Stantec
601 SW Second Avenue,
Suite 1400
Portland, Oregon 97204-3128
(503) 924-2515

Date: December 9, 2025

Subject: **Rigorous Structural Analysis Report**

CitySwitch Site Number:	FLC014
CitySwitch Site Name:	Otter Bay
Carrier:	Verizon Wireless
Carrier Site Number:	17489192
Site Address:	535 Clyde Varnes Rd, Lake City, Columbia County, FL 32055
Site Coordinates:	Latitude: 30° 14' 26.10" N, Longitude: 82° 34' 15.5" W
Tower Description:	305 ft – Self Support Tower [Rohn]
Stantec Project Number:	M-0191 / 280570006

Stantec is pleased to submit this "**Rigorous Structural Analysis Report"** to determine the structural integrity of the above mentioned tower structure for the existing, reserved and proposed antenna and equipment noted.

This rigorous analysis utilizes an ultimate 3-second gust wind speed of 119 mph as required by the 2023 Florida Building Code, 8th Edition. Applicable standard references and design criteria are listed in Section 2 - Analysis Criteria.

Our analysis demonstrates that the existing tower and foundation **ARE in conformance** with the requirements of the above noted standards under the effects of loading described.

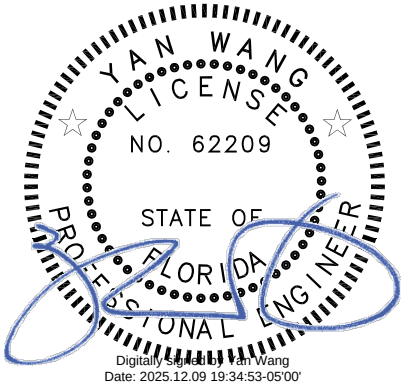
Summary of Results		
Tower Structure	***95.4%***	***Sufficient***
Base Foundation	***60.6%***	***Sufficient***

We at *Stantec* appreciate the opportunity of providing our continuing professional services to you and CitySwitch, LLC. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:
Stantec

Yan Wang, P.E. (FL License No. 62209)
Senior Engineer

Certificate of Authorization # 10187



Digitally signed by Yan Wang
Date: 2025.12.09 19:34:53-05'00'

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY YAN WANG, PE ON THE DATE AS SHOWN USING A DIGITAL SIGNATURE. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

1.0 INTRODUCTION

This tower is a 305 ft self-support tower designed by Rohn Products LLC, in January of 2022. The tower was originally designed for an ultimate wind speed of 118 mph and 0.25 in radial ice thickness per ANSI/TIA-222-H Standard.

2.0 ANALYSIS CRITERIA

The following design parameters have been used in our analysis:

Design Standard:	2023 Florida Building Code (2021 IBC) ANSI/TIA-222-H, Structural Standard for Antenna Supporting Structures and Antennas and Small Wind Turbine Support Structures ASCE 7-22, Minimum Design Loads and Associated Criteria for Buildings and Other Structures AISC 325-17, Steel Construction Manual, 15*th* Edition ACI 318-19, Building Code Requirements for Structural Concrete ANSI/AWS D1.1-11, Structural Welding Code - Steel	
Design Wind Speed:	119 mph (Ultimate 3-sec gust) with no radial ice	
Risk Category:	II	
Exposure Category:	C	
Topographic Factor, K_{zt}:	1.0	
Seismic S_S:	0.13	[Neglected]
Seismic S_1:	0.06	[Neglected]
Service Wind Speed:	60 mph (Nominal 3-sec gust)	

The structural analysis was based on the following documentation:

Table 1 – Documentation

Document	Description	Source
Geotechnical Report	G2 Consulting Group, LLC, Project No. 212367, dated 12/15/2021	Client
Tower & Foundation Drawings	Rohn Products LLC, File No. Q22-10012, dated 01/25/2022	Client
Tower & Foundation Design Drawings	Rohn Products LLC, File No. 240347, dated 07/06/2022	Client
RF Data Sheet	AT&T Mobility, RFDS Name: FNL03179, dated 04/14/2020	Client
Colocation Application	Verizon Wireless, Project Name: 17489192 / MDG: 5000991277, dated 11/25/2025	Client

3.0 ANALYSIS LOADING

The existing, reserved and proposed antennas, transmission cables, antenna mounts and other equipment considered in this analysis were provided by the client and are noted in the attachments.

4.0 ANALYSIS PROCEDURE

tnxTower (Version 8.3.1.2), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is attached at the end of this report.

5.0 ASSUMPTIONS

The analysis provided by Stantec is based on the theoretical capacity of the structure and is not a condition assessment of the tower. Stantec has not performed an engineering inspection of the tower and the analysis was completed based on information supplied by the client. Stantec has not made any independent determination of the accuracy of the information provided.

1) Tower and structures were built in accordance with the manufacturer's specifications and the applicable ANSI/TIA/EIA standard.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The tower is assumed to be in good condition and capable of supporting its full design capacity.
4) The foundation was properly designed and constructed for the original design loads.
5) The configuration of antennas, transmission cables, antenna mounts and other appurtenances are as specified in the attached Site Inventory Analysis Sheet and the referenced documents.
6) All existing/reserved/proposed antennas and antenna mounts are assumed to be adequate for the existing/reserved/proposed loads. Analysis of these antennas and antenna mounts is considered to be outside of the scope of this analysis. Stantec has not performed an analysis of the existing/reserved/proposed antennas or antenna mounts.
7) The proposed loading for Verizon Wireless was taken from their Colocation Application, Project Name. 17489192 / MDG: 5000991277, dated 11/25/2025, and is considered to be correct.
8) The existing loading for AT&T Mobility was taken from the RF Data Sheet, RFDS Name: FNL03179, dated 04/14/2020, and is considered to be correct.
9) The reserved loading for AT&T Mobility has been taken as an aggregate wind load surface area of forty thousand (40,000) square inches and twelve (12) 1-5/8" lines as requested by the client.
10) The reserved loading for Verizon Wireless has been taken as an aggregate wind load surface are of thirty three thousand (33,000) square inches and twelve (12) 1-5/8" lines as requested by the client.
11) Necessary Soil properties are not available in the geotechnical report. Presumptive soil parameters were taken from the Annex F of TIA-222-H, in combination with the referenced geotechnical report and is considered to be accurate.

If any assumptions are not valid or have been made in error, this analysis is invalid. Stantec should be notified to determine the effect on the structural integrity of the tower.

6.0 SUMMARY OF RESULTS

The following tables summarize the location and utilized percentage of available capacity for each component of the tower. With consideration to the appropriate safety factors, 100% represents the full capacity of the component. Percentages below 100% indicate available capacity and conformance of the component. Percentages above 100% indicate an overstressed situation requiring structural modification to ensure conformance with the applicable codes and standards.

Based on our analysis results, the **tower and foundation ARE within capacity** to support the loads under the current loading scenario.

Table 2 – Tower Section Capacity

Section No.	*Elevation ft*	*Component Type*	*Size*	*% Capacity*	*Pass Fail*
T1	305 - 300	Leg	ROHN 2.5 STD	1.2	Pass
T2	300 - 280	Leg	ROHN 3 STD	49.6	Pass
T3	280 - 260	Leg	ROHN 4 EH	44.2	Pass
T4	260 - 240	Leg	ROHN 5 EH	39.1	Pass
T5	240 - 220	Leg	ROHN 6 EH	33.5	Pass
T6	220 - 200	Leg	ROHN 6 EH	42.6	Pass
T7	200 - 180	Leg	ROHN 6 EH	51.3	Pass
T8	180 - 160	Leg	ROHN 8 EH	40.1	Pass
T9	160 - 140	Leg	ROHN 8 EH	45.9	Pass
T10	140 - 120	Leg	ROHN 8 EH	51.5	Pass
T11	120 - 90	Leg	ROHN 10 EH	44.1	Pass
T12	90 - 60	Leg	ROHN 10 EH	45.5	Pass
T13	60 - 30	Leg	ROHN 10 EH	50.6	Pass
T14	30 - 0	Leg	ROHN 10 EH	56.0	Pass
T1	305 - 300	Diagonal	L1-3/4x1-3/4x1/8	14.2 26.6 (b)	Pass
T2	300 - 280	Diagonal	L1 3/4x1 3/4x3/16	36.2 65.3 (b)	Pass
T3	280 - 260	Diagonal	L2x2x3/16	32.2 43.3 (b)	Pass
T4	260 - 240	Diagonal	L2x2x3/16	42.6	Pass
T5	240 - 220	Diagonal	L2x2x1/4	53.6	Pass
T6	220 - 200	Diagonal	L2 1/2x2 1/2x3/16	67.6 70.5 (b)	Pass
T7	200 - 180	Diagonal	L 2 1/2x 2 1/2x 1/4	67.9	Pass
T8	180 - 160	Diagonal	L3x3x1/4	69.8	Pass
T9	160 - 140	Diagonal	L3 1/2x3 1/2x1/4	55.9 71.5 (b)	Pass
T10	140 - 120	Diagonal	L3 1/2x3 1/2x1/4	55.3	Pass
T11	120 - 90	Diagonal	L3 1/2x3 1/2x1/4	65.0	Pass
T12	90 - 60	Diagonal	L4x4x1/4	93.3	Pass
T13	60 - 30	Diagonal	L4x4x5/16	95.4	Pass
T14	30 - 0	Diagonal	2L3 1/2x3 1/2x1/4x1/4	51.8	Pass
T12	90 - 60	Horizontal	L3-1/2x3-1/2x1/4	70.4	Pass
T13	60 - 30	Horizontal	L4x4x1/4	70.1	Pass
T14	30 - 0	Horizontal	2L3 1/2x3 1/2x1/4x1/4	32.9	Pass
T1	305 - 300	Top Girt	L1-3/4x1-3/4x3/16	9.6 10.0 (b)	Pass
T3	280 - 260	Top Girt	L1-3/4x1-3/4x3/16	15.2 16.0 (b)	Pass
T12	90 - 60	Redund Horz 1 Bracing	L3 1/2x3 1/2x1/4	14.5 46.7 (b)	Pass
T13	60 - 30	Redund Horz 1 Bracing	L3 1/2x3 1/2x1/4	19.2 51.9 (b)	Pass
T14	30 - 0	Redund Horz 1 Bracing	L3 1/2x3 1/2x1/4	27.6 57.5 (b)	Pass

