Alex Murshteyn, Site Acquisition Consultant
c/o Cellco Partnership d/b/a Verizon Wireless
Centerline Communications, LLC
750 West Center Street, Floor 3
West Bridgewater, MA 02379
Mobile: (508) 821-0159
AMurshteyn@centerlinecommunications.com

February 6, 2020

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

RE: Notice of Exempt Modification // Site: Cranbury CT (ATC: 411189)
2 Allen Raymond Lane (2 Sunny Lane), Westport, CT
N 41.1629 // W -73.3730

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless currently maintains 12 antennas at the 128-foot level on the existing 130-foot monopole tower, located at 2 Allen Raymond Lane (f/k/a 2 Sunny Lane) in Westport, CT. The Council approved Verizon Wireless use of the tower in 1998 under Docket 188. The tower is owned by American Tower. The property is owned by Cellco. Verizon Wireless now intends to install 3 new clip-on antennas for its LTE (3500 MHz) CBRS upgrade. Additionally, Verizon Wireless will add 3 remote radio head units (RRUs) and upgrade certain cabling; altogether updating leased equipment rights, as reflected by the final configuration outlined in the structural analysis and proposed hereby.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to First Selectman Jim Marpe, for the Town of Westport, to its Director of Planning and Zoning Mary Young, to American Tower, the tower owner and to the ground owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Enclosed to accommodate this filing are construction drawings dated January 22, 2020, structural analysis dated December 4, 2019 and antenna mount analysis dated December 17, 2019 by A.T. Engineering Service, PLLC, as well as radio frequency (RF) analysis table showing worst-case RF emission calculation by Verizon Wireless RF Design Engineering.

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

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

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

4. The operation of the new antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading, as shown in the attached structural analysis by A.T. Engineering Service, PLLC, dated December 4, 2019 and mount analysis dated December 17, 2019.

For the foregoing reasons, Verizon Wireless respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Alex Murshteyn, Site Acquisition Consultant
c/o Cellco Partnership d/b/a Verizon Wireless
Centerline Communications, LLC
750 West Center Street, Floor 3
West Bridgewater, MA 02379
Mobile: (508) 821-0159
AMurshteyn@centerlinecommunications.com

Attachments

cc: Jim Marpe, First Selectman, Town of Westport - as elected official
Mary Young, Director of Planning and Zoning, Town of Westport - as P&Z official
American Tower Corporation & Cellco - as tower owner & property owner

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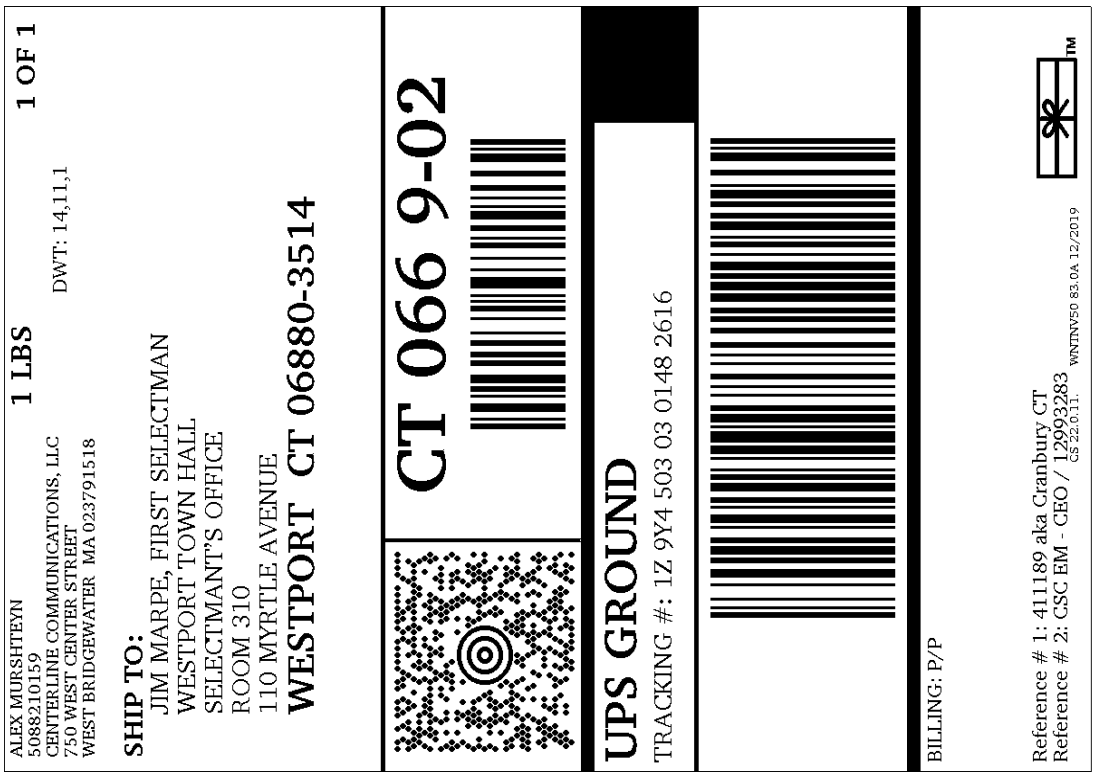

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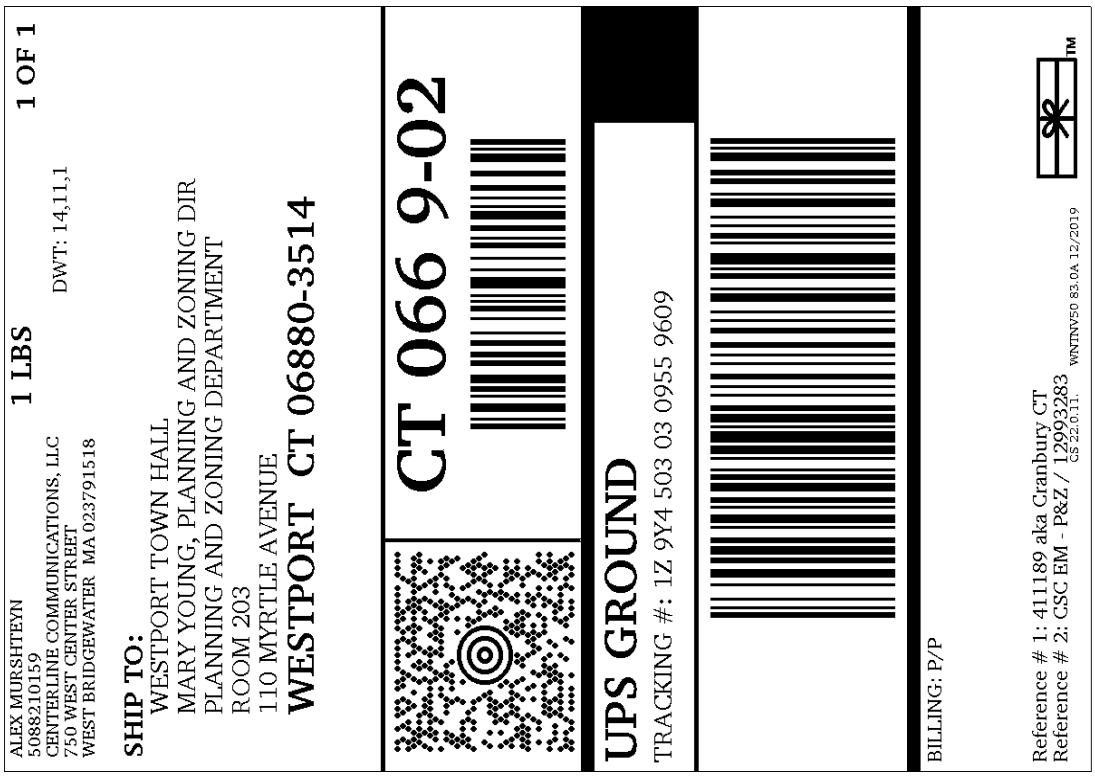

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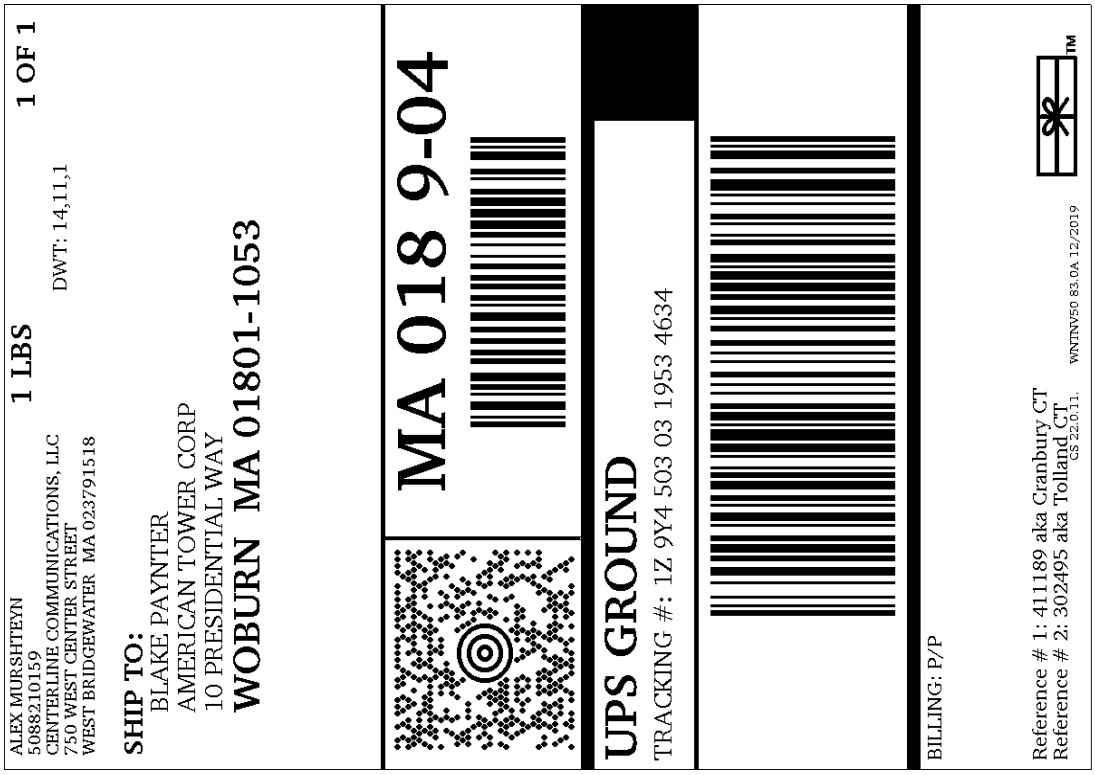

Filing Guides
Meetings & Minutes
Public Participation
Audio Link to New Britain Hearing Rooms
Programs & Services
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Maps
Publications
Other Resources
Statutes & Regulations
Frequently Asked Questions

Melanie Bachman,
Executive Director

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DOCKET NO. 188 - An application by Cellco Partnership d/b/a Bell Atlantic Mobile for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a proposed telecommunications tower and associated equipment located at 2 Sunny Lane or on a parcel located immediately south of the intersection of Clinton Avenue and the Merritt Parkway in Westport, Connecticut.

Connecticut Siting Council

December 17, 1998

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications tower and equipment buildings at the proposed prime site in Westport, Connecticut, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Bell Atlantic Mobile (BAM) for the construction, operation, and maintenance of a telecommunications tower, and associated equipment at the proposed prime site, located at 2 Sunny Lane, Westport, Connecticut. We find the effects on scenic resources and adjacent residences of the proposed alternate site to be significant, and therefore deny certification of that site.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of BAM, Springwich Cellular Limited Partnership (SCLP), Sprint PCS (Sprint), Omnipoint Communications, and Nextel Communications of the Mid-Atlantic, Inc. (Nextel); and such tower, excluding appurtenances, shall not exceed a height of 130 feet above ground level (AGL).

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include a final site plan(s) for site development detailing: relocation of the tower to the northwestern corner of the parcel to protect a nearby watercourse and wetlands, and to be closer to the commuter parking area; tower compound reduced in area to the minimum necessary for tower security; construction of the cable tray below grade; placement of a stockade or other architecturally treated fence around the compound; the location and specifications for the tower foundation, antennas, emergency generator and fuel tank, security fence, accessway, and vegetative screening; placement of underground utilities; construction plans for tree trimming, water drainage, and erosion and sedimentation controls consistent with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended; provisions for the tower finish that may include painting; and provisions for the prevention and containment of spills and/or other discharge into surface water and ground water bodies.

3. Upon the establishment of any new State or federal radiofrequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

4. The Certificate Holder shall provide the Council a recalculated report of electromagnetic radiofrequency power density for all transmitting antennas on the proposed tower as ordered in this Decision and Order, and again for any proposed change in the operation of the tower.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. The Certificate Holder shall comply with the Town of Westport's recommendations for site development, including: proper abandonment of the existing septic system; removal of a portion of the existing driveway to accommodate for increased lot coverage; planting a dense vegetative buffer north of the Poplar Plains Brook; and relocation of the above-ground fuel tank to a distance at least 60 feet away from the waterway protection lines.

7. If the facility does not initially provide, or permanently ceases to provide cellular services following completion of construction, this Decision and Order shall be void, and the Certificate Holder shall dismantle the

tower and remove all associated equipment or re-application for any continued or new use shall be made to the Council before any such use is made.

8. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.

9. Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within three years of the effective date of this Decision and Order or within three years after all appeals to this Decision and Order have been resolved.

10. The Certificate Holder shall provide to the Council the Federal Aviation Administration's determination for obstruction or hazard to air navigation.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The Hartford Courant, Westport News, and Connecticut Post.

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

The parties and intervenors to this proceeding are:

APPLICANT	**ITS REPRESENTATIVE**
Bell Atlantic Mobile	Kenneth C. Baldwin, Esq. Brian C. S. Freeman, Esq. Robinson & Cole One Commercial Plaza Hartford, CT 06103-3597 Mr. David S. Malko, P.E. Jennifer Young Gaudet Bell Atlantic Mobile 20 Alexander Drive Wallingford, CT 06492
PARTIES	**ITS REPRESENTATIVE**
Town of Westport	Ira W. BloomTown Attorney Town Hall, 110 Myrtle Avenue Westport, CT 06880 203) 341-1040
Residents of Clinton Avenue Westport	Robert Sullivan, Esq. Law Offices of Robert Sullivan 190 Main StreetWestport, CT 06880 (203) 227-1404
INTERVENORS	**ITS REPRESENTATIVE**
Sprint Spectrum, L.P. d/b/a Sprint PCS	Julie M. Cashin, Esq. Hurwitz & Sagarin, PC 147 North Broad Street Milford, CT 06460 (203) 877-8000
Nextel Communications of the Mid-Atlantic	Christopher B. Fisher, Esq. d/b/a Nextel Communications Cuddy, Feder & Worby, Esq. 90 Maple Avenue White Plains, NY 10601
Springwich Cellular Limited Partnership	Peter J. Tyrrell, Esq. General Counsel 500 Enterprise Drive Rocky Hill, CT 06067-3900
INTERVENORS	**ITS REPRESENTATIVE**
Residents of Sunny Lane, Westport	Lawrence P. Weisman Weisman & Lubell 5 Sylvan Road South P.O. Box 3184 Westport, CT 06880 (203) 226-8307

Omnipoint Communications, Inc.

Brian Weinstein
Omnipoint Communications, Inc.
25 Van Zant Street, Suite 18E
East Norwalk, CT 06855
(203) 855-5450

Content Last Modified on 8/9/2002 2:30:22 PM

AMERICAN TOWER®
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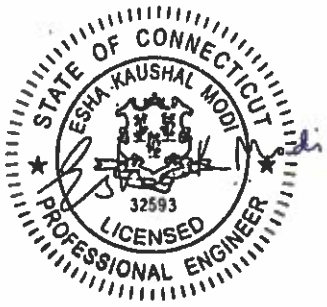
Structural Analysis Report

Structure	:	**130 ft Monopole**
ATC Site Name	:	**CRANBURYSU CT, CT**
ATC Asset Number	:	**411189**
Engineering Number	:	**12993283_C3_03**
Proposed Carrier	:	**VERIZON WIRELESS**
Carrier Site Name	:	**CRANBURY CT**
Carrier Site Number	:	**467333**
Site Location	:	**2 SUNNY LANE** **WESTPORT, CT 06880-1906** **41.162900,-73.373100**
County	:	**Fairfield**
Date	:	**December 4, 2019**
Max Usage	:	**38%**
Result	:	**Pass**



Prepared By:
Saja Alkhafaji
Structural Engineer

Saja Alkhafaji

Reviewed By:

Authorized by "EOR"
05 Dec 2019 04:39:21 cosign

COA: PEC.0001553

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Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 130 ft monopole to reflect the change in loading by VERIZON WIRELESS.

Supporting Documents

Tower Drawings	EEI Job #10847, dated June 7, 2002
Foundation Drawing	EEI Project #10847, dated June 10, 2002
Geotechnical Report	Clarence Welti Association Project Name 2 Sunny Lane, dated January 29, 1999

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	93 mph (3-Second Gust, V_{asd}) / 120 mph (3-Second Gust, V_{ult})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.23, S_1 = 0.07
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
129.0	1	VZW Unused Reserve (2610.83 sqin)	Low Profile Platform	(1) 0.63" (16mm) LDF4-50A (2) 1 5/8" (1.63"-41.3mm) Fiber (6) 1 5/8" Coax	VERIZON WIRELESS
128.0	6	Quintel QS6656-5			
	2	Antel LPA-80080/6CF___			
	4	Decibel DB846F65ZAXY			
	1	RFS DB-C1-12C-24AB-0Z			
	1	Generic 2" x 8" GPS			
126.0	1	Andrew Microwaves VHLP800-11 (49 lbs)	Low Profile Platform	(1) 1/2" Coax (3) 0.78" (19.7mm) 8 AWG 6 (3) 1 1/4" Hybriflex Cable (6) 1 5/8" Coax (1) 1.7" (43.2mm) Hybrid (2) 2" conduit	SPRINT NEXTEL
125.0	1	Generic 24" x 24" Junction Box			
	3	Alcatel-Lucent 1900MHz RRH			
	3	Alcatel-Lucent 800MHz RRH			
120.0	3	Nokia 2.5G MAA - AAHC(64T64R)			
	1	Generic 24" x 24" Junction Box			
	3	Commscope NNVV-65B-R4			
	3	Alcatel-Lucent RRH2x50-08			
110.0	3	RFS APXVAARR24_43-U-NA20	Low Profile Platform	(3) 1 1/4" (1.25"-31.8mm) Fiber (9) 1 5/8" Coax (6) 7/8" Coax	T-MOBILE
	3	Ericsson AIR-32 B2A/B66Aa			
	3	EMS RR90-17-02DP			
	3	Ericsson Radio 4449 B12,B71			
	3	Ericsson KRY 112 71			
	3	Ericsson AIR 21, 1.3 M, B2A B4P			
107.0	1	Generic GPS	Platform with Handrails	(1) 7/8" Coax (1) 0.39" (10mm) Fiber Trunk (2) 0.78" (19.7mm) 8 AWG 6 (12) 1 5/8" Coax (1) 3" conduit	AT&T MOBILITY
100.0	6	Powerwave Allgon 7020			
	12	Powerwave Allgon LGP21401			
	1	Raycap DC6-48-60-18-8F			
	3	Ericsson RRUS-11 (50 lbs.)			
	3	Ericsson RRUS 12 w/ RRUS A2			
	3	CCI HPA-65R-BUU-H6			
	12	Powerwave Allgon LGP21901			
	6	Powerwave Allgon 7770.00			
91.0	1	-	Flat Low Profile Platform	-	Other
80.0	1	Generic GPS	Flush	(1) 1/2" Coax	T-MOBILE
76.0	1	Generic 2" x 8" GPS	Stand-Off	(1) 0.63" (16mm) LDF4-50A	VERIZON WIRELESS
75.0	1	Generic GPS	Stand-Off	(1) 1/2" Coax	SPRINT NEXTEL
72.0	1	VZW Unused Reserve (5456 sqin)	-	-	VERIZON WIRELESS
68.0	1	Generic GPS	Stand-Off	(1) 1/2" Coax	AT&T MOBILITY

Equipment to be Removed

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
128.0	3	Samsung PCS/AWS Dual Band RRH	-	-	VERIZON WIRELESS
	3	Samsung 700/850MHz Dual Band RRH			

Proposed Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
128.0	3	Samsung Outdoor LAA 1W RRH –Clip-on Antenna	Low Profile Platform	-	VERIZON WIRELESS
	3	Samsung Outdoor CBRS 20W RRH			
	3	Samsung B5/B13 RRH-BR04C			
	3	Samsung B2/B66A RRH-BR049			

[1] Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	35%	Pass
Shaft	33%	Pass
Base Plate	27%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	2488.9	38%
Axial (Kips)	57.4	21%
Shear (Kips)	26.2	18%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
128.0	Samsung Outdoor LAA 1W RRH –Clip-on Antenna	VERIZON WIRELESS	0.525	0.420
	Samsung Outdoor CBRS 20W RRH			
	Samsung B5/B13 RRH-BR04C			
	Samsung B2/B66A RRH-BR049			
126.0	Andrew Microwaves VHLP800-11 (49 lbs)	SPRINT NEXTEL	0.511	

***Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G**

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Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

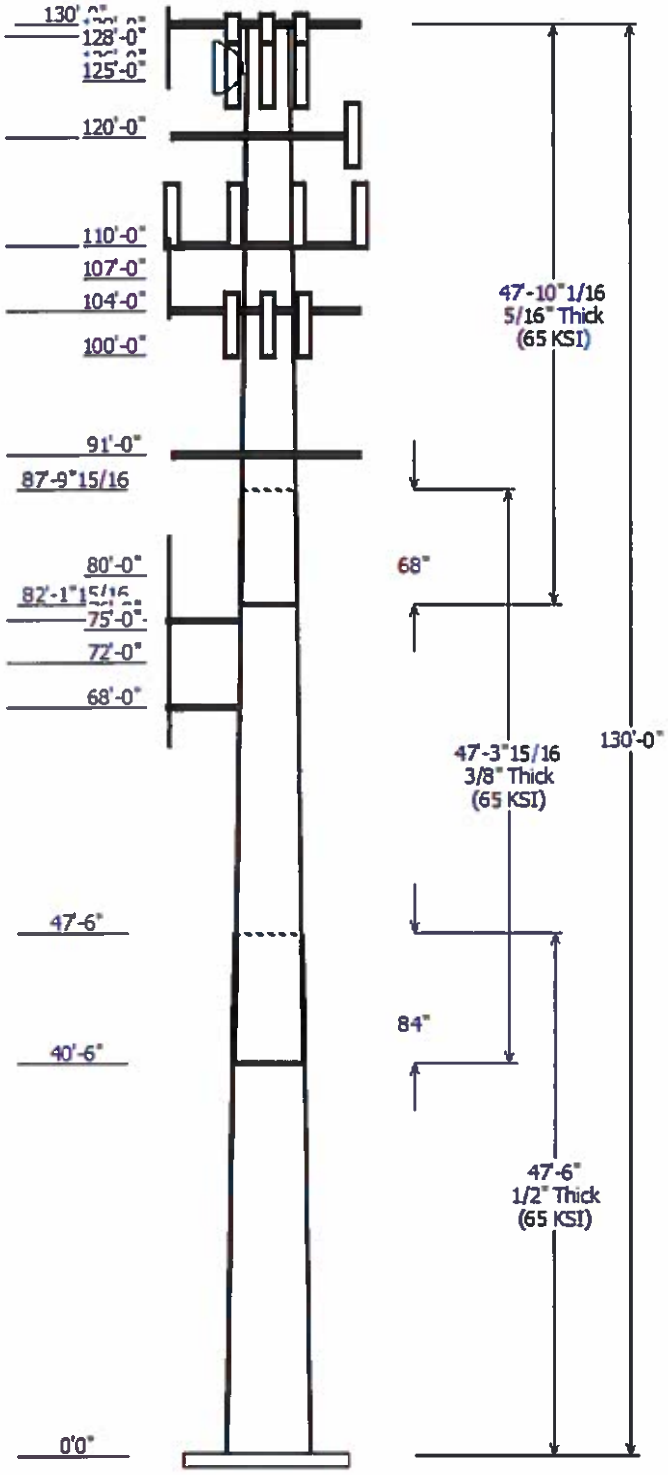
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



Job Information

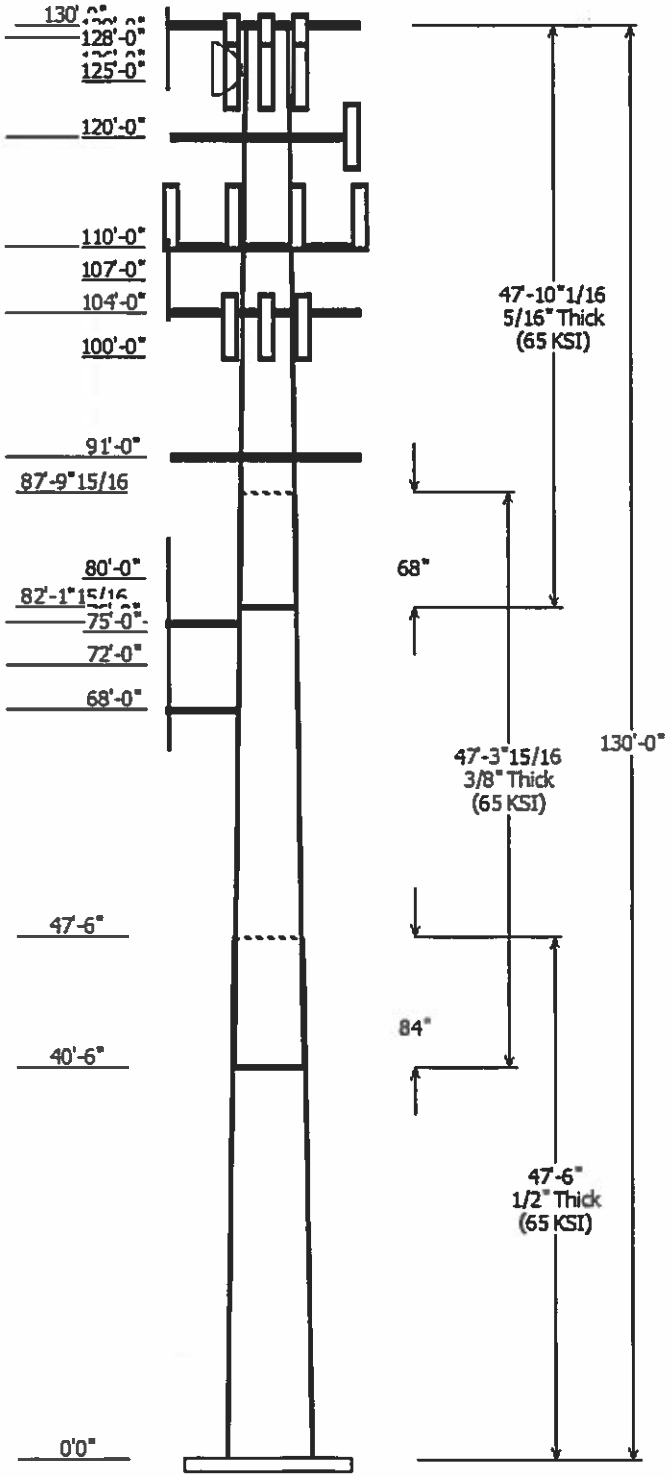
Client : VERIZON WIRELESS
Pole : 411189 Code: ANSI/TIA-222-G
Location : CRANBURYSU CT, CT
Description : 130 ft EEI Monopole Struct Class : II
Shape : 18 Sides Exposure : B
Height : 130.00 (ft) Topo : 1
Base Elev (ft): 0.00
Taper: 0.270745 in/ft)

Sections Properties

Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	47.500	49.14	62.00	0.500		0.000	18 Sides	65
2	47.330	38.97	51.78	0.375	Slip Joint	84.000	18 Sides	65
3	47.837	28.17	41.13	0.313	Slip Joint	68.000	18 Sides	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
130.000	130.000	1	Flat Low Profile Platform
129.000	129.000	1	VZW Unused Reserve (2610.83
128.000	127.000	2	Antel LPA-80080/6CF ___
128.000	128.000	6	Quintel QS6656-5
128.000	127.000	4	Decibel DB846F65ZAXY
128.000	128.000	1	RFS DB-C1-12C-24AB-0Z
128.000	128.000	3	Samsung B2/B66A RRH-BR049
128.000	128.000	3	Samsung B5/B13 RRH-BR04C
128.000	128.000	3	Samsung Outdoor CBRS 20W
128.000	128.000	3	Samsung Outdoor LAA 1W
128.000	128.000	1	Generic 2" x 8" GPS
126.000	126.000	1	Andrew Microwaves VHLP800-
125.000	125.000	1	Generic 24" x 24" Junction Box
125.000	125.000	3	Alcatel-Lucent 1900MHz RRH
125.000	125.000	3	Alcatel-Lucent 800MHz RRH
120.000	120.000	1	Flat Low Profile Platform
120.000	120.000	3	Commscope NNVV-65B-R4
120.000	120.000	1	Generic 24" x 24" Junction Box
120.000	120.000	3	Nokia 2.5G MAA -
120.000	120.000	3	Alcatel-Lucent RRH2x50-08
110.000	110.000	1	Flat Low Profile Platform
110.000	113.000	3	RFS APXVAARR24_43-U-NA20
110.000	113.000	3	Ericsson AIR-32 B2A/B66Aa
110.000	113.000	3	Ericsson AIR 21, 1.3 M, B2A B4
110.000	113.000	3	EMS RR90-17-02DP
110.000	113.000	3	Ericsson Radio 4449 B12,B71
110.000	110.000	3	Ericsson KRY 112 71
107.000	107.000	1	Generic GPS
104.000	104.000	1	Flat Platform w/ Handrails
100.000	104.000	3	CCI HPA-65R-BUU-H6
100.000	104.000	6	Powerwave Allgon 7770.00
100.000	104.000	3	Ericsson RRUS 12 w/ RRUS A2
100.000	104.000	3	Ericsson RRUS-11 (50 lbs.)
100.000	104.000	1	Raycap DC6-48-60-18-8F
100.000	104.000	12	Powerwave Allgon LGP21401
100.000	104.000	6	Powerwave Allgon 7020
100.000	104.000	12	Powerwave Allgon LGP21901
91.000	91.000	1	Empty Flat Low Profile Platfor
80.000	80.000	1	Generic GPS
76.000	76.000	1	Stand-Off
76.000	76.000	1	Generic 2" x 8" GPS
75.000	75.000	1	Generic GPS
72.000	72.000	1	VZW Unused Reserve (5456
68.000	68.000	1	Side Arm
68.000	68.000	1	Generic GPS



Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	68.000	1/2" Coax	No
0.000	75.000	1/2" Coax	No
0.000	76.000	0.63" (16mm)	No
0.000	80.000	1/2" Coax	No
0.000	100.0	0.39" (10mm)	No
0.000	100.0	0.78" (19.7mm) 8	No
0.000	100.0	1 5/8" Coax	No
0.000	100.0	3" conduit	No
0.000	107.0	7/8" Coax	No
0.000	110.0	1 1/4" (1.25"-	No
0.000	110.0	1 5/8" Coax	No
0.000	110.0	7/8" Coax	No
0.000	120.0	1 1/4" Hybriflex	No
0.000	120.0	1 5/8" Coax	No
0.000	120.0	1.7" (43.2mm)	No
0.000	120.0	2" conduit	No
0.000	125.0	0.78" (19.7mm) 8	No
0.000	126.0	1/2" Coax	No
0.000	128.0	0.63" (16mm)	No
0.000	128.0	1 5/8" (1.63"-	No
0.000	128.0	1 5/8" Coax	No

Load Cases

1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

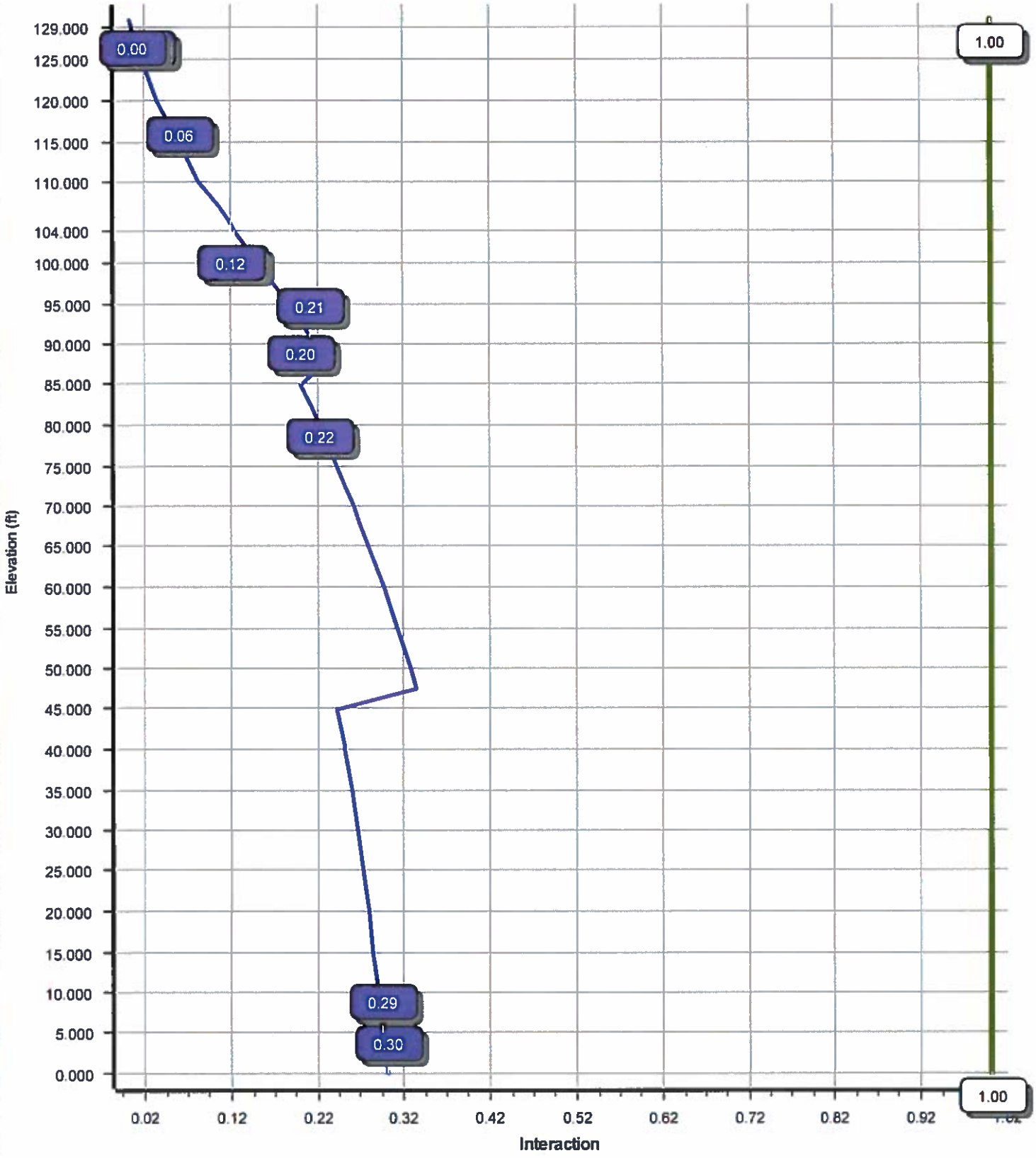
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	2488.92	26.15	57.43
0.9D + 1.6W	2475.90	26.14	43.07
1.2D + 1.0Di + 1.0Wi	725.40	7.78	93.33
(1.2 + 0.2Sds) * DL + E ELFM	229.64	2.33	57.35
(1.2 + 0.2Sds) * DL + E EMAM	274.19	2.71	57.35
(0.9 - 0.2Sds) * DL + E ELFM	228.14	2.32	39.12
(0.9 - 0.2Sds) * DL + E EMAM	272.24	2.70	39.12
1.0D + 1.0W	577.31	6.09	47.87

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	126.00	6.127	0.420

Load Case : 1.2D + 1.6W

Max Ratio 33.20% at 47.5 ft



Site Number: 411189 | Code: ANSI/TIA-222-G |

Site Name: CRANBURYSU CT, CT | Engineering Number:12993283_C3_03 | 12/5/2019 3:21:52 PM

