8188(3/4")	460.00 - 485.00	0.6000	0.5980
T7	7	8188(3/4")	460.00 - 475.00	0.6000	0.5980
T7	10	D-Tuner	460.00 - 476.00	0.6000	0.5980
T7	11	D-Tuner	460.00 - 476.00	0.6000	0.5980
T7	12	D-Tuner	460.00 - 476.00	0.6000	0.5980
T7	14	LDF7-50A(1-5/8")	460.00 - 485.00	0.6000	0.5980
T7	15	T-Brackets (Af)	460.00 - 485.00	0.6000	0.5980
T7	18	LDF6-50A(1-1/4")	460.00 - 485.00	0.6000	0.5980
T7	21	MACX450-1(4-1/16)	460.00 - 485.00	1.0000	0.5980
T7	23	FLC 78-50J(7/8")	460.00 - 465.00	0.6000	0.5980
T7	62	LDF7-50A(1-5/8")	460.00 - 485.00	0.6000	0.5980
T8	1	Climbing Ladder (Round)	435.00 - 460.00	0.6000	0.6000
T8	2	Safety Line 3/8	435.00 - 460.00	0.6000	0.6000
T8	3	8188(3/4")	435.00 - 460.00	0.6000	0.6000
T8	5	Coax-Brackets (Af)	435.00 - 460.00	0.6000	0.6000
T8	6	8188(3/4")	435.00 - 460.00	0.6000	0.6000
T8	7	8188(3/4")	435.00 - 460.00	0.6000	0.6000
T8	10	D-Tuner	435.00 - 460.00	0.6000	0.6000
T8	11	D-Tuner	435.00 - 460.00	0.6000	0.6000
T8	12	D-Tuner	435.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T8	14	LDF7-50A(1-5/8")	460.00 435.00 - 460.00	0.6000	0.6000
T8	15	T-Brackets (Af)	435.00 - 460.00	0.6000	0.6000
T8	18	LDF6-50A(1-1/4")	442.00 - 460.00	0.6000	0.6000
T8	19	LDF6-50A(1-1/4")	435.00 - 442.00	0.6000	0.6000
T8	21	MACX450-1(4-1/16)	435.00 - 460.00	1.0000	0.6000
T8	23	FLC 78-50J(7/8")	435.00 - 460.00	0.6000	0.6000
T8	26	LDF5-50A(7/8")	435.00 - 438.00	0.6000	0.6000
T8	28	LDF5-50A(7/8")	435.00 - 438.00	0.6000	0.6000
T8	62	LDF7-50A(1-5/8")	435.00 - 460.00	0.6000	0.6000
T9	1	Climbing Ladder (Round)	410.00 - 435.00	0.6000	0.6000
T9	2	Safety Line 3/8	410.00 - 435.00	0.6000	0.6000
T9	3	8188(3/4")	410.00 - 435.00	0.6000	0.6000
T9	5	Coax-Brackets (Af)	410.00 - 435.00	0.6000	0.6000
T9	6	8188(3/4")	410.00 - 435.00	0.6000	0.6000
T9	7	8188(3/4")	410.00 - 435.00	0.6000	0.6000
T9	10	D-Tuner	410.00 - 435.00	0.6000	0.6000
T9	11	D-Tuner	410.00 - 435.00	0.6000	0.6000
T9	12	D-Tuner	410.00 - 435.00	0.6000	0.6000
T9	14	LDF7-50A(1-5/8")	410.00 - 435.00	0.6000	0.6000
T9	15	T-Brackets (Af)	410.00 - 435.00	0.6000	0.6000
T9	19	LDF6-50A(1-1/4")	410.00 - 435.00	0.6000	0.6000
T9	21	MACX450-1(4-1/16)	410.00 - 435.00	1.0000	0.6000
T9	23	FLC 78-50J(7/8")	410.00 - 435.00	0.6000	0.6000
T9	26	LDF5-50A(7/8")	410.00 - 435.00	0.6000	0.6000
T9	28	LDF5-50A(7/8")	410.00 - 435.00	0.6000	0.6000
T9	31	LDF7-50A(1-5/8")	410.00 - 415.00	0.6000	0.6000
T9	37	LDF4P-50A(1/2")	410.00 - 415.00	0.6000	0.6000
T9	62	LDF7-50A(1-5/8")	415.00 - 435.00	0.6000	0.6000
T10	1	Climbing Ladder (Round)	385.00 - 410.00	0.6000	0.6000
T10	2	Safety Line 3/8	385.00 - 410.00	0.6000	0.6000
T10	3	8188(3/4")	385.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T10	5	Coax-Brackets (Af)	385.00 - 410.00	0.6000	0.6000
T10	6	8188(3/4")	385.00 - 410.00	0.6000	0.6000
T10	7	8188(3/4")	385.00 - 410.00	0.6000	0.6000
T10	10	D-Tuner	385.00 - 410.00	0.6000	0.6000
T10	11	D-Tuner	385.00 - 410.00	0.6000	0.6000
T10	12	D-Tuner	385.00 - 410.00	0.6000	0.6000
T10	14	LDF7-50A(1-5/8")	385.00 - 410.00	0.6000	0.6000
T10	15	T-Brackets (Af)	385.00 - 410.00	0.6000	0.6000
T10	19	LDF6-50A(1-1/4")	385.00 - 410.00	0.6000	0.6000
T10	21	MACX450-1(4-1/16)	385.00 - 410.00	1.0000	0.6000
T10	23	FLC 78-50J(7/8")	385.00 - 410.00	0.6000	0.6000
T10	26	LDF5-50A(7/8")	385.00 - 410.00	0.6000	0.6000
T10	28	LDF5-50A(7/8")	385.00 - 410.00	0.6000	0.6000
T10	31	LDF7-50A(1-5/8")	388.00 - 410.00	0.6000	0.6000
T10	32	LDF7-50A(1-5/8")	385.00 - 388.00	0.6000	0.6000
T10	37	LDF4P-50A(1/2")	385.00 - 410.00	0.6000	0.6000
T11	1	Climbing Ladder (Round)	360.00 - 385.00	0.6000	0.6000
T11	2	Safety Line 3/8	360.00 - 385.00	0.6000	0.6000
T11	3	8188(3/4")	360.00 - 385.00	0.6000	0.6000
T11	5	Coax-Brackets (Af)	360.00 - 385.00	0.6000	0.6000
T11	6	8188(3/4")	360.00 - 385.00	0.6000	0.6000
T11	7	8188(3/4")	360.00 - 385.00	0.6000	0.6000
T11	10	D-Tuner	360.00 - 385.00	0.6000	0.6000
T11	11	D-Tuner	360.00 - 385.00	0.6000	0.6000
T11	12	D-Tuner	360.00 - 385.00	0.6000	0.6000
T11	14	LDF7-50A(1-5/8")	360.00 - 385.00	0.6000	0.6000
T11	15	T-Brackets (Af)	360.00 - 385.00	0.6000	0.6000
T11	19	LDF6-50A(1-1/4")	360.00 - 385.00	0.6000	0.6000
T11	21	MACX450-1(4-1/16)	360.00 - 385.00	1.0000	0.6000
T11	23	FLC 78-50J(7/8")	360.00 - 385.00	0.6000	0.6000
T11	26	LDF5-50A(7/8")	360.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T11	28	LDF5-50A(7/8")	360.00 - 385.00	0.6000	0.6000
T11	32	LDF7-50A(1-5/8")	360.00 - 385.00	0.6000	0.6000
T11	37	LDF4P-50A(1/2")	360.00 - 385.00	0.6000	0.6000
T12	1	Climbing Ladder (Round)	335.00 - 360.00	0.6000	0.6000
T12	2	Safety Line 3/8	335.00 - 360.00	0.6000	0.6000
T12	3	8188(3/4")	335.00 - 360.00	0.6000	0.6000
T12	5	Coax-Brackets (Af)	335.00 - 360.00	0.6000	0.6000
T12	6	8188(3/4")	335.00 - 360.00	0.6000	0.6000
T12	7	8188(3/4")	335.00 - 360.00	0.6000	0.6000
T12	10	D-Tuner	335.00 - 360.00	0.6000	0.6000
T12	11	D-Tuner	335.00 - 360.00	0.6000	0.6000
T12	12	D-Tuner	335.00 - 360.00	0.6000	0.6000
T12	14	LDF7-50A(1-5/8")	335.00 - 360.00	0.6000	0.6000
T12	15	T-Brackets (Af)	335.00 - 360.00	0.6000	0.6000
T12	19	LDF6-50A(1-1/4")	335.00 - 360.00	0.6000	0.6000
T12	21	MACX450-1(4-1/16)	335.00 - 360.00	1.0000	0.6000
T12	23	FLC 78-50J(7/8")	335.00 - 360.00	0.6000	0.6000
T12	26	LDF5-50A(7/8")	335.00 - 360.00	0.6000	0.6000
T12	28	LDF5-50A(7/8")	335.00 - 360.00	0.6000	0.6000
T12	32	LDF7-50A(1-5/8")	335.00 - 360.00	0.6000	0.6000
T12	37	LDF4P-50A(1/2")	335.00 - 360.00	0.6000	0.6000
T13	1	Climbing Ladder (Round)	310.00 - 335.00	0.6000	0.6000
T13	2	Safety Line 3/8	310.00 - 335.00	0.6000	0.6000
T13	3	8188(3/4")	310.00 - 335.00	0.6000	0.6000
T13	5	Coax-Brackets (Af)	310.00 - 335.00	0.6000	0.6000
T13	6	8188(3/4")	310.00 - 335.00	0.6000	0.6000
T13	7	8188(3/4")	310.00 - 335.00	0.6000	0.6000
T13	8	8188(3/4")	310.00 - 315.00	0.6000	0.6000
T13	10	D-Tuner	310.00 - 335.00	0.6000	0.6000
T13	11	D-Tuner	310.00 - 335.00	0.6000	0.6000
T13	12	D-Tuner	310.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T13	14	LDF7-50A(1-5/8")	310.00 - 335.00	0.6000	0.6000
T13	15	T-Brackets (Af)	310.00 - 335.00	0.6000	0.6000
T13	19	LDF6-50A(1-1/4")	310.00 - 335.00	0.6000	0.6000
T13	21	MACX450-1(4-1/16)	310.00 - 335.00	1.0000	0.6000
T13	23	FLC 78-50J(7/8")	310.00 - 335.00	0.6000	0.6000
T13	26	LDF5-50A(7/8")	310.00 - 335.00	0.6000	0.6000
T13	28	LDF5-50A(7/8")	310.00 - 335.00	0.6000	0.6000
T13	32	LDF7-50A(1-5/8")	324.00 - 335.00	0.6000	0.6000
T13	33	LDF7-50A(1-5/8")	310.00 - 324.00	0.6000	0.6000
T13	37	LDF4P-50A(1/2")	310.00 - 335.00	0.6000	0.6000
T13	44	LDF4-75A(1/2")	310.00 - 324.00	0.6000	0.6000
T14	1	Climbing Ladder (Round)	285.00 - 310.00	0.6000	0.6000
T14	2	Safety Line 3/8	285.00 - 310.00	0.6000	0.6000
T14	3	8188(3/4")	285.00 - 310.00	0.6000	0.6000
T14	5	Coax-Brackets (Af)	285.00 - 310.00	0.6000	0.6000
T14	6	8188(3/4")	285.00 - 310.00	0.6000	0.6000
T14	7	8188(3/4")	285.00 - 310.00	0.6000	0.6000
T14	8	8188(3/4")	285.00 - 310.00	0.6000	0.6000
T14	10	D-Tuner	285.00 - 310.00	0.6000	0.6000
T14	11	D-Tuner	285.00 - 310.00	0.6000	0.6000
T14	12	D-Tuner	285.00 - 310.00	0.6000	0.6000
T14	14	LDF7-50A(1-5/8")	285.00 - 310.00	0.6000	0.6000
T14	15	T-Brackets (Af)	285.00 - 310.00	0.6000	0.6000
T14	19	LDF6-50A(1-1/4")	285.00 - 310.00	0.6000	0.6000
T14	21	MACX450-1(4-1/16)	285.00 - 310.00	1.0000	0.6000
T14	23	FLC 78-50J(7/8")	285.00 - 310.00	0.6000	0.6000
T14	26	LDF5-50A(7/8")	285.00 - 310.00	0.6000	0.6000
T14	28	LDF5-50A(7/8")	285.00 - 310.00	0.6000	0.6000
T14	33	LDF7-50A(1-5/8")	288.00 - 310.00	0.6000	0.6000
T14	34	LDF7-50A(1-5/8")	285.00 - 288.00	0.6000	0.6000
T14	37	LDF4P-50A(1/2")	294.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T14	38	LDF4-75A(1/2")	285.00 - 310.00	0.6000	0.6000
T14	44	LDF4-75A(1/2")	285.00 - 294.00	0.6000	0.6000
T14	59	LCF12-50J(1/2")	285.00 - 310.00	0.6000	0.6000
T15	1	Climbing Ladder (Round)	260.00 - 288.00	0.6000	0.6000
T15	2	Safety Line 3/8	260.00 - 285.00	0.6000	0.6000
T15	3	8188(3/4")	260.00 - 285.00	0.6000	0.6000
T15	5	Coax-Brackets (Af)	260.00 - 285.00	0.6000	0.6000
T15	6	8188(3/4")	260.00 - 285.00	0.6000	0.6000
T15	7	8188(3/4")	260.00 - 285.00	0.6000	0.6000
T15	8	8188(3/4")	260.00 - 285.00	0.6000	0.6000
T15	10	D-Tuner	260.00 - 285.00	0.6000	0.6000
T15	11	D-Tuner	260.00 - 285.00	0.6000	0.6000
T15	12	D-Tuner	260.00 - 285.00	0.6000	0.6000
T15	14	LDF7-50A(1-5/8")	260.00 - 285.00	0.6000	0.6000
T15	15	T-Brackets (Af)	260.00 - 285.00	0.6000	0.6000
T15	19	LDF6-50A(1-1/4")	260.00 - 285.00	0.6000	0.6000
T15	21	MACX450-1(4-1/16)	260.00 - 285.00	1.0000	0.6000
T15	23	FLC 78-50J(7/8")	260.00 - 285.00	0.6000	0.6000
T15	26	LDF5-50A(7/8")	260.00 - 285.00	0.6000	0.6000
T15	28	LDF5-50A(7/8")	260.00 - 285.00	0.6000	0.6000
T15	34	LDF7-50A(1-5/8")	270.00 - 285.00	0.6000	0.6000
T15	35	LDF7-50A(1-5/8")	260.00 - 270.00	0.6000	0.6000
T15	38	LDF4-75A(1/2")	260.00 - 285.00	0.6000	0.6000
T15	44	LDF4-75A(1/2")	260.00 - 285.00	0.6000	0.6000
T15	59	LCF12-50J(1/2")	260.00 - 285.00	0.6000	0.6000
T16	1	Climbing Ladder (Round)	235.00 - 260.00	0.6000	0.6000
T16	2	Safety Line 3/8	235.00 - 260.00	0.6000	0.6000
T16	3	8188(3/4")	235.00 - 260.00	0.6000	0.6000
T16	5	Coax-Brackets (Af)	235.00 - 260.00	0.6000	0.6000
T16	6	8188(3/4")	235.00 - 260.00	0.6000	0.6000
T16	7	8188(3/4")	235.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T16	8	8188(3/4")	260.00 235.00 - 260.00	0.6000	0.6000
T16	10	D-Tuner	235.00 - 260.00	0.6000	0.6000
T16	11	D-Tuner	235.00 - 260.00	0.6000	0.6000
T16	12	D-Tuner	235.00 - 260.00	0.6000	0.6000
T16	14	LDF7-50A(1-5/8")	235.00 - 260.00	0.6000	0.6000
T16	15	T-Brackets (Af)	235.00 - 260.00	0.6000	0.6000
T16	19	LDF6-50A(1-1/4")	235.00 - 260.00	0.6000	0.6000
T16	21	MACX450-1(4-1/16)	235.00 - 260.00	1.0000	0.6000
T16	23	FLC 78-50J(7/8")	235.00 - 260.00	0.6000	0.6000
T16	26	LDF5-50A(7/8")	235.00 - 260.00	0.6000	0.6000
T16	28	LDF5-50A(7/8")	235.00 - 260.00	0.6000	0.6000
T16	35	LDF7-50A(1-5/8")	235.00 - 260.00	0.6000	0.6000
T16	38	LDF4-75A(1/2")	235.00 - 260.00	0.6000	0.6000
T16	44	LDF4-75A(1/2")	235.00 - 260.00	0.6000	0.6000
T16	46	T-Brackets (Af)	235.00 - 250.00	0.6000	0.6000
T16	49	HCS 6X12 4AWG(1-5/8)	235.00 - 239.00	0.6000	0.6000
T16	59	LCF12-50J(1/2")	235.00 - 260.00	0.6000	0.6000
T17	1	Climbing Ladder (Round)	210.00 - 235.00	0.6000	0.6000
T17	2	Safety Line 3/8	210.00 - 235.00	0.6000	0.6000
T17	3	8188(3/4")	210.00 - 235.00	0.6000	0.6000
T17	4	1/2" Grouding wire	210.00 - 212.00	0.6000	0.6000
T17	5	Coax-Brackets (Af)	210.00 - 235.00	0.6000	0.6000
T17	6	8188(3/4")	210.00 - 235.00	0.6000	0.6000
T17	7	8188(3/4")	210.00 - 235.00	0.6000	0.6000
T17	8	8188(3/4")	210.00 - 235.00	0.6000	0.6000
T17	10	D-Tuner	210.00 - 235.00	0.6000	0.6000
T17	11	D-Tuner	210.00 - 235.00	0.6000	0.6000
T17	12	D-Tuner	210.00 - 235.00	0.6000	0.6000
T17	14	LDF7-50A(1-5/8")	210.00 - 235.00	0.6000	0.6000
T17	15	T-Brackets (Af)	210.00 - 235.00	0.6000	0.6000
T17	19	LDF6-50A(1-1/4")	210.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T17	21	MACX450-1(4-1/16)	210.00 - 235.00	1.0000	0.6000
T17	23	FLC 78-50J(7/8")	210.00 - 235.00	0.6000	0.6000
T17	26	LDF5-50A(7/8")	210.00 - 235.00	0.6000	0.6000
T17	28	LDF5-50A(7/8")	212.00 - 235.00	0.6000	0.6000
T17	29	FLC 78-50J(7/8")	210.00 - 212.00	0.6000	0.6000
T17	35	LDF7-50A(1-5/8")	210.00 - 235.00	0.6000	0.6000
T17	38	LDF4-75A(1/2")	210.00 - 235.00	0.6000	0.6000
T17	44	LDF4-75A(1/2")	210.00 - 235.00	0.6000	0.6000
T17	46	T-Brackets (Af)	210.00 - 235.00	0.6000	0.6000
T17	49	HCS 6X12 4AWG(1-5/8)	210.00 - 235.00	0.6000	0.6000
T17	51	LDF7-50A(1-5/8")	210.00 - 214.00	0.6000	0.6000
T17	59	LCF12-50J(1/2")	210.00 - 235.00	0.6000	0.6000
T18	1	Climbing Ladder (Round)	185.00 - 210.00	0.6000	0.6000
T18	2	Safety Line 3/8	185.00 - 210.00	0.6000	0.6000
T18	3	8188(3/4")	185.00 - 210.00	0.6000	0.6000
T18	4	1/2" Grouding wire	185.00 - 210.00	0.6000	0.6000
T18	5	Coax-Brackets (Af)	185.00 - 210.00	0.6000	0.6000
T18	6	8188(3/4")	185.00 - 210.00	0.6000	0.6000
T18	7	8188(3/4")	185.00 - 210.00	0.6000	0.6000
T18	8	8188(3/4")	185.00 - 210.00	0.6000	0.6000
T18	10	D-Tuner	185.00 - 210.00	0.6000	0.6000
T18	11	D-Tuner	185.00 - 210.00	0.6000	0.6000
T18	12	D-Tuner	185.00 - 210.00	0.6000	0.6000
T18	14	LDF7-50A(1-5/8")	185.00 - 210.00	0.6000	0.6000
T18	15	T-Brackets (Af)	185.00 - 210.00	0.6000	0.6000
T18	19	LDF6-50A(1-1/4")	185.00 - 210.00	0.6000	0.6000
T18	21	MACX450-1(4-1/16)	185.00 - 210.00	1.0000	0.6000
T18	23	FLC 78-50J(7/8")	185.00 - 210.00	0.6000	0.6000
T18	26	LDF5-50A(7/8")	185.00 - 210.00	0.6000	0.6000
T18	29	FLC 78-50J(7/8")	185.00 - 210.00	0.6000	0.6000
T18	35	LDF7-50A(1-5/8")	185.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T18	38	LDF4-75A(1/2")	185.00 - 210.00	0.6000	0.6000
T18	44	LDF4-75A(1/2")	185.00 - 210.00	0.6000	0.6000
T18	46	T-Brackets (Af)	185.00 - 210.00	0.6000	0.6000
T18	49	HCS 6X12 4AWG(1-5/8)	185.00 - 210.00	0.6000	0.6000
T18	51	LDF7-50A(1-5/8")	185.00 - 210.00	0.6000	0.6000
T18	59	LCF12-50J(1/2")	185.00 - 210.00	0.6000	0.6000
T18	64	CU12PSM6P4XXX(1-3/4)	185.00 - 202.00	0.6000	0.6000
T19	1	Climbing Ladder (Round)	160.00 - 185.00	0.6000	0.6000
T19	2	Safety Line 3/8	160.00 - 185.00	0.6000	0.6000
T19	3	8188(3/4")	160.00 - 185.00	0.6000	0.6000
T19	4	1/2" Grouding wire	160.00 - 185.00	0.6000	0.6000
T19	5	Coax-Brackets (Af)	160.00 - 185.00	0.6000	0.6000
T19	6	8188(3/4")	160.00 - 185.00	0.6000	0.6000
T19	7	8188(3/4")	160.00 - 185.00	0.6000	0.6000
T19	8	8188(3/4")	160.00 - 185.00	0.6000	0.6000
T19	10	D-Tuner	160.00 - 185.00	0.6000	0.6000
T19	11	D-Tuner	160.00 - 185.00	0.6000	0.6000
T19	12	D-Tuner	160.00 - 185.00	0.6000	0.6000
T19	14	LDF7-50A(1-5/8")	160.00 - 185.00	0.6000	0.6000
T19	15	T-Brackets (Af)	160.00 - 185.00	0.6000	0.6000
T19	19	LDF6-50A(1-1/4")	160.00 - 185.00	0.6000	0.6000
T19	21	MACX450-1(4-1/16)	160.00 - 185.00	1.0000	0.6000
T19	23	FLC 78-50J(7/8")	175.00 - 185.00	0.6000	0.6000
T19	24	LDF5-50A(7/8")	160.00 - 175.00	0.6000	0.6000
T19	26	LDF5-50A(7/8")	160.00 - 185.00	0.6000	0.6000
T19	29	FLC 78-50J(7/8")	160.00 - 185.00	0.6000	0.6000
T19	35	LDF7-50A(1-5/8")	160.00 - 185.00	0.6000	0.6000
T19	38	LDF4-75A(1/2")	160.00 - 185.00	0.6000	0.6000
T19	44	LDF4-75A(1/2")	160.00 - 185.00	0.6000	0.6000
T19	46	T-Brackets (Af)	160.00 - 185.00	0.6000	0.6000
T19	49	HCS 6X12 4AWG(1-5/8)	160.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T19	51	LDF7-50A(1-5/8")	160.00 - 185.00	0.6000	0.6000
T19	59	LCF12-50J(1/2")	160.00 - 185.00	0.6000	0.6000
T19	64	CU12PSM6P4XXX(1-3/4)	160.00 - 185.00	0.6000	0.6000
T20	1	Climbing Ladder (Round)	135.00 - 160.00	0.6000	0.6000
T20	2	Safety Line 3/8	135.00 - 160.00	0.6000	0.6000
T20	3	8188(3/4")	135.00 - 160.00	0.6000	0.6000
T20	4	1/2" Grouding wire	135.00 - 160.00	0.6000	0.6000
T20	5	Coax-Brackets (Af)	135.00 - 160.00	0.6000	0.6000
T20	6	8188(3/4")	135.00 - 160.00	0.6000	0.6000
T20	7	8188(3/4")	135.00 - 160.00	0.6000	0.6000
T20	8	8188(3/4")	135.00 - 160.00	0.6000	0.6000
T20	14	LDF7-50A(1-5/8")	135.00 - 160.00	0.6000	0.6000
T20	15	T-Brackets (Af)	135.00 - 160.00	0.6000	0.6000
T20	19	LDF6-50A(1-1/4")	135.00 - 160.00	0.6000	0.6000
T20	21	MACX450-1(4-1/16)	135.00 - 160.00	1.0000	0.6000
T20	24	LDF5-50A(7/8")	135.00 - 160.00	0.6000	0.6000
T20	26	LDF5-50A(7/8")	135.00 - 160.00	0.6000	0.6000
T20	29	FLC 78-50J(7/8")	135.00 - 160.00	0.6000	0.6000
T20	35	LDF7-50A(1-5/8")	135.00 - 160.00	0.6000	0.6000
T20	38	LDF4-75A(1/2")	135.00 - 160.00	0.6000	0.6000
T20	41	LDF4P-50A(1/2")	135.00 - 138.00	0.6000	0.6000
T20	44	LDF4-75A(1/2")	135.00 - 160.00	0.6000	0.6000
T20	46	T-Brackets (Af)	135.00 - 160.00	0.6000	0.6000
T20	49	HCS 6X12 4AWG(1-5/8)	135.00 - 160.00	0.6000	0.6000
T20	51	LDF7-50A(1-5/8")	135.00 - 160.00	0.6000	0.6000
T20	53	EW52(ELLIPTICAL)	135.00 - 145.00	0.6000	0.6000
T20	59	LCF12-50J(1/2")	135.00 - 160.00	0.6000	0.6000
T20	64	CU12PSM6P4XXX(1-3/4)	135.00 - 160.00	0.6000	0.6000
T21	1	Climbing Ladder (Round)	110.00 - 135.00	0.6000	0.6000
T21	2	Safety Line 3/8	110.00 - 135.00	0.6000	0.6000
T21	3	8188(3/4")	110.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			135.00		
T21	4	1/2" Grouding wire	110.00 - 135.00	0.6000	0.6000
T21	5	Coax-Brackets (Af)	110.00 - 135.00	0.6000	0.6000
T21	6	8188(3/4")	110.00 - 135.00	0.6000	0.6000
T21	7	8188(3/4")	110.00 - 135.00	0.6000	0.6000
T21	8	8188(3/4")	110.00 - 135.00	0.6000	0.6000
T21	14	LDF7-50A(1-5/8")	110.00 - 135.00	0.6000	0.6000
T21	15	T-Brackets (Af)	110.00 - 135.00	0.6000	0.6000
T21	19	LDF6-50A(1-1/4")	110.00 - 135.00	0.6000	0.6000
T21	21	MACX450-1(4-1/16)	110.00 - 135.00	1.0000	0.6000
T21	24	LDF5-50A(7/8")	110.00 - 135.00	0.6000	0.6000
T21	26	LDF5-50A(7/8")	110.00 - 135.00	0.6000	0.6000
T21	29	FLC 78-50J(7/8")	110.00 - 135.00	0.6000	0.6000
T21	35	LDF7-50A(1-5/8")	110.00 - 135.00	0.6000	0.6000
T21	38	LDF4-75A(1/2")	110.00 - 135.00	0.6000	0.6000
T21	41	LDF4P-50A(1/2")	134.00 - 135.00	0.6000	0.6000
T21	42	LDF4-50A(1/2")	110.00 - 134.00	0.6000	0.6000
T21	44	LDF4-75A(1/2")	110.00 - 135.00	0.6000	0.6000
T21	46	T-Brackets (Af)	110.00 - 135.00	0.6000	0.6000
T21	49	HCS 6X12 4AWG(1-5/8)	110.00 - 135.00	0.6000	0.6000
T21	51	LDF7-50A(1-5/8")	110.00 - 135.00	0.6000	0.6000
T21	53	EW52(ELLIPTICAL)	110.00 - 135.00	0.6000	0.6000
T21	55	LDF2-50(3/8")	110.00 - 112.00	0.6000	0.6000
T21	59	LCF12-50J(1/2")	110.00 - 135.00	0.6000	0.6000
T21	64	CU12PSM6P4XXX(1-3/4)	110.00 - 135.00	0.6000	0.6000
T22	1	Climbing Ladder (Round)	85.00 - 110.00	0.6000	0.6000
T22	2	Safety Line 3/8	85.00 - 110.00	0.6000	0.6000
T22	3	8188(3/4")	85.00 - 110.00	0.6000	0.6000
T22	4	1/2" Grouding wire	85.00 - 110.00	0.6000	0.6000
T22	5	Coax-Brackets (Af)	85.00 - 110.00	0.6000	0.6000
T22	6	8188(3/4")	85.00 - 110.00	0.6000	0.6000
T22	7	8188(3/4")	85.00 - 110.00	0.6000	0.6000
T22	8	8188(3/4")	85.00 - 110.00	0.6000	0.6000
T22	14	LDF7-50A(1-5/8")	85.00 - 110.00	0.6000	0.6000
T22	15	T-Brackets (Af)	85.00 - 110.00	0.6000	0.6000
T22	19	LDF6-50A(1-1/4")	85.00 - 110.00	0.6000	0.6000
T22	21	MACX450-1(4-1/16)	85.00 - 110.00	1.0000	0.6000
T22	24	LDF5-50A(7/8")	85.00 - 110.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T22	26	LDF5-50A(7/8")	85.00 - 110.00	0.6000	0.6000
T22	29	FLC 78-50J(7/8")	85.00 - 110.00	0.6000	0.6000
T22	35	LDF7-50A(1-5/8")	85.00 - 110.00	0.6000	0.6000
T22	38	LDF4-75A(1/2")	91.00 - 110.00	0.6000	0.6000
T22	39	LDF4P-50A(1/2")	85.00 - 91.00	0.6000	0.6000
T22	42	LDF4-50A(1/2")	85.00 - 110.00	0.6000	0.6000
T22	44	LDF4-75A(1/2")	85.00 - 110.00	0.6000	0.6000
T22	46	T-Brackets (Af)	85.00 - 110.00	0.6000	0.6000
T22	49	HCS 6X12 4AWG(1-5/8)	85.00 - 110.00	0.6000	0.6000
T22	51	LDF7-50A(1-5/8")	85.00 - 110.00	0.6000	0.6000
T22	53	EW52(ELLIPTICAL)	85.00 - 110.00	0.6000	0.6000
T22	55	LDF2-50(3/8")	85.00 - 110.00	0.6000	0.6000
T22	59	LCF12-50J(1/2")	85.00 - 110.00	0.6000	0.6000
T22	64	CU12PSM6P4XXX(1-3/4)	85.00 - 110.00	0.6000	0.6000
T23	1	Climbing Ladder (Round)	60.00 - 85.00	0.6000	0.6000
T23	2	Safety Line 3/8	60.00 - 85.00	0.6000	0.6000
T23	3	8188(3/4")	60.00 - 85.00	0.6000	0.6000
T23	4	1/2" Grouding wire	60.00 - 85.00	0.6000	0.6000
T23	5	Coax-Brackets (Af)	60.00 - 85.00	0.6000	0.6000
T23	6	8188(3/4")	60.00 - 85.00	0.6000	0.6000
T23	7	8188(3/4")	60.00 - 85.00	0.6000	0.6000
T23	8	8188(3/4")	60.00 - 85.00	0.6000	0.6000
T23	14	LDF7-50A(1-5/8")	60.00 - 85.00	0.6000	0.6000
T23	15	T-Brackets (Af)	60.00 - 85.00	0.6000	0.6000
T23	19	LDF6-50A(1-1/4")	60.00 - 85.00	0.6000	0.6000
T23	21	MACX450-1(4-1/16)	60.00 - 85.00	0.6000	0.6000
T23	24	LDF5-50A(7/8")	60.00 - 85.00	0.6000	0.6000
T23	26	LDF5-50A(7/8")	60.00 - 85.00	0.6000	0.6000
T23	29	FLC 78-50J(7/8")	60.00 - 85.00	0.6000	0.6000
T23	35	LDF7-50A(1-5/8")	60.00 - 85.00	0.6000	0.6000
T23	39	LDF4P-50A(1/2")	60.00 - 85.00	0.6000	0.6000
T23	42	LDF4-50A(1/2")	60.00 - 85.00	0.6000	0.6000
T23	44	LDF4-75A(1/2")	60.00 - 85.00	0.6000	0.6000
T23	46	T-Brackets (Af)	60.00 - 85.00	0.6000	0.6000
T23	49	HCS 6X12 4AWG(1-5/8)	60.00 - 85.00	0.6000	0.6000
T23	51	LDF7-50A(1-5/8")	60.00 - 85.00	0.6000	0.6000
T23	53	EW52(ELLIPTICAL)	60.00 - 85.00	0.6000	0.6000
T23	55	LDF2-50(3/8")	60.00 - 85.00	0.6000	0.6000
T23	57	FLC38-50J(3/8")	60.00 - 80.00	0.6000	0.6000
T23	59	LCF12-50J(1/2")	76.00 - 85.00	0.6000	0.6000
T23	60	LCF12-50J(1/2")	60.00 - 76.00	0.6000	0.6000
T23	64	CU12PSM6P4XXX(1-3/4)	60.00 - 85.00	0.6000	0.6000
T24	1	Climbing Ladder (Round)	35.00 - 60.00	0.6000	0.6000
T24	2	Safety Line 3/8	35.00 - 60.00	0.6000	0.6000
T24	3	8188(3/4")	35.00 - 60.00	0.6000	0.6000
T24	4	1/2" Grouding wire	35.00 - 60.00	0.6000	0.6000
T24	5	Coax-Brackets (Af)	35.00 - 60.00	0.6000	0.6000
T24	6	8188(3/4")	35.00 - 60.00	0.6000	0.6000
T24	7	8188(3/4")	35.00 - 60.00	0.6000	0.6000
T24	8	8188(3/4")	35.00 - 60.00	0.6000	0.6000
T24	14	LDF7-50A(1-5/8")	35.00 - 60.00	0.6000	0.6000
T24	15	T-Brackets (Af)	35.00 - 60.00	0.6000	0.6000
T24	19	LDF6-50A(1-1/4")	35.00 - 60.00	0.6000	0.6000
T24	21	MACX450-1(4-1/16)	35.00 - 60.00	0.6000	0.6000
T24	24	LDF5-50A(7/8")	35.00 - 60.00	0.6000	0.6000
T24	26	LDF5-50A(7/8")	35.00 - 60.00	0.6000	0.6000
T24	29	FLC 78-50J(7/8")	35.00 - 60.00	0.6000	0.6000
T24	35	LDF7-50A(1-5/8")	35.00 - 60.00	0.6000	0.6000
T24	39	LDF4P-50A(1/2")	35.00 - 60.00	0.6000	0.6000
T24	42	LDF4-50A(1/2")	35.00 - 60.00	0.6000	0.6000
T24	44	LDF4-75A(1/2")	35.00 - 60.00	0.6000	0.6000
T24	46	T-Brackets (Af)	35.00 - 60.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T24	49	HCS 6X12 4AWG(1-5/8)	35.00 - 60.00	0.6000	0.6000
T24	51	LDF7-50A(1-5/8")	35.00 - 60.00	0.6000	0.6000
T24	53	EW52(ELLIPTICAL)	35.00 - 60.00	0.6000	0.6000
T24	55	LDF2-50(3/8")	35.00 - 60.00	0.6000	0.6000
T24	57	FLC38-50J(3/8")	35.00 - 60.00	0.6000	0.6000
T24	60	LCF12-50J(1/2")	35.00 - 60.00	0.6000	0.6000
T24	64	CU12PSM6P4XXX(1-3/4)	35.00 - 60.00	0.6000	0.6000
T25	1	Climbing Ladder (Round)	10.00 - 35.00	0.6000	0.6000
T25	2	Safety Line 3/8	10.00 - 35.00	0.6000	0.6000
T25	3	8188(3/4")	10.00 - 35.00	0.6000	0.6000
T25	4	1/2" Grouding wire	10.00 - 35.00	0.6000	0.6000
T25	5	Coax-Brackets (Af)	10.00 - 35.00	0.6000	0.6000
T25	6	8188(3/4")	10.00 - 35.00	0.6000	0.6000
T25	7	8188(3/4")	10.00 - 35.00	0.6000	0.6000
T25	8	8188(3/4")	10.00 - 35.00	0.6000	0.6000
T25	14	LDF7-50A(1-5/8")	10.00 - 35.00	0.6000	0.6000
T25	15	T-Brackets (Af)	10.00 - 35.00	0.6000	0.6000
T25	19	LDF6-50A(1-1/4")	10.00 - 35.00	0.6000	0.6000
T25	21	MACX450-1(4-1/16)	10.00 - 35.00	0.6000	0.6000
T25	24	LDF5-50A(7/8")	10.00 - 35.00	0.6000	0.6000
T25	26	LDF5-50A(7/8")	10.00 - 35.00	0.6000	0.6000
T25	29	FLC 78-50J(7/8")	10.00 - 35.00	0.6000	0.6000
T25	35	LDF7-50A(1-5/8")	10.00 - 35.00	0.6000	0.6000
T25	39	LDF4P-50A(1/2")	10.00 - 35.00	0.6000	0.6000
T25	42	LDF4-50A(1/2")	10.00 - 35.00	0.6000	0.6000
T25	44	LDF4-75A(1/2")	10.00 - 35.00	0.6000	0.6000
T25	46	T-Brackets (Af)	10.00 - 35.00	0.6000	0.6000
T25	49	HCS 6X12 4AWG(1-5/8)	10.00 - 35.00	0.6000	0.6000
T25	51	LDF7-50A(1-5/8")	10.00 - 35.00	0.6000	0.6000
T25	53	EW52(ELLIPTICAL)	10.00 - 35.00	0.6000	0.6000
T25	55	LDF2-50(3/8")	10.00 - 35.00	0.6000	0.6000
T25	57	FLC38-50J(3/8")	10.00 - 35.00	0.6000	0.6000
T25	60	LCF12-50J(1/2")	10.00 - 35.00	0.6000	0.6000
T25	64	CU12PSM6P4XXX(1-3/4)	10.00 - 35.00	0.6000	0.6000
T26	1	Climbing Ladder (Round)	8.00 - 10.00	0.6000	0.4822
T26	2	Safety Line 3/8	8.00 - 10.00	0.6000	0.4822
T26	3	8188(3/4")	8.00 - 10.00	0.6000	0.4822
T26	4	1/2" Grouding wire	0.00 - 10.00	0.6000	0.4822
T26	5	Coax-Brackets (Af)	8.00 - 10.00	0.6000	0.4822
T26	6	8188(3/4")	8.00 - 10.00	0.6000	0.4822
T26	7	8188(3/4")	8.00 - 10.00	0.6000	0.4822
T26	8	8188(3/4")	8.00 - 10.00	0.6000	0.4822
T26	14	LDF7-50A(1-5/8")	8.00 - 10.00	0.6000	0.4822
T26	15	T-Brackets (Af)	8.00 - 10.00	0.6000	0.4822
T26	19	LDF6-50A(1-1/4")	8.00 - 10.00	0.6000	0.4822
T26	21	MACX450-1(4-1/16)	8.00 - 10.00	0.6000	0.4822
T26	24	LDF5-50A(7/8")	8.00 - 10.00	0.6000	0.4822
T26	26	LDF5-50A(7/8")	8.00 - 10.00	0.6000	0.4822
T26	29	FLC 78-50J(7/8")	8.00 - 10.00	0.6000	0.4822
T26	35	LDF7-50A(1-5/8")	8.00 - 10.00	0.6000	0.4822
T26	39	LDF4P-50A(1/2")	8.00 - 10.00	0.6000	0.4822
T26	42	LDF4-50A(1/2")	8.00 - 10.00	0.6000	0.4822
T26	44	LDF4-75A(1/2")	8.00 - 10.00	0.6000	0.4822
T26	46	T-Brackets (Af)	8.00 - 10.00	0.6000	0.4822
T26	49	HCS 6X12 4AWG(1-5/8)	8.00 - 10.00	0.6000	0.4822
T26	51	LDF7-50A(1-5/8")	8.00 - 10.00	0.6000	0.4822
T26	53	EW52(ELLIPTICAL)	8.00 - 10.00	0.6000	0.4822
T26	55	LDF2-50(3/8")	8.00 - 10.00	0.6000	0.4822
T26	57	FLC38-50J(3/8")	8.00 - 10.00	0.6000	0.4822
T26	60	LCF12-50J(1/2")	8.00 - 10.00	0.6000	0.4822
T26	64	CU12PSM6P4XXX(1-3/4)	0.00 - 10.00	0.6000	0.4822

