Robinson+Cole

KENNETH C. BALDWIN

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Also admitted in Massachusetts and New York

August 2, 2023

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

Re: Notice of Exempt Modification – Facility Modification 160 West Street, Cromwell, Connecticut

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains a wireless telecommunications facility at the above-referenced address (the "Property"). Cellco's facility consists of antennas and remote radio heads attached to a tower. Equipment associated with the facility is located on the ground adjacent to the tower. Cellco's facility was approved by the Siting Council ("Council") in November of 2007 (Docket No. 338). A copy of the Council's Docket No. 338 Decision and Order approval is included in <u>Attachment 1</u>.

Cellco's proposed modification involves the installation of two (2) interference mitigation filters ("filters") on Cellco's existing antenna platform and mounting assembly. The filter specification sheet is included in <u>Attachment 2</u>.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Cromwell's Chief Elected Official and Land Use Officer.

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 tower. The filters will be installed on Cellco's existing antenna platform and mounting assembly.

Robinson+Cole

Melanie A. Bachman, Esq. August 2, 2023 Page 2

- 2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, 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 installation of Cellco's new filters will not result in a change to radio frequency (RF) emissions from the facility. Therefore, no new RF emissions information is included in this filing.
- 5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
- 6. According to the attached Structural Analysis Report ("SA") and Antenna Mount Analysis Report ("MA"), the existing tower, foundation, antenna platform and mounting assembly can support Cellco's proposed modifications. A copy of the SA and MA are included in Attachment 3.

A copy of the parcel map and Property owner information is included in <u>Attachment 4</u>. A Certificate of Mailing verifying that this filing was sent to municipal officials and the property owner is included in <u>Attachment 5</u>.

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

Sincerely,

Kenneth C. Baldwin

Enclosures Copy to:

Anthony Salvatore, Town Manager Stuart Popper, Director of Planning and Development 160 West Street, LLC, Property Owner Alex Tyurin, Verizon Wireless

ATTACHMENT 1

DOCKET NO. 338	 Sprint N 	Vextel Corp	oration a	applicati	on for a	a }	Connecticut
Certificate of Enviro	nmental (Compatibili	ity and I	Public N	Need for	r	
the construction,	mainten	ance and	d ope	ration	of a	a }	Siting
telecommunications	facility	located a	at 160	West	Street	,	Council
Cromwell, Connectic	ut.					}	Council
		4					November 29, 2007

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications 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 Sprint Nextel Corporation, hereinafter referred to as the Certificate Holder, for the construction, maintenance and operation of a wireless telecommunications facility at 160 West Street in Cromwell, 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 designed and constructed as a simulated pine tree no taller than 80 feet above ground level, sufficient to accommodate the antennas of Sprint Nextel Corporation, Cellco Partnership d/b/a Verizon Wireless and other entities. Such design shall attempt to mimic the existing pine trees adjacent to the site to the greatest extent possible.
- 2. The tower shall be relocated 20 to 40 feet to the south.
- 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 Cromwell for comment, and all parties and intervenors, and interested parties, 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 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) Photo-simulations of the selected tree tower design from the site property and adjacent residential neighborhood.

- 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 Cromwell 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. 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 Cromwell. 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.

Docket No. 338 Decision and Order Page 3

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 <u>Hartford Courant</u> and <u>The Middletown Press</u>.

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

Sprint Nextel Corporation

Intervenor

Cellco Partnership d/b/a Verizon Wireless

Its Representative

Thomas J. Regan, Esq. Brown Rudnick Berlack Israels LLP CityPlace I, 185 Asylum Street Hartford, CT 06103

Its Representative

Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597

ATTACHMENT 2



BSF0020F3V1-1

TWIN BANDSTOP 900MHZ INTERFERENCE MITIGATION FILTER

The BSF0020 is ideal for co-located 700, 850 and 900 networks, Utilising a 2,6MHz guardband the BSF0020 provides rejection of the 900 UL band while passing 700/850 UL and DL bands. Capable of being used in an outdoor environment the BSF0020 contains two identical bandstop filters, suitable for 2x2 MIMO configuration, offering excellent insertion loss, group delay and rejection.

FEATURES

- Passes full 700 and 850 bands
- Low insertion loss
- Rejection of 900MHz uplink
- DC/AISG pass
- Twin unit
- Dual twin mounting available



BAND NAME	YOU PATH / 850 UPLINK PATH	850 DOWNLINK PATH		
Passband	698 - 849MHz	869 - 891 5MHz		
Insertion loss	0.1dB typical / 0.3dB maximum	0.5dB typical, 1.45dB maximum		
Return loss	24dB typical, 1	8dB minimum		
Maximum input power (Per Port)	100W average	200W average and 66W per 5MHz		
Rejection	53dB minimum @ 894,1 - 896.5MHz			
ELECTRICAL				
Impedance	50Oh	ann		
Intermodulation products	-160dBc maximum in UL Band (assuming -153dBc maximum			
DC / AISG				
Passband	0 - 13MHz			
Insertion loss	0,3dB maximum			
Return loss	15dB minimum			
Input voltage range	± 33V			
DC current rating	2A continuous	s, 4A peak		
Compliance	3GPP TS	25.461		
ENVIRONMENTAL				
For further details of environmental co	ompliance, please contact Kaelus.			
Temperature range	-20°C to +60°C	-4°F to +140°F		
Ingress protection	IP67	7		
Altitude	2600m 8	8530ft		
Lightning protection	RF port: ±5kA maximum (8/20us), IEC 61000-4-5 - Unit mu	ost be terminated with some lightning protection circuit		
MTBF	>1,000,00	0 hours		
Compliance	ETSI EN 300 019 class 4.1H, F	RoHS. NEBS GR-487-CORE		
MECHANICAL				
Dimensions H x D x W	269 x 277 x 80mm 10.60 x 10.90 x 3.15i	in (Excluding brackets and connectors)		
Weight	8.0 kg 17.6 lbs	(no bracket)		

Powder coated, light grey (RAL7035)

RF: 4:3-10 (F) x 4

Optional pole/wall bracket supplied with two metal clamps 45-178mm diameter poles or custom bracket. See ordering

information.

Finish

Connectors

Mounting

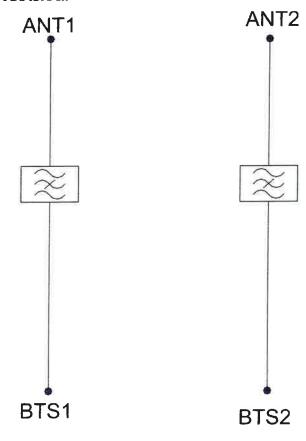


ORDERING INFORMATION

PART NUMBER	CONFIGURATION	OPTIONAL FEATURES	CONNECTORS
BSF0020F3V1	TWIN, 2 in / 2 out	DC/AISG PASS NO BRACKET	4 _* 3-10 (F)
BSF0020F3V1-1	TWIN, 2 in / 2 out	DC/AISG PASS	4.3-10 (F)
BSF0020F3V1-2	QUAD, 4 in / 4 out	DC/AISG PASS	4.3-10 (F)

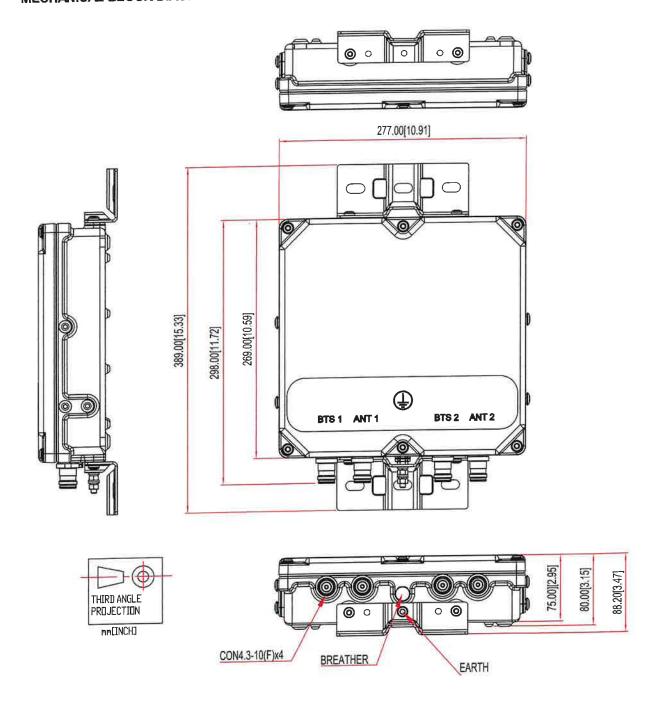


ELECTRICAL BLOCK DIAGRAM





MECHANICAL BLOCK DIAGRAM



ATTACHMENT 3



Phone (972) 483-0607, Fax (972) 975-9615 1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

Existing 76 ft TransAmerican Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT46122-A

Customer Site Name: Middletown North

Carrier Name: Verizon (App#: 232674-3)

Carrier Site ID / Name: 5000245641 / CROMWELL CT

Site Location: 160 West Street

Cromwell, Connecticut

Middlesex County

Latitude: 41.606000

Longitude: -72.670388

Exp. 01/31/2024



07/07/2023

Analysis Result:

Max Structural Usage: 66.1% [Pass]

Max Foundation Usage: 48.2% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By: Tawfeeq Alajaj



Phone (972) 483-0607, Fax (972) 975-9615 1320 Greenway Drive, Suite 600, Irving, Texas 75038

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Middlesex County

Latitude: 41.606000

Longitude: -72.670388

Analysis Result:

Max Structural Usage: 66.1% [Pass]

Max Foundation Usage: 48.2% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By: Tawfeeq Alajaj

Introduction

The purpose of this report is to summarize the analysis results on the 76 ft TransAmerican Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	TransAmerican Power Products, Inc., Order #TP-8949 dated July 19, 2010
Foundation Drawing	Vertical Solutions, Project #100264.02 dated February 23, 2010
Geotechnical Report	Clarence Welti Association, Inc., Project Name: Transcend Wireless Tower dated February 1, 2010
Modification Drawings	N/A
Mount Analysis	N/A

Analysis Criteria

The feasibility analysis was performed in accordance with the requirements and stipulations of the TIA-222-H. In accordance with this standard, the structure was analyzed using **TESPoles**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis: 119.0 mph (3-Sec. Gust) (Ultimate wind speed)
Wind Speed with Ice: 50 mph (3-Sec. Gust) with 1" radial ice concurrent

Service Load Wind Speed: 60 mph + 0" Radial ice

Standard/Codes: TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code

Exposure Category:

Risk Category:

Topographic Category:

1

Crest Height:

C

Seismic Parameters: $S_S = 0.205, S_1 = 0.055$

This structural analysis is based upon the tower being classified as a Risk Category II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1		3	RFS APXVAALL24-43-U-NA20			
2		3	Ericsson Air 32 KRD901146- 1_B66A_B2A	(3) T-Arms		
3		3	Ericsson AIR6449 B41	w/ replaced new standoff, face	(6) 7/8"	
4	74.0	3	Commscope SDX1926Q-43	horizontal and new support rail	(4) 1 5/8" Fiber	T-Mobile
5		6	Andrew ATM200-A20	with end connection	(6) 3/8" RET	
6		3	Ericsson 4449 B71 + B85			
7	j	3	Ericsson 4415 B25			
8		3	Ericsson 4415 B66A			
9		6	Commscope JAHH-65B-R3B			
10		3	Samsung Telecommunications VZS01			
11		4	Andrew DB846F65ZAXY	(3) T-Arms		
12		2	Decibel DB846H80E-SX w/Mount Pipe	(3) TBD VZWSMART-SFK4		
13	64.0	3	Commscope CBC78T-DS-43- 2X/E14F05P50	(Mount Reinforcement) (3) Commscope BSAMNT-SBS-2-	(18) 1 5/8" Coax (2) 1 5/8" Hybrid	Verizon
14		3	Samsung B2/B66A RRH-BR049	2 (side-by-side mounts)		
15		3	Samsung B5/B13 RRH-BR04C			
16		2	RFS DB-T1-6Z-8AB-0Z			
17		3	JMA Wireless MX08FRO665-21			
18	51.0	3	Fujitsu TA08025-B605	Commscope MC-K6MHDX-9-96		Dish
19	21.0	3	Fujitsu TA08025-B604	T-Arms		Wireless
20		1	Raycap RDIDC-9181-PF-48	2.		

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
9	- 17	6	Commscope JAHH-65B-R3B			
10		3	Samsung Telecommunications VZS01			
11		4	Andrew DB846F65ZAXY	(3) T-Arms		
12		2	Decibel DB846H80E-SX w/Mount Pipe	(3) TBD VZWSMART-SFK4		
13	64.0	3	Commscope CBC78T-DS-43- 2X/E14F05P50	(Mount Reinforcement) (3) Commscope BSAMNT-SBS-2-	(18) 1 5/8" Coax (2) 1 5/8" Hybrid	Verizon
14		3	Samsung B2/B66A RRH-BR049	2 (side-by-side mounts)		
15		3	Samsung B5/B13 RRH-BR04C			
16		2	RFS DB-T1-6Z-8AB-0Z			
17		2	Kaelus BSF0020F3V1-1 Filter			

See the attached coax layout for the line placement considered in the analysis.

TES Project Number: 141609 Page 4 July 7, 2023

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	66.1%	65.5%	45.6%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Original Design Reactions	2800.0	52.0
Analysis Reactions	1822.6	31.3
Factored Reactions*	3780.0	70.2
% of Design Reactions	48.2%	44.6%

^{*} Per section 15.6.2 of the TIA-222-H standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

No foundation drawing is available for the analysis of the existing foundation. Since the reactions calculated from the current analysis are less than those indicated on the original structural design drawing, the foundations are assumed to be adequate to resist the reactions from the current analysis.

Service Load Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.5540 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure was were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222 Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

- 1. This analysis was performed based on the information supplied to (TES) Tower Engineering Solutions, LLC. Verification of the information provided was not included in the Scope of Work for TES. The accuracy of the analysis is dependent on the accuracy of the information provided.
- 2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
- 3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of TES. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, TES should be notified in writing and the applicable minimum values provided by the client.
- 4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
- 5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
- 6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 66.11% at 28.3ft

Structure: CT46122-A-SBA

Site Name: Middletown North Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Code:

EIA/TIA-222-H

Exposure: C Gh: 1.

1.1

7/7/2023 ((開))

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Tower Engineering Solut

Page: 1

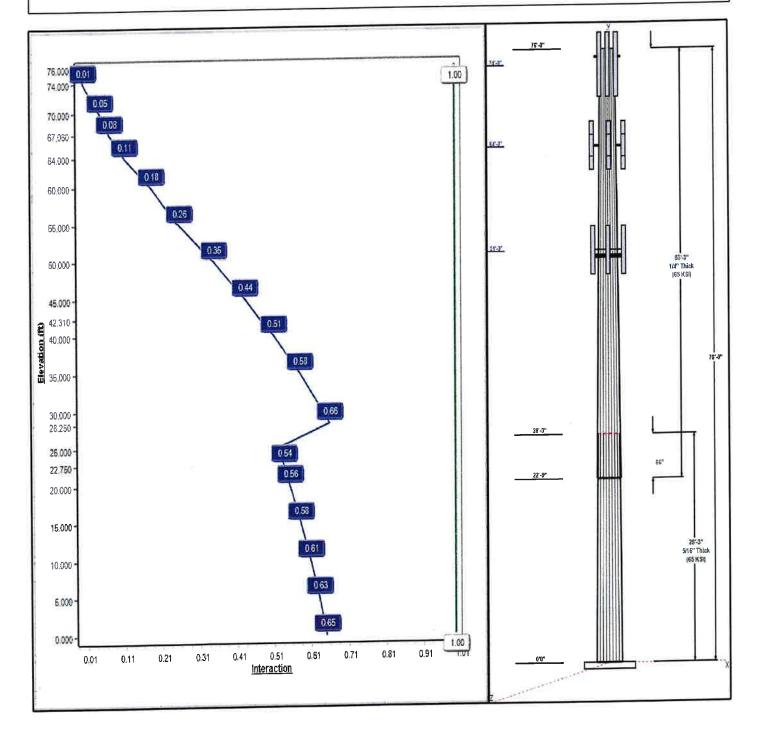
Dead Load Factor: Wind Load Factor: 1.20

1.00

Load Case: 1.2D + 1.0W 119 mph Wind

Iterations: 17

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Structure: CT46122-A-SBA

Type:

64.00

64.00

64.00

64.00

64.00

64.00

64.00

55.44

51.00

51.00

51.00

51.00

51.00

42.31

64.00

64.00

64.00

64.00

64.00

64.00

64.00

55.44

51.00

1

Tapered

Site Name: Middletown North Height: 76.00 (ft)

Base Elev: 0.00 (ft)

Base Shape: 18 Sided

Taper: 0.32787

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Shaft Properties

					1-01-1-1		
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Тарег	Grade (ksi)
1	28.25	37.24	46.50	0.313		0.32787	65
2	53.25	22.08	39.54	0.250	Slip	0.32787	65
		Dis	crete A	ppurte	enances		
Attach	Force						
Elev (fi	t) Elev (ft)) Qty	Descrip	otion		Carrier	
75.4	5 75.45	1	4' Branc	hes			
75.00	75.00	3	T-Arms			T-Mobile	
74.00	74.00	3	RFS			T-Mobile	
74.00	74.00	3	Air 32			T-Mobile	
74.00	74.00	6	ATM200	-A20		T-Mobile	
74.00	74.00	3	Radio 4	149 B71+	B85	T-Mobile	
74.00	74.00	3	Comms	cope		T-Mobile	
7400							

74.00 74.00 Antenna Branches 74.00 74.00 3 AIR6449 B41 T-Mobile 74.00 74.00 3 RRUS 4415 B25 T-Mobile 74.00 74.00 3 Ericsson 4415 B66A T-Mobile 74.00 74.00 (Handrail Kit w/end T-Mobile 67.06 67.06 1 6' Branches 64.00 64.00 3 T-Arm Verizon 64.00 64.00 2 Kaeius BSF0020F3V1-1 Verizon 64.00 64.00 4 DB846F65ZAXY Verizon 64.00 64.00 2 DB846H80E-SX Verizon 64.00 64.00

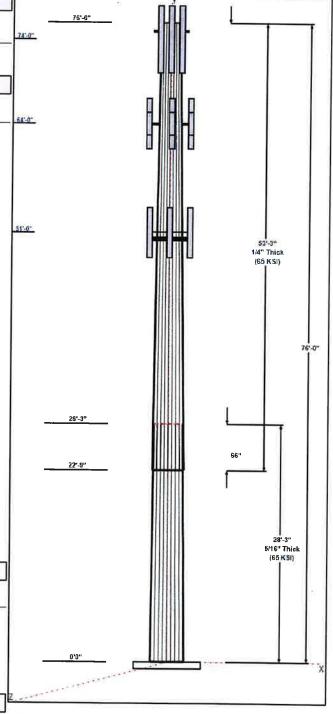
2 DB-T1-6Z-8AB-0Z Verizon 6 JAHH-65B-R3B Verizon 3 VZS01 Verizon (3) VZWSMART-SFK4 1 Verizon BSAMNT-SBS-1-2 Verizon 3 CBC78T-DS-43-2X/E14F0 Verizon 3 B2/B66A RRH-BR049 Verizon 3 B5/B13 RRH-BR04C Verizon 1 8' Branches

MC-K6MHDX-9-96 (3 Dish Wireless 51.00 MX08FRO665-21 Dish Wireless 51.00 3 TA08025-B604 Dish Wireless 51.00 3 TA08025-B605 Dish Wireless 51.00 1 RDIDC-9181-OF-48 Dish Wireless 42.31 1 10' Branches

		Linea	r Appurten	ances	
Elev	Elev				-
From (ft)	To (ft)	Placement	Description	Carrier	
0.00	75.00	Inside	1 5/8" Fiber	T-Mobile	
0.00	75.00	Inside	3/8" RET	T-Mobile	
0.00	75.00	Inside	7/8" Coax	T-Mobile	
0.00	64.00	Inside	1 5/8" Coax	Verizon	
0.00	64.00	Inside	1 5/8" Hybrid	Verizon	
0.00	51.00	Inside	1.6" Hybrid	Dish Wireless	

Anchor Bolts

Grade Qty Specifications (ksi) Arrangement 10 2.25" 18J 75.0 Radial



Structure: CT46122-A-SBA

Type:

Tapered

Base Shape: 18 Sided

Site Name: Middletown North

7/7/2023

Height:

76.00 (ft)

Taper: 0.32787

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Base Elev: 0.00 (ft)

		Base Pla	te	
Thickness (in)	Specifications (in)	Grade (ksi)	Geometry	
2.0000	60.0	60.0	Round	
		Reaction	ıs	

Re	eactions		Reactions						
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)						
1.2D + 1.0W 119 mph Wind	1822.6	31.3	24.2						
0.9D + 1.0W 119 mph Wind	1816.6	31.3	18.2						
1.2D + 1.0Di + 1.0Wi 50 mph Wind	453.6	7.9	36.4						
1.2D + 1.0Ev + 1.0Eh	53.5	0.9	25.2						
0.9D + 1.0Ev + 1.0Eh	53.5	0.9	19.1						
1.0D + 1.0W 60 mph Wind	413.7	7.1	20.2						

Structure: CT46122-A-SBA - Coax Line Placement

Type: Monopole

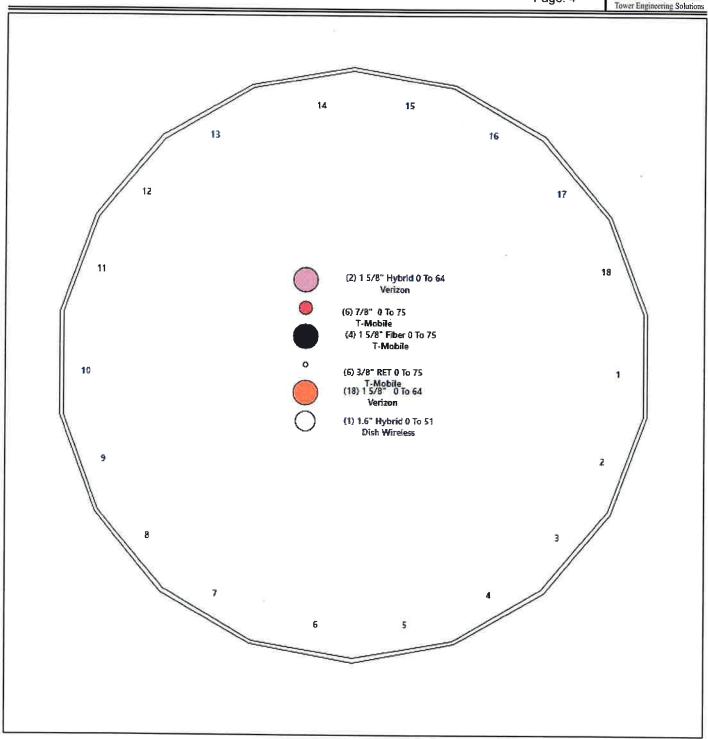
Site Name: Middletown North

Height: 76.00 (ft)

7/7/2023

IES
Tower Engineering Solution

Page: 4



Shaft Properties

CT46122-A-SBA Structure:

Site Name: Middletown North

76.00 (ft) Height: Base Elev: 0.000 (ft)

Gh: 1.1

TIA-222-H Code:

Exposure: С

Crest Height: 0.00

D - Stiff Soil

Site Class:

Struct Class: ||

7/7/2023

Page: 5

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	28.250	0.3125	65		0.00	3,962
2	18	53.250	0.2500	65	Slip	66.00	4,394
					Total Sha	aft Weight:	8,356

Topography: 1

	_		Вс	ottom						ор			
Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	lx (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	lx (in^4)	W/t Ratio	D/t Ratio	Taper
1	46.50	0.00	45.81	12347.18	24.83	148.80	37.24	28.25	36.62	6309.09	19.60	119.1	0.327865
2	39.54	22.75	31.18	6080.87	26.48	158.16	22.08	76.00	17.32	1043.23	14.16	88.33	0.327865

Load Summary

Structure: CT46122-A-SBA

Site Name: Middletown North

Topography: 1

Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Code: TIA-222-H

Exposure: C **Crest Height:** 0.00

Site Class: D - Stiff Soil

Struct Class: ||

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Discrete Appurtenances

					No Ice			Ice			
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1		4' Branches	1	390.00	36.86	1.00	559.45	52.875	1.00	0.00	0.00
2		T-Arms	3	160.00	8.00	0.75	246.84	13.801	0.75	0.00	0.00
3		RFS APXVAALL24-43-U-NA20	3	128.00	20.24	0.70	375.22	21.404	0.70	0.00	0.00
4		Air 32 KRD901146-1_B66A_B2A	3	132.20	6.51	0.87	238.23	7.189	0.87	0.00	0.00
5	74.00	ATM200-A20	6	0.50	0.12	0.50	3.75	0.257	1.00	0.00	0.00
6		Radio 4449 B71+B85	3	71.00	1.97	0.67	104.16	2.310	0.67	0.00	0.00
7	74.00	Commscope SDX1926Q-43	3	7.00	0.72	0.67	15.91	1.113	0.67	0.00	0.00
8	74.00	Antenna Branches	1	96.00	22.43	1.00	137.63	32.157	1.00	0.00	0.00
9	74.00	AIR6449 B41	3	103.00	5.65	0.71	188.18	6.240	0.71	0.00	0.00
10	74.00	RRUS 4415 B25	3	46.00	1.64	0.67	71.53	1.960	0.67	0.00	0.00
11	74.00	Ericsson 4415 B66A	3	49.60	1.86	0.67	84.39	2.195	0.67	0.00	0.00
12	74.00	(Handrail Kit w/end connection)	1	261.72	6.75	1.00	454.66	10.848	1.00	0.00	0.00
13	67.06	6' Branches	1	400.00	83.63	1.00	571.76	19.540	1.00	0.00	0.00
14	64.00	T-Arm	3	320.00	8.00	0.75	456.77	12.274	0.75	0.00	0.00
15	64.00	Kaelus BSF0020F3V1-1 Filter	2	19.80	0.70	0.80	35.37	0.912	0.80	0.00	0.00
16	64.00	DB846F65ZAXY	4	21.00	7.05	0.93	132.84	7.776	0.93	0.00	0.00
17	64.00	DB846H80E-SX	2	16.00	5.01	1.12	105.02	5.721	1.12	0.00	0.00
18	64.00	DB-T1-6Z-8AB-0Z	2	44.00	3.30	0.67	126.03	5.321	0.67	0.00	0.00
19	64.00	JAHH-65B-R3B	6	63.30	9.11	0.83	195.06	9.916	0.83	0.00	0.00
20	64.00	VZS01	3	87.10	4.30	0.69	149.51	4.830	0.69	0.00	0.00
21	64.00	(3) VZWSMART-SFK4	1	500.00	16.50	0.75	863.28	26,373	0.75	0.00	0.00
22	64.00	BSAMNT-SBS-1-2	3	25.35	0.00	0.75	36.18	0.000	0.75	0.00	0.00
23	64.00	CBC78T-DS-43-2X/E14F05P50	3	21.80	0.37	0.67	32.27	0.528	0.67	0.00	0.00
24		B2/B66A RRH-BR049	3	84.40	1.64	0.67	118.34	1.956	0.67	0.00	0.00
25	64.00	B5/B13 RRH-BR04C	3	70.30	2.22	0.67	105.75	2.599	0.67	0.00	0.00
26	55.44	8' Branches	1	1638.00	150.70	1.00	2328.09	14.190	1.00	0.00	0.00
27	51.00	MC-K6MHDX-9-96 (3 Sectors)	1	899.00	20.95	0.75	1424.84	36.705	0.75	0.00	0.00
28	51.00	MX08FRO665-21	3	64.50	12.49	0.74	238.58	13.367	0.74	0.00	0.00
29	51.00	TA08025-B604	3	63.90	1.96	0.67	94.20	2.296	0.67	0.00	0.00
30	51.00	TA08025-B605	3	75.00	1.96	0.67	106.30	2.296	0.67	0.00	0.00
31	51.00	RDIDC-9181-OF-48	1	21.90	2.01	1.00	53.77	2.350	1.00	0.00	0.00
32	42.31	10' Branches	1	540.00	54.43	1.00	761.44	76.750	1.00	0.00	0.00

Linear Appurtenances

Totals:

82

9,900.47

Bottom	Тор				
Elev. (ft)	Elev. (ft)	Description	Exposed Width	Exposed	
0.00	75.00	(4) 1 5/8" Fiber	0.00	Inside	
0.00	75.00	(6) 3/8" RET	0.00	Inside	
0.00	75.00	(6) 7/8" Coax	0.00	Inside	
0.00	64.00	(18) 1 5/8" Coax	0.00	Inside	
0.00	64.00	(2) 1 5/8" Hybrid	0.00	Inside	
0.00	51.00	(1) 1.6" Hybrid	0.00	Inside	

17,399.22

Shaft Section Properties

Structure: CT46122-A-SBA

Site Name: Middletown North

Topography: 1

Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Code: TIA-222-H

Exposure: C

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: ||

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((III))
IES
Tower Engineering Solution

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Increment Length: 5 (ft)

Elev		Thick	Dia	Area	lx	W/t	D/t	Fpy	S (: A2)	Weight (lb)
(ft)	Description	(in)	(in)	(in^2)	(in^4)	Ratio	Ratio		(in^3)	0.0
0.00		0.3125	46.500	45.811	12347.2	24.83	148.80		523.0	
5.00		0.3125	44.861	44.185	11078.6	23.90	143.55		486.4	765.6
10.00		0.3125	43.221	42.559	9900.0	22.98	138.31		451.1	737.9
15.00		0.3125	41.582	40.933	8808.1	22.05	133.06		417.2	710.3
20.00		0.3125	39.943	39.307	7799.6	21.13	127.82		384.6	682.6
22.75	Bot - Section 2	0.3125	39.041	38.413	7279.3	20.62	124.93		367.2	363.6
25.00	Bot - deciron 2	0.3125	38.303	37.681	6871.2	20.20	122.57			527.7
28.25	Top - Section 1	0.2500	37.738	29.746	5281.5	25.21	150.95	0.0	0.0	744.5
30.00	Top - Section 1	0.2500	37.164	29,290	5042.7	24.80	148.66	72.2		175.8
35.00		0.2500	35.525	27.989	4400.2	23.65	142.10	73.6	244.0	487.3
40.00		0.2500	33.885	26.689	3814.8	22.49	135.54	74.9	221.7	465.1
		0.2500	33.128	26.088	3562.9	21.95	132.51	75.6	211.8	207.4
42.31		0.2500	32.246	25.388	3283.8	21.33	128.98	76.3	200.6	235.6
45.00		0.2500	30.607	24.087	2804.5	20.18	122.43	77.7	180.5	420.9
50.00		0.2500	30.279	23.827	2714.6	19.95	121.12	77.9	176.6	81.5
51.00		0.2500	28.967	22.786	2374.2	19.02	115.87	79.0	161.4	317.2
55.00		0.2500	28.823	22.672	2338.6	18.92	115.29	79.1	159.8	34.0
55.44		0.2500	27.328	21.486	1990.4	17.86	109.31	80.4	143.5	342.6
60.00		0.2500	26.017	20.445	1715.0	16.94	104.07	81.5	129.8	285.4
64.00		0.2500	25.689	20.185	1650.3	16.71	102.76	81.7	126.5	69.1
65.00		0.2500	25.013	19.649	1522.3	16.23	100.05	82.3	119.9	139.6
67.06		0.2500	24.049	18.884	1351.4	15.55	96.20	82.5	110.7	192.7
70.00		0.2500	22.738	17.844	1140.1	14.63	90.95	82.5	98.8	250.0
74.00		0.2500	22.410	17.583	1090.9	14.40	89.64	82.5	95.9	60.3
75.00		0.2500	22.263	17.466	1069.3	14.29	89.05	82.5	94.6	26.8
75.45		0.2500	22.082	17.323	1043.2	14.16	88.33	82.5	93.1	32.6
76.00		0.2300	22.002							8356.2

Wind Loading - Shaft

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft) **Base Elev:** 0.000 (ft)

Gh: 1.1

Code: TIA-222-H

Exposure: C
Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: ||

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((III)) IES Tower Engineering Solution

Load Case: 1.2D + 1.0W 119 mph Wind

Topography: 1

Dead Load Factor 1.20 Wind Load Factor 1.00



Iterations

17

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	lce Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (Ib)	Tot Dead Load (lb)	
0.00		1.00	0.85	29.135	32.05	430.67	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0	
5.00		1.00	0.85	29.135	32.05	415.49	0.730	0.000	5.00	19.327	14.11	452.2	0.0	918.7	
10.00		1.00	0.85	29.135	32.05	400.31	0.730	0.000		18.634	13.60	435.9	0.0	885.5	
15.00		1.00	0.85	29.135	32.05	385.12	0.730	0.000	5.00	17.940	13.10	419.7	0.0	852.3	
20.00		1.00	0.90	30.914	34.00	381.06	0.730	0.000	5.00	17.246	12.59	428.1	0.0	819.1	
	t - Section 2	1.00	0.93	31.764	34.94	377.55	0.730	0.000	2.75	9.190	6.71	234.4	0.0	436,4	
25.00		1.00	0.95	32.400	35.64	374.11	0.730	0.000	2.25	7.458	5.44	194.0	0.0	633.3	
28.25 To	p - Section 1	1.00	0.97	33.245	36.57	368.41	0.730	0.000	3.25	10.525	7.68	281.0	0.0	893.4	
30.00		1.00	0.98	33.668	37.04	370.01	0.730	0.000	1.75	5.546	4.05	149.9	0.0	210.9	
35.00		1.00	1.01	34.779	38.26	359.48	0.730	0.000	5.00	15.377	11.23	429.4	0.0	584.7	
40.00		1.00	1.04	35.770	39.35	347.74	0.730	0.000	5.00	14.684	10.72	421.8	0.0	558.2	
	purtenance(s)	1.00	1.06	36.196	39.82	341.99	0.730	0.000	2.31	6.550	4.78	190.4	0.0	248.9	
45.00		1.00	1.07	36.669	40.34	335.05	0.730	0.000	2.69	7.440	5.43	219.1	0.0	282.7	
50.00		1.00	1.09	37.491	41.24	321.56	0.730	0.000	5.00	13.296	9.71	400.3	0.0	505.1	
	purtenance(s)	1.00	1.10	37.648	41.41	318.78	0.730	0.000	1.00	2.576	1.88	77.9	0.0	97.8	
55.00		1.00	1.12	38.251	42.08	307.41	0.730	0.000	4.00	10.027	7.32	308.0	0.0	380.7	
	purtenance(s)	1.00	1.12	38.315	42.15	306.13	0.730	0.000	0.44	1.076	0.79	33.1	0.0	40.8	
60.00		1.00	1.14	38.958	42.85	292.68	0.730	0.000	4.56	10.833	7.91	338.9	0.0	411.1	
	purtenance(s)	1.00	1.15	39.491	43.44	280.53	0.730	0.000	4.00	9.028	6.59	286.3	0.0	342.4	
65.00		1.00	1.16	39.620	43.58	277.45	0.730	0.000	1.00	2.188	1.60	69.6	0.0	83.0	
	purtenance(s)	1.00	1.16	39.881	43.87	271.04	0.730	0.000	2.06	4.419	3.23	141.5	0.0	167.5	
70.00		1.00	1.17	40.243	44.27	261.78	0.730	0.000	2.94	6.103	4.46	197.2	0.0	231.3	
	ourtenance(s)	1.00	1.19	40.717	44.79	248.96	0.730	0.000	4.00	7.918	5.78	258.9	0.0	299.9	
	ourtenance(s)	1.00	1.19	40.832	44.91	245.71	0.730	0.000	1.00	1.910	1.39	62.6	0.0	72.3	
	ourtenance(s)	1.00	1.19	40.883	44.97	244.25	0.730	0.000	0.45	0.851	0.62	27.9	0.0	32.2	
76.00		1.00	1.19	40.946	45.04	242.46	0.730	0.000	0.55	1.032	0.75	33.9	0.0	39.1	
								Totals:	76.00		10	6,092.1		10,027.4	

Discrete Appurtenance Forces

Structure: CT46122-A-SBA

Site Name: Middletown North

76.00 (ft) Height:

Base Elev: 0.000 (ft)

Gh: 1.1 Code:

TIA-222-H

Exposure:

С

Crest Height: 0.00 D - Stiff Soil

Site Class:

Struct Class: ||

7/7/2023

((明))

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Load Case: 1.2D + 1.0W 119 mph Wind

Dead Load Factor

1.20 1.00

Topography: 1

Wind Load Factor

17 **Iterations**

					Orient		Total CaAa	Dead Load	Horiz Ecc	Vert Ecc	Wind FX	Mom Y	Mom Z
Na	Elev (ft) Description	Qty	qz (psf)	qzGh (psf)	Factor x Ka	Ka	(sf)	(Ib)	(ft)	(ft)	(lb)	(lb-ft)	(lb-ft)
No.	19	1	40.883	44.972	1.00	1.00	36.86	468.00	0.000	0.000	1657.65	0.00	0.00
1	75.45 4' Branches	3		44.915	0.56	0.75	13.50	576.00	0.000	0.000	606.35	0.00	0.00
2	75.00 T-Arms	1		44,788	1.00	1.00	22.43	115.20	0.000	0.000	1004.60	0.00	0.00
3	74.00 Antenna Branches 74.00 AIR6449 B41	3		44.788	0.57	0.80	9.63	370.80	0.000	0.000	431.20	0.00	0.00
4		3		44.788	0.54	0.80	2.64	165.60	0.000	0.000	118.11	0.00	0.00
5	74.00 RRUS 4415 B25 74.00 Ericsson 4415 B66A	3		44.788	0.54	0.80	2.99	178.56	0.000	0.000	133.96	0.00	0.00
6		1		44.788	1.00	1.00	6.75	314.06	0.000	0.000	302.32	0.00	0.00
7	74.00 (Handrail Kit w/end	3		44.788	0.56	0.80	34.00	460.80	0.000	0.000	1522.94	0.00	0.00
8	74.00 RFS	3		44.788	0.70	0.80	13.59	475.92	0.000	0.000	608.80	0.00	0.00
9	74.00 Air 32 74.00 ATM200-A20	6	40.717		0.40	0.80	0.29	3.60	0.000	0.000	12.90	0.00	0.00
10		3	40.717		0.54	0.80	3.17	255.60	0.000	0.000	141.88	0.00	0.00
11	74.00 Radio 4449 B71+B85	3	40.717	44.788	0.54	0.80	1.16	25.20	0.000	0.000	51.85	0.00	0.00
12	74.00 Commscope	1	39.881	43,869	1.00	1.00	83.63	480.00	0.000	0.000	3668.78	0.00	0.00
13	67.06 6' Branches	3	39.491	43.440	0.54	0.80	3.57	253.08	0.000	0.000	155.07	0.00	0.00
14	64.00 B5/B13 RRH-BR04C	_	39.491	43.440	0.54	0.80	2.64	303.84	0.000	0.000	114.56	0.00	0.00
15	64.00 B2/B66A RRH-BR049		39.491	43.440	0.54	0.80	0.59	78.48	0.000	0.000	25.85	0.00	0.00
16	64.00 CBC78T-DS-43-2X/E1	3	39.491	43.440	0.56	0.75	0.00	91.26	0.000	0.000	0.00	0.00	0.00
17	64.00 BSAMNT-SBS-1-2	2	39.491	43.440	0.90	0.80	8.98	38.40	0.000	0.000	390.00	0.00	0.00
18	64.00 DB846H80E-SX	3	39.491		0.56	0.75	13.50	1152.00	0.000	0.000	586.44	0.00	0.00
19	64.00 T-Arm	_	39.491	43.440	0.64	0.80	0.90	47.52	0.000	0.000	38.92	0.00	0.00
20	64.00 Kaelus BSF0020F3V1	-ı 2 4	39.491	43,440		0.80	20.98	100.80	0.000	0.000	911.41	0.00	0.00
21	64.00 DB846F65ZAXY	_	39.491	43.440		0.75	9.28	600.00	0.000	0.000	403.18	0.00	0.00
22	64.00 (3) VZWSMART-SFK4	2	39.491	43.440		0.80	3.54	105.60	0.000	0.000	153.67	0.00	0.00
23	64.00 DB-T1-6Z-8AB-0Z	6	39.491			0.80	36.29	455.76	0.000	0.000	1576.62	0.00	0.00
24	64.00 JAHH-65B-R3B	3	39.491			0.80	7.12	313.56	0.000	0.000	309.33	0.00	0.00
25	64.00 VZS01	1		42.147		1.00	150.70	1965.60	0.000	0.000	6351.48	0.00	0.00
26	55.44 8' Branches	3	37.648			0.80	22.18	232.20	0.000	0.000	918.62	0.00	0.00
27	51.00 MX08FRO665-21	-	37.648			0.75	11.78	1078.80	0.000	0.000	488.02	0.00	0.00
28	51.00 MC-K6MHDX-9-96 (3	1	37.648			0.80	1.61	26.28	0.000	0.000	66.59	0.00	0.00
29	51.00 RDIDC-9181-OF-48	1		41.412		0.80	3.15	270.00	0.000	0.000	130.52	0.00	0.00
30	51.00 TA08025-B605	3		41.412		0.80	3.15	230.04	0.000	0.000	130.52	0.00	0.00
31	51.00 TA08025-B604	3		39.815		1.00	54.43	648.00	0.000	0.000	2167.15	0.00	0.00
32	42.31 10' Branches	1	30.190	38.013	1.00	Total		11 880 56			25,179.28		

Totals:

11,880.56

25,179.28

Total Applied Force Summary

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft)

Base Elev: 0.000 (ft) Gh:

1.1

Code:

TIA-222-H

Exposure: С

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: ||

7/7/2023

Page: 10

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Load Case: 1.2D + 1.0W 119 mph Wind

Topography: 1

Dead Load Factor 1.20 Wind Load Factor 1.00

Iterations

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		452.17	1097.50	0.00	0.00
10.00		435.94	1064.30	0.00	0.00
15,00		419.71	1031.11	0.00	0.00
20.00		428.12	997.91	0.00	0.00
22.75		234.40	534.70	0.00	0.00
25.00		194.04	713.76	0.00	0.00
28.25		280.97	1009.62	0.00	0.00
30.00		149.94	273.51	0.00	0.00
35.00		429.44	763.53	0.00	0.00
40.00		421.76	736.97	0.00	0.00
42.31	(1) attachments	2357.51	979.51	0.00	0.00
45.00		219.08	378.90	0.00	0.00
50.00	177	400.29	683.86	0.00	0.00
51.00	(11) attachments	1812.14	1970.90	0.00	0.00
55.00		307.97	518.92	0.00	0.00
55.44	(1) attachments	6384.58	2021.64	0.00	0.00
60.00		338.90	568.70	0.00	0.00
64.00	(35) attachments	4951.33	4020.97	0.00	0.00
65.00		69.60	92.41	0.00	0.00
67.06	(1) attachments	3810.30	667.01	0.00	0.00
70.00		197.22	259.10	0.00	0.00
74.00	(29) attachments	4587.45	2703.11	0.00	0.00
75.00	(3) attachments	668.98	657.79	0.00	0.00
75.45	(1) attachments	1685.57	500.20	0.00	0.00
76.00		33.93	39.07	0.00	0.00
	Totals:	31,271.35	24,285.02	0.00	0.00

Calculated Forces

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Code: TIA-222-H

Exposure: C

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: ||

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((III))

ES

Tower Engineering Solution

Iterations

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Load Case: 1.2D + 1.0W 119 mph Wind

Dead Load Factor 1.20 Wind Load Factor 1.00

Topography: 1

Seg Elev	Pu FY (-)	Vu FX (-)	Tu MY (-)	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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
(ft)	(kips)	(kips) -31.32	(ft-kips) 0.00	-1822.5	0.00	1822.58	2976.77	803.98	3080.93	2832.01	0.00	0.000	0.000	0.653
0.00	-24.23		0.00	-1666.0	0.00	1666.01	2914.38	775.44	2866.11	2673.58	0.11	-0.201	0.000	0.633
5.00	-23.02	-30.94 -30.58	0.00	-1511.3	0.00	1511.30	2848.80	746.90	2659.05	2516.58	0.43	-0.405	0.000	0.610
10.00	-21.85	-30.23	0.00	-1358.4	0.00	1358.40	2780.04	718.37	2459.75	2361.34	0.97	-0.611	0.000	0.584
15.00	-20.71	-30.23	0.00	-1207.2	0.00	1207.28	2708.10	689.83	2268.22	2208.17	1.72	-0.818	0.000	0.556
20.00	-19.64	-29.63	0.00	-1125.2	0.00	1125.22	2667.17	674.14	2166.19	2124.93	2.23	-0.935	0.000	0.539
22.75	-19.05	-29.03 -29.46	0.00	-1058.5	0.00	1058.55	2632.97	661.30	2084.45	2057.41	2.69	-1.031	0.000	0.523
25.00	-18.28 -17.22	-29.40	0.00	-962.79	0.00	962.79	1920.92	522.03	1623.69	1483.43	3.45	-1.167	0.000	0.661
28.25	-17.22 -16.87	-29.20	0.00	-911.70	0.00	911.70	1904.07	514.04	1574.37	1447.76	3.89	-1.241	0.000	0.642
30.00	-16.00	-28.70	0.00	-766.27	0.00	766.27	1853.76	491.22	1437.64	1346.49	5.32	-1.478	0.000	0.581
35.00	-15.20	-28.30	0.00	-622.75	0.00	622.75	1800.28	468.39	1307.12	1246.45	6.99	-1.702	0.000	0.512
40.00	-14.25	-25.94	0.00	-557.37	0.00	557.37	1774.49	457.84	1248.92	1200.72	7.84	-1.804	0.000	0.475
42.31	-14.25	-25.75	0.00	-487.58	0.00	487.58	1743.61	445.56	1182.81	1147.94	8.89	-1.916	0.000	0.436
45.00	-13.09	-25.35	0.00	-358.84	0.00	358.84	1683.75	422.73	1064.71	1051.30	11.01	-2.100	0.000	0.353
50.00	-13.09	-23.48	0.00	-333.49	0.00	333.49	1671.40	418.16	1041.84	1032.22	11.45	-2.135	0.000	0.333
51.00	-11.15	-23.40	0.00	-239.57	0.00	239.57	1620.72	399.90	952.83	956.84	13.29	-2.255	0.000	0.260
55.00	-8.84	-16.72		-229.37	0.00	229.37	1615.02	397.89	943.28	948.65	13.50	-2.267	0.000	0.249
55.44	-8.26	-16.37	0.00	-153.15	0.00	153.15	1554.50	377.07	847.15	864.91	15.72	-2.373	0.000	0.184
60.00	-4.44	-11.25		-87.69	0.00	87.69	1499.23	358.81	767.08	793.39	17.75	-2.442	0.000	0.114
64.00	-4.44	-11.18		-76.43	0.00	76.43	1485.09	354.25	747.68	775.81	18.26	-2.456	0.000	0.102
65.00	-4.33	-7.35		-53.40	0.00	53.40	1455.57	344.84	708.50	740.00	19.32	-2.479	0.000	0.075
67.06		-7.33 -7.14		-31.80	0.00	31.80	1403.00	331.42	654.42	685.23	20.86	-2.502	0.000	0.049
70.00	-3.59 -1.09	-2.44		-3,24	0.00	3.24	1325.69	313.15	584.28	611.42	22.96	-2.517	0.000	0.006
74.00	-0.46	-1.74	• • • •	-0.80		0.80	1306.36	308.59	567.37	593.63	23.49	-2.518	0.000	0.002
75.00	-0.46	-0.04		-0.02		0.02	1297.66	306.53	559.84	585.71	23.73	-2.518	0.000	0.000
75.45 76.00	0.04	-0.04		0.00		0.00	1287.03	304.02	550.7 1	576.10	24.02	-2.518	0.000	0.000