Section No.	*Elevation ft*	*Component Type*	*Size*	*% Capacity*	*Pass Fail*
T12	90 - 60	Redund Diag 1 Bracing	L3 1/2x3 1/2x1/4	19.2 35.1 (b)	Pass
T13	60 - 30	Redund Diag 1 Bracing	L3 1/2x3 1/2x1/4	23.2 36.0 (b)	Pass
T14	30 - 0	Redund Diag 1 Bracing	L3 1/2x3 1/2x1/4	28.4 37.4 (b)	Pass
T12	90 - 60	Inner Bracing	L3 1/2x3 1/2x1/4	0.2	Pass
T13	60 - 30	Inner Bracing	L4x4x1/4	0.2	Pass
T14	30 - 0	Inner Bracing	L3x3x3/16	0.8	Pass
				Summary	
			Leg (T14)	56.0	Pass
			Diagonal (T13)	95.4	Pass
			Horizontal (T12)	70.4	Pass
			Top Girt (T3)	16.0	Pass
			Redund Horz 1 Bracing (T14)	57.5	Pass
			Redund Diag 1 Bracing (T14)	37.4	Pass
			Inner Bracing (T14)	0.8	Pass
			Bolt Checks	71.5	Pass
			RATING =	**95.4**	**Pass**

Table 3 – Capacity of Additional Components

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	31.6	Pass
1	Foundation Soil Interaction	0	60.6	Pass
1	Foundation Structural		8.4	Pass

Structure Rating (max from all components) =	**95.4%**

Notes:
1) See additional documentation in “Additional Calculations” for calculations supporting the % capacity consumed.
2) This analysis has been performed according to the controlling load case of reserved loading.
3) Rating per TIA-222-H, Section 15.5.

7.0 RECOMMENDATIONS

1) All assumptions made in this analysis should be carefully reviewed. Stantec should be contacted for any discrepancies so that a full assessment may be made to validate the results of this analysis.

ATTACHMENTS: Tower Loading, Tower Profile, Program Output, Coax Sketch and Additional Calculations

TOWER LOADING

Site Inventory Analysis Sheet

Analysis Results (% Maximum Usage)

	Existing (AT&T)	*Existing (AT&T) + Proposed (VZW)*	*Reserved (AT&T +VZW)*
Tower	76.0%	83.1%	95.4%
Anchor Rods	21.7%	25.4%	31.6%
Foundation	48.8%	53.5%	60.6%

Existing Loading

Appurtenances							Mount			Feed Lines	
Mount Height (ft)	Antenna CL (ft)	Quantity	Appurtenance Description	Total Existing EPA (sq.in.)	Carrier	Azimuth	Quantity	Manufacturer	Type	Quantity	Size
300	300	6	Kathrein 80010991 Panel	20,134.22	AT&T Mobility	0/120/240	1	Commscope	14ft Tri-Sector Mount [#MCG22HDX12-15-WLL]	6	DC Power (6 AWG)
300	300	3	Ericsson 4449 B5/B12 RRH		AT&T Mobility					3	Fiber (0.39")
300	300	3	Ericsson 8843 B2/B66A RRH		AT&T Mobility						
300	300	3	Ericsson 4478 B14 RRH		AT&T Mobility						
300	300	3	Raycap DC9-48-60-24-8C-EV Squid		AT&T Mobility						

Proposed / Future (F) Loading

Appurtenances							Mount			Feed Lines	
Mount Height (ft)	Antenna CL (ft)	Quantity	Appurtenance Description	Total Proposed EPA (sq.in.)	Carrier	Azimuth	Quantity	Manufacturer	Type	Quantity	Size
220	220	3	Ericsson AIR3283 Panel	35,728.21	Verizon Wireless	30/150/270	3	Site Pro 1	12.5 ft Sector Mount [#VFA12-HD]	2	Hybrid (1.25")
220	220	3	Ericsson AIR6419 Panel		Verizon Wireless	30/150/270	12	Site Pro 1	Mount Pipe [#10.5 ft Long P2.5 STD]	2	Hybrid (1.25") (F)
220	220	3	Commscope NN-65C-HG-R1B Panel		Verizon Wireless	30/150/270					
220	220	3	JMA MX10FRO840 Panel (F)		Verizon Wireless	30/150/270					
220	220	3	Ericsson 4490 Panel		Verizon Wireless						
220	220	1	Ericsson 4490 Panel (F)		Verizon Wireless						
220	220	4	Ericsson 4890 Panel (F)		Verizon Wireless						
220	220	1	Raycap 12 OVP Squid		Verizon Wireless						
220	220	3	Raycap 12 OVP Squid (F)		Verizon Wireless						

Reserved Loading

Appurtenances							Mount			Feed Lines	
Mount Height (ft)	Antenna CL (ft)	Quantity	Appurtenance Description	Total Proposed EPA (sq.in.)	Carrier	Azimuth	Quantity	Manufacturer	Type	Quantity	Size
300	300	-	40,000 (Includes Mount)	19,865.78	AT&T Mobility	-	-	-	Same as Existing	12	1-5/8"
220	220	-	33,000 (Includes Mount)	-2,728.21	Verizon Wireless	-	-	-	Same as Proposed	12	1-5/8"

Verizon (P+F) Loading @ 220 ft

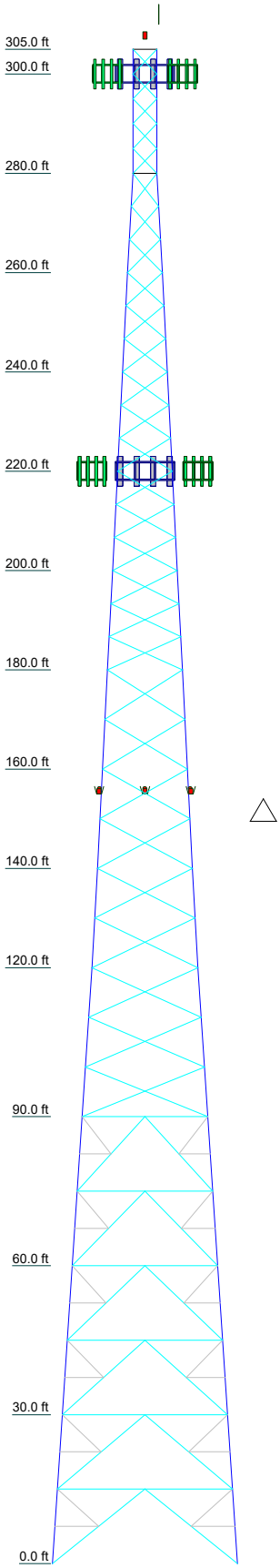
Appurtenance Description	Quantity	Area (sq.ft.)	Total Area
AIR3283	3	8.000	24.000
AIR6419	3	4.173	12.518
NN-65C-HG-R1B	3	17.073	51.218
MX10FRO840 (F)	3	17.496	52.487
4490	3	1.980	5.940
4490 (F)	1	1.980	1.980
4890 (F)	4	1.980	7.920
12-OVP	1	4.056	4.056
12-OVP (F)	3	4.056	12.169
10.5' Mount Pipe [#P2.5 STD]	12	3.019	36.225
12.5ft Sector Frame [#VFA12-HD]	3	13.200	39.600
Total (sq. ft.) =			248.113
Total (sq. in.) =			**35728.21**
Reserved Loading		**Remaining Reserved EPA (sq.in.)**	
33,000 sq. in.		**-2728.21**	

