Cellco Partnership d/b/a
Verizon Wireless
Cullen Morgan
Site Acquisition Consultant
750 W Center Street
Suite 301
West Bridgewater, MA 02379
(941)549-7263
cmorgan@clinellc.com

July 16, 2024

Members of the Siting Council
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: NOTICE OF EXEMPT MODIFICATION
23 Stonybrook Rd, Stratford, CT 06614
Latitude: 41.203353
Longitude: -73.148543
Site: STONEYBROOK RD CT (ATC #283420)

Dear Members of the Siting Council:

Cellco Partnership d/b/a Verizon Wireless ("Verizon") currently maintains nine (9) antennas at the 87-foot level of the existing 120.5-foot tower at 23 Stonybrook Road, Straford, CT 06614. The 120.5-foot tower is owned by American Tower Corporation, and the underlying property is currently owned by Stonybrook Management LLC. Verizon now intends to replace (9) Antennas and (3) Sector Mounts, remove (12) 1-5/8" Coax Cables, and install (1) Antenna, (1) Sector Mount, (8) RRUs, (1) OVP and (2) 1-5/8" Hybrid Cables. All tower-mounted equipment modifications will take place at the 87-foot level of the tower.

Planned Modifications:

Remove Existing:
(3) BXA-70063-6CF-6 Antennas
(6) BXA-171063-12CF Antennas
(12) 1-5/8" Hybrid Cables
(3) Sector Mounts

Install New:
(4) MX06FHG665-HG Antennas
(4) MT6413-77A Antennas
(2) MX12FRO645-01 Antennas
(4) RF4461D-13A RRUs
(4) RF4439D-25A RRUs

Install New (continued):
(1) OVP
(2) 1-5/8" Hybrids

This facility was approved by the CT Siting Council in Docket No. 385, dated February 25, 2010, with conditions. We used the information from the previous filing. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies§ 16- SOj-73, or construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.SA. § 16-SOj-73, a copy of this letter is being sent to Mayor Laura Hoydick, chief elected official for the Town of Stratford, Brian Donovan, Building Official for the Town of Stratford, Stonybrook Management LLC, the property owner, and American Tower Corporation, the tower 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).

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 replacement 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.

For the foregoing reasons, Verizon 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).

Respectfully Submitted,
Cullen Morgan
Site Acquisition Consultant
Centerline Communications, LLC (Agent to Verizon)
Mobile: (941) 549-7263
cmorgan@clinellc.com

Attachments
cc: Mayor Laura R. Hoydick, chief elected official – Town of Easton
Brian Donovan, Building Official – Town of Easton
Stonybrook Management LLC – Property Owner
American Tower Corporation – Tower Owner

C/O CULLEN MORGAN
9415497263
CENTERLINE COMMUNICATIONS LLC
12579 SAGEWOOD DRIVE
VENICE FL 34293

2 LBS **1 OF 1**

SHIP TO:
CONNECTICUT SITING COUNCIL
10 FRANKLIN SQUARE
NEW BRITAIN CT 06051-2655

CT 067 9-06

UPS GROUND
TRACKING #: 1Z 9Y4 503 03 1432 7448

BILLING: P/P

Reference # 1: 14764246 STONEYBROOK RD CT

CS 24.5.00. MACNV50 30.0A 07/2024*

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EXHIBIT A

Original Decision and Order

DOCKET NO. 385 – T-Mobile Northeast LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and management of a telecommunications facility located at 23 Stonybrook Road, Stratford, Connecticut.	}	Connecticut Siting Council February 25, 2010

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, maintenance, and management of a telecommunications facility, 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 T-Mobile Northeast LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility at 23 Stonybrook Road, Stratford, Connecticut.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of T-Mobile Northeast LLC and other entities, both public and private, but such tower shall not exceed a height of 100 feet above ground level. Panel antennas shall be installed in an exterior, flush mount configuration and such panel antennas shall not exceed a height of 100 feet above ground level.

2. The tower compound shall be re-located in an east-west orientation along the south property line. The tower shall be re-located appropriately to increase the distance from the tower to the west property line.

3. 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 served on the Town of Stratford for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
    a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and
    b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
    c) details for the installation of architecturally-treated fencing around the compound and the installation of evergreen plantings along the west property boundary, where necessary to provide visual screening to the adjacent residences.

4. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

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

6. 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.

7. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Stratford public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.

8. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.

9. At least one wireless telecommunications carrier shall install their equipment and shall become operational not later than 120 days after the tower is erected. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.

10. Any request for extension of the time period referred to in Condition 8 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Stratford. Any proposed modifications to this Decision and Order shall likewise be so served.

10. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

11. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.

12. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.

Pursuant to General Statutes § 16-50p, the Council hereby directs 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 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**
T-Mobile Northeast LLC	Julie D. Kohler, Esq. Monte E. Frank, Esq. Jesse A. Langer, Esq. Cohen and Wolf, P.C. 1115 Broad Street Bridgeport, CT 06604

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EXHIBIT B

Property Card

23 STONYBROOK RD

Location	23 STONYBROOK RD	**Mblu**	30/11 10/ 16/ /
Acct#	1626900	**Owner**	STONYBROOK MANAGEMENT LLC
PBN		**Assessment**	$673,750
Appraisal	$962,500	**PID**	17088
Building Count	1		

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$740,700	$221,800	$962,500
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$518,490	$155,260	$673,750

Owner of Record

Owner	STONYBROOK MANAGEMENT LLC	**Sale Price**	$900,000
Co-Owner		**Certificate**	
Address	124 KNAPP ST EASTON , CT 06612	**Book**	2604
		Page	0275
		Sale Date	03/24/2005
		Instrument	00

Ownership History

Ownership History						
Owner	**Sale Price**	**Certificate**	**Instrument**	**Sale Date**	**Book**	**Page**
STONYBROOK MANAGEMENT LLC	$900,000		00	03/24/2005	2604	0275
STONYBROOK CENTER INC THE	$90,000		UNKQ	08/13/1969	0451	0378

Building Information

Building 1 : Section 1

Year Built: 1969

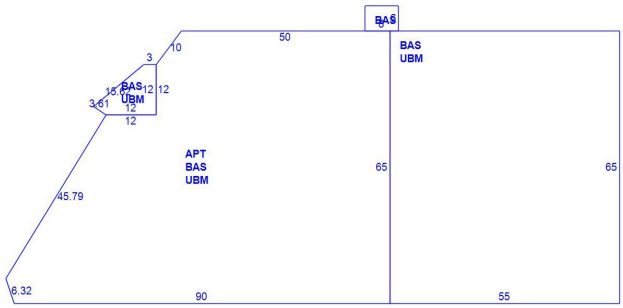
Building Photo

Living Area: 13,264
Building Percent Good: 65

Building Attributes	
Field	**Description**
STYLE	Retail/Apt
MODEL	Commercial
Stories:	2 Stories
Occupancy	8.00
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Built Up
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Carpet
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Hot Water
AC Type	Partial
Struct Class	
Bldg Use	Nbhd Ctr
Usrfld 215	
Usrfld 216	
Usrfld 217	
Usrfld 218	
Usrfld 219	
1st Floor Use:	323
Heat/AC	Heat/AC Split
Frame Type	Masonry
Baths/Plumbing	Average
Ceiling/Wall	Ceil & Walls
Rooms/Prtns	Average
Wall Height	9.00
% Comm Wall	

(http://images.vgsi.com/photos/StratfordCTPhotos/\00\07\19\50.jpg)

Building Layout



(ParcelSketch.ashx?pid=17088&bid=17088)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	8,502	8,502
APT	Apartment	4,762	4,762
UBM	Unfinished Basement	8,454	0
		21,718	13,264

Extra Features

Extra Features				Legend
Code	**Description**	**Size**	**Value**	**Bldg #**
A/C	Air Condition	5679.60 S.F.	$9,500	1
SPR1	Sprinklers - Wet	3000.00 S.F.	$3,900	1

Land

Land

Land Use

Use Code	323
Description	Nbhd Ctr
Zone	
Neighborhood	1
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0.46
Frontage	0
Depth	0
Assessed Value	$155,260
Appraised Value	$221,800

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PAV	Paving	AS	Asphalt	16000.00 S.F.	$13,200	1

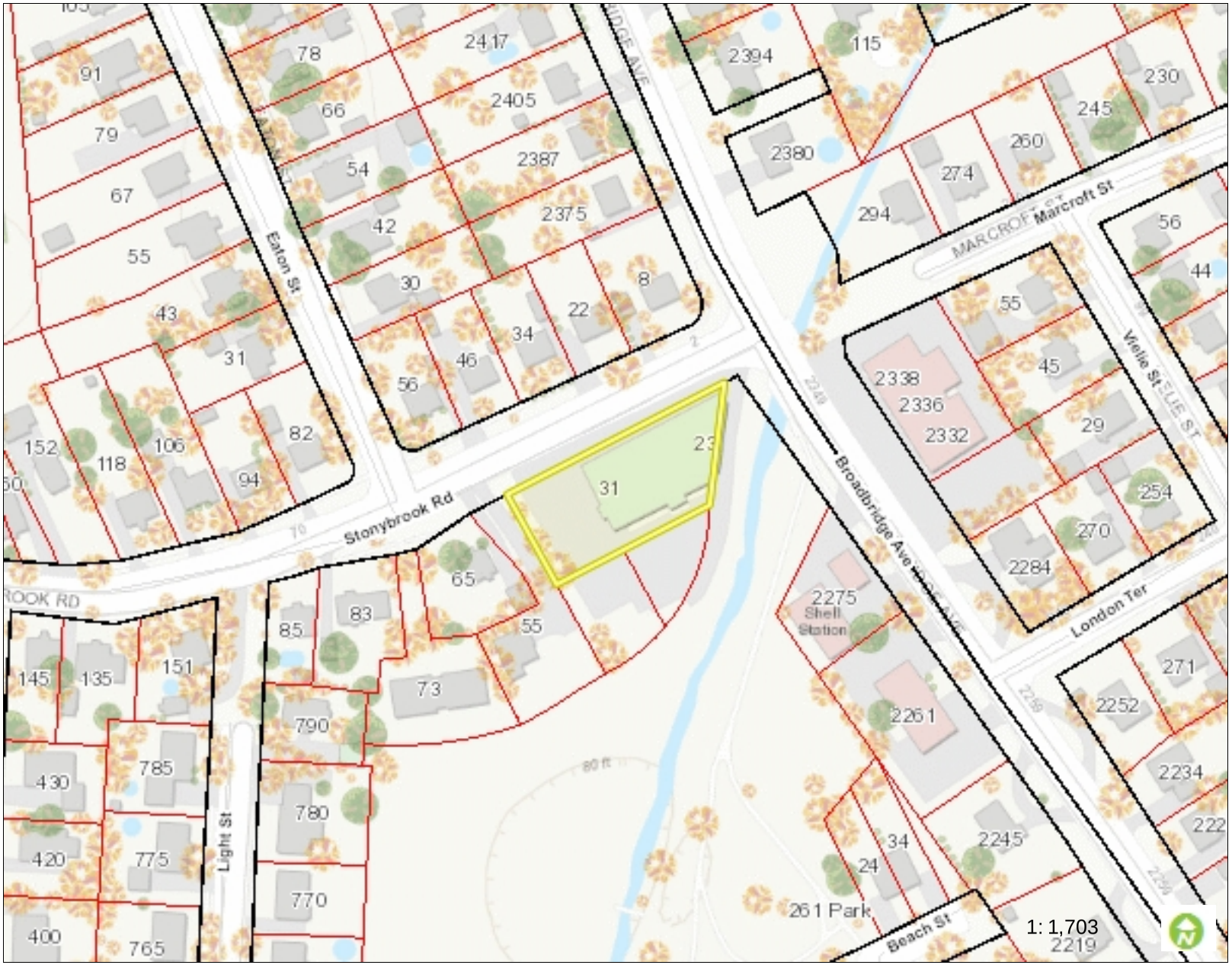
Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$740,700	$221,800	$962,500
2019	$740,700	$221,800	$962,500
2018	$726,500	$212,800	$939,300

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2020	$518,490	$155,260	$673,750
2019	$518,490	$155,260	$673,750
2018	$508,550	$148,960	$657,510

Town of Stratford

23 Stoney Brook Road



Legend

- Streetname
- Roadways
  - Local
  - Collector
  - Minor Collector
  - Minor Arterial
  - Major Collector
  - PA Other
  - PA Other Expwy
  - PA Interstate

283.9 0 141.95 283.9 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Created by Greater Bridgeport Regional Council

METROCOG
Connecticut Metropolitan Council of Governments

CENTERLINE

EXHIBIT C

Structural Analysis Report

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	119 ft Monopole
ATC Asset Name	:	STONEYBROOK RD CT
ATC Asset Number	:	283420
Engineering Number	:	14764246_C3_04
Proposed Carrier	:	VERIZON WIRELESS
Carrier Site Name	:	STRATFORD W CT
Carrier Site Number	:	5000382206
Site Location	:	23 Stonybrook Road Stratford, CT 06614-3715 41.2034° N, 73.1485° W
County	:	Fairfield
Date	:	May 6, 2024
Max Usage	:	77%
Analysis Result	:	Pass

Created By:

Garrett Williams
Structural Engineer
Garrett Williams

COA: PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 119 ft Monopole tower to reflect the change in loading by VERIZON WIRELESS.

Supporting Documents

Tower:	Valmont Order #20380-10, dated July 30, 2010
Foundation:	Valmont Order #20380-60, dated June 11, 2010
Geotechnical:	Terracon Project #J2105132, dated April 2, 2010
Modification:	TES Job #13142, dated November 12, 2014 ATC Job #13682835_C6_06, dated January 5, 2023

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:	119 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.00" radial ice concurrent
Code(s):	ANSI/TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Spectral Response:	Ss = 0.21, S_1 = 0.05
Site Class:	D - Stiff Soil - Default

Wind load and Ice thickness have been reduced by applicable existing structure load modification factors in accordance with TIA-222, ANNEX-S

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 reach out to your American Tower contact. If you do not have an American Tower contact and have an Engineering question, please contact **Engineering@americantower.com** Please include the American Tower asset name, asset number, and engineering number in the subject line for any questions.

Structure Usages

Structural Component	Usage	Control	Result
Pole Shaft	73.8%	1.2D + 1.0W	Pass
Reinforcement	76.7%	44.88 ft to 90.13 ft	Pass
Upper Termination	43.2%	44.88 ft to 90.13 ft	Pass
Intermediate Connector	33.4%	44.88 ft to 90.13 ft	Pass
Lower Termination	63.4%	44.88 ft to 90.13 ft	Pass
Serviceability Usage	49.4%	1.0D + 1.0W	Pass
Upper Flange Plate @ 99.0 ft	35.7%	Bolts	Pass
Base Plate @ 0.0 ft	49.4%	Rods	Pass
Pier	44.7%	Flexure [Steel]	Pass

Maximum Reactions

Foundation	Moment (k-ft)	Axial (k)	Shear (k)
Monopole Base	1,642.6	37.6	17.8

Reactions shown reflect the results from the Load Case with maximum Moment

Structure base reactions were analyzed using available geotechnical and foundation information.

VERIZON WIRELESS Final Loading

Elev (ft)	Qty	Equipment	Lines
87.0	1	Raycap RCMDC-6627-PF-48	(2) 1 5/8" Hybriflex
	2	JMA Wireless MX06FHG665-HG	
	2	JMA Wireless MX06FHG865-HG	
	2	JMA Wireless MX12FRO645-01	
	4	Samsung B2/B66A RRH ORAN (RF 4439d-25A)	
	4	Samsung MT6413-77A	
	4	Samsung RF4461d-13A	
	4	Site Pro 1 VFA10-HD	
78.0	-	-	(12) 1 5/8" Coax

Other Existing/Reserved Loading

Elev (ft)	Qty	Equipment	Lines	Carrier
119.0	3	Ericsson Air 6449 B77D	-	AT&T MOBILITY
117.0	1	Commscope WCS-IMFQ-AMT	(1) 0.40" (10.3mm) Fiber (3) 0.82" (20.8mm) 8 AWG 6 (4) 0.92" (23.4mm) Cable (1) 2" conduit	AT&T MOBILITY
	1	Platform with Handrails		
	2	Raycap DC9-48-60-24-8C-EV		
	3	CCI DMP65R-BU6DA		
	3	Ericsson RRUS 32 B2		
	3	Ericsson RRUS 4426 B66		
	3	Ericsson RRUS 4449 B5, B12		
	3	Ericsson RRUS 4478 B14		
	3	Ericsson RRUS E2 B29		
	3	Ericsson RRUS-32 B30 (77 lbs)		
	3	Quintel QD6616-7		
115.0	3	Ericsson AIR 6419 B77G	-	AT&T MOBILITY
111.3	3	Fujitsu TA08025-B604	-	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B605		
109.0	1	Raycap RDIDC-9181-PF-48	(1) 1.75" (44.5mm) Hybrid	DISH WIRELESS L.L.C.
	3	JMA Wireless MX08FRO665-21		
107.0	1	Platform with Handrails	-	DISH WIRELESS L.L.C.
101.3	3	Ericsson RRUS 4415 B25	-	T-MOBILE
	3	Ericsson Radio 4449 B71 B85A		
101.2	3	Ericsson AIR32 B66Aa/B2a	-	T-MOBILE
97.0	1	Platform with Handrails	(1) 1 1/4" (1.25"- 31.8mm) Fiber (2) 1 5/8" Hybriflex	T-MOBILE
	3	Ericsson Air6449 B41		
	3	RFS APXVAARR24_43-U-NA20		

(If table breaks across pages, please see previous page for data in merged cells)

Standard Conditions

All engineering services performed by A.T. Engineering Services LLC 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 Services LLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Services LLC 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 Services LLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

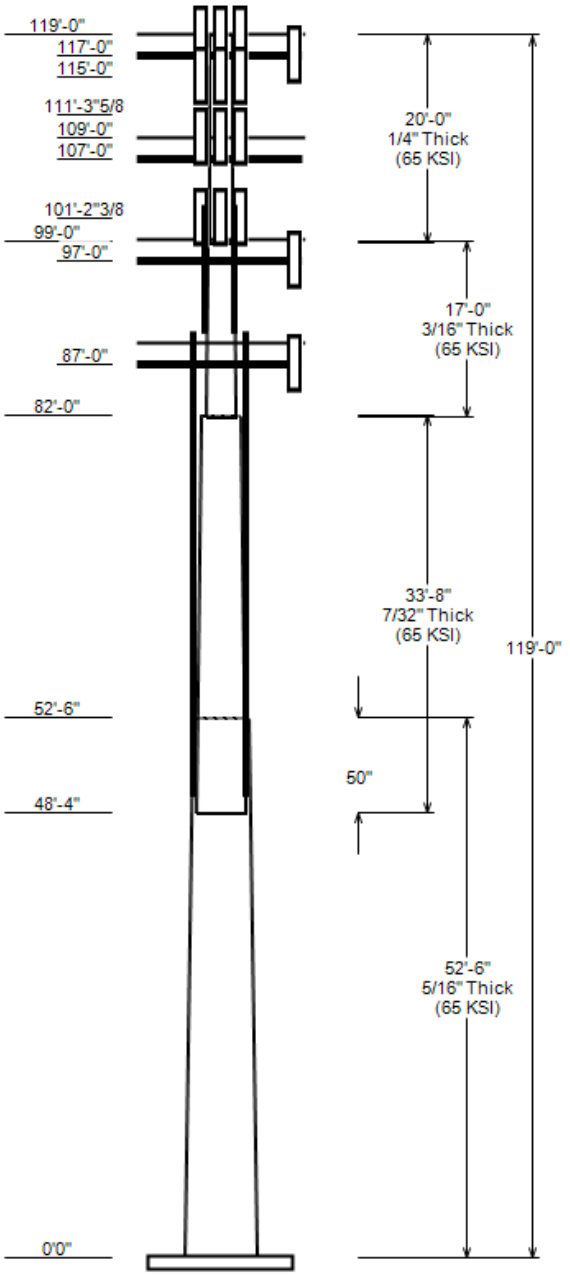
All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Services LLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

ANALYSIS PARAMETERS

Nominal Wind:	116 mph	**Ice Wind:**	49 mph w/ 0.85" ice	**Service Wind:**	60 mph
Risk Category:	II	**Exposure:**	B	**S_s:** 0.207	**S_1:** 0.054
Topo Category:	1	**Topo Factor:**	Method 1	**Topo Feature:**	
Structure Height:	119 ft	**Base Elevation:**	0.00 ft	**Structure Type:**	Custom
Base Diameter:	42 in	**Base Rotation:**	0°	**Taper:**	0.3000 (in/ft)

POLE SECTION PROPERTIES

Section	Length (ft)	Flat Diameter (in) Top	Flat Diameter (in) Bottom	Thick (in)	Joint Type	Joint Length (in)	Pole Shape	Yield Strength (ksi)
1	52.500	26.25	42.00	0.312		0.000	18 Sides	65
2	33.667	17.84	27.94	0.219	Slip Joint	50.000	18 Sides	65
3	17.000	12.74	17.84	0.188	Butt Joint	0.000	Round	65
4	20.000	12.56	12.56	0.250	Butt Joint	0.000	18 Sides	65



DISCRETE APPURTENANCE

Elev (ft)	Description
119.0	(3) Ericsson Air 6449 B77D
117.0	(1) Commscope WCS-IMFQ-AMT
117.0	(3) Ericsson RRUS 4426 B66
117.0	(3) Ericsson RRUS 4478 B14
117.0	(3) Ericsson RRUS 4449 B5, B12
117.0	(3) Ericsson RRUS 32 B2
117.0	(3) Ericsson RRUS E2 B29
117.0	(3) Ericsson RRUS-32 B30 (77 lbs)
117.0	(2) Raycap DC9-48-60-24-8C-EV
117.0	(3) CCI DMP65R-BU6DA
117.0	(3) Quintel QD6616-7
117.0	(1) Generic Round Platform with Ha
115.0	(3) Ericsson AIR 6419 B77G
111.3	(3) Fujitsu TA08025-B605
111.3	(3) Fujitsu TA08025-B604
109.0	(1) Raycap RDIDC-9181-PF-48
109.0	(3) JMA Wireless MX08FRO665-21
107.0	(1) Generic Round Platform with Ha
101.3	(3) Ericsson Radio 4449 B71 B85A
101.3	(3) Ericsson RRUS 4415 B25
101.2	(3) Ericsson AIR32 B66Aa/B2a
97.0	(3) Ericsson Air6449 B41
97.0	(3) RFS APXVAARR24_43-U-NA20
97.0	(1) Generic Round Platform with Ha
87.0	(4) Samsung B2/B66A RRH ORAN (RF 4
87.0	(4) Samsung RF4461d-13A
87.0	(4) Samsung MT6413-77A
87.0	(1) Raycap RCMDC-6627-PF-48
87.0	(2) JMA Wireless MX06FHG665-HG
87.0	(2) JMA Wireless MX06FHG865-HG
87.0	(2) JMA Wireless MX12FRO645-01
87.0	(4) Site Pro 1 VFA10-HD