Customer: VERIZON WIRELESS

Analysis Parameters

Location :	Fairfield County, CT	Height (ft) :	130
Code :	ANSI/TIA-222-G	Base Diameter (in) :	62.00
Shape :	18 Sides	Top Diameter (in) :	28.18
Pole Type :	Taper	Taper (in/ft) :	0.271
Pole Manfacturer :	EEI	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	93 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	1.47				
T_L (sec):	6	p:	1	C_s:	0.049
S_s:	0.227	S_1:	0.067	C_s Max:	0.049
F_a:	1.600	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.242	S_{d1}:	0.107		

Load Cases

1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 411189 | Code: ANSI/TIA-222-G |

Site Name: CRANBURYSU CT, CT | Engineering Number:12993283_C3_03 | 12/5/2019 3:21:52 PM

Customer: VERIZON WIRELESS

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Slip Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	47.500	0.5000	65		0.00	14,125	62.00	0.00	97.60	46638.0	20.45	124.00	49.14	47.50	77.19	23072.0	15.92	98.28	0.270745
2-18	47.330	0.3750	65	Slip	84.00	8,626	51.78	40.50	61.19	20432.2	22.94	138.09	38.97	87.83	45.94	8645.4	16.91	103.92	0.270745
3-18	47.837	0.3125	65	Slip	68.00	5,544	41.13	82.16	40.48	8521.7	21.80	131.62	28.17	130.00	27.64	2711.5	14.49	90.17	0.270745
				Shaft Weight		28,296													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
130.00	Flat Low Profile Platform	1	1.00	0.000	1,500.00	26.100	1.00	2,139.75	44.952	1.00
129.00	VZW Unused Reserve (2610.83	1	0.80	0.000	138.90	18.131	0.90	234.38	30.594	0.90
128.00	Generic 2" x 8" GPS	1	0.80	0.000	10.00	0.141	1.00	15.45	0.474	1.00
128.00	Samsung Outdoor LAA 1W RRH	3	0.80	0.000	4.40	0.811	0.50	20.29	1.406	0.50
128.00	Samsung Outdoor CBRS 20W	3	0.80	0.000	18.60	0.857	0.50	42.25	1.475	0.50
128.00	Samsung B5/B13 RRH-BR04C	3	0.80	0.000	70.30	1.875	0.50	126.67	2.765	0.50
128.00	Samsung B2/B66A RRH-BR049	3	0.80	0.000	84.40	1.875	0.50	147.27	2.765	0.50
128.00	RFS DB-C1-12C-24AB-0Z	1	0.80	0.000	32.00	4.056	1.00	157.25	5.401	1.00
128.00	Decibel DB846F65ZAXY	4	0.80	-1.000	21.00	7.030	0.75	214.51	8.259	0.75
128.00	Quintel QS6656-5	6	0.80	0.000	65.00	8.133	0.74	261.36	10.880	0.74
128.00	Antel LPA-80080/6CF ___	2	0.80	-1.000	21.00	8.628	0.71	212.10	5.489	0.71
126.00	Andrew Microwaves VHLP800-	1	1.00	0.000	49.00	7.760	1.00	205.72	9.367	1.00
125.00	Alcatel-Lucent 800MHz RRH	3	0.80	0.000	53.00	2.134	0.67	125.48	3.095	0.67
125.00	Alcatel-Lucent 1900MHz RRH	3	0.80	0.000	44.00	3.258	0.72	150.98	4.426	0.72
125.00	Generic 24" x 24" Junction Box	1	0.80	0.000	20.00	4.800	1.00	132.74	6.196	1.00
120.00	Alcatel-Lucent RRH2x50-08	3	0.80	0.000	52.90	1.701	0.50	110.85	2.545	0.50
120.00	Nokia 2.5G MAA - AAHC(64T64R)	3	0.80	0.000	103.60	4.203	0.64	213.84	5.514	0.64
120.00	Generic 24" x 24" Junction Box	1	0.80	0.000	20.00	4.800	1.00	132.27	6.190	1.00
120.00	Commscope NNVV-65B-R4	3	0.80	0.000	77.40	12.271	0.64	323.11	15.013	0.64
120.00	Flat Low Profile Platform	1	1.00	0.000	1,500.00	26.100	1.00	2,133.56	44.770	1.00
110.00	Ericsson KRY 112 71	3	0.80	0.000	13.20	0.583	0.50	30.96	1.120	0.50
110.00	Ericsson Radio 4449 B12,B71	3	0.80	3.000	74.00	1.639	0.50	128.31	2.458	0.50
110.00	EMS RR90-17-02DP	3	0.80	3.000	13.50	4.356	0.64	108.15	5.311	0.64
110.00	Ericsson AIR 21, 1.3 M, B2A B4P	3	0.80	3.000	83.00	6.049	0.71	224.58	8.146	0.71
110.00	Ericsson AIR-32 B2A/B66Aa	3	0.80	3.000	132.20	6.510	0.71	287.04	8.635	0.71
110.00	RFS APXVAARR24_43-U-NA20	3	0.80	3.000	127.90	20.243	0.63	508.75	23.841	0.63
110.00	Flat Low Profile Platform	1	1.00	0.000	1,500.00	26.100	1.00	2,128.53	44.621	1.00
107.00	Generic GPS	1	0.75	0.000	10.00	0.900	1.00	38.32	1.519	1.00
104.00	Flat Platform w/ Handrails	1	1.00	0.000	2,000.00	42.400	1.00	3,370.21	62.620	1.00
100.00	Powerwave Allgon LGP21901	12	0.75	4.000	5.50	0.200	0.50	12.87	0.507	0.50
100.00	Powerwave Allgon 7020	6	0.75	4.000	2.20	0.339	0.50	12.00	0.732	0.50
100.00	Powerwave Allgon LGP21401	12	0.75	4.000	14.10	1.104	0.50	38.05	1.789	0.50
100.00	Raycap DC6-48-60-18-8F	1	0.75	4.000	20.00	1.260	1.00	70.54	1.892	1.00
100.00	Ericsson RRUS-11 (50 lbs.)	3	0.75	4.000	50.00	2.566	0.67	115.43	3.571	0.67
100.00	Ericsson RRUS 12 w/ RRUS A2	3	0.75	4.000	71.40	3.145	0.67	163.30	4.257	0.67
100.00	Powerwave Allgon 7770.00	6	0.75	4.000	35.00	5.508	0.65	163.23	6.517	0.65
100.00	CCI HPA-65R-BUU-H6	3	0.75	4.000	51.00	9.658	0.69	261.58	12.319	0.69
91.00	Empty Flat Low Profile Platform	1	1.00	0.000	1,500.00	26.100	1.00	2,117.23	44.288	1.00
80.00	Generic GPS	1	1.00	0.000	10.00	0.900	1.00	37.46	1.500	1.00
76.00	Generic 2" x 8" GPS	1	1.00	0.000	10.00	0.141	1.00	15.18	0.457	1.00
76.00	Stand-Off	1	1.00	0.000	100.00	3.000	1.00	145.62	4.466	1.00
75.00	Generic GPS	1	1.00	0.000	10.00	0.900	1.00	37.30	1.497	1.00
72.00	VZW Unused Reserve (5456 sqin)	1	1.00	0.000	0.00	37.889	1.00	0.00	62.433	1.00
68.00	Generic GPS	1	1.00	0.000	10.00	0.900	1.00	37.03	1.491	1.00
68.00	Side Arm	1	1.00	0.000	126.00	5.000	1.00	207.09	8.218	1.00
Totals	Num Loadings:45	122			12,914.70			27,134.89		

Linear Appurtenance Properties

Load Case Azimuth (deg) :

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax / Row	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	128.00	1	0.63" (16mm) LDF4-	0.63	0.15	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	128.00	2	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	128.00	6	1 5/8" Coax	1.98	0.82	N	6	0.00	0.00	90	0.00	N	VERIZON WIRELESS
0.00	126.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	125.00	3	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	120.00	3	1 1/4" Hybriflex Cable	1.54	1.00	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	120.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	120.00	1	1.7" (43.2mm) Hybrid	1.70	1.78	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	120.00	2	2" conduit	2.38	3.65	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	110.00	3	1 1/4" (1.25"- 31.8mm)	1.25	1.05	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	110.00	9	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	110.00	6	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	107.00	1	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	100.00	1	0.39" (10mm) Fiber	0.39	0.06	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	100.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	100.00	12	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	100.00	1	3" conduit	3.50	7.58	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	80.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	76.00	1	0.63" (16mm) LDF4-	0.63	0.15	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	75.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	68.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY

Segment Properties (Max Len : 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.5000	62.000	97.597	46,638.0	20.45	124.00	77.3	1481.	0.0	0.0
5.00		0.5000	60.646	95.449	43,625.5	19.98	121.29	77.9	1416.	0.0	1,642.2
10.00		0.5000	59.293	93.300	40,745.7	19.50	118.59	78.5	1353.	0.0	1,605.7
15.00		0.5000	57.939	91.152	37,995.4	19.02	115.88	79.0	1291.	0.0	1,569.1
20.00		0.5000	56.585	89.004	35,371.8	18.54	113.17	79.6	1231.	0.0	1,532.6
25.00		0.5000	55.231	86.856	32,871.8	18.07	110.46	80.2	1172.	0.0	1,496.0
30.00		0.5000	53.878	84.707	30,492.5	17.59	107.76	80.7	1114.	0.0	1,459.5
35.00		0.5000	52.524	82.559	28,230.9	17.11	105.05	81.3	1058.	0.0	1,422.9
40.00		0.5000	51.170	80.411	26,083.9	16.63	102.34	81.8	1004.	0.0	1,386.4
40.50	Bot - Section 2	0.5000	51.035	80.196	25,875.4	16.59	102.07	81.9	998.6	0.0	136.6
45.00		0.5000	49.816	78.262	24,048.7	16.16	99.63	82.4	950.8	0.0	2,139.0
47.50	Top - Section 1	0.3750	49.890	58.933	18,254.8	22.05	133.04	75.5	720.7	0.0	1,166.0
50.00		0.3750	49.213	58.127	17,516.3	21.73	131.23	75.8	701.0	0.0	497.9
55.00		0.3750	47.859	56.516	16,099.7	21.09	127.62	76.6	662.6	0.0	975.3
60.00		0.3750	46.505	54.905	14,761.7	20.46	124.01	77.3	625.2	0.0	947.8
65.00		0.3750	45.152	53.293	13,499.9	19.82	120.40	78.1	588.9	0.0	920.4
68.00		0.3750	44.339	52.327	12,778.4	19.44	118.24	78.5	567.6	0.0	539.1
70.00		0.3750	43.798	51.682	12,312.1	19.18	116.79	78.8	553.7	0.0	353.9
72.00		0.3750	43.256	51.038	11,857.2	18.93	115.35	79.1	539.9	0.0	349.5
75.00		0.3750	42.444	50.071	11,196.1	18.55	113.18	79.6	519.6	0.0	516.1
76.00		0.3750	42.173	49.749	10,981.3	18.42	112.46	79.7	512.9	0.0	169.8
80.00		0.3750	41.090	48.460	10,149.7	17.91	109.57	80.3	486.5	0.0	668.4
82.16	Bot - Section 3	0.3750	40.505	47.763	9,717.9	17.63	108.01	80.7	472.6	0.0	354.2
85.00		0.3750	39.737	46.849	9,170.6	17.27	105.96	81.1	454.6	0.0	843.7
87.83	Top - Section 2	0.3125	39.595	38.962	7,596.4	20.93	126.71	76.8	377.9	0.0	825.6
90.00		0.3125	39.008	38.380	7,260.6	20.60	124.83	77.2	366.6	0.0	285.5
91.00		0.3125	38.737	38.111	7,109.3	20.45	123.96	77.4	361.5	0.0	130.1
95.00		0.3125	37.654	37.037	6,525.0	19.84	120.49	78.1	341.3	0.0	511.4
100.0		0.3125	36.301	35.694	5,840.8	19.07	116.16	79.0	316.9	0.0	618.7
104.0		0.3125	35.218	34.620	5,329.2	18.46	112.70	79.7	298.0	0.0	478.5
105.0		0.3125	34.947	34.352	5,206.1	18.31	111.83	79.9	293.4	0.0	117.3
107.0		0.3125	34.405	33.815	4,965.7	18.00	110.10	80.2	284.3	0.0	232.0
110.0		0.3125	33.593	33.009	4,619.2	17.54	107.50	80.8	270.8	0.0	341.1
115.0		0.3125	32.239	31.666	4,078.1	16.78	103.17	81.7	249.1	0.0	550.2
120.0		0.3125	30.886	30.324	3,581.1	16.02	98.83	82.6	228.4	0.0	527.3
125.0		0.3125	29.532	28.981	3,126.1	15.25	94.50	82.6	208.5	0.0	504.5
126.0		0.3125	29.261	28.712	3,040.0	15.10	93.64	82.6	204.6	0.0	98.2
128.0		0.3125	28.720	28.175	2,872.6	14.79	91.90	82.6	197.0	0.0	193.6
129.0		0.3125	28.449	27.907	2,791.3	14.64	91.04	82.6	193.2	0.0	95.4
130.0		0.3125	28.178	27.638	2,711.5	14.49	90.17	82.6	189.5	0.0	94.5
											28,296.3

Load Case: 1.2D + 1.6W — 93 mph with No Ice — 19 Iterations

Gust Response Factor :1.10 — Wind Importance Factor :1.00
Dead Load Factor :1.20
Wind Load Factor :1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		218.5	0.0					0.0	0.0	218.5	0.0	0.0	0.0
5.00		432.2	1,970.7					0.0	355.9	432.2	2,326.5	0.0	0.0
10.00		422.6	1,926.8					0.0	355.9	422.6	2,282.7	0.0	0.0
15.00		412.9	1,883.0					0.0	355.9	412.9	2,238.8	0.0	0.0
20.00		403.3	1,839.1					0.0	355.9	403.3	2,195.0	0.0	0.0
25.00		393.6	1,795.2					0.0	355.9	393.6	2,151.1	0.0	0.0
30.00		388.5	1,751.4					0.0	355.9	388.5	2,107.2	0.0	0.0
35.00		391.2	1,707.5					0.0	355.9	391.2	2,063.4	0.0	0.0
40.00		216.9	1,663.6					0.0	355.9	216.9	2,019.5	0.0	0.0
40.50	Bot - Section 2	201.6	164.0					0.0	35.6	201.6	199.5	0.0	0.0
45.00		283.1	2,566.8					0.0	320.3	283.1	2,887.1	0.0	0.0
47.50	Top - Section 1	202.9	1,399.2					0.0	177.9	202.9	1,577.1	0.0	0.0
50.00		304.6	597.5					0.0	177.9	304.6	775.4	0.0	0.0
55.00		405.8	1,170.3					0.0	355.9	405.8	1,526.2	0.0	0.0
60.00		404.2	1,137.4					0.0	355.9	404.2	1,493.3	0.0	0.0
65.00		321.8	1,104.5					0.0	355.9	321.8	1,460.4	0.0	0.0
68.00	Appurtenance(s)	200.0	646.9	193.3	0.0	0.0	163.2	0.0	213.5	393.3	1,023.6	0.0	0.0
70.00		159.2	424.7					0.0	142.0	159.2	566.7	0.0	0.0
72.00	Appurtenance(s)	197.9	419.4					0.0	142.0	1,459.8	561.4	0.0	0.0
75.00	Appurtenance(s)	157.7	619.3	30.3	0.0	0.0	12.0	0.0	213.0	188.1	844.3	0.0	0.0
76.00	Appurtenance(s)	195.3	203.8	106.2	0.0	0.0	132.0	0.0	70.8	301.6	406.6	0.0	0.0
80.00	Appurtenance(s)	239.7	802.0	30.9	0.0	0.0	12.0	0.0	282.5	270.6	1,096.6	0.0	0.0
82.16	Bot - Section 3	194.1	425.0					0.0	152.4	194.1	577.4	0.0	0.0
85.00		219.7	1,012.5					0.0	199.8	219.7	1,212.3	0.0	0.0
87.83	Top - Section 2	192.2	990.7					0.0	199.4	192.2	1,190.1	0.0	0.0
90.00		121.0	342.7					0.0	152.9	121.0	495.5	0.0	0.0
91.00	Appurtenance(s)	188.6	156.2	929.5	0.0	0.0	1,800.0	0.0	70.5	1,118.1	2,026.6	0.0	0.0
95.00		335.2	613.7					0.0	281.8	335.2	895.5	0.0	0.0
100.00	Appurtenance(s)	329.4	742.5	1,749.6	0.0	6,998.4	1,194.7	0.0	352.3	2,079.0	2,289.4	0.0	0.0
104.00	Appurtenance(s)	180.5	574.2	1,568.7	0.0	0.0	2,400.0	0.0	192.2	1,749.1	3,166.5	0.0	0.0
105.00		106.7	140.8					0.0	48.1	106.7	188.9	0.0	0.0
107.00	Appurtenance(s)	176.0	278.3	25.2	0.0	0.0	12.0	0.0	96.1	201.2	386.5	0.0	0.0
110.00	Appurtenance(s)	276.3	409.3	3,305.8	0.0	6,894.9	3,397.7	0.0	143.0	3,582.1	3,950.0	0.0	0.0
115.00		337.5	660.2					0.0	163.3	337.5	823.5	0.0	0.0
120.00	Appurtenance(s)	327.3	632.8	2,207.8	0.0	0.0	2,666.0	0.0	163.3	2,535.1	3,462.1	0.0	0.0
125.00	Appurtenance(s)	192.6	605.4	503.1	0.0	0.0	373.2	0.0	61.3	695.7	1,039.9	0.0	0.0
126.00	Appurtenance(s)	94.0	117.8	303.3	0.0	0.0	58.8	0.0	10.1	397.3	186.7	0.0	0.0
128.00	Appurtenance(s)	93.4	232.3	2,566.0	0.0	-1,044.8	1,309.3	0.0	19.9	2,659.3	1,561.5	0.0	0.0
129.00	Appurtenance(s)	61.6	114.5	513.6	0.0	0.0	166.7	0.0	0.0	575.2	281.2	0.0	0.0
130.00	Appurtenance(s)	30.7	113.4	1,029.2	0.0	0.0	1,800.0	0.0	0.0	1,059.9	1,913.4	0.0	0.0
								Totals:		26,334.5	57,449.4	0.00	0.00

Load Case: 1.2D + 1.6W — 93 mph with No Ice — 19 Iterations

Gust Response Factor :1.10
Dead Load Factor :1.20
Wind Load Factor :1.60

Wind Importance Factor 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-57.43	-26.15	0.00	-2,488.92	0.00	2,488.92	6,793.61	3,396.81	17,163.1	8,594.34	0.00	0.00	0.298
5.00	-55.07	-25.79	0.00	-2,358.15	0.00	2,358.15	6,692.31	3,346.15	16,532.0	8,278.33	0.04	-0.07	0.293
10.00	-52.76	-25.43	0.00	-2,229.20	0.00	2,229.20	6,588.83	3,294.42	15,907.1	7,965.37	0.16	-0.15	0.288
15.00	-50.49	-25.08	0.00	-2,102.03	0.00	2,102.03	6,483.18	3,241.59	15,288.6	7,655.67	0.36	-0.22	0.282
20.00	-48.26	-24.73	0.00	-1,976.64	0.00	1,976.64	6,375.36	3,187.68	14,676.9	7,349.39	0.63	-0.30	0.277
25.00	-46.08	-24.39	0.00	-1,852.98	0.00	1,852.98	6,265.37	3,132.69	14,072.5	7,046.72	0.99	-0.38	0.270
30.00	-43.94	-24.04	0.00	-1,731.05	0.00	1,731.05	6,153.21	3,076.61	13,475.6	6,747.85	1.43	-0.46	0.264
35.00	-41.85	-23.69	0.00	-1,610.83	0.00	1,610.83	6,038.88	3,019.44	12,886.7	6,452.96	1.95	-0.53	0.257
40.00	-39.81	-23.48	0.00	-1,492.38	0.00	1,492.38	5,922.38	2,961.19	12,306.1	6,162.22	2.55	-0.61	0.249
40.50	-39.60	-23.31	0.00	-1,480.64	0.00	1,480.64	5,910.61	2,955.30	12,248.5	6,133.39	2.61	-0.62	0.248
45.00	-36.70	-23.03	0.00	-1,375.75	0.00	1,375.75	5,803.70	2,901.85	11,734.2	5,875.83	3.23	-0.69	0.241
47.50	-35.11	-22.83	0.00	-1,318.19	0.00	1,318.19	4,002.81	2,001.40	8,146.29	4,079.20	3.60	-0.73	0.332
50.00	-34.31	-22.56	0.00	-1,261.12	0.00	1,261.12	3,967.67	1,983.84	7,963.57	3,987.71	3.99	-0.77	0.325
55.00	-32.75	-22.18	0.00	-1,148.34	0.00	1,148.34	3,895.77	1,947.89	7,600.87	3,806.08	4.85	-0.87	0.310
60.00	-31.23	-21.81	0.00	-1,037.43	0.00	1,037.43	3,821.70	1,910.85	7,242.12	3,626.44	5.82	-0.96	0.294
65.00	-29.74	-21.50	0.00	-928.39	0.00	928.39	3,745.46	1,872.73	6,887.67	3,448.96	6.88	-1.06	0.277
68.00	-28.71	-21.11	0.00	-863.89	0.00	863.89	3,698.67	1,849.34	6,677.23	3,343.58	7.56	-1.12	0.266
70.00	-28.13	-20.96	0.00	-821.67	0.00	821.67	3,667.05	1,833.52	6,537.91	3,273.81	8.04	-1.15	0.259
72.00	-27.59	-19.51	0.00	-779.76	0.00	779.76	3,635.07	1,817.54	6,399.40	3,204.45	8.53	-1.19	0.251
75.00	-26.73	-19.32	0.00	-721.23	0.00	721.23	3,586.46	1,793.23	6,193.19	3,101.20	9.30	-1.24	0.240
76.00	-26.32	-19.03	0.00	-701.91	0.00	701.91	3,570.09	1,785.04	6,124.88	3,066.99	9.56	-1.26	0.236
80.00	-25.21	-18.76	0.00	-625.79	0.00	625.79	3,503.71	1,751.85	5,853.88	2,931.29	10.65	-1.33	0.221
82.16	-24.63	-18.57	0.00	-585.22	0.00	585.22	3,467.23	1,733.61	5,708.83	2,858.66	11.26	-1.37	0.212
85.00	-23.40	-18.34	0.00	-532.55	0.00	532.55	3,418.78	1,709.39	5,520.34	2,764.27	12.09	-1.41	0.200
87.83	-22.21	-18.13	0.00	-480.65	0.00	480.65	2,692.45	1,346.23	4,345.60	2,176.03	12.94	-1.46	0.229
90.00	-21.71	-18.01	0.00	-441.31	0.00	441.31	2,665.65	1,332.83	4,237.49	2,121.89	13.61	-1.49	0.216
91.00	-19.70	-16.85	0.00	-423.31	0.00	423.31	2,653.16	1,326.58	4,187.89	2,097.06	13.92	-1.51	0.209
95.00	-18.79	-16.51	0.00	-355.91	0.00	355.91	2,602.34	1,301.17	3,990.97	1,998.45	15.21	-1.57	0.185
100.00	-16.55	-14.39	0.00	-266.36	0.00	266.36	2,536.86	1,268.43	3,748.34	1,876.95	16.90	-1.64	0.149
104.00	-13.43	-12.55	0.00	-208.82	0.00	208.82	2,482.92	1,241.46	3,557.28	1,781.28	18.29	-1.69	0.123
105.00	-13.24	-12.44	0.00	-196.27	0.00	196.27	2,469.21	1,234.61	3,509.96	1,757.59	18.65	-1.70	0.117
107.00	-12.85	-12.24	0.00	-171.38	0.00	171.38	2,441.54	1,220.77	3,415.88	1,710.48	19.36	-1.72	0.106
110.00	-9.01	-8.54	0.00	-127.78	0.00	127.78	2,399.39	1,199.69	3,276.20	1,640.54	20.45	-1.74	0.082
115.00	-8.19	-8.18	0.00	-85.08	0.00	85.08	2,327.39	1,163.70	3,047.43	1,525.98	22.30	-1.78	0.059
120.00	-4.81	-5.54	0.00	-44.17	0.00	44.17	2,252.89	1,126.45	2,823.60	1,413.90	24.17	-1.80	0.033
125.00	-3.79	-4.81	0.00	-16.46	0.00	16.46	2,153.14	1,076.57	2,577.88	1,290.85	26.06	-1.81	0.015
126.00	-3.62	-4.41	0.00	-11.65	0.00	11.65	2,133.19	1,066.59	2,530.07	1,266.92	26.44	-1.81	0.011
128.00	-2.14	-1.70	0.00	-2.82	0.00	2.82	2,093.29	1,046.64	2,435.81	1,219.72	27.20	-1.81	0.003
129.00	-1.88	-1.12	0.00	-1.12	0.00	1.12	2,073.34	1,036.67	2,389.35	1,196.45	27.58	-1.81	0.002
130.00	0.00	-1.06	0.00	0.00	0.00	0.00	2,053.39	1,026.69	2,343.34	1,173.41	27.96	-1.81	0.000

Load Case: 0.9D + 1.6W — 93 mph with No Ice (Reduced DL) — 19 Iterations

Gust Response Factor :1.10 — Wind Importance Factor :1.00
Dead Load Factor :0.90
Wind Load Factor :1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		218.5	0.0					0.0	0.0	218.5	0.0	0.0	0.0
5.00		432.2	1,478.0					0.0	266.9	432.2	1,744.9	0.0	0.0
10.00		422.6	1,445.1					0.0	266.9	422.6	1,712.0	0.0	0.0
15.00		412.9	1,412.2					0.0	266.9	412.9	1,679.1	0.0	0.0
20.00		403.3	1,379.3					0.0	266.9	403.3	1,646.2	0.0	0.0
25.00		393.6	1,346.4					0.0	266.9	393.6	1,613.3	0.0	0.0
30.00		388.5	1,313.5					0.0	266.9	388.5	1,580.4	0.0	0.0
35.00		391.2	1,280.6					0.0	266.9	391.2	1,547.5	0.0	0.0
40.00		216.9	1,247.7					0.0	266.9	216.9	1,514.6	0.0	0.0
40.50	Bot - Section 2	201.6	123.0					0.0	26.7	201.6	149.7	0.0	0.0
45.00		283.1	1,925.1					0.0	240.2	283.1	2,165.3	0.0	0.0
47.50	Top - Section 1	202.9	1,049.4					0.0	133.4	202.9	1,182.8	0.0	0.0
50.00		304.6	448.1					0.0	133.4	304.6	581.6	0.0	0.0
55.00		405.8	877.7					0.0	266.9	405.8	1,144.6	0.0	0.0
60.00		404.2	853.1					0.0	266.9	404.2	1,120.0	0.0	0.0
65.00		321.8	828.4					0.0	266.9	321.8	1,095.3	0.0	0.0
68.00	Appurtenance(s)	200.0	485.2	193.3	0.0	0.0	122.4	0.0	160.1	393.3	767.7	0.0	0.0
70.00		159.2	318.5					0.0	106.5	159.2	425.0	0.0	0.0
72.00	Appurtenance(s)	197.9	314.6					0.0	106.5	1,459.8	421.1	0.0	0.0
75.00	Appurtenance(s)	157.7	464.5	30.3	0.0	0.0	9.0	0.0	159.7	188.1	633.2	0.0	0.0
76.00	Appurtenance(s)	195.3	152.8	106.2	0.0	0.0	99.0	0.0	53.1	301.6	305.0	0.0	0.0
80.00	Appurtenance(s)	239.7	601.5	30.9	0.0	0.0	9.0	0.0	211.9	270.6	822.4	0.0	0.0
82.16	Bot - Section 3	194.1	318.7					0.0	114.3	194.1	433.1	0.0	0.0
85.00		219.7	759.3					0.0	149.9	219.7	909.2	0.0	0.0
87.83	Top - Section 2	192.2	743.1					0.0	149.5	192.2	892.6	0.0	0.0
90.00		121.0	257.0					0.0	114.7	121.0	371.7	0.0	0.0
91.00	Appurtenance(s)	188.6	117.1	929.5	0.0	0.0	1,350.0	0.0	52.8	1,118.1	1,520.0	0.0	0.0
95.00		335.2	460.3					0.0	211.4	335.2	671.6	0.0	0.0
100.00	Appurtenance(s)	329.4	556.8	1,749.6	0.0	6,998.4	896.0	0.0	264.2	2,079.0	1,717.1	0.0	0.0
104.00	Appurtenance(s)	180.5	430.7	1,568.7	0.0	0.0	1,800.0	0.0	144.2	1,749.1	2,374.9	0.0	0.0
105.00		106.7	105.6					0.0	36.0	106.7	141.7	0.0	0.0
107.00	Appurtenance(s)	176.0	208.8	25.2	0.0	0.0	9.0	0.0	72.1	201.2	289.8	0.0	0.0
110.00	Appurtenance(s)	276.3	307.0	3,305.8	0.0	6,894.9	2,548.3	0.0	107.2	3,582.1	2,962.5	0.0	0.0
115.00		337.5	495.2					0.0	122.4	337.5	617.6	0.0	0.0
120.00	Appurtenance(s)	327.3	474.6	2,207.8	0.0	0.0	1,999.5	0.0	122.4	2,535.1	2,596.6	0.0	0.0
125.00	Appurtenance(s)	192.6	454.1	503.1	0.0	0.0	279.9	0.0	45.9	695.7	779.9	0.0	0.0
126.00	Appurtenance(s)	94.0	88.3	303.3	0.0	0.0	44.1	0.0	7.6	397.3	140.0	0.0	0.0
128.00	Appurtenance(s)	93.4	174.2	2,566.0	0.0	-1,044.8	982.0	0.0	14.9	2,659.3	1,171.1	0.0	0.0
129.00	Appurtenance(s)	61.6	85.9	513.6	0.0	0.0	125.0	0.0	0.0	575.2	210.9	0.0	0.0
130.00	Appurtenance(s)	30.7	85.1	1,029.2	0.0	0.0	1,350.0	0.0	0.0	1,059.9	1,435.1	0.0	0.0
								Totals:		26,334.5	43,087.0	0.00	0.00

Load Case: 0.9D + 1.6W — 93 mph with No Ice (Reduced DL) — 19 Iterations

Gust Response Factor :1.10 — Wind Importance Factor 1.00
Dead Load Factor :0.90
Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-43.07	-26.14	0.00	-2,475.90	0.00	2,475.90	6,793.61	3,396.81	17,163.1	8,594.34	0.00	0.00	0.294
5.00	-41.29	-25.76	0.00	-2,345.18	0.00	2,345.18	6,692.31	3,346.15	16,532.0	8,278.33	0.04	-0.07	0.290
10.00	-39.55	-25.39	0.00	-2,216.37	0.00	2,216.37	6,588.83	3,294.42	15,907.1	7,965.37	0.16	-0.15	0.284
15.00	-37.84	-25.02	0.00	-2,089.42	0.00	2,089.42	6,483.18	3,241.59	15,288.6	7,655.67	0.35	-0.22	0.279
20.00	-36.16	-24.66	0.00	-1,964.32	0.00	1,964.32	6,375.36	3,187.68	14,676.9	7,349.39	0.63	-0.30	0.273
25.00	-34.52	-24.30	0.00	-1,841.03	0.00	1,841.03	6,265.37	3,132.69	14,072.5	7,046.72	0.98	-0.38	0.267
30.00	-32.91	-23.95	0.00	-1,719.52	0.00	1,719.52	6,153.21	3,076.61	13,475.6	6,747.85	1.42	-0.45	0.260
35.00	-31.33	-23.58	0.00	-1,599.79	0.00	1,599.79	6,038.88	3,019.44	12,886.7	6,452.96	1.93	-0.53	0.253
40.00	-29.80	-23.37	0.00	-1,481.88	0.00	1,481.88	5,922.38	2,961.19	12,306.1	6,162.22	2.53	-0.61	0.246
40.50	-29.64	-23.19	0.00	-1,470.19	0.00	1,470.19	5,910.61	2,955.30	12,248.5	6,133.39	2.60	-0.62	0.245
45.00	-27.45	-22.91	0.00	-1,365.83	0.00	1,365.83	5,803.70	2,901.85	11,734.2	5,875.83	3.21	-0.69	0.237
47.50	-26.26	-22.71	0.00	-1,308.56	0.00	1,308.56	4,002.81	2,001.40	8,146.29	4,079.20	3.58	-0.73	0.327
50.00	-25.65	-22.43	0.00	-1,251.78	0.00	1,251.78	3,967.67	1,983.84	7,963.57	3,987.71	3.97	-0.76	0.321
55.00	-24.48	-22.05	0.00	-1,139.64	0.00	1,139.64	3,895.77	1,947.89	7,600.87	3,806.08	4.82	-0.86	0.306
60.00	-23.33	-21.67	0.00	-1,029.39	0.00	1,029.39	3,821.70	1,910.85	7,242.12	3,626.44	5.78	-0.96	0.290
65.00	-22.21	-21.35	0.00	-921.07	0.00	921.07	3,745.46	1,872.73	6,887.67	3,448.96	6.83	-1.05	0.273
68.00	-21.43	-20.96	0.00	-857.01	0.00	857.01	3,698.67	1,849.34	6,677.23	3,343.58	7.51	-1.11	0.262
70.00	-21.00	-20.81	0.00	-815.09	0.00	815.09	3,667.05	1,833.52	6,537.91	3,273.81	7.99	-1.15	0.255
72.00	-20.59	-19.36	0.00	-773.47	0.00	773.47	3,635.07	1,817.54	6,399.40	3,204.45	8.47	-1.18	0.247
75.00	-19.95	-19.17	0.00	-715.40	0.00	715.40	3,586.46	1,793.23	6,193.19	3,101.20	9.24	-1.24	0.236
76.00	-19.64	-18.88	0.00	-696.23	0.00	696.23	3,570.09	1,785.04	6,124.88	3,066.99	9.50	-1.25	0.233
80.00	-18.80	-18.60	0.00	-620.73	0.00	620.73	3,503.71	1,751.85	5,853.88	2,931.29	10.58	-1.32	0.217
82.16	-18.36	-18.41	0.00	-580.49	0.00	580.49	3,467.23	1,733.61	5,708.83	2,858.66	11.18	-1.36	0.208
85.00	-17.45	-18.18	0.00	-528.26	0.00	528.26	3,418.78	1,709.39	5,520.34	2,764.27	12.01	-1.40	0.196
87.83	-16.55	-17.98	0.00	-476.80	0.00	476.80	2,692.45	1,346.23	4,345.60	2,176.03	12.85	-1.45	0.225
90.00	-16.17	-17.86	0.00	-437.78	0.00	437.78	2,665.65	1,332.83	4,237.49	2,121.89	13.52	-1.48	0.213
91.00	-14.67	-16.71	0.00	-419.92	0.00	419.92	2,653.16	1,326.58	4,187.89	2,097.06	13.83	-1.50	0.206
95.00	-13.99	-16.37	0.00	-353.08	0.00	353.08	2,602.34	1,301.17	3,990.97	1,998.45	15.11	-1.56	0.182
100.00	-12.31	-14.26	0.00	-264.21	0.00	264.21	2,536.86	1,268.43	3,748.34	1,876.95	16.79	-1.63	0.146
104.00	-9.98	-12.45	0.00	-207.17	0.00	207.17	2,482.92	1,241.46	3,557.28	1,781.28	18.17	-1.67	0.120
105.00	-9.84	-12.34	0.00	-194.73	0.00	194.73	2,469.21	1,234.61	3,509.96	1,757.59	18.52	-1.68	0.115
107.00	-9.55	-12.13	0.00	-170.05	0.00	170.05	2,441.54	1,220.77	3,415.88	1,710.48	19.23	-1.70	0.103
110.00	-6.70	-8.47	0.00	-126.75	0.00	126.75	2,399.39	1,199.69	3,276.20	1,640.54	20.31	-1.73	0.080
115.00	-6.09	-8.11	0.00	-84.41	0.00	84.41	2,327.39	1,163.70	3,047.43	1,525.98	22.14	-1.76	0.058
120.00	-3.57	-5.50	0.00	-43.84	0.00	43.84	2,252.89	1,126.45	2,823.60	1,413.90	24.00	-1.79	0.033
125.00	-2.81	-4.78	0.00	-16.33	0.00	16.33	2,153.14	1,076.57	2,577.88	1,290.85	25.88	-1.80	0.014
126.00	-2.68	-4.38	0.00	-11.55	0.00	11.55	2,133.19	1,066.59	2,530.07	1,266.92	26.26	-1.80	0.010
128.00	-1.59	-1.69	0.00	-2.79	0.00	2.79	2,093.29	1,046.64	2,435.81	1,219.72	27.01	-1.80	0.003
129.00	-1.40	-1.10	0.00	-1.10	0.00	1.10	2,073.34	1,036.67	2,389.35	1,196.45	27.39	-1.80	0.002
130.00	0.00	-1.06	0.00	0.00	0.00	0.00	2,053.39	1,026.69	2,343.34	1,173.41	27.76	-1.80	0.000