AT&T (E) Loading @ 300 ft

Appurtenance Description	Quantity	Area (sq.ft.)	Total Area
80010991	6	13.814	82.884
4449 B5/B12	3	1.968	5.903
8843 B2/B66A	3	1.639	4.917
4478 B14	3	1.843	5.528
DC9-48-60-24-8C-EV	3	2.737	8.210
6' x 2" Mount Pipe	6	1.425	8.550
RRH Brackets	6	1.000	6.000
12.5 ft Sector Frame [#MCG22HDX12-15-WLL]	1	17.830	17.830
Total (sq. ft.) =			139.821
Total (sq. in.) =			**20134.22**
Reserved Loading		**Remaining Reserved EPA (sq.in.)**	
40,000 sq. in.		**19865.78**	

TOWER PROFILE

Section	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs		ROHN 10 EH				ROHN 8 EH			ROHN 6 EH		ROHN 5 EH	ROHN 4 EH	ROHN 3 STD	A
Leg Grade						A500-50								
Diagonals	2L3 1/2x3 1/2x1/4x1/4	L4x4x5/16	L4x4x1/4	L3 1/2x3 1/2x1/4			L3x3x1/4	E	D	L2x2x1/4	L2x2x3/16		C	B
Diagonal Grade						A529-50								
Top Girts				N.A.								F	N.A.	F
Horizontals	2L3 1/2x3 1/2x1/4x1/4	L4x4x1/4	L3-1/2x3-1/2x1/4					N.A.						
Red. Horizontals		L3 1/2x3 1/2x1/4						N.A.						
Red. Diagonals		L3 1/2x3 1/2x1/4						N.A.						
Inner Bracing	L3x3x3/16	L4x4x1/4	L3 1/2x3 1/2x1/4					N.A.						
Face Width (ft)	37.32	33.3177	29.3177	25.3177	21.3177	19.167	17.167	15.167	13.0208	11.0208	9.0208	6.9427	4.8645	4.79167
# Panels @ (ft)			6 @ 15			9 @ 10				15 @ 6.66667			5 @ 5	4.75
Weight (K)	62.8	12.3	10.1	9.1	7.6	4.2	4.0	3.7	2.9	2.5	2.4	1.7	1.3	0.8	0.2



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod 5/8" x 4' (E)	312	(4) Generic Panel (2750 sq.in.) (R)	220
Flash Beacon Lighting (E)	307	(4) Generic Panel (2750 sq.in.) (R)	220
10' x 2" Mount Pipe (E)	305	(4) Generic Panel (2750 sq.in.) (R)	220
Mount Pipe (E)	305	Side Light (E)	155
(4) Generic Panel (3333 sq.in.) (R)	300	Side Light (E)	155
(4) Generic Panel (3333 sq.in.) (R)	300	Side Light (E)	155
(4) Generic Panel (3333 sq.in.) (R)	300		

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	ROHN 2.5 STD	D	L2 1/2x2 1/2x3/16
B	L1-3/4x1-3/4x1/8	E	L 2 1/2x 2 1/2x 1/4
C	L1 3/4x1 3/4x3/16	F	L1-3/4x1-3/4x3/16

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A500-50	50 ksi	62 ksi	A529-50	50 ksi	65 ksi

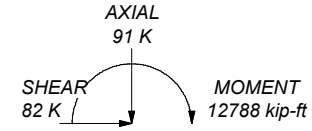
TOWER DESIGN NOTES

1. Tower is located in Columbia County, Florida.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 119 mph basic wind in accordance with the TIA-222-H Standard.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 95.4%

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 426 K
SHEAR: 52 K

UPLIFT: -350 K
SHEAR: 43 K



TORQUE 55 kip-ft
REACTIONS - 119 mph WIND

Stantec
Consulting Engineers
Stantec
601 SW Second Avenue, Suite 1400
Portland, OR 97204-3128
Phone: (503) 924-2515
FAX:

Job: M-0191 / 280570006			
Project: FLC014 / Otter Bay			
Client: CitySwitch, LLC	Drawn by: dballada	App'd:	
Code: TIA-222-H	Date: 12/09/25	Scale: NTS	
Path: \\EgnyteDrive\Stantec\Telecom\TowerSites\MISC-1\M-0191 - FLC014 - Otter Bay\M-0191.SA\Analysis\M-0191.eri		Dwg No. E-1	

PROGRAM OUTPUT

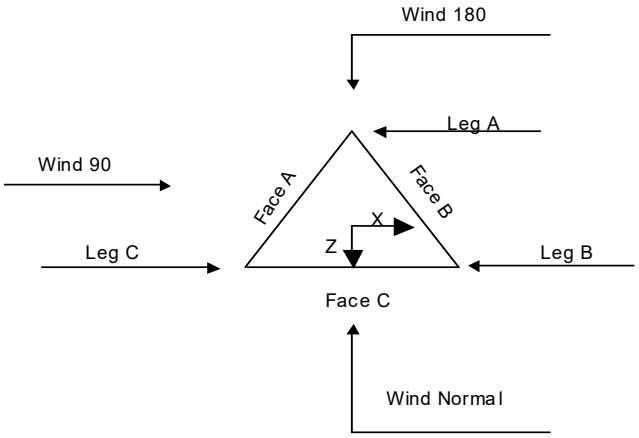
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 305.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 4.75 ft at the top and 37.32 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower is located in Columbia County, Florida.
Tower base elevation above sea level: 149.00 ft.
Basic wind speed of 119 mph.
Risk Category II.
Exposure Category C.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.00 ft.
Deflections calculated using a wind speed of 60 mph.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Tower analysis based on target reliabilities in accordance with Annex S.
Load Modification Factors used: $K_{es}(F_w) = 0.95$.
Maximum demand-capacity ratio is: 1.05.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Assume Legs Pinned	√ Calculate Redundant Bracing Forces
Consider Moments - Horizontals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Consider Moments - Diagonals	√ Use Clear Spans For Wind Area	SR Leg Bolts Resist Compression
Use Moment Magnification	√ Use Clear Spans For KL/r	All Leg Panels Have Same Allowable
√ Use Code Stress Ratios	Retension Guys To Initial Tension	Offset Girt At Foundation
√ Use Code Safety Factors - Guys	√ Bypass Mast Stability Checks	√ Consider Feed Line Torque
Escalate Ice	√ Use Azimuth Dish Coefficients	√ Include Angle Block Shear Check
Always Use Max Kz	√ Project Wind Area of Appurtenances	Use TIA-222-H Bracing Resist. Exemption
Kz In Exposure D Hurricane Region	√ Alternative Appurt. EPA Calculation	Use TIA-222-H Tension Splice Exemption
√ Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Poles
Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Include Shear-Torsion Interaction
√ Secondary Horizontal Braces Leg	√ Sort Capacity Reports By Component	Always Use Sub-Critical Flow
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Use Top Mounted Sockets
SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Pole Without Linear Attachments
SR Members Are Concentric	Ignore KL/ry For 60 Deg. Angle Legs	Pole With Shroud Or No Appurtenances
Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules	Outside and Inside Corner Radii Are Known
Use Special Wind Profile		