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Lightning Rod 5/8" x 3'	C	From Leg	0.000 0' 1'6"	0.000	560'	No Ice 1/2" Ice 1" Ice 2" Ice	0.188 0.480 0.669 1.075	0.188 0.480 0.669 1.075	0.004 0.006 0.010 0.025
Flash Beacon Lighting	B	From Leg	0.000 0' 0'	0.000	560'	No Ice 1/2" Ice 1" Ice 2" Ice	2.700 3.100 3.500 4.300	2.700 3.100 3.500 4.300	0.050 0.070 0.090 0.130
Side Light	A	From Leg	0.500 0' 0'	0.000	475'	No Ice 1/2" Ice 1" Ice 2" Ice	0.790 1.040 1.320 1.980	0.790 1.040 1.320 1.980	0.029 0.039 0.053 0.090
Side Light	B	From Leg	0.500 0' 0'	0.000	475'	No Ice 1/2" Ice 1" Ice 2" Ice	0.790 1.040 1.320 1.980	0.790 1.040 1.320 1.980	0.029 0.039 0.053 0.090
Side Light	C	From Leg	0.500 0' 0'	0.000	475'	No Ice 1/2" Ice 1" Ice 2" Ice	0.790 1.040 1.320 1.980	0.790 1.040 1.320 1.980	0.029 0.039 0.053 0.090
Flash Beacon Lighting	A	From Leg	0.000 0' 0'	0.000	315'	No Ice 1/2" Ice 1" Ice 2" Ice	2.700 3.100 3.500 4.300	2.700 3.100 3.500 4.300	0.050 0.070 0.090 0.130
Flash Beacon Lighting	C	From Leg	0.000 0' 0'	0.000	312'	No Ice 1/2" Ice 1" Ice 2" Ice	2.700 3.100 3.500 4.300	2.700 3.100 3.500 4.300	0.050 0.070 0.090 0.130
Side Light	A	From Leg	0.500 0' 0'	0.000	157'	No Ice 1/2" Ice 1" Ice 2" Ice	0.790 1.040 1.320 1.980	0.790 1.040 1.320 1.980	0.029 0.039 0.053 0.090
Side Light	B	From Leg	0.500 0' 0'	0.000	157'	No Ice 1/2" Ice 1" Ice 2" Ice	0.790 1.040 1.320 1.980	0.790 1.040 1.320 1.980	0.029 0.039 0.053 0.090
Side Light	C	From Leg	0.500 0' 0'	0.000	157'	No Ice 1/2" Ice 1" Ice 2" Ice	0.790 1.040 1.320 1.980	0.790 1.040 1.320 1.980	0.029 0.039 0.053 0.090
*									
AP19-1670/090D/DT2	A	From Leg	1.000 0' 0'	0.000	553'	No Ice 1/2" Ice 1" Ice 2" Ice	4.840 5.690 6.550 8.320	1.780 2.600 3.430 5.150	0.020 0.052 0.091 0.191
AP19-1670/090D/DT2	B	From Leg	1.000 0'	0.000	553'	No Ice 1/2" Ice	4.840 5.690	1.780 2.600	0.020 0.052

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0'			1" Ice	6.550	3.430	0.091
						2" Ice	8.320	5.150	0.191
AP19-1670/090D/DT2	C	From Leg	1.000	0.000	553'	No Ice	4.840	1.780	0.020
			0'			1/2" Ice	5.690	2.600	0.052
			0'			1" Ice	6.550	3.430	0.091
						2" Ice	8.320	5.150	0.191
PDS3DE-698/2700	A	From Leg	1.000	0.000	553'	No Ice	0.215	0.109	0.001
			0'			1/2" Ice	0.284	0.171	0.003
			0'			1" Ice	0.359	0.239	0.005
						2" Ice	0.535	0.397	0.015
Pipe Mount [PM 601-3]	C	None		0.000	553'	No Ice	3.170	3.170	0.195
						1/2" Ice	3.790	3.790	0.232
						1" Ice	4.420	4.420	0.279
						2" Ice	5.760	5.760	0.401
*									
*									
ANT150F6	A	From Leg	4.000	0.000	514'	No Ice	4.800	4.800	0.030
			0'			1/2" Ice	6.828	6.828	0.066
			14'			1" Ice	8.873	8.873	0.114
						2" Ice	13.013	13.013	0.249
PG1NOF-0093-8	C	From Leg	4.000	0.000	514'	No Ice	2.985	2.985	0.028
			0'			1/2" Ice	4.013	4.013	0.050
			5'			1" Ice	4.991	4.991	0.078
						2" Ice	6.216	6.216	0.155
Side Arm Mount [SO 312-1]	A	From Leg	2.000	0.000	514'	No Ice	1.670	5.150	0.062
			0'			1/2" Ice	2.430	7.240	0.103
			0'			1" Ice	3.210	9.380	0.159
						2" Ice	4.850	13.940	0.312
Side Arm Mount [SO 312-1]	C	From Leg	2.000	0.000	514'	No Ice	1.670	5.150	0.062
			0'			1/2" Ice	2.430	7.240	0.103
			0'			1" Ice	3.210	9.380	0.159
						2" Ice	4.850	13.940	0.312
*									
Flush Mount	A	From Leg	2.000	0.000	505'	No Ice	1.000	1.000	0.100
			0'			1/2" Ice	2.000	2.000	0.150
			0'			1" Ice	3.000	3.000	0.200
						2" Ice	5.000	5.000	0.300
*									
101-68-10-0-03N	C	From Leg	6.000	0.000	492'	No Ice	5.083	5.083	0.070
			0'			1/2" Ice	7.087	7.087	0.109
			8'			1" Ice	8.708	8.708	0.158
						2" Ice	12.000	12.000	0.286
Side Arm Mount [SO 308-1]	C	From Leg	3.000	0.000	492'	No Ice	0.410	3.060	0.053
			0'			1/2" Ice	0.810	5.100	0.080
			0'			1" Ice	1.230	7.200	0.122
						2" Ice	2.090	11.960	0.246
*									
ATW25HS3-HSO-46H	A	From Leg	1.000	0.000	490'	No Ice	36.157	36.157	0.480
			0'			1/2" Ice	40.417	40.417	0.716
			0'			1" Ice	44.694	44.694	0.979
						2" Ice	53.299	53.299	1.584
10' x 2" Mount Pipe	B	From Face	1.000	0.000	505'	No Ice	2.375	2.375	0.037
			0'			1/2" Ice	3.403	3.403	0.054
			0'			1" Ice	4.448	4.448	0.079
						2" Ice	5.911	5.911	0.148
10' x 2" Mount Pipe	B	From Face	1.000	0.000	495'	No Ice	2.375	2.375	0.037
			0'			1/2" Ice	3.403	3.403	0.054

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0'			1" Ice	4.448	4.448	0.079
						2" Ice	5.911	5.911	0.148
10' x 2" Mount Pipe	B	From Face	1.000	0.000	485'	No Ice	2.375	2.375	0.037
			0'			1/2" Ice	3.403	3.403	0.054
			0'			1" Ice	4.448	4.448	0.079
						2" Ice	5.911	5.911	0.148
10' x 2" Mount Pipe	B	From Face	1.000	0.000	475'	No Ice	2.375	2.375	0.037
			0'			1/2" Ice	3.403	3.403	0.054
			0'			1" Ice	4.448	4.448	0.079
						2" Ice	5.911	5.911	0.148
Side Arm Mount	A	From Leg	0.500	0.000	475'	No Ice	0.850	1.670	0.065
			0'			1/2" Ice	1.140	2.340	0.079
			0'			1" Ice	1.430	3.010	0.093
						2" Ice	2.010	4.350	0.121
Side Arm Mount	A	From Leg	0.500	0.000	485'	No Ice	0.850	1.670	0.065
			0'			1/2" Ice	1.140	2.340	0.079
			0'			1" Ice	1.430	3.010	0.093
						2" Ice	2.010	4.350	0.121
Side Arm Mount	A	From Leg	0.500	0.000	495'	No Ice	0.850	1.670	0.065
			0'			1/2" Ice	1.140	2.340	0.079
			0'			1" Ice	1.430	3.010	0.093
						2" Ice	2.010	4.350	0.121
Side Arm Mount	A	From Leg	0.500	0.000	505'	No Ice	0.850	1.670	0.065
			0'			1/2" Ice	1.140	2.340	0.079
			0'			1" Ice	1.430	3.010	0.093
						2" Ice	2.010	4.350	0.121
*									
ANT150F6	C	From Leg	4.000	0.000	465'	No Ice	4.800	4.800	0.030
			0'			1/2" Ice	6.828	6.828	0.066
			10'			1" Ice	8.873	8.873	0.114
						2" Ice	13.013	13.013	0.249
Side Arm Mount [SO 312-1]	C	From Leg	2.000	0.000	465'	No Ice	1.670	5.150	0.062
			0'			1/2" Ice	2.430	7.240	0.103
			0'			1" Ice	3.210	9.380	0.159
						2" Ice	4.850	13.940	0.312
*									
101-68-10-0-03N	C	From Leg	6.000	0.000	442'	No Ice	5.162	5.162	0.070
			0'			1/2" Ice	7.087	7.087	0.109
			8'			1" Ice	8.708	8.708	0.158
						2" Ice	12.000	12.000	0.286
Side Arm Mount [SO 308-1]	C	From Leg	3.000	0.000	442'	No Ice	0.410	3.060	0.053
			0'			1/2" Ice	0.810	5.100	0.080
			0'			1" Ice	1.230	7.200	0.122
						2" Ice	2.090	11.960	0.246
*									
ANT150F6	A	From Leg	4.000	0.000	438'	No Ice	4.800	4.800	0.030
			0'			1/2" Ice	6.828	6.828	0.066
			10'			1" Ice	8.873	8.873	0.114
						2" Ice	13.013	13.013	0.249
ANT150F6	B	From Leg	4.000	0.000	438'	No Ice	4.800	4.800	0.030
			0'			1/2" Ice	6.828	6.828	0.066
			10'			1" Ice	8.873	8.873	0.114
						2" Ice	13.013	13.013	0.249
13' x 2" Pipe Mount	A	From Face	0.500	0.000	438'	No Ice	3.087	3.087	0.048
			0'			1/2" Ice	4.416	4.416	0.071
			0'			1" Ice	5.760	5.760	0.102
						2" Ice	8.500	8.500	0.191

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
13' x 2" Pipe Mount	B	From Face	0.500 0' 0'	0.000	456'	No Ice 1/2" Ice 1" Ice 2" Ice	3.087 4.416 5.760 8.500	3.087 4.416 5.760 8.500	0.048 0.071 0.102 0.191
Side Arm Mount [SO 308-1]	B	From Leg	2.000 0' 0'	0.000	438'	No Ice 1/2" Ice 1" Ice 2" Ice	0.410 0.810 1.230 2.090	3.060 5.100 7.200 11.960	0.053 0.080 0.122 0.246
*									
101D-90-06-0-03	C	From Leg	6.000 0' 10'	0.000	415'	No Ice 1/2" Ice 1" Ice 2" Ice	3.325 4.537 5.300 6.535	3.325 4.537 5.300 6.535	0.043 0.068 0.100 0.183
TPRD-1554	C	From Leg	6.000 0' 10'	0.000	415'	No Ice 1/2" Ice 1" Ice 2" Ice	4.433 4.698 4.970 5.537	2.571 2.787 3.015 3.493	0.020 0.056 0.096 0.188
Side Arm Mount [SO 308-1]	C	From Leg	3.000 0' 0'	0.000	415'	No Ice 1/2" Ice 1" Ice 2" Ice	0.410 0.810 1.230 2.090	3.060 5.100 7.200 11.960	0.053 0.080 0.122 0.246
*									
SC233	C	From Leg	4.000 0' 14'	0.000	388'	No Ice 1/2" Ice 1" Ice 2" Ice	1.813 3.042 4.287 6.829	1.813 3.042 4.287 6.829	0.004 0.018 0.041 0.110
Side Arm Mount [SO 306-1]	C	From Leg	2.000 0' 0'	0.000	388'	No Ice 1/2" Ice 1" Ice 2" Ice	0.410 0.810 1.230 2.080	2.260 3.830 5.480 9.370	0.042 0.062 0.094 0.187
*									
DB636-C	A	From Leg	2.000 0' 5'	0.000	324'	No Ice 1/2" Ice 1" Ice 2" Ice	2.512 3.587 4.679 6.304	2.512 3.587 4.679 6.304	0.030 0.049 0.074 0.147
DB636-C	C	From Leg	2.000 0' 5'	0.000	324'	No Ice 1/2" Ice 1" Ice 2" Ice	2.512 3.587 4.679 6.304	2.512 3.587 4.679 6.304	0.030 0.049 0.074 0.147
Side Arm Mount [SO 307-1]	A	From Leg	1.000 0' 0'	0.000	324'	No Ice 1/2" Ice 1" Ice 2" Ice	0.410 0.810 1.230 2.080	2.660 4.480 6.370 10.730	0.048 0.072 0.108 0.218
Side Arm Mount [SO 307-1]	C	From Leg	1.000 0' 0'	0.000	324'	No Ice 1/2" Ice 1" Ice 2" Ice	0.410 0.810 1.230 2.080	2.660 4.480 6.370 10.730	0.048 0.072 0.108 0.218
*									
DB540K-E	C	From Leg	4.000 0' 9'	0.000	294'	No Ice 1/2" Ice 1" Ice 2" Ice	4.500 6.329 8.175 11.917	4.500 6.329 8.175 11.917	0.066 0.099 0.144 0.268
Side Arm Mount [SO 306-1]	C	From Leg	2.000 0' 0'	0.000	294'	No Ice 1/2" Ice 1" Ice 2" Ice	0.410 0.810 1.230 2.080	2.260 3.830 5.480 9.370	0.042 0.062 0.094 0.187
*									

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
DB636-C	A	From Leg	3.000 0' 5'	0.000	288'	No Ice 1/2" Ice 1" Ice 2" Ice	2.512 3.587 4.679 6.304	2.512 3.587 4.679 6.304	0.030 0.049 0.074 0.147
Side Arm Mount [SO 307-1]	A	From Leg	1.500 0' 0'	0.000	288'	No Ice 1/2" Ice 1" Ice 2" Ice	0.410 0.810 1.230 2.080	2.660 4.480 6.370 10.730	0.048 0.072 0.108 0.218
*									
CC806-06	C	From Leg	4.000 0' 3'	0.000	270'	No Ice 1/2" Ice 1" Ice 2" Ice	1.802 2.170 2.546 3.327	1.802 2.170 2.546 3.327	0.016 0.029 0.047 0.095
Side Arm Mount [SO 306-1]	C	From Leg	2.000 0' 0'	0.000	270'	No Ice 1/2" Ice 1" Ice 2" Ice	0.410 0.810 1.230 2.080	2.260 3.830 5.480 9.370	0.042 0.062 0.094 0.187
*									
DB809KT6E-XT	A	From Leg	4.000 0' 4'	0.000	254'	No Ice 1/2" Ice 1" Ice 2" Ice	3.660 4.913 6.183 8.202	3.660 4.913 6.183 8.202	0.030 0.056 0.091 0.184
Side Arm Mount [SO 306-1]	A	From Leg	2.000 0' 0'	0.000	254'	No Ice 1/2" Ice 1" Ice 2" Ice	0.410 0.810 1.230 2.080	2.260 3.830 5.480 9.370	0.042 0.062 0.094 0.187
*									
*									
AIR 6419 B41_TMO	A	From Leg	4.000 0' 1'	0.000	239'	No Ice 1/2" Ice 1" Ice 2" Ice	7.000 7.530 8.070 9.220	2.830 3.240 3.670 4.590	0.097 0.140 0.188 0.298
AIR 6419 B41_TMO	B	From Leg	4.000 0' 1'	0.000	239'	No Ice 1/2" Ice 1" Ice 2" Ice	7.000 7.530 8.070 9.220	2.830 3.240 3.670 4.590	0.097 0.140 0.188 0.298
AIR 6419 B41_TMO	C	From Leg	4.000 0' 1'	0.000	239'	No Ice 1/2" Ice 1" Ice 2" Ice	7.000 7.530 8.070 9.220	2.830 3.240 3.670 4.590	0.097 0.140 0.188 0.298
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	4.000 0' 1'	0.000	239'	No Ice 1/2" Ice 1" Ice 2" Ice	1.970 2.147 2.331 2.721	1.587 1.749 1.918 2.280	0.073 0.093 0.116 0.170
RADIO 4449 B71 B85A_T-MOBILE	B	From Leg	4.000 0' 1'	0.000	239'	No Ice 1/2" Ice 1" Ice 2" Ice	1.970 2.147 2.331 2.721	1.587 1.749 1.918 2.280	0.073 0.093 0.116 0.170
RADIO 4449 B71 B85A_T-MOBILE	C	From Leg	4.000 0' 1'	0.000	239'	No Ice 1/2" Ice 1" Ice 2" Ice	1.970 2.147 2.331 2.721	1.587 1.749 1.918 2.280	0.073 0.093 0.116 0.170
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.000 0' 1'	0.000	239'	No Ice 1/2" Ice 1" Ice 2" Ice	2.139 2.321 2.511 2.912	1.686 1.850 2.022 2.387	0.109 0.131 0.156 0.217
RADIO 4460 B2/B25	B	From Leg	4.000	0.000	239'	No Ice	2.139	1.686	0.109

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
B66_TMO			0'			1/2" Ice	2.321	1.850	0.131
			1'			1" Ice	2.511	2.022	0.156
						2" Ice	2.912	2.387	0.217
RADIO 4460 B2/B25	C	From Leg	4.000	0.000	239'	No Ice	2.139	1.686	0.109
B66_TMO			0'			1/2" Ice	2.321	1.850	0.131
			1'			1" Ice	2.511	2.022	0.156
						2" Ice	2.912	2.387	0.217
APXVAALL24_43-U-NA20	A	From Leg	4.000	0.000	239'	No Ice	14.670	5.320	0.150
			0'			1/2" Ice	15.430	5.990	0.262
			1'			1" Ice	16.210	6.680	0.382
						2" Ice	17.810	8.080	0.649
APXVAALL24_43-U-NA20	B	From Leg	4.000	0.000	239'	No Ice	14.670	5.320	0.150
			0'			1/2" Ice	15.430	5.990	0.262
			1'			1" Ice	16.210	6.680	0.382
						2" Ice	17.810	8.080	0.649
APXVAALL24_43-U-NA20	C	From Leg	4.000	0.000	239'	No Ice	14.670	5.320	0.150
			0'			1/2" Ice	15.430	5.990	0.262
			1'			1" Ice	16.210	6.680	0.382
						2" Ice	17.810	8.080	0.649
Sector Mount [SM 201-3]	C	None		0.000	239'	No Ice	24.760	24.760	1.083
						1/2" Ice	33.890	33.890	1.524
						1" Ice	43.000	43.000	2.098
						2" Ice	61.440	61.440	3.639
*									
742 213 w/ Mount Pipe	A	From Leg	1.000	0.000	214'	No Ice	3.540	2.980	0.049
			0'			1/2" Ice	4.130	3.570	0.087
			0'			1" Ice	4.740	4.170	0.136
						2" Ice	6.010	5.420	0.267
742 213 w/ Mount Pipe	B	From Leg	1.000	0.000	214'	No Ice	3.540	2.980	0.049
			0'			1/2" Ice	4.130	3.570	0.087
			0'			1" Ice	4.740	4.170	0.136
						2" Ice	6.010	5.420	0.267
742 213 w/ Mount Pipe	C	From Leg	1.000	0.000	214'	No Ice	3.540	2.980	0.049
			0'			1/2" Ice	4.130	3.570	0.087
			0'			1" Ice	4.740	4.170	0.136
						2" Ice	6.010	5.420	0.267
*									
ANT150F6	C	From Leg	4.000	0.000	212'	No Ice	4.800	4.800	0.030
			0'			1/2" Ice	6.828	6.828	0.066
			10'			1" Ice	8.873	8.873	0.114
						2" Ice	13.013	13.013	0.249
Side Arm Mount [SO 306-1]	C	From Leg	2.000	0.000	212'	No Ice	0.410	2.260	0.042
			0'			1/2" Ice	0.810	3.830	0.062
			0'			1" Ice	1.230	5.480	0.094
						2" Ice	2.080	9.370	0.187
*									
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.000	0.000	202'	No Ice	8.010	4.230	0.108
			0'			1/2" Ice	8.520	4.690	0.194
			0'			1" Ice	9.040	5.160	0.292
						2" Ice	10.110	6.120	0.522
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.000	0.000	202'	No Ice	8.010	4.230	0.108
			0'			1/2" Ice	8.520	4.690	0.194
			0'			1" Ice	9.040	5.160	0.292
						2" Ice	10.110	6.120	0.522
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.000	0.000	202'	No Ice	8.010	4.230	0.108
			0'			1/2" Ice	8.520	4.690	0.194
			0'			1" Ice	9.040	5.160	0.292

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	10.110	6.120	0.522
TA08025-B605	A	From Leg	4.000 0' 0'	0.000	202'	No Ice 1/2" Ice 1" Ice 2" Ice	1.964 2.138 2.320 2.705	1.129 1.267 1.411 1.723	0.075 0.093 0.114 0.164
TA08025-B605	B	From Leg	4.000 0' 0'	0.000	202'	No Ice 1/2" Ice 1" Ice 2" Ice	1.964 2.138 2.320 2.705	1.129 1.267 1.411 1.723	0.075 0.093 0.114 0.164
TA08025-B605	C	From Leg	4.000 0' 0'	0.000	202'	No Ice 1/2" Ice 1" Ice 2" Ice	1.964 2.138 2.320 2.705	1.129 1.267 1.411 1.723	0.075 0.093 0.114 0.164
TA08025-B604	A	From Leg	4.000 0' 0'	0.000	202'	No Ice 1/2" Ice 1" Ice 2" Ice	1.964 2.138 2.320 2.705	0.981 1.112 1.250 1.548	0.064 0.081 0.100 0.148
TA08025-B604	B	From Leg	4.000 0' 0'	0.000	202'	No Ice 1/2" Ice 1" Ice 2" Ice	1.964 2.138 2.320 2.705	0.981 1.112 1.250 1.548	0.064 0.081 0.100 0.148
TA08025-B604	C	From Leg	4.000 0' 0'	0.000	202'	No Ice 1/2" Ice 1" Ice 2" Ice	1.964 2.138 2.320 2.705	0.981 1.112 1.250 1.548	0.064 0.081 0.100 0.148
RDIDC-9181-PF-48	A	From Leg	4.000 0' 0'	0.000	202'	No Ice 1/2" Ice 1" Ice 2" Ice	2.012 2.189 2.373 2.763	1.168 1.311 1.461 1.784	0.022 0.040 0.060 0.110
(2) 8' x 2" Mount Pipe	A	From Leg	4.000 0' 0'	0.000	202'	No Ice 1/2" Ice 1" Ice 2" Ice	1.900 2.728 3.401 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119
(2) 8' x 2" Mount Pipe	B	From Leg	4.000 0' 0'	0.000	202'	No Ice 1/2" Ice 1" Ice 2" Ice	1.900 2.728 3.401 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119
(2) 8' x 2" Mount Pipe	C	From Leg	4.000 0' 0'	0.000	202'	No Ice 1/2" Ice 1" Ice 2" Ice	1.900 2.728 3.401 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119
Commscope MTC3975083 (3)	C	None		0.000	202'	No Ice 1/2" Ice 1" Ice 2" Ice	23.850 34.120 44.390 64.930	23.850 34.120 44.390 64.930	1.260 1.803 2.345 3.431
*									
ANT150F6	B	From Leg	6.000 0' 10'	0.000	175'	No Ice 1/2" Ice 1" Ice 2" Ice	4.800 6.828 8.873 13.013	4.800 6.828 8.873 13.013	0.030 0.066 0.114 0.249
Side Arm Mount [SO 602-1]	B	From Leg	3.000 0' 0'	0.000	175'	No Ice 1/2" Ice 1" Ice 2" Ice	2.580 3.390 4.180 5.700	10.830 13.160 15.840 22.980	0.146 0.221 0.314 0.549
6' x 2" Mount Pipe	B	From Leg	3.000 0' 0'	0.000	175'	No Ice 1/2" Ice 1" Ice	1.425 1.925 2.294	1.425 1.925 2.294	0.022 0.033 0.048

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	3.060	3.060	0.090
*									
Side Arm Mount [SO 202-1]	C	From Face	1.000 0' 1'	0.000	145'	No Ice 1/2" Ice 1" Ice 2" Ice	1.780 2.240 2.750 3.890	2.970 3.570 4.190 5.550	0.110 0.133 0.163 0.249
*									
TMADB7821VG12A	A	From Leg	1.000 0' 0'	0.000	138'	No Ice 1/2" Ice 1" Ice 2" Ice	1.065 1.195 1.333 1.629	0.323 0.401 0.490 0.691	0.022 0.030 0.039 0.065
Pipe Mount [PM 601-1]	B	From Leg	1.000 0' 0'	0.000	138'	No Ice 1/2" Ice 1" Ice 2" Ice	1.320 1.580 1.840 2.400	1.320 1.580 1.840 2.400	0.065 0.077 0.093 0.134
Side Arm Mount [SO 201-1]	B	From Leg	1.000 0' 0'	0.000	138'	No Ice 1/2" Ice 1" Ice 2" Ice	1.780 2.240 2.750 3.890	2.610 3.150 3.730 4.990	0.096 0.116 0.144 0.221
*									
TMADB7821VG12A	A	From Leg	0.000 0' 0'	0.000	134'	No Ice 1/2" Ice 1" Ice 2" Ice	1.065 1.195 1.333 1.629	0.323 0.401 0.490 0.691	0.022 0.030 0.039 0.065
*									
201-8	C	From Leg	2.000 0' 4'	0.000	112'	No Ice 1/2" Ice 1" Ice 2" Ice	1.058 1.886 2.730 3.972	1.058 1.886 2.730 3.972	0.004 0.013 0.027 0.072
Flush Mount	C	From Leg	1.000 0' 0'	0.000	112'	No Ice 1/2" Ice 1" Ice 2" Ice	1.000 2.000 3.000 5.000	1.000 2.000 3.000 5.000	0.100 0.150 0.200 0.300
*									
ANT150F2	A	From Leg	2.000 0' 3'	0.000	91'	No Ice 1/2" Ice 1" Ice 2" Ice	1.227 1.530 1.842 2.494	1.227 1.530 1.842 2.494	0.013 0.022 0.035 0.072
Flush Mount	A	From Leg	1.000 0' 0'	0.000	91'	No Ice 1/2" Ice 1" Ice 2" Ice	1.000 2.000 3.000 5.000	1.000 2.000 3.000 5.000	0.100 0.150 0.200 0.300
*									
Side Arm Mount [SO 301-1]	C	From Leg	1.000 0' 0'	0.000	80'	No Ice 1/2" Ice 1" Ice 2" Ice	0.460 0.650 0.870 1.410	0.910 1.300 1.710 2.620	0.023 0.033 0.047 0.091
*									
Acutime 2000	C	From Leg	2.000 0' 0'	0.000	76'	No Ice 1/2" Ice 1" Ice 2" Ice	0.255 0.320 0.393 0.561	0.255 0.320 0.393 0.561	0.001 0.005 0.010 0.025
Side Arm Mount [SO 301-1]	C	From Leg	1.000 0' 0'	0.000	76'	No Ice 1/2" Ice 1" Ice 2" Ice	0.460 0.650 0.870 1.410	0.910 1.300 1.710 2.620	0.023 0.033 0.047 0.091
*									

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		Aperture Area ft²	Weight K
P2F-52	C	Paraboloid w/o Radome	From Leg	1.000 0' 0'	0.000		288'	2.092	No Ice 1/2" Ice 1" Ice 2" Ice	3.436 3.715 3.995 4.553	0.015 0.034 0.053 0.091
*											
SPD2-5.8	A	Paraboloid w/o Radome	From Leg	0.500 0' 0'	32.000		138'	2.000	No Ice 1/2" Ice 1" Ice 2" Ice	3.140 3.407 3.674 4.208	0.022 0.039 0.057 0.092
*											
SPD2-5.8	A	Paraboloid w/o Radome	From Leg	0.500 0' 0'	-10.000		134'	2.000	No Ice 1/2" Ice 1" Ice 2" Ice	3.140 3.407 3.674 4.208	0.022 0.039 0.057 0.092
*											
DRAGONWAVE A-ANT-11G-4-C	C	Paraboloid w/o Radome	From Leg	1.000 0' 1'	-50.000		80'	4.222	No Ice 1/2" Ice 1" Ice 2" Ice	14.000 14.558 15.116 16.232	0.121 0.150 0.179 0.237
*											

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2D+1.0W (pattern 1) 0 deg - No Ice+1.0 Guy
3	1.2D+1.0W (pattern 2) 0 deg - No Ice+1.0 Guy
4	1.2D+1.0W (pattern 3) 0 deg - No Ice+1.0 Guy
5	1.2D+1.0W (pattern 1) 30 deg - No Ice+1.0 Guy
6	1.2D+1.0W (pattern 2) 30 deg - No Ice+1.0 Guy
7	1.2D+1.0W (pattern 3) 30 deg - No Ice+1.0 Guy
8	1.2D+1.0W (pattern 1) 60 deg - No Ice+1.0 Guy
9	1.2D+1.0W (pattern 2) 60 deg - No Ice+1.0 Guy
10	1.2D+1.0W (pattern 3) 60 deg - No Ice+1.0 Guy
11	1.2D+1.0W (pattern 1) 90 deg - No Ice+1.0 Guy
12	1.2D+1.0W (pattern 2) 90 deg - No Ice+1.0 Guy
13	1.2D+1.0W (pattern 3) 90 deg - No Ice+1.0 Guy
14	1.2D+1.0W (pattern 1) 120 deg - No Ice+1.0 Guy
15	1.2D+1.0W (pattern 2) 120 deg - No Ice+1.0 Guy
16	1.2D+1.0W (pattern 3) 120 deg - No Ice+1.0 Guy
17	1.2D+1.0W (pattern 1) 150 deg - No Ice+1.0 Guy
18	1.2D+1.0W (pattern 2) 150 deg - No Ice+1.0 Guy
19	1.2D+1.0W (pattern 3) 150 deg - No Ice+1.0 Guy
20	1.2D+1.0W (pattern 1) 180 deg - No Ice+1.0 Guy
21	1.2D+1.0W (pattern 2) 180 deg - No Ice+1.0 Guy
22	1.2D+1.0W (pattern 3) 180 deg - No Ice+1.0 Guy