Wind Loading - Shaft

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1 Code: TIA-222-H

Exposure: С

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: ||

Iterations

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Load Case: 0.9D + 1.0W 119 mph Wind

Topography: 1

Dead Load Factor 0.90 **Wind Load Factor** 1.00

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	lce Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (Ib)	Tot Dead Load (lb)	
0.00		1.00	0.85	29.135	32.05	430.67	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0	
5.00		1.00	0.85	29.135	32.05	415.49	0.730	0.000	5.00	19.327	14.11	452.2	0.0	689.0	
10.00		1.00	0.85	29.135	32.05	400.31	0.730	0.000	5.00	18.634	13.60	435.9	0.0	664.1	
15.00		1.00		29.135	32.05	385.12	0.730	0.000	5.00	17.940	13.10	419.7	0.0	639.2	
20.00		1.00	0.90	30.914	34.00	381.06	0.730	0.000	5.00	17.246	12.59	428.1	0.0	614.3	
	ot - Section 2	1.00	0.93	31.764	34.94	377.55	0.730	0.000	2.75	9.190	6.71	234.4	0.0	327.3	
25.00		1.00	0.95	32.400	35.64	374.11	0.730	0.000	2.25	7.458	5.44	194.0	0.0	475.0	
	op - Section 1	1.00	0.97	33.245	36.57	368.41	0.730	0.000	3.25	10.525	7.68	281.0	0.0	670.1	
30.00		1.00	0.98	33.668	37.04	370.01	0.730	0.000	1.75	5.546	4.05	149.9	0.0	158.2	
35.00		1.00	1.01	34.779	38.26	359.48	0.730	0.000	5.00	15.377	11.23	429.4	0.0	438.5	
40.00		1.00	1.04	35.770	39.35	347.74	0.730	0.000	5.00	14.684	10.72	421.8	0.0	418.6	
	ppurtenance(s)	1.00	1.06	36.196	39.82	341.99	0.730	0.000	2.31	6.550	4.78	190.4	0.0	186.7	
45.00		1.00	1.07	36.669	40.34	335.05	0.730	0.000	2.69	7.440	5.43	219.1	0.0	212.0	
50.00		1.00	1.09	37.491	41.24	321.56	0.730	0.000	5.00	13.296	9.71	400.3	0.0	378.8	
	ppurtenance(s)	1.00	1.10	37.648	41.41	318.78	0.730	0.000	1.00	2.576	1.88	77.9	0.0	73.4	
55.00		1.00	1.12	38.251	42.08	307.41	0.730	0.000	4.00	10.027	7.32	308.0	0.0	285.5	
	ppurtenance(s)	1.00	1.12	38.315	42.15	306.13	0.730	0.000	0.44	1.076	0.79	33.1	0.0	30.6	
60.00		1.00	1.14	38.958	42.85	292.68	0.730	0.000	4.56	10.833	7.91	338.9	0.0	308.3	
	ppurtenance(s)	1.00	1.15	39.491	43.44	280.53	0.730	0.000	4.00	9.028	6.59	286.3	0.0	256.8	
65.00		1.00	1.16	39.620	43.58	277.45	0.730	0.000	1.00	2.188	1.60	69.6	0.0	62.2	
	ppurtenance(s)	1.00	1.16	39.881	43.87	271.04	0.730	0.000	2.06	4.419	3.23	141.5	0.0	125.7	
70.00		1.00	1.17	40.243	44.27	261.78	0.730	0.000	2.94	6.103	4.46	197.2	0.0	173.5	
74.00 A	ppurtenance(s)	1.00	1.19	40.717	44.79	248.96	0.730	0.000	4.00	7.918	5.78	258.9	0.0	225.0	
	ppurtenance(s)	1.00	1.19	40.832	44.91	245.71	0.730	0.000	1.00	1.910	1.39	62.6	0.0	54.2	
	ppurtenance(s)	1.00	1.19	40.883	44.97	244.25	0.730	0.000	0.45	0.851	0.62	27.9	0.0	24.2	
76.00		1.00	1.19	40.946	45.04	242.46	0.730	0.000	0.55	1.032	0.75	33.9	0.0	29.3	
				è				Totals:	76.00		89	6,092.1		7,520.5	

Discrete Appurtenance Forces

Structure: CT46122-A-SBA

Site Name: Middletown North

Height:

76.00 (ft)

Base Elev: 0.000 (ft)

Gh:

1.1

Code:

TIA-222-H

Exposure:

С

Crest Height: 0.00

D - Stiff Soil Site Class:

Struct Class: ||

7/7/2023

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Iterations

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Load Case: 0.9D + 1.0W 119 mph Wind

Dead Load Factor

0.90

Topography: 1

Wind Load Factor 1.00

	Elev	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
No.	(ft)		1	40.883	44.972	1.00	1.00	36.86	351.00	0.000	0,000	1657.65	0.00	0.00
1		4' Branches	3	40.832	44.915	0.56	0.75	13.50	432.00	0.000	0.000	606.35	0.00	0.00
2		T-Arms	1		44.788	1.00	1.00	22.43	86.40	0.000	0.000	1004.60	0.00	0.00
3		Antenna Branches	3	40.717		0.57	0.80	9.63	278.10	0.000	0.000	431.20	0.00	0.00
4		AIR6449 B41 RRUS 4415 B25	3		44.788	0.54	0.80	2.64	124.20	0.000	0.000	118.11	0.00	0.00
5			3		44.788	0.54	0.80	2.99	133.92	0.000	0.000	133.96	0.00	0.00
6		Ericsson 4415 B66A	1		44.788	1.00	1.00	6.75	235.55	0.000	0.000	302.32	0.00	0.00
7		(Handrail Kit w/end	3	40.717		0.56	0.80	34.00	345.60	0.000	0.000	1522.94	0.00	0.00
8	74.00		3	40.717		0.70	0.80	13.59	356.94	0.000	0.000	608.80	0.00	0.00
9		Air 32 ATM200-A20	6	40.717		0.40	0.80	0.29	2.70	0.000	0.000	12.90	0.00	0.00
10			3	40.717		0.54	0.80	3.17	191.70	0.000	0.000	141.88	0.00	0.00
11		Radio 4449 B71+B85	3	40.717	44.788	0.54	0.80	1.16	18.90	0.000	0.000	51.85	0.00	0.00
12		Commscope	1	39.881	43.869	1.00	1.00	83.63	360.00	0.000	0.000	3668.78	0.00	0.00
13		6' Branches B5/B13 RRH-BR04C	3	39.491	43,440	0.54	0.80	3.57	189.81	0.000	0.000	155.07	0.00	0.00
14		B2/B66A RRH-BR049	3	39.491	43.440	0.54	0.80	2.64	227.88	0.000	0.000	114.56	0.00	0.00
15		CBC78T-DS-43-2X/E14F0	3	39.491	43.440	0.54	0.80	0.59	58.86	0.000	0.000	25.85	0.00	0.00
16			3	39.491	43.440	0.56	0.75	0.00	68.45	0.000	0.000	0.00	0.00	0.00
17		BSAMNT-SBS-1-2	2	39.491	43.440	0.90	0.80	8.98	28.80	0.000	0.000	390.00	0.00	0.00
18		DB846H80E-SX	3	39.491	43,440	0.56	0.75	13.50	864.00	0.000	0.000	586.44	0.00	0.00
19		T-Arm Kaelus BSF0020F3V1-1	2	39.491	43.440	0.64	0.80	0.90	35.64	0.000	0.000	38.92	0.00	0.00
20		DB846F65ZAXY	4	39.491	43.440	0.74	0.80	20.98	75.60	0.000	0.000	911.41	0.00	0.00
21	•	(3) VZWSMART-SFK4	1	39.491	43.440	0.56	0.75	9.28	450.00	0.000	0.000	403.18	0.00	0.00
22		DB-T1-6Z-8AB-0Z	2	39.491	43.440	0.54	0.80	3.54	79.20	0.000	0.000	153.67	0.00	0.00
23			6	39.491	43,440	0.66	0.80	36.29	341.82	0.000	0.000	1576.62	0.00	0.00
24		JAHH-65B-R3B VZS01	3	39.491	43.440	0.55	0.80	7.12	235.17	0.000	0.000	309.33	0.00	0.00
25	•	8' Branches	1	38.315		1.00	1.00	150.70	1474.20	0.000	0.000	6351.48	0.00	0.00
26			3	37.648	. —		0.80	22.18	174.15	0.000	0.000	918.62	0.00	0.00
27		MX08FRO665-21	1	37.648			0.75	11.78	809.10	0.000	0.000	488.02	0.00	0.00
28		MC-K6MHDX-9-96 (3 RDIDC-9181-OF-48	1	37.648			0.80	1.61	19.71	0.000	0.000	66.59	0.00	0.00
29			3	37.648			0.80	3.15	202.50	0.000	0.000	130.52	0.00	0.00
30		TA08025-B605	3	37.648			0.80	3.15	172.53	0.000	0.000	130.52	0.00	0.00
31		TA08025-B604	1	36.196			1.00	54.43	486.00	0.000	0.000	2167.15	0.00	0.00
32	42.31	10' Branches		50.150	20.010	33.0	Totals	š:	8.910.42			25,179.28		

Totals:

8,910.42

Total Applied Force Summary

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Code:

TIA-222-H

Exposure:

С

Crest Height: 0.00

Site Class:

D - Stiff Soil

Struct Class: ||

7/7/2023

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TES
Tower Engineering Solution

Load Case: 0.9D + 1.0W 119 mph Wind

Topography: 1

Dead Load Factor 0.90 Wind Load Factor 1.00 z X

Iterations

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Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		452.17	823.13	0.00	0.00
10.00		435.94	798.23	0.00	0.00
15.00		419.71	773.33	0.00	0.00
20.00		428.12	748.43	0.00	0.00
22.75		234.40	401.03	0.00	0.00
25.00		194.04	535.32	0.00	0.00
28.25		280.97	757.22	0.00	0.00
30.00		149.94	205.13	0.00	0.00
35.00		429.44	572.65	0.00	0.00
40.00		421.76	552.73	0.00	0.00
42.31	(1) attachments	2357.51	734.63	0.00	0.00
45.00		219.08	284.18	0.00	0.00
50.00		400.29	512.89	0.00	0.00
51.00	(11) attachments	1812.14	1478.18	0.00	0.00
55.00		307.97	389.19	0.00	0.00
55.44	(1) attachments	6384.58	1516.23	0.00	0.00
60.00		338.90	426.53	0.00	0.00
64.00	(35) attachments	4951.33	3015.73	0.00	0.00
65.00		69.60	69.31	0.00	0.00
67.06	(1) attachments	3810.30	500.26	0.00	0.00
70.00		197.22	194.32	0.00	0.00
74.00	(29) attachments	4587.45	2027.33	0.00	0.00
75.00	(3) attachments	668.98	493.34	0.00	0.00
75.45	(1) attachments	1685.57	375.15	0.00	0.00
76.00		33.93	29.30	0.00	0.00
	Totals:	31,271.35	18,213.76	0.00	0.00

Calculated Forces

CT46122-A-SBA Structure:

Site Name: Middletown North

76.00 (ft) Height:

Base Elev: 0.000 (ft)

Gh: 1.1 Code:

TIA-222-H

С Exposure:

Crest Height: 0.00 D - Stiff Soil

Site Class:

Struct Class: ||

7/7/2023

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Iterations

Load Case: 0.9D + 1.0W 119 mph Wind

0.90 **Dead Load Factor** 1.00 Wind Load Factor

Topography: 1



Seg Elev	Pu FY (-)	Vu FX (-)	Tu MY (-)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	рhі Мп (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
(ft)	(kips) -18.16	(kips) -31.30	(ft-kips) 0.00	-1816.5	0.00	1816.56	2976.77	803.98	3080.93	2832.01	0.00	0.000	0.000	0.649
0.00		-30.91	0.00	-1660.0	0.00	1660.04	2914.38	775.44	2866.11	2673.58	0.11	-0.200	0.000	0.628
5.00	-17.23	-30.53	0.00	-1505.4	0.00	1505.49	2848.80	746.90	2659.05	2516.58	0.43	-0.403	0.000	0.606
10.00	-16.32	-30.33	0.00	-1352.8	0.00	1352.84	2780.04	718.37	2459.75	2361.34	0.96	-0.609	0.000	0.580
15.00	-15.44 -14.62	-29.76	0.00	-1202.0	0.00	1202.05	2708.10	689.83	2268.22	2208.17	1.72	-0.815	0.000	0.552
20.00		-29.70	0.00	-1120.2		1120.20	2667.17	674.14	2166.19	2124.93	2.22	-0.932	0.000	0.534
22.75	-14.16 -13.57	-29.37	0.00	-1053.7	0.00	1053.72	2632.97	661.30	2084.45	2057.41	2.68	-1.027	0.000	0.519
25.00		-29.10	0.00	-958.26	0.00	958.26	1920.92	522.03	1623.69	1483.43	3.43	-1.163	0.000	0.656
28.25	-12.77	-28.98	0.00	-907.34	0.00	907.34	1904.07	514.04	1574.37	1447.76	3.87	-1.236	0.000	0.636
30.00	-12.49 -11.81	-28.59	0.00	-762.44	0.00	762.44	1853.76	491.22	1437.64	1346.49	5.30	-1.472	0.000	0.576
35.00	-11.19	-28.18	0.00	-619.52	0.00	619.52	1800.28	468.39	1307.12	1246.45	6.96	-1.695	0.000	0.507
40.00	-11.19	-25.82	0.00	-554.42		554.42	1774.49	457.84	1248.92	1200.72	7.81	-1.796	0.000	0.471
42.31	-10.46	-25.62	0.00	-484.97	0.00	484.97	1743.61	445.56	1182.81	1147.94	8.86	-1.908	0.000	0.432
45.00	-9.59	-25.22		-356.88	0.00	356.88	1683.75	422.73	1064.71	1051.30	10.96	-2.090	0.000	0.349
50.00 51.00	-8.15	-23.36	0.00	-331.66		331.66	1671.40	418.16	1041.84	1032.22	11.40		0.000	0.329
55.00	-0.15 ₀	-23.05	0.00	-238.20		238.20	1620.72	399.90	952.83	956.84	13.24	-2.245	0.000	0.257
55.44	-6.47	-16.62	0.00	-228.06		228.06	1615.02	397.89	943.28	948.65	13.45	-2.257	0.000	0.246
60.00	-6.03	-16.27	0.00	-152.29		152.29	1554.50	377.07	847.15	864.91	15.66	-2.362	0.000	0.182
64.00	-3.22	-11.20		-87.20		87.20	1499.23	358.81	767.08	793.39	17.67	-2.431	0.000	0.113
65.00	-3.15	-11.13		-76.00		76.00	1485.09	354.25	747.68	775.81	18.18	-2.444	0.000	0.101
67.06	-2.81	-7.30	_	-53.08		53.08	1455.57	344.84	708.50	740.00	19.24	-2.467	0.000	0.074
70.00	-2.62	-7.10		-31.61	0.00	31.61	1403.00	331.42	654.42	685.23	20.77	-2.491	0.000	0.048
74.00	-0.79	-2.43		-3.23	0.00	3.23	1325.69	313.15	584.28	611.42	22.86	-2.505	0.000	0.006
75.00	-0.73	-1.74		-0.80		0.80	1306.36	308.59	567.37	593.63	23.39		0.000	0.002
75.45	-0.03	-0.04		-0.02		0.02	1297.66	306.53	559.84	585.71	23.62		0.000	0.000
76.00	0.00	-0.03		0.00		0.00	1287.03	304.02	550.71	576.10	23.91	-2.506	0.000	0.000
, 0.00	3.00	3.00												

Wind Loading - Shaft

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Code: TIA-222-H

Exposure: C

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: ||

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Tower Engineering Solutions

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Iterations

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Topography: 1

Dead Load Factor 1.20 Wind Load Factor 1.00

Elev (ft) De	escription	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	lce Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load ice (Ib)	Tot Dead Load (lb)	
0.00		1.00	0.85	5.144	5.66	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0	7
5.00		1.00	0.85	5.144	5.66	0.00	1.200	0.828	5.00	20.017	24.02	135.9	237.0	1155.7	
10.00		1.00	0.85	5.144	5.66	0.00	1.200	0.887	5.00	19.373	23.25	131.5	245.2	1130.7	
15.00		1.00	0.85	5.144	5.66	0.00	1.200	0.924	5.00	18.710	22.45	127.0		1098.4	
20.00		1.00	0.90	5.458	6.00	0.00	1.200	0.951	5.00	18.039	21.65	130.0	243.7	1062.8	
22.75 Bot - Se	ction 2	1.00	0.93	5.608	6.17	0.00	1.200	0.963	2.75	9.631	11.56	71.3	132.8	569.2	
25.00		1.00	0.95	5.720	6.29	0.00	1.200	0.973	2.25	7.823	9.39	59.1	109.1	742.4	
28.25 Top - Se	ection 1	1.00	0.97	5.869	6.46	0.00	1.200	0.985	3.25	11.058	13.27	85.7	155.2	1048.6	
30.00		1.00	0.98	5.944	6.54	0.00	1.200	0.991	1.75	5.835	7.00	45.8	82.9	293.8	
35.00		1.00	1.01	6.140	6.75	0.00	1.200	1.006	5.00	16.215	19.46	131.4	230.2	814.9	
40.00		1.00	1.04	6.315	6.95	0.00	1.200	1.019	5.00	15.533	18.64	129.5	222.9	781.1	
42.31 Appurter	nance(s)	1.00	1.06	6.390	7.03	0.00	1.200	1.025	2.31	6.944	8.33	58.6	101.3	350.2	
45.00		1.00	1.07	6.474	7.12	0.00	1.200	1.032	2.69	7.903	9.48	67.5	115.7	398.4	
50.00		1.00	1.09	6.619	7.28	0.00	1.200	1.042	5.00	14.165	17.00	123.8	206.6	711.7	
51.00 Appurter	nance(s)	1.00	1.10	6.646	7.31	0.00	1.200	1.044	1.00	2.750	3.30	24.1	41.0	138.8	
55.00		1.00	1.12	6.753	7.43	0.00	1.200	1.052	4.00	10.728	12.87	95.6	158.3	539.0	
55.44 Appurter	nance(s)	1.00	1.12	6.764	7.44	0.00	1.200	1.053	0.44	1.153	1.38	10.3	17.3	58.2	
60.00		1.00	1.14	6.878	7.57	0.00	1.200	1.062	4.56	11.640	13.97	105.7	172.2	583.3	
64.00 Appurter	nance(s)	1.00	1.15	6.972	7.67	0.00	1.200	1.068	4.00	9.740	11.69	89.6	145.0	487.4	
65.00		1.00	1.16	6.995	7.69	0.00	1.200	1.070	1.00	2.366	2.84	21.8	35.9	118.8	
67.06 Appurter	nance(s)	1.00	1.16	7.041	7.74	0.00	1.200	1.073	2.06	4.788	5.75	44.5	72.3	239.8	
70.00		1.00	1.17	7.105	7.81	0.00	1.200	1.078	2.94	6.631	7.96	62.2	99.8	331.1	
74.00 Appurter	nance(s)	1.00	1.19	7.188	7.91	0.00	1.200	1.084	4.00	8.641	10.37	82.0	129.4	429.3	
75.00 Appurter	nance(s)	1.00	1.19	7.208	7.93	0.00	1.200	1.086	1.00	2.091	2.51	19.9	31.9	104.3	
75.45 Appurter	nance(s)	1.00	1.19	7.218	7.94	0.00	1.200	1.086	0.45	0.932	1.12	8.9	14.3	46.5	
76.00		1.00	1.19	7.229	7.95	0.00	1.200	1.087	0.55	1.132	1.36	10.8	17.3	56.4	
								Totals:	76.00			1,872.4		13,290.7	

Discrete Appurtenance Forces

Structure: CT46122-A-SBA

Code: TIA-222-H

Site Name: Middletown North

Exposure: C

Height: 76.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft) **Gh:** 1.1

Site Class: D - Stiff Soil

Gh: 1.1 Topography: 1

Struct Class: II Page: 17

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Tower Engineering Solution

Iterations

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ı**s** 16

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20 Wind Load Factor 1.00

	Elev		qz	qzGh	Orient Factor		Total CaAa	Dead Load	Horiz Ecc	Vert Ecc	Wind FX	Mom Y	Mom Z
No.	(ft) Description	Qty	(psf)	(psf)	x Ka	Ka	(sf)	(lb)	(ft)	(ft)	(lb)	(lb-ft)	(lb-ft)
1	75.45 4' Branches	1	7.218	7.939	1.00	1.00	52.88	298.55	0.000	0.000	419.79	0.00	0.00
2	75.00 T-Arms	3	7.208	7.929	0.56	0.75	23.29	716.53	0.000	0.000	184.67	0.00	0.00
3	74.00 Antenna Branches	1	7.188	7.907	1.00	1.00	32.16	252.83	0.000	0.000	254.26	0.00	0.00
4	74.00 AIR6449 B41	3	7.188	7.907	0.57	0.80	10.63	531.23	0.000	0.000	84.08	0.00	0.00
5	74.00 RRUS 4415 B25	3	7.188	7.907	0.54	0.80	3.15	214.00	0.000	0.000	24.92	0.00	0.00
6	74.00 Ericsson 4415 B66A	3	7.188	7.907	0.54	0.80	3.53	282.94	0.000	0.000	27.91	0.00	0.00
7	74.00 (Handrail Kit w/end	1	7.188	7.907	1.00	1.00	10.85	768.72	0.000	0.000	85.77	0.00	0.00
8	74.00 RFS	3	7.188	7.907	0.56	0.80	35.96	1202.47	0.000	0.000	284.32	0.00	0.00
9	74.00 Air 32	3	7.188	7.907	0.70	0.80	15.01	794.02	0.000	0.000	118.69	0.00	0.00
10	74.00 ATM200-A20	6	7.188	7.907	0.80	0.80	1.23	14.13	0.000	0.000	9.76	0.00	0.00
11	74.00 Radio 4449 B71+B85	3	7.188	7.907	0.54	0.80	3.71	314.28	0.000	0.000	29.37	0.00	0.00
12	74.00 Commscope	3	7.188	7.907	0.54	0.80	1.79	39.64	0.000	0.000	14.14	0.00	0.00
13	67.06 6' Branches	1	7.041	7.745	1.00	1.00	119.54	1051.76	0.000	0.000	925.81	0.00	0.00
14	64.00 B5/B13 RRH-BR04C	3	6.972	7.669	0.54	0.80	4.18	307.84	0.000	0.000	32.06	0.00	0.00
15	64.00 B2/B66A RRH-BR049	3	6.972	7.669	0.54	0.80	3.15	414.97	0.000	0.000	24.12	0.00	0.00
16	64.00 CBC78T-DS-43-2X/E14F	0 3	6.972	7.669	0.54	0.80	0.85	109.90	0.000	0.000	6.52	0.00	0.00
17	64.00 BSAMNT-SBS-1-2	3	6.972	7.669	0.56	0.75	0.00	120.31	0.000	0.000	0.00	0.00	0.00
18	64.00 DB846H80E-SX	2	6.972	7.669	0.90	0.80	10.25	216.44	0.000	0.000	78.62	0.00	0.00
19	64.00 T-Arm	3	6.972	7.669	0.56	0.75	20.71	1262.30	0.000	0.000	158.84	0.00	0.00
20	64.00 Kaelus BSF0020F3V1-1	2	6.972	7.669	0.64	0.80	1.17	78.66	0.000	0.000	8.95	0.00	0.00
21	64.00 DB846F65ZAXY	4	6.972	7.669	0.74	0.80	23.14	548.17	0.000	0.000	177.47	0.00	0.00
22	64.00 (3) VZWSMART-SFK4	1	6.972	7.669	0.56	0.75	14.83	813.28	0.000	0.000	113.77	0.00	0.00
23	64.00 DB-T1-6Z-8AB-0Z	2	6.972	7.669	0.54	0.80	5.70	269.66	0.000	0.000	43.74	0.00	0.00
24	64.00 JAHH-65B-R3B	6	6.972	7.669	0.66	0.80	39.50	1246.33	0.000	0.000	302.96	0.00	0.00
25	64.00 VZS01	3	6.972	7.669	0.55	0.80	8.00	500.80	0.000	0.000	61.34	0.00	0.00
26	55.44 8' Branches	1	6.764	7.441	1.00	1.00	214.19	4293.69	0.000	0.000	1593.70	0.00	0.00
27	51.00 MX08FRO665-21	3	6.646	7.311	0.59	0.80	23.74	552.85	0.000	0.000	173.56	0.00	0.00
28	51.00 MC-K6MHDX-9-96 (3	1	6.646	7.311	0.56	0.75	20.65	1503.64	0.000	0.000	150.95	0.00	0.00
29	51.00 RDIDC-9181-OF-48	1	6.646	7.311	0.80	0.80	1.88	45.45	0.000	0.000	13.75	0.00	0.00
30	51.00 TA08025-B605	3	6.646	7.311	0.54	0.80	3.69	326.11	0.000	0.000	26.99	0.00	0.00
31	51.00 TA08025-B604	3	6.646	7.311	0.54	0.80	3.69	284.64	0.000	0.000	26.99	0.00	0.00
32	42.31 10' Branches	1	6.390	7.029	1.00	1.00	76.75	1409.44	0.000	0.000	539.48	0.00	0.00
-52	ILO: 10 Bidito.io					Totals		20 785 59			5.997.29		

Totals: 20,785.59 5,997.29

Total Applied Force Summary

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1 Code:

TIA-222-H

Exposure:

C

Crest Height: 0.00

Site Class:

D - Stiff Soil Struct Class: II

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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Topography: 1

Dead Load Factor 1.20 **Wind Load Factor** 1.00



Iterations

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		135.91	1334.51	0.00	0.00
10.00		131.53	1309.54	0.00	0.00
15.00		127.03	1277.20	0.00	0.00
20.00		129.95	1241.58	0.00	0.00
22.75		71.29	667.50	0.00	0.00
25.00		59.07	822.81	0.00	0.00
28.25		85.67	1164.86	0.00	0.00
30.00		45.78	356.37	0.00	0.00
35.00		131.42	993.71	0.00	0.00
40.00		129.48	959.86	0.00	0.00
42.31	(1) attachments	598.05	1842.27	0.00	0.00
45.00		67.53	494.58	0.00	0.00
50.00		123.76	890.50	0.00	0.00
51.00	(11) attachments	416.35	2887.26	0.00	0.00
55.00		95.63	677.22	0.00	0.00
55.44	(1) attachments	1604.00	4367.08	0.00	0.00
60.00		105.68	740.85	0.00	0.00
64.00	(35) attachments	1098.02	6514.34	0.00	0.00
65.00		21.84	128.28	0.00	0.00
67.06	(1) attachments	970.30	1311.03	0.00	0.00
70.00		62.19	358.85	0.00	0.00
74.00	(29) attachments	1015.22	4881.41	0.00	0.00
75.00	(3) attachments	204.57	830.27	0.00	0.00
75.45	(1) attachments	428.67	345.05	0.00	0.00
76.00		10.80	56.41	0.00	0.00
	Totals:	7,869.73	36,453.33	0.00	0.00

Calculated Forces

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Code:

TIA-222-H

Exposure: C

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: II

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Tower Engineering Solution

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Iterations 16

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Topography: 1

Dead Load Factor 1.20 Wind Load Factor 1.00

(deg) Ratio 0 0.000 0.173
0 0.000 0.167
1 0.000 0.161
2 0.000 0.154
3 0.000 0.147
2 0.000 0.143
6 0.000 0.139
0 0.000 0.175
8 0.000 0.171
6 0.000 0.155
2 0.000 0.138
7 0.000 0.128
4 0.000 0.118
9 0.000 0.098
8 0.000 0.091
7 0.000 0.073
0 0.000 0.068
6 0.000 0.053
3 0.000 0.032
6 0.000 0.029
2 0.000 0.022
7 0.000 0.016
1 0.000 0.002
1 0.000 0.001
1 0.000 0.000
1 0.000 0.000

Seismic Segment Forces (Factored)

Structure: CT46122-A-SBA

Code:

D - Stiff Soil

С

7/7/2023

Site Name: Middletown North

Exposure:

TIA-222-H

Height:

76.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class:

Gh:

1.1

Topography: 1

Struct Class: II

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Iterations 15 Ss

Gust Response Factor

Sds 0.22 0.20

Dead Load Factor

Load Case: 1.2D + 1.0Ev + 1.0Eh

1.20 Seismic Load Factor

1.00 Sd1 0.09

S1 0.06

Wind Load Factor

0.00 Structure Frequency (f1)

0.81 SA

0.07 Seismic Importance Factor

1.00

Top Elev (ft)	Description		Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)	Ocisinio importante i actor	R:	1.50
0.00			0.00	0.00	0.00	0.00			
5.00			944.38	2.50	41.30	0.59			
10.00			916.72	7.50	40.09	2.55	*		
15.00			889.06	12.50	38.88	4.92			
20.00			861.39	17.50	37.67	7.47			
22.75	Bot - Section 2		461.97	21.38	20.20	4.19			
25.00			608.21	23.88	26.60	7.09			
28.25	Top - Section 1		860.72	26.63	37.64	13.24			
30.00			238.35	29.13	10.42	2.59			
35.00			666.08	32.50	29.13	12.25			
40.00			643.94	37.50	28.16	14.22			
42.31	Appurtenance(s)		830.03	41.16	36.30	22.85			
45.00			331.79	43.66	14.51	7.07			
50.00			599.68	47.50	26.23	17.83			
51.00	Appurtenance(s)		1648.3	50.50	72.09	77.27			
55.00			455.47	53.00	19.92	14.21			
55.44	Appurtenance(s)		1687.2	55.22	73.79	90.14			
60.00			500.18	57.72	21.87	18.16			
64.00	Appurtenance(s)		3373.8	62.00	147.55	272.46	E-		
65.00			78.58	64.50	3.44	1.68			
67.06	Appurtenance(s)		559.09	66.03	24.45	25.41			
70.00			220.55	68.53	9.65	7.49			
74.00	Appurtenance(s)		2258.9	72.00	98.79	193.12			
75.00	Appurtenance(s)		549.73	74.50	24.04	29.29			
75.45	Appurtenance(s)		416.83	75.22	18.23	20.33			
76.00			32.55	75.72	1.42	0.63			
		Totals:	20,633.7		902.4	867.0	Total Wind: 31,27	1.3	

Calculated Forces

CT46122-A-SBA Structure:

Site Name: Middletown North

76.00 (ft) Height:

Base Elev: 0.000 (ft)

Gh: 1.1

TIA-222-H Code:

Exposure: C

Crest Height: 0.00

D - Stiff Soil Site Class:

Struct Class: || Topography: 1

7/7/2023

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1.00

Load Case: 1.2D + 1.0Ev + 1.0Eh

Dead Load Factor

Gust Response Factor

1.20 Seismic Load Factor

0.22 Sds 0.09 1.00 Sd1

Iterations 0.20 Ss 0.06 **S1**

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0.07 Seismic Importance Factor SA 0.00 Structure Frequency (f1) 0.81 Wind Load Factor

0.027 0.027 0.026 0.025 0.024
0.027 0.026 0.025 0.024
0.026 0.025 0.024
0.025 0.024
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0.024
0.024
0.023
0.029
0.029
0.027
0.023
0.023
0.022
0.019
0.016
0.014
0.014
0.012
0.007
0.005
0.003
0.004
0.000
0.000
0.000
0.000
3 3 3 3 4 4 5 5 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7

Seismic Segment Forces (Factored)

Structure: CT46122-A-SBA

Code:

TIA-222-H

С

Site Name: Middletown North

Exposure:

7/7/2023

Height:

76.00 (ft)

Crest Height: 0.00

Gh:

Base Elev: 0.000 (ft)

Site Class:

1.1

Topography: 1

D - Stiff Soil Struct Class: II

Load Case: 0.9D + 1.0Ev +	1.0Eh					Y	Iterations	15
Gust Response Factor	1.10			Sds	0.22	X	Ss	0.20
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.09	2,2	S1	0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.81	SA	0.07	Seismic Importa	nce Factor	1.00

Тор					Vertical	Lateral		
Elev (ft)	Description		Wz (lb)	Hz (lb)	Ev (Ib)	Fs		
				(lb)	(lb)	(lb)		R: 1.50
0.00			0.00	0.00	0.00	0.00		
5.00			899.68	2.50	39.35	0.57		
10.00			872.02	7.50	38.14	2.43		
15.00			844.36	12.50	36.93	4.68		
20.00			816.69	17.50	35.72	7.09		
22.75	Bot - Section 2		437.39	21.38	19.13	3.97		
25.00			588.09	23.88	25.72	6.92		
28.25	Top - Section 1		831.67	26.63	36.37	12.90		
30.00			222.71	29.13	9.74	2.41		
35.00			621.38	32.50	27.17	11.38		
40.00			599.24	37.50	26.21	13.17		
42.31	Appurtenance(s)		809.38	41.16	35.40	22.55		
45.00			307.74	43.66	13.46	6.51		
50.00			554.98	47.50	24.27	16.38		
51.00	Appurtenance(s)		1639.4	50.50	71.70	78.34		
55.00			420.91	53.00	18.41	13.03		
55.44	Appurtenance(s)		1683.4	55.22	73.62	91.79		
60.00			460.79	57.72	20.15	16.58		
64.00	Appurtenance(s)		3339.2	62.00	146.04	274.42		
65.00	,,		76,22	64.50	3.33	1.65		
67.06	Appurtenance(s)		554,22	66.03	24.24	25.65		
70.00	,		213.60	68.53	9.34	7.33		
74.00	Appurtenance(s)		2249.4	72.00	98.38	196.14		
75.00	Appurtenance(s)		547.37	74.50	23.94	29.74		
75.45	Appurtenance(s)		416.83	75.22	18.23			
76.00	(a)		32.55			20.76		
. 5.50		T-4-1-		75.72	1.42	0.64		
		Totals:	20,039.4		876.4	867.0	Total Wind:	31,271.3

Calculated Forces

CT46122-A-SBA Structure:

Site Name: Middletown North

76.00 (ft) Height:

Base Elev: 0.000 (ft)

Gh:

TIA-222-H Code:

C Exposure:

Crest Height: 0.00

D - Stiff Soil Site Class:

Struct Class: ||

7/7/2023

Ss

S1

Iterations

15

0.20

0.06

Page: 23

Load Case: 0.9D + 1.0Ev + 1.0Eh 0.22 Sds **Gust Response Factor** 0.09 1.00 Sd1

Topography: 1

0.90 Seismic Load Factor **Dead Load Factor** 0.81

1.00 0.07 Seismic Importance Factor SA

	Wine	d Load	i Facto	r 0.0	0 Struct	ure Frequenc	y (f1)	0.81	SA 0.	07 Seis	mic Im	oortance	Factor	1.00
Seg Elev	Pu FY (-)	Vu FX (-)	Tu MY (-) (ft-kips)	Mu MZ	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 Sway (deg)	Twist (deg)	Stress Ratio
(ft)	(kips)	(kips) -0.87	0.00	-53.52	0.00	53.52	2976.77	803.98	3080.93	2832.01		0.00	0.00	0.025
0.00	-19.09	-0.87	0.00	-49.19	0.00	49.19	2914.38	775.44	2866.11	2673.58		0.00	-0.01	0.025
5.00	-18.23	-0.87	0.00	-44.84	0.00	44.84	2848.80	746.90	2659.05	2516.58		0.01	-0.01	0.024
10.00	-17.39	-0.87	0.00	-40.50	0.00	40.50	2780.04	718.37	2459.75	2361.34		0.03	-0.02	0.023
15.00	-16.58	-0.86	0.00	-36.18	0.00	36.18	2708.10	689.83	2268.22	2208.17		0.05	-0.02	0.022
20.00	-15.80	-0.86	0.00	-33.81	0.00	33.81	2667.17	674.14	2166.19	2124.93		0.07	-0.03	0.022
22.75	-15.38	-0.85	0.00	-31.89	0.00	31.89	2632.97	661.30	2084.45	2057.41		80.0	-0.03	0.021
25.00	-14.82	-0.84	0.00	-29.13	0.00	29.13	1920.92	522.03	1623.69	1483.43		0.10	-0.03	0.027
28.25	-14.02	-0.84	0.00	-27.66	0.00	27.66	1904.07	514.04	1574.37	1447.76		0.12	-0.04	0.026
30.00	-13.81	-0.83	0.00	-23.49	0.00	23.49	1853.76	491.22	1437.64	1346.49		0.16	-0.04	0.025
35.00	-13.21	-0.81	0.00	-19.36	0.00	19.36	1800.28	468.39	1307.12	1246.45		0.21	-0.05	0.023
40.00	-12.63	-0.61	0.00	-17.48	0.00	17.48	1774.49	457.84	1248.92	1200.72		0.23	-0.05	0.021
42.31	-11.86	-0.79		-15.36		15.36	1743.61	445.56	1182.81	1147.94		0.27	-0.06	0.020
45.00	-11.56	-0.78	0.00	-11.43		11.43	1683.75	422.73	1064.71	1051.30		0.33	-0.06	0.017
50.00	-11.02	-0.77		-10.67	0.00	10.67	1671.40	418.16	1041.84	1032.22		0.34	-0.06	0.016
51.00	-9.47	-0.68		-7.91	0.00	7.91	1620.72	399.90	952.83	956.84		0.40	-0.07	0.014
55.00	-9.07	-0.58	-	-7.62		7.62	1615.02	397.89	943.28	948.65		0.41	-0.07	0.013
55.44	-7.48	-0.56		-4.96		4.96	1554.50	377.07	847.15	864.91		0.47	-0.07	0.010
60.00	-7.03			-2.70		2.70	1499.23	358.81	767.08	793.39		0.54	-0.07	0.006
64.00	-3.87	-0.29		-2.42		2,42	1485.09	354.25	747.68	775.81		0:55	-0.08	0.006
65.00	-3.79	-0.29		-1.83		1.83	1455.57	344.84	708.50	740.00		0.58	-0.08	0.005
67.06	-3.27	-0.26		-1.03		1.07	1403.00	331.42	654.42	685.23		0.63	-0.08	0.004
70.00	-3.07	-0.25		-0.06		0.06	1325.69		584.28	611.42		0.70	-0.08	0.001
74.00	-0.94	-0.05		-0.00 -0.01		0.01	1306.36			593.63		0.71	-0.08	0.000
75.00	-0.42	-0.02		0.00		0.00	1297.66			585.71		0.72	-0.08	0.000
75.45	-0.03	0.00		_		0.00	1287.03			576.10		0.73	-0.08	0.000
76.00	0.00	0.00	0.00	0.00	0.00	0.00	,,							

Wind Loading - Shaft

Structure: CT46122-A-SBA

Site Name: Middletown North

Height:

76.00 (ft)

Base Elev: 0.000 (ft)

Gh:

1.1

Code:

TIA-222-H

Exposure:

С

Crest Height: 0.00

Site Class:

D - Stiff Soil Struct Class: ||

7/7/2023

Tower Engineering Solutions

Page: 24

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor

Topography: 1

Wind Load Factor

1.00

Iterations

16

Elev (ft) Descri	ption	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	lce Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (Ib)	Tot Dead Load (lb)
0.00		1.00	0.85	6.627	7.29	217.15	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	6.627	7.29	209.49	0.730	0.000	5.00		14.11	102.8	0.0	765.6
10.00		1.00	0.85	6.627	7.29	201.84	0.730	0.000		18.634	13.60	99.2	0.0	737.9
15.00		1.00	0.85	6.627	7.29	194.18	0.730	0.000	5.00		13.10	95.5	0.0	710.3
20.00		1.00	0.90	7.032	7.73	192.13	0.730	0.000		17.246	12.59	97.4	0.0	682.6
22.75 Bot - Section	2	1.00	0.93	7.225	7.95	190.36	0.730	0.000	2.75	9.190	6.71	53.3	0.0	363.6
25.00		1.00	0.95	7.370	8.11	188.63	0.730	0.000	2.25	7.458	5.44	44.1	0.0	527.7
28.25 Top - Section	า 1	1.00	0.97	7.562	8.32	185.75	0.730	0.000	3.25	10.525	7.68	63.9	0.0	744.5
30.00		1.00	0.98	7.658	8.42	186.56	0.730	0.000	1.75	5.546	4.05	34.1	0.0	175.8
35.00		1.00	1.01	7.911	8.70	181.25	0.730	0.000	5.00	15.377	11.23	97.7	0.0	487.3
40.00		1.00	1.04	8.136	8.95	175.33	0.730	0.000		14.684	10.72	95.9	0.0	467.3
42.31 Appurtenance	e(s)	1.00	1.06	8.233	9.06	172.43	0.730	0.000	2.31	6.550	4.78	43.3	0.0	207.4
45.00		1.00	1.07	8.341	9.17	168,93	0.730	0.000	2.69	7.440	5.43	49.8	0.0	235.6
50.00		1.00	1.09	8.528	9.38	162.13	0.730	0.000	5.00	13.296	9.71	91.0	0.0	420.9
51.00 Appurtenance	e(s)	1.00	1.10	8.563	9.42	160.73	0.730	0.000	1.00	2.576	1.88	17.7	0.0	420. 9 81.5
55.00		1.00	1.12	8.701	9.57	155.00	0.730	0.000		10.027	7.32	70.1	0.0	317.2
55.44 Appurtenance	e(s)	1.00	1.12	8.715	9.59	154.35	0.730	0.000	0.44	1.076	0.79	7.5	0.0	34.0
60.00		1.00	1.14	8.861	9.75	147.57	0.730	0.000		10.833	7.91	7.3	0.0	34.0 342.6
64.00 Appurtenance	e(s)	1.00	1.15	8.983	9.88	141.45	0.730	0.000	4.00	9.028	6.59	65.1	0.0	342.6 285.4
65.00		1.00	1.16	9.012	9.91	139.89	0.730	0.000	1.00	2.188	1.60	15.8	0.0	205.4 69.1
67.06 Appurtenance	e(s)	1.00	1.16	9.071	9.98	136.66	0.730	0.000	2.06	4.419	3.23	32.2	0.0	139.6
70.00		1.00	1.17	9.154	10.07	131.99	0.730	0.000	2.94	6.103	4.46	44.9	0.0	192.7
74.00 Appurtenance	e(s)	1.00	1.19	9.261	10.19	125.52	0.730	0.000	4.00	7.918	5.78	58.9	0.0	
75.00 Appurtenance	e(s)	1.00	1.19	9.288	10.22	123.89	0.730	0.000	1.00	1.910	1.39	14.2		250.0
75.45 Appurtenance	e(s)	1.00	1.19	9.299	10.23	123.15	0.730	0.000	0.45	0.851	0.62	6.4	0.0	60.3
76.00	-	1.00	1.19	9.314	10.24	122.25	0.730	0.000	0.43	1.032	0.02	7.7	0.0 0.0	26.8
				·		20		Totals:	76.00	1.002	0.13	1,385.7	0.0	32.6 8,356.2

Discrete Appurtenance Forces

CT46122-A-SBA Structure:

Site Name: Middletown North

76.00 (ft) Height:

Base Elev: 0.000 (ft)

Gh: 1.1 Code:

TIA-222-H

Exposure:

С

Crest Height: 0.00 D - Stiff Soil

Site Class:

Struct Class: ||

7/7/2023

((曜))

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Load Case: 1.0D + 1.0W 60 mph Wind