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	305.00-300.00			4.75	1	5.00
T2	300.00-280.00			4.79	1	20.00
T3	280.00-260.00			4.86	1	20.00
T4	260.00-240.00			6.94	1	20.00
T5	240.00-220.00			9.02	1	20.00
T6	220.00-200.00			11.02	1	20.00
T7	200.00-180.00			13.02	1	20.00
T8	180.00-160.00			15.17	1	20.00
T9	160.00-140.00			17.17	1	20.00
T10	140.00-120.00			19.17	1	20.00
T11	120.00-90.00			21.32	1	30.00
T12	90.00-60.00			25.32	1	30.00
T13	60.00-30.00			29.32	1	30.00
T14	30.00-0.00			33.32	1	30.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T1	305.00-300.00	5.00	X Brace	No	No	0.0000	0.0000
T2	300.00-280.00	5.00	X Brace	No	No	0.0000	0.0000
T3	280.00-260.00	6.67	X Brace	No	No	0.0000	0.0000
T4	260.00-240.00	6.67	X Brace	No	No	0.0000	0.0000
T5	240.00-220.00	6.67	X Brace	No	No	0.0000	0.0000
T6	220.00-200.00	6.67	X Brace	No	No	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
T7	200.00-180.00	6.67	X Brace	No	No	0.0000	0.0000
T8	180.00-160.00	10.00	X Brace	No	No	0.0000	0.0000
T9	160.00-140.00	10.00	X Brace	No	No	0.0000	0.0000
T10	140.00-120.00	10.00	X Brace	No	No	0.0000	0.0000
T11	120.00-90.00	10.00	X Brace	No	No	0.0000	0.0000
T12	90.00-60.00	15.00	K1 Down	No	Yes	0.0000	0.0000
T13	60.00-30.00	15.00	K1 Down	No	Yes	0.0000	0.0000
T14	30.00-0.00	15.00	K1 Down	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 305.00-300.00	Pipe	ROHN 2.5 STD	A500-50 (50 ksi)	Equal Angle	L1-3/4x1-3/4x1/8	A529-50 (50 ksi)
T2 300.00-280.00	Pipe	ROHN 3 STD	A500-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A529-50 (50 ksi)
T3 280.00-260.00	Pipe	ROHN 4 EH	A500-50 (50 ksi)	Single Angle	L2x2x3/16	A529-50 (50 ksi)
T4 260.00-240.00	Pipe	ROHN 5 EH	A500-50 (50 ksi)	Single Angle	L2x2x3/16	A529-50 (50 ksi)
T5 240.00-220.00	Pipe	ROHN 6 EH	A500-50 (50 ksi)	Single Angle	L2x2x1/4	A529-50 (50 ksi)
T6 220.00-200.00	Pipe	ROHN 6 EH	A500-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x3/16	A529-50 (50 ksi)
T7 200.00-180.00	Pipe	ROHN 6 EH	A500-50 (50 ksi)	Single Angle	L 2 1/2x 2 1/2x 1/4	A529-50 (50 ksi)
T8 180.00-160.00	Pipe	ROHN 8 EH	A500-50 (50 ksi)	Single Angle	L3x3x1/4	A529-50 (50 ksi)
T9 160.00-140.00	Pipe	ROHN 8 EH	A500-50 (50 ksi)	Single Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T10 140.00-120.00	Pipe	ROHN 8 EH	A500-50 (50 ksi)	Single Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T11 120.00-90.00	Pipe	ROHN 10 EH	A500-50 (50 ksi)	Single Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T12 90.00-60.00	Pipe	ROHN 10 EH	A500-50 (50 ksi)	Single Angle	L4x4x1/4	A529-50 (50 ksi)
T13 60.00-30.00	Pipe	ROHN 10 EH	A500-50 (50 ksi)	Single Angle	L4x4x5/16	A529-50 (50 ksi)
T14 30.00-0.00	Pipe	ROHN 10 EH	A500-50 (50 ksi)	Double Equal Angle	2L3 1/2x3 1/2x1/4x1/4	A529-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 305.00-300.00	Equal Angle	L1-3/4x1-3/4x3/16	A529-50 (50 ksi)	Solid Round		A36 (36 ksi)
T3 280.00-260.00	Equal Angle	L1-3/4x1-3/4x3/16	A529-50 (50 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T12 90.00-60.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L3-1/2x3-1/2x1/4	A529-50 (50 ksi)
T13 60.00-30.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L4x4x1/4	A529-50 (50 ksi)
T14 30.00-0.00	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3 1/2x3 1/2x1/4x1/4	A529-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T12 90.00-60.00	Solid Round		A572-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x1/4	A529-50 (50 ksi)
T13 60.00-30.00	Solid Round		A572-50 (50 ksi)	Equal Angle	L4x4x1/4	A529-50 (50 ksi)
T14 30.00-0.00	Solid Round		A572-50 (50 ksi)	Equal Angle	L3x3x3/16	A529-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Redundant Bracing Grade		Redundant Type	Redundant Size	K Factor
T12	A529-50 (50 ksi)	Horizontal (1)	Equal Angle	L3 1/2x3 1/2x1/4	1
90.00-60.00	A529-50 (50 ksi)	Diagonal (1)	Equal Angle	L3 1/2x3 1/2x1/4	1
T13	A529-50 (50 ksi)	Horizontal (1)	Equal Angle	L3 1/2x3 1/2x1/4	1
60.00-30.00	A529-50 (50 ksi)	Diagonal (1)	Equal Angle	L3 1/2x3 1/2x1/4	1
T14	A529-50 (50 ksi)	Horizontal (1)	Equal Angle	L3 1/2x3 1/2x1/4	1
30.00-0.00	A529-50 (50 ksi)	Diagonal (1)	Equal Angle	L3 1/2x3 1/2x1/4	1

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	Flange	0.7500	4	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0
305.00-300.00		A325X		A325X		A325X		A325N		A325N		A325N		A325N	
T2	Flange	0.8750	5	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
300.00-280.00		A325X		A325X		A325N		A325N		A325N		A325N		A325N	
T3	Flange	1.0000	5	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0
280.00-260.00		A325X		A325X		A325X		A325N		A325N		A325N		A325N	
T4	Flange	1.0000	6	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
260.00-240.00		A325X		A325X		A325N		A325N		A325N		A325N		A325N	
T5	Flange	1.0000	6	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
240.00-220.00		A325X		A325X		A325N		A325N		A325N		A325N		A325N	
T6	Flange	1.0000	6	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
220.00-200.00		A325X		A325X		A325N		A325N		A325N		A325N		A325N	
T7	Flange	1.5000	6	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
200.00-180.00		A325X		A325X		A325N		A325N		A325N		A325N		A325N	
T8	Flange	1.5000	6	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
180.00-160.00		A325X		A325X		A325N		A325N		A325N		A325N		A325N	
T9	Flange	1.5000	6	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
160.00-140.00		A325X		A325X		A325N		A325N		A325N		A325N		A325N	
T10	Flange	1.5000	7	0.6250	2	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
140.00-120.00		A325X		A325X		A325N		A325N		A325N		A325N		A325N	
T11	Flange	1.5000	7	0.6250	2	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
120.00-90.00		A325X		A325X		A325N		A325N		A325N		A325N		A325N	
T12	Flange	1.5000	7	0.6250	2	0.6250	0	0.6250	0	0.6250	0	0.6250	2	0.6250	0
90.00-60.00		A325X		A325X		A325N		A325N		A325N		A325X		A325N	
T13	Flange	1.5000	7	0.6250	2	0.6250	0	0.6250	0	0.6250	0	0.6250	2	0.6250	0
60.00-30.00		A325X		A325X		A325N		A325N		A325N		A325X		A325N	
T14 30.00-0.00	Flange	1.5000	0	0.6250	2	0.6250	0	0.6250	0	0.6250	0	0.6250	2	0.6250	0
		A325X		A325X		A325N		A325N		A325N		A325X		A325N	

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1	0.6250	0 (1)	0.6250	0 (1)	0.6250	0	0.6250	0	0.6250	0	0.6250	0 (1)	0.6250	0 (1)
305.00-300.00	A325N		A325X		A325N		A325N		A325N		A325N		A325N	
	0.6250	0 (2)	0.6250	0 (2)							0.6250	0 (2)	0.6250	0 (2)
	A325N		A325N								A325N		A325N	
	0.6250	0 (3)	0.6250	0 (3)							0.6250	0 (3)	0.6250	0 (3)
	A325N		A325N								A325N		A325N	
	0.6250	0 (4)	0.6250	0 (4)							0.6250	0 (4)	0.6250	0 (4)
	A325N		A325N								A325N		A325N	
T2	0.6250	0 (1)	0.6250	0 (1)	0.6250	0	0.6250	0	0.6250	0	0.6250	0 (1)	0.6250	0 (1)
300.00-280.00	A325N		A325X		A325N		A325N		A325N		A325N		A325N	
	0.6250	0 (2)	0.6250	0 (2)							0.6250	0 (2)	0.6250	0 (2)
	A325N		A325N								A325N		A325N	
	0.6250	0 (3)	0.6250	0 (3)							0.6250	0 (3)	0.6250	0 (3)
	A325N		A325N								A325N		A325N	
	0.6250	0 (4)	0.6250	0 (4)							0.6250	0 (4)	0.6250	0 (4)
	A325N		A325N								A325N		A325N	

