Tectonic
PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

Tectonic Engineering
Theresa Ranciato-Viele
63-3 N. Branford Road
Branford, CT 06405
Tranciato@Tectonicengineering.com
203-606-5127

November 22, 2021

Ms. Melanie Bachman, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: **Notice of Exempt Modification to an existing 454'guy tower located at 39 Carmen Hill Road, Brookfield, Connecticut**

Latitude: 41° 29' 36.2" / Longitude: 73° 25' 43.7"

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of Dish Wireless, LLC ("Dish"). Dish plans to install antennas and related equipment to the tower site at the existing 454'guy tower facility located at 39 Carmen Hill Road, Brookfield, Connecticut (See Original Facility Approval attached as Exhibit A) ("Facility"). The property is owned by Vertical Bridge Towers, LLC (See Brookfield Assessor Property Card attached hereto as Exhibit B).

Dish proposes to install three (3) 600/1900/2100 MHz JMA – MX08Fr0665-21 antennas and six (6) FUJITSU TA08025 RRUs on the tower at the two hundred twenty five foot (225') centerline AGL. Dish further proposes to install one (1) 1.5" Hybrid Cable. Dish will also install its equipment cabinets on a 5' X 7' platform within its 10' X 15' lease area. The installation is shown on plans completed by Tectonic Engineering, dated October 7, 2021 and attached hereto as Exhibit C.

Dish requests that the Connecticut Siting Council ("Council") find that the proposed shared use of this Facility satisfies the criteria of C.G.S. sec. 16-50aa and accordingly issue an order approving the proposed shared use. This proposed installation constitutes an exempt modification pursuant to R.C.S.A. 16-50j-89. Pursuant to R.C.S.A. 16-50j-73, Dish is providing notice to Stephen C. Dunn, First Selectman of the Town of Brookfield, Alice Dew, Land Use Director for Brookfield and the property owner, Vertical Bridge Towers, LLC.

Under the Council's regulations, Dish's plans do not constitute a modification subject to the Council's review in that:

Dish will not change the existing 454' height of the Tower as the Dish antennas will be installed at a height of 225'.

The proposed installation will not extend the existing boundaries of the approved compound as depicted in Exhibit C;

The proposed installation will not increase the noise levels at the facility by six (6) decibels or more, or to levels that exceed local and state criteria; and

The proposed antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. The attached Exhibit F indicates that the combined site operations will result in a total power density of 51.0278%.

Tower

The Facility consists of a four hundred fifty four foot (454') foot guy tower located at 39 Carmen Hill Road, Brookfield, Connecticut. As indicated above, the tower is owned by Vertical Bridge Towers, LLC. The tower currently supports Town of Brookfield antennas at the one hundred fifteen foot (115') and one hundred thirty one foot (131') centerlines respectively, AT&T at the one hundred sixty five foot (165') centerline, Sprint at the two hundred fifty seven foot (257') centerline AGL, T-Mobile at the two hundred eighty foot (280') centerline AGL, and Townsquare Media at the four hundred fifty four foot (454') centerline AGL. The antenna locations are set forth on Sheet A-2 of the attached drawings in Exhibit C.

A. TECHNICAL FEASIBILTY

The existing monopole has been deemed structurally capable of supporting the proposed Dish loading. The structural and mount analyses are attached hereto as Exhibits D and E respectively.

B. LEGAL FEASIBILITY

C.G.S. Se. 16-50aa authorizes the Council to issue orders approving the shared use of existing towers such as the above referenced tower. Under the authority granted to the Council, an order of the Council approving the requested shared use would permit Dish to obtain a building permit from the Town of Bethel to proceed with the proposed installation. Additionally, a Supplement to The Master Lease Agreement is attached as Exhibit G, granting Dish the authority from the tower owner to proceed with this application for shared use.

C. ENVIRONMENTAL FEASIBILITY

The proposed shared use of this Facility would have a minimal environmental impact. The installation of the Dish equipment at the 225' level of the existing tower would have an insignificant visual impact on the area surrounding the tower. The proposed Dish ground equipment would be installed within the existing Facility compound. The Dish installation would not cause any significant alteration to the physical or environmental characteristics of the existing Facility. Additionally, as evidenced by Exhibit F, the proposed antennas would not increase the radio frequency emissions to a level at or above the Federal Communications Commission safety standards.

D. ECONOMIC FEASIBILTY

Dish has entered into a Lease Agreement (Exhibit G) with the Facility owner for the proposed colocation. Therefore, this shared use is economically feasible.

E. PUBLIC SAFETY CONCERNS

As set forth above, the tower is structurally capable of supporting the proposed Dish loading. Dish is not aware of any public safety concerns relative to the proposed sharing of the existing tower.

For the reasons set forth herein, the proposed shared use of the existing tower at 39 Carmen Hill Road, Brookfield, satisfies the criteria stated in C.G.S. sec. 16-50aa, and supports the general goal of preventing the unnecessary proliferation of tower sites in Connecticut. Dish respectfully requests the Council issue an order approving the proposed shared use.

Respectfully submitted,
Dish Wireless, LLC

By _____
Theresa Ranciato-Viele, consultant
63-3 N. Branford Road
Branford, CT 06405
Tranciato@Tectonicengineering.com
203-606-5127

cc: Brookfield First Selectman, Honorable Stephen C. Dunn
100 Pocono Road
Brookfield, CT 06804
Brookfield Land Use Director, Alice Dew
100 Pocono Road
Brookfield, CT 06804
Tower Owner: Vertical Bridge Towers, LLC
750 Park of Commerce Dr., Suite 200
Boca Raton, FL 33487

Exhibit A

Original Facility Approval

TOWN OF BROOKFIELD
ZONING COMMISSION

Permit No.: SP94-1
Page 1 of 4

SPECIAL PERMIT - DESIGN REVIEW APPROVAL

Issued to:	Owner of Record:
Danbury Broadcasting, Inc. 1004 Federal Road Brookfield, CT 06804	Danbury Broadcasting, Inc. 1004 Federal Road Brookfield, CT 06804

Location: Lot No. B05013, 39 Carmen Hill Road, Brookfield, Connecticut.

Project Description: Replacement of an existing radio tower.

Permitted Use: Existing/non-conforming
Application Date: 1-12-94
Decision Date: 2-24-94

Zoning District: R-100
Public Hearing Date: 2-10-94
Publication Date: 3-1-94

Approval and Conditions:

This Special Permit is issued pursuant to Title 8, Chapter 124, Sect. 3c of CGS and Chapter 242, Section 301C. of the Code of the Town of Brookfield. It is subject to the General Conditions, Special Stipulations, plans, drawings and documents as set forth hereinafter.

Effectivity: **This approval IS NOT VALID UNTIL:**

A. This document is filed by the record owner of the property with (i) The Town Clerk, and (ii) upon the land records of the Town of Brookfield prior to the commencement of any site work, but in no event later than sixty (60) days from the date hereof.

B. A performance bond in the form of an irrevokable, unconditional, automatically renewable, bank letter of credit in the amount of: $ 7,500 is on file in the Office of the First Selectman, Town of Brookfield, prior to the commencement of any site work, but in no event later than six (6) months from the date hereof.

You are required to PROMPTLY RETURN the following documents to the Office of the Zoning Commission: (1) Certificate of Filing and Recording executed by the Town Clerk, (2) Site Work Bond and Agreement executed by you, (3) A signed copy of this Special Permit acknowledging both receipt hereof and your obligations hereunder.

Attachments (a part of this Special Permit):

(1) General Conditions of Approval, (2) Special Stipulations, (3) Document Listing, (4) Certificate of Filing and Recording, (5) Site Work and Bond Agreement, (6) Acknowledgment copy of Permit

Approval and Certification:

Approved and certified to be a true copy of the Special Permit granted this 24th day of February, 1994 at Brookfield, Connecticut.

E Bolozel for The Brookfield Zoning Commission

Special Permit No. SP94-1 ATTACHMENT No. 1

SPECIAL PERMIT - DESIGN REVIEW APPROVAL

GENERAL CONDITIONS OF APPROVAL

(1) This approval shall be void and of no effect unless construction of all improvements, buildings and structures shown on the site plan is completed within two (2) years of the date of this letter. However, the Commission may extend said two (2) year period up to an additional three (3) years, if the Commission finds exceptional difficulty would result in applying the original two (2) year completion period. Any renewal periods shall be upon the same terms and conditions as originally approved unless modified by the Commission.

(2) If any activity on the site creates an impact upon the inland wetlands of the Town of Brookfield, then this approval is subject to such condition, if any, as may be imposed by the Inland Wetland Commission, Town of Brookfield.

(3) Prior to the construction of any structure(s), water supply or drainage system, or connection to a septic treatment facility or sewer, you shall conform to the requirements placed upon you by the Building Official, Health Department and Water Pollution Control Authority, Town of Brookfield,. Copies of documents reflecting final approval of these systems shall be filed by you with this Commission within fifteen (15) days after such approval is given.

(4) Any additions to the exterior lighting or the parking areas shall require specific approval of the Commission and shall be in accordance with the appropriate requirements of the Zoning Regulations, Town of Brookfield.

(5) If landscaping is required by the Commission per the approved site plan, you shall maintain such landscaping in a healthy growing condition throughout the duration of the use it is intended to serve. The Commission shall require the replacement of any landscaping which does not survive its initial planting.

(6) You are required to meet all the requirements of Section 242-602, "Technical Standards" of the Brookfield Code.

(7) Prior to the occupancy of any structure, you shall conform to such requirements as may be placed upon you by the Fire Marshal and Fire Chief, Town of Brookfield, relative to: emergency vehicle access, building egress, and provisions for an adequate supply of water for fire fighting purposes.

(8) During construction of the project, you shall take such precautions as may be prescribed by the Building Official, the Highway and Police Departments, Town of Brookfield, and the Zoning Commission, so as to protect the general health, safety, and welfare, and to peclude undue nuisance to residents of the general area. Construction trailers, equipment and the like shall be kept to a minimum of twenty-five (25) feet inside the property lines at all times.

SPECIAL PERMIT - DESIGN REVIEW APPROVAL

GENERAL CONDITIONS OF APPROVAL

(9) During construction of the project, the Erosion and Sediment Protection, (ESP), measures must be fully implemented in accordance with the approved plan. This shall apply not only to the installation of the required ESP measures but also to all meaintenance procedures contained in the plan. Status reports on the ESP plan shall be filed with the Z.E.O. on a monthly basis.

(10) Upon application for a Zoning Certificate of Compliance, you must provide a complete set of drawings revised to indicate the true "as built" condition of the project. These drawings shall be submitted in two (2) blue line copies and one (1) reproducible copy. The Zoning Enforcement Officer will then inspect the property to verify that the project has been completed in accordance with this approval. Only then will a Certificate of Compliance be issued. Occupancy shall not be permitted until such certificate is issued.

(11) An "as built" plot plan shall be submitted to the Commission after the foundations and/or footings are poured. This plot plan shall contain all dimensions enabling the locations of the foundations, footings, drainage pipes, catch basins, galleries, underground utility lines, etc., to be compared for conformity to the approved site plan. No further earth covering over or building on these structures may be initiated until the submitted "as built" is approved by the Commission or the Zoning Enforcement Officer. The Commission will interpret failure to comply with this stipulation as grounds to deny any and all requests for subsequent modifications of the original site plan.

SPECIAL PERMIT - DESIGN REVIEW APPROVAL

SPECIAL STIPULATIONS

1. The bond shall be set at $7,500.

DOCUMENT LISTING

1. Real Estate Impact Study, Proposed Radio Tower Replacement, Prepared by Lesher-Glendinning & Co., Inc./Appraisers & Counselors, P. O. BOX 402, Georgetown, Conn. 06829, Dated 2/8/94.

2. General Arrangement Drawing of WINE/WRKI RADIO, No. E-1, prepared by Stainless, Inc., 3rd St. and Montgomery Ave., North Wales, PA 19454, dated 12/15/93.

3. Site Plan Proposed Radio Tower Replacement, prepared for Danbury Broadcasting, Inc., 39 Carmen Hill Road, by Carroccio-Covill & Associates, Inc., 40 Old New Milford Road, Brookfield, CT 06804, Drawing No. 1465, Sheet 1 of 1, dated 1/24/94.

SEAL

APPLICATION FOR DESIGN REVIEW APPROVAL

NO. SP 94-1

PROJECT DATA

Project Name: Proposed Radio Tower Replacement
Street Address: 39 Carmen Hill Road, Brookfield CT
Zoning District: R-100 Lot No.: B05013
Permitted Use: No; Existing/Non conform Permitted Use No.: N.A.
Acreage: 4.31 Ac Soil Types Present: Cr, Wx
Building Footprint: 1205 S.F. Impervious Area Footprint: 6205 S.F.
Total Building Sq. Ft. 1205 S.F. No. of Stories 1
No. of Occupants: 0 No. of Parking Spaces: 2
No. of Buildings: 2 (1 Building 1 Towe Flood Plain Designation: N.A.
Wetlands Approval Req'd.? NO Wetlands Approval Obtained? N.A.
Steep Slopes Present? NO On Sewer Line? NO
Fences/Walls Present? YES Wooded Areas Present? YES
Fuel Tank Size: 275 gal. ± Fire Tank Size: N.A
Phased Construction? NO Adjacent to Residential Zone? YES
Estimated Project Cost: $300,000.00 Estimated Cost of Site Work: $ 5100.00

Note: Application must be accompanied by all data specified in Section 242-301 C.(3) of the Brookfield Code, the required fee, and an itemized breakdown of site work costs.

APPLICANT DATA

	Owner of Record	Agent/Developer
Name:	Danbury Broadcasting, Inc.	Attorney Ted D. Backer
Street:	c/o 1004 Federal Road	Lee-Farm Corp. Park, 83 Wooster Heights
City/Zip:	Brookfield, CT 06804	Danbury, CT 06813-3499
Phone:	(203) 775-1212	(203) 743-2721

Name of Proposed Occupant: WINE/WRKI Radio Stations (Existing)
Occupant's Products/Services: Broadcast Transmission (Existing)

AUTHORITY OF AGENT

I hereby authorize the above designated Agent/Developer to act in my behalf in all matters related to this application.

Owner of Record's Signature: Danbury Broadcasting, Inc. Date: Jan. 12/94
BY: [signature]

APPLICANT'S REPRESENTATION

I hereby make application for Design Review Approval in accordance with the Zoning Regulations, Town of Brookfield. I agree herewith to hold the Town of Brookfield and its agents harmless for any and all expenses incurred as a result of the applicant/occupant's lack of compliance with the aforementioned regulations and any enforcement action resulting therefrom.

Applicant's Signature Ted D Backer Date: Jan. 12/94

FOR COMMISSION USE

Date Received: 1/13/94 Date Application Accepted: 1/13/94
Fee Calculation: Amount $ 190.00 + 10.00
Hearing set for: 2/10/94 Publication Dates: 1/27 & 2/3 & 3/4/94
Disposition: approved w/ stips. Date: 2/24/94
Bond Posted: Approval Filed:

TOWN OF BROOKFIELD - ZONING COMMISSION

Rev. 4/87

DESIGN REVIEW APPROVAL - CHECKLIST

PROJECT ADDRESS: 39 Carmen Hill Road PROJECT NAME Danbury Broadcasting, Inc.

PART I - SITE PLAN REQUIRED DATA per Sect. 242-301 C. (3) (a & b)

	SECT. No.	DATA ITEM		SECT. No.	DATA ITEM
(X)	a.	Key Map	(X)	b.7a.	Road and Drives, Configuration
(X)	b.	Four (4) copies of site plan	(NA)	b.7b.	Road/Drives Profiles
(X)	b.	Scale, not greater than 1"=100'	(NA)	b.7c.	Pavement Cross Section
(X)	b.1a.	Project Name	(X)	b.7d.	Walkways, Malls, Paths
(X)	b.1b.	Developer Name	(X)	b.7e.	Entranceways & Exits
(X)	b.1c.	Land Owner of Record	(NA)	b.8a.	Loading & Storage Areas
(X)	b.1d.	Zoning District	(NA)	b.8b.	Refuse Areas & Screening
(NA)	b.1e.	Permitted Use Identification	(X)	b.8c.	Machine & Equipment Areas
(X)	b.1f.	Names, Abutting Property Owners	(X)	b.8d.	Parking Areas, loc.,dim.
(X)	b.1g.	Northpoint	(X)	b.8e.	Total Vehicle Number
(X)	b.1h.	Scale	(NA)	b.8f.	Curbs, Barriers, Wheel Guards
(X)	b.1i.	Date of Preparation	(X)	b.8g.	Dustless Pavement Type
(X)	b.2a.	Boundary Lines	(X)	b.8h.	Catch Basins, loc.,dim.
(X)	b.2b.	Bearings and Distances	(X)	b.8i.	Culverts & Pipe, loc.,dim.
(X)	b.2c.	Total Property Area	(NA)	b.8j.	Parking Area Landscaping
(X)	b.2d.	Easements, purpose,loc.,dim.	(NA)	b.9a.	Open Space, loc.,dim.,type
(X)	b.2e.	Names, Adjourning Streets	(NA)	b.9b.	Recreational Areas
(X)	b.2f.	Dimensions, Adjourning Streets	(NA)	b.10a.	Water Supply Plan
(X)	b.3a.	Buildings & Structures, type,loc.,dim.	(NA)	b.10b.	Sewage Disposal Plan
(X)	b.3b.	Number of Occupants	(NA)	b.10c.	Reserve Areas, Septic
(X)	b.3c.	Distances to Property Lines & Buildings	(NA)	b.10d.	Drainage Plan & Calculations
(X)	b.4a.	Existing Contours @ 2' intervals	(X)	b.10e.	Electric, Phone, Gas Lines
(NA)	b.4b.	Proposed Contours @ 2' intervals	(NA)	b.10f.	Grades/Elevations, Basins/Piping
(X)	b.4c.	Watercourses, Wetlands, Soil Types	(NA)	b.11a.	Signs, description,loc.dim.
(X)	b.4d.	Proposed Site Alterations (fill etc.)	(X)	b.12a.	Walls/Fences, type,loc.,dim.
(X)	b.4e.	Unusual Site Features	(X)	b.12b.	Unique Items, specify
(X)	b.5a.	Erosion & Sedimentation Plans (ESP)	(X)	b.13a.	Technical Data per 242-602 A thru H
(X)	b.5b.	ESP Design & Details	(X)	b.14a.	Prof. Engr. Seal,) 80,000 sq. ft.
(X)	b.5c.	ESP Procedures/Measures/Reports	(X)	b.15a.	Start/Completion Dates
(X)	b.6a.	Trees & Shrubs, Existing/Proposed	(X)	b.15b.	Milestone/Schedule
(X)	b.6b.	Tree/Shrub Names/Type/Size	(X)	b.15c.	Phases of Construction Shown
( )	other	_____	( )	other	_____
( )	other	_____	( )	other	_____

PART II - ARCHITECTURAL REQUIRED DATA per Sect. 242-301 C. (3)

SECT. No.	DATA ITEM	SECT. No.	DATA ITEM
(NA) c.1.	Building Elevations & Floor Plans	(NA) c.5.	Screening Details
(NA) c.2.	Color & Texture of Building Material	(NA) c.6.	Sign Details
(NA) c.3.	Facade & Window Details	(X) c.7.	Lighting Fixture Deails
(NA) c.4.	Roofscape Details	(NA) c.8.	Illumination & Intensity Data

PART III - ADDITIONAL REQUIRED DATA per Sect. 242-301 C. (4). See cited Section to determine applicability.

(NA)	602 F.	Hydrogeological Report	(NA)	501 D2.	Water Retention Plan
(NA)	602 G.	Traffic Report	( )	other	_____
(NA)	502 E.	Spill Containment Plan	( )	other	_____

DESIGN REVIEW APPROVAL - CHECKLIST Danbury Broadcasting, Inc.

PART IV - APPROVAL CRITERIA, STANDARDS, AND REQUIREMENTS (Industrial and Commercial Applications)

SECTION No.	ITEM	STANDARD/REQUIREMENT	PROPOSED	COMMENTS
	GENERAL			
	*******			
501 B.	Permitted use:	identify	N.A.	Existing Non-Conforming
501 C.	Lot Area:	I=80/C=40k sq. ft.	4.31 ac.	Conforms
501 C.	Lot Width:	I=200'/C=150'	295' ±	Conforms
501 C.	Side Yard:	I=50'/C=30'	64' ±	Conforms
501 C.	Rear Yard:	I=50'/C=30'	465' ±	Conforms
501 C.	Building Height:	I=40'/C=30'	250'+/-	Tower to be 499'
501 D.	Land Coverage:	75%	3.3%	
501 D.	Foundation Plantings:	req'd	N.A.	
501 D.	Water Retention Plan:	)50% coverage, req'd	N.A.	
501 E.	Set Back:	100' fm: lot line	N.A.	
501 E.	Set Back (no front parking):	50' fm: lot line	119' ±	Conforms
308 B.	Set Back, watercourse:	25'	N.A.	
308 H.	Residential Buffer:	100' side/rear, 25' front	N.A.	
501 F.	Drive Design:	per Road Ordinance	N.A.	Existing Drives Servicable
501 F.	Pavement:	10"/2"/1 1/2"/1 1/2"	N.A.	Existing Drives Servicable
201 C.	Lot Access:	)50' frontage	YES	300' ± Available
201 C.	R.O.W. Width:	)50'	50' ±	Site is 26'to30' from centerline
201 E.	Pre-existing Lot, Y / N:	prior to 6/60	YES	
309.	Non-conforming status:	See 242-309	YES	Existing Non-Conforming
203 C.	Zoning Boundry Verified:	Y / N	YES	
203 D.	Lot in 2 Districts:	(30' intrusion	NO	
301 C.	Alteration:	(25%/10K sq. ft.	YES	
301 C	Inland Wetland Approval:	rec'd	N.A.	
301 C	Erosion Control Plan:	See 242-602 D.	N.A.	
301 C	Landscape:	adequate	N.A.	
301 C	Drainage:	per Town Engr.	N.A.	
301 C	Height, walls/fences:	(8'	6' ±	Around Tower Base
308 E.	Sight Obstruction, intersect.	(3'h@(20'distance	N.A.	Existing is Adequate
302.	Natural Resources Removal:	See 242-302	N.A.	
303 A.	Fill Impact:	See 242-303 A.	N.A.	
303 B.	Fill, below structures:	See 242-303 B.	N.A.	
303 C.	Burial of Material:	See 242-303 C.	N.A.	
	PARKING			
	*******			
305 C1.	Parking Space Size:	9' x 20' min.	YES	
305 C1.	Pavement Type:	dustless	YES	Existing Bituminous Concrete
305 C1.	Pavement Markings:	req'd	YES	
305 C2.	Off-site Parking	(250' fm: building	N.A.	
305 C3.	Ingress/Egress:	defined drive req'd	YES	Existing Drive Entrance
305 C4.	Aisles:	24'@90 deg.,14'@parallel	YES	24' ± Available
305 C5.	Drive Width:	22'	NO	Intermittent Access:Satisfactory
305 C6.	Set Back, road pavement	20'	YES	Exists
305 C6.	Set Back, buildings	10'	YES	Exists
305 C7.	Walkways:	Commission option	YES	Exists
305 C8.	Curbing, perimeter	6"	NO	Wheel Stops to be Used
305 C9.	Set Back, intersection:	75'	N.A.	
305 C10.	Lighting:	See 242-602 B.	NO	No Parking illumination proposed
305 D.	Parking Space Calculation:	See 242-305 D.	YES	

SECTION No.	ITEM	STANDARD/REQUIREMENT	PROPOSED	COMMENTS
305 E.	Trailers, construction:	water/septic req'd	NO	None Required
305 E.	Trailer, mat'l storage:	60 day permit	NO	None Required
305 G.	Loading Area Calculation:	See 242-305 G.	N.A.	
305 H.	Landscape:	8% of parking area	N.A.	
305 H.	8' Planters:	)50 cars	N.A.	
305 H.	Trees, 2 1/2" @ 3'height:	1 per 12 cars	N.A.	
	PERFORMANCE STANDARDS			
	**********			
602 A.	NOISE:			
602 A2.	Ind'l DbA	Day 65, Night 55	N.A.	
602 A2.	Comm'l DbA	Day 60, Night 50	N.A.	
602 A2.	Resd'l DbA	Day 55, Night 45	N.A.	
602 B.	GLARE:			
602 B2a.	Light Source Visability:	none @ prop. line	YES	Aircraft Warning Lights
602 B2a.	Foot Candles:	(I/C=1.0, R=.5	YES	242-602 B.2.F.4.
602 B2c.	Upward Angle, no contact:	not permitted	N.A.	
602 B2d.	Signs, flashing, animated:	not permitted	N.A.	
602 C.	WASTEWATER:			
602 C2.	Soil Map Data:	req'd	N.A.	
602 C3.	Test Hole Analysis:	req'd	N.A.	
602 C4.	Discharge Rates:	Table I	N.A.	
602 C6.	Loading Rates:	Table II	N.A.	
602 C.	Sewer, municipal:	WPCA approval req'd	N.A.	
602 D.	EROSION/SEDIMENT PLAN:	See 242-602 D.	YES	See Plans
602 E.	WOODCUTTING:	See 242-602 F.	N.A.	
602 F.	WATERSUPPLY:			
602 F2.	Hydrogeological Report:	)2,500 gpd	N.A.	No new use proposed
602 F3a.	Water Source:	on-site/other	YES	Existing
602 F3b.	Demand/Availability:	in balance	YES	No previous problems reported
602 F3c.	DPUC/DHS Certificate:	)25 persons, 15 conc't'ns	N.A.	
602 F3d.	Stand-by Well:	)2,500 gpd	N.A.	
602 F3e.	Yield, multi-well project:	2 x avg daily demand	N.A.	
602 F3f.	Demand, drought periods:	) available supply	N.A.	
602 F3g.	Recharge Provisions:	maximize	N.A.	
602 F3h.	Yield Tests:	36hr/10gpm, 72hr/50gpm	N.A.	
602 F3i.	Long Term Supply Reduction:	Not permitted	N.A.	
602 F3j.	Conservation Plan:	)5,000 gpd	N.A.	
602 F3k.	Process Water:	(5,000 gpd	NO	None required
602 F3l.	Location, well sites:	contamination proof	YES	Existing
602 F3m.	Construction Start:	DH appv'l of well/yield	N.A.	
602 F4.	Water Monitoring Program:	case-by-case	N.A.	
602 G.	TRAFFIC:			
602 G2.	Traffic Report:	)50 spaces/100 TPD	N.A.	
602 G3a&f.	Access/Circulation:	avoid queing	YES	Existing Adequate
602 G3b.	Access by resd'l streets:	avoid	YES	Exists
602 G3c.	Access on 2 streets:	use lesser impact steet.	N.A.	Exists
602 G3d.	Street Capacity:	adequate/calculated	N.A.	Use Exists
602 G3e.	Turn Lane/Controls:	case-by-case	N.A.	
602 G3g.	Grade/Algm't/Sight lines:	good engr. practice	YES	Existing Adequate
602 G3h.	Curb Cuts:	minimize	YES	One Existing
602 G3i.	Emergency Access:	req'd	NO	Not Required
602 G3i.	Interconnecting drives:	case-by-case	N.A.	
602 G3i.	Driveway Width:	(30'	20'	At R.O.W. Line
602 G3j.	Shoulder Improvements:	case-by-case	N.A.	
602 G3k.	Level of Service:	(Level "D"	N.A.	

SECTION No.	ITEM	STANDARD/REQUIREMENT	PROPOSED	COMMENTS
602 H.	FIRE PROTECTION:			
602 H2.	Storage Tank, or:	20,000 gal	N.A.	Non-Flammable Alteration
602 H2.	Other Supply, or	20,000 gal	N.A.	Non-Flammable Alteration
602 H2.	Sprinkler	option	N.A.	Non-Flammable Alteration
602 H3.	Location:	per Fire Marshall	N.A.	Non-Flammable Alteration
602 H3.	Fixturing:	per Fire Marshall	N.A.	Non-Flammable Alteration
602 H3.	Alarms/Key Box:	case-by-case	N.A.	Non-Flammable Alteration
301 C.	ENVIRONMENTAL			
	**********			
301 C5b.	Hazardous Material Storage:	case-by-case	N.A.	None Proposed
301 C5c.	Dust:	minimize	N.A.	None Proposed
301 C5c.	Odor:	not noticeable off-prem.	N.A.	None Proposed
301 C5c.	Vibration:	case-by-case	N.A.	None Proposed
	ARCHITECTURAL			
	**********			
301 C5d.	Color:	identify	Orange & White	As Required by FAA & FCC*
301 C5d.	Type/Texture of Siding:	identify	Paint	Smooth Paint on Metal
301 C5d.	Facade/Window Detail:	identify	N.A.	
301 C5d.	Roofscape:	minimize appurtenances	N.A.	
301 C5d.	Screening:	mech. areas req'd	N.A.	
301 C5d.	Lighting:	See 242-602 B.	YES	Per FAA & FCC*
301 C5d.	Area Compatibility:	req'd	N.A.	Replacement of Existing
301 C5d.	Preservation of Site Features:	maximize	YES	Minimal disturbance
301 C5d.	Landscaping, f'n'd'n plantings:	req'd	N.A.	Minimal disturbance
301 C5d.	Overall appearance:	case-by-case	YES	Similar to Existing
301 C5d.	Property Values:	No lessening impact	YES	Similar to Existing

* Federal Aviation Administration
Federal Communications Commission

503.	AQUIFER PROTECTION		
	**********		
503 B.	Prohibited uses:	Salt, hazardous/toxic, land fills, truck terminals, service stations, industrial wastes, metalworking, publishing and reproduction services.	NOT APPLICABLE
503 C.	Water Quality Impact:	not (Fed/State stds.	
503 C.	DH/TE/IWL/PC opinion:	req'd	
503 D.	Data:	See 242-503 D.	
503 D.	Analysis/Compliace Report:	req'd.	
503 E.	Spill Control Plan:	req'd.	
502.	FLOOD PLAIN		
	**********		
502 B.	Mean Flood Elevation at Site:	identify	NOT APPLICABLE
502 B.	Lowest Floor Elevation:	identify	
502 E.	Fill:	See 242-301 C.	
502.	Other Requirements:	See 242-502	

PART V - STIPULATIONS:

PART VI - DISPOSITION: _____ BOND SET @: $_____ BY: _____ DATE: _____

Exhibit B

Property Card

39 CARMEN HILL RD

Location	39 CARMEN HILL RD	**Mblu**	B05/ / 013/ /
Acct#	02708000	**Owner**	VERTICAL BRIDGE TOWERS LLC
Assessment	$385,670	**Appraisal**	$550,960
PID	817	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$61,350	$489,610	$550,960
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$42,940	$342,730	$385,670

Owner of Record

Owner	VERTICAL BRIDGE TOWERS LLC
Co-Owner	C/O RYAN LLC, JONATHAN HART
Address	2800 POST OAK BLVD SUITE 3700 HOUSTON, TX 77056

Sale Price	$1,710,755
Certificate	
Book & Page	706/ 707
Sale Date	11/10/2015
Instrument	22

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
VERTICAL BRIDGE TOWERS LLC	$1,710,755		706/ 707	22	11/10/2015
TOWNSQUARE MEDIA DANBURY LLC	$858,440		690/ 769	25	10/03/2014
AURORA OF DANBURY LLC	$685,000		361/ 992	06	10/27/1999

Building Information

Building 1 : Section 1

Year Built:	1960
Living Area:	1,200

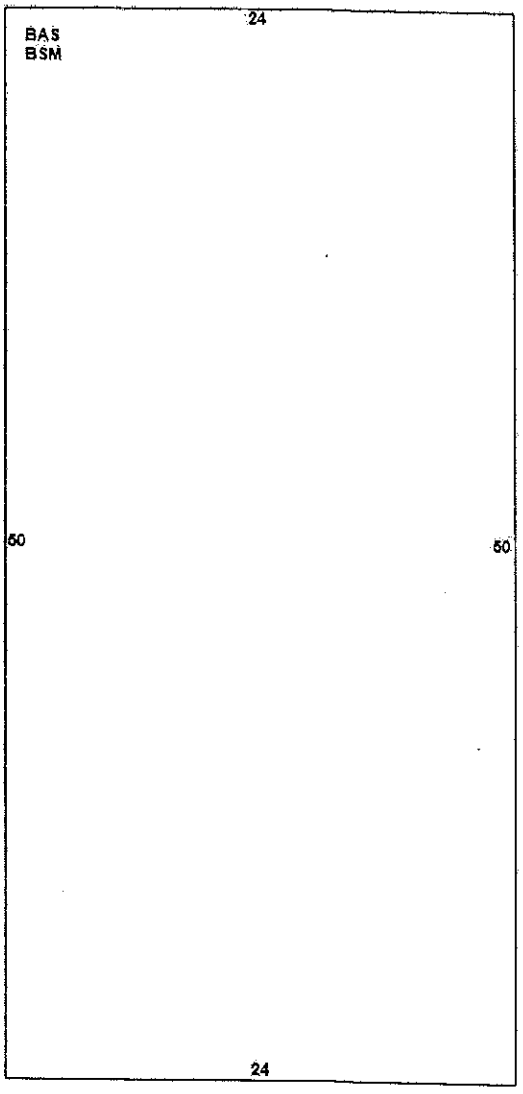
Building Attributes

Style:	Commercial
Model	Ind/Comm
Grade	C-
Stories:	1
Occupancy	1.00
Exterior Wall 1	Wood Shingle
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Asphalt Shingl
Interior Wall 1	Drywall/Sheetr
Interior Wall 2	
Interior Floor 1	Hardwood
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air
AC Type	None
Struct Class	
Bldg Use	Cell Site
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	2011
Heat/AC	None
Frame Type	Wood Frame
Baths/Plumbing	Average
Ceiling/Wall	Cell & Walls
Rooms/Prtns	Average
Wall Height	8.00
% Comn Wall	

Building Photo

(http://images.vgsl.com/photos/BrookfieldCTPhotos///0030/P1010181_306

Building Layout



(ParcelSketch.ashx?pid=817&bid=817)

Building Sub-Areas (sq ft)			
Code	Description	Gross Area	Living Area
BAS	First Floor	1,200	1,200

BSM	Basement	1,200	0
		2,400	1,200

Extra Features

Extra Features
No Data for Extra Features

Land

Land Use

Use Code	434
Description	Cell Site
Zone	R-100

Land Line Valuation

Size (Acres)	4.20
Depth	
Assessed Value	$342,730
Appraised Value	$489,610

Outbuildings

Outbuildings						
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
GEN	Generator			1.00 Units	$0	1
CT1	Cell Tower			1.00 Units	$0	1
SHD3	Comm Shed	CB		600.00 S.F.	$23,400	1
ANTG	Guyed Tower	R	Radio	80.00 L.F.	$7,390	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$39,780	$491,810	$531,590
2019	$39,780	$491,810	$531,590
2018	$39,780	$491,810	$531,590
2017	$39,780	$491,810	$531,590

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$27,850	$344,270	$372,120
2019	$27,850	$344,270	$372,120
2018	$27,850	$344,270	$372,120
2017	$27,850	$344,270	$372,120

Exhibit C

Project Plans

dish wireless

DISH WIRELESS SITE ID:

NJJER01133A

DISH WIRELESS SITE ADDRESS:

39 CARMEN HILL ROAD
BROOKFIELD, CT 06804

CONNECTICUT CODE COMPLIANCE

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

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

SHEET INDEX

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
A-1	OVERALL AND ENLARGED SITE PLAN
A-2	ELEVATION, ANTENNA LAYOUT AND SCHEDULE
A-3	EQUIPMENT PLATFORM AND H-FRAME DETAILS
A-4	EQUIPMENT DETAILS
GN-1	LEGEND AND ABBREVIATIONS
GN-2	GENERAL NOTES

SCOPE OF WORK

THIS IS NOT AN ALL INCLUSIVE LIST. CONTRACTOR SHALL UTILIZE SPECIFIED EQUIPMENT PART OR ENGINEER APPROVED EQUIVALENT. CONTRACTOR SHALL VERIFY ALL NEEDED EQUIPMENT TO PROVIDE A FUNCTIONAL SITE. THE PROJECT GENERALLY CONSISTS OF THE FOLLOWING:

TOWER SCOPE OF WORK:
- INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)
- INSTALL (3) PROPOSED ANTENNA MOUNTS (1 PER SECTOR)
- INSTALL (6) PROPOSED RRHs (2 PER SECTOR)
- INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
- INSTALL (1) PROPOSED HYBRID CABLE

GROUND SCOPE OF WORK:
- INSTALL (1) PROPOSED METAL PLATFORM
- INSTALL (1) PROPOSED ICE BRIDGE
- INSTALL (1) PROPOSED PPC CABINET
- INSTALL (1) PROPOSED EQUIPMENT CABINET
- INSTALL (1) PROPOSED POWER CONDUIT
- INSTALL (1) PROPOSED TELCO CONDUIT
- INSTALL (1) PROPOSED TELCO-FIBER BOX
- INSTALL (1) PROPOSED GPS UNIT
- INSTALL (1) PROPOSED SAFETY SWITCH (IF REQUIRED)
- INSTALL (1) PROPOSED FIBER NID (IF REQUIRED)
- INSTALL (1) PROPOSED CIENA BOX (IF REQUIRED)
- INSTALL (1) PROPOSED METER SOCKET

SITE PHOTO

UNDERGROUND SERVICE ALERT CBYD 811
UTILITY NOTIFICATION CENTER OF CONNECTICUT
(800) 922-4455
WWW.CBYD.COM
CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION

811

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE. NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

SITE INFORMATION

PROPERTY OWNER:	VERTICAL BRIDGE TOWERS LLC
ADDRESS:	39 CARMEN HILL ROAD BROOKFIELD, CT 06804
TOWER TYPE:	GUYED
TOWER CO SITE ID:	US-CT-5009
TOWER APP NUMBER:	N/A
COUNTY:	FAIRFIELD COUNTY
LATITUDE (NAD 83):	41° 29' 36.2" N 41.493380° N
LONGITUDE (NAD 83):	73° 25' 43.7" W 73.4288° W
ZONING JURISDICTION:	CT SITING COUNCIL/ TOWN OF BROOKFIELD
ZONING DISTRICT:	R-100
PARCEL NUMBER:	B05013
OCCUPANCY GROUP:	U
CONSTRUCTION TYPE:	II-B
POWER COMPANY:	UNITED ILLUMINATING CO
TELEPHONE COMPANY:	MCI (VERIZON)

PROJECT DIRECTORY

APPLICANT:	DISH WIRELESS 3 ADP BOULEVARD ROSELAND, NJ 07068
TOWER OWNER:	VERTICAL BRIDGE REIT, LLC 750 PARK OF COMMERCE DRIVE, SUITE 200 BOCA RATON, FL 33487
SITE DESIGNER:	TECTONIC ENGINEERING & SURVEY CONSULTANTS P.C. 1279 ROUTE 300 NEWBURGH, NY 10953 (845) 567-6656
SITE ACQUISITION:	TECTONIC ENGINEERING (845) 567-6656
CONSTRUCTION MANAGER:	JOE DIPIAZZA
RF ENGINEER:	VAISHNAVI VAJJE

DIRECTIONS

DIRECTIONS FROM 3 ADP BOULEVARD ROSELAND, NJ 07068:

USE HEAD NORTHEAST TOWARD ADP BLVD. TURN LEFT.TURN LEFT TOWARD ADP BLVD. TURN RIGHT TOWARD CHOCTAW WAY. USE THE LEFT LANE TO TURN RIGHT ONTO LIVINGSTON AVE. USE THE RIGHT LANE TO TAKE THE RAMP ONTO I-280 E. MERGE WITH I-280 E. KEEP LEFT TO STAY ON I-280 E. ICE EXIT 12 TOWARD ORATON PKWY. KEEP LEFT, FOLLOW SIGNS FOR GARDEN STATE PARKWAY AND MERGE ONTO GARDEN STATE PKWY. KEEP RIGHT TO STAY ON GARDEN STATE PKWY. KEEP LEFT TO STAY ON GARDEN STATE PKWY. CONTINUE ONTO NJ-444 N/GARDEN STATE PKWY. ENTERING NEW YORK. USE ANY LANE TO TAKE EXIT 14-1 TO MERGE WITH I-287 E/I-87 S. KEEP LEFT AT THE Y JUNCTION TO CONTINUE ON I-287 E. FOLLOW SIGNS FOR WHITE PLAINS/RYE. TAKE EXIT 9A TOWARD I-684 N. KEEP LEFT, FOLLOW SIGNS FOR I-684/BREWSTER AND MERGE ONTO I-684 N. PASSING THROUGH CONNECTICUT. ENTERING NEW YORK. TAKE EXIT 9E TO MERGE WITH I-84 E TOWARD DANBURY. ENTERING CONNECTICUT. USE THE LEFT 2 LANES TO TAKE EXIT 7 FOR US-7 N/US-202 E TOWARD BROOKFIELD/NEW MILFORD. CONTINUE ONTO US-202 E/US-7 N. TAKE EXIT 12 FOR US-202 TOWARD BROOKFIELD. TURN RIGHT ONTO US-202 E. TURN LEFT ONTO LAUREL HILL RD. SLIGHT LEFT ONTO N MOUNTAIN RD. TURN RIGHT ONTO CARMEN HILL RD.

VICINITY MAP

NO SCALE

dish wireless
3 ADP BOULEVARD,
ROSELAND, NJ 07068

Tectonic

STATE OF CONNECTICUT
ANTONIO A. GUALTIERI
PEN.0025406
LICENSED
PROFESSIONAL ENGINEER

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.

DRAWN BY:	CHECKED BY:	APPROVED BY:
VM	JQ	MP

RFDS REV #:

ZONING DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	10/07/21	ISSUED FOR APPROVAL

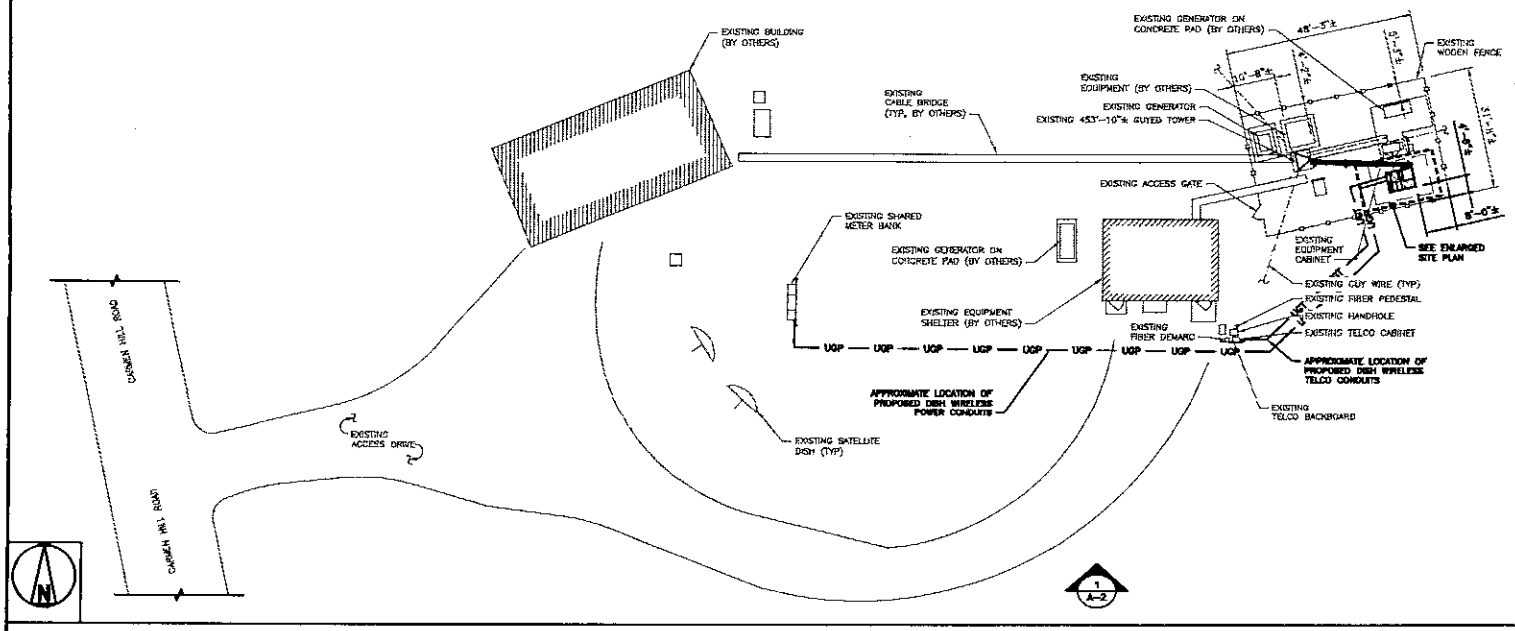
A&E PROJECT NUMBER
10710.NJJER01133A

DISH WIRELESS PROJECT INFORMATION
NJJER01133A

39 CARMEN HILL ROAD
BROOKFIELD, CT 06804

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1



OVERALL SITE PLAN

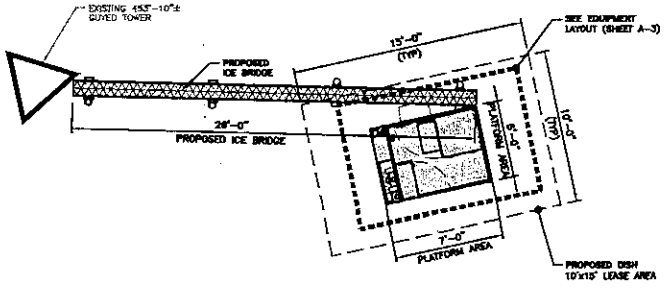
1/16"=1'-0" — 1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.
3. EXISTING STRUCTURE SHALL BE ANALYZED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT.

GROUNDING SCREEN NOTE

THE ENTIRE COMPOUND HAS A GROUNDING SCREEN AND RADIAL SYSTEM DEPLOYED JUST BELOW GRADE. THE GROUND SYSTEM EXTENDS OUTWARDS FROM THE BASE OF THE TOWER SEVERAL HUNDRED FEET IN A RADIAL FASHION EVERY 3 DEGREES. CAUTION MUST BE OBSERVED WHEN PERFORMING ANY DIGGING ON SITE AS THIS GROUNDING SYSTEM MUST BE MAINTAINED IN TACT.



ENLARGED EQUIPMENT PLAN

1/4"=1'-0" — 2

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS UNIT, TRANSMITTING ANTENNAS AND EXISTING GPS UNITS.
3. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.
4. EXISTING STRUCTURE SHALL BE ANALYZED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT.

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Tectonic Engineering & Surveying Consultants P.C.

STATE OF CONNECTICUT
ANTONIO A. GUALTIERI
PEN.0025406
LICENSED PROFESSIONAL ENGINEER
10/7/21

DRAWN BY:	CHECKED BY:	APPROVED BY:
VM	JO	MP

RFDS REV #: 03

ZONING DOCUMENTS

SUBMITTALS

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DISH WIRELESS PROJECT INFORMATION
NJJER01133A

39 CARMEN HILL ROAD
BROOKFIELD, CT 06804

SHEET TITLE
OVERALL AND ENLARGED SITE PLAN

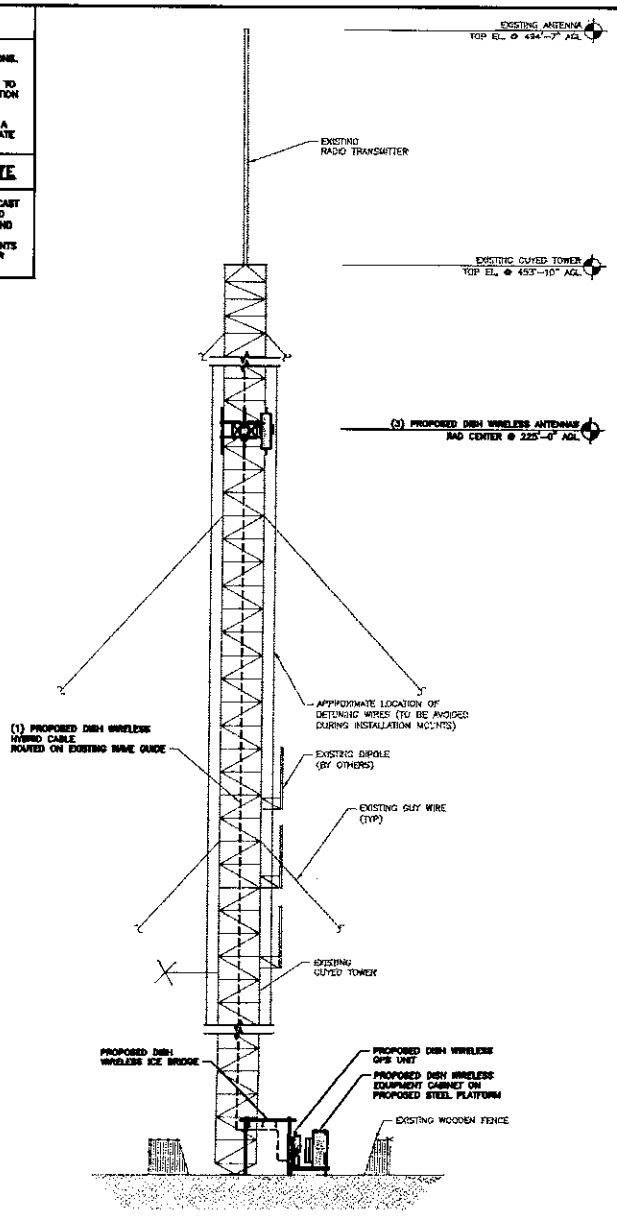
SHEET NUMBER
A-1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.
3. EXISTING STRUCTURE SHALL BE ANALYZED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT.

AM BROADCAST DETUNING NOTE

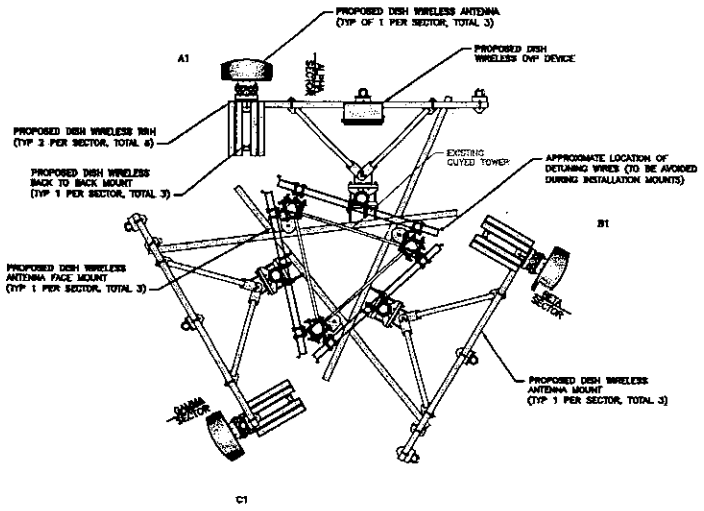
THE TOWER HAS A DRIVEN ENERGIZED AM BROADCAST SKIRT ANTENNA SYSTEM DEPLOYED. THE PROPOSED MOUNTING SYSTEM SHALL AVOID SKIRT CONTACT AND ALLOW FOR MAINTENANCE WITHOUT INTERFERENCE. DURING INSTALLATION, PRE AND POST MEASUREMENTS AREA REQUIRED ON THE AM ANTENNA SYSTEM FOR COMPLIANCE.



PROPOSED NORTH ELEVATION

8' 4' 2' 0 5' 10'
3/16"=1'-0"

1



ANTENNA LAYOUT

12" 8" 0 1' 2' 3' 4' 5'
1/2"=1'-0"

2

SECTOR	POSITION	ANTENNA						TRANSMISSION CABLE
		EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	TECHNOLOGY	SIZE (HxW)	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH
ALPHA	A1	PROPOSED	JMA – MX08FRO665-21	5G	72.0" x 20.0"	0°	225'-0"	(1) HIGH-CAPACITY HYBRID CABLE (280' LONG)
BETA	B1	PROPOSED	JMA – MX08FRO665-21	5G	72.0" x 20.0"	120°	225'-0"	
GAMMA	C1	PROPOSED	JMA – MX08FRO665-21	5G	72.0" x 20.0"	240°	225'-0"	

SECTOR	POSITION	RRH	
		MANUFACTURER – MODEL NUMBER	TECHNOLOGY
ALPHA	A1	FUJITSU – TA08025-B604	N70/N66
	A1	FUJITSU – TA08025-B605	N71
BETA	B1	FUJITSU – TA08025-B604	N70/N66
	B1	FUJITSU – TA08025-B605	N71
GAMMA	C1	FUJITSU – TA08025-B604	N70/N66
	C1	FUJITSU – TA08025-B605	N71

NOTES

1. CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.
2. ANTENNA AND RRH MODELS MAY CHANGE DUE TO EQUIPMENT AVAILABILITY. ALL EQUIPMENT CHANGES MUST BE APPROVED AND REMAIN IN COMPLIANCE WITH THE PROPOSED DESIGN AND STRUCTURAL ANALYSES.
3. AZIMUTHS ARE SUBJECT TO CHANGE AND NEED TO BE CONFIRMED WITH THE LATEST RFDS PRIOR TO THE START OF CONSTRUCTION.