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 0.75 in Radial Ice — 18 Iterations

Gust Response Factor :1.10 | Ice Dead Load Factor :1.00 | Wind Importance Factor :1.00
Dead Load Factor :1.20 | Ice Importance Factor :1.00
Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		75.6	0.0					0.0	0.0	75.6	0.0	0.0	0.0
5.00		149.9	2,419.4					0.0	355.9	149.9	2,775.2	0.0	0.0
10.00		147.1	2,417.7					0.0	355.9	147.1	2,773.6	0.0	0.0
15.00		144.2	2,388.6					0.0	355.9	144.2	2,744.5	0.0	0.0
20.00		141.2	2,350.5					0.0	355.9	141.2	2,706.4	0.0	0.0
25.00		138.1	2,307.8					0.0	355.9	138.1	2,663.6	0.0	0.0
30.00		136.6	2,262.1					0.0	355.9	136.6	2,617.9	0.0	0.0
35.00		137.9	2,214.3					0.0	355.9	137.9	2,570.2	0.0	0.0
40.00		76.5	2,165.1					0.0	355.9	76.5	2,520.9	0.0	0.0
40.50	Bot - Section 2	71.2	214.3					0.0	35.6	71.2	249.9	0.0	0.0
45.00		100.1	3,019.0					0.0	320.3	100.1	3,339.3	0.0	0.0
47.50	Top - Section 1	71.8	1,649.1					0.0	177.9	71.8	1,827.1	0.0	0.0
50.00		108.0	845.5					0.0	177.9	108.0	1,023.4	0.0	0.0
55.00		144.1	1,656.8					0.0	355.9	144.1	2,012.7	0.0	0.0
60.00		143.9	1,615.0					0.0	355.9	143.9	1,970.9	0.0	0.0
65.00		114.8	1,572.7					0.0	355.9	114.8	1,928.6	0.0	0.0
68.00	Appurtenance(s)	71.4	924.7	57.5	0.0	0.0	407.3	0.0	213.5	128.9	1,545.6	0.0	0.0
70.00		57.0	608.4					0.0	142.0	57.0	750.4	0.0	0.0
72.00	Appurtenance(s)	70.9	601.5					0.0	142.0	446.6	743.5	0.0	0.0
75.00	Appurtenance(s)	56.6	888.4	9.1	0.0	0.0	49.3	0.0	213.0	65.7	1,150.7	0.0	0.0
76.00	Appurtenance(s)	70.2	293.2	30.1	0.0	0.0	292.8	0.0	70.8	100.3	656.8	0.0	0.0
80.00	Appurtenance(s)	86.2	1,152.0	9.3	0.0	0.0	49.5	0.0	282.5	95.5	1,484.0	0.0	0.0
82.16	Bot - Section 3	69.9	612.4					0.0	152.4	69.9	764.8	0.0	0.0
85.00		79.2	1,258.2					0.0	199.8	79.2	1,458.0	0.0	0.0
87.83	Top - Section 2	69.3	1,232.2					0.0	199.4	69.3	1,431.6	0.0	0.0
90.00		43.7	525.7					0.0	152.9	43.7	678.6	0.0	0.0
91.00	Appurtenance(s)	68.3	240.1	284.9	0.0	0.0	3,917.2	0.0	70.5	353.2	4,227.8	0.0	0.0
95.00		121.6	941.4					0.0	281.8	121.6	1,223.3	0.0	0.0
100.00	Appurtenance(s)	119.8	1,140.0	423.7	0.0	1,694.6	4,338.5	0.0	352.3	543.5	5,830.7	0.0	0.0
104.00	Appurtenance(s)	65.8	884.6	418.5	0.0	0.0	3,320.2	0.0	192.2	484.3	4,397.1	0.0	0.0
105.00		39.0	218.0					0.0	48.1	39.0	266.1	0.0	0.0
107.00	Appurtenance(s)	64.4	430.7	7.7	0.0	0.0	50.3	0.0	96.1	72.1	577.2	0.0	0.0
110.00	Appurtenance(s)	101.4	633.3	830.6	0.0	1,555.3	9,349.1	0.0	143.0	932.0	10,125.4	0.0	0.0
115.00		124.3	1,020.6					0.0	163.3	124.3	1,183.8	0.0	0.0
120.00	Appurtenance(s)	121.0	980.4	587.0	0.0	0.0	6,875.3	0.0	163.3	708.0	8,018.9	0.0	0.0
125.00	Appurtenance(s)	71.4	940.0	123.8	0.0	0.0	1,335.3	0.0	61.3	195.3	2,336.5	0.0	0.0
126.00	Appurtenance(s)	35.0	184.3	66.1	0.0	0.0	264.5	0.0	10.1	101.1	458.9	0.0	0.0
128.00	Appurtenance(s)	34.8	363.1	563.4	0.0	-184.4	5,215.9	0.0	19.9	598.2	5,598.9	0.0	0.0
129.00	Appurtenance(s)	23.0	179.4	156.6	0.0	0.0	401.1	0.0	0.0	179.6	580.5	0.0	0.0
130.00	Appurtenance(s)	11.5	177.8	320.2	0.0	0.0	3,939.7	0.0	0.0	331.7	4,117.5	0.0	0.0
								Totals:		7,840.71	93,330.8	0.00	0.00

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 0.75 in Radial Ice 18 Iterations

Gust Response Factor :1.10 Ice Dead Load Factor 1.00 Wind Importance Factor 1.00
Dead Load Factor :1.20 Ice Importance Factor 1.00
Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-93.33	-7.78	0.00	-725.40	0.00	725.40	6,793.61	3,396.81	17,163.1	8,594.34	0.00	0.00	0.098
5.00	-90.55	-7.67	0.00	-686.49	0.00	686.49	6,692.31	3,346.15	16,532.0	8,278.33	0.01	-0.02	0.096
10.00	-87.77	-7.55	0.00	-648.16	0.00	648.16	6,588.83	3,294.42	15,907.1	7,965.37	0.05	-0.04	0.095
15.00	-85.03	-7.44	0.00	-610.41	0.00	610.41	6,483.18	3,241.59	15,288.6	7,655.67	0.10	-0.07	0.093
20.00	-82.32	-7.32	0.00	-573.23	0.00	573.23	6,375.36	3,187.68	14,676.9	7,349.39	0.18	-0.09	0.091
25.00	-79.65	-7.21	0.00	-536.61	0.00	536.61	6,265.37	3,132.69	14,072.5	7,046.72	0.29	-0.11	0.089
30.00	-77.03	-7.10	0.00	-500.56	0.00	500.56	6,153.21	3,076.61	13,475.6	6,747.85	0.41	-0.13	0.087
35.00	-74.46	-6.99	0.00	-465.06	0.00	465.06	6,038.88	3,019.44	12,886.7	6,452.96	0.57	-0.15	0.084
40.00	-71.94	-6.92	0.00	-430.13	0.00	430.13	5,922.38	2,961.19	12,306.1	6,162.22	0.74	-0.18	0.082
40.50	-71.69	-6.86	0.00	-426.67	0.00	426.67	5,910.61	2,955.30	12,248.5	6,133.39	0.76	-0.18	0.082
45.00	-68.35	-6.77	0.00	-395.81	0.00	395.81	5,803.70	2,901.85	11,734.2	5,875.83	0.94	-0.20	0.079
47.50	-66.52	-6.70	0.00	-378.89	0.00	378.89	4,002.81	2,001.40	8,146.29	4,079.20	1.05	-0.21	0.110
50.00	-65.49	-6.61	0.00	-362.14	0.00	362.14	3,967.67	1,983.84	7,963.57	3,987.71	1.16	-0.22	0.107
55.00	-63.48	-6.49	0.00	-329.08	0.00	329.08	3,895.77	1,947.89	7,600.87	3,806.08	1.41	-0.25	0.103
60.00	-61.50	-6.37	0.00	-296.62	0.00	296.62	3,821.70	1,910.85	7,242.12	3,626.44	1.69	-0.28	0.098
65.00	-59.57	-6.27	0.00	-264.79	0.00	264.79	3,745.46	1,872.73	6,887.67	3,448.96	1.99	-0.31	0.093
68.00	-58.03	-6.14	0.00	-245.99	0.00	245.99	3,698.67	1,849.34	6,677.23	3,343.58	2.19	-0.32	0.089
70.00	-57.28	-6.09	0.00	-233.71	0.00	233.71	3,667.05	1,833.52	6,537.91	3,273.81	2.33	-0.33	0.087
72.00	-56.53	-5.65	0.00	-221.53	0.00	221.53	3,635.07	1,817.54	6,399.40	3,204.45	2.47	-0.34	0.085
75.00	-55.38	-5.59	0.00	-204.57	0.00	204.57	3,586.46	1,793.23	6,193.19	3,101.20	2.69	-0.36	0.081
76.00	-54.72	-5.50	0.00	-198.98	0.00	198.98	3,570.09	1,785.04	6,124.88	3,066.99	2.77	-0.36	0.080
80.00	-53.24	-5.41	0.00	-176.99	0.00	176.99	3,503.71	1,751.85	5,853.88	2,931.29	3.08	-0.38	0.076
82.16	-52.47	-5.34	0.00	-165.30	0.00	165.30	3,467.23	1,733.61	5,708.83	2,858.66	3.25	-0.39	0.073
85.00	-51.02	-5.26	0.00	-150.15	0.00	150.15	3,418.78	1,709.39	5,520.34	2,764.27	3.49	-0.41	0.069
87.83	-49.58	-5.19	0.00	-135.25	0.00	135.25	2,692.45	1,346.23	4,345.60	2,176.03	3.74	-0.42	0.081
90.00	-48.91	-5.15	0.00	-123.98	0.00	123.98	2,665.65	1,332.83	4,237.49	2,121.89	3.93	-0.43	0.077
91.00	-44.68	-4.77	0.00	-118.83	0.00	118.83	2,653.16	1,326.58	4,187.89	2,097.06	4.02	-0.43	0.074
95.00	-43.46	-4.66	0.00	-99.73	0.00	99.73	2,602.34	1,301.17	3,990.97	1,998.45	4.39	-0.45	0.067
100.00	-37.63	-4.08	0.00	-74.75	0.00	74.75	2,536.86	1,268.43	3,748.34	1,876.95	4.87	-0.47	0.055
104.00	-33.23	-3.56	0.00	-58.44	0.00	58.44	2,482.92	1,241.46	3,557.28	1,781.28	5.27	-0.48	0.046
105.00	-32.97	-3.52	0.00	-54.88	0.00	54.88	2,469.21	1,234.61	3,509.96	1,757.59	5.37	-0.49	0.045
107.00	-32.39	-3.45	0.00	-47.83	0.00	47.83	2,441.54	1,220.77	3,415.88	1,710.48	5.58	-0.49	0.041
110.00	-22.27	-2.43	0.00	-35.93	0.00	35.93	2,399.39	1,199.69	3,276.20	1,640.54	5.89	-0.50	0.031
115.00	-21.09	-2.30	0.00	-23.76	0.00	23.76	2,327.39	1,163.70	3,047.43	1,525.98	6.42	-0.51	0.025
120.00	-13.08	-1.52	0.00	-12.25	0.00	12.25	2,252.89	1,126.45	2,823.60	1,413.90	6.95	-0.51	0.014
125.00	-10.74	-1.31	0.00	-4.63	0.00	4.63	2,153.14	1,076.57	2,577.88	1,290.85	7.49	-0.52	0.009
126.00	-10.29	-1.20	0.00	-3.33	0.00	3.33	2,133.19	1,066.59	2,530.07	1,266.92	7.60	-0.52	0.007
128.00	-4.69	-0.55	0.00	-0.92	0.00	0.92	2,093.29	1,046.64	2,435.81	1,219.72	7.82	-0.52	0.003
129.00	-4.11	-0.37	0.00	-0.37	0.00	0.37	2,073.34	1,036.67	2,389.35	1,196.45	7.93	-0.52	0.002
130.00	0.00	-0.33	0.00	0.00	0.00	0.00	2,053.39	1,026.69	2,343.34	1,173.41	8.04	-0.52	0.000

Load Case: 1.0D + 1.0W | Serviceability 60 mph | 18 Iterations

Gust Response Factor :1.10 | Wind Importance Factor :1.00
Dead Load Factor :1.00
Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		50.9	0.0					0.0	0.0	50.9	0.0	0.0	0.0
5.00		100.6	1,642.2					0.0	296.6	100.6	1,938.8	0.0	0.0
10.00		98.4	1,605.7					0.0	296.6	98.4	1,902.2	0.0	0.0
15.00		96.1	1,569.1					0.0	296.6	96.1	1,865.7	0.0	0.0
20.00		93.9	1,532.6					0.0	296.6	93.9	1,829.1	0.0	0.0
25.00		91.6	1,496.0					0.0	296.6	91.6	1,792.6	0.0	0.0
30.00		90.4	1,459.5					0.0	296.6	90.4	1,756.0	0.0	0.0
35.00		91.1	1,422.9					0.0	296.6	91.1	1,719.5	0.0	0.0
40.00		50.5	1,386.4					0.0	296.6	50.5	1,682.9	0.0	0.0
40.50	Bot - Section 2	46.9	136.6					0.0	29.7	46.9	166.3	0.0	0.0
45.00		65.9	2,139.0					0.0	266.9	65.9	2,405.9	0.0	0.0
47.50	Top - Section 1	47.2	1,166.0					0.0	148.3	47.2	1,314.2	0.0	0.0
50.00		70.9	497.9					0.0	148.3	70.9	646.2	0.0	0.0
55.00		94.4	975.3					0.0	296.6	94.4	1,271.8	0.0	0.0
60.00		94.1	947.8					0.0	296.6	94.1	1,244.4	0.0	0.0
65.00		74.9	920.4					0.0	296.6	74.9	1,217.0	0.0	0.0
68.00	Appurtenance(s)	46.5	539.1	45.0	0.0	0.0	136.0	0.0	177.9	91.5	853.0	0.0	0.0
70.00		37.1	353.9					0.0	118.3	37.1	472.2	0.0	0.0
72.00	Appurtenance(s)	46.1	349.5					0.0	118.3	339.8	467.9	0.0	0.0
75.00	Appurtenance(s)	36.7	516.1	7.1	0.0	0.0	10.0	0.0	177.5	43.8	703.6	0.0	0.0
76.00	Appurtenance(s)	45.5	169.8	24.7	0.0	0.0	110.0	0.0	59.0	70.2	338.8	0.0	0.0
80.00	Appurtenance(s)	55.8	668.4	7.2	0.0	0.0	10.0	0.0	235.4	63.0	913.8	0.0	0.0
82.16	Bot - Section 3	45.2	354.2					0.0	127.0	45.2	481.2	0.0	0.0
85.00		51.1	843.7					0.0	166.5	51.1	1,010.3	0.0	0.0
87.83	Top - Section 2	44.7	825.6					0.0	166.1	44.7	991.8	0.0	0.0
90.00		28.2	285.5					0.0	127.4	28.2	412.9	0.0	0.0
91.00	Appurtenance(s)	43.9	130.1	216.3	0.0	0.0	1,500.0	0.0	58.7	260.2	1,688.9	0.0	0.0
95.00		78.0	511.4					0.0	234.8	78.0	746.3	0.0	0.0
100.00	Appurtenance(s)	76.7	618.7	407.2	0.0	1,629.0	995.6	0.0	293.6	483.9	1,907.9	0.0	0.0
104.00	Appurtenance(s)	42.0	478.5	365.1	0.0	0.0	2,000.0	0.0	160.2	407.1	2,638.7	0.0	0.0
105.00		24.8	117.3					0.0	40.1	24.8	157.4	0.0	0.0
107.00	Appurtenance(s)	41.0	232.0	5.9	0.0	0.0	10.0	0.0	80.1	46.8	322.1	0.0	0.0
110.00	Appurtenance(s)	64.3	341.1	769.5	0.0	1,604.9	2,831.4	0.0	119.2	833.8	3,291.6	0.0	0.0
115.00		78.6	550.2					0.0	136.1	78.6	686.2	0.0	0.0
120.00	Appurtenance(s)	76.2	527.3	513.9	0.0	0.0	2,221.7	0.0	136.1	590.1	2,885.1	0.0	0.0
125.00	Appurtenance(s)	44.8	504.5	117.1	0.0	0.0	311.0	0.0	51.1	161.9	866.6	0.0	0.0
126.00	Appurtenance(s)	21.9	98.2	70.6	0.0	0.0	49.0	0.0	8.4	92.5	155.6	0.0	0.0
128.00	Appurtenance(s)	21.7	193.6	597.3	0.0	-243.2	1,091.1	0.0	16.6	619.0	1,301.3	0.0	0.0
129.00	Appurtenance(s)	14.3	95.4	119.6	0.0	0.0	138.9	0.0	0.0	133.9	234.3	0.0	0.0
130.00	Appurtenance(s)	7.1	94.5	239.6	0.0	0.0	1,500.0	0.0	0.0	246.7	1,594.5	0.0	0.0
								Totals:		6,129.68	47,874.5	0.00	0.00

Load Case: 1.0D + 1.0W Serviceability 60 mph 18 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.00
Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-47.87	-6.09	0.00	-577.31	0.00	577.31	6,793.61	3,396.81	17,163.1	8,594.34	0.00	0.00	0.074
5.00	-45.93	-6.00	0.00	-546.88	0.00	546.88	6,692.31	3,346.15	16,532.0	8,278.33	0.01	-0.02	0.073
10.00	-44.03	-5.91	0.00	-516.89	0.00	516.89	6,588.83	3,294.42	15,907.1	7,965.37	0.04	-0.03	0.072
15.00	-42.16	-5.83	0.00	-487.33	0.00	487.33	6,483.18	3,241.59	15,288.6	7,655.67	0.08	-0.05	0.070
20.00	-40.33	-5.74	0.00	-458.19	0.00	458.19	6,375.36	3,187.68	14,676.9	7,349.39	0.15	-0.07	0.069
25.00	-38.54	-5.66	0.00	-429.47	0.00	429.47	6,265.37	3,132.69	14,072.5	7,046.72	0.23	-0.09	0.067
30.00	-36.78	-5.58	0.00	-401.15	0.00	401.15	6,153.21	3,076.61	13,475.6	6,747.85	0.33	-0.11	0.065
35.00	-35.06	-5.50	0.00	-373.25	0.00	373.25	6,038.88	3,019.44	12,886.7	6,452.96	0.45	-0.12	0.064
40.00	-33.37	-5.45	0.00	-345.77	0.00	345.77	5,922.38	2,961.19	12,306.1	6,162.22	0.59	-0.14	0.062
40.50	-33.21	-5.41	0.00	-343.04	0.00	343.04	5,910.61	2,955.30	12,248.5	6,133.39	0.61	-0.14	0.062
45.00	-30.80	-5.34	0.00	-318.71	0.00	318.71	5,803.70	2,901.85	11,734.2	5,875.83	0.75	-0.16	0.060
47.50	-29.49	-5.29	0.00	-305.36	0.00	305.36	4,002.81	2,001.40	8,146.29	4,079.20	0.84	-0.17	0.082
50.00	-28.84	-5.23	0.00	-292.12	0.00	292.12	3,967.67	1,983.84	7,963.57	3,987.71	0.93	-0.18	0.081
55.00	-27.56	-5.14	0.00	-265.97	0.00	265.97	3,895.77	1,947.89	7,600.87	3,806.08	1.13	-0.20	0.077
60.00	-26.32	-5.05	0.00	-240.26	0.00	240.26	3,821.70	1,910.85	7,242.12	3,626.44	1.35	-0.22	0.073
65.00	-25.10	-4.98	0.00	-214.99	0.00	214.99	3,745.46	1,872.73	6,887.67	3,448.96	1.59	-0.25	0.069
68.00	-24.25	-4.89	0.00	-200.05	0.00	200.05	3,698.67	1,849.34	6,677.23	3,343.58	1.75	-0.26	0.066
70.00	-23.77	-4.86	0.00	-190.26	0.00	190.26	3,667.05	1,833.52	6,537.91	3,273.81	1.86	-0.27	0.065
72.00	-23.31	-4.52	0.00	-180.55	0.00	180.55	3,635.07	1,817.54	6,399.40	3,204.45	1.98	-0.28	0.063
75.00	-22.60	-4.47	0.00	-167.00	0.00	167.00	3,586.46	1,793.23	6,193.19	3,101.20	2.15	-0.29	0.060
76.00	-22.26	-4.41	0.00	-162.53	0.00	162.53	3,570.09	1,785.04	6,124.88	3,066.99	2.22	-0.29	0.059
80.00	-21.35	-4.34	0.00	-144.91	0.00	144.91	3,503.71	1,751.85	5,853.88	2,931.29	2.47	-0.31	0.056
82.16	-20.87	-4.30	0.00	-135.51	0.00	135.51	3,467.23	1,733.61	5,708.83	2,858.66	2.61	-0.32	0.053
85.00	-19.86	-4.25	0.00	-123.32	0.00	123.32	3,418.78	1,709.39	5,520.34	2,764.27	2.80	-0.33	0.050
87.83	-18.86	-4.20	0.00	-111.31	0.00	111.31	2,692.45	1,346.23	4,345.60	2,176.03	3.00	-0.34	0.058
90.00	-18.45	-4.17	0.00	-102.20	0.00	102.20	2,665.65	1,332.83	4,237.49	2,121.89	3.15	-0.35	0.055
91.00	-16.76	-3.90	0.00	-98.03	0.00	98.03	2,653.16	1,326.58	4,187.89	2,097.06	3.23	-0.35	0.053
95.00	-16.02	-3.82	0.00	-82.42	0.00	82.42	2,602.34	1,301.17	3,990.97	1,998.45	3.53	-0.36	0.047
100.00	-14.11	-3.33	0.00	-61.68	0.00	61.68	2,536.86	1,268.43	3,748.34	1,876.95	3.92	-0.38	0.038
104.00	-11.48	-2.91	0.00	-48.36	0.00	48.36	2,482.92	1,241.46	3,557.28	1,781.28	4.24	-0.39	0.032
105.00	-11.32	-2.88	0.00	-45.46	0.00	45.46	2,469.21	1,234.61	3,509.96	1,757.59	4.32	-0.39	0.030
107.00	-11.00	-2.83	0.00	-39.69	0.00	39.69	2,441.54	1,220.77	3,415.88	1,710.48	4.49	-0.40	0.028
110.00	-7.71	-1.98	0.00	-29.59	0.00	29.59	2,399.39	1,199.69	3,276.20	1,640.54	4.74	-0.40	0.021
115.00	-7.02	-1.89	0.00	-19.71	0.00	19.71	2,327.39	1,163.70	3,047.43	1,525.98	5.17	-0.41	0.016
120.00	-4.14	-1.28	0.00	-10.23	0.00	10.23	2,252.89	1,126.45	2,823.60	1,413.90	5.60	-0.42	0.009
125.00	-3.28	-1.12	0.00	-3.81	0.00	3.81	2,153.14	1,076.57	2,577.88	1,290.85	6.04	-0.42	0.004
126.00	-3.12	-1.02	0.00	-2.70	0.00	2.70	2,133.19	1,066.59	2,530.07	1,266.92	6.13	-0.42	0.004
128.00	-1.83	-0.39	0.00	-0.65	0.00	0.65	2,093.29	1,046.64	2,435.81	1,219.72	6.30	-0.42	0.001
129.00	-1.59	-0.26	0.00	-0.26	0.00	0.26	2,073.34	1,036.67	2,389.35	1,196.45	6.39	-0.42	0.001
130.00	0.00	-0.25	0.00	0.00	0.00	0.00	2,053.39	1,026.69	2,343.34	1,173.41	6.48	-0.42	0.000

Equivalent Lateral Forces Method Analysis

(Based on ASCE7-10 Chapters 11, 12, 15)

Spectral Response Acceleration for Short Period (S_s):	0.23	
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.07	
Long-Period Transition Period (T_L):	6	
Importance Factor (I_E):	1.00	
Site Coefficient F_a:	1.60	
Site Coeffiecient F_v:	2.40	
Response Modification Coefficient (R):	1.50	
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.24	
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.11	
Seismic Response Coefficient (C_s):	0.05	
Upper Limit C_s	0.05	
Lower Limit C_s	0.03	
Period based on Rayleigh Method (sec):	1.47	
Redundancy Factor (p):	1.00	
Seismic Force Distribution Exponent (k):	1.49	
Total Unfactored Dead Load:	47.87	k
Seismic Base Shear (E):	2.32	k

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
39	129.50	95	130	0.005	11	118
38	128.50	95	130	0.005	10	119
37	127.00	210	281	0.010	23	262
36	125.50	107	140	0.005	11	133
35	122.50	556	705	0.024	57	694
34	117.50	663	791	0.027	64	828
33	112.50	686	767	0.027	62	857
32	108.50	460	488	0.017	39	575
31	106.00	312	319	0.011	26	390
30	104.50	157	158	0.005	13	196
29	102.00	639	617	0.021	50	797
28	97.50	912	824	0.029	67	1,139
27	93.00	746	629	0.022	51	932
26	90.50	189	153	0.005	12	236
25	88.92	413	325	0.011	26	516
24	86.42	992	749	0.026	60	1,238
23	83.58	1,010	726	0.025	59	1,261
22	81.08	481	331	0.011	27	601
21	78.00	904	586	0.020	47	1,128
20	75.50	229	141	0.005	11	286
19	73.50	694	412	0.014	33	866
18	71.00	468	264	0.009	21	584
17	69.00	472	255	0.009	21	590

16	66.50	717	367	0.013	30	895
15	62.50	1,217	568	0.020	46	1,519
14	57.50	1,244	513	0.018	41	1,554
13	52.50	1,272	458	0.016	37	1,588
12	48.75	646	208	0.007	17	807
11	46.25	1,314	392	0.014	32	1,641
10	42.75	2,406	638	0.022	52	3,004
9	40.25	166	40	0.001	3	208
8	37.50	1,683	368	0.013	30	2,101
7	32.50	1,719	304	0.011	25	2,147
6	27.50	1,756	242	0.008	20	2,192
5	22.50	1,793	183	0.006	15	2,238
4	17.50	1,829	129	0.004	10	2,284
3	12.50	1,866	80	0.003	6	2,329
2	7.50	1,902	38	0.001	3	2,375
1	2.50	1,939	8	0.000	1	2,420
Flat Low Profile Pla	130.00	1,500	2,079	0.072	168	1,873
VZW Unused Reserve (	129.00	139	190	0.007	15	173
Generic 2" x 8" GPS	128.00	10	14	0.000	1	12
Samsung Outdoor LAA	128.00	13	18	0.001	1	16
Samsung Outdoor CBRS	128.00	56	76	0.003	6	70
Samsung B5/B13 RRH-B	128.00	211	286	0.010	23	263
Samsung B2/B66A RRH-	128.00	253	343	0.012	28	316
RFS DB-C1-12C-24AB-0	128.00	32	43	0.002	3	40
Decibel DB846F65ZAXY	128.00	84	114	0.004	9	105
Quintel QS6656-5	128.00	390	528	0.018	43	487
Antel LPA-80080/6CF	128.00	42	57	0.002	5	52
Andrew Microwaves VH	126.00	49	65	0.002	5	61
Alcatel-Lucent 800MH	125.00	159	208	0.007	17	198
Alcatel-Lucent 1900M	125.00	132	173	0.006	14	165
Generic 24" x 24" Ju	125.00	20	26	0.001	2	25
Alcatel-Lucent RRH2x	120.00	159	195	0.007	16	198
Nokia 2.5G MAA - AAH	120.00	311	382	0.013	31	388
Generic 24" x 24" Ju	120.00	20	25	0.001	2	25
Commscope NNVV-65B-R	120.00	232	286	0.010	23	290
Flat Low Profile Pla	120.00	1,500	1,846	0.064	149	1,873
Ericsson KRY 112 71	110.00	40	43	0.001	3	49
Ericsson Radio 4449	110.00	222	240	0.008	19	277
EMS RR90-17-02DP	110.00	41	44	0.002	4	51
Ericsson AIR 21, 1.3	110.00	249	269	0.009	22	311
Ericsson AIR-32 B2A/	110.00	397	429	0.015	35	495
RFS APXVAARR24_43-U-	110.00	384	415	0.014	33	479
Flat Low Profile Pla	110.00	1,500	1,622	0.056	131	1,873
Generic GPS	107.00	10	10	0.000	1	12
Flat Platform w/ Han	104.00	2,000	1,989	0.069	161	2,497
Powerwave Allgon LGP	100.00	66	62	0.002	5	82
Powerwave Allgon 702	100.00	13	12	0.000	1	16
Powerwave Allgon LGP	100.00	169	159	0.006	13	211
Raycap DC6-48-60-18-	100.00	20	19	0.001	2	25
Ericsson RRUS-11 (50	100.00	150	141	0.005	11	187
Ericsson RRUS 12 w/	100.00	214	201	0.007	16	267
Powerwave Allgon 777	100.00	210	197	0.007	16	262
CCI HPA-65R-BUU-H6	100.00	153	144	0.005	12	191
Empty Flat Low Profi	91.00	1,500	1,223	0.043	99	1,873
Generic GPS	80.00	10	7	0.000	1	12
Generic 2" x 8" GPS	76.00	10	6	0.000	1	12
Stand-Off	76.00	100	62	0.002	5	125
Generic GPS	75.00	10	6	0.000	0	12
VZW Unused Reserve (	72.00	0	0	0.000	0	0
Generic GPS	68.00	10	5	0.000	0	12
Side Arm	68.00	126	67	0.002	5	157
		47,874	28,781	1.000	2,324	59,768

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
39	129.50	95	130	0.005	11	80
38	128.50	95	130	0.005	10	81
37	127.00	210	281	0.010	23	179
36	125.50	107	140	0.005	11	91
35	122.50	556	705	0.024	57	473
34	117.50	663	791	0.027	64	565
33	112.50	686	767	0.027	62	584
32	108.50	460	488	0.017	39	392
31	106.00	312	319	0.011	26	266
30	104.50	157	158	0.005	13	134
29	102.00	639	617	0.021	50	544
28	97.50	912	824	0.029	67	777
27	93.00	746	629	0.022	51	635
26	90.50	189	153	0.005	12	161
25	88.92	413	325	0.011	26	352
24	86.42	992	749	0.026	60	845
23	83.58	1,010	726	0.025	59	860
22	81.08	481	331	0.011	27	410
21	78.00	904	586	0.020	47	770
20	75.50	229	141	0.005	11	195
19	73.50	694	412	0.014	33	591
18	71.00	468	264	0.009	21	398
17	69.00	472	255	0.009	21	402
16	66.50	717	367	0.013	30	611
15	62.50	1,217	568	0.020	46	1,036
14	57.50	1,244	513	0.018	41	1,060
13	52.50	1,272	458	0.016	37	1,083
12	48.75	646	208	0.007	17	550
11	46.25	1,314	392	0.014	32	1,119
10	42.75	2,406	638	0.022	52	2,049
9	40.25	166	40	0.001	3	142
8	37.50	1,683	368	0.013	30	1,433
7	32.50	1,719	304	0.011	25	1,464
6	27.50	1,756	242	0.008	20	1,495
5	22.50	1,793	183	0.006	15	1,527
4	17.50	1,829	129	0.004	10	1,558
3	12.50	1,866	80	0.003	6	1,589
2	7.50	1,902	38	0.001	3	1,620
1	2.50	1,939	8	0.000	1	1,651
Flat Low Profile Pla	130.00	1,500	2,079	0.072	168	1,277
VZW Unused Reserve (	129.00	139	190	0.007	15	118
Generic 2" x 8" GPS	128.00	10	14	0.000	1	9
Samsung Outdoor LAA	128.00	13	18	0.001	1	11
Samsung Outdoor CBRS	128.00	56	76	0.003	6	48
Samsung B5/B13 RRH-B	128.00	211	286	0.010	23	180
Samsung B2/B66A RRH-	128.00	253	343	0.012	28	216
RFS DB-C1-12C-24AB-0	128.00	32	43	0.002	3	27
Decibel DB846F65ZAXY	128.00	84	114	0.004	9	72
Quintel QS6656-5	128.00	390	528	0.018	43	332
Antel LPA-80080/6CF	128.00	42	57	0.002	5	36
Andrew Microwaves VH	126.00	49	65	0.002	5	42
Alcatel-Lucent 800MH	125.00	159	208	0.007	17	135
Alcatel-Lucent 1900M	125.00	132	173	0.006	14	112
Generic 24" x 24" Ju	125.00	20	26	0.001	2	17
Alcatel-Lucent RRH2x	120.00	159	195	0.007	16	135
Nokia 2.5G MAA - AAH	120.00	311	382	0.013	31	265
Generic 24" x 24" Ju	120.00	20	25	0.001	2	17

Commscope NNVV-65B-R	120.00	232	286	0.010	23	198
Flat Low Profile Pla	120.00	1,500	1,846	0.064	149	1,277
Ericsson KRY 112 71	110.00	40	43	0.001	3	34
Ericsson Radio 4449	110.00	222	240	0.008	19	189
EMS RR90-17-02DP	110.00	41	44	0.002	4	34
Ericsson AIR 21, 1.3	110.00	249	269	0.009	22	212
Ericsson AIR-32 B2A/	110.00	397	429	0.015	35	338
RFS APXVAARR24_43-U-	110.00	384	415	0.014	33	327
Flat Low Profile Pla	110.00	1,500	1,622	0.056	131	1,277
Generic GPS	107.00	10	10	0.000	1	9
Flat Platform w/ Han	104.00	2,000	1,989	0.069	161	1,703
Powerwave Allgon LGP	100.00	66	62	0.002	5	56
Powerwave Allgon 702	100.00	13	12	0.000	1	11
Powerwave Allgon LGP	100.00	169	159	0.006	13	144
Raycap DC6-48-60-18-	100.00	20	19	0.001	2	17
Ericsson RRUS-11 (50	100.00	150	141	0.005	11	128
Ericsson RRUS 12 w/	100.00	214	201	0.007	16	182
Powerwave Allgon 777	100.00	210	197	0.007	16	179
CCI HPA-65R-BUU-H6	100.00	153	144	0.005	12	130
Empty Flat Low Profi	91.00	1,500	1,223	0.043	99	1,277
Generic GPS	80.00	10	7	0.000	1	9
Generic 2" x 8" GPS	76.00	10	6	0.000	1	9
Stand-Off	76.00	100	62	0.002	5	85
Generic GPS	75.00	10	6	0.000	0	9
VZW Unused Reserve (	72.00	0	0	0.000	0	0
Generic GPS	68.00	10	5	0.000	0	9
Side Arm	68.00	126	67	0.002	5	107
		47,874	28,781	1.000	2,324	40,769

Load Case (1.2 + 0.2Sds) * DL + E ELFM **Seismic Equivalent Lateral Forces Method**