Topography: 1

1.00 **Dead Load Factor** 1.00 **Wind Load Factor**

16 **Iterations**

AT.	Elev			qz	qzGh	Orient Factor		Total CaAa	Dead Load	Horiz Ecc	Vert Ecc	Wind FX	Mom Y	Mom Z (lb-ft)
No.	(ft)	Description	Qty	(psf)	(psf)	x Ka	Ka	(sf)	(lb)	(ft)	(ft)	(lb)	(lb-ft)	
1	75.45	4' Branches	1	9.299	10.229	1.00	1.00	36.86	390.00	0.000	0.000	377.05	0.00	0.00
2	75.00	T-Arms	3	9.288	10.216	0.56	0.75	13.50	480.00	0.000	0.000	137.92	0.00	0.00
3		Antenna Branches	1	9.261	10.187	1.00	1.00	22.43	96.00	0.000	0.000	228.51	0.00	0.00
4	74.00	AIR6449 B41	3	9.261	10.187	0.57	0.80	9.63	309.00	0.000	0.000	98.08 26.87	0.00	0.00
5	74.00	RRUS 4415 B25	3	9.261	10.187	0.54	0.80	2.64	138.00	0.000	0.000	30.47	0.00	0.00
6	74.00	Ericsson 4415 B66A	3	9.261	10.187	0.54	0.80	2.99	148.80	0.000	0.000	68.77	0.00	0.00
7	74.00	(Handrail Kit w/end	1	9.261	10.187	1.00	1.00	6.75	261.72	0.000	0.000 0.000	346.41	0.00	0.00
8	74.00	RFS	3	9.261	10.187	0.56	0.80	34.00	384.00	0.000		138.48	0.00	0.00
9	74.00	Air 32	3	9.261	10.187	0.70	0.80	13.59	396.60	0.000	0.000 0.000	2.93	0.00	0.00
10	74.00	ATM200-A20	6	9.261	10.187	0.40	0.80	0.29	3.00	0.000	0.000	32.27	0.00	0.00
11	74.00	Radio 4449 B71+B85	3	9.261	10.187	0.54	0.80	3.17	213.00	0.000	0.000	11.79	0.00	0.00
12	74.00	Commscope	3	9.261	10.187	0.54	0.80	1.16	21.00	0.000	0.000	834.50	0.00	0.00
13		6' Branches	1	9.071	9.978	1.00	1.00	83.63	400.00	0.000	0.000	35.27	0.00	0.00
14		B5/B13 RRH-BR04C	3	8.983	9.881	0.54	0.80	3.57	210.90	0.000	0.000	26.06	0.00	0.00
15		B2/B66A RRH-BR049	3	8.983	9.881	0.54	0.80	2.64	253.20 65.40	0.000	0.000	5.88	0.00	0.00
16		CBC78T-DS-43-2X/E14F0	3	8.983	9.881	0.54	0.80	0.59	76.05	0.000	0.000	0.00	0.00	0.00
17	64.00	BSAMNT-SBS-1-2	3	8.983	9.881	0.56	0.75	0.00	32.00	0.000	0.000	88.71	0.00	0.00
18	64.00	DB846H80E-SX	2	8.983	9.881	0.90	0.80	8.98	960.00	0.000	0.000	133.39	0.00	0.00
19		T-Arm	3	8.983	9.881	0.56	0.75	13.50 0.90	39.60	0.000	0.000	8.85	0.00	0.00
20		Kaelus BSF0020F3V1-1	2	8.983	9.881	0.64	0.80	20.98	84.00	0.000	0.000	207.31	0.00	0.00
21		DB846F65ZAXY	4	8.983	9.881	0.74	0.80 0.75	9.28	500.00	0.000	0.000	91.71	0.00	0.00
22		(3) VZWSMART-SFK4	1	8.983	9.881	0.56	0.80	3.54	88.00	0.000	0.000	34.95	0.00	0.00
23	64.00	DB-T1-6Z-8AB-0Z	2	8.983	9.881	0.54	0.80	36.29	379.80	0.000	0.000	358.62	0.00	0.00
24	•	JAHH-65B-R3B	6	8.983	9.881	0.66	0.80	7.12	261.30	0.000	0.000	70.36	0.00	0.00
25		VZS01	3	8.983	9.881	0.55	1.00	150.70	1638.00	0.000	0.000	1444.70	0.00	0.00
26		8' Branches	1	8.715	9.587	1.00 0.59	0.80	22.18	193.50	0.000	0.000	208.95	0.00	0.00
27		MX08FRO665-21	3	8.563	9.420		0.80	11.78	899.00	0.000	0.000	111.00	0.00	0.00
28		MC-K6MHDX-9-96 (3	1	8.563	9.420		0.80	1.61	21.90	0.000	0.000	15.15	0.00	0.00
29		RDIDC-9181-OF-48	1	8.563	9.420		0.80	3.15	225.00	0.000	0.000	29.69	0.00	0.00
30		TA08025-B605	3	8.563	9.420		0.80	3.15	191.70	0.000	0.000	29.69	0.00	0.00
31		TA08025-B604	3	8.563	9.420	10000000	1.00	54.43	540.00	0.000	0.000	492.94	0.00	0.00
32	42.31	10' Branches	_1_	8.233	9.056	1.00	1.00	34.43	0.000.47	0.000	0.000	5 727 26		

Totals:

9,900.47

5,727.26

Total Applied Force Summary

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Code: TIA-222-H

Exposure: C **Crest Height:** 0.00

Site Class: D - Stiff Soil

Struct Class: ||

7/7/2023

Tower Engineering Solution

Page: 26

Load Case: 1.0D + 1.0W 60 mph Wind

Topography: 1

Dead Load Factor 1.00 Wind Load Factor 1.00 z X

Iterations 16

Elev _(ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)		
0.00		0.00	0.00	0.00	0.00		
5.00		102.85	914.58	0.00	0.00		
10.00		99.16	886.92	0.00	0.00		
15.00		95.47	859.26	0.00	0.00		
20.00		97.38	831.59	0.00	0.00		
22.75		53.32	445.58	0.00	0.00		
25.00		44.14	594.80	0.00	0.00		
28.25		63.91	841.35	0.00	0.00		
30.00		34.10	227.92	0.00	0.00		
35.00		97.68	636.28	0.00	0.00		
40.00		95.93	614.14	0.00	0.00		
42.31	(1) attachments	536.24	816.26	0.00	0.00		
45.00		49.83	315.75	0.00	0.00		
50.00		91.05	569.88	0.00	0.00		
51.00	(11) attachments	412.19	1642.42	0.00	0.00		
55.00		70.05	432.43	0.00	0.00		
55.44	(1) attachments	1452,23	1684.70	0.00	0.00		
60.00		77.09	473.92	0.00	0.00		
64.00	(35) attachments	1126.23	3350.81	0.00	0.00		
65.00		15.83	77.01	0.00	0.00		
67.06	(1) attachments	866.69	555.85	0.00	0.00		
70.00		44.86	215.91	0.00	0.00		
74.00	(29) attachments	1043.46	2252.59	0.00	0.00		
75.00	(3) attachments	152.17	548.16	0.00	0.00		
75.45	(1) attachments	383.40	416.83	0.00	0.00		
76.00		7.72	32.55	0.00	0.00		
	Totals:	7,112.96	20,237.52	0.00	0.00		

Calculated Forces

Structure: CT46122-A-SBA

Site Name: Middletown North

76.00 (ft) Height:

Base Elev: 0.000 (ft)

Gh:

1.1

Code:

TIA-222-H

Exposure: С

Crest Height: 0.00 Site Class:

Struct Class: ||

D - Stiff Soil

Page: 27

7/7/2023

16

Iterations

Load Case: 1.0D + 1.0W 60 mph Wind

Topography: 1

1.00 **Dead Load Factor** 1.00 Wind Load Factor

Seg	Pu	Vu	Tu	Mu	Mu	Resultant Moment	phi Pn	phi Vn	phi Tn	phi Mn	Total Deflect	Rotation Sway	Rotation Twist	Stress
Elev	FY (-) (kips)	FX (-) (kips)	MY (-) (ft-kips)	MZ (ft-kips)	MX (ft-kips)	(ft-kips)	(kips)	(kips)	(ft-kips)	(ft-kips)	(in)	(deg)	(deg)	Ratio
(ft) 0.00	-20.23	-7.12	0.00	-413.74	0.00	413.74	2976.77	803.98	3080.93	2832.01	0.00	0.000	0.000	0.153
5.00	-19.31	-7.03	0.00	-378.14	0.00	378.14	2914.38	775.44	2866.11	2673.58	0.02	-0.046	0.000	0.148
10.00	-18.42	-6.95	0.00	-342.98	0.00	342.98	2848.80	746.90	2659.05	2516.58	0.10	-0.092	0.000	0.143
15.00	-17.56	-6.86	0.00	-308.24	0.00	308.24	2780.04	718.37	2459.75	2361.34	0.22	-0.139	0.000	0.137
20.00	-16.72	-6.78	0.00	-273.92	0.00	273.92	2708.10	689.83	2268.22	2208.17	0.39	-0.186	0.000	0.130
22.75	-16.27	-6.73	0.00	-255.28	0.00	255.28	2667.17	674.14	2166.19	2124.93	0.51	-0.212	0.000	0.126
25.00	-15.68	-6.69	0.00	-240.15	0.00	240.15	2632.97	661.30	2084.45	2057.41	0.61	-0.234	0.000	0.123
28.25	-14.83	-6.63	0.00	-218.41	0.00	218.41	1920.92	522.03	1623.69	1483.43	0.78	-0.265	0.000	0.155
30.00	-14.60	-6.60	0.00	-206.81	0.00	206.81	1904.07	514.04	1574.37	1447.76	0.88	-0.282	0.000	0.151
35.00	-13.96	-6.51	0.00	-173.81	0.00	173.81	1853.76	491.22	1437.64	1346.49	1.21	-0.335	0.000	0.137
40.00	-13.34	-6.42	0.00	-141.24	0.00	141.24	1800.28	468.39	1307.12	1246.45	1.59	-0.386	0.000	0.121
42.31	-12.53	-5.88	0.00	-126.41	0.00	126.41	1774.49	457.84	1248.92	1200.72	1.78	-0.409	0.000	0.113
45.00	-12.21	-5.84	0.00	-110.58	0.00	110.58	1743.61	445.56	1182.81	1147.94	2.02	-0.435	0.000	0.104
50.00	-11.64	-5.75	0.00	-81.38	0.00	81.38	1683.75	422.73	1064.71	1051.30	2.50	-0.476	0.000	0.085
51.00	-9.99	-5.33	0.00	-75.63	0.00	75.63	1671.40	418.16	1041.84	1032.22	2.60	-0.484	0.000	0.079
55.00	-9.56	-5.26	0.00	-54.32	0.00	54.32	1620.72	399.90	952.83	956.84	3.02	-0.512	0.000	0.063
55.44	-7.89	-3.79	0.00	-52.01	0.00	52.01	1615.02	397.89	943.28	948.65	3.06	-0.514	0.000	0.060
60.00	-7.41	-3.71	0.00	-34.73	0.00	34.73	1554.50	377.07	847.15	864.91	3.57	-0.538	0.000	0.045
64.00	-4.07	-2.55	0.00	-19.89	0.00	19.89	1499.23	358.81	767.08	793.39	4.03	-0.554	0.000	0.028
65.00	-4.00	-2.54	0.00	-17.33	0.00	17.33	1485.09	354.25	747.68	775.81	4.14	-0.557	0.000	0.025
67.06	-3.45	-1.67	0.00	-12.11	0.00	12.11	1455.57	344.84	708.50	740.00	4.39	-0.562	0.000	0.019
70.00	-3.23	-1.62	0.00	-7.21	0.00	7.21	1403.00	331.42	654.42	685.23	4.73	-0.568	0.000	0.013
74.00	-0.99	-0.55	0.00	-0.74	0.00	0.74	1325.69	313.15	584.28	611.42	5.21	-0.571	0.000	0.002
75.00	-0.45	-0.40	0.00	-0.18	0.00	0.18	1306.36	308.59	567.37	593.63	5.33	-0.571	0.000	0.001
75.45	-0.03	-0.01	0.00	0.00	0.00	0.00	1297.66	306.53	559.84	585.71	5.38	-0.571	0.000	0.000
76.00	0.00	-0.01	0.00	0.00	0.00	0.00	1287.03	304.02	550.71	576.10	5.45	-0.571	0.000	0.000

Final Analysis Summary

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh:

1.1

Code:

Topography: 1

TIA-222-H

Exposure: С

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: ||

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Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	
1.2D + 1.0W 119 mph Wind	31.3	0.00	24.23	0.00	0.00	1822.58	
0.9D + 1.0W 119 mph Wind	31.3	0.00	18.16	0.00	0.00	1816.56	
1.2D + 1.0Di + 1.0Wi 50 mph Wind	7.9	0.00	36.45	0.00	0.00	453.59	
1.2D + 1.0Ev + 1.0Eh	0.9	0.00	25.19	0.00	0.00	53.52	
0.9D + 1.0Ev + 1.0Eh	0.9	0.00	19.09	0.00	0.00	53.52	
1.0D + 1.0W 60 mph Wind	7.1	0.00	20.23	0.00	0.00	413.74	

Max Stresses

Load Case	Pu FY (-) (kîps)	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)	Elev (ft)	Stress Ratio
1.2D + 1.0W 119 mph Wind	-17.22	-29.20	0.00	-962.79	0.00	-962.79	1920.92	522.03	1623.69	1483.43	28.25	0.661
0.9D + 1.0W 119 mph Wind	-12.77	-29.10	0.00	-958.26	0.00	-958.26	1920.92	522.03	1623.69	1483.43	28.25	0.656
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-28.60	-7.28	0.00	-237.92	0.00	-237.92	1920.92	522.03	1623.69	1483.43	28.25	0.175
1.2D + 1.0Ev + 1.0Eh	-18.50	-0.84	0.00	-29.09	0.00	-29.09	1920.92	522.03	1623.69	1483.43	28.25	0.029
0.9D + 1.0Ev + 1.0Eh	-14.02	-0.84	0.00	-29.13	0.00	-29.13	1920.92	522.03	1623.69	1483.43	28.25	0.027
1.0D + 1.0W 60 mph Wind	-14.83	-6.63	0.00	-218,41	0.00	-218.41	1920.92	522.03	1623.69	1483.43	28.25	0.155

Base Plate Summary

CT46122-A-SB Structure:

Site Name: Middletown North 76.00 (ft) Height:

Base Elev: 0.000 (ft)

Gh: 1.1 Code:

Topography: 1

TIA-222-H

С Exposure:

Crest Height: 0.00 D - Stiff Soil

Site Class:

Struct Class: ||

7/7/2023

Page: 29

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Reaction	ns	Base Pla	ite	Anchor B	olts
Original De		Yield (ksi):	60.00	Bolt Circle:	54.00
Moment (kip-ft):	2800.00	Width (in):	60.00	Number Bolts:	10.00
Axial (kip):	27.00	Style:	Round	Bolt Type:	2.25" 18J
Shear (kip):	52.00	Polygon Sides:	0.00	Bolt Diameter (in):	2.25
	4 6110	Clip Length (in):	0.00	Yield (ksi):	75.00
Analysis (1.2D		Effective Len (in):	29.11	Ultimate (ksi):	100.00
Moment (kip-ft):	1822.58	Moment (kip-in):	616.61	Arrangement:	Radial
Axial (kip):	24.23	, , ,	81.00	Cluster Dist (in):	0.00
Shear (kip):	31.32	Allow Stress (ksi):	31.59	Start Angle (deg):	0.00
		Applied Stress (ksi):	0.39	Compression	
		Stress Ratio:	0.00	Force (kip):	164.43
				Allowable (kip):	268.39
				Ratio:	0.61
				Tension	I
				Force (kip):	159.58
				Allowable (kip):	243.75
				Ratio:	0.65





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

Antenna Mount Analysis Report and PMI Requirements

Mount ReAnalysis

SMART Tool Project #: 10207050 Colliers Engineering & Design CT, P.C. Project #: 23777134

July 21, 2023

Site Information

Site ID:

5000245641-VZW / Cromwell CT

Site Name:

Cromwell CT

Carrier Name:

Verizon Wireless 160 West

Address:

Cromwell, Connecticut 06416

Middlesex County

Latitude:

41.605992°

Longitude:

-72.670381°

Structure Information

Tower Type:

Monopole

Mount Type:

10.63-Ft T-Frame

FUZE ID # 17123796

Analysis Results

T-Frame: 60.6% Pass*

*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: Prasanna Dhakal



July 21, 2023 Site ID: 5000245641-VZW / Cromwell CT Page | 2

Executive Summary:

The objective of this report is to determine the capacity of the antenna support mount at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

This analysis is inclusive of the mount structure only and does not address the structural capacity of the supporting structure. This mounting frame was not analyzed as an anchor attachment point for fall protection. All climbing activities are required to have a fall protection plan completed by a competent person.

Sources of Information:

Document Type	Remarks
Radio Frequency Data Sheet (RFDS)	Verizon RFDS, Site ID: 602576, dated November 25, 2020
Mount Mapping Report	RKS Design & Engineering LLC, Site ID: SBA: CT46122, dated January 16, 2021
Previous Post-Mod Antenna Mount Analysis	Maser Consulting Connecticut, Project #: 20777624, dated February 25, 2021
Antenna Mount Post-Modification Inspection Report	Maser Consulting Connecticut, Project #: 20777624, dated March 28, 2022
Final Loading Configuration	Filter Add Scope Provided by Verizon Wireless

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-I
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2022 Connecticut State Building Code (CSBC), Effective October 1, 2022

Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), Vouril Ice Wind Speed (3-sec. Gust):	120 mph 50 mph
	Design Ice Thickness:	1.00 in
	Risk Category:	II
	Exposure Category:	_

Exposure Category:

Topographic Category:

Topographic Feature Considered:

Topographic Method:

N/A

Topographic Method:

Ground Elevation Factor, K_e:

1

0.995

Seismic Parameters: Ss: 0.207 g

S₁: 0.056 g

Maintenance Parameters: Wind Speed (3-sec. Gust): 30 mph

Maintenance Load, Lv: 250 lbs. Maintenance Load, Lm: 500 lbs.

Analysis Software: RISA-3D (V17)

July 21, 2023 Site ID: 5000245641-VZW / Cromwell CT Page | 3

Final Loading Configuration:

The following equipment has been considered for the analysis of the mounts:

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status	
(14)	(/	2	KAelus	KA-6030	Added	
	3		Samsung	MT6407-77a		
		3	Commscope	CBC78T-DS-43-2X		
		3	Samsung	B2/B66A RRH-BR049		
65.88	67.00	3	Samsung	B5/B13 RRH-BR04C	Retained	
05.66	07.00	6	Andrew	JAHH-65B-R3B	Netained	
		4	Andrew	DB846F65ZAXY		
		2	Decibel	DB846H80E-SX		
		2	Raycap	RRFDC-3315-PF-48		

It is acceptable to install up to any three (3) of the OVP model numbers listed below as required at any location other than the mount face without affecting the structural capacity of the mount. If OVP units are installed on the mount face, a mount re-analysis may be required unless replacing an existing OVP.

Model Number	Ports	AKA
DB-B1-6C-12AB-0Z	6	OVP-6
RVZDC-6627-PF-48	12	OVP-12

Standard Conditions:

- All engineering services are performed on the basis that the information provided to Colliers Engineering & Design CT, P.C. and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Colliers Engineering & Design CT, P.C. to verify deviation will not adversely impact the analysis.
- Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping and reported in the Mount Mapping Report are assumed to be corrected and documented as part of the PMI process and are not considered in the mount analysis.

The mount analysis and the mount mapping are not a condition assessment of the mount. Proper maintenance and condition assessments are still required post analysis.

- For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped in accordance with the NSTD-446 Standard, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.
- All member connections are assumed to have been designed to meet or exceed the load carrying capacity
 of the connected member unless otherwise specified in this report.
- 5. The mount was checked up to, and including, the bolts that fasten it to the mount collar/attachment and threaded rod connections in collar members if applicable. Local deformation and interaction between the mount collar/attachment and the supporting tower structure are outside the scope of this analysis.

July 21, 2023 Site ID: 5000245641-VZW / Cromwell CT Page | 4

6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Colliers Engineering & Design CT, P.C. is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.

7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:

Channel, Solid Round, Angle, Plate

ASTM A36 (Gr. 36)

HSS (Rectangular) 0

ASTM 500 (Gr. B-46)

Pipe 0

ASTM A53 (Gr. B-35) F1554 (Gr. 36)

Threaded Rod 0

Bolts

ASTM A325

Discrepancies between in-field conditions and the assumptions listed above may render this analysis invalid unless explicitly approved by Colliers Engineering & Design CT, P.C.

Analysis Results:

Component	Utilization %	Pass/Fail
Face Horizontal	52.9%	Pass
Mount Pipe	55.8%	Pass
Standoff Horizontal	43.8%	Pass
Mod Face Horizontal	54.3%	Pass
Mod Standoff Horizontal	51.3%	Pass
Mount Connection (Bolt)	30.5%	Pass
Mount Connection (Plate)	60.6%	Pass

Structure Rating (Controlling Utilization of all Components)	60.6%	li.
--	-------	-----

BASELINE mount weight per SBA agreement: 2273.90 lbs

Increase in mount weight due to Verizon loading change per SBA agreement: No Change

The weights listed above include 3 sectors.

Mount Steel (EPA)a per ANSI/TIA-222-H Section 2.6.11.2:

Ice	Mount Pipe	s Excluded	Mount Pipes Included	
Thickness (In)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	11.5	3.4	20.1	12.0
0.5	15.1	4.7	27.3	17.0
1	18.5	5.7	34.3	21.6

Notes:

- (EPA)a values listed above may be used in the absence of more precise information
- (EPA)a values in the table above include 1 sector.
- Ka factors included in (EPA)a calculations

Mount Structural Analysis Report (3) 10.63-Ft T-Frame

July 21, 2023 Site ID: 5000245641-VZW / Cromwell CT Page | 5

Requirements:

The existing mounts are **SUFFICIENT** for the final loading configuration shown in attachment 2 and do not require modifications. Additional requirements are noted below.

If 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. Separate review fees will apply.

Attachments:

- 1. Contractor Required Post Installation Inspection (PMI) Report Deliverables
- 2. Antenna Placement Diagrams
- 3. Mount Photos
- 4. Mount Mapping Report (for reference only)
- 5. Analysis Calculations

Mount Desktop - Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Passing Mount Analysis

Passing Mount Analysis requires a PMI due to a modification in loading.

Electronic pdf version of this can be downloaded at https://pmi.vzwsmart.com.

For additional questions and support, please reach out to pmisupport@colliersengineering.com

MDG #: 5000245641

SMART Project #: 10207050

Fuze Project ID: 17123796

<u>Purpose</u> – to provide SMART Tool structural vendor the proper documentation in order to complete the required Mount Desktop review of the Post Modification Inspection Report.

- Contractor is responsible for making certain the photos provided as noted below provide confirmation that the installation was completed in accordance with this Passing Mount Analysis.
- Contractor shall relay any data that can impact the performance of the mount, this includes safety issues.

Base Requirements:

- If installation will cause damage to the structure, the climbing facility, or safety climb if present
 or any installed system, SMART Tool vendor to be notified prior to install. Any special photos
 outside of the standard requirements will be indicated on the drawings.
- Provide "as built mount drawings" showing contractor's name, contact information, preparer's signature, and date. Any deviations from the drawings (Proposed modification) shall be shown.
 NOTE: If loading is different than what is conveyed in the passing mount analysis (MA) contact the SMART Tool vendor immediately.
- Each photo should be time and date stamped
- Photos should be high resolution.
- Contractor shall ensure that the safety climb wire rope is supported and not adversely
 impacted by the install of the modification components. This may involve the install of wire
 rope guides, or other items to protect the wire rope. If there is conflict, contact the SMART Tool
 engineer for recommendations.
- The PMI can be accessed at the following portal: https://pmi.vzwsmart.com

Photo Requirements:

- Photos taken at ground level
 - o Photo of Gate Signs showing the tower owner, site name, and number.
 - Overall tower structure after installation.
 - Photos of the mount after installation; if the mounts are at different rad elevations, pictures must be provided for all elevations that equipment was installed.
- Photos taken at Mount Elevation
 - Photos showing the safety climb wire rope above and below the mount prior to installation.
 - Photos showing the climbing facility and safety climb if present.
 - Photos showing each individual sector after installation. Each entire sector shall be in one photo to show the interconnection of members.

- These photos shall also certify that the placement and geometry of the equipment on the mount is as depicted in the antenna placement diagram in this form.
- O Photos that show the model number of each antenna and piece of equipment installed per sector.

Antenna & equipment placement and Geometry Confirmation:

Antenna & equipment placement and deciment y comment
 The contractor shall certify that the antenna & equipment placement and geometry is in accordance with the sketch and table as included in the mount analysis and noted below.
\Box The contractor certifies that the photos support and the equipment on the mount is as depicted on the sketch and table included in this form and with the mount analysis provided.
OR
\Box The contractor notes that the equipment on the mount is not in accordance with the sketch and has noted the differences below and provided photo documentation of any alterations.
Special Instructions / Validation as required from the MA or any other information the contractor
deems necessary to share that was identified:
Issue:
Response:
Special Instruction Confirmation:
\square The contractor has read and acknowledges the above special instructions.
\square All hardware listed in the Special Instructions above (if applicable) has been properly installed, and the existing hardware was inspected.
☐ The material utilized was as specified in the SMART Tool engineering vendor Special Instructions above (if applicable) and included in the material certification folder is a packing list or invoice for these materials.
OR
☐ The material utilized was approved by a SMART Tool engineering vendor as an "equivalent" and this approval is included as part of the contractor submission.

Comments:			
Contractor certifies	that the climbing facility	/ safety climb was not damaged pr	or to starting work.
ionitiactor certifics	that the chilibing facility	/ safety clifflo was not damaged pr	ior to starting work:
☐ Yes	□ No		
L 163	II 140		
ontractor certifies	no new damage created	during the current installation:	
	- A - Carton	and the same motanation.	
☐ Yes	□ No		255
ntractor to certify	the condition of the saf	ety climb and verify no damage who	en leaving the site:
☐ Safety Clin	nb in Good Condition	☐ Safety Climb Damag	ged
ertifying Individual	:		
Compa			
Employee Na Contact Pho			
	nail:		
	ate:		

Sector:

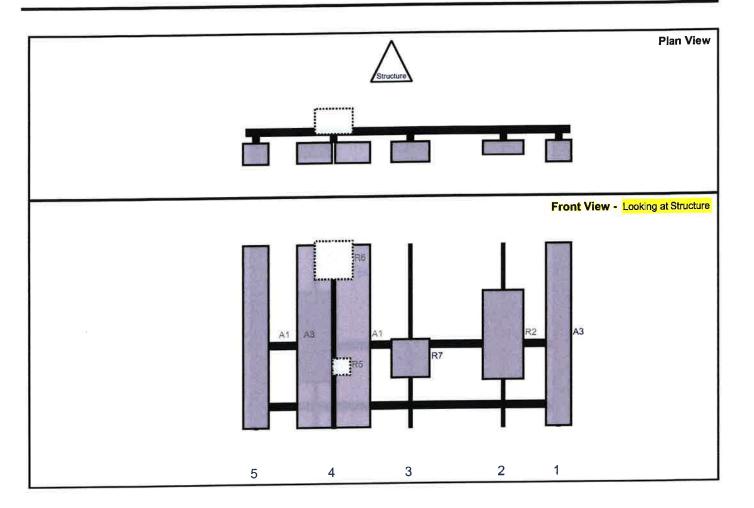
Mount Elev:

Structure Type: Monopole 65.88

10207050

7/21/2023

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		Height	Width	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant	Ant H Off	Status	Validation
Ref#	Model	(in)	(in)	Filli L.		1 03 V		1150			2010010000
A3	DB846F65ZAXY	72	10	123	1	а	Front	36	0	Retained	02/28/2022
R2	MT6407-77A	35.1	16.1	101	2	а	Front	36	0	Retained	02/28/2022
R7	B5/B13 RRH-BR04C	15	15	64.75	3	а	Front	45	0	Retained	02/28/2022
A1	JAHH-65B-R3B	72	13.8	34.5	4	а	Front	36	7.5	Retained	02/28/2022
A1	JAHH-65B-R3B	72	13.8	34.5	4	b	Front	36	-7.5	Retained	02/28/2022
R5	CBC78T-DS-43-2X	6.4	6.9	34.5	4	а	Behind	48	3	Retained	02/28/2022
R6	B2/B66A RRH-BR049	15	15	34.5	4	а	Behind	6	0	Retained	02/28/2022
A3	DB846F65ZAXY	72	10	4	5	а	Front	36	0	Retained	02/28/2022
OVP	RRFDC-3315-PF-48	29.5	16.5	7500	Memb	er				Retained	02/28/2022

Structure: 5000245641-VZW - Cromwell CT

Sector: B

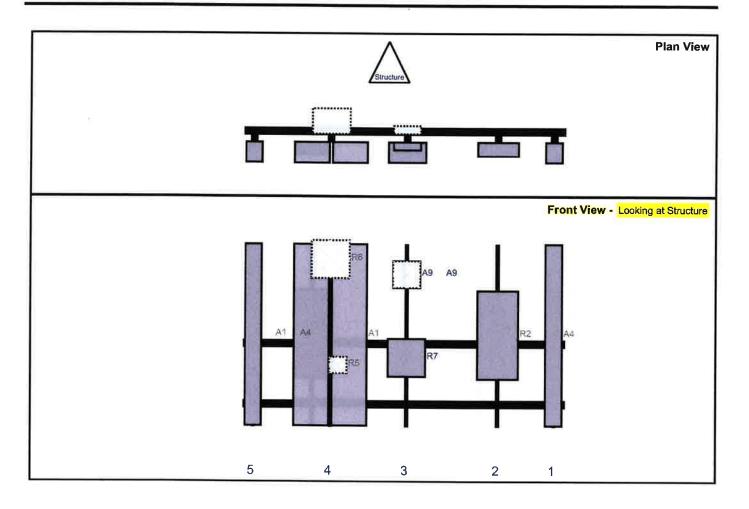
10207050

Mount Elev: 65.88

Structure Type: Monopole

7/21/2023

Colliers Engineering & Design



		Height	Width	H Dist	Pipe	Pipe	Ant	C. Ant	Ant		
Ref#	Model	(in)	(in)	Fm L.	#	Pos V	Pos	Frm T	H Off	Status	Validation
A4	DB846H80E-SX	72	6.5	123	1	а	Front	36	0	Retained	02/28/2022
R2	MT6407-77A	35.1	16.1	101	2	а	Front	36	0	Retained	02/28/2022
R7	B5/B13 RRH-BR04C	15	15	64.75	3	а	Front	45	0	Retained	02/28/2022
A9	KA-6030	10.6	10.9	64.75	3	а	Front	12	0	Added	
A9	KA-6030	10.6	10.9	64.75	3	b	Behind	12	0	Added	
A1	JAHH-65B-R3B	72	13.8	34.5	4	а	Front	36	7.5	Retained	02/28/2022
A1	JAHH-65B-R3B	72	13.8	34.5	4	b	Front	36	-7.5	Retained	02/28/2022
R5	CBC78T-DS-43-2X	6.4	6.9	34.5	4	а	Behind	48	3	Retained	02/28/2022
R6	B2/B66A RRH-BR049	15	15	34.5	4	8	Behind	6	0	Retained	02/28/2022
A4	DB846H80E-SX	72	6.5	4	5	а	Front	36	0	Retained	02/28/2022

Sector:

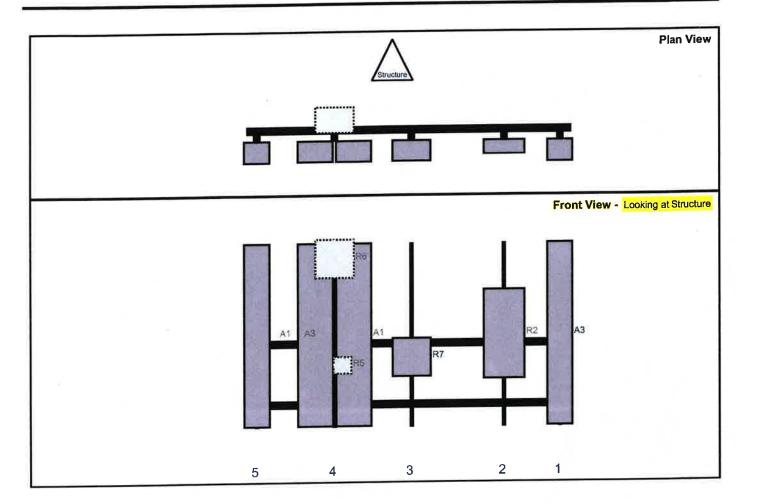
Mount Elev:

Structure Type: Monopole 65.88

10207050

7/21/2023





			VAC JIL	U Diet	Pipe	Pipe	Ant	C. Ant	Ant		
Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	#	Pos V		Frm T	H Off	Status	Validation
A3	DB846F65ZAXY	72	10	123	1	а	Front	36	0	Retained	02/28/2022
R2	MT6407-77A	35.1	16.1	101	2	а	Front	36	0	Retained	02/28/2022
R7	B5/B13 RRH-BR04C	15	15	64.75	3	а	Front	45	0	Retained	02/28/2022
A1	JAHH-65B-R3B	72	13.8	34.5	4	а	Front	36	7.5	Retained	02/28/2022
A1	JAHH-65B-R3B	72	13.8	34.5	4	b	Front	36	-7.5	Retained	02/28/2022
R5	CBC78T-DS-43-2X	6.4	6.9	34.5	4	а	Behind	48	3	Retained	02/28/2022
R6	B2/B66A RRH-BR049	15	15	34.5	4	а	Behind	6	0	Retained	02/28/2022
A3	DB846F65ZAXY	72	10	4	5	a	Front	36	0	Retained	02/28/2022





26.11



			FCC #
Intenna Mount Mapping Form	m (PATENT PENDING)		1273764
	Mapping Date:		3/2021
CROMWELL CT	Tower Type:		nopole
	Tower Height (FL):		NOWN
	Mount Elevation (Ft.):	6	4.33
	CROMWELL CT CT46122	CROMWELL CT Tower Type: CT46122 Tower Height (FL): DESIGN & ENGINEERINE LLC Mount Elevation (FL):	Mapping Date: 1/16

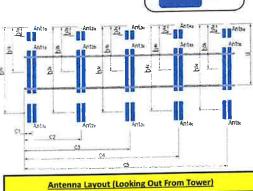
Mapping Contractor: [RKS UESIGN & ENGINEERINF LLC [Mount Elevation (Ft.): 64.33

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Please insert the sketches of the antenna mount from the "Sketches" tab with dimensions and members here.

		Mount Pip	e Configurat	tion and G	eometries [Unit = Inches]	1111	
Sector / Pasition	Mount Pipe Size & Length	Vertical Offset Dimension	Horizontal Offset "C1, C2, C3, etc."	Sector /	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizonta Offset "C1 C2, C3, etc.
	PIPE 2.375"Øx0.15"x72.5" LONG		4.50	C1	PIPE 2.375"Øx0.15"x72.5" LONG	63.50	4,50
A1 A2	PIPE 2.375"Øx0.15"x72.5" LONG		26,50	C2	PIPE 2.375"Øx0.15"x72.5" LONG	63.50	26,50
A3	PIPE 2.375"Øx0.15"x72.5" LONG		62.75	C3	PIPE 2,375"Øx0,15"x72.5" LONG	63.50	62,75
A4	PIPE 2.375"Øx0.15"x72.5" LONG		93.00	C4	PIPE 2.375"Øx0.15"x72.5" LONG	63.50	93.00
A5	PIPE 2.375"Øx0.15"x72.5" LONG		123.50	C5	PIPE 2.375"Øx0.15"x72.5" LONG	63.50	123.50
A6	PIPE 2.375 WAULT AVES COLLS			C6			
B1	PIPE 2.375"Øx0.15"x72.5" LONG	63.50	4.50	D1			
B2	PIPE 2.375"Øx0.15"x72.5" LONG		26.50	D2			
B3	PIPE 2 375"Øx0.15"x72.5" LONG		62,75	D3			
84	PIPE 2.375"Øx0.15"x72.5" LONG		93.00	D4			
85	PIPE 2.375"Øx0.15"x72.5" LONG	63.50	123.50	05			
86		_		D6			
86	Distance between bottom rail	and mour	t CL elevati	ion (dim d). Unit is inches. See 'Mount Elev Ref' ta	b for details.	
	Distance from to	n of botto	m support r	all to low	est tip of ant./eqpt. of Carrier above. (N	/A If > 10 ft.) :	6
	Distance from to	n of hottor	n support r	ail to high	est tip of ant./eqpt. of Carrier below. (N	/A if > 10 ft.)	
	Distance from to	Manage and	- addition	al informat	ion or comments below.		

SECTOR C FACE B LEC C LEG 8 SECTOR A



	Enter antenn	a model.	f not label	ed, enter '	'Unknown'		Mountin	g Locations nes and de		Photos o
Ants. Items	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty		Vertical Distances"b _{1a} , b _{2a} , b _{3a} , b _{1b} " (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photo Numbers
					Sector A					_
Antie										244
Ant _{1b}	UNKNOWN-PANEL	12.75	6.50	70.25		67.0383	31.00	16.75	0.00	244
Antıc				w.						244
Ant ₂	B4 RRH2x60-4R	10.63	5.75	36.60		67.2675		-14.00	0.00	
Ant _{2b}	SBNHH-1D65B	11.90	7.10	72.00		67.0383	31.00	7.75	0.00	244
Ant _{2c}										246
Ant _{3a}	B13 RRH4x30	12.00	9.00	21.60		67.8925		-15.50		246
Ant _{3b}	SBNHH-1D65B	11.90	7.10	72.00		67.0383	31,00	7.75	0.00	246
Ant _{ac}									_	246
Ant _{4a}	B25 RRH4x30	12.00	7.20	21.20		67.4967	25.50	-25.25		_
Ant _{4b}	SBNHH-1D658	11.90	7.10	72.00		67.0383	31.00	7.75	0.00	246
Ant _{4c}									_	-
Antsa					_					246
Antsh	UNKNOWN-PANEL	12.75	6.50	70.25		67.0383	31.00	16.75	0.00	246
Antsc										_
Ant on Standoff	RRFDC-3315-PF-48	15.73	10.25	25.66			0.58	6.30	_	245-24
Ant on Standoff										
Ant on Tower									-	
Ant on Tower										

Mot	int Azimuth	(Degre-	el	Towaries Az	lmuth (Degree)	1					Sector					
10/3/	for Each Se		-,		th Sector	Ant,		T		T	Sector	1		_	T	
Sector A:	0.00	Deg	Leg A:		Deg	Antıb	DR846F65ZAXY	12.75	6.50	70.25		67.0383	31.00	16.75	120.00	248
Sector B:	120.00	Deg	Leg B:		Deg	Ant _{1c}						1	52100	10.75	120.00	240
Sector C:	240.00	Deg	Leg C:		Deg	Ant _{2a}	84 RRH2x60-4R	10.63	5.75	36.60		67.2675	28.25	-14.00		248
Sector D:		Deg	Leg D:		Deg	Ant _{2h}	SBNHH-1D658	11.90	7.10	72.00		66.955	32.00	14.00	120.00	248
		Climb	ing Fac	Wity Information		Ant _{2r}								11100	120.00	270
Location:	0.00	Deg		N/A		Ant _{3a}	B13 RRH4x30	12.00	9.00	21.60		67.8925	20.75	-15.50		248
cli- Lr-	Corros	sion Typ	e;	N/A		Ant _{3b}	\$BNHH-1D65B	11.90	7.10	72.00		66.955	32.00	14.00	120.00	248
Climbing Facility	A	ccess:		Climbing path was i	unobstructed.	Antac						0.000		11100	120.00	240
delity	Cor	dition:		Good condition.		Ant _{4a}	B25 RRH4x30	12.00	7.20	21,20		67.4967	25.50	-15.25	<u> </u>	249
		571	171			Ant _{4b}	SBNHH-1D65B	11.90	7.10	72.00		66.955	32.00	14.00	120.00	249
ï	4	4011	Hà	E.		Antac							22.00	11.00	120.00	243
]						Ants										
-		- 2	ш			Ant _{5b}	DR846F65ZAXY	12.75	6.50	70.25		66.5383	37.00	16.75	120.00	249
1	4	1		T. IT CLEANING	e ₍	Ant _{sc}								1		
		-61	17			Ant on	RRFDC-3315-PF-48	15.73	10,25	25.66			0.50	6.20		
I	T		III-		Coup. 4. 1 E 5.2.1 OL SULVEDIA DE CONSTITUTO DE SECUE LEY BLODE PERMITO DE CONSTITUTO DE TRATABLES PRANTES DE SECUE TRATABLES PRA	Standoff	MII DC-3313-F1 -48	13.73	10,23	23.00			0.58	6.30		225
-		Tit	TIT		DW4 - 15 WI	Ant on Standoff										
=	-		131	<u> </u>	1	Ant on						+-1		-		
	1/ 't	Hil	1 m	, the	DESIRED TO THE BANK THE PROPERTY OF THE PROPER	Tower										
	£	111	l n	y _15.5s.1szree		Ant on										
1	i f		111"	i n		Tower		لــــــــــــــــــــــــــــــــــــــ			-	لــــــــــــــــــــــــــــــــــــــ				
			110			Antia		_	_		Sector	1		_		
- 1	-	27	+++			Antıh	UNKNOWN-PANEL	9.50	8.00	72.50	_	CC C042	25.25	44.00		
L	4 4		11	Ų		Antic	DIRRIGOVIT-I AITEE	3.30	8.00	72.30	-	66.6842	35.25	11.00	240.00	251
		2	3.37	Newson		Ant _{2a}	B4 RRH2x60-4R	10.63	5.75	36.60		67.2675	20.20	14.00		
		0-	\bot	П		Ant _{2h}	SBNHH-1D65B	11.90	7.10	72.00		67.0383	28.25	-14.00 7.75	240.00	251
1		-	7 H			Ant _{2c}	20030	11.50	7.10	72.00		67.0363	31.00	1.75	240.00	251
- 1		\perp	_			Anta	B13 RRH4x30	12.00	9.00	21.60	-	67.8925	20.75	-15.50	-	252
, a	,4		77	7	.	Ant _{3b}	SBNHH-1D65B	11.90	7.10	72.00		67.0383	31.00	7.75	240.00	252
			/		l I	Ant _{3c}				7 2100		07.0303	31.00	1.73	240.00	232
F		1 1	-17	П	through the third state of the contract the contract the contract the contract the contract through the contract t	Ant _{4e}	B25 RRH4x30	12.00	7.20	21.20	-	67.4967	25.50	-15.25		253
			7 1		Maria a chiefs and	Ant _{4b}	SBNHH-1D65B	11.90	7.10	72.00	_	67.0383	31.00	7.75	240.00	253
- 1	-		7	_	İ	Antac								1	210.00	233
1,	1/4				1	Antsa										
STHE JECTOM PROS WAR	AE	/			WARD FOR THE WINDS IN OR WARDY OF CHIEF HADE 1947 - TOTAL	Ant _{5b}	UNKNOWN PANEL	9.50	8.00	72.50		66.6842	35.25	11.00	240.00	253
				F. V. Carres		Ant _{Sc}								1	240.00	
	1		771	À	-	Ant on										
4		-	=	7	1	Standoff										
				1 0000		Ant on Standoff						75				
ابا	-			اليا		Ant on			-				_			
						Tower										
						Ant on										
						Tower										
						Antia					Sector D	, , ,				
						Antib		\vdash					_	-		
						Ant _{le}						-				_
						Ant _{2a}								-		_
						Ant _{2h}						-		-		_
						Ant _{2c}								-		
						Ant _{9a}										_
					:	Ant _{3b}							-			
						Antac								1		_
						Ant _{4a}		-		-				1		_
					3	Ant _{4b}										
						Ant _{4c}										_
					1	Ants										_
					1	Ant _{5b}										
					1	Antsc										_
					i	Ant on						-				
						Standoff										
					- 1	Ant on										
					ł	Standoff Ant on								-		
					1	Tower										
					1	Ant on										
					- 1	Tower						n - 30		1 1		

1 0	COAX: TOTAL (14): (6) FH 1-5/8, (2) 1.50"Ø, (6) FH 1-5/8 CUT COAX	
2		
3		
4		
5		
6		
7		
8		

Mapping Notes

- 1. Please report any visible structural or safety issues observed on the antenna mounts (Damaged members, loose connections, tilting mounts, safety climb issues, etc.)
- 2. If the thickness of the existing pipes or tubing can't be obtained from a general tool (such as Caliper), please use an ultrasonic measurement tool (thickness gauge) to measure the thickness.
- 3. Please create all required detail sketches of the mounts and insert them into the "Sketches" tab.
- Please measure and enter the bolt sizes and types under the Members Box in the spreadsheet of the mount type.
 Take and label the photos of the tower, mounts, connections, antennas and all measurements. Minimum 50 photos are required.
- Please measure and report the size and length of all existing antenna mounting pipes.
 Please measure and report the antenna information for all sectors.
- 8. Don't delete or rearrange any sheet or contents of any sheet from this mapping form.

Standard Conditions

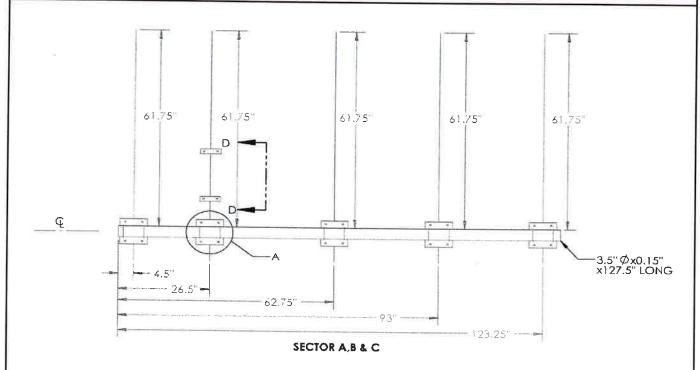
1. Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping are to be reported in this mapping. However, this mount mapping is not a condition assessment of the mount.