Comb. No.	Description
23	1.2D+1.0W (pattern 1) 210 deg - No Ice+1.0 Guy
24	1.2D+1.0W (pattern 2) 210 deg - No Ice+1.0 Guy
25	1.2D+1.0W (pattern 3) 210 deg - No Ice+1.0 Guy
26	1.2D+1.0W (pattern 1) 240 deg - No Ice+1.0 Guy
27	1.2D+1.0W (pattern 2) 240 deg - No Ice+1.0 Guy
28	1.2D+1.0W (pattern 3) 240 deg - No Ice+1.0 Guy
29	1.2D+1.0W (pattern 1) 270 deg - No Ice+1.0 Guy
30	1.2D+1.0W (pattern 2) 270 deg - No Ice+1.0 Guy
31	1.2D+1.0W (pattern 3) 270 deg - No Ice+1.0 Guy
32	1.2D+1.0W (pattern 1) 300 deg - No Ice+1.0 Guy
33	1.2D+1.0W (pattern 2) 300 deg - No Ice+1.0 Guy
34	1.2D+1.0W (pattern 3) 300 deg - No Ice+1.0 Guy
35	1.2D+1.0W (pattern 1) 330 deg - No Ice+1.0 Guy
36	1.2D+1.0W (pattern 2) 330 deg - No Ice+1.0 Guy
37	1.2D+1.0W (pattern 3) 330 deg - No Ice+1.0 Guy
38	1.2 Dead+1.0 Ice+1.0 Temp+Guy
39	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy
40	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy
41	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy
42	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy
43	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy
44	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy
45	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy
46	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy
47	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy
48	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy
49	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy
50	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy
51	Dead+Wind 0 deg - Service+Guy
52	Dead+Wind 30 deg - Service+Guy
53	Dead+Wind 60 deg - Service+Guy
54	Dead+Wind 90 deg - Service+Guy
55	Dead+Wind 120 deg - Service+Guy
56	Dead+Wind 150 deg - Service+Guy
57	Dead+Wind 180 deg - Service+Guy
58	Dead+Wind 210 deg - Service+Guy
59	Dead+Wind 240 deg - Service+Guy
60	Dead+Wind 270 deg - Service+Guy
61	Dead+Wind 300 deg - Service+Guy
62	Dead+Wind 330 deg - Service+Guy

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	560 - 553.75	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	49	-0.714	0.029	0.015
			Max. Mx	11	-0.452	-0.100	0.001
			Max. My	3	-0.413	-0.003	0.106
			Max. Vy	26	0.079	0.000	0.000
			Max. Vx	2	0.096	-0.000	0.000
		Diagonal	Max Tension	26	0.091	0.000	0.000
			Max. Compression	47	-0.396	0.000	0.000
			Max. Mx	49	-0.127	0.108	0.000
			Max. My	8	-0.032	0.000	0.001
			Max. Vy	49	-0.058	0.000	0.000
			Max. Vx	8	-0.001	0.000	0.000
		Top Girt	Max Tension	8	0.108	-0.007	-0.001

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-0.117	-0.036	0.001
			Max. Mx	43	0.015	0.091	0.000
			Max. My	2	0.068	0.010	-0.001
			Max. Vy	45	-0.110	-0.038	0.000
			Max. Vx	2	0.000	0.000	0.000
T2	553.75 - 547.5	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	43	-2.280	0.021	0.011
			Max. Mx	29	-0.951	-0.111	-0.003
			Max. My	2	-0.965	-0.003	-0.120
			Max. Vy	29	0.199	0.096	-0.003
			Max. Vx	2	0.208	-0.003	0.106
		Diagonal	Max Tension	29	1.122	0.000	0.000
			Max. Compression	29	-1.251	0.000	0.000
			Max. Mx	49	0.177	0.080	0.000
			Max. My	45	-0.392	0.000	-0.001
			Max. Vy	49	-0.043	0.000	0.000
			Max. Vx	45	-0.000	0.000	0.000
		Horizontal	Max Tension	8	0.750	-0.024	-0.000
			Max. Compression	26	-0.707	-0.025	0.000
			Max. Mx	43	0.255	-0.056	-0.000
			Max. My	2	0.390	-0.023	-0.001
			Max. Vy	43	0.070	-0.056	-0.000
			Max. Vx	2	0.000	0.000	0.000
T3	547.5 - 541.25	Leg	Max Tension	20	0.213	0.003	0.035
			Max. Compression	14	-6.738	-0.043	-0.023
			Max. Mx	29	-5.347	-0.083	0.004
			Max. My	2	-6.390	-0.004	-0.092
			Max. Vy	29	-0.062	0.045	0.001
			Max. Vx	2	-0.066	0.000	0.049
		Diagonal	Max Tension	29	2.436	0.000	0.000
		Top Girt	Max Tension	2	0.242	0.000	0.000
			Max. Compression	2	-0.991	0.000	0.000
			Max. Mx	49	0.024	0.393	0.000
			Max. My	29	-0.919	0.000	-0.000
			Max. Vy	49	-0.196	0.000	0.000
			Max. Vx	29	0.000	0.000	0.000
T4	541.25 - 535	Leg	Max Tension	20	2.188	0.001	-0.026
			Max. Compression	2	-10.737	-0.000	0.030
			Max. Mx	12	-8.589	-0.045	0.001
			Max. My	2	-10.410	0.000	0.049
			Max. Vy	29	0.048	0.045	0.001
			Max. Vx	2	0.049	0.000	0.049
		Diagonal	Max Tension	29	3.074	0.000	0.000
		Top Girt	Max Tension	2	0.130	0.000	0.000
			Max. Compression	29	-2.156	0.000	0.000
			Max. Mx	49	-0.071	0.223	0.000
			Max. My	29	-2.155	0.000	-0.000
			Max. Vy	49	-0.112	0.000	0.000
			Max. Vx	29	0.000	0.000	0.000
T5	535 - 510	Leg	Max Tension	20	16.190	0.036	-0.087
			Max. Compression	2	-33.708	-0.055	0.316
			Max. Mx	30	-6.639	0.374	0.020
			Max. My	3	6.321	0.056	0.365
			Max. Vy	26	0.214	0.135	-0.034
			Max. Vx	2	0.193	0.032	0.125
		Diagonal	Max Tension	5	5.555	0.000	0.000
		Horizontal	Max Tension	4	0.055	0.000	0.000
			Max. Compression	5	-3.959	0.000	0.000
			Max. Mx	49	-0.079	0.223	0.000
			Max. My	29	-3.053	0.000	-0.000
			Max. Vy	49	-0.111	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. Vx	29	0.000	0.000	0.000
		Top Girt	Max Tension	3	0.081	0.000	0.000
			Max. Compression	29	-2.626	0.000	0.000
			Max. Mx	44	-0.859	0.223	0.000
			Max. My	29	-2.626	0.000	-0.000
			Max. Vy	44	-0.111	0.000	0.000
			Max. Vx	29	0.000	0.000	0.000
T6	510 - 485	Leg	Max Tension	20	34.069	0.002	0.227
			Max. Compression	3	-72.386	0.016	0.203
			Max. Mx	29	-43.814	1.510	0.244
			Max. My	20	33.817	0.079	-1.607
			Max. Vy	11	-0.938	-1.171	-0.507
			Max. Vx	5	0.762	-0.802	1.494
		Diagonal	Max Tension	13	9.168	0.000	0.000
		Horizontal	Max Tension	26	15.581	0.000	0.000
			Max. Compression	24	-5.778	0.000	0.000
			Max. Mx	41	10.560	0.222	0.000
			Max. My	29	-5.062	0.000	-0.000
			Max. Vy	41	-0.111	0.000	0.000
			Max. Vx	29	0.000	0.000	0.000
		Top Girt	Max Tension	43	0.098	0.000	0.000
			Max. Compression	23	-4.815	0.000	0.000
			Max. Mx	49	-0.096	0.222	0.000
			Max. My	29	-4.465	0.000	-0.000
			Max. Vy	49	-0.111	0.000	0.000
			Max. Vx	29	0.000	0.000	0.000
		Guy A	Bottom Tension	20	80.637		
			Top Tension	20	83.658		
			Top Cable Vert	20	75.240		
			Top Cable Norm	20	36.572		
			Top Cable Tan	20	0.013		
			Bot Cable Vert	20	-70.824		
			Bot Cable Norm	20	38.551		
			Bot Cable Tan	20	0.013		
		Guy B	Bottom Tension	32	81.176		
			Top Tension	32	84.118		
			Top Cable Vert	32	75.739		
			Top Cable Norm	32	36.600		
			Top Cable Tan	32	0.007		
			Bot Cable Vert	32	-71.440		
			Bot Cable Norm	32	38.547		
			Bot Cable Tan	32	0.007		
		Guy C	Bottom Tension	8	80.715		
			Top Tension	8	83.837		
			Top Cable Vert	8	75.776		
			Top Cable Norm	8	35.870		
			Top Cable Tan	8	0.017		
			Bot Cable Vert	8	-71.254		
			Bot Cable Norm	8	37.918		
			Bot Cable Tan	8	0.017		
T7	485 - 460	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	10	-89.924	-0.270	0.068
			Max. Mx	29	-53.430	0.502	0.298
			Max. My	23	-52.241	-0.036	-0.552
			Max. Vy	13	0.163	-0.430	0.064
			Max. Vx	2	0.201	0.022	-0.021
		Diagonal	Max Tension	13	8.858	0.000	0.000
		Horizontal	Max Tension	3	0.105	0.000	0.000
			Max. Compression	13	-6.789	0.000	0.000
			Max. Mx	39	-2.051	0.221	0.000
			Max. My	29	-5.226	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	39	0.110	0.000	0.000
			Max. Vx	29	0.000	0.000	0.000
		Top Girt	Max Tension	38	0.063	0.000	0.000
			Max. Compression	13	-6.989	0.000	0.000
			Max. Mx	41	-2.438	0.221	0.000
			Max. My	29	-6.608	0.000	-0.000
			Max. Vy	41	0.110	0.000	0.000
			Max. Vx	29	0.000	0.000	0.000
T8	460 - 435	Leg	Max Tension	16	4.001	0.193	0.011
			Max. Compression	10	-106.941	0.134	-0.072
			Max. Mx	11	-55.388	0.649	-0.044
			Max. My	22	-29.175	0.051	0.580
			Max. Vy	29	0.220	-0.029	-0.000
			Max. Vx	2	-0.251	-0.037	-0.180
		Diagonal	Max Tension	13	5.535	0.000	0.000
		Horizontal	Max Tension	4	0.234	0.000	0.000
			Max. Compression	13	-4.211	0.000	0.000
			Max. Mx	49	-0.365	0.169	0.000
			Max. My	11	-2.639	0.000	-0.000
			Max. Vy	49	-0.085	0.000	0.000
			Max. Vx	11	0.000	0.000	0.000
		Top Girt	Max Tension	2	0.236	0.000	0.000
			Max. Compression	13	-4.806	0.000	0.000
			Max. Mx	49	-0.397	0.169	0.000
			Max. My	29	-4.412	0.000	-0.000
			Max. Vy	49	-0.085	0.000	0.000
			Max. Vx	29	0.000	0.000	0.000
T9	435 - 410	Leg	Max Tension	4	7.265	-0.001	-0.208
			Max. Compression	10	-110.808	0.401	-0.018
			Max. Mx	34	-32.825	-0.621	-0.303
			Max. My	19	-58.825	0.271	0.843
			Max. Vy	14	-0.150	0.333	0.246
			Max. Vx	2	0.243	-0.053	-0.266
		Diagonal	Max Tension	23	2.317	0.000	0.000
		Horizontal	Max Tension	4	0.185	0.000	0.000
			Max. Compression	28	-1.605	0.000	0.000
			Max. Mx	38	-0.029	0.168	0.000
			Max. My	11	-1.157	0.000	-0.000
			Max. Vy	38	-0.084	0.000	0.000
			Max. Vx	11	0.000	0.000	0.000
		Top Girt	Max Tension	4	0.240	0.000	0.000
			Max. Compression	28	-2.253	0.000	0.000
			Max. Mx	49	-0.342	0.168	0.000
			Max. My	11	-1.796	0.000	-0.000
			Max. Vy	49	-0.084	0.000	0.000
			Max. Vx	11	0.000	0.000	0.000
T10	410 - 385	Leg	Max Tension	16	3.817	0.178	0.115
			Max. Compression	10	-110.068	0.192	-0.111
			Max. Mx	26	-72.731	0.366	-0.142
			Max. My	25	-60.488	-0.082	0.459
			Max. Vy	26	-0.142	0.366	-0.142
			Max. Vx	2	-0.185	0.043	0.358
		Diagonal	Max Tension	23	5.372	0.000	0.000
		Horizontal	Max Tension	43	0.066	0.000	0.000
			Max. Compression	23	-3.990	0.000	0.000
			Max. Mx	49	-0.093	0.168	0.000
			Max. My	11	-1.455	0.000	-0.000
			Max. Vy	49	-0.084	0.000	0.000
			Max. Vx	11	0.000	0.000	0.000
		Top Girt	Max Tension	7	0.123	0.000	0.000
			Max. Compression	23	-2.192	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	49	-0.218	0.168	0.000
			Max. My	11	-0.800	0.000	-0.000
			Max. Vy	49	-0.084	0.000	0.000
			Max. Vx	11	0.000	0.000	0.000
T11	385 - 360	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	10	-99.368	0.167	-0.105
			Max. Mx	26	-63.384	0.733	-0.348
			Max. My	2	-62.770	0.041	0.759
			Max. Vy	29	-0.190	0.728	-0.019
			Max. Vx	2	-0.189	0.041	0.759
		Diagonal	Max Tension	23	8.209	0.000	0.000
		Horizontal	Max Tension	14	0.065	0.000	0.000
			Max. Compression	23	-6.320	0.000	0.000
			Max. Mx	49	-0.093	0.160	0.000
			Max. My	11	-3.852	0.000	-0.000
			Max. Vy	49	0.080	0.000	0.000
			Max. Vx	11	0.000	0.000	0.000
		Top Girt	Max Tension	14	0.146	0.000	0.000
			Max. Compression	23	-4.719	0.000	0.000
			Max. Mx	49	-0.114	0.160	0.000
			Max. My	11	-3.233	0.000	-0.000
			Max. Vy	49	0.080	0.000	0.000
			Max. Vx	11	0.000	0.000	0.000
T12	360 - 335	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	2	-117.145	-0.039	0.649
			Max. Mx	26	-59.843	0.733	-0.348
			Max. My	2	-59.231	0.041	0.759
			Max. Vy	29	0.186	0.728	-0.019
			Max. Vx	2	0.183	0.041	0.759
		Diagonal	Max Tension	23	11.186	0.000	0.000
		Horizontal	Max Tension	55	0.023	0.000	0.000
			Max. Compression	23	-8.652	0.000	0.000
			Max. Mx	49	-0.108	0.216	0.000
			Max. My	11	-6.071	0.000	-0.000
			Max. Vy	49	-0.108	0.000	0.000
			Max. Vx	11	0.000	0.000	0.000
		Top Girt	Max Tension	14	0.126	0.000	0.000
			Max. Compression	23	-7.029	0.000	0.000
			Max. Mx	49	-0.190	0.216	0.000
			Max. My	11	-5.470	0.000	-0.000
			Max. Vy	49	-0.108	0.000	0.000
			Max. Vx	11	0.000	0.000	0.000
T13	335 - 310	Leg	Max Tension	32	1.334	-0.368	-0.220
			Max. Compression	2	-161.210	0.040	0.311
			Max. Mx	31	-24.498	3.531	0.382
			Max. My	22	-16.289	0.077	-3.515
			Max. Vy	31	-0.704	3.531	0.382
			Max. Vx	22	0.703	0.077	-3.515
		Diagonal	Max Tension	23	13.090	0.000	0.000
		Horizontal	Max Tension	28	17.792	0.000	0.000
			Max. Compression	23	-10.121	0.000	0.000
			Max. Mx	49	9.576	0.215	0.000
			Max. My	11	-8.458	0.000	-0.000
			Max. Vy	49	-0.108	0.000	0.000
			Max. Vx	11	0.000	0.000	0.000
		Top Girt	Max Tension	55	0.048	0.000	0.000
			Max. Compression	23	-9.288	0.000	0.000
			Max. Mx	49	-0.189	0.215	0.000
			Max. My	11	-7.686	0.000	-0.000
			Max. Vy	49	-0.108	0.000	0.000
			Max. Vx	11	0.000	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
		Guy A	Bottom Tension	22	62.642		
			Top Tension	22	64.040		
			Top Cable Vert	22	50.248		
			Top Cable Norm	22	39.702		
			Top Cable Tan	22	0.008		
			Bot Cable Vert	22	-47.857		
			Bot Cable Norm	22	40.421		
			Bot Cable Tan	22	0.008		
		Guy B	Bottom Tension	34	62.770		
			Top Tension	34	64.110		
			Top Cable Vert	34	50.116		
			Top Cable Norm	34	39.981		
			Top Cable Tan	34	0.001		
			Bot Cable Vert	34	-47.811		
			Bot Cable Norm	34	40.672		
			Bot Cable Tan	34	0.001		
		Guy C	Bottom Tension	10	64.638		
			Top Tension	10	66.110		
			Top Cable Vert	10	52.725		
			Top Cable Norm	10	39.883		
			Top Cable Tan	10	0.007		
			Bot Cable Vert	10	-50.252		
			Bot Cable Norm	10	40.655		
			Bot Cable Tan	10	0.007		
T14	310 - 285	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	2	-155.359	0.005	0.076
			Max. Mx	30	-93.511	0.932	0.065
			Max. My	24	-99.696	0.058	-1.054
			Max. Vy	12	0.259	-0.661	0.024
			Max. Vx	3	-0.254	0.048	0.904
		Diagonal	Max Tension	12	12.479	0.000	0.000
		Horizontal	Max Tension	4	0.222	0.000	0.000
			Max. Compression	12	-9.713	0.000	0.000
			Max. Mx	49	-0.264	0.214	0.000
			Max. My	35	-4.489	0.000	-0.000
			Max. Vy	49	0.107	0.000	0.000
			Max. Vx	35	0.000	0.000	0.000
		Top Girt	Max Tension	47	0.138	0.000	0.000
			Max. Compression	12	-9.686	0.000	0.000
			Max. Mx	49	-0.070	0.214	0.000
			Max. My	35	-4.289	0.000	-0.000
			Max. Vy	49	0.107	0.000	0.000
			Max. Vx	35	0.000	0.000	0.000
T15	285 - 260	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	41	-150.456	-0.063	0.006
			Max. Mx	30	-84.615	0.932	0.065
			Max. My	3	-83.407	0.048	0.904
			Max. Vy	12	-0.235	-0.931	0.066
			Max. Vx	3	0.232	0.048	0.904
		Diagonal	Max Tension	12	8.979	0.000	0.000
		Horizontal	Max Tension	3	0.081	0.000	0.000
			Max. Compression	12	-6.986	0.000	0.000
			Max. Mx	49	-0.159	0.163	0.000
			Max. My	50	-1.680	0.000	-0.000
			Max. Vy	49	-0.081	0.000	0.000
			Max. Vx	50	0.000	0.000	0.000
		Top Girt	Max Tension	3	0.222	0.000	0.000
			Max. Compression	12	-7.611	0.000	0.000
			Max. Mx	49	-0.279	0.163	0.000
			Max. My	35	-3.562	0.000	-0.000
			Max. Vy	49	-0.081	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. Vx	35	0.000	0.000	0.000
T16	260 - 235	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	41	-161.400	0.501	0.210
			Max. Mx	12	-107.238	1.630	-0.142
			Max. My	22	-81.535	-0.029	1.454
			Max. Vy	13	-0.531	0.201	0.199
			Max. Vx	21	-0.550	-0.014	0.143
		Diagonal	Max Tension	27	5.980	0.000	0.000
		Horizontal	Max Tension	3	0.254	0.000	0.000
			Max. Compression	27	-4.619	0.000	0.000
			Max. Mx	47	-0.109	0.161	0.000
			Max. My	50	-0.328	0.000	-0.000
			Max. Vy	47	-0.081	0.000	0.000
			Max. Vx	50	0.000	0.000	0.000
		Top Girt	Max Tension	39	0.053	0.000	0.000
			Max. Compression	27	-5.273	0.000	0.000
			Max. Mx	49	-0.185	0.161	0.000
			Max. My	50	-1.407	0.000	-0.000
			Max. Vy	49	-0.081	0.000	0.000
			Max. Vx	50	0.000	0.000	0.000
T17	235 - 210	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	41	-163.786	-0.176	0.180
			Max. Mx	13	-118.568	-0.721	0.030
			Max. My	25	-113.244	-0.391	0.832
			Max. Vy	13	0.232	-0.337	0.274
			Max. Vx	4	-0.300	0.071	0.499
		Diagonal	Max Tension	7	4.759	0.000	0.000
		Horizontal	Max Tension	5	0.085	0.000	0.000
			Max. Compression	7	-3.516	0.000	0.000
			Max. Mx	43	0.031	0.160	0.000
			Max. My	50	-1.026	0.000	-0.000
			Max. Vy	43	-0.080	0.000	0.000
			Max. Vx	50	0.000	0.000	0.000
		Top Girt	Max Tension	3	0.192	0.000	0.000
			Max. Compression	27	-1.968	0.000	0.000
			Max. Mx	49	-0.280	0.160	0.000
			Max. My	50	-0.161	0.000	-0.000
			Max. Vy	49	-0.080	0.000	0.000
			Max. Vx	50	0.000	0.000	0.000
T18	210 - 185	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	41	-164.017	0.018	-0.001
			Max. Mx	13	-120.508	0.937	0.031
			Max. My	4	-133.518	0.006	-0.908
			Max. Vy	12	-0.398	0.223	0.031
			Max. Vx	3	0.410	-0.000	-0.200
		Diagonal	Max Tension	7	9.739	0.000	0.000
		Horizontal	Max Tension	15	0.146	0.000	0.000
			Max. Compression	7	-7.428	0.000	0.000
			Max. Mx	43	-0.013	0.158	0.000
			Max. My	50	-1.717	0.000	-0.000
			Max. Vy	43	-0.079	0.000	0.000
			Max. Vx	50	0.000	0.000	0.000
		Top Girt	Max Tension	43	0.120	0.000	0.000
			Max. Compression	7	-4.401	0.000	0.000
			Max. Mx	43	0.120	0.158	0.000
			Max. My	50	-1.306	0.000	-0.000
			Max. Vy	43	-0.079	0.000	0.000
			Max. Vx	50	0.000	0.000	0.000
T19	185 - 160	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	47	-178.196	0.664	-0.384
			Max. Mx	7	-128.296	-1.082	0.623

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	25	-127.605	-0.000	-1.235
			Max. Vy	7	0.230	-1.082	0.623
			Max. Vx	25	0.295	-0.045	-0.047
		Diagonal	Max Tension	13	13.031	0.000	0.000
		Horizontal	Max Tension	15	0.223	0.000	0.000
			Max. Compression	13	-10.078	0.000	0.000
			Max. Mx	43	-0.241	0.206	0.000
			Max. My	25	-8.722	0.000	-0.000
			Max. Vy	43	0.103	0.000	0.000
			Max. Vx	25	0.000	0.000	0.000
		Top Girt	Max Tension	16	0.138	0.000	0.000
			Max. Compression	7	-8.176	0.000	0.000
			Max. Mx	43	-0.139	0.206	0.000
			Max. My	25	-8.165	0.000	-0.000
			Max. Vy	43	0.103	0.000	0.000
			Max. Vx	25	0.000	0.000	0.000
T20	160 - 135	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	47	-198.167	0.324	-0.208
			Max. Mx	31	-80.839	4.521	0.386
			Max. My	22	-71.241	0.036	-4.339
			Max. Vy	31	0.899	4.521	0.386
			Max. Vx	22	-0.859	0.036	-4.339
		Diagonal	Max Tension	13	12.782	0.000	0.000
		Horizontal	Max Tension	28	19.293	0.000	0.000
			Max. Compression	31	-8.240	0.000	0.000
			Max. Mx	38	13.153	0.204	0.000
			Max. My	25	3.401	0.000	-0.000
			Max. Vy	38	-0.102	0.000	0.000
			Max. Vx	25	0.000	0.000	0.000
		Top Girt	Max Tension	55	0.108	0.000	0.000
			Max. Compression	13	-9.967	0.000	0.000
			Max. Mx	41	-0.159	0.204	0.000
			Max. My	25	-9.534	0.000	-0.000
			Max. Vy	41	-0.102	0.000	0.000
			Max. Vx	25	0.000	0.000	0.000
		Guy A	Bottom Tension	25	44.718		
			Top Tension	25	45.155		
			Top Cable Vert	25	22.313		
			Top Cable Norm	25	39.257		
			Top Cable Tan	25	0.086		
			Bot Cable Vert	25	-21.224		
			Bot Cable Norm	25	39.359		
			Bot Cable Tan	25	0.164		
		Guy B	Bottom Tension	31	44.540		
			Top Tension	31	44.938		
			Top Cable Vert	31	21.171		
			Top Cable Norm	31	39.638		
			Top Cable Tan	31	0.068		
			Bot Cable Vert	31	-20.139		
			Bot Cable Norm	31	39.726		
			Bot Cable Tan	31	0.171		
		Guy C	Bottom Tension	10	46.085		
			Top Tension	10	46.575		
			Top Cable Vert	10	24.796		
			Top Cable Norm	10	39.426		
			Top Cable Tan	10	0.003		
			Bot Cable Vert	10	-23.678		
			Bot Cable Norm	10	39.537		
			Bot Cable Tan	10	0.003		
T21	135 - 110	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	41	-196.086	-0.029	0.043

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	10	-136.582	-0.759	0.177
			Max. My	22	-138.863	-0.018	-0.616
			Max. Vy	31	0.170	0.562	0.066
			Max. Vx	22	-0.190	-0.018	-0.616
		Diagonal	Max Tension	7	8.625	0.000	0.000
		Horizontal	Max Tension	28	0.203	0.000	0.000
			Max. Compression	7	-6.618	0.000	0.000
			Max. Mx	41	-0.141	0.201	0.000
			Max. My	25	-5.471	0.000	-0.000
			Max. Vy	41	0.101	0.000	0.000
			Max. Vx	25	0.000	0.000	0.000
		Top Girt	Max Tension	27	0.290	0.000	0.000
			Max. Compression	7	-7.308	0.000	0.000
			Max. Mx	41	-0.203	0.201	0.000
			Max. My	25	-7.208	0.000	-0.000
			Max. Vy	41	0.101	0.000	0.000
			Max. Vx	25	0.000	0.000	0.000
T22	110 - 85	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	41	-209.971	0.081	-0.038
			Max. Mx	18	-98.626	0.604	-0.138
			Max. My	6	-142.352	0.034	-0.673
			Max. Vy	18	-0.111	0.059	0.174
			Max. Vx	36	0.128	-0.108	-0.133
		Diagonal	Max Tension	7	5.632	0.000	0.000
		Horizontal	Max Tension	15	0.143	0.000	0.000
			Max. Compression	7	-4.232	0.000	0.000
			Max. Mx	38	-0.184	0.150	0.000
			Max. My	44	-1.388	0.000	-0.000
			Max. Vy	38	-0.075	0.000	0.000
			Max. Vx	44	0.000	0.000	0.000
		Top Girt	Max Tension	26	0.122	0.000	0.000
			Max. Compression	7	-4.809	0.000	0.000
			Max. Mx	38	-0.195	0.150	0.000
			Max. My	44	-1.955	0.000	-0.000
			Max. Vy	38	-0.075	0.000	0.000
			Max. Vx	44	0.000	0.000	0.000
T23	85 - 60	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	41	-218.122	0.019	0.004
			Max. Mx	42	-200.480	0.831	-0.003
			Max. My	3	-165.295	-0.311	-1.129
			Max. Vy	36	0.199	-0.113	-0.104
			Max. Vx	34	-0.277	-0.131	-0.141
		Diagonal	Max Tension	25	2.547	0.000	0.000
		Horizontal	Max Tension	4	0.231	0.000	0.000
			Max. Compression	27	-1.701	0.000	0.000
			Max. Mx	38	-0.024	0.147	0.000
			Max. My	44	-1.069	0.000	-0.000
			Max. Vy	38	0.073	0.000	0.000
			Max. Vx	44	-0.000	0.000	0.000
		Top Girt	Max Tension	16	0.217	0.000	0.000
			Max. Compression	5	-2.379	0.000	0.000
			Max. Mx	38	-0.128	0.147	0.000
			Max. My	44	-1.164	0.000	-0.000
			Max. Vy	38	0.073	0.000	0.000
			Max. Vx	44	-0.000	0.000	0.000
T24	60 - 35	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	41	-220.899	0.063	-0.013
			Max. Mx	48	-203.134	-0.846	-0.064
			Max. My	32	-178.524	-0.197	-0.672
			Max. Vy	48	-0.104	-0.223	-0.105
			Max. Vx	32	-0.102	-0.122	-0.073

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Diagonal	Max Tension	27	4.983	0.000	0.000
		Horizontal	Max Tension	48	0.049	0.000	0.000
			Max. Compression	27	-3.746	0.000	0.000
			Max. Mx	49	-0.719	0.142	0.000
			Max. My	19	-0.222	0.000	-0.000
			Max. Vy	49	-0.071	0.000	0.000
			Max. Vx	19	0.000	0.000	0.000
		Top Girt	Max Tension	31	0.097	0.000	0.000
			Max. Compression	27	-2.206	0.000	0.000
			Max. Mx	38	-0.123	0.142	0.000
			Max. My	37	-0.251	0.000	-0.000
			Max. Vy	38	-0.071	0.000	0.000
			Max. Vx	37	0.000	0.000	0.000
T25	35 - 10	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	41	-220.713	0.106	-0.056
			Max. Mx	12	-163.254	-2.506	1.181
			Max. My	21	-162.377	-0.192	-2.719
			Max. Vy	12	0.541	-2.506	1.181
			Max. Vx	21	0.577	-0.192	-2.719
		Diagonal	Max Tension	27	6.943	0.000	0.000
		Horizontal	Max Tension	38	0.225	0.000	0.000
			Max. Compression	27	-5.184	0.000	0.000
			Max. Mx	38	0.180	0.135	0.000
			Max. My	19	-1.914	0.000	-0.000
			Max. Vy	38	0.067	0.000	0.000
			Max. Vx	19	0.000	0.000	0.000
		Top Girt	Max Tension	1	0.000	0.000	0.000
			Max. Compression	27	-4.242	0.000	0.000
			Max. Mx	49	-0.694	0.135	0.000
			Max. My	19	-1.557	0.000	-0.000
			Max. Vy	49	0.067	0.000	0.000
			Max. Vx	19	0.000	0.000	0.000
T26	10 - 0	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	41	-240.297	-0.382	0.360
			Max. Mx	9	-173.472	2.910	-0.359
			Max. My	35	-172.764	-0.306	-5.347
			Max. Vy	9	0.848	-1.264	-0.249
			Max. Vx	35	1.111	-0.253	-5.197
		Diagonal	Max Tension	35	1.748	0.000	0.000
			Max. Compression	35	-2.204	0.000	0.000
			Max. Mx	42	0.255	-0.050	0.000
			Max. My	44	-1.401	0.000	0.019
			Max. Vy	42	-0.030	0.000	0.000
			Max. Vx	44	-0.011	0.000	0.000
		Horizontal	Max Tension	35	1.713	0.000	0.000
			Max. Compression	35	-0.692	0.000	0.000
			Max. Mx	50	1.320	-0.653	-0.034
			Max. My	47	0.529	-0.653	-0.035
			Max. Vy	50	0.351	0.000	0.000
			Max. Vx	47	-0.023	0.000	0.000
		Top Girt	Max Tension	47	57.078	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	43	56.733	0.308	0.000
			Max. My	43	55.100	0.000	0.071
			Max. Vy	43	-0.154	0.000	0.000
			Max. Vx	43	-0.036	0.000	0.000

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Mast	Max. Vert	47	644.147	1.544	-0.802
	Max. H_x	30	446.783	6.492	-0.393
	Max. H_z	3	440.821	-0.092	6.759
	Max. M_x	1	0.000	-0.032	-0.021
	Max. M_z	1	0.000	-0.032	-0.021
	Max. Torsion	35	7.699	2.516	4.764
	Min. Vert	1	385.154	-0.032	-0.021
	Min. H_x	12	446.026	-6.689	-0.244
	Min. H_z	21	444.525	-0.049	-5.650
	Min. M_x	1	0.000	-0.032	-0.021
	Min. M_z	1	0.000	-0.032	-0.021
	Min. Torsion	17	-7.524	-2.704	-4.676
Guy C @ 248 ft Elev 4.07031 ft Azimuth 240 deg	Max. Vert	26	-9.796	-7.371	4.255
	Max. H_x	28	-11.655	-6.945	4.008
	Max. H_z	10	-138.093	-99.167	57.275
	Min. Vert	10	-138.093	-99.167	57.275
	Min. H_x	10	-138.093	-99.167	57.275
	Min. H_z	28	-11.655	-6.945	4.008
Guy B @ 238 ft Elev 32.0703 ft Azimuth 120 deg	Max. Vert	14	-8.489	7.185	4.149
	Max. H_x	34	-131.494	98.795	57.044
	Max. H_z	34	-131.494	98.795	57.044
	Min. Vert	34	-131.494	98.795	57.044
	Min. H_x	16	-10.417	6.716	3.878
	Min. H_z	16	-10.417	6.716	3.878
Guy A @ 246 ft Elev 19.849 ft Azimuth 0 deg	Max. Vert	2	-8.747	-0.002	-8.553
	Max. H_x	31	-74.566	2.727	-63.291
	Max. H_z	4	-10.441	-0.002	-7.888
	Min. Vert	22	-132.034	0.020	-113.420
	Min. H_x	13	-72.855	-2.738	-61.597
	Min. H_z	22	-132.034	0.020	-113.420

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	385.154	0.032	0.021	0.000	0.000	-0.090
1.2D+1.0W (pattern 1) 0 deg - No Ice+1.0 Guy	446.929	0.047	-6.065	0.000	0.000	-2.461
1.2D+1.0W (pattern 2) 0 deg - No Ice+1.0 Guy	440.821	0.092	-6.759	0.000	0.000	-1.985
1.2D+1.0W (pattern 3) 0 deg - No Ice+1.0 Guy	452.761	0.069	-5.698	0.000	0.000	-2.149
1.2D+1.0W (pattern 1) 30 deg - No Ice+1.0 Guy	449.765	3.001	-5.323	0.000	0.000	4.189
1.2D+1.0W (pattern 2) 30 deg - No Ice+1.0 Guy	446.505	2.976	-5.843	0.000	0.000	4.786
1.2D+1.0W (pattern 3) 30 deg -	455.298	2.635	-4.983	0.000	0.000	4.470