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-57.35	-2.33	0.00	-229.64	0.00	229.64	6,793.61	3,396.81	17,163.1	8,594.34	0.00	0.00	0.035
5.00	-54.97	-2.33	0.00	-218.02	0.00	218.02	6,692.31	3,346.15	16,532.0	8,278.33	0.00	-0.01	0.035
10.00	-52.64	-2.33	0.00	-206.37	0.00	206.37	6,588.83	3,294.42	15,907.1	7,965.37	0.01	-0.01	0.034
15.00	-50.36	-2.32	0.00	-194.73	0.00	194.73	6,483.18	3,241.59	15,288.6	7,655.67	0.03	-0.02	0.033
20.00	-48.12	-2.31	0.00	-183.12	0.00	183.12	6,375.36	3,187.68	14,676.9	7,349.39	0.06	-0.03	0.032
25.00	-45.93	-2.30	0.00	-171.55	0.00	171.55	6,265.37	3,132.69	14,072.5	7,046.72	0.09	-0.03	0.032
30.00	-43.78	-2.28	0.00	-160.06	0.00	160.06	6,153.21	3,076.61	13,475.6	6,747.85	0.13	-0.04	0.031
35.00	-41.68	-2.25	0.00	-148.67	0.00	148.67	6,038.88	3,019.44	12,886.7	6,452.96	0.18	-0.05	0.030
40.00	-41.47	-2.25	0.00	-137.41	0.00	137.41	5,922.38	2,961.19	12,306.1	6,162.22	0.24	-0.06	0.029
40.50	-38.47	-2.20	0.00	-136.29	0.00	136.29	5,910.61	2,955.30	12,248.5	6,133.39	0.24	-0.06	0.029
45.00	-36.83	-2.17	0.00	-126.39	0.00	126.39	5,803.70	2,901.85	11,734.2	5,875.83	0.30	-0.06	0.028
47.50	-36.02	-2.15	0.00	-120.97	0.00	120.97	4,002.81	2,001.40	8,146.29	4,079.20	0.33	-0.07	0.039
50.00	-34.43	-2.12	0.00	-115.58	0.00	115.58	3,967.67	1,983.84	7,963.57	3,987.71	0.37	-0.07	0.038
55.00	-32.88	-2.08	0.00	-104.99	0.00	104.99	3,895.77	1,947.89	7,600.87	3,806.08	0.45	-0.08	0.036
60.00	-31.36	-2.04	0.00	-94.59	0.00	94.59	3,821.70	1,910.85	7,242.12	3,626.44	0.54	-0.09	0.034
65.00	-30.46	-2.01	0.00	-84.41	0.00	84.41	3,745.46	1,872.73	6,887.67	3,448.96	0.64	-0.10	0.033
68.00	-29.70	-1.98	0.00	-78.38	0.00	78.38	3,698.67	1,849.34	6,677.23	3,343.58	0.70	-0.10	0.031
70.00	-29.12	-1.96	0.00	-74.41	0.00	74.41	3,667.05	1,833.52	6,537.91	3,273.81	0.74	-0.11	0.031
72.00	-28.25	-1.93	0.00	-70.48	0.00	70.48	3,635.07	1,817.54	6,399.40	3,204.45	0.79	-0.11	0.030
75.00	-27.96	-1.92	0.00	-64.69	0.00	64.69	3,586.46	1,793.23	6,193.19	3,101.20	0.86	-0.11	0.029
76.00	-26.69	-1.87	0.00	-62.77	0.00	62.77	3,570.09	1,785.04	6,124.88	3,066.99	0.88	-0.12	0.028
80.00	-26.08	-1.84	0.00	-55.31	0.00	55.31	3,503.71	1,751.85	5,853.88	2,931.29	0.98	-0.12	0.026
82.16	-24.82	-1.78	0.00	-51.33	0.00	51.33	3,467.23	1,733.61	5,708.83	2,858.66	1.04	-0.13	0.025
85.00	-23.58	-1.72	0.00	-46.28	0.00	46.28	3,418.78	1,709.39	5,520.34	2,764.27	1.11	-0.13	0.024
87.83	-23.06	-1.69	0.00	-41.42	0.00	41.42	2,692.45	1,346.23	4,345.60	2,176.03	1.19	-0.13	0.028
90.00	-22.83	-1.68	0.00	-37.74	0.00	37.74	2,665.65	1,332.83	4,237.49	2,121.89	1.25	-0.14	0.026
91.00	-20.02	-1.53	0.00	-36.06	0.00	36.06	2,653.16	1,326.58	4,187.89	2,097.06	1.28	-0.14	0.025
95.00	-18.88	-1.46	0.00	-29.96	0.00	29.96	2,602.34	1,301.17	3,990.97	1,998.45	1.40	-0.14	0.022
100.00	-16.84	-1.33	0.00	-22.67	0.00	22.67	2,536.86	1,268.43	3,748.34	1,876.95	1.55	-0.15	0.019
104.00	-14.15	-1.15	0.00	-17.36	0.00	17.36	2,482.92	1,241.46	3,557.28	1,781.28	1.68	-0.15	0.015
105.00	-13.76	-1.12	0.00	-16.21	0.00	16.21	2,469.21	1,234.61	3,509.96	1,757.59	1.71	-0.15	0.015
107.00	-13.17	-1.08	0.00	-13.96	0.00	13.96	2,441.54	1,220.77	3,415.88	1,710.48	1.77	-0.15	0.014
110.00	-8.78	-0.76	0.00	-10.72	0.00	10.72	2,399.39	1,199.69	3,276.20	1,640.54	1.87	-0.16	0.010
115.00	-7.96	-0.69	0.00	-6.92	0.00	6.92	2,327.39	1,163.70	3,047.43	1,525.98	2.04	-0.16	0.008
120.00	-4.49	-0.41	0.00	-3.44	0.00	3.44	2,252.89	1,126.45	2,823.60	1,413.90	2.21	-0.16	0.004
125.00	-3.97	-0.36	0.00	-1.40	0.00	1.40	2,153.14	1,076.57	2,577.88	1,290.85	2.38	-0.16	0.003
126.00	-3.64	-0.33	0.00	-1.04	0.00	1.04	2,133.19	1,066.59	2,530.07	1,266.92	2.41	-0.16	0.003
128.00	-2.16	-0.20	0.00	-0.37	0.00	0.37	2,093.29	1,046.64	2,435.81	1,219.72	2.48	-0.16	0.001
129.00	-1.87	-0.17	0.00	-0.17	0.00	0.17	2,073.34	1,036.67	2,389.35	1,196.45	2.51	-0.16	0.001
130.00	0.00	-0.17	0.00	0.00	0.00	0.00	2,053.39	1,026.69	2,343.34	1,173.41	2.55	-0.16	0.000

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-39.12	-2.32	0.00	-228.14	0.00	228.14	6,793.61	3,396.81	17,163.1	8,594.34	0.00	0.00	0.032
5.00	-37.50	-2.33	0.00	-216.52	0.00	216.52	6,692.31	3,346.15	16,532.0	8,278.33	0.00	-0.01	0.032
10.00	-35.91	-2.32	0.00	-204.90	0.00	204.90	6,588.83	3,294.42	15,907.1	7,965.37	0.01	-0.01	0.031
15.00	-34.35	-2.32	0.00	-193.28	0.00	193.28	6,483.18	3,241.59	15,288.6	7,655.67	0.03	-0.02	0.031
20.00	-32.82	-2.30	0.00	-181.70	0.00	181.70	6,375.36	3,187.68	14,676.9	7,349.39	0.06	-0.03	0.030
25.00	-31.33	-2.29	0.00	-170.18	0.00	170.18	6,265.37	3,132.69	14,072.5	7,046.72	0.09	-0.03	0.029
30.00	-29.86	-2.27	0.00	-158.73	0.00	158.73	6,153.21	3,076.61	13,475.6	6,747.85	0.13	-0.04	0.028
35.00	-28.43	-2.24	0.00	-147.40	0.00	147.40	6,038.88	3,019.44	12,886.7	6,452.96	0.18	-0.05	0.028
40.00	-28.29	-2.24	0.00	-136.20	0.00	136.20	5,922.38	2,961.19	12,306.1	6,162.22	0.23	-0.06	0.027
40.50	-26.24	-2.19	0.00	-135.08	0.00	135.08	5,910.61	2,955.30	12,248.5	6,133.39	0.24	-0.06	0.026
45.00	-25.12	-2.16	0.00	-125.25	0.00	125.25	5,803.70	2,901.85	11,734.2	5,875.83	0.30	-0.06	0.026
47.50	-24.57	-2.14	0.00	-119.86	0.00	119.86	4,002.81	2,001.40	8,146.29	4,079.20	0.33	-0.07	0.036
50.00	-23.49	-2.10	0.00	-114.51	0.00	114.51	3,967.67	1,983.84	7,963.57	3,987.71	0.37	-0.07	0.035
55.00	-22.43	-2.06	0.00	-103.99	0.00	103.99	3,895.77	1,947.89	7,600.87	3,806.08	0.45	-0.08	0.033
60.00	-21.39	-2.02	0.00	-93.67	0.00	93.67	3,821.70	1,910.85	7,242.12	3,626.44	0.53	-0.09	0.031
65.00	-20.78	-1.99	0.00	-83.57	0.00	83.57	3,745.46	1,872.73	6,887.67	3,448.96	0.63	-0.10	0.030
68.00	-20.26	-1.97	0.00	-77.59	0.00	77.59	3,698.67	1,849.34	6,677.23	3,343.58	0.69	-0.10	0.029
70.00	-19.86	-1.95	0.00	-73.66	0.00	73.66	3,667.05	1,833.52	6,537.91	3,273.81	0.74	-0.11	0.028
72.00	-19.27	-1.91	0.00	-69.77	0.00	69.77	3,635.07	1,817.54	6,399.40	3,204.45	0.78	-0.11	0.027
75.00	-19.07	-1.90	0.00	-64.03	0.00	64.03	3,586.46	1,793.23	6,193.19	3,101.20	0.85	-0.11	0.026
76.00	-18.21	-1.85	0.00	-62.13	0.00	62.13	3,570.09	1,785.04	6,124.88	3,066.99	0.87	-0.11	0.025
80.00	-17.79	-1.82	0.00	-54.73	0.00	54.73	3,503.71	1,751.85	5,853.88	2,931.29	0.97	-0.12	0.024
82.16	-16.93	-1.76	0.00	-50.79	0.00	50.79	3,467.23	1,733.61	5,708.83	2,858.66	1.03	-0.12	0.023
85.00	-16.08	-1.70	0.00	-45.80	0.00	45.80	3,418.78	1,709.39	5,520.34	2,764.27	1.10	-0.13	0.021
87.83	-15.73	-1.67	0.00	-40.98	0.00	40.98	2,692.45	1,346.23	4,345.60	2,176.03	1.18	-0.13	0.025
90.00	-15.57	-1.66	0.00	-37.35	0.00	37.35	2,665.65	1,332.83	4,237.49	2,121.89	1.24	-0.13	0.023
91.00	-13.66	-1.51	0.00	-35.69	0.00	35.69	2,653.16	1,326.58	4,187.89	2,097.06	1.27	-0.14	0.022
95.00	-12.88	-1.44	0.00	-29.65	0.00	29.65	2,602.34	1,301.17	3,990.97	1,998.45	1.39	-0.14	0.020
100.00	-11.49	-1.31	0.00	-22.44	0.00	22.44	2,536.86	1,268.43	3,748.34	1,876.95	1.54	-0.15	0.016
104.00	-9.65	-1.14	0.00	-17.18	0.00	17.18	2,482.92	1,241.46	3,557.28	1,781.28	1.66	-0.15	0.014
105.00	-9.39	-1.11	0.00	-16.04	0.00	16.04	2,469.21	1,234.61	3,509.96	1,757.59	1.69	-0.15	0.013
107.00	-8.99	-1.07	0.00	-13.82	0.00	13.82	2,441.54	1,220.77	3,415.88	1,710.48	1.76	-0.15	0.012
110.00	-5.99	-0.75	0.00	-10.61	0.00	10.61	2,399.39	1,199.69	3,276.20	1,640.54	1.86	-0.16	0.009
115.00	-5.43	-0.69	0.00	-6.85	0.00	6.85	2,327.39	1,163.70	3,047.43	1,525.98	2.02	-0.16	0.007
120.00	-3.06	-0.40	0.00	-3.41	0.00	3.41	2,252.89	1,126.45	2,823.60	1,413.90	2.19	-0.16	0.004
125.00	-2.71	-0.36	0.00	-1.39	0.00	1.39	2,153.14	1,076.57	2,577.88	1,290.85	2.36	-0.16	0.002
126.00	-2.49	-0.33	0.00	-1.03	0.00	1.03	2,133.19	1,066.59	2,530.07	1,266.92	2.39	-0.16	0.002
128.00	-1.48	-0.20	0.00	-0.37	0.00	0.37	2,093.29	1,046.64	2,435.81	1,219.72	2.46	-0.16	0.001
129.00	-1.28	-0.17	0.00	-0.17	0.00	0.17	2,073.34	1,036.67	2,389.35	1,196.45	2.49	-0.16	0.001
130.00	0.00	-0.17	0.00	0.00	0.00	0.00	2,053.39	1,026.69	2,343.34	1,173.41	2.52	-0.16	0.000

Equivalent Modal Analysis Method

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.23
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.07
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.24
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.11
Period Based on Rayleigh Method (sec):	1.47
Redundancy Factor (p):	1.00

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
39	129.50	95	1.875	1.904	1.113	0.458	29	118
38	128.50	95	1.847	1.759	1.060	0.435	28	119
37	127.00	210	1.804	1.556	0.984	0.402	56	262
36	125.50	107	1.761	1.369	0.912	0.370	26	133
35	122.50	556	1.678	1.041	0.782	0.309	115	694
34	117.50	663	1.544	0.615	0.597	0.221	98	828
33	112.50	686	1.415	0.314	0.448	0.146	67	857
32	108.50	460	1.317	0.144	0.351	0.096	29	575
31	106.00	312	1.257	0.065	0.299	0.069	14	390
30	104.50	157	1.221	0.026	0.271	0.055	6	196
29	102.00	639	1.164	-0.027	0.229	0.034	14	797
28	97.50	912	1.063	-0.088	0.165	0.004	2	1,139
27	93.00	746	0.967	-0.117	0.116	-0.016	-8	932
26	90.50	189	0.916	-0.121	0.094	-0.022	-3	236
25	88.92	413	0.884	-0.121	0.081	-0.024	-7	516
24	86.42	992	0.835	-0.117	0.064	-0.026	-17	1,238
23	83.58	1,010	0.781	-0.108	0.049	-0.024	-16	1,261
22	81.08	481	0.735	-0.097	0.037	-0.021	-7	601
21	78.00	904	0.680	-0.081	0.026	-0.014	-8	1,128
20	75.50	229	0.637	-0.066	0.019	-0.006	-1	286
19	73.50	694	0.604	-0.054	0.015	0.000	0	866
18	71.00	468	0.564	-0.040	0.011	0.009	3	584
17	69.00	472	0.532	-0.028	0.009	0.015	5	590
16	66.50	717	0.495	-0.014	0.007	0.024	11	895
15	62.50	1,217	0.437	0.006	0.006	0.036	29	1,519
14	57.50	1,244	0.370	0.027	0.008	0.047	39	1,554
13	52.50	1,272	0.308	0.043	0.012	0.054	46	1,588
12	48.75	646	0.266	0.052	0.015	0.057	25	807
11	46.25	1,314	0.239	0.057	0.018	0.058	51	1,641
10	42.75	2,406	0.204	0.062	0.023	0.058	93	3,004
9	40.25	166	0.181	0.065	0.026	0.058	6	208
8	37.50	1,683	0.157	0.067	0.029	0.057	64	2,101
7	32.50	1,719	0.118	0.070	0.035	0.055	63	2,147
6	27.50	1,756	0.085	0.071	0.039	0.053	62	2,192

5	22.50	1,793	0.057	0.071	0.042	0.051	61	2,238
4	17.50	1,829	0.034	0.069	0.041	0.048	59	2,284
3	12.50	1,866	0.017	0.062	0.037	0.043	54	2,329
2	7.50	1,902	0.006	0.048	0.027	0.034	43	2,375
1	2.50	1,939	0.001	0.021	0.011	0.016	20	2,420
Flat Low Profile Pla	130.00	1,500	1.890	1.980	1.140	0.470	470	1,873
VZW Unused Reserve (	129.00	139	1.861	1.831	1.086	0.446	41	173
Generic 2" x 8" GPS	128.00	10	1.832	1.689	1.034	0.424	3	12
Samsung Outdoor LAA	128.00	13	1.832	1.689	1.034	0.424	4	16
Samsung Outdoor	128.00	56	1.832	1.689	1.034	0.424	16	70
Samsung B5/B13 RRH-B	128.00	211	1.832	1.689	1.034	0.424	60	263
Samsung B2/B66A RRH-	128.00	253	1.832	1.689	1.034	0.424	72	316
RFS DB-C1-12C-24AB-0	128.00	32	1.832	1.689	1.034	0.424	9	40
Decibel DB846F65ZAXY	128.00	84	1.832	1.689	1.034	0.424	24	105
Quintel QS6656-5	128.00	390	1.832	1.689	1.034	0.424	110	487
Antel LPA-80080/6CF	128.00	42	1.832	1.689	1.034	0.424	12	52
Andrew Microwaves	126.00	49	1.775	1.429	0.936	0.380	12	61
Alcatel-Lucent 800MH	125.00	159	1.747	1.310	0.889	0.359	38	198
Alcatel-Lucent 1900M	125.00	132	1.747	1.310	0.889	0.359	32	165
Generic 24" x 24" Ju	125.00	20	1.747	1.310	0.889	0.359	5	25
Alcatel-Lucent RRH2x	120.00	159	1.610	0.811	0.684	0.263	28	198
Nokia 2.5G MAA - AAH	120.00	311	1.610	0.811	0.684	0.263	55	388
Generic 24" x 24" Ju	120.00	20	1.610	0.811	0.684	0.263	4	25
Commscope NNVV-	120.00	232	1.610	0.811	0.684	0.263	41	290
Flat Low Profile Pla	120.00	1,500	1.610	0.811	0.684	0.263	263	1,873
Ericsson KRY 112 71	110.00	40	1.353	0.201	0.385	0.114	3	49
Ericsson Radio 4449	110.00	222	1.353	0.201	0.385	0.114	17	277
EMS RR90-17-02DP	110.00	41	1.353	0.201	0.385	0.114	3	51
Ericsson AIR 21, 1.3	110.00	249	1.353	0.201	0.385	0.114	19	311
Ericsson AIR-32 B2A/	110.00	397	1.353	0.201	0.385	0.114	30	495
RFS APXVAARR24_43-U-	110.00	384	1.353	0.201	0.385	0.114	29	479
Flat Low Profile Pla	110.00	1,500	1.353	0.201	0.385	0.114	114	1,873
Generic GPS	107.00	10	1.280	0.094	0.319	0.079	1	12
Flat Platform w/ Han	104.00	2,000	1.210	0.014	0.262	0.050	67	2,497
Powerwave Allgon LGP	100.00	66	1.118	-0.059	0.198	0.019	1	82
Powerwave Allgon 702	100.00	13	1.118	-0.059	0.198	0.019	0	16
Powerwave Allgon LGP	100.00	169	1.118	-0.059	0.198	0.019	2	211
Raycap DC6-48-60-18-	100.00	20	1.118	-0.059	0.198	0.019	0	25
Ericsson RRUS-11 (50	100.00	150	1.118	-0.059	0.198	0.019	2	187
Ericsson RRUS 12 w/	100.00	214	1.118	-0.059	0.198	0.019	3	267
Powerwave Allgon 777	100.00	210	1.118	-0.059	0.198	0.019	3	262
CCI HPA-65R-BUU-H6	100.00	153	1.118	-0.059	0.198	0.019	2	191
Empty Flat Low Profi	91.00	1,500	0.926	-0.121	0.098	-0.021	-21	1,873
Generic GPS	80.00	10	0.716	-0.092	0.033	-0.019	0	12
Generic 2" x 8" GPS	76.00	10	0.646	-0.069	0.021	-0.008	0	12
Stand-Off	76.00	100	0.646	-0.069	0.021	-0.008	-1	125
Generic GPS	75.00	10	0.629	-0.063	0.018	-0.005	0	12
VZW Unused Reserve (	72.00	0	0.580	-0.046	0.012	0.005	0	0
Generic GPS	68.00	10	0.517	-0.022	0.008	0.019	0	12
Side Arm	68.00	126	0.517	-0.022	0.008	0.019	2	157
		47,874	90.456	37.475	31.742	11.779	2,723	59,768

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
39	129.50	95	1.875	1.904	1.113	0.458	29	80
38	128.50	95	1.847	1.759	1.060	0.435	28	81
37	127.00	210	1.804	1.556	0.984	0.402	56	179

36	125.50	107	1.761	1.369	0.912	0.370	26	91
35	122.50	556	1.678	1.041	0.782	0.309	115	473
34	117.50	663	1.544	0.615	0.597	0.221	98	565
33	112.50	686	1.415	0.314	0.448	0.146	67	584
32	108.50	460	1.317	0.144	0.351	0.096	29	392
31	106.00	312	1.257	0.065	0.299	0.069	14	266
30	104.50	157	1.221	0.026	0.271	0.055	6	134
29	102.00	639	1.164	-0.027	0.229	0.034	14	544
28	97.50	912	1.063	-0.088	0.165	0.004	2	777
27	93.00	746	0.967	-0.117	0.116	-0.016	-8	635
26	90.50	189	0.916	-0.121	0.094	-0.022	-3	161
25	88.92	413	0.884	-0.121	0.081	-0.024	-7	352
24	86.42	992	0.835	-0.117	0.064	-0.026	-17	845
23	83.58	1,010	0.781	-0.108	0.049	-0.024	-16	860
22	81.08	481	0.735	-0.097	0.037	-0.021	-7	410
21	78.00	904	0.680	-0.081	0.026	-0.014	-8	770
20	75.50	229	0.637	-0.066	0.019	-0.006	-1	195
19	73.50	694	0.604	-0.054	0.015	0.000	0	591
18	71.00	468	0.564	-0.040	0.011	0.009	3	398
17	69.00	472	0.532	-0.028	0.009	0.015	5	402
16	66.50	717	0.495	-0.014	0.007	0.024	11	611
15	62.50	1,217	0.437	0.006	0.006	0.036	29	1,036
14	57.50	1,244	0.370	0.027	0.008	0.047	39	1,060
13	52.50	1,272	0.308	0.043	0.012	0.054	46	1,083
12	48.75	646	0.266	0.052	0.015	0.057	25	550
11	46.25	1,314	0.239	0.057	0.018	0.058	51	1,119
10	42.75	2,406	0.204	0.062	0.023	0.058	93	2,049
9	40.25	166	0.181	0.065	0.026	0.058	6	142
8	37.50	1,683	0.157	0.067	0.029	0.057	64	1,433
7	32.50	1,719	0.118	0.070	0.035	0.055	63	1,464
6	27.50	1,756	0.085	0.071	0.039	0.053	62	1,495
5	22.50	1,793	0.057	0.071	0.042	0.051	61	1,527
4	17.50	1,829	0.034	0.069	0.041	0.048	59	1,558
3	12.50	1,866	0.017	0.062	0.037	0.043	54	1,589
2	7.50	1,902	0.006	0.048	0.027	0.034	43	1,620
1	2.50	1,939	0.001	0.021	0.011	0.016	20	1,651
Flat Low Profile Pla	130.00	1,500	1.890	1.980	1.140	0.470	470	1,277
VZW Unused Reserve (	129.00	139	1.861	1.831	1.086	0.446	41	118
Generic 2" x 8" GPS	128.00	10	1.832	1.689	1.034	0.424	3	9
Samsung Outdoor LAA	128.00	13	1.832	1.689	1.034	0.424	4	11
Samsung Outdoor	128.00	56	1.832	1.689	1.034	0.424	16	48
Samsung B5/B13 RRH-B	128.00	211	1.832	1.689	1.034	0.424	60	180
Samsung B2/B66A RRH-	128.00	253	1.832	1.689	1.034	0.424	72	216
RFS DB-C1-12C-24AB-0	128.00	32	1.832	1.689	1.034	0.424	9	27
Decibel DB846F65ZAXY	128.00	84	1.832	1.689	1.034	0.424	24	72
Quintel QS6656-5	128.00	390	1.832	1.689	1.034	0.424	110	332
Antel LPA-80080/6CF	128.00	42	1.832	1.689	1.034	0.424	12	36
Andrew Microwaves	126.00	49	1.775	1.429	0.936	0.380	12	42
Alcatel-Lucent 800MH	125.00	159	1.747	1.310	0.889	0.359	38	135
Alcatel-Lucent 1900M	125.00	132	1.747	1.310	0.889	0.359	32	112
Generic 24" x 24" Ju	125.00	20	1.747	1.310	0.889	0.359	5	17
Alcatel-Lucent RRH2x	120.00	159	1.610	0.811	0.684	0.263	28	135
Nokia 2.5G MAA - AAH	120.00	311	1.610	0.811	0.684	0.263	55	265
Generic 24" x 24" Ju	120.00	20	1.610	0.811	0.684	0.263	4	17
Commscope NNVV-	120.00	232	1.610	0.811	0.684	0.263	41	198
Flat Low Profile Pla	120.00	1,500	1.610	0.811	0.684	0.263	263	1,277
Ericsson KRY 112 71	110.00	40	1.353	0.201	0.385	0.114	3	34
Ericsson Radio 4449	110.00	222	1.353	0.201	0.385	0.114	17	189
EMS RR90-17-02DP	110.00	41	1.353	0.201	0.385	0.114	3	34
Ericsson AIR 21, 1.3	110.00	249	1.353	0.201	0.385	0.114	19	212
Ericsson AIR-32 B2A/	110.00	397	1.353	0.201	0.385	0.114	30	338
RFS APXVAARR24_43-U-	110.00	384	1.353	0.201	0.385	0.114	29	327
Flat Low Profile Pla	110.00	1,500	1.353	0.201	0.385	0.114	114	1,277
Generic GPS	107.00	10	1.280	0.094	0.319	0.079	1	9

Flat Platform w/ Han	104.00	2,000	1.210	0.014	0.262	0.050	67	1,703
Powerwave Allgon LGP	100.00	66	1.118	-0.059	0.198	0.019	1	56
Powerwave Allgon 702	100.00	13	1.118	-0.059	0.198	0.019	0	11
Powerwave Allgon LGP	100.00	169	1.118	-0.059	0.198	0.019	2	144
Raycap DC6-48-60-18-	100.00	20	1.118	-0.059	0.198	0.019	0	17
Ericsson RRUS-11 (50	100.00	150	1.118	-0.059	0.198	0.019	2	128
Ericsson RRUS 12 w/	100.00	214	1.118	-0.059	0.198	0.019	3	182
Powerwave Allgon 777	100.00	210	1.118	-0.059	0.198	0.019	3	179
CCI HPA-65R-BUU-H6	100.00	153	1.118	-0.059	0.198	0.019	2	130
Empty Flat Low Profi	91.00	1,500	0.926	-0.121	0.098	-0.021	-21	1,277
Generic GPS	80.00	10	0.716	-0.092	0.033	-0.019	0	9
Generic 2" x 8" GPS	76.00	10	0.646	-0.069	0.021	-0.008	0	9
Stand-Off	76.00	100	0.646	-0.069	0.021	-0.008	-1	85
Generic GPS	75.00	10	0.629	-0.063	0.018	-0.005	0	9
VZW Unused Reserve (	72.00	0	0.580	-0.046	0.012	0.005	0	0
Generic GPS	68.00	10	0.517	-0.022	0.008	0.019	0	9
Side Arm	68.00	126	0.517	-0.022	0.008	0.019	2	107
		47,874	90.456	37.475	31.742	11.779	2,723	40,769

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-57.35	-2.71	0.00	-274.19	0.00	274.19	6,793.61	3,396.81	17,163.17	8,594.34	0.00	0.00	0.040
5.00	-54.97	-2.67	0.00	-260.66	0.00	260.66	6,692.31	3,346.15	16,532.08	8,278.33	0.00	-0.01	0.040
10.00	-52.64	-2.62	0.00	-247.31	0.00	247.31	6,588.83	3,294.42	15,907.10	7,965.37	0.02	-0.02	0.039
15.00	-50.36	-2.57	0.00	-234.19	0.00	234.19	6,483.18	3,241.59	15,288.61	7,655.67	0.04	-0.02	0.038
20.00	-48.12	-2.52	0.00	-221.34	0.00	221.34	6,375.36	3,187.68	14,676.96	7,349.39	0.07	-0.03	0.038
25.00	-45.93	-2.46	0.00	-208.76	0.00	208.76	6,265.37	3,132.69	14,072.53	7,046.72	0.11	-0.04	0.037
30.00	-43.78	-2.40	0.00	-196.46	0.00	196.46	6,153.21	3,076.61	13,475.67	6,747.85	0.16	-0.05	0.036
35.00	-41.68	-2.34	0.00	-184.45	0.00	184.45	6,038.88	3,019.44	12,886.76	6,452.96	0.22	-0.06	0.035
40.00	-41.47	-2.34	0.00	-172.75	0.00	172.75	5,922.38	2,961.19	12,306.16	6,162.22	0.28	-0.07	0.035
40.50	-38.47	-2.24	0.00	-171.58	0.00	171.58	5,910.61	2,955.30	12,248.57	6,133.39	0.29	-0.07	0.034
45.00	-36.83	-2.20	0.00	-161.48	0.00	161.48	5,803.70	2,901.85	11,734.22	5,875.83	0.36	-0.08	0.034
47.50	-36.02	-2.17	0.00	-155.99	0.00	155.99	4,002.81	2,001.40	8,146.29	4,079.20	0.40	-0.08	0.047
50.00	-34.43	-2.13	0.00	-150.55	0.00	150.55	3,967.67	1,983.84	7,963.57	3,987.71	0.45	-0.09	0.046
55.00	-32.88	-2.10	0.00	-139.90	0.00	139.90	3,895.77	1,947.89	7,600.87	3,806.08	0.54	-0.10	0.045
60.00	-31.36	-2.07	0.00	-129.42	0.00	129.42	3,821.70	1,910.85	7,242.12	3,626.44	0.66	-0.11	0.044
65.00	-30.46	-2.06	0.00	-119.07	0.00	119.07	3,745.46	1,872.73	6,887.67	3,448.96	0.78	-0.12	0.043
68.00	-29.70	-2.06	0.00	-112.88	0.00	112.88	3,698.67	1,849.34	6,677.23	3,343.58	0.86	-0.13	0.042
70.00	-29.12	-2.06	0.00	-108.77	0.00	108.77	3,667.05	1,833.52	6,537.91	3,273.81	0.91	-0.14	0.041
72.00	-28.25	-2.06	0.00	-104.66	0.00	104.66	3,635.07	1,817.54	6,399.40	3,204.45	0.97	-0.14	0.040
75.00	-27.95	-2.06	0.00	-98.49	0.00	98.49	3,586.46	1,793.23	6,193.19	3,101.20	1.06	-0.15	0.040
76.00	-26.69	-2.07	0.00	-96.43	0.00	96.43	3,570.09	1,785.04	6,124.88	3,066.99	1.09	-0.15	0.039
80.00	-26.08	-2.08	0.00	-88.16	0.00	88.16	3,503.71	1,751.85	5,853.88	2,931.29	1.22	-0.16	0.038
82.16	-24.81	-2.09	0.00	-83.67	0.00	83.67	3,467.23	1,733.61	5,708.83	2,858.66	1.30	-0.16	0.036
85.00	-23.58	-2.11	0.00	-77.73	0.00	77.73	3,418.78	1,709.39	5,520.34	2,764.27	1.40	-0.17	0.035
87.83	-23.06	-2.12	0.00	-71.77	0.00	71.77	2,692.45	1,346.23	4,345.60	2,176.03	1.50	-0.18	0.042
90.00	-22.82	-2.12	0.00	-67.18	0.00	67.18	2,665.65	1,332.83	4,237.49	2,121.89	1.58	-0.18	0.040
91.00	-20.02	-2.14	0.00	-65.06	0.00	65.06	2,653.16	1,326.58	4,187.89	2,097.06	1.62	-0.19	0.039
95.00	-18.88	-2.14	0.00	-56.50	0.00	56.50	2,602.34	1,301.17	3,990.97	1,998.45	1.78	-0.20	0.036
100.00	-16.84	-2.11	0.00	-45.81	0.00	45.81	2,536.86	1,268.43	3,748.34	1,876.95	1.99	-0.21	0.031
104.00	-14.15	-2.03	0.00	-37.38	0.00	37.38	2,482.92	1,241.46	3,557.28	1,781.28	2.17	-0.21	0.027
105.00	-13.76	-2.01	0.00	-35.36	0.00	35.36	2,469.21	1,234.61	3,509.96	1,757.59	2.21	-0.22	0.026
107.00	-13.17	-1.98	0.00	-31.34	0.00	31.34	2,441.54	1,220.77	3,415.88	1,710.48	2.30	-0.22	0.024
110.00	-8.78	-1.68	0.00	-25.40	0.00	25.40	2,399.39	1,199.69	3,276.20	1,640.54	2.44	-0.22	0.019
115.00	-7.95	-1.58	0.00	-16.99	0.00	16.99	2,327.39	1,163.70	3,047.43	1,525.98	2.68	-0.23	0.015
120.00	-4.49	-1.06	0.00	-9.08	0.00	9.08	2,252.89	1,126.45	2,823.60	1,413.90	2.93	-0.24	0.008
125.00	-3.96	-0.96	0.00	-3.77	0.00	3.77	2,153.14	1,076.57	2,577.88	1,290.85	3.18	-0.24	0.005
126.00	-3.64	-0.89	0.00	-2.81	0.00	2.81	2,133.19	1,066.59	2,530.07	1,266.92	3.23	-0.24	0.004
128.00	-2.16	-0.55	0.00	-1.03	0.00	1.03	2,093.29	1,046.64	2,435.81	1,219.72	3.33	-0.24	0.002
129.00	-1.87	-0.48	0.00	-0.48	0.00	0.48	2,073.34	1,036.67	2,389.35	1,196.45	3.38	-0.24	0.001
130.00	0.00	-0.47	0.00	0.00	0.00	0.00	2,053.39	1,026.69	2,343.34	1,173.41	3.43	-0.24	0.000