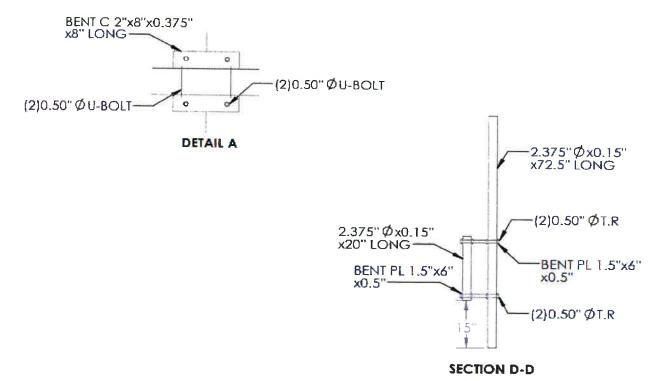


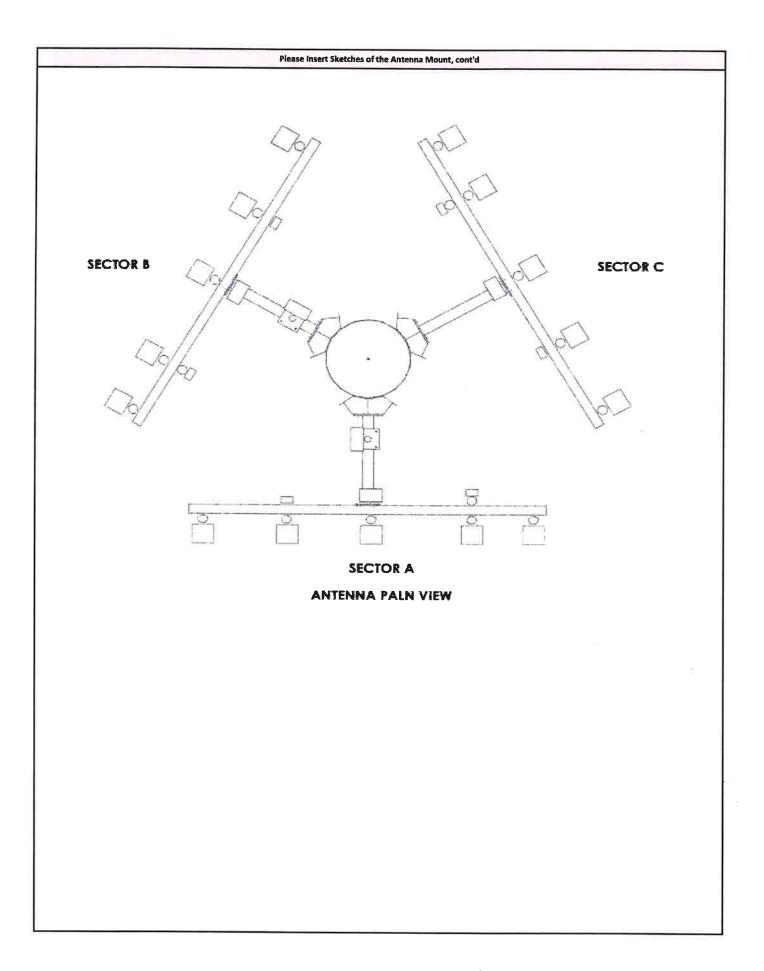
	Antenna Mount Mapping For	M (PATENT BENDING)	V3.0 Updated o	n 8-31-2020 FCC #
Tower Owner:	ISBA		بالماء وقوائل	1273764
Site Name:	VZW:CROMWELL CT	Mapping Date: Tower Type:		1/16/2021 Monopole
Site Number or ID:	SBA:CT46122	Tower Height (FL):		NKNOWN
Mapping Contractor:	RKS DESIGN & ENGINEERINF LLC	Mount Elevation (Ft.):		64.33

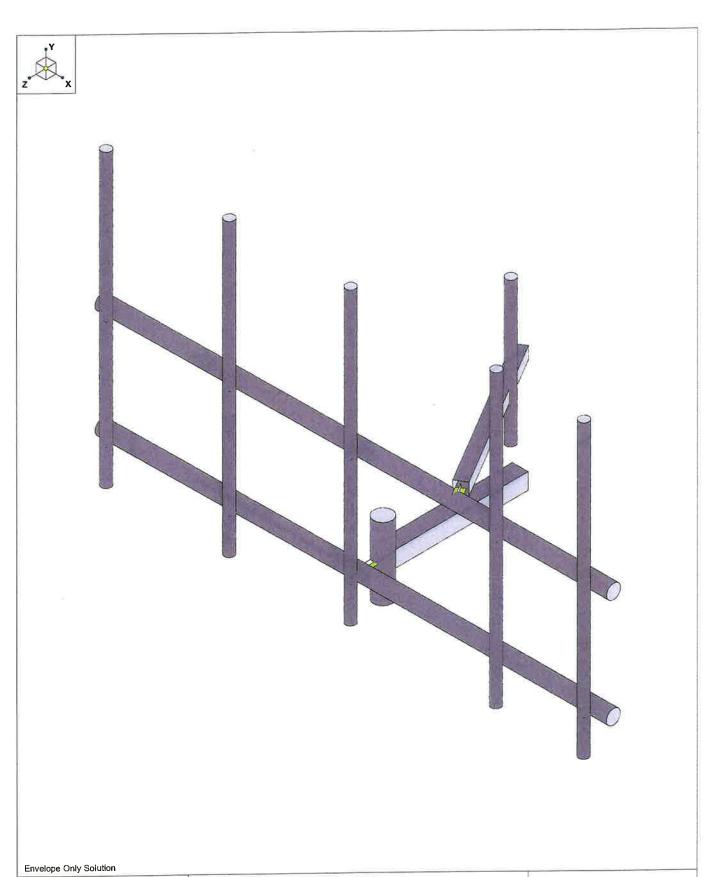
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Please Insert Sketches of the Antenna Mount





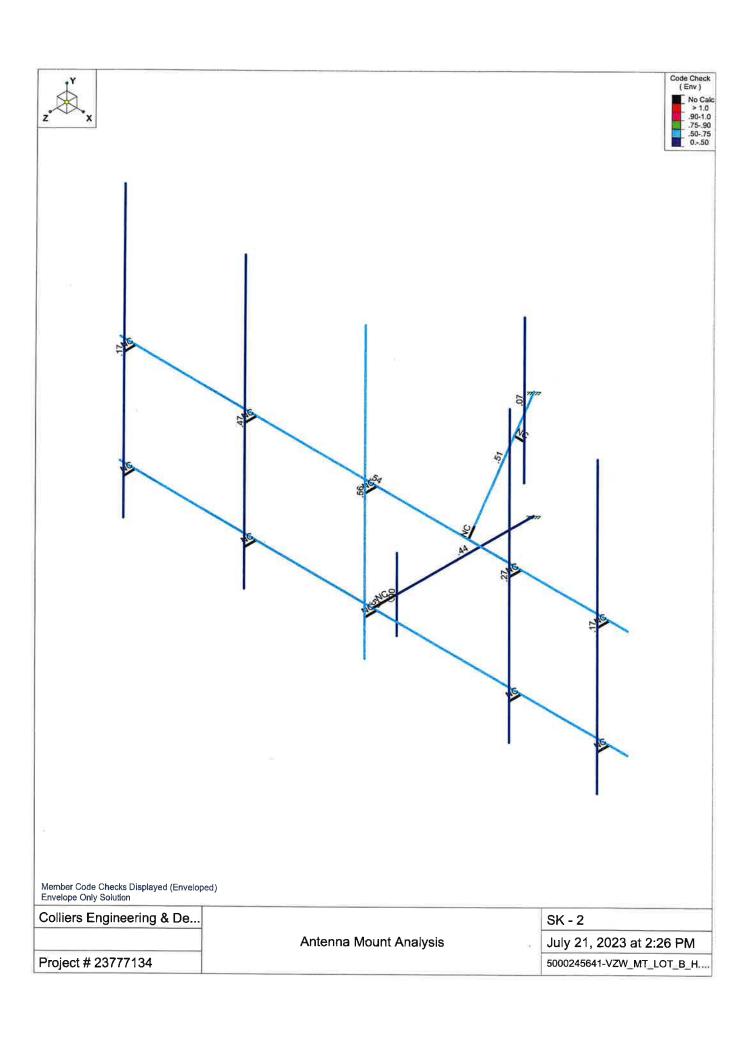


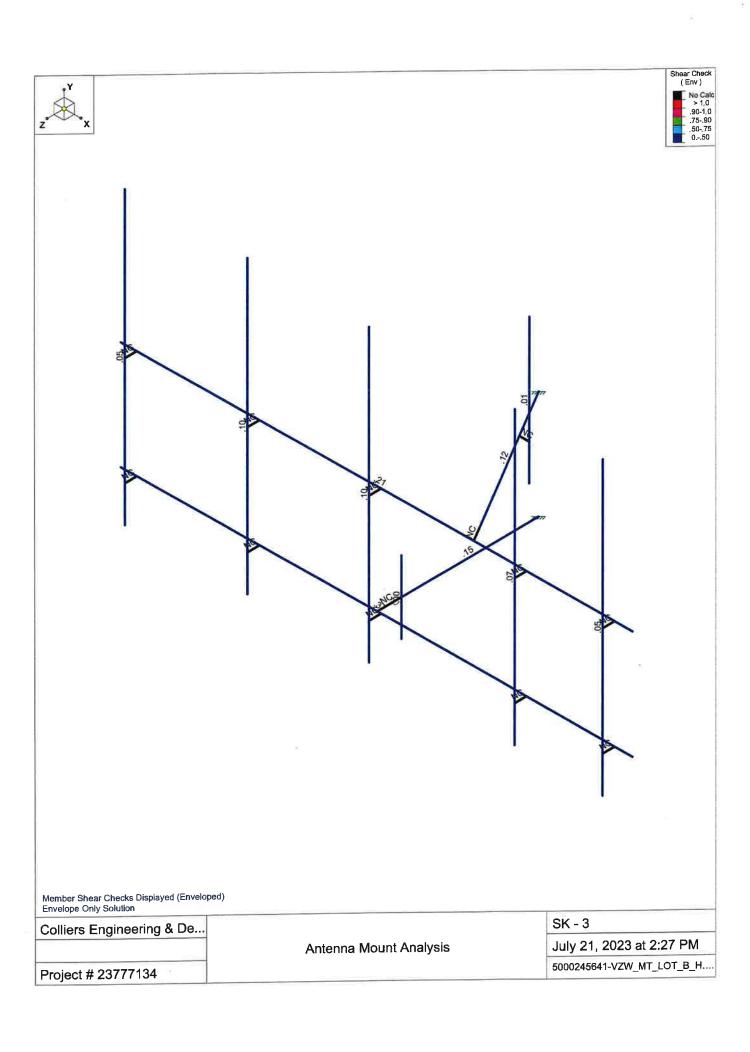


 Colliers Engineering & De...
 SK - 1

 Antenna Mount Analysis
 July 21, 2023 at 2:26 PM

 Project # 23777134
 5000245641-VZW_MT_LOT_B_H....





Colliers Engineering & Design

Project # 23777134 Antenna Mount Analysis July 21, 2023 2:27 PM Checked By:____

Basic Load Cases

	BLC Description	Category	X Gr	Y Gr	. Z Gr	Joint	Point	Distributed	Area(Member)	Surfa
1	Antenna D	None			1	1	48			
2	Antenna Di	None					48			
3	Antenna Wo (0 Deg)	None					48			
4	Antenna Wo (30 Deg)	None					48			
5	Antenna Wo (60 Deg)	None					48			
6	Antenna Wo (90 Deg)	None					48			
7	Antenna Wo (120 Deg)	None					48			
8	Antenna Wo (150 Deg)	None					48			
9	Antenna Wo (180 Deg)	None					48			
10	Antenna Wo (210 Deg)	None					48			
11	Antenna Wo (240 Deg)	None				-	48			
12	Antenna Wo (270 Deg)	None	. I				48			
13	Antenna Wo (300 Deg)	None					48		1	
14	Antenna Wo (330 Deg)	None	1				48			
15	Antenna Wi (0 Deg)	None			-		48			
16	Antenna Wi (30 Deg)	None					48	71		
17	Antenna Wi (60 Deg)	None					48			
18	Antenna Wi (90 Deg)	None					48			
19	Antenna Wi (120 Deg)	None					48			
20	Antenna Wi (150 Deg)	None					48			
21	Antenna Wi (180 Deg)	None					48			
22	Antenna Wi (210 Deg)	None					48			-
23	Antenna Wi (240 Deg)	None					48			
24	Antenna Wi (270 Deg)	None					48			
25	Antenna Wi (300 Deg)	None					48			
26	Antenna Wi (330 Deg)	None					48			
27	Antenna Wm (0 Deg)	None					48			
28	Antenna Wm (30 Deg)	None			-		48			
29	Antenna Wm (60 Deg)	None					48			
30	Antenna Wm (90 Deg)	None					48			
31	Antenna Wm (120 Deg)	None					48			
32	Antenna Wm (150 Deg)	None			-		48			-
33	Antenna Wm (180 Deg)	None					48		1	
34	Antenna Wm (210 Deg)	None					48			
35	Antenna Wm (240 Deg)	None					48			
36	Antenna Wm (270 Deg)	None	25.2				48			
37	Antenna Wm (300 Deg)	None					48			
38	Antenna Wm (330 Deg)	None					48			
39	Structure D	None		41			40			
40	Structure Di	None					-	11		
41	Structure Wo (0 Dea)	None						22		
42	Structure Wo (30 Deg)	None						22		
43	Structure Wo (60 Deg)	None						22		-
44	Structure Wo (90 Deg)	None						22		
45	Structure Wo (120 Deg)	None				1000000	-	22		
46	Structure Wo (150 Deg)	None						22		
47	Structure Wo (180 Deg)	None						22		
48	Structure Wo (210 Deg)	None						22		
49	Structure Wo (240 Deg)	None				-		22		V-2-U
50	Structure Wo (270 Deg)	None						22		
51	Structure Wo (300 Deg)	None						22		
52	Structure Wo (330 Deg)	None						22		
53	Structure Wi (0 Deg)	None		-				22		
54	Structure Wi (30 Deg)	None						22		
55	Structure Wi (60 Deg)	None			-			22		
56	Structure Wi (90 Deg)	None		7.11				22		
- 50	Suddid HI (00 Dog)	INOLIG								

Colliers Engineering & Design

Project # 23777134 Antenna Mount Analysis July 21, 2023 2:27 PM Checked By:___

Basic Load Cases (Continued)

	BLC Description	Category	X Gr	Y Gr	Z Gr	Joint	Point		Area(Member)	Surfa.
57	Structure Wi (120 Deg)	None						22		-
58	Structure Wi (150 Deg)	None						22		
59	Structure Wi (180 Deg)	None						22		
60	Structure Wi (210 Deg)	None			2			22		-
61	Structure Wi (240 Deg)	None						22		_
62	Structure Wi (270 Deg)	None						22		
63	Structure Wi (300 Deg)	None						22		-
64	Structure Wi (330 Deg)	None						22		_
65	Structure Wm (0 Deg)	None						22		
66	Structure Wm (30 Deg)	None						22		
67	Structure Wm (60 Deg)	None						22		-
68	Structure Wm (90 Deg)	None						22		
69	Structure Wm (120 Deg)	None						22		
70	Structure Wm (150 Deg)	None	(22		
71	Structure Wm (180 Deg)	None						22		-
72	Structure Wm (210 Deg)	None						22		-
73	Structure Wm (240 Deg)	None						22		_
74	Structure Wm (270 Deg)	None						22		-
75	Structure Wm (300 Deg)	None						22		
76	Structure Wm (330 Deg)	None						22		-
77	Lm1	None					1_			
78	Lm2	None					11			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					48			
82	Antenna Eh (0 Deg)	None					32			-
83	Antenna Eh (90 Deg)	None		202020			32		-	
84	Structure Ev	ELY		0442		11				-
85	Structure Eh (0 Deg)	ELZ			1104					-
86	Structure Eh (90 Deg)	ELX	.1104							

Load Combinations

	Description		PDelSF	R BLC	Fa	BLC	Fa	BLC	Fa	В	Fa	.В	Fa	. В	Fa	BLC	Fa	В	Fa	В	Fa	В.,	Fa.
1	1.2D+1.0Wo (0 Deg)			1	1.2	39	1.2	3	1	41	_1									-	_		+-
2	1.2D+1.0Wo (30 Deg			1	1.2	39	1.2	4	1	42	1			-			-	-		-	-	-	-
3	1.2D+1.0Wo (60 Deg)Yes	Y	1	1.2	39	1.2	5	1	43	1	4	_	-	_			-	-		-	1150	-
4	1.2D+1.0Wo (90 Deg			1	1.2	39	1.2	6	1	44	1					-		-	-	-	-	-	+-
5	1.2D+1.0Wo (120 De	Yes	Y	1	1.2	39	1.2	7_	1	45				1_		ļ				-	_	+	+
6	1.2D+1.0Wo (150 De	Yes	Y	1	1.2	39	1.2	8	1	46	1.	-		-		-		+-		-	-	-	+
7	1.2D+1.0Wo (180 De			1	1.2	39	1.2	9	1	47	1			ļ.,		-	-	-		-	-	-	+-
8	1.2D+1.0Wo (210 De	Yes	Y	1	1.2	39	1.2	10	1	48	1							-		-	-	-	
9	1.2D+1.0Wo (240 De			1	1.2	39	1.2	11	1	49	1			1		-		-					+
10	1.2D+1.0Wo (270 De	Yes	Υ	1	1.2	39	1.2	12	1	50	1							-	-	-	-	1	+
11	1.2D+1.0Wo (300 De	Yes	Y	1	1.2	39	1.2	13	1	51	1			1		-		-	-	-	-	-	
12	1.2D+1.0Wo (330 De			1	1.2	39	1.2	14	1	52	1							-	-	-	_	-	+
13	1.2D + 1.0Di + 1.0Wi.			1	1.2	39	1.2	2_	1	40	1	15	_	53	_	_		-		-			\vdash
14	1.2D + 1.0Di + 1.0Wi.			1	1.2	39	1.2	2	1	40	1	16	-	54				-			-	-	-
15	1.2D + 1.0Di + 1.0Wi.			1	1.2	39	1.2	2	1	40	1	17	-	55	_			ļ.,		-	-	-	-
16	1.2D + 1.0Di + 1.0Wi.			1	1.2	39	1.2	2	1	40	1	18		56						-			+
17	1.2D + 1.0Di + 1.0Wi.			1	1.2	39	1.2	2	1	40		19		57		-		ļ.,		1	-	-	+
18	1.2D + 1.0Di + 1.0Wi.			1	1.2	39	1.2	2	1	40	_	20		58	-			-			_	-	-
19	1.2D + 1.0Di + 1.0Wi.			1	1.2	39	1.2	2	1	40		21		59				+-		<u> </u>		-	+-
20	1.2D + 1.0Di + 1.0Wi.			1	1.2	39	1.2	2	1	40		22		60	-	1	_	-		-	-	-	+
21	1.2D + 1.0Di + 1.0Wi.			1	1.2	39	1.2	2	1	40	1	23		61			_	1	_	-			+
22	1.2D + 1.0Di + 1.0Wi.			1	1.2	39	1.2	2	1	40	1	24	1	62	1		- 5			L.	1		100

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Load Combinations (Continued)

	Description	S P	DelSR	BLC	Fa	BLC	Fa	BLC	Fa	В	Fa	В	Fa	В	Fa	BLC	Fa.	В	Fa	В	Fa	В	Fa
	1.2D + 1.0Di + 1.0Wi.	. Yes	Y	1	1.2	39	1.2	2	1	40	1	25	1	63			1	Τ	T	1		T	, G.
24	1.2D + 1.0Di + 1.0Wi.	.Yes	Υ	1	1.2	39	1.2	2	1	40		26		64	_								
25	1.2D + 1.5Lm1 + 1.0.	Yes	Y	1	1.2	39		77				65		-	Ė			1		1			
	1.2D + 1.5Lm1 + 1.0			1	1.2		1.2		1.5			66											
	1.2D + 1.5Lm1 + 1.0			1	1.2	39			1.5			67		1									1
	1.2D + 1.5Lm1 + 1.0			1	1.2	39	1.2			30		68											
	1.2D + 1.5Lm1 + 1.0			1	1.2	39	_		1.5			69	_	i					1				
	1.2D + 1.5Lm1 + 1.0			1	1.2		1.2	77	1.5	32	1	70							-				
	1.2D + 1.5Lm1 + 1.0			1	1.2		1.2		1.5			71	$\overline{}$										
	1.2D + 1.5Lm1 + 1.0			1	1.2	-	1.2	77				72	1						-			-	
	1.2D + 1.5Lm1 + 1.0			1	1.2		1.2	77				73	_		-				1	-			+
	1.2D + 1.5Lm1 + 1.0			1	1.2			77				74		-		-	-	+	-	+		-	-
	1.2D + 1.5Lm1 + 1.0			1	1.2			77					1	-	_							_	-
	1.2D + 1.5Lm1 + 1.0			1	1.2		1.2					75	_						-		===		
	1.2D + 1.5Lm2 + 1.0			1	1.2							76						-	-				-
	1.2D + 1.5Lm2 + 1.0			1			1.2					65		-		- F. S		-	-	+			11102
	1.2D + 1.5Lm2 + 1.0				1.2		1.2					66							-				
	1.2D + 1.5Lm2 + 1.0			1	1.2			78			1	67	1					-	-	-	-		-
	1.2D + 1.5Lm2 + 1.0						1.2				1	68											
	1.2D + 1.5Lm2 + 1.0			1	1.2		1.2					69			-		1000	-	-				L .
	1.2D + 1.5Lm2 + 1.0			1	-		1.2	78				70	1		_	-		-	-				
	1.2D + 1.5Lm2 + 1.0			1	1.2		1.2	78				71	1			_			-		_		-
	1.2D + 1.5Lm2 + 1.0			1	1.2		1.2					72	1		_	_	_		-	-		-	
	1.2D + 1.5Lm2 + 1.0			1	1.2		1.2	78				73	1				_	-	-	_			_
	1.2D + 1.5Lm2 + 1.0			1	1.2		1.2	78				74	_										
	1.2D + 1.5Lm2 + 1.0			1	1.2		1.2	78				75				-							_
49		-		1	1.2		1.2				1	76	1				-						
		Yes		1	1.2		1.2				_					_	_		_				
50		Yes		1	1.2		1.2	80	1.5		_	-						-					
51	1.4D	Yes		1	1.4		1.4			_				-			<u></u>		_				
	1.2D + 1.0Ev + 1.0E			1	1.2		1.2		1	E	1	82				ELZ	_	E		-			
	1.2D + 1.0Ev + 1.0E			1_	1.2		1.2	81	_	E	1					ELZ			.5				
	1.2D + 1.0Ev + 1.0E			11	1.2		1.2	81	-	E	1_	82	.5					E	.866				
	1.2D + 1.0Ev + 1.0E			1_	1.2		1.2	81		E	1_	82		83		ELZ		E					
	1.2D + 1.0Ev + 1.0E			1	1.2		1.2			Ę	1								.866				
	1.2D + 1.0Ev + 1.0E			1	1.2		1.2	81	_	E	1				.5	ELZ							
	1.2D + 1.0Ev + 1.0E			1_1_	1.2		1.2			E	1	82				ELZ							
	1.2D + 1.0Ev + 1.0E			1	1.2		1.2	81	_	E	1					ELZ							
	1.2D + 1.0Ev + 1.0E			1	1.2		1.2			-	1		5						8				
	1.2D + 1.0Ev + 1.0E			1	1.2		1.2	81		E	1	82		-	-1	_	_	-	-1				
62	1.2D + 1.0Ev + 1.0E	Yes	Y	1	1.2		1.2	81		-	1	82				ELZ							
	1.2D + 1.0Ev + 1.0E			_1_			1.2			E	1	_		83	5	ELZ			5				
	0.9D - 1.0Ev + 1.0Eh			1	.9	39	.9	81				82		83		ELZ	1	E					
	0.9D - 1.0Ev + 1.0Eh						.9		-1	E	-1	82	.866	83	.5	ELZ	.866	E	.5				
	0.9D - 1.0Ev + 1.0Eh		Y	1	.9		.9		-1	E	-1	82	.5	83	.866	ELZ	.5	E	.866				
	0.9D - 1.0Ev + 1.0Eh		Y	_1	.9	39	.9	81				82				ELZ		E					
	0.9D - 1.0Ev + 1.0Eh			1	.9	39	.9						5					E	.866				
	0.9D - 1.0Ev + 1.0Eh			1	.9	39	.9	81								ELZ							
	0.9D - 1.0Ev + 1.0Eh.		Y	1	.9	39	.9					82				ELZ							
71	0.9D - 1.0Ev + 1.0Eh	Yes '	Y	1	.9	39													5				
72	0.9D - 1.0Ev + 1.0Eh	Yes `	Y	1	.9	39	.9		-1										8				
	0.9D - 1.0Ev + 1.0Eh			1	.9	39	.9			E						ELZ		E					
74	0.9D - 1.0Ev + 1.0Eh	Yed Y	Y	1	.9	39	.9			E		82	5					-		-			
74	0.9D - 1.0Ev + 1.0Eh	100																					

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Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap
1	N2	-6.479167	.76	.25	0	
2	N3	4.145833	.76	.25	0	
3	N46A	3.770833	.76	.25	0	
4	N50	3.770833	.76	.5	0	
5	N52	3.770833	6.051667	.5	0	
6	N53	3.770833	0.01	.5	0	
7	N53A	-1.166667	.76	.25	0	
8	N54A	-1.166667	.76	-0.25	0	
9	N33A	-1,166667	1.51	-0.25	0	
10	N34A	-1.166667	.01	-0.25	0	
11	N35B	-1.166667	.76	-3.104167	0	
12	N12	1.9375	.76	.25	0	
13	N13	1.9375	.76	.5	0	
14	N14	1.9375	6.051667	.5	0	
15	N15	1.9375	0.01	.5	0	
16	N16	-1.083333	.76	.25	0	
17	N17	-1.083333	.76	.5	0	
18	N18	-1.083333	6.051667	.5	0	
19	N19	-1.083333	0.01	.5	0	
20	N20	-3.604167	.76	.25	0	
	N21	-3.604167	.76	.5	0	
21	N22	-3.604167	6.051667	.5	0	
22	N23	-3.604167	0.01	.5	0	
23	N24	-6.145833	.76	.25	0	
24	N25	-6.145833	.76	.5	0	
25	N26	-6.145833	6.051667	.5	0	
26	N27	-6.145833	0.01	.5	0	
27	N31	-6.479167	3.01	.25	0	
28	N32	4.145833	3.01	.25	0	
29	N32 N33	3.770833	3.01	.25	0	
30	N34	3.770833	3.01	.5	0	
31		1.9375	3.01	.25	0	
32	N35	1.9375	3.01	.5	0	
33	N36	-1.083333	3.01	.25	0	
34	N37	-1.083333	3.01	.5	0	
35	N38	-3.604167	3.01	.25	0	
36	N39	-3.604167	3.01	.5	0	
37	N40	-6.145833	3.01	.25	0	
38	N41	-6.145833	3.01	.5	0	
39	N42	-1.166667	3.01	-3.104167	0	
40	N44	0.833333	3.01	.25	0	
41	N47	0.662791	3.01	-0.036014	0	
42	N48B	-0.570394	3.01	-2.104167	0	
43	N49B		3.01	-2.104167	Ö	
44	N50A	-0.36206	2.26	-2.104167	0	
45	N51	-0.36206	5.26	-2.104167	Ö	
46	N52A	-0.36206	5.20	-2.10-101		

Hot Rolled Steel Section Sets

7.0.	Label	Shape	Type	Design List		Desig			Izz [i	J [in4]
1	Mount Pipe	PIPE 2.0	Column	Pipe	A53 Gr. B	Typical				1.25
-		PIPE 3.0	Beam	Pipe		Typical				
2	Face Horizontal	HSS4X4X4	Beam	SquareTube	A500 Gr. B 46	Typical	3.37	7.8	7.8	12.8
3	Standoff Horizontal	The state of the s	Column	Pipe	A53 Gr. B	Typical	2.96	6.82	6.82	13.6
4	Standoff Mount Pipe	PIPE 4.0			A53 Gr. B	Typical	2.07	2.85	2.85	5 69
5	Mod Face Horizontal	PIPE_3.0	Beam	Pipe	A33 GL B	Typical	2.01	2.00	2.00	0.00



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Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Desig	A [in2] ly	v fi lz	zz fi	J fin41
6	Mod Standoff Horizontal	HSS3X3X4	Beam	SquareTube						

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/	Density[k/ft^3]	Yield[ksi]	Rv	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A53 Gr. B	29000	11154	.3	.65	.49	35	1.5	60	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1 1	65	11
4	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
5	A500 Gr. B 42	29000	11154	.3	.65	.49	42	1.4	58	1.3
6	A500 Gr. B 46	29000	11154	.3	.65	.49	46	1.4	58	1.3
7	A500 Gr C Round	29000	11154	.3	.65	.49	46	1.5	62	1.2
8	A529 gr50	29000	11154	.3	.65	.49	50	1.5	65	1.2

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d.	. Section/Shape	Type	Design List	Material	Design Ru
1	M1	N2	N3			Face Horizontal		Pipe	A53 Gr. B	
2	M28	N46A	N50			RIGID	None	None	RIGID	Typical
3	MP1A	N52	N53			Mount Pipe	Column		A53 Gr. B	Typical
4	M31A	N53A	N54A			RIGID	None	None	RIGID	Typical
5	M17A	N34A	N33A			Standoff Mount Pi	Column		A53 Gr. B	
6	M18A	N54A	N35B			Standoff Horizontal	Beam			Typical
7	M7	N12	N13			RIGID	None	None	RIGID	Typical
8	MP2A	N14	N15			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
9	M9	N16	N17			RIGID	None	None	RIGID	Typical
10	MP3A	N18	N19			Mount Pipe	Column		A53 Gr. B	Typical
11	M11	N20	N21			RIGID	None	None	RIGID	Typical
12	MP4A	N22	N23			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
13	M13	N24	N25			RIGID	None	None	RIGID	Typical
14	MP5A	N26	N27			Mount Pipe	Column		A53 Gr. B	Typical
15	M17	N31	N32			Mod Face Horizon	Beam	Pipe	A53 Gr. B	Typical
16	M18	N33	N34			RIGID	None	None	RIGID	Typical
17	M19	N35	N36			RIGID	None	None	RIGID	Typical
18	M20	N37	N38			RIGID	None	None	RIGID	Typical
19	M21	N39	N40			RIGID	None	None	RIGID	Typical
20	M22	N41	N42			RIGID	None	None	RIGID	Typical
21	M24	N47	N48B			RIGID	None	None	RIGID	Typical
22	M25A	N48B	N44				Beam			Typical
23	M26	N49B	N50A			RIGID	None	None	RIGID	Typical
24	OVP	N52A	N51	576-0		Mount Pipe	Column	Pipe	A53 Gr. B	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio Opti	Analysis	Inactive	Seismi
1	M1						Yes		7,5,50,70,0	macuvo	None
2	M28						Yes	** NA **			None
3	MP1A						Yes	** NA **			None
4	M31A		000000				Yes	** NA **			None
5	M17A						Yes	** NA **			None
6	M18A						Yes	Default			None
7	M7						Yes	** NA **			None
8	MP2A						Yes	** NA **			None
9	M9	<u></u>					Yes	** NA **			None
10	MP3A						Yes	** NA **			None

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Member Advanced Data (Continued)

	62621	I Delegee	I Polosco	I Offsetlin	.I Offsetfinl	T/C Only	Physical	Defl Ratio Opti	. Analysis	Inactive	Seismi
	Label	I Release	J Kelease	1 Onsoqui	- Chicon		Yes	** NA **	8		None
11	M11						Yes	** NA **			None
12	MP4A							** NA **	+		None
13	M13						Yes		1		None
14	MP5A					-	Yes	** NA **	ļ		
15	M17						Yes	Default			None
	M18						Yes	** NA **			None
16							Yes	** NA **			None
17	M19					-	Yes	** NA **			None
18	M20					-	Yes	** NA **	-		None
19	M21										None
20	M22						Yes	** NA **	-		
21	M24						Yes	** NA **	 +		None
	M25A						Yes	Default			None
22							Yes	** NA **			None
23	M26						Yes	** NA **			None
24	OVP						100	13/3			

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP4A	Υ	-31.65	
2	MP4A	My	0158	
3	MP4A	Mz	.0198	11
4	MP4A	Y	-31.65	5
5	MP4A_	My	0158	5
6	MP4A	Mz	.0198	5
7	MP4A	Y	-31.65	
8	MP4A	My	0158	1
9	MP4A	Mz	-,0198	1
10	MP4A	Y	-31.65	5
11	MP4A	My	0158	5
12	MP4A	Mz	0198	5
13	MP2A	Y	-43.55	2
14	MP2A	My	0218	2
15	MP2A	Mz	0	2
16	MP2A	Y	-43.55	4
17	MP2A	Mv	0218	4
18	MP2A	Mz	0	4
19	MP1A	Y	-8	.5
20	MP1A	My	004	.5
21	MP1A	Mz	0	.5
22	MP1A	Y	-8	5.5
23	MP1A	Mv	004	5.5
24	MP1A	Mz	0	5.5
25	MP5A	Y	-8	.5
26	MP5A	My	004	.5
27	MP5A	Mz	0	.5
28	MP5A	Y	-8	5.5
29	MP5A	My	004	5.5
30	MP5A	Mz	0	5.5
31	MP4A	Y	-10.4	4
32	MP4A	My	.0052	4
33	MP4A	Mz	.0026	4
34	MP4A	Y	-84.4	.5
35	MP4A	My	.0422	.5
36	MP4A	Mz	0	.5
37	MP3A	Y	-70.3	3.75
38	MP3A	My	0352	3.75



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Member Point Loads (BLC 1 : Antenna D) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
39	MP3A	Mz	0	3.75
40	OVP	Y	-32	1.25
41	OVP	Mv	0	1.25
42	OVP	Mz	Ŏ	1.25
43	MP3A	Y	-17.6	1.20
44	MP3A	Mv	0073	1
45	MP3A	Mz	0	1
46	MP3A	Y	-17.6	1
47	MP3A	My	.0073	1
48	MP3A	Mz	0	

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP4A	Υ	-64.777	1
2	MP4A	My	0324	1
3	MP4A	Mz	.0405	1
4	MP4A	Υ	-64.777	5
5	MP4A	My	0324	5
6	MP4A	Mz	.0405	5
7	MP4A	Y	-64.777	1
8	MP4A	My	0324	1
9	MP4A	Mz	0405	1
10	MP4A	Y	-64.777	5
11	MP4A	My	0324	5
12	MP4A	Mz	0405	5
13	MP2A	Y	-32.9368	2
14	MP2A	My	0165	2
15	MP2A	Mz	0	2
16	MP2A	Y	-32.9368	4
17	MP2A	Mv	0165	4
18	MP2A	Mz	0	4
19	MP1A	Y	-43.3811	.5
20	MP1A	My	0217	.5
21	MP1A	Mz	0	.5
22	MP1A	Y	-43,3811	5.5
23	MP1A	My	0217	5.5
24	MP1A	Mz	0	5.5
25	MP5A	Y	-43.3811	5
26	MP5A	My	0217	.5
27	MP5A	Mz	0	.5
28	MP5A	Y	-43.3811	5.5
29	MP5A	My	0217	5.5
30	MP5A	Mz	0	5.5
31	MP4A	Y	-9.874	
32	MP4A	My	.0049	4
33	MP4A	Mz	.0025	
34	MP4A	Y	-41.5132	4
35	MP4A	My	.0208	.5
36	MP4A	Mz	.0208	.5
37	MP3A	Y	-37.1571	.5
38	MP3A	My	0186	3.75
39	MP3A	Mz	0186	3.75
40	OVP	Y	-81.0796	3.75
41	OVP	My	-81.0796	1.25
42	OVP	Mz	0	1.25
43	MP3A	Y	6.6	1.25

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Member Point Loads (BLC 2 : Antenna Di) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
44	MP3A	My	.0027	11
45	MP3A	Mz	0	11
46	MP3A	Y	6.6	
47	MP3A	My	0027	
48	MP3A	Mz	0	1

Member Point Loads (BLC 3 : Antenna Wo (0 Deg))

Me	ember Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	
2	MP4A	Z	-166.921	
3	MP4A	Mx	1043	1
4	MP4A	X	0	5
5	MP4A	Z	-166.921	5
6	MP4A	Mx	1043	5
7	MP4A	Χ	0	
8	MP4A	Z	-166.921	
9	MP4A	Mx	.1043	1
10	MP4A	X	0	5
11	MP4A	Z	-166.921	5
12	MP4A	Mx	.1043	5
13	MP2A	X	0	2
14	MP2A	Z	-71.826	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Z	-71.826	4
18	MP2A	Mx	0	4
19	MP1A	X	0	.5
20	MP1A	Z	-91.798	.5
21	MP1A	Mx	0	.5
22	MP1A	X	0	5.5
23	MP1A	Z	-91.798	5,5
24	MP1A	Mx	0	5.5
25	MP5A	X	0	.5
26	MP5A	Z	-91.798	.5
27	MP5A	Mx	0	.5
28	MP5A	X	0	5.5
29	MP5A	Z	-91.798	5.5
30	MP5A	Mx	0	5.5
31	MP4A	X	0	4
32	MP4A	Z	-13.662	4
32	MP4A	Mx	0034	4
33	MP4A	X	0	.5
34 35	MP4A	Z	-56.888	.5
	MP4A	Mx	0	.5
36	MP3A	X	0	3.75
37	MP3A	Ž	-56.447	3.75
38		Mx	0	3.75
39	MP3A OVP	X	0	1.25
40		Z	-94.535	1.25
41	OVP OVP	Mx	0	1.25
42		X	0	1
43	MP3A	Z	-34.905	1
44	MP3A	Mx	0	1
45	MP3A	X	0	
46	MP3A	Z	-34.905	1
47	MP3A		0	1
48	MP3A	Mx	<u> </u>	

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Member Point Loads (BLC 4 : Antenna Wo (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	76.299	1```
2	MP4A		-132.155	1
3	MP4A	Mx	1207	1
4	MP4A	X	76.299	5
5	MP4A	Z	-132.155	5
6	MP4A	Mx	1207	5
7	MP4A	X	76.299	1
8	MP4A	Z	-132.155	
9	MP4A	Mx	.0444	1
10	MP4A	X	76.299	5
11	MP4A_	Z	-132.155	5
12	MP4A	Mx	.0444	5
13	MP2A	X	30.027	2
14	MP2A	Z	-52.008	2
15	MP2A	Mx	015	2
16	MP2A	X	30.027	4
17	MP2A	Z	-52.008	4
18	MP2A	Mx	015	4
19	MP1A	X	47.861	.5
20	MP1A	Z	-82.897	.5
21	MP1A	Mx	0239	.5
22	MP1A	X	47.861	5.5
23	MP1A	Z	-82.897	5.5
24	MP1A	Mx	0239	5.5
25	MP5A	X	47.861	.5
26	MP5A	Z	-82,897	.5
27	MP5A	Mx	0239	.5
28	MP5A	X	47.861	5.5
29	MP5A	Z	-82.897	5.5
30	MP5A	Mx	0239	5.5
31	MP4A	X	6.305	4
32	MP4A	Z	-10.92	4
33	MP4A	Mx	.000422	4
34	MP4A	X	26.104	.5
35	MP4A	Z	-45.214	.5
36	MP4A	Mx	.0131	.5
37	MP3A	X	25.037	3.75
38	MP3A	Z	-43.365	3.75
39	MP3A	Mx	0125	3.75
40	OVP	X	54.176	1.25
41	OVP	Z	-93.835	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	14.413	1
44	MP3A	Z	-24.964	
45	MP3A	Mx	006	1
46	MP3A	X	14.413	
47	MP3A	Z	-24.964	
48	MP3A	Mx	.006	1

Member Point Loads (BLC 5 : Antenna Wo (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	107.347	1
2	MP4A	Z	-61.977	
3	MP4A	Mx	0924	
4	MP4A	X	107.347	
5	MP4A	Z	-61.977	5

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Member Point Loads (BLC 5 : Antenna Wo (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[jb,k-ft]	Location[ft,%]
6	MP4A	Mx	0924	5
7	MP4A	X	107.347	
8	MP4A	Z	-61.977	
9	MP4A	Mx	0149	1
10	MP4A	X	107.347	5
11	MP4A	Z	-61.977	5
12	MP4A	Mx	0149	5
13	MP2A	X	31.617	2
14	MP2A	Z	-18.254	2
15	MP2A	Mx	0158	2
16	MP2A	X	31.617	4
17	MP2A	Ž	-18.254	4
18	MP2A	Mx	0158	4
19	MP1A	X	89.694	.5
20	MP1A	Ž	-51.785	.5
21	MP1A	Mx	0448	.5
22	MP1A	X	89.694	5.5
23	MP1A	Z	-51.785	5.5
24	MP1A	Mx	0448	5.5
25 25	MP5A	X	89.694	.5
26	MP5A	Ž	-51.785	.5
27	MP5A	Mx	0448	.5
28	MP5A	X	89.694	5.5
29	MP5A	Ž	-51.785	5.5
30	MP5A	Mx	0448	5.5
31	MP4A	X	9.097	4
32	MP4A	Z	-5.252	4
33	MP4A	Mx	.0032	4
34	MP4A	X	37.109	.5
35	MP4A	Z	-21.425	.5
36	MP4A	Mx	.0186	.5
37	MP3A	X	32.327	3.75
38	MP3A	Z	-18.664	3.75
39	MP3A	Mx	0162	3.75
	OVP	X	99.818	1.25
40	OVP	Z	-57.63	1.25
41 42	OVP	Mx	0	1.25
	MP3A	X	14.434	1
43	MP3A	Z	-8.333	1
44	MP3A MP3A	Mx	006	1
45		X	14.434	1
46	MP3A	Ž	-8.333	1
47 48	MP3A MP3A	Mx	.006	1

Member Point Loads (BLC 6 : Antenna Wo (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	109.632	1
2	MP4A	Z	0	1
3	MP4A	Mx	0548	1
4	MP4A	X	109.632	5
5	MP4A	Z	0	5
6	MP4A	Mx	0548	5
7	MP4A	X	109.632	1
8	MP4A	Z	0	
9	MP4A	Mx	0548	11
10	MP4A	X	109.632	5

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Member Point Loads (BLC 6: Antenna Wo (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
11	MP4A	Z	0	5
12	MP4A	Mx	0548	5
13	MP2A	X	24.736	2
14	MP2A	Z	0	2
15	MP2A	Mx	0124	2
16	MP2A	X	24,736	4
17	MP2A	Z	0	4
18	MP2A	Mx	0124	4
19	MP1A	X	107.494	.5
20	MP1A	Z	0	.5
21	MP1A	Mx	0537	.5
22	MP1A	X	107.494	5.5
23	MP1A	Z	0	5.5
24	MP1A	Mx	0537	5.5
25	MP5A	X	107.494	.5
26	MP5A	Z	0	.5
27	MP5A	Mx	0537	.5
28	MP5A		107.494	5.5
29	MP5A	X	0	5.5
30	MP5A	Mx	0537	5.5
31	MP4A	X	9.453	4
32	MP4A	Z	0	4
33	MP4A	Mx	.0047	4
34	MP4A	X	38.17	.5
35	MP4A	Z	0	.5
36	MP4A	Mx	.0191	.5
37	MP3A	X	30.955	3.75
38	MP3A	Z	0	3.75
39	MP3A	Mx	0155	3.75
40	OVP	X	108.351	1.25
41	OVP	Z	0	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	10.587	1.25
44	MP3A	Ž	0	1
45	MP3A	Mx	0044	1
46	MP3A	X	10.587	1
47	MP3A	Z	0	
48	MP3A	Mx	.0044	1

Member Point Loads (BLC 7 : Antenna Wo (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	107.347	1
2	MP4A	Z	61.977	1
3	MP4A	Mx	0149	1
4	MP4A	X	107.347	5
5	MP4A	Z	61.977	5
6	MP4A	Mx	0149	5
7	MP4A	X	107.347	1
8	MP4A	Z	61.977	4
9	MP4A	Mx	0924	
10	MP4A	X	107.347	5
11	MP4A	Z	61.977	5
12	MP4A	Mx	0924	5
13	MP2A	X	31.617	2
14	MP2A	Z	18.254	2
15	MP2A	Mx	0158	2

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Member Point Loads (BLC 7 : Antenna Wo (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
16	MP2A	X	31.617	4
17	MP2A	Z	18.254	4
18	MP2A	Mx	0158	4
19	MP1A	X	89.694	.5
20	MP1A	Z	51.785	.5
21	MP1A	Mx	0448	.5
22	MP1A	X	89.694	5.5
23	MP1A	Z	51.785	5.5
24	MP1A	Mx	0448	5.5
25	MP5A	X	89.694	.5
26	MP5A	Z	51.785	.5
27	MP5A	Mx	0448	.5
28	MP5A	X	89.694	5.5
29	MP5A	Z	51.785	5.5
30	MP5A	Mx	0448	5.5
31	MP4A	X	9.097	4
32	MP4A	Z	5.252	4
33	MP4A	Mx	.0059	4
34	MP4A	X	37.109	.5
35	MP4A	Z	21.425	.5
36	MP4A	Mx	.0186	.5
37	MP3A	X	32.327	3.75
38	MP3A	7	18.664	3.75
39	MP3A	Mx	0162	3.75
40	OVP	X	81.869	1.25
41	OVP	Z	47.267	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	14.434	1
44	MP3A	Z	8.333	1
45	MP3A	Mx	006	
46	MP3A	X	14,434	1
47	MP3A	Z	8.333	1
48	MP3A	Mx	.006	1

Member Point Loads (BLC 8 : Antenna Wo (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	76.299	1
2	MP4A	Z	132.155	1
3	MP4A	Mx	.0444	1
4	MP4A	X	76.299	5
5	MP4A	Z	132.155	5
6	MP4A	Mx	.0444	5
7	MP4A	X	76.299	1
8	MP4A	Ž	132.155	45-14
9	MP4A	Mx	1207	_ 1
10	MP4A	X	76.299	5
11	MP4A	7	132.155	5
12	MP4A	Mx	1207	5
	MP2A	X	30.027	2
13	MP2A	Z	52.008	2
14		Mx	015	2
15	MP2A	X	30.027	4
16	MP2A	7	52.008	4
17	MP2A		015	4
18	MP2A	Mx V	47.861	.5
19	MP1A	X	82.897	.5
20	MP1A	Z	02.03/	

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Member Point Loads (BLC 8 : Antenna Wo (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
21	MP1A	Mx	0239	.5
22	MP1A	X	47.861	5.5
23	MP1A	Z	82.897	5.5
24	MP1A	Mx	0239	5.5
25	MP5A	X	47.861	.5
26	MP5A	Z	82.897	.5
27	MP5A	Mx	0239	.5
28	MP5A	X	47.861	5.5
29	MP5A	Z	82.897	5.5
30	MP5A	Mx	0239	5.5
31	MP4A	X	6.305	4
32	MP4A	Z	10.92	4
33	MP4A	Mx	.0059	4
34	MP4A	X	26.104	.5
35	MP4A	Z	45.214	.5
36	MP4A	Mx	.0131	.5
37	MP3A	X	25.037	3.75
38	MP3A	Z	43.365	3.75
39	MP3A	Mx	0125	3.75
40	OVP	X	43.813	1.25
41	OVP	Z	75.887	1.25
42	OVP	Mx	- 0	1.25
43	MP3A	X	14.413	1
44	MP3A	Z	24.964	
45	MP3A	Mx	006	1
46	MP3A	X	14.413	
47	MP3A	Z	24.964	1
48	MP3A	Mx	.006	1

Member Point Loads (BLC 9 : Antenna Wo (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	1
2	MP4A	Z	166.921	The second second
3	MP4A	Mx	.1043	1
4	MP4A	X	0	5
5	MP4A	Z	166.921	5
6	MP4A	Mx	.1043	5
7	MP4A	X	0	1
8	MP4A	Z	166,921	1
9	MP4A	Mx	1043	1
10	MP4A	X	0	5
11	MP4A	Z	166.921	5
12	MP4A	Mx	1043	5
13	MP2A	X	0	2
14	MP2A	Z	71.826	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Z	71.826	4
18	MP2A	Mx	0	4
19	MP1A	X	0	.5
20	MP1A	Z	91.798	.5
21	MP1A	Mx	0	.5
22	MP1A	X	Ö	5.5
23	MP1A	Z	91.798	5.5
24	MP1A	Mx	0	5.5
25	MP5A	X	0	.5