ANTENNA SCHEDULE

NO SCALE

3

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ANTONIO A. GUALTIERI
PEN.0025406
LICENSED PROFESSIONAL ENGINEER
10/7/21

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RFDS REV #: 03

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SUBMITTALS

REV	DATE	DESCRIPTION
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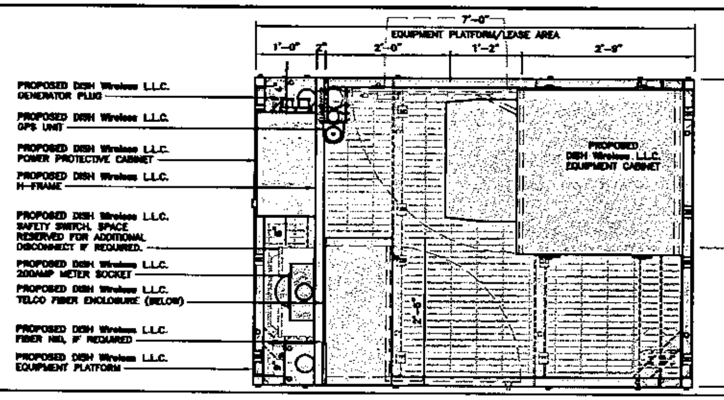
DISH WIRELESS PROJECT INFORMATION
NJJER01133A
39 CARMEN HILL ROAD
BROOKFIELD, CT 06804

SHEET TITLE
ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER
A-2

NOTES

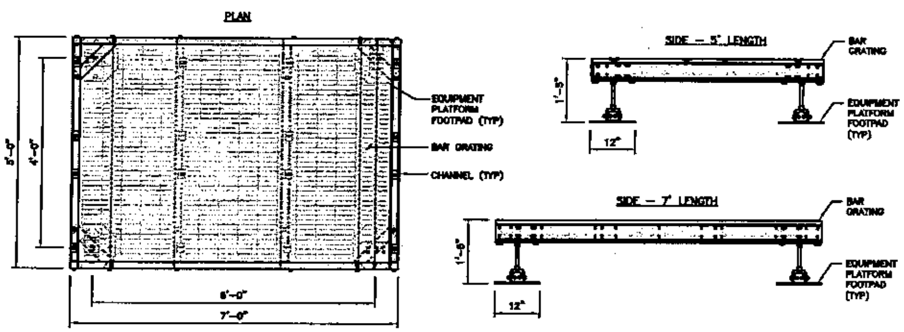
1. CONTRACTOR TO BURY PLATFORM FEET WITH A MINIMUM OF 2" OF FILL PER EXISTING SITE SURFACE
2. WEED BARRIER FABRIC TO BE ADDED AT DISCRETION OF DISH WIRELESS CONSTRUCTION MANAGER AT TIME OF CONSTRUCTION. ONE SHEET 8'x8' INSTALLED UNDER ALL FOUR FEET OF THE PLATFORM (4 MIL BLACK PLASTIC)
3. EQUIPMENT CABINET OMITTED FOR CLARITY



PLATFORM EQUIPMENT PLAN — 12" 9" 6" 3" 0 1' 2' — 1"=1'-0" — 1

COMMSCOPE MTC4045LP 5X7 PLATFORM	
DIMENSIONS (HxWxD)	15"x84"x60"
TOTAL WEIGHT	423 LBS

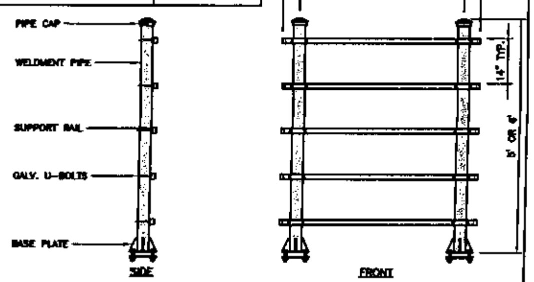
NOTE: GC TO PROVIDE EXTENDED THREAD FOR PLATFORM IF REQUIRED HEIGHT EXCEEDS 17"



PLATFORM DETAIL — NO SCALE — 2

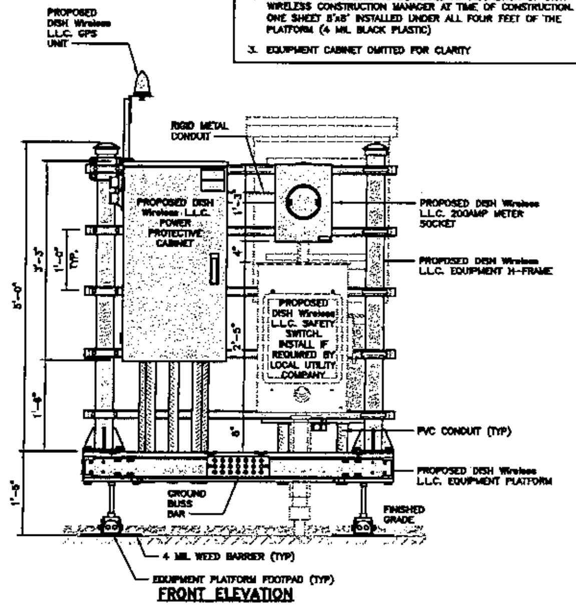
COMMSCOPE MTC4045HFLD H-FRAME	
UNISTRUT/SUPPORT RAILS QTY	5
WEIGHT	59.74 lbs

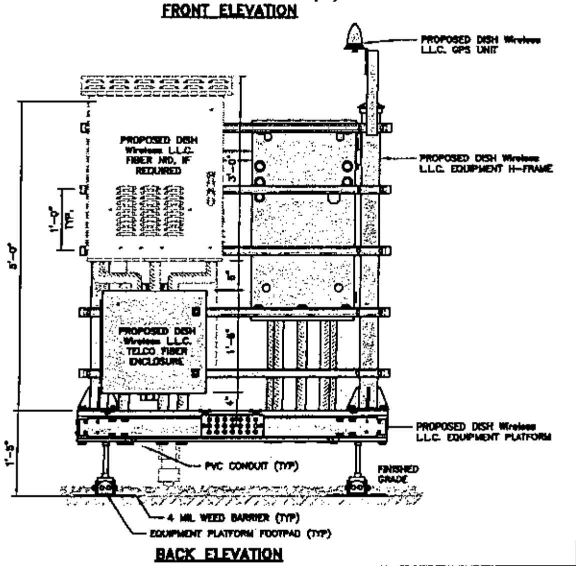
NOTE: OR DISH Wireless L.L.C. APPROVED EQUIVALENT



H-FRAME DETAIL — NO SCALE — 3

NOT USED — NO SCALE — 4





H-FRAME EQUIPMENT ELEVATION — 12" 9" 6" 3" 0 1' 2' — 1"=1'-0" — 5

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STATE OF CONNECTICUT — ANTONIO A. GUALTIERI — PEN.0025406 — LICENSED PROFESSIONAL ENGINEER — 10/7/21

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SUBMITTALS

REV	DATE	DESCRIPTION
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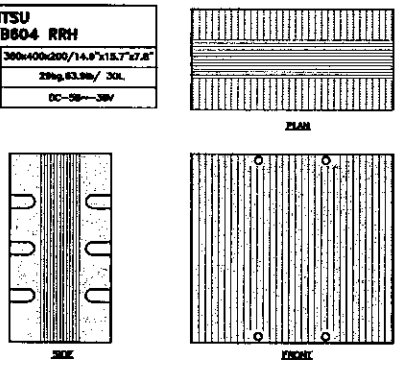
DISH WIRELESS PROJECT INFORMATION
NJJER01133A

39 CARMEN HILL ROAD
BROOKFIELD, CT 06804

SHEET TITLE
EQUIPMENT PLATFORM AND H-FRAME DETAILS

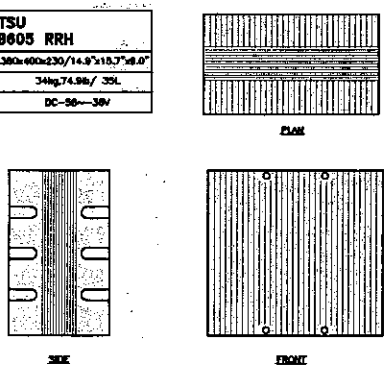
SHEET NUMBER
A-3

FUJITSU TA08025-B604 RRH	
DIMENSIONS (HxWxD) (IN)/(M)	380x400x200/14.9"x15.7"x7.8"
WEIGHT(KG,LB)/ VOLUME	29kg,63.9lb/ 30L
POWER SUPPLY	DC-58~-38V



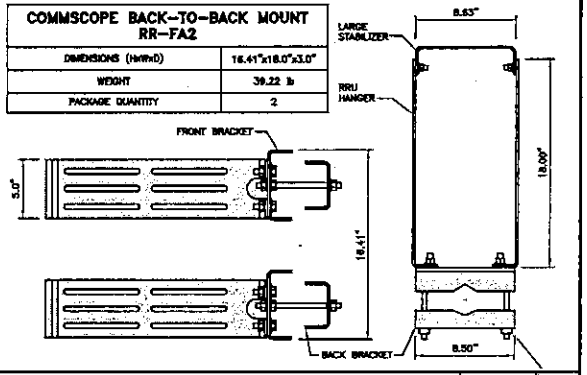
REMOTE RADIO HEAD DETAIL | NO SCALE | 1

FUJITSU TA08025-B605 RRH	
DIMENSIONS (HxWxD) (IN)/(M)	380x400x230/14.9"x15.7"x9.0"
WEIGHT(KG,LB)/ VOLUME	34kg,74.9lb/ 35L
POWER SUPPLY	DC-58~-38V



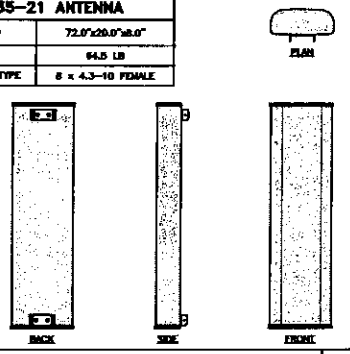
REMOTE RADIO HEAD DETAIL | NO SCALE | 2

COMMSCOPE BACK-TO-BACK MOUNT RR-FA2	
DIMENSIONS (HxWxD)	16.41"x18.0"x3.0"
WEIGHT	39.22 lb
PACKAGE QUANTITY	2

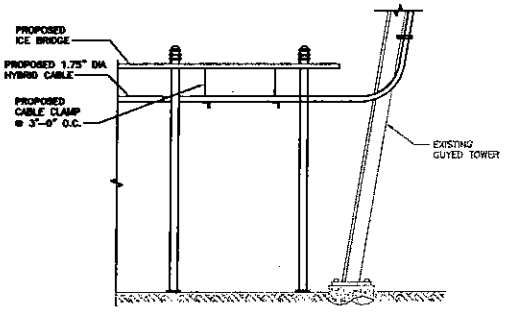


REMOTE RADIO MOUNT DETAIL | NO SCALE | 3

JMA WIRELESS MX08FRO665-21 ANTENNA	
DIMENSIONS (HxWxD)	72.0"x20.0"x8.0"
TOTAL WEIGHT	64.5 LB
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE



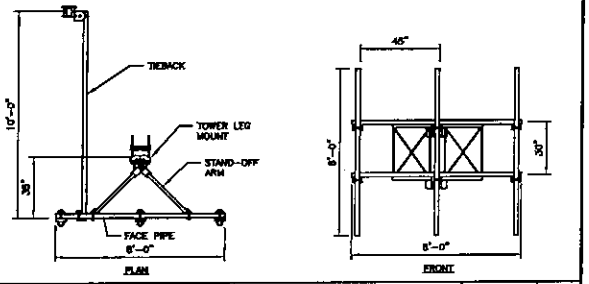
ANTENNA DETAIL | NO SCALE | 4



HYBRID CABLE RUN | NO SCALE | 5

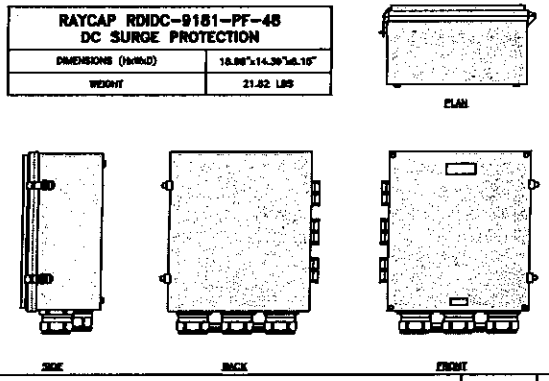
COMMSCOPE V-FRAME MTC3975083	
FACE SIZE	8'-0"
WEIGHT	362.136 lbs

NOTE: OR DISH Wireless L.L.C. APPROVED EQUIVALENT



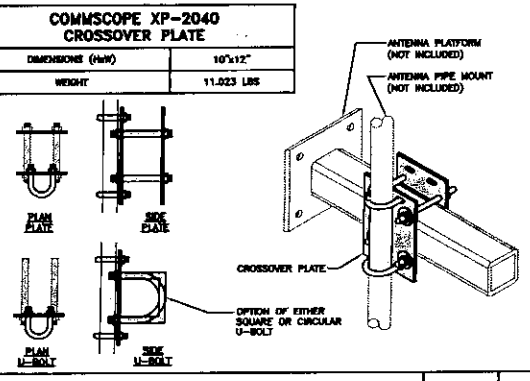
ANTENNA FRAME DETAIL | NO SCALE | 6

RAYCAP RDIDC-9181-PF-48 DC SURGE PROTECTION	
DIMENSIONS (HxWxD)	18.98"x14.39"x6.15"
WEIGHT	21.82 LBS



SURGE SUPPRESSION DETAIL | NO SCALE | 7

COMMSCOPE XP-2040 CROSSOVER PLATE	
DIMENSIONS (HxW)	10"x12"
WEIGHT	11.023 LBS

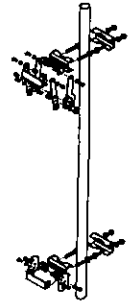


RRH/OVP MOUNT DETAIL | NO SCALE | 8

JMA ANTENNA MOUNT BRACKET #91900318	
TOTAL WEIGHT (WITH BRACKETS)	18 lbs (8.18 Kg)
POLE DIAMETER RANGE	2.5" TO 4.5"

NOTE: KIT #91900318: TOP AND BOTTOM BRACKETS FOR 4-,6-, AND 8-FOOT ANTENNAS
ANTENNA BRACKET NOT PART OF KIT

NOTE: OR DISH Wireless L.L.C. APPROVED EQUIVALENT



ANTENNA BRACKET DETAIL | NO SCALE | 9

dish wireless.

3 ADP BOULEVARD,
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Tectonic

Engineering Consultants, Inc.

STATE OF CONNECTICUT
ANTONIO A. GUALTIERI
PEN.0025406
LICENSED PROFESSIONAL ENGINEER
10/7/21

DRAWN BY:	CHECKED BY:	APPROVED BY:
VM	JQ	MP

RFDS REV #: 03

ZONING DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	10/07/21	ISSUED FOR APPROVAL

A&E PROJECT NUMBER
10710.NJJER01133A

DISH WIRELESS PROJECT INFORMATION
NJJER01133A
39 CARMEN HILL ROAD
BROOKFIELD, CT 06804

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-4

LEGEND

EXOTHERMIC CONNECTION	●
MECHANICAL CONNECTION	■
CHEMICAL ELECTROLYTIC GROUNDING SYSTEM	⊖
TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM	⊖T
EXOTHERMIC WITH INSPECTION SLEEVE	▣
GROUNDING BAR	▬
GROUND ROD	⏚●
TEST GROUND ROD WITH INSPECTION SLEEVE	⏚▣T
SINGLE POLE SWITCH	$
DUPLEX RECEPTACLE	⊖
DUPLEX GFCI RECEPTACLE	⊖
FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48–T8	F
SMOKE DETECTION (DC)	SD
EMERGENCY LIGHTING (DC)	
SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW LED–1–25A400/51K–SR4–120–PE–DDBTXD	
CHAIN LINK FENCE	— X — X — X — X —
WOOD/WROUGHT IRON FENCE	—□—□—□—□—□—□—
WALL STRUCTURE	▨
LEASE AREA	— — — — — — — — — —
PROPERTY LINE (PL)	——— — — ——— — —
SETBACKS	- - - - - - - - - -
ICE BRIDGE	▦
CABLE TRAY	▨
WATER LINE	— W — W — W — W — W —
UNDERGROUND POWER	— UGP — UGP — UGP — UGP — UGP —
UNDERGROUND TELCO	— UGT — UGT — UGT — UGT — UGT —
OVERHEAD POWER	— OHP — OHP — OHP — OHP —
OVERHEAD TELCO	— OHT — OHT — OHT — OHT —
UNDERGROUND TELCO/POWER	— UGT/P — UGT/P — UGT/P — UGT/P —
ABOVE GROUND POWER	— AGP — AGP — AGP — AGP — AGP —
ABOVE GROUND TELCO	— AGT — AGT — AGT — AGT — AGT —
ABOVE GROUND TELCO/POWER	— AGT/P — AGT/P — AGT/P — AGT/P —
WORKPOINT	W.P.
SECTION REFERENCE	XX / X–X
DETAIL REFERENCE	XX / X–X

ABBREVIATIONS

AB	ANCHOR BOLT
ABV	ABOVE
AC	ALTERNATING CURRENT
ADDL	ADDITIONAL
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AGL	ABOVE GROUND LEVEL
AIC	AMPERAGE INTERRUPTION CAPACITY
ALUM	ALUMINUM
ALT	ALTERNATE
ANT	ANTENNA
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BATT	BATTERY
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BTC	BARE TINNED COPPER CONDUCTOR
BOF	BOTTOM OF FOOTING
CAB	CABINET
CANT	CANTILEVERED
CHG	CHARGING
CLG	CEILING
CLR	CLEAR
COL	COLUMN
COMM	COMMON
CONC	CONCRETE
CONSTR	CONSTRUCTION
DBL	DOUBLE
DC	DIRECT CURRENT
DEPT	DEPARTMENT
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DWG	DRAWING
DWL	DOWEL
EA	EACH
EC	ELECTRICAL CONDUCTOR
EL.	ELEVATION
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ENG	ENGINEER
EQ	EQUAL
EXP	EXPANSION
EXT	EXTERIOR
EW	EACH WAY
FAB	FABRICATION
FF	FINISH FLOOR
FG	FINISH GRADE
FIF	FACILITY INTERFACE FRAME
FIN	FINISH(ED)
FLR	FLOOR
FDN	FOUNDATION
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FS	FINISH SURFACE
FT	FOOT
FTG	FOOTING
GA	GAUGE
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GLB	GLUE LAMINATED BEAM
GLV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
GSM	GLOBAL SYSTEM FOR MOBILE
HDG	HOT DIPPED GALVANIZED
HDR	HEADER
HGR	HANGER
HVAC	HEAT/VENTILATION/AIR CONDITIONING
HT	HEIGHT
IGR	INTERIOR GROUND RING
IN	INCH
INT	INTERIOR
LB(S)	POUND(S)
LF.	LINEAR FEET
LTE	LONG TERM EVOLUTION
MAS	MASONRY
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
MTS	MANUAL TRANSFER SWITCH
MW	MICROWAVE
NEC	NATIONAL ELECTRIC CODE
NM	NEWTON METERS
NO.	NUMBER
#	NUMBER
NTS	NOT TO SCALE
OC	ON–CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OPNG	OPENING
P/C	PRECAST CONCRETE
PCS	PERSONAL COMMUNICATION SERVICES
PCU	PRIMARY CONTROL UNIT
PRC	PRIMARY RADIO CABINET
PP	POLARIZING PRESERVING
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PWR	POWER CABINET
QTY	QUANTITY
RAD	RADIUS
RECT	RECTIFIER
REF	REFERENCE
REINF	REINFORCEMENT
REQ'D	REQUIRED
RET	REMOTE ELECTRIC TILT
RF	RADIO FREQUENCY
RMC	RIGID METALLIC CONDUIT
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
RWY	RACEWAY
SCH	SCHEDULE
SHT	SHEET
SIAD	SMART INTEGRATED ACCESS DEVICE
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
TEMP	TEMPORARY
THK	THICKNESS
TMA	TOWER MOUNTED AMPLIFIER
TN	TOE NAIL
TOA	TOP OF ANTENNA
TOC	TOP OF CURB
TOF	TOP OF FOUNDATION
TOP	TOP OF PLATE (PARAPET)
TOS	TOP OF STEEL
TOW	TOP OF WALL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
UPS	UNINTERRUPTIBLE POWER SYSTEM (DC POWER PLANT)
VIF	VERIFIED IN FIELD
W	WIDE
W/	WITH
WD	WOOD
WP	WEATHERPROOF
WT	WEIGHT

dish wireless.

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Tectonic Engineering & Surveying Consultants P.C.

STATE OF CONNECTICUT
ANTONIO A. GUALTIERI
PEN.0025406
LICENSED PROFESSIONAL ENGINEER
10/7/21

DRAWN BY:	CHECKED BY:	APPROVED BY:
VM	JQ	MP

RFDS REV #: 03

ZONING DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	10/07/21	ISSUED FOR APPROVAL

A&E PROJECT NUMBER

10710.NJJER01133A

DISH WIRELESS PROJECT INFORMATION

NJJER01133A

39 CARMEN HILL ROAD
BROOKFIELD, CT 06804

SHEET TITLE

LEGEND AND ABBREVIATIONS

SHEET NUMBER

GN-1

SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED – NO WORK SHALL COMMENCE PRIOR TO CONTRACTOR RECEIVING A WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE DISH WIRELESS AND TOWER OWNER NOC & THE DISH WIRELESS AND TOWER OWNER CONSTRUCTION MANAGER.

2. "LOOK UP" – DISH WIRELESS AND TOWER OWNER 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 DISH WIRELESS AND DISH WIRELESS AND TOWER OWNER 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 DISH WIRELESS AND TOWER OWNER STANDARDS, 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 DISH WIRELESS AND TOWER OWNER INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON DISH WIRELESS AND TOWER OWNER TOWER SITE 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 DISH WIRELESS AND TOWER OWNER 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 INCLUDING PRIVATE LOCATES 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 DISH 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 DISH WIRELESS AND TOWER OWNER, 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 AND RADIOS 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: DISH WIRELESS

TOWER OWNER: TOWER OWNER

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 CARRIER POC AND TOWER OWNER.

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 TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.

11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION, BEFORE SUBMITTING BIDS, 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 DISH WIRELESS AND TOWER OWNER

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.

dish wireless.

3 ADP BOULEVARD,
ROSELAND, NJ 07068

Tectonic

Tectonic Engineering & Surveying Consultants P.C.

STATE OF CONNECTICUT
ANTONIO A. GUALTIERI
PEN.0025406
LICENSED PROFESSIONAL ENGINEER
10/7/21

DRAWN BY:	CHECKED BY:	APPROVED B
VM	JQ	MP

RFDS REV #: 02

ZONING DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	10/07/21	ISSUED FOR APPROVAL

A&E PROJECT NUMBER

10710.NJJER01133A

DISH WIRELESS PROJECT INFORMATION

NJJER01133A

39 CARMEN HILL ROAD
BROOKFIELD, CT 06804

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-2

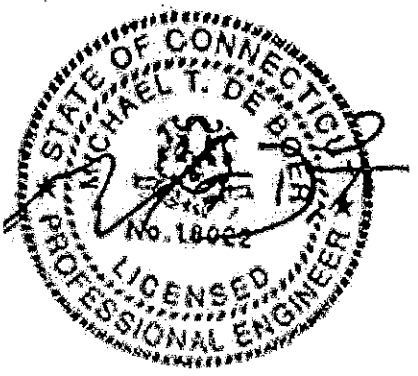
Exhibit D

Structural Analysis

Dish Wireless

Structural Analysis Report

Structure	: 492 Foot Guyed Tower
VB Site Name	: WRKI-FM
VB Site Number	: US-CT-5009
Deal Number	: P-017195
Proposed Carrier	: Dish Wireless
Carrier Site Name	: NJJER01133A
Carrier Site Number	: NJJER01133A
Site Location	: 0.3 Mi. Sse of Intersection of Carmen Hill Rd. & Se Trail Brookfield, CT 06804 (Fairfield County) 41.4934, -73.4288
Date	: September 3, 2021
Max Member Stress Level	: 86%
Result	: **PASS**



09/03/2021

Prepared by:

verticalbridge

VERTICAL BRIDGE ENGINEERING, LLC

750 Park of Commerce Drive Suite 200 | Boca Raton, FL 33487 | 561-948-6367
VerticalBridge.com

Table of Contents

Introduction

We have completed our structural analysis of the proposed equipment installation on the foregoing tower to determine its ability to support the new loads proposed by **Dish Wireless**. The objective of the analysis was to determine if the tower meets the current structural codes and standards with the proposed equipment installation.

Existing Structural Information

The following documents for the existing structure were made available for our structural analysis.

Tower Information	Structural Components Tower Mapping Dated June 12, 2015.
Foundation Information	Structural Components Foundation Mapping Dated April 7, 2016.
Geotechnical Information	Delta Oaks Group Job No. GEO16-00237-03 dated April 11, 2016.
Existing Equipment Information	Vertical Bridge Collocation Application Version 2.
Tower Reinforcement Information	Tower has been reinforced and is included in this analysis. ETS Modification Drawings Job No. 192640.14 dated May 10, 2019.

Final Proposed Equipment Loading for Dish Wireless

The following proposed loading was obtained from the Vertical Bridge Collocation Application:

Antenna/Equipment					Coax	
Mount (ft.)	RAD (ft.)	Qty.	Antenna	Type	Qty.	Size/Type
225.0	-	**3**	**MTC3975083**	Mount	**1**	**1.66 Hybrid**
	225.0	**1**	**Raycap RDIDC-3045-PF-48**	Squid		
		3	**Fujitsu TA08025-B604**	RRU		
		1	**PCTEL GPSGL-TMG-SPI-40NCB**	GPS		
		3	**Fujitsu TA08025-B605**	RRU		
		3	**JMA Wireless MX08FRO665-21**	Panel		

Note: Proposed equipment shown in bold.
Note: Other existing loading can be found on the tower profile attached.

Design Criteria

The tower was analyzed using tnxTower (Version 8.1.1.0) tower analysis software using the following design criteria.

State	Connecticut
City/County Building Code	Fairfield County (IBC 2018)
TIA/EIA Standard Code	TIA-222-H
Basic Wind Speed	115 MPH (V_{ult})
Basic Wind Speed w/ Ice	50 MPH w/ 1.0" Ice
Steel Grade	50 ksi Legs / 36 ksi All Other Members / A325 Bolts
Exposure Category	C
Topographic Category (height)	1 (0.0 ft)
Risk Category	II
Ss	0.21
Seismic Design Category	B

Analysis Results

Based on the foregoing information, our structural analysis determined that **the existing tower is structurally capable of supporting the proposed equipment loads without modification.** The existing tower base, inner, and outer anchor foundations have also been evaluated. The tower base, inner, and outer anchor foundations **are structurally capable of supporting the proposed equipment loads.** A seismic analysis has been performed on this tower and is not controlling.

Assumptions

The below assumptions are true, complete and accurate.

1. The existing tower has been maintained to manufacturer's specifications and is in good condition.
2. Foundations are considered to have been properly designed for the original design loads.
3. All member connections are considered to have been designed to meet the load carrying capacity of the connected member.
4. Antenna mount loads have been estimated based on generally accepted industry standards.
5. The mounts for the proposed antennas have been analyzed and designed by others.
6. See additional assumptions contained in the report attached.
7. Tower is within acceptable engineering tolerance at 105%.
8. Foundations are within acceptable engineering tolerance at 110%.

Conclusions

The existing tower described above **has sufficient capacity** to support the proposed loading based on the governing Building Code. The tower base, inner, and outer anchor foundations have also been evaluated and are acceptable. A seismic analysis has been performed on this tower and is not controlling.

We appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance, please call us anytime at 561-948-6367.

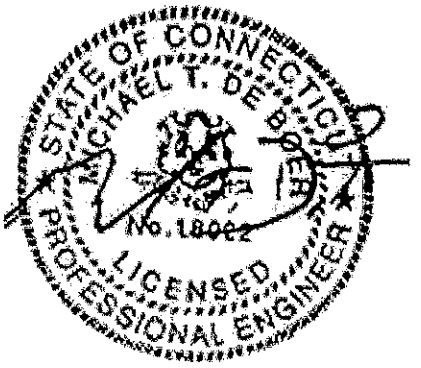
Sincerely,

Analysis by:

Jesse Wagner
Modifications and Safety Manager

Reviewed by:

Michael T. DeBoer, PE
Vice President of Structural Engineering



09/03/2021

Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but not necessarily limited, to:

- Information supplied by the client regarding the structure itself, the antenna and transmission line loading on the structure and its components, or relevant information.

- Information from drawings in possession of Vertical Bridge Engineering, LLC, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to Vertical Bridge Engineering, LLC and used in the performance of our engineering services is correct and complete. In the absence of information contrary, we consider that all structures were constructed in accordance with the drawings and specifications and are in a un- corroded condition and have not deteriorated; and we, therefore consider that their capacity has not significantly changed from the original design condition.

All services will be performed to the codes and standards specified by the client, and we do not imply to meet any other code and standard requirements unless explicitly agreed to in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes and standards, the client shall specify the exact requirements. In the absence of information to the contrary, all work will be performed in accordance with the revision of ANSI/TIA/EIA-222-H requested.

All services are performed, results obtained, and recommendations made in accordance with the generally accepted engineering principles and practices. Vertical Bridge Engineering LLC is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

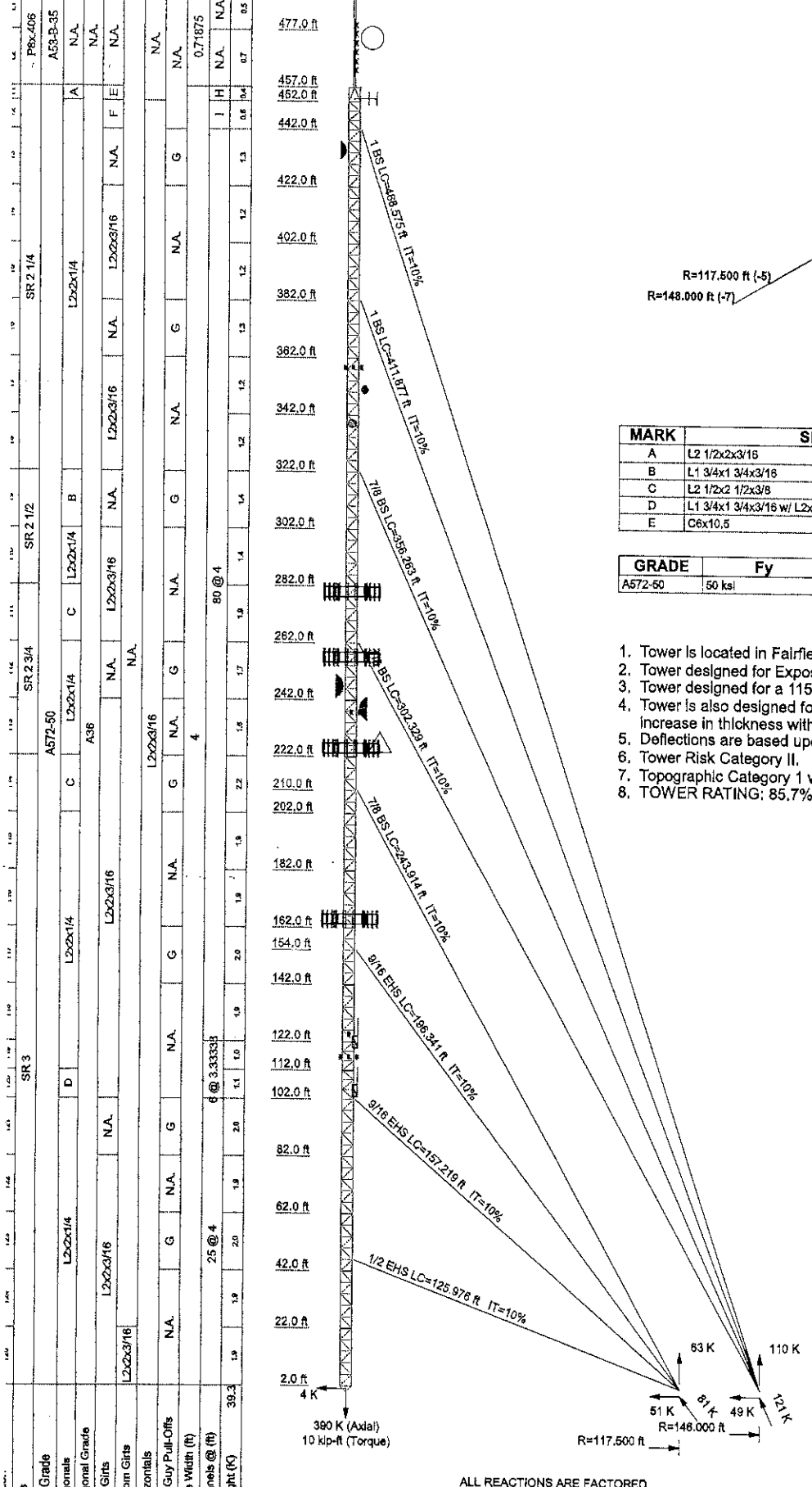
Disclaimer of Warranties

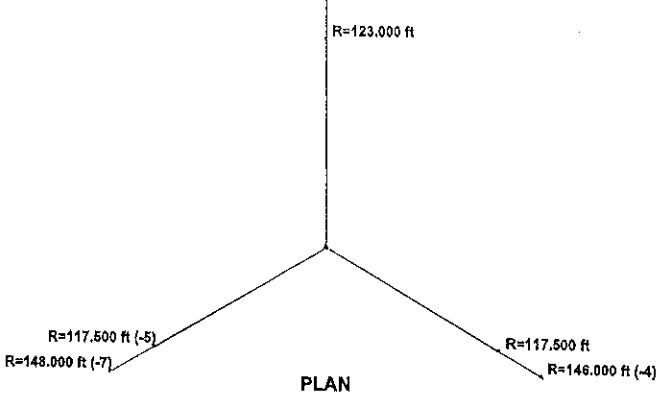
The engineering services by Vertical Bridge Engineering, LLC in connection with this Structural Analysis are limited to a computer analysis of the tower structure, size and capacity of its members. Vertical Bridge Engineering, LLC does not analyze the fabrication, including welding, except as may be expressly included in this report.

The purpose of this report is to assess the feasibility of adding appurtenances usually accompanied by transmission lines. Any mention of structural modifications are reasonable estimates and should not be used a precise construction document. Precise modification drawings are obtainable from Vertical Bridge Engineering, LLC but are beyond the scope of this report.

Vertical Bridge Engineering, LLC makes no warranties, express or implied, in connection with this report and disclaims any liability arising from material, fabrication and erection of this tower, or installation and compliance with legal and permitting requirements of the proposed equipment. Vertical Bridge Engineering, LLC will not be responsible whatsoever for or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of Vertical Bridge Engineering, LLC pursuant to this report will be limited to the total fee received for preparation of this report.

Attachment 1:
Calculations





PLAN

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L2 1/2x2x3/16	F	L2x2x3/16
B	L1 3/4x1 3/4x3/16	G	2L2 1/2x2 1/2x3/8x1/4
C	L2 1/2x2 1/2x3/8	H	1 @ 5
D	L1 3/4x1 3/4x3/16 w/ L2x2x1/4	I	3 @ 3.33333
E	C6x10.5		

MATERIAL STRENGTH

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

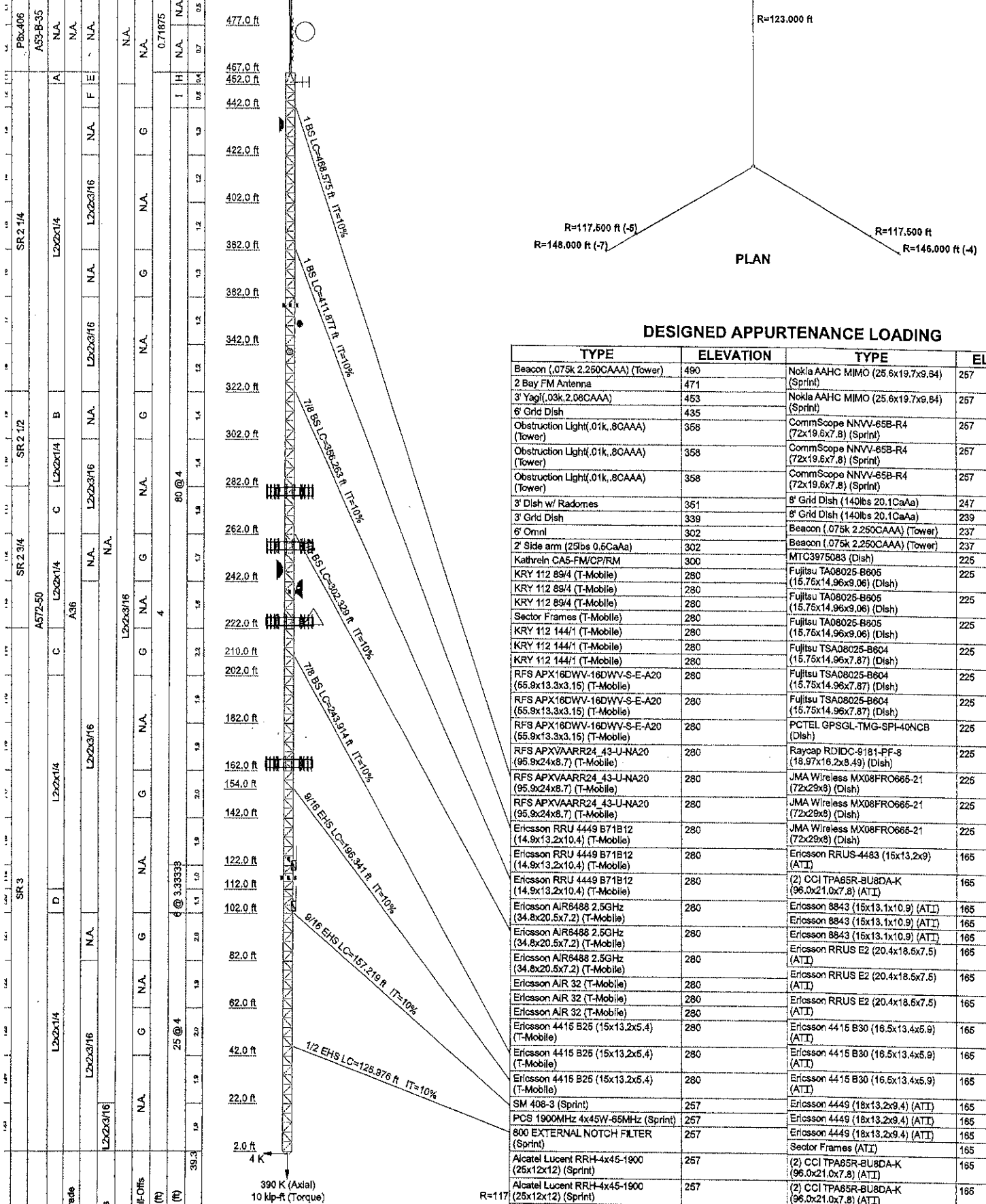
TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 115 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TOWER RATING: 85.7%

ALL REACTIONS ARE FACTORED

Vertical Bridge
750 Park of Commerce Drive
Boca Raton, FL 33487
Phone: 561-948-6367
FAX:

Job: **US-CT-5009**		
Project: ***Guyed Tower Structural Analysis***		
Client:	Drawn by: JWagner	App'd:
Code: TIA-222-H	Date: 09/01/21	Scale: N
Path: C:\Users\jwagner\Desktop\VB\Operational\US-CT-5009\US-CT-5009_SA_090121_DISH.eri		Dwg No.



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Beacon (.075k 2,250CAAA) (Tower)	490	Nokia AAHC MIMO (25.6x19.7x9.84) (Sprint)	257
2 Bay FM Antenna	471		
3' Yagi(.03k,2.06CAAA)	453	Nokia AAHC MIMO (25.6x19.7x9.84) (Sprint)	257
6' Grid Dish	435		
Obstruction Light(.01k,.8CAAA) (Tower)	358	CommScope NNVV-65B-R4 (72x19.6x7.8) (Sprint)	257
Obstruction Light(.01k,.8CAAA) (Tower)	358	CommScope NNVV-65B-R4 (72x19.6x7.8) (Sprint)	257
Obstruction Light(.01k,.8CAAA) (Tower)	358	CommScope NNVV-65B-R4 (72x19.6x7.8) (Sprint)	257
3' Dish w/ Radomes	351	8' Grid Dish (140lbs 20.1CaAa)	247
3' Grid Dish	339	8' Grid Dish (140lbs 20.1CaAa)	239
6' Omni	302	Beacon (.075k 2,250CAAA) (Tower)	237
2' Side arm (25lbs 0.5CaAa)	302	Beacon (.075k 2,250CAAA) (Tower)	237
Kathrein CA5-FM/CP/RM	300	MTG3975083 (Dish)	225
KRY 112 89/4 (T-Mobile)	280	Fujitsu TA08025-B605 (15.75x14.96x9.06) (Dish)	225
KRY 112 89/4 (T-Mobile)	280		
KRY 112 89/4 (T-Mobile)	280	Fujitsu TA08025-B605 (15.75x14.96x9.06) (Dish)	225
Sector Frames (T-Mobile)	280	Fujitsu TA08025-B605 (15.75x14.96x9.06) (Dish)	225
KRY 112 144/1 (T-Mobile)	280		
KRY 112 144/1 (T-Mobile)	280	Fujitsu TSA08025-B604 (15.75x14.96x7.87) (Dish)	225
KRY 112 144/1 (T-Mobile)	280		
RFS APX16DWV-16DWV-S-E-A20 (55.9x13.3x3.15) (T-Mobile)	280	Fujitsu TSA08025-B604 (15.75x14.96x7.87) (Dish)	225
RFS APX16DWV-16DWV-S-E-A20 (55.9x13.3x3.15) (T-Mobile)	280	Fujitsu TSA08025-B604 (15.75x14.96x7.87) (Dish)	225
RFS APX16DWV-16DWV-S-E-A20 (55.9x13.3x3.15) (T-Mobile)	280	PCTEL GPSGL-TMG-SPI-40NCB (Dish)	225
RFS APXVAARR24_43-U-NA20 (95.9x24x8.7) (T-Mobile)	280	Raycap RDIDC-9181-PF-8 (18.97x16.2x8.49) (Dish)	225
RFS APXVAARR24_43-U-NA20 (95.9x24x8.7) (T-Mobile)	280	JMA Wireless MX08FRO665-21 (72x29x8) (Dish)	225
RFS APXVAARR24_43-U-NA20 (95.9x24x8.7) (T-Mobile)	280	JMA Wireless MX08FRO665-21 (72x29x8) (Dish)	225
Ericsson RRU 4449 B71B12 (14.9x13.2x10.4) (T-Mobile)	280	JMA Wireless MX08FRO665-21 (72x29x8) (Dish)	225
Ericsson RRU 4449 B71B12 (14.9x13.2x10.4) (T-Mobile)	280	Ericsson RRUS-4483 (15x13.2x9) (ATI)	165
Ericsson RRU 4449 B71B12 (14.9x13.2x10.4) (T-Mobile)	280	(2) CCI TPA65R-BU8DA-K (96.0x21.0x7.8) (ATI)	165
Ericsson AIR6488 2.5GHz (34.8x20.5x7.2) (T-Mobile)	280	Ericsson 8843 (15x13.1x10.9) (ATI)	165
		Ericsson 8843 (15x13.1x10.9) (ATI)	165
Ericsson AIR6488 2.5GHz (34.8x20.5x7.2) (T-Mobile)	280	Ericsson 8843 (15x13.1x10.9) (ATI)	165
Ericsson AIR6488 2.5GHz (34.8x20.5x7.2) (T-Mobile)	280	Ericsson RRUS E2 (20.4x18.5x7.5) (ATI)	165
Ericsson AIR 32 (T-Mobile)	280	Ericsson RRUS E2 (20.4x18.5x7.5) (ATI)	165
Ericsson AIR 32 (T-Mobile)	280	Ericsson RRUS E2 (20.4x18.5x7.5) (ATI)	165
Ericsson AIR 32 (T-Mobile)	280		
Ericsson 4415 B25 (15x13.2x5.4) (T-Mobile)	280	Ericsson 4415 B30 (16.5x13.4x5.9) (ATI)	165
Ericsson 4415 B25 (15x13.2x5.4) (T-Mobile)	280	Ericsson 4415 B30 (16.5x13.4x5.9) (ATI)	165
Ericsson 4415 B25 (15x13.2x5.4) (T-Mobile)	280	Ericsson 4415 B30 (16.5x13.4x5.9) (ATI)	165
SM 408-3 (Sprint)	257	Ericsson 4449 (18x13.2x9.4) (ATI)	165
PCS 1900MHz 4x45W-65MHz (Sprint)	257	Ericsson 4449 (18x13.2x9.4) (ATI)	165
800 EXTERNAL NOTCH FILTER (Sprint)	257	Ericsson 4449 (18x13.2x9.4) (ATI)	165
		Sector Frames (ATI)	165
Alcatel Lucent RRH-4x45-1900 (25x12x12) (Sprint)	257	(2) CCI TPA65R-BU8DA-K (96.0x21.0x7.8) (ATI)	165
Alcatel Lucent RRH-4x45-1900 (25x12x12) (Sprint)	257	(2) CCI TPA65R-BU8DA-K (96.0x21.0x7.8) (ATI)	165
Alcatel Lucent RRH 2x50-800 (16x13x10) (Sprint)	257	Ericsson RRUS-4483 (15x13.2x9) (ATI)	165
Alcatel Lucent RRH 2x50-800 (16x13x10) (Sprint)	257	Ericsson RRUS-4483 (15x13.2x9) (ATI)	165
Nokia AAHC MIMO (25.6x19.7x9.64) (Sprint)	257	Raycap DC6-48-60-0-8C-EV (31.4x18.28x10.24) (ATI)	165

ALL REACTIONS ARE FACT

Vertical Bridge
750 Park of Commerce Drive
Boca Raton, FL 33487
Phone: 561-948-6367
FAX:

Job: ***US-CT-5009***		
Project: ***Guyed Tower Structural Analysis***		
Client:	Drawn by: JWagner	App'd:
Code: TIA-222-H	Date: 09/01/21	Scale: N
Path: C:\Users\jwagner\Desktop\VB\Operations\US-CT-5009\US-CT-5009_SA_090121_DISH.eri		Dwg No.

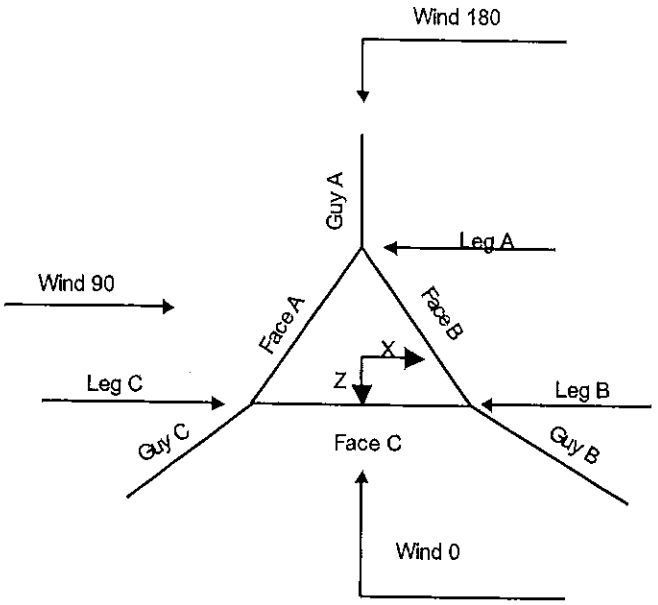
Tower Input Data

The main tower is a 3x guyed tower with an overall height of 492.000 ft above the ground line.
The base of the tower is set at an elevation of 0.000 ft above the ground line.
The face width of the tower is 4.000 ft at the top and 4.000 ft at the base.
An index plate is provided at the 3x guyed -tower connection.
There is a pole section.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower is located in Fairfield County, Connecticut.
Tower base elevation above sea level: 718.000 ft.
Basic wind speed of 115 mph.
Risk Category II.
Exposure Category C.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.000 ft.
Nominal ice thickness of 1.0000 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.
I-Beam base is 2.000 ft above the pivot.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Stress ratio used in tower member design is 1.
Safety factor used in guy design is 1.
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

Pole Section Geometry

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L1	492.000-477.000	15.000	P8x.406	A53-B-35 (35 ksi)	
L2	477.000-457.000	20.000	P8x.406	A53-B-35 (35 ksi)	

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 492.000-477.000				1	1	1			
L2 477.000-457.000				1	1	1			

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	457.000-452.000			4.000	1	5.000
T2	452.000-442.000			4.000	1	10.000
T3	442.000-422.000			4.000	1	20.000
T4	422.000-402.000			4.000	1	20.000
T5	402.000-382.000			4.000	1	20.000
T6	382.000-362.000			4.000	1	20.000
T7	362.000-342.000			4.000	1	20.000
T8	342.000-322.000			4.000	1	20.000
T9	322.000-302.000			4.000	1	20.000
T10	302.000-282.000			4.000	1	20.000
T11	282.000-262.000			4.000	1	20.000
T12	262.000-242.000			4.000	1	20.000
T13	242.000-222.000			4.000	1	20.000
T14	222.000-202.000			4.000	1	20.000
T15	202.000-182.000			4.000	1	20.000
T16	182.000-162.000			4.000	1	20.000
T17	162.000-142.000			4.000	1	20.000
T18	142.000-122.000			4.000	1	20.000
T19	122.000-112.000			4.000	1	10.000
T20	112.000-102.000			4.000	1	10.000
T21	102.000-82.000			4.000	1	20.000
T22	82.000-62.000			4.000	1	20.000
T23	62.000-42.000			4.000	1	20.000
T24	42.000-22.000			4.000	1	20.000
T25	22.000-2.000			4.000	1	20.000

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	457.000-452.000	5.000	K Brace Down	No	Yes	0.0000	0.0000
T2	452.000-442.000	3.333	K Brace Right	No	Yes	0.0000	0.0000
T3	442.000-422.000	4.000	K Brace Left	No	Yes	0.0000	0.0000
T4	422.000-402.000	4.000	K Brace Right	No	Yes	0.0000	0.0000
T5	402.000-382.000	4.000	K Brace Left	No	Yes	0.0000	0.0000
T6	382.000-362.000	4.000	K Brace Right	No	Yes	0.0000	0.0000
T7	362.000-342.000	4.000	K Brace Left	No	Yes	0.0000	0.0000
T8	342.000-322.000	4.000	K Brace Right	No	Yes	0.0000	0.0000
T9	322.000-302.000	4.000	K Brace Left	No	Yes	0.0000	0.0000
T10	302.000-282.000	4.000	K Brace Right	No	Yes	0.0000	0.0000
T11	282.000-262.000	4.000	K Brace Left	No	Yes	0.0000	0.0000
T12	262.000-242.000	4.000	K Brace Right	No	Yes	0.0000	0.0000
T13	242.000-222.000	4.000	K Brace Left	No	Yes	0.0000	0.0000
T14	222.000-202.000	4.000	K Brace Right	No	Yes	0.0000	0.0000
T15	202.000-182.000	4.000	K Brace Left	No	Yes	0.0000	0.0000
T16	182.000-162.000	4.000	K Brace Right	No	Yes	0.0000	0.0000
T17	162.000-142.000	4.000	K Brace Left	No	Yes	0.0000	0.0000
T18	142.000-122.000	4.000	K Brace Right	No	Yes	0.0000	0.0000
T19	122.000-112.000	3.333	K Brace Left	No	Yes	0.0000	0.0000

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
T20	112.000-102.000	3.333	K Brace Right	No	Yes	0.0000	0.0000
T21	102.000-82.000	4.000	K Brace Left	No	Yes	0.0000	0.0000
T22	82.000-62.000	4.000	K Brace Right	No	Yes	0.0000	0.0000
T23	62.000-42.000	4.000	K Brace Left	No	Yes	0.0000	0.0000
T24	42.000-22.000	4.000	K Brace Right	No	Yes	0.0000	0.0000
T25	22.000-2.000	4.000	K Brace Left	No	Yes	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 457.000-452.000	Solid Round	2 1/4	A572-50 (50 ksi)	Single Angle	L2 1/2x2x3/16	A36 (36 ksi)
T2 452.000-442.000	Solid Round	2 1/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T3 442.000-422.000	Solid Round	2 1/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T4 422.000-402.000	Solid Round	2 1/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T5 402.000-382.000	Solid Round	2 1/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T6 382.000-362.000	Solid Round	2 1/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T7 362.000-342.000	Solid Round	2 1/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T8 342.000-322.000	Solid Round	2 1/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T9 322.000-302.000	Solid Round	2 1/2	A572-50 (50 ksi)	Single Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T10 302.000-282.000	Solid Round	2 1/2	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T11 282.000-262.000	Solid Round	2 3/4	A572-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x3/8	A36 (36 ksi)
T12 262.000-242.000	Solid Round	2 3/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T13 242.000-222.000	Solid Round	2 3/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T14 222.000-202.000	Solid Round	3	A572-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x3/8	A36 (36 ksi)
T15 202.000-182.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T16 182.000-162.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T17 162.000-142.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T18 142.000-122.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T19 122.000-112.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T20 112.000-102.000	Solid Round	3	A572-50 (50 ksi)	Arbitrary Shape	L1 3/4x1 3/4x3/16 w/ L2x2x1/4	A36 (36 ksi)
T21 102.000-82.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T22 82.000-62.000	Solid Round	3	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T23	Solid Round	3	A572-50	Equal Angle	L2x2x1/4	A36 (36 ksi)

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
62.000-42.000			(50 ksi)			(36 ksi)
T24	Solid Round	3	A572-50	Equal Angle	L2x2x1/4	A36
42.000-22.000			(50 ksi)			(36 ksi)
T25 22.000-2.000	Solid Round	3	A572-50	Equal Angle	L2x2x1/4	A36
			(50 ksi)			(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
T1	Channel	C6x10.5	A36	Single Angle	L2x2x3/16	A36
457.000-452.000			(36 ksi)			(36 ksi)
T2	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
452.000-442.000			(36 ksi)			(36 ksi)
T3	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
442.000-422.000			(36 ksi)			(36 ksi)
T4	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
422.000-402.000			(36 ksi)			(36 ksi)
T5	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
402.000-382.000			(36 ksi)			(36 ksi)
T6	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
382.000-362.000			(36 ksi)			(36 ksi)
T7	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
362.000-342.000			(36 ksi)			(36 ksi)
T8	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
342.000-322.000			(36 ksi)			(36 ksi)
T9	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
322.000-302.000			(36 ksi)			(36 ksi)
T10	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
302.000-282.000			(36 ksi)			(36 ksi)
T11	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
282.000-262.000			(36 ksi)			(36 ksi)
T12	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
262.000-242.000			(36 ksi)			(36 ksi)
T13	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
242.000-222.000			(36 ksi)			(36 ksi)
T14	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
222.000-202.000			(36 ksi)			(36 ksi)
T15	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
202.000-182.000			(36 ksi)			(36 ksi)
T16	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
182.000-162.000			(36 ksi)			(36 ksi)
T17	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
162.000-142.000			(36 ksi)			(36 ksi)
T18	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
142.000-122.000			(36 ksi)			(36 ksi)
T19	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
122.000-112.000			(36 ksi)			(36 ksi)
T20	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
112.000-102.000			(36 ksi)			(36 ksi)
T21	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
102.000-82.000			(36 ksi)			(36 ksi)
T22	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
82.000-62.000			(36 ksi)			(36 ksi)
T23	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
62.000-42.000			(36 ksi)			(36 ksi)
T24	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
42.000-22.000			(36 ksi)			(36 ksi)
T25 22.000-2.000	Single Angle	L2x2x3/16	A36	Single Angle	L2x2x3/16	A36
			(36 ksi)			(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	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
457.000-452.000				(50 ksi)			(36 ksi)
T2	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
452.000-442.000				(50 ksi)			(36 ksi)
T3	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
442.000-422.000				(50 ksi)			(36 ksi)
T4	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
422.000-402.000				(50 ksi)			(36 ksi)
T5	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
402.000-382.000				(50 ksi)			(36 ksi)
T6	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
382.000-362.000				(50 ksi)			(36 ksi)
T7	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
362.000-342.000				(50 ksi)			(36 ksi)
T8	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
342.000-322.000				(50 ksi)			(36 ksi)
T9	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
322.000-302.000				(50 ksi)			(36 ksi)
T10	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
302.000-282.000				(50 ksi)			(36 ksi)
T11	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
282.000-262.000				(50 ksi)			(36 ksi)
T12	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
262.000-242.000				(50 ksi)			(36 ksi)
T13	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
242.000-222.000				(50 ksi)			(36 ksi)
T14	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
222.000-202.000				(50 ksi)			(36 ksi)
T15	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
202.000-182.000				(50 ksi)			(36 ksi)
T16	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
182.000-162.000				(50 ksi)			(36 ksi)
T17	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
162.000-142.000				(50 ksi)			(36 ksi)
T18	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
142.000-122.000				(50 ksi)			(36 ksi)
T19	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
122.000-112.000				(50 ksi)			(36 ksi)
T20	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
112.000-102.000				(50 ksi)			(36 ksi)
T21	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
102.000-82.000				(50 ksi)			(36 ksi)
T22	None	Solid Round		A572-50	Single Angle	L2x2x3/16	A36
82.000-62.000				(50 ksi)			(36 ksi)

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T23 62.000-42.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T24 42.000-22.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T25 22.000-2.000	None	Solid Round		A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft²	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 457.000-452.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T2 452.000-442.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T3 442.000-422.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T4 422.000-402.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T5 402.000-382.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T6 382.000-362.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T7 362.000-342.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T8 342.000-322.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T9 322.000-302.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T10 302.000-282.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T11 282.000-262.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T12 262.000-242.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T13 242.000-222.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T14 222.000-202.0	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000

Tower Elevation ft	Gusset Area (per face) ft²	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
00									
T15 202.000-182.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T16 182.000-162.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T17 162.000-142.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T18 142.000-122.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T19 122.000-112.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T20 112.000-102.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T21 102.000-82.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T22 82.000-62.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T23 62.000-42.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T24 42.000-22.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T25 22.000-2.000	0.000	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X	X Brace Diags Y	K Brace Diags X	K Brace Diags Y	Single Diags X	Single Diags Y	Girts X	Girts Y	Horiz. X	Horiz. Y	Sec. Horiz. X	Sec. Horiz. Y	Inner Brace X	Inner Brace Y
T1 457.000-452.000	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
T2 452.000-442.000	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
T3 442.000-422.000	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
T4 422.000-402.000	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
T5 402.000-382.000	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
T6	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	K Factors[1]							
			Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
ft										
382.000-362.000				1 1	1 1	1 1	1 1	1 1	1 1	1 1
T7 362.000-342.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T8 342.000-322.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T9 322.000-302.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T10 302.000-282.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T11 282.000-262.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T12 262.000-242.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T13 242.000-222.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T14 222.000-202.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T15 202.000-182.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T16 182.000-162.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T17 162.000-142.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T18 142.000-122.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T19 122.000-112.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T20 112.000-102.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T21 102.000-82.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T22 82.000-62.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T23 62.000-42.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T24 42.000-22.000	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T25 22.000-2.000	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 457.000-452.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 452.000-442.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 442.000-422.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 422.000-402.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 402.000-382.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 382.000-362.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 362.000-342.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 342.000-322.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 322.000-302.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 302.000-282.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 282.000-262.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 262.000-242.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 242.000-222.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T14 222.000-202.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T15 202.000-182.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T16 182.000-162.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

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
T17 162.000-142.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T18 142.000-122.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T19 122.000-112.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T20 112.000-102.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T21 102.000-82.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T22 82.000-62.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T23 62.000-42.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T24 42.000-22.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T25 22.000-2.000	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	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 457.000-452.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 452.000-442.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 442.000-422.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 422.000-402.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 402.000-382.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 382.000-362.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 362.000-342.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 342.000-322.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	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
T9 322.000-302.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 302.000-282.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 282.000-262.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 262.000-242.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 242.000-222.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T14 222.000-202.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T15 202.000-182.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T16 182.000-162.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T17 162.000-142.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T18 142.000-122.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T19 122.000-112.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T20 112.000-102.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T21 102.000-82.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T22 82.000-62.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T23 62.000-42.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T24 42.000-22.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T25 22.000-2.000	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	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 457.000-452.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T2 452.000-442.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T3 442.000-422.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T4 422.000-402.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T5 402.000-382.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T6 382.000-362.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T7 362.000-342.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T8 342.000-322.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T9 322.000-302.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T10 302.000-282.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T11 282.000-262.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T12 262.000-242.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T13 242.000-222.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T14 222.000-202.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T15 202.000-182.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T16 182.000-162.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T17 162.000-142.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T18 142.000-122.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T19 122.000-112.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0

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.
T20 112.000-102.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T21 102.000-82.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T22 82.000-62.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T23 62.000-42.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T24 42.000-22.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0
T25 22.000-2.000	Sleeve DS	0.7500 A325N	0	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	1	0.6250 A325N	0

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 %
442	BS	A	1	12.200	10%	24000.000	2.100	463.412	149.000	0.0000	2.000	100%
		B	1	12.200	10%	24000.000	2.100	468.175	146.000	0.0000	-4.000	100%
		C	1	12.200	10%	24000.000	2.100	471.642	148.000	0.0000	-7.000	100%
382	BS	A	1	12.200	10%	24000.000	2.100	406.985	149.000	0.0000	2.000	100%
		B	1	12.200	10%	24000.000	2.100	411.527	146.000	0.0000	-4.000	100%
		C	1	12.200	10%	24000.000	2.100	415.034	148.000	0.0000	-7.000	100%
322	BS	A	7/8	9.200	10%	24000.000	1.610	351.727	149.000	0.0000	2.000	100%
		B	7/8	9.200	10%	24000.000	1.610	355.966	146.000	0.0000	-4.000	100%
		C	7/8	9.200	10%	24000.000	1.610	359.515	148.000	0.0000	-7.000	100%
262	BS	A	7/8	9.200	10%	24000.000	1.610	298.280	149.000	0.0000	2.000	100%
		B	7/8	9.200	10%	24000.000	1.610	302.079	146.000	0.0000	-4.000	100%
		C	7/8	9.200	10%	24000.000	1.610	305.666	148.000	0.0000	-7.000	100%
210	BS	A	7/8	9.200	10%	24000.000	1.610	242.010	123.000	0.0000	0.000	100%
		B	7/8	9.200	10%	24000.000	1.610	239.318	117.500	0.0000	0.000	100%
		C	7/8	9.200	10%	24000.000	1.610	243.710	117.500	0.0000	-5.000	100%
154	EHS	A	9/16	3.500	10%	21000.000	0.671	195.493	123.000	0.0000	0.000	100%
		B	9/16	3.500	10%	21000.000	0.671	192.151	117.500	0.0000	0.000	100%
		C	9/16	3.500	10%	21000.000	0.671	196.174	117.500	0.0000	-5.000	100%
102	EHS	A	9/16	3.500	10%	21000.000	0.671	157.886	123.000	0.0000	0.000	100%
		B	9/16	3.500	10%	21000.000	0.671	153.730	117.500	0.0000	0.000	100%
		C	9/16	3.500	10%	21000.000	0.671	157.086	117.500	0.0000	-5.000	100%
46	EHS	A	1/2	2.690	10%	21000.000	0.517	129.052	123.000	0.0000	0.000	100%
		B	1/2	2.690	10%	21000.000	0.517	123.932	117.500	0.0000	0.000	100%
		C	1/2	2.690	10%	21000.000	0.517	125.870	117.500	0.0000	-5.000	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
442	Corner						
382	Corner						
322	Corner						
262	Corner						
210	Corner						
154	Corner						
102	Corner						
46	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
442.000	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Equal Angle	2L2 1/2x2 1/2x3/8x1/4
382.000	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Equal Angle	2L2 1/2x2 1/2x3/8x1/4
322.000	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Equal Angle	2L2 1/2x2 1/2x3/8x1/4
262.000	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Equal Angle	2L2 1/2x2 1/2x3/8x1/4
210.000	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Equal Angle	2L2 1/2x2 1/2x3/8x1/4
154.000	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Equal Angle	2L2 1/2x2 1/2x3/8x1/4
102.000	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Equal Angle	2L2 1/2x2 1/2x3/8x1/4
46.000	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Equal Angle	2L2 1/2x2 1/2x3/8x1/4