LINEAR APPURTENANCE

Elev To (ft)	Description
118.0	(3) 0.39" (10mm) Fiber Trunk
117.0	(1) 2" conduit
117.0	(4) 0.92" (23.4mm) Cable
117.0	(3) 0.82" (20.8mm) 8 AWG 6
117.0	(1) 0.40" (10.3mm) Fiber
109.0	(1) 1.75" (44.5mm) Hybrid
104.0	(1) 1" Thick Flat Plate
104.0	(1) 1" Thick Flat Plate
104.0	(1) 1" Thick Flat Plate
101.0	(3) 1 5/8" Hybriflex
101.0	(1) 1 1/4" Hybriflex Cable
97.0	(2) 1 5/8" Hybriflex
97.0	(1) 1 1/4" (1.25"- 31.8mm) Fiber
92.0	(1) 1" Thick Flat Plate
92.0	(1) 1" Thick Flat Plate
92.0	(1) 1" Thick Flat Plate
87.0	(2) 1 5/8" Hybriflex
78.0	(12) 1 5/8" Coax

GLOBAL BASE REACTIONS

Load Case	Moment (kip-ft)	Axial (kip)	Shear (kip)
1.2D + 1.0W	1642.56	37.59	17.83
0.9D + 1.0W	1603.62	28.19	17.81
1.2D + 1.0Di + 1.0Wi	421.04	50.27	4.47
1.2D + 1.0Ev + 1.0Eh	102.16	37.95	0.95
0.9D - 1.0Ev + 1.0Eh	98.86	26.11	0.94
1.0D + 1.0W	390.71	31.36	4.29

ANALYSIS PARAMETERS

Location:	Fairfield County,CT	**Height:**	119 ft
Type and Shape:	Custom, 18 Sides	**Base Diameter:**	42.00 in
Manufacturer:	Valmont	**Top Diameter:**	12.56 in
K_d (non-service):	0.95	**Taper:**	0.3000 in/ft
K_e:	1.00	**Rotation:**	0.000º

ICE & WIND PARAMETERS

Risk Category:	II	**Design Wind Speed:**	116 mph
Exposure Category:	B	**Design Wind Speed w/ Ice:**	49 mph
Topo Factor Procedure:	Method 1	**Design Ice Thickness:**	0.85 in
Topographic Category:	1	**Service Wind Speed:**	60 mph
Crest Height:	0 ft	**HMSL:**	77.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil		**Period Based on Rayleigh Method (sec):**		2.99
T_L (sec):	6	**P:**	1	**C_s:**	0.030
S_s:	0.207	**S_1:**	0.054	**C_s Max:**	0.030
F_a:	1.600	**F_v:**	2.400	**C_s Min:**	0.030
S_{ds}:	0.221	**S_{d1}:**	0.086		

LOAD CASES

1.2D + 1.0W	115.99 mph Wind with No Ice
0.9D + 1.0W	115.99 mph Wind with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	48.73 mph Wind with 0.85" Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

SHAFT SECTION PROPERTIES

							Bottom						Top						
Section	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Dia (in)	Elev (ft)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	52.50	0.3125	65		0.00	5,991	42.00	0.000	41.35	9,078.5	21.94	134.40	26.25	52.50	25.73	2,186.6	13.05	84.00	0.3000
2-18	33.67	0.2188	65	Slip	50.00	1,803	27.94	48.333	19.25	1,868.6	20.75	127.69	17.84	82.00	12.24	479.9	12.61	81.53	0.3000
3-R	17.00	0.1875	65	Butt	0.00	515	17.84	82.000	10.40	405.3	0.00	95.14	12.74	99.00	7.39	145.7	0.00	67.94	0.3000
4-18	20.00	0.2500	65	Butt	0.00	665	12.56	99.000	9.77	187.1	7.10	50.25	12.56	119.00	9.77	187.1	7.10	50.25	0.0000
			Total Shaft Weight			**8,974**													

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
119.00	Ericsson Air 6449 B77D	3	0.75	0.000	81.60	4.028	0.65	138.61	4.790	0.65
117.00	CCI DMP65R-BU6DA	3	0.75	0.000	79.40	12.709	0.63	221.96	14.252	0.63
117.00	Quintel QD6616-7	3	0.75	0.000	130.00	13.578	0.64	291.89	15.148	0.64
117.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	3396.39	40.728	1.00
117.00	Raycap DC9-48-60-24-8C-EV	2	0.75	0.000	16.00	4.788	0.50	87.45	5.602	0.50
117.00	Ericsson RRUS-32 B30 (77 lbs)	3	0.75	0.000	77.00	3.314	0.50	130.82	4.024	0.50
117.00	Ericsson RRUS E2 B29	3	0.75	0.000	60.00	3.145	0.62	104.76	3.786	0.62
117.00	Ericsson RRUS 32 B2	3	0.75	1.000	53.00	2.743	0.50	93.70	3.390	0.50
117.00	Ericsson RRUS 4449 B5, B12	3	0.75	0.000	71.00	1.969	0.50	106.67	2.485	0.50
117.00	Commscope WCS-IMFQ-AMT	1	0.75	0.000	29.50	0.989	0.50	48.14	1.355	0.50
117.00	Ericsson RRUS 4426 B66	3	0.75	0.000	48.40	1.650	0.50	73.11	2.120	0.50
117.00	Ericsson RRUS 4478 B14	3	0.75	0.000	59.90	1.842	0.50	90.50	2.338	0.50
115.00	Ericsson AIR 6419 B77G	3	0.75	0.000	66.10	3.797	0.65	119.66	4.524	0.65
111.30	Fujitsu TA08025-B604	3	0.75	0.000	63.90	1.962	0.50	96.02	2.469	0.50
111.30	Fujitsu TA08025-B605	3	0.75	0.000	75.00	1.962	0.50	109.51	2.469	0.50
109.00	JMA Wireless MX08FRO665-21	3	0.75	0.000	64.50	12.489	0.64	205.73	14.033	0.64
109.00	Raycap RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	0.50	53.10	2.362	0.50
107.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	3388.34	40.607	1.00
101.30	Ericsson RRUS 4415 B25	3	0.75	0.000	46.00	1.842	0.50	72.77	2.332	0.50
101.30	Ericsson Radio 4449 B71 B85A	3	0.75	0.000	75.00	1.650	0.50	107.83	2.114	0.50
101.20	Ericsson AIR32 B66Aa/B2a	3	0.75	0.000	132.20	6.510	0.71	219.28	7.705	0.71
97.00	RFS APXVAARR24_43-U-NA20	3	0.75	0.000	127.90	20.243	0.63	341.09	22.257	0.63
97.00	Ericsson Air6449 B41	3	0.75	0.000	104.00	5.682	0.63	178.01	6.544	0.63
97.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	3379.58	40.474	1.00
87.00	JMA Wireless MX06FHG865-HG	2	0.80	0.000	51.00	11.608	0.77	178.17	13.345	0.77
87.00	JMA Wireless MX12FRO645-01	2	0.80	0.000	55.00	12.489	0.73	193.05	13.998	0.73
87.00	Site Pro 1 VFA10-HD	4	0.75	0.000	718.00	13.650	0.75	1291.86	21.076	0.75
87.00	Raycap RCMDC-6627-PF-48	1	0.80	0.000	32.00	4.056	1.00	100.26	4.789	1.00
87.00	Samsung MT6413-77A	4	0.80	0.000	57.30	3.805	0.61	102.90	4.518	0.61
87.00	Samsung RF4461d-13A	4	0.80	0.000	79.10	1.875	0.50	113.73	2.360	0.50
87.00	Samsung B2/B66A RRH ORAN (RF 4	4	0.80	0.000	74.70	1.875	0.50	109.02	2.358	0.50
87.00	JMA Wireless MX06FHG665-HG	2	0.80	0.000	41.00	8.242	0.77	138.17	9.738	0.77
Totals	**Row Count: 32**	**84**			**15,870.50**			**26,135.29**		

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg): 192.00

Elev From (ft)	Elev To (ft)	Qty	Description	Diameter (in)	Weight (lb/ft)	Flat	Max/ Row	Distance Between Rows(in)	Distance Between Cols(in)	Azimuth (deg)	Distance From Face (in)	Exposed To Wind	Carrier
0.00	118.00	3	0.39" (10mm) Fiber Tr	0.39	0.06	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	117.00	4	0.92" (23.4mm) Cable	0.92	0.89	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	117.00	3	0.82" (20.8mm) 8 AWG	0.82	0.62	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	117.00	1	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	117.00	1	0.40" (10.3mm) Fiber	0.4	0.09	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	109.00	1	1.75" (44.5mm) Hybrid	1.75	2.72	N	1	1.38	1.38	105	4	Y	DISH WIRELESS L.L.C.
88.40	104.00	1	1" Thick Flat Plate	1	0	Y	1	0	0	350	0	Y	
88.40	104.00	1	1" Thick Flat Plate	1	0	Y	1	0	0	110	0	Y	
88.40	104.00	1	1" Thick Flat Plate	1	0	Y	1	0	0	230	0	Y	
0.00	101.00	3	1 5/8" Hybriflex	1.98	1.3	N	2	1	1	75	1	Y	T-MOBILE

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg): 192.00

Elev From (ft)	Elev To (ft)	Qty	Description	Diameter (in)	Weight (lb/ft)	Flat	Max/ Row	Distance Between Rows(in)	Distance Between Cols(in)	Azimuth (deg)	Distance From Face (in)	Exposed To Wind	Carrier
0.00	101.00	1	1 1/4" Hybriflex Cabl	1.54	1	N	1	1.27	1.27	75	4	Y	T-MOBILE
0.00	97.00	2	1 5/8" Hybriflex	1.98	1.3	N	2	1	1	75	1	Y	T-MOBILE
0.00	97.00	1	1 1/4" (1.25"- 31.8mm	1.25	1.05	N	0	0	0	0	0	N	T-MOBILE
42.00	92.00	1	1" Thick Flat Plate	1	0	Y	1	0	0	90	0	Y	
42.00	92.00	1	1" Thick Flat Plate	1	0	Y	1	0	0	330	0	Y	
42.00	92.00	1	1" Thick Flat Plate	1	0	Y	1	0	0	210	0	Y	
0.00	87.00	2	1 5/8" Hybriflex	1.98	1.3	N	0	0	0	0	0	N	VERIZON WIRELESS
0.00	78.00	12	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	VERIZON WIRELESS

ADDITIONAL STEEL

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Intermediate Connectors Offset (in)	Intermediate Connectors Bracket Type	Intermediate Connectors Spacing (in)	Intermediate Connectors Length (in)	Intermediate Connectors Connectors	Continuation?
44.88	90.13	3	PL PL 6" x 1"	55	0.00	5/8" Hollo Bolt	12.00	3.00	5/8" Hollo Bolt	N
89.92	102.50	3	PL PL 4" x 1"	47	0.00	AJAX M20 Class 8.8	12.00	3.00	AJAX M20 Class 8.8	N

SEGMENT PROPERTIES

Seg Top Elev (ft)	Description *(Max Length: 5 ft)*	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)	Additional Reinforcing Area (in^2)	Additional Reinforcing Ix (in^4)	Additional Reinforcing Weight (lb)
0.00		0.3125	42.000	41.347	9,078.50	21.94	134.40	75.6	425.7	0.0	0.0			
5.00		0.3125	40.500	39.860	8,133.30	21.09	129.60	76.6	395.5	0.0	690.8			
10.00		0.3125	39.000	38.372	7,256.20	20.24	124.80	77.6	366.5	0.0	665.5			
15.00		0.3125	37.500	36.884	6,444.40	19.40	120.00	78.6	338.5	0.0	640.2			
20.00		0.3125	36.000	35.396	5,695.60	18.55	115.20	79.6	311.6	0.0	614.9			
25.00		0.3125	34.500	33.909	5,007.20	17.70	110.40	80.6	285.9	0.0	589.6			
30.00		0.3125	33.000	32.421	4,376.60	16.86	105.60	81.6	261.2	0.0	564.3			
35.00		0.3125	31.500	30.933	3,801.30	16.01	100.80	82.6	237.7	0.0	538.9			
40.00		0.3125	30.000	29.445	3,278.80	15.16	96.00	82.6	215.3	0.0	513.6			
44.88	Reinf Bottom	0.3125	28.536	27.993	2,817.30	14.34	91.32	82.6	194.5	0.0	476.9			
45.00		0.3125	28.500	27.957	2,806.50	14.32	91.20	82.6	194.0	0.0	11.4	18.000	1,985.90	7.4
48.33	Bot - Section 2	0.3125	27.500	26.966	2,518.30	13.75	88.00	82.6	180.4	0.0	311.5	18.000	1,855.40	204.2
50.00		0.3125	27.000	26.470	2,381.90	13.47	86.40	82.6	173.8	0.0	259.7	18.000	1,847.40	102.1
52.50	Top - Section 1	0.2188	26.688	18.381	1,627.00	19.74	121.97	78.2	120.1	0.0	380.6	18.000	1,752.70	153.1
55.00		0.2188	25.938	17.860	1,492.60	19.14	118.54	78.9	113.3	0.0	154.2	18.000	1,660.50	153.1
60.00		0.2188	24.438	16.819	1,246.40	17.93	111.69	80.3	100.5	0.0	295.0	18.000	1,483.70	306.3
65.00		0.2188	22.938	15.777	1,028.80	16.72	104.83	81.7	88.3	0.0	277.3	18.000	1,317.10	306.3
70.00		0.2188	21.438	14.735	838.20	15.51	97.98	82.6	77.0	0.0	259.6	18.000	1,160.60	306.3
75.00		0.2188	19.938	13.694	672.70	14.30	91.12	82.6	66.5	0.0	241.8	18.000	1,014.20	306.3
80.00		0.2188	18.438	12.652	530.60	13.10	84.27	82.6	56.7	0.0	224.1	18.000	877.90	306.3
82.00	Top - Section 2	0.2188	17.838	12.235	479.90	12.61	81.52	82.6	53.0	0.0	84.7	18.000	826.20	122.5
82.00	Bot - Section 3	0.1875	17.839	10.398	405.30	0.00	95.14	54.9	45.4	58.4		18.000	826.20	
85.00		0.1875	16.939	9.868	346.40	0.00	90.34	55.5	40.9	52.6	103.4	18.000	751.90	183.8
87.00		0.1875	16.339	9.514	310.50	0.00	87.14	55.9	38.0	48.9	66.0	18.000	704.30	122.5
89.92	Reinf Bottom	0.1875	15.463	8.998	262.70	0.00	82.47	56.7	34.0	43.8	92.0	18.000	637.60	178.9
90.00		0.1875	15.439	8.984	261.40	0.00	82.34	56.7	33.9	43.6	2.4	30.000	1,049.70	8.2
90.13	Reinf. Top	0.1875	15.400	8.961	259.40	0.00	82.13	56.7	33.7	43.4	4.0	30.000	1,044.90	13.3
95.00		0.1875	13.939	8.100	191.60	0.00	74.34	58.1	27.5	35.5	141.4	12.000	343.30	198.9
97.00		0.1875	13.339	7.747	167.60	0.00	71.14	58.8	25.1	32.4	53.9	12.000	316.90	81.7
99.00	Top - Section 3	0.1875	12.739	7.394	145.70	0.00	67.94	59.5	22.9	29.5	51.5	12.000	291.60	81.7
99.00	Bot - Section 4	0.2500	12.563	9.770	187.10	7.10	50.25	82.6	29.3	0.0		12.000	284.40	
100.00		0.2500	12.563	9.770	187.10	7.10	50.25	82.6	29.3	0.0	33.2	12.000	284.40	40.8
101.20		0.2500	12.563	9.770	187.10	7.10	50.25	82.6	29.3	0.0	39.9	12.000	284.40	49.0
101.30		0.2500	12.563	9.770	187.10	7.10	50.25	82.6	29.3	0.0	3.3	12.000	284.40	4.1
102.50	Reinf. Top	0.2500	12.563	9.770	187.10	7.10	50.25	82.6	29.3	0.0	39.9	12.000	284.40	49.0
105.00		0.2500	12.563	9.770	187.10	7.10	50.25	82.6	29.3	0.0	83.1			
107.00		0.2500	12.563	9.770	187.10	7.10	50.25	82.6	29.3	0.0	66.5			
109.00		0.2500	12.563	9.770	187.10	7.10	50.25	82.6	29.3	0.0	66.5			

SEGMENT PROPERTIES

Seg Top Elev (ft)	Description (Max Length: 5 ft)	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)	Additional Reinforcing Area (in^2)	Additional Reinforcing Ix (in^4)	Additional Reinforcing Weight (lb)
110.00		0.2500	12.563	9.770	187.10	7.10	50.25	82.6	29.3	0.0	33.2			
111.30		0.2500	12.563	9.770	187.10	7.10	50.25	82.6	29.3	0.0	43.2			
115.00		0.2500	12.563	9.770	187.10	7.10	50.25	82.6	29.3	0.0	123.0			
117.00		0.2500	12.563	9.770	187.10	7.10	50.25	82.6	29.3	0.0	66.5			
119.00		0.2500	12.563	9.770	187.10	7.10	50.25	82.6	29.3	0.0	66.5			
									Totals:		**8,974.0**			**3,285.8**

CALCULATED FORCES

Load Case: 1.2D + 1.0W — 115.99 mph Wind with No Ice — 28 Iterations

Gust Response Factor: 1.10
Dead load Factor: 1.20
Wind Load Factor: 1.00

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	-37.59	-17.83	0.00	-1,642.6	0.00	1,642.56	2,813.31	725.65	2,732.26	2,413.98	0	0	0.694
5.00	-36.49	-17.68	0.00	-1,553.4	0.00	1,553.40	2,747.79	699.53	2,539.19	2,272.29	0.13	-0.25	0.698
10.00	-35.41	-17.52	0.00	-1,465.0	0.00	1,465.02	2,679.61	673.42	2,353.20	2,132.56	0.54	-0.51	0.701
15.00	-34.36	-17.37	0.00	-1,377.4	0.00	1,377.41	2,608.76	647.31	2,174.28	1,995.03	1.23	-0.79	0.704
20.00	-33.34	-17.22	0.00	-1,290.6	0.00	1,290.55	2,535.24	621.20	2,002.44	1,859.96	2.21	-1.09	0.708
25.00	-32.35	-17.07	0.00	-1,204.4	0.00	1,204.45	2,459.06	595.09	1,837.67	1,727.58	3.52	-1.4	0.711
30.00	-31.38	-16.91	0.00	-1,119.1	0.00	1,119.11	2,380.22	568.98	1,679.97	1,598.16	5.16	-1.73	0.714
35.00	-30.44	-16.75	0.00	-1,034.5	0.00	1,034.54	2,298.17	542.87	1,529.34	1,471.58	7.16	-2.08	0.717
40.00	-29.53	-16.56	0.00	-950.8	0.00	950.78	2,187.63	516.76	1,385.79	1,332.77	9.54	-2.45	0.728
44.88	-28.72	-16.43	0.00	-870.0	0.00	869.99	2,079.75	491.28	1,252.50	1,203.91	12.24	-2.84	0.738
45.00	-28.68	-16.33	0.00	-868.0	0.00	868.02	2,077.10	490.65	1,249.31	1,200.82	12.31	-2.85	0.433
48.33	-27.90	-16.16	0.00	-813.6	0.00	813.57	2,003.41	473.25	1,162.25	1,116.68	14.36	-3.01	0.429
50.00	-27.38	-16.03	0.00	-786.6	0.00	786.63	1,966.57	464.54	1,119.91	1,075.76	15.43	-3.1	0.421
52.50	-26.61	-15.86	0.00	-746.6	0.00	746.56	1,293.31	322.59	771.23	704.07	17.08	-3.23	0.523
55.00	-26.10	-15.65	0.00	-706.9	0.00	706.92	1,268.09	313.45	728.15	670.62	18.81	-3.36	0.512
60.00	-25.13	-15.38	0.00	-628.6	0.00	628.65	1,215.65	295.17	645.70	605.07	22.49	-3.66	0.487
65.00	-24.17	-15.13	0.00	-551.7	0.00	551.74	1,160.55	276.89	568.21	541.55	26.49	-3.97	0.460
70.00	-23.23	-14.91	0.00	-476.1	0.00	476.07	1,094.76	258.60	495.66	476.80	30.81	-4.28	0.432
75.00	-22.32	-14.69	0.00	-401.6	0.00	401.55	1,017.37	240.32	428.07	411.45	35.46	-4.59	0.402
80.00	-21.48	-14.51	0.00	-328.1	0.00	328.10	939.98	222.04	365.43	350.92	40.44	-4.9	0.366
82.00	-21.14	-14.43	0.00	-299.1	0.00	299.07	909.02	214.73	341.76	328.05	42.51	-5.03	0.349
82.00	-21.14	-14.43	0.00	-299.1	0.00	299.07	513.62	182.48	283.19	243.01	42.51	-5.03	0.426
85.00	-20.69	-14.33	0.00	-255.8	0.00	255.79	492.88	173.18	255.05	219.76	45.73	-5.21	0.389
87.00	-15.83	-10.86	0.00	-227.1	0.00	227.12	479.05	166.97	237.11	204.91	47.94	-5.33	0.355
89.92	-15.43	-10.78	0.00	-195.4	0.00	195.41	458.86	157.92	212.09	184.16	51.25	-5.51	0.325
90.00	-15.41	-10.77	0.00	-194.6	0.00	194.55	458.30	157.67	211.42	183.61	51.34	-5.51	0.224
90.13	-15.38	-10.67	0.00	-193.2	0.00	193.15	457.40	157.27	210.34	182.71	51.49	-5.52	0.223
90.13	-15.38	-10.67	0.00	-193.2	0.00	193.15	457.40	157.27	210.34	182.71	51.49	-5.52	0.427
95.00	-14.85	-10.44	0.00	-141.2	0.00	141.19	423.70	142.16	171.88	150.69	57.21	-5.69	0.355
97.00	-11.04	-7.76	0.00	-120.3	0.00	120.31	409.85	135.96	157.21	138.43	59.62	-5.83	0.314
99.00	-10.83	-7.70	0.00	-104.8	0.00	104.79	725.83	171.46	190.75	181.64	62.09	-5.97	0.238
99.00	-10.83	-7.70	0.00	-104.8	0.00	104.79	395.99	129.76	143.19	126.68	62.09	-5.97	0.290
100.00	-10.72	-7.66	0.00	-97.1	0.00	97.09	725.83	171.46	190.75	181.64	63.35	-6.03	0.221
101.20	-10.15	-7.21	0.00	-87.9	0.00	87.90	725.83	171.46	190.75	181.64	64.87	-6.1	0.200
101.30	-9.72	-7.01	0.00	-87.2	0.00	87.18	725.83	171.46	190.75	181.64	65	-6.1	0.198
102.50	-9.59	-6.96	0.00	-78.8	0.00	78.77	725.83	171.46	190.75	181.64	66.54	-6.16	0.180
102.50	-9.59	-6.96	0.00	-78.8	0.00	78.77	725.83	171.46	190.75	181.64	66.54	-6.16	0.449
105.00	-9.45	-6.90	0.00	-61.4	0.00	61.37	725.83	171.46	190.75	181.64	69.79	-6.27	0.353
107.00	-6.46	-5.54	0.00	-47.6	0.00	47.57	725.83	171.46	190.75	181.64	72.45	-6.43	0.272
109.00	-6.17	-4.79	0.00	-36.5	0.00	36.49	725.83	171.46	190.75	181.64	75.16	-6.56	0.210
110.00	-6.12	-4.76	0.00	-31.7	0.00	31.70	725.83	171.46	190.75	181.64	76.54	-6.61	0.184
111.30	-5.57	-4.47	0.00	-25.5	0.00	25.51	725.83	171.46	190.75	181.64	78.35	-6.67	0.149
115.00	-5.18	-4.14	0.00	-9.0	0.00	8.98	725.83	171.46	190.75	181.64	83.55	-6.77	0.057
117.00	-0.34	-0.29	0.00	-0.6	0.00	0.58	725.83	171.46	190.75	181.64	86.38	-6.78	0.004
119.00	0.00	-0.25	0.00	0.0	0.00	0.00	725.83	171.46	190.75	181.64	89.22	-6.78	0.000