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Member Point Loads (BLC 9 : Antenna Wo (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
26	MP5A	Z	91.798	.5
27	MP5A	Mx	0	.5
28	MP5A	X	0	5.5
29	MP5A	Z	91.798	5.5
30	MP5A	Mx	0	5.5
31	MP4A	X	0	4
	MP4A	Z	13.662	4
32	MP4A	Mx	.0034	4
33	MP4A	X	0	.5
34	MP4A	Z	56.888	.5
35		Mx	0	.5
36	MP4A	X	0	3.75
37	MP3A	Ž	56.447	3.75
38	MP3A		0	3.75
39	MP3A	Mx	0	1.25
40	OVP	X		1.25
41	OVP	Z	94.535	1.25
42	OVP	Mx	0	1.25
43	MP3A	X		1
44	MP3A	Z	34.905	
45	MP3A	Mx	0	
46	MP3A	X	0	
47	мрза	Z	34.905	
48	MP3A	Mx	0	

Member Point Loads (BLC 10 : Antenna Wo (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-76.299	
2	MP4A	Z	132.155	11
3	MP4A	Mx	.1207	1
4	MP4A	X	-76.299	5
5	MP4A	Z	132.155	5
6	MP4A	Mx	.1207	5
7	MP4A	X	-76.299	11
8	MP4A	Z	132.155	11
9	MP4A	Mx	0444	11
10	MP4A	X	-76.299	5
11	MP4A	Z	132.155	5
12	MP4A	Mx	0444	5
13	MP2A	X	-30.027	2
14	MP2A	Z	52.008	2
15	MP2A	Mx	.015	2
16	MP2A	X	-30.027	4
17	MP2A	Z	52.008	4
18	MP2A	Mx	.015	4
19	MP1A	X	-47.861	.5
20	MP1A	Z	82.897	.5
21	MP1A	Mx	.0239	.5
22	MP1A	X	-47.861	5.5
23	MP1A	Z	82.897	5.5
24	MP1A	Mx	.0239	5.5
25	MP5A	X	-47.861	.5
26	MP5A	Z	82.897	.5
27	MP5A	Mx	.0239	.5
28	MP5A	X	-47.861	5.5
	MP5A	Ž	82.897	5.5
29 30	MP5A	Mx	.0239	5.5

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Member Point Loads (BLC 10 : Antenna Wo (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
31	MP4A	X	-6.305	4
32	MP4A	Z	10.92	4
33	MP4A	Mx	000422	4
34	MP4A	X	-26.104	.5
35	MP4A	Z	45.214	.5
36	MP4A	Mx	0131	.5
37	MP3A	X	-25.037	3.75
38	MP3A	Z	43.365	3.75
39	MP3A	Mx	.0125	3.75
40	OVP	X	-54.176	1.25
41	OVP	Z	93.835	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	-14.413	1
44	MP3A	Z	24.964	1
45	MP3A	Mx	.006	1
46	MP3A	X	-14.413	1
47	MP3A	Z	24.964	1
48	MP3A	Mx	006	1

Member Point Loads (BLC 11 : Antenna Wo (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-107.347	1
2	MP4A	Z	61.977	1
3	MP4A	Mx	.0924	1
4	MP4A	X	-107.347	5
5	MP4A	Z	61.977	5
6	MP4A	Mx	.0924	5
7	MP4A	X	-107.347	1
8	MP4A	Z	61.977	1
9	MP4A	Mx	.0149	1
10	MP4A	X	-107.347	5
11	MP4A	Z	61.977	5 5
12	MP4A	Mx	.0149	5
13	MP2A	X	-31.617	2
14	MP2A	Z	18.254	2
15	MP2A	Mx	.0158	2
16	MP2A	X	-31.617	4
17	MP2A	Z	18.254	4
18	MP2A	Mx	.0158	4
19	MP1A	X	-89.694	.5
20	MP1A	Z	51.785	.5
21	MP1A	Mx	.0448	.5
22	MP1A	X	-89.694	5.5
23	MP1A	Z	51.785	5.5
24	MP1A	Mx	.0448	5.5
25	MP5A	X	-89.694	.5
26	MP5A	Z	51.785	.5
27	MP5A	Mx	.0448	.5
28	MP5A	X	-89.694	5.5
29	MP5A	Z	51.785	5.5
30	MP5A	Mx	.0448	5.5
31	MP4A	X	-9.097	4
32	MP4A	Ž	5.252	4
33	MP4A	Mx	0032	4
34	MP4A	X	-37.109	.5
35	MP4A	Ž	21.425	.5

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Member Point Loads (BLC 11 : Antenna Wo (240 Deg)) (Continued)

	Proceedings of	Direction	Magnitude[lb,k-ft]	Location[ft,%]
00	Member Label	Mx	0186	.5
36	MP4A		-32.327	3.75
37	MP3A	X		3.75
38	MP3A	Z	18.664	
39	MP3A	Mx	.0162	3.75
40	OVP	X	-99.818	1.25
	OVP	7	57.63	1.25
41 42	OVP	Mx	0	1.25
43	MP3A	X	-14.434	1
44	MP3A	Z	8.333	1
45	MP3A	Mx	.006	1
46	MP3A	X	-14.434	
47	MP3A	Z	8.333	
48	MP3A	Mx	-,006	1

Member Point Loads (BLC 12 : Antenna Wo (270 Deg))

	er Point Loads (BL Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-109.632	1
2	MP4A	Z	0	
3	MP4A	Mx	.0548	1
4	MP4A	X	-109.632	5
	MP4A	Z	0	5
5	MP4A	Mx	.0548	5
6	MP4A	X	-109.632	11
7	MP4A	Ž	0	1
8	MP4A	Mx	.0548	11
9	MP4A	X	-109.632	5
10	MP4A	Z	0	5
11		Mx	.0548	5
12	MP4A	X	-24.736	2
13	MP2A	Ž	0	2
14	MP2A	Mx	.0124	2
15	MP2A	X	-24.736	4
16	MP2A	<u>X</u>	0	4
17	MP2A	Mx	.0124	4
18	MP2A	X	-107.494	.5
19	MP1A	Ž	0	.5
20	MP1A		.0537	.5
21	MP1A	Mx	-107.494	5.5
22	MP1A	X	0	5.5
23	MP1A		.0537	5.5
24	MP1A	Mx	-107.494	.5
25	MP5A	X	0	.5
26	MP5A	Z	.0537	.5
27	MP5A	Mx		5.5
28	MP5A	X	-107.494	5.5
29	MP5A	Z	0	5.5
30	MP5A	Mx	.0537	4
31	MP4A	X	-9.453	4
32	MP4A	Z	0	4
33	MP4A	Mx	0047	.5
34	MP4A	X	-38.17	.5
35	MP4A	Z	0	.5
36	MP4A	Mx	0191	
37	MP3A	X	-30.955	3.75
38	MP3A	Z	0	3.75
39	MP3A	Mx	.0155	3.75
40	OVP	X	-108.351	1.25

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Member Point Loads (BLC 12 : Antenna Wo (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
41	OVP	Z	0	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	-10.587	1
44	MP3A	Z	0	i
44 45	MP3A	Mx	.0044	1
46	MP3A	X	-10.587	1
47	MP3A	Z	0	4
48	MP3A	Mx	0044	i

Member Point Loads (BLC 13 : Antenna Wo (300 Deg))

1 2 3 4	MP4A MP4A MP4A	X Z	-107.347	Location[ft,%]
3 4		7		
4	MP4A		-61.977	1
		Mx	.0149	1
	MP4A	X	-107.347	5
5	MP4A	Z	-61.977	5
6	MP4A	Mx	.0149	5
7	MP4A	X	-107.347	1
8	MP4A	Z	-61.977	1
9	MP4A	Mx	.0924	1
10	MP4A	X	-107.347	5
11	MP4A	Z	-61.977	5
12	MP4A	Mx	.0924	5
13	MP2A	X	-31.617	2
14	MP2A	Z	-18.254	2
15	MP2A	Mx	.0158	2
16	MP2A	X	-31.617	4
17	MP2A	Z	-18.254	4
18	MP2A	Mx	.0158	4
19	MP1A	X	-89.694	.5
20	MP1A	Z	-51.785	.5
21	MP1A	Mx	.0448	.5
22	MP1A	X	-89.694	5.5
23	MP1A	Z	-51.785	5.5
24	MP1A	Mx	.0448	5.5
25	MP5A	X	-89.694	.5
26	MP5A	Z	-51.785	.5
27	MP5A	Mx	.0448	.5
28	MP5A	X	-89.694	5.5
29	MP5A	Z	-51.785	5.5
30	MP5A	Mx	.0448	5.5
31	MP4A	X	-9.097	3.5
32	MP4A	Z	-5.252	4
33	MP4A	Mx	0059	4
34	MP4A	X	-37.109	.5
35	MP4A	Z	-21.425	.5
36	MP4A	Mx	0186	.5
37	MP3A	X	-32.327	3.75
38	MP3A	Z	-18.664	3.75
39	MP3A	Mx	.0162	
40	OVP	X	-81.869	3.75
41	OVP	Z	-81.869 -47.267	1.25
42	OVP	Mx		1.25
43	MP3A	X	0 -14.434	1.25
44	MP3A	Ž		
45	MP3A	Mx	-8.333 .006	1

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Member Point Loads (BLC 13: Antenna Wo (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
46	MP3A	X	-14.434	1
47	MP3A	Z	-8.333	1
48	MP3A	Mx	006	

Member Point Loads (BLC 14 : Antenna Wo (330 Deg))

	Point Loads (BL Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-76.299	1
2	MP4A	Ž	-132.155	11
3	MP4A	Mx	0444	11
4	MP4A	X	-76.299	5
5	MP4A	Z	-132.155	5
6	MP4A	Mx	0444	5
7	MP4A	X	-76.299	1
	MP4A	Ž	-132.155	1
8	MP4A	Mx	.1207	
9	MP4A	X	-76.299	5
10	MP4A	Z	-132.155	5
11	MP4A	Mx	.1207	5
12		X	-30.027	2
13	MP2A	Ž	-52.008	2
14	MP2A	Mx	.015	2
15	MP2A	X	-30.027	4
16	MP2A	Ž	-52.008	4
17	MP2A	Mx	.015	4
18	MP2A	X	-47.861	.5
19	MP1A	Z	-82.897	.5
20	MP1A		.0239	.5
21	MP1A	Mx Mx	-47.861	5.5
22	MP1A	X	-82.897	5.5
23	MP1A	Z	.0239	5.5
24	MP1A	Mx	-47.861	.5
25	MP5A	X	-82.897	.5
26	MP5A		.0239	.5
27	MP5A	Mx	-47.861	5.5
28	MP5A	X	-82.897	5.5
29	MP5A	Z	.0239	5.5
30	MP5A	Mx	-6.305	4
31	MP4A	<u>X</u>		4
32	MP4A	Z	-10.92	4
33	MP4A	Mx	0059 -26.104	.5
34	MP4A	<u>X</u>	-26.104 -45.214	.5
35	MP4A	Z		.5
36	MP4A	Mx	0131 -25.037	3.75
37	MP3A	X		3.75
38	MP3A	Z	-43.365	3.75
39	MP3A	Mx	.0125	1.25
40	OVP	X	-43.813 75.887	1.25
41	OVP	Z	-75.887	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	-14.413	
44	MP3A	Z	-24.964	1
45	MP3A	Mx	.006	
46	MP3A	X	-14.413	1
47	MP3A	Z	-24.964	
48	MP3A	Mx	006	L

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Member Point Loads (BLC 15 : Antenna Wi (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	1
2	MP4A	Z	-31.56	1
3	MP4A	Mx	0197	1
4	MP4A	X	0	5
5	MP4A	Z	-31.56	5
6	MP4A	Mx	0197	5
7	MP4A	X	0	1
8	MP4A	Z	-31.56	1
9	MP4A	Mx	.0197	1
10	MP4A	X	0	5
11	MP4A	Z	-31.56	5
12	MP4A	Mx	.0197	5
13	MP2A	X	0	2
14	MP2A	Z	-16.755	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Ž	-16.755	4
18	MP2A	Mx	0	4
19	MP1A	X	0	.5
20	MP1A	Z	-18.215	
21	MP1A	Mx	0	.5
22	MP1A	X	0	.5
23	MP1A	Z	-18.215	5.5
24	MP1A	Mx		5.5
25	MP5A	X	0	5.5
26	MP5A	Z	0	.5
27	MP5A	Mx	-18.215	.5
28	MP5A		0	.5
29	MP5A	X	0	5.5
30	MP5A	Z	-18.215	5.5
31	MP4A	Mx	0	5.5
32	MP4A MP4A	X	0	4
33		Z	-3.399	4
	MP4A	Mx	00085	4
34	MP4A	X	0	.5
35	MP4A	Z	-14.091	.5
36	MP4A	Mx	0	.5
37	MP3A	X	0	3.75
38	MP3A	Z	-13.974	3.75
39	MP3A	Mx	0	3.75
40	OVP	X	0	1.25
41	OVP	Z	-24.039	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	0	1
44	MP3A	Z	-7.633	1
45	MP3A	Mx	0	1
46	MP3A	X	0	1
47	MP3A	Z	-7.633	1
48	MP3A	Mx	0	1

Member Point Loads (BLC 16 : Antenna Wi (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	14.52	1
2	MP4A	Z	-25.149	4
3	MP4A	Mx	023	1
4	MP4A	X	14.52	5
5	MP4A	Z	-25.149	5

Member Point Loads (BLC 16 : Antenna Wi (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
6	MP4A	Mx	023	5
7	MP4A	X	14.52	1
8	MP4A	Z	-25.149	1
9	MP4A	Mx	.0085	1
10	MP4A	X	14.52	5
11	MP4A	Z	-25.149	5
12	MP4A	Mx	.0085	5
13	MP2A	X	7.17	2
14	MP2A	Z	-12.419	2
15	MP2A	Mx	0036	2
16	MP2A	X	7.17	4
7	MP2A	Z	-12.419	4
18	MP2A	Mx	0036	4
9	MP1A	X	9.467	.5
20	MP1A	Ž	-16.398	.5
21	MP1A	Mx	0047	.5
22	MP1A	X	9.467	5.5
23	MP1A	Z	-16.398	5.5
24	MP1A	Mx	0047	5.5
25	MP5A	X	9.467	.5
26	MP5A	Ž	-16.398	.5
27	MP5A	Mx	0047	.5
28	MP5A	X	9,467	5.5
29	MP5A	Ž	-16.398	5.5
30	MP5A	Mx	0047	5.5
31	MP4A	X	1.592	4
32	MP4A	Z	-2.758	4
	MP4A	Mx	.000106	4
33	MP4A	X	6.506	.5
34	MP4A	Z	-11.269	.5
35	MP4A	Mx	.0033	.5
36	MP3A	X	6.248	3.75
37 38	MP3A	Z	-10.822	3.75
	MP3A	Mx	0031	3.75
39	OVP	X	13.597	1.25
40	OVP	Z	-23.55	1.25
41	OVP	Mx	0	1.25
12	MP3A	X	3.216	1
43	MP3A	Z	-5.571	1
44		Mx	0013	1
45	MP3A	X	3.216	1
46	MP3A	Z	-5.571	
47 48	MP3A MP3A	Mx	.0013	1

Member Point Loads (BLC 17 : Antenna Wi (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	20.782	1
2	MP4A	7	-11.998	1
2	MP4A	Mx	0179	
1	MP4A	X X	20.782	5
5	MP4A	7	-11.998	5
6	MP4A	Mx	0179	5
7	MP4A	X	20.782	1
8	MP4A	7	-11.998	1, 1,
9	MP4A	Mx	0029	11
10	MP4A	X	20.782	5



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Member Point Loads (BLC 17 : Antenna Wi (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
11	MP4A	Z	-11.998	5
12	MP4A	Mx	0029	5
13	MP2A	X	8.236	2
14	MP2A	Z	-4.755	2
15	MP2A	Mx	0041	2
16	MP2A	X	8.236	4
17	MP2A	Z	-4.755	4
18	MP2A	Mx	0041	4
19	MP1A	X	17.644	.5
20	MP1A	Z	-10.187	.5
21	MP1A	Mx	0088	.5
22	MP1A	X	17.644	5.5
23	MP1A	Z	-10.187	5.5
24	MP1A	Mx	0088	5.5
25	MP5A	X	17.644	
26	MP5A	Z	-10.187	.5
27	MP5A	Mx	0088	.5
28	MP5A	X	17.644	5.5
29	MP5A	Z	-10.187	5.5
30	MP5A	Mx	0088	5.5
31	MP4A	X	2.386	4
32	MP4A	Z	-1.377	4
33	MP4A	Mx	.000849	4
34	MP4A	X	9.4	.5
35	MP4A	Z	-5.427	
36	MP4A	Mx	.0047	.5
37	MP3A	X	8.264	.5
38	MP3A	Z	-4.771	3.75
39	MP3A	Mx	0041	3.75
40	OVP	X	24.916	3.75
41	OVP	Z	-14.385	1.25
42	OVP	Mx	-14.365	1.25
43	MP3A	X		1.25
44	MP3A	7	3.492	
45	MP3A	Mx	-2.016	1
46	MP3A	X	0015	
47	MP3A		3.492	
48	MP3A	Mx	-2.016 .0015	1

Member Point Loads (BLC 18: Antenna Wi (90 Deg))

voett II	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	21.475	1
2	MP4A	Z	0	1
3	MP4A	Mx	0107	1
4	MP4A	X	21.475	5
5	MP4A	Z	0	5
6	MP4A	Mx	0107	5
7	MP4A	X	21,475	1
8	MP4A	Z	0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
9	MP4A	Mx	0107	1
10	MP4A	X	21,475	5
11	MP4A	Z	0	5
12	MP4A	Mx	0107	5
13	MP2A	X	7.095	2
14	MP2A	Z	0	2
15	MP2A	Mx	0035	2

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Member Point Loads (BLC 18 : Antenna Wi (90 Deg)) (Continued)

Memb	er Label Direct	on Magnitude[lb,k-ft]	Location[ft,%]
	P2A X	7.095	4
	P2A Z	0	4
	P2A Mx	0035	4
	P1A X	21.093	.5
	P1A Z	0	.5
	P1A Mx	0105	.5
	P1A X	21.093	5.5
	P1A Z	0	5.5
	P1A Mx	0105	5.5
	P5A X	21.093	.5
	P5A Z	0	.5
	P5A Mx	0105	.5
	P5A X	21.093	5.5
	P5A Z	0	5.5
	P5A Mx	0105	5.5
	P4A X	2.54	4
	P4A Z	0	4
	P4A Mx	.0013	4
	P4A X	9.775	.5
	P4A Z	0	.5
	P4A Mx	.0049	.5
	P3A X	8.066	3.75
	P3A Z	0	3.75
	P3A Mx	004	3.75
	DVP X	27.194	1.25
		0	1.25
	/ V 1		1.25
		2.833	1
		0	1
	1 0/1	200000	1
	P3A Mx	2.833	1
	P3A X	2.833	1
Contract to the Contract of th	10/1		1
48 M	P3A Mx	.0012	

Member Point Loads (BLC 19 : Antenna Wi (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	20.782	1
2	MP4A	7	11.998	1
	MP4A	Mx	0029	1
3	MP4A	X	20.782	5
4	MP4A	Z	11.998	5
5	MP4A	Mx	0029	5
6	MP4A	X	20.782	1
	MP4A	Ž	11.998	1
8	MP4A MP4A	Mx	0179	1
9		X	20.782	5
10	MP4A	Z	11.998	5
11	MP4A	Mx	0179	5
12	MP4A	X	8.236	2
13	MP2A	+	4.755	2
14	MP2A	Mx	0041	2
15	MP2A		8.236	4
16	MP2A	X	4.755	4
17	MP2A		0041	4
18	MP2A	Mx	17.644	.5
19	MP1A	X		.5
20	MP1A	Z	10.187	

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Member Point Loads (BLC 19 : Antenna Wi (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
21	MP1A	Mx	0088	.5
22	MP1A	X	17.644	5.5
23	MP1A	Z	10.187	5.5
24	MP1A	Mx	0088	5.5
25	MP5A	X	17.644	.5
26	MP5A	Z	10.187	.5
27	MP5A	Mx	0088	.5
28	MP5A	X	17.644	5.5
29	MP5A	7	10.187	5.5
30	MP5A	Mx	0088	5.5
31	MP4A	X	2.386	4
32	MP4A	Z	1.377	4
33	MP4A	Mx	.0015	4
34	MP4A	X	9.4	.5
35	MP4A	Z	5.427	.5
36	MP4A	Mx	.0047	.5
37	MP3A	X	8.264	3.75
38	MP3A	Z	4.771	3.75
39	MP3A	Mx	0041	3.75
40	OVP	X	20.819	1.25
41	OVP	Z	12.02	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	3.492	1.25
44	MP3A	Z	2.016	1
45	MP3A	Mx	0015	1
46	MP3A	X	3.492	4
47	MP3A	Z	2.016	1
48	MP3A	Mx	.0015	

Member Point Loads (BLC 20 : Antenna Wi (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	14.52	1
2	MP4A	Z	25.149	1
3	MP4A	Mx	.0085	i
4	MP4A	X	14.52	5
5	MP4A	Z	25.149	5
6	MP4A	Mx	.0085	5
7	MP4A	X	14.52	1
8	MP4A	Z	25.149	1
9	MP4A	Mx	023	1
10	MP4A	X	14.52	5
11	MP4A	Z	25.149	5
12	MP4A	Mx	023	5
13	MP2A	X	7.17	2
14	MP2A	Z	12.419	2
15	MP2A	Mx	0036	2
16	MP2A	X	7.17	4
17	MP2A	Z	12.419	4
18	MP2A	Mx	0036	4
19	MP1A	X	9.467	.5
20	MP1A	Z	16.398	.5
21	MP1A	Mx	0047	.5
22	MP1A	X	9.467	5.5
23	MP1A	Z	16.398	5.5
24	MP1A	Mx	0047	5.5
25	MP5A	X	9.467	.5



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Member Point Loads (BLC 20 : Antenna Wi (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
26	MP5A	7	16.398	.5
27	MP5A	Mx	0047	.5
	MP5A	X	9.467	5.5
28	MP5A	Z	16.398	5.5
29	MP5A	Mx	0047	5.5
30	MP4A	X	1.592	4
31	V-2445-5-4111-1	7	2.758	4
32	MP4A	Mx	.0015	4
33	MP4A	X	6.506	.5
34	MP4A	7	11.269	.5
35	MP4A		.0033	.5
36	MP4A	Mx	6.248	3.75
37	MP3A	X	10.822	3.75
38	MP3A	Z	0031	3.75
39	MP3A	Mx		1.25
40	OVP	<u>X</u>	11.231	1.25
41	OVP	Z	19.453	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	3.216	
44	MP3A	Z	5.571	_
45	мРЗА	Mx	0013	
46	MP3A	X	3.216	
47	MP3A	Z	5.571	1
48	MP3A	Mx	.0013	1

Member Point Loads (BLC 21 : Antenna Wi (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	1
2	MP4A	Z	31.56	
3	MP4A	Mx	.0197	11
4	MP4A	X	0	5
5	MP4A	Z	31.56	5
6	MP4A	Mx	.0197	5
7	MP4A	X	0	1
8	MP4A	Z	31.56	
9	MP4A	Mx	0197	1
10	MP4A	X	0	5
11	MP4A	Z	31.56	5
12	MP4A	Mx	0197	5
13	MP2A	X	0	2
14	MP2A	Z	16.755	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Z	16.755	4
18	MP2A	Mx	0	4
19	MP1A	X	0	.5
20	MP1A	Z	18.215	.5
	MP1A	Mx	0	.5
21	MP1A	X	0	5.5
23	MP1A	Z	18.215	5.5
	MP1A	Mx	0	5.5
24	MP5A	X	0	.5
25		Ž	18.215	.5
26	MP5A MP5A	Mx	0	.5
27		X	0	5.5
28	MP5A		18.215	5.5
29 30	MP5A MP5A	Mx	0	5.5

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Member Point Loads (BLC 21 : Antenna Wi (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
31	MP4A	X	0	4
32	MP4A	Z	3.399	4
33	MP4A	Mx	.00085	4
34	MP4A	X	0	.5
35	MP4A	Z	14.091	.5
36	MP4A	Mx	0	.5
37	MP3A	X	0	3.75
38	MP3A	Z	13.974	3.75
39	MP3A	Mx	0	3.75
40	OVP	X	Ŏ	1.25
41	OVP	Z	24.039	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	0	1
44	MP3A	Z	7.633	- 1
45	MP3A	Mx	0	1
46	MP3A	X	0	
47	MP3A	Z	7.633	
48	MP3A	Mx	0	

Member Point Loads (BLC 22 : Antenna Wi (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-14.52	1
2	MP4A	Z	25.149	1
3	MP4A	Mx	.023	1
4	MP4A	X	-14.52	5
5	MP4A	Z	25.149	5
6	MP4A	Mx	.023	5
7	MP4A	X	-14.52	1
8	MP4A	Z	25.149	1
9	MP4A	Mx	0085	1
10	MP4A	X	-14.52	5
11	MP4A	Z	25.149	5
12	MP4A	Mx	0085	5
13	MP2A	X	-7.17	2
14	MP2A	Z	12.419	2
15	MP2A	Mx	.0036	2
16	MP2A	X	-7.17	4
17	MP2A	Z	12.419	4
18	MP2A	Mx	.0036	4
19	MP1A	X	-9.467	.5
20	MP1A	Z	16.398	.5
21	MP1A	Mx	.0047	.5
22	MP1A	X	-9.467	5.5
23	MP1A	Ž	16.398	5.5
24	MP1A	Mx	.0047	5.5
25	MP5A	X	-9.467	.5
26	MP5A	Z	16.398	.5
27	MP5A	Mx	.0047	.5
28	MP5A	X	-9.467	5.5
29	MP5A	Z	16.398	5.5
30	MP5A	Mx	.0047	5.5
31	MP4A	X	-1.592	4
32	MP4A	Ž	2.758	4
33	MP4A	Mx	000106	4
34	MP4A	X	-6.506	.5
35	MP4A	7	11.269	.5

Member Point Loads (BLC 22 : Antenna Wi (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
00	MP4A	Mx	0033	.5
36		X	-6.248	3.75
37	MP3A		10.822	3.75
38	MP3A		.0031	3.75
39	MP3A	Mx		1.25
40	OVP	X	-13.597	
41	OVP	Z	23.55	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	-3,216	
44	MP3A	Z	5.571	
45	MP3A	Mx	.0013	1
46	MP3A	X	-3.216	11
47	MP3A	Z	5.571	1
48	MP3A	Mx	0013	1

Member Point Loads (BLC 23 : Antenna Wi (240 Deg))

	er Point Loads (BL Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-20.782	1
2	MP4A	Z	11.998	1
3	MP4A	Mx	.0179	
	MP4A	X	-20.782	5
5	MP4A	Z	11.998	5
6	MP4A	Mx	.0179	5
7	MP4A	X	-20.782	11
8	MP4A	Z	11.998	1
9	MP4A	Mx	.0029	1
	MP4A	X	-20.782	5
10	MP4A	Z	11.998	5
11	MP4A	Mx	.0029	5
12	MP2A	X	-8.236	2
13	MP2A	Ž	4.755	2
14		Mx	.0041	2
15	MP2A	X	-8.236	4
16	MP2A	Z	4.755	4
17	MP2A	Mx	.0041	4
18	MP2A	X	-17.644	.5
19	MP1A	Z	10.187	.5
20	MP1A	Mx	.0088	.5
21	MP1A	X	-17.644	5.5
22	MP1A	7	10.187	5.5
23	MP1A	Mx	.0088	5.5
24	MP1A	X	-17.644	.5
25	MP5A		10.187	.5
26	MP5A	Z	.0088	.5
27	MP5A	Mx	-17.644	5.5
28	MP5A	X	10.187	5.5
29	MP5A	Z	.0088	5.5
30	MP5A	Mx	-2.386	4
31	MP4A	X	1.377	4
32	MP4A	Z	000849	4
33	MP4A	Mx	-9.4	.5
34	MP4A	X	-9.4 5.427	.5
35	MP4A	Z	0047	.5
36	MP4A	Mx		3.75
37	MP3A	X	-8.264	3.75
38	MP3A	Z	4.771	3.75
39	MP3A	Mx	.0041	1.25
40	OVP	X	-24.916	1.20

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Member Point Loads (BLC 23 : Antenna Wi (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
41	OVP	Z	14.385	1.25
42	OVP	Mx	0	1.25
43 44	MP3A	X	-3.492	1
44	MP3A	Z	2.016	1
45	MP3A	Mx	.0015	1
46	MP3A	X	-3.492	
47	MP3A	7	2.016	1
48	MP3A	Mx	0015	1

Member Point Loads (BLC 24 : Antenna Wi (270 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-21.475	1
2	MP4A	Z	0	1
3	MP4A	Mx	.0107	1
4	MP4A	X	-21.475	5
5	MP4A	Z	0	5
6	MP4A	Mx	.0107	5
7	MP4A	X	-21.475	1
8	MP4A	Z	0	1
9	MP4A	Mx	.0107	
10	MP4A	X	-21.475	5
11	MP4A	Z	0	5
12	MP4A	Mx	.0107	5
13	MP2A	X	-7.095	2
14	MP2A	Z	0	2
15	MP2A	Mx	.0035	2
16	MP2A	X	-7.095	4
17	MP2A	Z	0	4
18	MP2A	Mx	.0035	4
19	MP1A	X	-21.093	.5
20	MP1A	Z	0	.5
21	MP1A	Mx	.0105	.5
22	MP1A	X	-21.093	5.5
23	MP1A	Z	0	5.5
24	MP1A	Mx	.0105	5.5
25	MP5A	X	-21.093	.5
26	MP5A	Z	0	5
27	MP5A	Mx	.0105	.5
28	MP5A	X	-21.093	5.5
29	MP5A	Z	0	5.5
30	MP5A	Mx	.0105	5.5
31	MP4A	X	-2.54	4
32	MP4A	Z	0	4
33	MP4A	Mx	0013	4
34	MP4A	X	-9.775	.5
35	MP4A	Z	0	.5
36	MP4A	Mx	0049	.5
37	MP3A	X	-8.066	3.75
38	MP3A	Z	0	3.75
39	MP3A	Mx	.004	3.75
40	OVP	X	-27.194	1.25
41	OVP	Z	0	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	-2.833	1
44	MP3A	Z	0	1
45	MP3A	Mx	.0012	1

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Member Point Loads (BLC 24 : Antenna Wi (270 Deg)) (Continued)

		Direction	Magnitude[lb,k-ft]	Location[ft,%]
46	Member Label MP3A	X	-2.833	1
47	MP3A	Z	0	1
48	MP3A	Mx	0012	

Member Point Loads (BLC 25 : Antenna Wi (300 Deg))

	Point Loads (BL Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-20.782	
2	MP4A	Z	-11.998	1
3	MP4A	Mx	.0029	11
4	MP4A	X	-20.782	5
5	MP4A	Z	-11.998	5
6	MP4A	Mx	.0029	5
7	MP4A	X	-20.782	11
8	MP4A	Z	-11.998	1
9	MP4A	Mx	.0179	
10	MP4A	X	-20.782	5
11	MP4A	Z	-11.998	5
12	MP4A	Mx	.0179	5
	MP2A	X	-8.236	2
13	MP2A	Z	-4.755	2
14		Mx	.0041	2
15	MP2A MP2A	X	-8.236	4
16	MP2A MP2A	Z	-4.755	4
17		Mx	.0041	4
18	MP2A	X	-17.644	.5
19	MP1A	Ž	-10.187	.5
20	MP1A	Mx	.0088	.5
21	MP1A	X	-17.644	5.5
22	MP1A	Z	-10.187	5.5
23	MP1A		.0088	5.5
24	MP1A	Mx	-17.644	.5
25	MP5A	X	-10.187	.5
26	MP5A	Z	.0088	.5
27	MP5A	Mx	-17.644	5.5
28	MP5A	X	-10.187	5.5
29	MP5A	Z	.0088	5.5
30	MP5A	Mx.	-2.386	4
31	MP4A	X	-1.377	4
32	MP4A	Z	0015	4
33	MP4A	Mx	-9.4	.5
34	MP4A	<u>X</u>	-9.4 -5.427	.5
35	MP4A	Z		.5
36	MP4A	Mx	0047	3.75
37	MP3A	X	-8.264 4.771	3.75
38	MP3A		-4.771	3.75
39	MP3A	Mx	.0041	1.25
40	OVP	X	-20.819	1.25
41	OVP	Z	-12.02	1.25
42	OVP	Mx	0	
43	MP3A	X	-3.492	1
44	MP3A	Z	-2.016	
45	MP3A	Mx	.0015	1
46	MP3A	X	-3.492	1
47	MP3A	Z	-2.016	
48	MP3A	Mx	0015	1

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Member Point Loads (BLC 26 : Antenna Wi (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-14.52	1
2	MP4A	Z	-25.149	1
3	MP4A	Mx	0085	1
4	MP4A	X	-14.52	5
5	MP4A	Z	-25.149	5
6	MP4A	Mx	0085	5
7	MP4A	X	-14.52	1
8	MP4A	Z	-25.149	
9	MP4A	Mx	.023	<u> </u>
10	MP4A	X	-14.52	5
11	MP4A	Z	-25.149	5
12	MP4A	Mx	.023	5
13	MP2A	X	-7.17	2
14	MP2A	Z	-12.419	2
15	MP2A	Mx	.0036	2
16	MP2A	X	-7.17	4
17	MP2A	Z	-12.419	4
18	MP2A	Mx	.0036	4
19	MP1A	X	-9.467	
20	MP1A	Z	-16.398	.5 .5
21	MP1A	Mx	.0047	.5
22	MP1A	X	-9.467	.5
23	MP1A	Z		5.5
24	MP1A	Mx	-16.398	5.5
25	MP5A	X	.0047	5.5
26	MP5A	Z	-9.467	.5
27	MP5A	Mx	-16.398	.5
28	MP5A	X	.0047	5
29	MP5A		-9.467	5.5
30	MP5A	Z	-16.398	5.5
31	MP4A	Mx	.0047	5.5
32	MP4A	X	-1.592	4
33		Z	-2.758	4
	MP4A	Mx	0015	4
34	MP4A	X	-6.506	.5
35	MP4A	Z	-11.269	.5
36	MP4A	Mx	0033	.5
37	MP3A	X	-6.248	3.75
38	MP3A	Z	-10.822	3.75
39	MP3A	Mx	.0031	3.75
40	OVP	X	-11.231	1.25
41	OVP	Z	-19.453	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	-3.216	1
44	MP3A	Z	-5.571	
45	MP3A	Mx	.0013	<u> </u>
46	MP3A	X	-3.216	
47	MP3A	Z	-5.571	1
48	MP3A	Mx	0013	1

Member Point Loads (BLC 27 : Antenna Wm (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	1
2	MP4A	Z	-10.433	4
3	MP4A	Mx	0065	
4	MP4A	X	0	<u> </u>
5	MP4A	Z	-10.433	5



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Member Point Loads (BLC 27 : Antenna Wm (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
6	MP4A	Mx	0065	5
7	MP4A	X	0	
8	MP4A	Z	-10.433	1
9	MP4A	Mx	.0065	1
10	MP4A	X	0	5
11	MP4A	Z	-10.433	5
12	MP4A	Mx	.0065	5
13	MP2A	X	0	2
14	MP2A	Z	-4.489	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Z	-4.489	4
18	MP2A	Mx	0	4
19	MP1A	X	0	.5
20	MP1A	Z	-5.737	.5
21	MP1A	Mx	0	.5
22	MP1A	X	0	5.5
23	MP1A	Z	-5.737	5.5
24	MP1A	Mx	0	5.5
25	MP5A	X	0	.5
26	MP5A	Z	-5.737	.5
27	MP5A	Mx	0	,5
28	MP5A	X	0	5.5
29	MP5A	Z	-5.737	5.5
30	MP5A	Mx	0	5.5
31	MP4A	X	0	4
32	MP4A	Z	854	4
33	MP4A	Mx	000213	4
34	MP4A	X	0	.5
35	MP4A	Z	-3,556	.5
36	MP4A	Mx	0	.5
37	MP3A	X	0	3.75
38	MP3A	Ž	-3.528	3.75
39	MP3A	Mx	0	3.75
40	OVP	X	0	1.25
41	OVP	Z	-5.908	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	0	1
44	MP3A	Z	-2.182	1
45	MP3A	Mx	0	1
46	MP3A	X	0	1
47	MP3A	Z	-2.182	1
48	MP3A	Mx	0	

Member Point Loads (BLC 28 : Antenna Wm (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft.%]
1	MP4A	X	4.769	1
2	MP4A	7	-8.26	1
2	MP4A	Mx	0075	1
3	MP4A	X	4.769	5
5	MP4A	Z	-8.26	5
6	MP4A	Mx	0075	5
7	MP4A	X	4.769	11
8	MP4A	Z	-8.26	11
9	MP4A	Mx	.0028	1
10	MP4A	X	4.769	5

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Member Point Loads (BLC 28: Antenna Wm (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
11	MP4A	Z	-8.26	5
12	MP4A	Mx	.0028	5
13	MP2A	X	1.877	2
14	MP2A	Z	-3.25	2
15	MP2A	Mx	000938	2
16	MP2A	X	1.877	4
17	MP2A	Z	-3.25	4
18	MP2A	Mx	000938	4
19	MP1A	X	2.991	.5
20	MP1A	Z	-5.181	.5
21	MP1A	Mx	0015	.5
22	MP1A	X	2.991	5.5
23	MP1A	Z	-5.181	5.5
24	MP1A	Mx	0015	5.5
25	MP5A	X	2.991	.5
26	MP5A	Z	-5.181	.5
27	MP5A	Mx	0015	.5
28	MP5A	X	2.991	5.5
29	MP5A	Z	-5.181	5.5
30	MP5A	Mx	0015	5.5
31	MP4A	X	.394	
32	MP4A	Z	683	4
33	MP4A	Mx	2.6e-5	4
34	MP4A		1.632	4
35	MP4A	X	-2.826	.5
36	MP4A	Mx	.000816	.5
37	MP3A	X	1.565	.5
38	MP3A	Ž	-2.71	3.75
39	MP3A	Mx	000783	3.75
40	OVP	X		3.75
41	OVP	Z	3.386	1.25
42	OVP	Mx	-5.865	1.25
43	MP3A	X	0	1.25
44	MP3A	Ž	.901	
45	MP3A	Mx	-1.56	1
46	MP3A	X	000375	1
47	MP3A	Z	.901	
48	MP3A		-1.56	
TU	IVIFOA	Mx	.000375	1

Member Point Loads (BLC 29 : Antenna Wm (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	6.709	1
2	MP4A	Z	-3.874	
3	MP4A	Mx	0058	1
4	MP4A	X	6.709	5
5	MP4A	Z	-3.874	5
6	MP4A	Mx	0058	5
7	MP4A	X	6.709	1
8	MP4A	Z	-3.874	1
9	MP4A	Mx	000933	-
10	MP4A	X	6.709	5
11	MP4A	Z	-3.874	5
12	MP4A	Mx	000933	5
13	MP2A	X	1.976	2
14	MP2A	Z	-1.141	2
15	MP2A	Mx	000988	2

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Member Point Loads (BLC 29 : Antenna Wm (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
16	MP2A		1.976	4
17	MP2A	X Z	-1.141	4
18	MP2A	Mx	000988	4
19	MP1A	X	5.606	.5
20	MP1A	Z	-3.237	.5
21	MP1A	Mx	0028	.5
22	MP1A	X	5.606	5.5
23	MP1A	Z	-3.237	5.5
24	MP1A	Mx	0028	5.5
25	MP5A	X	5.606	.5
26	MP5A	Z	-3.237	.5
27	MP5A	Mx	0028	.5
28	MP5A	X	5.606	5.5
29	MP5A	Z	-3.237	5.5
30	MP5A	Mx	0028	5.5
31	MP4A	X	.569	4
32	MP4A	Ž	328	4
33	MP4A	Mx	.000202	4
34	MP4A	X	2.319	.5
35	MP4A	Z	-1.339	.5
36	MP4A	Mx	.0012	.5
37	MP3A	X	2.02	3.75
38	MP3A	Z	-1.166	3.75
39	MP3A	Mx	001	3.75
40	OVP	X	6.239	1.25
41	OVP	Z	-3.602	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	.902	1
43	MP3A	Z	-,521	1
45	MP3A	Mx	000376	11
46	MP3A	X	.902	1
	MP3A	Z	521	1
47 48	MP3A	Mx	.000376	

Member Point Loads (BLC 30 : Antenna Wm (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	6.852	1
2	MP4A	Z	0	1
3	MP4A	Mx	0034	1
4	MP4A	X	6.852	5
5	MP4A	Z	0	5
6	MP4A	Mx	0034	5
7	MP4A	X	6.852	1
8	MP4A	Z	0	1
9	MP4A	Mx	0034	1
10	MP4A	X	6.852	5
11	MP4A	Z	0	5
12	MP4A	Mx	0034	5
13	MP2A	X	1.546	2
14	MP2A	Z	0	2
15	MP2A	Mx	000773	2
16	MP2A	X	1.546	4
17	MP2A	Z	0	4
18	MP2A	Mx	000773	4
19	MP1A	X	6.718	.5
20	MP1A	Ž	0	.5

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Member Point Loads (BLC 30 : Antenna Wm (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft.%]
21	MP1A	Mx	0034	.5
22	MP1A	X	6.718	5.5
23	MP1A	Z	0	5.5
24	MP1A	Mx	0034	5.5
25	MP5A	X	6.718	.5
26	MP5A	Z	0	.5
27	MP5A	Mx	0034	.5
28	MP5A	X	6.718	5.5
29	MP5A	7	0	5.5
30	MP5A	Mx	0034	5.5
31	MP4A	X	.591	4
32	MP4A	Z	0	4
33	MP4A	Mx	.000296	4
34	MP4A	X	2.386	.5
35	MP4A	Z	0	.5
36	MP4A	Mx	.0012	.5
37	MP3A	X	1.935	3.75
38	MP3A	Z	0	3.75
39	MP3A	Mx	000967	3.75
40	OVP	X	6.772	1.25
41	OVP	Z	0	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	.662	1.25
44	MP3A	Z	0	
45	MP3A	Mx	000276	1
46	MP3A	X	.662	
47	MP3A	Z	0	1
48	MP3A	Mx	.000276	

Member Point Loads (BLC 31 : Antenna Wm (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	6.709	1
2	MP4A	Z	3.874	1
3	MP4A	Mx	000933	1
4	MP4A	X	6.709	5
_5	MP4A	Z	3.874	5
6	MP4A	Mx	000933	5
7	MP4A	X	6.709	1
8	MP4A	Z	3.874	i
9	MP4A	Mx	0058	1
10	MP4A	X	6.709	5
11	MP4A	Z	3.874	5
12	MP4A	Mx	0058	5
13	MP2A	X	1.976	2
14	MP2A	Z	1.141	2
15	MP2A	Mx	000988	2
16	MP2A	X	1.976	4
17	MP2A	Z	1.141	4
18	MP2A	Mx	000988	4
19	MP1A	X	5.606	.5
20	MP1A	Z	3.237	.5
21	MP1A	Mx	0028	.5
22	MP1A	X	5.606	5.5
23	MP1A	Z	3.237	5.5
24	MP1A	Mx	0028	5.5
25	MP5A	X	5.606	.5

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Member Point Loads (BLC 31 : Antenna Wm (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
26	MP5A	Z	3.237	.5
27	MP5A	Mx	0028	.5
	MP5A	X	5.606	5.5
28	MP5A	Z	3.237	5.5
29	MP5A	Mx	0028	5.5
30	MP4A	X	.569	4
31		Z	.328	4
32	MP4A	Mx	.000366	4
33	MP4A	X	2.319	.5
34	MP4A	Ž	1.339	.5
35	MP4A	Mx	.0012	.5
36	MP4A	X	2.02	3.75
37	MP3A	Ž	1.166	3.75
38	MP3A	Mx	001	3.75
39	MP3A	X	5.117	1.25
40	OVP	- 2	2.954	1.25
41	OVP		0	1.25
42	OVP	Mx	.902	1
43	MP3A	X	.521	1
44	MP3A		000376	1
45	MP3A	Mx	.902	j
46	MP3A	X	.521	1
47 48	MP3A MP3A	Z Mx	.000376	1

Member Point Loads (BLC 32 : Antenna Wm (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	4.769	11
2	MP4A	Z	8.26	1
3	MP4A	Mx	.0028	11
4	MP4A	X	4.769	5
5	MP4A	Z	8.26	5
6	MP4A	Mx	.0028	5
7	MP4A	X	4.769	1
8	MP4A	Z	8.26	
9	MP4A	Mx	0075	1
10	MP4A	X	4.769	_ 5
11	MP4A	Z	8.26	5
12	MP4A	Mx	0075	5
13	MP2A	X	1.877	2
14	MP2A	Ž	3.25	2
15	MP2A	Mx	000938	2
16	MP2A	X	1.877	4
	MP2A	Z	3.25	4
17	MP2A	Mx	000938	4
18	MP1A	X	2.991	.5
19	MP1A	Z	5.181	.5
20	MP1A	Mx	0015	.5
21	MP1A	X	2.991	5.5
22	MP1A	$+\frac{\kappa}{z}$	5.181	5.5
23	MP1A MP1A	Mx	0015	5.5
24	MP5A	X	2.991	.5
25	MP5A	Ž	5.181	.5
26		Mx	0015	.5
27	MP5A	X	2.991	5.5
28	MP5A	$-\frac{\lambda}{z}$	5.181	5.5
29	MP5A	Mx	0015	5.5
30	MP5A	IVIA	100.10	

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Member Point Loads (BLC 32 : Antenna Wm (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
31	MP4A	X	.394	Δ
32	MP4A	2	.683	4
33	MP4A	Mx	.000368	4
34	MP4A	X	1.632	.5
35	MP4A	Z	2.826	.5
36	MP4A	Mx	.000816	.5
37	MP3A	X	1.565	3.75
38	MP3A	Z	2.71	3.75
39	MP3A	Mx	000783	3.75
40	OVP	X	2.738	1.25
41	OVP	Z	4.743	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	.901	1.23
44	MP3A	Z	1.56	
45	MP3A	Mx	000375	1
46	MP3A	X	.901	
47	MP3A	Ž	1.56	
48	MP3A	Mx	.000375	1