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-39.12	-2.70	0.00	-272.24	0.00	272.24	6,793.61	3,396.81	17,163.17	8,594.34	0.00	0.00	0.037
5.00	-37.50	-2.67	0.00	-258.72	0.00	258.72	6,692.31	3,346.15	16,532.08	8,278.33	0.00	-0.01	0.037
10.00	-35.91	-2.62	0.00	-245.39	0.00	245.39	6,588.83	3,294.42	15,907.10	7,965.37	0.02	-0.02	0.036
15.00	-34.35	-2.56	0.00	-232.30	0.00	232.30	6,483.18	3,241.59	15,288.61	7,655.67	0.04	-0.02	0.036
20.00	-32.82	-2.51	0.00	-219.49	0.00	219.49	6,375.36	3,187.68	14,676.96	7,349.39	0.07	-0.03	0.035
25.00	-31.33	-2.45	0.00	-206.96	0.00	206.96	6,265.37	3,132.69	14,072.53	7,046.72	0.11	-0.04	0.034
30.00	-29.86	-2.39	0.00	-194.72	0.00	194.72	6,153.21	3,076.61	13,475.67	6,747.85	0.16	-0.05	0.034
35.00	-28.43	-2.33	0.00	-182.79	0.00	182.79	6,038.88	3,019.44	12,886.76	6,452.96	0.21	-0.06	0.033
40.00	-28.29	-2.32	0.00	-171.15	0.00	171.15	5,922.38	2,961.19	12,306.16	6,162.22	0.28	-0.07	0.033
40.50	-26.24	-2.23	0.00	-169.99	0.00	169.99	5,910.61	2,955.30	12,248.57	6,133.39	0.29	-0.07	0.032
45.00	-25.12	-2.18	0.00	-159.96	0.00	159.96	5,803.70	2,901.85	11,734.22	5,875.83	0.36	-0.08	0.032
47.50	-24.57	-2.16	0.00	-154.52	0.00	154.52	4,002.81	2,001.40	8,146.29	4,079.20	0.40	-0.08	0.044
50.00	-23.49	-2.11	0.00	-149.13	0.00	149.13	3,967.67	1,983.84	7,963.57	3,987.71	0.44	-0.09	0.043
55.00	-22.43	-2.08	0.00	-138.56	0.00	138.56	3,895.77	1,947.89	7,600.87	3,806.08	0.54	-0.10	0.042
60.00	-21.39	-2.05	0.00	-128.18	0.00	128.18	3,821.70	1,910.85	7,242.12	3,626.44	0.65	-0.11	0.041
65.00	-20.78	-2.04	0.00	-117.94	0.00	117.94	3,745.46	1,872.73	6,887.67	3,448.96	0.77	-0.12	0.040
68.00	-20.26	-2.04	0.00	-111.81	0.00	111.81	3,698.67	1,849.34	6,677.23	3,343.58	0.85	-0.13	0.039
70.00	-19.86	-2.03	0.00	-107.74	0.00	107.74	3,667.05	1,833.52	6,537.91	3,273.81	0.91	-0.13	0.038
72.00	-19.27	-2.03	0.00	-103.68	0.00	103.68	3,635.07	1,817.54	6,399.40	3,204.45	0.96	-0.14	0.038
75.00	-19.07	-2.04	0.00	-97.58	0.00	97.58	3,586.46	1,793.23	6,193.19	3,101.20	1.05	-0.15	0.037
76.00	-18.20	-2.04	0.00	-95.54	0.00	95.54	3,570.09	1,785.04	6,124.88	3,066.99	1.08	-0.15	0.036
80.00	-17.78	-2.05	0.00	-87.36	0.00	87.36	3,503.71	1,751.85	5,853.88	2,931.29	1.21	-0.16	0.035
82.16	-16.92	-2.07	0.00	-82.92	0.00	82.92	3,467.23	1,733.61	5,708.83	2,858.66	1.28	-0.16	0.034
85.00	-16.08	-2.08	0.00	-77.06	0.00	77.06	3,418.78	1,709.39	5,520.34	2,764.27	1.38	-0.17	0.033
87.83	-15.73	-2.09	0.00	-71.16	0.00	71.16	2,692.45	1,346.23	4,345.60	2,176.03	1.49	-0.18	0.039
90.00	-15.57	-2.09	0.00	-66.62	0.00	66.62	2,665.65	1,332.83	4,237.49	2,121.89	1.57	-0.18	0.037
91.00	-13.65	-2.12	0.00	-64.52	0.00	64.52	2,653.16	1,326.58	4,187.89	2,097.06	1.61	-0.18	0.036
95.00	-12.88	-2.12	0.00	-56.05	0.00	56.05	2,602.34	1,301.17	3,990.97	1,998.45	1.76	-0.19	0.033
100.00	-11.48	-2.09	0.00	-45.47	0.00	45.47	2,536.86	1,268.43	3,748.34	1,876.95	1.97	-0.20	0.029
104.00	-9.65	-2.01	0.00	-37.12	0.00	37.12	2,482.92	1,241.46	3,557.28	1,781.28	2.15	-0.21	0.025
105.00	-9.38	-1.99	0.00	-35.11	0.00	35.11	2,469.21	1,234.61	3,509.96	1,757.59	2.19	-0.21	0.024
107.00	-8.98	-1.96	0.00	-31.13	0.00	31.13	2,441.54	1,220.77	3,415.88	1,710.48	2.28	-0.22	0.022
110.00	-5.99	-1.67	0.00	-25.24	0.00	25.24	2,399.39	1,199.69	3,276.20	1,640.54	2.42	-0.22	0.018
115.00	-5.42	-1.57	0.00	-16.89	0.00	16.89	2,327.39	1,163.70	3,047.43	1,525.98	2.66	-0.23	0.013
120.00	-3.06	-1.06	0.00	-9.03	0.00	9.03	2,252.89	1,126.45	2,823.60	1,413.90	2.90	-0.23	0.008
125.00	-2.70	-0.96	0.00	-3.75	0.00	3.75	2,153.14	1,076.57	2,577.88	1,290.85	3.15	-0.24	0.004
126.00	-2.48	-0.89	0.00	-2.79	0.00	2.79	2,133.19	1,066.59	2,530.07	1,266.92	3.20	-0.24	0.003
128.00	-1.47	-0.55	0.00	-1.02	0.00	1.02	2,093.29	1,046.64	2,435.81	1,219.72	3.30	-0.24	0.002
129.00	-1.28	-0.47	0.00	-0.47	0.00	0.47	2,073.34	1,036.67	2,389.35	1,196.45	3.35	-0.24	0.001
130.00	0.00	-0.47	0.00	0.00	0.00	0.00	2,053.39	1,026.69	2,343.34	1,173.41	3.40	-0.24	0.000

Analysis Summary

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	26.15	0.00	57.43	0.00	0.00	2488.92	47.50	0.33
0.9D + 1.6W	26.14	0.00	43.07	0.00	0.00	2475.90	47.50	0.33
1.2D + 1.0Di + 1.0Wi	7.78	0.00	93.33	0.00	0.00	725.40	47.50	0.11
(1.2 + 0.2Sds) * DL + E ELFM	2.33	0.00	57.35	0.00	0.00	229.64	47.50	0.04
(1.2 + 0.2Sds) * DL + E EMAM	2.71	0.00	57.35	0.00	0.00	274.19	47.50	0.05
(0.9 - 0.2Sds) * DL + E ELFM	2.32	0.00	39.12	0.00	0.00	228.14	47.50	0.04
(0.9 - 0.2Sds) * DL + E EMAM	2.70	0.00	39.12	0.00	0.00	272.24	47.50	0.04
1.0D + 1.0W	6.09	0.00	47.87	0.00	0.00	577.31	47.50	0.08

Site Name:	**CRANBURYSU CT, CT**
Site Number:	**411189**
Tower Type:	**MP**

Design Loads (Factored) - Analysis per TIA-222-G Standards

Monolithic Mat & Pier Foundation Analysis

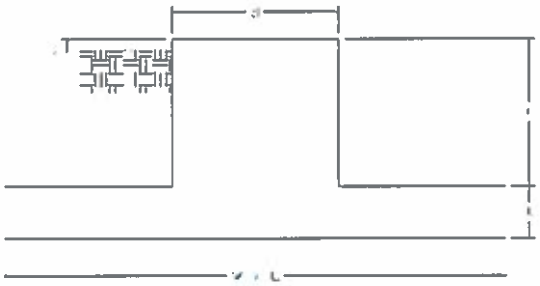
Foundation Analysis Parameters		
Design / Analysis / Mapping:	Analysis	-
Compression/Leg:	57.4	k
Uplift/Leg:	0.0	k
Total Shear:	26.2	k
Moment:	2,488.9	k-ft
Tower + Appurtenance Weight:	57.4	k
Depth to Base of Foundation (l + t - h):	4.5	ft
Diameter of Pier (d):	8	ft
Length of Pier (l):	2.5	ft
Height of Pier above Ground (h):	1	ft
Width of Pad (W):	29.5	ft
Length of Pad (L):	29.5	ft
Thickness of Pad (t):	3	ft
Tower Leg Center to Center:	0	ft
Number of Tower Legs:	1	-
Tower Center from Mat Center:	0	ft
Depth Below Ground Surface to Water Table:	6	ft
Unit Weight of Concrete:	150	pcf
Unit Weight of Soil Above Water Table:	100	pcf
Unit Weight of Water:	62.4	pcf
Unit Weight of Soil Below Water Table:	37.6	pcf
Friction Angle of Uplift:	15	°
Coefficient of Shear Friction:	0.6	-
Ultimate Compressive Bearing Pressure:	6,000	psf
Ultimate Passive Pressure on Pad Face:	0	psf
$f_{Soil\ and\ Concrete\ Weight}$:	0.9	-
f_{Soil}:	0.75	-

Foundation Steel Parameters		
Concrete Strength (f'_c):	4,000	psi
Pad Tension Steel Depth:	32.0	in
Dead Load Factor:	0.9	-
f_{Shear}:	0.75	-
$f_{Flexure\ /\ Tension}$:	0.9	-
$f_{Compression}$:	0.65	-
b:	0.85	-
Bottom Pad Rebar Size #:	8	-
# of Bottom Pad Rebar:	44	-
Pad Bottom Steel Area:	34.76	in^2
Pad Steel F_y:	60,000	psi
Top Pad Rebar Size #:	8	-
# of Top Pad Rebar:	28	-
Pad Top Steel Area:	22.12	in^2
Pier Rebar Size #:	8	-
Pier Steel Area (Single Bar):	0.79	in^2
# of Pier Rebar:	44	-
Pier Steel F_y:	60,000	psi
Pier Cage Diameter:	88.0	in
Rebar Strain Limit:	0.008	-
Steel Elastic Modulus:	29,000	ksi
Tie Rebar Size #:	4	-
Tie Steel Area (Single Bar):	0.20	in^2
Tie Spacing:	8	in
Tie Steel F_y:	60,000	psi

Overturning Moment Usage		
Design OTM:	2632.7	k-ft
OTM Resistance:	7932.0	k-ft
Design OTM / OTM Resistance:	33%	Pass

Soil Bearing Pressure Usage		
Net Bearing Pressure:	958	psf
Factored Nominal Bearing Pressure:	4500	psf
Factored Nominal (Net) Bearing Pressure:	21%	Pass
Load Direction Controling Design Bearing Pressure:	*Diagonal to Pad Edge*	

Sliding Factor of Safety		
Ultimate Friction Resistance:	348.8	k
Ultimate Passive Pressure Resistance:	0.0	k
Total Factored Sliding Resistance:	261.6	k
Sliding Design / Sliding Resistance:	10%	Pass



Pad Strength Capacity			
Factored One Way Shear (V_u):	188.6	k	
One Way Shear Capacity (fV_c):	1074.7	k	*ACI11.3.1.1*
V_u / fV_c:	18%	Pass	
Load Direction Controling Shear Capacity:	*Parallel to Pad Edge*		
Lower Steel Pad Factored Moment (M_u):	1380.6	k-ft	
Lower Steel Pad Moment Capacity (fM_n):	4890.2	k-ft	*ACI10.3*
M_u / fM_n:	28%	Pass	
Load Direction Controling Flexural Capacity:	*Parallel to Pad Edge*		
Upper Steel Pad Factored Moment (M_u):	600.8	k-ft	
Upper Steel Pad Moment Capacity (fM_n):	3138.6	k-ft	
M_u / fM_n:	19%	Pass	
Lower Pad Flexural Reinforcement Ratio:	0.0031		*OK - Minimum Reinforcement Ratio Met - ACI10.5.1*
Upper Pad Flexural Reinforcement Ratio:	0.0020		*OK - Minimum Reinforcement Ratio Met - ACI10.5.1*
Pad Shrinkage Reinforcement Ratio:	0.0050		*OK - Shrinkage Reinforcement Ratio Met - ACI7.12.2.1*
Lower Pad Reinforcement Spacing:	8	in	*Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4*
Upper Pad Reinforcement Spacing:	13	in	*Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4*
Factored Punching Shear (V_u):	1.7	k	
Nominal Punching Shear Capacity (f_cV_n):	2441.5	k	*ACI11.12.2.1*
V_u / fV_c:	0%	Pass	

Pier Strength Capacity			
Factored Moment in Pier (M_u):	2554.3	k-ft	
Pier Moment Capacity (fM_n):	6730.8	k-ft	
M_u / fM_n:	38%	Pass	
Factored Shear in Pier (V_u):	26.2	k	
Pier Shear Capacity (fV_n):	862.2	k	
V_u / fV_c:	3%	Pass	
Pier Shear Reinforcement Ratio:	0.0003		*OK - No Ties Necessary for Shear - ACI11.5.6.1*
Factored Tension in Pier (T_u):	0.0	k	
Pier Tension Capacity (fT_n):	1877.0	k	
T_u / fT_n:	0%	Pass	
Factored Compression in Pier (P_u):	57.4	k	
Pier Compression Capacity (fP_n):	12735.7	k	*ACI10.3.6.2*
P_u / fP_n:	0%	Pass	
Minimum Depth to Develop Vertical Rebar:	19	in	*ACI12.2.3*
Minimum Hook Development Length:	14	in	*ACI12.5*
Minimum Mat Thickness / Edge Distance from Pier:	17.0	in	
Minimum Foundation Depth:	2.77	ft	
$M_u/f_BM_n + T_u/f_TT_n$:	38%	Pass	

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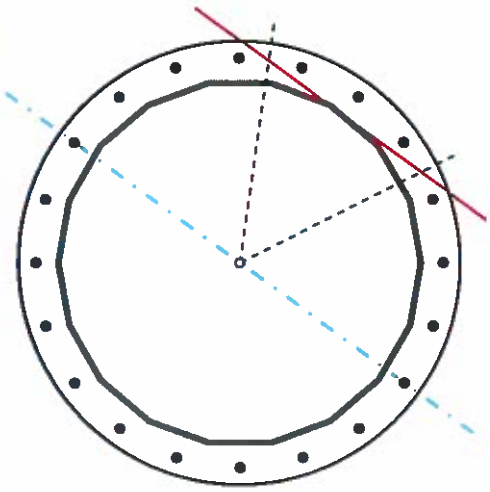
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	18	-
Diameter	62	in
Thickness	0.5	in
Orientation Offset		°

Base Reactions		
Moment, Mu	2488.9	k-ft
Axial, Pu	57.4	k
Shear, Vu	26.2	k
Neutral Axis	324	°

Report Capacities		
Component	Capacity	Result
Base Plate	27%	Pass
Anchor Rods	35%	Pass
Dwyidag	-	-

Base Plate		
Shape	Round	-
Diameter, ø	77	in
Thickness	2	in
Grade	A572-60	
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	N/A	in
Orientation Offset		°
Anchor Rod Detail	d	η=0.5
Clear Distance	3	in
Applied Moment, Mu	544.7	k
Bending Stress, ϕMn	1981.0	k



Original Anchor Rods		
Arrangement	Radial	-
Quantity	20	-
Diameter, ø	2 1/4	in
Bolt Circle	71	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	11.2	in
Orientation Offset		°
Applied Force, Pu	89.9	k
Anchor Rods, ϕPn	259.8	k

Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	26.2	2488.9	1.00
Anchor Rod Forces	26.2	2488.9	1.00
Additional Bolt (Grp1) Forces			
Additional Bolt (Grp2) Forces			
Dywidag Forces			
Stiffener Forces			

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in^2	in^2	in^4	#	in^4
Pole	96.1143	5.3397	0.4468		45449.07
Bolt	3.9761	3.2477	0.8393	4.5	38253.38
Bolt1					
Bolt2					
Dywidag					
Stiffener					

Base Plate		
Shape	Round	-
Diameter, D	77	in
Thickness, t	2	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Base Plate Chord	45.662	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

Anchor Rods		
Anchor Rod Quantity, N	20	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	71	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	89.9	k
Applied Shear, Vu	0.6	k
Compressive Capacity, ϕPn	259.8	k
Tensile Capacity, ϕRnt	0.346	OK
Interaction Capacity	0.351	OK

External Base Plate		
Chord Length AA	39.079	in
Additional AA	4.000	in
Section Modulus, Z	43.079	in^3
Applied Moment, Mu	544.7	k-ft
Bending Capacity, ϕMn	2326.3	k-ft
Capacity, Mu/ϕMn	0.234	OK
Chord Length AB	37.506	in
Additional AB	4.000	in
Section Modulus, Z	41.506	in^3
Applied Moment, Mu	419.4	k-ft
Bending Capacity, ϕMn	2241.3	k-ft
Capacity, Mu/ϕMn	0.187	OK
Bend Line Length	36.686	in
Additional Bend Line	0.000	in
Section Modulus, Z	36.686	in^3
Applied Moment, Mu	544.7	k-ft
Bending Capacity, ϕMn	1981.0	k-ft
Capacity, Mu/ϕMn	0.275	OK

Internal Base Plate		
Arc Length	0.000	in
Section Modulus, Z	0.000	in^3
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

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Antenna Mount Analysis Report

ATC Site Name	:	**CRANBURYSU CT**
ATC Site Number	:	**411189**
Engineering Number	:	**12993283_C8_02**
Mount Elevation	:	**127 ft**
Carrier	:	**Verizon Wireless**
Carrier Site Name	:	**CRANBURY CT**
Carrier Site Number	:	**467333**
Site Location	:	**2 SUNNY LANE** **WESTPORT, CT 06880-1906** **41.162917 , -73.373083**
County	:	**Fairfield**
Date	:	**December 17, 2019**
Max Usage	:	**78%**
Result	:	**Pass**

Prepared By:
Parvin Nikpoorparizi
Structural Engineer I

Reviewed By:

STATE OF CONNECTICUT
ESHA KAUSHAL MODI
32593
LICENSED
PROFESSIONAL ENGINEER

Authorized by "EOR"
18 Dec 2019 05:07:39 cosign

COA: PEC.0001553

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Table of Contents

Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for Verizon Wireless at 127 ft.

Analysis

Basic Wind Speed:	93 mph (3-Second Gust, Vasd) / 120 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Codes:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.227, S_1 = 0.067
Site Class:	D - Stiff Soil
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

Conclusion

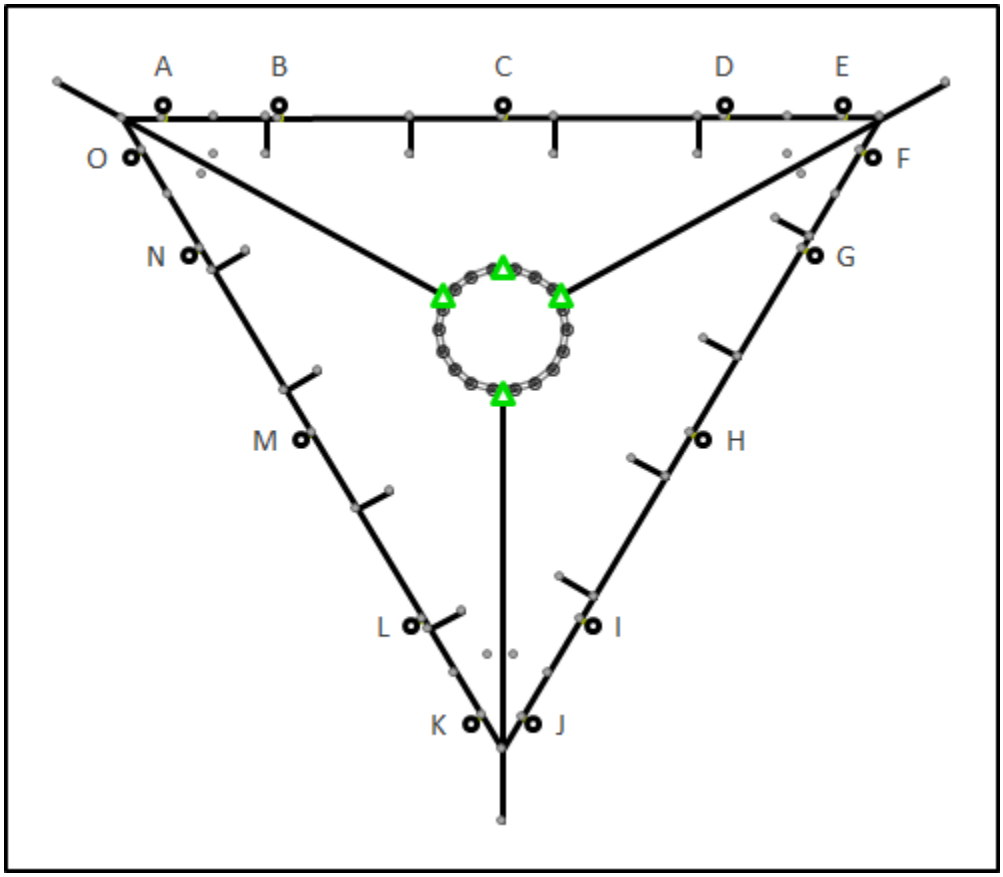
Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above. The mount can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Application Loading

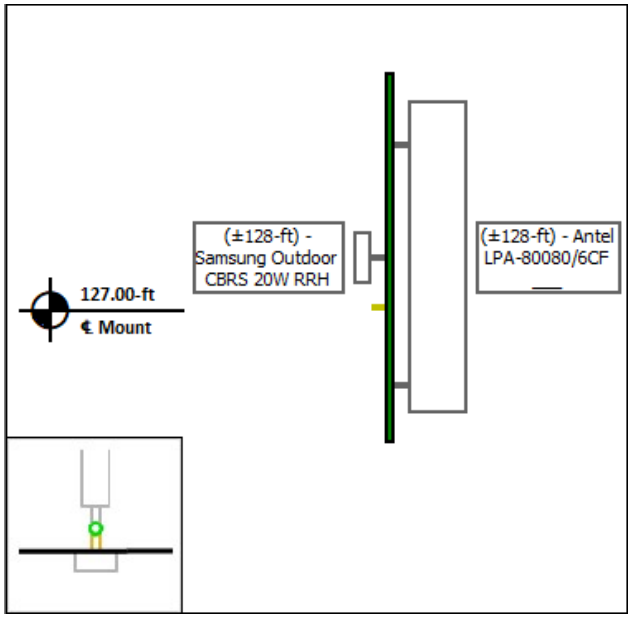
Mount Centerline (ft)	Antenna Centerline (ft)	Qty	Antenna Model
127.0	128.0	3	Samsung Outdoor LAA 1W RRH –Clip-on Antenna
		2	Antel LPA-80080/6CF ___
		4	Decibel DB846F65ZAXY
		6	Quintel QS6656-5
		1	RFS DB-C1-12C-24AB-0Z
		3	Samsung Outdoor CBRS 20W RRH
		3	Samsung B2/B66A RRH-BR049
		3	Samsung B5/B13 RRH-BR04C
		1	Generic 2" x 8" GPS
		1	Generic 2" x 8" GPS

Mount Layout

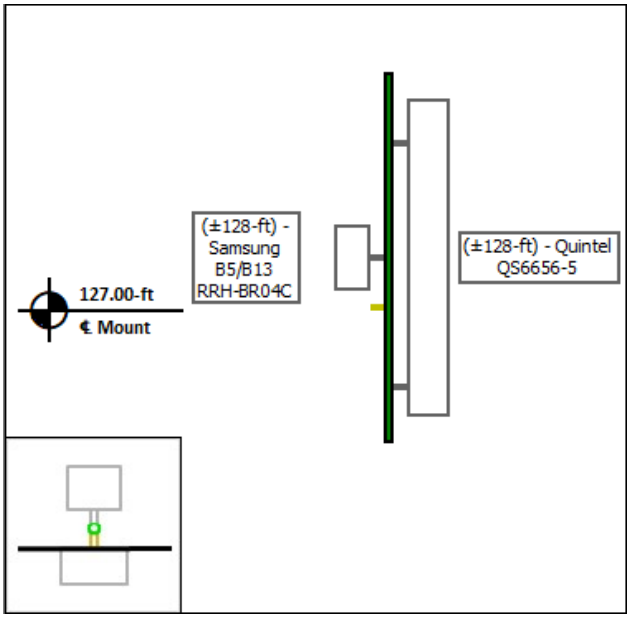


Equipment Layout

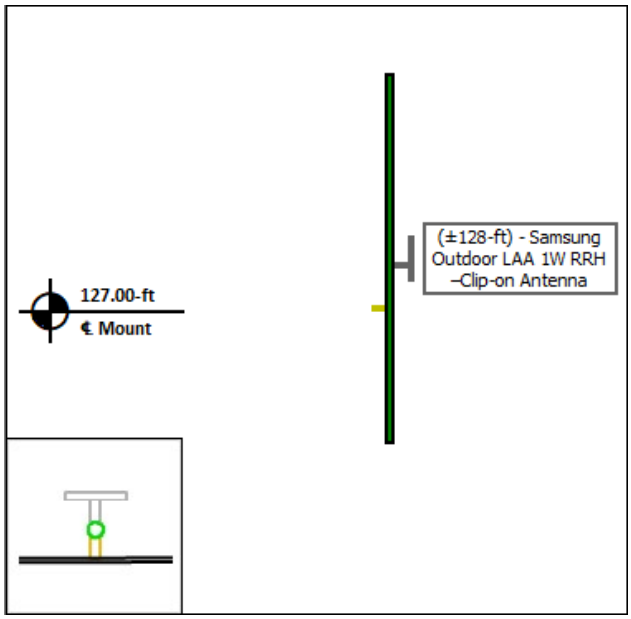
Mount Pipe A



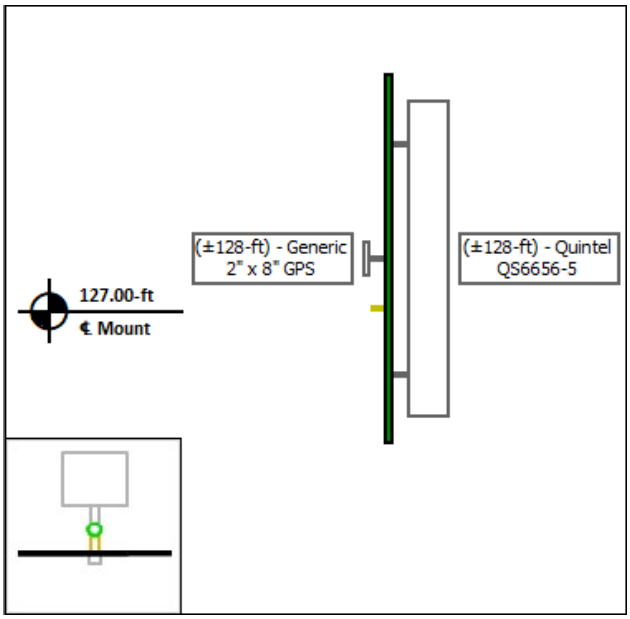
Mount Pipe B



Mount Pipe C

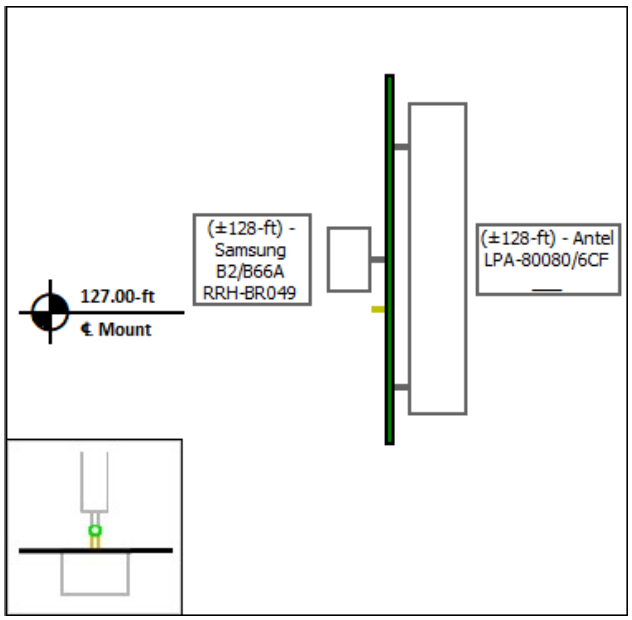


Mount Pipe D

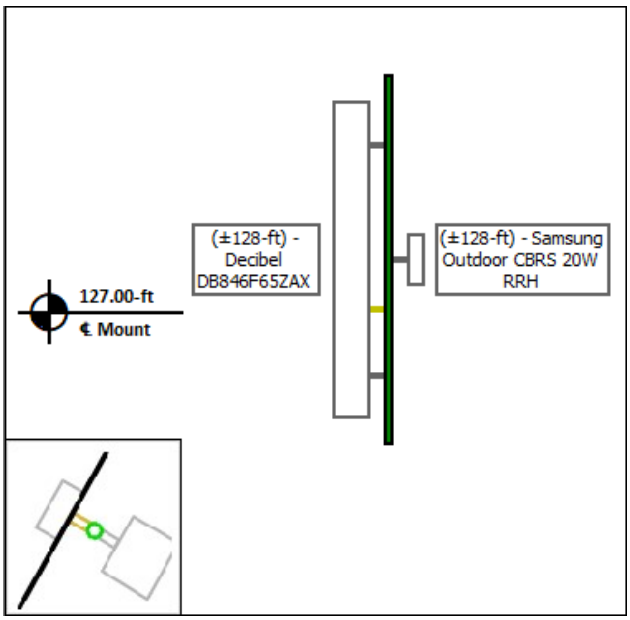


Equipment Layout Cont'd.

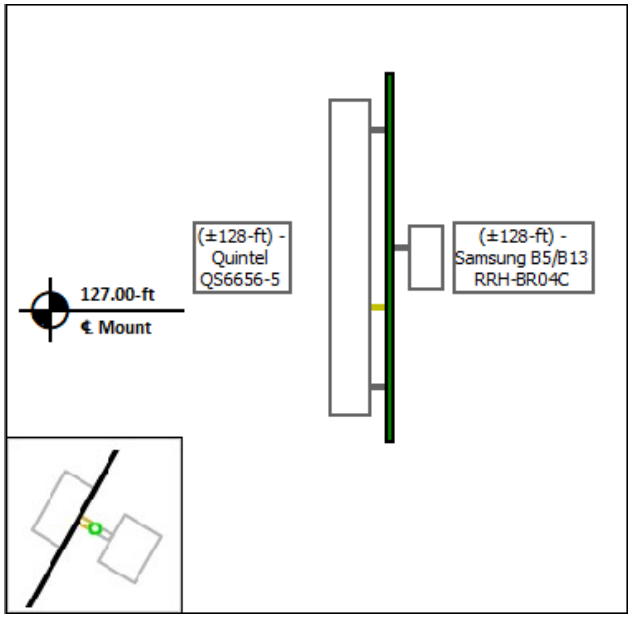
Mount Pipe E



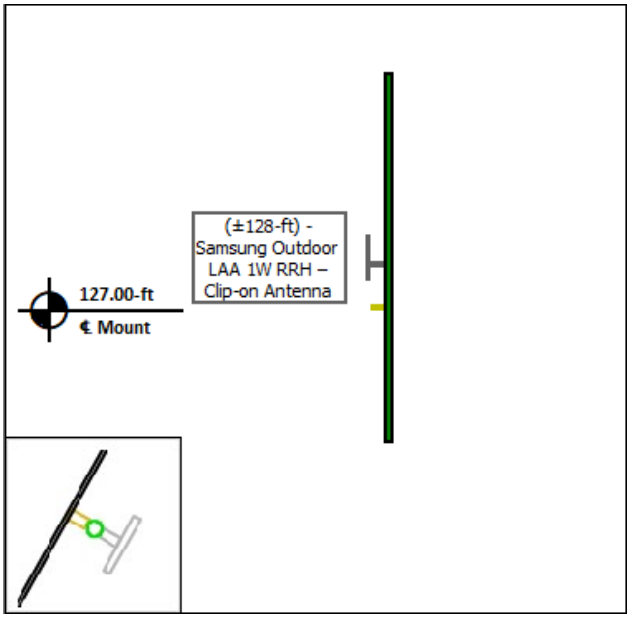
Mount Pipe F



Mount Pipe G

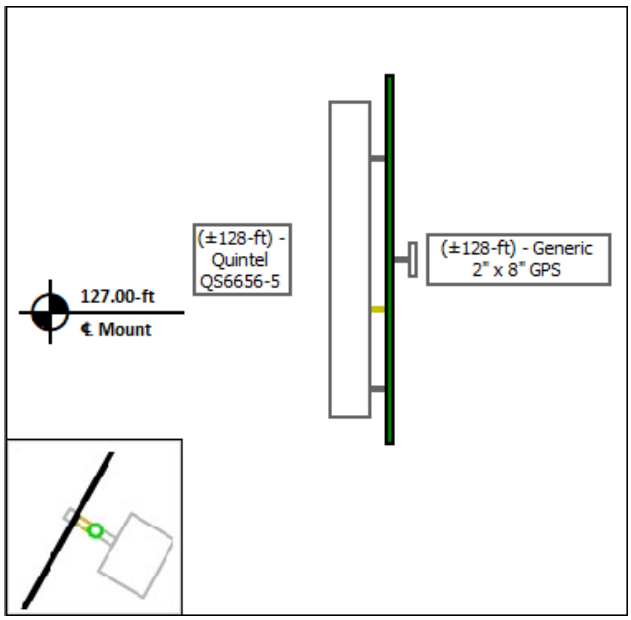


Mount Pipe H

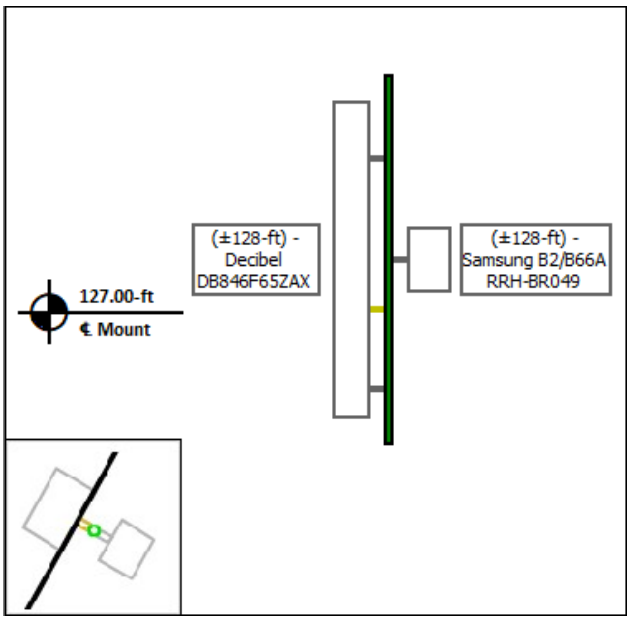


Equipment Layout Cont'd.

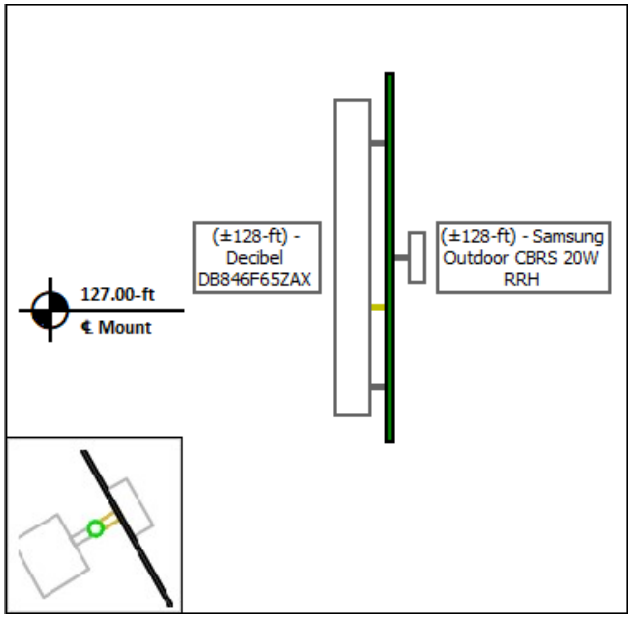
Mount Pipe I



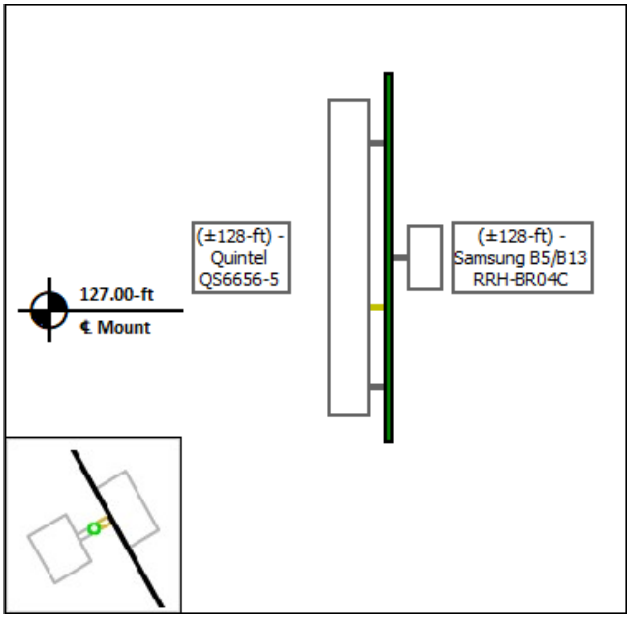
Mount Pipe J



Mount Pipe K

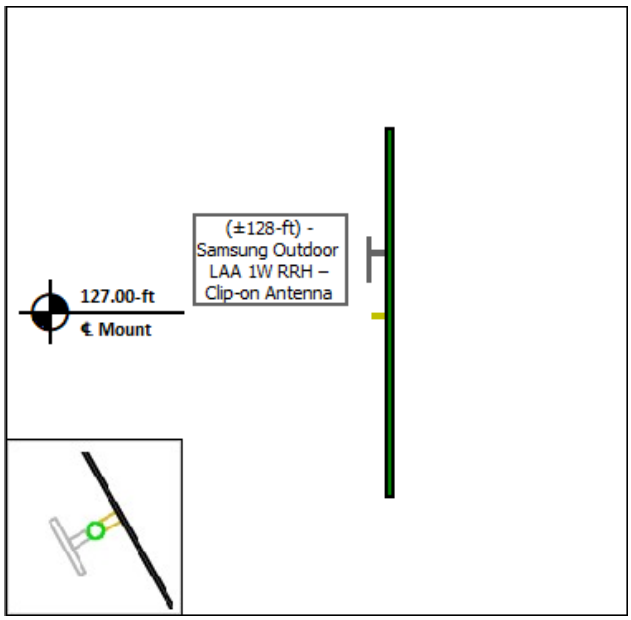


Mount Pipe L

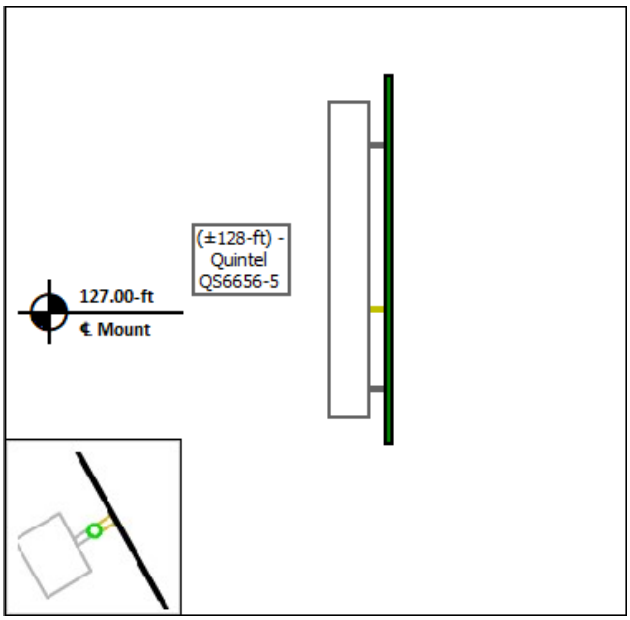


Equipment Layout Cont'd.