CALCULATED FORCES

Load Case: 0.9D + 1.0W — 115.99 mph Wind with No Ice (Reduced DL) — 27 Iterations

Gust Response Factor: 1.10
Dead load Factor: 0.90
Wind Load Factor: 1.00

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	-28.19	-17.81	0.00	-1,603.6	0.00	1,603.62	2,813.31	725.65	2,732.26	2,413.98	0	0	0.675
5.00	-27.34	-17.61	0.00	-1,514.6	0.00	1,514.59	2,747.79	699.53	2,539.19	2,272.29	0.13	-0.24	0.677
10.00	-26.51	-17.41	0.00	-1,426.5	0.00	1,426.54	2,679.61	673.42	2,353.20	2,132.56	0.52	-0.5	0.679
15.00	-25.71	-17.22	0.00	-1,339.5	0.00	1,339.48	2,608.76	647.31	2,174.28	1,995.03	1.2	-0.77	0.682
20.00	-24.93	-17.02	0.00	-1,253.4	0.00	1,253.39	2,535.24	621.20	2,002.44	1,859.96	2.16	-1.06	0.684
25.00	-24.16	-16.83	0.00	-1,168.3	0.00	1,168.29	2,459.06	595.09	1,837.67	1,727.58	3.43	-1.36	0.687
30.00	-23.42	-16.63	0.00	-1,084.2	0.00	1,084.16	2,380.22	568.98	1,679.97	1,598.16	5.03	-1.68	0.689
35.00	-22.70	-16.42	0.00	-1,001.0	0.00	1,001.03	2,298.17	542.87	1,529.34	1,471.58	6.97	-2.02	0.691
40.00	-22.00	-16.18	0.00	-919.0	0.00	918.95	2,187.63	516.76	1,385.79	1,332.77	9.27	-2.38	0.701
44.88	-21.38	-16.03	0.00	-840.0	0.00	840.01	2,079.75	491.28	1,252.50	1,203.91	11.9	-2.75	0.709
45.00	-21.34	-15.92	0.00	-838.1	0.00	838.08	2,077.10	490.65	1,249.31	1,200.82	11.97	-2.76	0.416
48.33	-20.75	-15.75	0.00	-785.0	0.00	785.00	2,003.41	473.25	1,162.25	1,116.68	13.96	-2.92	0.412
50.00	-20.36	-15.60	0.00	-758.8	0.00	758.76	1,966.57	464.54	1,119.91	1,075.76	14.99	-3.01	0.405
52.50	-19.78	-15.43	0.00	-719.8	0.00	719.75	1,293.31	322.59	771.23	704.07	16.6	-3.13	0.502
55.00	-19.39	-15.20	0.00	-681.2	0.00	681.19	1,268.09	313.45	728.15	670.62	18.27	-3.26	0.491
60.00	-18.65	-14.91	0.00	-605.2	0.00	605.17	1,215.65	295.17	645.70	605.07	21.84	-3.55	0.467
65.00	-17.92	-14.64	0.00	-530.6	0.00	530.63	1,160.55	276.89	568.21	541.55	25.71	-3.84	0.440
70.00	-17.21	-14.39	0.00	-457.4	0.00	457.45	1,094.76	258.60	495.66	476.80	29.9	-4.14	0.413
75.00	-16.52	-14.16	0.00	-385.5	0.00	385.50	1,017.37	240.32	428.07	411.45	34.4	-4.44	0.384
80.00	-15.87	-13.98	0.00	-314.7	0.00	314.71	939.98	222.04	365.43	350.92	39.21	-4.74	0.349
82.00	-15.62	-13.88	0.00	-286.8	0.00	286.76	909.02	214.73	341.76	328.05	41.22	-4.86	0.332
82.00	-15.62	-13.88	0.00	-286.8	0.00	286.76	513.62	182.48	283.19	243.01	41.22	-4.86	0.405
85.00	-15.27	-13.78	0.00	-245.1	0.00	245.11	492.88	173.18	255.05	219.76	44.33	-5.03	0.369
87.00	-11.69	-10.43	0.00	-217.6	0.00	217.55	479.05	166.97	237.11	204.91	46.46	-5.15	0.337
89.92	-11.38	-10.35	0.00	-187.1	0.00	187.10	458.86	157.92	212.09	184.16	49.66	-5.32	0.309
90.00	-11.37	-10.34	0.00	-186.3	0.00	186.28	458.30	157.67	211.42	183.61	49.75	-5.32	0.212
90.13	-11.35	-10.23	0.00	-184.9	0.00	184.93	457.40	157.27	210.34	182.71	49.89	-5.33	0.211
90.13	-11.35	-10.23	0.00	-184.9	0.00	184.93	457.40	157.27	210.34	182.71	49.89	-5.33	0.406
95.00	-10.95	-10.00	0.00	-135.1	0.00	135.11	423.70	142.16	171.88	150.69	55.42	-5.5	0.337
97.00	-8.13	-7.42	0.00	-115.1	0.00	115.10	409.85	135.96	157.21	138.43	57.75	-5.63	0.298
99.00	-7.98	-7.37	0.00	-100.2	0.00	100.25	725.83	171.46	190.75	181.64	60.13	-5.76	0.226
99.00	-7.98	-7.37	0.00	-100.2	0.00	100.25	395.99	129.76	143.19	126.68	60.13	-5.76	0.275
100.00	-7.89	-7.33	0.00	-92.9	0.00	92.88	725.83	171.46	190.75	181.64	61.34	-5.82	0.210
101.20	-7.48	-6.89	0.00	-84.1	0.00	84.09	725.83	171.46	190.75	181.64	62.81	-5.88	0.190
101.30	-7.16	-6.70	0.00	-83.4	0.00	83.40	725.83	171.46	190.75	181.64	62.93	-5.89	0.188
102.50	-7.06	-6.65	0.00	-75.4	0.00	75.36	725.83	171.46	190.75	181.64	64.42	-5.95	0.171
102.50	-7.06	-6.65	0.00	-75.4	0.00	75.36	725.83	171.46	190.75	181.64	64.42	-5.95	0.426
105.00	-6.95	-6.59	0.00	-58.7	0.00	58.73	725.83	171.46	190.75	181.64	67.56	-6.05	0.334
107.00	-4.73	-5.32	0.00	-45.5	0.00	45.54	725.83	171.46	190.75	181.64	70.12	-6.21	0.258
109.00	-4.53	-4.58	0.00	-34.9	0.00	34.90	725.83	171.46	190.75	181.64	72.74	-6.33	0.199
110.00	-4.49	-4.55	0.00	-30.3	0.00	30.32	725.83	171.46	190.75	181.64	74.07	-6.38	0.174
111.30	-4.09	-4.27	0.00	-24.4	0.00	24.40	725.83	171.46	190.75	181.64	75.81	-6.43	0.141
115.00	-3.80	-3.96	0.00	-8.6	0.00	8.59	725.83	171.46	190.75	181.64	80.83	-6.53	0.053
117.00	-0.25	-0.28	0.00	-0.6	0.00	0.56	725.83	171.46	190.75	181.64	83.56	-6.54	0.003
119.00	0.00	-0.25	0.00	0.0	0.00	0.00	725.83	171.46	190.75	181.64	86.3	-6.54	0.000

CALCULATED FORCES

Load Case: 1.2D + 1.0Di + 1.0Wi — 48.73 mph Wind with 0.85" Radial Ice — 27 Iterations

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

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	-50.27	-4.47	0.00	-421.0	0.00	421.04	2,813.31	725.65	2,732.26	2,413.98	0	0	0.192
5.00	-49.01	-4.43	0.00	-398.7	0.00	398.68	2,747.79	699.53	2,539.19	2,272.29	0.03	-0.06	0.193
10.00	-47.75	-4.40	0.00	-376.5	0.00	376.51	2,679.61	673.42	2,353.20	2,132.56	0.14	-0.13	0.194
15.00	-46.52	-4.37	0.00	-354.5	0.00	354.51	2,608.76	647.31	2,174.28	1,995.03	0.31	-0.2	0.196
20.00	-45.31	-4.34	0.00	-332.7	0.00	332.68	2,535.24	621.20	2,002.44	1,859.96	0.57	-0.28	0.197
25.00	-44.14	-4.32	0.00	-311.0	0.00	310.98	2,459.06	595.09	1,837.67	1,727.58	0.9	-0.36	0.198
30.00	-43.00	-4.29	0.00	-289.4	0.00	289.40	2,380.22	568.98	1,679.97	1,598.16	1.33	-0.45	0.199
35.00	-41.89	-4.27	0.00	-267.9	0.00	267.93	2,298.17	542.87	1,529.34	1,471.58	1.84	-0.54	0.200
40.00	-40.82	-4.25	0.00	-246.6	0.00	246.56	2,187.63	516.76	1,385.79	1,332.77	2.45	-0.63	0.204
44.88	-39.81	-4.23	0.00	-225.8	0.00	225.81	2,079.75	491.28	1,252.50	1,203.91	3.15	-0.73	0.207
45.00	-39.77	-4.22	0.00	-225.3	0.00	225.30	2,077.10	490.65	1,249.31	1,200.82	3.17	-0.73	0.122
48.33	-38.85	-4.18	0.00	-211.2	0.00	211.24	2,003.41	473.25	1,162.25	1,116.68	3.7	-0.78	0.121
50.00	-38.26	-4.16	0.00	-204.3	0.00	204.27	1,966.57	464.54	1,119.91	1,075.76	3.98	-0.8	0.119
52.50	-37.39	-4.12	0.00	-193.9	0.00	193.87	1,293.31	322.59	771.23	704.07	4.4	-0.83	0.147
55.00	-36.80	-4.09	0.00	-183.6	0.00	183.56	1,268.09	313.45	728.15	670.62	4.85	-0.87	0.144
60.00	-35.63	-4.03	0.00	-163.1	0.00	163.12	1,215.65	295.17	645.70	605.07	5.8	-0.95	0.137
65.00	-34.49	-3.97	0.00	-143.0	0.00	142.96	1,160.55	276.89	568.21	541.55	6.84	-1.03	0.130
70.00	-33.38	-3.91	0.00	-123.1	0.00	123.10	1,094.76	258.60	495.66	476.80	7.95	-1.11	0.122
75.00	-32.30	-3.84	0.00	-103.6	0.00	103.56	1,017.37	240.32	428.07	411.45	9.16	-1.19	0.114
80.00	-31.27	-3.78	0.00	-84.3	0.00	84.34	939.98	222.04	365.43	350.92	10.44	-1.27	0.105
82.00	-30.88	-3.75	0.00	-76.8	0.00	76.79	909.02	214.73	341.76	328.05	10.98	-1.3	0.100
82.00	-30.88	-3.75	0.00	-76.8	0.00	76.79	513.62	182.48	283.19	243.01	10.98	-1.3	0.126
85.00	-30.33	-3.71	0.00	-65.5	0.00	65.54	492.88	173.18	255.05	219.76	11.81	-1.35	0.116
87.00	-22.53	-2.82	0.00	-58.1	0.00	58.12	479.05	166.97	237.11	204.91	12.39	-1.38	0.103
89.92	-22.02	-2.78	0.00	-49.9	0.00	49.88	458.86	157.92	212.09	184.16	13.24	-1.42	0.095
90.00	-22.00	-2.78	0.00	-49.7	0.00	49.66	458.30	157.67	211.42	183.61	13.27	-1.42	0.065
90.13	-21.97	-2.76	0.00	-49.3	0.00	49.30	457.40	157.27	210.34	182.71	13.31	-1.42	0.065
90.13	-21.97	-2.76	0.00	-49.3	0.00	49.30	457.40	157.27	210.34	182.71	13.31	-1.42	0.125
95.00	-21.25	-2.68	0.00	-35.9	0.00	35.86	423.70	142.16	171.88	150.69	14.78	-1.47	0.106
97.00	-15.86	-2.01	0.00	-30.5	0.00	30.49	409.85	135.96	157.21	138.43	15.41	-1.5	0.092
99.00	-15.60	-1.98	0.00	-26.5	0.00	26.47	725.83	171.46	190.75	181.64	16.04	-1.54	0.068
99.00	-15.60	-1.98	0.00	-26.5	0.00	26.47	395.99	129.76	143.19	126.68	16.04	-1.54	0.085
100.00	-15.46	-1.96	0.00	-24.5	0.00	24.49	725.83	171.46	190.75	181.64	16.37	-1.56	0.063
101.20	-14.62	-1.85	0.00	-22.1	0.00	22.14	725.83	171.46	190.75	181.64	16.76	-1.57	0.058
101.30	-14.04	-1.80	0.00	-22.0	0.00	21.95	725.83	171.46	190.75	181.64	16.8	-1.57	0.057
102.50	-13.89	-1.78	0.00	-19.8	0.00	19.79	725.83	171.46	190.75	181.64	17.19	-1.59	0.052
102.50	-13.89	-1.78	0.00	-19.8	0.00	19.79	725.83	171.46	190.75	181.64	17.19	-1.59	0.128
105.00	-13.71	-1.76	0.00	-15.3	0.00	15.34	725.83	171.46	190.75	181.64	18.03	-1.61	0.103
107.00	-9.91	-1.37	0.00	-11.8	0.00	11.82	725.83	171.46	190.75	181.64	18.72	-1.66	0.079
109.00	-9.17	-1.20	0.00	-9.1	0.00	9.08	725.83	171.46	190.75	181.64	19.42	-1.69	0.063
110.00	-9.11	-1.19	0.00	-7.9	0.00	7.88	725.83	171.46	190.75	181.64	19.77	-1.7	0.056
111.30	-8.37	-1.11	0.00	-6.3	0.00	6.33	725.83	171.46	190.75	181.64	20.24	-1.71	0.046
115.00	-7.77	-1.02	0.00	-2.2	0.00	2.22	725.83	171.46	190.75	181.64	21.58	-1.74	0.023
117.00	-0.53	-0.07	0.00	-0.1	0.00	0.14	725.83	171.46	190.75	181.64	22.31	-1.74	0.002
119.00	0.00	-0.06	0.00	0.0	0.00	0.00	725.83	171.46	190.75	181.64	23.04	-1.74	0.000

CALCULATED FORCES

Load Case: 1.0D + 1.0W 60 mph Wind with No Ice 26 Iterations

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

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	-31.36	-4.29	0.00	-390.7	0.00	390.71	2,813.31	725.65	2,732.26	2,413.98	0	0	0.173
5.00	-30.50	-4.25	0.00	-369.2	0.00	369.25	2,747.79	699.53	2,539.19	2,272.29	0.03	-0.06	0.174
10.00	-29.66	-4.21	0.00	-348.0	0.00	348.01	2,679.61	673.42	2,353.20	2,132.56	0.13	-0.12	0.174
15.00	-28.85	-4.16	0.00	-327.0	0.00	326.99	2,608.76	647.31	2,174.28	1,995.03	0.29	-0.19	0.175
20.00	-28.07	-4.12	0.00	-306.2	0.00	306.18	2,535.24	621.20	2,002.44	1,859.96	0.53	-0.26	0.176
25.00	-27.31	-4.08	0.00	-285.6	0.00	285.58	2,459.06	595.09	1,837.67	1,727.58	0.84	-0.33	0.176
30.00	-26.57	-4.03	0.00	-265.2	0.00	265.19	2,380.22	568.98	1,679.97	1,598.16	1.23	-0.41	0.177
35.00	-25.86	-3.99	0.00	-245.0	0.00	245.03	2,298.17	542.87	1,529.34	1,471.58	1.7	-0.49	0.178
40.00	-25.18	-3.94	0.00	-225.1	0.00	225.09	2,187.63	516.76	1,385.79	1,332.77	2.26	-0.58	0.180
44.88	-24.54	-3.90	0.00	-205.9	0.00	205.88	2,079.75	491.28	1,252.50	1,203.91	2.91	-0.67	0.183
45.00	-24.52	-3.88	0.00	-205.4	0.00	205.41	2,077.10	490.65	1,249.31	1,200.82	2.92	-0.68	0.107
48.33	-23.89	-3.84	0.00	-192.5	0.00	192.48	2,003.41	473.25	1,162.25	1,116.68	3.41	-0.71	0.106
50.00	-23.47	-3.80	0.00	-186.1	0.00	186.09	1,966.57	464.54	1,119.91	1,075.76	3.66	-0.73	0.105
52.50	-22.85	-3.76	0.00	-176.6	0.00	176.58	1,293.31	322.59	771.23	704.07	4.05	-0.77	0.130
55.00	-22.46	-3.71	0.00	-167.2	0.00	167.18	1,268.09	313.45	728.15	670.62	4.46	-0.8	0.127
60.00	-21.69	-3.64	0.00	-148.6	0.00	148.62	1,215.65	295.17	645.70	605.07	5.34	-0.87	0.121
65.00	-20.94	-3.58	0.00	-130.4	0.00	130.41	1,160.55	276.89	568.21	541.55	6.29	-0.94	0.114
70.00	-20.20	-3.52	0.00	-112.5	0.00	112.50	1,094.76	258.60	495.66	476.80	7.31	-1.01	0.107
75.00	-19.49	-3.47	0.00	-94.9	0.00	94.87	1,017.37	240.32	428.07	411.45	8.41	-1.09	0.100
80.00	-18.81	-3.43	0.00	-77.5	0.00	77.52	939.98	222.04	365.43	350.92	9.59	-1.16	0.092
82.00	-18.55	-3.41	0.00	-70.7	0.00	70.66	909.02	214.73	341.76	328.05	10.09	-1.19	0.088
82.00	-18.55	-3.41	0.00	-70.7	0.00	70.66	513.62	182.48	283.19	243.01	10.09	-1.19	0.109
85.00	-18.20	-3.39	0.00	-60.4	0.00	60.43	492.88	173.18	255.05	219.76	10.85	-1.23	0.100
87.00	-13.93	-2.57	0.00	-53.7	0.00	53.66	479.05	166.97	237.11	204.91	11.37	-1.26	0.090
89.92	-13.60	-2.55	0.00	-46.2	0.00	46.16	458.86	157.92	212.09	184.16	12.16	-1.3	0.083
90.00	-13.59	-2.55	0.00	-46.0	0.00	45.95	458.30	157.67	211.42	183.61	12.18	-1.3	0.057
90.13	-13.57	-2.52	0.00	-45.6	0.00	45.62	457.40	157.27	210.34	182.71	12.21	-1.31	0.057
90.13	-13.57	-2.52	0.00	-45.6	0.00	45.62	457.40	157.27	210.34	182.71	12.21	-1.31	0.109
95.00	-13.13	-2.47	0.00	-33.3	0.00	33.33	423.70	142.16	171.88	150.69	13.57	-1.35	0.092
97.00	-9.77	-1.84	0.00	-28.4	0.00	28.39	409.85	135.96	157.21	138.43	14.14	-1.38	0.080
99.00	-9.60	-1.82	0.00	-24.7	0.00	24.72	725.83	171.46	190.75	181.64	14.73	-1.41	0.060
99.00	-9.60	-1.82	0.00	-24.7	0.00	24.72	395.99	129.76	143.19	126.68	14.73	-1.41	0.074
100.00	-9.51	-1.81	0.00	-22.9	0.00	22.90	725.83	171.46	190.75	181.64	15.03	-1.43	0.056
101.20	-9.01	-1.70	0.00	-20.7	0.00	20.73	725.83	171.46	190.75	181.64	15.39	-1.44	0.051
101.30	-8.64	-1.66	0.00	-20.6	0.00	20.56	725.83	171.46	190.75	181.64	15.42	-1.44	0.050
102.50	-8.54	-1.64	0.00	-18.6	0.00	18.57	725.83	171.46	190.75	181.64	15.78	-1.46	0.046
102.50	-8.54	-1.64	0.00	-18.6	0.00	18.57	725.83	171.46	190.75	181.64	15.78	-1.46	0.114
105.00	-8.42	-1.63	0.00	-14.5	0.00	14.46	725.83	171.46	190.75	181.64	16.55	-1.48	0.091
107.00	-5.84	-1.31	0.00	-11.2	0.00	11.21	725.83	171.46	190.75	181.64	17.18	-1.52	0.070
109.00	-5.54	-1.13	0.00	-8.6	0.00	8.59	725.83	171.46	190.75	181.64	17.83	-1.55	0.055
110.00	-5.49	-1.12	0.00	-7.5	0.00	7.46	725.83	171.46	190.75	181.64	18.15	-1.57	0.049
111.30	-5.02	-1.05	0.00	-6.0	0.00	6.00	725.83	171.46	190.75	181.64	18.58	-1.58	0.040
115.00	-4.67	-0.97	0.00	-2.1	0.00	2.11	725.83	171.46	190.75	181.64	19.82	-1.6	0.018
117.00	-0.31	-0.07	0.00	-0.1	0.00	0.14	725.83	171.46	190.75	181.64	20.49	-1.6	0.001
119.00	0.00	-0.06	0.00	0.0	0.00	0.00	725.83	171.46	190.75	181.64	21.16	-1.6	0.000