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T3	0.6250	0 (1)	0.6250	0 (1)	0.6250	0	0.6250	0	0.6250	0	0.6250	0 (1)	0.6250	0 (1)
280.00-260.00	A325N		A325X		A325N		A325N		A325N		A325N		A325N	
	0.6250	0 (2)	0.6250	0 (2)							0.6250	0 (2)	0.6250	0 (2)
	A325N		A325N								A325N		A325N	
	0.6250	0 (3)	0.6250	0 (3)							0.6250	0 (3)	0.6250	0 (3)
	A325N		A325N								A325N		A325N	
	0.6250	0 (4)	0.6250	0 (4)							0.6250	0 (4)	0.6250	0 (4)
	A325N		A325N								A325N		A325N	
T4	0.6250	0 (1)	0.6250	0 (1)	0.6250	0	0.6250	0	0.6250	0	0.6250	0 (1)	0.6250	0 (1)
260.00-240.00	A325N		A325X		A325N		A325N		A325N		A325N		A325N	
	0.6250	0 (2)	0.6250	0 (2)							0.6250	0 (2)	0.6250	0 (2)
	A325N		A325N								A325N		A325N	
	0.6250	0 (3)	0.6250	0 (3)							0.6250	0 (3)	0.6250	0 (3)
	A325N		A325N								A325N		A325N	
	0.6250	0 (4)	0.6250	0 (4)							0.6250	0 (4)	0.6250	0 (4)
	A325N		A325N								A325N		A325N	
T5	0.6250	0 (1)	0.6250	0 (1)	0.6250	0	0.6250	0	0.6250	0	0.6250	0 (1)	0.6250	0 (1)
240.00-220.00	A325N		A325X		A325N		A325N		A325N		A325N		A325N	
	0.6250	0 (2)	0.6250	0 (2)							0.6250	0 (2)	0.6250	0 (2)
	A325N		A325N								A325N		A325N	
	0.6250	0 (3)	0.6250	0 (3)							0.6250	0 (3)	0.6250	0 (3)
	A325N		A325N								A325N		A325N	
	0.6250	0 (4)	0.6250	0 (4)							0.6250	0 (4)	0.6250	0 (4)
	A325N		A325N								A325N		A325N	
T6	0.6250	0 (1)	0.6250	0 (1)	0.6250	0	0.6250	0	0.6250	0	0.6250	0 (1)	0.6250	0 (1)
220.00-200.00	A325N		A325X		A325N		A325N		A325N		A325N		A325N	
	0.6250	0 (2)	0.6250	0 (2)							0.6250	0 (2)	0.6250	0 (2)
	A325N		A325N								A325N		A325N	
	0.6250	0 (3)	0.6250	0 (3)							0.6250	0 (3)	0.6250	0 (3)
	A325N		A325N								A325N		A325N	
	0.6250	0 (4)	0.6250	0 (4)							0.6250	0 (4)	0.6250	0 (4)
	A325N		A325N								A325N		A325N	
T7	0.6250	0 (1)	0.6250	0 (1)	0.6250	0	0.6250	0	0.6250	0	0.6250	0 (1)	0.6250	0 (1)
200.00-180.00	A325N		A325X		A325N		A325N		A325N		A325N		A325N	
	0.6250	0 (2)	0.6250	0 (2)							0.6250	0 (2)	0.6250	0 (2)
	A325N		A325N								A325N		A325N	
	0.6250	0 (3)	0.6250	0 (3)							0.6250	0 (3)	0.6250	0 (3)
	A325N		A325N								A325N		A325N	
	0.6250	0 (4)	0.6250	0 (4)							0.6250	0 (4)	0.6250	0 (4)
	A325N		A325N								A325N		A325N	
T8	0.6250	0 (1)	0.6250	0 (1)	0.6250	0	0.6250	0	0.6250	0	0.6250	0 (1)	0.6250	0 (1)
180.00-160.00	A325N		A325X		A325N		A325N		A325N		A325N		A325N	
	0.6250	0 (2)	0.6250	0 (2)							0.6250	0 (2)	0.6250	0 (2)
	A325N		A325N								A325N		A325N	
	0.6250	0 (3)	0.6250	0 (3)							0.6250	0 (3)	0.6250	0 (3)
	A325N		A325N								A325N		A325N	
	0.6250	0 (4)	0.6250	0 (4)							0.6250	0 (4)	0.6250	0 (4)
	A325N		A325N								A325N		A325N	
T9	0.6250	0 (1)	0.6250	0 (1)	0.6250	0	0.6250	0	0.6250	0	0.6250	0 (1)	0.6250	0 (1)
160.00-140.00	A325N		A325X		A325N		A325N		A325N		A325N		A325N	
	0.6250	0 (2)	0.6250	0 (2)							0.6250	0 (2)	0.6250	0 (2)
	A325N		A325N								A325N		A325N	
	0.6250	0 (3)	0.6250	0 (3)							0.6250	0 (3)	0.6250	0 (3)
	A325N		A325N								A325N		A325N	
	0.6250	0 (4)	0.6250	0 (4)							0.6250	0 (4)	0.6250	0 (4)
	A325N		A325N								A325N		A325N	
T10	0.6250	0 (1)	0.6250	0 (1)	0.6250	0	0.6250	0	0.6250	0	0.6250	0 (1)	0.6250	0 (1)
140.00-120.00	A325N		A325X		A325N		A325N		A325N		A325N		A325N	

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
	0.6250 A325N	0 (2)	0.6250 A325N	0 (2)							0.6250 A325N	0 (2)	0.6250 A325N	0 (2)
	0.6250 A325N	0 (3)	0.6250 A325N	0 (3)							0.6250 A325N	0 (3)	0.6250 A325N	0 (3)
	0.6250 A325N	0 (4)	0.6250 A325N	0 (4)							0.6250 A325N	0 (4)	0.6250 A325N	0 (4)
T11 120.00-90.00	0.6250 A325N	0 (1)	0.6250 A325X	0 (1)	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0 (1)	0.6250 A325N	0 (1)
	0.6250 A325N	0 (2)	0.6250 A325N	0 (2)							0.6250 A325N	0 (2)	0.6250 A325N	0 (2)
	0.6250 A325N	0 (3)	0.6250 A325N	0 (3)							0.6250 A325N	0 (3)	0.6250 A325N	0 (3)
	0.6250 A325N	0 (4)	0.6250 A325N	0 (4)							0.6250 A325N	0 (4)	0.6250 A325N	0 (4)
T12 90.00-60.00	0.6250 A325X	1 (1)	0.6250 A325X	1 (1)	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0 (1)	0.6250 A325N	0 (1)
	0.6250 A325N	0 (2)	0.6250 A325N	0 (2)							0.6250 A325N	0 (2)	0.6250 A325N	0 (2)
	0.6250 A325N	0 (3)	0.6250 A325N	0 (3)							0.6250 A325N	0 (3)	0.6250 A325N	0 (3)
	0.6250 A325N	0 (4)	0.6250 A325N	0 (4)							0.6250 A325N	0 (4)	0.6250 A325N	0 (4)
T13 60.00-30.00	0.6250 A325X	1 (1)	0.6250 A325X	1 (1)	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0 (1)	0.6250 A325N	0 (1)
	0.6250 A325N	0 (2)	0.6250 A325N	0 (2)							0.6250 A325N	0 (2)	0.6250 A325N	0 (2)
	0.6250 A325N	0 (3)	0.6250 A325N	0 (3)							0.6250 A325N	0 (3)	0.6250 A325N	0 (3)
	0.6250 A325N	0 (4)	0.6250 A325N	0 (4)							0.6250 A325N	0 (4)	0.6250 A325N	0 (4)
T14 30.00-0.00	0.6250 A325X	1 (1)	0.6250 A325X	1 (1)	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0 (1)	0.6250 A325N	0 (1)
	0.6250 A325N	0 (2)	0.6250 A325N	0 (2)							0.6250 A325N	0 (2)	0.6250 A325N	0 (2)
	0.6250 A325N	0 (3)	0.6250 A325N	0 (3)							0.6250 A325N	0 (3)	0.6250 A325N	0 (3)
	0.6250 A325N	0 (4)	0.6250 A325N	0 (4)							0.6250 A325N	0 (4)	0.6250 A325N	0 (4)

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 plf
Tower Hardware													
Safety Line 3/8" (E)	C	No	No	Ar (CaAa)	305.00 - 0.00	0.0000	0.5	1	1	0.3750	0.3750		0.22
Step Pegs (E)	A	No	No	Ar (CaAa)	280.00 - 0.00	0.0000	0.48	1	1	0.7050	0.7050		1.80
Step Pegs (E)	B	No	No	Ar (CaAa)	280.00 - 0.00	0.0000	0.48	1	1	0.7050	0.7050		1.80
Step Pegs (E)	C	No	No	Ar (CaAa)	305.00 - 0.00	0.0000	0.48	1	1	0.7050	0.7050		1.80
Lightning Cables (E)	C	No	No	Ar (CaAa)	155.00 - 0.00	0.0000	0.45	3	3	0.5000	0.6300		0.15
Feedline Ladder (Af) (E)	C	No	No	Af (CaAa)	300.00 - 0.00	0.0000	-0.3	1	1	3.0000	3.0000		8.40
Feedline Ladder (Af) (P)	A	No	No	Af (CaAa)	220.00 - 0.00	0.0000	0.1	1	1	3.0000	3.0000		8.40
AT&T**													
1-5/8" (R)	C	No	No	Ar (CaAa)	300.00 - 0.00	0.0000	-0.35	12	6	0.5000	1.9600		0.52
VZW**													
1-5/8" (R)	A	No	No	Ar (CaAa)	220.00 - 0.00	0.0000	0.1	12	6	0.5000	1.9600		0.52
****													

Discrete Tower Loads

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
Tower Hardware									
Lightning Rod 5/8" x 4' (E)	B	From Leg	0.50 0.00 0.00	0.0000	312.00	No Ice	0.25	0.25	0.03
10' x 2" Mount Pipe (E)	B	From Leg	0.50 0.00 0.00	0.0000	305.00	No Ice	2.38	2.38	0.04
Flash Beacon Lighting (E)	A	From Leg	0.00 0.00 0.00	0.0000	307.00	No Ice	2.70	2.70	0.05
Mount Pipe (E)	A	From Leg	0.00 0.00 0.00	0.0000	305.00	No Ice	1.43	1.43	0.02
Side Light (E)	A	From Leg	0.50 0.00	0.0000	155.00	No Ice	0.26	0.26	0.01