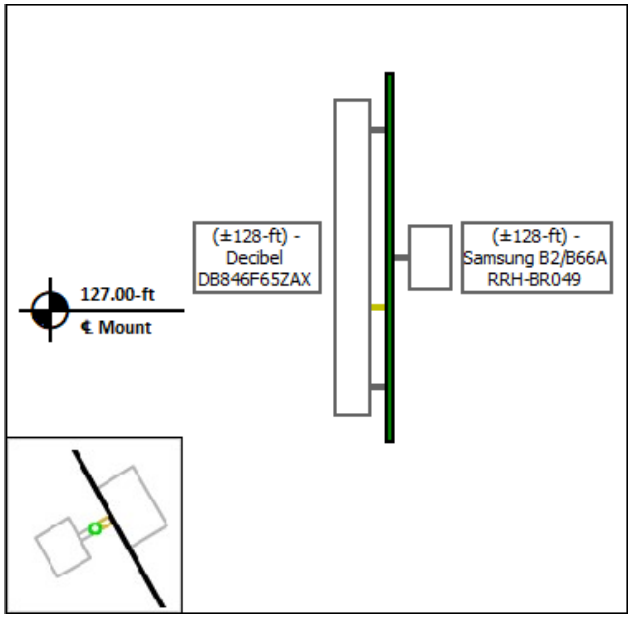
Mount Pipe M



Mount Pipe N



Mount Pipe O



Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

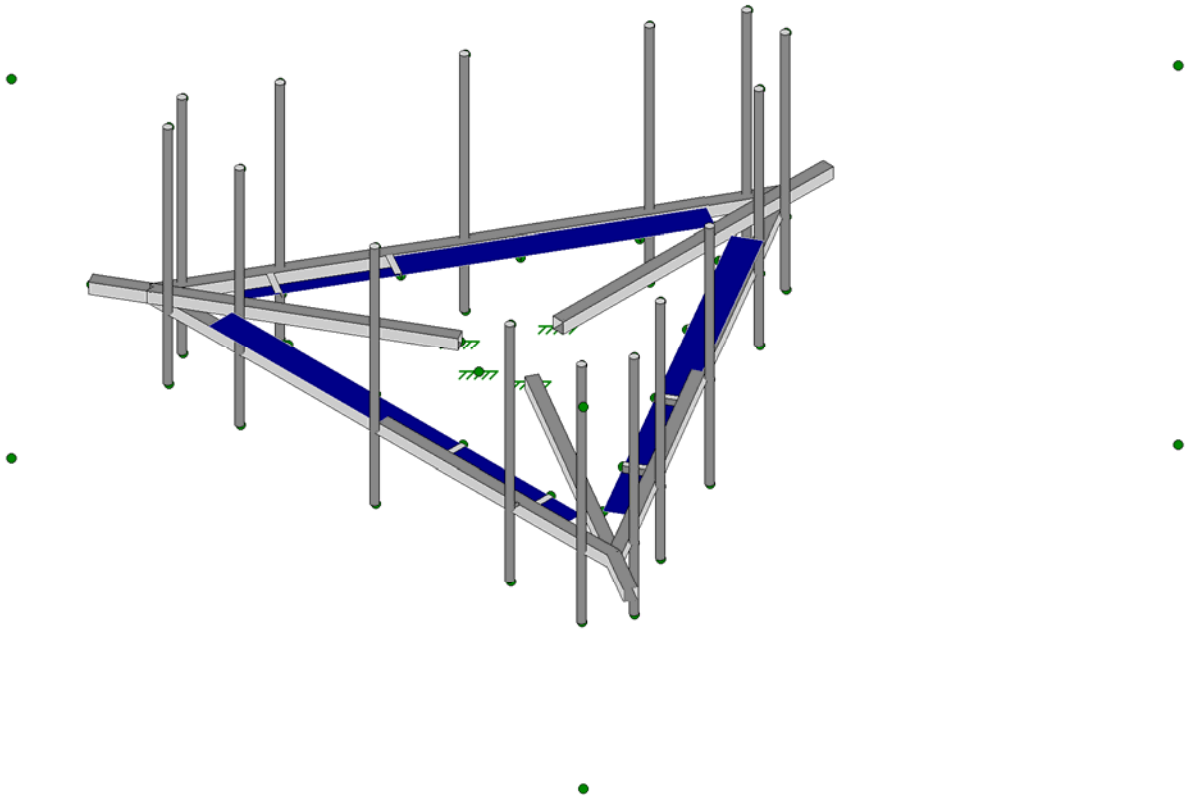
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

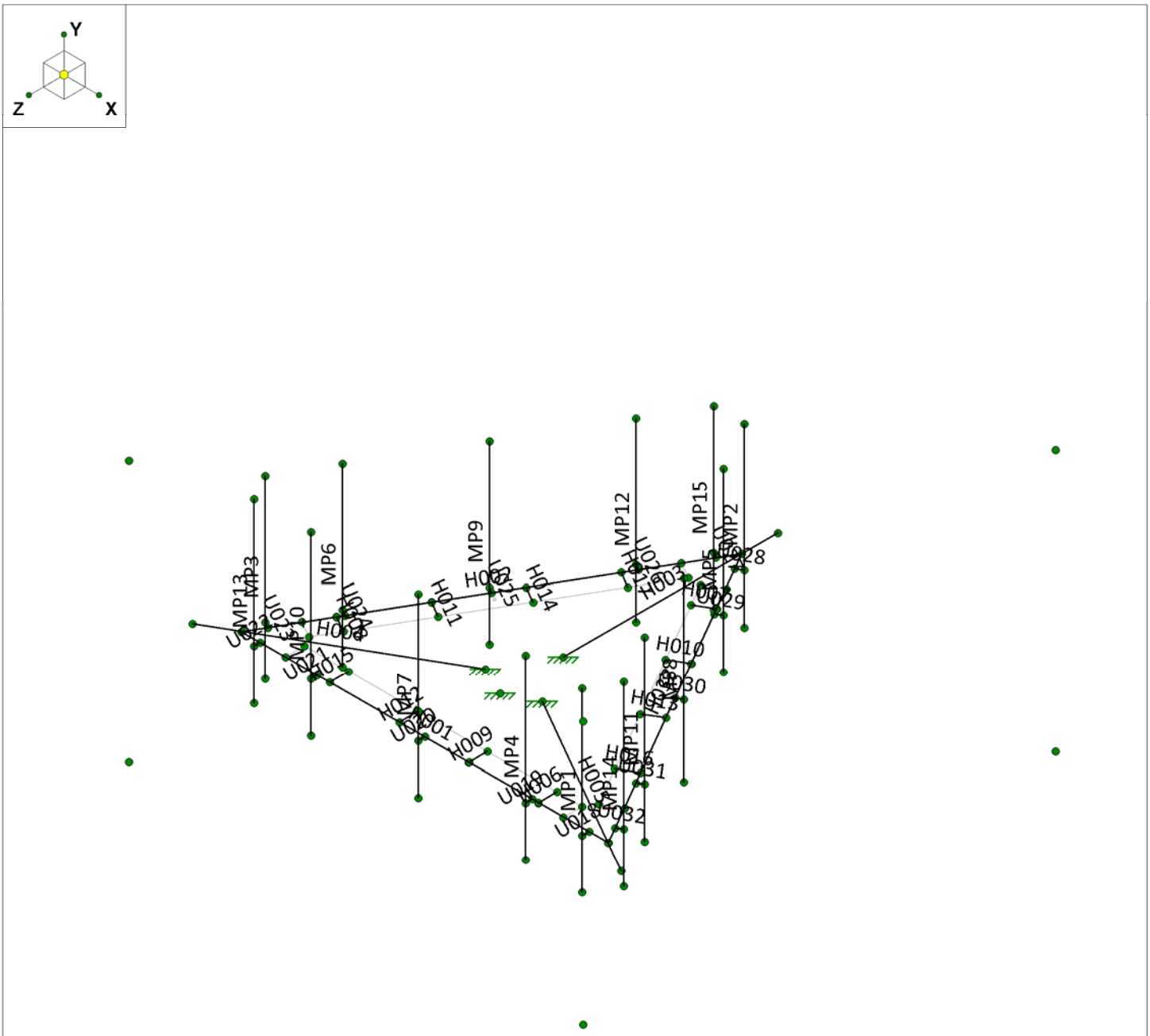
All connections are to be verified for condition and tightness by the installation contractor preceding any changes to the appurtenance mounting system and/or equipment attached to it.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

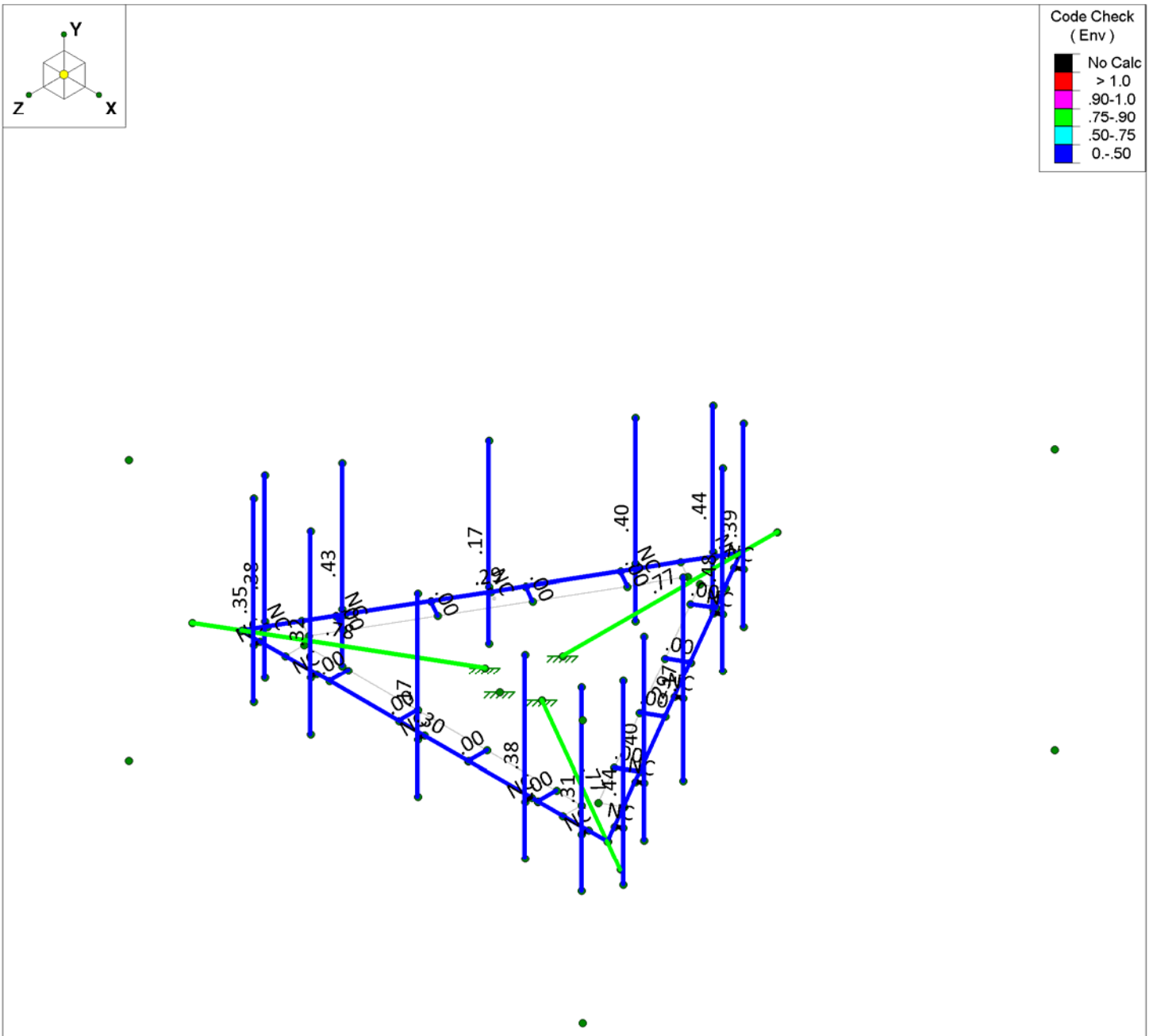
All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



American Tower Corp.		SK - 1
Parvin.NikpoorParizi	411189, CRANBURYSU CT	Dec 17, 2019 at 12:10 PM
12993283_C8_02	3D Rendering	R3D. VERIZON WIRELESS @ 411...

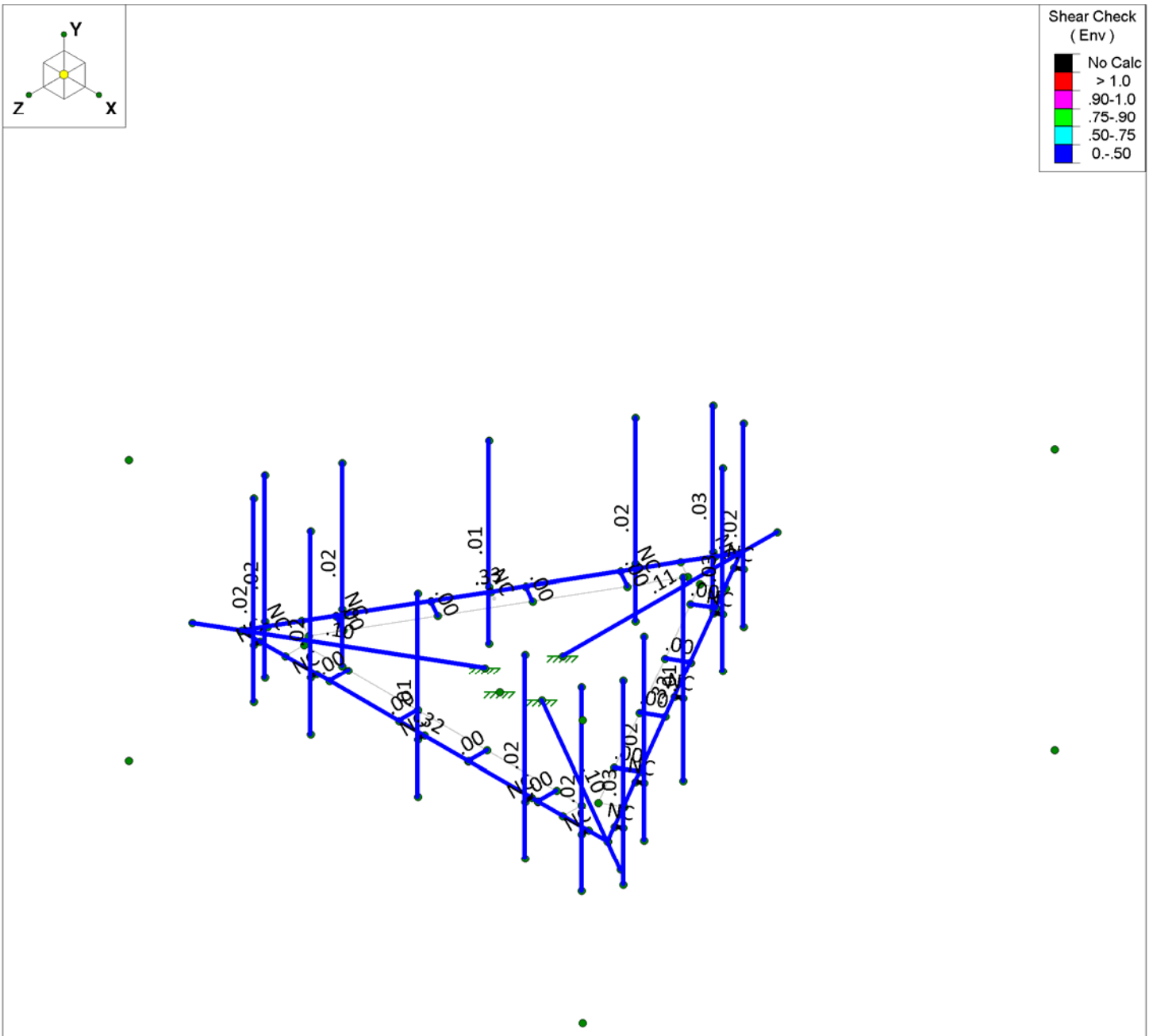


American Tower Corp.		SK - 2
Parvin.NikpoorParizi	411189, CRANBURYSU CT	Dec 17, 2019 at 12:11 PM
12993283_C8_02	Member Labels	R3D. VERIZON WIRELESS @ 411...



Member Code Checks Displayed (Enveloped)
Results for LC 1, 1.4D

American Tower Corp.		SK - 3
Parvin.NikpoorParizi	411189, CRANBURYSU CT	Dec 17, 2019 at 12:11 PM
12993283_C8_02	Unity Bending Checks	R3D. VERIZON WIRELESS @ 411...



Member Shear Checks Displayed (Enveloped)
Results for LC 1, 1.4D

American Tower Corp.		SK - 4
Parvin.NikpoorParizi	411189, CRANBURYSU CT	Dec 17, 2019 at 12:11 PM
12993283_C8_02	SHear Checks	R3D. VERIZON WIRELESS @ 411...

Hot Rolled Steel Properties

	Label	E [psi]	G [psi]	Nu	Therm (/1E..	Density[lb/...	Yield[psi]	Ry	Fu[psi]	Rt
1	A36	2.9e+7	1.115e+7	.3	.65	490	36000	1.5	58000	1.2
2	A572-50	2.9e+7	1.115e+7	.3	.65	490	50000	1.1	65000	1.1
3	A500 Gr. B [RND]	2.9e+7	1.115e+7	.3	.65	527	42000	1.4	58000	1.3
4	A500 Gr. B [SQR]	2.9e+7	1.115e+7	.3	.65	527	46000	1.4	58000	1.3
5	A1085	2.9e+7	1.115e+7	.3	.65	490	50000	1.1	65000	1.1
6	A53 Gr. B	2.9e+7	1.115e+7	.3	.65	490	35000	1.6	60000	1.2
7	A992	2.9e+7	1.115e+7	.3	.65	490	50000	1.1	65000	1.1
8	SAE J429 Gr. 2	2.9e+7	1.115e+7	.3	.65	490	57000	1.1	74000	1.1

Load Combinations

	Description	S...	P...	S...	BLC	F...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4D	Yes	Y		DL	1.4																		
2	1.2D + 1.6Wo [0°]	Yes	Y		DL	1.2	WLX	.001	WLZ	1.6														
3	1.2D + 1.6Wo [30°]	Yes	Y		DL	1.2	WLX	.8	WLZ	1....														
4	1.2D + 1.6Wo [60°]	Yes	Y		DL	1.2	WLX	1....	WLZ	.8														
5	1.2D + 1.6Wo [90°]	Yes	Y		DL	1.2	WLX	1.6	WLZ	.001														
6	1.2D + 1.6Wo [120°]	Yes	Y		DL	1.2	WLX	1....	WLZ	-.8														
7	1.2D + 1.6Wo [150°]	Yes	Y		DL	1.2	WLX	.8	WLZ	-1....														
8	1.2D + 1.6Wo [180°]	Yes	Y		DL	1.2	WLX	.001	WLZ	-1.6														
9	1.2D + 1.6Wo [210°]	Yes	Y		DL	1.2	WLX	-.8	WLZ	-1....														
10	1.2D + 1.6Wo [240°]	Yes	Y		DL	1.2	WLX	-1....	WLZ	-.8														
11	1.2D + 1.6Wo [270°]	Yes	Y		DL	1.2	WLX	-1.6	WLZ	.001														
12	1.2D + 1.6Wo [300°]	Yes	Y		DL	1.2	WLX	-1....	WLZ	.8														
13	1.2D + 1.6Wo [330°]	Yes	Y		DL	1.2	WLX	-.8	WLZ	1....														
14	0.9D + 1.6Wo [0°]	Yes	Y		DL	.9	WLX	.001	WLZ	1.6														
15	0.9D + 1.6Wo [30°]	Yes	Y		DL	.9	WLX	.8	WLZ	1....														
16	0.9D + 1.6Wo [60°]	Yes	Y		DL	.9	WLX	1....	WLZ	.8														
17	0.9D + 1.6Wo [90°]	Yes	Y		DL	.9	WLX	1.6	WLZ	.001														
18	0.9D + 1.6Wo [120°]	Yes	Y		DL	.9	WLX	1....	WLZ	-.8														
19	0.9D + 1.6Wo [150°]	Yes	Y		DL	.9	WLX	.8	WLZ	-1....														
20	0.9D + 1.6Wo [180°]	Yes	Y		DL	.9	WLX	.001	WLZ	-1.6														
21	0.9D + 1.6Wo [210°]	Yes	Y		DL	.9	WLX	-.8	WLZ	-1....														
22	0.9D + 1.6Wo [240°]	Yes	Y		DL	.9	WLX	-1....	WLZ	-.8														

Load Combinations (Continued)

	Description	S...	P...	S...	BLC	F...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
23	0.9D + 1.6Wo [270°]	Yes	Y		DL	.9	WLX	-1.6	WLZ	.001														
24	0.9D + 1.6Wo [300°]	Yes	Y		DL	.9	WLX	-1....	WLZ	.8														
25	0.9D + 1.6Wo [330°]	Yes	Y		DL	.9	WLX	-.8	WLZ	1....														
26	1.2D + 1.0Di + 1.0...	Yes	Y		DL	1.2	IL	1	WL-X	.001	WL-Z	1												
27	1.2D + 1.0Di + 1.0...	Yes	Y		DL	1.2	IL	1	WL-X	.5	WL-Z	.866												
28	1.2D + 1.0Di + 1.0...	Yes	Y		DL	1.2	IL	1	WL-X	.866	WL-Z	.5												
29	1.2D + 1.0Di + 1.0...	Yes	Y		DL	1.2	IL	1	WL-X	1	WL-Z	.001												
30	1.2D + 1.0Di + 1.0...	Yes	Y		DL	1.2	IL	1	WL-X	.866	WL-Z	-.5												
31	1.2D + 1.0Di + 1.0...	Yes	Y		DL	1.2	IL	1	WL-X	.5	WL-Z	-.8...												
32	1.2D + 1.0Di + 1.0...	Yes	Y		DL	1.2	IL	1	WL-X	.001	WL-Z	-1												
33	1.2D + 1.0Di + 1.0...	Yes	Y		DL	1.2	IL	1	WL-X	-.5	WL-Z	-.8...												
34	1.2D + 1.0Di + 1.0...	Yes	Y		DL	1.2	IL	1	WL-X	-.8...	WL-Z	-.5												
35	1.2D + 1.0Di + 1.0...	Yes	Y		DL	1.2	IL	1	WL-X	-1	WL-Z	.001												
36	1.2D + 1.0Di + 1.0...	Yes	Y		DL	1.2	IL	1	WL-X	-.8...	WL-Z	.5												
37	1.2D + 1.0Di + 1.0...	Yes	Y		DL	1.2	IL	1	WL-X	-.5	WL-Z	.866												
38	1.2D + 1.0Ev + 1.0E...	Yes	Y		DL	1.2	ELY	1	ELZ	1	ELX	.001												
39	1.2D + 1.0Ev + 1.0E...	Yes	Y		DL	1.2	ELY	1	ELZ	.866	ELX	.5												
40	1.2D + 1.0Ev + 1.0E...	Yes	Y		DL	1.2	ELY	1	ELZ	.5	ELX	.866												
41	1.2D + 1.0Ev + 1.0E...	Yes	Y		DL	1.2	ELY	1	ELZ	.001	ELX	1												
42	1.2D + 1.0Ev + 1.0E...	Yes	Y		DL	1.2	ELY	1	ELZ	-.5	ELX	.866												
43	1.2D + 1.0Ev + 1.0E...	Yes	Y		DL	1.2	ELY	1	ELZ	-.8...	ELX	.5												
44	1.2D + 1.0Ev + 1.0E...	Yes	Y		DL	1.2	ELY	1	ELZ	-1	ELX	.001												
45	1.2D + 1.0Ev + 1.0E...	Yes	Y		DL	1.2	ELY	1	ELZ	-.8...	ELX	-.5												
46	1.2D + 1.0Ev + 1.0E...	Yes	Y		DL	1.2	ELY	1	ELZ	-.5	ELX	-.8...												
47	1.2D + 1.0Ev + 1.0E...	Yes	Y		DL	1.2	ELY	1	ELZ	.001	ELX	-1												
48	1.2D + 1.0Ev + 1.0E...	Yes	Y		DL	1.2	ELY	1	ELZ	.5	ELX	-.8...												
49	1.2D + 1.0Ev + 1.0E...	Yes	Y		DL	1.2	ELY	1	ELZ	.866	ELX	-.5												
50	0.9D + 1.0Ev + 1.0E...	Yes	Y		DL	.9	ELY	1	ELZ	1	ELX	.001												
51	0.9D + 1.0Ev + 1.0E...	Yes	Y		DL	.9	ELY	1	ELZ	.866	ELX	.5												
52	0.9D + 1.0Ev + 1.0E...	Yes	Y		DL	.9	ELY	1	ELZ	.5	ELX	.866												
53	0.9D + 1.0Ev + 1.0E...	Yes	Y		DL	.9	ELY	1	ELZ	.001	ELX	1												
54	0.9D + 1.0Ev + 1.0E...	Yes	Y		DL	.9	ELY	1	ELZ	-.5	ELX	.866												
55	0.9D + 1.0Ev + 1.0E...	Yes	Y		DL	.9	ELY	1	ELZ	-.8...	ELX	.5												
56	0.9D + 1.0Ev + 1.0E...	Yes	Y		DL	.9	ELY	1	ELZ	-1	ELX	.001												
57	0.9D + 1.0Ev + 1.0E...	Yes	Y		DL	.9	ELY	1	ELZ	-.8...	ELX	-.5												
58	0.9D + 1.0Ev + 1.0E...	Yes	Y		DL	.9	ELY	1	ELZ	-.5	ELX	-.8...												
59	0.9D + 1.0Ev + 1.0E...	Yes	Y		DL	.9	ELY	1	ELZ	.001	ELX	-1												
60	0.9D + 1.0Ev + 1.0E...	Yes	Y		DL	.9	ELY	1	ELZ	.5	ELX	-.8...												
61	0.9D + 1.0Ev + 1.0E...	Yes	Y		DL	.9	ELY	1	ELZ	.866	ELX	-.5												

Load Combinations (Continued)

	Description	S...	P...	S...	BLC	F...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
62	1.2D + 1.5Lm(1) + 1..	Yes	Y		DL	1.2	12	1.5	WLXP1	.001	WLZP1	1												
63	1.2D + 1.5Lm(1) + 1..	Yes	Y		DL	1.2	12	1.5	WLXP1	.5	WLZP1	.866												
64	1.2D + 1.5Lm(1) + 1..	Yes	Y		DL	1.2	12	1.5	WLXP1	.866	WLZP1	.5												
65	1.2D + 1.5Lm(1) + 1..	Yes	Y		DL	1.2	12	1.5	WLXP1	1	WLZP1	.001												
66	1.2D + 1.5Lm(1) + 1..	Yes	Y		DL	1.2	12	1.5	WLXP1	.866	WLZP1	-.5												
67	1.2D + 1.5Lm(1) + 1..	Yes	Y		DL	1.2	12	1.5	WLXP1	.5	WLZP1	-.8...												
68	1.2D + 1.5Lm(1) + 1..	Yes	Y		DL	1.2	12	1.5	WLXP1	.001	WLZP1	-.5												
69	1.2D + 1.5Lm(1) + 1..	Yes	Y		DL	1.2	12	1.5	WLXP1	-.5	WLZP1	-.8...												
70	1.2D + 1.5Lm(1) + 1..	Yes	Y		DL	1.2	12	1.5	WLXP1	-.8...	WLZP1	-.5												
71	1.2D + 1.5Lm(1) + 1..	Yes	Y		DL	1.2	12	1.5	WLXP1	-1	WLZP1	.001												
72	1.2D + 1.5Lm(1) + 1..	Yes	Y		DL	1.2	12	1.5	WLXP1	-.8...	WLZP1	.5												
73	1.2D + 1.5Lm(1) + 1..	Yes	Y		DL	1.2	12	1.5	WLXP1	-.5	WLZP1	.866												
74	1.2D + 1.5Lm(2) + 1..	Yes	Y		DL	1.2	13	1.5	WLXP1	.001	WLZP1	1												
75	1.2D + 1.5Lm(2) + 1..	Yes	Y		DL	1.2	13	1.5	WLXP1	.5	WLZP1	.866												
76	1.2D + 1.5Lm(2) + 1..	Yes	Y		DL	1.2	13	1.5	WLXP1	.866	WLZP1	.5												
77	1.2D + 1.5Lm(2) + 1..	Yes	Y		DL	1.2	13	1.5	WLXP1	1	WLZP1	.001												
78	1.2D + 1.5Lm(2) + 1..	Yes	Y		DL	1.2	13	1.5	WLXP1	.866	WLZP1	-.5												
79	1.2D + 1.5Lm(2) + 1..	Yes	Y		DL	1.2	13	1.5	WLXP1	.5	WLZP1	-.8...												
80	1.2D + 1.5Lm(2) + 1..	Yes	Y		DL	1.2	13	1.5	WLXP1	.001	WLZP1	-.5												
81	1.2D + 1.5Lm(2) + 1..	Yes	Y		DL	1.2	13	1.5	WLXP1	-.5	WLZP1	-.8...												
82	1.2D + 1.5Lm(2) + 1..	Yes	Y		DL	1.2	13	1.5	WLXP1	-.8...	WLZP1	-.5												
83	1.2D + 1.5Lm(2) + 1..	Yes	Y		DL	1.2	13	1.5	WLXP1	-1	WLZP1	.001												
84	1.2D + 1.5Lm(2) + 1..	Yes	Y		DL	1.2	13	1.5	WLXP1	-.8...	WLZP1	.5												
85	1.2D + 1.5Lm(2) + 1..	Yes	Y		DL	1.2	13	1.5	WLXP1	-.5	WLZP1	.866												
86	1.2D + 1.5Lm(3) + 1..	Yes	Y		DL	1.2	14	1.5	WLXP1	.001	WLZP1	1												
87	1.2D + 1.5Lm(3) + 1..	Yes	Y		DL	1.2	14	1.5	WLXP1	.5	WLZP1	.866												
88	1.2D + 1.5Lm(3) + 1..	Yes	Y		DL	1.2	14	1.5	WLXP1	.866	WLZP1	.5												
89	1.2D + 1.5Lm(3) + 1..	Yes	Y		DL	1.2	14	1.5	WLXP1	1	WLZP1	.001												
90	1.2D + 1.5Lm(3) + 1..	Yes	Y		DL	1.2	14	1.5	WLXP1	.866	WLZP1	-.5												
91	1.2D + 1.5Lm(3) + 1..	Yes	Y		DL	1.2	14	1.5	WLXP1	.5	WLZP1	-.8...												
92	1.2D + 1.5Lm(3) + 1..	Yes	Y		DL	1.2	14	1.5	WLXP1	.001	WLZP1	-.5												
93	1.2D + 1.5Lm(3) + 1..	Yes	Y		DL	1.2	14	1.5	WLXP1	-.5	WLZP1	-.8...												
94	1.2D + 1.5Lm(3) + 1..	Yes	Y		DL	1.2	14	1.5	WLXP1	-.8...	WLZP1	-.5												
95	1.2D + 1.5Lm(3) + 1..	Yes	Y		DL	1.2	14	1.5	WLXP1	-1	WLZP1	.001												
96	1.2D + 1.5Lm(3) + 1..	Yes	Y		DL	1.2	14	1.5	WLXP1	-.8...	WLZP1	.5												
97	1.2D + 1.5Lm(3) + 1..	Yes	Y		DL	1.2	14	1.5	WLXP1	-.5	WLZP1	.866												
98	1.2D + 1.5Lm(4) + 1..	Yes	Y		DL	1.2	15	1.5	WLXP1	.001	WLZP1	1												
99	1.2D + 1.5Lm(4) + 1..	Yes	Y		DL	1.2	15	1.5	WLXP1	.5	WLZP1	.866												
100	1.2D + 1.5Lm(4) + 1..	Yes	Y		DL	1.2	15	1.5	WLXP1	.866	WLZP1	.5												

Load Combinations (Continued)

	Description	S...	P...	S...	BLC	F...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
101	1.2D + 1.5Lm(4) + 1..	Yes	Y		DL	1.2	15	1.5	WLXP1	1	WLZP1	.001												
102	1.2D + 1.5Lm(4) + 1..	Yes	Y		DL	1.2	15	1.5	WLXP1	.866	WLZP1	-.5												
103	1.2D + 1.5Lm(4) + 1..	Yes	Y		DL	1.2	15	1.5	WLXP1	.5	WLZP1	-.8...												
104	1.2D + 1.5Lm(4) + 1..	Yes	Y		DL	1.2	15	1.5	WLXP1	.001	WLZP1	-.5												
105	1.2D + 1.5Lm(4) + 1..	Yes	Y		DL	1.2	15	1.5	WLXP1	-.5	WLZP1	-.8...												
106	1.2D + 1.5Lm(4) + 1..	Yes	Y		DL	1.2	15	1.5	WLXP1	-.8...	WLZP1	-.5												
107	1.2D + 1.5Lm(4) + 1..	Yes	Y		DL	1.2	15	1.5	WLXP1	-1	WLZP1	.001												
108	1.2D + 1.5Lm(4) + 1..	Yes	Y		DL	1.2	15	1.5	WLXP1	-.8...	WLZP1	.5												
109	1.2D + 1.5Lm(4) + 1..	Yes	Y		DL	1.2	15	1.5	WLXP1	-.5	WLZP1	.866												
110	1.2D + 1.5Lm(5) + 1..	Yes	Y		DL	1.2	16	1.5	WLXP1	.001	WLZP1	1												
111	1.2D + 1.5Lm(5) + 1..	Yes	Y		DL	1.2	16	1.5	WLXP1	.5	WLZP1	.866												
112	1.2D + 1.5Lm(5) + 1..	Yes	Y		DL	1.2	16	1.5	WLXP1	.866	WLZP1	.5												
113	1.2D + 1.5Lm(5) + 1..	Yes	Y		DL	1.2	16	1.5	WLXP1	1	WLZP1	.001												
114	1.2D + 1.5Lm(5) + 1..	Yes	Y		DL	1.2	16	1.5	WLXP1	.866	WLZP1	-.5												
115	1.2D + 1.5Lm(5) + 1..	Yes	Y		DL	1.2	16	1.5	WLXP1	.5	WLZP1	-.8...												
116	1.2D + 1.5Lm(5) + 1..	Yes	Y		DL	1.2	16	1.5	WLXP1	.001	WLZP1	-.5												
117	1.2D + 1.5Lm(5) + 1..	Yes	Y		DL	1.2	16	1.5	WLXP1	-.5	WLZP1	-.8...												
118	1.2D + 1.5Lm(5) + 1..	Yes	Y		DL	1.2	16	1.5	WLXP1	-.8...	WLZP1	-.5												
119	1.2D + 1.5Lm(5) + 1..	Yes	Y		DL	1.2	16	1.5	WLXP1	-1	WLZP1	.001												
120	1.2D + 1.5Lm(5) + 1..	Yes	Y		DL	1.2	16	1.5	WLXP1	-.8...	WLZP1	.5												
121	1.2D + 1.5Lm(5) + 1..	Yes	Y		DL	1.2	16	1.5	WLXP1	-.5	WLZP1	.866												
122	1.2D + 1.5Lm(6) + 1..	Yes	Y		DL	1.2	17	1.5	WLXP1	.001	WLZP1	1												
123	1.2D + 1.5Lm(6) + 1..	Yes	Y		DL	1.2	17	1.5	WLXP1	.5	WLZP1	.866												
124	1.2D + 1.5Lm(6) + 1..	Yes	Y		DL	1.2	17	1.5	WLXP1	.866	WLZP1	.5												
125	1.2D + 1.5Lm(6) + 1..	Yes	Y		DL	1.2	17	1.5	WLXP1	1	WLZP1	.001												
126	1.2D + 1.5Lm(6) + 1..	Yes	Y		DL	1.2	17	1.5	WLXP1	.866	WLZP1	-.5												
127	1.2D + 1.5Lm(6) + 1..	Yes	Y		DL	1.2	17	1.5	WLXP1	.5	WLZP1	-.8...												
128	1.2D + 1.5Lm(6) + 1..	Yes	Y		DL	1.2	17	1.5	WLXP1	.001	WLZP1	-.5												
129	1.2D + 1.5Lm(6) + 1..	Yes	Y		DL	1.2	17	1.5	WLXP1	-.5	WLZP1	-.8...												
130	1.2D + 1.5Lm(6) + 1..	Yes	Y		DL	1.2	17	1.5	WLXP1	-.8...	WLZP1	-.5												
131	1.2D + 1.5Lm(6) + 1..	Yes	Y		DL	1.2	17	1.5	WLXP1	-1	WLZP1	.001												
132	1.2D + 1.5Lm(6) + 1..	Yes	Y		DL	1.2	17	1.5	WLXP1	-.8...	WLZP1	.5												
133	1.2D + 1.5Lm(6) + 1..	Yes	Y		DL	1.2	17	1.5	WLXP1	-.5	WLZP1	.866												
134	1.2D + 1.5Lm(7) + 1..	Yes	Y		DL	1.2	18	1.5	WLXP1	.001	WLZP1	1												
135	1.2D + 1.5Lm(7) + 1..	Yes	Y		DL	1.2	18	1.5	WLXP1	.5	WLZP1	.866												
136	1.2D + 1.5Lm(7) + 1..	Yes	Y		DL	1.2	18	1.5	WLXP1	.866	WLZP1	.5												
137	1.2D + 1.5Lm(7) + 1..	Yes	Y		DL	1.2	18	1.5	WLXP1	1	WLZP1	.001												
138	1.2D + 1.5Lm(7) + 1..	Yes	Y		DL	1.2	18	1.5	WLXP1	.866	WLZP1	-.5												
139	1.2D + 1.5Lm(7) + 1..	Yes	Y		DL	1.2	18	1.5	WLXP1	.5	WLZP1	-.8...												