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

(Based on ASCE7-16 Chapters 11, 12 and 15)

Spectral Response Acceleration for Short Period (S_S):	0.207
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.054
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.000
Site Coefficient F_a:	1.600
Site Coefficient F_v:	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.221
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.086
Seismic Response Coefficient (C_s):	0.030
Upper Limit C_S:	0.030
Lower Limit C_S:	0.030
Period based on Rayleigh Method (sec):	2.990
Redundancy Factor (p):	1.000
Seismic Force Distribution Exponent (k):	2.000
Total Unfactored Dead Load:	31.360 k
Seismic Base Shear (E):	0.940 k

SEISMIC FORCES

1.2D + 1.0Ev + 1.0Eh **Seismic**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
40	118	67	928	0.004	4	83
39	116	85	1,146	0.005	5	106
38	113.15	158	2,017	0.009	9	196
37	110.65	55	678	0.003	3	69
36	109.5	43	511	0.002	2	53
35	108	91	1,057	0.005	4	113
34	106	91	1,018	0.005	4	113
33	103.75	113	1,219	0.006	5	141
32	101.9	103	1,073	0.005	5	129
31	101.25	9	88	0.000	0	11
30	100.6	108	1,096	0.005	5	135
29	99.5	91	901	0.004	4	113
28	98	167	1,605	0.007	7	208
27	96	177	1,629	0.007	7	220
26	92.565	441	3,775	0.017	16	548
25	90.065	20	162	0.001	1	25
24	89.96	12	99	0.000	0	15
23	88.46	331	2,590	0.012	11	412
22	86	235	1,737	0.008	7	292
21	83.5	357	2,488	0.011	10	444
20	81	254	1,664	0.008	7	316
19	77.5	676	4,060	0.018	17	841
18	72.5	713	3,750	0.017	16	888
17	67.5	731	3,331	0.015	14	910
16	62.5	749	2,925	0.013	12	932
15	57.5	767	2,534	0.011	11	954
14	53.75	390	1,126	0.005	5	485
13	51.25	616	1,619	0.007	7	767
12	49.1667	417	1,008	0.004	4	519
11	46.6667	626	1,363	0.006	6	779
10	44.94	23	46	0.000	0	28
9	42.44	638	1,149	0.005	5	794
8	37.5	679	955	0.004	4	845
7	32.5	704	744	0.003	3	876
6	27.5	730	552	0.002	2	908
5	22.5	755	382	0.002	2	939
4	17.5	780	239	0.001	1	971
3	12.5	805	126	0.001	1	1,002

SEISMIC FORCES

1.2D + 1.0Ev + 1.0Eh **Seismic**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
2	7.5	831	47	0.000	0	1,034
1	2.5	856	5	0.000	0	1,065
Ericsson Air 6449 B77D	119	245	3,467	0.016	15	305
Commscope WCS-IMFQ-AMT	117	30	404	0.002	2	37
Ericsson RRUS 4426 B66	117	145	1,988	0.009	8	181
Ericsson RRUS 4478 B14	117	180	2,460	0.011	10	224
Ericsson RRUS 4449 B5, B12	117	213	2,916	0.013	12	265
Ericsson RRUS 32 B2	117	159	2,177	0.010	9	198
Ericsson RRUS E2 B29	117	180	2,464	0.011	10	224
Ericsson RRUS-32 B30 (77 lbs)	117	231	3,162	0.014	13	287
Raycap DC9-48-60-24-8C-EV	117	32	438	0.002	2	40
CCI DMP65R-BU6DA	117	238	3,261	0.015	14	296
Quintel QD6616-7	117	390	5,339	0.024	23	485
Generic Round Platform with Handrails	117	2,500	34,222	0.153	144	3,110
Generic Round Platform with Handrails	107	2,500	28,622	0.128	121	3,110
Generic Round Platform with Handrails	97	2,500	23,522	0.105	99	3,110
Ericsson AIR 6419 B77G	115	198	2,623	0.012	11	247
Fujitsu TA08025-B605	111.3	225	2,787	0.012	12	280
Fujitsu TA08025-B604	111.3	192	2,375	0.011	10	239
Raycap RDIDC-9181-PF-48	109	22	260	0.001	1	27
JMA Wireless MX08FRO665-21	109	194	2,299	0.010	10	241
Ericsson Radio 4449 B71 B85A	101.3	225	2,309	0.010	10	280
Ericsson RRUS 4415 B25	101.3	138	1,416	0.006	6	172
Ericsson AIR32 B66Aa/B2a	101.2	397	4,062	0.018	17	493
Ericsson Air6449 B41	97	312	2,936	0.013	12	388
RFS APXVAARR24_43-U-NA20	97	384	3,610	0.016	15	477
Samsung B2/B66A RRH ORAN (RF 4439d-25A)	87	299	2,262	0.010	10	372
Samsung RF4461d-13A	87	316	2,395	0.011	10	394
Samsung MT6413-77A	87	229	1,735	0.008	7	285
Raycap RCMDC-6627-PF-48	87	32	242	0.001	1	40
JMA Wireless MX06FHG665-HG	87	82	621	0.003	3	102
JMA Wireless MX06FHG865-HG	87	102	772	0.004	3	127
JMA Wireless MX12FRO645-01	87	110	833	0.004	4	137
Site Pro 1 VFA10-HD	87	2,872	21,738	0.097	92	3,573
	Totals:	**31,362**	**223,157**	**1.000**	**941**	**39,019**

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh **Seismic (Reduced DL)**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
40	118	67	928	0.004	4	57
39	116	85	1,146	0.005	5	73
38	113.15	158	2,017	0.009	9	135
37	110.65	55	678	0.003	3	47
36	109.5	43	511	0.002	2	36
35	108	91	1,057	0.005	4	78
34	106	91	1,018	0.005	4	78
33	103.75	113	1,219	0.006	5	97
32	101.9	103	1,073	0.005	5	88
31	101.25	9	88	0.000	0	7
30	100.6	108	1,096	0.005	5	93
29	99.5	91	901	0.004	4	78
28	98	167	1,605	0.007	7	143
27	96	177	1,629	0.007	7	151
26	92.565	441	3,775	0.017	16	377
25	90.065	20	162	0.001	1	17
24	89.96	12	99	0.000	0	10
23	88.46	331	2,590	0.012	11	283
22	86	235	1,737	0.008	7	201
21	83.5	357	2,488	0.011	10	305
20	81	254	1,664	0.008	7	217

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh **Seismic (Reduced DL)**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
19	77.5	676	4,060	0.018	17	579
18	72.5	713	3,750	0.017	16	611
17	67.5	731	3,331	0.015	14	626
16	62.5	749	2,925	0.013	12	641
15	57.5	767	2,534	0.011	11	656
14	53.75	390	1,126	0.005	5	334
13	51.25	616	1,619	0.007	7	527
12	49.1667	417	1,008	0.004	4	357
11	46.6667	626	1,363	0.006	6	536
10	44.94	23	46	0.000	0	19
9	42.44	638	1,149	0.005	5	546
8	37.5	679	955	0.004	4	581
7	32.5	704	744	0.003	3	603
6	27.5	730	552	0.002	2	624
5	22.5	755	382	0.002	2	646
4	17.5	780	239	0.001	1	668
3	12.5	805	126	0.001	1	689
2	7.5	831	47	0.000	0	711
1	2.5	856	5	0.000	0	733
Ericsson Air 6449 B77D	119	245	3,467	0.016	15	210
Commscope WCS-IMFQ-AMT	117	30	404	0.002	2	25
Ericsson RRUS 4426 B66	117	145	1,988	0.009	8	124
Ericsson RRUS 4478 B14	117	180	2,460	0.011	10	154
Ericsson RRUS 4449 B5, B12	117	213	2,916	0.013	12	182
Ericsson RRUS 32 B2	117	159	2,177	0.010	9	136
Ericsson RRUS E2 B29	117	180	2,464	0.011	10	154
Ericsson RRUS-32 B30 (77 lbs)	117	231	3,162	0.014	13	198
Raycap DC9-48-60-24-8C-EV	117	32	438	0.002	2	27
CCI DMP65R-BU6DA	117	238	3,261	0.015	14	204
Quintel QD6616-7	117	390	5,339	0.024	23	334
Generic Round Platform with Handrails	117	2,500	34,222	0.153	144	2,140
Generic Round Platform with Handrails	107	2,500	28,622	0.128	121	2,140
Generic Round Platform with Handrails	97	2,500	23,522	0.105	99	2,140
Ericsson AIR 6419 B77G	115	198	2,623	0.012	11	170
Fujitsu TA08025-B605	111.3	225	2,787	0.012	12	193
Fujitsu TA08025-B604	111.3	192	2,375	0.011	10	164
Raycap RDIDC-9181-PF-48	109	22	260	0.001	1	19
JMA Wireless MX08FRO665-21	109	194	2,299	0.010	10	166
Ericsson Radio 4449 B71 B85A	101.3	225	2,309	0.010	10	193
Ericsson RRUS 4415 B25	101.3	138	1,416	0.006	6	118
Ericsson AIR32 B66Aa/B2a	101.2	397	4,062	0.018	17	339
Ericsson Air6449 B41	97	312	2,936	0.013	12	267
RFS APXVAARR24_43-U-NA20	97	384	3,610	0.016	15	328
Samsung B2/B66A RRH ORAN (RF 4439d-25A)	87	299	2,262	0.010	10	256
Samsung RF4461d-13A	87	316	2,395	0.011	10	271
Samsung MT6413-77A	87	229	1,735	0.008	7	196
Raycap RCMDC-6627-PF-48	87	32	242	0.001	1	27
JMA Wireless MX06FHG665-HG	87	82	621	0.003	3	70
JMA Wireless MX06FHG865-HG	87	102	772	0.004	3	87
JMA Wireless MX12FRO645-01	87	110	833	0.004	4	94
Site Pro 1 VFA10-HD	87	2,872	21,738	0.097	92	2,458
	Totals:	**31,362**	**223,157**	**1.000**	**941**	**26,841**

1.2D + 1.0Ev + 1.0Eh **Seismic**

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-37.95	-0.95	0.00	-102.16	0.00	102.16	2,813.31	725.65	2,732	2,413.98	0.00	0.00	0.06
5.00	-36.92	-0.96	0.00	-97.43	0.00	97.43	2,747.79	699.53	2,539	2,272.29	0.01	-0.02	0.06

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
10.00	-35.92	-0.97	0.00	-92.66	0.00	92.66	2,679.61	673.42	2,353	2,132.56	0.03	-0.03	0.06
15.00	-34.95	-0.97	0.00	-87.83	0.00	87.83	2,608.76	647.31	2,174	1,995.03	0.08	-0.05	0.06
20.00	-34.01	-0.98	0.00	-82.96	0.00	82.96	2,535.24	621.20	2,002	1,859.96	0.14	-0.07	0.06
25.00	-33.10	-0.99	0.00	-78.04	0.00	78.04	2,459.06	595.09	1,838	1,727.58	0.22	-0.09	0.06
30.00	-32.22	-1.00	0.00	-73.08	0.00	73.08	2,380.22	568.98	1,680	1,598.16	0.33	-0.11	0.06
35.00	-31.38	-1.01	0.00	-68.08	0.00	68.08	2,298.17	542.87	1,529	1,471.58	0.45	-0.13	0.06
40.00	-30.58	-1.01	0.00	-63.04	0.00	63.04	2,187.63	516.76	1,386	1,332.77	0.61	-0.16	0.06
44.88	-30.55	-1.02	0.00	-58.10	0.00	58.10	2,079.75	491.28	1,252	1,203.91	0.78	-0.18	0.06
45.00	-29.78	-1.02	0.00	-57.98	0.00	57.98	2,077.10	490.65	1,249	1,200.82	0.79	-0.18	0.04
48.33	-29.26	-1.01	0.00	-54.59	0.00	54.59	2,003.41	473.25	1,162	1,116.68	0.92	-0.20	0.04
50.00	-28.49	-1.01	0.00	-52.90	0.00	52.90	1,966.57	464.54	1,120	1,075.76	0.99	-0.20	0.04
52.50	-28.01	-1.01	0.00	-50.38	0.00	50.38	1,293.31	322.59	771	704.07	1.10	-0.21	0.05
55.00	-27.05	-1.00	0.00	-47.87	0.00	47.87	1,268.09	313.45	728	670.62	1.21	-0.22	0.04
60.00	-26.12	-0.99	0.00	-42.88	0.00	42.88	1,215.65	295.17	646	605.07	1.45	-0.24	0.04
65.00	-25.21	-0.98	0.00	-37.92	0.00	37.92	1,160.55	276.89	568	541.55	1.71	-0.26	0.04
70.00	-24.32	-0.97	0.00	-33.00	0.00	33.00	1,094.76	258.60	496	476.80	1.99	-0.28	0.04
75.00	-23.48	-0.96	0.00	-28.14	0.00	28.14	1,017.37	240.32	428	411.45	2.30	-0.30	0.04
80.00	-23.16	-0.96	0.00	-23.34	0.00	23.34	939.98	222.04	365	350.92	2.63	-0.33	0.04
82.00	-22.72	-0.95	0.00	-21.43	0.00	21.43	909.02	214.73	342	328.05	2.77	-0.33	0.03
82.00	-22.72	-0.95	0.00	-21.43	0.00	21.43	513.62	182.48	283	243.01	2.77	-0.33	0.05
85.00	-22.43	-0.94	0.00	-18.58	0.00	18.58	492.88	173.18	255	219.76	2.98	-0.35	0.04
87.00	-16.99	-0.77	0.00	-16.70	0.00	16.70	479.05	166.97	237	204.91	3.13	-0.36	0.04
89.92	-16.97	-0.78	0.00	-14.44	0.00	14.44	458.86	157.92	212	184.16	3.35	-0.37	0.04
90.00	-16.95	-0.77	0.00	-14.37	0.00	14.37	458.30	157.67	211	183.61	3.36	-0.37	0.02
90.13	-16.40	-0.76	0.00	-14.27	0.00	14.27	457.40	157.27	210	182.71	3.37	-0.37	0.02
90.13	-16.40	-0.76	0.00	-14.27	0.00	14.27	457.40	157.27	210	182.71	3.37	-0.37	0.05
95.00	-16.18	-0.75	0.00	-10.59	0.00	10.59	423.70	142.16	172	150.69	3.76	-0.38	0.04
97.00	-12.00	-0.59	0.00	-9.08	0.00	9.08	409.85	135.96	157	138.43	3.92	-0.39	0.03
99.00	-11.88	-0.59	0.00	-7.90	0.00	7.90	395.99	129.76	143	126.68	4.09	-0.40	0.03
99.00	-11.88	-0.59	0.00	-7.90	0.00	7.90	725.83	171.46	191	181.64	4.09	-0.40	0.03
100.00	-11.75	-0.58	0.00	-7.31	0.00	7.31	725.83	171.46	191	181.64	4.17	-0.41	0.02
101.20	-11.24	-0.56	0.00	-6.61	0.00	6.61	725.83	171.46	191	181.64	4.27	-0.41	0.02
101.30	-10.66	-0.54	0.00	-6.55	0.00	6.55	725.83	171.46	191	181.64	4.28	-0.41	0.02
102.50	-10.52	-0.54	0.00	-5.90	0.00	5.90	725.83	171.46	191	181.64	4.39	-0.42	0.02
102.50	-10.52	-0.54	0.00	-5.90	0.00	5.90	725.83	171.46	191	181.64	4.39	-0.42	0.05
105.00	-10.41	-0.53	0.00	-4.56	0.00	4.56	725.83	171.46	191	181.64	4.61	-0.43	0.04
107.00	-7.19	-0.38	0.00	-3.50	0.00	3.50	725.83	171.46	191	181.64	4.79	-0.44	0.03
109.00	-6.87	-0.37	0.00	-2.73	0.00	2.73	725.83	171.46	191	181.64	4.98	-0.45	0.03
110.00	-6.80	-0.37	0.00	-2.36	0.00	2.36	725.83	171.46	191	181.64	5.07	-0.45	0.02
111.30	-6.08	-0.33	0.00	-1.89	0.00	1.89	725.83	171.46	191	181.64	5.19	-0.46	0.02
115.00	-5.73	-0.31	0.00	-0.66	0.00	0.66	725.83	171.46	191	181.64	5.55	-0.46	0.01
117.00	-0.30	-0.02	0.00	-0.03	0.00	0.03	725.83	171.46	191	181.64	5.74	-0.46	0.00
119.00	0.00	-0.01	0.00	0.00	0.00	0.00	725.83	171.46	191	181.64	5.94	-0.46	0.00

0.9D - 1.0Ev + 1.0Eh **Seismic (Reduced DL)**

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-26.11	-0.94	0.00	-98.86	0.00	98.86	2,813.31	725.65	2,732	2,413.98	0.00	0.00	0.05
5.00	-25.40	-0.95	0.00	-94.14	0.00	94.14	2,747.79	699.53	2,539	2,272.29	0.01	-0.02	0.05
10.00	-24.71	-0.96	0.00	-89.40	0.00	89.40	2,679.61	673.42	2,353	2,132.56	0.03	-0.03	0.05
15.00	-24.04	-0.96	0.00	-84.62	0.00	84.62	2,608.76	647.31	2,174	1,995.03	0.07	-0.05	0.05
20.00	-23.39	-0.97	0.00	-79.81	0.00	79.81	2,535.24	621.20	2,002	1,859.96	0.13	-0.07	0.05
25.00	-22.77	-0.97	0.00	-74.97	0.00	74.97	2,459.06	595.09	1,838	1,727.58	0.21	-0.09	0.05
30.00	-22.17	-0.98	0.00	-70.12	0.00	70.12	2,380.22	568.98	1,680	1,598.16	0.32	-0.11	0.05
35.00	-21.58	-0.98	0.00	-65.24	0.00	65.24	2,298.17	542.87	1,529	1,471.58	0.44	-0.13	0.05
40.00	-21.04	-0.98	0.00	-60.34	0.00	60.34	2,187.63	516.76	1,386	1,332.77	0.59	-0.15	0.06
44.88	-21.02	-0.99	0.00	-55.55	0.00	55.55	2,079.75	491.28	1,252	1,203.91	0.75	-0.18	0.06
45.00	-20.48	-0.98	0.00	-55.43	0.00	55.43	2,077.10	490.65	1,249	1,200.82	0.76	-0.18	0.03

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
48.33	-20.12	-0.98	0.00	-52.16	0.00	52.16	2,003.41	473.25	1,162	1,116.68	0.89	-0.19	0.03
50.00	-19.60	-0.97	0.00	-50.53	0.00	50.53	1,966.57	464.54	1,120	1,075.76	0.95	-0.19	0.03
52.50	-19.26	-0.97	0.00	-48.10	0.00	48.10	1,293.31	322.59	771	704.07	1.05	-0.20	0.04
55.00	-18.61	-0.96	0.00	-45.68	0.00	45.68	1,268.09	313.45	728	670.62	1.16	-0.21	0.04
60.00	-17.97	-0.95	0.00	-40.87	0.00	40.87	1,215.65	295.17	646	605.07	1.39	-0.23	0.04
65.00	-17.34	-0.94	0.00	-36.11	0.00	36.11	1,160.55	276.89	568	541.55	1.64	-0.25	0.04
70.00	-16.73	-0.93	0.00	-31.40	0.00	31.40	1,094.76	258.60	496	476.80	1.92	-0.27	0.04
75.00	-16.15	-0.92	0.00	-26.76	0.00	26.76	1,017.37	240.32	428	411.45	2.21	-0.29	0.03
80.00	-15.93	-0.91	0.00	-22.18	0.00	22.18	939.98	222.04	365	350.92	2.53	-0.31	0.03
82.00	-15.63	-0.90	0.00	-20.36	0.00	20.36	909.02	214.73	342	328.05	2.66	-0.32	0.03
82.00	-15.63	-0.90	0.00	-20.36	0.00	20.36	513.62	182.48	283	243.01	2.66	-0.32	0.04
85.00	-15.43	-0.90	0.00	-17.65	0.00	17.65	492.88	173.18	255	219.76	2.86	-0.33	0.04
87.00	-11.68	-0.74	0.00	-15.86	0.00	15.86	479.05	166.97	237	204.91	3.01	-0.34	0.03
89.92	-11.67	-0.74	0.00	-13.71	0.00	13.71	458.86	157.92	212	184.16	3.22	-0.35	0.03
90.00	-11.66	-0.74	0.00	-13.65	0.00	13.65	458.30	157.67	211	183.61	3.22	-0.35	0.02
90.13	-11.28	-0.72	0.00	-13.56	0.00	13.56	457.40	157.27	210	182.71	3.23	-0.35	0.02
90.13	-11.28	-0.72	0.00	-13.56	0.00	13.56	457.40	157.27	210	182.71	3.23	-0.35	0.04
95.00	-11.13	-0.71	0.00	-10.05	0.00	10.05	423.70	142.16	172	150.69	3.60	-0.37	0.04
97.00	-8.25	-0.56	0.00	-8.62	0.00	8.62	409.85	135.96	157	138.43	3.76	-0.38	0.03
99.00	-8.17	-0.56	0.00	-7.50	0.00	7.50	395.99	129.76	143	126.68	3.92	-0.39	0.03
99.00	-8.17	-0.56	0.00	-7.50	0.00	7.50	725.83	171.46	191	181.64	3.92	-0.39	0.02
100.00	-8.08	-0.56	0.00	-6.94	0.00	6.94	725.83	171.46	191	181.64	4.00	-0.39	0.02
101.20	-7.73	-0.54	0.00	-6.27	0.00	6.27	725.83	171.46	191	181.64	4.10	-0.40	0.02
101.30	-7.34	-0.51	0.00	-6.22	0.00	6.22	725.83	171.46	191	181.64	4.11	-0.40	0.02
102.50	-7.24	-0.51	0.00	-5.60	0.00	5.60	725.83	171.46	191	181.64	4.21	-0.40	0.02
102.50	-7.24	-0.51	0.00	-5.60	0.00	5.60	725.83	171.46	191	181.64	4.21	-0.40	0.04
105.00	-7.16	-0.50	0.00	-4.33	0.00	4.33	725.83	171.46	191	181.64	4.42	-0.41	0.03
107.00	-4.94	-0.36	0.00	-3.32	0.00	3.32	725.83	171.46	191	181.64	4.59	-0.42	0.03
109.00	-4.72	-0.35	0.00	-2.59	0.00	2.59	725.83	171.46	191	181.64	4.77	-0.43	0.02
110.00	-4.68	-0.35	0.00	-2.24	0.00	2.24	725.83	171.46	191	181.64	4.86	-0.43	0.02
111.30	-4.18	-0.31	0.00	-1.79	0.00	1.79	725.83	171.46	191	181.64	4.98	-0.44	0.02
115.00	-3.94	-0.30	0.00	-0.63	0.00	0.63	725.83	171.46	191	181.64	5.32	-0.44	0.01
117.00	-0.21	-0.02	0.00	-0.03	0.00	0.03	725.83	171.46	191	181.64	5.50	-0.44	0.00
119.00	0.00	-0.01	0.00	0.00	0.00	0.00	725.83	171.46	191	181.64	5.69	-0.44	0.00