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00						
Side Light (E)	B	From Leg	0.50 0.00 0.00	0.0000	155.00	No Ice	0.26	0.26	0.01
Side Light (E)	C	From Leg	0.50 0.00 0.00	0.0000	155.00	No Ice	0.26	0.26	0.01
AT&T ******									
(4) Generic Panel (3333 sq.in.) (R)	A	From Leg	4.00 0.00 0.00	0.0000	300.00	No Ice	23.15	11.57	0.15
(4) Generic Panel (3333 sq.in.) (R)	B	From Leg	4.00 0.00 0.00	0.0000	300.00	No Ice	23.15	11.57	0.15
(4) Generic Panel (3333 sq.in.) (R)	C	From Leg	4.00 0.00 0.00	0.0000	300.00	No Ice	23.15	11.57	0.15
Verizon Wireless ****									
(4) Generic Panel (2750 sq.in.) (R)	A	From Leg	4.00 0.00 0.00	0.0000	220.00	No Ice	19.09	9.54	0.12
(4) Generic Panel (2750 sq.in.) (R)	B	From Leg	4.00 0.00 0.00	0.0000	220.00	No Ice	19.09	9.54	0.12
(4) Generic Panel (2750 sq.in.) (R) ****	C	From Leg	4.00 0.00 0.00	0.0000	220.00	No Ice	19.09	9.54	0.12

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$øP_{allow}$ K	% Capacity	Pass Fail
T1	305 - 300	Leg	ROHN 2.5 STD	2	-0.75	60.05	1.2	Pass
T2	300 - 280	Leg	ROHN 3 STD	15	-42.97	86.69	49.6	Pass
T3	280 - 260	Leg	ROHN 4 EH	42	-74.16	167.90	44.2	Pass
T4	260 - 240	Leg	ROHN 5 EH	66	-98.32	251.35	39.1	Pass
T5	240 - 220	Leg	ROHN 6 EH	87	-120.73	360.25	33.5	Pass
T6	220 - 200	Leg	ROHN 6 EH	108	-153.65	360.25	42.6	Pass
T7	200 - 180	Leg	ROHN 6 EH	129	-184.67	360.24	51.3	Pass
T8	180 - 160	Leg	ROHN 8 EH	150	-212.90	530.83	40.1	Pass
T9	160 - 140	Leg	ROHN 8 EH	165	-243.73	530.83	45.9	Pass
T10	140 - 120	Leg	ROHN 8 EH	180	-273.15	530.80	51.5	Pass
T11	120 - 90	Leg	ROHN 10 EH	195	-309.83	701.95	44.1	Pass
T12	90 - 60	Leg	ROHN 10 EH	216	-330.65	727.09	45.5	Pass
T13	60 - 30	Leg	ROHN 10 EH	267	-367.60	727.09	50.6	Pass
T14	30 - 0	Leg	ROHN 10 EH	318	-407.06	727.09	56.0	Pass
T1	305 - 300	Diagonal	L1-3/4x1-3/4x1/8	12	-1.43	10.03	14.2 26.6 (b)	Pass
T2	300 - 280	Diagonal	L1 3/4x1 3/4x3/16	19	-5.30	14.65	36.2 65.3 (b)	Pass

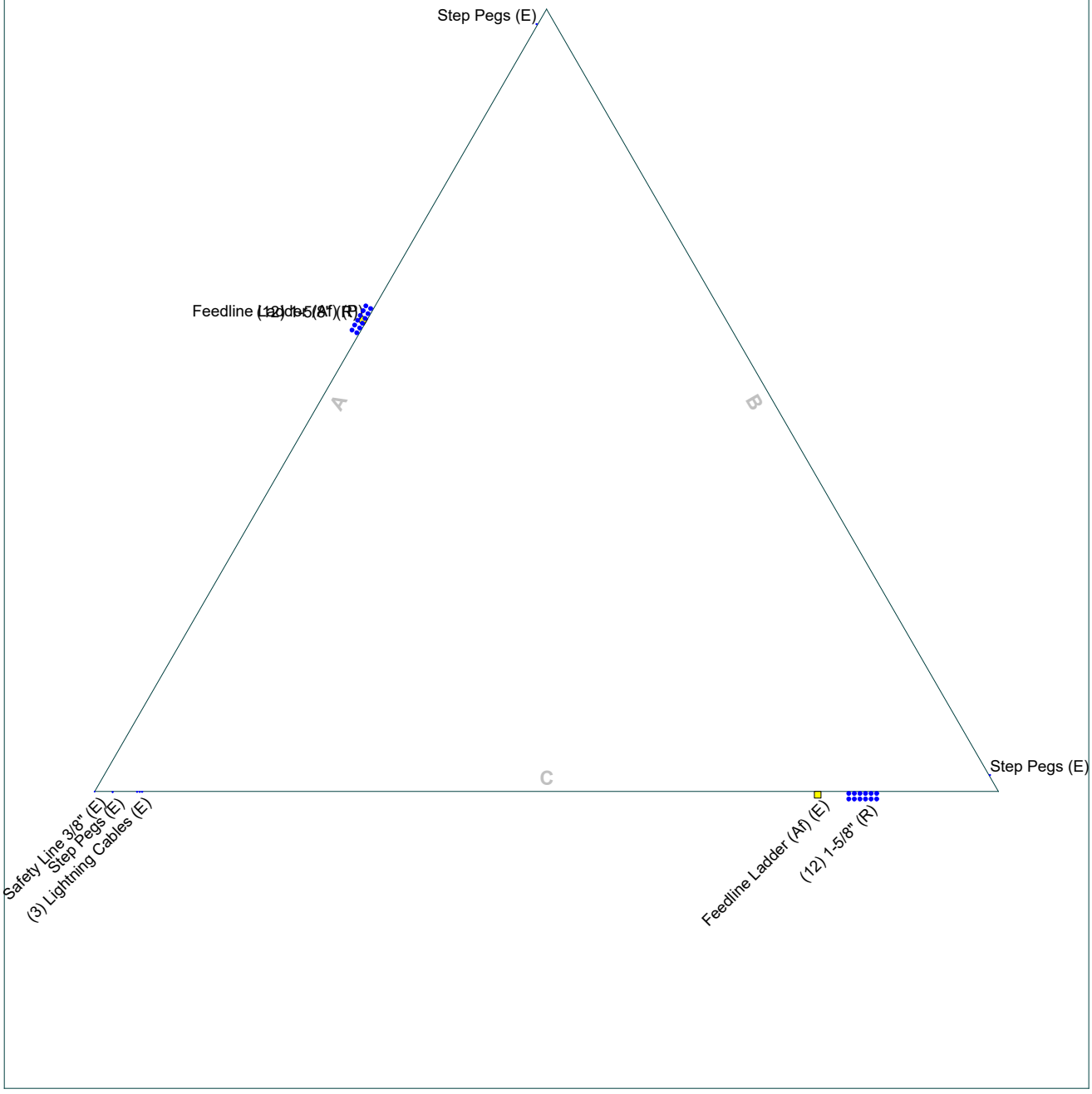
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T3	280 - 260	Diagonal	L2x2x3/16	49	-3.61	11.19	32.2	Pass
							43.3 (b)	
T4	260 - 240	Diagonal	L2x2x3/16	70	-3.54	8.32	42.6	Pass
T5	240 - 220	Diagonal	L2x2x1/4	91	-4.38	8.18	53.6	Pass
T6	220 - 200	Diagonal	L2 1/2x2 1/2x3/16	112	-6.50	9.62	67.6	Pass
							70.5 (b)	
T7	200 - 180	Diagonal	L 2 1/2x 2 1/2x 1/4	133	-6.52	9.61	67.9	Pass
T8	180 - 160	Diagonal	L3x3x1/4	154	-8.19	11.74	69.8	Pass
T9	160 - 140	Diagonal	L3 1/2x3 1/2x1/4	169	-8.88	15.87	55.9	Pass
							71.5 (b)	
T10	140 - 120	Diagonal	L3 1/2x3 1/2x1/4	184	-9.00	16.28	55.3	Pass
T11	120 - 90	Diagonal	L3 1/2x3 1/2x1/4	199	-8.28	12.74	65.0	Pass
T12	90 - 60	Diagonal	L4x4x1/4	228	-14.84	15.90	93.3	Pass
T13	60 - 30	Diagonal	L4x4x5/16	279	-16.00	16.78	95.4	Pass
T14	30 - 0	Diagonal	2L3 1/2x3 1/2x1/4x1/4	330	-16.48	31.81	51.8	Pass
T12	90 - 60	Horizontal	L3-1/2x3-1/2x1/4	224	-8.92	12.66	70.4	Pass
T13	60 - 30	Horizontal	L4x4x1/4	275	-10.09	14.39	70.1	Pass
T14	30 - 0	Horizontal	2L3 1/2x3 1/2x1/4x1/4	326	-11.39	34.63	32.9	Pass
T1	305 - 300	Top Girt	L1-3/4x1-3/4x3/16	4	-0.81	8.38	9.6	Pass
							10.0 (b)	
T3	280 - 260	Top Girt	L1-3/4x1-3/4x3/16	44	-1.29	8.47	15.2	Pass
							16.0 (b)	
T12	90 - 60	Redund Horz 1 Bracing	L3 1/2x3 1/2x1/4	229	-5.74	39.71	14.5	Pass
							46.7 (b)	
T13	60 - 30	Redund Horz 1 Bracing	L3 1/2x3 1/2x1/4	280	-6.38	33.30	19.2	Pass
							51.9 (b)	
T14	30 - 0	Redund Horz 1 Bracing	L3 1/2x3 1/2x1/4	331	-7.07	25.62	27.6	Pass
							57.5 (b)	
T12	90 - 60	Redund Diag 1 Bracing	L3 1/2x3 1/2x1/4	230	-4.13	21.52	19.2	Pass
							35.1 (b)	
T13	60 - 30	Redund Diag 1 Bracing	L3 1/2x3 1/2x1/4	281	-4.28	18.39	23.2	Pass
							36.0 (b)	
T14	30 - 0	Redund Diag 1 Bracing	L3 1/2x3 1/2x1/4	336	-4.49	15.80	28.4	Pass
							37.4 (b)	
T12	90 - 60	Inner Bracing	L3 1/2x3 1/2x1/4	240	-0.01	9.11	0.2	Pass
T13	60 - 30	Inner Bracing	L4x4x1/4	291	-0.02	10.44	0.2	Pass
T14	30 - 0	Inner Bracing	L3x3x3/16	340	-0.02	2.59	0.8	Pass
							Summary	
						Leg (T14)	56.0	Pass
						Diagonal (T13)	95.4	Pass
						Horizontal (T12)	70.4	Pass
						Top Girt (T3)	16.0	Pass
						Redund Horz 1 Bracing (T14)	57.5	Pass
						Redund Diag 1 Bracing (T14)	37.4	Pass
						Inner Bracing (T14)	0.8	Pass
						Bolt Checks	71.5	Pass
						RATING =	**95.4**	**Pass**