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
No Ice+1.0 Guy						
1.2D+1.0W (pattern 1) 60 deg - No Ice+1.0 Guy	446.655	5.346	-3.174	0.000	0.000	2.817
1.2D+1.0W (pattern 2) 60 deg - No Ice+1.0 Guy	444.829	5.388	-3.221	0.000	0.000	3.285
1.2D+1.0W (pattern 3) 60 deg - No Ice+1.0 Guy	448.347	4.751	-2.860	0.000	0.000	3.053
1.2D+1.0W (pattern 1) 90 deg - No Ice+1.0 Guy	448.515	6.265	-0.039	0.000	0.000	2.259
1.2D+1.0W (pattern 2) 90 deg - No Ice+1.0 Guy	446.026	6.689	0.244	0.000	0.000	2.685
1.2D+1.0W (pattern 3) 90 deg - No Ice+1.0 Guy	454.695	5.791	0.104	0.000	0.000	2.431
1.2D+1.0W (pattern 1) 120 deg - No Ice+1.0 Guy	445.618	5.219	3.032	0.000	0.000	4.535
1.2D+1.0W (pattern 2) 120 deg - No Ice+1.0 Guy	440.311	5.857	3.352	0.000	0.000	4.705
1.2D+1.0W (pattern 3) 120 deg - No Ice+1.0 Guy	452.315	4.937	2.825	0.000	0.000	4.623
1.2D+1.0W (pattern 1) 150 deg - No Ice+1.0 Guy	445.769	2.704	4.676	0.000	0.000	7.524
1.2D+1.0W (pattern 2) 150 deg - No Ice+1.0 Guy	442.241	3.071	4.835	0.000	0.000	7.207
1.2D+1.0W (pattern 3) 150 deg - No Ice+1.0 Guy	448.496	2.587	4.204	0.000	0.000	7.201
1.2D+1.0W (pattern 1) 180 deg - No Ice+1.0 Guy	447.071	0.076	5.616	0.000	0.000	2.149
1.2D+1.0W (pattern 2) 180 deg - No Ice+1.0 Guy	444.525	0.049	5.650	0.000	0.000	1.634
1.2D+1.0W (pattern 3) 180 deg - No Ice+1.0 Guy	447.625	0.050	4.962	0.000	0.000	1.923
1.2D+1.0W (pattern 1) 210 deg - No Ice+1.0 Guy	449.381	-2.993	5.291	0.000	0.000	-5.126
1.2D+1.0W (pattern 2) 210 deg - No Ice+1.0 Guy	445.975	-3.402	5.458	0.000	0.000	-5.710
1.2D+1.0W (pattern 3) 210 deg - No Ice+1.0 Guy	453.825	-2.858	4.768	0.000	0.000	-5.346
1.2D+1.0W (pattern 1) 240 deg - No Ice+1.0 Guy	446.193	-5.777	3.337	0.000	0.000	-4.088
1.2D+1.0W (pattern 2) 240 deg - No Ice+1.0 Guy	441.935	-6.315	3.648	0.000	0.000	-4.586
1.2D+1.0W (pattern 3) 240 deg - No Ice+1.0 Guy	454.035	-5.393	3.102	0.000	0.000	-4.325
1.2D+1.0W (pattern 1) 270 deg - No Ice+1.0 Guy	449.937	-6.207	0.112	0.000	0.000	-2.510
1.2D+1.0W (pattern 2) 270 deg - No Ice+1.0 Guy	446.783	-6.492	0.393	0.000	0.000	-2.954
1.2D+1.0W (pattern 3) 270 deg - No Ice+1.0 Guy	454.306	-5.656	0.258	0.000	0.000	-2.670
1.2D+1.0W (pattern 1) 300 deg - No Ice+1.0 Guy	448.863	-4.739	-2.879	0.000	0.000	-5.364
1.2D+1.0W (pattern 2) 300 deg - No Ice+1.0 Guy	446.049	-4.721	-2.871	0.000	0.000	-5.403
1.2D+1.0W (pattern 3) 300 deg - No Ice+1.0 Guy	449.167	-4.146	-2.548	0.000	0.000	-5.388
1.2D+1.0W (pattern 1) 330 deg - No Ice+1.0 Guy	447.606	-2.516	-4.764	0.000	0.000	-7.699
1.2D+1.0W (pattern 2) 330 deg - No Ice+1.0 Guy	443.696	-2.438	-5.133	0.000	0.000	-7.357
1.2D+1.0W (pattern 3) 330 deg - No Ice+1.0 Guy	449.805	-2.144	-4.411	0.000	0.000	-7.401

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
1.2 Dead+1.0 Ice+1.0 Temp+Guy	639.030	0.097	-0.038	0.000	0.000	0.077
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy	643.896	0.121	-1.796	0.000	0.000	-2.742
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy	642.925	0.943	-1.603	0.000	0.000	-0.616
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy	642.101	1.658	-0.887	0.000	0.000	0.467
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy	642.351	1.884	-0.029	0.000	0.000	1.424
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy	642.876	1.643	0.799	0.000	0.000	3.214
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy	642.398	0.958	1.376	0.000	0.000	4.258
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy	642.294	0.094	1.602	0.000	0.000	2.275
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy	643.105	-0.795	1.467	0.000	0.000	0.357
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy	644.147	-1.544	0.802	0.000	0.000	-0.620
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy	643.719	-1.670	-0.006	0.000	0.000	-1.249
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy	643.320	-1.347	-0.858	0.000	0.000	-3.072
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy	643.562	-0.668	-1.524	0.000	0.000	-4.308
Dead+Wind 0 deg - Service+Guy	386.534	0.030	-1.573	0.000	0.000	-0.579
Dead+Wind 30 deg - Service+Guy	386.013	0.803	-1.419	0.000	0.000	1.179
Dead+Wind 60 deg - Service+Guy	385.626	1.454	-0.796	0.000	0.000	0.857
Dead+Wind 90 deg - Service+Guy	385.695	1.690	0.016	0.000	0.000	0.655
Dead+Wind 120 deg - Service+Guy	385.920	1.396	0.777	0.000	0.000	1.361
Dead+Wind 150 deg - Service+Guy	385.933	0.757	1.243	0.000	0.000	1.981
Dead+Wind 180 deg - Service+Guy	386.121	0.057	1.487	0.000	0.000	0.417
Dead+Wind 210 deg - Service+Guy	386.595	-0.791	1.402	0.000	0.000	-1.409
Dead+Wind 240 deg - Service+Guy	387.082	-1.484	0.833	0.000	0.000	-1.158
Dead+Wind 270 deg - Service+Guy	387.003	-1.613	0.064	0.000	0.000	-0.683
Dead+Wind 300 deg - Service+Guy	386.752	-1.224	-0.724	0.000	0.000	-1.532
Dead+Wind 330 deg - Service+Guy	386.617	-0.620	-1.263	0.000	0.000	-2.034

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.000	-195.151	0.000	0.001	195.151	-0.000	0.000%
2	-0.026	-230.862	-85.174	0.026	230.862	85.170	0.002%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
3	0.105	-230.862	-84.896	-0.104	230.862	84.893	0.001%
4	0.092	-230.862	-92.305	-0.092	230.862	92.301	0.002%
5	42.743	-230.553	-74.576	-42.743	230.553	74.573	0.001%
6	42.984	-230.553	-74.841	-42.984	230.553	74.837	0.001%
7	46.787	-230.553	-81.511	-46.788	230.553	81.507	0.002%
8	73.454	-230.237	-42.787	-73.450	230.237	42.786	0.002%
9	73.971	-230.237	-43.121	-73.970	230.237	43.121	0.000%
10	80.469	-230.237	-46.906	-80.464	230.237	46.903	0.002%
11	85.964	-230.605	-0.001	-85.962	230.605	0.003	0.001%
12	86.549	-230.605	-0.107	-86.547	230.605	0.109	0.001%
13	94.096	-230.605	-0.095	-94.093	230.605	0.097	0.001%
14	73.194	-230.952	42.527	-73.191	230.952	-42.525	0.002%
15	73.121	-230.952	42.369	-73.119	230.952	-42.368	0.001%
16	79.403	-230.952	46.044	-79.399	230.952	-46.041	0.002%
17	40.247	-230.568	69.877	-40.243	230.568	-69.876	0.002%
18	39.981	-230.568	69.479	-39.979	230.568	-69.478	0.001%
19	43.458	-230.568	75.559	-43.454	230.568	-75.558	0.002%
20	0.142	-230.170	82.486	-0.141	230.170	-82.481	0.002%
21	0.067	-230.170	82.307	-0.066	230.170	-82.304	0.001%
22	0.079	-230.170	89.657	-0.078	230.170	-89.653	0.001%
23	-42.734	-230.479	74.458	42.731	230.479	-74.457	0.001%
24	-42.932	-230.479	74.722	42.929	230.479	-74.721	0.001%
25	-46.735	-230.479	81.392	46.731	230.479	-81.390	0.002%
26	-75.706	-230.795	43.821	75.703	230.795	-43.819	0.001%
27	-76.100	-230.795	44.083	76.096	230.795	-44.081	0.002%
28	-82.649	-230.795	47.897	82.646	230.795	-47.896	0.001%
29	-85.947	-230.427	-0.033	85.945	230.427	0.035	0.001%
30	-86.510	-230.427	0.037	86.509	230.427	-0.035	0.001%
31	-94.057	-230.427	0.024	94.054	230.427	-0.022	0.002%
32	-70.888	-230.079	-41.458	70.885	230.079	41.454	0.002%
33	-70.873	-230.079	-41.398	70.871	230.079	41.395	0.001%
34	-77.104	-230.079	-45.042	77.102	230.079	45.039	0.001%
35	-40.139	-230.464	-70.033	40.139	230.464	70.029	0.001%
36	-39.874	-230.464	-69.634	39.874	230.464	69.632	0.001%
37	-43.351	-230.464	-75.714	43.352	230.464	75.710	0.002%
38	0.000	-419.000	0.000	0.002	419.000	0.000	0.001%
39	-0.078	-419.192	-41.515	0.078	419.191	41.512	0.001%
40	20.844	-419.018	-36.320	-20.844	419.018	36.318	0.000%
41	36.499	-418.841	-21.115	-36.497	418.841	21.113	0.001%
42	41.955	-419.044	0.085	-41.954	419.044	-0.085	0.000%
43	35.981	-419.238	20.879	-35.979	419.238	-20.878	0.000%
44	20.448	-419.026	35.396	-20.446	419.026	-35.394	0.001%
45	0.115	-418.808	41.076	-0.114	418.808	-41.074	0.001%
46	-20.831	-418.981	36.298	20.830	418.981	-36.297	0.000%
47	-36.856	-419.158	21.270	36.857	419.158	-21.269	0.000%
48	-41.947	-418.955	-0.099	41.946	418.955	0.099	0.000%
49	-35.596	-418.762	-20.725	35.595	418.762	20.723	0.000%
50	-20.428	-418.973	-35.424	20.428	418.973	35.422	0.000%
51	0.013	-195.247	-27.475	-0.014	195.247	27.473	0.001%
52	13.868	-195.161	-24.156	-13.867	195.161	24.152	0.002%
53	23.833	-195.074	-13.872	-23.831	195.074	13.870	0.001%
54	27.882	-195.176	-0.014	-27.881	195.176	0.014	0.001%
55	23.643	-195.272	13.708	-23.643	195.272	-13.707	0.000%
56	12.967	-195.165	22.518	-12.964	195.165	-22.516	0.002%
57	0.034	-195.055	26.645	-0.035	195.055	-26.645	0.000%
58	-13.854	-195.141	24.123	13.852	195.141	-24.121	0.001%
59	-24.520	-195.228	14.195	24.518	195.228	-14.194	0.001%
60	-27.871	-195.126	-0.005	27.870	195.126	0.006	0.001%
61	-22.923	-195.030	-13.383	22.922	195.030	13.383	0.000%
62	-12.937	-195.137	-22.561	12.936	195.137	22.558	0.002%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	21	0.00000001	0.00001653
2	Yes	20	0.00008530	0.00004219
3	Yes	16	0.00000001	0.00002121
4	Yes	17	0.00007750	0.00002820
5	Yes	19	0.00006103	0.00003292
6	Yes	16	0.00000001	0.00003043
7	Yes	17	0.00006859	0.00002907
8	Yes	13	0.00007973	0.00007403
9	Yes	14	0.00000001	0.00001490
10	Yes	12	0.00009455	0.00006252
11	Yes	19	0.00000001	0.00003074
12	Yes	16	0.00000001	0.00002662
13	Yes	17	0.00006570	0.00002541
14	Yes	20	0.00008876	0.00004233
15	Yes	16	0.00000001	0.00001976
16	Yes	17	0.00008015	0.00002730
17	Yes	18	0.00008931	0.00004514
18	Yes	16	0.00000001	0.00002583
19	Yes	16	0.00009877	0.00003689
20	Yes	12	0.00009335	0.00006097
21	Yes	12	0.00000001	0.00003759
22	Yes	12	0.00000001	0.00003299
23	Yes	18	0.00007518	0.00004177
24	Yes	16	0.00000001	0.00002520
25	Yes	16	0.00009602	0.00004014
26	Yes	19	0.00008185	0.00004069
27	Yes	15	0.00008552	0.00002804
28	Yes	17	0.00000001	0.00002028
29	Yes	18	0.00006852	0.00003615
30	Yes	16	0.00000001	0.00002338
31	Yes	16	0.00008918	0.00003618
32	Yes	12	0.00008691	0.00005380
33	Yes	12	0.00000001	0.00003550
34	Yes	12	0.00000001	0.00003186
35	Yes	18	0.00008516	0.00004359
36	Yes	16	0.00000001	0.00002688
37	Yes	16	0.00009639	0.00003801
38	Yes	40	0.00010000	0.00005669
39	Yes	15	0.00000001	0.00001844
40	Yes	15	0.00000001	0.00001768
41	Yes	14	0.00000001	0.00006471
42	Yes	15	0.00000001	0.00001490
43	Yes	15	0.00000001	0.00002247
44	Yes	14	0.00000001	0.00002854
45	Yes	14	0.00000001	0.00007219
46	Yes	15	0.00000001	0.00001606
47	Yes	23	0.00000001	0.00005510
48	Yes	15	0.00000001	0.00001741
49	Yes	14	0.00000001	0.00002086
50	Yes	15	0.00000001	0.00001705
51	Yes	12	0.00000001	0.00004075
52	Yes	11	0.00000001	0.00004338
53	Yes	11	0.00000001	0.00007075
54	Yes	12	0.00000001	0.00001765
55	Yes	15	0.00000001	0.00003557

56	Yes	11	0.00000001	0.00004412
57	Yes	13	0.00000001	0.00003986
58	Yes	11	0.00000001	0.00003604
59	Yes	12	0.00000001	0.00005662
60	Yes	12	0.00000001	0.00002097
61	Yes	13	0.00000001	0.00003188
62	Yes	11	0.00000001	0.00005055

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	560 - 553.75	3.624	53	0.025	0.422
T2	553.75 - 547.5	3.603	53	0.025	0.422
T3	547.5 - 541.25	3.581	53	0.025	0.422
T4	541.25 - 535	3.555	53	0.025	0.423
T5	535 - 510	3.528	53	0.025	0.423
T6	510 - 485	3.415	53	0.021	0.425
T7	485 - 460	3.355	53	0.015	0.420
T8	460 - 435	3.402	53	0.017	0.395
T9	435 - 410	3.421	53	0.022	0.360
T10	410 - 385	3.335	52	0.028	0.304
T11	385 - 360	3.114	52	0.033	0.269
T12	360 - 335	2.830	52	0.035	0.235
T13	335 - 310	2.556	53	0.032	0.208
T14	310 - 285	2.380	53	0.024	0.196
T15	285 - 260	2.402	52	0.021	0.225
T16	260 - 235	2.439	52	0.025	0.257
T17	235 - 210	2.392	52	0.032	0.292
T18	210 - 185	2.119	52	0.039	0.271
T19	185 - 160	1.767	52	0.043	0.234
T20	160 - 135	1.399	52	0.040	0.212
T21	135 - 110	1.253	52	0.036	0.226
T22	110 - 85	1.183	52	0.038	0.249
T23	85 - 60	1.083	52	0.042	0.276
T24	60 - 35	0.866	54	0.048	0.192
T25	35 - 10	0.511	54	0.053	0.112
T26	10 - 0	0.119	53	0.056	0.049

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
560'	Lightning Rod 5/8" x 3'	53	3.624	0.025	0.422	811488
553'	AP19-1670/090D/DT2	53	3.601	0.025	0.422	312479
514'	ANT150F6	53	3.432	0.022	0.425	187928
505'	Flush Mount	53	3.396	0.020	0.425	94551
495'	10' x 2" Mount Pipe	53	3.366	0.017	0.424	57130
492'	101-68-10-0-03N	53	3.360	0.016	0.423	51067
491'3"	Guy	53	3.359	0.016	0.423	49747
490'	ATW25HS3-HSO-46H	53	3.358	0.016	0.422	47692
485'	10' x 2" Mount Pipe	53	3.355	0.015	0.420	43906
475'	Side Light	53	3.366	0.015	0.411	86036
465'	ANT150F6	53	3.390	0.016	0.400	558246

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
456'	13' x 2" Pipe Mount	53	3.411	0.017	0.390	110448
442'	101-68-10-0-03N	53	3.425	0.020	0.373	69365
438'	ANT150F6	53	3.424	0.021	0.366	62570
415'	101D-90-06-0-03	52	3.363	0.027	0.310	46759
388'	SC233	52	3.145	0.033	0.273	113078
324'	DB636-C	53	2.458	0.029	0.201	43387
316'3"	Guy	53	2.406	0.026	0.198	30059
315'	Flash Beacon Lighting	53	2.400	0.026	0.197	28640
312'	Flash Beacon Lighting	53	2.387	0.025	0.196	26115
294'	DB540K-E	53	2.380	0.022	0.212	90065
288'	P2F-52	52	2.394	0.022	0.221	607778
270'	CC806-06	52	2.429	0.022	0.243	175569
254'	DB809KT6E-XT	52	2.442	0.026	0.268	67592
239'	AIR 6419 B41_TMO	52	2.414	0.030	0.290	24579
214'	742 213 w/ Mount Pipe	52	2.172	0.038	0.277	114841
212'	ANT150F6	52	2.146	0.039	0.274	172926
202'	MX08FRO665-21 w/ Mount Pipe	52	2.012	0.041	0.260	163895
175'	ANT150F6	52	1.607	0.042	0.218	99168
157'	Side Light	52	1.369	0.040	0.212	23825
153'9"	Guy	52	1.342	0.039	0.212	27275
145'	Side Arm Mount [SO 202-1]	52	1.289	0.038	0.217	45801
138'	SPD2-5.8	52	1.262	0.037	0.223	99592
134'	SPD2-5.8	52	1.250	0.036	0.227	190438
112'	201-8	52	1.188	0.037	0.246	241030
91'	ANT150F2	52	1.115	0.041	0.278	69037
81'	DRAGONWAVE A-ANT-11G-4-C	52	1.058	0.043	0.270	53879
80'	Side Arm Mount [SO 301-1]	52	1.051	0.043	0.267	53686
76'	Acutime 2000	52	1.021	0.044	0.256	52970

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	560 - 553.75	17.812	2	0.199	1.210
T2	553.75 - 547.5	17.551	2	0.199	1.210
T3	547.5 - 541.25	17.286	2	0.199	1.211
T4	541.25 - 535	17.006	2	0.198	1.213
T5	535 - 510	16.721	2	0.197	1.215
T6	510 - 485	15.583	5	0.181	1.221
T7	485 - 460	14.775	5	0.158	1.199
T8	460 - 435	14.316	5	0.161	1.138
T9	435 - 410	13.764	5	0.177	1.040
T10	410 - 385	12.878	5	0.197	0.876
T11	385 - 360	12.222	7	0.212	0.748
T12	360 - 335	11.539	7	0.214	0.646
T13	335 - 310	10.825	7	0.195	0.575
T14	310 - 285	10.329	7	0.161	0.563
T15	285 - 260	10.364	7	0.139	0.617
T16	260 - 235	10.386	28	0.128	0.677
T17	235 - 210	10.169	28	0.125	0.722
T18	210 - 185	9.272	28	0.159	0.708
T19	185 - 160	8.073	28	0.178	0.658
T20	160 - 135	6.747	28	0.174	0.614
T21	135 - 110	5.989	28	0.165	0.630
T22	110 - 85	5.379	28	0.175	0.658

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T23	85 - 60	4.612	28	0.196	0.671
T24	60 - 35	3.518	28	0.220	0.511
T25	35 - 10	2.117	28	0.242	0.350
T26	10 - 0	0.538	28	0.253	0.184

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
560'	Lightning Rod 5/8" x 3'	2	17.812	0.199	1.210	214907
553'	AP19-1670/090D/DT2	2	17.520	0.199	1.210	87506
514'	ANT150F6	2	15.748	0.185	1.221	53732
505'	Flush Mount	5	15.396	0.176	1.219	28865
495'	10' x 2" Mount Pipe	5	15.055	0.165	1.212	18359
492'	101-68-10-0-03N	5	14.963	0.162	1.209	16552
491'3"	Guy	5	14.941	0.162	1.208	16154
490'	ATW25HS3-HSO-46H	5	14.905	0.161	1.206	15533
485'	10' x 2" Mount Pipe	5	14.775	0.158	1.199	14426
475'	Side Light	5	14.568	0.156	1.179	29062
465'	ANT150F6	5	14.400	0.159	1.153	75235
456'	13' x 2" Pipe Mount	5	14.244	0.163	1.126	29787
442'	101-68-10-0-03N	5	13.946	0.172	1.072	21258
438'	ANT150F6	5	13.845	0.175	1.053	19522
415'	101D-90-06-0-03	5	13.088	0.194	0.909	14338
388'	SC233	7	12.293	0.211	0.761	26593
324'	DB636-C	7	10.550	0.180	0.563	15216
316'3"	Guy	7	10.404	0.169	0.560	11070
315'	Flash Beacon Lighting	7	10.385	0.167	0.560	10604
312'	Flash Beacon Lighting	7	10.348	0.163	0.562	9759
294'	DB540K-E	7	10.322	0.146	0.594	25043
288'	P2F-52	7	10.351	0.141	0.610	68943
270'	CC806-06	7	10.385	0.131	0.652	33634
254'	DB809KT6E-XT	28	10.381	0.127	0.693	18556
239'	AIR 6419 B41_TMO	28	10.248	0.125	0.721	8905
214'	742 213 w/ Mount Pipe	28	9.445	0.154	0.707	21140
212'	ANT150F6	28	9.359	0.157	0.708	24295
202'	MX08FRO665-21 w/ Mount Pipe	28	8.915	0.167	0.699	24943
175'	ANT150F6	28	7.515	0.179	0.635	37702
157'	Side Light	28	6.624	0.173	0.614	8575
153'9"	Guy	28	6.505	0.171	0.614	9859
145'	Side Arm Mount [SO 202-1]	28	6.238	0.167	0.620	16993
138'	SPD2-5.8	28	6.061	0.165	0.627	37544
134'	SPD2-5.8	28	5.966	0.165	0.631	73136
112'	201-8	28	5.431	0.173	0.655	43957
91'	ANT150F2	28	4.822	0.189	0.681	19302
81'	DRAGONWAVE A-ANT-11G-4-C	28	4.460	0.201	0.656	17866
80'	Side Arm Mount [SO 301-1]	28	4.420	0.202	0.651	18236
76'	Acutime 2000	28	4.257	0.207	0.629	19884

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	560	Diagonal	A325N	1.000	2	0.198	41.760	0.005 ✔	1.05	Gusset Bearing
T2	553.75	Diagonal	A325N	0.625	2	0.561	14.375	0.039 ✔	1.05	Member Block Shear
		Horizontal	A325N	0.875	2	0.375	24.061	0.016 ✔	1.05	Member Block Shear
T3	547.5	Diagonal	A325N	0.875	2	1.218	27.059	0.045 ✔	1.05	Bolt Shear
		Top Girt	A325N	0.625	2	0.496	26.100	0.019 ✔	1.05	Gusset Bearing
T4	541.25	Diagonal	A325N	0.875	2	1.537	27.059	0.057 ✔	1.05	Bolt Shear
		Top Girt	A325N	0.750	2	1.078	31.320	0.034 ✔	1.05	Gusset Bearing
T5	535	Leg	A325N	0.750	6	0.854	30.101	0.028 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.875	2	2.777	27.059	0.103 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.750	2	1.980	31.320	0.063 ✔	1.05	Gusset Bearing
		Top Girt	A325N	0.750	2	1.313	31.320	0.042 ✔	1.05	Gusset Bearing
T6	510	Leg	A325N	0.750	6	3.604	30.101	0.120 ✔	1.05	Bolt Tension
		Diagonal	A325N	1.000	2	4.584	33.604	0.136 ✔	1.05	Gusset Bearing
		Horizontal	A325N	0.750	2	7.790	22.294	0.349 ✔	1.05	Member Block Shear
		Top Girt	A325N	0.750	2	2.407	31.320	0.077 ✔	1.05	Gusset Bearing
T7	485	Leg	A325N	0.750	6	3.802	30.101	0.126 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.875	2	4.429	27.059	0.164 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.750	2	3.395	31.320	0.108 ✔	1.05	Gusset Bearing
		Top Girt	A325N	0.750	2	3.495	31.320	0.112 ✔	1.05	Gusset Bearing
T8	460	Leg	A325N	0.750	6	5.298	30.101	0.176 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.625	2	2.768	13.806	0.200 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	2.106	26.100	0.081 ✔	1.05	Member Bearing
		Top Girt	A325N	0.625	2	2.403	26.100	0.092 ✔	1.05	Member Bearing
T9	435	Leg	A325N	0.750	6	6.038	30.101	0.201 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.625	2	1.158	13.806	0.084 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	0.960	14.375	0.067 ✔	1.05	Member Block Shear
		Top Girt	A325N	0.625	2	0.960	14.375	0.067 ✔	1.05	Member Block Shear
T10	410	Leg	A325N	0.750	6	6.115	30.101	0.203 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.625	2	2.686	13.806	0.195 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	1.995	26.100	0.076 ✔	1.05	Gusset Bearing
		Top Girt	A325N	0.625	2	0.953	14.375	0.066 ✔	1.05	Member Block Shear
T11	385	Leg	A325N	0.750	6	5.520	30.101	0.183 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.625	2	4.105	13.806	0.297 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	3.160	26.100	0.121 ✔	1.05	Gusset Bearing
		Top Girt	A325N	0.625	2	2.359	26.100	0.090 ✔	1.05	Gusset Bearing
T12	360	Leg	A325N	0.750	6	5.130	30.101	0.170 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.875	2	5.593	27.059	0.207 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.750	2	4.326	31.320	0.138 ✔	1.05	Gusset Bearing

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
		Top Girt	A325N	0.750	2	3.515	31.320	0.112 ✔	1.05	Gusset Bearing
T13	335	Leg	A325N	1.000	6	7.234	54.517	0.133 ✔	1.05	Bolt Tension
		Diagonal	A325N	1.000	2	6.545	33.604	0.195 ✔	1.05	Gusset Bearing
		Horizontal	A325N	0.750	2	8.896	22.294	0.399 ✔	1.05	Member Block Shear
		Top Girt	A325N	0.750	2	4.644	31.320	0.148 ✔	1.05	Gusset Bearing
T14	310	Leg	A325N	1.000	6	8.631	54.517	0.158 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.875	2	6.239	27.059	0.231 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.750	2	4.856	31.320	0.155 ✔	1.05	Gusset Bearing
		Top Girt	A325N	0.750	2	4.843	31.320	0.155 ✔	1.05	Gusset Bearing
T15	285	Leg	A325N	0.750	6	7.701	30.101	0.256 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.625	2	4.490	13.806	0.325 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	3.493	26.100	0.134 ✔	1.05	Gusset Bearing
		Top Girt	A325N	0.625	2	3.805	26.100	0.146 ✔	1.05	Member Bearing
T16	260	Leg	A325N	0.750	6	8.517	30.101	0.283 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.625	2	2.990	13.806	0.217 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	1.398	14.375	0.097 ✔	1.05	Member Block Shear
		Top Girt	A325N	0.625	2	2.636	26.100	0.101 ✔	1.05	Gusset Bearing
T17	235	Leg	A325N	0.750	6	9.035	30.101	0.300 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.625	2	2.379	13.806	0.172 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	1.418	14.375	0.099 ✔	1.05	Member Block Shear
		Top Girt	A325N	0.625	2	1.418	14.375	0.099 ✔	1.05	Member Block Shear
T18	210	Leg	A325N	0.750	6	9.070	30.101	0.301 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.750	2	4.870	19.880	0.245 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	3.714	26.100	0.142 ✔	1.05	Member Bearing
		Top Girt	A325N	0.625	2	1.420	14.375	0.099 ✔	1.05	Member Block Shear
T19	185	Leg	A325N	1.000	6	8.887	54.517	0.163 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.875	2	6.515	27.059	0.241 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.750	2	5.039	31.320	0.161 ✔	1.05	Gusset Bearing
		Top Girt	A325N	0.750	2	4.088	31.320	0.131 ✔	1.05	Gusset Bearing
T20	160	Leg	A325N	1.000	6	10.313	54.517	0.189 ✔	1.05	Bolt Tension
		Diagonal	A325N	1.000	2	6.391	33.604	0.190 ✔	1.05	Gusset Bearing
		Horizontal	A325N	0.750	2	9.646	22.294	0.433 ✔	1.05	Member Block Shear
		Top Girt	A325N	0.750	2	4.984	31.320	0.159 ✔	1.05	Gusset Bearing
T21	135	Leg	A325N	1.000	6	10.546	54.517	0.193 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.875	2	4.313	27.059	0.159 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.750	2	3.309	31.320	0.106 ✔	1.05	Gusset Bearing
		Top Girt	A325N	0.750	2	3.654	31.320	0.117 ✔	1.05	Gusset Bearing
T22	110	Leg	A325N	1.000	6	11.115	54.517	0.204 ✔	1.05	Bolt Tension

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
		Diagonal	A325N	0.750	2	2.816	19.880	0.142 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	1.818	14.375	0.126 ✔	1.05	Member Block Shear
		Top Girt	A325N	0.625	2	1.818	14.375	0.126 ✔	1.05	Member Block Shear
T23	85	Leg	A325N	1.000	6	11.827	54.517	0.217 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.750	2	1.273	19.880	0.064 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	1.889	14.375	0.131 ✔	1.05	Member Block Shear
		Top Girt	A325N	0.625	2	1.889	14.375	0.131 ✔	1.05	Member Block Shear
T24	60	Leg	A325N	1.000	6	12.196	54.517	0.224 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.750	2	2.492	19.880	0.125 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	1.913	14.375	0.133 ✔	1.05	Member Block Shear
		Top Girt	A325N	0.625	2	1.913	14.375	0.133 ✔	1.05	Member Block Shear
T25	35	Leg	A325N	1.000	6	12.262	54.517	0.225 ✔	1.05	Bolt Tension
		Diagonal	A325N	0.750	2	3.472	19.880	0.175 ✔	1.05	Bolt Shear
		Horizontal	A325N	0.625	2	1.911	14.375	0.133 ✔	1.05	Member Block Shear
		Top Girt	A325N	0.625	2	1.911	14.375	0.133 ✔	1.05	Member Block Shear
T26	10	Leg	A325N	0.750	8	9.939	30.101	0.330 ✔	1.05	Bolt Tension

Guy Design Data

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T_u K	Allowable ϕT_n K	Required S.F.	Actual S.F.
T6	491'3" (A) (891)	1 3/4 (ECP - 24000) BS	37.600	376.000	83.657	236.880	0.952	2.697 ✔
	491'3" (B) (890)	1 3/4 (ECP - 24000) BS	37.600	376.000	84.118	236.880	0.952	2.682 ✔
	491'3" (C) (889)	1 3/4 (ECP - 24000) BS	37.600	376.000	83.837	236.880	0.952	2.691 ✔
T13	316'3" (A) (888)	1 1/2 (ECP - 24000) BS	27.600	275.999	64.040	173.880	0.952	2.586 ✔
	316'3" (B) (887)	1 1/2 (ECP - 24000) BS	27.600	275.999	64.110	173.880	0.952	2.583 ✔
	316'3" (C) (886)	1 1/2 (ECP - 24000) BS	27.600	275.999	66.110	173.880	0.952	2.505 ✔
T20	153'9" (A) (885)	1 1/4 (ECP - 24000) BS	19.200	192.000	45.155	120.960	0.952	2.551 ✔
	153'9" (B) (884)	1 1/4 (ECP - 24000) BS	19.200	192.000	44.938	120.960	0.952	2.564 ✔
	153'9" (C) (883)	1 1/4 (ECP - 24000) BS	19.200	192.000	46.575	120.960	0.952	2.473 ✔

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	560 - 553.75	4	6'3"	6'3"	75.0 K=1.00	12.566	-0.714	374.804	0.002 [1] ✔
T2	553.75 - 547.5	4	6'3"	6'3"	75.0 K=1.00	12.566	-2.280	374.804	0.006 [1] ✔
T3	547.5 - 541.25	4	6'3"	6'3"	75.0 K=1.00	12.566	-6.738	374.804	0.018 [1] ✔
T4	541.25 - 535	4	6'3"	6'3"	75.0 K=1.00	12.566	-10.737	374.804	0.029 [1] ✔
T5	535 - 510	4	25'	6'3"	75.0 K=1.00	12.566	-33.708	374.804	0.090 [1] ✔
T6	510 - 485	4 1/2	25'	6'3"	66.7 K=1.00	15.904	-72.386	517.126	0.140 [1] ✔
T7	485 - 460	4 1/2	25'	6'3"	66.7 K=1.00	15.904	-89.924	517.126	0.174 [1] ✔
T8	460 - 435	4 3/4	25'	6'3"	63.2 K=1.00	17.721	-106.941	595.695	0.180 [1] ✔
T9	435 - 410	4 3/4	25'	6'3"	63.2 K=1.00	17.721	-110.808	595.695	0.186 [1] ✔
T10	410 - 385	4 3/4	25'	6'3"	63.2 K=1.00	17.721	-110.068	595.695	0.185 [1] ✔
T11	385 - 360	4 3/4	25'	6'3"	63.2 K=1.00	17.721	-99.368	595.695	0.167 [1] ✔
T12	360 - 335	4 3/4	25'	6'3"	63.2 K=1.00	17.721	-117.145	595.695	0.197 [1] ✔
T13	335 - 310	5 1/4	25'	6'3"	57.1 K=1.00	21.647	-161.210	767.243	0.210 [1] ✔
T14	310 - 285	5	25'	6'3"	60.0 K=1.00	19.635	-155.359	679.089	0.229 [1] ✔
T15	285 - 260	4 3/4	25'	6'3"	63.2 K=1.00	17.721	-150.456	595.695	0.253 [1] ✔
T16	260 - 235	4 3/4	25'	6'3"	63.2 K=1.00	17.721	-161.400	595.695	0.271 [1] ✔
T17	235 - 210	4 3/4	25'	6'3"	63.2 K=1.00	17.721	-163.786	595.695	0.275 [1] ✔
T18	210 - 185	5	25'	6'3"	60.0 K=1.00	19.635	-164.017	679.089	0.242 [1] ✔
T19	185 - 160	5 1/4	25'	6'3"	57.1 K=1.00	21.647	-178.196	767.243	0.232 [1] ✔
T20	160 - 135	5 1/2	25'	6'3"	54.5 K=1.00	23.758	-198.167	860.106	0.230 [1] ✔
T21	135 - 110	5 1/4	25'	6'3"	57.1 K=1.00	21.647	-196.086	767.243	0.256 [1] ✔
T22	110 - 85	5 1/4	25'	6'3"	57.1 K=1.00	21.647	-209.971	767.243	0.274 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T23	85 - 60	5 1/4	25'	6'3"	57.1 K=1.00	21.647	-218.122	767.243	0.284 [1] ✔
T24	60 - 35	5 1/4	25'	6'3"	57.1 K=1.00	21.647	-220.899	767.243	0.288 [1] ✔
T25	35 - 10	5 1/4	25'	6'3"	57.1 K=1.00	21.647	-220.713	767.243	0.288 [1] ✔
T26	10 - 0	5 1/4	11'3/16"	5'6-3/32"	50.4 K=1.00	21.647	-240.297	809.289	0.297 [1] ✔

[1] $P_u / \phi P_n$ 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	560 - 553.75	2L3x3x1/4x3/8	7'5-1/32"	6'6-11/32"	86.9 K=1.00	2.880	-0.396	75.608	0.005 [1] ✔
T2	553.75 - 547.5	2L 'a' > 37.399 in - 72L2 1/2x2x3/16x3/8	7'5-1/32"	6'8-19/32"	128.6 K=1.00	1.620	-1.251	26.151	0.048 [1] ✔
T26	10 - 0	2L 'a' > 32.544 in - 17L3x3 1/2x5/16	6'6-1/16"	6'1-31/32"	119.0 K=1.01	1.930	-2.204	38.546	0.057 [1] ✔