ANALYSIS SUMMARY

Load Case	Base Reactions Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Max Usage Elev (ft)	Interaction Ratio
1.2D + 1.0W	17.83	0.00	37.59	0.00	0.00	1642.56	44.88	0.74
0.9D + 1.0W	17.81	0.00	28.19	0.00	0.00	1603.62	44.88	0.71
1.2D + 1.0Di + 1.0Wi	4.47	0.00	50.27	0.00	0.00	421.04	44.88	0.21
1.2D + 1.0Ev + 1.0Eh	1.02	0.00	37.95	0.00	0.00	102.16	44.88	0.06
0.9D - 1.0Ev + 1.0Eh	0.99	0.00	26.11	0.00	0.00	98.86	44.88	0.06
1.0D + 1.0W	4.29	0.00	31.36	0.00	0.00	390.71	44.88	0.18

ADDITIONAL STEEL SUMMARY

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors VQ/I (k/in)	Shear Applied (kips)	phiVn (kips)	Ratio	Max Member Pu (kip)	phiPn (kip)	Ratio
44.88	90.13	PL PL 6" x 1"	702.4	8.4	25.3	0.3336	221.8	289.0	0.7675
89.92	102.50	PL PL 4" x 1"	583.2	7.0	38.3	0.1829	116.2	164.6	0.7058

Elev From (ft)	Elev To (ft)	Member	Upper Termination Connectors MQ/I (kips)	phiVn (kips)	Number Required	Number Actual	Ratio	Lower Termination Connectors MQ/I (kips)	phiVn (kip)	Number Required	Number Actual	Ratio
44.88	90.13	PL PL 6" x 1"	87.4263	25.27	4	8	0.4325	192.4031	25.27	8	12	0.6345
89.92	102.50	PL PL 4" x 1"	54.3753	38.27	2	6	0.2368	58.6985	38.27	2	6	0.2556

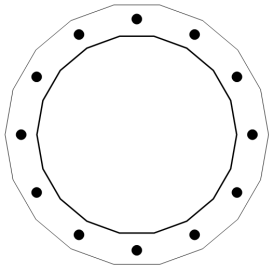
BASE PLATE ANALYSIS @ 0 FT

APPLIED REACTIONS

Moment (k-ft)	Axial (k)	Shear (k)
1642.56	37.59	17.83

PLATE PARAMETERS (ID# 28693)

Width:	55.15	in
Shape:	18	
Thickness:	2	in
Grade:	A572-50	
Yield Strength:	50	ksi
Tensile Strength:	65	ksi
Rod Detail Type:	d	
Clear Distance	3.5	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	15	°



ANCHOR ROD PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	F_y (ksi)	F_u (ksi)	Spacing (in)	Offset (°)
Original [ID#29452]	Radial	12	2.25	49.15	A615-75	75	100	-	-

COMPONENT PROPERTIES

Component	ID	Gross Area (in^2)	Net Area (in^2)	Individual Inertia (in^4)	Moment of Inertia (in^4)	Threads/in
Pole	42"ø x 0.3125" (18 Sides)	40.7191	-	-	8846.79	-
Bolt Group	Original (12) 2.25"ø	3.9761	3.2477	0.8393	10554.88	4.5

REACTION DISTRIBUTION

Component	ID	Moment M_u (k-ft)	Axial Load P_u (k)	Shear V_u (k)	Moment Factor
Pole	42"ø x 0.3125" (18 Sides)	1642.6	37.59	17.83	1.000
Bolt Group	Original (12) 2.25"ø	1642.6	-	17.83	1.000

BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES

Flat-to-Flat Diameter:	42.12	in	Flat Width:	7.428	in	Neutral Axis:	15	°
Point-to-Point Diameter:	42.78	in	Flat Radians:	0.349	rad	Bend Line Limits:	1.219 to 2.446	rad
Orientation Offset:	-	°						

PLATE PROPERTIES

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in^3)	Applied Moment M_u (k-in)	Moment Capacity ΦM_n (k-in)	Flexure Result $M_u/\Phi M_n$
Flats	31.400	0.00	31.400	392.4	1413.0	27.8%
Corners	30.508	0.00	30.508	301.8	1372.9	22.0%
Circumferential	41.015	0.00	41.015	522.8	1845.7	28.3%

PLASTIC ANCHOR ROD ANALYSIS

Class	Group Quantity	Rod Diameter (in)	Applied Axial Load P_u (k)	Applied Shear Load V_u (k)	Compressive Capacity ΦP_n (k)	Interaction Result
Original	12	2.25	116.0	2.2	243.6	49.4%

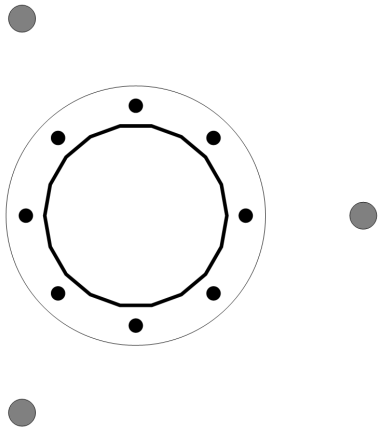
UPPER FLANGE PLATE ANALYSIS @ 99 FT

APPLIED REACTIONS

Moment (k-ft)	Axial (k)	Shear (k)
104.79	10.83	7.7

PLATE PARAMETERS (ID# 28694)

Width:	18	in
Shape:	Round	
Thickness:	1.25	in
Grade:	A572-50	
Yield Strength:	50	ksi
Tensile Strength:	65	ksi
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Elastic	
Neutral Axis:	30	°



FLANGE BOLT PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	F_y (ksi)	F_u (ksi)	Spacing (in)	Offset (°)
Original [ID#29451]	Radial	8	1	15.25	A490	130	150	-	-
Bypass [ID#29453]	Radial	3	1.875	31.56	A572-65	65	80	-	-

COMPONENT PROPERTIES

Component	ID	Gross Area (in^2)	Net Area (in^2)	Individual Inertia (in^4)	Moment of Inertia (in^4)	Threads/in
Pole	12.5625"ø x 0.25" (18 Sides)	9.6212	-	-	182.52	-
Bolt Group	Original (8) 1"ø	0.7854	0.6057	0.0292	118.96	8.0
Bolt Group	Bypass (3) 1.875"ø	2.7612	2.1603	0.3714	808.02	4.5

REACTION DISTRIBUTION

Component	ID	Moment M_u (k-ft)	Axial Load P_u (k)	Shear V_u (k)	Moment Factor
Pole	12.5625"ø x 0.25" (18 Sides)	19.3	10.83	7.70	0.184
Bolt Group	Original (8) 1"ø	19.3	-	7.70	0.184
Bolt Group	Bypass (3) 1.875"ø	85.5	-	0.00	0.816

UPPER FLANGE PLATE BEND LINE ANALYSIS @ 99 FT

POLE PROPERTIES

Flat-to-Flat Diameter:	12.69	in	Flat Width:	2.237	in	Neutral Axis:	30	°
Point-to-Point Diameter:	12.88	in	Flat Radians:	0.349	rad	Bend Line Limits:	1.788 to 2.924	rad
Orientation Offset:	-	°						

PLATE PROPERTIES

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in^3)	Applied Moment M_u (k-in)	Moment Capacity ΦM_n (k-in)	Flexure Result $M_u/\Phi M_n$	
Flats	11.050	0.00	4.317	3.4	194.2	1.8%	✓
Corners	10.821	0.00	4.227	2.6	190.2	1.4%	✓
Circumferential	13.311	0.00	5.199	4.6	234.0	2.0%	✓

ELASTIC FLANGE BOLT ANALYSIS

Class	Group Quantity	Bolt Diameter (in)	Applied Axial Load P_u (k)	Applied Shear Load V_u (k)	Compressive Capacity ΦP_n (k)	Compressive Result	Interaction Result
Original	8	1	8.2	0.4	68.1	0.121	12.9%
Bypass	3	1.875	46.2	0.0	129.6	0.357	35.7%

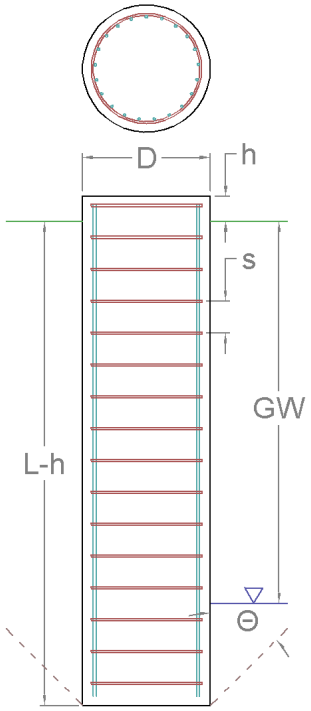
PIER FOUNDATION ANALYSIS

GLOBAL REACTIONS

Moment (k-ft)	Axial (k)	Shear (k)
1,642.56	37.59	17.83

FOUNDATION PARAMETERS

Pier Diameter:	D	6.50	ft
Pier Embedment Depth:	L-h	31.0	ft
Pier Height above Grade:	h	0.50	ft
Concrete Compressive Strength:		4,000	psi
Vertical Rebar:		(24) #9 bars [60 ksi]	
Tie Rebar:	s	#4 bars @ 12.0" c/c [60 ksi]	
Rebar Clear Cover:		3.00	in



SOIL PARAMETERS

Water Table Depth [BGL]: GW 7 ft

Layer Depth (ft) Top	Layer Depth (ft) Bottom	Unit Weight pcf	Cohesion psf	Friction Angle °	Ultimate Skin Friction psf	Ultimate Net Bearing psf
0	4	105	0	0	0	0
4	7	123	0	32	691	0
7	10	127	0	37	1,051	0
10	15	122	0	34	1,258	0
15	20	121	0	33	1,420	0
20	25	118	0	32	1,544	0
25	30	114	0	30	1,149	0
30	35	127	0	34	1,706	39,570

SOIL STRENGTH ANALYSIS

Volume of Concrete (ft^3)	Buoyant Weight of Concrete (k)	Skin Friction Resistance (k)	Inflection Point [BGL] (ft)
1,045.27	107.10	689.94	20.34

SOIL MOMENT ANALYSIS

Total Lateral Resistance (k)	Moment at Inflection Point, M_u (k-ft)	Additional Resistance (k-ft)	Nominal Moment Capacity, ΦM_n (k-ft)	Soil Moment Usage, $M_u / \Phi M_n$
2,110.19	2,014.07	0.00	10,023.97	**20.1%**

SOIL COMPRESSION ANALYSIS

Compressive Bearing Resistance (k)	Compressive Force, P_u (k)	Additional Resistance (k)	Nominal Compressive Capacity, ΦP_n (k)	Soil Compressive Usage, $P_u / \Phi P_n$
1,313.05	76.53	0.00	1,502.25	**5.1%**

REINFORCING STEEL STRENGTH ANALYSIS

Rebar Cage Diameter (in)	Steel Elastic Modulus, E (ksi)	Strength Bending/Tension Reduction Factor, Φ_b	Strength Shear Reduction Factor, Φ_v	Strength Compression Reduction Factor, Φ_c
69.872	29,000	0.9	0.75	0.65

PIER REINFORCING MOMENT ANALYSIS

Design Moment, M_u (k-ft)	Nominal Moment Capacity, $\Phi_b M_n$ (k-ft)	Bending Reinforcement Ratio	Pier Rebar Flexure Usage, $M_u/\Phi_b M_n$
1,652.52	3,695.06	0.01	**44.7%**

PIER REINFORCING COMPRESSION ANALYSIS

Buoyant Weight of Concrete (k)	Design Compression, P_u (k)	Nominal Compressive Capacity, $\Phi_p P_n$ (k)	Pier Rebar Compressive Usage, $P_u / \Phi_p P_n$
107.10	76.53	9,154.51	**0.8%**

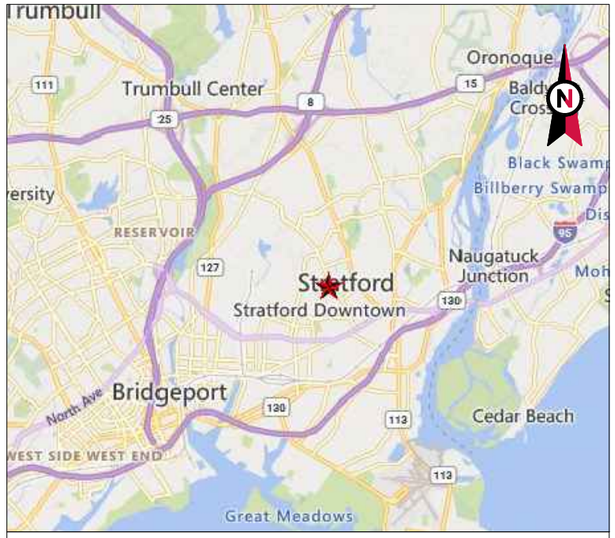
PIER REINFORCING SHEAR ANALYSIS

Design Shear, V_u (k)	Nominal Shear Capacity, $\Phi_v V_n$ (k)	Pier Rebar Shear Usage, $V_u / \Phi_v V_n$
126.45	548.70	**23.0%**

CENTERLINE

EXHIBIT D

Construction Drawings



VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: STONEYBROOK RD CT
ATC SITE NUMBER: 283420
VERIZON SITE NAME: STRATFORD W CT
VERIZON FUZE PID: 16231921
SITE ADDRESS: 23 STONYBROOK RD
STRATFORD, CT 06614

LOCATION MAP

VERIZON AMENDMENT DRAWINGS

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. 2020 NFPA 70, NATIONAL ELECTRIC CODE (NEC)
2. 2022 CONNECTICUT STATE BUILDING CODE
3. 2021 INTERNATIONAL BUILDING CODE (IBC)

DESIGN CRITERIA FROM TOWER STRUCTUAL ANALYSIS:

BASIC WIND SPEED:	119 MPH (3 SECOND GUST)
BASIC WIND SPEED W/ ICE:	50 MPH (3 SECOND GUST) W/ 1" RADIAL ICE CONCURRENT
CODE(S):	ANSI/TIA-222-H / 2021 IBC / 2022 CONNECTICUT STATE BUILDING CODE
EXPOSURE CATEGORY:	B
RISK CATEGORY:	II
TOPO FACTOR PROCEDURE:	METHOD 1
TOPOGRAPHIC CATEGORY:	1
CREST HEIGHT (H):	0FT
SPECTRAL RESPONSE:	S_S=0.21, S_1=0.05
SITE CLASS:	D-STIFF SOIL

INFORMATION TAKEN FROM STRUCTURAL ANALYSIS COMPLETED BY ATC, DATED 5/27/21.

UTILITY COMPANIES

POWER COMPANY: UNITED ILLUMINATING
PHONE: (800) 722-5584

TELEPHONE COMPANY: FRONTIER COMMUNICATIONS
PHONE: (800) 376-6843

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

PROJECT SUMMARY

SITE ADDRESS:

23 STONYBROOK RD
STRATFORD, CT 06614
COUNTY: FAIRFIELD

GEOGRAPHIC COORDINATES:

LATITUDE: 41° 12' 12.070" N

LONGITUDE: 73° 8' 54.755" W

GROUND ELEVATION: 77' AMSL

PROJECT TEAM

TOWER OWNER:

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

ENGINEER:

ATC TOWER SERVICES LLC
1 FENTON MAIN, STE 300
CARY, NC 27511

PROPERTY OWNER:

JOHN D MIRANDA
23 STONYBROOK RD
STRATFORD, CT 06614

APPLICANT:

VERIZON WIRELESS

PROJECT DESCRIPTION

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

TOWER WORK:
REMOVE (3) SECTOR FRAMES, (9) ANTENNA(s), AND (12) 1-5/8" COAX CABLE(s) @ 77'
INSTALL (4) SECTOR FRAMES, MOUNT MODIFICATIONS, (10) ANTENNA(s), (8) RRH(s), (1) OVP(s), AND (2) 1-5/8" HYBRIFLEX CABLE(s) @ 127'

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.
6. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).

PROJECT LOCATION DIRECTIONS

FROM DOWNTOWN NEW HAVEN START OUT GOING NORTHEAST ON CHURCH ST TOWARD WALL ST. CHURCH ST BECOMES WHITNEY AVE. TURN RIGHT ONTO TRUMBULL ST. TURN SLIGHT LEFT TO TAKE THE I-91 S/I-91 N RAMP. MERGE ONTO I-91 S TOWARD I-95/NEW LONDON/N.Y.CITY. MERGE ONTO I-95 S VIA THE EXIT ON THE LEFT TOWARD N Y CITY. TAKE EXIT 32 TOWARD W BROAD ST/STRATFORD. MERGE ONTO LINDEN AVE. TAKE THE 1ST RIGHT ONTO W BROAD ST. TAKE THE 1ST RIGHT ONTO W BROAD ST. TURN RIGHT ONTO BARNUM AVE/US-1 N. TAKE THE 2ND LEFT ONTO BROADBRIDGE AVE. TURN LEFT ONTO STONYBROOK RD.SITE IS ON THE LEFT.

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	TITLE SHEET	2	06/24/24	VAR
G-002	GENERAL NOTES	0	06/17/24	VAR
C-101	DETAILED SITE PLAN	2	06/24/24	VAR
C-201	TOWER ELEVATION	2	06/24/24	VAR
C-401	ANTENNA INFORMATION & SCHEDULE	2	06/24/24	VAR
C-501	CONSTRUCTION DETAILS	0	06/17/24	VAR
E-501	GROUNDING DETAILS	0	06/17/24	VAR
	SUPPLEMENTAL SHEETS (3 PAGES)			

CONTRACTOR PMI REQUIREMENTS

PMI ACCESSED AT:	HTTPS://PMI.VZWSMART.COM
SMART TOOL VENDOR PROJECT NUMBER:	10238330
VZW LOCATION CODE (PSLC):	5000382206

***PMI AND REQUIREMENTS ALSO EMBEDDED IN MOUNT ANALYSIS REPORT

MOUNT MODIFICATION REQUIRED:	YES
VZW APPROVED SMART KIT VENDORS:	REFER TO MOUNT MODIFICATION DRAWINGS PAGES FOR VZW SMART KIT APPROVED VENDORS

AMERICAN TOWER®
ATC TOWER SERVICES LLC
1 FENTON MAIN
SUITE 300
CARY, NC 27511
PHONE: (919) 468-0112
PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	VAR	06/17/24
1	UPDATE AZ LABELS	AP	06/20/24
2	RAD CHANGE	VAR	06/24/24

ATC SITE NUMBER:
283420
ATC SITE NAME:
STONEYBROOK RD CT
VERIZON SITE NAME:
STRATFORD W CT
SITE ADDRESS:
23 STONYBROOK RD
STRATFORD, CT 06614

SEAL:

verizon

ATC JOB NO:	14764246_G0
CUSTOMER ID:	STRATFORD W CT
CUSTOMER #:	5000382206

TITLE SHEET

SHEET NUMBER:	REVISION:
G-001	2

GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, VERIZON "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
   - A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
   - B. AC/TELCO INTERFACE BOX (PPC)
   - C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
   - D. TOWERS, MONOPOLES
   - E. TOWER LIGHTING
   - F. GENERATORS & LIQUID PROPANE TANK
   - G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING
   - H. ANTENNAS (INSTALLED BY OTHERS)
   - I. TRANSMISSION LINE
   - J. TRANSMISSION LINE JUMPERS
   - K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
   - L. TRANSMISSION LINE GROUND KITS
   - M. HANGERS
   - N. HOISTING GRIPS
   - O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF VERIZON TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. 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.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE VERIZON REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE VERIZON REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE VERIZON REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE VERIZON CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE VERIZON REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH VERIZON AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON 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.
22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY VERIZON MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH VERIZON SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO VERIZON FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO VERIZON SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
26. 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.
27. CONTRACTOR SHALL NOTIFY VERIZON 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.
28. WHEN THE PROJECT SCOPE REQUIRES THE USE OF THE SAFETY CLIMB, THE GENERAL CONTRACTOR SHALL ENSURE THE SAFETY CLIMB IS FREE OF OBSTRUCTIONS, NOT RUBBING ON OR TRAPPED BY ANY INSTALLED CUSTOMER EQUIPMENT, IS VISUALLY TAUT, MEETS MANUFACTURER INSTALLATION SPECIFICATIONS, AND IS FIRMLY SECURED AT ALL CABLE GUIDE LOCATIONS UPON PROJECT COMPLETION.
29. COMPLETION OF PROJECT SHALL NOT OBSTRUCT, TRAP, LOOSEN, OR OTHERWISE CAUSE FAILURE TO MEET MANUFACTURER INSTALLATION REQUIREMENTS FOR THE SAFETY CLIMB.
30. 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.
31. 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.
32. 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 REP. ANY WORK FOUND BY THE VERIZON REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
33. 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.
34. VERIZON FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE VERIZON WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.
35. VERIZON OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO VERIZON OR THEIR ARCHITECT/ENGINEER.