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
442	0.973	0.983	0.990		17.825	18.185	18.450	
					7.3 sec/pulse	7.4 sec/pulse	7.4 sec/pulse	
382	0.855	0.864	0.872		13.817	14.120	14.359	
					6.4 sec/pulse	6.5 sec/pulse	6.5 sec/pulse	
322	0.566	0.573	0.579		10.540	10.790	11.003	

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
					5.6 sec/pulse	5.7 sec/pulse	5.7 sec/pulse	
262	0.480	0.486	0.492		7.619	7.810	7.995	
					4.8 sec/pulse	4.8 sec/pulse	4.9 sec/pulse	
210	0.390	0.385	0.392		5.037	4.925	5.106	
					3.9 sec/pulse	3.8 sec/pulse	3.9 sec/pulse	
154	0.131	0.129	0.132		3.613	3.491	3.637	
					3.3 sec/pulse	3.2 sec/pulse	3.3 sec/pulse	
102	0.106	0.103	0.105		2.369	2.245	2.344	
					2.7 sec/pulse	2.6 sec/pulse	2.6 sec/pulse	
46	0.067	0.064	0.065		1.595	1.471	1.516	
					2.2 sec/pulse	2.1 sec/pulse	2.1 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
442	No	No			1	1	1	1
382	No	No			1	1	1	1
322	No	No			1	1	1	1
262	No	No			1	1	1	1
210	No	No			1	1	1	1
154	No	No			1	1	1	1
102	No	No			1	1	1	1
46	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
442	0.0000 A325N	0	0.0000	1	0.7500 A325N	2	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
382	0.0000 A325N	0	0.0000	1	0.7500 A325N	2	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
322	0.0000 A325N	0	0.0000	1	0.7500 A325N	2	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
262	0.0000 A325N	0	0.0000	1	0.7500 A325N	2	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
210	0.0000 A325N	0	0.0000	1	0.7500 A325N	2	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
154	0.0000 A325N	0	0.0000	1	0.7500 A325N	2	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
102	0.0000 A325N	0	0.0000	1	0.7500 A325N	2	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
46	0.0000 A325N	0	0.0000	1	0.7500 A325N	2	0.0000	0.75	0.6250 A325N	0	0.0000	0.75

Guy Pressures

Guy Elevation ft	Guy Location	z ft	q_z ksf	q_z Ice ksf	Ice Thickness in
442	A	222.000	0.042	0.008	1.2100
	B	219.000	0.042	0.008	1.2084
	C	217.500	0.042	0.008	1.2075
382	A	192.000	0.041	0.008	1.1926
	B	189.000	0.041	0.008	1.1907
	C	187.500	0.041	0.008	1.1897
322	A	162.000	0.039	0.007	1.1725
	B	159.000	0.039	0.007	1.1703
	C	157.500	0.039	0.007	1.1692
262	A	132.000	0.038	0.007	1.1487
	B	129.000	0.037	0.007	1.1461
	C	127.500	0.037	0.007	1.1447
210	A	105.000	0.036	0.007	1.1227
	B	105.000	0.036	0.007	1.1227
	C	102.500	0.036	0.007	1.1200
154	A	77.000	0.034	0.006	1.0884
	B	77.000	0.034	0.006	1.0884
	C	74.500	0.033	0.006	1.0848
102	A	51.000	0.031	0.006	1.0445
	B	51.000	0.031	0.006	1.0445
	C	48.500	0.030	0.006	1.0393
46	A	23.000	0.026	0.005	0.9645
	B	23.000	0.026	0.005	0.9645
	C	20.500	0.025	0.005	0.9535

Guy-Tensioning Information

				Temperature At Time Of Tensioning													
				0 F		20 F		40 F		60 F		80 F		100 F		120 F	
Guy Elevation ft		H ft	V ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft
442	A	146.69	440.00	12.735	17.10	12.556	17.33	12.378	17.58	12.200	17.83	12.023	18.08	11.846	18.34	11.670	18.61
	B	143.69	446.00	12.704	17.48	12.535	17.71	12.367	17.95	12.200	18.18	12.033	18.43	11.866	18.68	11.700	18.94
	C	145.69	449.00	12.709	17.73	12.539	17.96	12.369	18.20	12.200	18.45	12.031	18.70	11.862	18.96	11.694	19.22
382	A	146.69	380.00	12.893	13.09	12.662	13.33	12.430	13.57	12.200	13.82	11.970	14.08	11.741	14.34	11.513	14.62
	B	143.69	386.00	12.852	13.42	12.634	13.65	12.417	13.88	12.200	14.12	11.984	14.37	11.769	14.62	11.554	14.89
	C	145.69	389.00	12.858	13.64	12.638	13.87	12.419	14.11	12.200	14.36	11.982	14.61	11.765	14.88	11.548	15.15
322	A	146.69	320.00	9.909	9.80	9.672	10.04	9.435	10.28	9.200	10.54	8.966	10.81	8.733	11.09	8.501	11.39
	B	143.69	326.00	9.865	10.08	9.643	10.30	9.421	10.54	9.200	10.79	8.980	11.05	8.761	11.32	8.543	11.60
	C	145.69	329.00	9.869	10.27	9.645	10.51	9.422	10.75	9.200	11.00	8.979	11.27	8.758	11.54	8.539	11.83
262	A	146.69	260.00	10.187	6.89	9.856	7.12	9.527	7.36	9.200	7.62	8.875	7.89	8.552	8.18	8.232	8.50
	B	143.69	266.00	10.125	7.11	9.815	7.33	9.507	7.56	9.200	7.81	8.895	8.07	8.592	8.35	8.291	8.65
	C	145.69	269.00	10.127	7.28	9.817	7.50	9.507	7.74	9.200	7.99	8.894	8.26	8.591	8.55	8.289	8.85
210	A	120.69	210.00	10.231	4.54	9.886	4.69	9.542	4.86	9.200	5.04	8.859	5.23	8.520	5.43	8.184	5.65
	B	115.19	210.00	10.163	4.46	9.841	4.61	9.520	4.76	9.200	4.93	8.881	5.10	8.564	5.29	8.249	5.48
	C	115.19	215.00	10.129	4.64	9.818	4.79	9.508	4.94	9.200	5.11	8.893	5.28	8.587	5.46	8.282	5.66
154	A	120.69	154.00	4.083	3.10	3.887	3.26	3.693	3.43	3.500	3.61	3.308	3.82	3.119	4.05	2.931	4.30
	B	115.19	154.00	4.052	3.02	3.867	3.16	3.683	3.32	3.500	3.49	3.318	3.68	3.138	3.89	2.961	4.12
	C	115.19	159.00	4.029	3.16	3.852	3.31	3.675	3.47	3.500	3.64	3.326	3.83	3.153	4.03	2.981	4.26
102	A	120.69	102.00	4.397	1.89	4.096	2.03	3.796	2.18	3.500	2.37	3.207	2.58	2.919	2.84	2.638	3.13
	B	115.19	102.00	4.364	1.80	4.074	1.93	3.786	2.08	3.500	2.25	3.217	2.44	2.939	2.67	2.666	2.94
	C	115.19	107.00	4.328	1.90	4.050	2.03	3.774	2.17	3.500	2.34	3.229	2.54	2.962	2.76	2.700	3.03
46	A	120.69	46.00	3.729	1.15	3.379	1.27	3.033	1.42	2.690	1.59	2.354	1.82	2.027	2.11	1.717	2.49
	B	115.19	46.00	3.719	1.06	3.373	1.17	3.030	1.31	2.690	1.47	2.356	1.68	2.031	1.95	1.721	2.29
	C	115.19	51.00	3.687	1.11	3.352	1.22	3.019	1.35	2.690	1.52	2.366	1.72	2.051	1.99	1.749	2.33

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
3" Coax	B	No	No	Ar (CaAa)	435.000 - 8.000	-1.0000	-0.3	1	1	0.0000	3.0100		0.002
AVA5-50(7/8")	B	No	No	Ar (CaAa)	435.000 - 8.000	-1.0000	-0.2	1	1	0.0000	1.1020		0.000
1" Conduit (Tower)	C	No	No	Ar (CaAa)	435.000 - 8.000	-1.0000	-0.25	1	1	0.0000	1.1630		0.001
LDF4.5-50(5/ 8")	C	No	No	Ar (CaAa)	351.000 - 8.000	-1.0000	0	1	1	0.0000	0.8650		0.000
1 5/8" OD Conduit	C	No	No	Ar (CaAa)	430.000 - 8.000	-1.0000	0.4	1	1	0.0000	1.6250		0.001
LDF5-50A(7/ 8")	A	No	No	Ar (CaAa)	108.000 - 8.000	-1.0000	0.31	1	1	0.0000	1.0900		0.000
LDF5-50A(7/ 8")	A	No	No	Ar (CaAa)	124.000 - 8.000	-1.0000	0.38	1	1	0.0000	1.0900		0.000
LDF5-50A(7/ 8")	A	No	No	Ar (CaAa)	138.000 - 8.000	-1.0000	0.32	1	1	0.0000	1.0900		0.000
LDF5-50A(7/ 8")	A	No	No	Ar (CaAa)	239.000 - 8.000	-1.0000	0.33	1	1	0.0000	1.0900		0.000
LDF5-50A(7/ 8")	A	No	No	Ar (CaAa)	247.000 - 8.000	-1.0000	0.34	1	1	0.0000	1.0900		0.000
LDF5-50A(7/ 8")	A	No	No	Ar (CaAa)	339.000 - 8.000	-1.0000	0.37	1	1	0.0000	1.0900		0.000
LDF5-50A(7/ 8")	A	No	No	Ar (CaAa)	435.000 - 8.000	-1.0000	0.36	1	1	0.0000	1.0900		0.000
LDF5-50A(7/ 8")	A	No	No	Ar (CaAa)	435.000 - 8.000	-1.0000	0.35	1	1	0.0000	1.0900		0.000
LDF6-50A(1- 1/4") (Berkshire)	A	No	No	Ar (CaAa)	302.000 - 8.000	0.0000	0.35	1	1	0.0000	1.5500		0.001
LDF2-50A(3/ 8") SC (Tower)	C	No	No	Ar (CaAa)	445.000 - 8.000	-5.0000	0.35	1	1	0.0000	0.4400		0.000
LDF4.5-50(5/ 8")	A	No	No	Ar (CaAa)	455.000 - 8.000	0.0000	0	1	1	0.0000	0.8650		0.000
LDF4-50A(1/ 2")	C	No	No	Ar (CaAa)	289.000 - 8.000	-1.0000	-0.35	1	1	0.0000	0.6300		0.000
1.625' Fiber Cables (T-Mobile)	A	No	No	Ar (CaAa)	280.000 - 8.000	0.0000	0.25	4	4	0.0000	1.5500		0.001
LDF7-50A(1- 5/8") (T-Mobile)	B	No	No	Ar (CaAa)	280.000 - 8.000	-1.0000	0	6	3	0.0000	1.9800		0.001
LDF7-50A(1- 5/8") (T-Mobile)	A	No	No	Ar (CaAa)	280.000 - 8.000	0.0000	0.25	6	3	0.0000	1.9800		0.001
1.625" Hybrid Cable (T-Mobile)	C	No	No	Ar (CaAa)	280.000 - 8.000	0.0000	0	1	1	0.0000	1.9800		0.001
LDF6-50A(1- 1/4") (Sprint)	C	No	No	Ar (CaAa)	257.000 - 8.000	-1.0000	-0.35	1	1	0.0000	1.5500		0.001
LDF6-50A(1- 1/4") (Sprint)	C	No	No	Ar (CaAa)	257.000 - 8.000	-1.0000	0.35	3	3	0.0000	1.5500		0.001
LDF2-50(3/8") (AT&T)	C	No	No	Ar (CaAa)	165.000 - 8.000	0.0000	0.4	2	2	0.0000	0.4400		0.000
LDF4.5-50(5/	C	No	No	Ar (CaAa)	165.000 -	0.0000	0.1	6	3	0.0000	0.8650		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
8") (AT&T) LDF7-50A(1-5/8") (Dish)	C	No	No	Ar (CaAa)	8.000 225.000 - 0.000	0.0000	0	1	1	0.0000	1.9800		0.001

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	492.000-477.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.000
L2	477.000-457.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.000
T1	457.000-452.000	A	0.000	0.000	0.260	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.000
T2	452.000-442.000	A	0.000	0.000	0.865	0.000	0.002
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.132	0.000	0.000
T3	442.000-422.000	A	0.000	0.000	4.564	0.000	0.012
		B	0.000	0.000	5.346	0.000	0.027
		C	0.000	0.000	3.692	0.000	0.017
T4	422.000-402.000	A	0.000	0.000	6.090	0.000	0.016
		B	0.000	0.000	8.224	0.000	0.042
		C	0.000	0.000	6.456	0.000	0.031
T5	402.000-382.000	A	0.000	0.000	6.090	0.000	0.016
		B	0.000	0.000	8.224	0.000	0.042
		C	0.000	0.000	6.456	0.000	0.031
T6	382.000-362.000	A	0.000	0.000	6.090	0.000	0.016
		B	0.000	0.000	8.224	0.000	0.042
		C	0.000	0.000	6.456	0.000	0.031
T7	362.000-342.000	A	0.000	0.000	6.090	0.000	0.016
		B	0.000	0.000	8.224	0.000	0.042
		C	0.000	0.000	7.235	0.000	0.033
T8	342.000-322.000	A	0.000	0.000	7.943	0.000	0.022
		B	0.000	0.000	8.224	0.000	0.042
		C	0.000	0.000	8.186	0.000	0.034
T9	322.000-302.000	A	0.000	0.000	8.270	0.000	0.023
		B	0.000	0.000	8.224	0.000	0.042
		C	0.000	0.000	8.186	0.000	0.034
T10	302.000-282.000	A	0.000	0.000	11.370	0.000	0.036
		B	0.000	0.000	8.224	0.000	0.042
		C	0.000	0.000	8.627	0.000	0.035
T11	282.000-262.000	A	0.000	0.000	43.914	0.000	0.172
		B	0.000	0.000	29.608	0.000	0.130
		C	0.000	0.000	13.010	0.000	0.052
T12	262.000-242.000	A	0.000	0.000	48.075	0.000	0.189
		B	0.000	0.000	31.984	0.000	0.140
		C	0.000	0.000	22.706	0.000	0.093
T13	242.000-222.000	A	0.000	0.000	51.563	0.000	0.199
		B	0.000	0.000	31.984	0.000	0.140
		C	0.000	0.000	26.400	0.000	0.109

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
T14	222.000-202.000	A	0.000	0.000	51.890	0.000	0.200
		B	0.000	0.000	31.984	0.000	0.140
		C	0.000	0.000	29.766	0.000	0.123
T15	202.000-182.000	A	0.000	0.000	51.890	0.000	0.200
		B	0.000	0.000	31.984	0.000	0.140
		C	0.000	0.000	29.766	0.000	0.123
T16	182.000-162.000	A	0.000	0.000	51.890	0.000	0.200
		B	0.000	0.000	31.984	0.000	0.140
		C	0.000	0.000	31.587	0.000	0.126
T17	162.000-142.000	A	0.000	0.000	51.890	0.000	0.200
		B	0.000	0.000	31.984	0.000	0.140
		C	0.000	0.000	41.906	0.000	0.144
T18	142.000-122.000	A	0.000	0.000	53.852	0.000	0.206
		B	0.000	0.000	31.984	0.000	0.140
		C	0.000	0.000	41.906	0.000	0.144
T19	122.000-112.000	A	0.000	0.000	28.125	0.000	0.107
		B	0.000	0.000	15.992	0.000	0.070
		C	0.000	0.000	20.953	0.000	0.072
T20	112.000-102.000	A	0.000	0.000	28.779	0.000	0.109
		B	0.000	0.000	15.992	0.000	0.070
		C	0.000	0.000	20.953	0.000	0.072
T21	102.000-82.000	A	0.000	0.000	58.430	0.000	0.220
		B	0.000	0.000	31.984	0.000	0.140
		C	0.000	0.000	41.906	0.000	0.144
T22	82.000-62.000	A	0.000	0.000	58.430	0.000	0.220
		B	0.000	0.000	31.984	0.000	0.140
		C	0.000	0.000	41.906	0.000	0.144
T23	62.000-42.000	A	0.000	0.000	58.430	0.000	0.220
		B	0.000	0.000	31.984	0.000	0.140
		C	0.000	0.000	41.906	0.000	0.144
T24	42.000-22.000	A	0.000	0.000	58.430	0.000	0.220
		B	0.000	0.000	31.984	0.000	0.140
		C	0.000	0.000	41.906	0.000	0.144
T25	22.000-2.000	A	0.000	0.000	40.901	0.000	0.154
		B	0.000	0.000	22.389	0.000	0.098
		C	0.000	0.000	30.522	0.000	0.106

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	492.000-477.000	A	1.308	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.000
L2	477.000-457.000	A	1.303	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.000
T1	457.000-452.000	A	1.300	0.000	0.000	1.039	0.000	0.011
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.000
T2	452.000-442.000	A	1.298	0.000	0.000	3.460	0.000	0.036
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.911	0.000	0.009
T3	442.000-422.000	A	1.293	0.000	0.000	16.462	0.000	0.178
		B		0.000	0.000	12.071	0.000	0.165
		C		0.000	0.000	14.297	0.000	0.159
T4	422.000-402.000	A	1.287	0.000	0.000	21.536	0.000	0.233

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
		B		0.000	0.000	18.521	0.000	0.252
		C		0.000	0.000	21.902	0.000	0.254
T5	402.000-382.000	A	1.281	0.000	0.000	21.459	0.000	0.232
		B		0.000	0.000	18.470	0.000	0.250
		C		0.000	0.000	21.825	0.000	0.253
T6	382.000-362.000	A	1.274	0.000	0.000	21.379	0.000	0.230
		B		0.000	0.000	18.417	0.000	0.249
		C		0.000	0.000	21.745	0.000	0.251
T7	362.000-342.000	A	1.267	0.000	0.000	21.295	0.000	0.228
		B		0.000	0.000	18.361	0.000	0.247
		C		0.000	0.000	24.720	0.000	0.280
T8	342.000-322.000	A	1.260	0.000	0.000	27.342	0.000	0.293
		B		0.000	0.000	18.301	0.000	0.246
		C		0.000	0.000	28.341	0.000	0.315
T9	322.000-302.000	A	1.252	0.000	0.000	28.300	0.000	0.302
		B		0.000	0.000	18.239	0.000	0.244
		C		0.000	0.000	28.216	0.000	0.313
T10	302.000-282.000	A	1.244	0.000	0.000	36.242	0.000	0.398
		B		0.000	0.000	18.173	0.000	0.242
		C		0.000	0.000	30.266	0.000	0.331
T11	282.000-262.000	A	1.235	0.000	0.000	81.386	0.000	0.916
		B		0.000	0.000	41.921	0.000	0.548
		C		0.000	0.000	42.152	0.000	0.468
T12	262.000-242.000	A	1.225	0.000	0.000	87.876	0.000	0.986
		B		0.000	0.000	44.427	0.000	0.578
		C		0.000	0.000	64.100	0.000	0.689
T13	242.000-222.000	A	1.215	0.000	0.000	98.793	0.000	1.097
		B		0.000	0.000	44.275	0.000	0.574
		C		0.000	0.000	72.166	0.000	0.770
T14	222.000-202.000	A	1.204	0.000	0.000	99.395	0.000	1.098
		B		0.000	0.000	44.111	0.000	0.570
		C		0.000	0.000	79.241	0.000	0.855
T15	202.000-182.000	A	1.193	0.000	0.000	98.900	0.000	1.086
		B		0.000	0.000	43.933	0.000	0.565
		C		0.000	0.000	78.780	0.000	0.845
T16	182.000-162.000	A	1.180	0.000	0.000	98.357	0.000	1.074
		B		0.000	0.000	43.737	0.000	0.559
		C		0.000	0.000	82.288	0.000	0.862
T17	162.000-142.000	A	1.165	0.000	0.000	97.754	0.000	1.060
		B		0.000	0.000	43.520	0.000	0.553
		C		0.000	0.000	104.268	0.000	1.007
T18	142.000-122.000	A	1.149	0.000	0.000	103.172	0.000	1.107
		B		0.000	0.000	43.275	0.000	0.547
		C		0.000	0.000	103.405	0.000	0.990
T19	122.000-112.000	A	1.135	0.000	0.000	54.970	0.000	0.584
		B		0.000	0.000	21.534	0.000	0.270
		C		0.000	0.000	51.338	0.000	0.488
T20	112.000-102.000	A	1.125	0.000	0.000	56.724	0.000	0.599
		B		0.000	0.000	21.458	0.000	0.268
		C		0.000	0.000	51.072	0.000	0.483
T21	102.000-82.000	A	1.108	0.000	0.000	115.215	0.000	1.204
		B		0.000	0.000	42.664	0.000	0.530
		C		0.000	0.000	101.251	0.000	0.949
T22	82.000-62.000	A	1.081	0.000	0.000	113.777	0.000	1.173
		B		0.000	0.000	42.261	0.000	0.519
		C		0.000	0.000	99.833	0.000	0.922
T23	62.000-42.000	A	1.047	0.000	0.000	111.922	0.000	1.133
		B		0.000	0.000	41.742	0.000	0.505
		C		0.000	0.000	98.003	0.000	0.888
T24	42.000-22.000	A	0.997	0.000	0.000	109.264	0.000	1.078
		B		0.000	0.000	40.998	0.000	0.486

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
T25	22.000-2.000	C	0.904	0.000	0.000	95.382	0.000	0.840
		A		0.000	0.000	72.993	0.000	0.684
		B		0.000	0.000	27.721	0.000	0.315
		C		0.000	0.000	65.595	0.000	0.552

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	492.000-477.000	0.0000	0.0000	0.0000	0.0000
L2	477.000-457.000	0.0000	0.0000	0.0000	0.0000
T1	457.000-452.000	-0.1574	-0.1028	-0.3653	-0.2258
T2	452.000-442.000	-0.4381	-0.1893	-1.1561	-0.3513
T3	442.000-422.000	-0.4524	-1.9605	-1.3071	-2.4156
T4	422.000-402.000	-0.6950	-2.4662	-1.4863	-2.9577
T5	402.000-382.000	-0.6950	-2.4662	-1.4843	-2.9566
T6	382.000-362.000	-0.6895	-2.4488	-1.4775	-2.9471
T7	362.000-342.000	-0.6877	-2.2993	-1.4495	-2.6270
T8	342.000-322.000	-0.7055	-2.5987	-1.4261	-3.0176
T9	322.000-302.000	-0.7108	-2.6756	-1.4257	-3.1399
T10	302.000-282.000	-0.7384	-3.3136	-1.3140	-3.8291
T11	282.000-262.000	-0.4534	-5.6777	-0.7800	-5.1484
T12	262.000-242.000	-1.0443	-5.3383	-1.2230	-4.5172
T13	242.000-222.000	-1.2542	-5.4236	-1.4016	-4.8088
T14	222.000-202.000	-1.1786	-4.7903	-1.3424	-4.2584
T15	202.000-182.000	-1.2154	-4.9154	-1.3636	-4.3176
T16	182.000-162.000	-1.2738	-4.8028	-1.4654	-4.1453
T17	162.000-142.000	-1.5803	-4.1752	-1.9952	-3.2093
T18	142.000-122.000	-1.6023	-4.3952	-2.0144	-3.5649
T19	122.000-112.000	-1.5667	-4.5723	-1.9689	-3.9404
T20	112.000-102.000	-1.5802	-4.6943	-1.9787	-4.1553
T21	102.000-82.000	-1.6225	-4.8600	-2.0303	-4.3466
T22	82.000-62.000	-1.6283	-4.8748	-2.0319	-4.3590
T23	62.000-42.000	-1.6225	-4.8600	-2.0266	-4.3622
T24	42.000-22.000	-1.6283	-4.8748	-2.0266	-4.3813
T25	22.000-2.000	-1.3691	-4.0061	-1.7613	-3.7077

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	16	LDF4.5-50(5/8")	452.00 - 455.00	0.6000	0.4943
T2	15	LDF2-50A(3/8") SC	442.00 - 445.00	0.6000	0.5877
T2	16	LDF4.5-50(5/8")	442.00 -	0.6000	0.5877

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T3	1	3" Coax	452.00 422.00 - 435.00	0.6000	0.6000
T3	2	AVA5-50(7/8")	422.00 - 435.00	0.6000	0.6000
T3	3	1" Conduit	422.00 - 435.00	0.6000	0.6000
T3	5	1 5/8" OD Conduit	422.00 - 430.00	0.6000	0.6000
T3	12	LDF5-50A(7/8")	422.00 - 435.00	0.6000	0.6000
T3	13	LDF5-50A(7/8")	422.00 - 435.00	0.6000	0.6000
T3	15	LDF2-50A(3/8") SC	422.00 - 442.00	0.6000	0.6000
T3	16	LDF4.5-50(5/8")	422.00 - 442.00	0.6000	0.6000
T4	1	3" Coax	402.00 - 422.00	0.6000	0.6000
T4	2	AVA5-50(7/8")	402.00 - 422.00	0.6000	0.6000
T4	3	1" Conduit	402.00 - 422.00	0.6000	0.6000
T4	5	1 5/8" OD Conduit	402.00 - 422.00	0.6000	0.6000
T4	12	LDF5-50A(7/8")	402.00 - 422.00	0.6000	0.6000
T4	13	LDF5-50A(7/8")	402.00 - 422.00	0.6000	0.6000
T4	15	LDF2-50A(3/8") SC	402.00 - 422.00	0.6000	0.6000
T4	16	LDF4.5-50(5/8")	402.00 - 422.00	0.6000	0.6000
T5	1	3" Coax	382.00 - 402.00	0.6000	0.6000
T5	2	AVA5-50(7/8")	382.00 - 402.00	0.6000	0.6000
T5	3	1" Conduit	382.00 - 402.00	0.6000	0.6000
T5	5	1 5/8" OD Conduit	382.00 - 402.00	0.6000	0.6000
T5	12	LDF5-50A(7/8")	382.00 - 402.00	0.6000	0.6000
T5	13	LDF5-50A(7/8")	382.00 - 402.00	0.6000	0.6000
T5	15	LDF2-50A(3/8") SC	382.00 - 402.00	0.6000	0.6000
T5	16	LDF4.5-50(5/8")	382.00 - 402.00	0.6000	0.6000
T6	1	3" Coax	362.00 - 382.00	0.6000	0.6000
T6	2	AVA5-50(7/8")	362.00 - 382.00	0.6000	0.6000
T6	3	1" Conduit	362.00 - 382.00	0.6000	0.6000
T6	5	1 5/8" OD Conduit	362.00 - 382.00	0.6000	0.6000
T6	12	LDF5-50A(7/8")	362.00 - 382.00	0.6000	0.6000
T6	13	LDF5-50A(7/8")	362.00 - 382.00	0.6000	0.6000
T6	15	LDF2-50A(3/8") SC	362.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T6	16	LDF4.5-50(5/8")	382.00 362.00 - 382.00	0.6000	0.6000
T7	1	3" Coax	342.00 - 362.00	0.6000	0.6000
T7	2	AVA5-50(7/8")	342.00 - 362.00	0.6000	0.6000
T7	3	1" Conduit	342.00 - 362.00	0.6000	0.6000
T7	4	LDF4.5-50(5/8")	342.00 - 351.00	0.6000	0.6000
T7	5	1 5/8" OD Conduit	342.00 - 362.00	0.6000	0.6000
T7	12	LDF5-50A(7/8")	342.00 - 362.00	0.6000	0.6000
T7	13	LDF5-50A(7/8")	342.00 - 362.00	0.6000	0.6000
T7	15	LDF2-50A(3/8") SC	342.00 - 362.00	0.6000	0.6000
T7	16	LDF4.5-50(5/8")	342.00 - 362.00	0.6000	0.6000
T8	1	3" Coax	322.00 - 342.00	0.6000	0.6000
T8	2	AVA5-50(7/8")	322.00 - 342.00	0.6000	0.6000
T8	3	1" Conduit	322.00 - 342.00	0.6000	0.6000
T8	4	LDF4.5-50(5/8")	322.00 - 342.00	0.6000	0.6000
T8	5	1 5/8" OD Conduit	322.00 - 342.00	0.6000	0.6000
T8	11	LDF5-50A(7/8")	322.00 - 339.00	0.6000	0.6000
T8	12	LDF5-50A(7/8")	322.00 - 342.00	0.6000	0.6000
T8	13	LDF5-50A(7/8")	322.00 - 342.00	0.6000	0.6000
T8	15	LDF2-50A(3/8") SC	322.00 - 342.00	0.6000	0.6000
T8	16	LDF4.5-50(5/8")	322.00 - 342.00	0.6000	0.6000
T9	1	3" Coax	302.00 - 322.00	0.6000	0.6000
T9	2	AVA5-50(7/8")	302.00 - 322.00	0.6000	0.6000
T9	3	1" Conduit	302.00 - 322.00	0.6000	0.6000
T9	4	LDF4.5-50(5/8")	302.00 - 322.00	0.6000	0.6000
T9	5	1 5/8" OD Conduit	302.00 - 322.00	0.6000	0.6000
T9	11	LDF5-50A(7/8")	302.00 - 322.00	0.6000	0.6000
T9	12	LDF5-50A(7/8")	302.00 - 322.00	0.6000	0.6000
T9	13	LDF5-50A(7/8")	302.00 - 322.00	0.6000	0.6000
T9	15	LDF2-50A(3/8") SC	302.00 - 322.00	0.6000	0.6000
T9	16	LDF4.5-50(5/8")	302.00 - 322.00	0.6000	0.6000
T10	1	3" Coax	282.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T10	2	AVA5-50(7/8")	302.00 282.00 -	0.6000	0.6000
T10	3	1" Conduit	302.00 282.00 -	0.6000	0.6000
T10	4	LDF4.5-50(5/8")	302.00 282.00 -	0.6000	0.6000
T10	5	1 5/8" OD Conduit	302.00 282.00 -	0.6000	0.6000
T10	11	LDF5-50A(7/8")	302.00 282.00 -	0.6000	0.6000
T10	12	LDF5-50A(7/8")	302.00 282.00 -	0.6000	0.6000
T10	13	LDF5-50A(7/8")	302.00 282.00 -	0.6000	0.6000
T10	14	LDF6-50A(1-1/4")	302.00 282.00 -	0.6000	0.6000
T10	15	LDF2-50A(3/8") SC	302.00 282.00 -	0.6000	0.6000
T10	16	LDF4.5-50(5/8")	302.00 282.00 -	0.6000	0.6000
T10	17	LDF4-50A(1/2")	302.00 282.00 -	0.6000	0.6000
T11	1	3" Coax	289.00 262.00 -	0.6000	0.6000
T11	2	AVA5-50(7/8")	282.00 262.00 -	0.6000	0.6000
T11	3	1" Conduit	282.00 262.00 -	0.6000	0.6000
T11	4	LDF4.5-50(5/8")	282.00 262.00 -	0.6000	0.6000
T11	5	1 5/8" OD Conduit	282.00 262.00 -	0.6000	0.6000
T11	11	LDF5-50A(7/8")	282.00 262.00 -	0.6000	0.6000
T11	12	LDF5-50A(7/8")	282.00 262.00 -	0.6000	0.6000
T11	13	LDF5-50A(7/8")	282.00 262.00 -	0.6000	0.6000
T11	14	LDF6-50A(1-1/4")	282.00 262.00 -	0.6000	0.6000
T11	15	LDF2-50A(3/8") SC	282.00 262.00 -	0.6000	0.6000
T11	16	LDF4.5-50(5/8")	282.00 262.00 -	0.6000	0.6000
T11	17	LDF4-50A(1/2")	282.00 262.00 -	0.6000	0.6000
T11	21	1.625' Fiber Cables	282.00 262.00 -	0.6000	0.6000
T11	22	LDF7-50A(1-5/8")	280.00 262.00 -	0.6000	0.6000
T11	23	LDF7-50A(1-5/8")	280.00 262.00 -	0.6000	0.6000
T11	24	1.625" Hybrid Cable	280.00 262.00 -	0.6000	0.6000
T12	1	3" Coax	280.00 242.00 -	0.6000	0.6000
T12	2	AVA5-50(7/8")	262.00 242.00 -	0.6000	0.6000
T12	3	1" Conduit	262.00 242.00 -	0.6000	0.6000
T12	4	LDF4.5-50(5/8")	262.00 242.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T12	5	1 5/8" OD Conduit	262.00 242.00 -	0.6000	0.6000
T12	10	LDF5-50A(7/8")	262.00 242.00 -	0.6000	0.6000
T12	11	LDF5-50A(7/8")	247.00 242.00 -	0.6000	0.6000
T12	12	LDF5-50A(7/8")	262.00 242.00 -	0.6000	0.6000
T12	13	LDF5-50A(7/8")	262.00 242.00 -	0.6000	0.6000
T12	14	LDF6-50A(1-1/4")	262.00 242.00 -	0.6000	0.6000
T12	15	LDF2-50A(3/8") SC	262.00 242.00 -	0.6000	0.6000
T12	16	LDF4.5-50(5/8")	262.00 242.00 -	0.6000	0.6000
T12	17	LDF4-50A(1/2")	262.00 242.00 -	0.6000	0.6000
T12	21	1.625' Fiber Cables	262.00 242.00 -	0.6000	0.6000
T12	22	LDF7-50A(1-5/8")	262.00 242.00 -	0.6000	0.6000
T12	23	LDF7-50A(1-5/8")	262.00 242.00 -	0.6000	0.6000
T12	24	1.625" Hybrid Cable	262.00 242.00 -	0.6000	0.6000
T12	25	LDF6-50A(1-1/4")	262.00 242.00 -	0.6000	0.6000
T12	26	LDF6-50A(1-1/4")	257.00 242.00 -	0.6000	0.6000
T13	1	3" Coax	257.00 222.00 -	0.6000	0.6000
T13	2	AVA5-50(7/8")	242.00 222.00 -	0.6000	0.6000
T13	3	1" Conduit	242.00 222.00 -	0.6000	0.6000
T13	4	LDF4.5-50(5/8")	242.00 222.00 -	0.6000	0.6000
T13	5	1 5/8" OD Conduit	242.00 222.00 -	0.6000	0.6000
T13	9	LDF5-50A(7/8")	242.00 222.00 -	0.6000	0.6000
T13	10	LDF5-50A(7/8")	239.00 222.00 -	0.6000	0.6000
T13	11	LDF5-50A(7/8")	242.00 222.00 -	0.6000	0.6000
T13	12	LDF5-50A(7/8")	242.00 222.00 -	0.6000	0.6000
T13	13	LDF5-50A(7/8")	242.00 222.00 -	0.6000	0.6000
T13	14	LDF6-50A(1-1/4")	242.00 222.00 -	0.6000	0.6000
T13	15	LDF2-50A(3/8") SC	242.00 222.00 -	0.6000	0.6000
T13	16	LDF4.5-50(5/8")	242.00 222.00 -	0.6000	0.6000
T13	17	LDF4-50A(1/2")	242.00 222.00 -	0.6000	0.6000
T13	21	1.625' Fiber Cables	242.00 222.00 -	0.6000	0.6000
T13	22	LDF7-50A(1-5/8")	242.00 222.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T13	23	LDF7-50A(1-5/8")	242.00 222.00 -	0.6000	0.6000
T13	24	1.625" Hybrid Cable	242.00 222.00 -	0.6000	0.6000
T13	25	LDF6-50A(1-1/4")	242.00 222.00 -	0.6000	0.6000
T13	26	LDF6-50A(1-1/4")	242.00 222.00 -	0.6000	0.6000
T13	29	LDF7-50A(1-5/8")	242.00 222.00 -	0.6000	0.6000
T14	1	3" Coax	225.00 202.00 -	0.6000	0.5965
T14	2	AVA5-50(7/8")	222.00 202.00 -	0.6000	0.5965
T14	3	1" Conduit	222.00 202.00 -	0.6000	0.5965
T14	4	LDF4.5-50(5/8")	222.00 202.00 -	0.6000	0.5965
T14	5	1 5/8" OD Conduit	222.00 202.00 -	0.6000	0.5965
T14	9	LDF5-50A(7/8")	222.00 202.00 -	0.6000	0.5965
T14	10	LDF5-50A(7/8")	222.00 202.00 -	0.6000	0.5965
T14	11	LDF5-50A(7/8")	222.00 202.00 -	0.6000	0.5965
T14	12	LDF5-50A(7/8")	222.00 202.00 -	0.6000	0.5965
T14	13	LDF5-50A(7/8")	222.00 202.00 -	0.6000	0.5965
T14	14	LDF6-50A(1-1/4")	222.00 202.00 -	0.6000	0.5965
T14	15	LDF2-50A(3/8") SC	222.00 202.00 -	0.6000	0.5965
T14	16	LDF4.5-50(5/8")	222.00 202.00 -	0.6000	0.5965
T14	17	LDF4-50A(1/2")	222.00 202.00 -	0.6000	0.5965
T14	21	1.625' Fiber Cables	222.00 202.00 -	0.6000	0.5965
T14	22	LDF7-50A(1-5/8")	222.00 202.00 -	0.6000	0.5965
T14	23	LDF7-50A(1-5/8")	222.00 202.00 -	0.6000	0.5965
T14	24	1.625" Hybrid Cable	222.00 202.00 -	0.6000	0.5965
T14	25	LDF6-50A(1-1/4")	222.00 202.00 -	0.6000	0.5965
T14	26	LDF6-50A(1-1/4")	222.00 202.00 -	0.6000	0.5965
T14	29	LDF7-50A(1-5/8")	222.00 202.00 -	0.6000	0.5965
T15	1	3" Coax	222.00 182.00 -	0.6000	0.6000
T15	2	AVA5-50(7/8")	202.00 182.00 -	0.6000	0.6000
T15	3	1" Conduit	202.00 182.00 -	0.6000	0.6000
T15	4	LDF4.5-50(5/8")	202.00 182.00 -	0.6000	0.6000
T15	5	1 5/8" OD Conduit	202.00 182.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T15	9	LDF5-50A(7/8")	202.00 182.00 -	0.6000	0.6000
T15	10	LDF5-50A(7/8")	202.00 182.00 -	0.6000	0.6000
T15	11	LDF5-50A(7/8")	202.00 182.00 -	0.6000	0.6000
T15	12	LDF5-50A(7/8")	202.00 182.00 -	0.6000	0.6000
T15	13	LDF5-50A(7/8")	202.00 182.00 -	0.6000	0.6000
T15	14	LDF6-50A(1-1/4")	202.00 182.00 -	0.6000	0.6000
T15	15	LDF2-50A(3/8") SC	202.00 182.00 -	0.6000	0.6000
T15	16	LDF4.5-50(5/8")	202.00 182.00 -	0.6000	0.6000
T15	17	LDF4-50A(1/2")	202.00 182.00 -	0.6000	0.6000
T15	21	1.625' Fiber Cables	202.00 182.00 -	0.6000	0.6000
T15	22	LDF7-50A(1-5/8")	202.00 182.00 -	0.6000	0.6000
T15	23	LDF7-50A(1-5/8")	202.00 182.00 -	0.6000	0.6000
T15	24	1.625" Hybrid Cable	202.00 182.00 -	0.6000	0.6000
T15	25	LDF6-50A(1-1/4")	202.00 182.00 -	0.6000	0.6000
T15	26	LDF6-50A(1-1/4")	202.00 182.00 -	0.6000	0.6000
T15	29	LDF7-50A(1-5/8")	202.00 182.00 -	0.6000	0.6000
T16	1	3" Coax	202.00 162.00 -	0.6000	0.6000
T16	2	AVA5-50(7/8")	182.00 162.00 -	0.6000	0.6000
T16	3	1" Conduit	182.00 162.00 -	0.6000	0.6000
T16	4	LDF4.5-50(5/8")	182.00 162.00 -	0.6000	0.6000
T16	5	1 5/8" OD Conduit	182.00 162.00 -	0.6000	0.6000
T16	9	LDF5-50A(7/8")	182.00 162.00 -	0.6000	0.6000
T16	10	LDF5-50A(7/8")	182.00 162.00 -	0.6000	0.6000
T16	11	LDF5-50A(7/8")	182.00 162.00 -	0.6000	0.6000
T16	12	LDF5-50A(7/8")	182.00 162.00 -	0.6000	0.6000
T16	13	LDF5-50A(7/8")	182.00 162.00 -	0.6000	0.6000
T16	14	LDF6-50A(1-1/4")	182.00 162.00 -	0.6000	0.6000
T16	15	LDF2-50A(3/8") SC	182.00 162.00 -	0.6000	0.6000
T16	16	LDF4.5-50(5/8")	182.00 162.00 -	0.6000	0.6000
T16	17	LDF4-50A(1/2")	182.00 162.00 -	0.6000	0.6000
T16	21	1.625' Fiber Cables	182.00 162.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T16	22	LDF7-50A(1-5/8")	182.00 162.00 -	0.6000	0.6000
T16	23	LDF7-50A(1-5/8")	182.00 162.00 -	0.6000	0.6000
T16	24	1.625" Hybrid Cable	182.00 162.00 -	0.6000	0.6000
T16	25	LDF6-50A(1-1/4")	182.00 162.00 -	0.6000	0.6000
T16	26	LDF6-50A(1-1/4")	182.00 162.00 -	0.6000	0.6000
T16	27	LDF2-50(3/8")	182.00 162.00 -	0.6000	0.6000
T16	28	LDF4.5-50(5/8")	165.00 162.00 -	0.6000	0.6000
T16	29	LDF7-50A(1-5/8")	165.00 162.00 -	0.6000	0.6000
T17	1	3" Coax	182.00 142.00 -	0.6000	0.6000
T17	2	AVA5-50(7/8")	162.00 142.00 -	0.6000	0.6000
T17	3	1" Conduit	162.00 142.00 -	0.6000	0.6000
T17	4	LDF4.5-50(5/8")	162.00 142.00 -	0.6000	0.6000
T17	5	1 5/8" OD Conduit	162.00 142.00 -	0.6000	0.6000
T17	9	LDF5-50A(7/8")	162.00 142.00 -	0.6000	0.6000
T17	10	LDF5-50A(7/8")	162.00 142.00 -	0.6000	0.6000
T17	11	LDF5-50A(7/8")	162.00 142.00 -	0.6000	0.6000
T17	12	LDF5-50A(7/8")	162.00 142.00 -	0.6000	0.6000
T17	13	LDF5-50A(7/8")	162.00 142.00 -	0.6000	0.6000
T17	14	LDF6-50A(1-1/4")	162.00 142.00 -	0.6000	0.6000
T17	15	LDF2-50A(3/8") SC	162.00 142.00 -	0.6000	0.6000
T17	16	LDF4.5-50(5/8")	162.00 142.00 -	0.6000	0.6000
T17	17	LDF4-50A(1/2")	162.00 142.00 -	0.6000	0.6000
T17	21	1.625' Fiber Cables	162.00 142.00 -	0.6000	0.6000
T17	22	LDF7-50A(1-5/8")	162.00 142.00 -	0.6000	0.6000
T17	23	LDF7-50A(1-5/8")	162.00 142.00 -	0.6000	0.6000
T17	24	1.625" Hybrid Cable	162.00 142.00 -	0.6000	0.6000
T17	25	LDF6-50A(1-1/4")	162.00 142.00 -	0.6000	0.6000
T17	26	LDF6-50A(1-1/4")	162.00 142.00 -	0.6000	0.6000
T17	27	LDF2-50(3/8")	162.00 142.00 -	0.6000	0.6000
T17	28	LDF4.5-50(5/8")	162.00 142.00 -	0.6000	0.6000
T17	29	LDF7-50A(1-5/8")	162.00 142.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T18	1	3" Coax	162.00 122.00 -	0.6000	0.6000
T18	2	AVA5-50(7/8")	142.00 122.00 -	0.6000	0.6000
T18	3	1" Conduit	142.00 122.00 -	0.6000	0.6000
T18	4	LDF4.5-50(5/8")	142.00 122.00 -	0.6000	0.6000
T18	5	1 5/8" OD Conduit	142.00 122.00 -	0.6000	0.6000
T18	7	LDF5-50A(7/8")	142.00 122.00 -	0.6000	0.6000
T18	8	LDF5-50A(7/8")	124.00 122.00 -	0.6000	0.6000
T18	9	LDF5-50A(7/8")	138.00 122.00 -	0.6000	0.6000
T18	10	LDF5-50A(7/8")	142.00 122.00 -	0.6000	0.6000
T18	11	LDF5-50A(7/8")	142.00 122.00 -	0.6000	0.6000
T18	12	LDF5-50A(7/8")	142.00 122.00 -	0.6000	0.6000
T18	13	LDF5-50A(7/8")	142.00 122.00 -	0.6000	0.6000
T18	14	LDF6-50A(1-1/4")	142.00 122.00 -	0.6000	0.6000
T18	15	LDF2-50A(3/8") SC	142.00 122.00 -	0.6000	0.6000
T18	16	LDF4.5-50(5/8")	142.00 122.00 -	0.6000	0.6000
T18	17	LDF4-50A(1/2")	142.00 122.00 -	0.6000	0.6000
T18	21	1.625' Fiber Cables	142.00 122.00 -	0.6000	0.6000
T18	22	LDF7-50A(1-5/8")	142.00 122.00 -	0.6000	0.6000
T18	23	LDF7-50A(1-5/8")	142.00 122.00 -	0.6000	0.6000
T18	24	1.625" Hybrid Cable	142.00 122.00 -	0.6000	0.6000
T18	25	LDF6-50A(1-1/4")	142.00 122.00 -	0.6000	0.6000
T18	26	LDF6-50A(1-1/4")	142.00 122.00 -	0.6000	0.6000
T18	27	LDF2-50(3/8")	142.00 122.00 -	0.6000	0.6000
T18	28	LDF4.5-50(5/8")	142.00 122.00 -	0.6000	0.6000
T18	29	LDF7-50A(1-5/8")	142.00 122.00 -	0.6000	0.6000
T19	1	3" Coax	142.00 112.00 -	0.6000	0.5946
T19	2	AVA5-50(7/8")	122.00 112.00 -	0.6000	0.5946
T19	3	1" Conduit	122.00 112.00 -	0.6000	0.5946
T19	4	LDF4.5-50(5/8")	122.00 112.00 -	0.6000	0.5946
T19	5	1 5/8" OD Conduit	122.00 112.00 -	0.6000	0.5946
T19	7	LDF5-50A(7/8")	122.00 112.00 -	0.6000	0.5946

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T19	8	LDF5-50A(7/8")	122.00 112.00 - 122.00	0.6000	0.5946
T19	9	LDF5-50A(7/8")	112.00 - 122.00	0.6000	0.5946
T19	10	LDF5-50A(7/8")	112.00 - 122.00	0.6000	0.5946
T19	11	LDF5-50A(7/8")	112.00 - 122.00	0.6000	0.5946
T19	12	LDF5-50A(7/8")	112.00 - 122.00	0.6000	0.5946
T19	13	LDF5-50A(7/8")	112.00 - 122.00	0.6000	0.5946
T19	14	LDF6-50A(1-1/4")	112.00 - 122.00	0.6000	0.5946
T19	15	LDF2-50A(3/8") SC	112.00 - 122.00	0.6000	0.5946
T19	16	LDF4.5-50(5/8")	112.00 - 122.00	0.6000	0.5946
T19	17	LDF4-50A(1/2")	112.00 - 122.00	0.6000	0.5946
T19	21	1.625' Fiber Cables	112.00 - 122.00	0.6000	0.5946
T19	22	LDF7-50A(1-5/8")	112.00 - 122.00	0.6000	0.5946
T19	23	LDF7-50A(1-5/8")	112.00 - 122.00	0.6000	0.5946
T19	24	1.625" Hybrid Cable	112.00 - 122.00	0.6000	0.5946
T19	25	LDF6-50A(1-1/4")	112.00 - 122.00	0.6000	0.5946
T19	26	LDF6-50A(1-1/4")	112.00 - 122.00	0.6000	0.5946
T19	27	LDF2-50(3/8")	112.00 - 122.00	0.6000	0.5946
T19	28	LDF4.5-50(5/8")	112.00 - 122.00	0.6000	0.5946
T19	29	LDF7-50A(1-5/8")	112.00 - 122.00	0.6000	0.5946
T20	1	3" Coax	102.00 - 112.00	0.6000	0.6000
T20	2	AVA5-50(7/8")	102.00 - 112.00	0.6000	0.6000
T20	3	1" Conduit	102.00 - 112.00	0.6000	0.6000
T20	4	LDF4.5-50(5/8")	102.00 - 112.00	0.6000	0.6000
T20	5	1 5/8" OD Conduit	102.00 - 112.00	0.6000	0.6000
T20	6	LDF5-50A(7/8")	102.00 - 108.00	0.6000	0.6000
T20	7	LDF5-50A(7/8")	102.00 - 112.00	0.6000	0.6000
T20	8	LDF5-50A(7/8")	102.00 - 112.00	0.6000	0.6000
T20	9	LDF5-50A(7/8")	102.00 - 112.00	0.6000	0.6000
T20	10	LDF5-50A(7/8")	102.00 - 112.00	0.6000	0.6000
T20	11	LDF5-50A(7/8")	102.00 - 112.00	0.6000	0.6000
T20	12	LDF5-50A(7/8")	102.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T20	13	LDF5-50A(7/8")	112.00 102.00 - 112.00	0.6000	0.6000
T20	14	LDF6-50A(1-1/4")	102.00 - 112.00	0.6000	0.6000
T20	15	LDF2-50A(3/8") SC	102.00 - 112.00	0.6000	0.6000
T20	16	LDF4.5-50(5/8")	102.00 - 112.00	0.6000	0.6000
T20	17	LDF4-50A(1/2")	102.00 - 112.00	0.6000	0.6000
T20	21	1.625' Fiber Cables	102.00 - 112.00	0.6000	0.6000
T20	22	LDF7-50A(1-5/8")	102.00 - 112.00	0.6000	0.6000
T20	23	LDF7-50A(1-5/8")	102.00 - 112.00	0.6000	0.6000
T20	24	1.625" Hybrid Cable	102.00 - 112.00	0.6000	0.6000
T20	25	LDF6-50A(1-1/4")	102.00 - 112.00	0.6000	0.6000
T20	26	LDF6-50A(1-1/4")	102.00 - 112.00	0.6000	0.6000
T20	27	LDF2-50(3/8")	102.00 - 112.00	0.6000	0.6000
T20	28	LDF4.5-50(5/8")	102.00 - 112.00	0.6000	0.6000
T20	29	LDF7-50A(1-5/8")	102.00 - 112.00	0.6000	0.6000
T21	1	3" Coax	82.00 - 102.00	0.6000	0.6000
T21	2	AVA5-50(7/8")	82.00 - 102.00	0.6000	0.6000
T21	3	1" Conduit	82.00 - 102.00	0.6000	0.6000
T21	4	LDF4.5-50(5/8")	82.00 - 102.00	0.6000	0.6000
T21	5	1 5/8" OD Conduit	82.00 - 102.00	0.6000	0.6000
T21	6	LDF5-50A(7/8")	82.00 - 102.00	0.6000	0.6000
T21	7	LDF5-50A(7/8")	82.00 - 102.00	0.6000	0.6000
T21	8	LDF5-50A(7/8")	82.00 - 102.00	0.6000	0.6000
T21	9	LDF5-50A(7/8")	82.00 - 102.00	0.6000	0.6000
T21	10	LDF5-50A(7/8")	82.00 - 102.00	0.6000	0.6000
T21	11	LDF5-50A(7/8")	82.00 - 102.00	0.6000	0.6000
T21	12	LDF5-50A(7/8")	82.00 - 102.00	0.6000	0.6000
T21	13	LDF5-50A(7/8")	82.00 - 102.00	0.6000	0.6000
T21	14	LDF6-50A(1-1/4")	82.00 - 102.00	0.6000	0.6000
T21	15	LDF2-50A(3/8") SC	82.00 - 102.00	0.6000	0.6000
T21	16	LDF4.5-50(5/8")	82.00 - 102.00	0.6000	0.6000
T21	17	LDF4-50A(1/2")	82.00 - 102.00	0.6000	0.6000
T21	21	1.625' Fiber Cables	82.00 - 102.00	0.6000	0.6000
T21	22	LDF7-50A(1-5/8")	82.00 - 102.00	0.6000	0.6000
T21	23	LDF7-50A(1-5/8")	82.00 - 102.00	0.6000	0.6000
T21	24	1.625" Hybrid Cable	82.00 - 102.00	0.6000	0.6000
T21	25	LDF6-50A(1-1/4")	82.00 - 102.00	0.6000	0.6000
T21	26	LDF6-50A(1-1/4")	82.00 - 102.00	0.6000	0.6000
T21	27	LDF2-50(3/8")	82.00 - 102.00	0.6000	0.6000
T21	28	LDF4.5-50(5/8")	82.00 - 102.00	0.6000	0.6000
T21	29	LDF7-50A(1-5/8")	82.00 - 102.00	0.6000	0.6000
T22	1	3" Coax	62.00 - 82.00	0.6000	0.6000
T22	2	AVA5-50(7/8")	62.00 - 82.00	0.6000	0.6000
T22	3	1" Conduit	62.00 - 82.00	0.6000	0.6000
T22	4	LDF4.5-50(5/8")	62.00 - 82.00	0.6000	0.6000
T22	5	1 5/8" OD Conduit	62.00 - 82.00	0.6000	0.6000
T22	6	LDF5-50A(7/8")	62.00 - 82.00	0.6000	0.6000
T22	7	LDF5-50A(7/8")	62.00 - 82.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T22	8	LDF5-50A(7/8")	62.00 - 82.00	0.6000	0.6000
T22	9	LDF5-50A(7/8")	62.00 - 82.00	0.6000	0.6000
T22	10	LDF5-50A(7/8")	62.00 - 82.00	0.6000	0.6000
T22	11	LDF5-50A(7/8")	62.00 - 82.00	0.6000	0.6000
T22	12	LDF5-50A(7/8")	62.00 - 82.00	0.6000	0.6000
T22	13	LDF5-50A(7/8")	62.00 - 82.00	0.6000	0.6000
T22	14	LDF6-50A(1-1/4")	62.00 - 82.00	0.6000	0.6000
T22	15	LDF2-50A(3/8") SC	62.00 - 82.00	0.6000	0.6000
T22	16	LDF4.5-50(5/8")	62.00 - 82.00	0.6000	0.6000
T22	17	LDF4-50A(1/2")	62.00 - 82.00	0.6000	0.6000
T22	21	1.625' Fiber Cables	62.00 - 82.00	0.6000	0.6000
T22	22	LDF7-50A(1-5/8")	62.00 - 82.00	0.6000	0.6000
T22	23	LDF7-50A(1-5/8")	62.00 - 82.00	0.6000	0.6000
T22	24	1.625" Hybrid Cable	62.00 - 82.00	0.6000	0.6000
T22	25	LDF6-50A(1-1/4")	62.00 - 82.00	0.6000	0.6000
T22	26	LDF6-50A(1-1/4")	62.00 - 82.00	0.6000	0.6000
T22	27	LDF2-50(3/8")	62.00 - 82.00	0.6000	0.6000
T22	28	LDF4.5-50(5/8")	62.00 - 82.00	0.6000	0.6000
T22	29	LDF7-50A(1-5/8")	62.00 - 82.00	0.6000	0.6000
T23	1	3" Coax	42.00 - 62.00	0.6000	0.6000
T23	2	AVA5-50(7/8")	42.00 - 62.00	0.6000	0.6000
T23	3	1" Conduit	42.00 - 62.00	0.6000	0.6000
T23	4	LDF4.5-50(5/8")	42.00 - 62.00	0.6000	0.6000
T23	5	1 5/8" OD Conduit	42.00 - 62.00	0.6000	0.6000
T23	6	LDF5-50A(7/8")	42.00 - 62.00	0.6000	0.6000
T23	7	LDF5-50A(7/8")	42.00 - 62.00	0.6000	0.6000
T23	8	LDF5-50A(7/8")	42.00 - 62.00	0.6000	0.6000
T23	9	LDF5-50A(7/8")	42.00 - 62.00	0.6000	0.6000
T23	10	LDF5-50A(7/8")	42.00 - 62.00	0.6000	0.6000
T23	11	LDF5-50A(7/8")	42.00 - 62.00	0.6000	0.6000
T23	12	LDF5-50A(7/8")	42.00 - 62.00	0.6000	0.6000
T23	13	LDF5-50A(7/8")	42.00 - 62.00	0.6000	0.6000
T23	14	LDF6-50A(1-1/4")	42.00 - 62.00	0.6000	0.6000
T23	15	LDF2-50A(3/8") SC	42.00 - 62.00	0.6000	0.6000
T23	16	LDF4.5-50(5/8")	42.00 - 62.00	0.6000	0.6000
T23	17	LDF4-50A(1/2")	42.00 - 62.00	0.6000	0.6000
T23	21	1.625' Fiber Cables	42.00 - 62.00	0.6000	0.6000
T23	22	LDF7-50A(1-5/8")	42.00 - 62.00	0.6000	0.6000
T23	23	LDF7-50A(1-5/8")	42.00 - 62.00	0.6000	0.6000
T23	24	1.625" Hybrid Cable	42.00 - 62.00	0.6000	0.6000
T23	25	LDF6-50A(1-1/4")	42.00 - 62.00	0.6000	0.6000
T23	26	LDF6-50A(1-1/4")	42.00 - 62.00	0.6000	0.6000
T23	27	LDF2-50(3/8")	42.00 - 62.00	0.6000	0.6000
T23	28	LDF4.5-50(5/8")	42.00 - 62.00	0.6000	0.6000
T23	29	LDF7-50A(1-5/8")	42.00 - 62.00	0.6000	0.6000
T24	1	3" Coax	22.00 - 42.00	0.6000	0.6000
T24	2	AVA5-50(7/8")	22.00 - 42.00	0.6000	0.6000
T24	3	1" Conduit	22.00 - 42.00	0.6000	0.6000
T24	4	LDF4.5-50(5/8")	22.00 - 42.00	0.6000	0.6000
T24	5	1 5/8" OD Conduit	22.00 - 42.00	0.6000	0.6000
T24	6	LDF5-50A(7/8")	22.00 - 42.00	0.6000	0.6000
T24	7	LDF5-50A(7/8")	22.00 - 42.00	0.6000	0.6000
T24	8	LDF5-50A(7/8")	22.00 - 42.00	0.6000	0.6000
T24	9	LDF5-50A(7/8")	22.00 - 42.00	0.6000	0.6000
T24	10	LDF5-50A(7/8")	22.00 - 42.00	0.6000	0.6000
T24	11	LDF5-50A(7/8")	22.00 - 42.00	0.6000	0.6000
T24	12	LDF5-50A(7/8")	22.00 - 42.00	0.6000	0.6000
T24	13	LDF5-50A(7/8")	22.00 - 42.00	0.6000	0.6000
T24	14	LDF6-50A(1-1/4")	22.00 - 42.00	0.6000	0.6000
T24	15	LDF2-50A(3/8") SC	22.00 - 42.00	0.6000	0.6000
T24	16	LDF4.5-50(5/8")	22.00 - 42.00	0.6000	0.6000
T24	17	LDF4-50A(1/2")	22.00 - 42.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T24	21	1.625' Fiber Cables	22.00 - 42.00	0.6000	0.6000
T24	22	LDF7-50A(1-5/8")	22.00 - 42.00	0.6000	0.6000
T24	23	LDF7-50A(1-5/8")	22.00 - 42.00	0.6000	0.6000
T24	24	1.625" Hybrid Cable	22.00 - 42.00	0.6000	0.6000
T24	25	LDF6-50A(1-1/4")	22.00 - 42.00	0.6000	0.6000
T24	26	LDF6-50A(1-1/4")	22.00 - 42.00	0.6000	0.6000
T24	27	LDF2-50(3/8")	22.00 - 42.00	0.6000	0.6000
T24	28	LDF4.5-50(5/8")	22.00 - 42.00	0.6000	0.6000
T24	29	LDF7-50A(1-5/8")	22.00 - 42.00	0.6000	0.6000
T25	1	3" Coax	8.00 - 22.00	0.6000	0.6000
T25	2	AVA5-50(7/8")	8.00 - 22.00	0.6000	0.6000
T25	3	1" Conduit	8.00 - 22.00	0.6000	0.6000
T25	4	LDF4.5-50(5/8")	8.00 - 22.00	0.6000	0.6000
T25	5	1 5/8" OD Conduit	8.00 - 22.00	0.6000	0.6000
T25	6	LDF5-50A(7/8")	8.00 - 22.00	0.6000	0.6000
T25	7	LDF5-50A(7/8")	8.00 - 22.00	0.6000	0.6000
T25	8	LDF5-50A(7/8")	8.00 - 22.00	0.6000	0.6000
T25	9	LDF5-50A(7/8")	8.00 - 22.00	0.6000	0.6000
T25	10	LDF5-50A(7/8")	8.00 - 22.00	0.6000	0.6000
T25	11	LDF5-50A(7/8")	8.00 - 22.00	0.6000	0.6000
T25	12	LDF5-50A(7/8")	8.00 - 22.00	0.6000	0.6000
T25	13	LDF5-50A(7/8")	8.00 - 22.00	0.6000	0.6000
T25	14	LDF6-50A(1-1/4")	8.00 - 22.00	0.6000	0.6000
T25	15	LDF2-50A(3/8") SC	8.00 - 22.00	0.6000	0.6000
T25	16	LDF4.5-50(5/8")	8.00 - 22.00	0.6000	0.6000
T25	17	LDF4-50A(1/2")	8.00 - 22.00	0.6000	0.6000
T25	21	1.625' Fiber Cables	8.00 - 22.00	0.6000	0.6000
T25	22	LDF7-50A(1-5/8")	8.00 - 22.00	0.6000	0.6000
T25	23	LDF7-50A(1-5/8")	8.00 - 22.00	0.6000	0.6000
T25	24	1.625" Hybrid Cable	8.00 - 22.00	0.6000	0.6000
T25	25	LDF6-50A(1-1/4")	8.00 - 22.00	0.6000	0.6000
T25	26	LDF6-50A(1-1/4")	8.00 - 22.00	0.6000	0.6000
T25	27	LDF2-50(3/8")	8.00 - 22.00	0.6000	0.6000
T25	28	LDF4.5-50(5/8")	8.00 - 22.00	0.6000	0.6000
T25	29	LDF7-50A(1-5/8")	2.00 - 22.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
10' Dipole	B	From Face	1.500 0.000 0.000	0.0000	108.000	No Ice 1/2" Ice 1" Ice	3.000 4.000 5.000	3.000 4.000 5.000	0.030 0.055 0.080
10' Dipole	B	From Face	1.500 0.000 0.000	0.0000	125.000	No Ice 1/2" Ice 1" Ice	3.000 4.000 5.000	3.000 4.000 5.000	0.030 0.055 0.080
Obstruction Light(.01k,.8CAAA) (Tower)	A	From Leg	1.000 0.000 0.000	0.0000	116.000	No Ice 1/2" Ice 1" Ice	0.800 1.000 1.200	0.800 1.000 1.200	0.010 0.016 0.022
Obstruction	B	From Leg	1.000	0.0000	116.000	No Ice	0.800	0.800	0.010