Member Point Loads (BLC 33 : Antenna Wm (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	1
2	MP4A	Z	10.433	*
3	MP4A	Mx	.0065	1
4	MP4A	X	0	5
5	MP4A	Z	10.433	5
6	MP4A	Mx	.0065	5
7	MP4A	X	0	1
8	MP4A	Z	10.433	1
9	MP4A	Mx	0065	1
10	MP4A	X	0	5
11	MP4A	Z	10.433	5
12	MP4A	Mx	0065	5
13	MP2A	X	0	2
14	MP2A	Z	4.489	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Z	4.489	4
18	MP2A	Mx	0	4
19	MP1A	X	0	.5
20	MP1A	Z	5.737	5
21	MP1A	Mx	0	.5
22	MP1A	X	0	5.5
23	MP1A	Ž	5.737	5.5
24	MP1A	Mx	0	5.5
25	MP5A	X	0	.5
26	MP5A	Z	5.737	.5
27	MP5A	Mx	0	.5
28	MP5A	X	0	5.5
29	MP5A	Z	5.737	5.5
30	MP5A	Mx	0	5.5
31	MP4A	X	0	4
32	MP4A	Z	.854	4
33	MP4A	Mx	.000213	
34	MP4A	X	0	.5
35	MP4A	Z	3.556	.5

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Member Point Loads (BLC 33 : Antenna Wm (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
36	MP4A	Mx	0	.5
37	MP3A	X	0	3.75
38	MP3A	7	3.528	3.75
39	MP3A	Mx	0	3.75
40	OVP	X	0	1.25
41	OVP	7	5.908	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	0	1
44	MP3A	Z	2.182	
45	MP3A	Mx	0	11
46	MP3A	X	0	1
47	MP3A	Z	2.182	1
48	MP3A	Mx	0	1

Member Point Loads (BLC 34: Antenna Wm (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A		-4.769	1
2	MP4A	X	8.26	
3	MP4A	Mx	.0075	
4	MP4A	X	-4.769	5
5	MP4A	Z	8.26	5
6	MP4A	Mx	.0075	5
7	MP4A	X	-4.769	1
8	MP4A	Ž	8.26	1
	MP4A	Mx	0028	1
9 10	MP4A	X	-4.769	5
	MP4A	Ž	8.26	5
11	MP4A	Mx	0028	5
12	MP2A	X	-1.877	2
13		Ž	3.25	2
14	MP2A	Mx	.000938	2
15	MP2A	X	-1.877	4
16	MP2A	Ž	3.25	4
17	MP2A	Mx	.000938	4
18	MP2A	X	-2.991	.5
19	MP1A	Ž	5.181	.5
20	MP1A		.0015	.5
21	MP1A	Mx Mx	-2.991	5.5
22	MP1A	X	5.181	5.5
23	MP1A		.0015	5.5
24	MP1A	Mx	-2.991	.5
25	MP5A	<u>X</u>	5.181	.5
26	MP5A	Z	.0015	.5
27	MP5A	Mx		5.5
28	MP5A	<u>X</u>	-2.991	5.5
29	MP5A	<u>Z</u>	5.181	5.5
30	MP5A	Mx	.0015	4
31	MP4A	X	394	4
32	MP4A	Z	.683	4
33	MP4A	Mx	-2.6e-5	.5
34	MP4A	X	-1.632	.5
35	MP4A	Z	2.826	
36	MP4A	Mx	000816	.5
37	MP3A	X	-1.565	3.75
38	MP3A	Z	2.71	3.75
39	MP3A	Mx	.000783	3.75
40	OVP	X	-3.386	1.25

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Member Point Loads (BLC 34 : Antenna Wm (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
41	OVP	Z	5.865	1.25
42 43	OVP	Mx	0	1.25
43	MP3A	X	901	1
44	MP3A	Z	1.56	1
45	MP3A	Mx	.000375	1
46	MP3A	X	901	4
47	MP3A	Z	1.56	
48	MP3A	Mx	000375	

Member Point Loads (BLC 35 : Antenna Wm (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-6.709	1
2	MP4A	Z	3.874	1
3	MP4A	Mx	.0058	1
4	MP4A	X	-6.709	5
5	MP4A	Ż	3.874	5
6	MP4A	Mx	.0058	5
7	MP4A	X	-6.709	1
8	MP4A	Z	3.874	1
9	MP4A	Mx	.000933	1
10	MP4A	X	-6.709	5
11	MP4A	Ž	3.874	5
12	MP4A	Mx	.000933	5
13	MP2A	X	-1.976	2
14	MP2A	Ž	1.141	2
15	MP2A	Mx	.000988	2
16	MP2A	X	-1.976	4
17	MP2A	Z	1.141	4
18	MP2A	Mx	.000988	
19	MP1A	X	-5.606	4
20	MP1A	Ž	3.237	.5
21	MP1A	Mx	.0028	.5
22	MP1A	X		.5
23	MP1A	Ž	-5.606	5.5
24	MP1A	Mx	3.237	5.5
25	MP5A		.0028	5.5
26	MP5A	X Z	-5.606	.5.
27	MP5A		3.237	.5
28	MP5A	Mx	.0028	.5
29	MP5A	X	-5.606	5.5
30	MP5A MP5A		3.237	5.5
31	MP4A	Mx	.0028	5.5
32		X	569	4
33	MP4A	Z	.328	4
	MP4A	Mx_	000202	4
35	MP4A	<u>X</u>	-2.319	.5
	MP4A	Z	1.339	.5
36	MP4A	Mx	0012	.5
37	MP3A	X	-2.02	3.75
38	MP3A	Z	1.166	3.75
39	MP3A	Mx	.001	3.75
40	OVP	X	-6.239	1.25
41	OVP	Z	3.602	1.25
42	OVP	Mx	0	1.25
43	MP3A	X	902	1
44	MP3A	Z	.521	
45	MP3A	Mx	.000376	11

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Member Point Loads (BLC 35 : Antenna Wm (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
46	MP3A	X	902	1
47	MP3A	Z	.521	1
48	MP3A	Mx	000376	1

Member Point Loads (BLC 36 : Antenna Wm (270 Deg))

	r Point Loads (BL Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-6.852	1
2	MP4A	Z	0	1
3	MP4A	Mx	.0034	1
4	MP4A	X	-6.852	. 5
5	MP4A	Z	0	5
6	MP4A	Mx	.0034	5
7	MP4A	X	-6.852	1
8	MP4A	Z	0	1
	MP4A	Mx	.0034	
9 10	MP4A	X	-6.852	5
	MP4A	Z	0	5
11 12	MP4A	Mx	.0034	5
	MP2A	X	-1.546	2
13		Z Z	0	2
14	MP2A	Mx	.000773	2
15	MP2A	X	-1.546	4
16	MP2A	Ž	0	4
17	MP2A	Mx	.000773	4
18	MP2A	X	-6.718	.5
19	MP1A	Ž	0	.5
20	MP1A	Mx	.0034	.5
21	MP1A		-6.718	5.5
22	MP1A	X Z	0	5.5
23	MP1A		.0034	5.5
24	MP1A	Mx	-6.718	.5
25	MP5A	X	0	.5
26	MP5A	<u>Z</u>	.0034	.5
27	MP5A	Mx	-6.718	5.5
28	MP5A	X	-6.718	5.5
29	MP5A	Z	.0034	5.5
30	MP5A	Mx	591	4
31	MP4A	X		4
32	MP4A	Z	0	4
33	MP4A	Mx	000296	.5
34	MP4A	X	-2.386	.5
35	MP4A	Z	0	.5
36	MP4A	Mx	0012	3.75
37	MP3A	X	-1.935	3.75
38	MP3A	Z	0	3.75
39	MP3A	Mx	.000967	1.25
40	OVP	X	-6.772	1.25
41	OVP	Z	0	
42	OVP	Mx	0	1.25
43	MP3A	X	662	
44	MP3A	Z	0	1
45	MP3A	Mx	.000276	
46	MP3A	X	662	111
47	MP3A	Z	0	1
48	MP3A	Mx	000276	1

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Member Point Loads (BLC 37 : Antenna Wm (300 Deg))

-	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-6.709	1
2	MP4A	Z	-3.874	
3	MP4A	Mx	.000933	1
4	MP4A	X	-6.709	5
5	MP4A	Z	-3.874	5
6	MP4A	Mx	.000933	5
7	MP4A	X	-6.709	1
8	MP4A	Z	-3.874	
9	MP4A	Mx	.0058	1
10	MP4A	X	-6.709	5
11	MP4A	Z	-3.874	5
12	MP4A	Mx	.0058	5
13	MP2A	X	-1.976	2
14	MP2A	Ž	-1.141	2
15	MP2A	Mx	.000988	2
16	MP2A	X	-1.976	4
17	MP2A	Z	-1.141	4
18	MP2A	Mx	.000988	4
19	MP1A	X	-5.606	.5
20	MP1A	Ž	-3.237	.5
21	MP1A	Mx	.0028	.5
22	MP1A	X	-5.606	5.5
23	MP1A	Z	-3.237	5.5
24	MP1A	Mx	.0028	5.5
25	MP5A	X	-5.606	5.5
26	MP5A	Z	-3.237	.5 .5
27	MP5A	Mx	.0028	.5
28	MP5A	X	-5.606	5.5
29	MP5A	Z	-3.237	5.5
30	MP5A	Mx	.0028	5.5
31	MP4A	X	569	5.5
32	MP4A	Z	328	4
33	MP4A	Mx	000366	4 4
34	MP4A	X	-2.319	.5
35	MP4A	Z	-1.339	.5
36	MP4A	Mx	0012	.5
37	MP3A	X	-2.02	
38	MP3A	Z	-1.166	3.75
39	MP3A	Mx	.001	3.75
40	OVP	X	-5.117	3.75
41	OVP	Z	-3.117	1.25
42	OVP	Mx	-2.954	1.25
43	MP3A	X	902	1.25
44	MP3A	Z	521	1
45	MP3A	Mx	.000376	1
46	MP3A	X		
47	MP3A	Z	902 521	1
48	MP3A	Mx	000376	1
	THE OF L	IVIA	000370	1

Member Point Loads (BLC 38 : Antenna Wm (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-4.769	1
2	MP4A	Z	-8.26	
3	MP4A	Mx	0028	
4	MP4A	X	-4.769	5
5	MP4A	Z	-8.26	5



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Member Point Loads (BLC 38 : Antenna Wm (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft.%]
6	MP4A	Mx	0028	5
7	MP4A	X	-4.769	
8	MP4A	Z	-8.26	1 1 1 1
9	MP4A	Mx	.0075	1
10	MP4A	X	-4.769	5
11	MP4A	Z	-8.26	5
12	MP4A	Mx	.0075	5
13	MP2A	X	-1.877	2
14	MP2A	Z	-3.25	2
15	MP2A	Mx	.000938	2
16	MP2A	X	-1.877	4
17	MP2A	Z	-3.25	4
18	MP2A	Mx	.000938	4
19	MP1A	X	-2.991	.5
20	MP1A	Z	-5.181	.5
21	MP1A	Mx	.0015	.5
22	MP1A	X	-2.991	5.5
23	MP1A	Z	-5.181	5.5
24	MP1A	Mx	.0015	5.5
25	MP5A	X	-2.991	.5
26	MP5A	Z	-5.181	.5
27	MP5A	Mx	.0015	.5
28	MP5A	X	-2.991	5.5
29	MP5A	Z	-5.181	5.5
30	MP5A	Mx	.0015	5.5
31	MP4A	X	394	4
32	MP4A	Z	683	4
33	MP4A	Mx	000368	44
34	MP4A	X	-1.632	.5
35	MP4A	Ž	-2.826	.5
36	MP4A	Mx	000816	.5
37	MP3A	X	-1.565	3.75
38	MP3A	Ž	-2.71	3.75
39	MP3A	Mx	.000783	3.75
40	OVP	X	-2.738	1.25
41	OVP	Ž	-4.743	1,25
42	OVP	Mx	0	1.25
43	MP3A	X	901	1
44	MP3A	Z	-1.56	1
45	MP3A	Mx	.000375	1
46	MP3A	X	901	1
47	MP3A	Z	-1.56	1
48	MP3A	Mx	000375	1

Member Point Loads (BLC 77 : Lm1)

MI CITIE C	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1 1	M11	Y	-500	0

Member Point Loads (BLC 78 : Lm2)

MEILINE	FUITE LOADS LDE			0.000 (0.000 (0.000)
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
	M7	Y	-500	0

Member Point Loads (BLC 79 : Lv1)

14	ember Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M1	Y	-250	%50



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Member Point Loads (BLC 80 : Lv2)

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft %]
M1	Y	-250	%100

Member Point Loads (BLC 81 : Antenna Ev)

4	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	Y	-1.3977	1
2	MP4A	My	000699	1
3	MP4A	Mz	.000874	1
4	MP4A	Y	-1.3977	5
5	MP4A	My	000699	5
6	MP4A	Mz	.000874	5
7	MP4A	Y	-1.3977	1
8	MP4A	My	000699	
9	MP4A	Mz	000874	4
10	MP4A	Y	-1.3977	5
11	MP4A	My	000699	5
12	MP4A	Mz	000874	5
13	MP2A	Y	-1.9232	2
14	MP2A	My	000962	2
15	MP2A	Mz	0	2
16	MP2A	Y	-1.9232	4
17	MP2A	Mv	000962	4
18	MP2A	Mz	0	4
19	MP1A	Y	3533	.5
20	MP1A	Mv	000177	.5
21	MP1A	Mz	0	.5
22	MP1A	Y	3533	5.5
23	MP1A	My	000177	5.5
24	MP1A	Mz	0	5.5
25	MP5A	Y	3533	.5
26	MP5A	My	000177	.5
27	MP5A	Mz	0	.5
28	MP5A	Y	3533	5.5
29	MP5A	My	000177	5.5
30	MP5A	Mz	0	5.5
31	MP4A	Y	4593	<u> </u>
32	MP4A	Mv	.00023	
33	MP4A	Mz	.00023	4
34	MP4A	Y	-3.7271	4
35	MP4A	My	.0019	.5
36	MP4A	Mz	.0019	.5
37	MP3A	Y	-3.1044	.5
38	MP3A	My		3.75
39	MP3A	Mz	0016 0	3.75
40	OVP	Y		3.75
41	OVP	My	-1.4131	1.25
42	OVP		0	1.25
43	MP3A	Mz Y	0	1.25
44	MP3A		7772	
45	MP3A	My	000324	1
46	MP3A MP3A	Mz	0	1
47		Y	7772	1
48	MP3A MP3A	My	.000324	1
40	IVIPSA	Mz	0	

Member Point Loads (BLC 82 : Antenna Eh (0 Deg))

	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1 MP4A	Z	-3.4942	1

Member Point Loads (BLC 82 : Antenna Eh (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
2	MP4A	Mx	0022	
2	MP4A	Z	-3.4942	5
3	MP4A	Mx	0022	5
4	MP4A	Z	-3.4942	1
5		Mx	.0022	1
6	MP4A	7	-3.4942	5
7	MP4A	Mx	.0022	5
8	MP4A	Z	-4.8079	2
9	MP2A	Mx	0	2
10	MP2A	Z	-4.8079	4
11	MP2A	Mx	0	4
12	MP2A	Z	8832	.5
13	MP1A		0	.5
14	MP1A	Mx Z	8832	5.5
15	MP1A		0	5.5
16	MP1A	Mx	8832	.5
17	MP5A	Z	0052	.5
18	MP5A	Mx	8832	5.5
19	MP5A	Z	8652	5.5
20	MP5A	Mx		4
21	MP4A	Z	-1.1482 000287	4
22	MP4A	Mx		.5
23	MP4A	Z	-9.3178	.5
24	MP4A	Mx	0	3.75
25	MP3A	Z	-7.7611	3.75
26	MP3A	Mx	0	1.25
27	OVP	Z	-3.5328	1.25
28	OVP	Mx	0	1.25
29	MP3A	Z	-1.943	
30	MP3A	Mx	0	
31	MP3A	Z	-1.943	1
32	MP3A	Mx	0	

Member Point Loads (BLC 83 : Antenna Eh (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	3.4942	1
1	MP4A	Mx	0017	
2		X	3.4942	5
3	MP4A	Mx	0017	5
4	MP4A	X	3.4942	1
5	MP4A		0017	1
6	MP4A	Mx	3.4942	5
7	MP4A	X	0017	5
8	MP4A	Mx	4.8079	2
9	MP2A	X		2
10	MP2A	Mx	0024	4
11	MP2A	X	4.8079	4
12	MP2A	Mx	0024	.5
13	MP1A	X	.8832	.5
14	MP1A	Mx	000442	5.5
15	MP1A	X	.8832	
16	MP1A	Mx	000442	5.5
17	MP5A	X	.8832	.5
18	MP5A	Mx	000442	.5
19	MP5A	X	.8832	5.5
20	MP5A	Mx	000442	5.5
21	MP4A	X	1.1482	4
22	MP4A	Mx	.000574	4

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Member Point Loads (BLC 83 : Antenna Eh (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
23	MP4A	X	9.3178	.5
24	MP4A	Mx	.0047	.5
25	МРЗА	X	7.7611	3.75
26	MP3A	Mx	0039	3.75
27	OVP	X	3.5328	1.25
28	OVP	Mx	0	1.25
29	MP3A	X	1.943	1
30	MP3A	Mx	00081	
31	MP3A	X	1.943	1
32	MP3A	Mx	.00081	1

Member Distributed Loads (BLC 40 : Structure Di)

	Member Label	Direction	Start Magnitude.	End Magnitude(I	Start Location[ft	End Location[ft,
. 1	M1	Y	-5.985	-5.985	0	%100
2	MP1A	Y	-4.5121	-4.5121	Ō	%100
3	M17A	Y	-7.2941	-7.2941	0	%100
4	M18A	Y	-8.8087	-8.8087	0	%100
5	MP2A	Y	-4.5121	-4.5121	0	%100
6	MP3A	Y	-4.5121	-4.5121	0	%100
7	MP4A	Y	-4.5121	-4.5121	0	%100
8	MP5A	Y	-4.5121	-4.5121	0	%100
9	M17	Y	-5.985	-5.985	0	%100
10	M25A	Y	-6.9572	-6.9572	0	%100
11	OVP	Y	-4.5121	-4.5121	0	%100

Member Distributed Loads (BLC 41 : Structure Wo (0 Deg))

	Member Label	Direction	Start Magnitude	.End Magnitude[l.	Start LocationIff	End Location##
1	M1	X	0	0	0	%100
2	M1	Z	-12.7258	-12.7258	0	%100
3	MP1A	X	0	0	0	%100
4	MP1A	Z	-8.6354	-8.6354	0	%100
5	M17A	X	0	0	0	%100
6	M17A	Z	-9.0642	-9.0642	0	%100
7	M18A	X	0	0	0	%100
8	M18A	Z	0	0	0	%100
9	MP2A	X	0	0	0	%100
10	MP2A	Z	-8.6354	-8.6354	0	%100
11	MP3A	X	0	0	0	%100
12	MP3A	Z	-8.6354	-8.6354	0	%100
13	MP4A	X	0	0	0	%100
14	MP4A	Z	-8.6354	-8.6354	0	%100
15	MP5A	X	0	0	0	%100
16	MP5A	Z	-8.6354	-8.6354	0	%100
17	M17	X	0	0	0	%100
18	M17	Z	-12.7258	-12.7258	0	%100
19	M25A	X	0	0	Ō	%100
20	M25A	Z	-2.4836	-2.4836	0	%100 %100
21	OVP	X	0	0	0	%100
22	OVP	Z	-7.0615	-7.0615	0	%100

Member Distributed Loads (BLC 42 : Structure Wo (30 Deg))

	Member Label	Direction	Start Magnitude.	End Magnitudell	Start Location(ft	End Location[ft,
1	M1	X	4.7722	4.7722	0	%100
2	M1	Z	-8.2657	-8.2657	0	%100

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Member Distributed Loads (BLC 42 : Structure Wo (30 Deg)) (Continued)

	Member Label	Direction	Start Magnitude.	End Magnitude[I	Start Location[ft	.End Location[ft,
3	MP1A	X	4.3177	4.3177	0	%100
4	MP1A	Z	-7.4785	-7.4785	0	%100
5	M17A	X	4.5321	4.5321	0	%100
6	M17A	Z	-7.8498	-7.8498	0	%100
7	M18A	X	1.4095	1,4095	0	%100
	M18A	7	-2,4413	-2.4413	0	%100
8	MP2A	X	4.3177	4.3177	0	%100
9	MP2A	7	-7.4785	-7.4785	0	%100
10	MP3A	X	4.3177	4.3177	0	%100
11	MP3A	7	-7.4785	-7.4785	0	%100
12	MP4A	X	4.3177	4.3177	0	%100
13	MP4A	Z	-7.4785	-7.4785	0	%100
14	MP5A	X	4.3177	4.3177	0	%100
15	MP5A	7	-7.4785	-7.4785	0	%100
16		X	4.7722	4.7722	0	%100
17	M17	Z	-8.2657	-8.2657	0	%100
18	M17	X	3.6082	3.6082	0	%100
19	M25A	7	-6.2495	-6.2495	0	%100
20	M25A	X	3.5307	3.5307	0	%100
21	OVP OVP	Ž	-6.1154	-6.1154	0	%100

Member Distributed Loads (BLC 43 : Structure Wo (60 Deg))

	Member Label	Direction		End Magnitude[I		End Location[fl
1	M1	X	2.7552	2.7552	0	%100
2	M1	Z	-1.5907	-1.5907	0	%100
3	MP1A	X	7.4785	7.4785	00	%100
4	MP1A	Z	-4.3177	-4.3177	0	%100
5	M17A	X	7.8498	7.8498	0	%100
6	M17A	Z	-4.5321	-4.5321	0	%100
7	M18A	X	7.324	7.324	0	%100
-	M18A	Z	-4.2285	-4.2285	0	%100
8	MP2A	\bar{x}	7.4785	7.4785	0	%100
9	MP2A	7	-4.3177	-4.3177	0	%100
10	MP3A	X	7,4785	7.4785	0	%100
11	3337 332 3	Z	-4.3177	-4.3177	0	%100
12	MP3A	X	7.4785	7.4785	0	%100
13	MP4A	Z	-4.3177	-4.3177	0	%100
14	MP4A	X	7.4785	7.4785	0	%100
15	MP5A	7	-4.3177	-4.3177	0	%100
16	MP5A	X	2.7552	2.7552	0	%100
17	M17		-1.5907	-1.5907	0	%100
18	M17			Section Control Control	0	%100
19	M25A	X	8.1989	8.1989	0	%100
20	M25A	Z	-4.7336	-4.7336	0	%100
21	OVP	X	6.1154	6.1154		
22	OVP	Z	-3.5307	-3.5307	0	%100

Member Distributed Loads (BLC 44 : Structure Wo (90 Deg))

	Member Label	Direction	Start Magnitude.	End Magnitude[I.	.Start Location[ft,	End Location[ft,
4	M/1	X	0	Ö	0	%100
1	M1	7	0	0	0	%100
2	MP1A	X	8.6354	8.6354	0	%100
3	MP1A	7	0	0	0	%100
4	M17A	X	9.0642	9.0642	0	%100
5	M17A	7	0	0	0	%100
6	M18A	X	11 2761	11.2761	0	%100
8	M18A	Z	0	0	0	%100

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Member Distributed Loads (BLC 44 : Structure Wo (90 Deg)) (Continued)

	Member Label	Direction	Start Magnitude.	.End Magnitudell	.Start Location(ft.	End Location[ft
9	MP2A	X	8.6354	8.6354	0	%100
10	MP2A	Z	0	0	0	%100
11	MP3A	X	8.6354	8.6354	0	%100
12	MP3A	Z	Q	0	0	%100
13	MP4A	X	8.6354	8.6354	0	%100
14	MP4A	Z	0	0	0	%100
15	MP5A	X	8.6354	8.6354	0	%100
16	MP5A	Z	0	0	0	%100
17	M17	X	0	0	0	%100
18	M17	Z	0	0	0	%100
19	M25A	X	6.9855	6.9855	0	%100
20	M25A	Z	0	0	0	%100
21	OVP	X	7.0615	7.0615	0	%100
22	OVP	Z	0	0	0	%100

Member Distributed Loads (BLC 45 : Structure Wo (120 Deg))

	Member Label	Direction	Start Magnitude.	.End Magnitudell.	Start Location[ft.	End Location[ft,
1	M1	X	2.7552	2.7552	0	%100
2	M1	Z	1.5907	1.5907	0	%100
3	MP1A	X	7,4785	7.4785	0	%100
4	MP1A	Z	4.3177	4.3177	0	%100
5	M17A	X	7.8498	7.8498	0	%100
6	M17A	Z	4.5321	4.5321	Ö	%100
7	M18A	X	7.324	7.324	0	%100
8	M18A	Z	4.2285	4.2285	0	%100
9	MP2A	X	7.4785	7.4785	0	%100
10	MP2A	Z	4.3177	4.3177	Ö	%100
11	MP3A	X	7,4785	7.4785	0	%100
12	MP3A	Ž	4.3177	4.3177	Ö	%100
13	MP4A	X	7,4785	7.4785	0	%100
14	MP4A	Z	4.3177	4.3177	0	%100
15	MP5A	X	7.4785	7.4785	0	%100 %100
16	MP5A	Z	4.3177	4.3177	Ö	%100
17	M17	X	2.7552	2.7552	0	
18	M17	Z	1.5907	1.5907	0	%100
19	M25A	X		1.07.0.00		%100
20	M25A	Ż	1.951	1.951	0	%100
21	OVP		1.1264	1.1264	0	%100
22		X	6.1154	6.1154	0	%100
4	OVP	Z	3.5307	3.5307	0	%100

Member Distributed Loads (BLC 46 : Structure Wo (150 Deg))

	Member Label	Direction	Start Magnitude.	.End Magnitude[].	.Start Locationift.	End Location[ft
1	M1	X	4.7722	4.7722	0	%100
2	M1	Z	8.2657	8.2657	0	%100
3	MP1A	X	4.3177	4.3177	0	%100
4	MP1A	Z	7.4785	7.4785	0	%100
5	M17A	X	4.5321	4.5321	0	%100
6	M17A	Z	7.8498	7.8498	0	%100
7	M18A	X	1,4095	1.4095	0	%100
8	M18A	Z	2.4413	2.4413	0	%100
9	MP2A	X	4.3177	4.3177	0	%100
10	MP2A	Z	7.4785	7.4785	0	%100
11	MP3A	X	4.3177	4.3177	0	%100
12	MP3A	Z	7.4785	7.4785	0	%100
13	MP4A	X	4.3177	4.3177	0	%100
14	MP4A	Z	7.4785	7.4785	0	%100

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Member Distributed Loads (BLC 46 : Structure Wo (150 Deg)) (Continued)

	Member Label	Direction	Start Magnitude.	End Magnitude[I.	.Start Location[ft,	End Location[ft,
	MP5A	X	4.3177	4.3177	0	%100
15	MP5A	7	7.4785	7.4785	0	%100
16		X	4.7722	4.7722	0	%100
1.6	M17 M17	7	8.2657	8.2657	0	%100
18		X	.000938	.000938	0	%100
19	M25A	7	.0016	.0016	0	%100
20	M25A	X	3.5307	3.5307	0	%100
21	OVP OVP	7	6.1154	6.1154	0	%100

Member Distributed Loads (BLC 47 : Structure Wo (180 Deg))

	Member Label	Direction	Start Magnitude.	.End Magnitude[l.	.Start Location[ft.	.End Location[ft.
1	M1	X	Ŏ	Ô	0	%100
2	M1	7	12.7258	12.7258	0	%100
3	MP1A	X	0	0	0	%100
	MP1A	7	8.6354	8.6354	0	%100
4	M17A	X	0	0	0	%100
5	M17A	7	9.0642	9.0642	0	%100
6	M18A	X	0	0	0	%100
	- Address - Addr	Z	0	0	0	%100
8	M18A	- X	0	0	0	%100
9	MP2A	7	8.6354	8.6354	0	%100
10	MP2A	X	0.0001	0	0	%100
11	MP3A	7	8.6354	8.6354	0	%100
12	MP3A	X	0.0004	0.0001	0	%100
13	MP4A		8.6354	8.6354	Ŏ	%100
14	MP4A	X	0.0554	0.0004	0	%100
15	MP5A	7	8.6354	8.6354	0	%100
16	MP5A		0.0354	0.0334	1 0	%100
17	M17	X		12.7258	0	%100
18	M17		12.7258	0	0	%100
19	M25A	X	0		0	%100
20	M25A	Z	2.4836	2.4836	0	%100
21	OVP	X	1 _ 0	7.0045		
22	OVP	Z	7.0615	7.0615	0	%100

Member Distributed Loads (BLC 48 : Structure Wo (210 Deg))

	Member Label	Direction	Start Magnitude	.End Magnitude[I.	.Start Location[ff	End Location[ft
1	M1	X	-4.7722	-4.7722	0	%100
2	M1	Z	8.2657	8.2657	0	%100
3	MP1A	X	-4.3177	-4.3177	0	%100
4	MP1A	Z	7.4785	7.4785	0	%100
	M17A	X	-4.5321	-4.5321	0	%100
6	M17A	Z	7.8498	7.8498	0	%100
7	M18A	X	-1,4095	-1.4095	0	%100
	M18A	7	2.4413	2.4413	0	%100
8	MP2A	X	-4.3177	-4.3177	0	%100
9	MP2A	7	7.4785	7.4785	0	%100
10	MP3A	X	-4.3177	-4.3177	0	%100
11	A STATE OF THE STA	Z	7.4785	7.4785	0	%100
12	MP3A	X	-4.3177	-4.3177	0	%100
13	MP4A		7.4785	7.4785	0	%100
14	MP4A	X	-4.3177	-4.3177	0	%100
15	MP5A	7	7.4785	7.4785	0	%100
16	MP5A	X	-4.7722	-4.7722	0	%100
17	<u>M17</u>	Z	8.2657	8.2657	0	%100
18	M17	X	-3.6082	-3,6082	0	%100
19	M25A	7	6.2495	6.2495	0	%100
20	M25A		0.2495	0.2433		73100

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Member Distributed Loads (BLC 48 : Structure Wo (210 Deg)) (Continued)

	Member Label	Direction	Start Magnitude.	End Magnitudell	Start LocationIft.	End Locationift
21	OVP	X	-3.5307	-3.5307	0	%100
22	OVP	Z	6.1154	6.1154	0	%100

Member Distributed Loads (BLC 49: Structure Wo (240 Deg))

	Member Label	Direction	Start Magnitude.	End Magnitude(I	Start Location[ft,	End Location(ft
1	M1	X	-2.7552	-2.7552	0	%100
2	M1	Z	1.5907	1.5907	0	%100
3	MP1A	X	-7.4785	-7.4785	0	%100
4	MP1A	Z	4.3177	4.3177	0	%100
5	M17A	X	-7.8498	-7.8498	0	%100
6	M17A	Z	4.5321	4.5321	0	%100
7	M18A	X	-7.324	-7.324	0	%100
8	M18A	Z	4.2285	4.2285	0	%100
9	MP2A	X	-7.4785	-7.4785	0	%100
10	MP2A	Z	4.3177	4.3177	0	%100
11	MP3A	X	-7.4785	-7.4785	0	%100
12	MP3A	Z	4.3177	4.3177	0	%100
13	MP4A	X	-7.4785	-7.4785	Ö	%100
14	MP4A	Z	4.3177	4.3177	Ö	%100
15	MP5A	X	-7.4785	-7.4785	0	%100
16	MP5A	Z	4.3177	4.3177	0	%100
17	M17	X	-2.7552	-2.7552	0	%100
18	M17	Z	1.5907	1.5907	0	%100
19	M25A	X	-8.1989	-8.1989	Ö	%100
20	M25A	Z	4.7336	4.7336	0	%100
21	OVP	X	-6.1154	-6.1154	0	%100
22	OVP	Z	3.5307	3.5307	Ö	%100 %100

Member Distributed Loads (BLC 50 : Structure Wo (270 Deg))

	Member Label	Direction	Start Magnitude.	End Magnitude[I.	.Start Location[ft.	End Location[ft
1	M1	X	Ŏ	0	0	%100
2	M1	Z	0	0	0	%100
3	MP1A	X	-8.6354	-8.6354	0	%100
4	MP1A	Z	0	0	0	%100
5	M17A	X	-9.0642	-9.0642	0	%100
6	M17A	Z	0	0	0	%100
7	M18A	X	-11.2761	-11.2761	0	%100
8	M18A	Z	0	0	0	%100
9	MP2A	X	-8.6354	-8.6354	0	%100
10	MP2A	Z	0	0	0	%100
11	MP3A	X	-8.6354	-8.6354	0	%100
12	MP3A	Z	0	0	Ö	%100
13	MP4A	X	-8.6354	-8.6354	0	%100
14	MP4A	Z	0.000	0.0007	0	%100
15	MP5A	X	-8.6354	-8.6354	0	%100
16	MP5A	Z	0.0001	0	0	%100
17	M17	X	0	0	0	%100
18	M17	Z	0	0	0	%100
19	M25A	X	-6.9855	-6.9855	0	%100
20	M25A	Z	0	0.9655	0	%100
21	OVP	X	-7.0615	-7.0615	0	%100
22	OVP	Z	0	0	0	%100

Member Distributed Loads (BLC 51: Structure Wo (300 Deg))

Member Label

Direction Start Magnitude...End Magnitude[I...Start Location[ft,...End Location[ft,...

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Member Distributed Loads (BLC 51 : Structure Wo (300 Deg)) (Continued)

	Member Label	Direction	Start Magnitude.	End Magnitude[I.	.Start Location[ft,.	.End Location[ft.
4	Member Label M1	X	-2.7552	-2.7552	0	%100
-	M1	Z	-1.5907	-1.5907	0	%100
2	MP1A	X	-7.4785	-7.4785	0	%100
3	MP1A	Z	-4.3177	-4.3177	0	%100
4	M17A	X	-7.8498	-7.8498	0	%100
5	M17A	7	-4.5321	-4.5321	0	%100
6	M18A	X	-7.324	-7.324	0	%100
7	M18A	7	-4.2285	-4.2285	0	%100
8		X	-7,4785	-7.4785	0	%100
9	MP2A	7	-4.3177	-4.3177	0	%100
10	MP2A	X	-7.4785	-7.4785	0	%100
11	MP3A	7	-4.3177	-4.3177	0	%100
12	MP3A	X	-7.4785	-7.4785	0	%100
13	MP4A	7	-4.3177	-4.3177	0	%100
14	MP4A	X	-7.4785	-7,4785	0	%100
15	MP5A	7	-4.3177	-4.3177	0	%100
16	MP5A	X	-2.7552	-2.7552	0	%100
17	M17	7	-1.5907	-1.5907	0	%100
18	M17	X	-1.951	-1.951	0	%100
19	M25A	\ 7	-1.1264	-1.1264	ŏ	%100
20	M25A		-6.1154	-6.1154	0	%100
21	OVP OVP	Z	-3.5307	-3.5307	0	%100

Member Distributed Loads (BLC 52 : Structure Wo (330 Deg))

icilibei b	Member Label	Direction	Start Magnitude.	.End Magnitude[l.	.Start Location[ft.	End Location[ft
1	M1	X	-4.7722	-4.7722	0	%100
	M1	Z	-8.2657	-8.2657	0	%100
2	MP1A	X	-4.3177	-4.3177	0	%100
3	MP1A	Ž	-7.4785	-7.4785	0	%100
4		X	-4.5321	-4.5321	0	%100
5	M17A	Z	-7.8498	-7.8498	0	%100
6	M17A	X	-1.4095	-1.4095	0	%100
7	M18A	Z	-2.4413	-2.4413	0	%100
8	M18A	X	-4.3177	-4.3177	0	%100
9	MP2A	7	-7.4785	-7.4785	0	%100
10	MP2A			-4.3177	0	%100
11	MP3A	X	-4.3177	-7.4785	Ö	%100
12	MP3A	Z	-7.4785		0	%100
13	MP4A	X	-4.3177	-4.3177	0	%100
14	MP4A	Z	-7.4785	-7.4785		%100
15	MP5A	X	-4.3177	-4.3177	0	
16	MP5A	Z	-7.4785	-7.4785	0	%100
17	M17	X	-4.7722	-4.7722	0	%100
18	M17	Z	-8.2657	-8.2657	0	%100
19	M25A	X	000938	000938	0	%100
20	M25A	Z	0016	0016	0	%100
	OVP	X	-3.5307	-3.5307	0	%100
21	OVP	Z	-6.1154	-6.1154	0	%100

Member Distributed Loads (BLC 53 : Structure Wi (0 Deg))

nember E	Member Label	Direction	Start Magnitude.	End Magnitude[l.	.Start Location[ft,	End Location[ft
	Member Laber	X	0	0	0	%100
1	IVI I	7	-3.5622	-3.5622	0	%100
2	MD1A	Y	0.0022	0	0	%100
3	MP1A	7	-2.852	-2.852	0	%100
4	MP1A	V	-2.002	0	0	%100
5	M17A		-2.6729	-2.6729	0	%100
6	M17A		-2.0123	-2.0120		

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Member Distributed Loads (BLC 53 : Structure Wi (0 Deg)) (Continued)

	Member Label	Direction	Start Magnitude.	End Magnitudell	Start Location(ft	End Location[ft
7	M18A	X	0	0	0	%100
8	M18A	Z	0	0	0	%100
9	MP2A	X	0	0	0	%100
10	MP2A	Z	-2.852	-2.852	0	%100
11	MP3A	X	0	0	0	%100
12	MP3A	Z	-2.852	-2.852	0	%100
13	MP4A	X	0	0	0	%100
14	MP4A	Z	-2.852	-2.852	0	%100
15	MP5A	X	0	0	0	%100
16	MP5A	Z	-2.852	-2.852	0	%100
17	M17	X	0	0	0	%100
18	M17	Z	-3.5622	-3.5622	0	%100
19	M25A	X	0	0	0	%100
20	M25A	Z	7532	7532	0	%100
21	OVP	X	0	0	0	%100
22	OVP	Z	-2.3733	-2.3733	Ö	%100

Member Distributed Loads (BLC 54 : Structure Wi (30 Deg))

	Member Label	Direction	Start Magnitude.	.End Magnitudell	.Start Location[ft	End Location(ft
1	M1	X	1.3358	1.3358	0	%100
2	M1	Z	-2.3137	-2.3137	0	%100
3	MP1A	X	1.426	1.426	0	%100
_4	MP1A	Z	-2.4699	-2.4699	0	%100
_5	M17A	X	1.3364	1.3364	0	%100
6	M17A	Z	-2.3148	-2.3148	0	%100
7	M18A	X	.3856	.3856	0	%100
8	M18A	Z	6678	6678	0	%100
9	MP2A	X	1,426	1.426	0	%100
10	MP2A	Z	-2.4699	-2.4699	0	%100
11	MP3A	X	1.426	1.426	0	%100
12	MP3A	Z	-2.4699	-2.4699	0	%100
13	MP4A	X	1.426	1.426	0	%100
14	MP4A	Z	-2.4699	-2.4699	0	%100
15	MP5A	X	1.426	1.426	0	%100
16	MP5A	Z	-2.4699	-2.4699	Ö	%100
17	M17	X	1.3358	1.3358	Ö	%100
18	M17	Z	-2.3137	-2.3137	Ö	%100
19	M25A	X	1.0942	1.0942	0	%100
20	M25A	Z	-1.8952	-1.8952	0	%100
21	OVP	X	1.1867	1.1867	0	%100
22	OVP	Z	-2.0553	-2.0553	0	%100

Member Distributed Loads (BLC 55 : Structure Wi (60 Deg))

	Member Label	Direction	Start Magnitude.	.End Magnitude(I	Start Location(ft	End Location[ft,
1	M1	X	.7712	.7712	0	%100
2	M1	Z	4453	4453	0	%100
3	MP1A	X	2.4699	2.4699	0	%100
4	MP1A	Z	-1.426	-1.426	O O	%100
5	M17A	X	2.3148	2.3148	0	%100
6	M17A	Z	-1.3364	-1.3364	Ō	%100
7	M18A	X	2.0035	2.0035	0	%100
8	M18A	Z	-1.1567	-1.1567	0	%100
9	MP2A	X	2.4699	2.4699	0	%100
10	MP2A	Z	-1.426	-1.426	0	%100
11	MP3A	X	2.4699	2.4699	0	%100
12	MP3A	Z	-1.426	-1.426	0	%100

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Member Distributed Loads (BLC 55 : Structure Wi (60 Deg)) (Continued)

	Member Label	Direction	Start Magnitude.	End Magnitude[I.	Start Location[ft,	.End Location[ft
13	MP4A	X	2.4699	2.4699	0	%100
	MP4A	7	-1.426	-1.426	0	%100
14	MP5A	X	2,4699	2.4699	0	%100
15	MP5A	7	-1.426	-1.426	0	%100
16	M17	X	.7712	.7712	0	%100
17	M17	7	4453	4453	0	%100
18	- Arthurit	X	2.4864	2.4864	0	%100
19	M25A	7	-1.4355	-1.4355	0	%100
20	M25A	Y	2.0553	2.0553	0	%100
21	OVP OVP	Ž	-1.1867	-1.1867	0	%100

Member Distributed Loads (BLC 56 : Structure Wi (90 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude[I		.End Location[ft.
1	M1	X	0	0	00	%100
2	M1	Z	0	0	0	%100
3	MP1A	X	2.852	2.852	0	%100
4	MP1A	Z	0	0	0	%100
5	M17A	X	2.6729	2.6729	0	%100
6	M17A	7	0	0	0	%100
7	M18A	X	3.0845	3.0845	0	%100
	M18A	7	0	0	0	%100
8	MP2A	X	2.852	2.852	0	%100
9	MP2A	7	0	0	0	%100
10	- 11 - 2	X	2.852	2.852	0	%100
11	MP3A	7	0	0	0	%100
12	MP3A	X	2.852	2.852	0	%100
13	MP4A	Z	0	0	0	%100
14	MP4A	X	2.852	2.852	0	%100
15	MP5A	7	0	0	0	%100
16	MP5A	X	0	0	0	%100
17	M17	7	0	0	0	%100
18	M17			2.1184	0	%100
19	M25A	X	2.1184		0	%100
20	M25A	Z	0	0 0 0 7 0 0		%100
21	OVP	X	2.3733	2.3733	0	
22	OVP	Z	0	0	0	%100

Member Distributed Loads (BLC 57 : Structure Wi (120 Deg))

1	Member Label	Direction	Start iviagrillude.	Cho iviagnituden.	Start Locationing.	End Location[ft,
	M1	X	.7712	.7712	0	%100
2	M1	Ž	.4453	.4453	0	%100
3	MP1A	X	2.4699	2.4699	0	%100
4	MP1A	Z	1.426	1.426	0	%100
5	M17A	X	2.3148	2.3148	0	%100
6	M17A	Z	1.3364	1.3364	0	%100
7	M18A	X	2.0035	2.0035	0	%100
8	M18A	Z	1.1567	1.1567	0	%100
9	MP2A	X	2.4699	2.4699	0	%100
10	MP2A	Z	1.426	1.426	0	%100
11	MP3A	X	2.4699	2.4699	0	%100
12	MP3A	Z	1.426	1.426	0	%100
13	MP4A	X	2.4699	2.4699	0	%100
14	MP4A	7	1.426	1.426	0	%100
15	MP5A	X	2,4699	2.4699	0	%100
16	MP5A	7	1.426	1.426	0	%100
17	M17	X	.7712	.7712	0	%100
18	M17	Z	.4453	.4453	0	%100

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Member Distributed Loads (BLC 57: Structure Wi (120 Deg)) (Continued)

	Member Label	Direction	Start Magnitude.	End Magnitude[I.	Start LocationIft	End LocationIft
19	M25A	X	.5916	.5916	0	%100
20	M25A	Z	.3416	.3416	0	%100
21	OVP	X	2.0553	2.0553	0	%100
22	OVP	Z	1.1867	1.1867	0	%100

Member Distributed Loads (BLC 58 : Structure Wi (150 Deg))

1	Member Label	Direction	Start Magnitude.	End Magnitudell.	Start Locationift	.End Location[ft,
1	M1	X	1.3358	1.3358	0	%100
2	M1	Z	2.3137	2.3137	0	%100
3	MP1A	X	1.426	1.426	0	%100
4	MP1A	Z	2.4699	2,4699	0	%100
5	M17A	X	1.3364	1.3364	0	%100
6	M17A	Z	2.3148	2.3148	0	%100
7	M18A	X	.3856	.3856	0	%100
8	M18A	Z	.6678	.6678	0	%100
9	MP2A	X	1.426	1.426	0	%100
10	MP2A	Z	2.4699	2,4699	0	%100
11	MP3A	X	1,426	1.426	0	%100
12	MP3A	Z	2.4699	2.4699	0	%100
13	MP4A	X	1,426	1.426	0	%100
14	MP4A	Z	2.4699	2.4699	0	%100
15	MP5A	X	1.426	1.426	0	%100
16	MP5A	Z	2.4699	2.4699	0	%100
17	M17	X	1.3358	1.3358	Ō	%100
18	M17	Z	2.3137	2.3137	Ö	%100
19	M25A	X	.000284	.000284	0	%100 %100
20	M25A	Z	.000493	.000493	Ö	%100
21	OVP	X	1.1867	1.1867	0	%100
22	OVP	Ž	2.0553	2.0553	Ö	%100

Member Distributed Loads (BLC 59 : Structure Wi (180 Deg))

	Member Label	Direction	Start Magnitude.	.End Magnitudell.	Start Location[ft.	End Location[ft,
1	M1	X	0	Ö	0	%100
2	M1	Z	3.5622	3.5622	0	%100
3	MP1A	X	0	0	0	%100
4	MP1A	Z	2.852	2.852	0	%100
5	M17A	X	0	0	0	%100
6	M17A	Z	2.6729	2.6729	0	%100
7	M18A	X	0	0 -	0	%100
8	M18A	Ž	Ö	Ö	Ö	%100
9	MP2A	X	Ö	0	0	%100
10	MP2A	Z	2.852	2.852	Ö	%100
11	MP3A	X	0	0	0	%100
12	MP3A	Ž	2.852	2.852	0	%100
13	MP4A	X	0	0	0	%100
14	MP4A	Z	2.852	2.852	0	
15	MP5A	X	0	0	0	%100
16	MP5A	Z				%100
17	M17	X	2.852	2.852	0	%100
18			0	0	0	%100
	M17	Z	3.5622	3.5622	0	%100
19	M25A	X	00	0	0	%100
20	M25A	Z	.7532	.7532	0	%100
21	OVP	X	0	0	0	%100
22	OVP	Z	2.3733	2.3733	0	%100