[1] $P_u / \phi P_n$ 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 $\frac{P_u}{\phi P_n}$
T2	553.75 - 547.5	2L3x2 1/2x1/4x3/8	8'	5'5-7/8"	71.0 K=1.00	2.630	-0.707	75.761	0.009 [1] ✔
T5	535 - 510	2L3x2 1/2x1/4x3/8	8'	7'2-1/2"	112.1 K=1.00	2.630	-3.959	54.447	0.073 [1] ✔
T6	510 - 485	2L 'a' > 36.248 in - 632L3x2 1/2x1/4x3/8	8'	7'2"	111.5 K=1.00	2.630	-5.778	54.870	0.105 [1] ✔
T7	485 - 460	2L 'a' > 36.038 in - 1112L3x2 1/2x1/4x3/8	8'	7'2"	111.5 K=1.00	2.630	-6.789	54.870	0.124 [1] ✔
T8	460 - 435	2L 'a' > 36.038 in - 1572L2 1/2x2x3/16x3/8	8'	7'2-1/2"	138.0 K=1.00	1.620	-4.211	22.939	0.184 [1] ✔
T9	435 - 410	2L 'a' > 34.933 in - 1962L2 1/2x2x3/16x3/8	8'	7'2-1/2"	138.0	1.620	-1.919	22.939	0.084 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
					K=1.00				✔
T10	410 - 385	2L 'a' > 34.933 in - 219 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	138.0 K=1.00	1.620	-3.990	22.939	0.174 [1] ✔
T11	385 - 360	2L 'a' > 34.933 in - 258 2L2x2x1/4x3/8	8'	7'2-1/2"	141.0 K=1.00	1.880	-6.320	26.670	0.237 [1] ✔
T12	360 - 335	2L 'a' > 39.164 in - 297 2L3x2 1/2x1/4x3/8	8'	7'1-3/4"	111.1 K=1.00	2.630	-8.652	55.081	0.157 [1] ✔
T13	335 - 310	2L 'a' > 35.933 in - 336 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	110.5 K=1.00	2.630	-10.121	55.501	0.182 [1] ✔
T14	310 - 285	2L 'a' > 35.724 in - 393 2L3x2 1/2x1/4x3/8	8'	7'1-1/2"	110.8 K=1.00	2.630	-9.713	55.292	0.176 [1] ✔
T15	285 - 260	2L 'a' > 35.829 in - 430 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	138.0 K=1.00	1.620	-6.986	22.939	0.305 [1] ✔
T16	260 - 235	2L 'a' > 34.933 in - 469 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	138.0 K=1.00	1.620	-4.619	22.939	0.201 [1] ✔
T17	235 - 210	2L 'a' > 34.933 in - 508 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	138.0 K=1.00	1.620	-3.516	22.939	0.153 [1] ✔
T18	210 - 185	2L 'a' > 34.933 in - 531 2L2 1/2x2x3/16x3/8	8'	7'2-1/4"	137.6 K=1.00	1.620	-7.428	23.063	0.322 [1] ✔
T19	185 - 160	2L 'a' > 34.832 in - 570 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	110.5 K=1.00	2.630	-10.078	55.501	0.182 [1] ✔
T20	160 - 135	2L 'a' > 35.724 in - 607 2L3x2 1/2x1/4x3/8	8'	7'1"	110.2 K=1.00	2.630	-8.240	55.710	0.148 [1] ✔
T21	135 - 110	2L 'a' > 35.619 in - 646 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	110.5 K=1.00	2.630	-6.618	55.501	0.119 [1] ✔
T22	110 - 85	2L 'a' > 35.724 in - 705 2L2 1/2x2x3/16x3/8	8'	7'2"	137.2 K=1.00	1.620	-4.232	23.188	0.183 [1] ✔
T23	85 - 60	2L 'a' > 34.731 in - 744 2L2 1/2x2x3/16x3/8	8'	7'2"	137.2 K=1.00	1.620	-3.778	23.188	0.163 [1] ✔
T24	60 - 35	2L 'a' > 34.731 in - 765 2L2 1/2x2x3/16x3/8	8'	7'2"	137.2 K=1.00	1.620	-3.826	23.188	0.165 [1] ✔
T25	35 - 10	2L 'a' > 34.731 in - 804 2L2 1/2x2x3/16x3/8	8'	7'2"	137.2 K=1.00	1.620	-5.184	23.188	0.224 [1] ✔
T26	10 - 0	2L 'a' > 34.731 in - 850 L3x5x1/2	4'	1'9-3/8"	76.5 K=2.32	3.750	-4.467	110.162	0.041 [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	560 - 553.75	C10x20	8'	5'9"	99.7 K=1.00	5.880	-0.117	112.878	0.001 [1] ✔
T3	547.5 - 541.25	2C6x8.2x0.375	8'	7'8"	104.4 K=1.00	4.800	-0.991	87.624	0.011 [1] ✔
T4	541.25 - 535	2L3x2 1/2x1/4x3/8	8'	7'2-1/2"	112.1 K=1.00	2.630	-2.156	54.447	0.040 [1] ✔
T5	535 - 510	2L 'a' > 36.248 in - 40 2L3x2 1/2x1/4x3/8	8'	7'2-1/2"	112.1 K=1.00	2.630	-2.626	54.447	0.048 [1] ✔
T6	510 - 485	2L 'a' > 36.248 in - 52 2L3x2 1/2x1/4x3/8	8'	7'2"	111.5 K=1.00	2.630	-4.815	54.870	0.088 [1] ✔
T7	485 - 460	2L 'a' > 36.038 in - 93 2L3x2 1/2x1/4x3/8	8'	7'2"	111.5 K=1.00	2.630	-6.989	54.870	0.127 [1] ✔
T8	460 - 435	2L 'a' > 36.038 in - 130 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	138.0 K=1.00	1.620	-4.806	22.939	0.210 [1] ✔
T9	435 - 410	2L 'a' > 34.933 in - 169 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	138.0 K=1.00	1.620	-2.253	22.939	0.098 [1] ✔
T10	410 - 385	2L 'a' > 34.933 in - 208 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	138.0 K=1.00	1.620	-2.192	22.939	0.096 [1] ✔
T11	385 - 360	2L 'a' > 34.933 in - 249 2L2x2x1/4x3/8	8'	7'2-1/2"	141.0 K=1.00	1.880	-4.719	26.670	0.177 [1] ✔
T12	360 - 335	2L 'a' > 39.164 in - 288 2L3x2 1/2x1/4x3/8	8'	7'1-3/4"	111.1 K=1.00	2.630	-7.029	55.081	0.128 [1] ✔
T13	335 - 310	2L 'a' > 35.933 in - 327 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	110.5 K=1.00	2.630	-9.288	55.501	0.167 [1] ✔
T14	310 - 285	2L 'a' > 35.724 in - 366 2L3x2 1/2x1/4x3/8	8'	7'1-1/2"	110.8 K=1.00	2.630	-9.686	55.292	0.175 [1] ✔
T15	285 - 260	2L 'a' > 35.829 in - 403 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	138.0 K=1.00	1.620	-7.611	22.939	0.332 [1] ✔
T16	260 - 235	2L 'a' > 34.933 in - 442 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	138.0 K=1.00	1.620	-5.273	22.939	0.230 [1] ✔
T17	235 - 210	2L 'a' > 34.933 in - 481 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	138.0 K=1.00	1.620	-2.837	22.939	0.124 [1] ✔
T18	210 - 185	2L 'a' > 34.933 in - 522 2L2 1/2x2x3/16x3/8	8'	7'2-1/4"	137.6 K=1.00	1.620	-4.401	23.063	0.191 [1] ✔
		2L 'a' > 34.832 in - 561							

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T19	185 - 160	2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	110.5 K=1.00	2.630	-8.176	55.501	0.147 [1] ✔
T20	160 - 135	2L 'a' > 35.724 in - 600 2L3x2 1/2x1/4x3/8	8'	7'1"	110.2 K=1.00	2.630	-9.967	55.710	0.179 [1] ✔
T21	135 - 110	2L 'a' > 35.619 in - 637 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	110.5 K=1.00	2.630	-7.308	55.501	0.132 [1] ✔
T22	110 - 85	2L 'a' > 35.724 in - 678 2L2 1/2x2x3/16x3/8	8'	7'2"	137.2 K=1.00	1.620	-4.809	23.188	0.207 [1] ✔
T23	85 - 60	2L 'a' > 34.731 in - 717 2L2 1/2x2x3/16x3/8	8'	7'2"	137.2 K=1.00	1.620	-3.778	23.188	0.163 [1] ✔
T24	60 - 35	2L 'a' > 34.731 in - 756 2L2 1/2x2x3/16x3/8	8'	7'2"	137.2 K=1.00	1.620	-3.826	23.188	0.165 [1] ✔
T25	35 - 10	2L 'a' > 34.731 in - 795 2L2 1/2x2x3/16x3/8	8'	7'2"	137.2 K=1.00	1.620	-4.242	23.188	0.183 [1] ✔
T26	10 - 0	2L 'a' > 34.731 in - 832 2L4x3x1/2	8'	7'6-3/4"	72.6 K=1.00	6.500	-4.467	195.218	0.023 [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 $\frac{P_u}{\phi P_n}$
T3	547.5 - 541.25	4	6'3"	6'3"	75.0	12.566	0.213	565.487	0.000 [1] ✔
T4	541.25 - 535	4	6'3"	6'3"	75.0	12.566	2.188	565.487	0.004 [1] ✔
T5	535 - 510	4	25'	6'3"	75.0	12.566	16.190	565.487	0.029 [1] ✔
T6	510 - 485	4 1/2	25'	6'3"	66.7	15.904	34.069	715.694	0.048 [1] ✔
T8	460 - 435	4 3/4	25'	6'3"	63.2	17.721	4.001	797.425	0.005 [1] ✔
T9	435 - 410	4 3/4	25'	6'3"	63.2	17.721	7.265	797.425	0.009 [1] ✔
T10	410 - 385	4 3/4	25'	6'3"	63.2	17.721	3.817	797.425	0.005 [1] ✔
T13	335 - 310	5 1/4	25'	6'3"	57.1	21.647	1.334	974.139	0.001 [1] ✔

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

[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	560 - 553.75	2L3x3x1/4x3/8	7'5-1/32''	6'6-11/32"	91.8	1.738	0.091	75.608	0.001 [1] ✔
T2	553.75 - 547.5	2L 'a' > 37.399 in - 8 2L2 1/2x2x3/16x3/8	7'5-1/32''	6'8-19/32"	107.6	1.004	1.122	43.677	0.026 [1] ✔
T3	547.5 - 541.25	2L 'a' > 32.544 in - 18 1	10'1-13/16"	9'8-3/4"	467.0	0.785	2.436	25.447	0.096 [1] ✔
T4	541.25 - 535	1	10'1-13/16"	9'8-3/4"	467.0	0.785	3.074	25.447	0.121 [1] ✔
T5	535 - 510	1	10'1-13/16"	9'8-3/4"	467.0	0.785	5.555	25.447	0.218 [1] ✔
T6	510 - 485	1 1/4	10'1-13/16"	9'8-1/8"	371.6	1.227	9.168	39.761	0.231 [1] ✔
T7	485 - 460	1	10'1-13/16"	9'8-1/8"	464.5	0.785	8.858	25.447	0.348 [1] ✔
T8	460 - 435	3/4	10'1-13/16"	9'7-13/16"	617.6	0.442	5.535	14.314	0.387 [1] ✔
T9	435 - 410	5/8	10'1-13/16"	9'7-13/16"	741.1	0.307	2.317	9.940	0.233 [1] ✔
T10	410 - 385	5/8	10'1-13/16"	9'7-13/16"	741.1	0.307	5.372	9.940	0.540 [1] ✔
T11	385 - 360	3/4	10'1-13/16"	9'7-13/16"	617.6	0.442	8.209	14.314	0.574 [1] ✔
T12	360 - 335	1	10'1-13/16"	9'7-13/16"	463.2	0.785	11.186	25.447	0.440 [1] ✔
T13	335 - 310	1 1/4	10'1-13/16"	9'7-5/32''	368.5	1.227	13.090	39.761	0.329 [1] ✔
T14	310 - 285	1	10'1-13/16"	9'7-15/32"	461.9	0.785	12.479	25.447	0.490 [1] ✔
T15	285 - 260	3/4	10'1-13/16"	9'7-13/16"	617.6	0.442	8.979	14.314	0.627 [1] ✔
T16	260 - 235	5/8	10'1-13/16"	9'7-13/16"	741.1	0.307	5.980	9.940	0.602 [1] ✔
T17	235 - 210	5/8	10'1-13/16"	9'7-13/16"	741.1	0.307	4.759	9.940	0.479 [1] ✔
T18	210 - 185	7/8	10'1-13/16"	9'7-15/32"	527.9	0.601	9.739	19.483	0.500 [1] ✔
T19	185 - 160	1	10'1-13/16"	9'7-5/32''	460.6	0.785	13.031	25.447	0.512 [1] ✔
T20	160 - 135	1 1/4	10'1-13/16"	9'6-27/32"	367.5	1.227	12.782	39.761	0.321 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T21	135 - 110	1	10'1-13/16"	9'7-5/32"	460.6	0.785	8.625	25.447	0.339 [1] ✔
T22	110 - 85	7/8	10'1-13/16"	9'7-5/32"	526.5	0.601	5.632	19.483	0.289 [1] ✔
T23	85 - 60	7/8	10'1-13/16"	9'7-5/32"	526.5	0.601	2.547	19.483	0.131 [1] ✔
T24	60 - 35	7/8	10'1-13/16"	9'7-5/32"	526.5	0.601	4.983	19.483	0.256 [1] ✔
T25	35 - 10	7/8	10'1-13/16"	9'7-5/32"	526.5	0.601	6.943	19.483	0.356 [1] ✔
T26	10 - 0	L3x3 1/2x5/16	6'6-1/16"	6'1-31/32"	81.8	1.930	1.748	62.532	0.028 [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 $\frac{P_u}{\phi P_n}$
T2	553.75 - 547.5	2L3x2 1/2x1/4x3/8	8'	5'5-7/8"	61.1	1.597	0.750	69.491	0.011 [1] ✔
T5	535 - 510	2L3x2 1/2x1/4x3/8	8'	7'2-1/2"	97.4	1.644	0.584	71.530	0.008 [1] ✔
T6	510 - 485	2L 'a' > 36.248 in - 62 2L3x2 1/2x1/4x3/8	8'	7'2"	96.8	1.644	15.581	71.530	0.218 [1] ✔
T7	485 - 460	2L 'a' > 36.038 in - 101 2L3x2 1/2x1/4x3/8	8'	7'2"	96.8	1.644	1.558	71.530	0.022 [1] ✔
T8	460 - 435	2L 'a' > 36.038 in - 141 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	1.004	1.852	43.677	0.042 [1] ✔
T9	435 - 410	2L 'a' > 34.933 in - 180 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	1.004	1.919	43.677	0.044 [1] ✔
T10	410 - 385	2L 'a' > 34.933 in - 228 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	1.004	1.906	43.677	0.044 [1] ✔
T11	385 - 360	2L 'a' > 34.933 in - 258 2L2x2x1/4x3/8	8'	7'2-1/2"	149.8	1.129	1.721	49.101	0.035 [1] ✔
T12	360 - 335	2L 'a' > 39.164 in - 306 2L3x2 1/2x1/4x3/8	8'	7'1-3/4"	96.6	1.644	2.029	71.530	0.028 [1] ✔
T13	335 - 310	2L 'a' > 35.933 in - 335 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	96.0	1.644	17.792	71.530	0.249 [1] ✔
T14	310 - 285	2L 'a' > 35.724 in - 374 2L3x2 1/2x1/4x3/8	8'	7'1-1/2"	96.3	1.644	2.691	71.530	0.038 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T15	285 - 260	2L 'a' > 35.829 in - 413 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	1.004	2.606	43.677	0.060 [1] ✔
T16	260 - 235	2L 'a' > 34.933 in - 453 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	1.004	2.796	43.677	0.064 [1] ✔
T17	235 - 210	2L 'a' > 34.933 in - 492 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	1.004	2.837	43.677	0.065 [1] ✔
T18	210 - 185	2L 'a' > 34.933 in - 540 2L2 1/2x2x3/16x3/8	8'	7'2-1/4"	114.8	1.004	2.841	43.677	0.065 [1] ✔
T19	185 - 160	2L 'a' > 34.832 in - 570 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	96.0	1.644	3.086	71.530	0.043 [1] ✔
T20	160 - 135	2L 'a' > 35.724 in - 609 2L3x2 1/2x1/4x3/8	8'	7'1"	95.8	1.644	19.293	71.530	0.270 [1] ✔
T21	135 - 110	2L 'a' > 35.619 in - 665 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	96.0	1.644	3.396	71.530	0.047 [1] ✔
T22	110 - 85	2L 'a' > 35.724 in - 687 2L2 1/2x2x3/16x3/8	8'	7'2"	114.4	1.004	3.637	43.677	0.083 [1] ✔
T23	85 - 60	2L 'a' > 34.731 in - 744 2L2 1/2x2x3/16x3/8	8'	7'2"	114.4	1.004	3.778	43.677	0.086 [1] ✔
T24	60 - 35	2L 'a' > 34.731 in - 765 2L2 1/2x2x3/16x3/8	8'	7'2"	114.4	1.004	3.826	43.677	0.088 [1] ✔
T25	35 - 10	2L 'a' > 34.731 in - 813 2L2 1/2x2x3/16x3/8	8'	7'2"	114.4	1.004	3.823	43.677	0.088 [1] ✔
T26	10 - 0	2L 'a' > 34.731 in - 843 L3x5x1/2	4'	1'9-3/8"	25.8	3.750	4.467	121.500	0.037 [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	560 - 553.75	C10x20	8'	5'9"	99.7	5.880	0.108	190.512	0.001 [1] ✔
T3	547.5 - 541.25	2C6x8.2x0.375	8'	7'8"	104.4	3.375	0.242	146.813	0.002 [1] ✔
T4	541.25 - 535	2L3x2 1/2x1/4x3/8	8'	7'2-1/2"	97.4	1.644	0.186	71.530	0.003 [1] ✔
		2L 'a' > 36.248 in - 41							

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T5	535 - 510	2L3x2 1/2x1/4x3/8	8'	7'2-1/2"	97.4	1.644	0.584	71.530	0.008 [1] ✔
T6	510 - 485	2L 'a' > 36.248 in - 53 2L3x2 1/2x1/4x3/8	8'	7'2"	96.8	1.644	1.254	71.530	0.018 [1] ✔
T7	485 - 460	2L 'a' > 36.038 in - 92 2L3x2 1/2x1/4x3/8	8'	7'2"	96.8	1.644	1.558	71.530	0.022 [1] ✔
T8	460 - 435	2L 'a' > 36.038 in - 132 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	1.004	1.852	43.677	0.042 [1] ✔
T9	435 - 410	2L 'a' > 34.933 in - 171 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	1.004	1.919	43.677	0.044 [1] ✔
T10	410 - 385	2L 'a' > 34.933 in - 210 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	1.004	1.906	43.677	0.044 [1] ✔
T11	385 - 360	2L 'a' > 34.933 in - 249 2L2x2x1/4x3/8	8'	7'2-1/2"	149.8	1.129	1.721	49.101	0.035 [1] ✔
T12	360 - 335	2L 'a' > 39.164 in - 288 2L3x2 1/2x1/4x3/8	8'	7'1-3/4"	96.6	1.644	2.029	71.530	0.028 [1] ✔
T13	335 - 310	2L 'a' > 35.933 in - 326 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	96.0	1.644	2.792	71.530	0.039 [1] ✔
T14	310 - 285	2L 'a' > 35.724 in - 365 2L3x2 1/2x1/4x3/8	8'	7'1-1/2"	96.3	1.644	2.691	71.530	0.038 [1] ✔
T15	285 - 260	2L 'a' > 35.829 in - 404 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	1.004	2.606	43.677	0.060 [1] ✔
T16	260 - 235	2L 'a' > 34.933 in - 444 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	1.004	2.796	43.677	0.064 [1] ✔
T17	235 - 210	2L 'a' > 34.933 in - 483 2L2 1/2x2x3/16x3/8	8'	7'2-1/2"	115.1	1.004	2.837	43.677	0.065 [1] ✔
T18	210 - 185	2L 'a' > 34.933 in - 522 2L2 1/2x2x3/16x3/8	8'	7'2-1/4"	114.8	1.004	2.841	43.677	0.065 [1] ✔
T19	185 - 160	2L 'a' > 34.832 in - 561 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	96.0	1.644	3.086	71.530	0.043 [1] ✔
T20	160 - 135	2L 'a' > 35.724 in - 600 2L3x2 1/2x1/4x3/8	8'	7'1"	95.8	1.644	3.432	71.530	0.048 [1] ✔
T21	135 - 110	2L 'a' > 35.619 in - 639 2L3x2 1/2x1/4x3/8	8'	7'1-1/4"	96.0	1.644	3.396	71.530	0.047 [1] ✔
T22	110 - 85	2L 'a' > 35.724 in - 678 2L2 1/2x2x3/16x3/8	8'	7'2"	114.4	1.004	3.637	43.677	0.083 [1] ✔
T23	85 - 60	2L 'a' > 34.731 in - 717 2L2 1/2x2x3/16x3/8	8'	7'2"	114.4	1.004	3.778	43.677	0.086 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T24	60 - 35	2L 'a' > 34.731 in - 756 2L2 1/2x2x3/16x3/8	8'	7'2"	114.4	1.004	3.826	43.677	0.088 [1]
T25	35 - 10	2L 'a' > 34.731 in - 795 2L2 1/2x2x3/16x3/8	8'	7'2"	114.4	1.004	3.823	43.677	0.088 [1]
T26	10 - 0	2L 'a' > 34.731 in - 834 2L4x3x1/2	8'	7'6-3/4"	72.6	6.500	57.078	210.600	0.271 [1]

[1] P_u / ϕP_n controls

Section Capacity Table

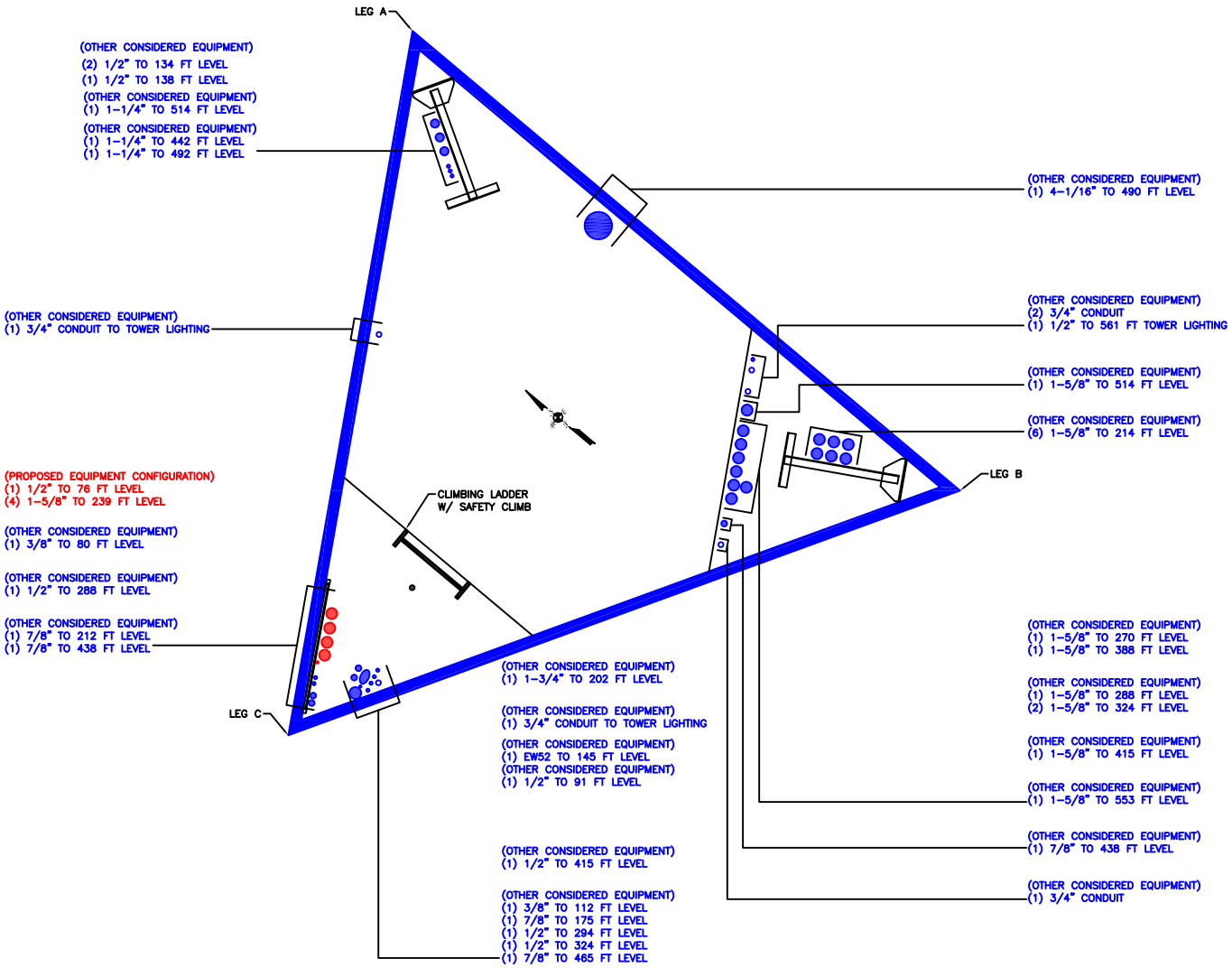
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	560 - 553.75	Leg	4	2	-0.714	393.544	0.2	Pass
T2	553.75 - 547.5	Leg	4	14	-2.280	393.544	0.6	Pass
T3	547.5 - 541.25	Leg	4	26	-6.738	393.544	1.7	Pass
T4	541.25 - 535	Leg	4	39	-10.737	393.544	2.7	Pass
T5	535 - 510	Leg	4	51	-33.708	393.544	8.6	Pass
T6	510 - 485	Leg	4 1/2	90	-72.386	542.982	13.3	Pass
T7	485 - 460	Leg	4 1/2	127	-89.924	542.982	16.6	Pass
T8	460 - 435	Leg	4 3/4	166	-106.941	625.480	17.1	Pass
T9	435 - 410	Leg	4 3/4	205	-110.808	625.480	17.7	Pass
T10	410 - 385	Leg	4 3/4	244	-110.068	625.480	17.6	Pass
T11	385 - 360	Leg	4 3/4	283	-99.368	625.480	15.9	Pass
T12	360 - 335	Leg	4 3/4	324	-117.145	625.480	18.7	Pass
T13	335 - 310	Leg	5 1/4	363	-161.210	805.605	20.0	Pass
T14	310 - 285	Leg	5	402	-155.359	713.043	21.8	Pass
T15	285 - 260	Leg	4 3/4	439	-150.456	625.480	24.1	Pass
T16	260 - 235	Leg	4 3/4	478	-161.400	625.480	25.8	Pass
T17	235 - 210	Leg	4 3/4	517	-163.786	625.480	26.2	Pass
T18	210 - 185	Leg	5	556	-164.017	713.043	23.0	Pass
T19	185 - 160	Leg	5 1/4	595	-178.196	805.605	22.1	Pass
T20	160 - 135	Leg	5 1/2	634	-198.167	903.111	21.9	Pass
T21	135 - 110	Leg	5 1/4	673	-196.086	805.605	24.3	Pass
T22	110 - 85	Leg	5 1/4	712	-209.971	805.605	26.1	Pass
T23	85 - 60	Leg	5 1/4	751	-218.122	805.605	27.1	Pass
T24	60 - 35	Leg	5 1/4	790	-220.899	805.605	27.4	Pass
T25	35 - 10	Leg	5 1/4	829	-220.713	805.605	27.4	Pass
T26	10 - 0	Leg	5 1/4	868	-240.297	849.753	28.3	Pass
T1	560 - 553.75	Diagonal	2L3x3x1/4x3/8	7	-0.396	79.388	0.5	Pass
T2	553.75 - 547.5	Diagonal	2L2 1/2x2x3/16x3/8	17	-1.251	27.459	4.6	Pass
T3	547.5 - 541.25	Diagonal	1	32	2.436	26.719	9.1	Pass
T4	541.25 - 535	Diagonal	1	44	3.074	26.719	11.5	Pass
T5	535 - 510	Diagonal	1	60	5.555	26.719	20.8	Pass
T6	510 - 485	Diagonal	1 1/4	95	9.168	41.749	22.0	Pass
T7	485 - 460	Diagonal	1	161	8.858	26.719	33.2	Pass
T8	460 - 435	Diagonal	3/4	200	5.535	15.030	36.8	Pass
T9	435 - 410	Diagonal	5/8	215	2.317	10.437	22.2	Pass
T10	410 - 385	Diagonal	5/8	254	5.372	10.437	51.5	Pass
T11	385 - 360	Diagonal	3/4	293	8.209	15.030	54.6	Pass
T12	360 - 335	Diagonal	1	332	11.186	26.719	41.9	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T13	335 - 310	Diagonal	1 1/4	389	13.090	41.749	31.4	Pass
T14	310 - 285	Diagonal	1	434	12.479	26.719	46.7	Pass
T15	285 - 260	Diagonal	3/4	473	8.979	15.030	59.7	Pass
T16	260 - 235	Diagonal	5/8	511	5.980	10.437	57.3	Pass
T17	235 - 210	Diagonal	5/8	528	4.759	10.437	45.6	Pass
T18	210 - 185	Diagonal	7/8	567	9.739	20.457	47.6	Pass
T19	185 - 160	Diagonal	1	601	13.031	26.719	48.8	Pass
T20	160 - 135	Diagonal	1 1/4	667	12.782	41.749	30.6	Pass
T21	135 - 110	Diagonal	1	710	8.625	26.719	32.3	Pass
T22	110 - 85	Diagonal	7/8	749	5.632	20.457	27.5	Pass
T23	85 - 60	Diagonal	7/8	789	2.547	20.457	12.5	Pass
T24	60 - 35	Diagonal	7/8	797	4.983	20.457	24.4	Pass
T25	35 - 10	Diagonal	7/8	836	6.943	20.457	33.9	Pass
T26	10 - 0	Diagonal	L3x3 1/2x5/16	882	-2.204	40.474	5.4	Pass
T2	553.75 - 547.5	Horizontal	2L3x2 1/2x1/4x3/8	16	0.750	72.966	1.0	Pass
T5	535 - 510	Horizontal	2L3x2 1/2x1/4x3/8	63	-3.959	57.169	6.9	Pass
T6	510 - 485	Horizontal	2L3x2 1/2x1/4x3/8	101	15.581	75.107	20.7	Pass
T7	485 - 460	Horizontal	2L3x2 1/2x1/4x3/8	157	-6.789	57.614	11.8	Pass
T8	460 - 435	Horizontal	2L2 1/2x2x3/16x3/8	196	-4.211	24.086	17.5	Pass
T9	435 - 410	Horizontal	2L2 1/2x2x3/16x3/8	219	-1.919	24.086	8.0	Pass
T10	410 - 385	Horizontal	2L2 1/2x2x3/16x3/8	258	-3.990	24.086	16.6	Pass
T11	385 - 360	Horizontal	2L2x2x1/4x3/8	297	-6.320	28.003	22.6	Pass
T12	360 - 335	Horizontal	2L3x2 1/2x1/4x3/8	336	-8.652	57.835	15.0	Pass
T13	335 - 310	Horizontal	2L3x2 1/2x1/4x3/8	374	17.792	75.107	23.7	Pass
T14	310 - 285	Horizontal	2L3x2 1/2x1/4x3/8	430	-9.713	58.056	16.7	Pass
T15	285 - 260	Horizontal	2L2 1/2x2x3/16x3/8	469	-6.986	24.086	29.0	Pass
T16	260 - 235	Horizontal	2L2 1/2x2x3/16x3/8	508	-4.619	24.086	19.2	Pass
T17	235 - 210	Horizontal	2L2 1/2x2x3/16x3/8	531	-3.516	24.086	14.6	Pass
T18	210 - 185	Horizontal	2L2 1/2x2x3/16x3/8	570	-7.428	24.216	30.7	Pass
T19	185 - 160	Horizontal	2L3x2 1/2x1/4x3/8	607	-10.078	58.276	17.3	Pass
T20	160 - 135	Horizontal	2L3x2 1/2x1/4x3/8	665	19.293	75.107	25.7	Pass
T21	135 - 110	Horizontal	2L3x2 1/2x1/4x3/8	705	-6.618	58.276	11.4	Pass
T22	110 - 85	Horizontal	2L2 1/2x2x3/16x3/8	744	-4.232	24.347	17.4	Pass
T23	85 - 60	Horizontal	2L2 1/2x2x3/16x3/8	783	-3.778	24.347	15.5	Pass
T24	60 - 35	Horizontal	2L2 1/2x2x3/16x3/8	804	-3.826	24.347	15.7	Pass
T25	35 - 10	Horizontal	2L2 1/2x2x3/16x3/8	850	-5.184	24.347	21.3	Pass
T26	10 - 0	Horizontal	L3x5x1/2	880	-4.467	115.670	3.9	Pass
T1	560 - 553.75	Top Girt	C10x20	4	-0.117	118.522	0.1	Pass
T3	547.5 - 541.25	Top Girt	2C6x8.2x0.375	29	-0.991	92.005	1.1	Pass
T4	541.25 - 535	Top Girt	2L3x2 1/2x1/4x3/8	40	-2.156	57.169	3.8	Pass
T5	535 - 510	Top Girt	2L3x2 1/2x1/4x3/8	52	-2.626	57.169	4.6	Pass
T6	510 - 485	Top Girt	2L3x2 1/2x1/4x3/8	93	-4.815	57.614	8.4	Pass
T7	485 - 460	Top Girt	2L3x2 1/2x1/4x3/8	130	-6.989	57.614	12.1	Pass
T8	460 - 435	Top Girt	2L2 1/2x2x3/16x3/8	169	-4.806	24.086	20.0	Pass
T9	435 - 410	Top Girt	2L2 1/2x2x3/16x3/8	208	-2.253	24.086	9.4	Pass
T10	410 - 385	Top Girt	2L2 1/2x2x3/16x3/8	249	-2.192	24.086	9.1	Pass
T11	385 - 360	Top Girt	2L2x2x1/4x3/8	288	-4.719	28.003	16.9	Pass
T12	360 - 335	Top Girt	2L3x2 1/2x1/4x3/8	327	-7.029	57.835	12.2	Pass
T13	335 - 310	Top Girt	2L3x2 1/2x1/4x3/8	366	-9.288	58.276	15.9	Pass
T14	310 - 285	Top Girt	2L3x2 1/2x1/4x3/8	403	-9.686	58.056	16.7	Pass
T15	285 - 260	Top Girt	2L2 1/2x2x3/16x3/8	442	-7.611	24.086	31.6	Pass
T16	260 - 235	Top Girt	2L2 1/2x2x3/16x3/8	481	-5.273	24.086	21.9	Pass
T17	235 - 210	Top Girt	2L2 1/2x2x3/16x3/8	522	-2.837	24.086	11.8	Pass
T18	210 - 185	Top Girt	2L2 1/2x2x3/16x3/8	561	-4.401	24.216	18.2	Pass
T19	185 - 160	Top Girt	2L3x2 1/2x1/4x3/8	600	-8.176	58.276	14.0	Pass
T20	160 - 135	Top Girt	2L3x2 1/2x1/4x3/8	637	-9.967	58.496	17.0	Pass
T21	135 - 110	Top Girt	2L3x2 1/2x1/4x3/8	678	-7.308	58.276	12.5	Pass
T22	110 - 85	Top Girt	2L2 1/2x2x3/16x3/8	717	-4.809	24.347	19.8	Pass
T23	85 - 60	Top Girt	2L2 1/2x2x3/16x3/8	756	-3.778	24.347	15.5	Pass
T24	60 - 35	Top Girt	2L2 1/2x2x3/16x3/8	795	-3.826	24.347	15.7	Pass
T25	35 - 10	Top Girt	2L2 1/2x2x3/16x3/8	832	-4.242	24.347	17.4	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T26	10 - 0	Top Girt	2L4x3x1/2	872	57.078	221.130	25.8	Pass
T6	510 - 485	Guy A@491.25	1 3/4 (ECP - 24000)	891	83.657	236.880	35.3	Pass
T13	335 - 310	Guy A@316.25	1 1/2 (ECP - 24000)	888	64.040	173.880	36.8	Pass
T20	160 - 135	Guy A@153.75	1 1/4 (ECP - 24000)	885	45.155	120.960	37.3	Pass
T6	510 - 485	Guy B@491.25	1 3/4 (ECP - 24000)	890	84.118	236.880	35.5	Pass
T13	335 - 310	Guy B@316.25	1 1/2 (ECP - 24000)	887	64.110	173.880	36.9	Pass
T20	160 - 135	Guy B@153.75	1 1/4 (ECP - 24000)	884	44.938	120.960	37.2	Pass
T6	510 - 485	Guy C@491.25	1 3/4 (ECP - 24000)	889	83.837	236.880	35.4	Pass
T13	335 - 310	Guy C@316.25	1 1/2 (ECP - 24000)	886	66.110	173.880	38.0	Pass
T20	160 - 135	Guy C@153.75	1 1/4 (ECP - 24000)	883	46.575	120.960	38.5	Pass
							Summary	
						Leg (T26)	28.3	Pass
						Diagonal (T15)	59.7	Pass
						Horizontal (T18)	30.7	Pass
						Top Girt (T15)	31.6	Pass
						Guy A (T20)	37.3	Pass
						Guy B (T20)	37.2	Pass
						Guy C (T20)	38.5	Pass
						Bolt Checks	41.2	Pass
						RATING =	**59.7**	**Pass**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 870800