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
Light(.01k,.8CAAA)			0.000			1/2" Ice	1.000	1.000	0.016
(Tower)			0.000			1" Ice	1.200	1.200	0.022
Obstruction	C	From Leg	1.000	0.0000	116.000	No Ice	0.800	0.800	0.010
Light(.01k,.8CAAA)			0.000			1/2" Ice	1.000	1.000	0.016
(Tower)			0.000			1" Ice	1.200	1.200	0.022
3' Side Arm	B	From Leg	1.500	0.0000	108.000	No Ice	0.450	2.750	0.040
			0.000			1/2" Ice	0.570	3.860	0.060
			0.000			1" Ice	0.690	4.970	0.080
3' Side Arm	B	From Leg	1.500	0.0000	125.000	No Ice	0.450	2.750	0.040
			0.000			1/2" Ice	0.570	3.860	0.060
			0.000			1" Ice	0.690	4.970	0.080
Beacon (.075k 2.250CAAA)	A	From Leg	1.000	0.0000	124.000	No Ice	2.250	2.250	0.075
(Tower)			0.000			1/2" Ice	2.500	2.500	0.100
			0.000			1" Ice	2.750	2.750	0.125
10' Dipole	A	From Leg	1.500	0.0000	138.000	No Ice	3.000	3.000	0.030
			0.000			1/2" Ice	4.000	4.000	0.055
			0.000			1" Ice	5.000	5.000	0.080
3' Side Arm	A	From Leg	1.500	0.0000	138.000	No Ice	0.450	2.750	0.040
			0.000			1/2" Ice	0.570	3.860	0.060
			0.000			1" Ice	0.690	4.970	0.080
Beacon (.075k 2.250CAAA)	A	From Leg	1.000	0.0000	237.000	No Ice	2.250	2.250	0.075
(Tower)			0.000			1/2" Ice	2.500	2.500	0.100
			0.000			1" Ice	2.750	2.750	0.125
Beacon (.075k 2.250CAAA)	B	From Leg	1.000	0.0000	237.000	No Ice	2.250	2.250	0.075
(Tower)			0.000			1/2" Ice	2.500	2.500	0.100
			0.000			1" Ice	2.750	2.750	0.125
6' Omni	A	From Leg	2.000	0.0000	302.000	No Ice	2.250	2.250	0.010
			0.000			1/2" Ice	2.619	2.619	0.029
			0.000			1" Ice	2.998	2.998	0.052
2' Side arm (25lbs 0.5CaAa)	A	From Leg	1.000	0.0000	302.000	No Ice	0.500	0.500	0.025
			0.000			1/2" Ice	0.000	0.000	0.033
			0.000			1" Ice	0.000	0.000	0.040
3' Yagi(.03k,2.08CAAA)	A	From Leg	2.000	0.0000	453.000	No Ice	2.080	2.080	0.030
			0.000			1/2" Ice	3.790	3.790	0.050
			0.000			1" Ice	5.500	5.500	0.070
2 Bay FM Antenna	A	From Leg	2.000	0.0000	471.000	No Ice	5.000	5.000	0.050
			0.000			1/2" Ice	8.000	8.000	0.090
			0.000			1" Ice	11.000	11.000	0.130
Beacon (.075k 2.250CAAA)	C	None		0.0000	490.000	No Ice	2.250	2.250	0.075
(Tower)						1/2" Ice	2.500	2.500	0.100
						1" Ice	2.750	2.750	0.125
Obstruction	A	From Leg	1.000	0.0000	358.000	No Ice	0.800	0.800	0.010
Light(.01k,.8CAAA)			0.000			1/2" Ice	1.000	1.000	0.016
(Tower)			0.000			1" Ice	1.200	1.200	0.022
Obstruction	B	From Leg	1.000	0.0000	358.000	No Ice	0.800	0.800	0.010
Light(.01k,.8CAAA)			0.000			1/2" Ice	1.000	1.000	0.016
(Tower)			0.000			1" Ice	1.200	1.200	0.022
Obstruction	C	From Leg	1.000	0.0000	358.000	No Ice	0.800	0.800	0.010
Light(.01k,.8CAAA)			0.000			1/2" Ice	1.000	1.000	0.016
(Tower)			0.000			1" Ice	1.200	1.200	0.022
Kathrein CA5-FM/CP/RM	C	From Leg	1.500	0.0000	300.000	No Ice	4.500	3.500	0.018
			0.000			1/2" Ice	5.500	4.400	0.023
			0.000			1" Ice	6.500	5.300	0.029
SM 408-3	A	From Leg	2.000	0.0000	257.000	No Ice	22.450	22.450	1.000
(Sprint)			0.000			1/2" Ice	33.500	33.500	1.500
			0.000			1" Ice	44.550	44.550	2.000
PCS 1900MHz	A	From Leg	4.000	0.0000	257.000	No Ice	2.322	2.238	0.060

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
4x45W-65MHz			0.000			1/2" Ice	2.527	2.441	0.083
(Sprint)			0.000			1" Ice	2.739	2.651	0.110
800 EXTERNAL NOTCH	A	From Leg	4.000	0.0000	257.000	No Ice	0.660	0.321	0.011
FILTER			0.000			1/2" Ice	0.763	0.398	0.017
(Sprint)			0.000			1" Ice	0.873	0.483	0.024
Alcatel Lucent	B	From Leg	4.000	0.0000	257.000	No Ice	2.500	2.500	0.070
RRH-4x45-1900 (25x12x12)			0.000			1/2" Ice	2.709	2.709	0.095
(Sprint)			0.000			1" Ice	2.926	2.926	0.124
Alcatel Lucent	C	From Leg	4.000	0.0000	257.000	No Ice	2.500	2.500	0.070
RRH-4x45-1900 (25x12x12)			0.000			1/2" Ice	2.709	2.709	0.095
(Sprint)			0.000			1" Ice	2.926	2.926	0.124
Alcatel Lucent RRH	B	From Leg	4.000	0.0000	257.000	No Ice	1.701	1.282	0.053
2x50-800 (16x13x10)			0.000			1/2" Ice	1.864	1.428	0.070
(Sprint)			0.000			1" Ice	2.035	1.580	0.090
Alcatel Lucent RRH	C	From Leg	4.000	0.0000	257.000	No Ice	1.701	1.282	0.053
2x50-800 (16x13x10)			0.000			1/2" Ice	1.864	1.428	0.070
(Sprint)			0.000			1" Ice	2.035	1.580	0.090
Nokia AAHC MIMO	A	From Leg	4.000	0.0000	257.000	No Ice	4.203	2.068	0.103
(25.6x19.7x9.64)			0.000			1/2" Ice	4.458	2.260	0.135
(Sprint)			0.000			1" Ice	4.721	2.463	0.171
Nokia AAHC MIMO	B	From Leg	4.000	0.0000	257.000	No Ice	4.203	2.068	0.103
(25.6x19.7x9.64)			0.000			1/2" Ice	4.458	2.260	0.135
(Sprint)			0.000			1" Ice	4.721	2.463	0.171
Nokia AAHC MIMO	C	From Leg	4.000	0.0000	257.000	No Ice	4.203	2.068	0.103
(25.6x19.7x9.64)			0.000			1/2" Ice	4.458	2.260	0.135
(Sprint)			0.000			1" Ice	4.721	2.463	0.171
CommScope NNVV-65B-R4	A	From Leg	4.000	0.0000	257.000	No Ice	12.271	5.750	0.085
(72x19.6x7.8)			0.000			1/2" Ice	12.766	6.207	0.157
(Sprint)			0.000			1" Ice	13.268	6.671	0.236
CommScope NNVV-65B-R4	B	From Leg	4.000	0.0000	257.000	No Ice	12.271	5.750	0.085
(72x19.6x7.8)			0.000			1/2" Ice	12.766	6.207	0.157
(Sprint)			0.000			1" Ice	13.268	6.671	0.236
CommScope NNVV-65B-R4	C	From Leg	4.000	0.0000	257.000	No Ice	12.271	5.750	0.085
(72x19.6x7.8)			0.000			1/2" Ice	12.766	6.207	0.157
(Sprint)			0.000			1" Ice	13.268	6.671	0.236
Sector Frames	C	None		0.0000	165.000	No Ice	30.000	30.000	1.000
(AT&T)						1/2" Ice	35.000	35.000	1.250
						1" Ice	40.000	40.000	1.500
(2) CCI TPA65R-BU8DA-K	A	From Leg	4.000	0.0000	165.000	No Ice	18.089	8.200	0.087
(96.0x21.0x7.8)			0.000			1/2" Ice	18.722	8.794	0.185
(AT&T)			0.000			1" Ice	19.362	9.395	0.283
(2) CCI TPA65R-BU8DA-K	B	From Leg	4.000	0.0000	165.000	No Ice	18.089	8.200	0.087
(96.0x21.0x7.8)			0.000			1/2" Ice	18.722	8.794	0.185
(AT&T)			0.000			1" Ice	19.362	9.395	0.283
(2) CCI TPA65R-BU8DA-K	C	From Leg	4.000	0.0000	165.000	No Ice	18.089	8.200	0.087
(96.0x21.0x7.8)			0.000			1/2" Ice	18.722	8.794	0.185
(AT&T)			0.000			1" Ice	19.362	9.395	0.283
Ericsson 8843 (15x13.1x10.9)	A	From Leg	4.000	0.0000	165.000	No Ice	1.638	1.363	0.071
(AT&T)			0.000			1/2" Ice	1.797	1.510	0.089
			0.000			1" Ice	1.965	1.665	0.109
Ericsson 8843 (15x13.1x10.9)	B	From Leg	4.000	0.0000	165.000	No Ice	1.638	1.363	0.071
(AT&T)			0.000			1/2" Ice	1.797	1.510	0.089
			0.000			1" Ice	1.965	1.665	0.109
Ericsson 8843 (15x13.1x10.9)	C	From Leg	4.000	0.0000	165.000	No Ice	1.638	1.363	0.071
(AT&T)			0.000			1/2" Ice	1.797	1.510	0.089
			0.000			1" Ice	1.965	1.665	0.109
Ericsson RRUS E2	A	From Leg	4.000	0.0000	165.000	No Ice	3.145	1.285	0.060

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft²	C_AA_A Side ft²	Weight K
(20.4x18.5x7.5)			0.000			1/2" Ice	3.365	1.438	0.083
(AT&T)			0.000			1" Ice	3.592	1.600	0.110
Ericsson RRUS E2	B	From Leg	4.000	0.0000	165.000	No Ice	3.145	1.285	0.060
(20.4x18.5x7.5)			0.000			1/2" Ice	3.365	1.438	0.083
(AT&T)			0.000			1" Ice	3.592	1.600	0.110
Ericsson RRUS E2	C	From Leg	4.000	0.0000	165.000	No Ice	3.145	1.285	0.060
(20.4x18.5x7.5)			0.000			1/2" Ice	3.365	1.438	0.083
(AT&T)			0.000			1" Ice	3.592	1.600	0.110
Ericsson 4415 B30	A	From Leg	4.000	0.0000	165.000	No Ice	1.843	0.820	0.046
(16.5x13.4x5.9)			0.000			1/2" Ice	2.012	0.943	0.060
(AT&T)			0.000			1" Ice	2.190	1.075	0.077
Ericsson 4415 B30	B	From Leg	4.000	0.0000	165.000	No Ice	1.843	0.820	0.046
(16.5x13.4x5.9)			0.000			1/2" Ice	2.012	0.943	0.060
(AT&T)			0.000			1" Ice	2.190	1.075	0.077
Ericsson 4415 B30	C	From Leg	4.000	0.0000	165.000	No Ice	1.843	0.820	0.046
(16.5x13.4x5.9)			0.000			1/2" Ice	2.012	0.943	0.060
(AT&T)			0.000			1" Ice	2.190	1.075	0.077
Ericsson 4449 (18x13.2x9.4)	A	From Leg	4.000	0.0000	165.000	No Ice	1.980	1.410	0.070
(AT&T)			0.000			1/2" Ice	2.157	1.566	0.089
			0.000			1" Ice	2.341	1.729	0.110
Ericsson 4449 (18x13.2x9.4)	B	From Leg	4.000	0.0000	165.000	No Ice	1.980	1.410	0.070
(AT&T)			0.000			1/2" Ice	2.157	1.566	0.089
			0.000			1" Ice	2.341	1.729	0.110
Ericsson 4449 (18x13.2x9.4)	C	From Leg	4.000	0.0000	165.000	No Ice	1.980	1.410	0.070
(AT&T)			0.000			1/2" Ice	2.157	1.566	0.089
			0.000			1" Ice	2.341	1.729	0.110
CCI HPA65R-BU8A	A	From Leg	4.000	0.0000	165.000	No Ice	11.233	8.044	0.054
(96x11.7x7.6)			0.000			1/2" Ice	11.848	8.637	0.121
(AT&T)			0.000			1" Ice	12.471	9.238	0.195
CCI HPA65R-BU8A	B	From Leg	4.000	0.0000	165.000	No Ice	11.233	8.044	0.054
(96x11.7x7.6)			0.000			1/2" Ice	11.848	8.637	0.121
(AT&T)			0.000			1" Ice	12.471	9.238	0.195
CCI HPA65R-BU8A	C	From Leg	4.000	0.0000	165.000	No Ice	11.233	8.044	0.054
(96x11.7x7.6)			0.000			1/2" Ice	11.848	8.637	0.121
(AT&T)			0.000			1" Ice	12.471	9.238	0.195
Ericsson RRUS-4483	A	From Leg	4.000	0.0000	165.000	No Ice	1.650	1.125	0.072
(15x13.2x9)			0.000			1/2" Ice	1.810	1.262	0.088
(AT&T)			0.000			1" Ice	1.978	1.406	0.106
Ericsson RRUS-4483	B	From Leg	4.000	0.0000	165.000	No Ice	1.650	1.125	0.072
(15x13.2x9)			0.000			1/2" Ice	1.810	1.262	0.088
(AT&T)			0.000			1" Ice	1.978	1.406	0.106
Ericsson RRUS-4483	C	From Leg	4.000	0.0000	165.000	No Ice	1.650	1.125	0.072
(15x13.2x9)			0.000			1/2" Ice	1.810	1.262	0.088
(AT&T)			0.000			1" Ice	1.978	1.406	0.106
Raycap DC6-48-60-0-8C-EV	A	From Leg	1.000	0.0000	165.000	No Ice	4.783	2.736	0.026
(31.4x18.28x10.24)			0.000			1/2" Ice	5.063	2.962	0.063
(AT&T)			0.000			1" Ice	5.350	3.195	0.104
Raycap DC6-48-60-0-8C-EV	B	From Leg	1.000	0.0000	165.000	No Ice	4.783	2.736	0.026
(31.4x18.28x10.24)			0.000			1/2" Ice	5.063	2.962	0.063
(AT&T)			0.000			1" Ice	5.350	3.195	0.104
Raycap DC6-48-60-0-8C-EV	C	From Leg	1.000	0.0000	165.000	No Ice	4.783	2.736	0.026
(31.4x18.28x10.24)			0.000			1/2" Ice	5.063	2.962	0.063
(AT&T)			0.000			1" Ice	5.350	3.195	0.104
Ice Bridge (2'x2')	C	From Leg	1.000	0.0000	165.000	No Ice	2.850	3.000	0.030
(AT&T)			0.000			1/2" Ice	3.500	4.000	0.045
			0.000			1" Ice	4.150	5.000	0.060
KRY 112 89/4	A	From Leg	4.000	0.0000	280.000	No Ice	0.559	0.362	0.015

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(T-Mobile)			0.000			1/2" Ice	0.658	0.445	0.020
			0.000			1" Ice	0.764	0.538	0.027
KRY 112 89/4	B	From Leg	4.000	0.0000	280.000	No Ice	0.559	0.362	0.015
(T-Mobile)			0.000			1/2" Ice	0.658	0.445	0.020
			0.000			1" Ice	0.764	0.538	0.027
KRY 112 89/4	C	From Leg	4.000	0.0000	280.000	No Ice	0.559	0.362	0.015
(T-Mobile)			0.000			1/2" Ice	0.658	0.445	0.020
			0.000			1" Ice	0.764	0.538	0.027
Sector Frames	C	None		0.0000	280.000	No Ice	25.000	25.000	1.000
(T-Mobile)						1/2" Ice	30.000	30.000	1.250
						1" Ice	35.000	35.000	1.500
KRY 112 144/1	A	From Leg	4.000	0.0000	280.000	No Ice	0.350	0.175	0.011
(T-Mobile)			0.000			1/2" Ice	0.426	0.234	0.014
			0.000			1" Ice	0.509	0.301	0.019
KRY 112 144/1	B	From Leg	4.000	0.0000	280.000	No Ice	0.350	0.175	0.011
(T-Mobile)			0.000			1/2" Ice	0.426	0.234	0.014
			0.000			1" Ice	0.509	0.301	0.019
KRY 112 144/1	C	From Leg	4.000	0.0000	280.000	No Ice	0.350	0.175	0.011
(T-Mobile)			0.000			1/2" Ice	0.426	0.234	0.014
			0.000			1" Ice	0.509	0.301	0.019
RFS	A	From Leg	4.000	0.0000	280.000	No Ice	6.586	2.150	0.041
APX16DWV-16DWV-S-E-A			0.000			1/2" Ice	6.962	2.490	0.074
20 (55.9x13.3x3.15)			0.000			1" Ice	7.344	2.837	0.113
(T-Mobile)									
RFS	B	From Leg	4.000	0.0000	280.000	No Ice	6.586	2.150	0.041
APX16DWV-16DWV-S-E-A			0.000			1/2" Ice	6.962	2.490	0.074
20 (55.9x13.3x3.15)			0.000			1" Ice	7.344	2.837	0.113
(T-Mobile)									
RFS	C	From Leg	4.000	0.0000	280.000	No Ice	6.586	2.150	0.041
APX16DWV-16DWV-S-E-A			0.000			1/2" Ice	6.962	2.490	0.074
20 (55.9x13.3x3.15)			0.000			1" Ice	7.344	2.837	0.113
(T-Mobile)									
RFS	A	From Leg	4.000	0.0000	280.000	No Ice	20.267	8.744	0.101
APXVAARR24_43-U-NA20			0.000			1/2" Ice	20.915	9.342	0.213
(95.9x24x8.7)			0.000			1" Ice	21.570	9.947	0.334
(T-Mobile)									
RFS	B	From Leg	4.000	0.0000	280.000	No Ice	20.267	8.744	0.101
APXVAARR24_43-U-NA20			0.000			1/2" Ice	20.915	9.342	0.213
(95.9x24x8.7)			0.000			1" Ice	21.570	9.947	0.334
(T-Mobile)									
RFS	C	From Leg	4.000	0.0000	280.000	No Ice	20.267	8.744	0.101
APXVAARR24_43-U-NA20			0.000			1/2" Ice	20.915	9.342	0.213
(95.9x24x8.7)			0.000			1" Ice	21.570	9.947	0.334
(T-Mobile)									
Ericsson RRU 4449 B71B12	A	From Leg	4.000	0.0000	280.000	No Ice	1.639	1.291	0.074
(14.9x13.2x10.4)			0.000			1/2" Ice	1.799	1.436	0.091
(T-Mobile)			0.000			1" Ice	1.966	1.587	0.111
Ericsson RRU 4449 B71B12	B	From Leg	4.000	0.0000	280.000	No Ice	1.639	1.291	0.074
(14.9x13.2x10.4)			0.000			1/2" Ice	1.799	1.436	0.091
(T-Mobile)			0.000			1" Ice	1.966	1.587	0.111
Ericsson RRU 4449 B71B12	C	From Leg	4.000	0.0000	280.000	No Ice	1.639	1.291	0.074
(14.9x13.2x10.4)			0.000			1/2" Ice	1.799	1.436	0.091
(T-Mobile)			0.000			1" Ice	1.966	1.587	0.111
Ericsson AIR6488 2.5GHz	A	From Leg	4.000	0.0000	280.000	No Ice	5.945	2.268	0.128
(34.8x20.5x7.2)			0.000			1/2" Ice	6.256	2.498	0.166
(T-Mobile)			0.000			1" Ice	6.574	2.735	0.208
Ericsson AIR6488 2.5GHz	B	From Leg	4.000	0.0000	280.000	No Ice	5.945	2.268	0.128

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
(34.8x20.5x7.2)			0.000			1/2" Ice	6.256	2.498	0.166
(T-Mobile)			0.000			1" Ice	6.574	2.735	0.208
Ericsson AIR6488 2.5GHz	C	From Leg	4.000	0.0000	280.000	No Ice	5.945	2.268	0.128
(34.8x20.5x7.2)			0.000			1/2" Ice	6.256	2.498	0.166
(T-Mobile)			0.000			1" Ice	6.574	2.735	0.208
Ericsson AIR 32	A	From Leg	4.000	0.0000	280.000	No Ice	6.510	4.712	0.132
(T-Mobile)			0.000			1/2" Ice	6.887	5.068	0.178
			0.000			1" Ice	7.271	5.431	0.229
Ericsson AIR 32	B	From Leg	4.000	0.0000	280.000	No Ice	6.510	4.712	0.132
(T-Mobile)			0.000			1/2" Ice	6.887	5.068	0.178
			0.000			1" Ice	7.271	5.431	0.229
Ericsson AIR 32	C	From Leg	4.000	0.0000	280.000	No Ice	6.510	4.712	0.132
(T-Mobile)			0.000			1/2" Ice	6.887	5.068	0.178
			0.000			1" Ice	7.271	5.431	0.229
Ericsson 4415 B25	A	From Leg	4.000	0.0000	280.000	No Ice	1.650	0.682	0.000
(15x13.2x5.4)			0.000			1/2" Ice	1.810	0.794	0.013
(T-Mobile)			0.000			1" Ice	1.978	0.916	0.027
Ericsson 4415 B25	B	From Leg	4.000	0.0000	280.000	No Ice	1.650	0.682	0.000
(15x13.2x5.4)			0.000			1/2" Ice	1.810	0.794	0.013
(T-Mobile)			0.000			1" Ice	1.978	0.916	0.027
Ericsson 4415 B25	C	From Leg	4.000	0.0000	280.000	No Ice	1.650	0.682	0.000
(15x13.2x5.4)			0.000			1/2" Ice	1.810	0.794	0.013
(T-Mobile)			0.000			1" Ice	1.978	0.916	0.027
MTC3975083	C	None		0.0000	225.000	No Ice	30.000	30.000	1.000
(Dish)						1/2" Ice	35.000	35.000	1.250
						1" Ice	40.000	40.000	1.500
Fujitsu TA08025-B605	A	From Leg	4.000	0.0000	225.000	No Ice	1.964	1.189	0.075
(15.75x14.96x9.06)			0.000			1/2" Ice	2.138	1.331	0.093
(Dish)			0.000			1" Ice	2.320	1.480	0.114
Fujitsu TA08025-B605	B	From Leg	4.000	0.0000	225.000	No Ice	1.964	1.189	0.075
(15.75x14.96x9.06)			0.000			1/2" Ice	2.138	1.331	0.093
(Dish)			0.000			1" Ice	2.320	1.480	0.114
Fujitsu TA08025-B605	C	From Leg	4.000	0.0000	225.000	No Ice	1.964	1.189	0.075
(15.75x14.96x9.06)			0.000			1/2" Ice	2.138	1.331	0.093
(Dish)			0.000			1" Ice	2.320	1.480	0.114
Fujitsu TSA08025-B604	A	From Leg	4.000	0.0000	225.000	No Ice	1.964	1.033	0.063
(15.75x14.96x7.87)			0.000			1/2" Ice	2.138	1.168	0.080
(Dish)			0.000			1" Ice	2.320	1.310	0.099
Fujitsu TSA08025-B604	B	From Leg	4.000	0.0000	225.000	No Ice	1.964	1.033	0.063
(15.75x14.96x7.87)			0.000			1/2" Ice	2.138	1.168	0.080
(Dish)			0.000			1" Ice	2.320	1.310	0.099
Fujitsu TSA08025-B604	C	From Leg	4.000	0.0000	225.000	No Ice	1.964	1.033	0.063
(15.75x14.96x7.87)			0.000			1/2" Ice	2.138	1.168	0.080
(Dish)			0.000			1" Ice	2.320	1.310	0.099
PCTEL	C	From Leg	4.000	0.0000	225.000	No Ice	0.146	0.133	0.001
GPSGL-TMG-SPI-40NCB			0.000			1/2" Ice	0.197	0.183	0.002
(Dish)			0.000			1" Ice	0.255	0.239	0.005
Raycap RDIDC-9181-PF-8	C	From Leg	4.000	0.0000	225.000	No Ice	2.561	1.342	0.022
(18.97x16.2x8.49)			0.000			1/2" Ice	2.760	1.498	0.043
(Dish)			0.000			1" Ice	2.967	1.662	0.067
JMA Wireless	A	From Leg	4.000	0.0000	225.000	No Ice	17.400	5.867	0.065
MX08FRO665-21 (72x29x8)			0.000			1/2" Ice	17.965	6.325	0.162
(Dish)			0.000			1" Ice	18.537	6.790	0.267
JMA Wireless	B	From Leg	4.000	0.0000	225.000	No Ice	17.400	5.867	0.065
MX08FRO665-21 (72x29x8)			0.000			1/2" Ice	17.965	6.325	0.162
(Dish)			0.000			1" Ice	18.537	6.790	0.267
JMA Wireless	C	From Leg	4.000	0.0000	225.000	No Ice	17.400	5.867	0.065

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
MX08FRO665-21 (72x29x8) (Dish)			0.000 0.000			1/2" Ice 1" Ice	17.965 18.537	6.325 6.790	0.162 0.267

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 ft^2	Weight K
8' Grid Dish (140lbs 20.1CaAa)	B	Grid	From Leg	1.000 0.000 0.000	0.0000		239.000	8.000	No Ice 1/2" Ice 1" Ice	20.106 23.000 25.894	0.140 0.320 0.590
8' Grid Dish (140lbs 20.1CaAa)	C	Grid	From Leg	1.000 0.000 0.000	0.0000		247.000	8.000	No Ice 1/2" Ice 1" Ice	20.106 23.000 25.894	0.140 0.320 0.590
3' Grid Dish	A	Grid	From Leg	1.000 0.000 0.000	0.0000		339.000	3.000	No Ice 1/2" Ice 1" Ice	2.830 7.467 12.103	0.030 0.068 0.107
3' Dish w/ Radomes	B	Paraboloid w/Radome	From Leg	1.000 0.000 0.000	0.0000		351.000	3.000	No Ice 1/2" Ice 1" Ice	7.069 7.467 7.865	0.035 0.073 0.112
6' Grid Dish	C	Grid	From Leg	1.000 0.000 0.000	0.0000		435.000	6.000	No Ice 1/2" Ice 1" Ice	11.000 14.000 18.000	0.250 0.399 0.548

Tower Pressures - No Ice

G_H = 0.850 (base tower), 1.350 (upper structure)

Section Elevation ft	z ft	K_z	q_z ksf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg % %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1 492.000-477.000	484.500	1.764	0.049	10.781	A	0.000	10.781	10.781	100.00	0.000	0.000
					B	0.000	10.781		100.00	0.000	0.000
					C	0.000	10.781		100.00	0.000	0.000
L2 477.000-457.000	467.000	1.751	0.049	14.375	A	0.000	14.375	14.375	100.00	0.000	0.000
					B	0.000	14.375		100.00	0.000	0.000
					C	0.000	14.375		100.00	0.000	0.000
T1 457.000-452.000	454.500	1.741	0.049	20.938	A	4.045	1.875	1.875	31.67	0.260	0.000
					B	4.045	1.875		31.67	0.000	0.000
					C	4.045	1.875		31.67	0.000	0.000
T2 452.000-442.000	447.000	1.735	0.049	41.875	A	4.388	3.750	3.750	46.08	0.865	0.000
					B	4.388	3.750		46.08	0.000	0.000
					C	4.388	3.750		46.08	0.132	0.000
T3	432.000	1.722	0.048	83.750	A	7.829	7.500	7.500	48.93	4.564	0.000

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
442.000-422.000					B	7.829	7.500		48.93	5.346	0.000
					C	7.829	7.500		48.93	3.692	0.000
T4 422.000-402.000	412.000	1.705	0.048	83.750	A	7.670	7.500	7.500	49.44	6.090	0.000
					B	7.670	7.500		49.44	8.224	0.000
					C	7.670	7.500		49.44	6.456	0.000
T5 402.000-382.000	392.000	1.687	0.047	83.750	A	7.670	7.500	7.500	49.44	6.090	0.000
					B	7.670	7.500		49.44	8.224	0.000
					C	7.670	7.500		49.44	6.456	0.000
T6 382.000-362.000	372.000	1.669	0.047	83.750	A	7.829	7.500	7.500	48.93	6.090	0.000
					B	7.829	7.500		48.93	8.224	0.000
					C	7.829	7.500		48.93	6.456	0.000
T7 362.000-342.000	352.000	1.65	0.046	83.750	A	7.670	7.500	7.500	49.44	6.090	0.000
					B	7.670	7.500		49.44	8.224	0.000
					C	7.670	7.500		49.44	7.235	0.000
T8 342.000-322.000	332.000	1.629	0.046	83.750	A	7.670	7.500	7.500	49.44	7.943	0.000
					B	7.670	7.500		49.44	8.224	0.000
					C	7.670	7.500		49.44	8.186	0.000
T9 322.000-302.000	312.000	1.608	0.045	84.167	A	7.228	8.333	8.333	53.55	8.270	0.000
					B	7.228	8.333		53.55	8.224	0.000
					C	7.228	8.333		53.55	8.186	0.000
T10 302.000-282.000	292.000	1.586	0.044	84.167	A	7.628	8.333	8.333	52.21	11.370	0.000
					B	7.628	8.333		52.21	8.224	0.000
					C	7.628	8.333		52.21	8.627	0.000
T11 282.000-262.000	272.000	1.562	0.044	84.583	A	8.697	9.167	9.167	51.31	43.914	0.000
					B	8.697	9.167		51.31	29.608	0.000
					C	8.697	9.167		51.31	13.010	0.000
T12 262.000-242.000	252.000	1.537	0.043	84.583	A	7.743	9.167	9.167	54.21	48.075	0.000
					B	7.743	9.167		54.21	31.984	0.000
					C	7.743	9.167		54.21	22.706	0.000
T13 242.000-222.000	232.000	1.511	0.042	84.583	A	7.586	9.167	9.167	54.72	51.563	0.000
					B	7.586	9.167		54.72	31.984	0.000
					C	7.586	9.167		54.72	26.400	0.000
T14 222.000-202.000	212.000	1.483	0.042	85.000	A	8.806	10.000	10.000	53.18	51.890	0.000
					B	8.806	10.000		53.18	31.984	0.000
					C	8.806	10.000		53.18	29.766	0.000
T15 202.000-182.000	192.000	1.452	0.041	85.000	A	7.544	10.000	10.000	57.00	51.890	0.000
					B	7.544	10.000		57.00	31.984	0.000
					C	7.544	10.000		57.00	29.766	0.000
T16 182.000-162.000	172.000	1.419	0.040	85.000	A	7.544	10.000	10.000	57.00	51.890	0.000
					B	7.544	10.000		57.00	31.984	0.000
					C	7.544	10.000		57.00	31.587	0.000
T17 162.000-142.000	152.000	1.382	0.039	85.000	A	7.701	10.000	10.000	56.50	51.890	0.000
					B	7.701	10.000		56.50	31.984	0.000
					C	7.701	10.000		56.50	41.906	0.000
T18 142.000-122.000	132.000	1.342	0.038	85.000	A	7.544	10.000	10.000	57.00	53.852	0.000
					B	7.544	10.000		57.00	31.984	0.000
					C	7.544	10.000		57.00	41.906	0.000
T19 122.000-112.000	117.000	1.308	0.037	42.500	A	4.316	5.000	5.000	53.67	28.125	0.000
					B	4.316	5.000		53.67	15.992	0.000
					C	4.316	5.000		53.67	20.953	0.000
T20 112.000-102.000	107.000	1.284	0.036	42.500	A	4.319	5.000	5.000	53.65	28.779	0.000
					B	4.319	5.000		53.65	15.992	0.000
					C	4.319	5.000		53.65	20.953	0.000
T21 102.000-82.000	92.000	1.244	0.035	85.000	A	7.701	10.000	10.000	56.50	58.430	0.000
					B	7.701	10.000		56.50	31.984	0.000
					C	7.701	10.000		56.50	41.906	0.000
T22 82.000-62.000	72.000	1.181	0.033	85.000	A	7.544	10.000	10.000	57.00	58.430	0.000
					B	7.544	10.000		57.00	31.984	0.000
					C	7.544	10.000		57.00	41.906	0.000
T23	52.000	1.103	0.031	85.000	A	7.701	10.000	10.000	56.50	58.430	0.000

Section Elevation	z	K_Z	q_z	A_G	Face	A_F	A_R	A_{leg}	Leg %	C_AA_A In Face	C_AA_A Out Face
ft	ft		ksf	ft^2		ft^2	ft^2	ft^2		ft^2	ft^2
62.000-42.000					B	7.701	10.000		56.50	31.984	0.000
					C	7.701	10.000		56.50	41.906	0.000
T24	32.000	0.996	0.028	85.000	A	7.544	10.000	10.000	57.00	58.430	0.000
42.000-22.000					B	7.544	10.000		57.00	31.984	0.000
					C	7.544	10.000		57.00	41.906	0.000
T25	12.000	0.85	0.024	85.000	A	8.169	10.000	10.000	55.04	40.901	0.000
22.000-2.000					B	8.169	10.000		55.04	22.389	0.000
					C	8.169	10.000		55.04	30.522	0.000

Tower Pressure - With Ice

G_H = 0.850 (base tower), 1.350 (upper structure)

Section Elevation	z	K_Z	q_z	t_Z	A_G	Face	A_F	A_R	A_{leg}	Leg %	C_AA_A In Face	C_AA_A Out Face
ft	ft		ksf	in	ft^2		ft^2	ft^2	ft^2		ft^2	ft^2
L1	484.500	1.764	0.009	1.3082	14.052	A	0.000	14.052	14.052	100.00	0.000	0.000
492.000-477.000						B	0.000	14.052		100.00	0.000	0.000
						C	0.000	14.052		100.00	0.000	0.000
L2	467.000	1.751	0.009	1.3034	18.720	A	0.000	18.720	18.720	100.00	0.000	0.000
477.000-457.000						B	0.000	18.720		100.00	0.000	0.000
						C	0.000	18.720		100.00	0.000	0.000
T1	454.500	1.741	0.009	1.2999	22.021	A	4.045	7.091	4.041	36.29	1.039	0.000
457.000-452.000						B	4.045	7.091		36.29	0.000	0.000
						C	4.045	7.091		36.29	0.000	0.000
T2	447.000	1.735	0.009	1.2977	44.038	A	4.388	13.770	8.076	44.48	3.460	0.000
452.000-442.000						B	4.388	13.770		44.48	0.000	0.000
						C	4.388	13.770		44.48	0.911	0.000
T3	432.000	1.722	0.009	1.2933	88.061	A	7.829	26.042	16.122	47.60	16.462	0.000
442.000-422.000						B	7.829	26.042		47.60	12.071	0.000
						C	7.829	26.042		47.60	14.297	0.000
T4	412.000	1.705	0.009	1.2872	88.041	A	7.670	25.954	16.081	47.83	21.536	0.000
422.000-402.000						B	7.670	25.954		47.83	18.521	0.000
						C	7.670	25.954		47.83	21.902	0.000
T5	392.000	1.687	0.009	1.2808	88.019	A	7.670	25.862	16.039	47.83	21.459	0.000
402.000-382.000						B	7.670	25.862		47.83	18.470	0.000
						C	7.670	25.862		47.83	21.825	0.000
T6	372.000	1.669	0.009	1.2741	87.997	A	7.829	25.767	15.994	47.61	21.379	0.000
382.000-362.000						B	7.829	25.767		47.61	18.417	0.000
						C	7.829	25.767		47.61	21.745	0.000
T7	352.000	1.65	0.009	1.2671	87.974	A	7.670	25.666	15.947	47.84	21.295	0.000
362.000-342.000						B	7.670	25.666		47.84	18.361	0.000
						C	7.670	25.666		47.84	24.720	0.000
T8	332.000	1.629	0.009	1.2597	87.949	A	7.670	25.560	15.898	47.84	27.342	0.000
342.000-322.000						B	7.670	25.560		47.84	18.301	0.000
						C	7.670	25.560		47.84	28.341	0.000
T9	312.000	1.608	0.009	1.2519	88.340	A	7.228	26.229	16.679	49.85	28.300	0.000
322.000-302.000						B	7.228	26.229		49.85	18.239	0.000
						C	7.228	26.229		49.85	28.216	0.000
T10	292.000	1.586	0.008	1.2436	88.312	A	7.628	26.111	16.624	49.27	36.242	0.000
302.000-282.000						B	7.628	26.111		49.27	18.173	0.000
						C	7.628	26.111		49.27	30.266	0.000
T11	272.000	1.562	0.008	1.2348	88.699	A	8.697	26.767	17.399	49.06	81.386	0.000
282.000-262.000						B	8.697	26.767		49.06	41.921	0.000
						C	8.697	26.767		49.06	42.152	0.000

Section Elevation ft	z ft	K_Z	q_z ksf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T12 262.000-242.000	252.000	1.537	0.008	1.2254	88.668	A	7.743	26.633	17.336	50.43	87.876	0.000
						B	7.743	26.633		50.43	44.427	0.000
						C	7.743	26.633		50.43	64.100	0.000
T13 242.000-222.000	232.000	1.511	0.008	1.2153	88.634	A	7.586	26.489	17.269	50.68	98.793	0.000
						B	7.586	26.489		50.68	44.275	0.000
						C	7.586	26.489		50.68	72.166	0.000
T14 222.000-202.000	212.000	1.483	0.008	1.2044	89.015	A	8.806	27.116	18.030	50.19	99.395	0.000
						B	8.806	27.116		50.19	44.111	0.000
						C	8.806	27.116		50.19	79.241	0.000
T15 202.000-182.000	192.000	1.452	0.008	1.1926	88.975	A	7.544	26.948	17.950	52.04	98.900	0.000
						B	7.544	26.948		52.04	43.933	0.000
						C	7.544	26.948		52.04	78.780	0.000
T16 182.000-162.000	172.000	1.419	0.008	1.1795	88.932	A	7.544	26.762	17.863	52.07	98.357	0.000
						B	7.544	26.762		52.07	43.737	0.000
						C	7.544	26.762		52.07	82.288	0.000
T17 162.000-142.000	152.000	1.382	0.007	1.1650	88.883	A	7.701	26.556	17.767	51.86	97.754	0.000
						B	7.701	26.556		51.86	43.520	0.000
						C	7.701	26.556		51.86	104.268	0.000
T18 142.000-122.000	132.000	1.342	0.007	1.1487	88.829	A	7.544	26.324	17.658	52.14	103.172	0.000
						B	7.544	26.324		52.14	43.275	0.000
						C	7.544	26.324		52.14	103.405	0.000
T19 122.000-112.000	117.000	1.308	0.007	1.1349	44.392	A	4.316	13.681	8.783	48.80	54.970	0.000
						B	4.316	13.681		48.80	21.534	0.000
						C	4.316	13.681		48.80	51.338	0.000
T20 112.000-102.000	107.000	1.284	0.007	1.1248	44.375	A	6.150	10.858	8.749	51.44	56.724	0.000
						B	6.150	10.858		51.44	21.458	0.000
						C	6.150	10.858		51.44	51.072	0.000
T21 102.000-82.000	92.000	1.244	0.007	1.1080	88.693	A	7.701	25.745	17.386	51.98	115.215	0.000
						B	7.701	25.745		51.98	42.664	0.000
						C	7.701	25.745		51.98	101.251	0.000
T22 82.000-62.000	72.000	1.181	0.006	1.0811	88.604	A	7.544	25.364	17.208	52.29	113.777	0.000
						B	7.544	25.364		52.29	42.261	0.000
						C	7.544	25.364		52.29	99.833	0.000
T23 62.000-42.000	52.000	1.103	0.006	1.0465	88.488	A	7.701	24.872	16.977	52.12	111.922	0.000
						B	7.701	24.872		52.12	41.742	0.000
						C	7.701	24.872		52.12	98.003	0.000
T24 42.000-22.000	32.000	0.996	0.005	0.9969	88.323	A	7.544	24.167	16.646	52.49	109.264	0.000
						B	7.544	24.167		52.49	40.998	0.000
						C	7.544	24.167		52.49	95.382	0.000
T25 22.000-2.000	12.000	0.85	0.005	0.9038	88.013	A	8.169	23.409	16.025	50.75	72.993	0.000
						B	8.169	23.409		50.75	27.721	0.000
						C	8.169	23.409		50.75	65.595	0.000

Tower Pressure - Service

G_H = 0.850 (base tower), 1.350 (upper structure)

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 492.000-477.000	484.500	1.764	0.013	10.781	A	0.000	10.781	10.781	100.00	0.000	0.000
					B	0.000	10.781		100.00	0.000	0.000
					C	0.000	10.781		100.00	0.000	0.000
L2	467.000	1.751	0.013	14.375	A	0.000	14.375	14.375	100.00	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
477.000-457.000					B	0.000	14.375		100.00	0.000	0.000
					C	0.000	14.375		100.00	0.000	0.000
T1 457.000-452.000	454.500	1.741	0.013	20.938	A	4.045	1.875	1.875	31.67	0.260	0.000
					B	4.045	1.875		31.67	0.000	0.000
					C	4.045	1.875		31.67	0.000	0.000
T2 452.000-442.000	447.000	1.735	0.013	41.875	A	4.388	3.750	3.750	46.08	0.865	0.000
					B	4.388	3.750		46.08	0.000	0.000
					C	4.388	3.750		46.08	0.132	0.000
T3 442.000-422.000	432.000	1.722	0.013	83.750	A	7.829	7.500	7.500	48.93	4.564	0.000
					B	7.829	7.500		48.93	5.346	0.000
					C	7.829	7.500		48.93	3.692	0.000
T4 422.000-402.000	412.000	1.705	0.013	83.750	A	7.670	7.500	7.500	49.44	6.090	0.000
					B	7.670	7.500		49.44	8.224	0.000
					C	7.670	7.500		49.44	6.456	0.000
T5 402.000-382.000	392.000	1.687	0.013	83.750	A	7.670	7.500	7.500	49.44	6.090	0.000
					B	7.670	7.500		49.44	8.224	0.000
					C	7.670	7.500		49.44	6.456	0.000
T6 382.000-362.000	372.000	1.669	0.013	83.750	A	7.829	7.500	7.500	48.93	6.090	0.000
					B	7.829	7.500		48.93	8.224	0.000
					C	7.829	7.500		48.93	6.456	0.000
T7 362.000-342.000	352.000	1.65	0.013	83.750	A	7.670	7.500	7.500	49.44	6.090	0.000
					B	7.670	7.500		49.44	8.224	0.000
					C	7.670	7.500		49.44	7.235	0.000
T8 342.000-322.000	332.000	1.629	0.012	83.750	A	7.670	7.500	7.500	49.44	7.943	0.000
					B	7.670	7.500		49.44	8.224	0.000
					C	7.670	7.500		49.44	8.186	0.000
T9 322.000-302.000	312.000	1.608	0.012	84.167	A	7.228	8.333	8.333	53.55	8.270	0.000
					B	7.228	8.333		53.55	8.224	0.000
					C	7.228	8.333		53.55	8.186	0.000
T10 302.000-282.000	292.000	1.586	0.012	84.167	A	7.628	8.333	8.333	52.21	11.370	0.000
					B	7.628	8.333		52.21	8.224	0.000
					C	7.628	8.333		52.21	8.627	0.000
T11 282.000-262.000	272.000	1.562	0.012	84.583	A	8.697	9.167	9.167	51.31	43.914	0.000
					B	8.697	9.167		51.31	29.608	0.000
					C	8.697	9.167		51.31	13.010	0.000
T12 262.000-242.000	252.000	1.537	0.012	84.583	A	7.743	9.167	9.167	54.21	48.075	0.000
					B	7.743	9.167		54.21	31.984	0.000
					C	7.743	9.167		54.21	22.706	0.000
T13 242.000-222.000	232.000	1.511	0.012	84.583	A	7.586	9.167	9.167	54.72	51.563	0.000
					B	7.586	9.167		54.72	31.984	0.000
					C	7.586	9.167		54.72	26.400	0.000
T14 222.000-202.000	212.000	1.483	0.011	85.000	A	8.806	10.000	10.000	53.18	51.890	0.000
					B	8.806	10.000		53.18	31.984	0.000
					C	8.806	10.000		53.18	29.766	0.000
T15 202.000-182.000	192.000	1.452	0.011	85.000	A	7.544	10.000	10.000	57.00	51.890	0.000
					B	7.544	10.000		57.00	31.984	0.000
					C	7.544	10.000		57.00	29.766	0.000
T16 182.000-162.000	172.000	1.419	0.011	85.000	A	7.544	10.000	10.000	57.00	51.890	0.000
					B	7.544	10.000		57.00	31.984	0.000
					C	7.544	10.000		57.00	31.587	0.000
T17 162.000-142.000	152.000	1.382	0.011	85.000	A	7.701	10.000	10.000	56.50	51.890	0.000
					B	7.701	10.000		56.50	31.984	0.000
					C	7.701	10.000		56.50	41.906	0.000
T18 142.000-122.000	132.000	1.342	0.010	85.000	A	7.544	10.000	10.000	57.00	53.852	0.000
					B	7.544	10.000		57.00	31.984	0.000
					C	7.544	10.000		57.00	41.906	0.000
T19 122.000-112.000	117.000	1.308	0.010	42.500	A	4.316	5.000	5.000	53.67	28.125	0.000
					B	4.316	5.000		53.67	15.992	0.000
					C	4.316	5.000		53.67	20.953	0.000
T20	107.000	1.284	0.010	42.500	A	4.319	5.000	5.000	53.65	28.779	0.000