SPECIAL CONSTRUCTION ANTENNA INSTALLATION NOTES:

1. WORK INCLUDED:
   - A. ANTENNA AND COAXIAL/HYBRID CABLES ARE FURNISHED BY VERIZON UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.
   - B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND VERIZON SPECIFICATIONS.
   - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
   - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE.
   - E. INSTALL COAXIAL/HYBRID CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL/HYBRID CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
2. ANTENNA AND COAXIAL/HYBRID CABLE GROUNDING:
   - A. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
   - B. ALL COAXIAL/HYBRID CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL/HYBRID CABLE (NOT WITHIN BENDS)

ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

AMERICAN TOWER®
ATC TOWER SERVICES LLC
1 FENTON MAIN
SUITE 300
CARY, NC 27511
PHONE: (919) 468-0112
PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	VAR	06/17/24

ATC SITE NUMBER:
283420
ATC SITE NAME:
STONEYBROOK RD CT
VERIZON SITE NAME:
STRATFORD W CT
SITE ADDRESS:
23 STONYBROOK RD
STRATFORD, CT 06614

SEAL:

Digitally Signed: 2024-06-28

verizon

ATC JOB NO:	14764246_G0
CUSTOMER ID:	STRATFORD W CT
CUSTOMER #:	5000382206

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

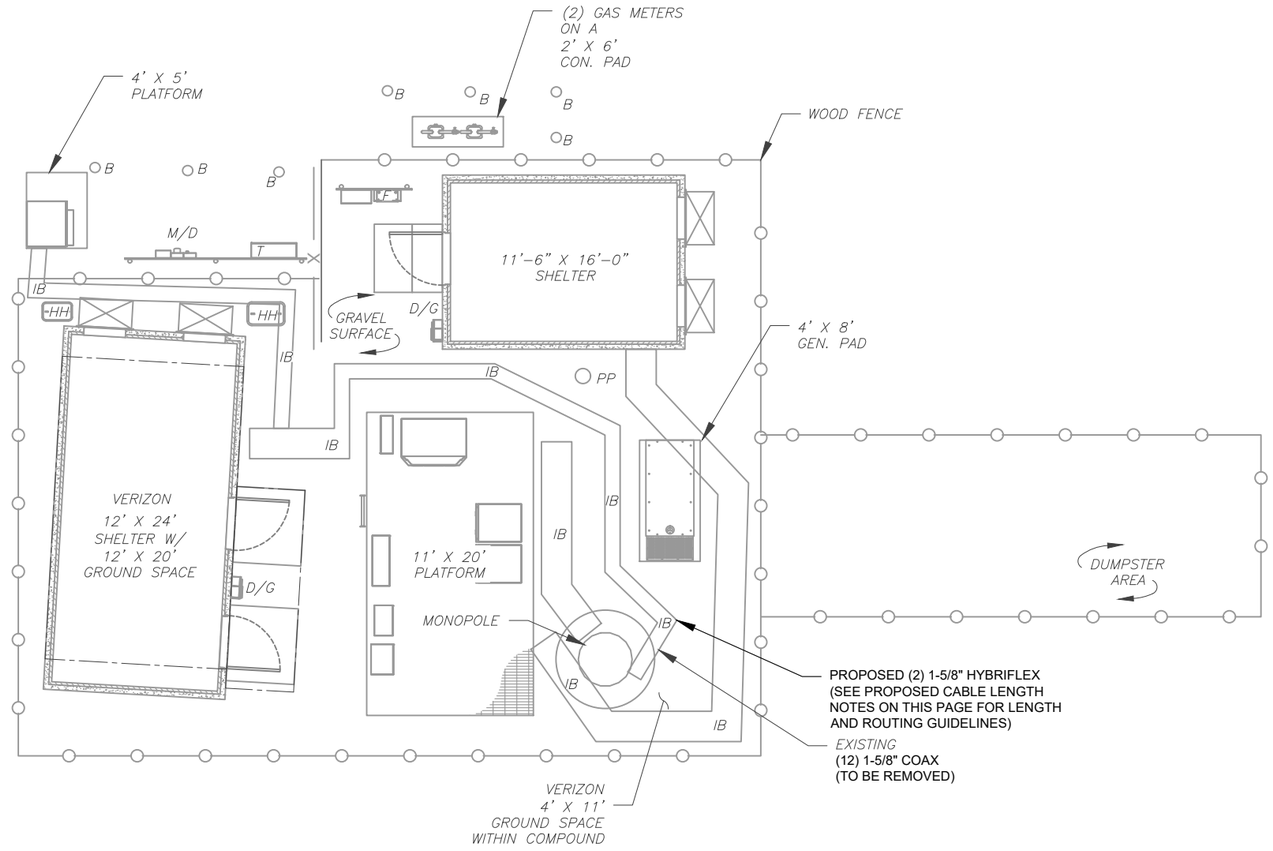
3. NO ELECTRICAL SCOPE IS INCLUDED IN THIS PROJECT.

LEGEND

⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACLE
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
———	CHAINLINK FENCE

PROPOSED CABLE NOTES:

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **173'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES), CDS DEFER TO GREATEST CABLE LENGTH.
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.



1 DETAILED SITE PLAN

GRAPHIC SCALE

10 0 5 10

(IN FEET)
1 UNIT = 10 FEET

AMERICAN TOWER®
ATC TOWER SERVICES LLC
1 FENTON MAIN
SUITE 300
CARY, NC 27511
PHONE: (919) 468-0112
PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	VAR	06/17/24
2	RAD CHANGE	VAR	06/24/24

ATC SITE NUMBER:
283420

ATC SITE NAME:
STONEYBROOK RD CT

VERIZON SITE NAME:
STRATFORD W CT

SITE ADDRESS:
23 STONYBROOK RD
STRATFORD, CT 06614

SEAL:

Digitally Signed: 2024-06-28

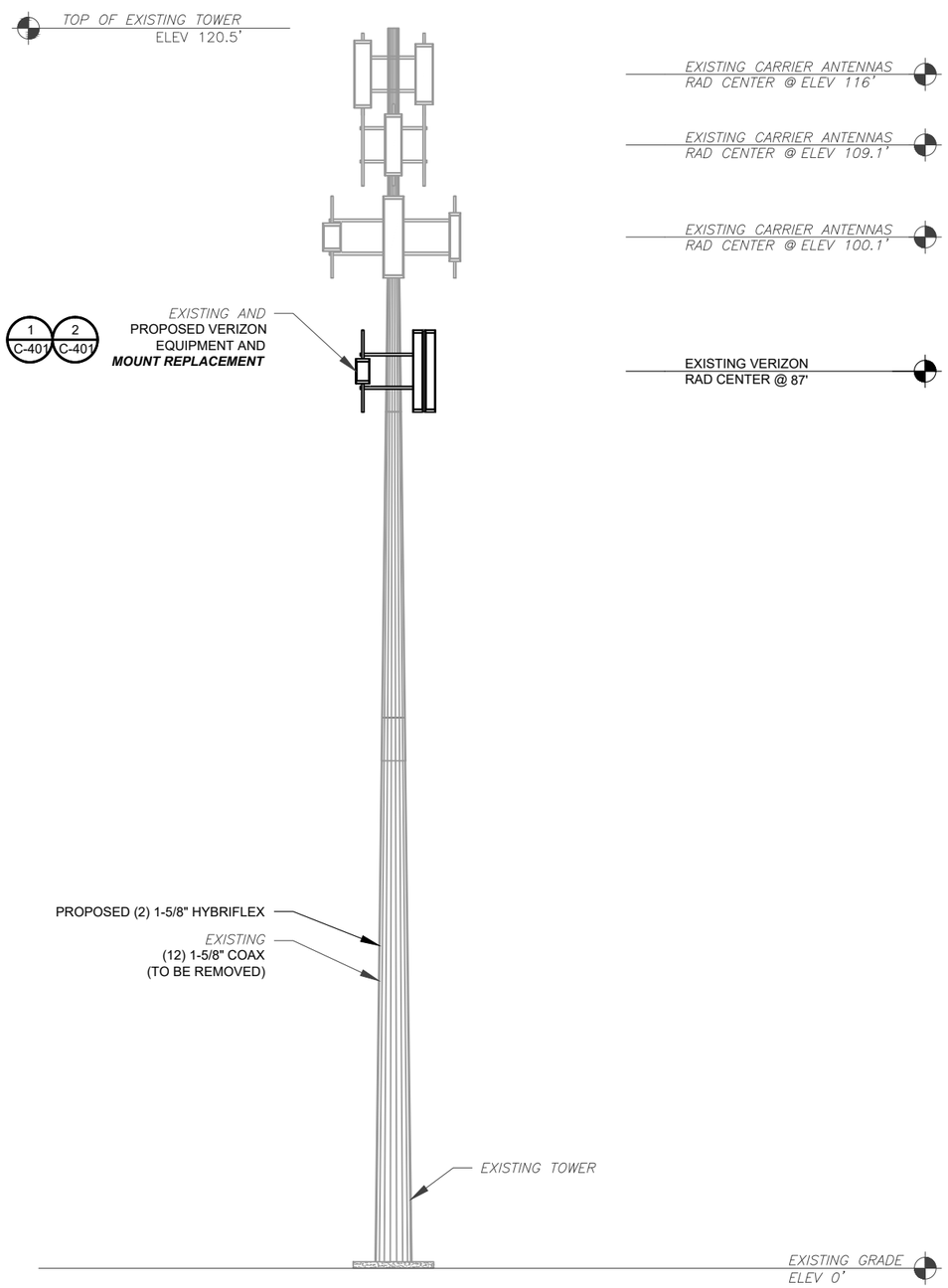
verizon

ATC JOB NO:	14764246_G0
CUSTOMER ID:	STRATFORD W CT
CUSTOMER #:	5000382206

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	2

PER MOUNT ANALYSIS COMPLETED BY NB+C, DATED 06/12/24, THE PROPOSED MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



1 TOWER ELEVATION
SCALE: N.T.S.

ALL ELEVATIONS REFLECT ABOVE GROUND LEVEL (A.G.L.)

TOWER NOTE:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT 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. WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
3. 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.
4. TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.

AMERICAN TOWER®
ATC TOWER SERVICES LLC
1 FENTON MAIN
SUITE 300
CARY, NC 27511
PHONE: (919) 468-0112
PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	VAR	06/17/24
2	RAD CHANGE	VAR	06/24/24

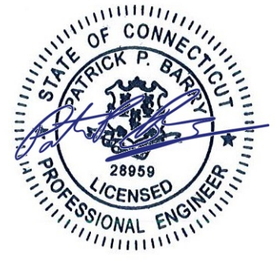
ATC SITE NUMBER:
283420

ATC SITE NAME:
STONEYBROOK RD CT

VERIZON SITE NAME:
STRATFORD W CT

SITE ADDRESS:
23 STONYBROOK RD
STRATFORD, CT 06614

SEAL:



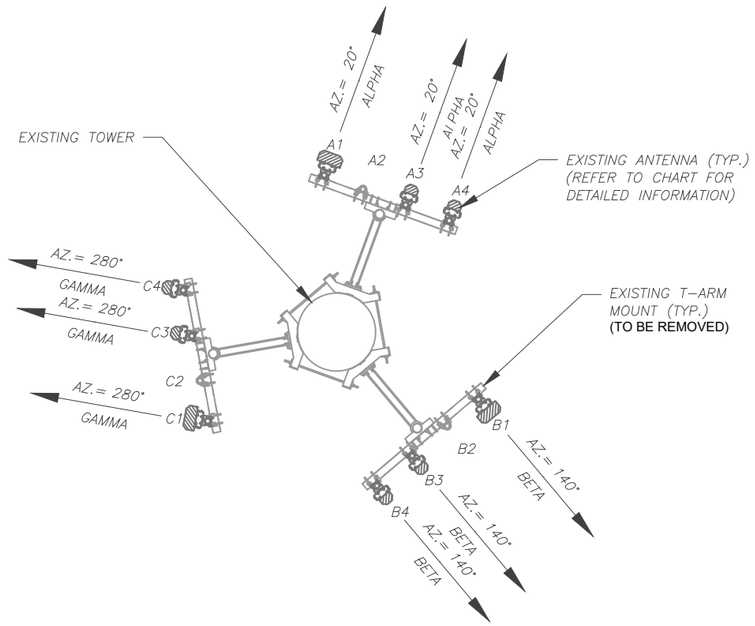
Digitally Signed: 2024-06-28

verizon

ATC JOB NO:	14764246_G0
CUSTOMER ID:	STRATFORD W CT
CUSTOMER #:	5000382206

TOWER ELEVATION

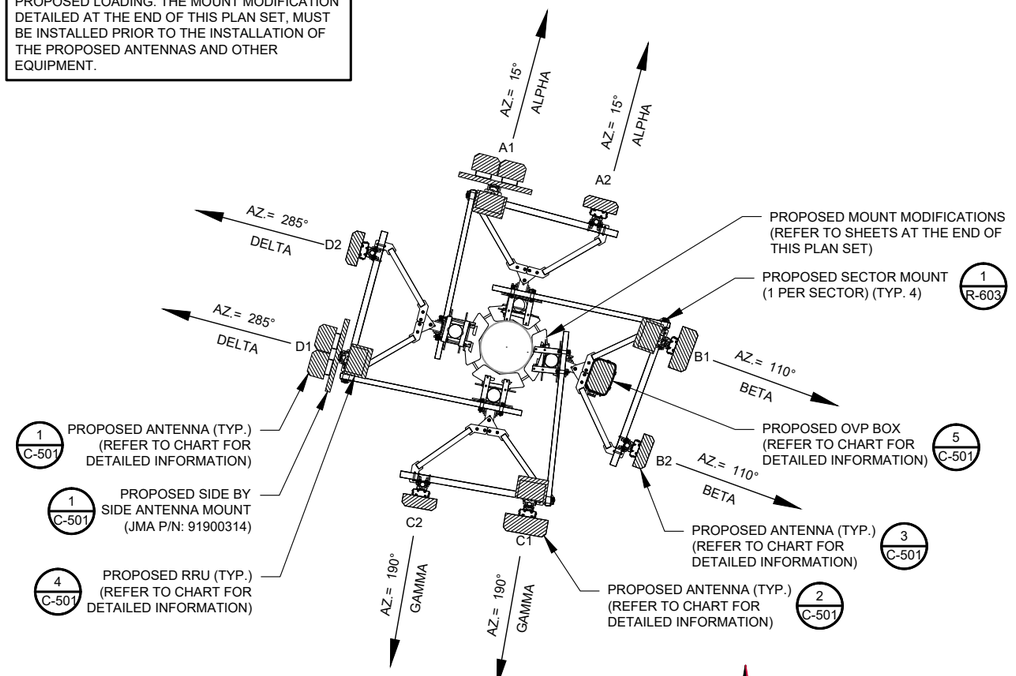
SHEET NUMBER:	REVISION:
C-201	2



1 EXISTING ANTENNA PLAN @ 77'

SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY NB+C, DATED 06/12/24, THE PROPOSED MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION DETAILED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



2 FINAL ANTENNA PLAN @ 87'

SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	77'	20°	A1	BXA-70063-6CF-6	700 LTE	RMV	-	-
			A2	-	-	-	-	-
			A3	BXA-171063-12CF	AWS LTE	RMV	-	-
			A4	BXA-171063-12CF	AWS LTE	RMV	-	-
BETA	77'	140°	B1	BXA-70063-6CF-6	700 LTE	RMV	-	-
			B2	-	-	-	-	-
			B3	BXA-171063-12CF	AWS LTE	RMV	-	-
			B4	BXA-171063-12CF	AWS LTE	RMV	-	-
GAMMA	77'	280°	C1	BXA-70063-6CF-6	700 LTE	RMV	-	-
			C2	-	-	-	-	-
			C3	BXA-171063-12CF	AWS LTE	RMV	-	-
			C4	BXA-171063-12CF	AWS LTE	RMV	-	-

NOTES

1. GC TO VERIFY THE FINAL RFDS MATCHES THE FINAL CONSTRUCTION DRAWINGS. GC TO NOTIFY ATC PM OF ANY DISCREPANCY PRIOR TO INSTALLING THE EQUIPMENT.
2. GC TO CAP ALL UNUSED PORTS.
3. GC TO CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.

STATUS ABBREVIATIONS

RMV: TO BE REMOVED
RMN: TO REMAIN
REL: TO BE RELOCATED
ADD: TO BE ADDED

CABLE LENGTHS FOR JUMPERS

JUNCTION BOX TO RRU: 15'
RRU TO ANTENNA: 10'

FINAL ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	87'	15°	A1	(2) MX06FHG865-HG	700/ 850/ 1900/ AWS LTE/ 850 5G	ADD	RF4439D-25A RF4461D-13A	ADD ADD
			A2	MT6413-77A	L-SUB6 5G	ADD	-	-
BETA	87'	110°	B1	MX12FRO645-01	700/ 850/ 1900/ AWS LTE/ 850 5G	ADD	RF4439D-25A RF4461D-13A	ADD ADD
			B2	MT6413-77A	L-SUB6 5G	ADD	-	-
GAMMA	87'	190°	C1	MX12FRO645-01	700/ 850/ 1900/ AWS LTE/ 850 5G	ADD	RF4439D-25A RF4461D-13A	ADD ADD
			C2	MT6413-77A	L-SUB6 5G	ADD	-	-
DELTA	87'	285°	D1	(2) MX06FHG665-HG	700/ 850/ 1900/ AWS LTE/ 850 5G	ADD	RF4439D-25A RF4461D-13A	ADD ADD
			D2	MT6413-77A	L-SUB6 5G	ADD	-	-

EXISTING FIBER DISTRIBUTION / OVP BOX		EXISTING CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
-	-	----	-
-	-	(12) 1-5/8" COAX	RMV

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
-	-	----	-
(1) RCMDC-6627-PF-48	ADD	(2) 1-5/8" HYBRIFLEX	ADD

3 EQUIPMENT SCHEDULES

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	VAR	06/17/24
1	UPDATE AZ LABELS	AP	06/20/24
2	RAD CHANGE	VAR	06/24/24

ATC SITE NUMBER:
283420

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SEAL:

Digitally Signed: 2024-06-28

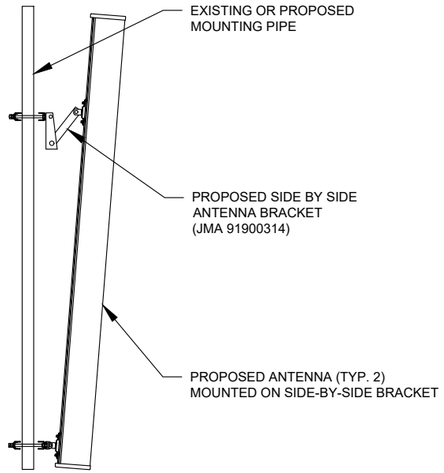
verizon

ATC JOB NO:	14764246_G0
CUSTOMER ID:	STRATFORD W CT
CUSTOMER #:	5000382206

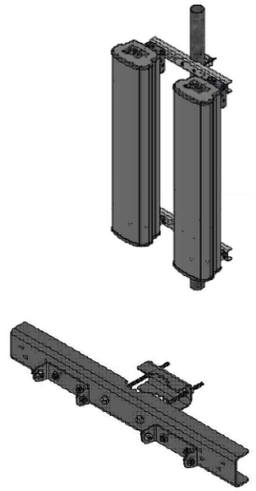
ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:	REVISION:
C-401	2

EXISTING/PROPOSED MOUNTS AND/OR MOUNT MODIFICATIONS NOT SHOWN FOR CLARITY. REFER TO ANTENNA PLANS, MOUNT ANALYSES AND/OR MOUNT MODIFICATION DOCUMENTS FOR ADDITIONAL DETAIL.



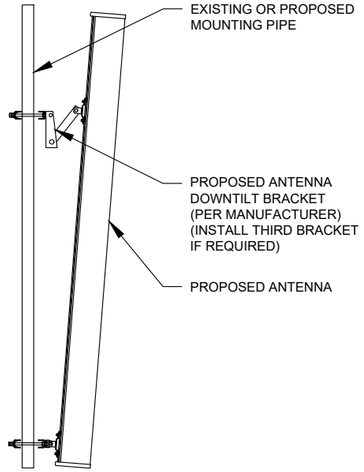
PROFILE VIEW



ISOMETRIC VIEW (BY MANUFACTURER)

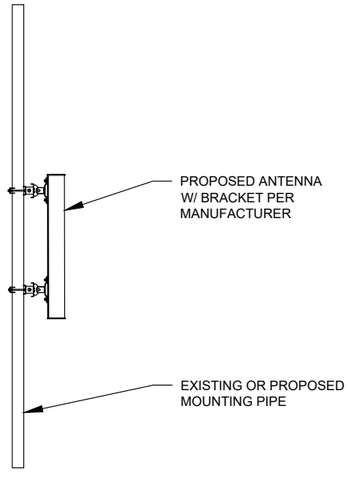
1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL

SCALE: N.T.S.



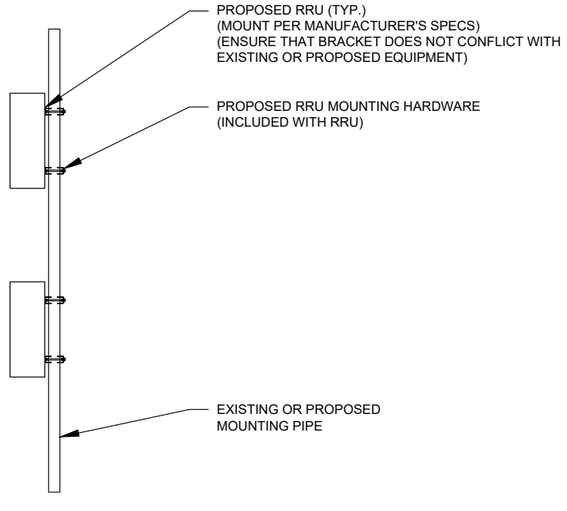
2 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL

SCALE: N.T.S.



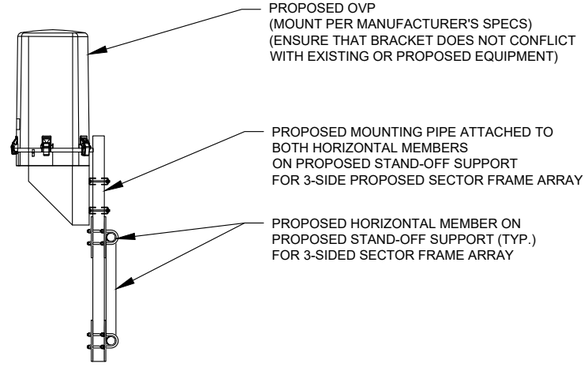
3 PROPOSED 5G ANTENNA MOUNTING DETAIL - TYPICAL

SCALE: N.T.S.



4 PROPOSED RRU MOUNTING DETAIL - TYPICAL

SCALE: N.T.S.



5 PROPOSED OVP MOUNTING DETAIL - TYPICAL

SCALE: N.T.S.