APPENDIX C

ADDITIONAL CALCULATIONS

Pier and Pad Foundation

BU # :	870800
Site Name:	Avon (Deercliff Rd.)
App. Number:	610493, REV. 0

TIA-222 Revision:	H
Tower Type:	Guyed

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

Superstructure Analysis Reactions

Compression, P_{comp}:	644	kips
Base Shear, Vu_comp:	7	kips
Moment, M_u:		ft-kips
Tower Height, **H**:	560	ft
BP Dist. Above Fdn, bp_{dist}:		in
Bolt Circle / Bearing Plate Width, **BC**:		in

Pier Properties

Pier Shape:	Square	
Pier Diameter, **dpier**:	4	ft
Ext. Above Grade, **E**:	1	ft
Pier Rebar Size, **Sc**:	9	
Pier Rebar Quantity, **mc**:	12	
Pier Tie/Spiral Size, **St**:	3	
Pier Tie/Spiral Quantity, **mt**:	6	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties

Depth, **D**:	5	ft
Pad Width, W_1:	15	ft
Pad Thickness, **T**:	2.5	ft
Pad Rebar Size (Top dir.2), Sp_{top2}:	9	
Pad Rebar Quantity (Top dir. 2), mp_{top2}:	0	
Pad Rebar Size (Bottom dir. 2), Sp_2:	9	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	23	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties

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

Soil Properties

Total Soil Unit Weight, γ:	115	pcf
Ultimate Net Bearing, Qnet:	16.000	ksf
Cohesion, **Cu**:	0.900	ksf
Friction Angle, φ:	0	degrees
SPT Blow Count, N_{blows}:		
Base Friction, μ:	0.57	
Neglected Depth, **N**:	3.33	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

Foundation Analysis Checks

	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	246.43	7.00	**2.7%**	**Pass**
Bearing Pressure (ksf)	9.95	3.73	**35.7%**	**Pass**
*Overturning (kip*ft)*	3119.28	42.00	**1.3%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	1684.61	24.50	**1.4%**	**Pass**
Pier Compression (kip)	7637.76	654.08	**8.2%**	**Pass**
*Pad Flexure (kip*ft)*	2463.79	666.76	**25.8%**	**Pass**
Pad Shear - 1-way (kips)	374.27	149.56	**38.1%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.164	0.066	**38.4%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	1881.76	14.70	**0.7%**	**Pass**

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

Structural Rating*:	**38.4%**
Soil Rating*:	**35.7%**

Version 4.1.1

PROJECT	**83041.012.01 - Avon (Deercliff Rd.), C**
SUBJECT	**Foundation Reaction Comparison**
DATE	**04/15/22**

v1.3.2

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

TIA Rev. H - Guyed

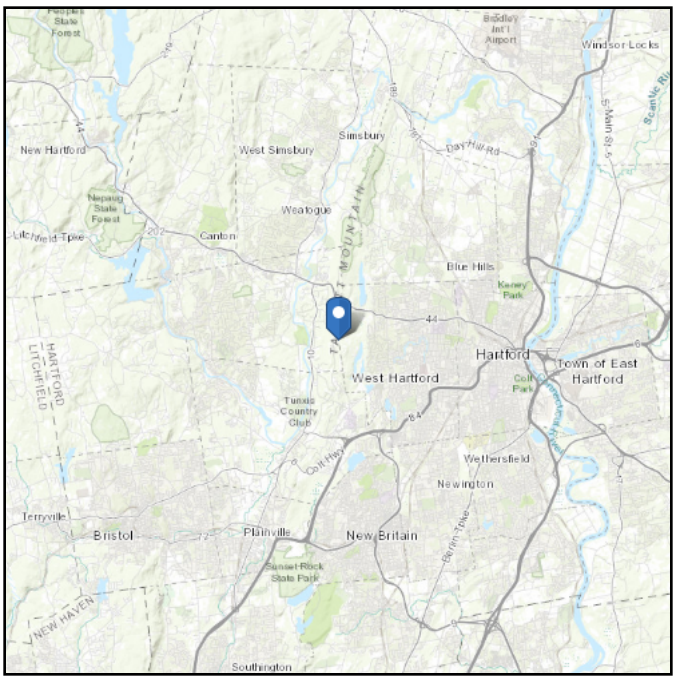
Base Reaction Type	Unfactored Original Design Reactions		Factored Reactions		Rating % with TIA-222-H Seciton 15.5 applied	
GT Outer Anchor Uplift	360	kips	138	kips	**27.0%**	Pass
GT Outer Anchor Shear	254	kips	115	kips	**31.9%**	Pass

Deisgn loads from: CCIsites Doc #StainlessInc., Report #3290 09/11/86

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Elevation:**	686.16 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.774986
Soil Class:	D - Default (see Section 11.4.3)	**Longitude:**	-72.800575



Wind

Results:

Wind Speed	117 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	97 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:	Fri Apr 01 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.

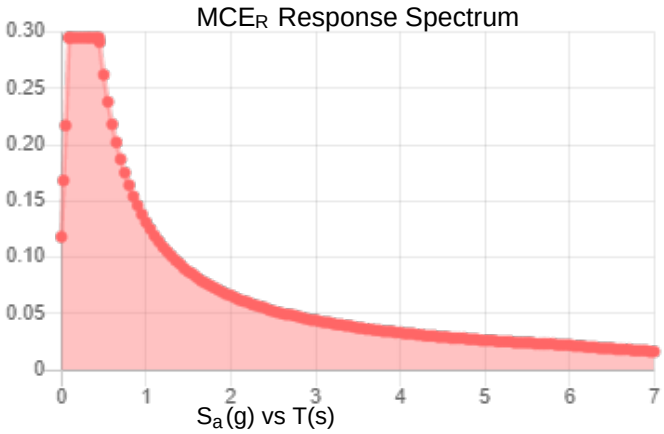
Seismic

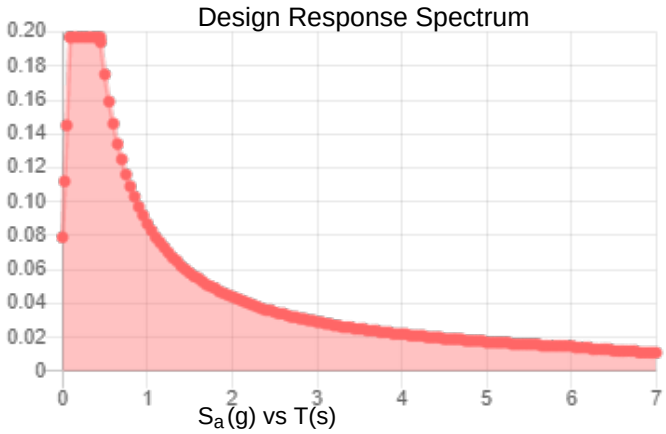
Site Soil Class: D - Default (see Section 11.4.3)

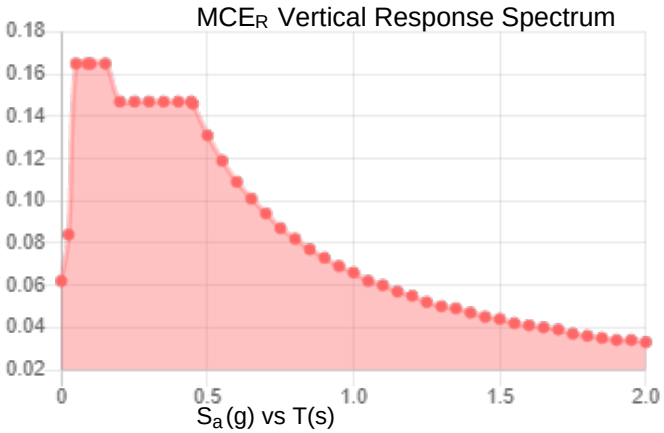
Results:

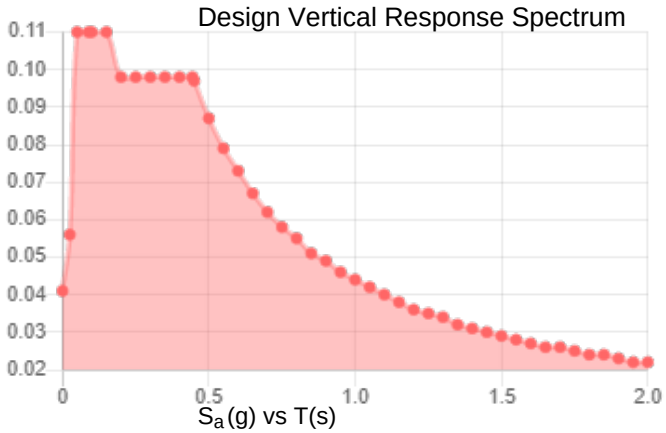
S_S :	0.184	S_{D1} :	0.087
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.099
F_v :	2.4	PGA_M :	0.158
S_{MS} :	0.295	F_{PGA} :	1.6
S_{M1} :	0.131	I_e :	1
S_{DS} :	0.197	C_v :	0.7

Seismic Design Category B









Data Accessed: **Fri Apr 01 2022**

Date Source:

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

Ice

Results:

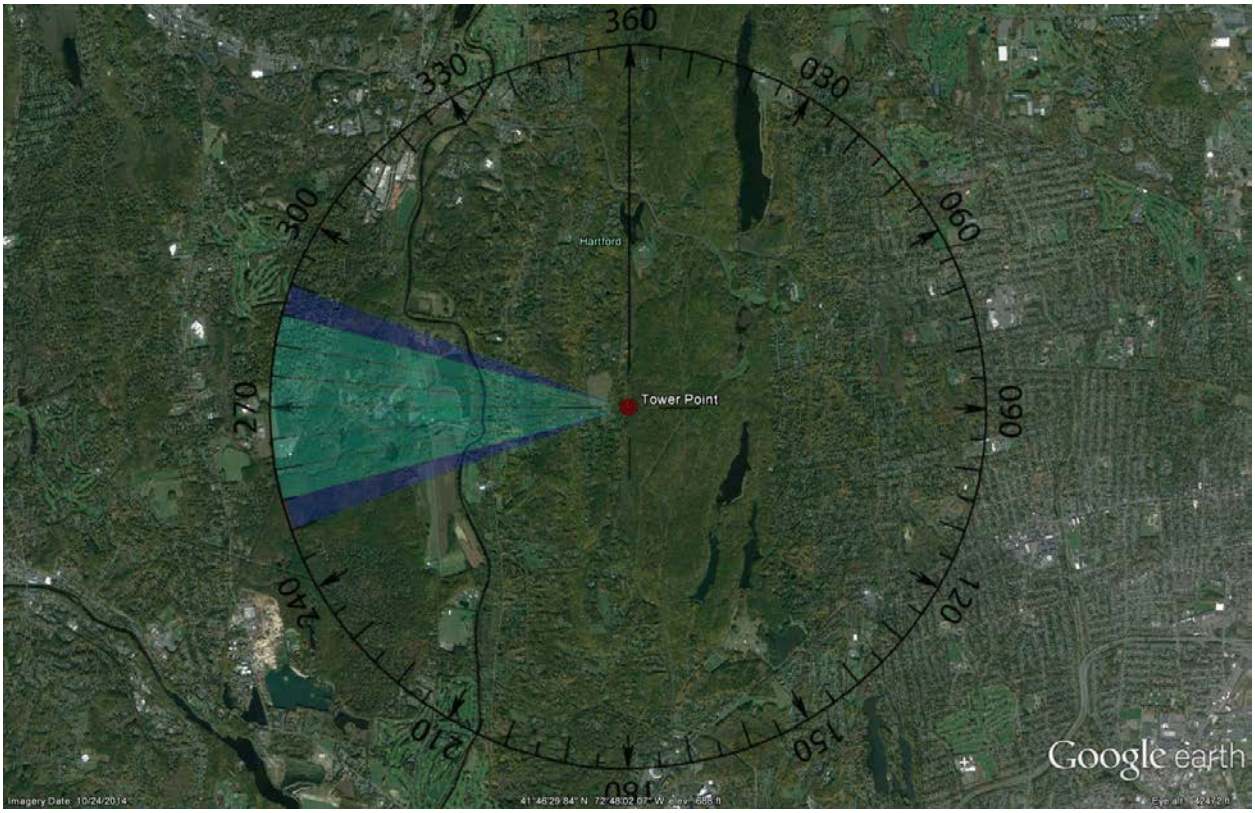
Ice Thickness:	1.50 in.
Concurrent Temperature:	5 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Fri Apr 01 2022

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

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

Exposure Category Determination
BU#870800

- Latitude/Longitude = 41° 46' 29.95",-72° 48' 2.07"
- Tower Height = 560 ft
- Upwind Fetch Radius = Greater of 25 x Tower Height or 3250 ft = 14000 ft
- Minimum Open Patch = 164 ft x 164 ft
- Maximum continuous surface roughness category C arc angle = 5 degrees
- Kmz file saved in folder … R:\SA Models - Letters\Work Area\Exposure_Topo_KMZ



Exposure Category for this site is B.

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

Completed by:	Erin Doyle	Approved by:	Jason Hedrich
Date:	11/13/2015	Date:	11/13/2015

Unmitigated Percentage (B/C)

Inputs

Tower Height (ft):	560'
Starting Azimuth:	255°
Upwind Fetch Radius (ft):	14000'
20% Unmitigated Limit (ft):	2800'
Overlay Size Selected:	30°

Subsector (Degrees)	Total Unmitigated Length (ft)	Percentage of Subsector Unmitigated
240°		0.0%
245°		0.0%
250°	2500'	17.9%
255°	1420'	10.1%
260°	2120'	15.1%
265°	1970'	14.1%
270°	2470'	17.6%
275°	2165'	15.5%
280°	2825'	20.2%
285°	2590'	18.5%
290°		0.0%
295°		0.0%
300°		0.0%
305°		0.0%

THIS SITE IS EXPOSURE:	B

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

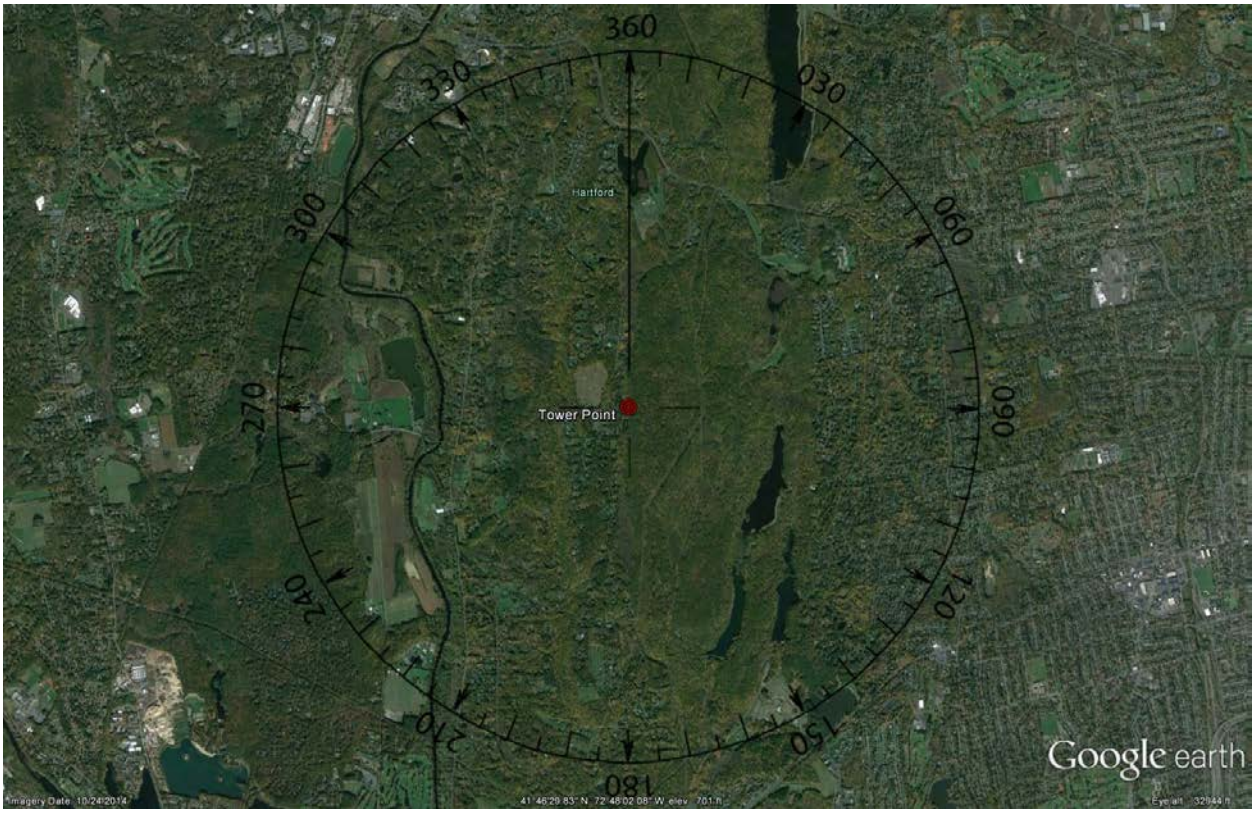
The determination is based on Crown Castle standard ENG-PRC-10202, Determination of Exposure Category, revision C.

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

LEGEND	
	Considered Subsector
	Bookending Subsector

Topographic Factor Determination
BU#870800

- Latitude/Longitude = 41° 46' 29.95",-72° 48' 2.07"
- Tower Height = 560 ft
- Topo Radius = 10,560 ft
- Maximum continuous effective topo arc angle = 0 degrees
- Critical wind azimuth used in topo tool = 0
- Kmz file saved in folder … R:\SA Models - Letters\Work Area\Exposure_Topo_KMZ



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

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

Completed by:	Erin Doyle	Approved by:	Jason Hedrich
Date:	11/13/2015	Date:	11/13/2015

Date: **March 29, 2022**

Infinigy
1033 Watervliet Shaker Road
Albany, NY 12205
(518) 690-0790
structural@infinigy.com

Subject:	**Mount Analysis Report**	
Carrier Designation:	**T-Mobile Anchor**	
	Carrier Site Number:	CT11376A
	Carrier Site Name:	FARMINGTON1/RT10
Crown Castle Designation:	**Crown Castle BU Number:**	870800
	Crown Castle Site Name:	Avon (Deercliff Rd.)
	Crown Castle JDE Job Number:	711443
	Crown Castle Order Number:	610493 Rev. 0
Engineering Firm Designation:	**Infinigy Report Designation:**	1039-Z0001-B
Site Data:	**376 Deercliff Road, Avon, Hartford County, CT, 06001**	
	Latitude 41°46'29.95" Longitude -72°48'2.07"	
Structure Information:	**Tower Height & Type:**	**560.0 ft Guyed**
	Mount Elevation:	**239.0 ft**
	Mount Type:	**11.2 ft Sector Frame**

Infinigy 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 abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

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

Sector Frame **Sufficient**

This analysis utilizes an ultimate 3-second gust wind speed of 121 mph as required by the 2015 International Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Abram Tadrous

Respectfully Submitted by:
Emmanuel Poulin, P.E.
(518) 690-0790
structural@infinigy.com
CT PE License No. 22947

TABLE OF CONTENTS

1) INTRODUCTION

This is an existing 3 sector 11.2 ft Sector Frame, mapped by Infinigy Engineering.

2) ANALYSIS CRITERIA

Building Code:	2015 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	121 mph
Exposure Category:	B
Topographic Factor at Base:	1.0
Topographic Factor at Mount:	1.0
Ice Thickness:	1.0 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.181
Seismic S_1:	0.064
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb
Man Live Load at Mount Pipes:	500 lb

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
239.0	240.0	3	ERICSSON	AIR 6419 B41_TMO	11.2 ft Sector Frame
		3	RFS/CELWAVE	APXVAALL24_43-U-NA20	
		3	ERICSSON	RADIO 4449 B71 B85A_T-MOBILE	
		3	ERICSSON	RADIO 4460 B2/B25 B66_TMO	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	T-Mobile Application	610493 Rev.0	CCI Sites
Mount Mapping Report	Infinigy Engineering	8504342	Infinigy
Loading Documents	T-Mobile	RFDS Version: 6	TSA

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.

Infinigy Mount Analysis Tool V2.1.7, a tool internally developed by Infinigy, was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B “Software Input Calculations”.

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

3.2) Assumptions

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

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular)	ASTM A500 (GR B-46)
Pipe	ASTM A53 (GR 35)
Connection Bolts	ASTM A307

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

4) ANALYSIS RESULTS

Table 3(a) - Mount Component Stresses vs. Capacity (Sector Frame, Alpha Sector)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1,2,3	Mount Pipe(s)	M11	239.0	57.8	Pass
	Horizontal(s)	M2		72.6	Pass
	Mount Connection(s)	--		14.4	Pass

Structure Rating (max from all components) =	72.6%

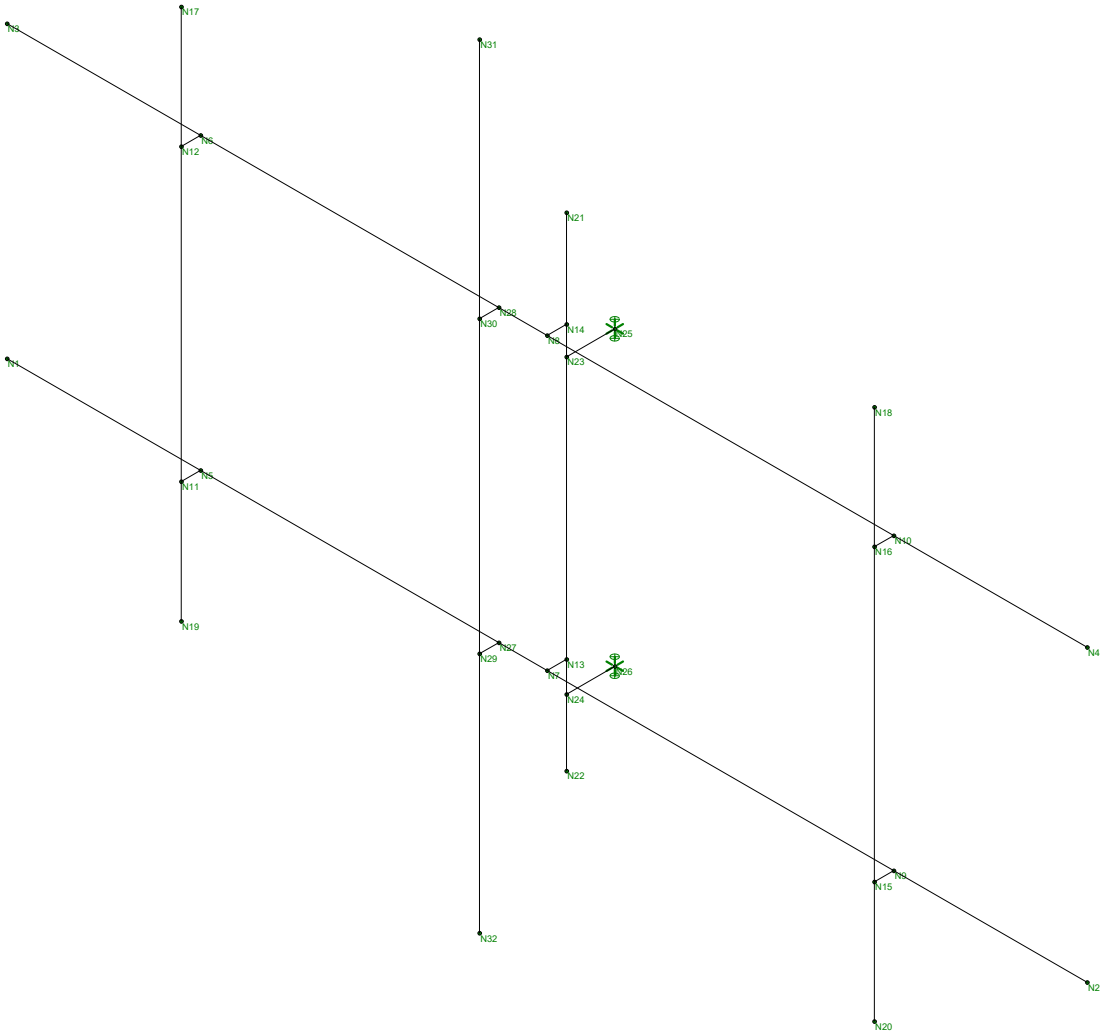
Notes:
1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
2) See additional documentation in “Appendix D – Additional Calculations” for detailed mount connection calculations.
3) All sectors are typical

4.1) Recommendations

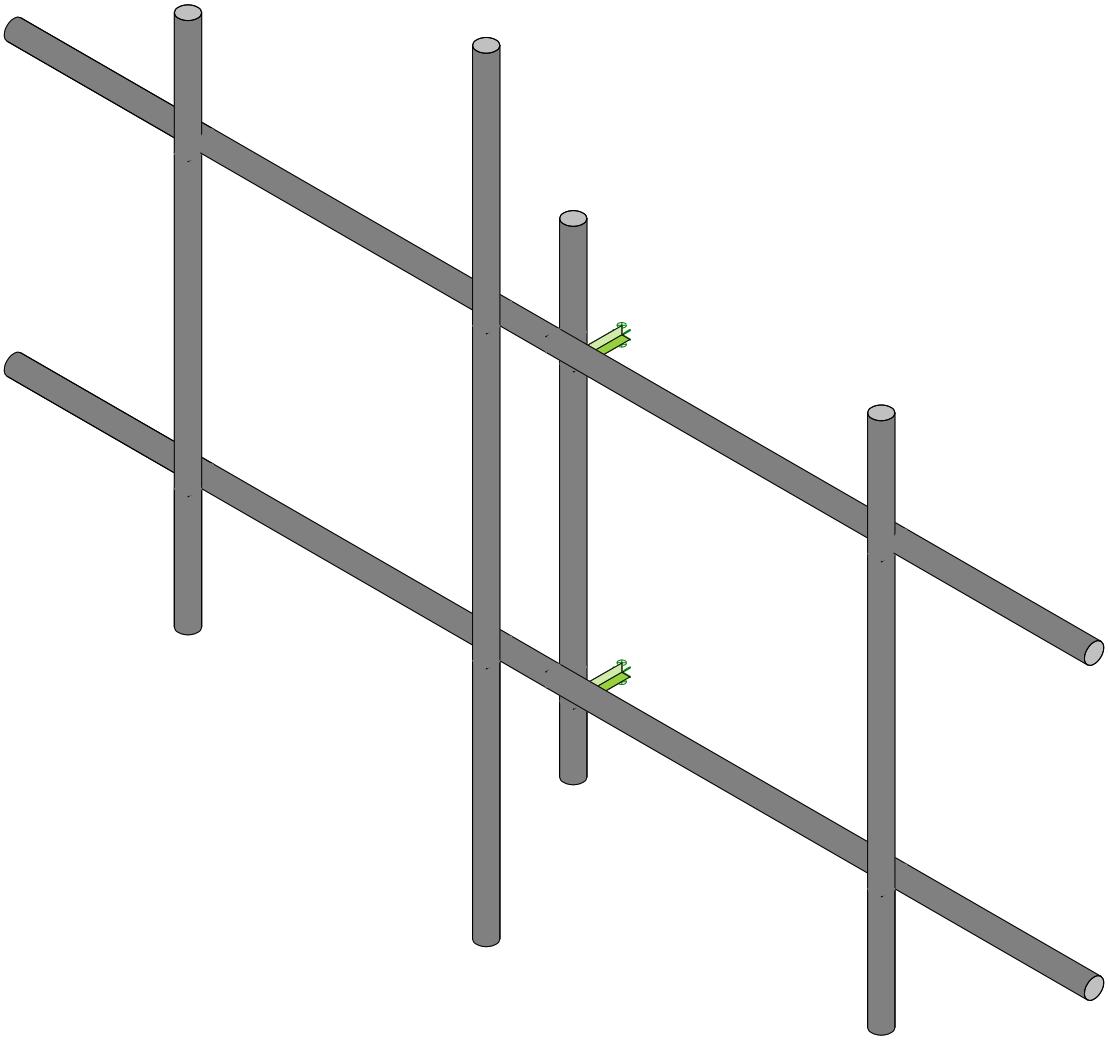
The mount has sufficient capacity to carry the proposed loading configuration. No modifications are required at this time.

APPENDIX A

WIRE FRAME AND RENDERED MODELS



Infinigy Engineering	870800	Wire Frame
AT		Mar 29, 2022 at 4:29 PM
1039-Z0001-B		870800_loaded.r3d



Infinigy Engineering	870800	Rendered
AT		Mar 29, 2022 at 4:29 PM
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APPENDIX B

SOFTWARE INPUT CALCULATIONS

Program Inputs

PROJECT INFORMATION	
Client:	Crown Castle
Carrier:	T-Mobile
Engineer:	Abram Tadrous

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	B	
Topo Factor Procedure:	Method 1, Category 1	
Site Class:	D - Stiff Soil (Assumed)	
Ground Elevation:	686.16	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Sector Frame	
Num Sectors:	3	
Centerline AGL:	239.00	ft
Tower Height AGL:	560.00	ft

TOPOGRAPHIC DATA		
Topo Feature:	N/A	
Slope Distance:	N/A	ft
Crest Distance:	N/A	ft
Crest Height:	N/A	ft

FACTORS		
Directionality Fact. (K_d):	0.950	
Ground Ele. Factor (K_e):	0.975	*Rev H Only
Rooftop Speed-Up (K_s):	1.000	*Rev H Only
Topographic Factor (K_{zt}):	1.000	
Gust Effect Factor (G_h):	1.000	

CODE STANDARDS		
Building Code:	2015 IBC	
TIA Standard:	TIA-222-H	
ASCE Standard:	ASCE 7-10	

WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	120	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1	in
Flat Pressure:	88.054	psf
Round Pressure:	52.832	psf
Ice Wind Pressure:	9.021	psf

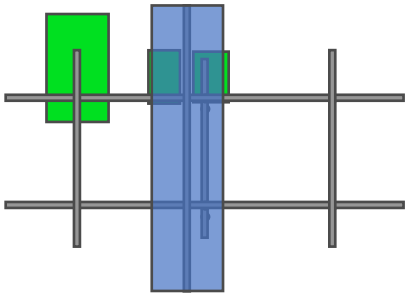
SEISMIC DATA		
Short-Period Accel. (S_s):	0.181	g
1-Second Accel. (S_1):	0.064	g
Short-Period Design (S_{DS}):	0.193	
1-Second Design (S_{D1}):	0.102	
Short-Period Coeff. (F_a):	1.600	
1-Second Coeff. (F_v):	2.400	
Amplification Factor (A_s):	3.000	
Response Mod. Coeff. (R):	2.000	

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

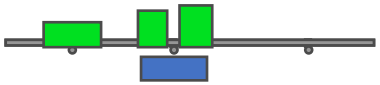
Infinigy Load Calculator V2.1.7

Program Inputs

ELEVATION VIEW



PLAN VIEW



INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

Infinigy Load Calculator V2.1.7

APPURTENANCE INFORMATION

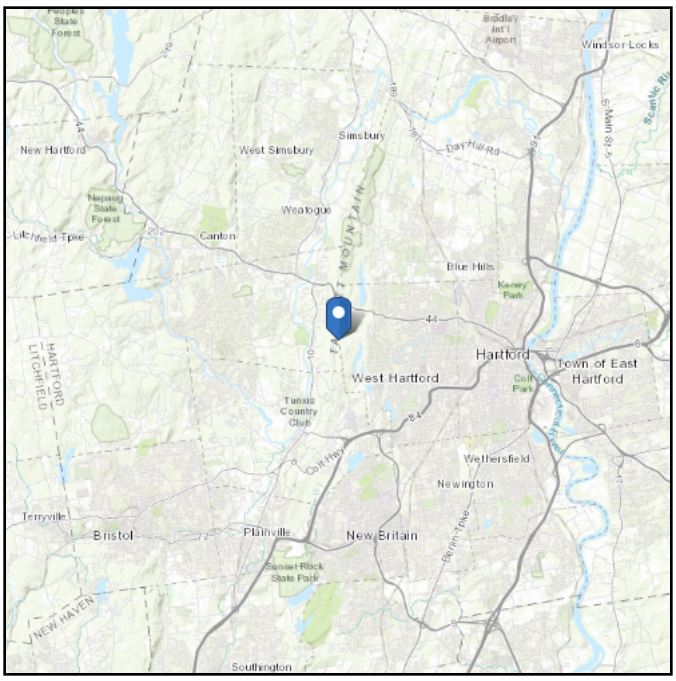
Appurtenance Name	Elevation	Qty.	K_a	q_z (psf)	EPA_N (ft^2)	EPA_T (ft^2)	Wind F_z (lbs)	Wind F_x (lbs)	Weight (lbs)	Seismic F (lbs)	Member (α sector)
ERICSSON AIR 6419 B41_TMO	240.0	3	0.90	44.08	7.00	2.83	277.70	112.27	96.50	27.95	MP1
RFS/CELWAVE APXVAALL24_43-U-NA2(	240.0	3	0.90	44.08	14.67	5.32	581.98	211.05	122.80	35.56	MP2
ICSSON RADIO 4449 B71 B85A_T-MOBI	240.0	3	0.90	44.08	1.97	1.59	78.16	62.94	73.21	21.20	MP2
ERICSSON RADIO 4460 B2/B25 B66_TMC	240.0	3	0.90	44.08	2.14	1.69	84.86	66.88	109.00	31.57	MP2

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 686.16 ft (NAVD 88)
Latitude: 41.774986
Longitude: -72.800575



Wind

Results:

Wind Speed	121 Vmph
10-year MRI	76 Vmph
25-year MRI	86 Vmph
50-year MRI	92 Vmph
100-year MRI	99 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 Mar 29 2022

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

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

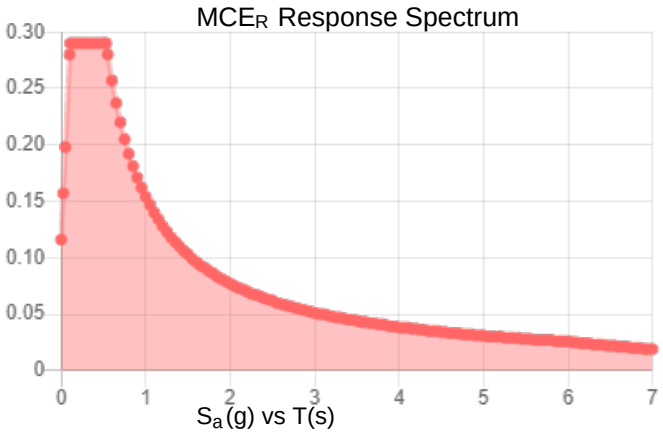
Seismic

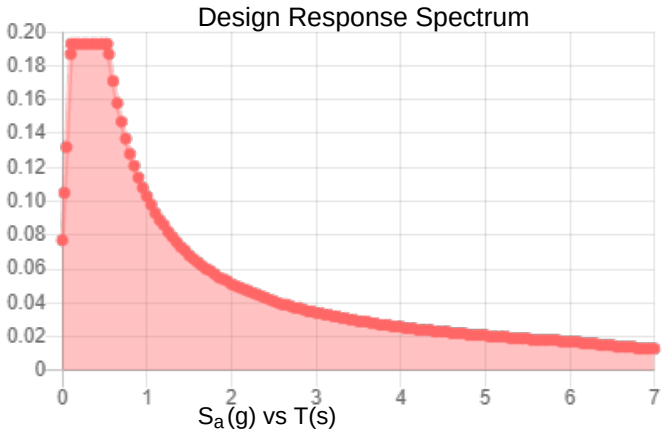
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.181	S_{DS} :	0.193
S_1 :	0.064	S_{D1} :	0.103
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.091
S_{MS} :	0.29	PGA_M :	0.146
S_{M1} :	0.154	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: **Tue Mar 29 2022**