COAX SKETCH

Feed Line Plan
30'

Round Flat App In Face App Out Face

Section @ 30'



Stantec
Consulting Engineers
Stantec
601 SW Second Avenue, Suite 1400
Portland, OR 97204-3128
Phone: (503) 924-2515
FAX:

Job:	***M-0191 / 280570006***		
Project:	***FLC014 / Otter Bay***		
Client: CitySwitch, LLC		Drawn by: dballada	App'd:
Code: TIA-222-H		Date: 12/09/25	Scale: NTS
Path: \\EgnyteDrive\Stantec\Telecom\TowerSites\MISC-1\M-0191 - FLC014 - Otter Bay\M-0191.SA\Analysis\M-0191.eri			Dwg No. E-7

ADDITIONAL CALCULATIONS

Self Support Anchor Rod Capacity

Site Info	
Site ID :	FLC014
Site Name :	Otter Bay
Project No :	M-0191 / 280570006

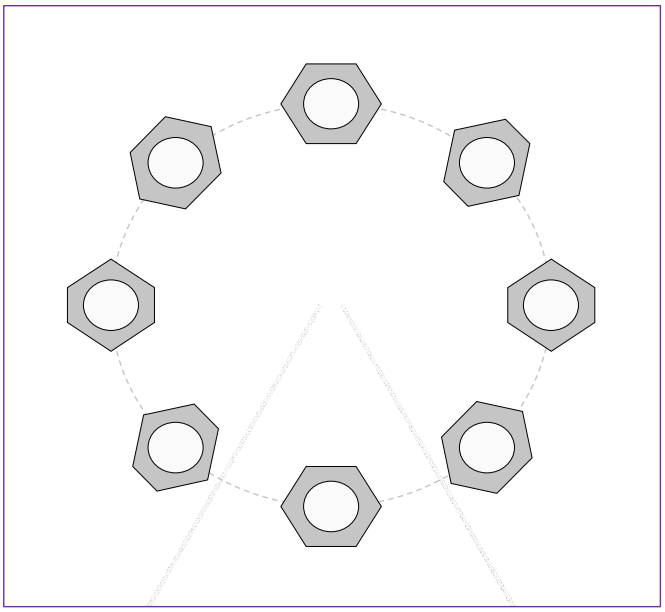
Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	1.5

Applied Loads		
	Comp.	Uplift
Axial Force (kips)	425.79	350.35
Shear Force (kips)	51.83	42.75

**TIA-222-H Section 15.5 Applied*

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

**Anchor Rod Eccentricity Applied*



Connection Properties

Anchor Rod Data

(8) 1-1/2" ø bolts (F1554-105 N; Fy=105 ksi, Fu=125 ksi)

l_{ar} (in): 1.5

Analysis Results

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

Pu_t = 43.79	ϕPn_t = 132.19	**Stress Rating**
Vu = 5.34	ϕVn = 82.83	**31.6%**
Mu = n/a	ϕMn = n/a	**Pass**

Drilled Pier Foundation

Site Info	
Site ID :	FLC014
Site Name :	Otter Bay
Project No :	M-0191 / 280570006

Report File: \\EgnyteDrive\Stantec\Telecom\TowerSites\MISC-1\M-0191 - FLC014 - Otter Bay\M-0191 SA\Analysis\M-0

TIA-222 Revison: H
Tower Type: Self Support

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

Go to Soil Calculations

Applied Loads	Comp.	Uplift
Moment (kip-ft)	0	0
Axial Force (kips)	425.79	350.35
Shear Force (kips)	51.83	42.75

Material Properties		
Concrete Strength, f'c:	4.5	ksi
Rebar Strength, Fy:	60	ksi
Tie Yield Strength, Fyt:	60	ksi

Pier Design Data		
Depth	52	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
From 0.5' above grade to 52' below grade		
Pier Diameter	7	ft
Rebar Quantity	32	
Rebar Size	9	
Rebar Cage Diameter	72	in
Tie Size	4	
Tie Spacing		in

Rebar & Pier Options
Embedded Pole Inputs
Belled Pier Inputs

Analysis Results		
Soil Lateral Check	*Compression*	*Uplift*
$D_{v=0}$ (ft from TOC)	10.40	10.40
Soil Safety Factor	21.47	26.03
Max Moment (kip-ft)	395.59	326.29
Rating*	*5.9%*	*4.9%*
Soil Vertical Check	*Compression*	*Uplift*
Skin Friction (kips)	460.99	460.99
End Bearing (kips)	554.75	-
Weight of Concrete (kips)	221.01	165.76
Total Capacity (kips)	1015.74	626.75
Axial (kips)	646.80	350.35
Rating*	*60.6%*	*53.2%*
Reinforced Concrete Flexure	*Compression*	*Uplift*
Critical Depth (ft from TOC)	10.50	10.16
Critical Moment (kip-ft)	395.54	326.01
Critical Moment Capacity	6072.17	4413.74
Rating*	*6.2%*	*7.0%*
Reinforced Concrete Shear	*Compression*	*Uplift*
Critical Depth (ft from TOC)	0.00	0.00
Critical Shear (kip)	51.83	42.75
Critical Shear Capacity	965.94	484.79
Rating*	*5.1%*	*8.4%*