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
112.000-102.000					B	4.319	5.000		53.65	15.992	0.000
					C	4.319	5.000		53.65	20.953	0.000
T21 102.000-82.000	92.000	1.244	0.009	85.000	A	7.701	10.000	10.000	56.50	58.430	0.000
					B	7.701	10.000		56.50	31.984	0.000
					C	7.701	10.000		56.50	41.906	0.000
T22 82.000-62.000	72.000	1.181	0.009	85.000	A	7.544	10.000	10.000	57.00	58.430	0.000
					B	7.544	10.000		57.00	31.984	0.000
					C	7.544	10.000		57.00	41.906	0.000
T23 62.000-42.000	52.000	1.103	0.008	85.000	A	7.701	10.000	10.000	56.50	58.430	0.000
					B	7.701	10.000		56.50	31.984	0.000
					C	7.701	10.000		56.50	41.906	0.000
T24 42.000-22.000	32.000	0.996	0.008	85.000	A	7.544	10.000	10.000	57.00	58.430	0.000
					B	7.544	10.000		57.00	31.984	0.000
					C	7.544	10.000		57.00	41.906	0.000
T25 22.000-2.000	12.000	0.85	0.006	85.000	A	8.169	10.000	10.000	55.04	40.901	0.000
					B	8.169	10.000		55.04	22.389	0.000
					C	8.169	10.000		55.04	30.522	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1 492.000-477.000	0.000	0.535	A	1	0.6	0.049	1	1	10.781	0.432	0.029	C
			B	1	0.6		1	1	10.781			
			C	1	0.6		1	1	10.781			
L2 477.000-457.000	0.000	0.713	A	1	0.6	0.049	1	1	14.375	0.572	0.029	C
			B	1	0.6		1	1	14.375			
			C	1	0.6		1	1	14.375			
T1 457.000-452.000	0.000	0.418	A	0.283	2.343	0.049	1	1	5.158	0.508	0.102	C
			B	0.283	2.343		1	1	5.158			
			C	0.283	2.343		1	1	5.158			
T2 452.000-442.000	0.002	0.643	A	0.194	2.615	0.049	1	1	6.538	0.732	0.073	C
			B	0.194	2.615		1	1	6.538			
			C	0.194	2.615		1	1	6.538			
T3 442.000-422.000	0.055	1.341	A	0.183	2.654	0.048	1	1	12.117	1.655	0.083	C
			B	0.183	2.654		1	1	12.117			
			C	0.183	2.654		1	1	12.117			
T4 422.000-402.000	0.089	1.229	A	0.181	2.66	0.048	1	1	11.956	1.799	0.090	C
			B	0.181	2.66		1	1	11.956			
			C	0.181	2.66		1	1	11.956			
T5 402.000-382.000	0.089	1.229	A	0.181	2.66	0.047	1	1	11.956	1.780	0.089	C
			B	0.181	2.66		1	1	11.956			
			C	0.181	2.66		1	1	11.956			
T6 382.000-362.000	0.089	1.341	A	0.183	2.654	0.047	1	1	12.117	1.775	0.089	C
			B	0.183	2.654		1	1	12.117			
			C	0.183	2.654		1	1	12.117			
T7 362.000-342.000	0.091	1.229	A	0.181	2.66	0.046	1	1	11.956	1.759	0.088	C
			B	0.181	2.66		1	1	11.956			
			C	0.181	2.66		1	1	11.956			
T8 342.000-322.000	0.098	1.229	A	0.181	2.66	0.046	1	1	11.956	1.803	0.090	C
			B	0.181	2.66		1	1	11.956			
			C	0.181	2.66		1	1	11.956			
T9 322.000-302.000	0.099	1.440	A	0.185	2.647	0.045	1	1	11.994	1.785	0.089	C
			B	0.185	2.647		1	1	11.994			
			C	0.185	2.647		1	1	11.994			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
T10	0.113	1.419	A	0.19	2.631	0.044	1	1	12.401	1.873	0.094	C
302.000-282.0			B	0.19	2.631		1	1	12.401			
00			C	0.19	2.631		1	1	12.401			
T11	0.354	1.858	A	0.211	2.559	0.044	1	1	13.982	2.833	0.142	A
282.000-262.0			B	0.211	2.559		1	1	13.982			
00			C	0.211	2.559		1	1	13.982			
T12	0.422	1.742	A	0.2	2.596	0.043	1	1	13.009	2.966	0.148	A
262.000-242.0			B	0.2	2.596		1	1	13.009			
00			C	0.2	2.596		1	1	13.009			
T13	0.448	1.629	A	0.198	2.602	0.042	1	1	12.849	3.039	0.152	A
242.000-222.0			B	0.198	2.602		1	1	12.849			
00			C	0.198	2.602		1	1	12.849			
T14	0.463	2.201	A	0.221	2.527	0.042	1	1	14.591	3.181	0.159	A
222.000-202.0			B	0.221	2.527		1	1	14.591			
00			C	0.221	2.527		1	1	14.591			
T15	0.463	1.860	A	0.206	2.575	0.041	1	1	13.301	3.025	0.151	A
202.000-182.0			B	0.206	2.575		1	1	13.301			
00			C	0.206	2.575		1	1	13.301			
T16	0.467	1.860	A	0.206	2.575	0.040	1	1	13.301	2.975	0.149	A
182.000-162.0			B	0.206	2.575		1	1	13.301			
00			C	0.206	2.575		1	1	13.301			
T17	0.485	1.972	A	0.208	2.569	0.039	1	1	13.460	3.014	0.151	A
162.000-142.0			B	0.208	2.569		1	1	13.460			
00			C	0.208	2.569		1	1	13.460			
T18	0.491	1.860	A	0.206	2.575	0.038	1	1	13.301	2.953	0.148	A
142.000-122.0			B	0.206	2.575		1	1	13.301			
00			C	0.206	2.575		1	1	13.301			
T19	0.249	0.959	A	0.219	2.533	0.037	1	1	7.206	1.497	0.150	A
122.000-112.0			B	0.219	2.533		1	1	7.206			
00			C	0.219	2.533		1	1	7.206			
T20	0.251	1.060	A	0.219	2.533	0.036	1	1	7.210	1.482	0.148	A
112.000-102.0			B	0.219	2.533		1	1	7.210			
00			C	0.219	2.533		1	1	7.210			
T21	0.504	1.972	A	0.208	2.569	0.035	1	1	13.460	2.828	0.141	A
102.000-82.00			B	0.208	2.569		1	1	13.460			
0			C	0.208	2.569		1	1	13.460			
T22	0.504	1.860	A	0.206	2.575	0.033	1	1	13.301	2.677	0.134	A
82.000-62.000			B	0.206	2.575		1	1	13.301			
			C	0.206	2.575		1	1	13.301			
T23	0.504	1.972	A	0.208	2.569	0.031	1	1	13.460	2.508	0.125	A
62.000-42.000			B	0.208	2.569		1	1	13.460			
			C	0.208	2.569		1	1	13.460			
T24	0.504	1.860	A	0.206	2.575	0.028	1	1	13.301	2.256	0.113	A
42.000-22.000			B	0.206	2.575		1	1	13.301			
			C	0.206	2.575		1	1	13.301			
T25	0.358	1.889	A	0.214	2.551	0.024	1	1	13.940	1.598	0.080	A
22.000-2.000			B	0.214	2.551		1	1	13.940			
			C	0.214	2.551		1	1	13.940			
Sum Weight:	7.195	39.321								55.302		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.000	0.535	A	1	0.6	0.049	1	1	10.781	0.432	0.029	C
492.000-477.0			B	1	0.6		1	1	10.781			
00			C	1	0.6		1	1	10.781			
L2	0.000	0.713	A	1	0.6	0.049	1	1	14.375	0.572	0.029	C
477.000-457.0			B	1	0.6		1	1	14.375			
00			C	1	0.6		1	1	14.375			
T1	0.000	0.418	A	0.283	2.343	0.049	0.8	1	4.349	0.429	0.086	C
457.000-452.0			B	0.283	2.343		0.8	1	4.349			
00			C	0.283	2.343		0.8	1	4.349			
T2	0.002	0.643	A	0.194	2.615	0.049	0.8	1	5.661	0.637	0.064	C
452.000-442.0			B	0.194	2.615		0.8	1	5.661			
00			C	0.194	2.615		0.8	1	5.661			
T3	0.055	1.341	A	0.183	2.654	0.048	0.8	1	10.551	1.484	0.074	C
442.000-422.0			B	0.183	2.654		0.8	1	10.551			
00			C	0.183	2.654		0.8	1	10.551			
T4	0.089	1.229	A	0.181	2.66	0.048	0.8	1	10.422	1.633	0.082	C
422.000-402.0			B	0.181	2.66		0.8	1	10.422			
00			C	0.181	2.66		0.8	1	10.422			
T5	0.089	1.229	A	0.181	2.66	0.047	0.8	1	10.422	1.616	0.081	C
402.000-382.0			B	0.181	2.66		0.8	1	10.422			
00			C	0.181	2.66		0.8	1	10.422			
T6	0.089	1.341	A	0.183	2.654	0.047	0.8	1	10.551	1.609	0.080	C
382.000-362.0			B	0.183	2.654		0.8	1	10.551			
00			C	0.183	2.654		0.8	1	10.551			
T7	0.091	1.229	A	0.181	2.66	0.046	0.8	1	10.422	1.598	0.080	C
362.000-342.0			B	0.181	2.66		0.8	1	10.422			
00			C	0.181	2.66		0.8	1	10.422			
T8	0.098	1.229	A	0.181	2.66	0.046	0.8	1	10.422	1.644	0.082	C
342.000-322.0			B	0.181	2.66		0.8	1	10.422			
00			C	0.181	2.66		0.8	1	10.422			
T9	0.099	1.440	A	0.185	2.647	0.045	0.8	1	10.549	1.638	0.082	C
322.000-302.0			B	0.185	2.647		0.8	1	10.549			
00			C	0.185	2.647		0.8	1	10.549			
T10	0.113	1.419	A	0.19	2.631	0.044	0.8	1	10.875	1.722	0.086	C
302.000-282.0			B	0.19	2.631		0.8	1	10.875			
00			C	0.19	2.631		0.8	1	10.875			
T11	0.354	1.858	A	0.211	2.559	0.044	0.8	1	12.243	2.667	0.133	B
282.000-262.0			B	0.211	2.559		0.8	1	12.243			
00			C	0.211	2.559		0.8	1	12.243			
T12	0.422	1.742	A	0.2	2.596	0.043	0.8	1	11.461	2.819	0.141	B
262.000-242.0			B	0.2	2.596		0.8	1	11.461			
00			C	0.2	2.596		0.8	1	11.461			
T13	0.448	1.629	A	0.198	2.602	0.042	0.8	1	11.332	2.897	0.145	B
242.000-222.0			B	0.198	2.602		0.8	1	11.332			
00			C	0.198	2.602		0.8	1	11.332			
T14	0.463	2.201	A	0.221	2.527	0.042	0.8	1	12.830	3.024	0.151	B
222.000-202.0			B	0.221	2.527		0.8	1	12.830			
00			C	0.221	2.527		0.8	1	12.830			
T15	0.463	1.860	A	0.206	2.575	0.041	0.8	1	11.792	2.891	0.145	B
202.000-182.0			B	0.206	2.575		0.8	1	11.792			
00			C	0.206	2.575		0.8	1	11.792			
T16	0.467	1.860	A	0.206	2.575	0.040	0.8	1	11.792	2.843	0.142	B
182.000-162.0			B	0.206	2.575		0.8	1	11.792			
00			C	0.206	2.575		0.8	1	11.792			
T17	0.485	1.972	A	0.208	2.569	0.039	0.8	1	11.920	2.884	0.144	B
162.000-142.0			B	0.208	2.569		0.8	1	11.920			
00			C	0.208	2.569		0.8	1	11.920			
T18	0.491	1.860	A	0.206	2.575	0.038	0.8	1	11.792	2.829	0.141	B
142.000-122.0			B	0.206	2.575		0.8	1	11.792			
00			C	0.206	2.575		0.8	1	11.792			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
T19	0.249	0.959	A	0.219	2.533	0.037	0.8	1	6.343	1.429	0.143	B
122.000-112.0			B	0.219	2.533		0.8	1	6.343			
00			C	0.219	2.533		0.8	1	6.343			
T20	0.251	1.060	A	0.219	2.533	0.036	0.8	1	6.346	1.415	0.141	B
112.000-102.0			B	0.219	2.533		0.8	1	6.346			
00			C	0.219	2.533		0.8	1	6.346			
T21	0.504	1.972	A	0.208	2.569	0.035	0.8	1	11.920	2.711	0.136	B
102.000-82.00			B	0.208	2.569		0.8	1	11.920			
0			C	0.208	2.569		0.8	1	11.920			
T22	0.504	1.860	A	0.206	2.575	0.033	0.8	1	11.792	2.567	0.128	B
82.000-62.000			B	0.206	2.575		0.8	1	11.792			
			C	0.206	2.575		0.8	1	11.792			
T23	0.504	1.972	A	0.208	2.569	0.031	0.8	1	11.920	2.404	0.120	B
62.000-42.000			B	0.208	2.569		0.8	1	11.920			
			C	0.208	2.569		0.8	1	11.920			
T24	0.504	1.860	A	0.206	2.575	0.028	0.8	1	11.792	2.164	0.108	B
42.000-22.000			B	0.206	2.575		0.8	1	11.792			
			C	0.206	2.575		0.8	1	11.792			
T25	0.358	1.889	A	0.214	2.551	0.024	0.8	1	12.306	1.513	0.076	B
22.000-2.000			B	0.214	2.551		0.8	1	12.306			
			C	0.214	2.551		0.8	1	12.306			
Sum Weight:	7.195	39.321								52.070		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.000	0.535	A	1	0.6	0.049	1	1	10.781	0.432	0.029	C
492.000-477.0			B	1	0.6		1	1	10.781			
00			C	1	0.6		1	1	10.781			
L2	0.000	0.713	A	1	0.6	0.049	1	1	14.375	0.572	0.029	C
477.000-457.0			B	1	0.6		1	1	14.375			
00			C	1	0.6		1	1	14.375			
T1	0.000	0.418	A	0.283	2.343	0.049	0.85	1	4.551	0.449	0.090	C
457.000-452.0			B	0.283	2.343		0.85	1	4.551			
00			C	0.283	2.343		0.85	1	4.551			
T2	0.002	0.643	A	0.194	2.615	0.049	0.85	1	5.880	0.660	0.066	C
452.000-442.0			B	0.194	2.615		0.85	1	5.880			
00			C	0.194	2.615		0.85	1	5.880			
T3	0.055	1.341	A	0.183	2.654	0.048	0.85	1	10.943	1.527	0.076	C
442.000-422.0			B	0.183	2.654		0.85	1	10.943			
00			C	0.183	2.654		0.85	1	10.943			
T4	0.089	1.229	A	0.181	2.66	0.048	0.85	1	10.805	1.675	0.084	C
422.000-402.0			B	0.181	2.66		0.85	1	10.805			
00			C	0.181	2.66		0.85	1	10.805			
T5	0.089	1.229	A	0.181	2.66	0.047	0.85	1	10.805	1.657	0.083	C
402.000-382.0			B	0.181	2.66		0.85	1	10.805			
00			C	0.181	2.66		0.85	1	10.805			
T6	0.089	1.341	A	0.183	2.654	0.047	0.85	1	10.943	1.651	0.083	C
382.000-362.0			B	0.183	2.654		0.85	1	10.943			
00			C	0.183	2.654		0.85	1	10.943			
T7	0.091	1.229	A	0.181	2.66	0.046	0.85	1	10.805	1.638	0.082	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft^2	F K	w klf	Ctrl. Face
362.000-342.0			B	0.181	2.66		0.85	1	10.805			
00			C	0.181	2.66		0.85	1	10.805			
T8	0.098	1.229	A	0.181	2.66	0.046	0.85	1	10.805	1.684	0.084	C
342.000-322.0			B	0.181	2.66		0.85	1	10.805			
00			C	0.181	2.66		0.85	1	10.805			
T9	0.099	1.440	A	0.185	2.647	0.045	0.85	1	10.910	1.675	0.084	C
322.000-302.0			B	0.185	2.647		0.85	1	10.910			
00			C	0.185	2.647		0.85	1	10.910			
T10	0.113	1.419	A	0.19	2.631	0.044	0.85	1	11.257	1.759	0.088	C
302.000-282.0			B	0.19	2.631		0.85	1	11.257			
00			C	0.19	2.631		0.85	1	11.257			
T11	0.354	1.858	A	0.211	2.559	0.044	0.85	1	12.678	2.733	0.137	C
282.000-262.0			B	0.211	2.559		0.85	1	12.678			
00			C	0.211	2.559		0.85	1	12.678			
T12	0.422	1.742	A	0.2	2.596	0.043	0.85	1	11.848	2.859	0.143	B
262.000-242.0			B	0.2	2.596		0.85	1	11.848			
00			C	0.2	2.596		0.85	1	11.848			
T13	0.448	1.629	A	0.198	2.602	0.042	0.85	1	11.711	2.954	0.148	B
242.000-222.0			B	0.198	2.602		0.85	1	11.711			
00			C	0.198	2.602		0.85	1	11.711			
T14	0.463	2.201	A	0.221	2.527	0.042	0.85	1	13.270	3.085	0.154	B
222.000-202.0			B	0.221	2.527		0.85	1	13.270			
00			C	0.221	2.527		0.85	1	13.270			
T15	0.463	1.860	A	0.206	2.575	0.041	0.85	1	12.169	2.945	0.147	B
202.000-182.0			B	0.206	2.575		0.85	1	12.169			
00			C	0.206	2.575		0.85	1	12.169			
T16	0.467	1.860	A	0.206	2.575	0.040	0.85	1	12.169	2.901	0.145	B
182.000-162.0			B	0.206	2.575		0.85	1	12.169			
00			C	0.206	2.575		0.85	1	12.169			
T17	0.485	1.972	A	0.208	2.569	0.039	0.85	1	12.305	2.965	0.148	B
162.000-142.0			B	0.208	2.569		0.85	1	12.305			
00			C	0.208	2.569		0.85	1	12.305			
T18	0.491	1.860	A	0.206	2.575	0.038	0.85	1	12.169	2.907	0.145	B
142.000-122.0			B	0.206	2.575		0.85	1	12.169			
00			C	0.206	2.575		0.85	1	12.169			
T19	0.249	0.959	A	0.219	2.533	0.037	0.85	1	6.559	1.469	0.147	B
122.000-112.0			B	0.219	2.533		0.85	1	6.559			
00			C	0.219	2.533		0.85	1	6.559			
T20	0.251	1.060	A	0.219	2.533	0.036	0.85	1	6.562	1.454	0.145	B
112.000-102.0			B	0.219	2.533		0.85	1	6.562			
00			C	0.219	2.533		0.85	1	6.562			
T21	0.504	1.972	A	0.208	2.569	0.035	0.85	1	12.305	2.784	0.139	B
102.000-82.00			B	0.208	2.569		0.85	1	12.305			
0			C	0.208	2.569		0.85	1	12.305			
T22	0.504	1.860	A	0.206	2.575	0.033	0.85	1	12.169	2.636	0.132	B
82.000-62.000			B	0.206	2.575		0.85	1	12.169			
			C	0.206	2.575		0.85	1	12.169			
T23	0.504	1.972	A	0.208	2.569	0.031	0.85	1	12.305	2.469	0.123	B
62.000-42.000			B	0.208	2.569		0.85	1	12.305			
			C	0.208	2.569		0.85	1	12.305			
T24	0.504	1.860	A	0.206	2.575	0.028	0.85	1	12.169	2.223	0.111	B
42.000-22.000			B	0.206	2.575		0.85	1	12.169			
			C	0.206	2.575		0.85	1	12.169			
T25	0.358	1.889	A	0.214	2.551	0.024	0.85	1	12.714	1.555	0.078	B
22.000-2.000			B	0.214	2.551		0.85	1	12.714			
			C	0.214	2.551		0.85	1	12.714			
Sum Weight:	7.195	39.321								53.319		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	Face	e	C_F	q_z	D_F	D_R	A_E	F	w	Ctrl. Face
ft	K	K				ksf			ft^2	K	klf	
L1	0.000	0.773	A	1	1.2	0.009	1	1	14.052	0.213	0.014	C
492.000-477.0			B	1	1.2		1	1	14.052			
00			C	1	1.2		1	1	14.052			
L2	0.000	1.030	A	1	1.2	0.009	1	1	18.720	0.281	0.014	C
477.000-457.0			B	1	1.2		1	1	18.720			
00			C	1	1.2		1	1	18.720			
T1	0.011	0.879	A	0.506	1.893	0.009	1	1	8.925	0.137	0.027	C
457.000-452.0			B	0.506	1.893		1	1	8.925			
00			C	0.506	1.893		1	1	8.925			
T2	0.044	1.354	A	0.412	2.04	0.009	1	1	13.223	0.231	0.023	C
452.000-442.0			B	0.412	2.04		1	1	13.223			
00			C	0.412	2.04		1	1	13.223			
T3	0.501	2.666	A	0.385	2.095	0.009	1	1	24.228	0.593	0.030	C
442.000-422.0			B	0.385	2.095		1	1	24.228			
00			C	0.385	2.095		1	1	24.228			
T4	0.740	2.500	A	0.382	2.101	0.009	1	1	23.985	0.673	0.034	C
422.000-402.0			B	0.382	2.101		1	1	23.985			
00			C	0.382	2.101		1	1	23.985			
T5	0.735	2.491	A	0.381	2.103	0.009	1	1	23.917	0.664	0.033	C
402.000-382.0			B	0.381	2.103		1	1	23.917			
00			C	0.381	2.103		1	1	23.917			
T6	0.730	2.640	A	0.382	2.101	0.009	1	1	24.024	0.657	0.033	C
382.000-362.0			B	0.382	2.101		1	1	24.024			
00			C	0.382	2.101		1	1	24.024			
T7	0.756	2.474	A	0.379	2.107	0.009	1	1	23.772	0.659	0.033	C
362.000-342.0			B	0.379	2.107		1	1	23.772			
00			C	0.379	2.107		1	1	23.772			
T8	0.855	2.464	A	0.378	2.11	0.009	1	1	23.694	0.693	0.035	C
342.000-322.0			B	0.378	2.11		1	1	23.694			
00			C	0.378	2.11		1	1	23.694			
T9	0.859	2.687	A	0.379	2.108	0.009	1	1	23.681	0.687	0.034	C
322.000-302.0			B	0.379	2.108		1	1	23.681			
00			C	0.379	2.108		1	1	23.681			
T10	0.971	2.656	A	0.382	2.101	0.008	1	1	24.043	0.724	0.036	C
302.000-282.0			B	0.382	2.101		1	1	24.043			
00			C	0.382	2.101		1	1	24.043			
T11	1.933	3.197	A	0.4	2.064	0.008	1	1	25.725	1.009	0.050	A
282.000-262.0			B	0.4	2.064		1	1	25.725			
00			C	0.4	2.064		1	1	25.725			
T12	2.253	3.022	A	0.388	2.089	0.008	1	1	24.549	1.076	0.054	A
262.000-242.0			B	0.388	2.089		1	1	24.549			
00			C	0.388	2.089		1	1	24.549			
T13	2.441	2.852	A	0.384	2.096	0.008	1	1	24.265	1.123	0.056	A
242.000-222.0			B	0.384	2.096		1	1	24.265			
00			C	0.384	2.096		1	1	24.265			
T14	2.522	3.563	A	0.404	2.057	0.008	1	1	26.100	1.146	0.057	A
222.000-202.0			B	0.404	2.057		1	1	26.100			
00			C	0.404	2.057		1	1	26.100			
T15	2.496	3.075	A	0.388	2.089	0.008	1	1	24.548	1.107	0.055	A
202.000-182.0			B	0.388	2.089		1	1	24.548			
00			C	0.388	2.089		1	1	24.548			
T16	2.495	3.058	A	0.386	2.093	0.008	1	1	24.410	1.087	0.054	A
182.000-162.0			B	0.386	2.093		1	1	24.410			
00			C	0.386	2.093		1	1	24.410			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
T17	2.621	3.193	A	0.385	2.094	0.007	1	1	24.432	1.111	0.056	A
162.000-142.0			B	0.385	2.094		1	1	24.432			
00			C	0.385	2.094		1	1	24.432			
T18	2.644	3.018	A	0.381	2.102	0.007	1	1	24.085	1.092	0.055	A
142.000-122.0			B	0.381	2.102		1	1	24.085			
00			C	0.381	2.102		1	1	24.085			
T19	1.343	1.586	A	0.405	2.053	0.007	1	1	13.052	0.548	0.055	A
122.000-112.0			B	0.405	2.053		1	1	13.052			
00			C	0.405	2.053		1	1	13.052			
T20	1.350	1.590	A	0.383	2.098	0.007	1	1	12.981	0.539*	0.054	C
112.000-102.0			B	0.383	2.098		1	1	12.981			
00			C	0.383	2.098		1	1	12.981			
T21	2.683	3.117	A	0.377	2.111	0.007	1	1	23.834	1.043	0.052	A
102.000-82.00			B	0.377	2.111		1	1	23.834			
0			C	0.377	2.111		1	1	23.834			
T22	2.614	2.931	A	0.371	2.123	0.006	1	1	23.380	0.977	0.049	A
82.000-62.000			B	0.371	2.123		1	1	23.380			
			C	0.371	2.123		1	1	23.380			
T23	2.527	3.038	A	0.368	2.131	0.006	1	1	23.197	0.900	0.045	A
62.000-42.000			B	0.368	2.131		1	1	23.197			
			C	0.368	2.131		1	1	23.197			
T24	2.404	2.827	A	0.359	2.151	0.005	1	1	22.516	0.794	0.040	A
42.000-22.000			B	0.359	2.151		1	1	22.516			
			C	0.359	2.151		1	1	22.516			
T25	1.551	2.794	A	0.359	2.151	0.005	1	1	22.669	0.520	0.026	A
22.000-2.000			B	0.359	2.151		1	1	22.669			
			C	0.359	2.151		1	1	22.669			
Sum Weight:	40.077	67.476			*2.1A_g limit					20.283		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.000	0.773	A	1	1.2	0.009	1	1	14.052	0.213	0.014	C
492.000-477.0			B	1	1.2		1	1	14.052			
00			C	1	1.2		1	1	14.052			
L2	0.000	1.030	A	1	1.2	0.009	1	1	18.720	0.281	0.014	C
477.000-457.0			B	1	1.2		1	1	18.720			
00			C	1	1.2		1	1	18.720			
T1	0.011	0.879	A	0.506	1.893	0.009	0.8	1	8.116	0.124	0.025	C
457.000-452.0			B	0.506	1.893		0.8	1	8.116			
00			C	0.506	1.893		0.8	1	8.116			
T2	0.044	1.354	A	0.412	2.04	0.009	0.8	1	12.345	0.217	0.022	C
452.000-442.0			B	0.412	2.04		0.8	1	12.345			
00			C	0.412	2.04		0.8	1	12.345			
T3	0.501	2.666	A	0.385	2.095	0.009	0.8	1	22.662	0.568	0.028	C
442.000-422.0			B	0.385	2.095		0.8	1	22.662			
00			C	0.385	2.095		0.8	1	22.662			
T4	0.740	2.500	A	0.382	2.101	0.009	0.8	1	22.451	0.648	0.032	C
422.000-402.0			B	0.382	2.101		0.8	1	22.451			
00			C	0.382	2.101		0.8	1	22.451			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
T5	0.735	2.491	A	0.381	2.103	0.009	0.8	1	22.383	0.640	0.032	C
402.000-382.0			B	0.381	2.103		0.8	1	22.383			
00			C	0.381	2.103		0.8	1	22.383			
T6	0.730	2.640	A	0.382	2.101	0.009	0.8	1	22.459	0.632	0.032	C
382.000-362.0			B	0.382	2.101		0.8	1	22.459			
00			C	0.382	2.101		0.8	1	22.459			
T7	0.756	2.474	A	0.379	2.107	0.009	0.8	1	22.238	0.635	0.032	C
362.000-342.0			B	0.379	2.107		0.8	1	22.238			
00			C	0.379	2.107		0.8	1	22.238			
T8	0.855	2.464	A	0.378	2.11	0.009	0.8	1	22.160	0.669	0.033	C
342.000-322.0			B	0.378	2.11		0.8	1	22.160			
00			C	0.378	2.11		0.8	1	22.160			
T9	0.859	2.687	A	0.379	2.108	0.009	0.8	1	22.235	0.665	0.033	C
322.000-302.0			B	0.379	2.108		0.8	1	22.235			
00			C	0.379	2.108		0.8	1	22.235			
T10	0.971	2.656	A	0.382	2.101	0.008	0.8	1	22.517	0.701	0.035	C
302.000-282.0			B	0.382	2.101		0.8	1	22.517			
00			C	0.382	2.101		0.8	1	22.517			
T11	1.933	3.197	A	0.4	2.064	0.008	0.8	1	23.986	0.983	0.049	B
282.000-262.0			B	0.4	2.064		0.8	1	23.986			
00			C	0.4	2.064		0.8	1	23.986			
T12	2.253	3.022	A	0.388	2.089	0.008	0.8	1	23.000	1.053	0.053	B
262.000-242.0			B	0.388	2.089		0.8	1	23.000			
00			C	0.388	2.089		0.8	1	23.000			
T13	2.441	2.852	A	0.384	2.096	0.008	0.8	1	22.748	1.101	0.055	B
242.000-222.0			B	0.384	2.096		0.8	1	22.748			
00			C	0.384	2.096		0.8	1	22.748			
T14	2.522	3.563	A	0.404	2.057	0.008	0.8	1	24.339	1.122	0.056	B
222.000-202.0			B	0.404	2.057		0.8	1	24.339			
00			C	0.404	2.057		0.8	1	24.339			
T15	2.496	3.075	A	0.388	2.089	0.008	0.8	1	23.039	1.087	0.054	B
202.000-182.0			B	0.388	2.089		0.8	1	23.039			
00			C	0.388	2.089		0.8	1	23.039			
T16	2.495	3.058	A	0.386	2.093	0.008	0.8	1	22.901	1.067	0.053	B
182.000-162.0			B	0.386	2.093		0.8	1	22.901			
00			C	0.386	2.093		0.8	1	22.901			
T17	2.621	3.193	A	0.385	2.094	0.007	0.8	1	22.892	1.091	0.055	B
162.000-142.0			B	0.385	2.094		0.8	1	22.892			
00			C	0.385	2.094		0.8	1	22.892			
T18	2.644	3.018	A	0.381	2.102	0.007	0.8	1	22.576	1.073	0.054	B
142.000-122.0			B	0.381	2.102		0.8	1	22.576			
00			C	0.381	2.102		0.8	1	22.576			
T19	1.343	1.586	A	0.405	2.053	0.007	0.8	1	12.189	0.538	0.054	B
122.000-112.0			B	0.405	2.053		0.8	1	12.189			
00			C	0.405	2.053		0.8	1	12.189			
T20	1.350	1.590	A	0.383	2.098	0.007	0.8	1	11.751	0.534	0.053	B
112.000-102.0			B	0.383	2.098		0.8	1	11.751			
00			C	0.383	2.098		0.8	1	11.751			
T21	2.683	3.117	A	0.377	2.111	0.007	0.8	1	22.293	1.025	0.051	B
102.000-82.00			B	0.377	2.111		0.8	1	22.293			
0			C	0.377	2.111		0.8	1	22.293			
T22	2.614	2.931	A	0.371	2.123	0.006	0.8	1	21.871	0.960	0.048	B
82.000-62.000			B	0.371	2.123		0.8	1	21.871			
			C	0.371	2.123		0.8	1	21.871			
T23	2.527	3.038	A	0.368	2.131	0.006	0.8	1	21.657	0.884	0.044	B
62.000-42.000			B	0.368	2.131		0.8	1	21.657			
			C	0.368	2.131		0.8	1	21.657			
T24	2.404	2.827	A	0.359	2.151	0.005	0.8	1	21.007	0.779	0.039	B
42.000-22.000			B	0.359	2.151		0.8	1	21.007			
			C	0.359	2.151		0.8	1	21.007			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
T25	1.551	2.794	A	0.359	2.151	0.005	0.8	1	21.035	0.507	0.025	B
22.000-2.000			B	0.359	2.151		0.8	1	21.035			
			C	0.359	2.151		0.8	1	21.035			
Sum Weight:	40.077	67.476								19.796		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.000	0.773	A	1	1.2	0.009	1	1	14.052	0.213	0.014	C
492.000-477.0			B	1	1.2		1	1	14.052			
00			C	1	1.2		1	1	14.052			
L2	0.000	1.030	A	1	1.2	0.009	1	1	18.720	0.281	0.014	C
477.000-457.0			B	1	1.2		1	1	18.720			
00			C	1	1.2		1	1	18.720			
T1	0.011	0.879	A	0.506	1.893	0.009	0.85	1	8.318	0.127	0.025	C
457.000-452.0			B	0.506	1.893		0.85	1	8.318			
00			C	0.506	1.893		0.85	1	8.318			
T2	0.044	1.354	A	0.412	2.04	0.009	0.85	1	12.565	0.220	0.022	C
452.000-442.0			B	0.412	2.04		0.85	1	12.565			
00			C	0.412	2.04		0.85	1	12.565			
T3	0.501	2.666	A	0.385	2.095	0.009	0.85	1	23.054	0.574	0.029	C
442.000-422.0			B	0.385	2.095		0.85	1	23.054			
00			C	0.385	2.095		0.85	1	23.054			
T4	0.740	2.500	A	0.382	2.101	0.009	0.85	1	22.834	0.654	0.033	C
422.000-402.0			B	0.382	2.101		0.85	1	22.834			
00			C	0.382	2.101		0.85	1	22.834			
T5	0.735	2.491	A	0.381	2.103	0.009	0.85	1	22.767	0.646	0.032	C
402.000-382.0			B	0.381	2.103		0.85	1	22.767			
00			C	0.381	2.103		0.85	1	22.767			
T6	0.730	2.640	A	0.382	2.101	0.009	0.85	1	22.850	0.639	0.032	C
382.000-362.0			B	0.382	2.101		0.85	1	22.850			
00			C	0.382	2.101		0.85	1	22.850			
T7	0.756	2.474	A	0.379	2.107	0.009	0.85	1	22.622	0.641	0.032	C
362.000-342.0			B	0.379	2.107		0.85	1	22.622			
00			C	0.379	2.107		0.85	1	22.622			
T8	0.855	2.464	A	0.378	2.11	0.009	0.85	1	22.544	0.675	0.034	C
342.000-322.0			B	0.378	2.11		0.85	1	22.544			
00			C	0.378	2.11		0.85	1	22.544			
T9	0.859	2.687	A	0.379	2.108	0.009	0.85	1	22.597	0.670	0.034	C
322.000-302.0			B	0.379	2.108		0.85	1	22.597			
00			C	0.379	2.108		0.85	1	22.597			
T10	0.971	2.656	A	0.382	2.101	0.008	0.85	1	22.899	0.707	0.035	C
302.000-282.0			B	0.382	2.101		0.85	1	22.899			
00			C	0.382	2.101		0.85	1	22.899			
T11	1.933	3.197	A	0.4	2.064	0.008	0.85	1	24.421	0.983	0.049	C
282.000-262.0			B	0.4	2.064		0.85	1	24.421			
00			C	0.4	2.064		0.85	1	24.421			
T12	2.253	3.022	A	0.388	2.089	0.008	0.85	1	23.387	1.048	0.052	B
262.000-242.0			B	0.388	2.089		0.85	1	23.387			
00			C	0.388	2.089		0.85	1	23.387			
T13	2.441	2.852	A	0.384	2.096	0.008	0.85	1	23.127	1.100	0.055	B

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
242.000-222.0			B	0.384	2.096		0.85	1	23.127			
00			C	0.384	2.096		0.85	1	23.127			
T14	2.522	3.563	A	0.404	2.057	0.008	0.85	1	24.779	1.122	0.056	B
222.000-202.0			B	0.404	2.057		0.85	1	24.779			
00			C	0.404	2.057		0.85	1	24.779			
T15	2.496	3.075	A	0.388	2.089	0.008	0.85	1	23.416	1.086	0.054	B
202.000-182.0			B	0.388	2.089		0.85	1	23.416			
00			C	0.388	2.089		0.85	1	23.416			
T16	2.495	3.058	A	0.386	2.093	0.008	0.85	1	23.278	1.067	0.053	B
182.000-162.0			B	0.386	2.093		0.85	1	23.278			
00			C	0.386	2.093		0.85	1	23.278			
T17	2.621	3.193	A	0.385	2.094	0.007	0.85	1	23.277	1.097	0.055	B
162.000-142.0			B	0.385	2.094		0.85	1	23.277			
00			C	0.385	2.094		0.85	1	23.277			
T18	2.644	3.018	A	0.381	2.102	0.007	0.85	1	22.953	1.078	0.054	B
142.000-122.0			B	0.381	2.102		0.85	1	22.953			
00			C	0.381	2.102		0.85	1	22.953			
T19	1.343	1.586	A	0.405	2.053	0.007	0.85	1	12.405	0.540	0.054	B
122.000-112.0			B	0.405	2.053		0.85	1	12.405			
00			C	0.405	2.053		0.85	1	12.405			
T20	1.350	1.590	A	0.383	2.098	0.007	0.85	1	12.059	0.538	0.054	B
112.000-102.0			B	0.383	2.098		0.85	1	12.059			
00			C	0.383	2.098		0.85	1	12.059			
T21	2.683	3.117	A	0.377	2.111	0.007	0.85	1	22.678	1.030	0.051	B
102.000-82.00			B	0.377	2.111		0.85	1	22.678			
0			C	0.377	2.111		0.85	1	22.678			
T22	2.614	2.931	A	0.371	2.123	0.006	0.85	1	22.249	0.965	0.048	B
82.000-62.000			B	0.371	2.123		0.85	1	22.249			
			C	0.371	2.123		0.85	1	22.249			
T23	2.527	3.038	A	0.368	2.131	0.006	0.85	1	22.042	0.888	0.044	B
62.000-42.000			B	0.368	2.131		0.85	1	22.042			
			C	0.368	2.131		0.85	1	22.042			
T24	2.404	2.827	A	0.359	2.151	0.005	0.85	1	21.384	0.783	0.039	B
42.000-22.000			B	0.359	2.151		0.85	1	21.384			
			C	0.359	2.151		0.85	1	21.384			
T25	1.551	2.794	A	0.359	2.151	0.005	0.85	1	21.443	0.510	0.026	B
22.000-2.000			B	0.359	2.151		0.85	1	21.443			
			C	0.359	2.151		0.85	1	21.443			
Sum Weight:	40.077	67.476								19.884		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.000	0.535	A	1	0.828	0.013	1	1	10.781	0.162	0.011	C
492.000-477.0			B	1	0.828		1	1	10.781			
00			C	1	0.828		1	1	10.781			
L2	0.000	0.713	A	1	0.831	0.013	1	1	14.375	0.215	0.011	C
477.000-457.0			B	1	0.831		1	1	14.375			
00			C	1	0.831		1	1	14.375			
T1	0.000	0.418	A	0.283	2.343	0.013	1	1	5.158	0.138	0.028	C
457.000-452.0			B	0.283	2.343		1	1	5.158			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
00			C	0.283	2.343				5.158			
T2	0.002	0.643	A	0.194	2.615	0.013	1	1	6.538	0.199	0.020	C
452.000-442.0			B	0.194	2.615		1	1	6.538			
00			C	0.194	2.615		1	1	6.538			
T3	0.055	1.341	A	0.183	2.654	0.013	1	1	12.117	0.450	0.023	C
442.000-422.0			B	0.183	2.654		1	1	12.117			
00			C	0.183	2.654		1	1	12.117			
T4	0.089	1.229	A	0.181	2.66	0.013	1	1	11.956	0.490	0.024	C
422.000-402.0			B	0.181	2.66		1	1	11.956			
00			C	0.181	2.66		1	1	11.956			
T5	0.089	1.229	A	0.181	2.66	0.013	1	1	11.956	0.485	0.024	C
402.000-382.0			B	0.181	2.66		1	1	11.956			
00			C	0.181	2.66		1	1	11.956			
T6	0.089	1.341	A	0.183	2.654	0.013	1	1	12.117	0.483	0.024	C
382.000-362.0			B	0.183	2.654		1	1	12.117			
00			C	0.183	2.654		1	1	12.117			
T7	0.091	1.229	A	0.181	2.66	0.013	1	1	11.956	0.479	0.024	C
362.000-342.0			B	0.181	2.66		1	1	11.956			
00			C	0.181	2.66		1	1	11.956			
T8	0.098	1.229	A	0.181	2.66	0.012	1	1	11.956	0.491	0.025	C
342.000-322.0			B	0.181	2.66		1	1	11.956			
00			C	0.181	2.66		1	1	11.956			
T9	0.099	1.440	A	0.185	2.647	0.012	1	1	11.994	0.486	0.024	C
322.000-302.0			B	0.185	2.647		1	1	11.994			
00			C	0.185	2.647		1	1	11.994			
T10	0.113	1.419	A	0.19	2.631	0.012	1	1	12.401	0.510	0.025	C
302.000-282.0			B	0.19	2.631		1	1	12.401			
00			C	0.19	2.631		1	1	12.401			
T11	0.354	1.858	A	0.211	2.559	0.012	1	1	13.982	0.771	0.039	A
282.000-262.0			B	0.211	2.559		1	1	13.982			
00			C	0.211	2.559		1	1	13.982			
T12	0.422	1.742	A	0.2	2.596	0.012	1	1	13.009	0.807	0.040	A
262.000-242.0			B	0.2	2.596		1	1	13.009			
00			C	0.2	2.596		1	1	13.009			
T13	0.448	1.629	A	0.198	2.602	0.012	1	1	12.849	0.827	0.041	A
242.000-222.0			B	0.198	2.602		1	1	12.849			
00			C	0.198	2.602		1	1	12.849			
T14	0.463	2.201	A	0.221	2.527	0.011	1	1	14.591	0.866	0.043	A
222.000-202.0			B	0.221	2.527		1	1	14.591			
00			C	0.221	2.527		1	1	14.591			
T15	0.463	1.860	A	0.206	2.575	0.011	1	1	13.301	0.823	0.041	A
202.000-182.0			B	0.206	2.575		1	1	13.301			
00			C	0.206	2.575		1	1	13.301			
T16	0.467	1.860	A	0.206	2.575	0.011	1	1	13.301	0.810	0.040	A
182.000-162.0			B	0.206	2.575		1	1	13.301			
00			C	0.206	2.575		1	1	13.301			
T17	0.485	1.972	A	0.208	2.569	0.011	1	1	13.460	0.820	0.041	A
162.000-142.0			B	0.208	2.569		1	1	13.460			
00			C	0.208	2.569		1	1	13.460			
T18	0.491	1.860	A	0.206	2.575	0.010	1	1	13.301	0.804	0.040	A
142.000-122.0			B	0.206	2.575		1	1	13.301			
00			C	0.206	2.575		1	1	13.301			
T19	0.249	0.959	A	0.219	2.533	0.010	1	1	7.206	0.408	0.041	A
122.000-112.0			B	0.219	2.533		1	1	7.206			
00			C	0.219	2.533		1	1	7.206			
T20	0.251	1.060	A	0.219	2.533	0.010	1	1	7.210	0.403	0.040	A
112.000-102.0			B	0.219	2.533		1	1	7.210			
00			C	0.219	2.533		1	1	7.210			
T21	0.504	1.972	A	0.208	2.569	0.009	1	1	13.460	0.770	0.038	A
102.000-82.00			B	0.208	2.569		1	1	13.460			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
0			C	0.208	2.569		1	1	13.460			
T22	0.504	1.860	A	0.206	2.575	0.009	1	1	13.301	0.729	0.036	A
82.000-62.000			B	0.206	2.575		1	1	13.301			
			C	0.206	2.575		1	1	13.301			
T23	0.504	1.972	A	0.208	2.569	0.008	1	1	13.460	0.683	0.034	A
62.000-42.000			B	0.208	2.569		1	1	13.460			
			C	0.208	2.569		1	1	13.460			
T24	0.504	1.860	A	0.206	2.575	0.008	1	1	13.301	0.614	0.031	A
42.000-22.000			B	0.206	2.575		1	1	13.301			
			C	0.206	2.575		1	1	13.301			
T25	0.358	1.889	A	0.214	2.551	0.006	1	1	13.940	0.435	0.022	A
22.000-2.000			B	0.214	2.551		1	1	13.940			
			C	0.214	2.551		1	1	13.940			
Sum Weight:	7.195	39.321								15.158		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.000	0.535	A	1	0.828	0.013	1	1	10.781	0.162	0.011	C
492.000-477.0			B	1	0.828		1	1	10.781			
00			C	1	0.828		1	1	10.781			
L2	0.000	0.713	A	1	0.831	0.013	1	1	14.375	0.215	0.011	C
477.000-457.0			B	1	0.831		1	1	14.375			
00			C	1	0.831		1	1	14.375			
T1	0.000	0.418	A	0.283	2.343	0.013	0.8	1	4.349	0.117	0.023	C
457.000-452.0			B	0.283	2.343		0.8	1	4.349			
00			C	0.283	2.343		0.8	1	4.349			
T2	0.002	0.643	A	0.194	2.615	0.013	0.8	1	5.661	0.173	0.017	C
452.000-442.0			B	0.194	2.615		0.8	1	5.661			
00			C	0.194	2.615		0.8	1	5.661			
T3	0.055	1.341	A	0.183	2.654	0.013	0.8	1	10.551	0.404	0.020	C
442.000-422.0			B	0.183	2.654		0.8	1	10.551			
00			C	0.183	2.654		0.8	1	10.551			
T4	0.089	1.229	A	0.181	2.66	0.013	0.8	1	10.422	0.445	0.022	C
422.000-402.0			B	0.181	2.66		0.8	1	10.422			
00			C	0.181	2.66		0.8	1	10.422			
T5	0.089	1.229	A	0.181	2.66	0.013	0.8	1	10.422	0.440	0.022	C
402.000-382.0			B	0.181	2.66		0.8	1	10.422			
00			C	0.181	2.66		0.8	1	10.422			
T6	0.089	1.341	A	0.183	2.654	0.013	0.8	1	10.551	0.438	0.022	C
382.000-362.0			B	0.183	2.654		0.8	1	10.551			
00			C	0.183	2.654		0.8	1	10.551			
T7	0.091	1.229	A	0.181	2.66	0.013	0.8	1	10.422	0.435	0.022	C
362.000-342.0			B	0.181	2.66		0.8	1	10.422			
00			C	0.181	2.66		0.8	1	10.422			
T8	0.098	1.229	A	0.181	2.66	0.012	0.8	1	10.422	0.448	0.022	C
342.000-322.0			B	0.181	2.66		0.8	1	10.422			
00			C	0.181	2.66		0.8	1	10.422			
T9	0.099	1.440	A	0.185	2.647	0.012	0.8	1	10.549	0.446	0.022	C
322.000-302.0			B	0.185	2.647		0.8	1	10.549			
00			C	0.185	2.647		0.8	1	10.549			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
T10	0.113	1.419	A	0.19	2.631	0.012	0.8	1	10.875	0.469	0.023	C
302.000-282.0			B	0.19	2.631		0.8	1	10.875			
00			C	0.19	2.631		0.8	1	10.875			
T11	0.354	1.858	A	0.211	2.559	0.012	0.8	1	12.243	0.726	0.036	B
282.000-262.0			B	0.211	2.559		0.8	1	12.243			
00			C	0.211	2.559		0.8	1	12.243			
T12	0.422	1.742	A	0.2	2.596	0.012	0.8	1	11.461	0.767	0.038	B
262.000-242.0			B	0.2	2.596		0.8	1	11.461			
00			C	0.2	2.596		0.8	1	11.461			
T13	0.448	1.629	A	0.198	2.602	0.012	0.8	1	11.332	0.789	0.039	B
242.000-222.0			B	0.198	2.602		0.8	1	11.332			
00			C	0.198	2.602		0.8	1	11.332			
T14	0.463	2.201	A	0.221	2.527	0.011	0.8	1	12.830	0.823	0.041	B
222.000-202.0			B	0.221	2.527		0.8	1	12.830			
00			C	0.221	2.527		0.8	1	12.830			
T15	0.463	1.860	A	0.206	2.575	0.011	0.8	1	11.792	0.787	0.039	B
202.000-182.0			B	0.206	2.575		0.8	1	11.792			
00			C	0.206	2.575		0.8	1	11.792			
T16	0.467	1.860	A	0.206	2.575	0.011	0.8	1	11.792	0.774	0.039	B
182.000-162.0			B	0.206	2.575		0.8	1	11.792			
00			C	0.206	2.575		0.8	1	11.792			
T17	0.485	1.972	A	0.208	2.569	0.011	0.8	1	11.920	0.785	0.039	B
162.000-142.0			B	0.208	2.569		0.8	1	11.920			
00			C	0.208	2.569		0.8	1	11.920			
T18	0.491	1.860	A	0.206	2.575	0.010	0.8	1	11.792	0.770	0.039	B
142.000-122.0			B	0.206	2.575		0.8	1	11.792			
00			C	0.206	2.575		0.8	1	11.792			
T19	0.249	0.959	A	0.219	2.533	0.010	0.8	1	6.343	0.389	0.039	B
122.000-112.0			B	0.219	2.533		0.8	1	6.343			
00			C	0.219	2.533		0.8	1	6.343			
T20	0.251	1.060	A	0.219	2.533	0.010	0.8	1	6.346	0.385	0.039	B
112.000-102.0			B	0.219	2.533		0.8	1	6.346			
00			C	0.219	2.533		0.8	1	6.346			
T21	0.504	1.972	A	0.208	2.569	0.009	0.8	1	11.920	0.738	0.037	B
102.000-82.00			B	0.208	2.569		0.8	1	11.920			
0			C	0.208	2.569		0.8	1	11.920			
T22	0.504	1.860	A	0.206	2.575	0.009	0.8	1	11.792	0.699	0.035	B
82.000-62.000			B	0.206	2.575		0.8	1	11.792			
			C	0.206	2.575		0.8	1	11.792			
T23	0.504	1.972	A	0.208	2.569	0.008	0.8	1	11.920	0.654	0.033	B
62.000-42.000			B	0.208	2.569		0.8	1	11.920			
			C	0.208	2.569		0.8	1	11.920			
T24	0.504	1.860	A	0.206	2.575	0.008	0.8	1	11.792	0.589	0.029	B
42.000-22.000			B	0.206	2.575		0.8	1	11.792			
			C	0.206	2.575		0.8	1	11.792			
T25	0.358	1.889	A	0.214	2.551	0.006	0.8	1	12.306	0.412	0.021	B
22.000-2.000			B	0.214	2.551		0.8	1	12.306			
			C	0.214	2.551		0.8	1	12.306			
Sum Weight:	7.195	39.321								14.279		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.000	0.535	A	1	0.828	0.013	1	1	10.781	0.162	0.011	C
492.000-477.0			B	1	0.828		1	1	10.781			
00			C	1	0.828		1	1	10.781			
L2	0.000	0.713	A	1	0.831	0.013	1	1	14.375	0.215	0.011	C
477.000-457.0			B	1	0.831		1	1	14.375			
00			C	1	0.831		1	1	14.375			
T1	0.000	0.418	A	0.283	2.343	0.013	0.85	1	4.551	0.122	0.024	C
457.000-452.0			B	0.283	2.343		0.85	1	4.551			
00			C	0.283	2.343		0.85	1	4.551			
T2	0.002	0.643	A	0.194	2.615	0.013	0.85	1	5.880	0.180	0.018	C
452.000-442.0			B	0.194	2.615		0.85	1	5.880			
00			C	0.194	2.615		0.85	1	5.880			
T3	0.055	1.341	A	0.183	2.654	0.013	0.85	1	10.943	0.416	0.021	C
442.000-422.0			B	0.183	2.654		0.85	1	10.943			
00			C	0.183	2.654		0.85	1	10.943			
T4	0.089	1.229	A	0.181	2.66	0.013	0.85	1	10.805	0.456	0.023	C
422.000-402.0			B	0.181	2.66		0.85	1	10.805			
00			C	0.181	2.66		0.85	1	10.805			
T5	0.089	1.229	A	0.181	2.66	0.013	0.85	1	10.805	0.451	0.023	C
402.000-382.0			B	0.181	2.66		0.85	1	10.805			
00			C	0.181	2.66		0.85	1	10.805			
T6	0.089	1.341	A	0.183	2.654	0.013	0.85	1	10.943	0.449	0.022	C
382.000-362.0			B	0.183	2.654		0.85	1	10.943			
00			C	0.183	2.654		0.85	1	10.943			
T7	0.091	1.229	A	0.181	2.66	0.013	0.85	1	10.805	0.446	0.022	C
362.000-342.0			B	0.181	2.66		0.85	1	10.805			
00			C	0.181	2.66		0.85	1	10.805			
T8	0.098	1.229	A	0.181	2.66	0.012	0.85	1	10.805	0.458	0.023	C
342.000-322.0			B	0.181	2.66		0.85	1	10.805			
00			C	0.181	2.66		0.85	1	10.805			
T9	0.099	1.440	A	0.185	2.647	0.012	0.85	1	10.910	0.456	0.023	C
322.000-302.0			B	0.185	2.647		0.85	1	10.910			
00			C	0.185	2.647		0.85	1	10.910			
T10	0.113	1.419	A	0.19	2.631	0.012	0.85	1	11.257	0.479	0.024	C
302.000-282.0			B	0.19	2.631		0.85	1	11.257			
00			C	0.19	2.631		0.85	1	11.257			
T11	0.354	1.858	A	0.211	2.559	0.012	0.85	1	12.678	0.744	0.037	C
282.000-262.0			B	0.211	2.559		0.85	1	12.678			
00			C	0.211	2.559		0.85	1	12.678			
T12	0.422	1.742	A	0.2	2.596	0.012	0.85	1	11.848	0.778	0.039	B
262.000-242.0			B	0.2	2.596		0.85	1	11.848			
00			C	0.2	2.596		0.85	1	11.848			
T13	0.448	1.629	A	0.198	2.602	0.012	0.85	1	11.711	0.804	0.040	B
242.000-222.0			B	0.198	2.602		0.85	1	11.711			
00			C	0.198	2.602		0.85	1	11.711			
T14	0.463	2.201	A	0.221	2.527	0.011	0.85	1	13.270	0.840	0.042	B
222.000-202.0			B	0.221	2.527		0.85	1	13.270			
00			C	0.221	2.527		0.85	1	13.270			
T15	0.463	1.860	A	0.206	2.575	0.011	0.85	1	12.169	0.802	0.040	B
202.000-182.0			B	0.206	2.575		0.85	1	12.169			
00			C	0.206	2.575		0.85	1	12.169			
T16	0.467	1.860	A	0.206	2.575	0.011	0.85	1	12.169	0.790	0.039	B
182.000-162.0			B	0.206	2.575		0.85	1	12.169			
00			C	0.206	2.575		0.85	1	12.169			
T17	0.485	1.972	A	0.208	2.569	0.011	0.85	1	12.305	0.807	0.040	B
162.000-142.0			B	0.208	2.569		0.85	1	12.305			
00			C	0.208	2.569		0.85	1	12.305			
T18	0.491	1.860	A	0.206	2.575	0.010	0.85	1	12.169	0.791	0.040	B
142.000-122.0			B	0.206	2.575		0.85	1	12.169			
00			C	0.206	2.575		0.85	1	12.169			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
T19	0.249	0.959	A	0.219	2.533	0.010	0.85	1	6.559	0.400	0.040	B
122.000-112.0			B	0.219	2.533		0.85	1	6.559			
00			C	0.219	2.533		0.85	1	6.559			
T20	0.251	1.060	A	0.219	2.533	0.010	0.85	1	6.562	0.396	0.040	B
112.000-102.0			B	0.219	2.533		0.85	1	6.562			
00			C	0.219	2.533		0.85	1	6.562			
T21	0.504	1.972	A	0.208	2.569	0.009	0.85	1	12.305	0.758	0.038	B
102.000-82.00			B	0.208	2.569		0.85	1	12.305			
0			C	0.208	2.569		0.85	1	12.305			
T22	0.504	1.860	A	0.206	2.575	0.009	0.85	1	12.169	0.718	0.036	B
82.000-62.000			B	0.206	2.575		0.85	1	12.169			
			C	0.206	2.575		0.85	1	12.169			
T23	0.504	1.972	A	0.208	2.569	0.008	0.85	1	12.305	0.672	0.034	B
62.000-42.000			B	0.208	2.569		0.85	1	12.305			
			C	0.208	2.569		0.85	1	12.305			
T24	0.504	1.860	A	0.206	2.575	0.008	0.85	1	12.169	0.605	0.030	B
42.000-22.000			B	0.206	2.575		0.85	1	12.169			
			C	0.206	2.575		0.85	1	12.169			
T25	0.358	1.889	A	0.214	2.551	0.006	0.85	1	12.714	0.423	0.021	B
22.000-2.000			B	0.214	2.551		0.85	1	12.714			
			C	0.214	2.551		0.85	1	12.714			
Sum Weight:	7.195	39.321								14.619		

Force Totals (Does not include forces on guys)

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Torques kip-ft
Leg Weight	28.245			
Bracing Weight	11.075			
Total Member Self-Weight	39.321			
Guy Weight	10.784			
Total Weight	67.365			
Wind 0 deg - No Ice		0.073	-68.910	-5.052
Wind 30 deg - No Ice		33.113	-57.187	-11.175
Wind 60 deg - No Ice		56.970	-32.863	-16.340
Wind 90 deg - No Ice		67.843	-0.066	-20.154
Wind 120 deg - No Ice		60.984	35.070	-14.955
Wind 150 deg - No Ice		34.002	58.962	-4.290
Wind 180 deg - No Ice		-0.127	65.623	5.050
Wind 210 deg - No Ice		-33.148	57.166	11.068
Wind 240 deg - No Ice		-59.893	34.525	16.315
Wind 270 deg - No Ice		-67.920	0.115	20.206
Wind 300 deg - No Ice		-58.219	-33.438	14.982
Wind 330 deg - No Ice		-34.123	-58.981	4.344
Member Ice	28.156			
Guy Ice	19.068			
Total Weight Ice	160.561			
Wind 0 deg - Ice		0.208	-24.213	-2.444
Wind 30 deg - Ice		12.041	-20.313	-4.767
Wind 60 deg - Ice		20.475	-11.816	-6.935
Wind 90 deg - Ice		23.938	-0.280	-7.848
Wind 120 deg - Ice		21.361	11.973	-5.818

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Torques kip-ft
Wind 150 deg - Ice		11.839	20.679	-1.237
Wind 180 deg - Ice		-0.046	23.543	2.761
Wind 210 deg - Ice		-11.707	20.382	5.400
Wind 240 deg - Ice		-20.927	11.964	7.258
Wind 270 deg - Ice		-23.885	-0.118	7.503
Wind 300 deg - Ice		-20.740	-11.917	5.181
Wind 330 deg - Ice		-12.064	-20.610	0.949
Total Weight	67.365			
Wind 0 deg - Service		0.020	-18.863	-1.375
Wind 30 deg - Service		9.066	-15.657	-3.042
Wind 60 deg - Service		15.598	-8.998	-4.448
Wind 90 deg - Service		18.572	-0.018	-5.486
Wind 120 deg - Service		16.691	9.599	-4.071
Wind 150 deg - Service		9.308	16.141	-1.168
Wind 180 deg - Service		-0.034	17.968	1.375
Wind 210 deg - Service		-9.076	15.652	3.013
Wind 240 deg - Service		-16.394	9.450	4.441
Wind 270 deg - Service		-18.593	0.031	5.500
Wind 300 deg - Service		-15.939	-9.154	4.078
Wind 330 deg - Service		-9.341	-16.146	1.183

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice+1.0 Guy
3	1.2 Dead+1.0 Wind 30 deg - No Ice+1.0 Guy
4	1.2 Dead+1.0 Wind 60 deg - No Ice+1.0 Guy
5	1.2 Dead+1.0 Wind 90 deg - No Ice+1.0 Guy
6	1.2 Dead+1.0 Wind 120 deg - No Ice+1.0 Guy
7	1.2 Dead+1.0 Wind 150 deg - No Ice+1.0 Guy
8	1.2 Dead+1.0 Wind 180 deg - No Ice+1.0 Guy
9	1.2 Dead+1.0 Wind 210 deg - No Ice+1.0 Guy
10	1.2 Dead+1.0 Wind 240 deg - No Ice+1.0 Guy
11	1.2 Dead+1.0 Wind 270 deg - No Ice+1.0 Guy
12	1.2 Dead+1.0 Wind 300 deg - No Ice+1.0 Guy
13	1.2 Dead+1.0 Wind 330 deg - No Ice+1.0 Guy
14	1.2 Dead+1.0 Ice+1.0 Temp+Guy
15	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy
16	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy
17	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy
18	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy
19	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy
20	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy
21	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy
22	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy
23	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy
24	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy
25	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy
26	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy
27	Dead+Wind 0 deg - Service+Guy
28	Dead+Wind 30 deg - Service+Guy
29	Dead+Wind 60 deg - Service+Guy

Comb. No.	Description
30	Dead+Wind 90 deg - Service+Guy
31	Dead+Wind 120 deg - Service+Guy
32	Dead+Wind 150 deg - Service+Guy
33	Dead+Wind 180 deg - Service+Guy
34	Dead+Wind 210 deg - Service+Guy
35	Dead+Wind 240 deg - Service+Guy
36	Dead+Wind 270 deg - Service+Guy
37	Dead+Wind 300 deg - Service+Guy
38	Dead+Wind 330 deg - Service+Guy

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Guy C @ 148 ft Elev -7 ft Azimuth 240 deg	Max. Vert	10	-13.363	-2.886	1.667
	Max. H_x	10	-13.363	-2.886	1.667
	Max. H_z	3	-108.353	-41.280	25.716
	Min. Vert	5	-109.740	-43.500	23.283
	Min. H_x	5	-109.740	-43.500	23.283
	Min. H_z	9	-17.401	-5.083	1.566
Guy B @ 146 ft Elev -4 ft Azimuth 120 deg	Max. Vert	6	-13.414	2.871	1.659
	Max. H_x	11	-110.427	43.486	23.273
	Max. H_z	13	-109.300	41.477	25.823
	Min. Vert	11	-110.427	43.486	23.273
	Min. H_x	6	-13.414	2.871	1.659
	Min. H_z	7	-17.491	5.061	1.562
Guy A @ 149 ft Elev 2 ft Azimuth 0 deg	Max. Vert	2	-12.419	-0.000	-3.159
	Max. H_x	11	-61.214	2.838	-27.000
	Max. H_z	2	-12.419	-0.000	-3.159
	Min. Vert	8	-105.994	0.013	-48.971
	Min. H_x	5	-60.865	-2.834	-26.855
	Min. H_z	8	-105.994	0.013	-48.971
Guy C @ 117.5 ft Elev -5 ft Azimuth 240 deg	Max. Vert	10	-1.264	-0.506	0.292
	Max. H_x	10	-1.264	-0.506	0.292
	Max. H_z	3	-60.516	-42.355	25.243
	Min. Vert	5	-62.554	-44.400	24.860
	Min. H_x	5	-62.554	-44.400	24.860
	Min. H_z	10	-1.264	-0.506	0.292
Guy B @ 117.5 ft Elev 0 ft Azimuth 120 deg	Max. Vert	6	-1.123	0.461	0.266
	Max. H_x	11	-60.687	44.344	24.848
	Max. H_z	13	-61.028	44.114	26.294
	Min. Vert	13	-61.028	44.114	26.294
	Min. H_x	6	-1.123	0.461	0.266
	Min. H_z	6	-1.123	0.461	0.266
Guy A @ 123 ft Elev 0 ft Azimuth 0 deg	Max. Vert	2	-1.038	-0.000	-0.536
	Max. H_x	10	-50.101	1.040	-43.972

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Max. H_z	2	-1.038	-0.000	-0.536
	Min. Vert	7	-58.242	-0.684	-51.174
	Min. H_x	6	-51.372	-1.089	-45.198
	Min. H_z	7	-58.242	-0.684	-51.174
Mast	Max. Vert	6	390.015	3.692	1.839
	Max. H_x	6	390.015	3.692	1.839
	Max. H_z	6	390.015	3.692	1.839
	Max. M_x	1	0.000	0.001	-0.029
	Max. M_z	1	0.000	0.001	-0.029
	Max. Torsion	5	10.038	3.038	1.074
	Min. Vert	1	227.275	0.001	-0.029
	Min. H_x	10	386.207	-3.348	1.783
	Min. H_z	2	389.717	0.132	-4.131
	Min. M_x	1	0.000	0.001	-0.029
	Min. M_z	1	0.000	0.001	-0.029
	Min. Torsion	11	-9.743	-2.825	1.109

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	227.275	-0.001	0.029	0.000	0.000	-0.059
1.2 Dead+1.0 Wind 0 deg - No Ice+1.0 Guy	389.717	-0.132	4.131	0.000	0.000	-2.551
1.2 Dead+1.0 Wind 30 deg - No Ice+1.0 Guy	358.353	-0.503	3.072	0.000	0.000	-4.759
1.2 Dead+1.0 Wind 60 deg - No Ice+1.0 Guy	315.306	-1.151	0.651	0.000	0.000	-8.331
1.2 Dead+1.0 Wind 90 deg - No Ice+1.0 Guy	360.846	-3.038	-1.074	0.000	0.000	-10.038
1.2 Dead+1.0 Wind 120 deg - No Ice+1.0 Guy	390.015	-3.692	-1.839	0.000	0.000	-6.745
1.2 Dead+1.0 Wind 150 deg - No Ice+1.0 Guy	357.684	-2.433	-1.601	0.000	0.000	-1.451
1.2 Dead+1.0 Wind 180 deg - No Ice+1.0 Guy	312.154	0.040	-0.926	0.000	0.000	2.560
1.2 Dead+1.0 Wind 210 deg - No Ice+1.0 Guy	353.689	2.221	-1.517	0.000	0.000	4.418
1.2 Dead+1.0 Wind 240 deg - No Ice+1.0 Guy	386.207	3.348	-1.783	0.000	0.000	6.861
1.2 Dead+1.0 Wind 270 deg - No Ice+1.0 Guy	360.218	2.825	-1.109	0.000	0.000	9.743
1.2 Dead+1.0 Wind 300 deg - No Ice+1.0 Guy	316.253	1.049	0.563	0.000	0.000	7.586
1.2 Dead+1.0 Wind 330 deg - No Ice+1.0 Guy	361.974	0.318	3.178	0.000	0.000	1.126
1.2 Dead+1.0 Ice+1.0 Temp+Guy	340.417	0.014	0.089	0.000	0.000	-0.104
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy	349.308	-0.003	0.481	0.000	0.000	-1.506
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy	352.674	-0.193	0.433	0.000	0.000	-2.438
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy	355.214	-0.349	0.288	0.000	0.000	-3.751
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy	352.772	-0.411	0.088	0.000	0.000	-4.486