Date Source:

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

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	5 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Tue Mar 29 2022

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

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

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2			Horizontal Face	Beam	Pipe	A53 Gr.B	Typical
2	M2	N3	N4			Horizontal Face	Beam	Pipe	A53 Gr.B	Typical
3	M3	N6	N12			RIGID	None	None	RIGID	Typical
4	M4	N8	N14			RIGID	None	None	RIGID	Typical
5	M5	N10	N16			RIGID	None	None	RIGID	Typical
6	M6	N5	N11			RIGID	None	None	RIGID	Typical
7	M7	N7	N13			RIGID	None	None	RIGID	Typical
8	M8	N9	N15			RIGID	None	None	RIGID	Typical
9	MP1	N17	N19			Pipe Mount	Column	Pipe	A53 Gr.B	Typical
10	MP3	N18	N20			Pipe Mount	Column	Pipe	A53 Gr.B	Typical
11	M11	N21	N22			Vertical Standoff	Column	Pipe	A53 Gr.B	Typical
12	M12	N23	N25			RIGID	None	None	RIGID	Typical
13	M13	N24	N26			RIGID	None	None	RIGID	Typical
14	M14	N28	N30			RIGID	None	None	RIGID	Typical
15	M15	N27	N29			RIGID	None	None	RIGID	Typical
16	MP2	N31	N32			Pipe Mount	Column	Pipe	A53 Gr.B	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		10	31.2	0
3	Total General		10	31.2	0
4					
5	Hot Rolled Steel				
6	A53 Gr.B	PIPE_2.0	6	556	160.815
7	Total HR Steel		6	556	160.815

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Self Weight	DL		-1			6			
2	Wind Load AZI 0	WLZ					12			
3	Wind Load AZI 30	None					12			
4	Wind Load AZI 60	None					12			
5	Wind Load AZI 90	WLX					12			
6	Wind Load AZI 120	None					12			
7	Wind Load AZI 150	None					12			
8	Wind Load AZI 180	None					12			
9	Wind Load AZI 210	None					12			
10	Wind Load AZI 240	None					12			
11	Wind Load AZI 270	None					12			
12	Wind Load AZI 300	None					12			
13	Wind Load AZI 330	None					12			
14	Distr. Wind Load Z	WLZ						16		
15	Distr. Wind Load X	WLX						16		
16	Ice Weight	OL1					6	16		
17	Ice Wind Load AZI 0	OL2					12			
18	Ice Wind Load AZI 30	None					12			
19	Ice Wind Load AZI 60	None					12			
20	Ice Wind Load AZI 90	OL3					12			
21	Ice Wind Load AZI 120	None					12			
22	Ice Wind Load AZI 150	None					12			
23	Ice Wind Load AZI 180	None					12			
24	Ice Wind Load AZI 210	None					12			

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
25	Ice Wind Load AZI 240	None					12			
26	Ice Wind Load AZI 270	None					12			
27	Ice Wind Load AZI 300	None					12			
28	Ice Wind Load AZI 330	None					12			
29	Distr. Ice Wind Load Z	OL2						16		
30	Distr. Ice Wind Load X	OL3						16		
31	Seismic Load Z	ELZ			-.29		6			
32	Seismic Load X	ELX	-.29				6			
33	Service Live Loads	LL				1				
34	Maintenance Load 1	LL				1				
35	Maintenance Load 2	LL				1				
36	Maintenance Load 3	LL				1				

Load Combinations

	Description	Sol...	PD...	SR...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
1	1.4DL	Yes	Y		1	1.4																		
2	1.2DL + 1...	Yes	Y		1	1.2	2	1	14	1	15													
3	1.2DL + 1...	Yes	Y		1	1.2	3	1	14	.866	15	.5												
4	1.2DL + 1...	Yes	Y		1	1.2	4	1	14	.5	15	.866												
5	1.2DL + 1...	Yes	Y		1	1.2	5	1	14		15	1												
6	1.2DL + 1...	Yes	Y		1	1.2	6	1	14	-.5	15	.866												
7	1.2DL + 1...	Yes	Y		1	1.2	7	1	14	-.866	15	.5												
8	1.2DL + 1...	Yes	Y		1	1.2	8	1	14	-1	15													
9	1.2DL + 1...	Yes	Y		1	1.2	9	1	14	-.866	15	-.5												
10	1.2DL + 1...	Yes	Y		1	1.2	10	1	14	-.5	15	-.866												
11	1.2DL + 1...	Yes	Y		1	1.2	11	1	14		15	-1												
12	1.2DL + 1...	Yes	Y		1	1.2	12	1	14	.5	15	-.866												
13	1.2DL + 1...	Yes	Y		1	1.2	13	1	14	.866	15	-.5												
14	0.9DL + 1...	Yes	Y		1	.9	2	1	14	1	15													
15	0.9DL + 1...	Yes	Y		1	.9	3	1	14	.866	15	.5												
16	0.9DL + 1...	Yes	Y		1	.9	4	1	14	.5	15	.866												
17	0.9DL + 1...	Yes	Y		1	.9	5	1	14		15	1												
18	0.9DL + 1...	Yes	Y		1	.9	6	1	14	-.5	15	.866												
19	0.9DL + 1...	Yes	Y		1	.9	7	1	14	-.866	15	.5												
20	0.9DL + 1...	Yes	Y		1	.9	8	1	14	-1	15													
21	0.9DL + 1...	Yes	Y		1	.9	9	1	14	-.866	15	-.5												
22	0.9DL + 1...	Yes	Y		1	.9	10	1	14	-.5	15	-.866												
23	0.9DL + 1...	Yes	Y		1	.9	11	1	14		15	-1												
24	0.9DL + 1...	Yes	Y		1	.9	12	1	14	.5	15	-.866												
25	0.9DL + 1...	Yes	Y		1	.9	13	1	14	.866	15	-.5												
26	1.2D + 1.0...	Yes	Y		1	1.2	16	1																
27	1.2D + 1.0...	Yes	Y		1	1.2	16	1	17	1	29	1	30											
28	1.2D + 1.0...	Yes	Y		1	1.2	16	1	18	1	29	.866	30	.5										
29	1.2D + 1.0...	Yes	Y		1	1.2	16	1	19	1	29	.5	30	.866										
30	1.2D + 1.0...	Yes	Y		1	1.2	16	1	20	1	29		30	1										
31	1.2D + 1.0...	Yes	Y		1	1.2	16	1	21	1	29	-.5	30	.866										
32	1.2D + 1.0...	Yes	Y		1	1.2	16	1	22	1	29	-.866	30	.5										
33	1.2D + 1.0...	Yes	Y		1	1.2	16	1	23	1	29	-1	30											
34	1.2D + 1.0...	Yes	Y		1	1.2	16	1	24	1	29	-.866	30	-.5										
35	1.2D + 1.0...	Yes	Y		1	1.2	16	1	25	1	29	-.5	30	-.866										
36	1.2D + 1.0...	Yes	Y		1	1.2	16	1	26	1	29		30	-1										
37	1.2D + 1.0...	Yes	Y		1	1.2	16	1	27	1	29	.5	30	-.866										
38	1.2D + 1.0...	Yes	Y		1	1.2	16	1	28	1	29	.866	30	-.5										
39	(1.2 + 0.2...	Yes	Y		1	1.239	31	1	32															
40	(1.2 + 0.2...	Yes	Y		1	1.239	31	.866	32	.5														

Load Combinations (Continued)

	Description	Sol..	PD..	SR..	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
41	(1.2 + 0.2...	Yes	Y		1	1.239	31	.5	32	.866														
42	(1.2 + 0.2...	Yes	Y		1	1.239	31		32	1														
43	(1.2 + 0.2...	Yes	Y		1	1.239	31	-.5	32	.866														
44	(1.2 + 0.2...	Yes	Y		1	1.239	31	-.866	32	.5														
45	(1.2 + 0.2...	Yes	Y		1	1.239	31	-1	32															
46	(1.2 + 0.2...	Yes	Y		1	1.239	31	-.866	32	-.5														
47	(1.2 + 0.2...	Yes	Y		1	1.239	31	-.5	32	-.866														
48	(1.2 + 0.2...	Yes	Y		1	1.239	31		32	-1														
49	(1.2 + 0.2...	Yes	Y		1	1.239	31	.5	32	-.866														
50	(1.2 + 0.2...	Yes	Y		1	1.239	31	.866	32	-.5														
51	(0.9 - 0.2S..	Yes	Y		1	.861	31	1	32															
52	(0.9 - 0.2S..	Yes	Y		1	.861	31	.866	32	.5														
53	(0.9 - 0.2S..	Yes	Y		1	.861	31	.5	32	.866														
54	(0.9 - 0.2S..	Yes	Y		1	.861	31		32	1														
55	(0.9 - 0.2S..	Yes	Y		1	.861	31	-.5	32	.866														
56	(0.9 - 0.2S..	Yes	Y		1	.861	31	-.866	32	.5														
57	(0.9 - 0.2S..	Yes	Y		1	.861	31	-1	32															
58	(0.9 - 0.2S..	Yes	Y		1	.861	31	-.866	32	-.5														
59	(0.9 - 0.2S..	Yes	Y		1	.861	31	-.5	32	-.866														
60	(0.9 - 0.2S..	Yes	Y		1	.861	31		32	-1														
61	(0.9 - 0.2S..	Yes	Y		1	.861	31	.5	32	-.866														
62	(0.9 - 0.2S..	Yes	Y		1	.861	31	.866	32	-.5														
63	1.0DL + 1...	Yes	Y		1	1	2	.25	14	.25	15		33	1.5										
64	1.0DL + 1...	Yes	Y		1	1	3	.25	14	.216	15	.125	33	1.5										
65	1.0DL + 1...	Yes	Y		1	1	4	.25	14	.125	15	.216	33	1.5										
66	1.0DL + 1...	Yes	Y		1	1	5	.25	14		15	.25	33	1.5										
67	1.0DL + 1...	Yes	Y		1	1	6	.25	14	-.125	15	.216	33	1.5										
68	1.0DL + 1...	Yes	Y		1	1	7	.25	14	-.216	15	.125	33	1.5										
69	1.0DL + 1...	Yes	Y		1	1	8	.25	14	-.25	15		33	1.5										
70	1.0DL + 1...	Yes	Y		1	1	9	.25	14	-.216	15	-.125	33	1.5										
71	1.0DL + 1...	Yes	Y		1	1	10	.25	14	-.125	15	-.216	33	1.5										
72	1.0DL + 1...	Yes	Y		1	1	11	.25	14		15	-.25	33	1.5										
73	1.0DL + 1...	Yes	Y		1	1	12	.25	14	.125	15	-.216	33	1.5										
74	1.0DL + 1...	Yes	Y		1	1	13	.25	14	.216	15	-.125	33	1.5										
75	1.2DL + 1...	Yes	Y		1	1.2	33	1.5																
76	1.2DL + 1...	Yes	Y		1	1.2	34	1.5	2	.063	14	.063	15											
77	1.2DL + 1...	Yes	Y		1	1.2	34	1.5	3	.063	14	.054	15	.031										
78	1.2DL + 1...	Yes	Y		1	1.2	34	1.5	4	.063	14	.031	15	.054										
79	1.2DL + 1...	Yes	Y		1	1.2	34	1.5	5	.063	14		15	.063										
80	1.2DL + 1...	Yes	Y		1	1.2	34	1.5	6	.063	14	-.031	15	.054										
81	1.2DL + 1...	Yes	Y		1	1.2	34	1.5	7	.063	14	-.054	15	.031										
82	1.2DL + 1...	Yes	Y		1	1.2	34	1.5	8	.063	14	-.063	15											
83	1.2DL + 1...	Yes	Y		1	1.2	34	1.5	9	.063	14	-.054	15	-.031										
84	1.2DL + 1...	Yes	Y		1	1.2	34	1.5	10	.063	14	-.031	15	-.054										
85	1.2DL + 1...	Yes	Y		1	1.2	34	1.5	11	.063	14		15	-.063										
86	1.2DL + 1...	Yes	Y		1	1.2	34	1.5	12	.063	14	.031	15	-.054										
87	1.2DL + 1...	Yes	Y		1	1.2	34	1.5	13	.063	14	.054	15	-.031										
88	1.2DL + 1...	Yes	Y		1	1.2	35	1.5	2	.063	14	.063	15											
89	1.2DL + 1...	Yes	Y		1	1.2	35	1.5	3	.063	14	.054	15	.031										
90	1.2DL + 1...	Yes	Y		1	1.2	35	1.5	4	.063	14	.031	15	.054										
91	1.2DL + 1...	Yes	Y		1	1.2	35	1.5	5	.063	14		15	.063										
92	1.2DL + 1...	Yes	Y		1	1.2	35	1.5	6	.063	14	-.031	15	.054										
93	1.2DL + 1...	Yes	Y		1	1.2	35	1.5	7	.063	14	-.054	15	.031										
94	1.2DL + 1...	Yes	Y		1	1.2	35	1.5	8	.063	14	-.063	15											
95	1.2DL + 1...	Yes	Y		1	1.2	35	1.5	9	.063	14	-.054	15	-.031										
96	1.2DL + 1...	Yes	Y		1	1.2	35	1.5	10	.063	14	-.031	15	-.054										
97	1.2DL + 1...	Yes	Y		1	1.2	35	1.5	11	.063	14		15	-.063										

Load Combinations (Continued)

	Description	Sol..	PD..	SR..	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
98	1.2DL + 1...	Yes	Y		1	1.2	35	1.5	12	.063	14	.031	15	-.054										
99	1.2DL + 1...	Yes	Y		1	1.2	35	1.5	13	.063	14	.054	15	-.031										
100	1.2DL + 1...	Yes	Y		1	1.2	36	1.5	2	.063	14	.063	15											
101	1.2DL + 1...	Yes	Y		1	1.2	36	1.5	3	.063	14	.054	15	.031										
102	1.2DL + 1...	Yes	Y		1	1.2	36	1.5	4	.063	14	.031	15	.054										
103	1.2DL + 1...	Yes	Y		1	1.2	36	1.5	5	.063	14		15	.063										
104	1.2DL + 1...	Yes	Y		1	1.2	36	1.5	6	.063	14	-.031	15	.054										
105	1.2DL + 1...	Yes	Y		1	1.2	36	1.5	7	.063	14	-.054	15	.031										
106	1.2DL + 1...	Yes	Y		1	1.2	36	1.5	8	.063	14	-.063	15											
107	1.2DL + 1...	Yes	Y		1	1.2	36	1.5	9	.063	14	-.054	15	-.031										
108	1.2DL + 1...	Yes	Y		1	1.2	36	1.5	10	.063	14	-.031	15	-.054										
109	1.2DL + 1...	Yes	Y		1	1.2	36	1.5	11	.063	14		15	-.063										
110	1.2DL + 1...	Yes	Y		1	1.2	36	1.5	12	.063	14	.031	15	-.054										

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N25	max	1127.517	80	902.952	77	920.386	14	0	110	1076.662	3	0	110
2		min	-720.492	96	-225.625	21	-1256.24	8	0	1	-881.514	21	0	1
3	N26	max	697.67	92	806.523	9	609.561	2	0	110	469.1	15	0	110
4		min	-1104.849	84	-285.689	15	-274.711	20	0	1	-704.504	83	0	1
5	Totals:	max	721.02	4	1441.856	31	1482.373	2						
6		min	-721.019	22	484.38	60	-1482.372	20						

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

	Member	Shape	Code Check	Loc.....	Shea...	Loc.....	...	phi*Pn...	phi*Pn...	phi*M...	phi*M...	...	Eqn
1	M2	PIPE_2.0	.712	67 2	.374	67	2	7888....	32130	1871....	1871....	...	H3-6
2	M1	PIPE_2.0	.633	67 8	.384	67	8	7888....	32130	1871....	1871....	...	H3-6
3	M11	PIPE_2.0	.564	15 2	.566	15	2	23808...	32130	1871....	1871....	...	H3-6
4	MP2	PIPE_2.0	.480	30 8	.074	30	8	14916...	32130	1871....	1871....	...	H1-1b
5	MP3	PIPE_2.0	.445	15.... 75	.073	50....	63	22356...	32130	1871....	1871....	...	H1-1b
6	MP1	PIPE_2.0	.377	50.... 77	.073	50....	76	22356...	32130	1871....	1871....	...	H1-1b

APPENDIX D

ADDITIONAL CALCUATIONS

INFINIGY

Bolt Calculation Tool, V1.6.1

PROJECT DATA	
Site Name:	Avon (Deercliff Rd.)
Site Number:	870800
Connection Description:	Mount to Tower Connection

MAXIMUM BOLT LOADS		
Bolt Tension:	905.88	lbs
Bolt Shear:	359.47	lbs

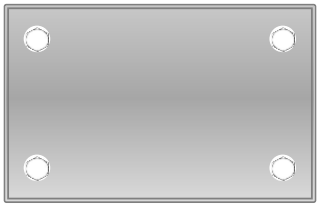
WORST CASE BOLT LOADS[1]		
Bolt Tension:	905.88	lbs
Bolt Shear:	86.45	lbs

BOLT PROPERTIES		
Bolt Type:	Threaded Rod	-
Bolt Diameter:	0.5	in
Bolt Grade:	A307	-
# of Threaded Rods:	4	-
Threads Excluded?	No	-

[1] *Worst case bolt loads correspond to Load combination #21 on member M12 in RISA-3D, which causes the maximum demand on the bolts.*

Member Information
J nodes of M12, M13,

BOLT CHECK		
Tensile Strength	6385.43	
Shear Strength	4417.86	
Max Tensile Usage	14.2%	
Max Shear Usage	8.1%	
Interaction Check (Worst Case)	0.02	***≤1.05***
Result	Pass	



EBI Consulting

environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11376A

Farmington1/RT10
376 Deercliff Road
Avon, Connecticut 06001

May 4, 2022

EBI Project Number: 6222002977

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**16.19%**

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

May 4, 2022

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

Emissions Analysis for Site: CT11376A - Farmington1/RT10

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **376 Deercliff Road** in **Avon, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 376 Deercliff Road in Avon, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.

3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

5) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

6) 2 UMTS channels (AWS Band - 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

7) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

8) 1 LTE Traffic channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 60 Watts.

9) 1 LTE Broadcast channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 20 Watts.

10) 1 NR Traffic channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.

11) 1 NR Broadcast channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.

12) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

13) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

14) The antennas used in this modeling are the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz channel(s) in Sector A, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz channel(s) in Sector B, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna

manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

15) The antenna mounting height centerline of the proposed antennas is 240 feet above ground level (AGL).

16) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419
Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz
Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd
Height (AGL):	240 feet	Height (AGL):	240 feet	Height (AGL):	240 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts
ERP (W):	31,011.95	ERP (W):	31,011.95	ERP (W):	31,011.95
Antenna A1 MPE %:	**2.04%**	Antenna B1 MPE %:	**2.04%**	Antenna C1 MPE %:	**2.04%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd / 16.45 dBd / 16.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd / 16.45 dBd / 16.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd / 16.45 dBd / 16.45 dBd
Height (AGL):	240 feet	Height (AGL):	240 feet	Height (AGL):	240 feet
Channel Count:	15	Channel Count:	15	Channel Count:	15
Total TX Power (W):	620.00 Watts	Total TX Power (W):	620.00 Watts	Total TX Power (W):	620.00 Watts
ERP (W):	20,518.14	ERP (W):	20,518.14	ERP (W):	20,518.14
Antenna A2 MPE %:	**1.72%**	Antenna B2 MPE %:	**1.72%**	Antenna C2 MPE %:	**1.72%**

Site Composite MPE %	
Carrier	**MPE %**
T-Mobile (Max at Sector A):	3.76%
Dish	4.32%
LightSquared	0.02%
Metro PCS	0.16%
Marcus	0.05%
Various Others	7.38%
Nextel	0.09%
AT&T	0.41%
Site Total MPE % :	16.19%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	3.76%
T-Mobile Sector B Total:	3.76%
T-Mobile Sector C Total:	3.76%
Site Total MPE % :	16.19%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 2500 MHz LTE 1C & 2C Traffic	1	9619.47	240.0	6.32	2500 MHz LTE 1C & 2C Traffic	1000	0.63%
T-Mobile 2500 MHz LTE 1C & 2C Broadcast	1	717.84	240.0	0.47	2500 MHz LTE 1C & 2C Broadcast	1000	0.05%
T-Mobile 2500 MHz NR Traffic	1	19238.94	240.0	12.63	2500 MHz NR Traffic	1000	1.26%
T-Mobile 2500 MHz NR Broadcast	1	1435.69	240.0	0.94	2500 MHz NR Broadcast	1000	0.09%
T-Mobile 600 MHz LTE	2	591.73	240.0	0.78	600 MHz LTE	400	0.19%
T-Mobile 600 MHz NR	1	1577.94	240.0	1.04	600 MHz NR	400	0.26%
T-Mobile 700 MHz LTE	2	695.22	240.0	0.91	700 MHz LTE	467	0.20%
T-Mobile 1900 MHz GSM	4	1052.26	240.0	2.76	1900 MHz GSM	1000	0.28%
T-Mobile 1900 MHz LTE	2	2104.51	240.0	2.76	1900 MHz LTE	1000	0.28%
T-Mobile 2100 MHz UMTS	2	1324.71	240.0	1.74	2100 MHz UMTS	1000	0.17%
T-Mobile 2100 MHz LTE	2	2649.42	240.0	3.48	2100 MHz LTE	1000	0.35%
						Total:	**3.76%**

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

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	3.76%
Sector B:	3.76%
Sector C:	3.76%
T-Mobile Maximum MPE % (Sector A):	3.76%
Site Total:	16.19%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **16.19%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

T-Mobile

T-MOBILE SITE NUMBER: CT11376A
T-MOBILE SITE NAME: FARMINGTON1/RT10
SITE TYPE: GUYED TOWER
TOWER HEIGHT: 560'-0"

BUSINESS UNIT #: 870800
SITE ADDRESS: 376 DEERCLIFF ROAD AVON, CT 06001
COUNTY: HARTFORD
JURISDICTION: CONNECTICUT SITING COUNCIL

T-MOBILE ANCHOR SITE CONFIGURATION: 67D5D998E 6160

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	AVON (DEERCLIFF RD.)
SITE ADDRESS:	376 DEERCLIFF ROAD AVON, CT 06001
COUNTY:	HARTFORD
MAP/PARCEL #:	2090370
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41.774986°
LONGITUDE:	-72.800575°
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	701 FT
CURRENT ZONING:	RU2A
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:	HOMEOWNERS FINANCE CO 530 SILAS DEANE HIGHWAY WETHERSFIELD, CT 06109
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	T-MOBILE 4 SYLVAN WAY PARSIPPANY, NJ 07054
ELECTRIC PROVIDER:	PP&L ELECTRIC LLC (860) 547-1992
TELCO PROVIDER:	COMCAST PHONE (800) 934-6489

PROJECT TEAM

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

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

DRAWING INDEX

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

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 (3) ANTENNAS
- REMOVE (6) RRH
- INSTALL (3) ANTENNAS
- INSTALL (3) RRH
- INSTALL (1) 6x24 4AWG TRUNK

GROUND SCOPE OF WORK:
- INSTALL (1) PSU 4813 vR4A (KIT) VOLTAGE BOOSTER TO RBS 6160
- INSTALL (1) RP 6651 FOR N2500 TO ENCLOSURE 6160
- INSTALL (1) RP 6651 FOR L2500 TO ENCLOSURE 6160

LOCATION MAP

NO SCALE

APPLICABLE CODES/REFERENCE DOCUMENTS

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

CODE TYPE	CODE
BUILDING	2018 CONNECTICUT SBC/2015 IBC
MECHANICAL	2018 CONNECTICUT SBC/2015 IMC
ELECTRICAL	2018 CONNECTICUT SBC/2017 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	B+T GROUP
DATED:	4/15/22
MOUNT ANALYSIS:	INFINIGY
DATED:	3/29/22
RFDS REVISION:	6.0
DATED:	3/2/22
ORDER ID:	610493
REVISION:	0

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(800) 922-4455 CBYD.COM
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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:
CT11376A

BU #: **870800**
AVON (DEERCLIFF RD.)

376 DEERCLIFF ROAD
AVON, CT 06001

EXISTING
560'-0" GUYED TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/22/22	JTS	PRELIMINARY REVIEW	CV
0	5/9/22	JTS	CONSTRUCTION	CV
1	5/11/22	JTS	CONSTRUCTION	CV

STATE OF CONNECTICUT
No. 23924
LICENSED
PROFESSIONAL ENGINEER
5/11/22

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

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

ELECTRICAL INSTALLATION NOTES:

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

CONDUCTOR COLOR CODE

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

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

APWA UNIFORM COLOR CODE:

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

ABBREVIATIONS:

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

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T-MOBILE SITE NUMBER:
CT11376A

BU #: **870800**
AVON (DEERCLIFF RD.)

376 DEERCLIFF ROAD
AVON, CT 06001

EXISTING
560'-0" GUYED TOWER

ISSUED FOR:

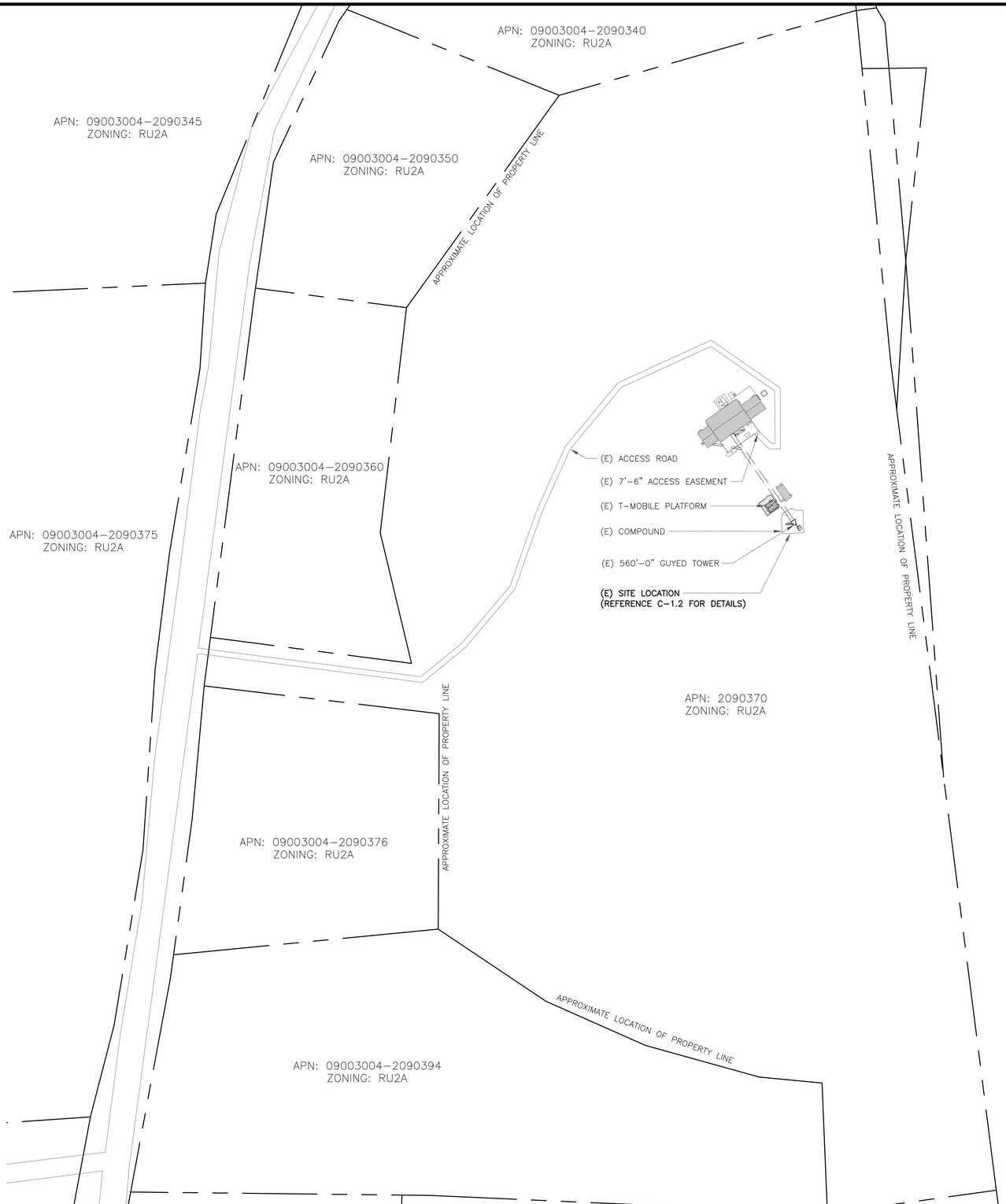
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/22/22	JTS	PRELIMINARY REVIEW	CV
0	5/9/22	JTS	CONSTRUCTION	CV
1	5/11/22	JTS	CONSTRUCTION	CV

5/11/22

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

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: T-2
REVISION: 1



1 OVERALL SITE PLAN
SCALE: 1" = 80'–0" (FULL SIZE)
1" = 160'–0" (11x17)
80' 40' 0 80'

N

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.

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STATE OF CONNECTICUT
CHAD
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No. 23924
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PROFESSIONAL ENGINEER
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SHEET NUMBER: C-1.1
REVISION: 1

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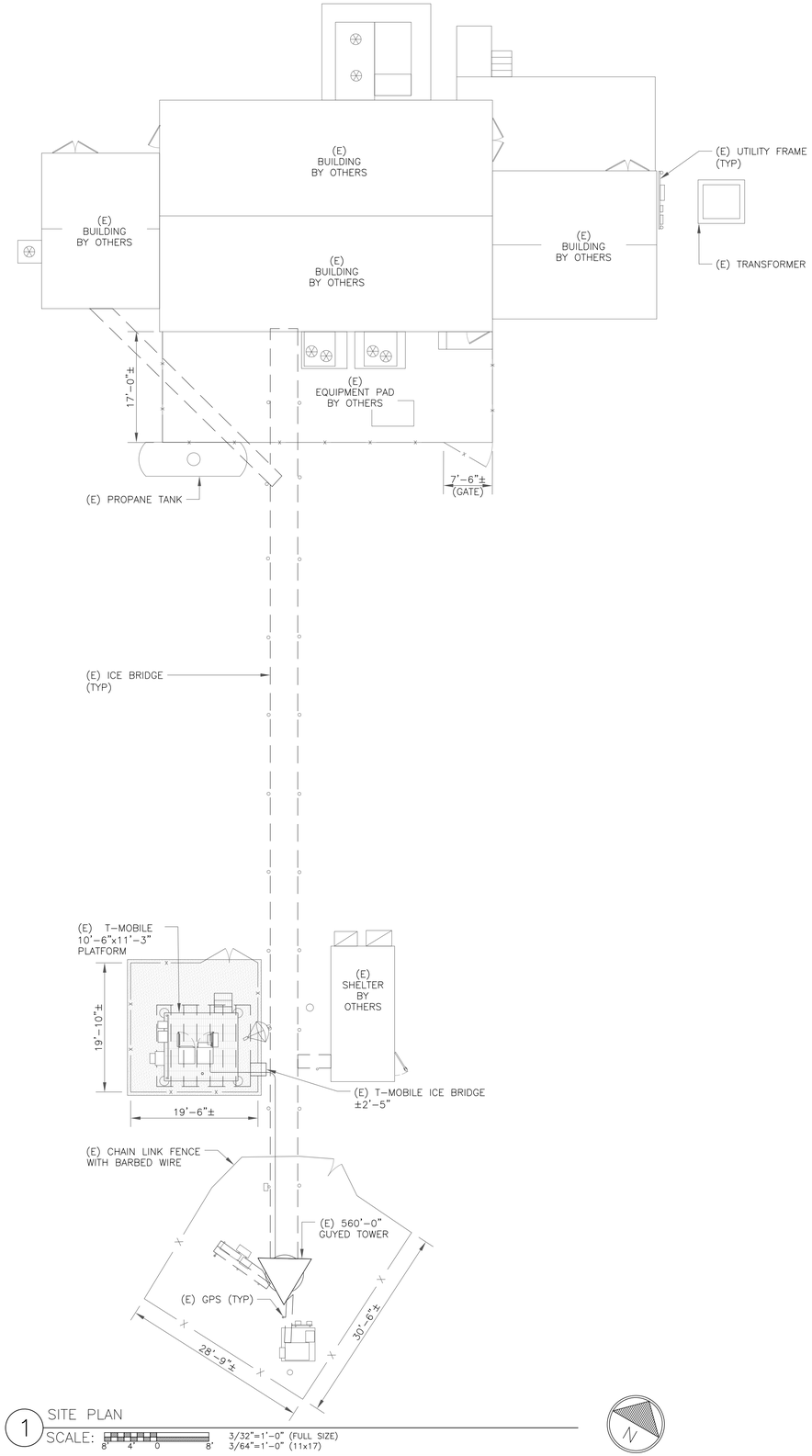
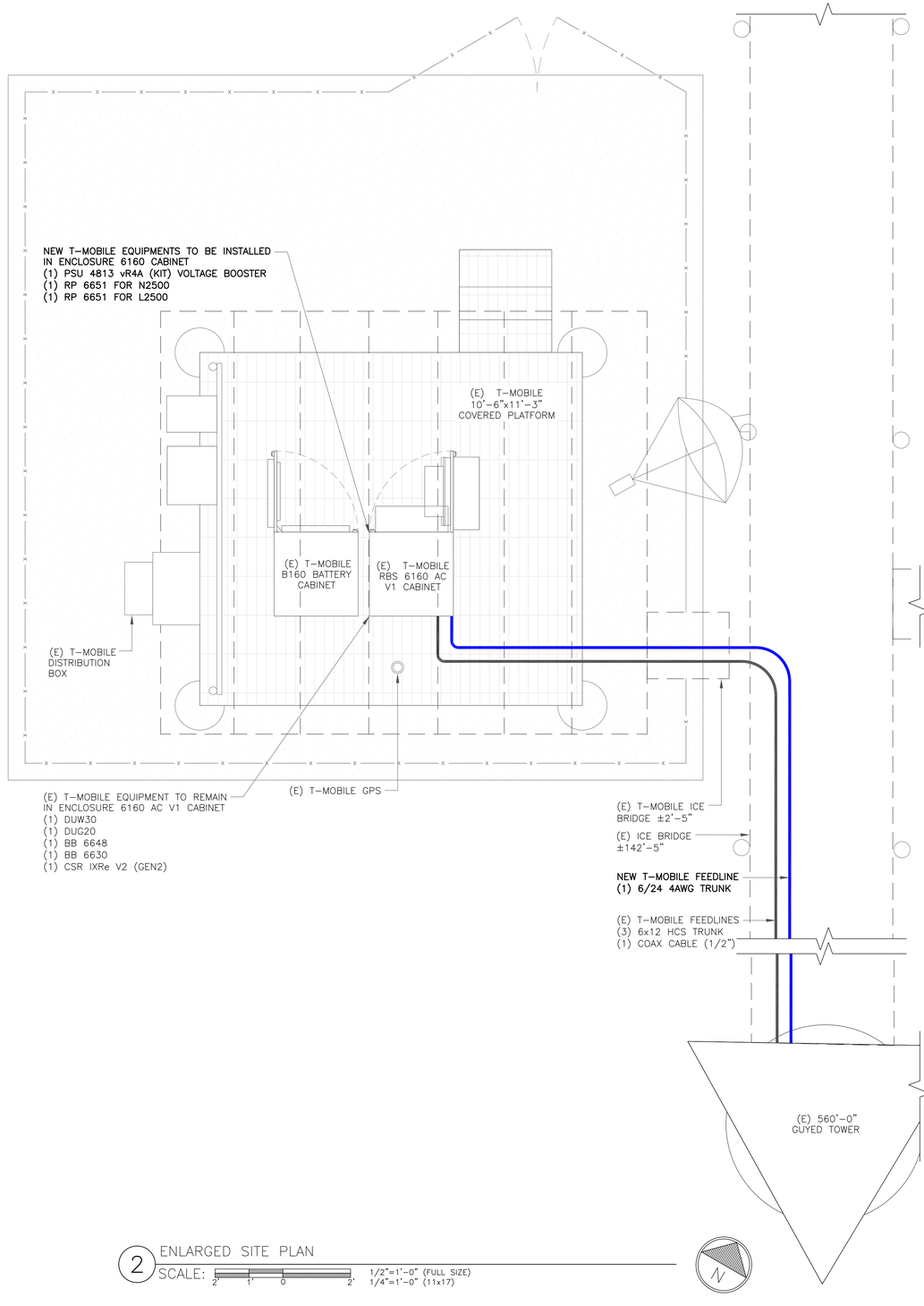