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Member Distributed Loads (BLC 60 : Structure Wi (210 Deg))

	Member Label	Direction	Start Magnitude.	.End Magnitude[l.	.Start Location[ft,	End Location[ft,
a I	Member Laber	X	-1.3358	-1.3358	0	%100
1		7	2.3137	2.3137	0	%100
2	M1	X	-1.426	-1.426	0	%100
3	MP1A	7	2.4699	2.4699	0	%100
4	MP1A	X	-1.3364	-1.3364	0	%100
5	M17A	7	2.3148	2.3148	0	%100
6	M17A	X	3856	3856	0	%100
7	M18A	7	.6678	.6678	0	%100
8	M18A		-1,426	-1.426	0	%100
9	MP2A	X	2.4699	2.4699	0	%100
10	MP2A			-1.426	0	%100
11	MP3A	X	-1.426	2.4699	0	%100
12	MP3A	Z	2.4699		0	%100
13	MP4A	X	-1.426	-1.426	0	%100
14	MP4A	Z	2.4699	2.4699	+	%100
15	MP5A	X	-1.426	-1.426	0	%100
16	MP5A	Z	2.4699	2.4699	0	
17	M17	X	-1.3358	-1.3358	0	%100
18	M17	Z	2.3137	2.3137	0	%100
19	M25A	X	-1.0942	-1.0942	0	%100
20	M25A	Z	1.8952	1.8952	0	%100
	OVP	X	-1.1867	-1.1867	0	%100
21 22	OVP	Z	2.0553	2.0553	0	%100

Member Distributed Loads (BLC 61 : Structure Wi (240 Deg))

	Member Label	Direction		End Magnitude[IS	tan Location[it	%100
1	M1	X	7712	7712		
2	M1	Z	.4453	.4453	0	%100
3	MP1A	X	-2.4699	-2.4699	0	%100
4	MP1A	Z	1.426	1.426	0	%100
5	M17A	X	-2.3148	-2.3148	0	%100
6	M17A	Z	1.3364	1.3364	0	%100
7	M18A	X	-2.0035	-2.0035	0	%100
-	M18A	Z	1.1567	1.1567	0	%100
8	MP2A	X	-2,4699	-2.4699	0	%100
9	MP2A	Z	1,426	1.426	0	%100
10	MP3A	X	-2,4699	-2.4699	0	%100
11	MP3A	7	1.426	1.426	0	%100
12		X	-2.4699	-2.4699	0	%100
13	MP4A MP4A	7	1.426	1,426	0	%100
14		X	-2.4699	-2,4699	0	%100
15	MP5A	7	1.426	1,426	0	%100
16	MP5A	X	7712	7712	0	%100
17	M17	7	.4453	.4453	0	%100
18	M17	X	-2.4864	-2.4864	0	%100
19	M25A	<u>^</u> -	1.4355	1.4355	Ö	%100
20	M25A		-2.0553	-2.0553	0	%100
21 22	OVP OVP	X	1.1867	1.1867	Ö	%100

Member Distributed Loads (BLC 62 : Structure Wi (270 Deg))

Member L	Member Label	Direction	Start Magnitude.	End Magnitude[I	Start Location[ft.	End Location[ft,
		X	0	0	0	%100
1	<u>M1</u>	7	0	0	0	%100
2	MI	V	-2.852	-2.852	0	%100
3	MP1A	7	2.002	0	0	%100
4	MP1A		-2.6729	-2.6729	0	%100
5	M17A		-2.0123	0	0	%100
6	M17A		U	0		- 50



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Member Distributed Loads (BLC 62 : Structure Wi (270 Deg)) (Continued)

	Member Label	Direction	Start Magnitude.	End Magnitude(I	Start Location(ff	End Location[ft
7	M18A	X	-3.0845	-3.0845	0	%100
8	M18A	Z	0	0	0	%100
9	MP2A	X	-2.852	-2.852	0	%100
10	MP2A	Z	0	0	0	%100
11	MP3A	X	-2.852	-2.852	0	%100
12	MP3A	Z	0	0	0	%100
13	MP4A	X	-2.852	-2.852	0	%100
14	MP4A	Z	0	0	0	%100
15	MP5A	X	-2.852	-2.852	0	%100
16	MP5A	Z	0	0	0	%100
17	M17	X	0	0	0	%100
18	M17	Z	0	Ō	0	%100
19	M25A	X	-2.1184	-2.1184	0	%100
20	M25A	Z	0	0	0	%100
21	OVP	X	-2.3733	-2.3733	0	%100
22	OVP	Z	0	0	0	%100

Member Distributed Loads (BLC 63 : Structure Wi (300 Deg))

	Member Label	Direction	Start Magnitude.	.End Magnitude[].	Start Location(ft	.End Location[ft,
1	M1	X	7712	7712	0	%100
2	M1	Z	4453	4453	0	%100
3	MP1A	X	-2,4699	-2.4699	0	%100
4	MP1A	Z	-1.426	-1.426	0	%100
5	M17A	X	-2.3148	-2.3148	0	%100
6	M17A	Z	-1.3364	-1.3364	0	%100
7	M18A	X	-2.0035	-2.0035	0	%100
8	M18A	Z	-1.1567	-1.1567	Ö	%100
9	MP2A	X	-2.4699	-2.4699	0	%100
10	MP2A	Z	-1.426	-1.426	ŏ	%100
11	MP3A	X	-2.4699	-2.4699	0	%100
12	MP3A	Z	-1.426	-1.426	0	%100
13	MP4A	X	-2.4699	-2.4699	0	%100
14	MP4A	Z	-1.426	-1.426	Ö	%100
15	MP5A	X	-2,4699	-2.4699	0	%100 %100
16	MP5A	Z	-1.426	-1.426	0	%100
17	M17	X	7712	7712	0	%100 %100
18	M17	Ž	4453	4453	Ö	%100
19	M25A	X	5916	5916	0	%100
20	M25A	Z	3416	3416	0	The state of the s
21	OVP	X	-2.0553	-2.0553	0	%100
22	OVP	Z	-1.1867	-1.1867	0	%100 %100

Member Distributed Loads (BLC 64 : Structure Wi (330 Deg))

	Member Label	Direction	Start Magnitude.	.End Magnitudell	Start Location[ft	.End Location(ft
1_1	<u>M1</u>	X	-1.3358	-1.3358	0	%100
2	M1	Z	-2.3137	-2.3137	0	%100
3	MP1A	X	-1.426	-1.426	0	%100
4	MP1A	Z	-2.4699	-2.4699	0	%100
5	M17A	X	-1.3364	-1.3364	0	%100
6	M17A	Z	-2.3148	-2.3148	O O	%100
7	M18A	X	3856	3856	0	%100
8	M18A	Z	6678	6678	0	%100
9	MP2A	X	-1.426	-1.426	0	%100
10	MP2A	Z	-2.4699	-2.4699	0	%100
11	MP3A	X	-1.426	-1.426	0	%100
12	MP3A	Z	-2.4699	-2.4699	0	%100



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Member Distributed Loads (BLC 64: Structure Wi (330 Deg)) (Continued)

	Member Label	Direction	Start Magnitude.	End Magnitude[l	Start Location[ft.	End Location[ft
40	MP4A	X	-1.426	-1.426	0	%100
13	MP4A	7	-2,4699	-2.4699	0	%100
14		Y	-1.426	-1.426	0	%100
15	MP5A	7	-2.4699	-2.4699	0	%100
16	MP5A		-1.3358	-1.3358	0	%100
17	M17	7	-2.3137	-2.3137	0	%100
18	M17		000284	000284	0	%100
19	M25A		000493	000493	0	%100
20	M25A			-1.1867	0	%100
21	OVP	X	-1.1867	-2.0553	0	%100
22	OVP		-2.0553	-2.0000		70100

Member Distributed Loads (BLC 65 : Structure Wm (0 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude[l.	.Start Location[ft.	End Location[ft,
1	M1	. X	0	0	0	%100
	M1	Z	7954	7954	0	%100
2	MP1A	X	0	0	0	%100
3	MP1A	Z	5397	5397	0	%100
4	M17A	X	0	0	0	%100
5	M17A	Z	5665	5665	0	%100
6	M18A	X	0	0	0	%100
7	And the second s	Z	0	0	0	%100
8	M18A MP2A	X	0	0	0	%100
9		Z	5397	5397	0	%100
10	MP2A	X	0	0	0	%100
11	MP3A	7	5397	5397	0	%100
12	MP3A	X	0	0	0	%100
13	MP4A	Z	5397	5397	0	%100
14	MP4A	X	0	0	0	%100
15	MP5A	Z	5397	5397	0	%100
16	MP5A	X	0007	0	0	%100
17	M17	Z	7954	7954	0	%100
18	M17	X	0	0	0	%100
19	M25A		1552	1552	0	%100
20	M25A		0	0	0	%100
21	OVP	X	4413	4413	0	%100
22	OVP	Z	-,4413	-,4410		10.00

Member Distributed Loads (BLC 66 : Structure Wm (30 Deg))

	Member Label	Direction	Start Magnitude	.End Magnitude[I	Start Location[ft,	End Location[fl
74	M1	X	.2983	.2983	0	%100
1	M1	Z	5166	5166	0	%100
2	MP1A	\overline{x}	.2699	.2699	0	%100
3	MP1A	7	4674	4674	0	%100
4	47.01	X	.2833	.2833	0	%100
5	M17A	7	4906	4906	0	%100
6	M17A	X	.0881	.0881	0	%100
7	M18A	7	- 1526	1526	0	%100
8	M18A	X	.2699	.2699	0	%100
9	MP2A	7	4674	4674	0	%100
10	MP2A	X	2699	.2699	0	%100
11	MP3A		4674	4674	0	%100
12	MP3A	X	.2699	.2699	0	%100
13	MP4A	7	4674	4674	0	%100
14	MP4A	X	.2699	2699	0	%100
15	MP5A	7	4674	- 4674	0	%100
16	MP5A		.2983	.2983	0	%100
17	M17		5166	5166	0	%100
18	M17		5100	0100		Dago 54



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Project # 23777134
Antenna Mount Analysis

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Member Distributed Loads (BLC 66: Structure Wm (30 Deg)) (Continued)

	Member Label	Direction	Start Magnitude.	End Magnitudell	Start Location(ft	End Location#
19	M25A	X	.2255	.2255	O O	%100
20	M25A	Z	3906	3906	n	%100
21	OVP	X	.2207	.2207	0	%100
22	OVP	Z	3822	3822	0	%100

Member Distributed Loads (BLC 67 : Structure Wm (60 Deg))

	Member Label	Direction	Start Magnitude	End Magnitude[I.	Start Location Iff	Cadlessia in
1	M1	X	.1722	.1722	. Start Location[it,	<u>Επο Location[π,</u>
2	M1	Z	0994	0994	0	%100
3	MP1A	X	.4674	.4674	0	%100
4	MP1A	Z	2699	2699	0	%100
5	M17A	X	.4906	.4906	0	%100
6	M17A	Z	2833	2833	0	%100
7	M18A	X	.4578	.4578	0	%100
8	M18A	Z	2643	2643	0	%100
9	MP2A	X	.4674	.4674	0	%100
10	MP2A	Z	2699	2699	0	%100
11	MP3A	X	.4674	.4674	0	%100
12	MP3A	Z	2699	2699	0	%100 %100
13	MP4A	X	.4674	.4674	0	%100
14	MP4A	7	2699	2699	0	
15	MP5A	X	.4674	.4674	0	%100 %100
16	MP5A	Z	2699	2699	0	%100
17	M17	\bar{x}	.1722	.1722	0	%100
18	M17	Ž	0994	0994	0	%100
19	M25A	X	.5124	.5124	0	
20	M25A	Z	2959	2959	0	%100 %100
21	OVP	X	.3822	.3822	0	%100
22	OVP	Z	2207	2207	0	%100 %100

Member Distributed Loads (BLC 68 : Structure Wm (90 Deg))

	Member Label	Direction	Start Magnitude	End Magnitudell	Start Location[ft,	End Location Iff
1	M1	X	0	O O	0	%100
2	M1	Z	0	0	0	%100
3	MP1A	X	.5397	.5397	0	%100
4	MP1A	Z	0	0	0	%100 %100
5	M17A	X	.5665	.5665	0	
6	M17A	Z	0	.3063	0	%100 %100
7	M18A	X	.7048	.7048		%100
8	M18A	Z	0	0	0	%100
9	MP2A	X				%100
10	MP2A	Z	.5397	.5397	0	%100
11	MP3A			0	0	%100
12	MP3A	X	.5397	.5397	0	%100
13	MP4A	Z	0	0	0	%100
14		<u>X</u>	.5397	.5397	0	_%100
15	MP4A	Z	0	0	0	%100
	MP5A	X	.5397	.5397	0	%100
16	MP5A	Z	0	0	0	%100
17	M17	X	0	0	0	%100
18	M17		0	0	0	%100
19	M25A	X	.4366	.4366	0	%100
20	M25A	Z	0	0	Ŏ	%100
21	OVP	X	:4413	.4413	0	%100 %100
22	OVP	Z	0	0	0	%100

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Member Distributed Loads (BLC 69 : Structure Wm (120 Deg))

nombor 2	Member Label	Direction	Start Magnitude.	End Magnitude[I	Start Location[ft,	End Location[ft
1	M1	X	.1722	.1722	0	%100
	M1	Z	.0994	.0994	0	%100
2	MP1A	X	4674	.4674	0	%100
3	MP1A	7	.2699	.2699	0	%100
4	M17A	X	.4906	.4906	0	%100
5		7	.2833	.2833	0	%100
6	M17A	X	4578	.4578	0	%100
7	M18A	7	.2643	.2643	0	%100
8	M18A	X	4674	.4674	0	%100
9	MP2A	7	.2699	.2699	0	%100
10	MP2A	X	.4674	.4674	0	%100
11	MP3A		.2699	.2699	0	%100
12	MP3A			.4674	0	%100
13	MP4A	X	.4674	.2699	0	%100
14	MP4A		.2699		0	%100
15	MP5A	X	.4674	.4674	- 0	%100
16	MP5A	Z	.2699	.2699	0	%100
17	M17	X	.1722	.1722		%100
18	M17	Z	.0994	.0994	0	
19	M25A	X	1219	,1219	0	%100
20	M25A	Z	.0704	.0704	0	%100
21	OVP	X	.3822	.3822	0	%100
22	OVP	Z	.2207	.2207	0	%100

Member Distributed Loads (BLC 70 : Structure Wm (150 Deg))

	Member Label	Direction	Start Magnitude.	.End Magnitude[l.	Start Location[ft.	End Location[ft
1	M1	X	.2983	.2983	0	%100
1	M1	Z	.5166	.5166	0	%100
2	MP1A	X	.2699	.2699	0	%100
3	MP1A	Z	.4674	.4674	0	%100
4	M17A	X	.2833	.2833	0	%100
5		Z	.4906	.4906	0	%100
6	M17A M18A	X	.0881	.0881	0	%100_
7		Z	.1526	.1526	0	%100
8	M18A	X	.2699	.2699	0	%100
9	MP2A	7	.4674	.4674	0	%100
10	MP2A	X	.2699	.2699	0	%100
11	MP3A	Z	.4674	.4674	0	%100
12	MP3A		.2699	.2699	0	%100
13	MP4A	X		.4674	0	%100
14	MP4A	Z	.4674	.2699	0	%100
15	MP5A	X	.2699		0	%100
16	MP5A	Z	.4674	.4674		%100
17	M17	X	.2983	.2983	0	%100
18	M17	Z	.5166	.5166	0	
19	M25A	X	5.9e-5	5.9e-5	0	%100
20	M25A	Z	.000102	.000102	0	%100
21	OVP	X	.2207	.2207	0	%100
22	OVP	Z	.3822	.3822	0	%100

Member Distributed Loads (BLC 71 : Structure Wm (180 Deg))

	Member Label	Direction	Start Magnitude.	End Magnitude[l.	.Start Location[ft.	End Location[ft
	Member Laber	X	0	0	0	%100
1	MI	7	.7954	.7954	0	%100
2	M1	Y	0	0	0	%100
3	MP1A	7	.5397	.5397	0	%100
4	MP1A	Y	0	0	0	%100
5	M17A	7	.5665	.5665	0	%100
6	M17A		.5000	,0000		

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Member Distributed Loads (BLC 71 : Structure Wm (180 Deg)) (Continued)

	Member Label	Direction	Start Magnitude	End Magnitude[]	Start Location[ft	End Location[ft,
7	M18A	X	0	0	O	%100
8	M18A	Z	0	Ô	0	%100
9	MP2A	X	0	0	0	%100
10	MP2A	Z	.5397	.5397	0	%100
11	MP3A	X	0	0	0	%100
12	MP3A	Z	.5397	.5397	0	%100
13	MP4A	X	0	0	0	%100
14	MP4A	Z	.5397	.5397	Ō	%100
15	MP5A	X	0	0	0	%100
16	MP5A	Z	.5397	.5397	Ö	%100
17	M17	X	0	0	0	%100
18	M17	Z	.7954	.7954	0	%100
19	M25A	X	0	0	0	%100
20	M25A	Z	.1552	.1552	ŏ	%100
21	OVP	X	0	0	0	%100
22	OVP	Z	.4413	.4413	Ŏ	%100

Member Distributed Loads (BLC 72 : Structure Wm (210 Deg))

	975 77 76 770 W							
1	Member Label	Direction	Start Magnitude.	End Magnitude[I.	.Start Location[ft,	End Location[ft		
	M1	X	2983	2983	0	%100		
2	M1	Z	.5166	.5166	0	%100		
3	MP1A	X	2699	2699	0	%100		
4	MP1A	Z	.4674	.4674	Ö	%100		
5	M17A	X	2833	2833	0	%100		
6	M17A	Z	.4906	.4906	0	%100		
7	M18A	X	0881	0881	0	%100		
8	M18A	Z	.1526	.1526	0	%100		
9	MP2A	X	2699	2699	o o	%100		
10	MP2A	Z	.4674	.4674	0	%100		
11	MP3A	X	2699	2699	0	%100		
12	MP3A	Z	.4674	.4674	Ö	%100		
13	MP4A	X	2699	2699	0	%100		
14	MP4A	Z	.4674	.4674	Ö	%100		
15	MP5A	X	2699	2699	0	%100		
16	MP5A	Z	.4674	.4674	Ö	%100		
17	M17	X	2983	2983	0	%100 %100		
18	M17	Z	.5166	.5166	0	%100		
19	M25A	X	2255	2255	0			
20	M25A	Z	.3906	.3906	0	%100 %100		
21	OVP	X	2207			%100		
22	OVP	Ž	.3822	2207	0	%100		
			.3022	.3822	0	%100		

Member Distributed Loads (BLC 73 : Structure Wm (240 Deg))

	Member Label	Direction	Start Magnitude.	End Magnitude[I.	Start Location[ft	End Location[ft
1	M1	X	1722	1722	0	%100
2	M1	Z	.0994	.0994	Ö	%100
3	MP1A	X	4674	4674	0	%100
4	MP1A	Z	.2699	.2699	0	%100
5	M17A	X	4906	4906	0	%100
6	M17A	Z	.2833	.2833	0	%100
7	M18A	X	4578	4578	0	%100
8	M18A	Z	.2643	.2643	0	%100
9	MP2A	X	4674	4674	0	%100
10	MP2A	Z	.2699	2699	0	%100
11	MP3A	X	4674	4674	0	%100
12	MP3A	Z	.2699	.2699	0	%100

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Member Distributed Loads (BLC 73 : Structure Wm (240 Deg)) (Continued)

	Member Label	Direction	Start Magnitude.	End Magnitude[l.	.Start Location[ft.	.End Location[ft
40	MP4A	X	4674	4674	0	%100
13		7	.2699	.2699	0	%100
14	MP4A		4674	4674	O O	%100
15	MP5A	7	.2699	2699	0	%100
16	MP5A	- -	1722	1722	0	%100
17	M17	7	.0994	.0994	0	%100
18	M17	V	5124	5124	0	%100
19	M25A		.2959	.2959	0	%100
20	M25A		3822	3822	0	%100
21	OVP	X		.2207	0	%100
22	OVP		.2207	.2207	0	70100

Member Distributed Loads (BLC 74 : Structure Wm (270 Deg))

	Member Label	Direction	Start Magnitude	.End Magnitude[l.	.Start Location[ft	.End Location[1
1	M1	X	0	0	0	%100_
2	M1	Z	0	0	0	<u>%100</u>
3	MP1A	X	5397	5397	0	%100
4	MP1A	Z	0	0	0	%100
5	M17A	X	5665	5665	0	%100
6	M17A	Z	0	0	0	%100
7	M18A	X	7048	7048	0	%100
I	M18A	Z	0	0	0	%100
8	MP2A	X	5397	5397	0	%100
9	MP2A	Z	0	0	0	%100
10	MP3A	$\overline{\mathbf{x}}$	5397	5397	0	%100
11	MP3A	7	0	0	0	%100
12	MP4A	X	5397	5397	0	%100
13	23.11 - 1104	7	0	0	0	%100
14	MP4A	X	5397	5397	0	%100
15	MP5A	Z	0	0	0	%100
16	MP5A	X	0	0	0	%100
17	M17	7	0	0	0	%100
18	M17	$\frac{z}{x}$	4366	4366	0	%100
19	M25A		4300	0	0	%100
20	M25A		4413	4413	0	%100
21	OVP	X	4413	4413	0	%100
22	OVP	Z	10	0		70100

Member Distributed Loads (BLC 75 : Structure Wm (300 Deg))

	Member Label	Direction	Start Magnitude.	.End Magnitude[l.	.Start Location[ft,	.End Location[ft,
1	M1	X	1722	1722	0	%100
2	M1	Z	0994	0994	0	%100
	MP1A	X	4674	4674	0	%100
3	MP1A	7	2699	2699	0	%100
4	M17A	X	4906	4906	0	%100
5	M17A	Z	2833	2833	0	%100
6	M18A	X	4578	4578	0	%100_
		Z	2643	2643	0	%100
8	M18A	X	4674	4674	0	%100
9	MP2A	7	2699	2699	0	%100
10	MP2A	X	4674	4674	0	%100
11	MP3A	Z	2699	2699	0	%100
12	MP3A	X	4674	4674	0	%100
13	MP4A	7	2699	2699	0	%100
14	MP4A		4674	4674	0	%100
15	MP5A	X	2699	2699	0	%100
16	MP5A	Z		1722	0	%100
17	M17	X	1722		0	%100
18	M17	Z	0994	0994	<u> </u>	70100

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Member Distributed Loads (BLC 75 : Structure Wm (300 Deg)) (Continued)

	Member Label	Direction	Start Magnitude.	End Magnitudell	Start Location(ft	End Location[ft,
19	M25A	X	1219	1219	0	%100
20	M25A	Z	0704	0704	ň	%100
21	OVP	X	3822	3822	Ť Ď	%100
22	OVP	Z	2207	2207	0	%100

Member Distributed Loads (BLC 76 : Structure Wm (330 Deg))

	Member Label	Direction	Start Magnitude.	.End Magnitudell	Start Location[ft,	End Location(ft
1	M1	X	2983	2983	0	%100
2	M1	Z	5166	5166	0	%100
_ 3	MP1A	X	2699	2699	0	%100
4	MP1A	Z	4674	4674	Ö	%100
5	M17A	X	2833	2833	0	%100
6	M17A	7	4906	4906	0	%100
7	M18A	X	0881	0881	0	%100
8	M18A	Z	1526	1526	0	%100
9	MP2A	X	2699	2699	0	%100
10	MP2A	Z	4674	4674	0	%100
11	MP3A	X	2699	2699	0	%100
12	MP3A	Z	4674	4674	0	%100
13	MP4A	X	2699	2699	0	%100
14	MP4A	Z	4674	4674	Ö	%100
15	MP5A	X	2699	2699	0	%100
16	MP5A	Z	4674	4674	0	%100
17	M17	X	2983	2983	0	%100
18	M17	Z	5166	5166	0	%100
19	M25A	X	-5.9e-5	-5.9e-5	0	%100
20	M25A	Z	000102	000102	0	%100
21	OVP	X	2207	2207	0	%100
22	OVP	Z	3822	3822	Ö	%100

Member Area Loads

-	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude(ksfl
				No Data	to Print		sala di mana d

Envelope Joint Reactions

	Joint	_	X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	1	MZ [k-ft]	LC
1	N35B -	2	832.562	11	1505.488	20	1696.089	12	.497	1	2.353	11	1.303	5
2			-1027.675	5	446.155	2	-1185,981	6	-4.908	19	-2.899	5	-1.736	11
3	N44	.	770.887	9	597.138	14	579.233	2	.285	12		11	1.056	40
4			-581.292	3	-13.892	8	-1108.765	8	-1.519	42	-2.67	5	519	10
_ 5	Totals:	0.	1478.851	10	1977.435	22	2045,161	1	1.070	1-	2.07		.010	10
6]		-1478.846	4	702.168	67	-2045.229	7						

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

Member	Shape	Code Check	Lo	LC	Shear Check	Lo	LC	phi*Pnc	phi*Pnt [.	.phi*Mn v.	.phi*Mn	Ch	Ean
M1	PIPE_3.0	.529	5	12	.366	5	12			No. of the last of	1555 3 T. Ren Sept 2011	The Carl March Letter	H3-6
MP1A	PIPE_2.0	.167	3	10	.046	3	10	20741.5					H1
M17A	PIPE_4.0	.000	.75	6		.75	6				-	110000	H1
M18A	HSS4X4X4	.438	2	6			11		.002.10			100 July 200 State	H1
MP2A	PIPE_2.0	.273	5	12									H1
MP3A	PIPE 2.0	.558	5	12			q	ACTION OF TAXABLE	The same of the sa		-		H1
MP4A	PIPE 2.0	.473	3	1	.100	5	6		02100		1.872	3.31	H1
	M1 MP1A M17A M18A MP2A MP3A	M1 PIPE 3.0 MP1A PIPE 2.0 M17A PIPE 4.0	M1 PIPE 3.0 .529 MP1A PIPE 2.0 .167 M17A PIPE 4.0 .000 M18A HSS4X4X4 .438 MP2A PIPE 2.0 .273 MP3A PIPE 2.0 .558	M1 PIPE 3.0 .529 5 MP1A PIPE 2.0 .167 3 M17A PIPE 4.0 .000 .75 M18A HSS4X4X4 .438 2 MP2A PIPE 2.0 .273 5 MP3A PIPE 2.0 .558 5	M1 PIPE_3.0 .529 5 12 MP1A PIPE_2.0 .167 3 10 M17A PIPE_4.0 .000 .75 6 M18A HSS4X4X4 .438 2 6 MP2A PIPE_2.0 .273 5 12 MP3A PIPE_2.0 .558 5 12	M1 PIPE_3.0 .529 5 12 .366 MP1A PIPE_2.0 .167 3 10 .046 M17A PIPE_4.0 .000 .75 6 .000 M18A HSS4X4X4 .438 2 6 .149 MP2A PIPE_2.0 .273 5 12 .066 MP3A PIPE_2.0 .558 5 12 .096	M1 PIPE 3.0 .529 5 12 .366 5 MP1A PIPE 2.0 .167 3 10 .046 3 M17A PIPE 4.0 .000 .75 6 .000 .75 M18A HSS4X4X4 .438 2 6 .149 2 z MP2A PIPE 2.0 .273 5 12 .066 5 MP3A PIPE 2.0 .558 5 12 .096 3	M1 PIPE 3.0 .529 5 12 .366 5 12 MP1A PIPE 2.0 .167 3 10 .046 3 10 M17A PIPE 4.0 .000 .75 6 .000 .75 6 M18A HSS4X4X4 .438 2 6 .149 2 z 11 MP2A PIPE 2.0 .273 5 12 .066 5 21 MP3A PIPE 2.0 .558 5 12 .096 3 9	M1 PIPE 3.0 .529 5 12 .366 5 12 .35631.1. MP1A PIPE 2.0 .167 3 10 .046 3 10 20741.5. M17A PIPE 4.0 .000 .75 6 .000 .75 6 .92571.3. M18A HSS4X4X4 .438 2 6 .149 2 z 11 134841 MP2A PIPE 2.0 .273 5 12 .066 5 21 20741.5. MP3A PIPE 2.0 .558 5 12 .096 3 9 20741.5.	M1 PIPE 3.0 .529 5 12 .366 5 12 .35631.1. .65205 MP1A PIPE 2.0 .167 3 10 .046 3 10 20741.5. .32130 M17A PIPE 4.0 .000 .75 6 .000 .75 6 .92571.3. .93240 M18A HSS4X4X4 .438 2 6 .149 2 z 11 .134841 .139518 MP2A PIPE 2.0 .273 5 12 .066 5 21 20741.5. .32130 MP3A PIPE 2.0 .558 5 12 .096 3 9 20741.5. .32130	M1 PIPE 3.0 .529 5 12 .366 5 12 .35631.1. .65205 5.749 MP1A PIPE 2.0 .167 3 10 .046 3 10 20741.5. .32130 1.872 M17A PIPE 4.0 .000 .75 6 .000 .75 6 .92571.3. .93240 10.631 M18A HSS4X4X4 .438 2 6 .149 2 z 11 134841 139518 16.181 MP2A PIPE 2.0 .273 5 12 .066 5 21 20741.5. 32130 1.872 MP3A PIPE 2.0 .558 5 12 .096 3 9 20741.5. 32130 1.872	M1 PIPE 3.0 .529 5 12 .366 5 12 .35631.1. .65205 5.749 5.749 MP1A PIPE 2.0 .167 3 10 .046 3 10 20741.5. 32130 1.872 1.872 M17A PIPE 4.0 .000 .75 6 .000 .75 6 92571.3. 93240 10.631 10.631 M18A HSS4X4X4 .438 2 6 .149 2 z 11 134841 139518 16.181 16.181 MP2A PIPE 2.0 .273 5 12 .066 5 21 20741.5 32130 1.872 1.872 MP3A PIPE 2.0 .558 5 12 .096 3 9 20741.5 32130 1.872 1.872	M1 PIPE 3.0 .529 5 12 .366 5 12 35631.1. 65205 5.749 5.749 1.727 MP1A PIPE 2.0 .167 3 10 .046 3 10 20741.5. 32130 1.872 1.872 1.557 M17A PIPE 4.0 .000 .75 6 .000 .75 6 .92571.3. .93240 10.631 10.631 1.56 M18A HSS4X4X4 .438 2 6 .149 2 z 11 134841 139518 16.181 16.181 1.279 MP2A PIPE 2.0 .273 5 12 .066 5 21 20741.5. 32130 1.872 1.872 2.967 MP3A PIPE 2.0 .558 5 12 .096 3 9 20741.5. 32130 1.872 1.872 2.538



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Project # 23777134
Antenna Mount Analysis

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

Egn	Cb_	phi*Mn	phi*Mn y	phi*Pnt [phi*Pnc.	LC	Lo	Shear Check	LC	Lo	Code Check	Shape	Member	
	1.000	1.872	1.872	32130	20741.5.	10	3	.046	10	3	.167	PIPE 2.0	MP5A	Q
H1	1.846	5.749	5.749	65205	35631.1.	1	7		7	7	77.00		1111	0
H1	1.249	8.556	8.556	101016	91415.2.	9	3 7		5	3			The second second	40
H1	1.879	1.872			_	q			0	2 25			-	10
	1.040	5.749	5.749 8.556		35631.1. 91415.2.	1 9	7	.206 .120	7 5 9	7 3 2.25	.543 .513	PIPE_3.0 HSS3X3X4 PIPE_2.0	M17	9 10

VzWSMART Tool® Vendor

Client:	Verizon Wireless	Date: 7/21/2023
Site Name:	CROMWELL CT	
MDG #:	5000245641	
Fuze ID #:	17123796	Page: 1

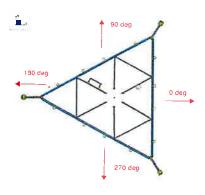
Version 1.01

I. Mount-to-Tower Connection Check (Mount Standoff)

Custom Orientation	Required
--------------------	----------

Yes

Nodes	Orientation
(labeled per Risa)	(per graphic of typical platform)
N35B	0
	A STATE OF THE RESIDENCE
	A COLUMN TO THE REAL PROPERTY OF THE PARTY O



Tower Connection Bolt Checks

Yes

Parallel

Bolt Orientation

Bolt Quantity per Reaction:

 d_x (in) (Delta X of typ. bolt config. sketch):

 d_y (in) (Delta Y of typ. bolt config. sketch): Bolt Type:

Bolt Diameter (in):

Required Tensile Strength / bolt (kips):

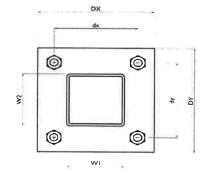
Required Shear Strength / bolt (kips):

Tensile Capacity / bolt (kips):

Shear Capacity / bolt (kips):

Bolt Overall Utilization:

	4	
	7	
	7	and the same
	A325N	
100	0.625	
	6.3	
	1.0	
	20.7	
	12.4	



Tower Connection Baseplate Checks

Connecting Standoff Member Shape:

Weld Stiffener Configuration:

Plate Width, D_x (in):

Plate Height, D_y (in):

W1(in):

W2 (in):

Member Thickness (in):

Stiffener location a₁ (in):

Stiffener location b₁ (in):

Stiffener location a₂ (in):

Stiffener location b₂ (in):

F_v (ksi, plate):

Plate Thickness (in):

Length of Yield Line, L, (in):

Bolt Eccentricity, e (in):

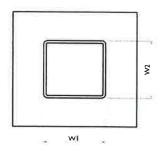
M_u (kip-in):

Phi*M_n (kip-in):

Plate Bending Utilization:

30.5% Yes

Rect Tube
No Stiffeners
10
10
4
4
0.25
36
0.625
7.75
2.35
14.86
24.52
60.6%



VzWSMART Tool® Vendor

Client:	Verizon Wireless	Date: 7/21/2023
Site Name:	CROMWELL CT	
MDG #:	5000245641	
Fuze ID #:	17123796	Page: 2
		Version 1.01

Tower Connection Weld Checks

Weld Shape:

Weld Stiffener Configuration:

Weld Size (1/16 in):

W1 (in):

W2 (in): W2 (in): Weld Total Length (in): Z_{v} (in³/in): Z_{v} (in³/in):

 J_p (in⁴/in):

c_x (in)

c_y (in)

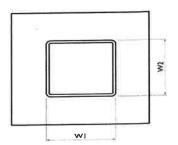
Required combined strength (kip/in):

Weld Capacity (kip/in):

Weld Utilization:

Rectangle	
None	
6	
4	
4	
16.00	
21.33	
21.33	
85.33	
2.25	
2.25	
2.72	
8.35	
32.6%	

Yes



VzW SMART Tool® Vendor

Verizon Wireless	Date:	7/21/2023
CROMWELL CT		
5000245641		
17123796	Page:	1
	CROMWELL CT 5000245641	CROMWELL CT 5000245641

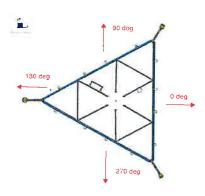
Version 1.01

I. Mount-to-Tower Connection Check (New Standoff)

Custom Orientation Required

Yes

Nodes (labeled per Risa)	Orientation (per graphic of typical platform)	
N44	30	
	A CALLERY OF A SHARE THE	
The state of the s		
-		



Tower Connection Bolt Checks

Bolt Orientation

Bolt Quantity per Reaction:

 d_x (in) (Delta X of typ. bolt config. sketch):

 d_y (in) (Delta Y of typ. bolt config. sketch):

Bolt Type:

Bolt Diameter (in):

Required Tensile Strength / bolt (kips):

Required Shear Strength / bolt (kips):

Tensile Capacity / bolt (kips):

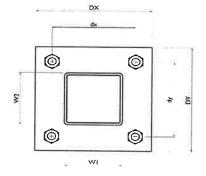
Shear Capacity / bolt (kips):

Bolt Overall Utilization:

Yes

Parallel

	4	
	6	
	6	
	A325N	
1000	0.625	
	4.4	
	0.1	
	20.7	
	12.4	
	21.4%	



Tower Connection Baseplate Checks

Connecting Standoff Member Shape:

Weld Stiffener Configuration:

Plate Width, Dx (in):

Plate Height, D_v (in):

W1(in):

W2 (in):

Member Thickness (in):

Stiffener location a₁ (in):

Stiffener location b₁ (in):

Stiffener location a2 (in):

Stiffener location b₂ (in):

F_v (ksi, plate):

Plate Thickness (in):

Length of Yield Line, L, (in):

Bolt Eccentricity, e (in):

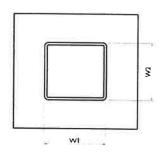
M_u (kip-in):

Phi*M_n (kip-in):

Plate Bending Utilization:

Yes

Rect Tube
No Stiffeners
8.25
8.25
3
3
0.25
50
0.75
6.69
2.35
10.44
42.31
24.7%



VzW SMART Tool[©] Vendor

Client:	Verizon Wireless	Date: 7/21/2023
Site Name:	CROMWELL CT	
MDG #:	5000245641	
Fuze ID #:	17123796	Page: 2
		Moreion 1 0

Tower Connection Weld Checks

Weld Shape:

Weld Stiffener Configuration:

Weld Size (1/16 in):

W1 (in): W2 (in):

Weld Total Length (in): Z_x (in³/in):

Z_v (in³/in):

 J_p (in⁴/in):

c_x (in)

c_y (in)

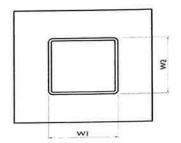
Required combined strength (kip/in):

Weld Capacity (kip/in):

Weld Utilization:

Rectang	le
None	
5	
3	
3	
12.00	
12.00	
12.00	
36.00	
1,75	
1.75	
2.93	
6,96	
42.2%	

Yes



	*		



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615 1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

Existing 76 ft TransAmerican Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT46122-A

Customer Site Name: Middletown North

Carrier Name: Verizon (App#: 232674-3)

Carrier Site ID / Name: 5000245641 / CROMWELL CT

Site Location: 160 West Street

Cromwell, Connecticut

Middlesex County

Latitude: 41.606000

Longitude: -72.670388

Exp. 01/31/2024



07/07/2023

Analysis Result:

Max Structural Usage: 66.1% [Pass]

Max Foundation Usage: 48.2% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By: Tawfeeq Alajaj



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615 1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

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Latitude: 41.606000

Longitude: -72.670388

Analysis Result:

Max Structural Usage: 66.1% [Pass]

Max Foundation Usage: 48.2% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By: Tawfeeq Alajaj

Introduction

The purpose of this report is to summarize the analysis results on the 76 ft TransAmerican Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	TransAmerican Power Products, Inc., Order #TP-8949 dated July 19, 2010
Foundation Drawing Vertical Solutions, Project #100264.02 dated February 23, 2010	
Geotechnical Report	Clarence Welti Association, Inc., Project Name: Transcend Wireless Tower dated February 1, 2010
Modification Drawings	N/A
Mount Analysis	N/A

Analysis Criteria

The feasibility analysis was performed in accordance with the requirements and stipulations of the TIA-222-H. In accordance with this standard, the structure was analyzed using **TESPoles**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis: 119.0 mph (3-Sec. Gust) (Ultimate wind speed)

Wind Speed with Ice: 50 mph (3-Sec. Gust) with 1" radial ice concurrent

Service Load Wind Speed: 60 mph + 0" Radial ice

Standard/Codes: TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code

Exposure Category:

Risk Category:

Topographic Category:

1

Crest Height:

C

Seismic Parameters: $S_S = 0.205, S_1 = 0.055$

This structural analysis is based upon the tower being classified as a Risk Category II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner	
1		3	RFS APXVAALL24-43-U-NA20				
2		3	Ericsson Air 32 KRD901146- 1_B66A_B2A	(3) T-Arms			
3		3	Ericsson AIR6449 B41	w/ replaced new standoff, face	(6) 7/8"		
4	74.0	3	Commscope SDX1926Q-43	horizontal and new support rail	(4) 1 5/8" Fiber	T-Mobile	
5		6	Andrew ATM200-A20	with end connection	(6) 3/8" RET	- mosne	
6		3	Ericsson 4449 B71 + B85				
7		3	Ericsson 4415 B25				
8		3	Ericsson 4415 B66A				
9		6	Commscope JAHH-65B-R3B			Verizon	
10		3	Samsung Telecommunications VZS01		(18) 1 5/8" Coax (2) 1 5/8" Hybrid		
11		4	Andrew DB846F65ZAXY	(3) T-Arms			
12		2	Decibel DB846H80E-SX w/Mount Pipe	(3) TBD VZWSMART-SFK4			
13	64.0	3	Commscope CBC78T-DS-43- 2X/E14F05P50	(Mount Reinforcement) (3) Commscope BSAMNT-SBS-2-			
14		3	Samsung B2/B66A RRH-BR049	2 (side-by-side mounts)			
15		3	Samsung B5/B13 RRH-BR04C				
16		2	RFS DB-T1-6Z-8AB-0Z				
17		3	JMA Wireless MX08FRO665-21				
18	51.0	3	Fujitsu TA08025-B605	Commscope MC-K6MHDX-9-96		Dish	
19	51.0	3	Fujitsu TA08025-B604	T-Arms		Wireless	
20		1	Raycap RDIDC-9181-PF-48			VVII CIC33	

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
9	(/	6	Commscope JAHH-65B-R3B			
10		3	Samsung Telecommunications VZS01			
11		4	Andrew DB846F65ZAXY	(3) T-Arms		
12		2	Decibel DB846H80E-SX w/Mount Pipe	(3) TBD VZWSMART-SFK4		
13	64.0	3	Commscope CBC78T-DS-43- 2X/E14F05P50	(Mount Reinforcement) (3) Commscope BSAMNT-SBS-2-	(18) 1 5/8" Coax (2) 1 5/8" Hybrid	Verizon
14		3	Samsung B2/B66A RRH-BR049	2 (side-by-side mounts)		
15		3	Samsung B5/B13 RRH-BR04C			
16		2	RFS DB-T1-6Z-8AB-0Z			
17		2	Kaelus BSF0020F3V1-1 Filter			

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	66.1%	65.5%	45.6%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Original Design Reactions	2800.0	52.0
Analysis Reactions	1822.6	31.3
Factored Reactions*	3780.0	70.2
% of Design Reactions	48.2%	44.6%

^{*} Per section 15.6.2 of the TIA-222-H standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

No foundation drawing is available for the analysis of the existing foundation. Since the reactions calculated from the current analysis are less than those indicated on the original structural design drawing, the foundations are assumed to be adequate to resist the reactions from the current analysis.