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 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy	349.253	-0.342	-0.069	0.000	0.000	-3.176
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy	352.591	-0.196	-0.196	0.000	0.000	-0.491
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy	354.915	0.028	-0.243	0.000	0.000	1.360
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy	352.276	0.224	-0.191	0.000	0.000	2.453
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy	348.727	0.342	-0.066	0.000	0.000	3.705
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy	352.700	0.414	0.070	0.000	0.000	4.140
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy	355.476	0.355	0.265	0.000	0.000	2.664
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy	352.977	0.188	0.430	0.000	0.000	0.115
Dead+Wind 0 deg - Service+Guy	229.306	-0.012	0.021	0.000	0.000	-0.900
Dead+Wind 30 deg - Service+Guy	229.814	-0.038	0.045	0.000	0.000	-1.712
Dead+Wind 60 deg - Service+Guy	230.389	-0.061	0.049	0.000	0.000	-2.649
Dead+Wind 90 deg - Service+Guy	230.126	-0.057	0.039	0.000	0.000	-3.438
Dead+Wind 120 deg - Service+Guy	229.791	-0.022	0.041	0.000	0.000	-2.479
Dead+Wind 150 deg - Service+Guy	230.499	-0.014	0.025	0.000	0.000	-0.590
Dead+Wind 180 deg - Service+Guy	231.018	0.009	0.011	0.000	0.000	0.770
Dead+Wind 210 deg - Service+Guy	230.575	0.028	0.015	0.000	0.000	1.567
Dead+Wind 240 deg - Service+Guy	229.968	0.027	0.028	0.000	0.000	2.521
Dead+Wind 270 deg - Service+Guy	230.424	0.051	0.024	0.000	0.000	3.316
Dead+Wind 300 deg - Service+Guy	230.707	0.045	0.034	0.000	0.000	2.356
Dead+Wind 330 deg - Service+Guy	230.045	0.015	0.035	0.000	0.000	0.480

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	-67.362	0.000	0.000	67.362	-0.013	0.019%
2	0.074	-78.863	-85.145	-0.074	78.861	85.074	0.061%
3	41.260	-78.672	-71.249	-41.268	78.671	71.191	0.052%
4	71.105	-78.484	-40.988	-71.077	78.483	40.955	0.037%
5	84.172	-78.700	-0.065	-84.126	78.699	0.101	0.051%
6	75.122	-78.911	43.196	-75.061	78.909	-43.162	0.059%
7	42.150	-78.706	73.023	-42.098	78.706	-73.004	0.048%
8	-0.127	-78.493	81.859	0.119	78.493	-81.823	0.033%
9	-41.295	-78.685	71.229	41.244	78.684	-71.209	0.048%
10	-74.028	-78.872	42.650	73.968	78.871	-42.616	0.060%
11	-84.249	-78.656	0.113	84.203	78.656	-0.078	0.051%
12	-72.357	-78.446	-41.563	72.324	78.445	41.538	0.036%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
13	-42.271	-78.650	-73.043	42.279	78.649	72.985	0.051%
14	0.000	-171.870	0.000	-0.009	171.870	-0.038	0.022%
15	0.211	-172.014	-35.271	-0.208	172.014	35.280	0.005%
16	17.598	-171.864	-29.899	-17.585	171.864	29.894	0.008%
17	30.117	-171.720	-17.356	-30.104	171.720	17.348	0.009%
18	35.077	-171.884	-0.280	-35.067	171.884	0.270	0.008%
19	31.002	-172.045	17.511	-31.005	172.045	-17.521	0.006%
20	17.393	-171.890	30.261	-17.396	171.890	-30.249	0.007%
21	-0.048	-171.730	34.610	0.047	171.730	-34.596	0.008%
22	-17.264	-171.876	29.969	17.264	171.876	-29.956	0.007%
23	-30.569	-172.020	17.504	30.572	172.020	-17.514	0.006%
24	-35.023	-171.856	-0.117	35.012	171.856	0.109	0.008%
25	-30.382	-171.695	-17.454	30.368	171.695	17.446	0.009%
26	-17.619	-171.850	-30.193	17.605	171.850	30.188	0.008%
27	0.020	-67.410	-23.286	-0.021	67.410	23.278	0.012%
28	11.284	-67.360	-19.485	-11.277	67.360	19.480	0.012%
29	19.446	-67.309	-11.210	-19.439	67.309	11.205	0.012%
30	23.017	-67.368	-0.018	-23.010	67.368	0.014	0.012%
31	20.535	-67.427	11.808	-20.528	67.427	-11.805	0.011%
32	11.526	-67.370	19.968	-11.526	67.370	-19.960	0.011%
33	-0.035	-67.312	22.387	0.034	67.312	-22.380	0.011%
34	-11.293	-67.364	19.480	11.292	67.364	-19.472	0.011%
35	-20.239	-67.416	11.660	20.232	67.416	-11.658	0.011%
36	-23.038	-67.356	0.031	23.030	67.356	-0.034	0.012%
37	-19.787	-67.299	-11.366	19.779	67.299	11.362	0.012%
38	-11.559	-67.354	-19.974	11.552	67.354	19.969	0.012%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	22	0.00020000	0.00001042
2	Yes	153	0.00019584	0.00007047
3	Yes	138	0.00019795	0.00006209
4	Yes	64	0.00019866	0.00006429
5	Yes	130	0.00019654	0.00006228
6	Yes	145	0.00019673	0.00007006
7	Yes	129	0.00019864	0.00005925
8	Yes	62	0.00019222	0.00005689
9	Yes	135	0.00019735	0.00005988
10	Yes	149	0.00019658	0.00007063
11	Yes	133	0.00019779	0.00006300
12	Yes	64	0.00019760	0.00006429
13	Yes	136	0.00019533	0.00006060
14	Yes	16	0.00020000	0.00002710
15	Yes	43	0.00019374	0.00001640
16	Yes	78	0.00019733	0.00002015
17	Yes	86	0.00019403	0.00002237
18	Yes	79	0.00019786	0.00002053
19	Yes	45	0.00019811	0.00001577
20	Yes	76	0.00019211	0.00001777
21	Yes	84	0.00019230	0.00001993
22	Yes	75	0.00019808	0.00001893
23	Yes	37	0.00019260	0.00001411
24	Yes	79	0.00019511	0.00002046
25	Yes	86	0.00019475	0.00002241

26	Yes	78	0.00019926	0.00002017
27	Yes	26	0.00019528	0.00002049
28	Yes	40	0.00019463	0.00001803
29	Yes	45	0.00019952	0.00001927
30	Yes	39	0.00019457	0.00001802
31	Yes	25	0.00019994	0.00002356
32	Yes	39	0.00019877	0.00001691
33	Yes	46	0.00019417	0.00001685
34	Yes	40	0.00019883	0.00001721
35	Yes	28	0.00019622	0.00001983
36	Yes	40	0.00019713	0.00001857
37	Yes	46	0.00019559	0.00001909
38	Yes	40	0.00019840	0.00001835

Maximum Tower Deflections - Service Wind

Section No.	*Elevation*	*Horz. Deflection*	*Gov. Load Comb.*	*Tilt*	*Twist*
	ft	*in*		°	°
L1	492 - 477	7.671	37	0.4477	0.7236
L2	477 - 457	6.291	37	0.4169	0.7236
T1	457 - 452	5.044	37	0.0957	0.7112
T2	452 - 442	4.944	37	0.0930	0.7089
T3	442 - 422	4.752	37	0.0833	0.7023
T4	422 - 402	4.417	37	0.0778	0.7116
T5	402 - 382	4.102	37	0.0685	0.7087
T6	382 - 362	3.845	37	0.0449	0.7097
T7	362 - 342	3.691	37	0.0330	0.7359
T8	342 - 322	3.568	37	0.0244	0.7262
T9	322 - 302	3.487	37	0.0092	0.7435
T10	302 - 282	3.485	37	0.0104	0.7465
T11	282 - 262	3.442	37	0.0175	0.7680
T12	262 - 242	3.347	37	0.0192	0.7420
T13	242 - 222	3.282	29	0.0264	0.7585
T14	222 - 202	3.169	29	0.0329	0.7065
T15	202 - 182	3.063	30	0.0286	0.7147
T16	182 - 162	2.961	30	0.0415	0.6637
T17	162 - 142	2.758	30	0.0622	0.6464
T18	142 - 122	2.464	30	0.0767	0.5791
T19	122 - 112	2.107	30	0.0892	0.5455
T20	112 - 102	1.914	27	0.0906	0.4852
T21	102 - 82	1.731	27	0.0870	0.4998
T22	82 - 62	1.403	27	0.0834	0.3919
T23	62 - 42	1.055	27	0.0838	0.3437
T24	42 - 22	0.701	27	0.0804	0.2130
T25	22 - 2	0.374	27	0.0800	0.1547

Critical Deflections and Radius of Curvature - Service Wind

Elevation	*Appurtenance*	*Gov. Load Comb.*	*Deflection*	*Tilt*	*Twist*	*Radius of Curvature*
ft			*in*	°	°	*ft*
490.000	Beacon (.075k 2.250CAAA)	37	7.481	0.4533	0.7240	29233
471.000	2 Bay FM Antenna	37	5.803	0.3182	0.7206	5302
453.000	3' Yagi(.03k,2.08CAAA)	37	4.961	0.0921	0.7093	13726
442.000	Guy	37	4.752	0.0833	0.7023	44314

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
435.000	6' Grid Dish	37	4.627	0.0777	0.6967	52496
382.000	Guy	37	3.845	0.0449	0.7097	35913
358.000	Obstruction Light(.01k,.8CAAA)	37	3.665	0.0318	0.7321	284633
351.000	3' Dish w/ Radomes	37	3.621	0.0294	0.7137	191215
339.000	3' Grid Dish	37	3.551	0.0220	0.7238	93482
322.000	Guy	37	3.487	0.0092	0.7435	38445
302.000	6' Omni	37	3.485	0.0104	0.7465	71990
300.000	Kathrein CA5-FM/CP/RM	37	3.484	0.0110	0.7463	65479
280.000	KRY 112 89/4	37	3.434	0.0180	0.7674	80553
262.000	Guy	37	3.347	0.0192	0.7420	76569
257.000	SM 408-3	37	3.327	0.0202	0.7340	143132
247.000	8' Grid Dish (140lbs 20.1CaAa)	29	3.299	0.0240	0.7571	67099
239.000	8' Grid Dish (140lbs 20.1CaAa)	29	3.268	0.0279	0.7521	50073
237.000	Beacon (.075k 2.250CAAA)	29	3.258	0.0289	0.7453	58014
225.000	MTC3975083	29	3.188	0.0329	0.7061	325721
210.000	Guy	29	3.100	0.0298	0.7067	147955
165.000	Sector Frames	30	2.796	0.0594	0.6507	49855
154.000	Guy	30	2.650	0.0684	0.6098	62756
138.000	10' Dipole	30	2.397	0.0796	0.5607	78475
125.000	10' Dipole	30	2.164	0.0878	0.5565	70559
124.000	Beacon (.075k 2.250CAAA)	30	2.145	0.0883	0.5538	70961
116.000	Obstruction Light(.01k,.8CAAA)	27	1.989	0.0907	0.5044	167437
108.000	10' Dipole	27	1.840	0.0895	0.4875	88773
102.000	Guy	27	1.731	0.0870	0.4998	49580
46.000	Guy	27	0.769	0.0811	0.2258	103158

Maximum Tower Deflections - Design Wind

Section No.	Elevation	Horz. Deflection	Gov. Load Comb.	Tilt	Twist
	ft	in		°	°
L1	492 - 477	43.498	10	1.4249	1.9728
L2	477 - 457	39.234	10	1.3315	1.9728
T1	457 - 452	35.362	2	0.3978	1.9273
T2	452 - 442	35.020	2	0.3900	1.9185
T3	442 - 422	34.365	2	0.3615	1.8985
T4	422 - 402	33.185	2	0.3494	1.9219
T5	402 - 382	32.030	2	0.3231	1.9166
T6	382 - 362	31.054	2	0.2433	1.9187
T7	362 - 342	30.461	2	0.1977	1.9687
T8	342 - 322	29.971	2	0.1608	1.9735
T9	322 - 302	29.631	2	0.0925	1.9998
T10	302 - 282	29.587	2	0.0871	2.0566
T11	282 - 262	29.342	2	0.1210	2.0958
T12	262 - 242	28.842	2	0.1223	2.0649
T13	242 - 222	28.320	2	0.1753	2.0708
T14	222 - 202	27.576	6	0.2377	1.9716
T15	202 - 182	26.658	6	0.2604	1.9588
T16	182 - 162	25.529	6	0.3622	1.8705
T17	162 - 142	23.774	6	0.4997	1.7858
T18	142 - 122	21.420	6	0.6112	1.6484
T19	122 - 112	18.598	6	0.7062	1.5172
T20	112 - 102	17.042	6	0.7313	1.3831
T21	102 - 82	15.469	6	0.7321	1.3780
T22	82 - 62	12.429	6	0.7374	1.1378
T23	62 - 42	9.298	6	0.7448	0.9446

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T24	42 - 22	6.184	6	0.7187	0.6232
T25	22 - 2	3.250	6	0.7053	0.3904

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
490.000	Beacon (.075k 2.250CAAA)	10	42.912	1.4408	1.9740	9803
471.000	2 Bay FM Antenna	10	37.717	1.0433	1.9619	1812
453.000	3' Yagi(.03k,2.08CAAA)	2	35.080	0.3873	1.9202	4740
442.000	Guy	2	34.365	0.3615	1.8985	15293
435.000	6' Grid Dish	2	33.931	0.3461	1.8938	18524
382.000	Guy	2	31.054	0.2433	1.9187	9341
358.000	Obstruction Light(.01k,.8CAAA)	2	30.360	0.1921	1.9672	69690
351.000	3' Dish w/ Radomes	2	30.185	0.1815	1.9468	48550
339.000	3' Grid Dish	2	29.904	0.1514	1.9705	23478
322.000	Guy	2	29.631	0.0925	1.9998	10027
302.000	6' Omni	2	29.587	0.0871	2.0566	15696
300.000	Kathrein CA5-FM/CP/RM	2	29.578	0.0903	2.0597	14381
280.000	KRY 112 89/4	2	29.299	0.1224	2.0954	16514
262.000	Guy	2	28.842	0.1223	2.0649	20309
257.000	SM 408-3	2	28.722	0.1306	2.0477	39361
247.000	8' Grid Dish (140lbs 20.1CaAa)	2	28.473	0.1581	2.0743	11675
239.000	8' Grid Dish (140lbs 20.1CaAa)	6	28.225	0.1862	2.0571	9021
237.000	Beacon (.075k 2.250CAAA)	6	28.163	0.1935	2.0440	9909
225.000	MTC3975083	6	27.705	0.2316	1.9749	26876
210.000	Guy	6	27.038	0.2487	1.9534	40155
165.000	Sector Frames	6	24.080	0.4802	1.7997	7725
154.000	Guy	6	22.896	0.5473	1.7098	8944
138.000	10' Dipole	6	20.890	0.6318	1.6087	10870
125.000	10' Dipole	6	19.048	0.6945	1.5459	11451
124.000	Beacon (.075k 2.250CAAA)	6	18.899	0.6985	1.5380	11610
116.000	Obstruction Light(.01k,.8CAAA)	6	17.671	0.7244	1.4281	22817
108.000	10' Dipole	6	16.410	0.7334	1.3750	23503
102.000	Guy	6	15.469	0.7321	1.3780	13261
46.000	Guy	6	6.793	0.7152	0.6697	19444

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	457	Diagonal	A325N	0.6250	1	1.794	9.914	0.181 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	0.206	13.806	0.015 ✔	1	Bolt Shear
T2	452	Diagonal	A325N	0.6250	1	2.357	10.500	0.224 ✔	1	Member Block Shear
		Horizontal	A325N	0.6250	1	0.327	7.875	0.041 ✔	1	Member Block Shear

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	0.6250	1	0.817	7.875	0.104 ✓	1	Member Block Shear
T3	442	Diagonal	A325N	0.6250	1	0.921	10.500	0.088 ✓	1	Member Block Shear
		Horizontal	A325N	0.6250	1	0.523	7.875	0.066 ✓	1	Member Block Shear
		Top Guy Pull-Off@442	A325N	0.7500	2	2.846	32.477	0.088 ✓	1	Member Block Shear
T4	422	Diagonal	A325N	0.6250	1	2.103	10.500	0.200 ✓	1	Member Block Shear
		Horizontal	A325N	0.6250	1	0.697	7.875	0.088 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	0.697	7.875	0.088 ✓	1	Member Block Shear
T5	402	Diagonal	A325N	0.6250	1	3.569	10.500	0.340 ✓	1	Member Block Shear
		Horizontal	A325N	0.6250	1	1.112	7.875	0.141 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	1.112	7.875	0.141 ✓	1	Member Block Shear
T6	382	Diagonal	A325N	0.6250	1	1.834	10.500	0.175 ✓	1	Member Block Shear
		Horizontal	A325N	0.6250	1	1.238	7.875	0.157 ✓	1	Member Block Shear
		Top Guy Pull-Off@382	A325N	0.7500	2	3.375	32.477	0.104 ✓	1	Member Block Shear
T7	362	Diagonal	A325N	0.6250	1	1.688	13.806	0.122 ✓	1	Bolt Shear
		Horizontal	A325N	0.6250	1	1.142	7.875	0.145 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	1.142	7.875	0.145 ✓	1	Member Block Shear
T8	342	Diagonal	A325N	0.6250	1	2.367	10.500	0.225 ✓	1	Member Block Shear
		Horizontal	A325N	0.6250	1	1.426	7.875	0.181 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	1.426	7.875	0.181 ✓	1	Member Block Shear
T9	322	Diagonal	A325N	0.6250	1	3.601	6.855	0.525 ✓	1	Member Block Shear
		Horizontal	A325N	0.6250	1	1.360	7.875	0.173 ✓	1	Member Block Shear
		Top Guy Pull-Off@322	A325N	0.7500	2	3.427	32.477	0.106 ✓	1	Member Block Shear
T10	302	Diagonal	A325N	0.6250	1	2.598	13.806	0.188 ✓	1	Bolt Shear
		Horizontal	A325N	0.6250	1	1.413	7.875	0.179 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	1.413	7.875	0.179 ✓	1	Member Block Shear
T11	282	Diagonal	A325N	0.6250	1	6.173	13.806	0.447 ✓	1	Bolt Shear
		Horizontal	A325N	0.6250	1	1.465	7.875	0.186 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	1.339	7.875	0.170 ✓	1	Member Block Shear
T12	262	Diagonal	A325N	0.6250	1	4.922	10.500	0.469 ✓	1	Member Block Shear
		Horizontal	A325N	0.6250	1	1.824	7.875	0.232 ✓	1	Member Block Shear
		Top Guy	A325N	0.7500	2	5.039	32.477	0.155 ✓	1	Member Block

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
		Pull-Off@262								Shear
T13	242	Diagonal	A325N	0.6250	1	5.432	13.806	0.393 ✔	1	Bolt Shear
		Horizontal	A325N	0.6250	1	1.835	7.875	0.233 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	1.835	7.875	0.233 ✔	1	Member Block Shear
T14	222	Diagonal	A325N	0.6250	1	7.868	13.806	0.570 ✔	1	Bolt Shear
		Horizontal	A325N	0.6250	1	2.163	7.875	0.275 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	2.163	7.875	0.275 ✔	1	Member Block Shear
		Top Guy	A325N	0.7500	2	5.739	32.477	0.177 ✔	1	Member Block Shear
		Pull-Off@210								Shear
T15	202	Diagonal	A325N	0.6250	1	6.807	13.806	0.493 ✔	1	Bolt Shear
		Horizontal	A325N	0.6250	1	2.385	7.875	0.303 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	2.385	7.875	0.303 ✔	1	Member Block Shear
T16	182	Diagonal	A325N	0.6250	1	5.844	13.806	0.423 ✔	1	Bolt Shear
		Horizontal	A325N	0.6250	1	2.512	7.875	0.319 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	2.512	7.875	0.319 ✔	1	Member Block Shear
T17	162	Diagonal	A325N	0.6250	1	6.231	10.500	0.593 ✔	1	Member Block Shear
		Horizontal	A325N	0.6250	1	2.535	7.875	0.322 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	2.535	7.875	0.322 ✔	1	Member Block Shear
		Top Guy	A325N	0.7500	2	3.480	32.477	0.107 ✔	1	Member Block Shear
		Pull-Off@154								Shear
T18	142	Diagonal	A325N	0.6250	1	6.418	13.806	0.465 ✔	1	Bolt Shear
		Horizontal	A325N	0.6250	1	2.511	7.875	0.319 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	2.511	7.875	0.319 ✔	1	Member Block Shear
T19	122	Diagonal	A325N	0.6250	1	7.703	13.806	0.558 ✔	1	Bolt Shear
		Horizontal	A325N	0.6250	1	2.221	7.875	0.282 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	2.221	7.875	0.282 ✔	1	Member Block Shear
T20	112	Diagonal	A325N	0.6250	1	8.966	13.806	0.649 ✔	1	Bolt Shear
		Horizontal	A325N	0.6250	1	2.134	7.875	0.271 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	2.134	7.875	0.271 ✔	1	Member Block Shear
T21	102	Diagonal	A325N	0.6250	1	6.000	13.806	0.435 ✔	1	Bolt Shear
		Horizontal	A325N	0.6250	1	2.307	7.875	0.293 ✔	1	Member Block Shear
		Top Guy	A325N	0.7500	2	4.353	32.477	0.134 ✔	1	Member Block Shear
		Pull-Off@102								Shear
T22	82	Diagonal	A325N	0.6250	1	5.750	13.806	0.417 ✔	1	Bolt Shear
		Horizontal	A325N	0.6250	1	2.327	7.875	0.295 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	2.327	7.875	0.295 ✔	1	Member Block

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
T23	62	Diagonal	A325N	0.6250	1	7.945	13.806	0.575 ✔	1	Shear Bolt Shear
		Horizontal	A325N	0.6250	1	2.591	7.875	0.329 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	2.591	7.875	0.329 ✔	1	Member Block Shear
		Top Guy Pull-Off@46	A325N	0.7500	2	3.079	32.477	0.095 ✔	1	Member Block Shear
T24	42	Diagonal	A325N	0.6250	1	7.725	13.806	0.560 ✔	1	Bolt Shear
		Horizontal	A325N	0.6250	1	2.536	7.875	0.322 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	2.536	7.875	0.322 ✔	1	Member Block Shear
T25	22	Diagonal	A325N	0.6250	1	6.186	13.806	0.448 ✔	1	Bolt Shear
		Horizontal	A325N	0.6250	1	2.386	7.875	0.303 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	2.386	7.875	0.303 ✔	1	Member Block Shear

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.
T3	442.000 (A) (776)	1 BS	12.200	122.000	31.663	73.200	1.000	2.312 ✔
	442.000 (B) (775)	1 BS	12.200	122.000	32.227	73.200	1.000	2.271 ✔
	442.000 (C) (774)	1 BS	12.200	122.000	32.094	73.200	1.000	2.281 ✔
T6	382.000 (A) (779)	1 BS	12.200	122.000	31.668	73.200	1.000	2.311 ✔
	382.000 (B) (778)	1 BS	12.200	122.000	32.620	73.200	1.000	2.244 ✔
	382.000 (C) (777)	1 BS	12.200	122.000	32.361	73.200	1.000	2.262 ✔
T9	322.000 (A) (782)	7/8 BS	9.200	92.000	26.227	55.200	1.000	2.105 ✔
	322.000 (B) (781)	7/8 BS	9.200	92.000	27.424	55.200	1.000	2.013 ✔
	322.000 (C) (780)	7/8 BS	9.200	92.000	27.253	55.200	1.000	2.025 ✔
T12	262.000 (A) (785)	7/8 BS	9.200	92.000	32.007	55.200	1.000	1.725 ✔
	262.000 (B) (784)	7/8 BS	9.200	92.000	33.221	55.200	1.000	1.662 ✔
	262.000 (C) (783)	7/8 BS	9.200	92.000	33.481	55.200	1.000	1.649 ✔
T14	210.000 (A) (788)	7/8 BS	9.200	92.000	36.005	55.200	1.000	1.533 ✔
	210.000 (B) (787)	7/8 BS	9.200	92.000	37.279	55.200	1.000	1.481 ✔

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.
	210.000 (C) (786)	7/8 BS	9.200	92.000	37.510	55.200	1.000	1.472 ✔
T17	154.000 (A) (791)	9/16 EHS	3.500	35.000	16.825	21.000	1.000	1.248 ✔
	154.000 (B) (790)	9/16 EHS	3.500	35.000	17.256	21.000	1.000	1.217 ✔
	154.000 (C) (789)	9/16 EHS	3.500	35.000	17.424	21.000	1.000	1.205 ✔
T21	102.000 (A) (794)	9/16 EHS	3.500	35.000	17.414	21.000	1.000	1.206 ✔
	102.000 (B) (793)	9/16 EHS	3.500	35.000	17.829	21.000	1.000	1.178 ✔
	102.000 (C) (792)	9/16 EHS	3.500	35.000	17.987	21.000	1.000	1.167 ✔
T23	46.000 (A) (797)	1/2 EHS	2.690	26.900	9.814	16.140	1.000	1.645 ✔
	46.000 (B) (796)	1/2 EHS	2.690	26.900	10.065	16.140	1.000	1.604 ✔
	46.000 (C) (795)	1/2 EHS	2.690	26.900	10.184	16.140	1.000	1.585 ✔

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	492 - 477 (1)	P8x.406	15.000	35.000	144.4	10.4832	-0.720	113.643	0.006
L2	477 - 457 (2)	P8x.406	20.000	35.000	144.4	10.4832	-1.638	113.643	0.014

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	492 - 477 (1)	P8x.406	5.273	72.052	0.073	0.000	72.052	0.000
L2	477 - 457 (2)	P8x.406	27.341	72.052	0.379	0.000	72.052	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	492 - 477 (1)	P8x.406	0.675	99.067	0.007	0.000	71.586	0.000
L2	477 - 457 (2)	P8x.406	1.453	99.067	0.015	0.385	71.586	0.005

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	492 - 477 (1)	0.006	0.073	0.000	0.007	0.000	0.080 ✔	1.000	4.8.2 ✔
L2	477 - 457 (2)	0.014	0.379	0.000	0.015	0.005	0.394 ✔	1.000	4.8.2 ✔

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	Mast Stability Index	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	457 - 452	2 1/4	5.000	5.000	106.7 K=1.00	3.9761	1.00	-7.832	77.870	0.101 [1]
T2	452 - 442	2 1/4	10.000	3.333	71.1 K=1.00	3.9761	1.00	-16.788	123.621	0.136 [1]
T3	442 - 422	2 1/4	20.000	4.000	85.3 K=1.00	3.9761	1.00	-23.566	105.060	0.224 [1]
T4	422 - 402	2 1/4	20.000	4.000	85.3 K=1.00	3.9761	1.00	-31.392	105.060	0.299 [1]
T5	402 - 382	2 1/4	20.000	4.000	85.3 K=1.00	3.9761	1.00	-50.097	105.060	0.477 [1]
T6	382 - 362	2 1/4	20.000	4.000	85.3 K=1.00	3.9761	1.00	-55.781	105.060	0.531 [1]
T7	362 - 342	2 1/4	20.000	4.000	85.3 K=1.00	3.9761	1.00	-51.445	105.060	0.490 [1]
T8	342 - 322	2 1/4	20.000	4.000	85.3 K=1.00	3.9761	1.00	-64.249	105.060	0.612 [1]
T9	322 - 302	2 1/2	20.000	4.000	76.8 K=1.00	4.9087	1.00	-66.190	143.512	0.461 [1]
T10	302 - 282	2 1/2	20.000	4.000	76.8 K=1.00	4.9087	1.00	-68.728	143.512	0.479 [1]
T11	282 - 262	2 3/4	20.000	4.000	69.8 K=1.00	5.9396	1.00	-69.689	187.145	0.372 [1]
T12	262 - 242	2 3/4	20.000	4.000	69.8 K=1.00	5.9396	1.00	-94.945	187.145	0.507 [1]
T13	242 - 222	2 3/4	20.000	4.000	69.8 K=1.00	5.9396	1.00	-95.514	187.145	0.510 [1]
T14	222 - 202	3	20.000	4.000	64.0 K=1.00	7.0686	1.00	-119.547	235.765	0.507 [1]
T15	202 - 182	3	20.000	4.000	64.0	7.0686	1.00	-131.834	235.765	0.559 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	Mast Stability Index	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T16	182 - 162	3	20.000	4.000	K=1.00 64.0	7.0686	1.00	-138.849	235.765	0.589 [1]
T17	162 - 142	3	20.000	4.000	K=1.00 64.0	7.0686	1.00	-140.123	235.765	0.594 [1]
T18	142 - 122	3	20.000	4.000	K=1.00 64.0	7.0686	1.00	-138.790	235.765	0.589 [1]
T19	122 - 112	3	10.000	3.333	K=1.00 53.3	7.0686	1.00	-128.249	258.358	0.496 [1]
T20	112 - 102	3	10.000	3.333	K=1.00 53.3	7.0686	1.00	-123.220	258.358	0.477 [1]
T21	102 - 82	3	20.000	4.000	K=1.00 64.0	7.0686	1.00	-127.542	235.765	0.541 [1]
T22	82 - 62	3	20.000	4.000	K=1.00 64.0	7.0686	1.00	-128.609	235.765	0.545 [1]
T23	62 - 42	3	20.000	4.000	K=1.00 64.0	7.0686	1.00	-143.239	235.765	0.608 [1]
T24	42 - 22	3	20.000	4.000	K=1.00 64.0	7.0686	1.00	-140.192	235.765	0.595 [1]
T25	22 - 2	3	20.000	4.000	K=1.00 64.0 K=1.00	7.0686	1.00	-131.887	235.765	0.559 [1]

[1] $P_u / \phi P_n$ controls

Leg Bending Design Data (Compression)

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T1	457 - 452	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T2	452 - 442	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T3	442 - 422	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T4	422 - 402	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T5	402 - 382	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T6	382 - 362	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T7	362 - 342	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T8	342 - 322	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T9	322 - 302	2 1/2	0.000	9.766	0.000	0.000	9.766	0.000
T10	302 - 282	2 1/2	0.000	9.766	0.000	0.000	9.766	0.000
T11	282 - 262	2 3/4	0.000	12.998	0.000	0.000	12.998	0.000
T12	262 - 242	2 3/4	0.000	12.998	0.000	0.000	12.998	0.000
T13	242 - 222	2 3/4	0.000	12.998	0.000	0.000	12.998	0.000
T14	222 - 202	3	0.000	16.875	0.000	0.000	16.875	0.000
T15	202 - 182	3	0.000	16.875	0.000	0.000	16.875	0.000
T16	182 - 162	3	0.000	16.875	0.000	0.000	16.875	0.000
T17	162 - 142	3	0.000	16.875	0.000	0.000	16.875	0.000
T18	142 - 122	3	0.000	16.875	0.000	0.000	16.875	0.000
T19	122 - 112	3	0.000	16.875	0.000	0.000	16.875	0.000
T20	112 - 102	3	0.000	16.875	0.000	0.000	16.875	0.000
T21	102 - 82	3	0.000	16.875	0.000	0.000	16.875	0.000
T22	82 - 62	3	0.000	16.875	0.000	0.000	16.875	0.000
T23	62 - 42	3	0.000	16.875	0.000	0.000	16.875	0.000
T24	42 - 22	3	0.000	16.875	0.000	0.000	16.875	0.000
T25	22 - 2	3	0.000	16.875	0.000	0.000	16.875	0.000

Leg Interaction Design Data (Compression)

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	457 - 452	2 1/4	0.101	0.000	0.000	0.101 [1] ✔	1.000	4.8.1 ✔
T2	452 - 442	2 1/4	0.136	0.000	0.000	0.136 [1] ✔	1.000	4.8.1 ✔
T3	442 - 422	2 1/4	0.224	0.000	0.000	0.224 [1] ✔	1.000	4.8.1 ✔
T4	422 - 402	2 1/4	0.299	0.000	0.000	0.299 [1] ✔	1.000	4.8.1 ✔
T5	402 - 382	2 1/4	0.477	0.000	0.000	0.477 [1] ✔	1.000	4.8.1 ✔
T6	382 - 362	2 1/4	0.531	0.000	0.000	0.531 [1] ✔	1.000	4.8.1 ✔
T7	362 - 342	2 1/4	0.490	0.000	0.000	0.490 [1] ✔	1.000	4.8.1 ✔
T8	342 - 322	2 1/4	0.612	0.000	0.000	0.612 [1] ✔	1.000	4.8.1 ✔
T9	322 - 302	2 1/2	0.461	0.000	0.000	0.461 [1] ✔	1.000	4.8.1 ✔
T10	302 - 282	2 1/2	0.479	0.000	0.000	0.479 [1] ✔	1.000	4.8.1 ✔
T11	282 - 262	2 3/4	0.372	0.000	0.000	0.372 [1] ✔	1.000	4.8.1 ✔
T12	262 - 242	2 3/4	0.507	0.000	0.000	0.507 [1] ✔	1.000	4.8.1 ✔
T13	242 - 222	2 3/4	0.510	0.000	0.000	0.510 [1] ✔	1.000	4.8.1 ✔
T14	222 - 202	3	0.507	0.000	0.000	0.507 [1] ✔	1.000	4.8.1 ✔
T15	202 - 182	3	0.559	0.000	0.000	0.559 [1] ✔	1.000	4.8.1 ✔
T16	182 - 162	3	0.589	0.000	0.000	0.589 [1] ✔	1.000	4.8.1 ✔
T17	162 - 142	3	0.594	0.000	0.000	0.594 [1] ✔	1.000	4.8.1 ✔
T18	142 - 122	3	0.589	0.000	0.000	0.589 [1] ✔	1.000	4.8.1 ✔
T19	122 - 112	3	0.496	0.000	0.000	0.496 [1] ✔	1.000	4.8.1 ✔
T20	112 - 102	3	0.477	0.000	0.000	0.477 [1] ✔	1.000	4.8.1 ✔
T21	102 - 82	3	0.541	0.000	0.000	0.541 [1] ✔	1.000	4.8.1 ✔
T22	82 - 62	3	0.545	0.000	0.000	0.545 [1] ✔	1.000	4.8.1 ✔
T23	62 - 42	3	0.608	0.000	0.000	0.608 [1] ✔	1.000	4.8.1 ✔
T24	42 - 22	3	0.595	0.000	0.000	0.595 [1] ✔	1.000	4.8.1 ✔

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T25	22 - 2	3	0.559	0.000	0.000	0.559 [1] ✔	1.000	4.8.1 ✔

[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	457 - 452	L2 1/2x2x3/16	5.385	4.841	136.0 K=1.00	0.8090	-1.963	12.510	0.157 [1] ✔
T2	452 - 442	L2x2x1/4	5.207	4.671	143.4 K=1.00	0.9380	-2.462	13.063	0.189 [1] ✔
T3	442 - 422	L2x2x1/4	5.657	5.100	156.5 K=1.00	0.9380	-1.139	10.958	0.104 [1] ✔
T4	422 - 402	L2x2x1/4	5.657	5.100	156.5 K=1.00	0.9380	-2.360	10.958	0.215 [1] ✔
T5	402 - 382	L2x2x1/4	5.657	5.100	156.5 K=1.00	0.9380	-4.008	10.958	0.366 [1] ✔
T6	382 - 362	L2x2x1/4	5.657	5.100	156.5 K=1.00	0.9380	-2.258	10.958	0.206 [1] ✔
T7	362 - 342	L2x2x1/4	5.657	5.100	156.5 K=1.00	0.9380	-1.688	10.958	0.154 [1] ✔
T8	342 - 322	L2x2x1/4	5.657	5.100	156.5 K=1.00	0.9380	-2.967	10.958	0.271 [1] ✔
T9	322 - 302	L1 3/4x1 3/4x3/16	5.657	5.071	177.2 K=1.00	0.6211	-4.207	5.664	0.743 [1] ✔
T10	302 - 282	L2x2x1/4	5.657	5.071	155.6 K=1.00	0.9380	-2.598	11.086	0.234 [1] ✔
T11	282 - 262	L2 1/2x2 1/2x3/8	5.657	5.041	124.2 K=1.00	1.7300	-6.173	32.063	0.193 [1] ✔
T12	262 - 242	L2x2x1/4	5.657	5.041	154.7 K=1.00	0.9380	-6.152	11.216	0.548 [1] ✔
T13	242 - 222	L2x2x1/4	5.657	5.041	154.7 K=1.00	0.9380	-5.432	11.216	0.484 [1] ✔
T14	222 - 202	L2 1/2x2 1/2x3/8	5.657	5.012	123.5 K=1.00	1.7300	-7.868	32.415	0.243 [1] ✔
T15	202 - 182	L2x2x1/4	5.657	5.012	153.8 K=1.00	0.9380	-6.807	11.348	0.600 [1] ✔
T16	182 - 162	L2x2x1/4	5.657	5.012	153.8 K=1.00	0.9380	-5.844	11.348	0.515 [1] ✔
T17	162 - 142	L2x2x1/4	5.657	5.012	153.8 K=1.00	0.9380	-8.093	11.348	0.713 [1] ✔
T18	142 - 122	L2x2x1/4	5.657	5.012	153.8 K=1.00	0.9380	-6.418	11.348	0.566 [1] ✔
T19	122 - 112	L2x2x1/4	5.207	4.590	140.9 K=1.00	0.9380	-7.703	13.531	0.569 [1] ✔
T20	112 - 102	L1 3/4x1 3/4x3/16 w/ L2x2x1/4	5.207	4.881	99.8 K=1.00	1.5710	-8.966	30.133	0.298 [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	102 - 82	L2x2x1/4	5.657	5.012	153.8 K=1.00	0.9380	-6.000	11.348	0.529 [1]
T22	82 - 62	L2x2x1/4	5.657	5.012	153.8 K=1.00	0.9380	-5.750	11.348	0.507 [1]
T23	62 - 42	L2x2x1/4	5.657	5.012	153.8 K=1.00	0.9380	-7.945	11.348	0.700 [1]
T24	42 - 22	L2x2x1/4	5.657	5.012	153.8 K=1.00	0.9380	-7.725	11.348	0.681 [1]
T25	22 - 2	L2x2x1/4	5.657	5.012	153.8 K=1.00	0.9380	-6.186	11.348	0.545 [1]

[1] P_u / ϕP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	452 - 442	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.7150	-0.327	15.292	0.021 [1]
T3	442 - 422	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.7150	-0.523	15.292	0.034 [1]
T4	422 - 402	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.7150	-0.697	15.292	0.046 [1]
T5	402 - 382	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.7150	-1.112	15.292	0.073 [1]
T6	382 - 362	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.7150	-1.238	15.292	0.081 [1]
T7	362 - 342	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.7150	-1.142	15.292	0.075 [1]
T8	342 - 322	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.7150	-1.426	15.292	0.093 [1]
T9	322 - 302	L2x2x3/16	4.000	3.500	113.3 K=1.06	0.7150	-1.360	15.350	0.089 [1]
T10	302 - 282	L2x2x3/16	4.000	3.500	113.3 K=1.06	0.7150	-1.413	15.350	0.092 [1]
T11	282 - 262	L2x2x3/16	4.000	3.479	113.0 K=1.07	0.7150	-1.339	15.408	0.087 [1]
T12	262 - 242	L2x2x3/16	4.000	3.479	113.0 K=1.07	0.7150	-1.824	15.408	0.118 [1]
T13	242 - 222	L2x2x3/16	4.000	3.479	113.0 K=1.07	0.7150	-1.835	15.408	0.119 [1]
T14	222 - 202	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.163	15.466	0.140 [1]
T15	202 - 182	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.385	15.466	0.154 [1]
T16	182 - 162	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.512	15.466	0.162 [1]

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T17	162 - 142	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.535	15.466	0.164 [1]
T18	142 - 122	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.511	15.466	0.162 [1]
T19	122 - 112	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.221	15.466	0.144 [1]
T20	112 - 102	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.134	15.466	0.138 [1]
T21	102 - 82	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.307	15.466	0.149 [1]
T22	82 - 62	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.327	15.466	0.150 [1]
T23	62 - 42	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.591	15.466	0.168 [1]
T24	42 - 22	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.536	15.466	0.164 [1]
T25	22 - 2	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.386	15.466	0.154 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	457 - 452	C6x10.5	4.000	2.859	64.9 K=1.00	3.0900	-0.206	80.226	0.003 [1]
T2	452 - 442	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.7150	-0.745	15.292	0.049 [1]
T4	422 - 402	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.7150	-0.697	15.292	0.046 [1]
T5	402 - 382	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.7150	-1.112	15.292	0.073 [1]
T7	362 - 342	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.7150	-1.142	15.292	0.075 [1]
T8	342 - 322	L2x2x3/16	4.000	3.521	113.6 K=1.06	0.7150	-1.426	15.292	0.093 [1]
T10	302 - 282	L2x2x3/16	4.000	3.500	113.3 K=1.06	0.7150	-1.413	15.350	0.092 [1]
T11	282 - 262	L2x2x3/16	4.000	3.479	113.0 K=1.07	0.7150	-1.339	15.408	0.087 [1]
T13	242 - 222	L2x2x3/16	4.000	3.479	113.0 K=1.07	0.7150	-1.835	15.408	0.119 [1]
T14	222 - 202	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.163	15.466	0.140 [1]
T15	202 - 182	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.385	15.466	0.154 [1]
T16	182 - 162	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.512	15.466	0.162 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T17	162 - 142	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.535	15.466	0.164 [1]
T18	142 - 122	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.511	15.466	0.162 [1]
T19	122 - 112	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.221	15.466	0.144 [1]
T20	112 - 102	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.134	15.466	0.138 [1]
T22	82 - 62	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.327	15.466	0.150 [1]
T23	62 - 42	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.591	15.466	0.168 [1]
T24	42 - 22	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.536	15.466	0.164 [1]
T25	22 - 2	L2x2x3/16	4.000	3.458	112.7 K=1.07	0.7150	-2.386	15.466	0.154 [1]

[1] $P_u / \phi P_n$ controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	457 - 452	2 1/4	5.000	5.000	106.7	3.9761	6.864	178.924	0.038 [1]
T2	452 - 442	2 1/4	10.000	3.333	71.1	3.9761	14.908	178.924	0.083 [1]
T5	402 - 382	2 1/4	20.000	4.000	85.3	3.9761	6.258	178.924	0.035 [1]

[1] $P_u / \phi P_n$ controls

Leg Bending Design Data (Tension)

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T1	457 - 452	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T2	452 - 442	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000
T5	402 - 382	2 1/4	0.000	7.119	0.000	0.000	7.119	0.000

Leg Interaction Design Data (Tension)

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	457 - 452	2 1/4	0.038	0.000	0.000	0.038 [1] ✔	1.000	4.8.1 ✔
T2	452 - 442	2 1/4	0.083	0.000	0.000	0.083 [1] ✔	1.000	4.8.1 ✔
T5	402 - 382	2 1/4	0.035	0.000	0.000	0.035 [1] ✔	1.000	4.8.1 ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	457 - 452	L2 1/2x2x3/16	5.385	4.841	102.7	0.5013	1.794	21.806	0.082 [1] ✔
T2	452 - 442	L2x2x1/4	5.207	4.671	97.8	0.5629	2.357	24.485	0.096 [1] ✔
T3	442 - 422	L2x2x1/4	5.657	5.100	106.2	0.5629	0.921	24.485	0.038 [1] ✔
T4	422 - 402	L2x2x1/4	5.657	5.100	106.2	0.5629	2.103	24.485	0.086 [1] ✔
T5	402 - 382	L2x2x1/4	5.657	5.100	106.2	0.5629	3.569	24.485	0.146 [1] ✔
T6	382 - 362	L2x2x1/4	5.657	5.100	106.2	0.5629	1.834	24.485	0.075 [1] ✔
T7	362 - 342	L2x2x1/4	5.657	5.100	106.2	0.5629	1.156	24.485	0.047 [1] ✔
T8	342 - 322	L2x2x1/4	5.657	5.100	106.2	0.5629	2.367	24.485	0.097 [1] ✔
T9	322 - 302	L1 3/4x1 3/4x3/16	5.657	5.071	119.8	0.3604	3.601	15.675	0.230 [1] ✔
T10	302 - 282	L2x2x1/4	5.657	5.071	105.7	0.5629	1.694	24.485	0.069 [1] ✔
T11	282 - 262	L2 1/2x2 1/2x3/8	5.657	5.041	85.0	1.0866	5.000	47.266	0.106 [1] ✔
T12	262 - 242	L2x2x1/4	5.657	5.041	105.1	0.5629	4.922	24.485	0.201 [1] ✔
T13	242 - 222	L2x2x1/4	5.657	5.041	105.1	0.5629	4.066	24.485	0.166 [1] ✔
T14	222 - 202	L2 1/2x2 1/2x3/8	5.657	5.012	84.5	1.0866	5.882	47.266	0.124 [1] ✔
T15	202 - 182	L2x2x1/4	5.657	5.012	104.5	0.5629	4.707	24.485	0.192 [1] ✔
T16	182 - 162	L2x2x1/4	5.657	5.012	104.5	0.5629	4.055	24.485	0.166 [1] ✔
T17	162 - 142	L2x2x1/4	5.657	5.012	104.5	0.5629	6.231	24.485	0.255 [1] ✔
T18	142 - 122	L2x2x1/4	5.657	5.012	104.5	0.5629	4.286	24.485	0.175 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T19	122 - 112	L2x2x1/4	5.207	4.590	96.2	0.5629	5.104	24.485	0.208 [1]
T20	112 - 102	L1 3/4x1 3/4x3/16 w/ L2x2x1/4	5.207	4.881	99.8	1.5710	6.384	50.900	0.125 [1]
T21	102 - 82	L2x2x1/4	5.657	5.012	104.5	0.5629	3.799	24.485	0.155 [1]
T22	82 - 62	L2x2x1/4	5.657	5.012	104.5	0.5629	3.507	24.485	0.143 [1]
T23	62 - 42	L2x2x1/4	5.657	5.012	104.5	0.5629	5.443	24.485	0.222 [1]
T24	42 - 22	L2x2x1/4	5.657	5.012	104.5	0.5629	5.410	24.485	0.221 [1]
T25	22 - 2	L2x2x1/4	5.657	5.012	104.5	0.5629	3.654	24.485	0.149 [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	452 - 442	L2x2x3/16	4.000	3.521	74.1	0.4308	0.327	18.739	0.017 [1]
T3	442 - 422	L2x2x3/16	4.000	3.521	74.1	0.4308	0.523	18.739	0.028 [1]
T4	422 - 402	L2x2x3/16	4.000	3.521	74.1	0.4308	0.697	18.739	0.037 [1]
T5	402 - 382	L2x2x3/16	4.000	3.521	74.1	0.4308	1.112	18.739	0.059 [1]
T6	382 - 362	L2x2x3/16	4.000	3.521	74.1	0.4308	1.238	18.739	0.066 [1]
T7	362 - 342	L2x2x3/16	4.000	3.521	74.1	0.4308	1.142	18.739	0.061 [1]
T8	342 - 322	L2x2x3/16	4.000	3.521	74.1	0.4308	1.426	18.739	0.076 [1]
T9	322 - 302	L2x2x3/16	4.000	3.500	73.7	0.4308	1.360	18.739	0.073 [1]
T10	302 - 282	L2x2x3/16	4.000	3.500	73.7	0.4308	1.413	18.739	0.075 [1]
T11	282 - 262	L2x2x3/16	4.000	3.479	73.3	0.4308	1.465	18.739	0.078 [1]
T12	262 - 242	L2x2x3/16	4.000	3.479	73.3	0.4308	1.824	18.739	0.097 [1]
T13	242 - 222	L2x2x3/16	4.000	3.479	73.3	0.4308	1.835	18.739	0.098 [1]
T14	222 - 202	L2x2x3/16	4.000	3.458	72.9	0.4308	2.163	18.739	0.115 [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	202 - 182	L2x2x3/16	4.000	3.458	72.9	0.4308	2.385	18.739	0.127 [1]
T16	182 - 162	L2x2x3/16	4.000	3.458	72.9	0.4308	2.512	18.739	0.134 [1]
T17	162 - 142	L2x2x3/16	4.000	3.458	72.9	0.4308	2.535	18.739	0.135 [1]
T18	142 - 122	L2x2x3/16	4.000	3.458	72.9	0.4308	2.511	18.739	0.134 [1]
T19	122 - 112	L2x2x3/16	4.000	3.458	72.9	0.4308	2.221	18.739	0.119 [1]
T20	112 - 102	L2x2x3/16	4.000	3.458	72.9	0.4308	2.134	18.739	0.114 [1]
T21	102 - 82	L2x2x3/16	4.000	3.458	72.9	0.4308	2.307	18.739	0.123 [1]
T22	82 - 62	L2x2x3/16	4.000	3.458	72.9	0.4308	2.327	18.739	0.124 [1]
T23	62 - 42	L2x2x3/16	4.000	3.458	72.9	0.4308	2.591	18.739	0.138 [1]
T24	42 - 22	L2x2x3/16	4.000	3.458	72.9	0.4308	2.536	18.739	0.135 [1]
T25	22 - 2	L2x2x3/16	4.000	3.458	72.9	0.4308	2.386	18.739	0.127 [1]

[1] $P_u / \phi P_n$ 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	457 - 452	C6x10.5	4.000	2.859	64.9	2.1409	0.206	93.128	0.002 [1]
T2	452 - 442	L2x2x3/16	4.000	3.521	74.1	0.4308	0.817	18.739	0.044 [1]
T4	422 - 402	L2x2x3/16	4.000	3.521	74.1	0.4308	0.697	18.739	0.037 [1]
T5	402 - 382	L2x2x3/16	4.000	3.521	74.1	0.4308	1.112	18.739	0.059 [1]
T7	362 - 342	L2x2x3/16	4.000	3.521	74.1	0.4308	1.142	18.739	0.061 [1]
T8	342 - 322	L2x2x3/16	4.000	3.521	74.1	0.4308	1.426	18.739	0.076 [1]
T10	302 - 282	L2x2x3/16	4.000	3.500	73.7	0.4308	1.413	18.739	0.075 [1]
T11	282 - 262	L2x2x3/16	4.000	3.479	73.3	0.4308	1.339	18.739	0.071 [1]
T13	242 - 222	L2x2x3/16	4.000	3.479	73.3	0.4308	1.835	18.739	0.098 [1]
T14	222 - 202	L2x2x3/16	4.000	3.458	72.9	0.4308	2.163	18.739	0.115 [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	202 - 182	L2x2x3/16	4.000	3.458	72.9	0.4308	2.385	18.739	0.127 [1]
T16	182 - 162	L2x2x3/16	4.000	3.458	72.9	0.4308	2.512	18.739	0.134 [1]
T17	162 - 142	L2x2x3/16	4.000	3.458	72.9	0.4308	2.535	18.739	0.135 [1]
T18	142 - 122	L2x2x3/16	4.000	3.458	72.9	0.4308	2.511	18.739	0.134 [1]
T19	122 - 112	L2x2x3/16	4.000	3.458	72.9	0.4308	2.221	18.739	0.119 [1]
T20	112 - 102	L2x2x3/16	4.000	3.458	72.9	0.4308	2.134	18.739	0.114 [1]
T22	82 - 62	L2x2x3/16	4.000	3.458	72.9	0.4308	2.327	18.739	0.124 [1]
T23	62 - 42	L2x2x3/16	4.000	3.458	72.9	0.4308	2.591	18.739	0.138 [1]
T24	42 - 22	L2x2x3/16	4.000	3.458	72.9	0.4308	2.536	18.739	0.135 [1]
T25	22 - 2	L2x2x3/16	4.000	3.458	72.9	0.4308	2.386	18.739	0.127 [1]

[1] $P_u / \phi P_n$ controls

Bottom 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 $\frac{P_u}{\phi P_n}$
T25	22 - 2	L2x2x3/16	4.000	3.750	72.9	0.7150	3.228	23.166	0.139 [1]

[1] $P_u / \phi P_n$ controls

Top Guy Pull-Off 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	442 - 422	2L2 1/2x2 1/2x3/8x1/4	4.000	3.813	60.7	2.1094	5.693	91.758	0.062 [1]
T6	382 - 362	2L 'a' > 22.1987 in - 22 2L2 1/2x2 1/2x3/8x1/4	4.000	3.813	60.7	2.1094	6.750	91.758	0.074 [1]
T9	322 - 302	2L 'a' > 22.1987 in - 110 2L2 1/2x2 1/2x3/8x1/4	4.000	3.792	60.4	2.1094	6.855	91.758	0.075 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T12	262 - 242	2L 'a' > 22.0773 in - 208 2L2 1/2x2 1/2x3/8x1/4	4.000	3.771	60.1	2.1094	10.078	91.758	0.110 [1] ✔
T14	222 - 202	2L 'a' > 21.9560 in - 308 2L2 1/2x2 1/2x3/8x1/4	4.000	3.750	59.7	2.1094	11.477	91.758	0.125 [1] ✔
T17	162 - 142	2L 'a' > 21.8347 in - 418 2L2 1/2x2 1/2x3/8x1/4	4.000	3.750	59.7	2.1094	6.961	91.758	0.076 [1] ✔
T21	102 - 82	2L 'a' > 21.8347 in - 523 2L2 1/2x2 1/2x3/8x1/4	4.000	3.750	59.7	2.1094	8.706	91.758	0.095 [1] ✔
T23	62 - 42	2L 'a' > 21.8347 in - 592 2L2 1/2x2 1/2x3/8x1/4	4.000	3.750	59.7	2.1094	6.157	91.758	0.067 [1] ✔
		2L 'a' > 21.8347 in - 685							