1 SITE PLAN
SCALE: 8' 4' 0 8' 3/32"=1'-0" (FULL SIZE) 3/64"=1'-0" (11x17)



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

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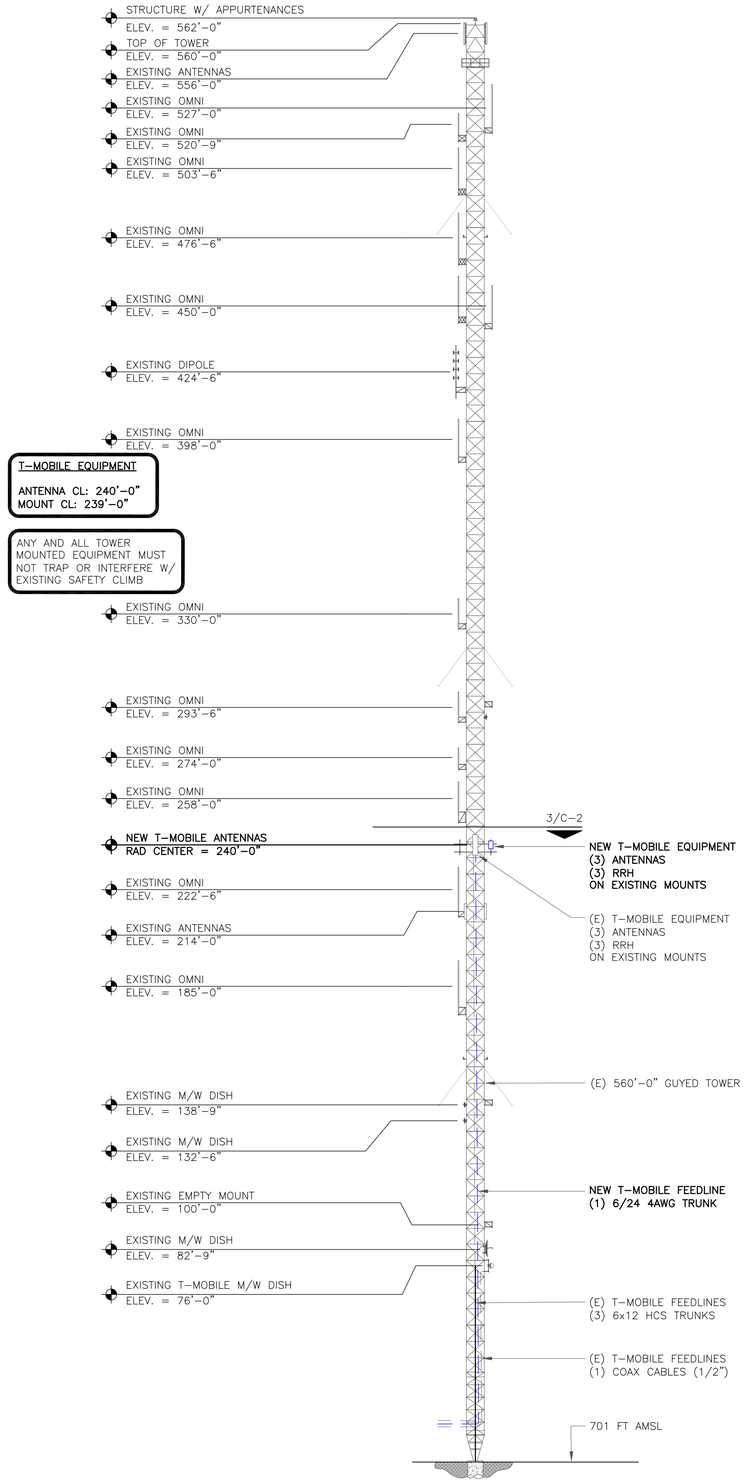
SHEET NUMBER: C-1.2
REVISION: 1



1 FINAL ELEVATION
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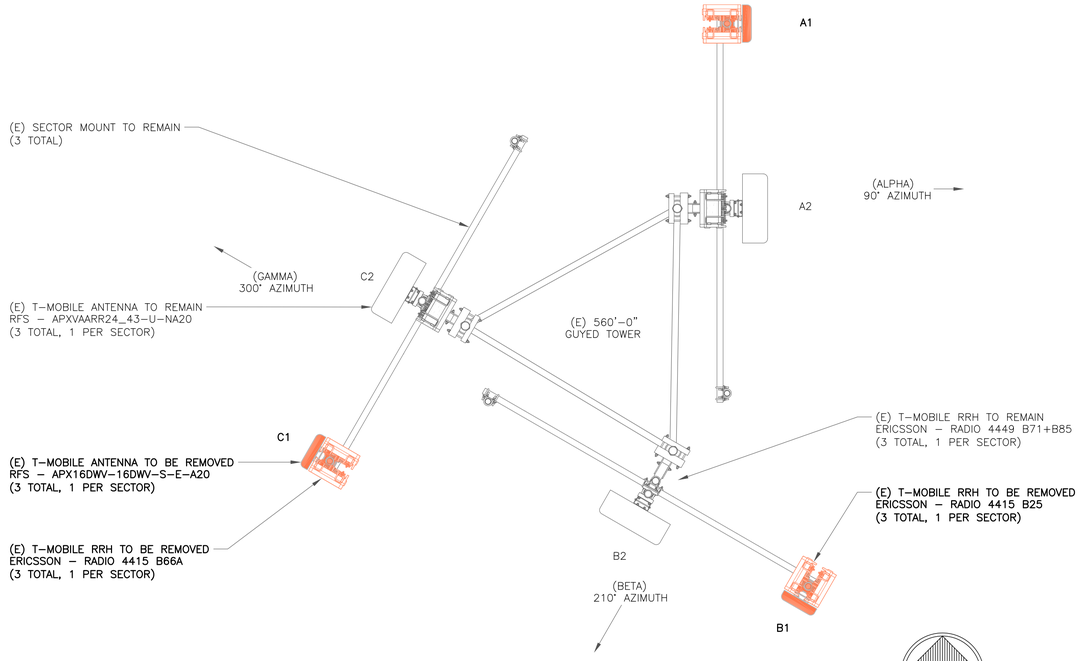
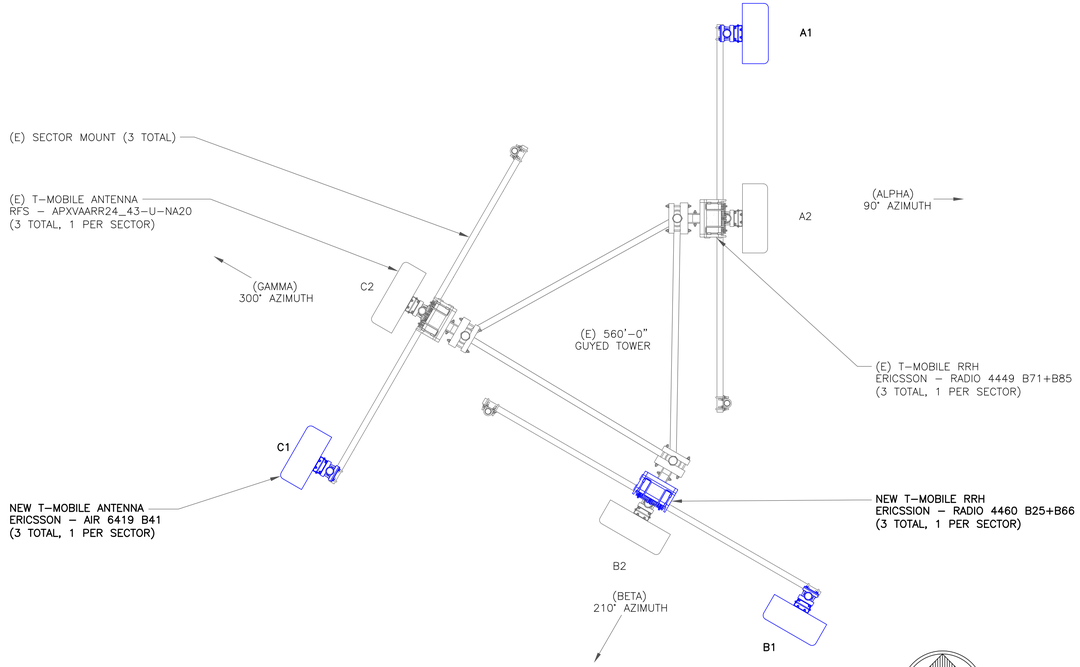


2 EXISTING ANTENNA LAYOUT
SCALE: NOT TO SCALE



3 FINAL ANTENNA LAYOUT
SCALE: NOT TO SCALE

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REVISION: 1

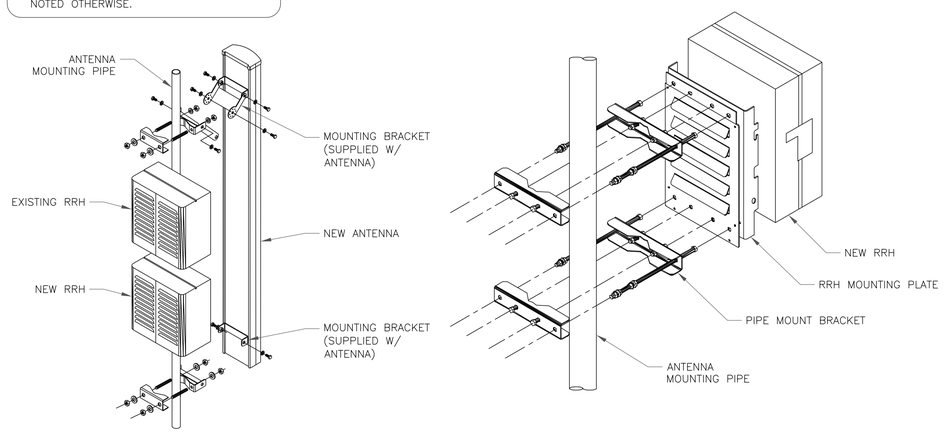
RF SYSTEM SCHEDULE

SECTOR	ANTENNA	TECH	MANUFACTURER	ANTENNA MODEL	AZIMUTH	M-TILT	E-TILT	RAD CENTER	TMA/RRU	FEEDLINE TYPE
ALPHA	A1	**L2500/N2500**	**ERICSSON**	**AIR 6419 B41**	**90°**	**2°**	**2°/2°**	**240'-0"**	**–**	**–**
	A2	N600/L700/L600/**L2100** /L1900 /G1900/U2100	RFS	APXVAARR24_43-U-NA20	90°	2°	2°/2°/2°/2°	240'-0"	RADIO 4449 B71+B85 **RADIO 4460 B25+B66**	(1) 6x12 HCS TRUNK **(1) 6/24 4AWG TRUNK**
	A3	–	–	EMPTY MOUNT PIPE	–	–	–	–	–	–
BETA	B1	**L2500/N2500**	**ERICSSON**	**AIR 6419 B41**	**210°**	**2°**	**2°/2°**	**240'-0"**	**–**	**–**
	B2	N600/L700/L600/**L2100** /L1900 /G1900/U2100	RFS	APXVAARR24_43-U-NA20	210°	2°	2°/2°/2°/2°	240'-0"	RADIO 4449 B71+B85 **RADIO 4460 B25+B66**	(1) 6x12 HCS TRUNK
	B3	–	–	EMPTY MOUNT PIPE	–	–	–	–	–	–
GAMMA	C1	**L2500/N2500**	**ERICSSON**	**AIR 6419 B41**	**300°**	**2°**	**2°/2°**	**240'-0"**	**–**	**–**
	C2	N600/L700/L600/**L2100** /L1900 /G1900/U2100	RFS	APXVAARR24_43-U-NA20	300°	2°	2°/2°/2°/2°	240'-0"	RADIO 4449 B71+B85 **RADIO 4460 B25+B66**	(1) 6x12 HCS TRUNK
	C3	–	–	EMPTY MOUNT PIPE	–	–	–	–	–	–
–	–	–	TRIMBLE	ACUTIME 2000	280°	–	–	76'-0"	–	(1) 1/2" COAX

1 ANTENNA AND CABLE SCHEDULE
SCALE: NOT TO SCALE

INSTALLER NOTES:

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



2 ANTENNA WITH RRHs MOUNTING DETAIL
SCALE: NOT TO SCALE

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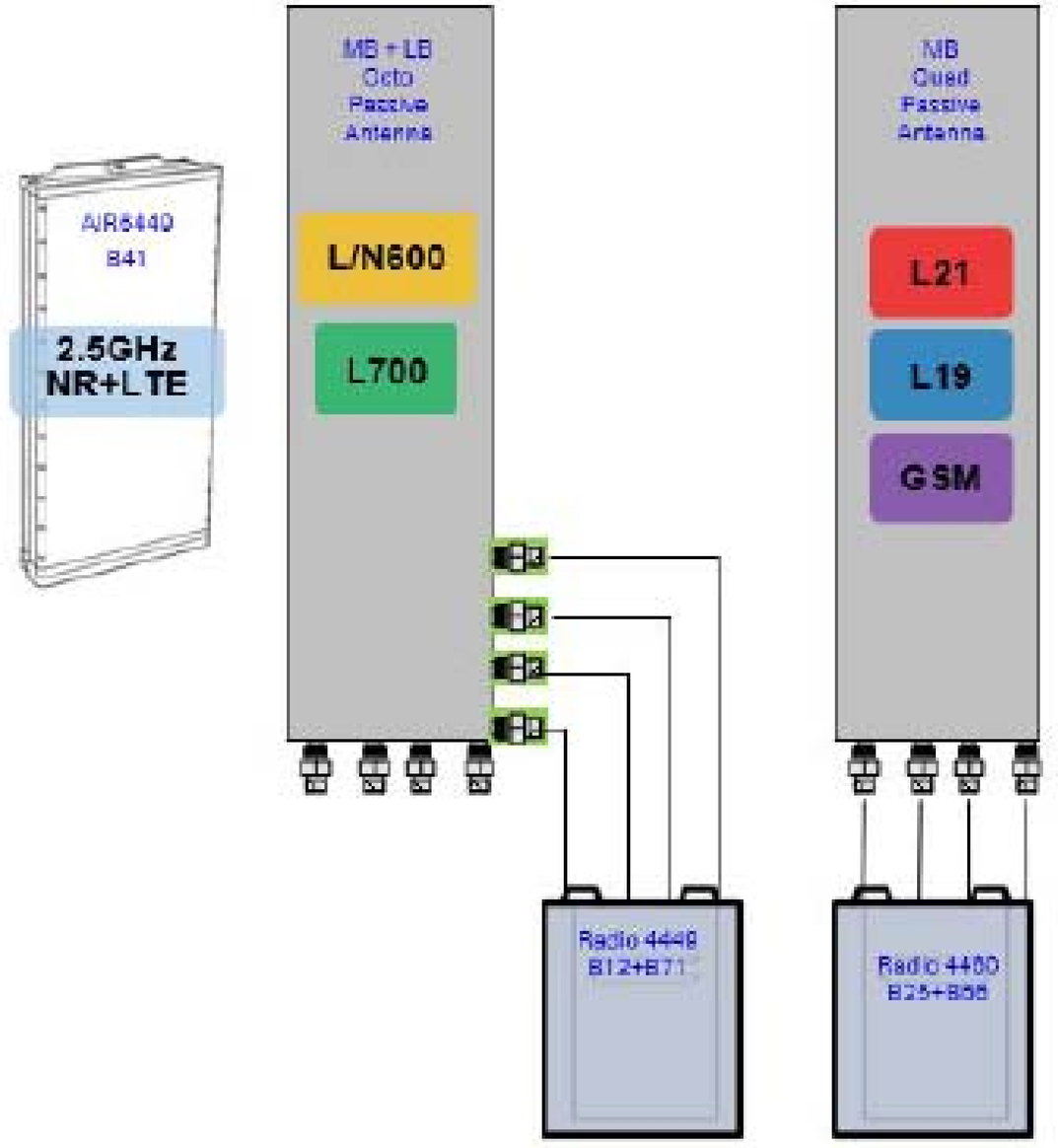
SHEET NUMBER: C-3
REVISION: 1



1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

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STATE OF CONNECTICUT
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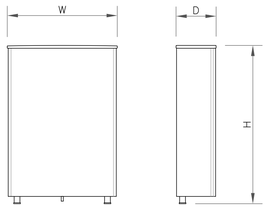
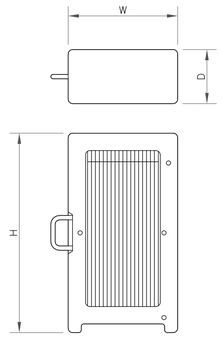
SHEET NUMBER: C-4
REVISION: 1



ANTENNA SPECS	
MANUFACTURER	ERICSSON
MODEL #	AIR 6419 B41
WIDTH	20.91"
DEPTH	9.02"
HEIGHT	36.25"
WEIGHT	96.5 LBS

1 ANTENNA SPECS
SCALE: NOT TO SCALE



RRU SPECIFICATIONS	
MANUFACTURER	ERICSSION
MODEL #	RADIO 4460 B25+B66
WIDTH	15.1"
DEPTH	11.9"
HEIGHT	17"
WEIGHT	109 LBS

2 RRU SPECS
SCALE: NOT TO SCALE

3 NOT USED
SCALE: NOT TO SCALE

4 NOT USED
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

7 NOT USED
SCALE: NOT TO SCALE

8 NOT USED
SCALE: NOT TO SCALE

T-Mobile
4 SYLVAN WAY
PARSIPPANY, NJ 07054

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

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

T-MOBILE SITE NUMBER:
CT11376A

BU #: **870800**
AVON (DEERCLIFF RD.)

376 DEERCLIFF ROAD
AVON, CT 06001

EXISTING
560'-0" GUYED TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	4/22/22	JTS	PRELIMINARY REVIEW	CV
0	5/9/22	JTS	CONSTRUCTION	CV
1	5/11/22	JTS	CONSTRUCTION	CV

STATE OF CONNECTICUT
CHRISTOPHER VAUGHAN
No. 23924
LICENSED
PROFESSIONAL ENGINEER
5/11/22

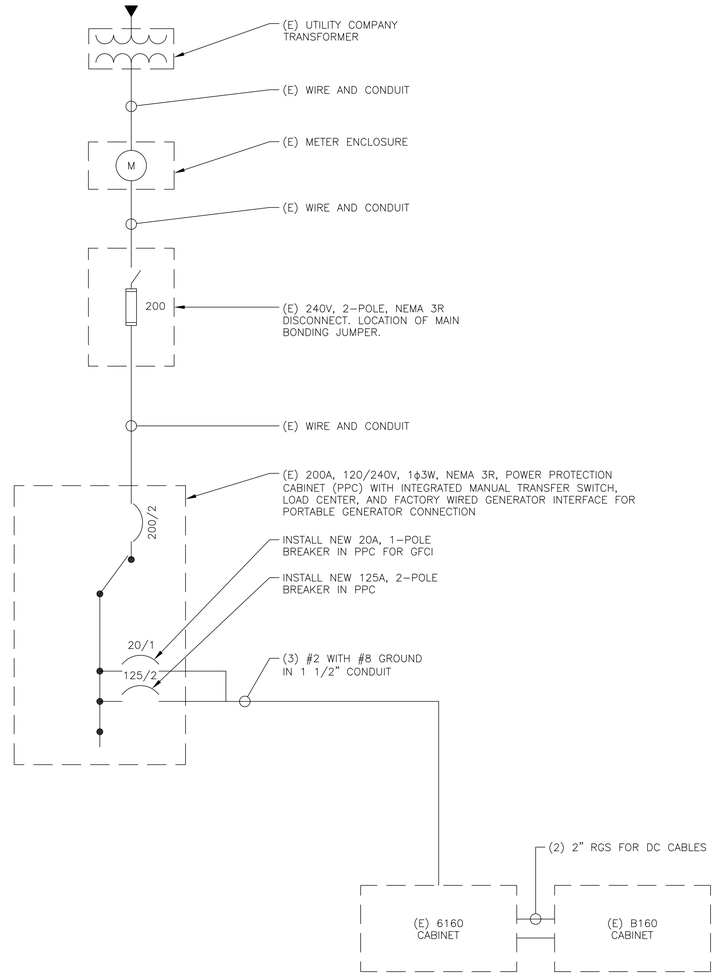
B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

SHEET NUMBER: C-5
REVISION: 1

FINAL PANEL SCHEDULE							
LOAD	POLES	AMPS	BUS L1	BUS L2	AMPS	POLES	LOAD
BTS	1	15A	1	2	100A	2	CABINET GFCI
BTS	1	20A	3	4			
B6160	2	125A	5	6	60A	2	PDU
			7	8			
			9	10	20A	1	EQUIPMENT
			11	12			
			13	14			
			15	16			
			17	18			
			19	20			
			21	22			
			23	24			
			25	26			
			27	28			
			29	30			

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		

1 AC PANEL SCHEDULE
SCALE: NOT TO SCALE



NOTES:

1. ALL NEW CONDUCTORS TO BE INSTALLED SHALL BE COPPER. ALL CONDUCTORS SHALL BE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-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

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CHARLOTTE, NC 28277

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T-MOBILE SITE NUMBER:
CT11376A

BU #: **870800**
AVON (DEERCLIFF RD.)

376 DEERCLIFF ROAD
AVON, CT 06001

EXISTING
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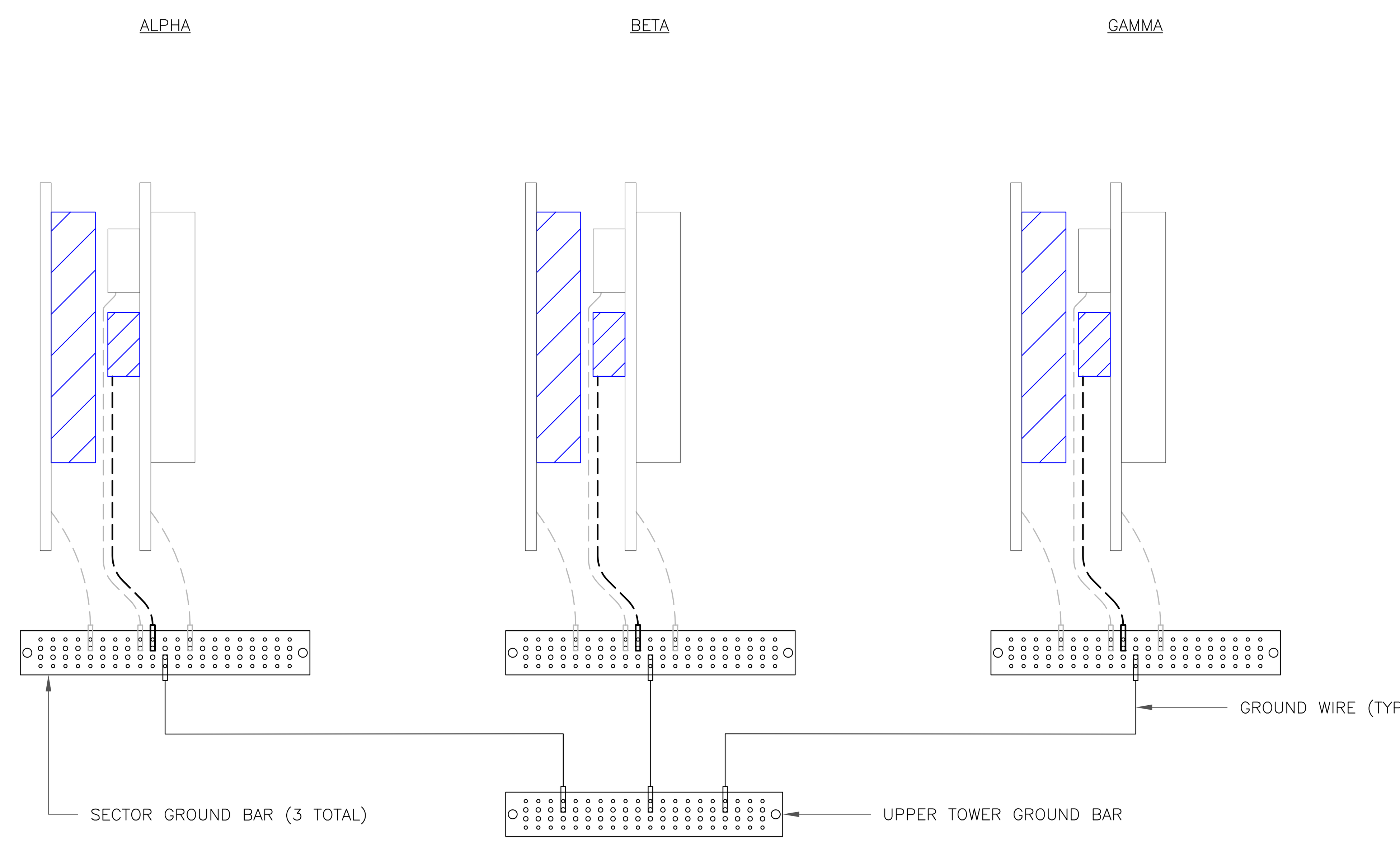
5/11/22

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

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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EXISTING
560'-0" GUYED TOWER

ISSUED FOR:

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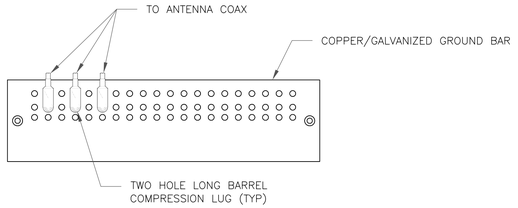
B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

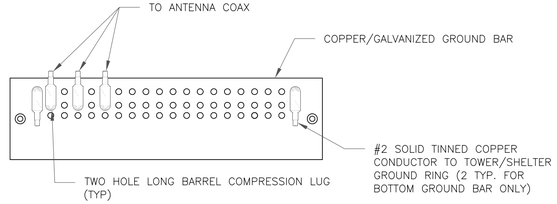
SHEET NUMBER: **G-1**
REVISION: **1**



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.

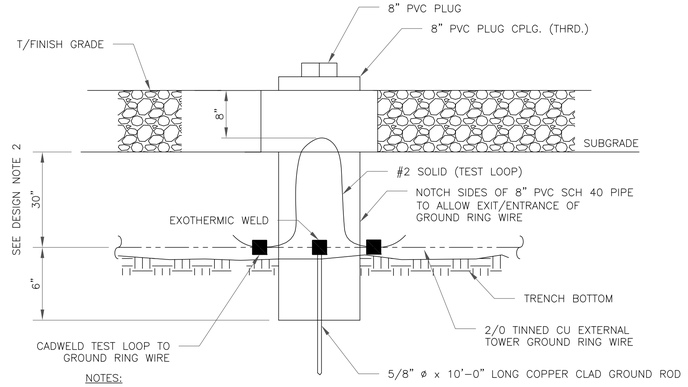
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



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:

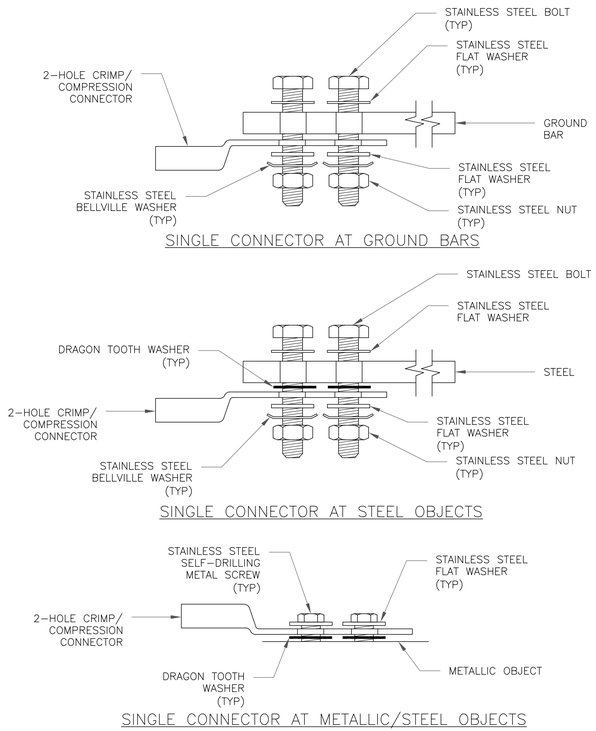
1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE

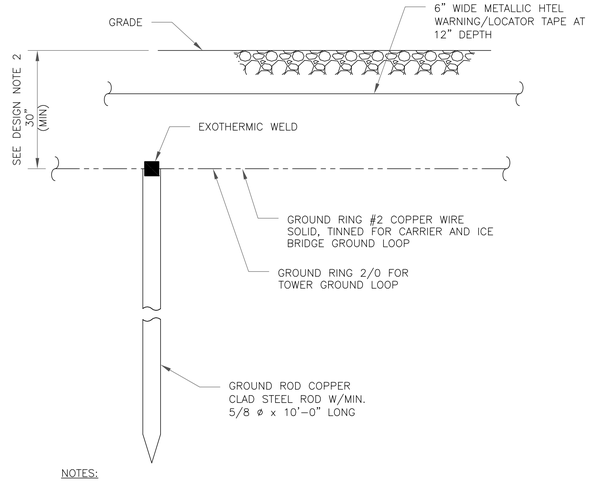
NOTES:

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



5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

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

6 GROUND ROD DETAIL
SCALE: NOT TO SCALE

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BU #: **870800**
AVON (DEERCLIFF RD.)

376 DEERCLIFF ROAD
AVON, CT 06001

EXISTING
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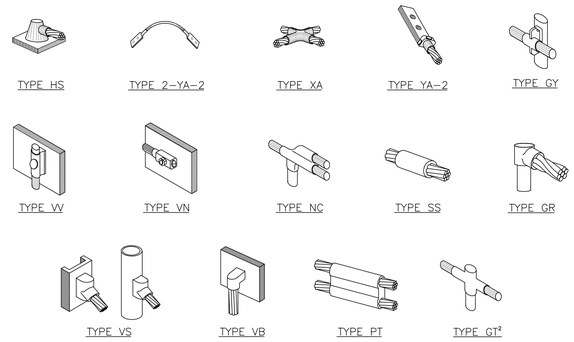
STATE OF CONNECTICUT
CHAD VANDERGRAFT
No. 23924
LICENSED PROFESSIONAL ENGINEER
5/11/22

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/23

SHEET NUMBER: G-2
REVISION: 1

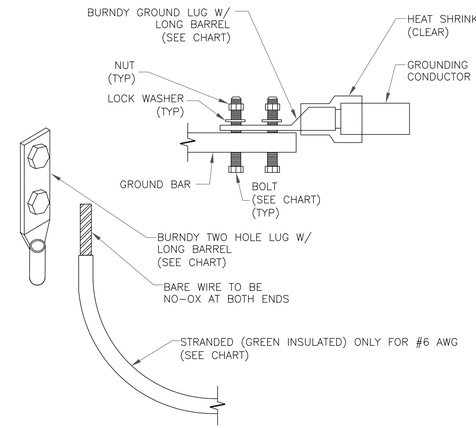


NOTE:

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

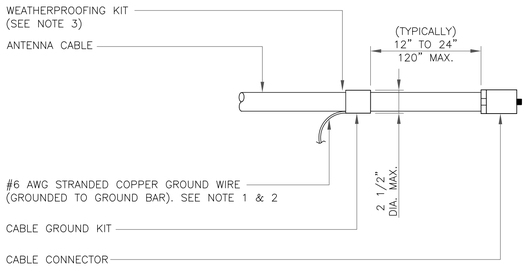
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



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.

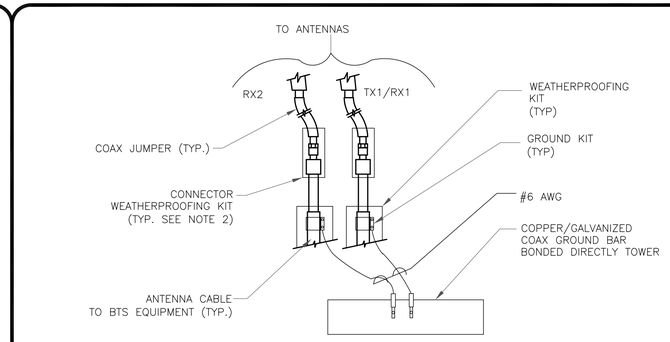
2 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



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.

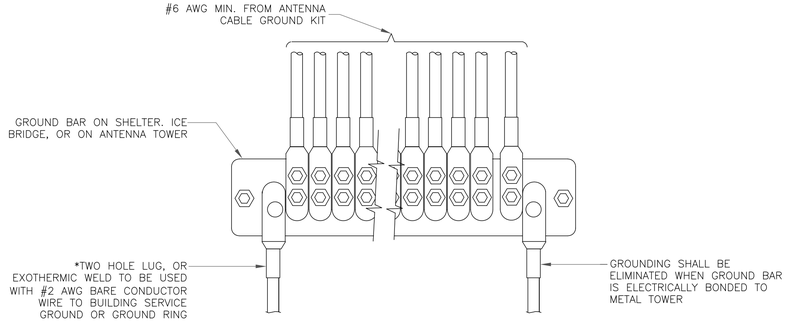
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



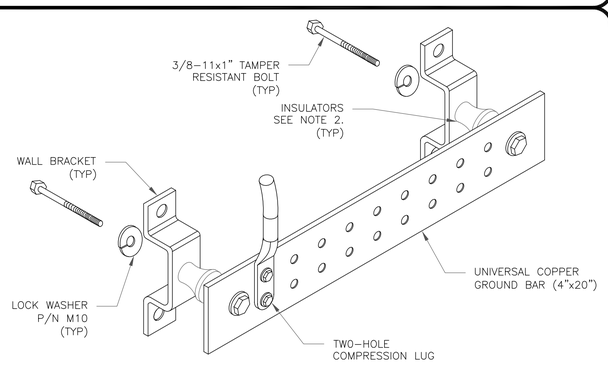
NOTES:

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



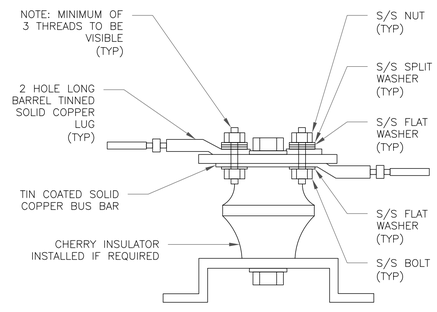
5 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



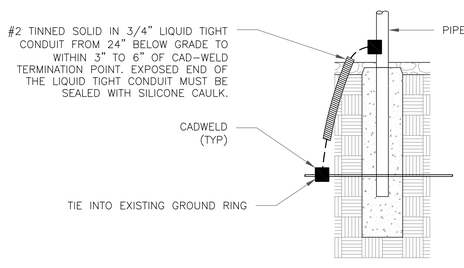
NOTES:

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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REVISION: 1