Load Combinations (Continued)

	Description	S...	P...	S...	BLC	F...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
140	1.2D + 1.5Lm(7) + 1..	Yes	Y		DL	1.2	18	1.5	WLXP1	.001	WLZP1	-.5												
141	1.2D + 1.5Lm(7) + 1..	Yes	Y		DL	1.2	18	1.5	WLXP1	-.5	WLZP1	-.8...												
142	1.2D + 1.5Lm(7) + 1..	Yes	Y		DL	1.2	18	1.5	WLXP1	-.8...	WLZP1	-.5												
143	1.2D + 1.5Lm(7) + 1..	Yes	Y		DL	1.2	18	1.5	WLXP1	-1	WLZP1	.001												
144	1.2D + 1.5Lm(7) + 1..	Yes	Y		DL	1.2	18	1.5	WLXP1	-.8...	WLZP1	.5												
145	1.2D + 1.5Lm(7) + 1..	Yes	Y		DL	1.2	18	1.5	WLXP1	-.5	WLZP1	.866												
146	1.2D + 1.5Lm(8) + 1..	Yes	Y		DL	1.2	19	1.5	WLXP1	.001	WLZP1	1												
147	1.2D + 1.5Lm(8) + 1..	Yes	Y		DL	1.2	19	1.5	WLXP1	.5	WLZP1	.866												
148	1.2D + 1.5Lm(8) + 1..	Yes	Y		DL	1.2	19	1.5	WLXP1	.866	WLZP1	.5												
149	1.2D + 1.5Lm(8) + 1..	Yes	Y		DL	1.2	19	1.5	WLXP1	1	WLZP1	.001												
150	1.2D + 1.5Lm(8) + 1..	Yes	Y		DL	1.2	19	1.5	WLXP1	.866	WLZP1	-.5												
151	1.2D + 1.5Lm(8) + 1..	Yes	Y		DL	1.2	19	1.5	WLXP1	.5	WLZP1	-.8...												
152	1.2D + 1.5Lm(8) + 1..	Yes	Y		DL	1.2	19	1.5	WLXP1	.001	WLZP1	-.5												
153	1.2D + 1.5Lm(8) + 1..	Yes	Y		DL	1.2	19	1.5	WLXP1	-.5	WLZP1	-.8...												
154	1.2D + 1.5Lm(8) + 1..	Yes	Y		DL	1.2	19	1.5	WLXP1	-.8...	WLZP1	-.5												
155	1.2D + 1.5Lm(8) + 1..	Yes	Y		DL	1.2	19	1.5	WLXP1	-1	WLZP1	.001												
156	1.2D + 1.5Lm(8) + 1..	Yes	Y		DL	1.2	19	1.5	WLXP1	-.8...	WLZP1	.5												
157	1.2D + 1.5Lm(8) + 1..	Yes	Y		DL	1.2	19	1.5	WLXP1	-.5	WLZP1	.866												
158	1.2D + 1.5Lm(9) + 1..	Yes	Y		DL	1.2	20	1.5	WLXP1	.001	WLZP1	1												
159	1.2D + 1.5Lm(9) + 1..	Yes	Y		DL	1.2	20	1.5	WLXP1	.5	WLZP1	.866												
160	1.2D + 1.5Lm(9) + 1..	Yes	Y		DL	1.2	20	1.5	WLXP1	.866	WLZP1	.5												
161	1.2D + 1.5Lm(9) + 1..	Yes	Y		DL	1.2	20	1.5	WLXP1	1	WLZP1	.001												
162	1.2D + 1.5Lm(9) + 1..	Yes	Y		DL	1.2	20	1.5	WLXP1	.866	WLZP1	-.5												
163	1.2D + 1.5Lm(9) + 1..	Yes	Y		DL	1.2	20	1.5	WLXP1	.5	WLZP1	-.8...												
164	1.2D + 1.5Lm(9) + 1..	Yes	Y		DL	1.2	20	1.5	WLXP1	.001	WLZP1	-.5												
165	1.2D + 1.5Lm(9) + 1..	Yes	Y		DL	1.2	20	1.5	WLXP1	-.5	WLZP1	-.8...												
166	1.2D + 1.5Lm(9) + 1..	Yes	Y		DL	1.2	20	1.5	WLXP1	-.8...	WLZP1	-.5												
167	1.2D + 1.5Lm(9) + 1..	Yes	Y		DL	1.2	20	1.5	WLXP1	-1	WLZP1	.001												
168	1.2D + 1.5Lm(9) + 1..	Yes	Y		DL	1.2	20	1.5	WLXP1	-.8...	WLZP1	.5												
169	1.2D + 1.5Lm(9) + 1..	Yes	Y		DL	1.2	20	1.5	WLXP1	-.5	WLZP1	.866												
170	1.2D + 1.5Lm(10) + ..	Yes	Y		DL	1.2	21	1.5	WLXP1	.001	WLZP1	1												
171	1.2D + 1.5Lm(10) + ..	Yes	Y		DL	1.2	21	1.5	WLXP1	.5	WLZP1	.866												
172	1.2D + 1.5Lm(10) + ..	Yes	Y		DL	1.2	21	1.5	WLXP1	.866	WLZP1	.5												
173	1.2D + 1.5Lm(10) + ..	Yes	Y		DL	1.2	21	1.5	WLXP1	1	WLZP1	.001												
174	1.2D + 1.5Lm(10) + ..	Yes	Y		DL	1.2	21	1.5	WLXP1	.866	WLZP1	-.5												
175	1.2D + 1.5Lm(10) + ..	Yes	Y		DL	1.2	21	1.5	WLXP1	.5	WLZP1	-.8...												
176	1.2D + 1.5Lm(10) + ..	Yes	Y		DL	1.2	21	1.5	WLXP1	.001	WLZP1	-.5												
177	1.2D + 1.5Lm(10) + ..	Yes	Y		DL	1.2	21	1.5	WLXP1	-.5	WLZP1	-.8...												
178	1.2D + 1.5Lm(10) + ..	Yes	Y		DL	1.2	21	1.5	WLXP1	-.8...	WLZP1	-.5												

Load Combinations (Continued)

	Description	S...	P...	S...	BLC	F...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
179	1.2D + 1.5Lm(10) + ..	Yes	Y		DL	1.2	21	1.5	WLXP1	-1	WLZP1	.001												
180	1.2D + 1.5Lm(10) + ..	Yes	Y		DL	1.2	21	1.5	WLXP1	-.8...	WLZP1	.5												
181	1.2D + 1.5Lm(10) + ..	Yes	Y		DL	1.2	21	1.5	WLXP1	-.5	WLZP1	.866												
182	1.2D + 1.5Lm(11) + ..	Yes	Y		DL	1.2	22	1.5	WLXP1	.001	WLZP1	1												
183	1.2D + 1.5Lm(11) + ..	Yes	Y		DL	1.2	22	1.5	WLXP1	.5	WLZP1	.866												
184	1.2D + 1.5Lm(11) + ..	Yes	Y		DL	1.2	22	1.5	WLXP1	.866	WLZP1	.5												
185	1.2D + 1.5Lm(11) + ..	Yes	Y		DL	1.2	22	1.5	WLXP1	1	WLZP1	.001												
186	1.2D + 1.5Lm(11) + ..	Yes	Y		DL	1.2	22	1.5	WLXP1	.866	WLZP1	-.5												
187	1.2D + 1.5Lm(11) + ..	Yes	Y		DL	1.2	22	1.5	WLXP1	.5	WLZP1	-.8...												
188	1.2D + 1.5Lm(11) + ..	Yes	Y		DL	1.2	22	1.5	WLXP1	.001	WLZP1	-.5												
189	1.2D + 1.5Lm(11) + ..	Yes	Y		DL	1.2	22	1.5	WLXP1	-.5	WLZP1	-.8...												
190	1.2D + 1.5Lm(11) + ..	Yes	Y		DL	1.2	22	1.5	WLXP1	-.8...	WLZP1	-.5												
191	1.2D + 1.5Lm(11) + ..	Yes	Y		DL	1.2	22	1.5	WLXP1	-1	WLZP1	.001												
192	1.2D + 1.5Lm(11) + ..	Yes	Y		DL	1.2	22	1.5	WLXP1	-.8...	WLZP1	.5												
193	1.2D + 1.5Lm(11) + ..	Yes	Y		DL	1.2	22	1.5	WLXP1	-.5	WLZP1	.866												
194	1.2D + 1.5Lm(12) + ..	Yes	Y		DL	1.2	23	1.5	WLXP1	.001	WLZP1	1												
195	1.2D + 1.5Lm(12) + ..	Yes	Y		DL	1.2	23	1.5	WLXP1	.5	WLZP1	.866												
196	1.2D + 1.5Lm(12) + ..	Yes	Y		DL	1.2	23	1.5	WLXP1	.866	WLZP1	.5												
197	1.2D + 1.5Lm(12) + ..	Yes	Y		DL	1.2	23	1.5	WLXP1	1	WLZP1	.001												
198	1.2D + 1.5Lm(12) + ..	Yes	Y		DL	1.2	23	1.5	WLXP1	.866	WLZP1	-.5												
199	1.2D + 1.5Lm(12) + ..	Yes	Y		DL	1.2	23	1.5	WLXP1	.5	WLZP1	-.8...												
200	1.2D + 1.5Lm(12) + ..	Yes	Y		DL	1.2	23	1.5	WLXP1	.001	WLZP1	-.5												
201	1.2D + 1.5Lm(12) + ..	Yes	Y		DL	1.2	23	1.5	WLXP1	-.5	WLZP1	-.8...												
202	1.2D + 1.5Lm(12) + ..	Yes	Y		DL	1.2	23	1.5	WLXP1	-.8...	WLZP1	-.5												
203	1.2D + 1.5Lm(12) + ..	Yes	Y		DL	1.2	23	1.5	WLXP1	-1	WLZP1	.001												
204	1.2D + 1.5Lm(12) + ..	Yes	Y		DL	1.2	23	1.5	WLXP1	-.8...	WLZP1	.5												
205	1.2D + 1.5Lm(12) + ..	Yes	Y		DL	1.2	23	1.5	WLXP1	-.5	WLZP1	.866												
206	1.2D + 1.5Lm(13) + ..	Yes	Y		DL	1.2	24	1.5	WLXP1	.001	WLZP1	1												
207	1.2D + 1.5Lm(13) + ..	Yes	Y		DL	1.2	24	1.5	WLXP1	.5	WLZP1	.866												
208	1.2D + 1.5Lm(13) + ..	Yes	Y		DL	1.2	24	1.5	WLXP1	.866	WLZP1	.5												
209	1.2D + 1.5Lm(13) + ..	Yes	Y		DL	1.2	24	1.5	WLXP1	1	WLZP1	.001												
210	1.2D + 1.5Lm(13) + ..	Yes	Y		DL	1.2	24	1.5	WLXP1	.866	WLZP1	-.5												
211	1.2D + 1.5Lm(13) + ..	Yes	Y		DL	1.2	24	1.5	WLXP1	.5	WLZP1	-.8...												
212	1.2D + 1.5Lm(13) + ..	Yes	Y		DL	1.2	24	1.5	WLXP1	.001	WLZP1	-.5												
213	1.2D + 1.5Lm(13) + ..	Yes	Y		DL	1.2	24	1.5	WLXP1	-.5	WLZP1	-.8...												
214	1.2D + 1.5Lm(13) + ..	Yes	Y		DL	1.2	24	1.5	WLXP1	-.8...	WLZP1	-.5												
215	1.2D + 1.5Lm(13) + ..	Yes	Y		DL	1.2	24	1.5	WLXP1	-1	WLZP1	.001												
216	1.2D + 1.5Lm(13) + ..	Yes	Y		DL	1.2	24	1.5	WLXP1	-.8...	WLZP1	.5												
217	1.2D + 1.5Lm(13) + ..	Yes	Y		DL	1.2	24	1.5	WLXP1	-.5	WLZP1	.866												

Load Combinations (Continued)

	Description	S...	P...	S...		BLC	F...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
218	1.2D + 1.5Lm(14) + ..	Yes	Y			DL	1.2	25	1.5	WLXP1	.001	WLZP1	1														
219	1.2D + 1.5Lm(14) + ..	Yes	Y			DL	1.2	25	1.5	WLXP1	.5	WLZP1	.866														
220	1.2D + 1.5Lm(14) + ..	Yes	Y			DL	1.2	25	1.5	WLXP1	.866	WLZP1	.5														
221	1.2D + 1.5Lm(14) + ..	Yes	Y			DL	1.2	25	1.5	WLXP1	1	WLZP1	.001														
222	1.2D + 1.5Lm(14) + ..	Yes	Y			DL	1.2	25	1.5	WLXP1	.866	WLZP1	-.5														
223	1.2D + 1.5Lm(14) + ..	Yes	Y			DL	1.2	25	1.5	WLXP1	.5	WLZP1	-.8...														
224	1.2D + 1.5Lm(14) + ..	Yes	Y			DL	1.2	25	1.5	WLXP1	.001	WLZP1	-.5														
225	1.2D + 1.5Lm(14) + ..	Yes	Y			DL	1.2	25	1.5	WLXP1	-.5	WLZP1	-.8...														
226	1.2D + 1.5Lm(14) + ..	Yes	Y			DL	1.2	25	1.5	WLXP1	-.8...	WLZP1	-.5														
227	1.2D + 1.5Lm(14) + ..	Yes	Y			DL	1.2	25	1.5	WLXP1	-1	WLZP1	.001														
228	1.2D + 1.5Lm(14) + ..	Yes	Y			DL	1.2	25	1.5	WLXP1	-.8...	WLZP1	.5														
229	1.2D + 1.5Lm(14) + ..	Yes	Y			DL	1.2	25	1.5	WLXP1	-.5	WLZP1	.866														
230	1.2D + 1.5Lm(15) + ..	Yes	Y			DL	1.2	26	1.5	WLXP1	.001	WLZP1	1														
231	1.2D + 1.5Lm(15) + ..	Yes	Y			DL	1.2	26	1.5	WLXP1	.5	WLZP1	.866														
232	1.2D + 1.5Lm(15) + ..	Yes	Y			DL	1.2	26	1.5	WLXP1	.866	WLZP1	.5														
233	1.2D + 1.5Lm(15) + ..	Yes	Y			DL	1.2	26	1.5	WLXP1	1	WLZP1	.001														
234	1.2D + 1.5Lm(15) + ..	Yes	Y			DL	1.2	26	1.5	WLXP1	.866	WLZP1	-.5														
235	1.2D + 1.5Lm(15) + ..	Yes	Y			DL	1.2	26	1.5	WLXP1	.5	WLZP1	-.8...														
236	1.2D + 1.5Lm(15) + ..	Yes	Y			DL	1.2	26	1.5	WLXP1	.001	WLZP1	-.5														
237	1.2D + 1.5Lm(15) + ..	Yes	Y			DL	1.2	26	1.5	WLXP1	-.5	WLZP1	-.8...														
238	1.2D + 1.5Lm(15) + ..	Yes	Y			DL	1.2	26	1.5	WLXP1	-.8...	WLZP1	-.5														
239	1.2D + 1.5Lm(15) + ..	Yes	Y			DL	1.2	26	1.5	WLXP1	-1	WLZP1	.001														
240	1.2D + 1.5Lm(15) + ..	Yes	Y			DL	1.2	26	1.5	WLXP1	-.8...	WLZP1	.5														
241	1.2D + 1.5Lm(15) + ..	Yes	Y			DL	1.2	26	1.5	WLXP1	-.5	WLZP1	.866														

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N001	max	0	241	0	241	0	241	0	241	0	241	0	241
2		min	0	1	0	1	0	1	0	1	0	1	0	1
3	N008	max	636.568	17	2841.352	26	2601.081	14	12229.768	26	2016.147	23	1195.833	11
4		min	-636.501	23	285.588	20	-2598.765	8	542.967	20	-2016.036	17	-1194.764	17
5	N009	max	2493.93	18	2856.746	30	1635.252	12	-2.275	25	897.368	13	-157.64	24
6		min	-2495.407	12	235.397	24	-1642.426	18	-6190.211	31	-900.802	19	-10673.443	30
7	N010	max	2463.362	4	2833.783	34	1610.955	16	5.359	15	903.721	21	10558.669	34
8		min	-2461.94	22	227.069	16	-1618.021	22	-6177.318	33	-900.495	15	102.475	16
9	N042	max	NC		LOCKED		NC		NC		NC		NC	
10		min	NC		LOCKED		NC		NC		NC		NC	
11	N036	max	NC		LOCKED		NC		NC		NC		NC	

Envelope Joint Reactions (Continued)

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
12		min	NC		LOCKED		NC		NC		NC		NC	
13	N039	max	NC		LOCKED		LOCKED		NC		NC		NC	
14		min	NC		LOCKED		LOCKED		NC		NC		NC	
15	N043	max	NC		LOCKED		NC		NC		NC		NC	
16		min	NC		LOCKED		NC		NC		NC		NC	
17	N040	max	NC		LOCKED		NC		NC		NC		NC	
18		min	NC		LOCKED		NC		NC		NC		NC	
19	N037	max	NC		LOCKED		LOCKED		NC		NC		NC	
20		min	NC		LOCKED		LOCKED		NC		NC		NC	
21	N041	max	NC		LOCKED		NC		NC		NC		NC	
22		min	NC		LOCKED		NC		NC		NC		NC	
23	N038	max	NC		LOCKED		NC		NC		NC		NC	
24		min	NC		LOCKED		NC		NC		NC		NC	
25	N035	max	NC		LOCKED		LOCKED		NC		NC		NC	
26		min	NC		LOCKED		LOCKED		NC		NC		NC	
27	Totals:	max	5183.896	17	8083.118	37	4483.14	14						
28		min	-5183.896	11	2101.791	17	-4483.14	8						

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	...	LC	phi*P...	phi*P...	phi*...	phi*...	...	Eqn
1	H002	HSS4x4x4	.286	174....	26	.326	0	y	30	9614...	1395...	1618...	1618...	...	H1-1b
2	H001	HSS4x4x4	.295	174....	30	.322	0	y	34	9614...	1395...	1618...	1618...	...	H1-1b
3	H033	HSS4x4x4	.287	174....	34	.321	0	y	26	9614...	1395...	1618...	1618...	...	H1-1b
4	H003	HSS4x4x4	.771	102	27	.112	102	y	11	1031...	1395...	1618...	1618...	...	H1-1b
5	H004	HSS4x4x4	.777	102	30	.097	102	y	4	1031...	1395...	1618...	1618...	...	H1-1b
6	H005	HSS4x4x4	.771	102	34	.095	102	y	12	1031...	1395...	1618...	1618...	...	H1-1b
7	MP5	PIPE_2.0	.479	60.3...	11	.030	60.375		11	4552...	32130	1871...	1871...	...	H1-1b
8	MP15	PIPE_2.0	.437	60.3...	5	.029	60.375		5	4552...	32130	1871...	1871...	...	H1-1b
9	MP14	PIPE_2.0	.444	60.3...	11	.028	60.375		11	4552...	32130	1871...	1871...	...	H1-1b
10	MP4	PIPE_2.0	.382	60.3...	8	.024	60.375		8	4552...	32130	1871...	1871...	...	H1-1b
11	MP12	PIPE_2.0	.404	60.3...	5	.024	60.375		5	4552...	32130	1871...	1871...	...	H1-1b
12	MP2	PIPE_2.0	.390	60.3...	11	.024	60.375		11	4552...	32130	1871...	1871...	...	H1-1b
13	MP3	PIPE_2.0	.375	60.3...	5	.023	60.375		5	4552...	32130	1871...	1871...	...	H1-1b
14	MP11	PIPE_2.0	.401	60.3...	11	.022	60.375		11	4552...	32130	1871...	1871...	...	H1-1b
15	MP13	PIPE_2.0	.347	60.3...	5	.022	60.375		5	4552...	32130	1871...	1871...	...	H1-1b
16	MP6	PIPE_2.0	.425	60.3...	5	.021	60.375		5	4552...	32130	1871...	1871...	...	H1-1b
17	MP1	PIPE_2.0	.309	60.3...	11	.018	60.375		11	4552...	32130	1871...	1871...	...	H1-1b
18	MP10	PIPE_2.0	.317	60.3...	8	.018	60.375		8	4552...	32130	1871...	1871...	...	H1-1b

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	...	LC	phi*P...	phi*P...	phi*...	phi*...	...	Eqn
19	MP7	PIPE_2.0	.171	60.3...	145	.008	60.375		8	4552...	32130	1871...	1871...	...	H1-...
20	MP9	PIPE_2.0	.171	60.3...	169	.007	60.375		2	4552...	32130	1871...	1871...	...	H1-...
21	MP8	PIPE_2.0	.170	49.8...	157	.006	49.875		2	4552...	32130	1871...	1871...	...	H1-...
22	H015	L2x2x4	.004	0	11	.001	0	y	23	2973...	3058...	690.9...	1576...	...	H2-1
23	H012	L2x2x4	.004	0	11	.001	0	y	23	2974...	3058...	690.9...	1576...	...	H2-1
24	H009	L2x2x4	.004	.188	11	.001	.188	y	23	2972...	3058...	690.9...	1576...	...	H2-1
25	H006	L2x2x4	.004	.281	11	.001	.281	y	23	2972...	3058...	690.9...	1576...	...	H2-1
26	H017	L2x2x4	.004	0	31	.001	0	z	33	2973...	3058...	690.9...	1576...	...	H2-1
27	H016	L2x2x4	.004	0	27	.001	0	z	31	2973...	3058...	690.9...	1576...	...	H2-1
28	H014	L2x2x4	.004	0	31	.001	0	z	33	2974...	3058...	690.9...	1576...	...	H2-1
29	H013	L2x2x4	.004	0	27	.001	0	z	31	2974...	3058...	690.9...	1576...	...	H2-1
30	H011	L2x2x4	.004	.187	31	.001	.187	z	34	2972...	3058...	690.9...	1576...	...	H2-1
31	H010	L2x2x4	.004	.188	27	.001	.188	z	31	2972...	3058...	690.9...	1576...	...	H2-1
32	H008	L2x2x4	.004	.281	31	.001	.281	z	34	2972...	3058...	690.9...	1576...	...	H2-1
33	H007	L2x2x4	.004	.281	27	.001	.281	z	31	2972...	3058...	690.9...	1576...	...	H2-1

Basic Load Cases

	BLC Description	Category	X Gravi...	Y Gravi...	Z Gravi...	Joint	Point	Distrib...	Area(...	Surface(Plate/Wall)
1	Dead	DL		-1			38			
2	Ice	IL					38	33		3
3	Wind -Z	WLZ					42		1	
4	Wind -X	WLX					38		1	
5	Wind -Z (Ice)	WL-Z					38	33	1	
6	Wind -X (Ice)	WL-X					38	33	1	
7	Wind -Z (Worki...	WLZP1					38		1	
8	Wind -X (Worki...	WLXP1					38		1	
9	Ev -Y (Seismic)	ELY						33		
10	Eh -Z (Seismic)	ELZ						33		
11	Eh -X (Seismic)	ELX						33		
12	Lm (1)	LL				1				
13	Lm (2)	LL				1				
14	Lm (3)	LL				1				
15	Lm (4)	LL				1				
16	Lm (5)	LL				1				
17	Lm (6)	LL				1				
18	Lm (7)	LL				1				
19	Lm (8)	LL				1				
20	Lm (9)	LL				1				

Basic Load Cases (Continued)

	BLC Description	Category	X Gravi...	Y Gravi...	Z Gravi...	Joint	Point	Distrib...	Area(...	Surface(Plate/Wall)
21	Lm (10)	LL				1				
22	Lm (11)	LL				1				
23	Lm (12)	LL				1				
24	Lm (13)	LL				1				
25	Lm (14)	LL				1				
26	Lm (15)	LL				1				
27	BLC 3 Transient ...	None						43		
28	BLC 4 Transient ...	None						48		
29	BLC 5 Transient ...	None						43		
30	BLC 6 Transient ...	None						48		
31	BLC 7 Transient ...	None						43		
32	BLC 8 Transient ...	None						48		

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	H001	N003	N002			HSS4x4x4	Beam	None	A500 Gr. B...	Typical
2	H002	N002	N004			HSS4x4x4	Beam	None	A500 Gr. B...	Typical
3	H003	N005	N008			HSS4x4x4	Beam	None	A500 Gr. B...	Typical
4	H004	N006	N009			HSS4x4x4	Beam	None	A500 Gr. B...	Typical
5	H005	N007	N010			HSS4x4x4	Beam	None	A500 Gr. B...	Typical
6	H006	N011	N023		90	L2x2x4	Beam	None	A36	Typical
7	H007	N012	N024		90	L2x2x4	Beam	None	A36	Typical
8	H008	N013	N025		90	L2x2x4	Beam	None	A36	Typical
9	H009	N014	N026		90	L2x2x4	Beam	None	A36	Typical
10	H010	N015	N027		90	L2x2x4	Beam	None	A36	Typical
11	H011	N016	N028		90	L2x2x4	Beam	None	A36	Typical
12	H012	N017	N029		90	L2x2x4	Beam	None	A36	Typical
13	H013	N018	N030		90	L2x2x4	Beam	None	A36	Typical
14	H014	N019	N031		90	L2x2x4	Beam	None	A36	Typical
15	H015	N020	N032		90	L2x2x4	Beam	None	A36	Typical
16	H016	N021	N033		90	L2x2x4	Beam	None	A36	Typical
17	H017	N022	N034		90	L2x2x4	Beam	None	A36	Typical
18	U018	N047	N062			(2) 3/8 U-Bolts	Beam	None	A36	Typical
19	U019	N050	N063			(2) 3/8 U-Bolts	Beam	None	A36	Typical
20	U020	N053	N064			(2) 3/8 U-Bolts	Beam	None	A36	Typical
21	U021	N056	N065			(2) 3/8 U-Bolts	Beam	None	A36	Typical
22	U022	N059	N066			(2) 3/8 U-Bolts	Beam	None	A36	Typical
23	U023	N049	N067			(2) 3/8 U-Bolts	Beam	None	A36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
24	U024	N052	N068			(2) 3/8 U-Bolts	Beam	None	A36	Typical
25	U025	N055	N069			(2) 3/8 U-Bolts	Beam	None	A36	Typical
26	U026	N058	N070			(2) 3/8 U-Bolts	Beam	None	A36	Typical
27	U027	N061	N071			(2) 3/8 U-Bolts	Beam	None	A36	Typical
28	U028	N048	N072			(2) 3/8 U-Bolts	Beam	None	A36	Typical
29	U029	N051	N073			(2) 3/8 U-Bolts	Beam	None	A36	Typical
30	U030	N054	N074			(2) 3/8 U-Bolts	Beam	None	A36	Typical
31	U031	N057	N075			(2) 3/8 U-Bolts	Beam	None	A36	Typical
32	U032	N060	N076			(2) 3/8 U-Bolts	Beam	None	A36	Typical
33	H033	N004	N003			HSS4x4x4	Beam	None	A500 Gr. B...	Typical
34	MP1	MP1t	MP1b			PIPE_2.0	Column	None	A53 Gr. B	Typical
35	MP2	MP2t	MP2b			PIPE_2.0	Column	None	A53 Gr. B	Typical
36	MP3	MP3t	MP3b			PIPE_2.0	Column	None	A53 Gr. B	Typical
37	MP4	MP4t	MP4b			PIPE_2.0	Column	None	A53 Gr. B	Typical
38	MP5	MP5t	MP5b			PIPE_2.0	Column	None	A53 Gr. B	Typical
39	MP6	MP6t	MP6b			PIPE_2.0	Column	None	A53 Gr. B	Typical
40	MP7	MP7t	MP7b			PIPE_2.0	Column	None	A53 Gr. B	Typical
41	MP8	MP8t	MP8b			PIPE_2.0	Column	None	A53 Gr. B	Typical
42	MP9	MP9t	MP9b			PIPE_2.0	Column	None	A53 Gr. B	Typical
43	MP10	MP10t	MP10b			PIPE_2.0	Column	None	A53 Gr. B	Typical
44	MP11	MP11t	MP11b			PIPE_2.0	Column	None	A53 Gr. B	Typical
45	MP12	MP12t	MP12b			PIPE_2.0	Column	None	A53 Gr. B	Typical
46	MP13	MP13t	MP13b			PIPE_2.0	Column	None	A53 Gr. B	Typical
47	MP14	MP14t	MP14b			PIPE_2.0	Column	None	A53 Gr. B	Typical
48	MP15	MP15t	MP15b			PIPE_2.0	Column	None	A53 Gr. B	Typical

Site Name: CRANBURY CT
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW PCS	1970	4	2137	8547.88	128	0.1876	1.0	18.76%
VZW Cellular CDMA	869	3	498	1494	128	0.0328	0.579333333	5.66%
VZW Cellular LTE	880	4	498	1992	128	0.0437	0.586666667	7.45%
VZW AWS	2145	4	2398	9590.88	128	0.2105	1.0	21.05%
VZW 700	746	4	589	2354.28	128	0.0517	0.497333333	10.39%
VZW CBRS	3550	4	50	200	128	0.0044	2.366666667	0.19%
Total Percentage of Maximum Permissible Exposure								63.50%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Section 1.13101 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

Absolute worst case maximum values used, including the following assumptions:
1. closest accessible point is distance from antenna to base of pole;
2. continuous transmission from all available channels at full power for indefinite time period; and,
3. all RF energy is assumed to be directed solely to the base of the pole.