[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
L1	492 - 477	Pole	P8x.406	1	-0.720	113.643	8.0	Pass
L2	477 - 457	Pole	P8x.406	2	-1.638	113.643	39.4	Pass
T1	457 - 452	Leg	2 1/4	5	-7.832	77.870	10.1	Pass
T2	452 - 442	Leg	2 1/4	19	-16.788	123.621	13.6	Pass
T3	442 - 422	Leg	2 1/4	40	-23.566	105.060	22.4	Pass
T4	422 - 402	Leg	2 1/4	72	-31.392	105.060	29.9	Pass
T5	402 - 382	Leg	2 1/4	105	-50.097	105.060	47.7	Pass
T6	382 - 362	Leg	2 1/4	138	-55.781	105.060	53.1	Pass
T7	362 - 342	Leg	2 1/4	171	-51.445	105.060	49.0	Pass
T8	342 - 322	Leg	2 1/4	204	-64.249	105.060	61.2	Pass
T9	322 - 302	Leg	2 1/2	238	-66.190	143.512	46.1	Pass
T10	302 - 282	Leg	2 1/2	271	-68.728	143.512	47.9	Pass
T11	282 - 262	Leg	2 3/4	303	-69.689	187.145	37.2	Pass
T12	262 - 242	Leg	2 3/4	336	-94.945	187.145	50.7	Pass
T13	242 - 222	Leg	2 3/4	369	-95.514	187.145	51.0	Pass
T14	222 - 202	Leg	3	402	-119.547	235.765	50.7	Pass
T15	202 - 182	Leg	3	435	-131.834	235.765	55.9	Pass
T16	182 - 162	Leg	3	468	-138.849	235.765	58.9	Pass
T17	162 - 142	Leg	3	501	-140.123	235.765	59.4	Pass
T18	142 - 122	Leg	3	534	-138.790	235.765	58.9	Pass
T19	122 - 112	Leg	3	567	-128.249	258.358	49.6	Pass
T20	112 - 102	Leg	3	590	-123.220	258.358	47.7	Pass
T21	102 - 82	Leg	3	609	-127.542	235.765	54.1	Pass
T22	82 - 62	Leg	3	644	-128.609	235.765	54.5	Pass
T23	62 - 42	Leg	3	675	-143.239	235.765	60.8	Pass
T24	42 - 22	Leg	3	709	-140.192	235.765	59.5	Pass
T25	22 - 2	Leg	3	743	-131.887	235.765	55.9	Pass
T1	457 - 452	Diagonal	L2 1/2x2x3/16	14	-1.963	12.510	15.7	Pass
T2	452 - 442	Diagonal	L2x2x1/4	26	-2.462	13.063	18.1 (b) 18.9 22.4 (b)	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T3	442 - 422	Diagonal	L2x2x1/4	71	-1.139	10.958	10.4	Pass
T4	422 - 402	Diagonal	L2x2x1/4	80	-2.360	10.958	21.5	Pass
T5	402 - 382	Diagonal	L2x2x1/4	113	-4.008	10.958	36.6	Pass
T6	382 - 362	Diagonal	L2x2x1/4	169	-2.258	10.958	20.6	Pass
T7	362 - 342	Diagonal	L2x2x1/4	177	-1.688	10.958	15.4	Pass
T8	342 - 322	Diagonal	L2x2x1/4	210	-2.967	10.958	27.1	Pass
T9	322 - 302	Diagonal	L1 3/4x1 3/4x3/16	269	-4.207	5.664	74.3	Pass
T10	302 - 282	Diagonal	L2x2x1/4	301	-2.598	11.086	23.4	Pass
T11	282 - 262	Diagonal	L2 1/2x2 1/2x3/8	311	-6.173	32.063	19.3	Pass
							44.7 (b)	
T12	262 - 242	Diagonal	L2x2x1/4	367	-6.152	11.216	54.8	Pass
T13	242 - 222	Diagonal	L2x2x1/4	377	-5.432	11.216	48.4	Pass
T14	222 - 202	Diagonal	L2 1/2x2 1/2x3/8	422	-7.868	32.415	24.3	Pass
							57.0 (b)	
T15	202 - 182	Diagonal	L2x2x1/4	465	-6.807	11.348	60.0	Pass
T16	182 - 162	Diagonal	L2x2x1/4	476	-5.844	11.348	51.5	Pass
T17	162 - 142	Diagonal	L2x2x1/4	533	-8.093	11.348	71.3	Pass
T18	142 - 122	Diagonal	L2x2x1/4	542	-6.418	11.348	56.6	Pass
T19	122 - 112	Diagonal	L2x2x1/4	574	-7.703	13.531	56.9	Pass
T20	112 - 102	Diagonal	L1 3/4x1 3/4x3/16 w/ L2x2x1/4	596	-8.966	30.133	29.8	Pass
							64.9 (b)	
T21	102 - 82	Diagonal	L2x2x1/4	639	-6.000	11.348	52.9	Pass
T22	82 - 62	Diagonal	L2x2x1/4	650	-5.750	11.348	50.7	Pass
T23	62 - 42	Diagonal	L2x2x1/4	681	-7.945	11.348	70.0	Pass
T24	42 - 22	Diagonal	L2x2x1/4	738	-7.725	11.348	68.1	Pass
T25	22 - 2	Diagonal	L2x2x1/4	771	-6.186	11.348	54.5	Pass
T2	452 - 442	Horizontal	L2x2x3/16	27	-0.327	15.292	2.1	Pass
							4.1 (b)	
T3	442 - 422	Horizontal	L2x2x3/16	48	-0.523	15.292	3.4	Pass
							6.6 (b)	
T4	422 - 402	Horizontal	L2x2x3/16	83	-0.697	15.292	4.6	Pass
							8.8 (b)	
T5	402 - 382	Horizontal	L2x2x3/16	122	-1.112	15.292	7.3	Pass
							14.1 (b)	
T6	382 - 362	Horizontal	L2x2x3/16	149	-1.238	15.292	8.1	Pass
							15.7 (b)	
T7	362 - 342	Horizontal	L2x2x3/16	182	-1.142	15.292	7.5	Pass
							14.5 (b)	
T8	342 - 322	Horizontal	L2x2x3/16	227	-1.426	15.292	9.3	Pass
							18.1 (b)	
T9	322 - 302	Horizontal	L2x2x3/16	258	-1.360	15.350	8.9	Pass
							17.3 (b)	
T10	302 - 282	Horizontal	L2x2x3/16	291	-1.413	15.350	9.2	Pass
							17.9 (b)	
T11	282 - 262	Horizontal	L2x2x3/16	320	-1.339	15.408	8.7	Pass
							18.6 (b)	
T12	262 - 242	Horizontal	L2x2x3/16	347	-1.824	15.408	11.8	Pass
							23.2 (b)	
T13	242 - 222	Horizontal	L2x2x3/16	392	-1.835	15.408	11.9	Pass
							23.3 (b)	
T14	222 - 202	Horizontal	L2x2x3/16	413	-2.163	15.466	14.0	Pass
							27.5 (b)	
T15	202 - 182	Horizontal	L2x2x3/16	446	-2.385	15.466	15.4	Pass
							30.3 (b)	
T16	182 - 162	Horizontal	L2x2x3/16	479	-2.512	15.466	16.2	Pass
							31.9 (b)	
T17	162 - 142	Horizontal	L2x2x3/16	530	-2.535	15.466	16.4	Pass
							32.2 (b)	
T18	142 - 122	Horizontal	L2x2x3/16	545	-2.511	15.466	16.2	Pass
							31.9 (b)	
T19	122 - 112	Horizontal	L2x2x3/16	578	-2.221	15.466	14.4	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T20	112 - 102	Horizontal	L2x2x3/16	604	-2.134	15.466	28.2 (b) 13.8	Pass
T21	102 - 82	Horizontal	L2x2x3/16	620	-2.307	15.466	27.1 (b) 14.9	Pass
T22	82 - 62	Horizontal	L2x2x3/16	658	-2.327	15.466	29.3 (b) 15.0	Pass
T23	62 - 42	Horizontal	L2x2x3/16	704	-2.591	15.466	29.5 (b) 16.8	Pass
T24	42 - 22	Horizontal	L2x2x3/16	717	-2.536	15.466	32.9 (b) 16.4	Pass
T25	22 - 2	Horizontal	L2x2x3/16	757	-2.386	15.466	32.2 (b) 15.4	Pass
T1	457 - 452	Top Girt	C6x10.5	7	-0.206	80.226	30.3 (b) 1.4	Pass
T2	452 - 442	Top Girt	L2x2x3/16	11	-0.745	15.292	1.5 (b) 4.9	Pass
T4	422 - 402	Top Girt	L2x2x3/16	44	-0.697	15.292	10.4 (b) 4.6	Pass
T5	402 - 382	Top Girt	L2x2x3/16	77	-1.112	15.292	8.8 (b) 7.3	Pass
T7	362 - 342	Top Girt	L2x2x3/16	143	-1.142	15.292	14.1 (b) 7.5	Pass
T8	342 - 322	Top Girt	L2x2x3/16	176	-1.426	15.292	14.5 (b) 9.3	Pass
T10	302 - 282	Top Girt	L2x2x3/16	240	-1.413	15.350	18.1 (b) 9.2	Pass
T11	282 - 262	Top Girt	L2x2x3/16	275	-1.339	15.408	17.9 (b) 8.7	Pass
T13	242 - 222	Top Girt	L2x2x3/16	341	-1.835	15.408	17.0 (b) 11.9	Pass
T14	222 - 202	Top Girt	L2x2x3/16	374	-2.163	15.466	23.3 (b) 14.0	Pass
T15	202 - 182	Top Girt	L2x2x3/16	407	-2.385	15.466	27.5 (b) 15.4	Pass
T16	182 - 162	Top Girt	L2x2x3/16	440	-2.512	15.466	30.3 (b) 16.2	Pass
T17	162 - 142	Top Girt	L2x2x3/16	473	-2.535	15.466	31.9 (b) 16.4	Pass
T18	142 - 122	Top Girt	L2x2x3/16	506	-2.511	15.466	32.2 (b) 16.2	Pass
T19	122 - 112	Top Girt	L2x2x3/16	539	-2.221	15.466	31.9 (b) 14.4	Pass
T20	112 - 102	Top Girt	L2x2x3/16	571	-2.134	15.466	28.2 (b) 13.8	Pass
T22	82 - 62	Top Girt	L2x2x3/16	613	-2.327	15.466	27.1 (b) 15.0	Pass
T23	62 - 42	Top Girt	L2x2x3/16	647	-2.591	15.466	29.5 (b) 16.8	Pass
T24	42 - 22	Top Girt	L2x2x3/16	678	-2.536	15.466	32.9 (b) 16.4	Pass
T25	22 - 2	Top Girt	L2x2x3/16	712	-2.386	15.466	32.2 (b) 15.4	Pass
T25	22 - 2	Bottom Girt	L2x2x3/16	746	3.228	23.166	30.3 (b) 13.9	Pass
T3	442 - 422	Guy A@442	1	776	31.663	73.200	43.3	Pass
T6	382 - 362	Guy A@382	1	779	31.668	73.200	43.3	Pass
T9	322 - 302	Guy A@322	7/8	782	26.227	55.200	47.5	Pass
T12	262 - 242	Guy A@262	7/8	785	32.007	55.200	58.0	Pass
T14	222 - 202	Guy A@210	7/8	788	36.005	55.200	65.2	Pass
T17	162 - 142	Guy A@154	9/16	791	16.825	21.000	80.1	Pass
T21	102 - 82	Guy A@102	9/16	794	17.414	21.000	82.9	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T23	62 - 42	Guy A@46	1/2	797	9.814	16.140	60.8	Pass
T3	442 - 422	Guy B@442	1	775	32.227	73.200	44.0	Pass
T6	382 - 362	Guy B@382	1	778	32.620	73.200	44.6	Pass
T9	322 - 302	Guy B@322	7/8	781	27.424	55.200	49.7	Pass
T12	262 - 242	Guy B@262	7/8	784	33.221	55.200	60.2	Pass
T14	222 - 202	Guy B@210	7/8	787	37.279	55.200	67.5	Pass
T17	162 - 142	Guy B@154	9/16	790	17.256	21.000	82.2	Pass
T21	102 - 82	Guy B@102	9/16	793	17.829	21.000	84.9	Pass
T23	62 - 42	Guy B@46	1/2	796	10.065	16.140	62.4	Pass
T3	442 - 422	Guy C@442	1	774	32.094	73.200	43.8	Pass
T6	382 - 362	Guy C@382	1	777	32.361	73.200	44.2	Pass
T9	322 - 302	Guy C@322	7/8	780	27.253	55.200	49.4	Pass
T12	262 - 242	Guy C@262	7/8	783	33.481	55.200	60.7	Pass
T14	222 - 202	Guy C@210	7/8	786	37.510	55.200	68.0	Pass
T17	162 - 142	Guy C@154	9/16	789	17.424	21.000	83.0	Pass
T21	102 - 82	Guy C@102	9/16	792	17.987	21.000	85.7	Pass
T23	62 - 42	Guy C@46	1/2	795	10.184	16.140	63.1	Pass
T3	442 - 422	Top Guy Pull-Off@442	2L2 1/2x2 1/2x3/8x1/4	22	5.693	91.758	6.2	Pass
T6	382 - 362	Top Guy Pull-Off@382	2L2 1/2x2 1/2x3/8x1/4	110	6.750	91.758	8.8 (b) 7.4	Pass
T9	322 - 302	Top Guy Pull-Off@322	2L2 1/2x2 1/2x3/8x1/4	208	6.855	91.758	10.4 (b) 7.5	Pass
T12	262 - 242	Top Guy Pull-Off@262	2L2 1/2x2 1/2x3/8x1/4	308	10.078	91.758	10.6 (b) 11.0	Pass
T14	222 - 202	Top Guy Pull-Off@210	2L2 1/2x2 1/2x3/8x1/4	418	11.477	91.758	15.5 (b) 12.5	Pass
T17	162 - 142	Top Guy Pull-Off@154	2L2 1/2x2 1/2x3/8x1/4	523	6.961	91.758	17.7 (b) 7.6	Pass
T21	102 - 82	Top Guy Pull-Off@102	2L2 1/2x2 1/2x3/8x1/4	592	8.706	91.758	10.7 (b) 9.5	Pass
T23	62 - 42	Top Guy Pull-Off@46	2L2 1/2x2 1/2x3/8x1/4	685	6.157	91.758	13.4 (b) 6.7 9.5 (b)	Pass
							Summary	
						Pole (L2)	39.4	Pass
						Leg (T8)	61.2	Pass
						Diagonal (T9)	74.3	Pass
						Horizontal (T23)	32.9	Pass
						Top Girt (T23)	32.9	Pass
						Bottom Girt (T25)	13.9	Pass
						Guy A (T21)	82.9	Pass
						Guy B (T21)	84.9	Pass
						Guy C (T21)	85.7	Pass
						Top Guy Pull-Off (T14)	17.7	Pass
						Bolt Checks	64.9	Pass
						RATING =	**85.7**	**Pass**

PROJECT No: US-CT-5009
PROJECT NAME: Vertical Bridge
DATE: September 3, 2021

ENG: JW
CHK: MD
PAGE: of

TIA-222-G

TOWER BASE CHECKS - GUYED TOWER

Tower Reactions		Factored Loads		Factored Resistance		% Capacity	Column Rebar
• TIA-G	Download	390.00 kips	Bearing Capacity	2847.10 kips	pass	13.7%	PCA COL
○ EIA-F	Horizontal	4.00 kips	Horizontal Capacity	66.31 kips	pass	6.0%	390.0 kips
	Overturning Check (q_{max})	3.49 ksf	Overturning Capacity	14.53 ksf	pass	24.0% [GOVERNS]	26.0 k-ft
	Punching Shear Check	237.66 kips	2-way Capacity	2277.43 kips	pass	10.4%	Max. Pier Moment @ 6.5 ft
	Flexural Shear Check	34.82 kips	1-way Capacity	455.49 kips	pass	7.6%	
	Pier Rebar Required	(minimum only, use PCACOL for total quantity)		#N/A			
	Mat Rebar Required	(checked rebar for 6" min to 24" max spacing)		#N/A		SF=8.33	

Soil Parameters	Soils Report	Foundation Geometry	FDN Dwgs
ϕ	28 °	B (width)	14.00 ft
water level	8.00 ft (2.44 m)	T (thickness)	3.00 ft
Soil Dry Density (γ_{dry})	0.105 kcf (16.5 kN/m^3)	L (length)	14.00 ft
Soil Sub Density (γ_{sub})	0.050 kcf (7.85 kN/m^3)	D (depth to bottom surface)	9.00 ft
Passive earth coefficient	2.770	ϕ (pier diameter)	6.00 ft
Allowable bearing pressure	12.105 ksf (579.6 kPa)	☑ Check If Square Pier	

Concrete parameters

f'c =	3.000 ksi (20.7 MPa)	
Dry Density (γ_{dry})	0.150 kcf	
Sub Density (γ_{sub})	0.087 kcf	

Passive Earth pressure resistance

press. - top of concrete	1.74	--	ksf
press. - bottom of concr.	2.47	--	ksf
Total resistance =	88.41	--	kips
Horizontal resistance =	66.31 (x 0.75, Cl 9.4.1)	--	kips

Bearing capacity

contact area =	196.00	--	ft²
allowable net pressure =	12.105	--	ksf
Download resistance =	2847.10 (2 • 0.60, Cl 9.4)	--	kips

Overturning - Bearing

	Moment = Shear x Arm	28.000	--	k-ft
ORTHO	q_{max} = P/A + M/S *(S=b³/6)*	3.462	--	ksf
DIAG	q_{max} = P/A + M/S *(S=b³/6√2)*	3.487 (not factored)	--	ksf

Check for 2-Way Shear

d=33.000"

Shear Area (b_o x d) =	96.25	--	ft²
Factored bearing stress =	1.990	--	ksf
Factored shear force =	237.66	--	kips
Factored shear resistance	2277.4	--	kips
Check for 2-way shear	Pass	--	

Check for 1-Way Shear

d=33.000"

Shear Area (b x d) =	38.50	--	ft²
Factored bearing stress =	1.990	--	ksf
Factored shear force =	34.82	--	kips
Factored shear resistance	455.5	--	kips
Check for 2-way shear	Pass	--	

Volume of concrete

822.0 cuft (30.5 cuyd)

Mat	d (dry)	2.00 ft	392.00
	d (sub)	1.00 ft	196.00
Pier	d (above)	0.50 ft	18.00
	d (dry)	6.00 ft	216.00
	d (sub)	0.00 ft	0.00

Depth of Soil

d (overall)	6.00	2.D.Tanϕ	Area
d (dry)	6.00	6.381	415.37
d (submerged)	0.00	0.000	196.00
			196.00

Volume of Soil

Vol (total)	1577.4 ft^3	*Frustum Volume Method*
Vol (dry)	1577.4 ft^3	
Vol (submerged)	0.0 ft^3	

Concrete Reinforcing

(Already Factored Loads)

		PIER
f'c	3.00 ksi	
fy	60 ksi	
Steel (Metric/ASTM)	ASTM	ASTM
Bar size	0 #	0
Bar area	#N/A in²	#N/A

Wgt of Rebar: #N/A lbs

Slab Reinforcing	Download		
w	1.99	ksf	
lv	4.0	ft	
Mu = ½ wL•lv²	222.86	kip-ft	
Ku	14.6174		
ρ	0.00027	choose larger of ρ or ρ min	
ρ min ≥ 0.0018	0.00180		
4/3•ρ if $\rho < \rho$ min	0.00036		
As Required	9.9792	in²	
Number of bars	#N/A	bars	
spacing =	#N/A	in	

PROJECT No:	US-CT-5009	ENG:	JW
PROJECT NAME:		CHK:	MD
	Vertical Bridge		
DATE:	September 1, 2021	PAGE:	of

TIA-222-G

GUY ANCHOR - DEADMAN CHECKS

Tower Reactions

		Factored Loads						
● TIA-G	Uplift	63.0	klps	Uplift Capacity	128.69 kips	pass	49.0%	SF=2.91
◇ EIA-F	Horizontal	51.0	klps	Horizontal Capacity	74.25 kips	pass	68.7% [GOVERNS]	

Soil Parameters *From Soils Report*

	Depth (ft)	ϕ (°)	c (psf)	γ (pcf)
Layer 1	4.0	28.0	0.0	105.0
Layer 2	6.0	0.0	1250.0	110.0
Layer 3	8.0	0.0	400.0	105.0
Layer 4	9.5	0.0	750.0	105.0
Layer 5				
All. Top Friction	138	psf (FS=2)		
All. Side Friction	138	psf (FS=2)		
Frost Depth	4.00	ft	Depth is taken to bottom of layer	
Ignored Depth	0.00	ft		

Dead-man geometry *From Fdn Dwgs*

B (width)	4.50	ft
T (thickness / height)	2.50	ft
L (length)	15.00	ft
D (depth to bottom surface)	9.50	ft
f'c (compressive strength)	3.00	ksi (20.7 MPa)
Water Table	30.00	ft (9.15 m)

Depth (ft)	Kp	½Cu (psf)	tan (¾ϕ)	Ca (Kulhawy)	γ·d (psf)	Kp Pressure	Cu Pressure	Total Layer Pressure	Front of Block Area	½Cu Thickness	½Cu Area	½Cu Area
0.00	2.770	0.0	0.338	0.000	0.0	0.000	0.000	**0.000**	0.00	0.00	0.000	0.000
4.00					420.0	1.163	0.000	**1.163**				
4.00	1.000	625.0	0.000	0.582	420.0	0.420	2.500	**2.920**	0.00	2.00	78.000	48.750
6.00					640.0	0.640	2.500	**3.140**				
6.00	1.000	200.0	0.000	1.000	640.0	0.640	0.800	**1.440**	15.00	1.00	39.000	7.800
8.00					850.0	0.850	0.800	**1.650**				
8.00	1.000	375.0	0.000	0.763	850.0	0.850	1.500	**2.350**	22.50	0.00	0.000	0.000
9.50					1007.5	1.008	1.500	**2.508**				
9.50												

Uplift Resistance

	Factored		
Weight of concrete	25.31 (x 0.90, Cl 2.3.2)	--	kips
Weight of soil (all layers)	69.92 (x 0.75, Cl 9.4.1)	--	kips
½Cu Resistance	56.55 (x 0.75, Cl 9.4.1)	--	kips
Total Side Friction (2 x BT)	4.39 (x 0.75, Cl 9.4.1)	--	kips
Total Front Friction (T x L)	10.35 (x 0.75, Cl 9.4.1)	--	kips
Total Uplift Resistance	166.52	--	kips
Factored Uplift Resistance	128.69	--	kips

Horizontal Pressure Resistance

Total Front Pressure (P x L)	75.98	--	kips
Total Side Friction (2 x BT)	4.39	--	kips
Total Top Friction (B x L)	18.63	--	kips
Total Horiz Resistance	99.01	--	kips
Factored Horiz Resistance	74.25 (x 0.75, Cl 9.4.1)	--	kips

Concrete Parameters

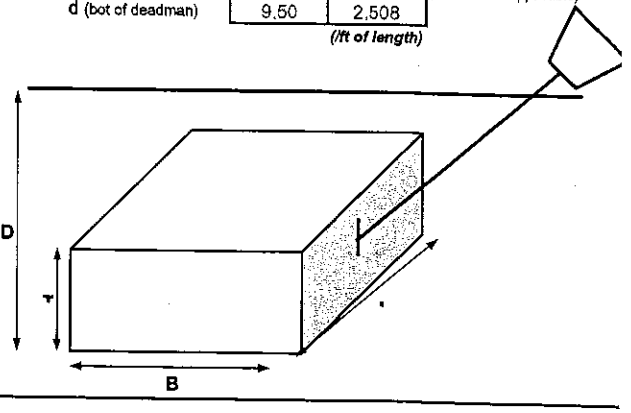
		Depth	Weight	Volume
Dry Density (γ dry)	0.150	2.50	25.31	168.75
Sub Density (γ sub)	0.087	0.00	0.00	0.00
			168.8 cuft (6.3 cuyd)	

Depth of Soil

		2·D·Tan ϕ	Area	Volume
d (top of layer 1)	0.00	4.254	168.54	456.9
d (top of layer 2)	4.00	0.000	67.50	135.0
d (top of layer 3)	6.00	0.000	67.50	67.5
d (top of layer 4)		0.000	0.00	0.0
d (top of layer 5)		0.000	0.00	0.0
d (top of deadman)	7.00		67.50	**659.4**
			Frustum Volume Method	

Depth of Deadman

	Depth	Pressure	
d (top of deadman)	7.00	1.545	
d (above boundary)	7.00	1.545	*(overwrite if applicable)*
d (below boundary)	9.50	2.508	*(overwrite if applicable)*
d (bot of deadman)	9.50	2.508	
		(/ft of length)	



PROJECT No:	US-CT-5009	ENG:	JW
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TIA-222-G

GUY ANCHOR - DEADMAN CHECKS

Tower Reactions		Factored Loads			Factored Resistance		% Capacity	SF=9.32
• TIA-G	Uplift	110.0	kips	Uplift Capacity	512.45 kips	pass	21.5% [GOVERNS]	
○ EIA-F	Horizontal	49.0	kips	Horizontal Capacity	279.65 kips	pass	17.5%	

Soil Parameters *From Soils Report*

	Depth (ft)	ϕ (°)	c (psf)	γ (pcf)
Layer 1	4.0	28.0	0.0	105.0
Layer 2	6.0	0.0	1250.0	110.0
Layer 3	8.0	0.0	400.0	105.0
Layer 4	11.5	0.0	750.0	105.0
Layer 5				

All. Top Friction	138	psf	(FS=2)
All. Side Friction	138	psf	(FS=2)
Frost Depth	3.33	ft	Depth is taken to bottom of layer
Ignored Depth	0.00	ft	

Dead-man geometry *From Fdn Dwgs*

B (width)	11.00	ft
T (thickness / height)	4.50	ft
L (length)	28.00	ft
D (depth to bottom surface)	11.50	ft
f'c (compressive strength)	3.00	ksi (20.7 MPa)
Water Table	30.00	ft (9.15 m)

Depth (ft)	Kp	½Cu (psf)	tan (¾ϕ)	Ca (Kulhawy)	γ·d (psf)	Kp Pressure	Cu Pressure	Total Layer Pressure	Front of Block Area	½Cu Thickness	½Cu Area	½Cu Area
0.00	2.770	0.0	0.338	0.000	0.0	0.000	0.000	**0.000**	0.00	0.67	52.260	0.000
4.00					420.0	1.163	0.000	**1.163**				
4.00	1.000	625.0	0.000	0.582	420.0	0.420	2.500	**2.920**	0.00	2.00	156.000	97.500
6.00					640.0	0.640	2.500	**3.140**				
6.00	1.000	200.0	0.000	1.000	640.0	0.640	0.800	**1.440**	28.00	1.00	78.000	15.600
8.00					850.0	0.850	0.800	**1.650**				
8.00	1.000	375.0	0.000	0.763	850.0	0.850	1.500	**2.350**	98.00	0.00	0.000	0.000
11.50					1217.5	1.218	1.500	**2.718**				
11.50												

Uplift Resistance

	Factored		
Weight of concrete	207.90 (x 0.90, Cl 2.3.2)	--	kips
Weight of soil (all layers)	266.60 (x 0.75, Cl 9.4.1)	--	kips
½Cu Resistance	113.10 (x 0.75, Cl 9.4.1)	--	kips
Total Side Friction (2 x BT)	19.32 (x 0.75, Cl 9.4.1)	--	kips
Total Front Friction (T x L)	34.78 (x 0.75, Cl 9.4.1)	--	kips
Total Uplift Resistance	641.69	--	kips
Factored Uplift Resistance	512.45	--	kips

Horizontal Pressure Resistance

Total Front Pressure (P x L)	268.54	--	kips
Total Side Friction (2 x BT)	19.32	--	kips
Total Top Friction (B x L)	85.01	--	kips
Total Horiz Resistance	372.87	--	kips
Factored Horiz Resistance	279.65 (x 0.75, Cl 9.4.1)	--	kips

Concrete Parameters

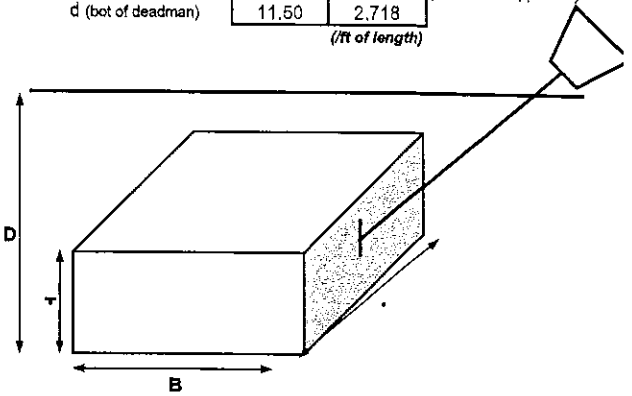
		Depth	Weight	Volume
Dry Density (γ dry)	0.150	4.50	207.90	1386.00
Sub Density (γ sub)	0.087	0.00	0.00	0.00
			1386.0 cuft (51.4 cuyd)	

Depth of Soil

		2·D·Tan ϕ	Area	Volume
d (top of layer 1)	0.00	4.254	491.99	1585.7
d (top of layer 2)	4.00	0.000	308.00	616.0
d (top of layer 3)	6.00	0.000	308.00	308.0
d (top of layer 4)		0.000	0.00	0.0
d (top of layer 5)		0.000	0.00	0.0
d (top of deadman)	7.00		308.00	2509.7
			Frustum Volume Method	

Depth of Deadman

	Depth	Pressure	
d (top of deadman)	7.00	1.545	
d (above boundary)	7.00	1.545	(overwrite if applicable)
d (below boundary)	11.50	2.718	(overwrite if applicable)
d (bot of deadman)	11.50	2.718	
		(/ft of length)	



CROWN CASTLE

BU: US-CT-5009
WO:
Order:

Structure: A
Rev:

Location

	Decimal Degrees		Deg	Min	Sec
Lat:	41.493439	+	41	29	36.38
Long:	-73.428817	-	73	25	43.74

Code and Site Parameters

Seismic Design Code:	TIA-222-H	
Site Soil:	D (Default)	Default
Risk Category:	II	

USGS Seismic Reference

S_S:	0.2100	g
S_1:	0.0550	g
T_L:	6	s

Seismic Design Category Determination

Importance Factor, I_e:	1
Acceleration-based site coefficient, F_a:	1.6000
Velocity-based site coefficient, F_v:	2.4000

Design spectral response acceleration short period, S_{DS}:	0.2240	g
Design spectral response acceleration 1 s period, S_{D1}:	0.0880	g

Seismic Design Category Based on S_{DS}:	B
Seismic Design Category Based on S_{D1}:	B
Seismic Design Category Based on S_1:	N/A

Controlling Seismic Design Category:

CROWN CASTLE

BU:	US-CT-5009	Structure:	A
WO:			
Order:		Rev:	

Tower Details

Tower Type:			
Height, h:		ft	
Effective Seismic Weight, W:		kips	
Amplification Factor, A_s:	1.0		2.7.8.1

Seismic Base Shear

Response Modification Factor, R:			
Fundamental Period, T:		s	
Seismic Response Coefficient, C_s			2.7.7.1.1
Seismic Response Coefficient Max 1, C_{smax}			2.7.7.1.1
Seismic Response Coefficient Max 2, C_{smax}			2.7.7.1.1
Seismic Response Coefficient Min 1, C_{smin}			2.7.7.1.1
Seismic Response Coefficient Min 2, C_{smin}			2.7.7.1.1
Controlling Seismic Response Coefficient, C_{sc}			
Seismic Base Shear, V		kips	2.7.7.1.1

Vertical Distribution Factors

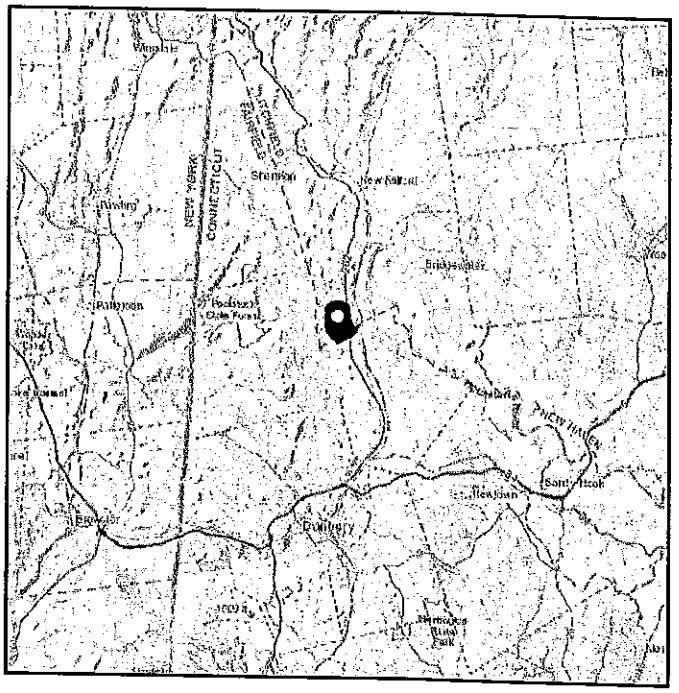
Period Related Exponent, k:			2.7.7.1.2
Sum of $w_i h_i^k$			2.7.7.1.2

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 718.96 ft (NAVD 88)
Latitude: 41.493439
Longitude: -73.428817



Wind

Results:

Wind Speed:	115 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	89 Vmph
100-year MRI	95 Vmph
Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4
Date Accessed:	Fri May 29 2020

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 not in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2.

Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

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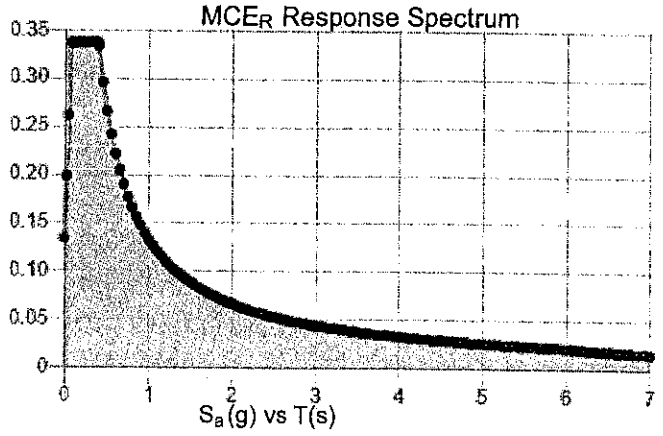
Seismic

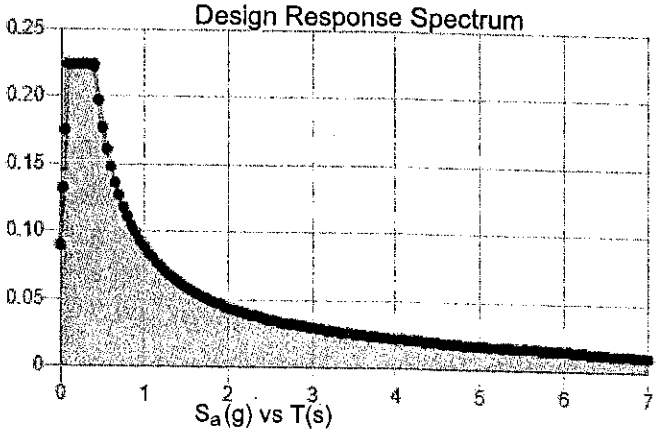
Site Soil Class: D - Default (see Section 11.4.3)

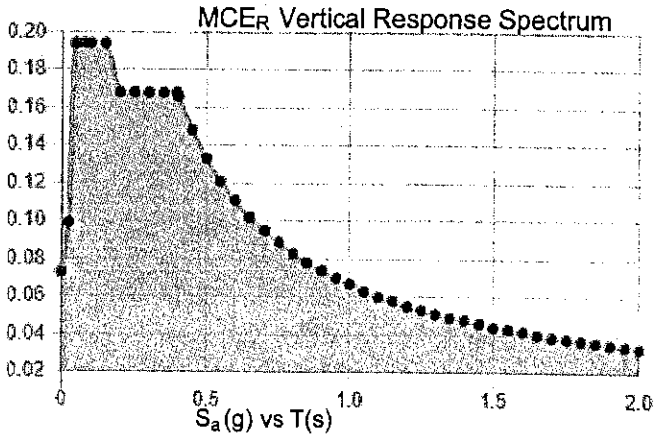
Results:

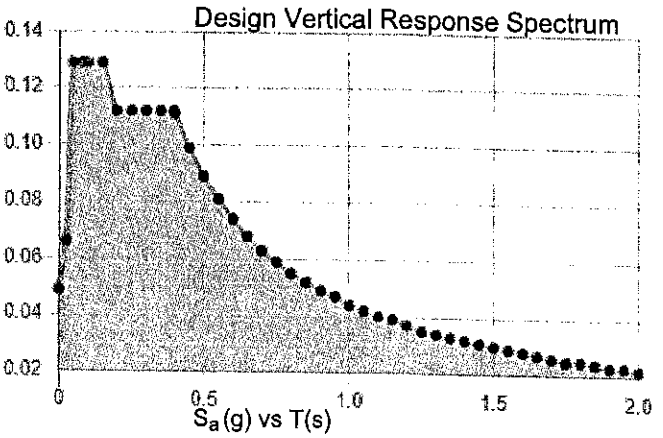
S_S :	0.21	S_{D1} :	0.089
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.119
F_v :	2.4	PGA_M :	0.186
S_{MS} :	0.337	F_{PGA} :	1.562
S_{M1} :	0.133	I_e :	1
S_{DS} :	0.224	C_v :	0.721

Seismic Design Category B









Data Accessed: Fri May 29 2020

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.

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Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Fri May 29 2020

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.

Attachment 2:
Collocation Application

verticalbridge

COLOCATION APPLICATION
US-CT-5009
Version 2
DISH Wireless L.L.C.

Vertical Bridge REIT, LLC.
750 Park of Commerce Drive
Suite 200
Boca Raton, FL 33487

SUMMARY

PRIMARY INFO

Application #: P-017195

Application Version: 2 (Submitted: 7/15/2021 9:08:00 AM)

Application Type: Broadband

Application Name: NJJER01133A

Lease Type: New Lease

Description:
Adding 3 antennas, 6 RRHs 1 OVP @225' RAD; need 10x15 ground space

VERTICAL BRIDGE SITE INFO

VB Site #: US-CT-5009

VB Site Name: WRKI-FM

Latitude: 41.49343889

Longitude: -73.42881667

Structure Type: Guyed Tower

Structure Height: 496.0600

Site Address: 0.3 Mi. Sse Of Intersection Of Carmen Hill Rd
Brookfield, CT 06804

VERTICAL BRIDGE DEAL TEAM

RLM: Floyd Jenkins
FJenkins@verticalbridge.com
(301) 667-0069

RLS: Sam Bowden
SBowden@verticalbridge.com

ROM: Robert Lankton
RLankton@verticalbridge.com
(941) 266-6781

TENANT LEGAL INFO

Tenant Legal Name: DISH Wireless L.L.C.

State of Registration: Colorado

Type of Entity: LLC

Carrier NOC #: 8666246874

Tenant Site #: NJJER01133A

Tenant Site Name: NJJER01133A

APPLICANT

Name: Debra Holden

Address 1279 Route 300
Newburgh, NY 12550

Phone Number:: (845) 325-4789

Email Address: dholden@tectonicengineering.com

FINAL LEASED RIGHTS CONFIGURATION TOTALS

This is a summary of your remaining existing equipment plus the new equipment.

FINAL EQUIPMENT

Qty	Equipment Type
1	Surge Arrestor/Raycap/Squid
1	GPS Antenna
3	Panel

FINAL LINES

Qty	Line Type
1	Hybrid

Qty	Equipment Type
6	RRU

FREQUENCY & TECHNOLOGY INFO

Type of Technology: Broadband Wireless
Is TX Frequency Licensed: Yes
TX Frequency: 632-652,1995-2020,2155-2165,2180-2200
Is RX Frequency Licensed: Yes
RX Frequency: 678-698,1695-1710,1755-1765

MOUNT & STRUCTURAL ANALYSIS

MOUNT ANALYSIS

Provided by Tenant: No
To Be Run by VB: No
Include Mount Mapping: No

STRUCTURAL HARD COPIES

Required: Yes
Number of Hard Copies 1

CONTACTS

INVOICE CONTACT

Attention To	Name	Address	Phone Number 1	Phone Number 2	Email 1	Email 2
Dish Wireless LLC	Accounts Payable	9601 South Meridian Blvd. Englewood, CO 80112	(720) 514-6400		WirelessAPHelpDesk@Dish.com	

PO CONTACT

Name	Phone Number	Email
Accounts Payable	(720) 514-6400	WirelessAPHelpDesk@Dish.com

LEASING CONTACT

Name	Phone Number	Email
Dave Mayo	(303) 706-4169	dave.mayo@dish.com

STRUCTURAL HARD COPIES CONTACT

Name	Address
James Quicksell	1279 Route 300 Newburgh, NY 12550

NOTICE CONTACT

verticalbridge

COLOCATION APPLICATION
US-CT-5009
Version 2
DISH Wireless L.L.C.

Vertical Bridge REIT, LLC.
750 Park of Commerce Drive
Suite 200
Boca Raton, FL 33487

Notice To	Attention To	Name	Address
DISH Wireless	Denise Fuller	Denise Fuller	5701 S Santa Fe Dr. Littleton, CO 80120

RF CONTACT

Name	Phone Number	Email
Vishal Kataria	(201) 628-4338	Vishal.kataria@dish.com

TENANT CONSTRUCTION MANAGER CONTACT

Name	Phone Number	Email
Joseph DiPiazza	(914) 843-4134	Joseph.dipiazza@dish.com

EMERGENCY CONTACT

Name	Phone Number	Email
NOC NOC	(866) 624-6874	landlordrelations@dish.com

LINE & EQUIPMENT

NEW LINE(S)

Qty	Line Type	Line Size(in.)	Line Location	Comments
1	Hybrid	1.66	Exterior	

NEW EQUIPMENT

Qty	Equipment Type	RAD Height	Mount (H')	Mount Type	Manufacturer	Model Number	Dimensions (H"xW"xD")	Weight (Lbs.)	Azimuth	Comments
1	Surge Arrestor/Raycap/Squid	225.00	225.00	Sector Frames	Raycap	RDIDC-3045-PF-48	14.00 x 16.00 x 8.00	21.90	0	
3	RRU	225.00	225.00	Sector Frames	Fujitsu	TA08025-B604	14.90 x 15.70 x 7.80	63.90	0/120/240	
1	GPS Antenna	0.00	0.00	Platform	PCTEL	GPSGL-TMG-SPI-40NCB	7.30 x 3.20 x 3.20	0.08	0	
3	RRU	225.00	225.00	Sector Frames	Fujitsu	TA08025-B605	14.90 x 15.70 x 9.00	74.59	0/120/240	
3	Panel	225.00	225.00	Sector Frames	JMA Wireless	MX08FRO665-21	72.00 x 29.00 x 8.00	64.50	0/120/240	MTC3975083 Sector Frame

NEW EQUIPMENT CABINET(S)

Quantity of Cabinets	Cabinet Dimensions (H x W x D)	Manufacturer	Comments
1	74.00 x 32.00 x 32.00	Amphenol/Charles	

ADDITIONAL SITE REQUIREMENTS

GROUND & INTERIOR SPACE REQUIREMENTS

Requirement Type	Total Lease Area (L x W)	Cabinet Required	Cabinet Area (L x W)	Shelter Required	Shelter Pad (L x W)	Comments
New	10.00 x 15.00	Yes	5.00 x 7.00		x	

GENERATOR REQUIREMENTS

Requirement Type	Fuel Type	Kilowatt Size	Pad Dimensions (L x D)	Generator Manufacturer	Fuel Tank Manufacturer	Comments
No Changes			x			

AC POWER REQUIREMENTS

Meter Type	Additional Details	Comments
New Tenant Meter		200 amp

BACKHAUL REQUIREMENTS

Requirement Type	Cable Type	Number Of Points Of Entry	Riser Size (Inches)	Comments
No Changes				

Exhibit E

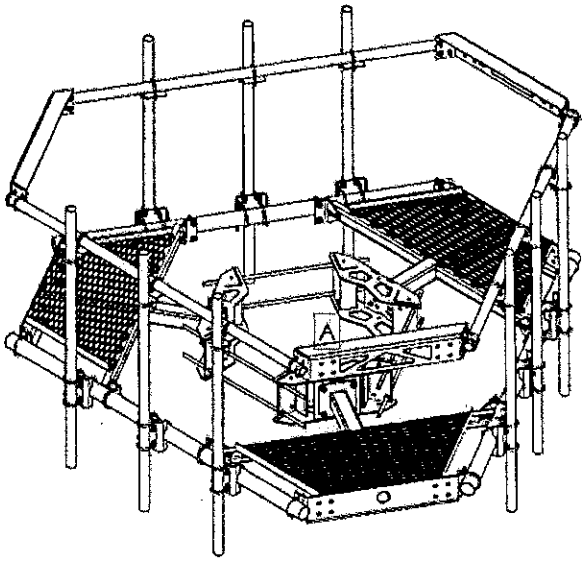
Mount Analysis

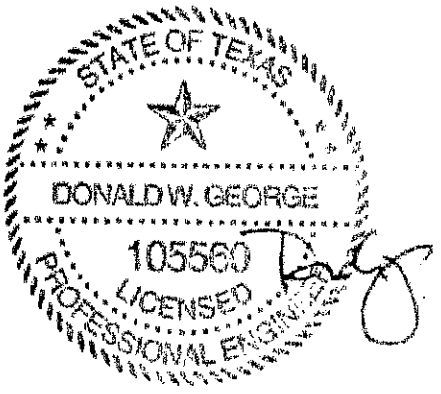
COMMSCOPE®

MONOPOLE PLATFORM

MC-PK8-C

STRUCTURAL ANALYSIS REPORT





Date: 2/18/2021

CommScope Inc.

11312 S. Pipeline Road

Euless, TX 76040

Steel Products (SteelProducts@commscope.com)

COMMSCOPE®

1 SUMMARY

Analysis of monopole platform was performed to determine the structural integrity of mounting system with the proposed loads. The purpose of the analysis is to determine acceptability of the mount stress level.

2 DESIGN CRITERIA

TIA Standard	ANSI/TIA-222-G and ANSI/TIA-222-H
Wind Speed	140 mph (3-Second Gust, VASD) / 180 mph (3-Second Gust, VULT)
Wind Speed w/ ice	60 mph (3-Second Gust, VASD) w/ 2" ice
Structure Class	I or II
Exposure Category	B or C
Topographic Category	1
Max. Mount Height	175ft
*Antenna Information	(1)JMA MX08FIT865-20 & (2)Fujitsu RRU / Each Antenna Pipe
Mount Material	CommScope mount material are using mill certified steel with minimum or exceeding the following ASTM specification.
Round Pipe/Tube	ASTM A500 Grade C (46Ksi)
Rectangular/Square Tube	ASTM A500 Grade C (46 Ksi)
Solid Rod	ASTM A529 (50 Ksi)
Angles	ASTM A529 (50 Ksi)

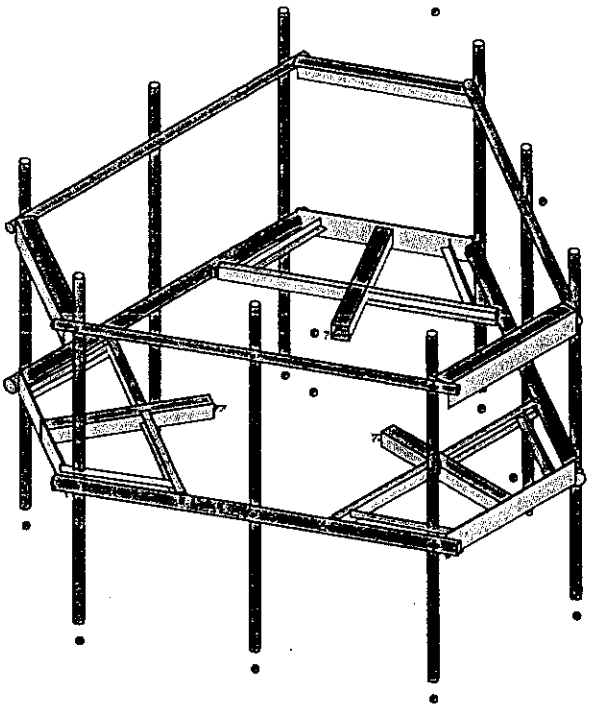
*Loaded two antenna pipe position per sector. For three antenna positions per sector, upgrade antenna pipes to 27/8" OD
** Code allowed shielding considered

3 ANALYSIS PROCEDURE

RISA-3D (Version No. 17.0.0), a commercially available software package, was used to create a three-dimensional model of the mount and calculate member stresses for various loading cases.

4 ANALYSIS RESULTS

The mount model MC-PK8-C when installed as per instruction listed in assembly drawing has sufficient capacity to carry above mentioned equipment loads with stated design criteria without the need for additional structural supporting/ modification.



Envelope Only Solution

CommScope	MC-PK8-C	Rendered View
		Feb 3, 2021 at 2:26 PM
		MC-PK8.r3d

JMA WIRELESS

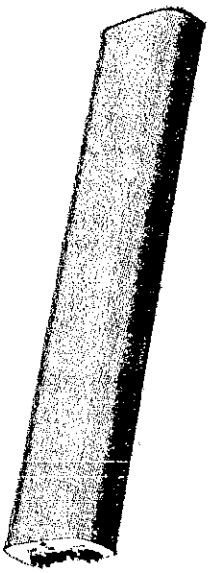
MX08FIT865-20

NWAV™ X-Pol 8-Port Antenna

X-Pol 8-Port 8 ft 65° with Smart Bias-Ts:

4 ports 617-894 MHz and 4 ports 1695-2200 MHz

- Excellent passive intermodulation (PIM) performance reduces harmful interference.
- Fully integrated (iRETs) with Smart Bias-Ts & independent RET control for low and high bands for ease of network optimization
- SON-Ready array spacing supports beamforming capabilities.
- High total power handling to maximize network efficiency
- Supports 4X4 MIMO in all bands



nwav

Electrical specification (minimum/maximum)	Ports 1, 2, 3, 4		Ports 5, 6, 7, 8		
Frequency bands, MHz	617-698	698-894	1695-1880	1850-1990	1920-2200
Polarization	± 45°		± 45°		
Average gain over all tilts, dBi	15.3	16.1	17.5	17.8	18.6
Horizontal beamwidth (HBW), degrees[1]	68	62	69	66	62
Front-to-back ratio, co-polar power @180°± 30°, dB	>27	>29	>30	>30	>30
Vertical beamwidth (VBW), degrees[1]	10.3	8.8	5.4	5.2	4.9
Electrical downtilt (EDT) range, degrees	2-13		2-12		
First upper side lobe (USLS) suppression, dB[1]	≤-18.0	≤-16.5	≤-18.0	≤-18.0	≤-20.0
Minimum cross-polar isolation, port-to-port, dB[1]	25	25	25	25	25
Max VSWR / return loss, dB	1.5:1 / -14.0		1.5:1 / -14.0		
Max passive intermodulation (PIM), 2x20W carrier, dBc	-153		-153		
Max input power per any port, watts	300		250		
Total composite power all ports (1-12), watts	1500				

[1] Typical value over frequency and tilt

JMA WIRELESS

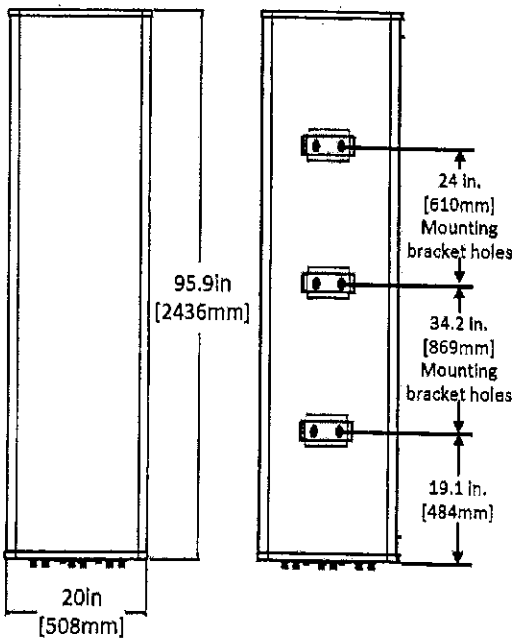
MX08FIT865-20 *NWAV™*

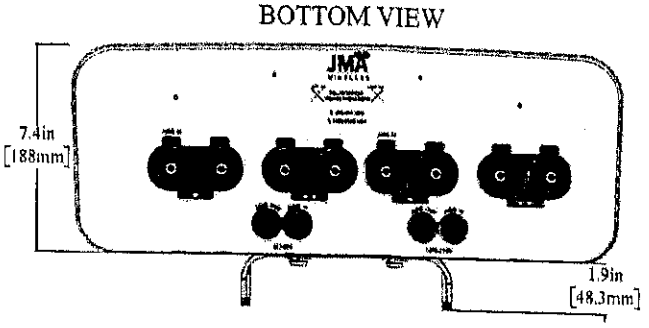
X-Pol 8-Port Antenna

Electrical specification (minimum/maximum)	Ports 1, 2, 3, 4		Ports 5, 6, 7, 8		
Frequency bands, MHz	617-698	698-894	1695-1880	1850-1990	1920-2200
Average gain over all tilts, dBi (Gaine Tolerance)	14.8±0.5	15.7±0.5	17.1±0.4	17.3±0.4	18.2±0.5
Horizontal beamwidth tolerance (HBW), degrees[1]	±5	±4.5	±4.5	±4.0	±5.0
Vertical beamwidth tolerance (VBW), degrees	±0.6	±0.5	±0.5	±0.5	±0.5
Front-to-back ratio, co-polar power @180°± 30°, dB	>27	>25	>25	>26	>24
X-Pol discrimination (CPR) at boresight, dB	>23	>25	>25	>22	>24
First upper side lobe (USLS) suppression boresight to 20°, dB[1]	≤-16	≤-15	≤-16	≤-16	≤-16

Mechanical specifications	
Dimensions height/width/depth, inches (mm)	95.9/ 20.0/ 7.4 (2436/ 508.0/ 188.0)
Shipping dimensions length/width/height, inches (mm)	100.6/ 23.8/ 14.5 (2555/ 605/ 368)
No. of RF input ports, connector type, and location	8 x 4.3-10 female, bottom
RF connector torque	96 lbf·in (10.85 N·m or 8 lbf·ft)
Net antenna weight, lb (kg)	101 (45.8)
Shipping weight, lb (kg)	151 (68.5)
Antenna mounting and downtilt kit included with antenna	91900318, 91900319 (middle bracket)
Net weight of the mounting and downtilt kit, lb (kg)	26 (11.8)
Range of mechanical up/down tilt	-2° to 12°
Rated wind survival speed, mph (km/h)	150 (241)
Frontal, lateral, and rear wind loading @ 150 km/h, lbf (N)	247.4 (1101), 55.3 (246), 373.7 (1662)
Equivalent flat plate @ 100 mph and Cd=2, sq ft	4.98

Front view **Back view** **Bottom view**





JMA WIRELESS

MX08FIT865-20 *NWAV™*

X-Pol 8-Port Antenna

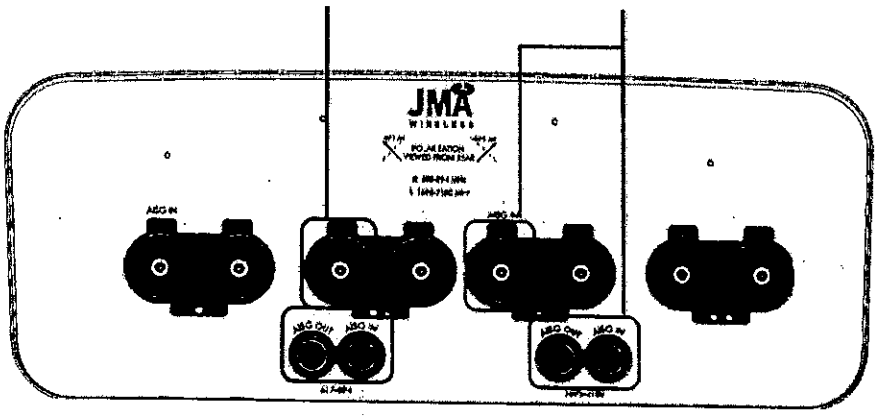
Remote electrical tilt (RET 1000) information	
RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9 or RF port bias-t
RET connector torque	Min 0.5 N·m to max 1.0 N·m (hand pressure & finger tight)
RET interface connector quantity	2 pairs of AISG male/female connectors and 2 RF port bias-ts
RET interface connector location	Bottom of the antenna
Total no. of internal RETs 698-894 MHz	1
Total no. of internal RETs 1695-2200 MHz	1
RET input operating voltage, vdc	10-30
RET max power consumption, idle state, W	≤ 2.0
RET max power consumption, normal operating conditions, W	≤ 13.0
RET communication protocol	AISG 2.0 / 3GPP

RET and RF connector topology

Each RET device can be controlled either via the designated external AISG connector or RF port as shown below:

Band	RF port
617-894	1-4

Band	RF port
1695-2200	5-8



Array topology

6 sets of radiating arrays

R1: 617-894 MHz
R2: 617-894 MHz
B1: 1695-2200 MHz
B2: 1695-2200 MHz

Band	RF port
617-894	1-2
617-894	3-4
1695-2200	5-6
1695-2200	7-8

Fujitsu – DiSH Triple-band RU Technical Specifications

RU General Specification	
Part number	TA08025-B605
TRX Configuration	4T4R
Operating Frequency	n71 & n29 & n26 Frequencies (Triple-Band)
Instantaneous Bandwidth	n71: 35MHz n29: 11MHz n26: 7MHz
Operation Bandwidth (3GPP)	n71: 35MHz n29: 10MHz n26: 5MHz
CC BW	5/10/20 MHz
Capacity	n71:2Cr(5/10/20MHz)/NB-IOT n26:1Cr(5MHz)/NB-IOT n29:2Cr(5/10MHz)
Interface to DU	ORAN 7.2x / 10G optical IF
TX Specification	
Output Power per TX	n71: 30W per port n29: 40W per port n26: 10 W per port
ACLR	Compliant with 3GPP TS 38.104
Transmitter Spurious Emissions	Compliant with 3GPP TS 38.104
EVM	Compliant with 3GPP TS 38.104
RX Specification	
Noise Figure	2.5dB (normal condition 2.2dB)
Blocking Features	Compliant with 3GPP TS 38.104
Receiver spurious emissions	Compliant with 3GPP TS 38.104
Mechanical Specification	
Volume	35 L
Dimension	W:400mm, H: 380mm, D: 230mm
Antenna Connector Type	4.3-10 RF connector
Antenna Control Interface	AISG
Power Supply	DC -58~-36V
Power Consumption	<1300W
Weight	34 kg
Environmental	
Humidity (Absolute humidity)	0.03 g/m3 ~ 30 g/m3
Atmospheric Pressure	Between 70 kPa and 106 kPa
Operating Temperature	-40°C ~ +55°C
IP Rating	IP65
Cooling	Passive

Mounting Options	
Pole	TBD
Wall	TBD

Exhibit F

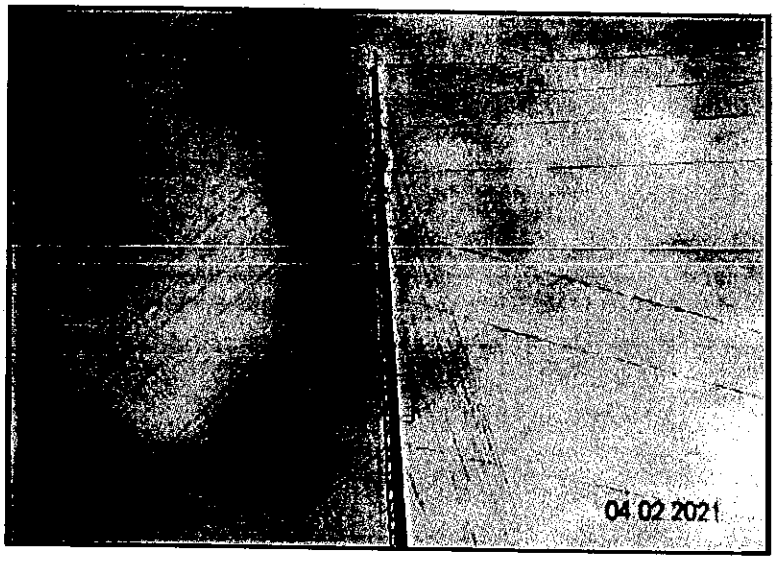
Emissions Report

Pinnacle Telecom Group

Professional and Technical Services

Telecom Consulting

Antenna Site FCC RF Compliance Assessment and Report for Municipal Submission



Prepared for:	Dish Wireless, LLC
Site ID:	NJJER01133A
Site Address:	39 Carmen Hill Road Brookfield, CT
Latitude:	N 41.4934
Longitude:	W 73.4288
Structure type:	Guyed Tower
Report date:	November 10, 2021
Compliance Conclusion:	Dish Wireless, LLC will be in compliance with the rules and regulations as described in OET Bulletin 65, following the implementation of the proposed mitigation as detailed in the report.

14 Ridgedale Avenue - Suite 260 • Cedar Knolls, NJ 07927 • 973-451-1630

Contents

Introduction and Summary

At the request of Dish Wireless, LLC ("Dish"), Pinnacle Telecom Group has performed an independent expert assessment of radiofrequency (RF) levels and related FCC compliance for proposed wireless base station antenna operations on an existing lattice tower located at 39 Carmen Hill Road in Brookfield, CT. Dish refers to the antenna site by the code "NJJER01133A", and its proposed operation involves directional panel antennas and transmission in the 600 MHz, 2000 MHz, and 2100 MHz frequency bands licensed to it by the FCC.

The FCC requires all wireless antenna operators to perform an assessment of potential human exposure to radiofrequency (RF) fields emanating from all the transmitting antennas at a site whenever antenna operations are added or modified, and to ensure compliance with the Maximum Permissible Exposure (MPE) limit in the FCC's regulations. In this case, the compliance assessment needs to take into account the RF effects of other existing antenna operations at the site by AT&T, Sprint, T-Mobile, the Town of Brookfield and Townsquare Media Danbury License LLC. There are also broadcast operations at the site by W250CH, WRKI and WINE. Note that FCC regulations require any future antenna collocators to assess and assure continuing compliance based on the cumulative effects of all then-proposed and then-existing antennas at the site.

This report describes mathematical analyses of potential RF exposure levels associated with the antennas. The analyses both at street level and on the subject roof employ standard FCC mathematical models for calculating the effects of the antennas in a very conservative manner, in order to overstate the RF levels and to ensure "safe-side" conclusions regarding compliance with the FCC limit for safe continuous exposure of the general public.

The results of a compliance assessment can be described in layman's terms by expressing the calculated RF levels as simple percentages of the FCC MPE limit. If the normalized reference for that limit is 100 percent, then calculated RF levels higher than 100 percent indicate the MPE limit is exceeded and there is a need to mitigate the potential exposure. On the other hand, calculated RF levels consistently below 100 percent serve as a clear and sufficient demonstration of

compliance with the MPE limit. We can (and will) also describe the overall worst-case result via the "plain-English" equivalent "times-below-the-limit" factor.

The result of the RF compliance assessment in this case is as follows:

- At street level around the site, the conservatively calculated maximum RF level from the combination of proposed and existing non-broadcast antenna operations is 1.1419 percent of the FCC general population MPE limit. The maximum calculated RF level from the existing broadcast operations at the site is 49.8859 percent of the FCC general population MPE limit. The sum of the maximum potential non-broadcast and broadcast RF exposure levels is 51.0278 – well below the 100-percent reference for compliance.
- A supplemental analysis of the RF levels at the same height as the Dish antennas indicate that the FCC MPE limit is potentially exceeded. Therefore, it is recommended that three Caution signs be installed six feet below the antennas. In addition, NOC Information signs are to be installed at the base of the lattice tower.
- The results of the calculations, along with the proposed mitigation, combine to satisfy the FCC requirements and associated guidelines on RF compliance at street level around the site and on the subject roof. Moreover, because of the significant conservatism incorporated in the analysis, RF levels actually caused by the antennas will be lower than these calculations indicate.