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	VAR	06/17/24

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STRATFORD, CT 06614

SEAL:

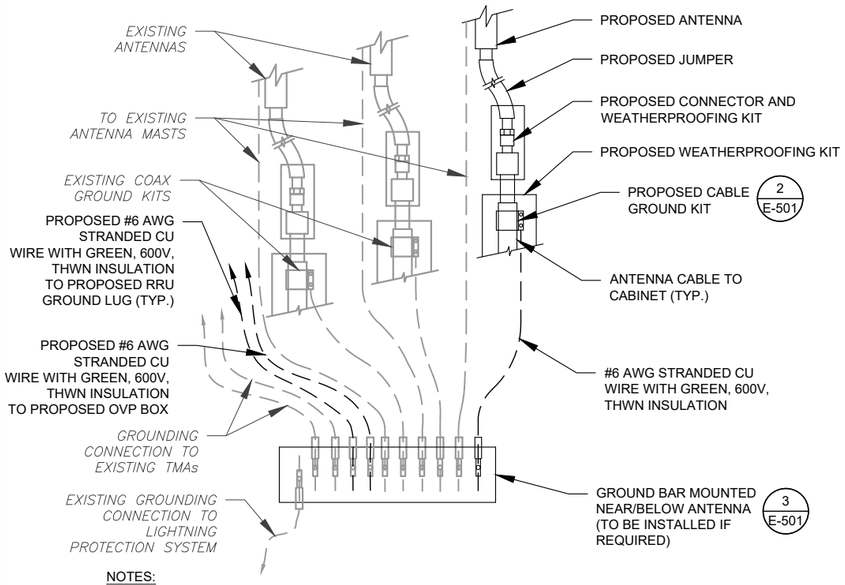
Digitally Signed: 2024-06-28

verizon

ATC JOB NO:	14764246_G0
CUSTOMER ID:	STRATFORD W CT
CUSTOMER #:	5000382206

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-501	0

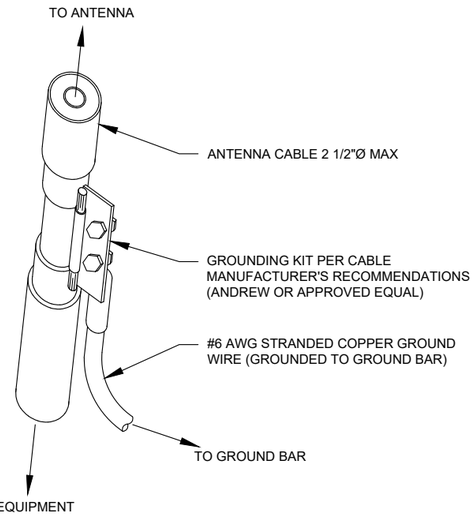


NOTES:

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 GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH VERIZON GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

1 TYPICAL ANTENNA GROUNDING DIAGRAM

SCALE: N.T.S.

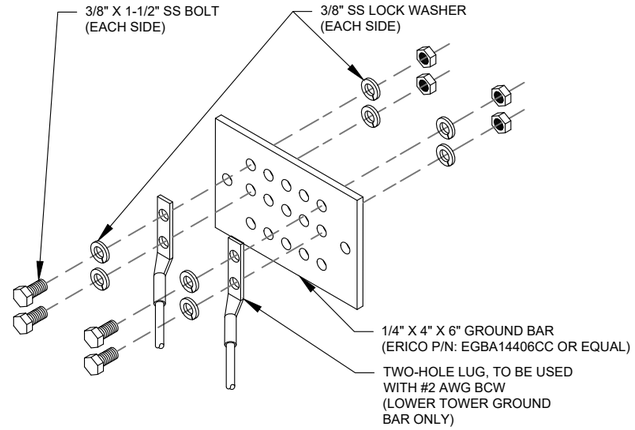


GROUND KIT NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

2 CABLE GROUND KIT CONNECTION DETAIL

SCALE: N.T.S.



GROUND BAR NOTES:

1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

3 TOWER GROUND BAR DETAIL

SCALE: N.T.S.

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1 FENTON MAIN
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PEC.0001553

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	VAR	06/17/24

ATC SITE NUMBER:
283420

ATC SITE NAME:
STONEYBROOK RD CT

VERIZON SITE NAME:
STRATFORD W CT

SITE ADDRESS:
23 STONYBROOK RD
STRATFORD, CT 06614

SEAL:

Digitally Signed: 2024-06-28

verizon

ATC JOB NO:	14764246_G0
CUSTOMER ID:	STRATFORD W CT
CUSTOMER #:	5000382206

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0

Colliers Engineering & Design, Architecture,
Landscape Architecture, Surveying, CT P.C.
1055 Washington Boulevard
Stamford, CT 06901
203.324.0800
peter.albano@collierseng.com

New/Replacement Antenna Mount Analysis Report and PMI Requirements

Mount ReAnalysis-VZW

SMART Tool Project #: 10222637
Colliers Engineering & Design Project #: 21777586

February 23, 2024

Site Information

Site ID:	*5000382206-VZW / STRATFORD W CT*
Site Name:	*STRATFORD W CT*
Carrier Name:	*Verizon Wireless*
Address:	*23 Stonybrook Road* *Stratford, Connecticut 06614* *Fairfield County*
Latitude:	*41.20327778°*
Longitude:	*-73.148625°*

Structure Information

Tower Type:	*Monopole*
Mount Type:	*6.50-Ft Sector Frame*

FUZE ID # 16231921

Analysis Results

Sector Frame: **40.0% Pass w/ Mount Replacement***
(4) Site Pro 1: VFA6-HD)

***Antennas and equipment to be installed in compliance with PMI Requirements of this mount analysis.**

******Contractor PMI Requirements*:**
Included at the end of this MA report
Available & Submitted via portal at https://pmi.vzwsmart.com
For additional questions and support, please reach out to:
pmisupport@colliersengineering.com

Report Prepared By: Cody Sherman

STATE OF CONNECTICUT
DEJIAN XU
No. 33733
LICENSED PROFESSIONAL ENGINEER
02/23/2024

1 MOUNT ANALYSIS

Requirements:

The proposed antenna mounts are **SUFFICIENT** for the final loading configuration (attachment 2) upon completion of the mount replacement (attachment 3) and requirements below.

Contractor shall verify existing monopole diameter to be 17". **Escalate any discrepancies to EOR immediately as it may render the results of this analysis invalid and require additional modifications**.

Contractor shall install the proposed Site Pro 1 VFA6-HD mounts on (2) new Site Pro 1 UQB4 Universal Quad Ring Brackets with (4) new 72" long PIPE 3 SCH40 mast pipes and (4) new Site Pro 1 FMA2 Flush Mount Adapter Kits in accordance with manufacturer specifications and the Mount Replacement Sketch. Contact EOR if these documents are not available.

Contractor shall install (2) 96" long PIPE 2 SCH40 mount pipes per mount. Refer to placement diagrams and Mount Replacement Sketch. Contact EOR if these documents are not available.

Attach tiebacks to the adjacent sectors 72" long PIPE 3 SCH 40 mast pipes. Proposed tieback shall extend no more than 12" beyond the plane of the mast pipe. Contractor shall trim as required and protect cut end with two (2) coats of cold galvanization (Zinga or Zinc Kote).

Contractor shall install the OVP on a new 72" long PIPE 2 SCH 40 pipe connected to the welded tabs of the Alpha sector standoff.

Contractor shall inspect climbing facilities and safety climb and ensure they are in good condition. Contractor shall install safety climb wire rope guides in locations where wire rope is rubbing against the mount or mount-to-tower connection steel. Wire brush clean any observed corrosion and protect with two (2) coats of cold galvanization (Zinga or Zinc Kote). Contractor shall provide photos of wire rope guide installation as part of PMI documents. Contact EOR if additional guidance is required.

ANSI/ASSP rigging plan review services compliant with the requirements of ANSI/TIA 322 are available for a Construction Class IV site or other, if required. Separate review fees will apply.

Attachments:

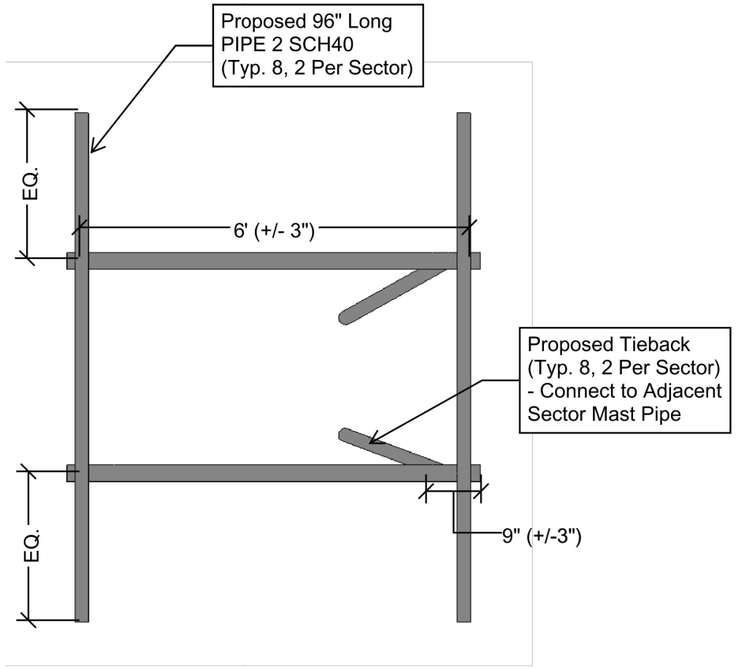
1. **Contractor Required Post Installation Inspection (PMI) Report Deliverables**
2. Antenna Placement Diagrams
3. Mount Manufacturer Drawings
4. Existing Mount Photos
5. Analysis Calculations

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERYIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONTRUCTION.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-601	0

MOUNT REPLACEMENT SKETCH

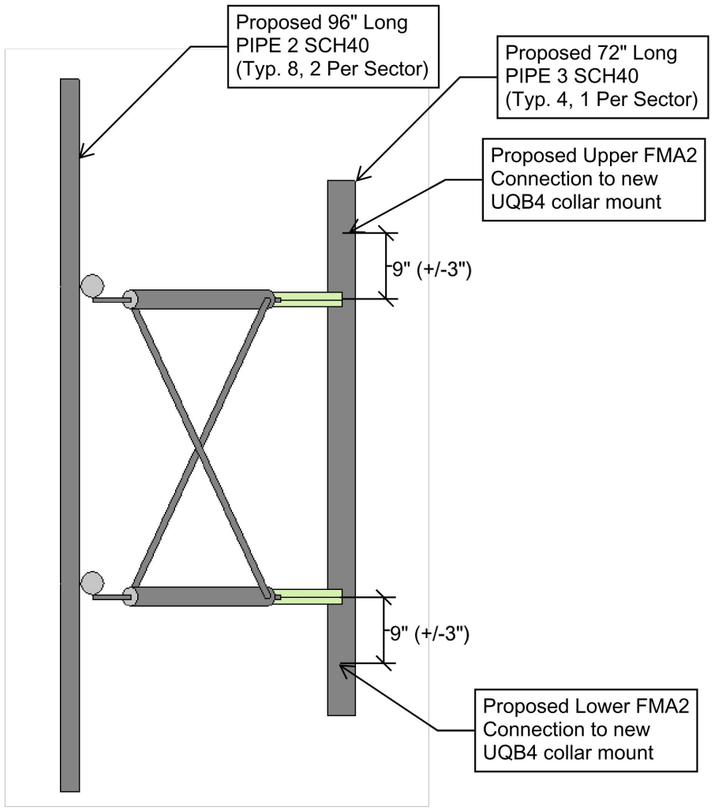


TOWER GEOMETRY VERIFICATION

MONOPOLE DIAMETER: 17"

MOUNT FRONT ELEVATION VIEW (TYP. ALL SECTORS)
N.T.S.

MOUNT GEOMETRY VERIFICATION



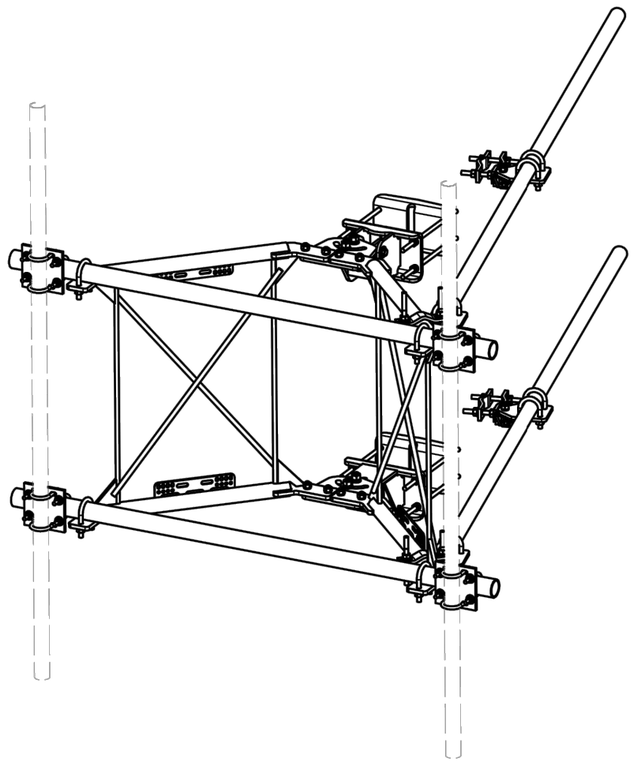
MOUNT SIDE ELEVATION VIEW (TYP. ALL SECTORS)
N.T.S.

1 MOUNT MODIFICATIONS

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-602	0



PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-VFAW	SUPPORT ARM		71.41	142.81
2	1	X-HDCAMTBW	CLAMP WELDMENT FOR BCAM-HD		33.86	33.86
3	1	X-MHTPHD	MULTI-HOLE TAPER PLATE WELDMENT		36.24	36.24
4	2	X-VFAPL4	VFA-HD PIVOT PLATE	12 in	15.88	31.77
5	2	X-LCBP4	BENT BACKING PLATE	13 in	19.00	38.01
6	1	X-HDCAMSS	ANGLE ADJUSTMENT WELDMENT FOR BCAM-HD		16.39	16.39
7	4	X-SPTB	SLIDING PIPE TIE BACK PLATE	5 1/2 in	5.87	23.49
8	1	X-HDCAMSP	POSITIONING PLATE WELDMENT FOR BCAM-HD		2.58	2.58
9	4	X-TBCA	TIE BACK CLIP ANGLE		2.01	8.02
10	4	SCX2	CROSSOVER PLATE	7 in	4.80	19.19
11	4	MCP	CLAMP HALF 1/2" THICK, 11-5/8" LONG	12 1/16 in	3.59	14.37
12	8	DCP	1/2" THICK, 5-3/4" CNTER TO CENTER CLAMP HALF	8 1/8 in	2.36	18.90
13	2	P3084	2-7/8" X 84" (2 1/2" SCH. 40) GALVANIZED PIPE	84 in	40.65	81.29
14	2	P2126	2-3/8" X 126" (2" SCH. 40) GALVANIZED PIPE	126 in	40.75	81.50
15	4	A34212	3/4" x 2-1/2" UNC HEX BOLT (A325)	2 1/2 in	0.48	1.92
16	4	G34FW	3/4" HDG USS FLATWASHER		0.06	0.24
17	4	G34LW	3/4" HDG LOCKWASHER		0.04	0.17
18	4	G34NUT	3/4" HDG HEAVY 2H HEX NUT		0.21	0.85
19	8	G58R-18	5/8" x 18" THREADED ROD (HDG.)		1.57	12.54
20	4	G58R-12	5/8" x 12" THREADED ROD (HDG.)		1.05	4.18
21	8	G58R-8	5/8" x 8" THREADED ROD (HDG.)		0.70	5.58
22	4	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
23	8	X-UB5258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	8.00
24	2	G5807	5/8" x 7" HDG HEX BOLT GR5 FULL THREAD	7 in	0.70	1.41
25	1	G5806	5/8" x 6" HDG HEX BOLT GR5 FULL THREAD	6 in	0.62	0.62
26	4	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	1.08
27	8	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	2.50
28	8	G5804	5/8" x 4" HDG HEX BOLT GR5		0.44	3.55
29	25	G58FW	5/8" HDG USS FLATWASHER	1/8 in	0.07	1.76
30	70	G58LW	5/8" HDG LOCKWASHER		0.03	1.83
31	75	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	9.74
32	16	X-UB1300	1/2" X 3" X 5" X 2" GALV U-BOLT		0.74	11.82
33	8	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.60	4.78
34	32	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	1.09
35	32	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.44
36	32	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	2.29
					TOTAL WT. #	629.28

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
	REVISION HISTORY			
D	UPDATED BCAM VERSION 1 TO BCAM VERSION 2		CEK	6/29/2018
C	UPDATED PIN LEG CONNECTION TO BCAM CONNECTION		CEK	12/13/2017
B	CHANGED TIE-BACK BACK CONNECTION		CEK	7/26/2017
A	CHANGED TIE-BACK FRONT CONNECTION		CEK	2/2/2017

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES *(± 0.030")*
DRILLED AND GAS CUT HOLES *(± 0.030")* - NO CONING OF HOLES
LASER CUT EDGES AND HOLES *(± 0.010")* - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING *(± 0.030")*
ALL OTHER ASSEMBLY *(± 0.060")*

DESCRIPTION
6' HEAVY DUTY
V-FRAME ASSEMBLY
WITH TWO STIFF ARMS

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.	PAGE
	CEK 1/25/2017		VFA6-HD	1 OF 5
CLASS / SUB	DRAWING USAGE	CHECKED BY	DWG. NO.	
81 / 02	CUSTOMER	BMC 12/13/2017	VFA6-HD	

SITE PRO 1
▲ valmont COMPANY
Engineering Support Team: 1-888-753-7446
Locations: New York, NY; Atlanta, GA; Los Angeles, CA; Plymouth, IN; Salem, OR; Dallas, TX

1 MOUNT SPECIFICATIONS

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER: R-603

REVISION: 0

CENTERLINE

EXHIBIT E

Power Density/RF Emissions Report

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Non-Ionizing Electromagnetic Radiation (NIER) Study

Site Number:
283420

Site Name:
Stoneybrook Rd CT

Location:
Stratford, Connecticut

Tenants:
AT&T Mobility, T-Mobile, Dish Wireless, & Verizon Wireless

Prepared For:

American Tower, Inc.
Woburn, Massachusetts

July 8th, 2024

66389 P-423301

Prepared By:

Adam Carlson MS, CBRE, CPI
Program Manager RF Design & Service
Tower Engineering Professionals

Approved By:

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Contents

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Non-Ionizing Electromagnetic Radiation (NIER) Study

283420 Stoneybrook Rd CT
Stratford, Connecticut

INTRODUCTION

Tower Engineering Professionals RF Design & Services Division (TEP-RF) of Raleigh, North Carolina, has been retained by American Tower, Inc. (ATC), of Woburn, Massachusetts to evaluate the RF emissions compared to the Maximum Permissible Exposure (MPE) limit for facilities at this location. This evaluation uses compliance standards as outlined in Federal Communications Commission (FCC) document OET-65.

SITE AND FACILITY CONSIDERATIONS

Site 283420 Stoneybrook Rd CT is located at 23 Stoneybrook Rd., in Stratford, Connecticut at coordinates 41.203353, -73.148543. The support structure is a 120' monopole. An aerial view of the tower can be found in Appendix 1, Site Photos. The tenants are AT&T Mobility (AT&T), T-Mobile (TMO) Dish Wireless (Dish), & Verizon Wireless (VZW). A table listing all antennae and effective radiated power (ERP) levels that were used in this study may be found in Appendix 2, Antenna Inventory.

POWER DENSITY CALCULATIONS

Power densities were calculated based on FCC MPE limits for both General Population/Uncontrolled and Occupational/Controlled environments.

For the purpose of this study, a radius of 100' from the base of the tower with a height of 6' above ground level was used, beyond 100' the MPE levels become *di minimus*. This study utilized FCC recognized and accepted software programs using the maximum ERP levels for the antenna models provided by ATC. Diagrams depicting the predicted spatial average power density level at any specific location may be found in Appendix 3, MPE Limit Study. A discussion regarding the FCC limits may be found in Appendix 4, Information Pertaining to MPE Studies. Study methodology describing Non-ionizing Radiation Prediction Models used in this study may be found in Appendix 5, MPE Standards Methodology.

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All data used in this study was collected from one or more of the following sources:

- ATC furnished data and does not include other unidentified communication facilities.
- Load List at 283420 Stoneybrook Rd CT.RF NIER Study 06/26/2024.
- FCC databases.
- Carrier standard configurations.
- Empirical data collected by TEP.

SITE MITIGATION & CONTROL

In order to comply with FCC, tenant, & ATC requirements, TEP recommends the placement of signage at the following points:

Site Entrance

1. Site ID Sign (tower owner defined)
2. RF Information Sign (Green)

Tower Access Point

1. RF Exposure Sign (Red)

COMPLIANCE DETERMINATION

This installation ***WILL BE*** in compliance with current FCC MPE limits as described in FCC OET-65.