SUNNY LANE
C.L. & P EASEMENT
26
TC 9553
1.63 Ac
RIGHT OF WAY
B13026000 - CELLCO PARTNERSHIP
2 ALLEN RAYMOND LN
0
30
60ft

Property Location 2 ALLEN RAYMOND LN | Map ID B13/ / 026/000 / | Bldg Name | State Use 434
Vision ID 4500 | Account # 8579 | Bldg # 1 | Sec # 1 of 1 | Card # 1 of 1 | Print Date 2/4/2020 1:39:09 AM

CURRENT OWNER

CELLCO PARTNERSHIP
BELL ATLANTIC NYNEX MOBILE DB
PO BOX 2549
ADDISON TX 75001

TOPO		UTILITIES		STRT / ROAD		LOCATION	
		6	Septic	2	Private		
		5	Well				

SUPPLEMENTAL DATA

Alt Prcl ID	5298022	Lift Hse	
Historic ID			
Census	501		
WestportC	D35		
Survey Ma	9553		
Survey Ma			
GIS ID	B13026000	Assoc Pid#	

CURRENT ASSESSMENT

Description	Code	Appraised	Assessed
UTL LAND	4-1	525,600	367,900
UTL BLDG	4-2	406,686	284,700
UTL OUTBL	4-3	1,037,600	726,320
	Total	1,969,886	1,378,920

6158
WESTPORT, CT

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE		SALE DATE	Q/U	V/I	SALE PRICE	VC
CELLCO PARTNERSHIP	1488	0099	12-10-1996	Q	I	415,000	00

PREVIOUS ASSESSMENTS (HISTORY)

Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed
2019	4-1	367,900	2018	4-1	367,900	2017	4-1	367,900
	4-2	284,700		4-2	284,700		4-2	284,700
	4-3	726,320		4-3	726,320		4-3	726,320
	Total	1378920		Total	1378920		Total	1378920

EXEMPTIONS

Year	Code	Description	Amount
		Total	0.00

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm Int

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

Nbhd	Nbhd Name	B	Tracing	Batch
0001				

NOTES

M/ 6742, 3124, 9547
ABUTS MERRITT PKY (RT 15)
HOUSE CONVERTED TO CELL SITE
ELECTRONICS BLDG
6 SITES ON MONOPOLE
RD=29' (32'X32')
FST HAS DIESEL GENERATOR
10-30-13 STREET NAME CHANGE
FKA SUNNY LN - JSG

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	406,686
Appraised Xf (B) Value (Bldg)	0
Appraised Ob (B) Value (Bldg)	1,037,600
Appraised Land Value (Bldg)	525,600
Special Land Value	0
Total Appraised Parcel Value	1,969,886
Valuation Method	O
Total Appraised Parcel Value	1,969,886

BUILDING PERMIT RECORD

Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments
80013	05-26-2015	AL	Alterations	20,000	09-16-2015	100		SWAP 3 ANTENNA WITH 3 N
77956	01-17-2014	NA	Miscellaneous	9,000	07-10-2014	100		REMOVE & REPLACE 6 ANT
76376	03-26-2013	AL	Alterations	25,000	07-10-2014	100		REMOVE 6 PANEL ANTENNA
76001	01-16-2013	AL	Alterations	5,000	07-10-2014	100	07-15-2014	REPLACE 6 ANTENNAS FOR
73208	06-15-2011	NA	Miscellaneous	20,000	03-07-2012	100	01-09-2012	ADD 2 ANTENNAS TO EXISTI
71919	07-06-2010	AL	Alterations	20,000		100	10-29-2010	MODIFY EXISTING TELECO
71407	02-10-2010	AL	Alterations	9,000		100	01-09-2012	REPLACE 9 ANTENNAS WIT

VISIT / CHANGE HISTORY

Date	Id	Type	Is	Cd	Purpost/Result
09-16-2015	MJF	2		69	Partial Int Inspn (See Perm
02-25-2015	MJF			01	Measured/No Interior Insp
01-22-2015	VA			66	INSPECTION NOTICE SE
07-10-2014	TM	2		55	NOAH - Visual
03-07-2012	TM	2		01	Measured/No Interior Insp
10-28-2005	VA			10	Measu/LtrSnt - Letter Sent
08-23-2005	BJ	1		01	Measured/No Interior Insp

LAND LINE VALUATION SECTION

B	Use Code	Description	Zone	Land Type	Land Units		Unit Price	I. Factor	Site Index	Cond.	Nbhd.	Nbhd Adj	Notes	Location Adjustment		Adj Unit Pric	Land Value
1	434	Cell Site	AAA		1.000	AC	1,200,000	1.00000	C	0.50	C	0.750	CELL SITE / RES LAND		0		450,000
1	434	Cell Site			0.630	AC	120,000	1.00000	0	1.00		1.000			0		75,600
				Total Card Land Units	1.630	AC	Parcel Total Land Area:		1.6300							Total Land Value	525,600

Property Location	2 ALLEN RAYMOND LN		Map ID	B13/ / 026/000 /		Bldg Name	State Use 434
Vision ID 4500		Account # 8579		Bldg # 1	Sec # 1 of 1	Card # 1 of 1	Print Date 2/4/2020 1:39:11 AM

CONSTRUCTION DETAIL

Element	Cd	Description
Style:	68	Res Typ Comm
Model	96	Commercial
Grade	05	Average +20
Stories:	1	
Occupancy	1.00	
Exterior Wall 1	06	Board & Batten
Exterior Wall 2		
Roof Structure	03	Gable
Roof Cover	03	Asphalt/F Glas
Interior Wall 1	05	Drywall
Interior Wall 2		
Interior Floor 1	05	Vinyl/Asphalt
Interior Floor 2		
Heating Fuel	02	Oil
Heating Type	04	Forced Air
AC Type	03	Central
Bldg Use	434	Cell Site
Income Adj		
Heat/AC	01	Heat/AC Pkgs
Frame Type	02	Wood Frame
Baths/Plumbing	02	Average
Ceiling/Walls	06	Ceil & Walls
Rooms/Prtns	02	Average
Wall Height	8.00	
% Comn Wall		
1st Floor Use:		

CONSTRUCTION DETAIL (CONTINUED)

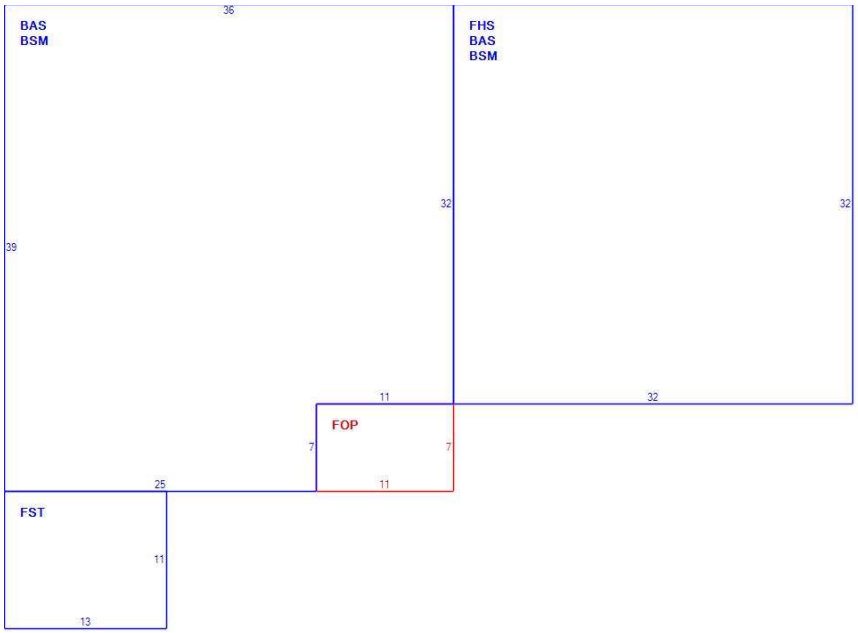
Element	Cd	Description

MIXED USE

Code	Description	Percentage
434	Cell Site	100
		0
		0

COST / MARKET VALUATION

RCN	508,423
Year Built	1968
Effective Year Built	
Depreciation Code	G
Remodel Rating	
Year Remodeled	
Depreciation %	20
Functional Obsol	
External Obsol	
Trend Factor	1
Condition	
Condition %	
Percent Good	80
Cns Sect Rcnld	406,700
Dep % Ovr	
Dep Ovr Comment	
Misc Imp Ovr	
Misc Imp Ovr Comment	
Cost to Cure Ovr	
Cost to Cure Ovr Comment	



OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)

Code	Description	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Good	Grade	Grade Adj	Appr. Value
CELL	Cell on TWR	L	6	328000.0	2010		100	00	1.00	1,037,600

BUILDING SUB-AREA SUMMARY SECTION

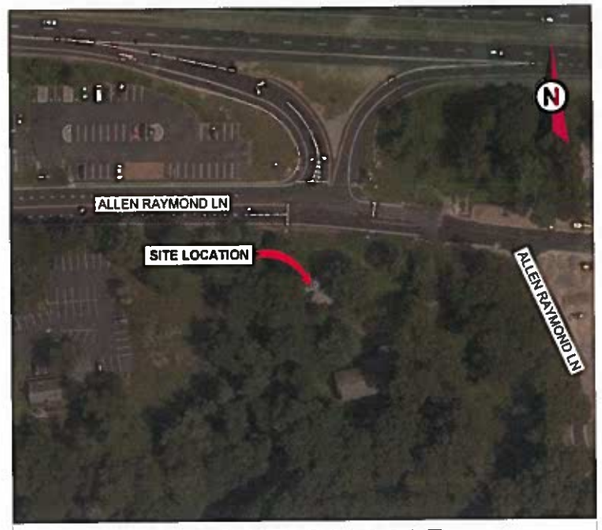
Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
BAS	First Floor	2,351	2,351		131.55	309,277
BSM	Basement Area	0	2,351		46.05	108,267
FHS	Half Story, Finished	512	1,024		65.78	67,354
FOP	Porch, Open	0	77		32.46	2,499
FST	Utility Storage, Fin	143	143		52.44	7,498
	Ttl Gross Liv / Lease Area	3,006	5,946			494,895

VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: CRANBURYSU CT
ATC SITE NUMBER: 411189
VERIZON SITE NAME: CRANBURY CT
VERIZON SITE NUMBER: 467333
SITE ADDRESS: 2 ALLEN RAYMOND LANE WESTPORT, CT 06880

VERIZON WIRELESS ANTENNA AMENDMENT DRAWINGS



LOCATION MAP

BIRD WATCH SITE:
PLEASE CONTACT BIRD WATCH@AMERICANTOWER COM OR AMERICAN TOWER NOC AT 877-518-6937 FOR ASSISTANCE

COMPLIANCE CODE

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

1. INTERNATIONAL BUILDING CODE (IBC)
2. NATIONAL ELECTRIC CODE (NEC)
3. LOCAL BUILDING CODE
4. CITY/COUNTY ORDINANCES

UTILITY COMPANIES

POWER COMPANY: EVERSOURCE
PHONE: (888) 783-6617

TELEPHONE COMPANY: AT&T
PHONE: (866) 593-1383

811
Know what's below.
Call before you dig.

PROJECT SUMMARY

SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880
COUNTY: FAIRFIELD

GEOGRAPHIC COORDINATES:
LATITUDE: 41.162917
LONGITUDE: -73.373083
GROUND ELEVATION: 51' AMSL

PROJECT TEAM

TOWER OWNER:
AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

ENGINEER:
ATC TOWER SERVICES, LLC
3500 REGENCY PKWY STE 100
CARY, NC 27518

PROPERTY OWNER:
AMERICAN TOWER
116 HUNTINGTON AVE
BOSTON, MA 02116

APPLICANT:
VERIZON WIRELESS
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:

INSTALL (3) NEW PANELS AND (6) COMBINERS

EXISTING (12) PANELS, (6) RRUs, (6) 1 5/8" COAX CABLES, (2) 1 5/8" HYBRID CABLES, (1) OVP, (2) GPS ANTENNAS AND (2) 0.63" COAX CABLES TO REMAIN

PROJECT NOTES

1. THE FACILITY IS UNMANNED.
2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE.
3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE.
4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED.
5. HANDICAP ACCESS IS NOT REQUIRED.

PROJECT LOCATION DIRECTIONS

HEAD SOUTHWEST ON I-95 S, TAKE EXIT 16 TOWARD EAST NORWALK 0.1 MI, TURN RIGHT ONTO EAST AVE (SIGNS FOR U S. 1) 1.2 MI, CONTINUE ONTO NEWTOWN AVE 1.4 MI, TURN RIGHT ONTO PARTRICK AVE 1.7 MI, TURN LEFT ONTO WILTON RD 0.3 MI, TURN RIGHT ONTO SUNNY LN 0.1 MI

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	COVER SHEET	0	01/21/20	MRG
G-002	GENERAL NOTES	0	01/21/20	MRG
C-101	DETAILED SITE PLAN	0	01/21/20	MRG
C-102	TOWER ELEVATION	0	01/21/20	MRG
C-501	RF SCHEDULE AND ANTENNA INSTALLATION	0	01/21/20	MRG
C-502	CONSTRUCTION DETAILS	0	01/21/20	MRG
R-601	SUPPLEMENTAL			

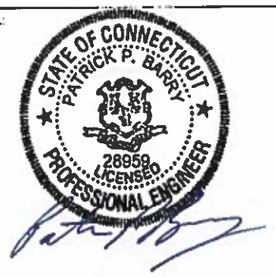
AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MRG	01/22/20

ATC SITE NUMBER:
411189
ATC SITE NAME:
CRANBURYSU CT

SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

SEAL:



Authorized by "EOR"
Jan verizon Design

DRAWN BY:	MRG
APPROVED BY:	PBB
DATE DRAWN:	01/22/20
ATC JOB NO:	12993283
CUSTOMER ID:	CRANBURY CT
CUSTOMER #:	467333

COVER SHEET

SHEET NUMBER:	REVISION:
G-001	0

GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
2. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
4. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
5. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
6. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
7. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
9. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
10. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE VERIZON WIRELESS REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE VERIZON WIRELESS REP PRIOR TO PROCEEDING.
11. EACH CONTRACTOR SHALL COOPERATE WITH THE VERIZON WIRELESS REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
12. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE VERIZON WIRELESS CONSTRUCTION MANAGER.
13. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
14. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE VERIZON WIRELESS REP IMMEDIATELY.
15. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
16. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
17. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH LANDLORD AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
18. CONTRACTOR SHALL FURNISH VERIZON WIRELESS WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
19. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON WIRELESS REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
20. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON WIRELESS REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY VERIZON WIRELESS MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
21. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH VERIZON WIRELESS SPECIFICATIONS AND REQUIREMENTS.
22. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO VERIZON WIRELESS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
23. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO VERIZON WIRELESS SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
24. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
25. CONTRACTOR SHALL NOTIFY VERIZON WIRELESS REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
27. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
28. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE VERIZON WIRELESS REP. ANY WORK FOUND BY THE VERIZON WIRELESS REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
29. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
   A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
   B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
   C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
   D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
   E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
   A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
   B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
   C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
   D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
   E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
   F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
   G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING ½" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

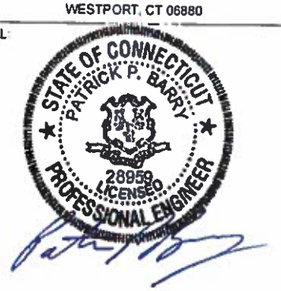
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	BP	01/22/20

ATC SITE NUMBER:
411189

ATC SITE NAME:
CRANBURYSU CT

SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

SEAL:



Authorized by "EOR"
Jan 2020
verizon design

DRAWN BY:	MRG
APPROVED BY:	PBB
DATE DRAWN:	01/22/20
ATC JOB NO:	12993283
CUSTOMER ID:	CRANBURY CT
CUSTOMER #:	467333

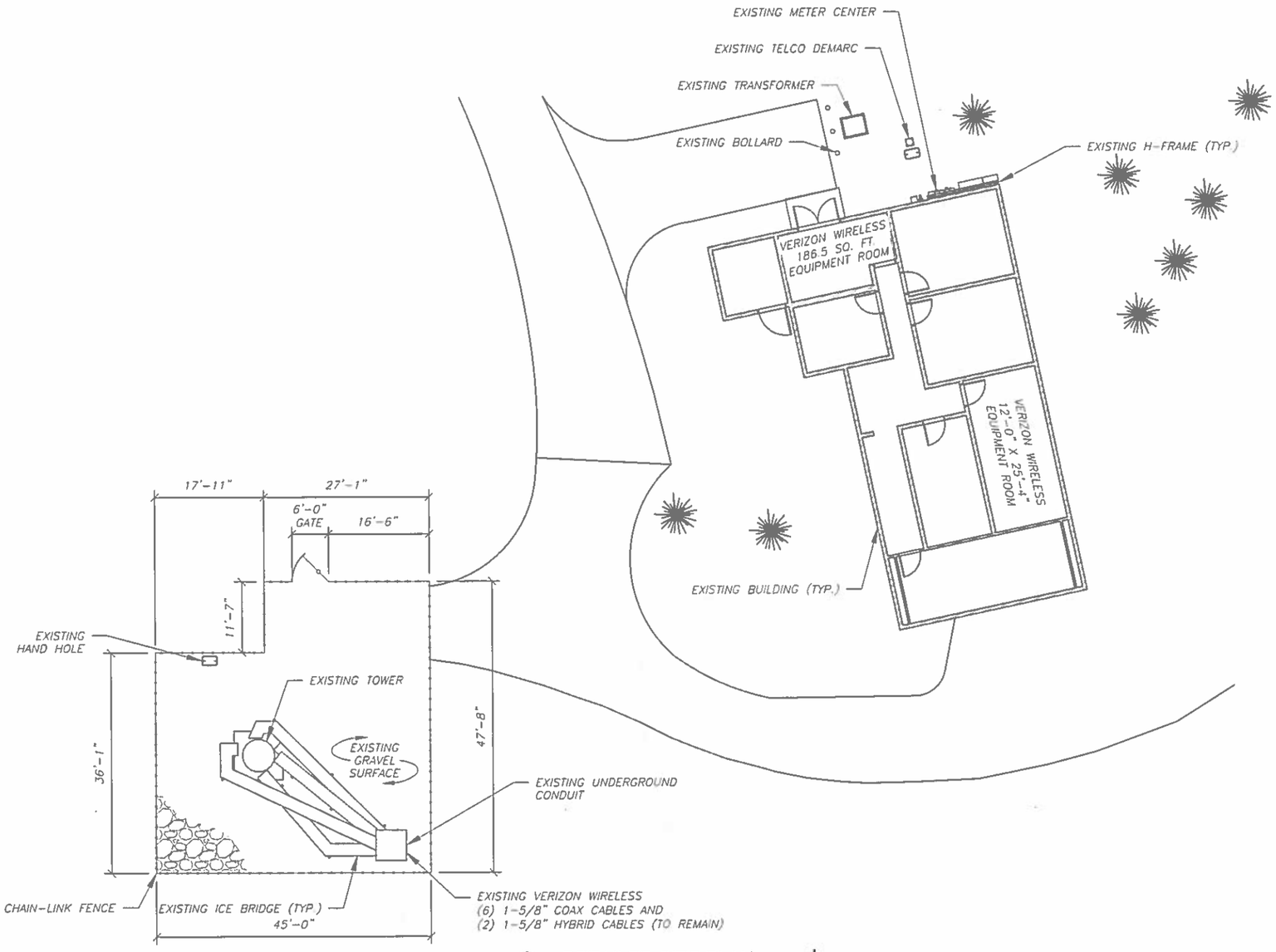
GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	0

SITE PLAN NOTES:

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.

2. ICE BRIDGE, CABLE LADDER, COAX PORT, CABLE SUPPORTS, AND CABLES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE INSTALLING NEW CABLE SUPPORT STRUCTURES, COAX PORTS, OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.



1 DETAILED SITE PLAN

0 20' 40'

SCALE: 1"=20' (11X17)
1"=10' (22X34)

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WESTPORT, CT 06880

SEAL:

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Jan

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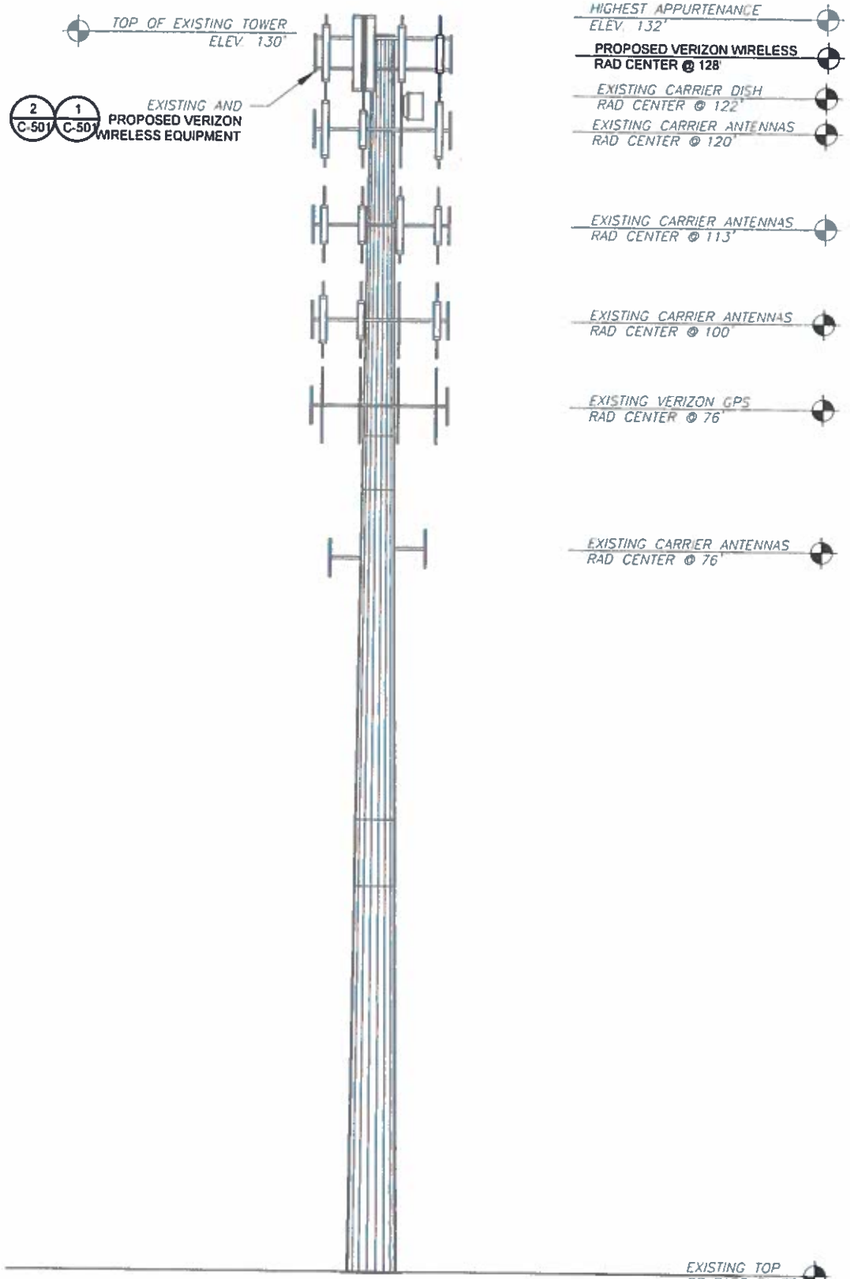
CUSTOMER ID:	CRANBURY CT
CUSTOMER #:	467333

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	0

PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 12/17/19, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING



2 TOWER ELEVATION
SCALE: NOT TO SCALE

TOWER NOTE:
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER CONSTRUCTION MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
2. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.
3. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA HEIGHTS, ANTENNA AZIMUTHS AND MOUNT CONFIGURATIONS.
4. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)

ANTENNA NOTES:
1. ALL ANTENNAS TO BE FURNISHED WITH DOWNTILT BRACKETS. CONTRACTOR TO COORDINATE REQUIRED MECHANICAL DOWNTILT FOR EACH ANTENNA WITH VERIZON RF ENGINEER.
2. ANTENNA CENTERLINE HEIGHT IS ABOVE GROUND LEVEL (AGL).
3. CONTRACTOR SHALL VERIFY ANTENNA TYPE, AZIMUTH, DOWNTILT, AND ANTENNA NUMBER PER SECTOR WITH CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
4. ALL PERSONNEL WORKING ON THE TOWER MUST COMPLY WITH VERIZON'S RF EMISSIONS GUIDELINE POLICY.
5. CHECK WITH RF ENGINEER FOR LATEST ANTENNA TYPE AND AZIMUTH.
6. CONTRACTOR SHALL NOT INSTALL SHRINK WRAP UNTIL AFTER CABLES HAVE BEEN SWEPT.
7. THE USE OF ALTERNATE GROUNDING MEANS (SUCH AS LYNCOLE XIT) SHALL COMPLY WITH O.C.E.I. CONSTRUCTION SPECIFICATIONS AND BUILDING PRACTICES.

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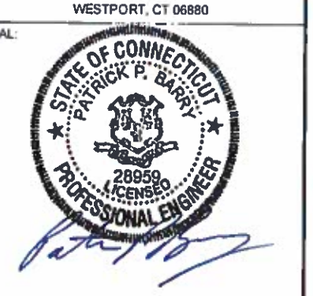

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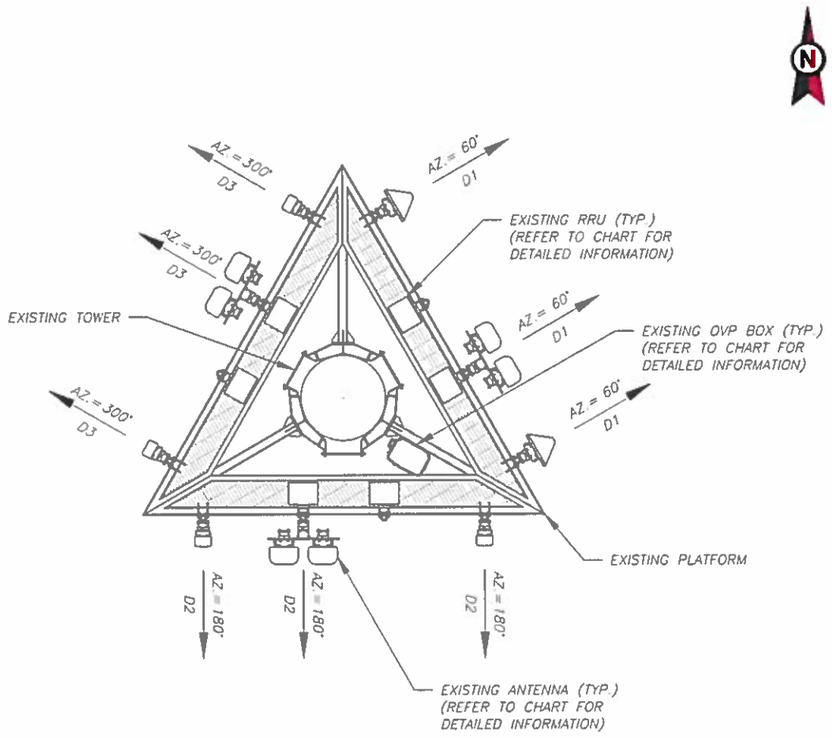
Jan verizon Design

DRAWN BY:	MRG
APPROVED BY:	PBB
DATE DRAWN:	01/22/20
ATC JOB NO:	12993283
CUSTOMER ID:	CRANBURY CT
CUSTOMER #:	467333

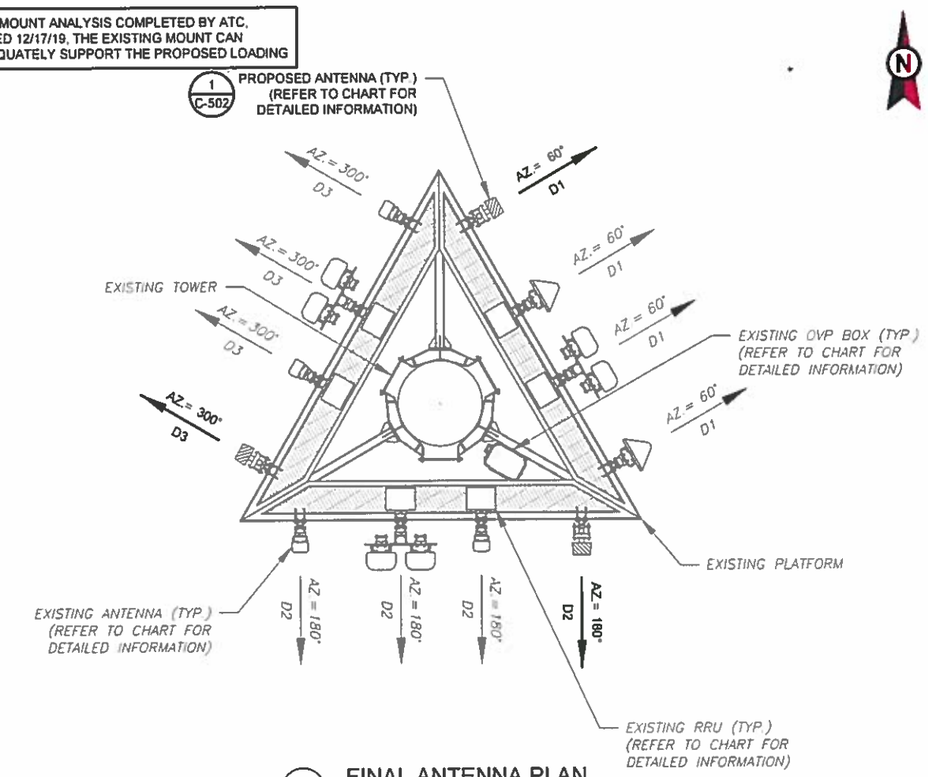
TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-102	0



1 CURRENT ANTENNA PLAN

PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 12/17/19, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING



2 FINAL ANTENNA PLAN

EXISTING ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
D1	128'	60°	A1	LPA-80080/6CF	850 CDMA	REL	-	-
			A2	-	-	-	B2/B66A RRH-BRO49	RMN
			A3	(2) OS6656-5D	700/850/1900/2100 LTE	RMN	B5/B13 RRH-BR04C	RMN
			A4	LPA-80080/6CF	850 CDMA	RMN	-	-
D2	128'	180°	B1	DB846F65ZAXY	850 CDMA	REL	-	-
			B2	-	-	-	B2/B66A RRH-BRO49	RMN
			B3	(2) OS6656-5D	700/850/1900/2100 LTE	RMN	B5/B13 RRH-BR04C	RMN
			B4	DB846F65ZAXY	850 CDMA	RMN	-	-
D3	128'	300°	C1	DB846F65ZAXY	850 CDMA	REL	-	-
			C2	-	-	-	B2/B66A RRH-BRO49	RMN
			C3	(2) OS6656-5D	700/850/1900/2100 LTE	RMN	B5/B13 RRH-BR04C	RMN
			C4	DB846F65ZAXY	850 CDMA	RMN	-	-

NOTES

1. BASED ON APPROVED ATC APPLICATION 12993283, DATED 11/25/2019. CONFIRM WITH VERIZON WIRELESS REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
2. ATC HAS NOT YET VERIFIED ANY EXISTING ANTENNA CONFIG OR MOUNT CONFIG. CONTRACTOR TO VERIFY MOUNT CONFIG HAS SUFFICIENT SPACE FOR PROPOSED LESSEE EQUIPMENT (EQUIP) (I.E. CLEARANCES, MOUNT PIPE, SUFFICIENT LENGTH, ETC.) ATC DID NOT ANALYZE ANTENNA MOUNT TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR ANY LESSEE LOADING.
3. ALL PROPOSED EQUIP INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH ATC'S CM.
4. CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
5. POSITIONS START WITH FIRST PIPE ON THE LEFT SIDE (AS VIEWED FROM BEHIND THE MOUNT).

FINAL ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
D1	128'	60°	A1	OUTDOOR LAA 1W RR-CLIP-ON ANTENNA		ADD	OUTDOOR CBRS 20W RRH	ADD
			A2	LPA-80080/6CF	850 CDMA	REL	B2/B66A RRH-BRO49	RMN
			A3	(2) OS6656-5D	700/850/1900/2100 LTE	RMN	B5/B13 RRH-BR04C	RMN
			A4	LPA-80080/6CF	850 CDMA	RMN	-	-
D2	128'	180°	B1	OUTDOOR LAA 1W RR-CLIP-ON ANTENNA		ADD	OUTDOOR CBRS 20W RRH	ADD
			B2	DB846F65ZAXY	850 CDMA	REL	B2/B66A RRH-BRO49	RMN
			B3	(2) OS6656-5D	700/850/1900/2100 LTE	RMN	B5/B13 RRH-BR04C	RMN
			B4	DB846F65ZAXY	850 CDMA	RMN	-	-
D3	128'	300°	C1	OUTDOOR LAA 1W RR-CLIP-ON ANTENNA		ADD	OUTDOOR CBRS 20W RRH	ADD
			C2	DB846F65ZAXY	850 CDMA	REL	B2/B66A RRH-BRO49	RMN
			C3	(2) OS6656-5D	700/850/1900/2100 LTE	RMN	B5/B13 RRH-BR04C	RMN
			C4	DB846F65ZAXY	850 CDMA	RMN	-	-

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
DB-C1-12C-24AB-0Z	RMN	(2) 1-5/8"	(2) 1-5/8"	RMN
-	-	(2) 0.63"	-	RMN

STATUS ABBREVIATIONS
RMV: TO BE REMOVED
RMN: TO REMAIN
REL: TO BE RELOCATED
DSC: TO BE DISCONNECTED & REMAIN
ADD: TO BE ADDED

3 EQUIPMENT SCHEDULES

CABLE LENGTHS FOR JUMPERS
FIBER DISTRIBUTION/OVP TO RRU: 15'
RRU TO COMBINER: 10'
COMBINER TO ANTENNA: 10'

FINAL FIBER DISTRIBUTION/OVP BOX		FINAL CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
DB-C1-12C-24AB-0Z	RMN	(2) 1-5/8"	(2) 1-5/8"	RMN
-	-	(2) 0.63"	-	RMN

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	BP	01/22/20

ATC SITE NUMBER:
411189

ATC SITE NAME:
CRANBURYSU CT

SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

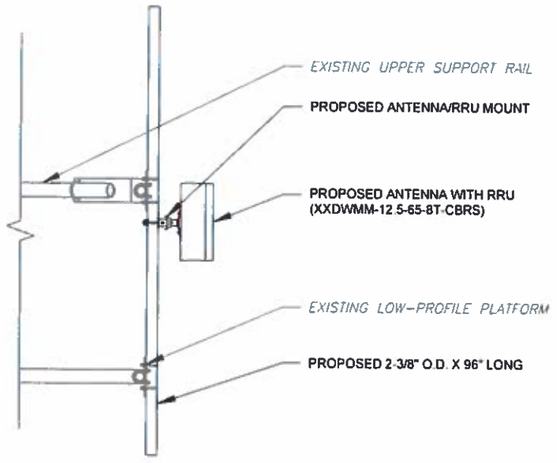
SEAL:

Authorized by "EOR"
verizon design

DRAWN BY:	MRG
APPROVED BY:	PBB
DATE DRAWN:	01/22/20
ATC JOB NO:	12993283
CUSTOMER ID:	CRANBURY CT
CUSTOMER #:	467333

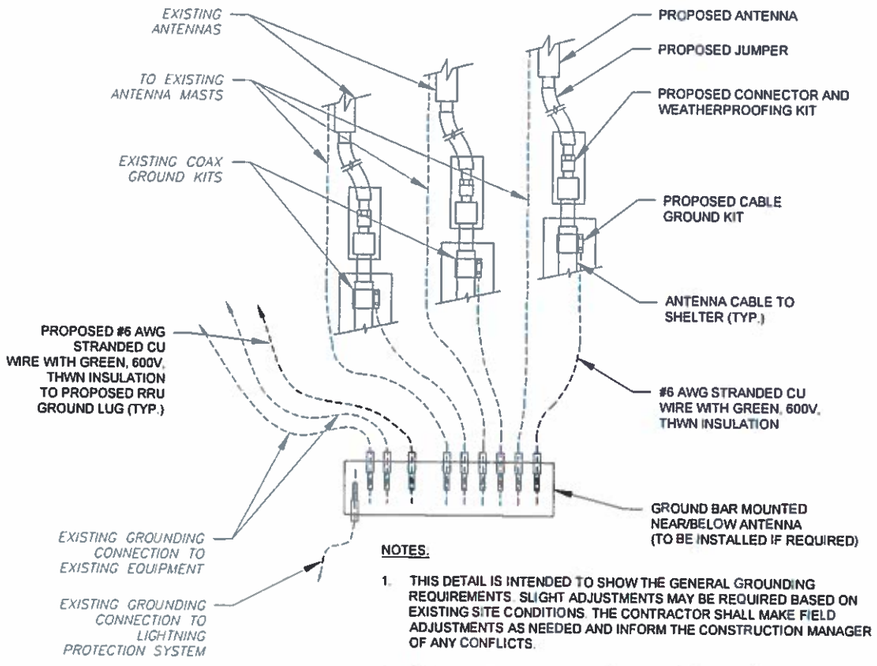
RF SCHEDULE AND ANTENNA INSTALLATION

SHEET NUMBER:	REVISION:
C-501	0



1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL

SCALE: NOT TO SCALE



NOTES:

1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH VERIZON WIRELESS GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH VERIZON WIRELESS GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

2 TYPICAL ANTENNA GROUNDING DIAGRAM

SCALE: NOT TO SCALE

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	BP	01/22/20

ATC SITE NUMBER:
411189

ATC SITE NAME:
CRANBURYSU CT

SITE ADDRESS:
2 SUNNY LANE
WESTPORT, CT 06880

SEAL:

Authorized by "EOR"
Jan [illegible] verizon design

DRAWN BY:	MRG
APPROVED BY:	PBB
DATE DRAWN:	01/22/20
ATC JOB NO:	12993283
CUSTOMER ID:	CRANBURY CT
CUSTOMER #:	467333

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-502	0

AMERICAN TOWER®
CORPORATION

Antenna Mount Analysis Report

ATC Site Name	:	**CRANBURYSU CT**
ATC Site Number	:	**411189**
Engineering Number	:	**12993283_C8_02**
Mount Elevation	:	**127 ft**
Carrier	:	**Verizon Wireless**
Carrier Site Name	:	**CRANBURY CT**
Carrier Site Number	:	**467333**
Site Location	:	**2 SUNNY LANE** **WESTPORT, CT 06880-1906** **41.162917 , -73.373083**
County	:	**Fairfield**
Date	:	**December 17, 2019**
Max Usage	:	**78%**
Result	:	**Pass**

Prepared By:
Parvin Nikpoorparizi
Structural Engineer I

Reviewed By:

STATE OF CONNECTICUT · ESHA KAUSHAL MODI · 32593 · LICENSED PROFESSIONAL ENGINEER

Authorized by "EOR"
18 Dec 2019 05:07:39 cosign

COA: PEC.0001553

Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for Verizon Wireless at 127 ft.

Analysis

Basic Wind Speed:	93 mph (3-Second Gust, Vasd) / 120 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Codes:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.227$, $S_1 = 0.067$
Site Class:	D - Stiff Soil
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above. The mount can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

A.T. Engineering Service, PLLC - 3500 Regency Parkway, Suite 100 - Cary, NC 27518 - 919.468.0112 Office - 919.466.5414 Fax - www.americantower.com

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-601	0