The remainder of this report provides the following:

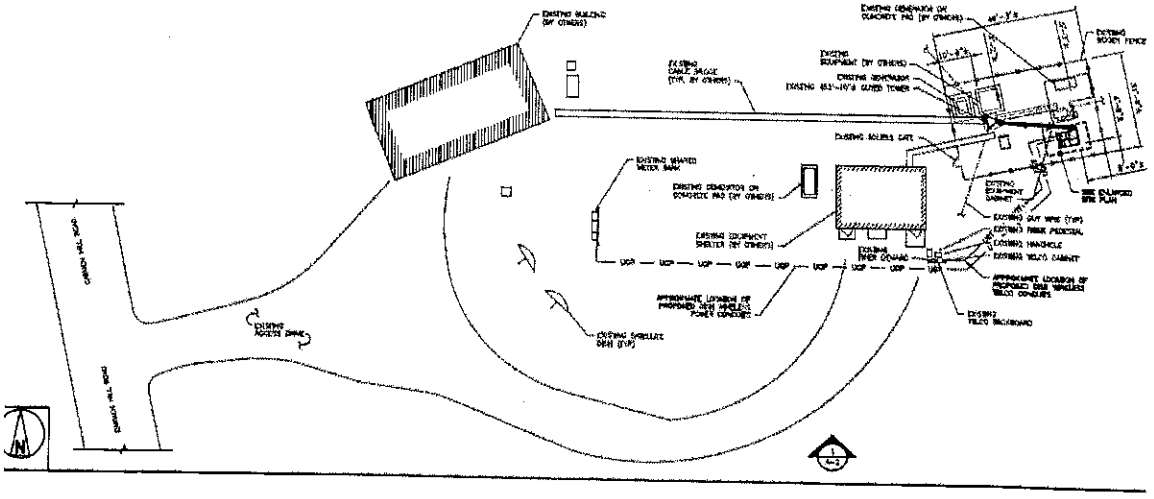
- relevant technical data on the proposed Dish antenna operations at the site, as well as on the other existing antenna operations;
- descriptions of the applicable FCC mathematical models for assessing MPE compliance, and application of the relevant technical data to those models; and
- analysis of the results of the calculations against the FCC MPE limit, and the compliance conclusion for the site.

In addition, four Appendices are included. Appendix A provides information on the documents used to prepare the analysis. Appendix B provides background on the FCC MPE limit. Appendix C details the proposed mitigation to satisfy the FCC requirements and associated guidelines on RF compliance. Appendix D provides a summary of the qualifications of the expert certifying FCC compliance for this site.

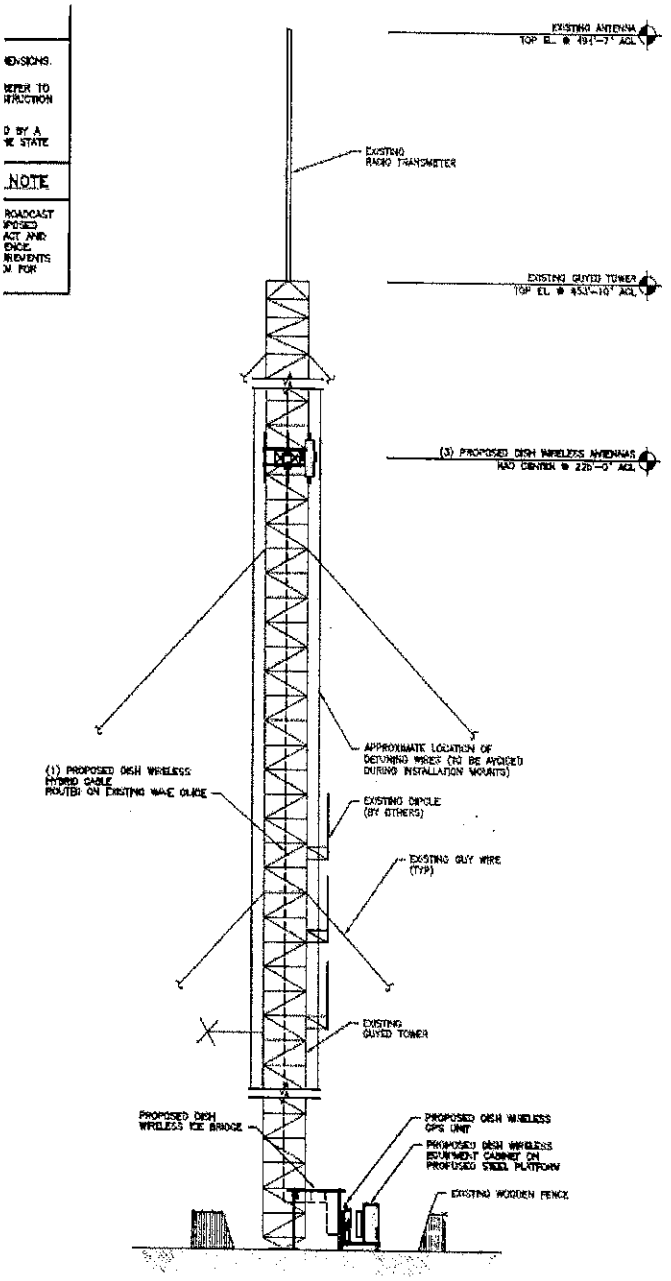
Antenna and Transmission Data

The plan and elevation views that follow, extracted from the site drawings, illustrate the mounting positions of the Dish antennas at the site.

Plan View:



Elevation View:



The table that follows summarizes the relevant data for the proposed Dish antenna operations. Note that the "Z" height references the centerline of the antenna.

Ant. ID	Carrier	Antenna Manufacturer	Antenna Model	Type	Freq (MHz)	Ant. Dim. (ft.)	Total ERP (watts)	Z (ft)	Ant. Gain (dBd)	B/W	Azimuth	EDT	MDT
❶	Dish	JMA Wireless	MX08FRO665-21	Panel	600	6	1680	225	11.46	68	0	2	0
❶	Dish	JMA Wireless	MX08FRO665-21	Panel	2000	6	6013	225	16.16	62	0	2	0
❶	Dish	JMA Wireless	MX08FRO665-21	Panel	2100	6	7415	225	16.66	64	0	2	0
❷	Dish	JMA Wireless	MX08FRO665-21	Panel	600	6	1680	225	11.46	68	120	2	0
❷	Dish	JMA Wireless	MX08FRO665-21	Panel	2000	6	6013	225	16.16	62	120	2	0
❷	Dish	JMA Wireless	MX08FRO665-21	Panel	2100	6	7415	225	16.66	64	120	2	0
❸	Dish	JMA Wireless	MX08FRO665-21	Panel	600	6	1680	225	11.46	68	240	2	0
❸	Dish	JMA Wireless	MX08FRO665-21	Panel	2000	6	6013	225	16.16	62	240	2	0
❸	Dish	JMA Wireless	MX08FRO665-21	Panel	2100	6	7415	225	16.66	64	240	2	0

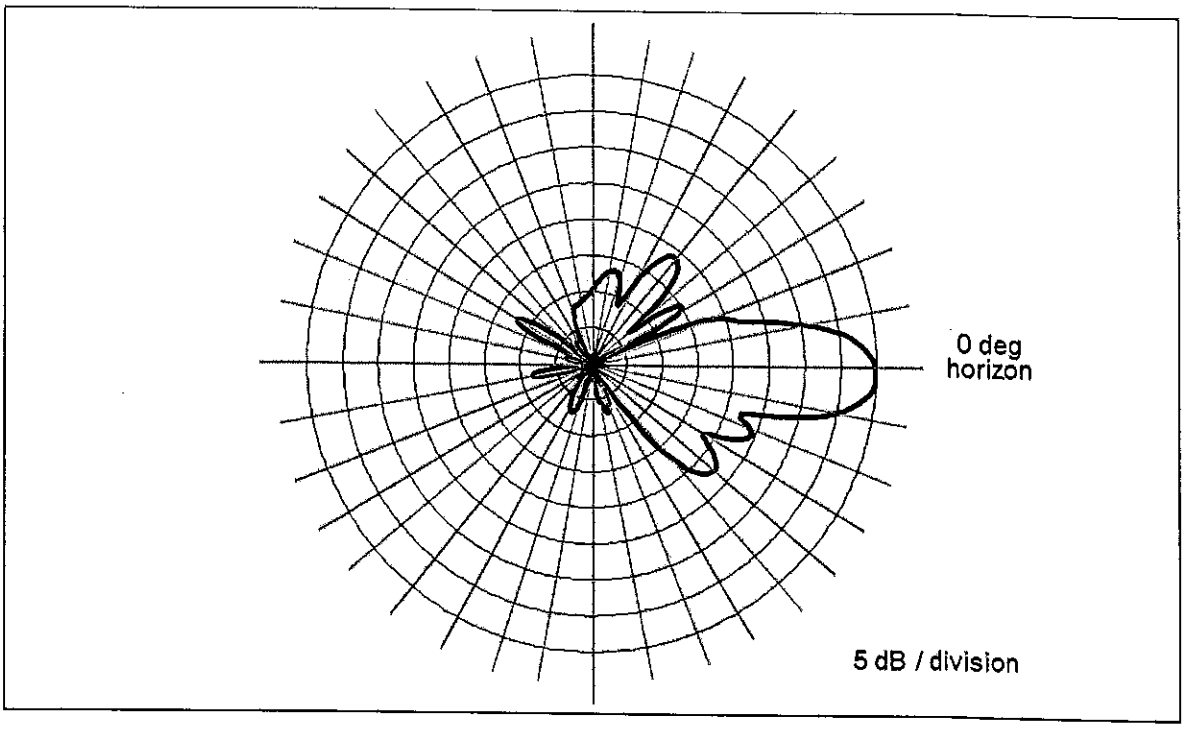
The area below the antennas, at street level, is of interest in terms of potential "uncontrolled" exposure of the general public, so the antenna's vertical-plane emission characteristic is used in the calculations, as it is a key determinant of the relative amount of RF emissions in the "downward" direction.

By way of illustration, Figure 1 that follows shows the vertical-plane radiation pattern of the proposed antenna model in the 600 MHz frequency band. In this type of antenna radiation pattern diagram, the antenna is effectively pointed at the three o'clock position (the horizon) and the relative strength of the pattern at different angles is described using decibel units.

Note that the use of a decibel scale to describe the relative pattern at different angles actually serves to significantly understate the actual focusing effects of the antenna. Where the antenna pattern reads 20 dB the relative RF energy emitted at the corresponding downward angle is 1/100th of the maximum that occurs in the main beam (at 0 degrees); at 30 dB, the energy is only 1/1000th of the maximum.

Finally, note that the automatic pattern-scaling feature of our internal software may skew side-by-side visual comparisons of different antenna models, or even different parties' depictions of the same antenna model.

Figure 1. JMA Wireless MX08FRO665-21 – 600 MHz Vertical-plane Pattern



As noted at the outset, there are other proposed and existing antenna operations to include in the compliance assessment. For each of the wireless carriers, we will conservatively assume operation with maximum channel capacity and at maximum transmitter power in each of their respective FCC-licensed frequency bands. For each of the other operators, we will rely on the transmission parameters in their respective FCC licenses.

The table that follows summarizes the relevant data for the non-broadcast collocated antenna operations.

Carrier	Antenna Manufacturer	Antenna Model	Type	Freq (MHz)	Total ERP (watts)	Z (AGL) (ft)	Ant. Gain (dBd)	Azimuth
AT&T	Unknown	Unknown	Panel	700	4945	165	11.25	N/A
AT&T	Unknown	Unknown	Panel	850	2400	165	11.76	N/A
AT&T	Unknown	Unknown	Panel	1900	5756	165	15.56	N/A
AT&T	Unknown	Unknown	Panel	2100	5890	165	15.66	N/A
AT&T	Unknown	Unknown	Panel	2300	4131	165	16.16	N/A
Sprint	Unknown	Unknown	Panel	800	2168	257	13.36	N/A
Sprint	Unknown	Unknown	Panel	1900	6168	257	15.86	N/A
Sprint	Unknown	Unknown	Panel	2500	4669	257	15.90	N/A
T-Mobile	Unknown	Unknown	Panel	600	3163	280	12.96	N/A
T-Mobile	Unknown	Unknown	Panel	700	867	280	13.36	N/A
T-Mobile	Unknown	Unknown	Panel	1900	4123	280	15.36	N/A
T-Mobile	Unknown	Unknown	Panel	1900	1452	280	15.60	N/A
T-Mobile	Unknown	Unknown	Panel	2100	4626	280	15.86	N/A
T-Mobile	Unknown	Unknown	Panel	2100	1419	280	15.50	N/A
T-Mobile	Unknown	Unknown	Panel	2500	12804	280	22.35	N/A
Town of Brookfield	Unknown	Unknown	Whip	155	50	131	0.0	N/A
Town of Brookfield	Unknown	Unknown	Whip	155	50	115	0.0	N/A
Townsquare Media Danbury Licensee	Unknown	Unknown	Dish	945	193	454	21.86	N/A
Townsquare Media Danbury Licensee	Unknown	Unknown	Dish	946	50	454	21.86	N/A
Townsquare Media Danbury Licensee	Unknown	Unknown	Dish	950	198	454	21.86	N/A

Compliance Analysis

FCC Office of Engineering and Technology Bulletin 65 ("OET Bulletin 65") provides guidelines for mathematical models to calculate the RF levels at various points around transmitting antennas. Different models apply in different areas around antennas, with one model applying to street level around a site, and another applying to the rooftop near the antennas. We will address each area of interest in turn in the subsections that follow.

Street Level Analysis – Non-broadcast Operations

At street-level around an antenna site (in what is called the "far field" of the antennas), the RF levels are directly proportional to the total antenna input power and the relative antenna gain in the downward direction of interest – and the levels are otherwise inversely proportional to the square of the straight-line distance to the antenna.

Conservative calculations also assume the potential RF exposure is enhanced by reflection of the RF energy from the intervening ground. Our calculations will assume a 100% "perfect", mirror-like reflection, which is the absolute worst-case scenario.

The formula for street-level compliance assessment for any given wireless antenna operation is as follows:

$$MPE\% = (100 * Chans * TxPower * 10^{(Gmax-Vdisc/10)} * 4) / (MPE * 4\pi * R^2)$$

where

MPE%	=	RF level, expressed as a percentage of the MPE limit applicable to continuous exposure of the general public
100	=	factor to convert the raw result to a percentage
Chans	=	maximum number of RF channels per sector
TxPower	=	maximum transmitter power per channel, in milliwatts

$10^{(Gmax-Vdlsc/10)}$	=	numeric equivalent of the relative antenna gain in the downward direction of interest; data on the antenna vertical-plane pattern is taken from manufacturer specifications
4	=	factor to account for a 100-percent-efficient energy reflection from the ground, and the squared relationship between RF field strength and power density ($2^2 = 4$)
MPE	=	FCC general population MPE limit
R	=	straight-line distance from the RF source to the point of interest, centimeters

The MPE% calculations are performed out to a distance of 500 feet from the facility to points 6.5 feet (approximately two meters, the FCC-recommended standing height) off the ground, as illustrated in Figure 2, below.

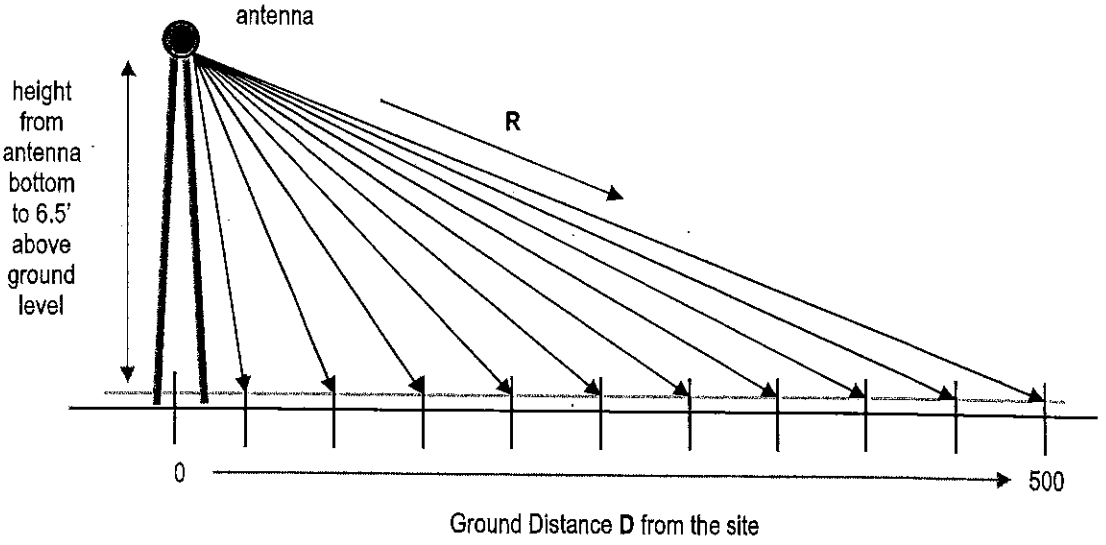


Figure 2. Street-level MPE% Calculation Geometry

It is popularly understood that the farther away one is from an antenna, the lower the RF level – which is generally but not universally correct. The results of MPE% calculations fairly close to the site will reflect the variations in the vertical-plane antenna pattern as well as the variation in straight-line distance to the antenna.

Therefore, RF levels may actually increase slightly with increasing distance within

the range of zero to 500 feet from the site. As the distance approaches 500 feet and beyond, though, the antenna pattern factor becomes less significant, the RF levels become primarily distance-controlled and, as a result, the RF levels generally decrease with increasing distance. In any case, the RF levels more than 500 feet from a wireless antenna site are well understood to be sufficiently low to be comfortably in compliance.

According to the FCC, when directional antennas (such as panels) are used, compliance assessments are based on the RF effect of a single (facing) antenna sector, as the effects of directional antennas pointed away from the point(s) of interest are considered insignificant. If the different parameters apply in the different sectors, compliance is based on the worst-case parameters.

Street level FCC compliance for a collocated antenna site is assessed in the following manner. At each distance point along the ground, an MPE% calculation is made for each antenna operation (including each frequency band), and the sum of the individual MPE% contributions at each point is compared to 100 percent, the normalized reference for compliance with the MPE limit. We refer to the sum of the individual MPE% contributions as "total MPE%", and any calculated total MPE% result exceeding 100 percent is, by definition, higher than the FCC limit and represents non-compliance and a need to mitigate the potential exposure. If all results are consistently below 100 percent, on the other hand, that set of results serves as a clear and sufficient demonstration of compliance with the MPE limit.

Note that the following conservative methodology and assumptions are incorporated into the MPE% calculations on a general basis:

1. The antennas are assumed to be operating continuously at maximum power and maximum channel capacity.
2. The power-attenuation effects of shadowing or other obstructions to the line-of-sight path from the antenna to the point of interest are ignored.
3. The calculations intentionally minimize the distance factor (R) by assuming a 6'6" human and performing the calculations from the bottom (rather than the centerline) of each operator's lowest-mounted antenna, as applicable.

4. The calculations also conservatively take into account, when applicable, the different technical characteristics and related RF effects of the use of multiple antennas for transmission in the same frequency band.
5. The RF exposure at ground level is assumed to be 100-percent enhanced (increased) via a "perfect" field reflection from the intervening ground.

The net result of these assumptions is to intentionally and significantly overstate the calculated RF levels relative to the levels that will actually result from the antenna operations – and the purpose of this conservatism is to allow very "safe-side" conclusions about compliance.

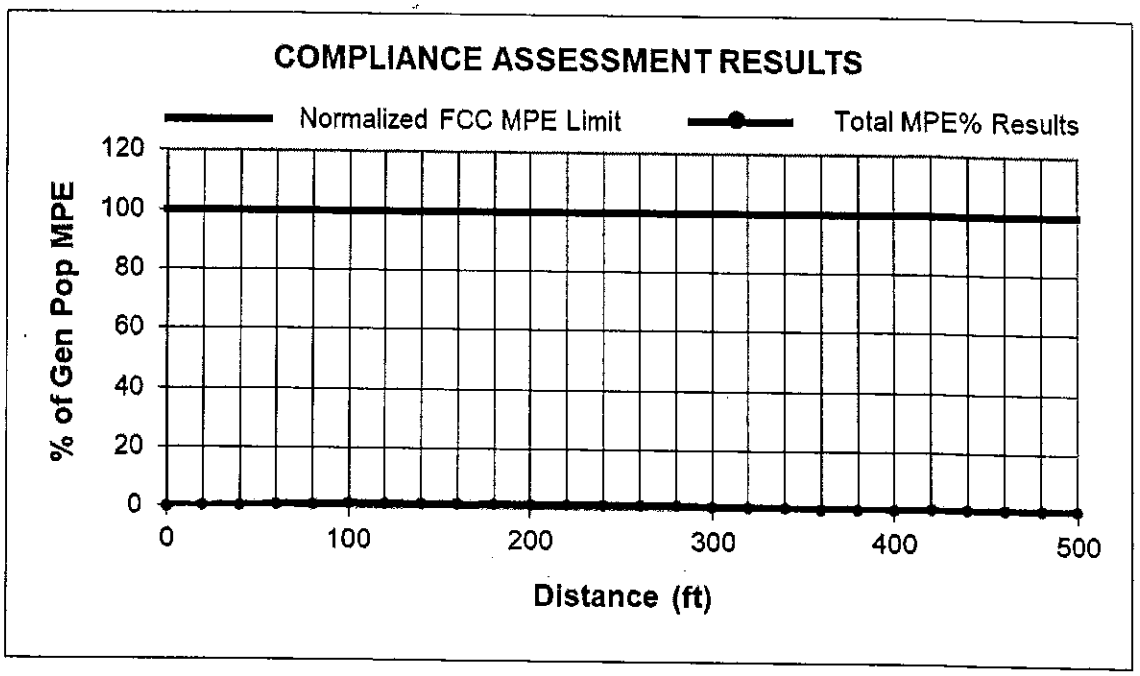
The tables that follow provide the results of the MPE% calculations for each antenna operation, with the overall worst-case calculated result highlighted in bold in the last column of the last table.

Ground Distance (ft)	Dish 600 MHz MPE%	Dish 2000 MHz MPE%	Dish 2100 MHz MPE%	AT&T MPE%	Sprint MPE%	Subtotal MPE%
0	0.0003	0.0004	0.0000	0.0475	0.0064	0.0546
20	0.0005	0.0008	0.0001	0.0417	0.0054	0.0485
40	0.0011	0.0018	0.0008	0.0882	0.0028	0.0947
60	0.0019	0.0044	0.0030	0.1283	0.0027	0.1403
80	0.0021	0.0050	0.0032	0.1801	0.0029	0.1933
100	0.0013	0.0036	0.0011	0.2236	0.0033	0.2329
120	0.0006	0.0041	0.0065	0.2593	0.0068	0.2773
140	0.0008	0.0017	0.0063	0.2212	0.0099	0.2399
160	0.0030	0.0005	0.0045	0.3047	0.0074	0.3201
180	0.0106	0.0021	0.0179	0.4558	0.0135	0.4999
200	0.0233	0.0008	0.0593	0.4821	0.0164	0.5819
220	0.0344	0.0046	0.0877	0.4675	0.0154	0.6096
240	0.0386	0.0356	0.1103	0.4750	0.0145	0.6740
260	0.0344	0.0816	0.1078	0.5440	0.0150	0.7828
280	0.0267	0.0960	0.0801	0.5181	0.0153	0.7362
300	0.0181	0.0472	0.0312	0.4750	0.0221	0.5936
320	0.0118	0.0070	0.0020	0.3986	0.0355	0.4549
340	0.0096	0.0028	0.0028	0.2574	0.0389	0.3115
360	0.0109	0.0024	0.0073	0.1870	0.0377	0.2453
380	0.0130	0.0014	0.0037	0.1418	0.0312	0.1911
400	0.0154	0.0042	0.0005	0.1197	0.0197	0.1595
420	0.0180	0.0120	0.0021	0.1129	0.0144	0.1594
440	0.0201	0.0203	0.0081	0.1134	0.0102	0.1721
460	0.0215	0.0222	0.0128	0.1210	0.0080	0.1855
480	0.0214	0.0154	0.0117	0.1120	0.0082	0.1687
500	0.0205	0.0056	0.0060	0.1341	0.0108	0.1770

Ground Distance (ft)	Subtotal MPE%	T-Mobile MPE%	Town of Brookfield MPE%	Townsquare Media Danbury License MPE%	Total MPE%
0	0.0546	0.0553	0.0007	0.00001	0.11061
20	0.0485	0.0722	0.1065	0.00001	0.22721
40	0.0947	0.0802	0.3096	0.00001	0.48451
60	0.1403	0.0787	0.4945	0.00001	0.71351
80	0.1933	0.1195	0.6262	0.00001	0.93901
100	0.2329	0.1742	0.6632	0.00001	1.07031
120	0.2773	0.1910	0.6383	0.00001	1.10661
140	0.2399	0.1789	0.5954	0.00001	1.01421
160	0.3201	0.1591	0.5331	0.00001	1.01231
180	0.4999	0.1380	0.4696	0.00001	1.10751
200	0.5819	0.1071	0.4122	0.00001	1.10121
220	0.6096	0.0900	0.3645	0.00001	1.06411
240	0.6740	0.0705	0.3247	0.00001	1.06921
260	0.7828	0.0744	0.2847	0.00001	**1.14191**
280	0.7362	0.0833	0.2541	0.00001	1.07361
300	0.5936	0.0978	0.2283	0.00001	0.91971
320	0.4549	0.1198	0.2039	0.00001	0.77861
340	0.3115	0.1459	0.1830	0.00001	0.64041
360	0.2453	0.1440	0.1670	0.00001	0.55631
380	0.1911	0.1984	0.1514	0.00001	0.54091
400	0.1595	0.2216	0.1378	0.00001	0.51891
420	0.1594	0.2952	0.1259	0.00001	0.58051
440	0.1721	0.3317	0.1154	0.00001	0.61921
460	0.1855	0.3686	0.1062	0.00001	0.66031
480	0.1687	0.4053	0.0992	0.00001	0.67321
500	0.1770	0.4403	0.0918	0.00001	0.70911

As indicated, the maximum calculated overall RF level is 1.1419 percent of the FCC MPE limit – well below the 100-percent reference for compliance.

A graph of the overall calculation results, shown below, perhaps provides a clearer *visual* illustration of the relative compliance of the calculated RF levels. The line representing the overall calculation results shows an obviously clear, consistent margin to the FCC MPE limit.



Street Level Analysis – Broadcast Operations

Assessment of the RF effects of the FM broadcast operations is performed using the FCC's "FM Model for Windows", a software program publicly available at the FCC's web site. Key inputs to the program include the maximum ERP, the antenna height, and the number and spacing of the elements of the antenna.

The maximum RF level from the W250CH FM broadcast operation is 1.2 $\mu W/cm^2$. Given the FCC general population MPE limit for all FM radio broadcast frequencies is 0.2 mW/cm^2 (which is equivalent to 200 $\mu W/cm^2$), the calculated worst-case result in this case is 0.6000 percent of the MPE limit.

The maximum RF level from the WRKI FM broadcast operation is 54.5 μW/cm^2. The calculated worst-case result in this case is 27.2500 percent of the MPE limit.

The table that follows provides the results of the MPE% calculations for each FM broadcast operation, with the maximum calculated "total MPE%" result highlighted in bold in the last column.

Ground Distance (ft)	W250CH MPE%	WRKI MPE%	Total MPE%
0	0.5500	23.5000	24.05000
20	0.5500	24.1000	24.65000
40	0.6000	24.6000	25.20000
60	0.6000	25.9000	26.50000
80	0.6000	27.0500	27.65000
100	0.5500	27.2500	**27.80000**
120	0.4500	26.7500	27.20000
140	0.3500	25.7000	26.05000
160	0.2000	23.9500	24.15000
180	0.1000	21.6000	21.70000
200	0.0500	18.8500	18.90000
220	0.0000	15.7000	15.70000
240	0.0000	12.3000	12.30000
260	0.0000	8.8500	8.85000
280	0.0500	5.8000	5.85000
300	0.0500	3.4000	3.45000
320	0.0000	1.6500	1.65000
340	0.0000	0.5500	0.55000
360	0.0000	0.0500	0.05000
380	0.0000	0.1000	0.10000
400	0.0000	0.4000	0.40000
420	0.0000	0.7500	0.75000
440	0.0000	1.0000	1.00000
460	0.0000	1.1500	1.15000
480	0.0000	1.2000	1.20000
500	0.0000	1.1500	1.15000

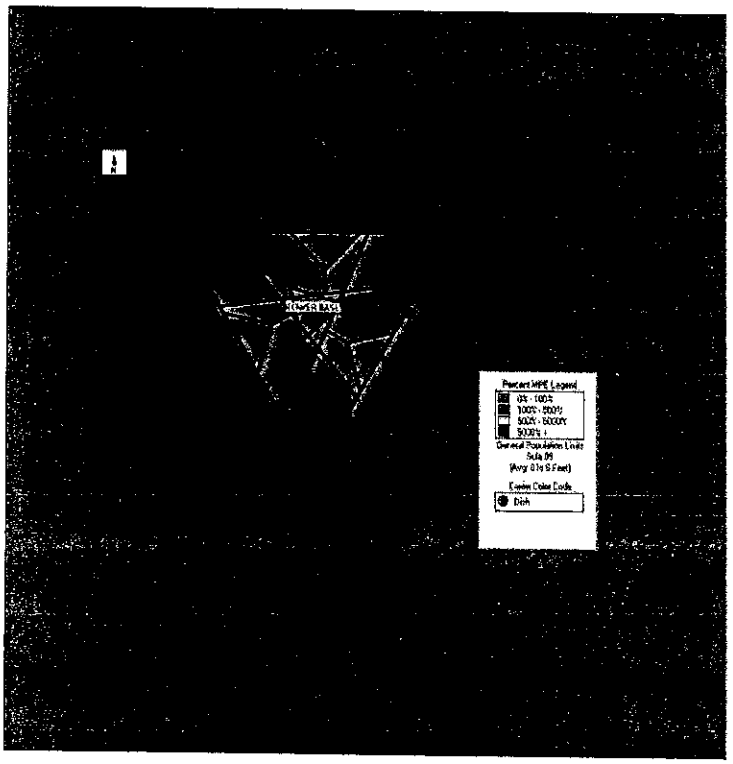
The analysis for the WINE AM broadcast operation was performed using the formulas provided in FCC OET65a.

The table that follows provides the results of the MPE% calculations for the AM broadcast operation out to a distance of 50 feet, with the maximum calculated "total MPE%" result highlighted in bold in the last column.

Ground Distance (f)	MPE%
6	22.0859
10	5.8896
20	2.4540
30	1.2270
40	0.9816
50	0.7362

Summing the worst-case result for the broadcast operations (49.8859) with the worst-case result for the non-broadcast operations (1.1419) yields an overall result of 51.0278 percent – well below the 100-percent reference for compliance.

The graphic output for the areas at street level surrounding the site is reproduced below.

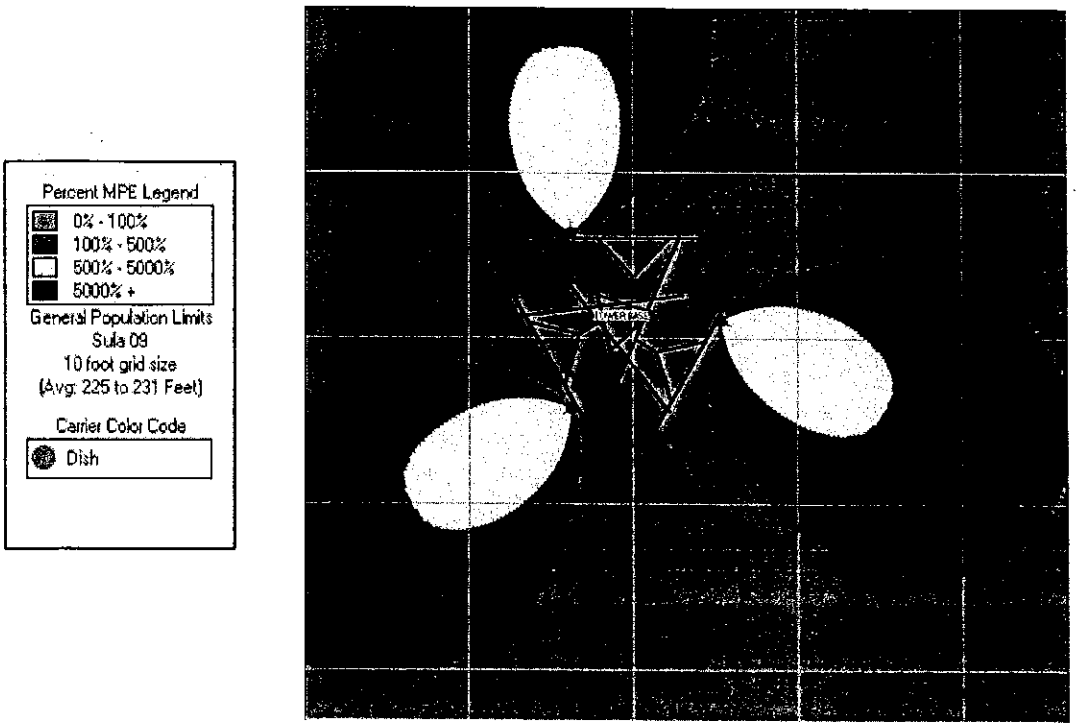


Near-field Analysis

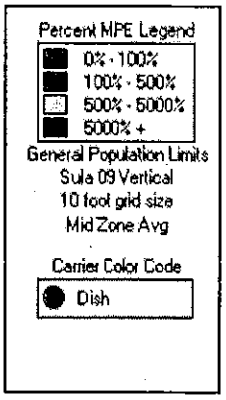
The compliance analysis for the same height as the antennas is performed using the RoofMaster program by Waterford Consultants.

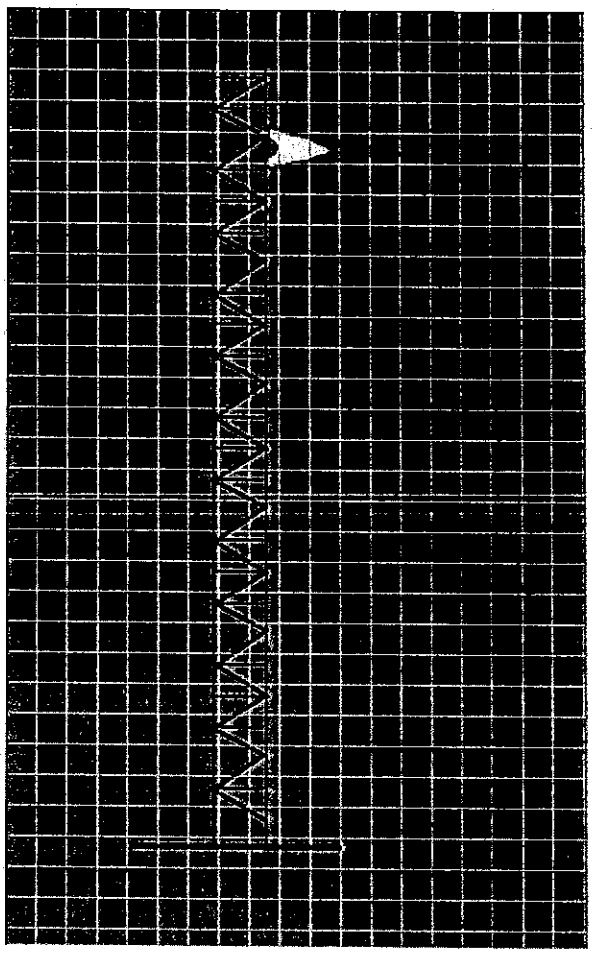
RF levels in the near field of an antenna depend on the power input to the antenna, the antenna's length and horizontal beamwidth, the mounting height of the antenna above nearby standing level, and one's position and distance from the antenna. RF levels in front of a directional antenna are higher than they are to the sides or rear, and in any given horizontal direction are inversely proportional to the straight-line distance to the antenna.

The RoofMaster graphic outputs for the same height as the Dish antennas are reproduced below and on the next page.



RoofMaster – Same Height as the Antennas – Alpha / Beta / Gamma sectors





RoofMaster – Same Height as the Antennas – Alpha / Beta / Gamma sectors

Compliance Conclusion

According to the FCC, the MPE limit has been constructed in such a manner that continuous human exposure to RF fields up to and including 100 percent of the MPE limit is acceptable and safe.

The conservative analysis in this case shows that the maximum calculated RF level at street level from the proposed modifications to the existing antenna operations at the site is 51.0278 percent of the FCC general population MPE limit. At the same height as the antennas, the analysis shows that the calculated RF levels potentially exceed the FCC MPE limit. Per Dish guidelines, and consistent with FCC guidance on rooftop compliance, it is recommended that three Caution signs be six feet below the antennas. In addition, NOC Information signs be installed at the base of the lattice tower.

The results of the calculations, along with the described RF mitigation, combine to satisfy the FCC's RF compliance requirements and associated guidelines at street level around the site and on the lattice tower.

Moreover, because of the extremely conservative calculation methodology and operational assumptions we applied in the analysis, RF levels actually caused by the antennas will be significantly lower than the calculation results here indicate.

Certification

It is the policy of Pinnacle Telecom Group that all FCC RF compliance assessments are reviewed, approved, and signed by the firm's Chief Technical Officer who certifies as follows:

1. I have read and fully understand the FCC regulations concerning RF safety and the control of human exposure to RF fields (47 CFR 1.1301 *et seq*).
2. To the best of my knowledge, the statements and information disclosed in this report are true, complete and accurate.
3. The analysis of site RF compliance provided herein is consistent with the applicable FCC regulations, additional guidelines issued by the FCC, and industry practice.
4. The results of the analysis indicate that the subject antenna operations will be in compliance with the FCC regulations concerning the control of potential human exposure to the RF emissions from antennas.

Daniel J. Collins
Chief Technical Officer
Pinnacle Telecom Group, LLC

11/10/21
Date

Appendix A. Documents Used to Prepare the Analysis

RFDS: RFDS-NJJER01133A-Preliminary-20211101-v.1_20211101121231

CD: NJJER01133A_ZD_20210901114737

Appendix B. Background on the FCC MPE Limit

As directed by the Telecommunications Act of 1996, the FCC has established limits for maximum continuous human exposure to RF fields.

The FCC maximum permissible exposure (MPE) limits represent the consensus of federal agencies and independent experts responsible for RF safety matters. Those agencies include the National Council on Radiation Protection and Measurements (NCRP), the Occupational Safety and Health Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH), the American National Standards Institute (ANSI), the Environmental Protection Agency (EPA), and the Food and Drug Administration (FDA). In formulating its guidelines, the FCC also considered input from the public and technical community – notably the Institute of Electrical and Electronics Engineers (IEEE).

The FCC's RF exposure guidelines are incorporated in Section 1.301 *et seq* of its Rules and Regulations (47 CFR 1.1301-1.1310). Those guidelines specify MPE limits for both occupational and general population exposure.

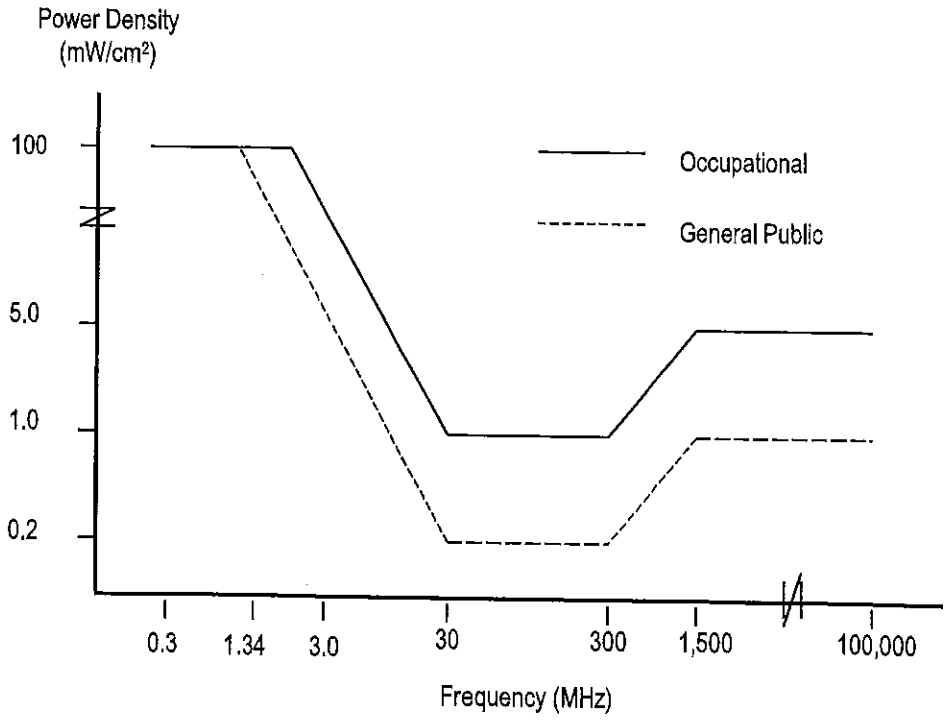
The specified continuous exposure MPE limits are based on known variation of human body susceptibility in different frequency ranges, and a Specific Absorption Rate (SAR) of 4 watts per kilogram, which is universally considered to accurately represent human capacity to dissipate incident RF energy (in the form of heat). The occupational MPE guidelines incorporate a safety factor of 10 or greater with respect to RF levels known to represent a health hazard, and an additional safety factor of five is applied to the MPE limits for general population exposure. Thus, the general population MPE limit has a built-in safety factor of more than 50. The limits were constructed to appropriately protect humans of both sexes and all ages and sizes and under all conditions – and continuous exposure at levels equal to or below the applicable MPE limits is considered to result in no adverse health effects or even health risk.

The reason for *two* tiers of MPE limits is based on an understanding and assumption that members of the general public are unlikely to have had appropriate RF safety training and may not be aware of the exposures they receive; occupational exposure in controlled environments, on the other hand, is assumed to involve individuals who have had such training, are aware of the exposures, and know how to maintain a safe personal work environment.

The FCC's RF exposure limits are expressed in two equivalent forms, using alternative units of field strength (expressed in volts per meter, or V/m), and power density (expressed in milliwatts per square centimeter, or mW/cm^2). The table on the next page lists the FCC limits for both occupational and general population exposures, using the mW/cm^2 reference, for the different radio frequency ranges.

Frequency Range (F) (MHz)	Occupational Exposure (mW/cm^2)	General Public Exposure (mW/cm^2)
0.3 - 1.34	100	100
1.34 - 3.0	100	$180 / F^2$
3.0 - 30	$900 / F^2$	$180 / F^2$
30 - 300	1.0	0.2
300 - 1,500	F / 300	F / 1500
1,500 - 100,000	5.0	1.0

The diagram below provides a graphical illustration of both the FCC's occupational and general population MPE limits.



Because the FCC's RF exposure limits are frequency-shaped, the exact MPE limits applicable to the instant situation depend on the frequency range used by the systems of interest.

The most appropriate method of determining RF compliance is to calculate the RF power density attributable to a particular system and compare that to the MPE limit applicable to the operating frequency in question. The result is usually expressed as a percentage of the MPE limit.

For potential exposure from multiple systems, the respective percentages of the MPE limits are added, and the total percentage compared to 100 (percent of the limit). If the result is less than 100, the total exposure is in compliance; if it is more than 100, exposure mitigation measures are necessary to achieve compliance.

Note that the FCC "categorically excludes" all "non-building-mounted" wireless antenna operations whose mounting heights are more than 10 meters (32.8 feet) from the routine requirement to demonstrate compliance with the MPE limit, because such operations "are deemed, individually and cumulatively, to have no significant effect on the human environment". The categorical exclusion also applies to *all* point-to-point antenna operations, regardless of the type of structure they're mounted on. Note that the FCC considers any facility qualifying for the categorical exclusion to be automatically in compliance.

In addition, FCC Rules and Regulations Section 1.1307(b)(3) describes a provision known in the industry as "the 5% rule". It describes that when a specific location – like a spot on a rooftop – is subject to an overall exposure level exceeding the applicable MPE limit, operators with antennas whose MPE% contributions at the point of interest are less than 5% are exempted from the obligation otherwise shared by all operators to bring the site into compliance, and those antennas are automatically deemed by the FCC to satisfy the rooftop compliance requirement.

FCC References on RF Compliance

47 CFR, FCC Rules and Regulations, Part 1 (Practice and Procedure), Section 1.1310 (Radiofrequency radiation exposure limits).

FCC Second Memorandum Opinion and Order and Notice of Proposed Rulemaking (FCC 97-303), *In the Matter of Procedures for Reviewing Requests for Relief From State and Local Regulations Pursuant to Section 332(c)(7)(B)(v) of the Communications Act of 1934 (WT Docket 97-192), Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation (ET Docket 93-62), and Petition for Rulemaking of the Cellular Telecommunications Industry Association Concerning Amendment of the Commission's Rules to Preempt State and Local Regulation of Commercial Mobile Radio Service Transmitting Facilities*, released August 25, 1997.

FCC First Memorandum Opinion and Order, ET Docket 93-62, *In the Matter of Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*, released December 24, 1996.

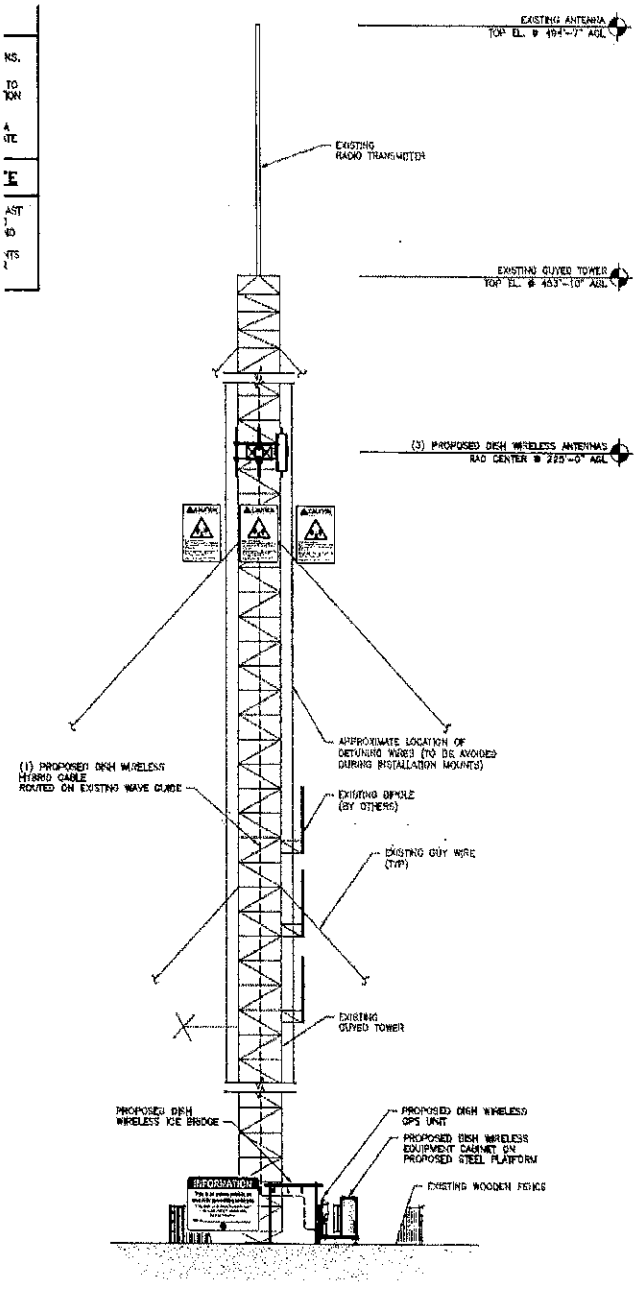
FCC Report and Order, ET Docket 93-62, *In the Matter of Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*, released August 1, 1996.

FCC Report and Order, Notice of Proposed Rulemaking, Memorandum Opinion and Order (FCC 19-126), *Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields; Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies,* released December 4, 2019.

FCC Office of Engineering and Technology (OET) Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", Edition 97-01, August 1997.

FCC Office of Engineering and Technology (OET) Bulletin 56, "Questions and Answers About Biological Effects and Potential Hazards of RF Radiation", edition 4, August 1999.

Appendix C. Proposed Signage



NOC Information Sign		Caution Sign	
Guidelines Sign		Warning Sign	
Notice Sign			

Appendix D. Summary of Expert Qualifications

Daniel J. Collins, Chief Technical Officer, Pinnacle Telecom Group, LLC

Synopsis:	• 40+ years of experience in all aspects of wireless system engineering, related regulation, and RF exposure • Has performed or led RF exposure compliance assessments on more than 20,000 antenna sites since the latest FCC regulations went into effect in 1997 • Has provided testimony as an RF compliance expert more than 1,500 times since 1997 • Have been accepted as an FCC compliance expert in New York, New Jersey, Connecticut, Pennsylvania and more than 40 other states, as well as by the FCC
Education:	• B.E.E., City College of New York (Sch. Of Eng.), 1971 • M.B.A., 1982, Fairleigh Dickinson University, 1982 • Bronx High School of Science, 1966
Current Responsibilities:	• Leads all PTG staff work involving RF safety and FCC compliance, microwave and satellite system engineering, and consulting on wireless technology and regulation
Prior Experience:	• Edwards & Kelcey, VP – RF Engineering and Chief Information Technology Officer, 1996-99 • Bellcore (a Bell Labs offshoot after AT&T's 1984 divestiture), Executive Director – Regulation and Public Policy, 1983-96 • AT&T (Corp. HQ), Division Manager – RF Engineering, and Director – Radio Spectrum Management, 1977-83 • AT&T Long Lines, Group Supervisor – Microwave Radio System Design, 1972-77
Specific RF Safety / Compliance Experience:	• Involved in RF exposure matters since 1972 • Have had lead corporate responsibility for RF safety and compliance at AT&T, Bellcore, Edwards & Kelcey, and PTG • While at AT&T, helped develop the mathematical models for calculating RF exposure levels • Have been relied on for compliance by all major wireless carriers, as well as by the federal government, several state and local governments, equipment manufacturers, system integrators, and other consulting / engineering firms
Other Background:	• Author, *Microwave System Engineering* (AT&T, 1974) • Co-author and executive editor, *A Guide to New Technologies and Services* (Bellcore, 1993) • National Spectrum Management Association (NSMA) – former three-term President and Chairman of the Board of Directors; was founding member, twice-elected Vice President, long-time member of the Board, and was named an NSMA Fellow in 1991 • Have published more than 35 articles in industry magazines

Exhibit G

Lease Agreement

VB Site ID: US-CT-5009
Lessee's Site ID: NJJER01133A

SUPPLEMENT TO THE MASTER LEASE AGREEMENT
(Pursuant and subject to the MLA)

THIS SUPPLEMENT TO THE MASTER LEASE AGREEMENT ("**SLA**") is entered into as of 9/17/2021 ("**Effective Date**"), by and between VB-S1 Assets, LLC, a Delaware limited liability company ("**Lessor**"), whose address is 750 Park of Commerce Drive, Suite 200, Boca Raton, Florida 33487, and DISH Wireless L.L.C., a Colorado limited liability company ("**Lessee**"), whose address is 9601 South Meridian Blvd., Englewood, Colorado, 80112.

BACKGROUND

WHEREAS, Lessor's Affiliate, Vertical Bridge REIT, LLC, and Lessee have entered into that certain MLA dated January 29, 2021 (the "**MLA**"). Such MLA provides that Lessor or its Affiliates and Lessee will enter into separate SLAs on a Site-by-Site basis as mutually agreed upon by the Parties, pursuant to which Lessor or its Affiliates will lease to Lessee certain available space at a Site.

AGREEMENT

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound hereby, the Parties agree as follows:

1. Site Information. The Leased Property, as more particularly described in Section 6 hereof, means:
    a. Lessee Site ID: NJJER01133A
    b. Lessor Site ID: US-CT-5009
    c. Address and/or location of the Site: 0.3 Mi. Sse of Intersection of Carmen Hill and Se Trail, Brookfield, CT 06804
    d. Site coordinates (NAD 83):
        i. Latitude: 41.49343889
        ii. Longitude: -73.42881667
    e. Antenna Space centerline height: 225
    f. Ground Space dimensions: 10' x 15'

2. Rent; Term.
    a. Rent.
        i. Commencing on the SLA Rent Commencement Date, [redacted]
        ii. Additional Rent, [redacted]
        iii. Rent shall be paid to the following address (or via electronic funds transfer as agreed to by the Parties in Section 4.4 of the MLA):

[redacted]

DS
EM

b. Term. [redacted] unless set forth herein as follows: Not Applicable.

3. Non-Standard Terms. The Parties acknowledge and agree that the following conditions exist at the Site: (Check all that apply)

- ☐ There are no electrical utilities installed at the Site as of the Effective Date (i.e., neither Lessor nor any Co-User at the Site have electrical utilities installed).
- ☐ The Leased Property is located, in whole or in part, on land which is owned, operated or controlled by a Governmental Authority (e.g. Bureau of Land Management or Bureau of Indian Affairs).
- ☐ The Structure on the Site is AM Detuned.
- ☐ Tower Modifications are required prior to the commencement of Lessee's initial Installation at the Site.
- ☐ Ground Space at the Site is not included in the legal interest conveyed to Lessee pursuant to this SLA.

4. Key Prime Agreement Terms.

a. [redacted]

b. [redacted]

c. [redacted]

5. Special Provisions. Not Applicable.

6. Site Address and Legal Description of Site. Lessor hereby leases to Lessee, and Lessee leases from Lessor, as applicable, the Site, as more particularly described in Section 1 hereof, and which is comprised of the space on the Structure, Easements and Ground Space on the Parcel at heights and locations as more particularly set forth on **Schedule A-1** (Collocation Application), **Schedule A-2** (Structure Elevation and Site Plan), and **Schedule A-4** (Legal Description of Parcel and/or Survey) (together, as applicable, the "**Leased Property**"), each of which are attached hereto and incorporated herein.

7. Frequencies. As of the Effective Date, Lessee's initial Installation will use those certain frequencies, in pre-approved transmit power, as set forth on **Schedule A-1** (Collocation Application), which is attached hereto and incorporated herein by this reference.

8. MLA; Defined Terms; Incorporation of Background; Prime Agreement. This SLA is entered into pursuant to the MLA. All terms and conditions of the MLA are incorporated herein by this reference and made a part hereof without the necessity of repeating such terms and conditions or attaching the MLA. By executing and delivering this SLA, the Parties hereby agree to be bound by all terms and conditions of the MLA applicable to such Party, and to perform all covenants and agreements of such Party therein. Capitalized terms used in this SLA shall have the same meaning ascribed to them in the MLA unless otherwise indicated herein. The background section set forth above is hereby incorporated into this SLA by this reference in its entirety. A true and correct copy of the Prime Agreement(s) (subject to redaction in accordance with the MLA) is set forth in **Schedule A-3** (Redacted Prime Agreement), which is attached hereto and incorporated herein by this reference.

9. Order of Precedence; Conflict. In the event of an inconsistency, conflict or discrepancy between, or among, (a) Section 1 of this SLA, (b) **Schedule A-1** (Collocation Application), and/or (c) **Schedule A-2** (Structure Elevation and Site Plan), **Schedule A-1** of this SLA shall govern. In the event of an

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IN WITNESS WHEREOF, the Parties have executed this SLA as of the Effective Date.

LESSOR:

VB-S1 Assets, LLC

By: DocuSigned by: DFDF739A86644A1...

Name: Alexander Gellman

Title: CEO

DS MA DS CF DS MB

LESSEE:

DISH Wireless L.L.C.

By: DocuSigned by: Michael Fox FC0472092498468...

Name: Michael Fox

Title: Market General Manager

DS EM

Exhibit H

Mailing Receipts

LTR 1 OF 1

FROM:
LEV MAYZLER
(203) 488-0712
CONSTRUCTION SERVICES OF BRANF
63-3 NORTH BRANFORD ROAD
BRANFORD CT 06405-2848

FL 332 6-07

SHIP TO:
VERTICAL BRIDGE TOWER
SUITE 200
750 PARK OF COMMERCE DR.
BOCA RATON FL 33487

UPS 2ND DAY AIR **2**
TRACKING #: 1Z E05 345 02 6184 3375

BILLING: P/P

WS 22.0.17 SHARP MX-3070 48.0A 11/2021

Fold here and place in label pouch

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number
1ZE053450261843375

Service

UPS 2nd Day Air®

Delivered On

12/03/2021 11:51 A.M.

Delivered To
BOCA RATON, FL, US
Received By

FRONT DOOR

Left At
Front Desk

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 12/06/2021 6:39 A.M. EST

LTR 1 OF 1

FROM:
LEV MAYZLER
(203) 488-0712
CONSTRUCTION SERVICES OF BRANF
63-3 NORTH BRANFORD ROAD
BRANFORD CT 06405-2848

CT 068 0-03

SHIP TO:

FIRST SELECTMAN
HONORABLE STEPHEN C. DUNN
100 POCONO ROAD
BROOKFIELD CT 06804

UPS 2ND DAY AIR **2**

TRACKING #: 1Z E05 345 02 6394 8151

BILLING: P/P

WS 22.0.17 SHARP MX-3070 48.0A 11/2021

Fold here and place in label pouch

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number
1ZE053450263948151

Service

UPS 2nd Day Air®

Delivered On

12/02/2021 9:33 A.M.

Delivered To
100 POCONO RD
BROOKFIELD, CT, 06804, US
Received By

FIRST SELECT

Left At
Receiver

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 12/03/2021 9:26 A.M. EST

LTR 1 OF 1

FROM:
LEV MAYZLER
(203) 488-0712
CONSTRUCTION SERVICES OF BRANF
63-3 NORTH BRANFORD ROAD
BRANFORD CT 06405-2848

CT 068 0-03

SHIP TO:

LAND USE DIRECTOR
MS. ALICE DEW
100 POCONO ROAD
BROOKFIELD CT 06804

UPS 2ND DAY AIR **2**

TRACKING #: 1Z E05 345 02 6355 0366

BILLING: P/P

WS 22.0.17 SHARP MX-3070 48.0A 11/2021

Fold here and place in label pouch

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1ZE053450263550366

Service

UPS 2nd Day Air®

Delivered On

12/02/2021 9:30 A.M.

Delivered To

100 POCONO RD
BROOKFIELD, CT, 06804, US

Received By

LAND

Left At

Receiver

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 12/03/2021 9:29 A.M. EST