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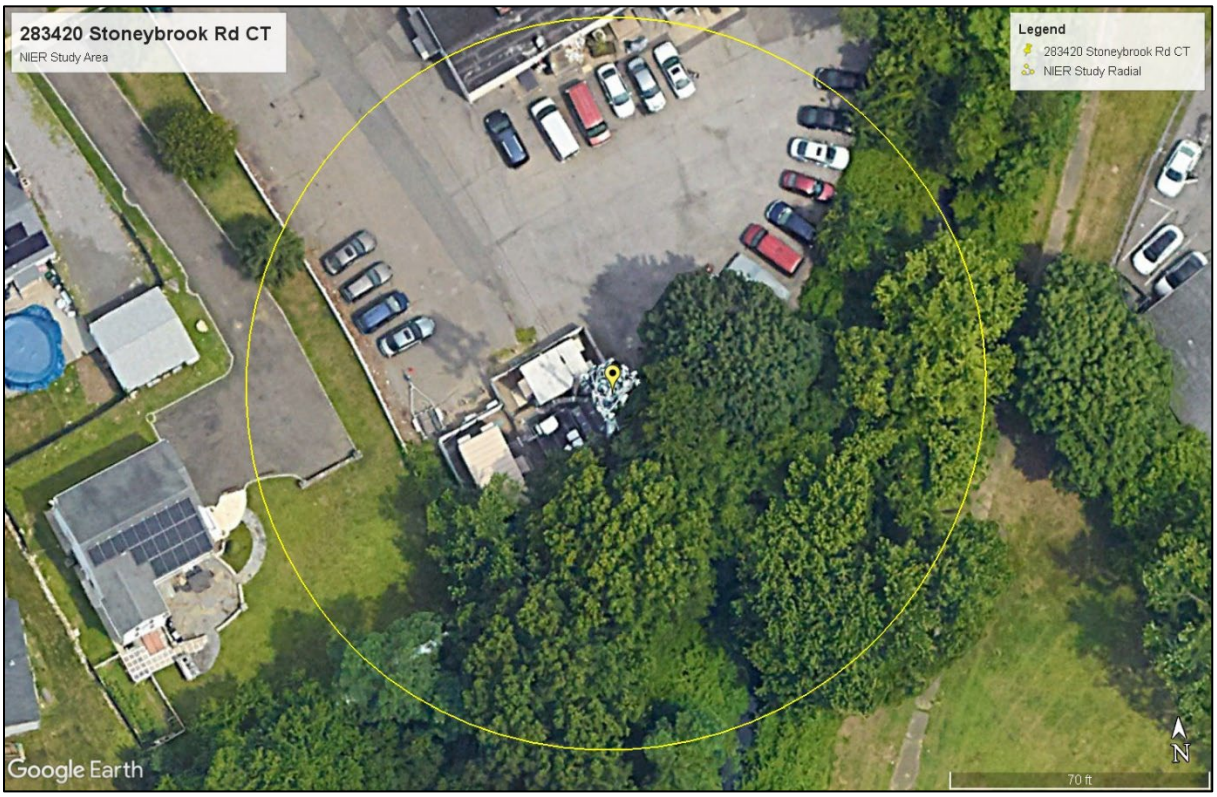
Appendix 1 Site Photos



Aerial View of Site

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Appendix 2.1 Antenna Inventory

283420 Stoneybrook Rd CT							
Antenna Inventory							
Antenna #	Carrier	Antenna Manufacturer	Antenna Model	Frequency Band (MHz)	Azmiuth (°)	Effective Radiated Power (W)	Radiation Center (ft)
1	AT&T	Ericsson	6449	3700-3900	030	71639.00	119.0
2	AT&T	Ericsson	6449	3700-3900	140	71639.00	119.0
3	AT&T	Ericsson	6449	3700-3900	270	71639.00	119.0
4	AT&T	Ericsson	6449	3700-3900	030	71639.00	119.0
5	AT&T	Ericsson	6449	3700-3900	140	71639.00	119.0
6	AT&T	Ericsson	6449	3700-3900	270	71639.00	119.0
7	AT&T	CCI	DMP65R-BU8D	700/800/2300	030	36002.00	117.0
8	AT&T	CCI	DMP65R-BU8D	700/800/2300	140	36002.00	117.0
9	AT&T	CCI	DMP65R-BU8D	700/800/2300	270	36002.00	117.0
10	AT&T	CCI	TPA-65R-BU6DA	700/1900/2100	030	23075.00	117.0
11	AT&T	CCI	TPA-65R-BU6DA	700/1900/2100	140	23075.00	117.0
12	AT&T	CCI	TPA-65R-BU6DA	700/1900/2100	270	23075.00	117.0
13	AT&T	Quintel	QD8616-7	700/1900/2100	010	42370.00	117.0
14	AT&T	Quintel	QD8616-7	700/1900/2100	130	42370.00	117.0
15	AT&T	Quintel	QD8616-7	700/1900/2100	270	42370.00	117.0
16	AT&T	Scala	80010965	700/800/2300	030	36002.00	117.0
17	AT&T	Scala	80010965	700/800/2300	140	36002.00	117.0
18	AT&T	Scala	80010965	700/800/2300	270	36002.00	117.0
19	AT&T	Ericsson	6419	3700-3900	023	71639.00	115.0
20	AT&T	Ericsson	6419	3700-3900	143	71639.00	115.0
21	AT&T	Ericsson	6419	3700-3900	263	71639.00	115.0
22	AT&T	Ericsson	6419	3700-3900	023	71639.00	115.0
23	AT&T	Ericsson	6419	3700-3900	143	71639.00	115.0
24	AT&T	Ericsson	6419	3700-3900	263	71639.00	115.0

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Appendix 2.2 Antenna Inventory

283420 Stoneybrook Rd CT							
Antenna Inventory							
Antenna #	Carrier	Antenna Manufacturer	Antenna Model	Frequency Band (MHz)	Azmiuth (°)	Effective Radiated Power (W)	Radiation Center (ft)
25	Dish	JMA	MX08FRO665-21	600/1900/2000/2100	000	40000.00	109.0
26	Dish	JMA	MX08FRO665-21	600/1900/2000/2100	120	40000.00	109.0
27	Dish	JMA	MX08FRO665-21	600/1900/2000/2100	240	40000.00	109.0
28	Dish	JMA	MX08FRO665-21	600/1900/2000/2100	154	40000.00	107.0
29	Dish	JMA	MX08FRO665-21	600/1900/2000/2100	050	40000.00	107.0
30	Dish	JMA	MX08FRO665-21	600/1900/2000/2100	252	40000.00	107.0
31	TMO	Ericsson	Air 32	1900/2100	135	8614.12	101.2
32	TMO	Ericsson	Air 32	1900/2100	249	8614.12	101.2
33	TMO	Ericsson	Air6419 B41	2500	030	14356.00	97.0
34	TMO	Ericsson	Air6419 B41	2500	150	14356.00	97.0
35	TMO	Ericsson	Air6419 B41	2500	270	14356.00	97.0
36	TMO	RFS	APXVAARR24	600/700	030	10543.00	97.0
37	TMO	RFS	APXVAARR24	600/700	150	10543.00	97.0
38	TMO	RFS	APXVAARR24	600/700	270	10543.00	97.0
39	TMO	Ericsson	Air 32	1900/2100	030	8614.12	97.0
40	TMO	Ericsson	Air 32	1900/2100	150	8614.12	97.0
41	TMO	Ericsson	Air 32	1900/2100	270	8614.12	97.0
42	VZW	Samsung	MT6413-77A	3700-3900	015	18286.00	87.0
43	VZW	Samsung	MT6413-77A	3700-3900	110	18286.00	87.0
44	VZW	Samsung	MT6413-77A	3700-3900	190	18286.00	87.0
45	VZW	Samsung	MT6413-77A	3700-3900	285	18286.00	87.0
46	VZW	JMA	MX12FRO645-01	700/800/1900/2100	110	39355.00	87.0
47	VZW	JMA	MX12FRO645-01	700/800/1900/2100	190	39355.00	87.0
48	VZW	JMA	MX06FHG665-HG	700/800/1900/2100	285	63392.00	87.0
49	VZW	JMA	MX06FHG665-HG	700/800/1900/2100	285	63392.00	87.0
50	VZW	JMA	MX06FHG865-HG	700/800/1900/2100	015	63392.00	87.0
51	VZW	JMA	MX06FHG865-HG	700/800/1900/2100	015	63392.00	87.0

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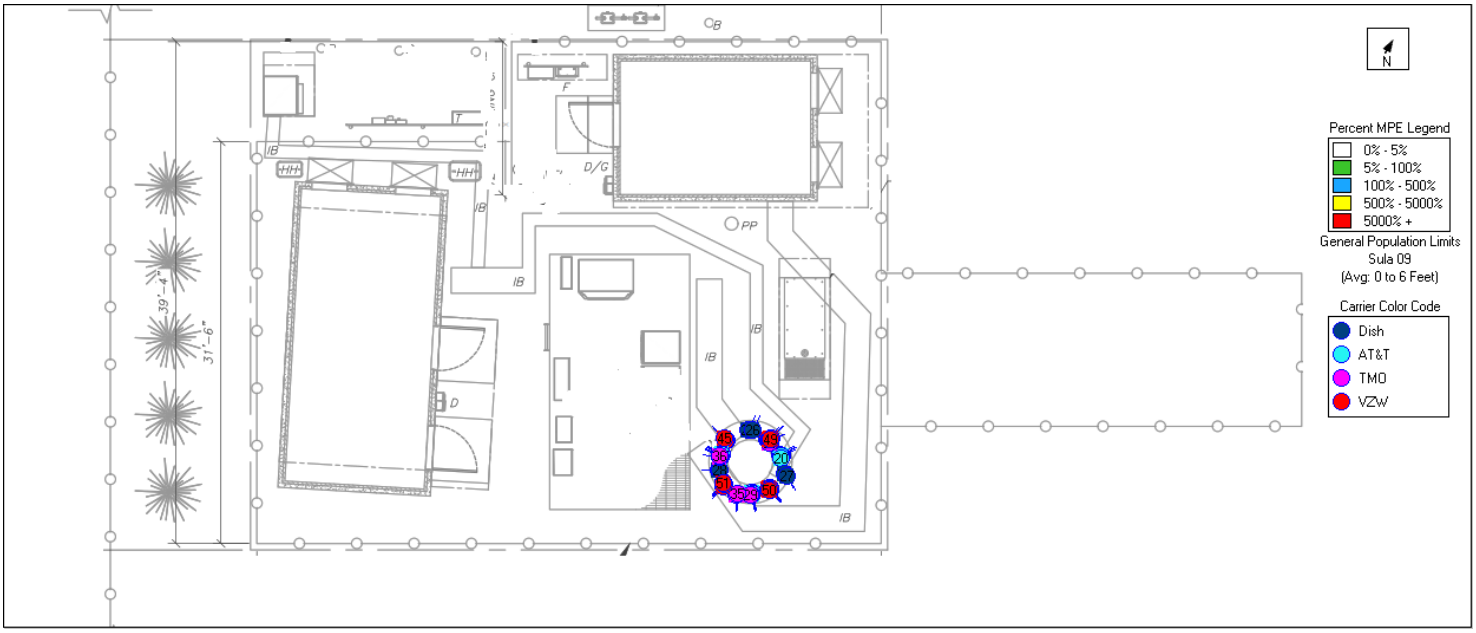
Appendix 3 MPE Limit Study



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Appendix 4 RF Hazard Signs

RF Safety Exposure Categorization		
Exposure Conditions	**Control Measures**	**Signage**
• Operational of the source(s) or locations where RF fields are too weak to cause exposures greater than General Public limit. Cat. | Occupational Worker | General Public 1 | <20% | <100% • Green zone is where the time and spatial-average is below 20% of Occupational Worker limit or <100% of General Public limit.	• RF Safety Guideline/NIER report must be submitted to RFSO for approval. • No special EME safety practices required in these areas. • No signage required except Information sign.	 **the antenna owner information and Antenna Structure Registration Number and must be displayed on the sign.* INFORMATION sign for access to rooftop/access door.
• Operational of the source(s) or locations where RF exposure could cause exposure greater than General Public limit but not the Occupational Worker limit to be exceeded in accessible areas. Cat. | Occupational Worker | General 2 | ≥20% but <100% | >100% • Blue zone is where the spatial average is between 20%-100% of Occupational Worker limit. This limit MUST be less than the Occupational limit.	• RF Safety Guideline/NIER report must be submitted to RFSO for approval. • *Recommended* RF safety awareness training for all workers in this area. • Controlled areas with barriers and/or signage required in these area. • Do not walk in front of the antenna face or no loitering in this controlled area. • Individual MUST have full control over any area where the exposure levels exceed the limit.	 NOTICE signage shall be posted on the barriers/stanchion to prevent anyone from entering into the area (must be cordon off around the antennas - 4 posts /3 signs). Or must be posted in location that can be easily viewed by individuals that enter the areas of concerns.
• Operational of the source(s) or locations where RF exposure exceeded the Occupational Worker limit in accessible areas. Cat. | Occupational Worker | General Public 3 | ≥100% | ≥500% • Yellow zone is where the spatial average is above 100% of Occupational Worker limit.	• RF Safety Guideline/NIER report must be submitted to RFSO for approval. • Individual **shall not** enter and work in these areas without RS approval • Required RF safety training and access area is restricted only for authorized worker. • Controlled areas with barriers and signage required in these area. • Do not walk in front of the antenna face. • Require reduction of RF power and approval from Radiation Safety prior any work on the antennas.	 CAUTION signage shall be posted on the barriers/stanchion to prevent anyone from entering into the area (must be cordon off around the antennas - 4 posts /3 signs).
• Exposure will exceed exposure limit in accessible areas. Cat. | Occupational Worker | General Public 4 | >500% | >1000% • Red zone is where the time and spatial-averaged levels fall above 500% of Occupational Worker limit or is not feasible to prevent exposures.	• RF Safety Guideline/NIER report must be submitted to RFSO for approval. • MUST re-engineer site to reduce the EME fields. • **No access allowed-Prohibited access!** There must be controls to detect any unauthorized enter and terminate the RF energy in the area. • Lock out tag out of transmitters during the maintenance of the antenna system. • PPE is not sufficient. • Special RF training and PPE are required. (Applies only to individuals trained by RS).	  RF WARNING & Pacemaker DANGER signage or appropriate DANGER sign shall be posted very near radiation RF sources or if appropriate DANGER sign.

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Appendix 5 Information Pertaining to MPE Studies

In 1985, the FCC first adopted guidelines to be used for evaluating human exposure to RF emissions. The FCC revised and updated these guidelines on August 1, 1996, as a result of a rule-making proceeding initiated in 1993. The new guidelines incorporate limits for Maximum Permissible Exposure (MPE) in terms of electric and magnetic field strength and power density for transmitters operating at frequencies between 300 kHz and 100 GHz.

The FCC's MPE limits are based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP), and, over a wide range of frequencies, the exposure limits were developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC's limits, and the NCRP and ANSI/IEEE limits on which they are based, are derived from exposure criteria quantified in terms of specific absorption rate (SAR). The basis for these limits is a whole-body averaged SAR threshold level of 4 watts per kilogram (4 W/kg), as averaged over the entire mass of the body, above which expert organizations have determined that potentially hazardous exposures may occur. The MPE limits are derived by incorporating safety factors that lead, in some cases, to limits that are more conservative than the limits originally adopted by the FCC in 1985. Where more conservative limits exist, they do not arise from a fundamental change in the RF safety criteria for whole-body averaged SAR, but from a precautionary desire to protect subgroups of the general population who, potentially, may be more at risk.

The FCC exposure limits are also based on data showing that the human body absorbs RF energy at some frequencies more efficiently than at others. The most restrictive limits occur in the frequency range of 30-300 MHz where whole-body absorption of RF energy by human beings is most efficient. At other frequencies, whole-body absorption is less efficient, and consequently, the MPE limits are less restrictive.

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MPE limits are defined in terms of power density (units of milliwatts per centimeter squared: mW/cm^2), electric field strength (units of volts per meter: V/m) and magnetic field strength (units of amperes per meter: A/m). The far-field of a transmitting antenna is where the electric field vector (E), the magnetic field vector (H), and the direction of propagation can be considered to be all mutually orthogonal ("plane-wave" conditions).

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

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area. Additional details can be found in FCC OET 65.

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Appendix 6 MPE Standards Methodology

This study predicts RF field strength and power density levels that emanate from communications system antennae. It considers all transmitter power levels (less filter and line losses) delivered to each active transmitting antenna at the communications site. Calculations are performed to determine power density and MPE levels for each antenna as well as composite levels from all antennas. The calculated levels are based on where a human (Observer) would be standing at various locations at the site. The point of interest where the MPE level is predicted is based on the height of the Observer.

Compliance with the FCC limits on RF emissions are determined by spatially averaging a person's exposure over the projected area of an adult human body, that is approximately six-feet or two-meters, as defined in the ANSI/IEEE C95.1 standard. The MPE limits are specified as time-averaged exposure limits. This means that exposure is averaged over an identifiable time interval. It is 30 minutes for the general population/uncontrolled RF environment and 6 minutes for the occupational/controlled RF environment. However, in the case of the general public, time averaging should not be applied because the general public is typically not aware of RF exposure, and they do not have control of their exposure time. Therefore, it should be assumed that any RF exposure to the general public will be continuous.

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The FCC's limits for exposure at different frequencies are shown in the following Tables.

Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)**
0.3 - 3.0	614	1.63	100*	6
3.0 - 30	1842/f	4.89/f	$900/F^2$	6
30 - 300	61.4	0.163	1.0	6
300 - 1500	--	--	f/300	6
1500 - 100,000	--	--	5	6

f = frequency

* = Plane-wave equivalent power density

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Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)**
0.3 - 1.34	614	1.63	100*	30
1.34 - 30	824/f	2.19/f	$180/F^2$	30
30 -300	27.5	0.073	0.2	30
300 -1500	--	--	f/1500	30
1500 -100,000	--	--	1.0	30

f = frequency

* = Plane-wave equivalent power density

General population/uncontrolled exposures apply in situations in which the general public may be exposed or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

It is important to understand that these limits apply cumulatively to all sources of RF emissions affecting a given area. For example, if several different communications system antennas occupy a shared facility such as a tower or rooftop, then the total exposure from all systems at the facility must be within compliance of the FCC guidelines.

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The field strength emanating from an antenna can be estimated based on the characteristics of an antenna radiating in free space. There are basically two field areas associated with a radiating antenna. When close to the antenna, the region is known as the Near Field. Within this region, the characteristics of the RF fields are very complex, and the wave front is extremely curved. As you move further from the antenna, the wave front has less curvature and becomes planar. The wave front still has a curvature, but it appears to occupy a flat plane in space (plane-wave radiation). This region is known as the Far Field.

Two models are utilized to predict Near and Far field power densities. They are based on the formulae in FCC OET 65.

Cylindrical Model (Near Field Predictions)

Spatially averaged plane-wave equivalent power densities parallel to the antenna may be estimated by dividing the antenna input power by the surface area of an imaginary cylinder surrounding the length of the radiating antenna. While the actual power density will vary along the height of the antenna, the average value along its length will closely follow the relation given by the following equation:

$$S = P \div 2\pi RL$$

Where:

S = Power Density

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length

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For directional-type antennas, power densities can be estimated by dividing the input power by that portion of a cylindrical surface area corresponding to the angular beam width of the antenna. For example, for the case of a 120-degree azimuthal beam width, the surface area should correspond to 1/3 that of a full cylinder. This would increase the power density near the antenna by a factor of three over that for a purely omni-directional antenna. Mathematically, this can be represented by the following formula:

$$S = (180 / \theta_{BW}) P \div \pi RL$$

Where:

S = Power Density

θ_{BW} = Beam width of antenna in degrees (3 dB half-power point)

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length

If the antenna is a 360-degree omni-directional antenna, this formula would be equivalent to the previous formula.

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Spherical Model (Far Field Predictions)

Spatially averaged plane-wave power densities in the Far Field of an antenna may be estimated by considering the additional factors of antenna gain and reflective waves that would contribute to exposure.

The radiation pattern of an antenna has developed in the Far Field region and the power gain needs to be considered in exposure predictions. Also, if the vertical radiation pattern of the antenna is considered, the exposure predictions would most likely be reduced significantly at ground level, resulting in a more realistic estimate of the actual exposure levels.

Additionally, to model a truly "worst case" prediction of exposure levels at or near a surface, such as at ground-level or on a rooftop, reflection off the surface of antenna radiation power can be assumed, resulting in a potential four-fold increase in power density.

These additional factors are considered, and the Far Field prediction model is determined by the following equation:

$$S = EIRP \times Rc \div 4\pi R^2$$

Where:

S = Power Density

EIRP = Effective Radiated Power from antenna

Rc = Reflection Coefficient (2.56)

R = Distance from the antenna

The EIRP includes the antenna gain. If the antenna pattern is considered, the antenna gain is relative based on the horizontal and vertical pattern gain values at that particular location in space, on a rooftop or on the ground. However, it is recommended that the antenna radiation pattern characteristics not be considered to provide a conservative "worst case" prediction. This is the equation is utilized for the Far Field exposure predictions herein.

CENTERLINE

EXHIBIT F

Mailing Receipts/Proof of Notice

C/O CULLEN MORGAN
9415497263
CENTERLINE COMMUNICATIONS LLC
12579 SAGEWOOD DRIVE
VENICE FL 34293

1 LBS **1 OF 1**

SHIP TO:
STONYBROOK MANAGEMENT LLC
124 KNAPP STREET
EASTON CT 06612-1078

CT 066 9-06

UPS GROUND
TRACKING #: 1Z 9Y4 503 03 3045 3852

BILLING: P/P

Reference # 1: 14764246 LANDOWNER CC

CS 24.5.00. MACNV50 29.0A 07/2024*

Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030330453852
Date: Saturday, July 20, 2024 at 4:59:15 PM Eastern Daylight Time
From: UPS <pkginfo@ups.com>
To: Cullen Morgan <CMORGAN@CLINELLC.COM>

Hello, your package has been delivered.

Delivery Date: Saturday, 07/20/2024
Delivery Time: 4:58 PM
Left At: OTHER-RELEAS

CENTERLINE SITE ACQUISITION

Tracking Number:	1Z9Y45030330453852
Ship To:	STONYBROOK MANAGEMENT LLC 124 KNAPP STREET EASTON, CT 066121078 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	0.8 LBS
Reference Number:	14764246 LANDOWNER CC

C/O CULLEN MORGAN
941-549-7263
CENTERLINE COMMUNICATIONS LLC
12579 SAGEWOOD DRIVE
VENICE FL 34293

1 LBS **1 OF 1**

SHIP TO:
AMERICAN TOWER CORP
10 PRESIDENTIAL WAY
WOBURN MA 01801-1053

MA 018 9-04

UPS GROUND
TRACKING #: 1Z 9Y4 503 03 0952 7143

BILLING: P/P

Reference # 1: 14764246 TOWER OWNER

CS 24.5.00. MACNV50 29.0A 07/2024*

Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030309527143
Date: Monday, July 22, 2024 at 12:34:19 PM Eastern Daylight Time
From: UPS <pkginfo@ups.com>
To: Cullen Morgan <CMORGAN@CLINELLC.COM>

Hello, your package has been delivered.

Delivery Date: Monday, 07/22/2024
Delivery Time: 12:32 PM

CENTERLINE SITE ACQUISITION

Tracking Number:	1Z9Y45030309527143
Ship To:	AMERICAN TOWER CORP 10 PRESIDENTIAL WAY WOBURN, MA 018011053 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	0.8 LBS
Reference Number:	14764246 TOWER OWNER

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C/O CULLEN MORGAN
9415497263
CENTERLINE COMMUNICATIONS LLC
12579 SAGEWOOD DRIVE
VENICE FL 34293

1 LBS **1 OF 1**

SHIP TO:
ATTN: MAYOR & BUILDING OFFICIAL
TOWN OF STRATFORD, CT
2725 MAIN STREET
STRATFORD CT 06615-5818

CT 066 9-01

UPS GROUND
TRACKING #: 1Z 9Y4 503 03 2047 8461

BILLING: P/P

Reference # 1: 14764246 TOWN CC

CS 24.5.00. MACNV50 29.0A 07/2024*

Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030320478461
Date: Monday, July 22, 2024 at 1:35:49 PM Eastern Daylight Time
From: UPS <pkginfo@ups.com>
To: Cullen Morgan <CMORGAN@CLINELLC.COM>

Hello, your package has been delivered.

Delivery Date: Monday, 07/22/2024
Delivery Time: 1:34 PM
Signed by: COMPUTER DEPT

CENTERLINE SITE ACQUISITION

Tracking Number:	1Z9Y45030320478461
Ship To:	TOWN OF STRATFORD, CT 2725 MAIN STREET STRATFORD, CT 066155818 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	0.8 LBS
Reference Number:	14764246 TOWN CC

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