Structural Foundation Rating*	**8.4%**
Soil Interaction Rating*	**60.6%**

*Rating per TIA-222-H Section 15.5

Soil Profile

Groundwater Depth	2.5

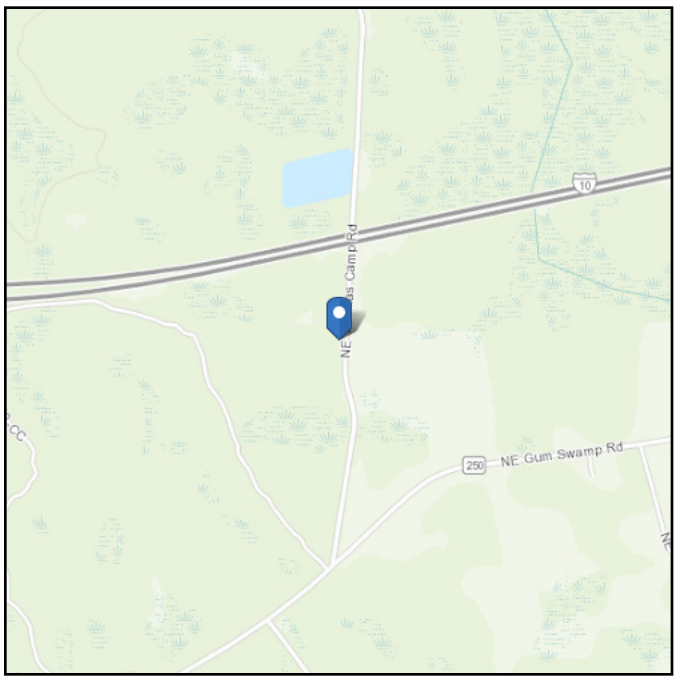
# of Layers	17

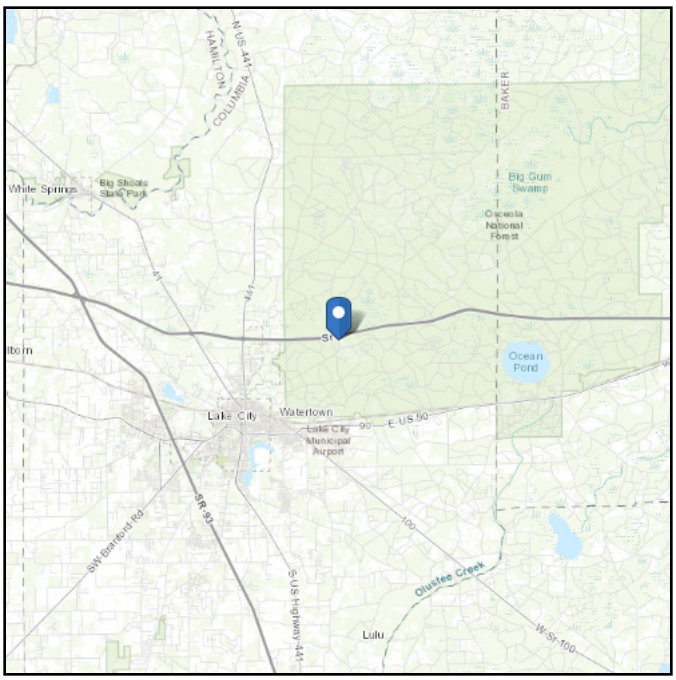
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ_{soil} (pcf)	$\gamma_{concrete}$ (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Net Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	2.5	2.5	110	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	2.5	3	0.5	110	87.6	0	0	0.000	0.000	0.00	0.00			Cohesionless
3	3	3.5	0.5	110	87.6	0	0	0.000	0.000	0.00	0.00			Cohesionless
4	3.5	6.5	3	110	87.6	2.5	0	1.375	1.375	0.15	0.15			Cohesive
5	6.5	8	1.5	110	87.6	2.5	0	1.375	1.375	1.00	1.00			Cohesive
6	8	10	2	110	87.6	4.5	0	2.195	2.195	1.00	1.00			Cohesive
7	10	12	2	110	87.6	0.25	0	0.14	0.14	1.00	1.00			Cohesive
8	12	17	5	110	87.6	0.25	0	0.14	0.14	0.25	0.25			Cohesive
9	17	22	5	110	87.6	0.25	0	0.14	0.14	0.70	0.70			Cohesive
10	22	27	5	110	87.6	0.25	0	0.14	0.14	0.25	0.25			Cohesive
11	27	30	3	110	87.6	0.25	0	0.14	0.14	1.00	1.00			Cohesive
12	30	32	2	110	87.6	0.75	0	0.41	0.41	1.00	1.00			Cohesive
13	32	35	3	110	87.6	0.75	0	0.41	0.41	0.85	0.85			Cohesive
14	35	40	5	110	87.6	2	0	1.10	1.10	0.85	0.85			Cohesive
15	40	42	2	110	87.6	0.25	0	0.14	0.14	0.85	0.85			Cohesive
16	42	45	3	110	87.6	0.25	0	0.14	0.14	0.25	0.25			Cohesive
17	45	52	7	110	87.6	0.25	0	0.14	0.14	0.25	0.25	13.5		Cohesive

ASCE Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-22	**Latitude:**	30.24057
Risk Category:	II	**Longitude:**	-82.57096
Soil Class:	Default	**Elevation:**	148.66277464566008 ft (NAVD 88)





Wind

Results:

Wind Speed	119 Vmph
10-year MRI	75 Vmph
25-year MRI	83 Vmph
50-year MRI	90 Vmph
100-year MRI	97 Vmph
300-year MRI	109 Vmph
700-year MRI	119 Vmph
1,700-year MRI	127 Vmph
3,000-year MRI	133 Vmph
10,000-year MRI	143 Vmph
100,000-year MRI	153 Vmph
1,000,000-year MRI	168 Vmph

Data Source: ASCE/SEI 7-22, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Thu Nov 27 2025

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 7-22 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years). Values for 10-year MRI, 25-year MRI, 50-year MRI and 100-year MRI are Service Level wind speeds, all other wind speeds are Ultimate wind speeds.

Site is in a hurricane-prone region as defined in ASCE/SEI 7-22 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Seismic

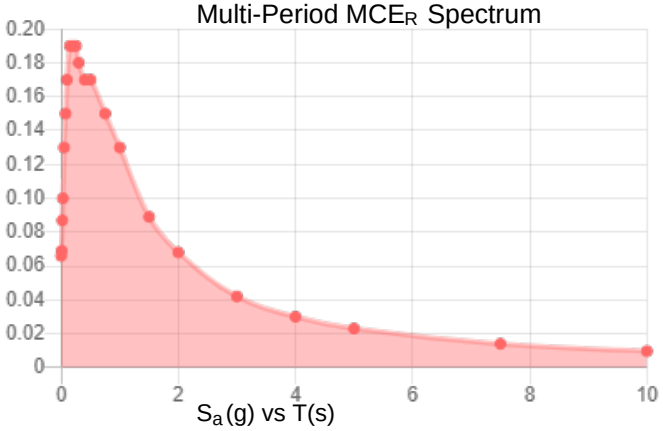
Site Soil Class: Default

Results:

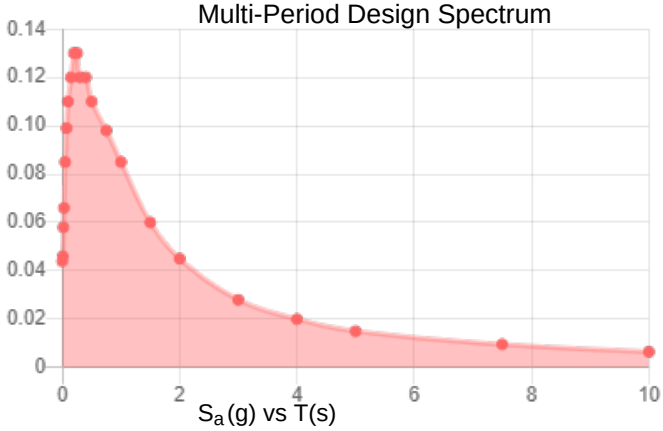
PGA_M :	0.061	T_L :	8
S_{MS} :	0.17	S_S :	0.13
S_{M1} :	0.13	S_1 :	0.06
S_{DS} :	0.11	V_{S30} :	260
S_{D1} :	0.085		

Seismic Design Category: B

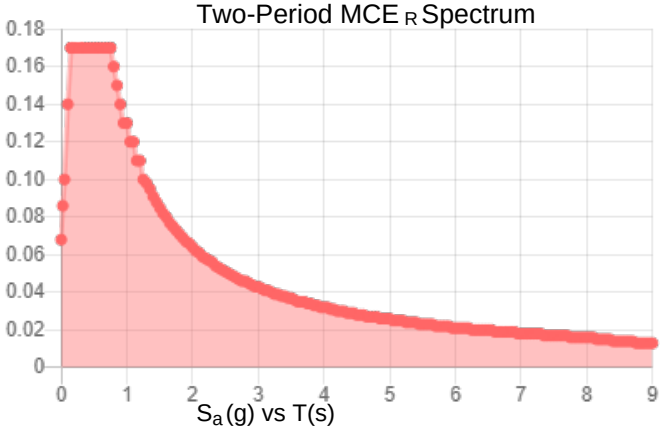
Multi-Period MCE_R Spectrum



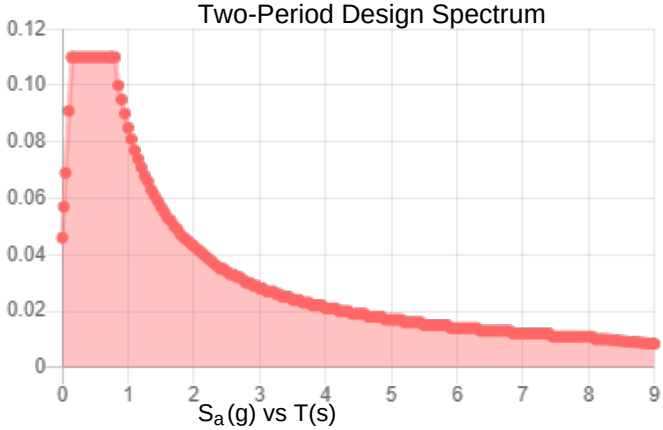
Multi-Period Design Spectrum



Two-Period MCE_R Spectrum



Two-Period Design Spectrum



MCE_R Vertical Response Spectrum

Vertical ground motion data has not yet been made available by USGS.

Design Vertical Response Spectrum

Vertical ground motion data has not yet been made available by USGS.

Data Accessed: Thu Nov 27 2025

Date Source:
USGS Seismic Design Maps based on ASCE/SEI 7-22 and ASCE/SEI 7-22 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-22 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	N/A
Concurrent Temperature:	N/A
3-s Gust Speed	N/A
Data Source:	Standard ASCE/SEI 7-22, Figs. 10-2 through 10-8
Date Accessed:	Thu Nov 27 2025

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 for 250, 500, 1,000, and 1,400-year mean recurrence intervals along with concurrent 3-s gust speeds and concurrent air temperatures. The shading indicates special icing regions, with elevations above 2,100 ft (640 m) in the east, 6,000 ft (1829 m) in the west, and 1,600 ft (488 m) in Alaska, with sparse weather station data for determining design ice loads. In these regions, as well as in regions with complex terrain causing unusual icing conditions and regions where snow or in-cloud icing results in larger loads, the mapped values should be adjusted based on a combination of local historical records and experience, reanalysis data, and numerical weather prediction systems.