Service Load Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.5540 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure was were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222 Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

- This analysis was performed based on the information supplied to (TES) Tower Engineering Solutions, LLC. Verification of the information provided was not included in the Scope of Work for TES. The accuracy of the analysis is dependent on the accuracy of the information provided.
- 2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
- 3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of TES. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, TES should be notified in writing and the applicable minimum values provided by the client.
- 4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. TES has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, TES should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
- 5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
- 6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 66.11% at 28.3ft

CT46122-A-SBA Structure:

Site Name: Middletown North 76.00 (ft) Height:

Base Elev: 0.000 (ft)

Code:

EIA/TIA-222-H

Exposure: С

Gh: 1.1

Page: 1



Dead Load Factor:

1.20

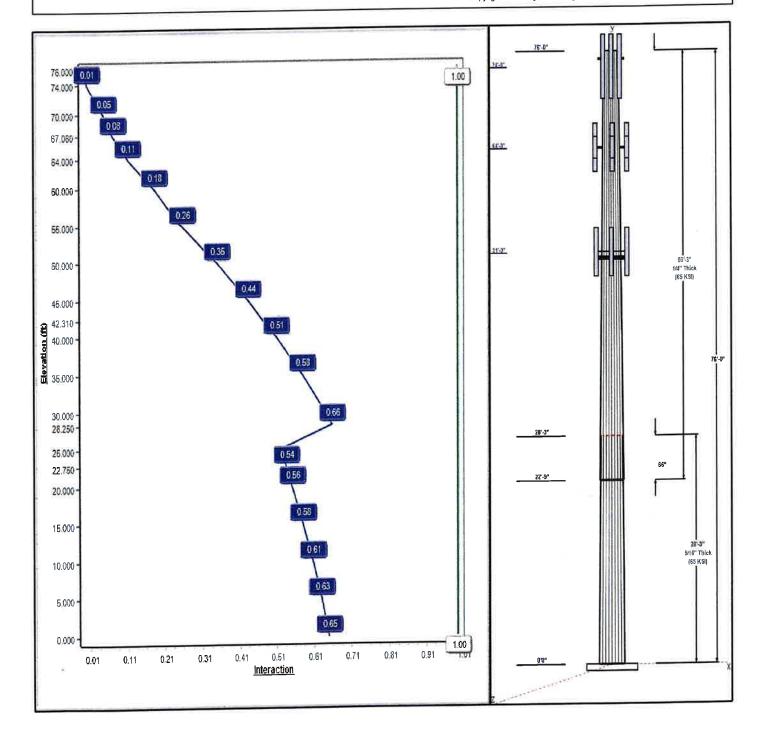
Wind Load Factor:

1.00

Load Case: 1.2D + 1.0W 119 mph Wind

17 Iterations:

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Structure: CT46122-A-SBA

Type:

Tapered

Site Name: Middletown North

Height: 76.00 (ft)

Base Shape: 18 Sided

Taper: 0.32787

7/7/2023

e: 2

Base Elev: 0.00 (ft) Page: 2

Shaft Properties Length Top **Bottom** Thick Joint Grade Seq (ft) (in) (in) (in) Type Taper (ksi) 1 28.25 37.24 46.50 0.313 0.32787 65 2 53.25 22.08 39.54 0.250 Slip 0.32787 65 **Discrete Appurtenances** Attach Force Elev (ft) Elev (ft) Qty Description Carrier 75.45 75.45 4' Branches 75.00 75.00 T-Arms T-Mobile 74.00 74.00 3 RFS T-Mobile 74.00 74.00 3 Air 32 T-Mobile 74.00 74.00 6 ATM200-A20 T-Mobile 74.00 74.00 3 Radio 4449 B71+B85 T-Mobile 74.00 74.00 3 Commscope T-Mobile 74.00 74.00 Antenna Branches 1 74.00 74.00 3 AIR6449 B41 T-Mobile 74.00 74.00 3 RRUS 4415 B25 T-Mobile 74.00 74.00 3 Ericsson 4415 B66A T-Mobile 74.00 74.00 (Handrail Kit w/end T-Mobile 67.06 67.06 6' Branches 64.00 64.00 3 T-Arm Verizon 64.00 64.00 2 Kaelus BSF0020F3V1-1 Verizon 64.00 64.00 DB846F65ZAXY Verizon 64.00 64.00 2 DB846H80E-SX Verizon 64.00 64.00 2 DB-T1-6Z-8AB-0Z Verizon 64.00 64 00 ค JAHH-65B-R3B Verizon 64.00 64.00 3 VZS01 Verizon 64.00 64.00 (3) VZWSMART-SFK4 Verizon 64.00 64.00 BSAMNT-SBS-1-2 Verizon 64.00 64.00 CBC78T-DS-43-2X/E14F0 Verizon 64.00 64.00 3 B2/B66A RRH-BR049 Verizon 64.00 64.00 3 B5/B13 RRH-BR04C Verizon 55.44 55.44 8' Branches 1 51.00 51.00 1 MC-K6MHDX-9-96 (3 Dish Wireless 51.00 51.00 MX08FRO665-21 3 Dish Wireless 51.00 51.00 TA08025-B604 Dish Wireless 51.00 51.00 3 TA08025-B605 Dish Wireless 51.00 51.00 1 RDIDC-9181-OF-48 Dish Wireless 42.31 42.31 1 10' Branches **Linear Appurtenances** Elev Elev From (ft) To (ft) Placement Description Carrier 0.00 75.00 Inside 1 5/8" Fiber T-Mobile 0.00 75.00 Inside 3/8" RET T-Mobile 0.00 75.00 Inside 7/8" Coax T-Mobile 0.00 64.00 1 5/8" Coax Inside Verizon 0.00 64.00 Inside 1 5/8" Hybrid Verizon 0.00 51.00 Inside 1.6" Hybrid Dish Wireless **Anchor Bolts** Grade

1/4" Thick (65 KSI) 76'-0" 22"-9" 5/16" Thick (65 KSI)

Qty Specifications (ksi) Arrangement

10 2.25" 18J 75.0 Radial

Structure: CT46122-A-SBA

Type:

Tapered

Site Name: Middletown North

Height:

76.00 (ft) Base Elev: 0.00 (ft)

Base Shape: 18 Sided

Taper: 0.32787

7/7/2023

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Page: 3

Base Plate											
Thickness (in)	Specifications (in)	Grade (ksi)	Geometry								
2.0000	60.0	60.0	Round								

Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1822.6	31.3	24.2
1816.6	31.3	18.2
453.6	7.9	36.4
53.5	0.9	25.2
53.5	0.9	19.1
413.7	7.1	20.2
	(FT-Kips) 1822.6 1816.6 453.6 53.5 53.5	(FT-Kips) (Kips) 1822.6 31.3 1816.6 31.3 453.6 7.9 53.5 0.9 53.5 0.9

Structure: CT46122-A-SBA - Coax Line Placement

Type: Monopole

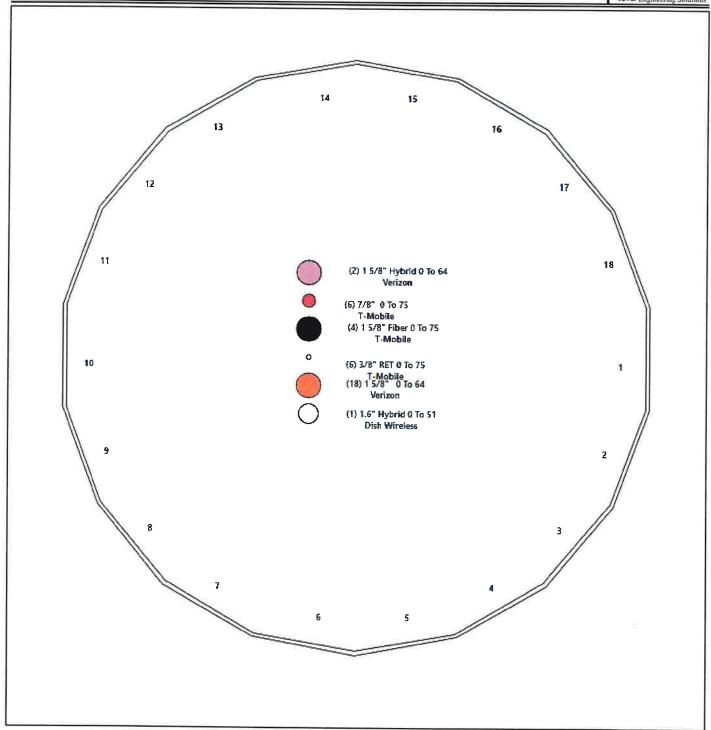
Site Name: Middletown North

Height: 76.00 (ft)

7/7/2023

Page: 4





Shaft Properties

CT46122-A-SBA Structure:

Site Name: Middletown North

76.00 (ft) Height:

Base Elev: 0.000 (ft)

1.1 Gh:

TIA-222-H Code:

С Exposure:

Crest Height: 0.00 D - Stiff Soil

Site Class:

Struct Class: ||

7/7/2023

Page: 5

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	28.250	0.3125	65		0.00	3,962
2	18	53.250	0.2500	65	Slip	66.00	4,394
_					Total Sh	aft Weight:	8.356

Topography: 1

			Во	ottom									
Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	lx (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	lx (in^4)	W/t Ratio	D/t Ratio	Taper
	<u> </u>	0.00	45.81	12347.18	24.83	148.80	37.24	28.25	36.62	6309.09	19.60	119.1	0.327865
1	46.50	0.00					02.00	76.00	17.32	1043.23	14.16	88.33	0.327865
2	39.54	22.75	31.18	6080.87	26.48	158.16	22.08	70.00	17.52	1043.20	14.10	00.00	

Load Summary

Structure: CT46122-A-SBA

Site Name: Middletown North Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Code: TIA-222-H

Exposure: C

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: ||

Page: 6

7/7/2023



Discrete Appurtenances

					No Ice			Ice			
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight	CaAa (sf)	CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1		4' Branches	1	390.00	36.86	1.00	559.45	52.875	1.00	0.00	0.00
2		T-Arms	3	160.00	8.00	0.75	246.84	13.801	0.75	0.00	0.00
3		RFS APXVAALL24-43-U-NA20	3	128.00	20.24	0.70	375.22	21.404	0.70	0.00	0.00
4		Air 32 KRD901146-1_B66A_B2A	3	132.20	6.51	0.87	238.23	7.189	0.87	0.00	0.00
5		ATM200-A20	6	0.50	0.12	0.50	3.75	0.257	1.00	0.00	0.00
6		Radio 4449 B71+B85	3	71.00	1.97	0.67	104.16	2.310	0.67	0.00	0.00
7		Commscope SDX1926Q-43	3	7.00	0.72	0.67	15.91	1.113	0.67	0.00	0.00
8	74.00	Antenna Branches	1	96.00	22.43	1.00	137.63	32.157	1.00	0.00	0.00
9		AIR6449 B41	3	103.00	5.65	0.71	188.18	6.240	0.71	0.00	0.00
10	74.00	RRUS 4415 B25	3	46.00	1.64	0.67	71.53	1.960	0.67	0.00	0.00
11		Ericsson 4415 B66A	3	49.60	1.86	0.67	84.39	2.195	0.67	0.00	0.00
12		(Handrail Kit w/end connection)	1	261.72	6.75	1.00	454.66	10.848	1.00	0.00	0.00
13	67.06	6' Branches	1	400.00	83.63	1.00	571.76	19.540	1.00	0.00	0.00
14	64.00		3	320.00	8.00	0.75	456.77	12.274	0.75	0.00	0.00
15	64.00	Kaelus BSF0020F3V1-1 Filter	2	19.80	0.70	0.80	35.37	0.912	0.80	0.00	0.00
16		DB846F65ZAXY	4	21.00	7.05	0.93	132.84	7.776	0.93	0.00	0.00
17		DB846H80E-SX	2	16.00	5.01	1.12	105.02	5.721	1.12	0.00	0.00
18		DB-T1-6Z-8AB-0Z	2	44.00	3.30	0.67	126.03	5.321	0.67	0.00	0.00
19	64.00	JAHH-65B-R3B	6	63.30	9.11	0.83	195.06	9.916	0.83	0.00	0.00
20	64.00	VZS01	3	87.10	4.30	0.69	149.51	4.830	0.69	0.00	0.00
21	64.00	(3) VZWSMART-SFK4	1	500.00	16.50	0.75	863.28	26.373	0.75	0.00	0.00
22		BSAMNT-SBS-1-2	3	25.35	0.00	0.75	36.18	0.000	0.75	0.00	0.00
23	64.00	CBC78T-DS-43-2X/E14F05P50	3	21.80	0.37	0.67	32.27	0.528	0.67	0.00	0.00
24	64.00	B2/B66A RRH-BR049	3	84.40	1.64	0.67	118.34	1.956	0.67	0.00	0.00
25	64.00	B5/B13 RRH-BR04C	3	70.30	2.22	0.67	105.75	2.599	0.67	0.00	0.00
26	55.44	8' Branches	1	1638.00	150.70	1.00	2328.09	14.190	1.00	0.00	0.00
27	51.00	MC-K6MHDX-9-96 (3 Sectors)	1	899.00	20.95	0.75	1424.84	36.705	0.75	0.00	0.00
28		MX08FRO665-21 3		64.50	12.49	0.74	238.58	13.367	0.74	0.00	0.00
29	51.00	TA08025-B604		63.90	1.96	0.67	94.20	2.296	0.67	0.00	0.00
30	51.00	TA08025-B605	3	75.00	1.96	0.67	106.30	2.296	0.67	0.00	0.00
31	51.00	RDIDC-9181-OF-48	1	21.90	2.01	1.00	53.77	2.350	1.00	0.00	0.00
_32	42.31	10' Branches		540.00	54.43	1.00	761.44	76.750	1.00	0.00	0.00

Totals:

82

Topography: 1

9,900.47

17,399.22

Linear Appurtenances

Top			-	
Elev. (ft)	Description	Exposed Width	Exposed	
75.00	(4) 1 5/8" Fiber	0.00	Inside	
75.00	(6) 3/8" RET	0.00		
75.00	(6) 7/8" Coax	0.00	_	
64.00	(18) 1 5/8" Coax			
64.00	(2) 1 5/8" Hybrid			
51.00	(1) 1.6" Hybrid	0.00	Inside	
	75.00 75.00 75.00 75.00 64.00 64.00	Elev.	Top Elev. (ft) Exposed Width 75.00 (4) 1 5/8" Fiber 0.00 75.00 (6) 3/8" RET 0.00 75.00 (6) 7/8" Coax 0.00 64.00 (18) 1 5/8" Coax 0.00 64.00 (2) 1 5/8" Hybrid 0.00	Top Elev. (ft) Exposed Width Exposed Width Exposed Exposed 75.00 (4) 1 5/8" Fiber 0.00 Inside 75.00 (6) 3/8" RET 0.00 Inside 75.00 (6) 7/8" Coax 0.00 Inside 64.00 (18) 1 5/8" Coax 0.00 Inside 64.00 (2) 1 5/8" Hybrid 0.00 Inside

Shaft Section Properties

Topography: 1

CT46122-A-SBA Structure:

Site Name: Middletown North

76.00 (ft) Height:

Base Elev: 0.000 (ft)

Gh:

TIA-222-H Code:

Exposure: С Crest Height: 0.00

D - Stiff Soil Site Class:

Struct Class: ||

Page: 7

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Increment Length: 5 (ft)

Elev		Thick	Dia	Area (in^2)	lx (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
(ft)	Description	(in)	(in) 46,500	45.811	12347.2	24.83	148.80		523.0	0.0
0.00		0.3125	44.861	44.185	11078.6	23.90	143.55		486.4	765.6
5.00		0.3125		42.559	9900.0	22.98	138.31		451.1	737.9
10.00		0.3125	43.221	40.933	8808.1	22.05	133.06		417.2	710.3
15.00		0.3125	41.582		7799.6	21.13	127.82		384.6	682.6
20.00		0.3125	39.943	39.307	7279.3	20.62	124.93		367.2	363.6
22.75	Bot - Section 2	0.3125	39.041	38.413	6871.2	20.02	122.57		353.3	527.7
25.00		0.3125	38.303	37.681	_	25.21	150.95	0.0	0.0	744.5
28.25	Top - Section 1	0.2500	37.738	29.746	5281.5		148.66		267.2	175.8
30.00		0.2500	37.164	29.290	5042.7	24.80	142.10		244.0	487.3
35.00		0.2500	35.525	27.989	4400.2	23.65			221.7	465.1
40.00		0.2500	33.885	26.689	3814.8	22.49	135.54		211.8	207.4
42.31		0.2500	33.128	26.088	3562.9	21.95	132.51		200.6	235.6
45.00		0.2500	32.246	25.388	3283.8	21.33	128.98			420.9
50.00		0.2500	30.607	24.087	2804.5	20.18	122.43		180.5	81.5
51.00		0.2500	30.279	23.827	2714.6	19.95	121.12		176.6	317.2
55.00		0.2500	28.967	22.786	2374.2	19.02	115.87		161.4	34.0
55.44		0.2500	28.823	22.672	2338.6	18.92	115.29	79.1		342.6
60.00		0.2500	27.328	21.486	1990.4	17.86	109.31		143.5	
64.00		0.2500	26.017	20.445	1715.0	16.94	104.07	81.5		285.4
65.00		0.2500	25.689	20.185	1650.3	16.71	102.76		126.5	69.1
67.06		0.2500	25.013	19.649	1522.3	16.23	100.05	82.3		139.6
70.00		0.2500	24.049	18.884	1351.4	15.55	96.20	82.5		192.7
74.00		0.2500	22.738	17.844	1140.1	14.63	90.95	82.5		250.0
75.00		0.2500	22.410	17.583	1090.9	14.40	89.64	82.5		60.3
75.00 75.45		0.2500	22.263	17.466	1069.3	14.29	89.05	82.5	94.6	26.8
		0.2500	22.082	17.323	1043.2	14.16	88.33	82.5	93.1	32.6
76.00		1.2000								8356.2

Wind Loading - Shaft

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft) Base Elev: 0.000 (ft)

Gh:

1.1

Code: TIA-222-H

Exposure: С Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: ||

7/7/2023

Page: 8

Load Case: 1.2D + 1.0W 119 mph Wind

Topography: 1

Dead Load Factor 1.20 **Wind Load Factor** 1.00



Iterations

17

Elev (ft) Des	cription	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	lce Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (Ib)	Tot Dead Load (lb)
0.00		1.00	0.85	29.135	32.05	430.67	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	29.135	32.05	415.49	0.730	0.000		19.327	14.11	452.2	0.0	918.7
10.00		1.00	0.85	29.135	32.05	400.31	0.730	0.000		18.634	13.60	435.9	0.0	885.5
15.00		1.00	0.85	29.135	32.05	385.12	0.730	0.000		17.940	13.10	419.7	0.0	852.3
20.00		1.00	0.90	30.914	34.00	381.06	0.730	0.000	5.00		12.59	428.1	0.0	819.1
22.75 Bot - Sect	tion 2	1.00	0.93	31.764	34.94	377.55	0.730	0.000	2.75	9.190	6.71	234.4	0.0	436.4
25.00		1.00	0.95	32.400	35.64	374.11	0.730	0.000	2.25	7.458	5.44	194.0	0.0	633.3
28.25 Top - Sec	tion 1	1.00	0.97	33.245	36.57	368.41	0.730	0.000		10.525	7.68	281.0	0.0	893.4
30.00		1.00	0.98	33.668	37.04	370.01	0.730	0.000	1.75	5.546	4.05	149.9	0.0	210.9
35.00		1.00	1.01	34.779	38.26	359.48	0.730	0.000		15.377	11.23	429.4	0.0	584.7
40.00		1.00	1.04	35.770	39.35	347.74	0.730	0.000		14.684	10.72	421.8	0.0	558.2
42.31 Appurtena	ance(s)	1.00	1.06	36.196	39.82	341.99	0.730	0.000	2.31	6.550	4.78	190.4	0.0	248.9
45.00		1.00	1.07	36.669	40.34	335.05	0.730	0.000	2.69	7.440	5.43	219.1	0.0	282.7
50.00		1.00	1.09	37.491	41.24	321.56	0.730	0.000	5.00	13.296	9.71	400.3	0.0	505.1
51.00 Appurtena	ance(s)	1.00	1.10	37.648	41.41	318.78	0.730	0.000	1.00	2.576	1.88	77.9	0.0	97.8
55.00		1.00	1.12	38.251	42.08	307.41	0.730	0.000		10.027	7.32	308.0	0.0	380.7
55.44 Appurtena	ınce(s)	1.00	1.12	38.315	42.15	306.13	0.730	0.000	0.44	1.076	0.79	33.1	0.0	40.8
60.00	4	1.00	1.14	38.958	42.85	292.68	0.730	0.000		10.833	7.91	338.9	0.0	411.1
64.00 Appurtena	ınce(s)	1.00	1.15	39.491	43.44	280.53	0.730	0.000	4.00	9.028	6.59	286.3	0.0	342.4
65.00		1.00	1.16	39.620	43.58	277.45	0.730	0.000	1.00	2.188	1.60	69.6	0.0	83.0
67.06 Appurtena	nce(s)	1.00	1.16	39.881	43.87	271.04	0.730	0.000	2.06	4.419	3.23	141.5	0.0	167.5
70.00		1.00	1.17	40.243	44.27	261.78	0.730	0.000	2.94	6.103	4.46	197.2	0.0	231.3
74.00 Appurtena	nce(s)	1.00	1.19	40.717	44.79	248.96	0.730	0.000	4.00	7.918	5.78	258.9	0.0	299.9
75.00 Appurtena	nce(s)	1.00	1.19	40.832	44.91	245.71	0.730	0.000	1.00	1.910	1.39	62.6	0.0	72.3
75.45 Appurtena	nce(s)	1.00	1.19	40.883	44.97	244.25	0.730	0.000	0.45	0.851	0.62	27.9	0.0	32.2
76.00		1.00	1.19	40.946	45.04	242.46	0.730	0.000	0.55	1.032	0.75	33.9	0.0	39.1
								Totals:	76.00			6,092.1		10,027.4

Discrete Appurtenance Forces

CT46122-A-SBA Structure:

Site Name: Middletown North

76.00 (ft) Height:

Base Elev: 0.000 (ft)

Gh: 1.1

TIA-222-H Code:

Exposure: С Crest Height: 0.00

D - Stiff Soil Site Class:

Struct Class: ||

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Iterations

17

Load Case: 1.2D + 1.0W 119 mph Wind

Topography: 1

1.20 **Dead Load Factor** 1.00 Wind Load Factor



					- 01	Orient Factor		Total CaAa	Dead Load	Horiz Ecc	Vert Ecc	Wind FX	Mom Y	Mom Z
No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	x Ka	Ka	(sf)	(lb)	(ft)	(ft)	(lb)	(lb-ft)	(lb-ft)
		4' Branches	1	40.883	44.972	1.00	1.00	36.86	468.00	0.000	0.000	1657.65	0.00	0.00
1 2		T-Arms	3	40.832		0.56	0.75	13.50	576.00	0.000	0.000	606.35	0.00	0.00
3		Antenna Branches	1	40.717		1.00	1.00	22.43	115.20	0.000	0.000	1004.60	0.00	0.00
4		AIR6449 B41	3	40.717		0.57	0.80	9.63	370.80	0.000	0.000	431.20	0.00	0.00
5		RRUS 4415 B25	3	40.717	44.788	0.54	0.80	2.64	165.60	0.000	0.000	118.11	0.00	0.00
6		Ericsson 4415 B66A	3	40.717	44.788	0.54	0.80	2.99	178.56	0.000	0.000	133.96	0.00	0.00
7		(Handrail Kit w/end	1	40.717	44.788	1.00	1.00	6.75	314.06	0.000	0.000	302.32	0.00	0.00
8	74.00		3	40.717	44.788	0.56	0.80	34.00	460.80	0.000	0.000	1522.94	0.00	0.00
9		Air 32	3	40.717	44.788	0.70	0.80	13.59	475.92	0.000	0.000	608.80	0.00	0.00
10		ATM200-A20	6	40.717	44.788	0.40	0.80	0.29	3.60	0.000	0.000	12.90	0.00	0.00
11		Radio 4449 B71+B85	3	40.717	44.788	0.54	0.80	3.17	255.60	0.000	0.000	141.88	0.00	0.00
12		Commscope	3	40.717	44.788	0.54	0.80	1.16	25.20	0.000	0.000	51.85	0.00	0.00
13		6' Branches	1	39.881	43.869	1.00	1.00	83.63	480.00	0.000	0.000	3668.78	0.00	0.00
14		B5/B13 RRH-BR04C	3	39.491	43.440	0.54	0.80	3.57	253.08	0.000	0.000	155.07	0.00	0.00
15	64.00	B2/B66A RRH-BR049	3	39.491	43.440	0.54	0.80	2.64	303.84	0.000	0.000	114.56	0.00	0.00
16		CBC78T-DS-43-2X/E14F0	3	39.491	43.440	0.54	0.80	0.59	78.48	0.000	0.000	25.85	0.00	0.00
17		BSAMNT-SBS-1-2	3	39.491	43.440	0.56	0.75	0.00	91.26	0.000	0.000	0.00	0.00	0.00
18		DB846H80E-SX	2	39.491	43.440	0.90	0.80	8.98	38.40	0.000	0.000	390.00	0.00	0.00
19		T-Arm	3	39.491	43.440	0.56	0.75	13.50	1152.00	0.000	0.000	586.44	0.00	0.00
20		Kaelus BSF0020F3V1-1	2	39.491	43.440	0.64	0.80	0.90	47.52	0.000	0.000	38.92	0.00	0.00
21	64.00	DB846F65ZAXY	4	39.491	43.440	0.74	0.80	20.98	100.80	0.000	0.000	911.41	0.00	0.00
22		(3) VZWSMART-SFK4	1	39.491	43.440	0.56	0.75	9.28	600.00	0.000	0.000	403.18	0.00	0.00
23	64.00	DB-T1-6Z-8AB-0Z	2	39.491	43.440	0.54	0.80	3.54	105.60	0.000	0.000	153.67	0.00	0.00
24	64.00	JAHH-65B-R3B	6	39.491	43.440	0.66	0.80	36.29	45 5 .76	0.000	0.000	1576.62	0.00	0.00
25		VZS01	3	39.491	43.440	0.55	0.80	7.12	313.56	0.000	0.000	309.33	0.00	0.00
26	55.44	8' Branches	1	38.315	42.147	1.00	1.00	150.70	1965.60	0.000	0.000	6351.48	0.00	0.00
27	51.00	MX08FRO665-21	3	37.648	41.412	0.59	0.80	22.18	232.20	0.000	0.000	918.62	0.00	0.00
28	51.00	MC-K6MHDX-9-96 (3	1	37.648	41.412	0.56	0.75	11.78	1078.80	0.000	0.000	488.02	0.00	0.00 0.00
29	51.00	RDIDC-9181-OF-48	1	37.648	41.412	0.80	0.80	1.61	26.28	0.000	0.000	66.59	0.00	
30	51.00	TA08025-B605	3	37.648	41.412		0.80	3.15	270.00	0.000	0.000	130.52	0.00	0.00 0.00
31		TA08025-B604	3	37.648	41.412	0.54	0.80	3.15	230.04	0.000	0.000	130.52	0.00	
32	42.31	10' Branches	1	36.196	39.815	1.00	1.00	54.43	648.00	0.000	0.000	2167.15	0.00	0.00
_							Totale		11 880 56			25.179.28		

Totals:

11,880.56

25,179.28

Total Applied Force Summary

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Code:

TIA-222-H

Exposure: C

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: ||

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((III)) IES Tower Engineering Solution

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Load Case: 1.2D + 1.0W 119 mph Wind

Topography: 1

Dead Load Factor 1.20 Wind Load Factor 1.00



Iterations

17

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		452.17	1097.50	0.00	0.00
10.00		435.94	1064.30	0.00	0.00
15.00		419.71	1031.11	0.00	0.00
20.00		428.12	997.91	0.00	0.00
22.75		234.40	534.70	0.00	0.00
25.00		194.04	713.76	0.00	0.00
28.25		280.97	1009.62	0.00	0.00
30.00		149.94	273.51	0.00	0.00
35.00		429.44	763.53	0.00	0.00
40.00		421.76	736.97	0.00	0.00
42.31	(1) attachments	2357.51	979.51	0.00	0.00
45.00		219.08	378.90	0.00	0.00
50.00		400.29	683.86	0.00	0.00
51.00	(11) attachments	1812.14	1970.90	0.00	0.00
55.00		307.97	518.92	0.00	0.00
55.44	(1) attachments	6384.58	2021.64	0.00	0.00
60.00		338.90	568.70	0.00	0.00
64.00	(35) attachments	4951.33	4020.97	0.00	0.00
65.00		69.60	92.41	0.00	0.00
67.06	(1) attachments	3810.30	667.01	0.00	0.00
70.00		197.22	259.10	0.00	0.00
74.00	(29) attachments	4587.45	2703.11	0.00	0.00
75.00	(3) attachments	668.98	657.79	0.00	0.00
75.45	(1) attachments	1685.57	500.20	0.00	0.00
76.00		33.93	39.07	0.00	0.00
	Totals:	31,271.35	24,285.02	0.00	0.00

Calculated Forces

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Code:

TIA-222-H

Exposure: C

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: II

7/7/2023

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((III)) LES Tower Engineering Solution

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Iterations

17

Load Case: 1.2D + 1.0W 119 mph Wind

Dead Load Factor

1.20

Topography: 1

Wind Load Factor

1.00

	1	
Z		
-		

Seg Elev	Pu FY (-)	Vu FX (-)	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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
(ft)	(kips) -24.23	(kips) -31.32	0.00	-1822.5	0.00	1822.58	2976.77	803.98	3080.93	2832.01	0.00	0.000	0.000	0.653
0.00	-24.23	-30.94	0.00	-1666.0	0.00	1666.01	2914.38	775.44	2866.11	2673.58	0.11	-0.201	0.000	0.633
5.00 10.00	-23.02 -21.85	-30.58	0.00	-1511.3	0.00	1511.30	2848.80	746.90	2659.05	2516.58	0.43	-0.405	0.000	0.610
15.00	-21.65	-30.23	0.00	-1358.4	0.00	1358.40	2780.04	718.37	2459.75	2361.34	0.97	-0.611	0.000	0.584
20.00	-20.71	-29.84		-1207.2	0.00	1207.28	2708.10	689.83	2268.22	2208.17	1.72	-0.818	0.000	0.556
20.00	-19.04	-29.63	0.00	-1125.2	0.00	1125.22	2667.17	674.14	2166.19	2124.93	2.23	-0.935	0.000	0.539
25.00	-18.28	-29.46	0.00	-1058.5	0.00	1058.55	2632.97	661.30	2084.45	2057.41	2.69	-1.031	0.000	0.523
28.25	-10.20 -17.22	-29.20	0.00	-962.79	0.00	962.79	1920.92	522.03	1623.69	1483.43	3.45	-1.167	0.000	0.661
30.00	-16.87	-29.09	0.00	-911.70	0.00	911.70	1904.07	514.04	1574.37	1447.76	3.89	-1.241	0.000	0.642
35.00	-16.00	-28.70		-766.27	0.00	766.27	1853.76	491.22	1437.64	1346.49	5.32	-1.478	0.000	0.581
40.00	-15.20	-28.30	0.00	-622.75	0.00	622.75	1800.28	468.39	1307.12	1246.45	6.99	-1.702	0.000	0.512
42.31	-14.25	-25.94		-557.37	0.00	557.37	1774.49	457.84	1248.92	1200.72	7.84	-1.804	0.000	0.475
45.00	-13.81	-25.75	0.00	-487.58	0.00	487.58	1743.61	445.56	1182.81	1147.94	8.89	-1.916	0.000	0.436
50.00	-13.09	-25.35		-358.84	0.00	358.84	1683.75	422.73	1064.71	1051.30	11.01	-2.100	0.000	0.353
51.00	-11.15	-23.48		-333.49	0.00	333.49	1671.40	418.16	1041.84	1032.22	11.45	-2.135	0.000	0.333
55.00	-10.62	-23.17	0.00	-239.57	0.00	239.57	1620.72	399.90	952.83	956.84	13.29	-2.255	0.000	0.260
55.44	-8,84	-16.72		-229.37	0.00	229.37	1615.02	397.89	943.28	948.65	13.50	-2.267	0.000	0.249
60.00	-8.26	-16.37		-153,15	0.00	153.15	1554.50	377.07	847.15	864.91	15.72	-2.373	0.000	0.184
64.00	-4.44	-11.25		-87.69	0.00	87.69	1499.23	358.81	767.08	793.39	17.75	-2.442	0.000	0.114
65.00	-4.35	-11.18		-76.43	0.00	76.43	1485.09	354.25	747.68	775.81	18.26	-2.456	0.000	0.102
67.06	-3.84	-7.35		-53.40	0.00	53.40	1455.57	344.84	708.50	740.00	19.32	-2.479	0.000	0.075
70.00	-3.59	-7.14	0.00	-31.80	0.00	31.80	1403.00	331.42	654.42	685.23	20.86	-2.502	0.000	0.049
74.00	-1.09	-2.44		-3.24	0.00	3.24	1325.69	313.15	584.28	611.42	22.96	-2.517	0.000	0.006
75.00	-0.46	-1.74		-0.80	0.00	0.80	1306.36	308.59	567.37	593.63	23.49	-2.518	0.000	0.002
75.45	-0.04	-0.04		-0.02	0.00	0.02	1297.66	306.53	559.84	585.71	23.73	-2.518	0.000	0.000
76.00	0.00	-0.03	0.00	0.00	0.00	0.00	1287.03	304.02	550.71	576.10	24.02	-2.518	0.000	0.000

Wind Loading - Shaft

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Code: TIA-222-H

Exposure: C **Crest Height:** 0.00

Site Class: D - Stiff Soil

Struct Class: ||

7/7/2023

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IES
Tower Engineering Solution

Iterations 17

Load Case: 0.9D + 1.0W 119 mph Wind

Topography: 1

Dead Load Factor 0.90 Wind Load Factor 1.00

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	lce Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)	
0.00		1.00	0.85	29.135	32.05	430.67	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0	_
5.00		1.00	0.85	29.135	32.05	415.49	0.730	0.000	5.00	19.327	14.11	452.2	0.0	689.0	
10.00		1.00	0.85	29.135	32.05	400.31	0.730	0.000	5.00	18.634	13.60	435.9	0.0	664,1	
15.00		1.00	0.85	29.135	32.05	385.12	0.730	0.000	5.00	17.940	13.10	419.7	0.0	639.2	
20.00		1.00	0.90	30.914	34.00	381.06	0.730	0.000	5.00	17.246	12.59	428.1	0.0	614.3	
	ot - Section 2	1.00	0.93	31.764	34.94	377.55	0.730	0.000	2.75	9.190	6.71	234.4	0.0	327.3	
25.00		1.00	0.95	32.400	35.64	374.11	0.730	0.000	2.25	7.458	5.44	194.0	0.0	475.0	
	p - Section 1	1.00	0.97	33.245	36.57	368.41	0.730	0.000	3.25	10.525	7.68	281.0	0.0	670.1	
30.00		1.00	0.98	33.668	37.04	370.01	0.730	0.000	1.75	5.546	4.05	149.9	0.0	158.2	
35.00		1.00	1.01	34.779	38.26	359.48	0.730	0.000	5.00	15.377	11.23	429.4	0.0	438.5	
40.00		1.00	1.04	35.770	39.35	347.74	0.730	0.000	5.00	14.684	10.72	421.8	0.0	418.6	
	purtenance(s)	1.00	1.06	36.196	39.82	341.99	0.730	0.000	2.31	6.550	4.78	190.4	0.0	186.7	
45.00		1.00	1.07	36.669	40.34	335.05	0.730	0.000	2.69	7.440	5.43	219.1	0.0	212.0	
50.00		1.00	1.09	37.491	41.24	321.56	0.730	0.000	5.00	13.296	9.71	400.3	0.0	378.8	
51.00 Ap	purtenance(s)	1.00	1.10	37.648	41.41	318.78	0.730	0.000	1.00	2.576	1.88	77.9	0.0	73.4	
55.00		1.00	1.12	38.251	42.08	307.41	0.730	0.000	4.00	10.027	7.32	308.0	0.0	285.5	
55.44 Ap	purtenance(s)	1.00	1.12	38.315	42.15	306.13	0.730	0.000	0.44	1.076	0.79	33.1	0.0	30.6	
60.00		1.00	1.14	38.958	42.85	292.68	0.730	0.000	4.56	10.833	7.91	338.9	0.0	308.3	
64.00 Ap	purtenance(s)	1.00	1.15	39.491	43.44	280.53	0.730	0.000	4.00	9.028	6.59	286.3	0.0	256.8	
65.00		1.00	1.16	39.620	43.58	277.45	0.730	0.000	1.00	2.188	1.60	69.6	0.0	62.2	
67.06 Ap	purtenance(s)	1.00	1.16	39.881	43.87	271.04	0.730	0.000	2.06	4.419	3.23	141.5	0.0	125.7	
70.00		1.00	1.17	40.243	44.27	261.78	0.730	0.000	2.94	6.103	4.46	197.2	0.0	173.5	
74.00 Ap	purtenance(s)	1.00	1.19	40.717	44.79	248.96	0.730	0.000	4.00	7.918	5.78	258.9	0.0	225.0	
75.00 Ap	purtenance(s)	1.00	1.19	40.832	44.91	245.71	0.730	0.000	1.00	1.910	1.39	62.6	0.0	54.2	
75.45 Ap	purtenance(s)	1.00	1.19	40.883	44.97	244.25	0.730	0.000	0.45	0.851	0.62	27.9	0.0	24.2	
76.00		1.00	1.19	40.946	45.04	242.46	0.730	0.000	0.55	1.032	0.75	33.9	0.0	29.3	
								Totals:	76.00			6,092.1	-	7,520.5	

Discrete Appurtenance Forces

CT46122-A-SBA Structure:

TIA-222-H Code:

Site Name: Middletown North

76.00 (ft)

Exposure: С Crest Height: 0.00

Height: Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Struct Class: || Topography: 1 Gh: 1.1

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Load Case: 0.9D + 1.0W 119 mph Wind

0.90 **Dead Load Factor** 1.00 Wind Load Factor

Iterations

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1		4' Branches	1	40.883	44.972	1.00	1.00	36.86	351.00	0.000	0.000	1657.65	0.00	0.00
2		T-Arms	3	40.832	44.915	0.56	0.75	13.50	432.00	0.000	0.000	606.35	0.00	0.00
3	3	Antenna Branches	1	40.717		1.00	1.00	22.43	86.40	0.000	0.000	1004.60	0.00	0.00
4		AIR6449 B41	3	40.717		0.57	0.80	9.63	278.10	0.000	0.000	431.20	0.00	0.00
5		RRUS 4415 B25	3	40.717	44.788	0.54	0.80	2.64	124.20	0.000	0.000	118.11	0.00	0.00
6		Ericsson 4415 B66A	3	40.717	44.788	0.54	0.80	2.99	133.92	0.000	0.000	133.96	0.00	0.00
7		(Handrail Kit w/end	1	40.717	44.788	1.00	1.00	6.75	235.55	0.000	0.000	302.32	0.00	0.00
8	74.00		3	40.717	44.788	0.56	0.80	34.00	345.60	0.000	0.000	1522.94	0.00	0.00
9		Air 32	3	40.717	44.788	0.70	0.80	13.59	356.94	0.000	0.000	608.80	0.00	0.00
10		ATM200-A20	6	40.717		0.40	0.80	0.29	2.70	0.000	0.000	12.90	0.00	0.00
11		Radio 4449 B71+B85	3	40.717	44.788	0.54	0.80	3.17	191.70	0.000	0.000	141.88	0.00	0.00
12		Commscope	3	40.717	44.788	0.54	0.80	1.16	18.90	0.000	0.000	51.85	0.00	0.00
13		6' Branches	1	39.881	43.869	1.00	1.00	83.63	360.00	0.000	0.000	3668.78	0.00	0.00
14		B5/B13 RRH-BR04C	3	39.491	43.440	0.54	0.80	3.57	189.81	0.000	0.000	155.07	0.00	0.00
15		B2/B66A RRH-BR049	3	39.491	43.440	0.54	0.80	2.64	227.88	0.000	0.000	114.56	0.00	0.00
16		CBC78T-DS-43-2X/E14F0	3	39.491	43.440	0.54	0.80	0.59	58.86	0.000	0.000	25.85	0.00	0.00
17		BSAMNT-SBS-1-2	3	39.491	43.440	0.56	0.75	0.00	68.45	0.000	0.000	0.00	0.00	0.00
18	•	DB846H80E-SX	2	39.491	43.440	0.90	0.80	8.98	28.80	0.000	0.000	390.00	0.00	0.00
19		T-Arm	3	39.491	43.440	0.56	0.75	13.50	864.00	0.000	0.000	586.44	0.00	0.00
20		Kaelus BSF0020F3V1-1	2	39.491	43.440	0.64	0.80	0.90	35.64	0.000	0.000	38.92	0.00	0.00
21		DB846F65ZAXY	4	39.491	43.440	0.74	0.80	20.98	75.60	0.000	0.000	911.41	0.00	0.00
22		(3) VZWSMART-SFK4	1	39.491	43.440	0.56	0.75	9.28	450.00	0.000	0.000	403.18	0.00	0.00
23		DB-T1-6Z-8AB-0Z	2	39.491	43.440	0.54	0.80	3.54	79.20	0.000	0.000	153.67	0.00	0.00
24		JAHH-65B-R3B	6	39.491	43,440	0.66	0.80	36.29	341.82	0.000	0.000	1576.62	0.00	0.00
25		VZS01	3	39.491	43.440	0.55	0.80	7.12	235.17	0.000	0.000	309.33	0.00	0.00
26	55.44	8' Branches	1	38.315	42.147	1.00	1.00	150.70	1474.20	0.000	0.000	6351.48	0.00	0.00
27		MX08FRO665-21	3	37.648	41.412	0.59	0.80	22.18	174.15	0.000	0.000	918.62	0.00	0.00
28		MC-K6MHDX-9-96 (3	1	37.648	41.412	0.56	0.75	11.78	809.10	0.000	0.000	488.02	0.00	0.00
29		RDIDC-9181-OF-48	1	37.648	41.412	0.80	0.80	1.61	19.71	0.000	0.000	66.59	0.00	0.00
30		TA08025-B605	3	37.648	41.412	0.54	0.80	3.15	202.50	0.000	0.000	130.52	0.00	0.00
31	•	TA08025-B604	3		41.412	0.54	0.80	3.15	172.53	0.000	0.000	130.52	0.00	
32	7,000	10' Branches	1	36.196	39.815	1.00	1.00	54.43	486.00	0.000	0.000	2167.15	0.00	0.00
							Totals	3:	8.910.42		:	25,179.28		

Totals:

Total Applied Force Summary

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft) **Base Elev:** 0.000 (ft)

Gh: 1.1

Code: TIA-222-H

Exposure: C **Crest Height:** 0.00

Site Class: D - Stiff Soil

Struct Class: ||

7/7/2023

((III)) IES Tower Engineering Solution

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Load Case: 0.9D + 1.0W 119 mph Wind

Topography: 1

Dead Load Factor 0.90 Wind Load Factor 1.00



Iterations 17

Elev	Description	Lateral FX (-)	Axial FY (-)	Torsion MY	Moment MZ
(ft)	Description	(lb)	(lb)	(lb-ft)	(lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		452.17	823.13	0.00	0.00
10.00		435.94	798.23	0.00	0.00
15.00		419.71	773.33	0.00	0.00
20.00		428.12	748.43	0.00	0.00
22.75		234.40	401.03	0.00	0.00
25.00		194.04	535.32	0.00	0.00
28.25		280.97	757.22	0.00	0.00
30.00		149.94	205.13	0.00	0.00
35.00		429.44	572.65	0.00	0.00
40.00		421.76	552.73	0.00	0.00
42.31	(1) attachments	2357.51	734.63	0.00	0.00
45.00		219.08	284.18	0.00	0.00
50.00		400.29	512.89	0.00	0.00
51.00	(11) attachments	1812.14	1478.18	0.00	0.00
55.00		307.97	389.19	0.00	0.00
55.44	(1) attachments	6384.58	1516.23	0.00	0.00
60.00		338.90	426.53	0.00	0.00
64.00	(35) attachments	4951.33	3015.73	0.00	0.00
65.00		69.60	69.31	0.00	0.00
67.06	(1) attachments	3810.30	500.26	0.00	0.00
70.00	•	197.22	194.32	0.00	0.00
74.00	(29) attachments	4587.45	2027.33	0.00	0.00
75.00	(3) attachments	668.98	493.34	0.00	0.00
75.45	(1) attachments	1685.57	375.15	0.00	0.00
76.00	• •	33.93	29.30	0.00	0.00
	Totals:	31,271.35	18,213.76	0.00	0.00

Calculated Forces

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh:

1.1

Code:

TIA-222-H

D - Stiff Soil

Exposure:

Crest Height: 0.00

Site Class:

Struct Class: II

7/7/2023

Tower Engineering Solution

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301.15

Iterations

Load Case: 0.9D + 1.0W 119 mph Wind

Dead Load Factor 0.90 Wind Load Factor 1.00

Topography: 1



Seg Elev	Pu FY (-)	Vu FX (-)	Tu MY (-)	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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
(ft)	(kips)	(kips) -31.30	(ft-kips) 0.00	-1816.5	0.00	1816,56	2976.77	803.98	3080.93	2832.01	0.00	0.000	0.000	0.649
0.00	-18.16		0.00	-1660.0	0.00	1660.04	2914.38	775.44	2866.11	2673.58	0.11	-0.200	0.000	0.628
5.00	-17.23	-30.91 -30.53	0.00	-1505.4	0.00	1505.49	2848.80	746.90	2659.05	2516.58	0.43	-0.403	0.000	0.606
10.00	-16.32	-30.55	0.00	-1352.8	0.00	1352.84	2780.04	718.37	2459.75	2361.34	0.96	-0.609	0.000	0.580
15.00	-15.44	-30.16	0.00	-1202.0	0.00	1202.05	2708.10	689.83	2268.22	2208.17	1.72	-0.815	0.000	0.552
20.00	-14.62	-29.70	0.00	-11202.0	0.00	1120.20	2667.17	674.14	2166.19	2124.93	2.22	-0.932	0.000	0.534
22.75	-14.16 -13.57	-29.37	0.00	-1053.7	0.00	1053.72	2632.97	661.30	2084.45	2057.41	2.68	-1.027	0.000	0.519
25.00	-13.5 <i>1</i> -12.77	-29.37 -29.10	0.00	-958.26	0.00	958.26	1920.92	522.03	1623.69	1483.43	3.43	-1.163	0.000	0.656
28.25	-12.77	-28.98	0.00	-907.34	0.00	907.34	1904.07	514.04	1574.37	1447.76	3.87	-1.236	0.000	0.636
30.00 35.00	-12.49	-28.59	0.00	-762.44	0.00	762.44	1853.76	491.22	1437.64	1346.49	5.30	-1.472	0.000	0.576
40.00	-11.19	-28.18	0.00	-619.52	0.00	619.52	1800.28	468.39	1307.12	1246.45	6.96	-1.695	0.000	0.507
40.00	-10.48	-25.82	0.00	-554.42	0.00	554.42	1774.49	457.84	1248.92	1200.72	7.81	-1.796	0.000	0.471
45.00	-10.48	-25.62	0.00	-484.97	0.00	484.97	1743.61	445.56	1182.81	1147.94	8.86	-1.908	0.000	0.432
50.00	-9.59	-25.22	0.00	-356.88	0.00	356.88	1683.75	422.73	1064.71	1051.30	10.96	-2.090	0.000	0.349
51.00	-8.15	-23.36		-331.66	0.00	331.66	1671.40	418.16	1041.84	1032.22	11.40		0.000	0.329
55.00	-0.15 -7.75	-23.05		-238.20	0.00	238.20	1620.72	399.90	952.83	956.84	13.24	-2.245	0.000	0.257
55.44	-6.47	-16.62		-228.06	0.00	228.06	1615.02	397.89	943.28	948.65	13.45	-2.257	0.000	0.246
60.00	-6.03	-16.27	0.00	-152.29	0.00	152.29	1554.50	377.07	847.15	864.91	15.66	-2.362	0.000	0.182
64.00	-3.22	-11.20		-87.20	0.00	87.20	1499.23	358.81	767.08	793.39	17.67	-2.431	0.000	0.113
65.00	-3.15	-11.13		-76.00	0.00	76.00	1485.09	354.25	747.68	775.81	18.18	-2.444	0.000	0.101
67.06	-2.81	-7.30		-53.08	0.00	53.08	1455.57	344.84	708.50	740.00	19.24	-2.467	0.000	0.074
70.00	-2.62	-7.10		-31.61	0.00	31.61	1403.00	331.42	654.42	685.23	20.77	-2.491	0.000	0.048
74.00	-0.79	-2.43		-3.23	0.00	3.23	1325.69	313.15	584.28	611.42	22.86	-2.505	0.000	0.006
75.00	-0.33	-1.74		-0.80	0.00	0.80	1306.36	308.59	567.37	593.63	23.39	-2.506	0.000	0.002
75.45	-0.03	-0.04		-0.02	0.00	0.02	1297.66	306.53	559.84	585.71	23.62		0.000	0.000
76.00	0.00	-0.03		0.00	0.00	0.00	1287.03	304.02	550.71	576.10	23.91	-2.506	0.000	0.000

Wind Loading - Shaft

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: Base Elev: 0.000 (ft)

76.00 (ft)

Gh: 1.1

Code:

TIA-222-H

D - Stiff Soil

Exposure: С

Crest Height: 0.00

Site Class:

Struct Class: II

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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Topography: 1

Dead Load Factor 1.20 **Wind Load Factor** 1.00



Iterations

16

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	lce Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)	
0.00		1.00	0.85	5.144	5.66	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0	
5.00		1.00	0.85	5.144	5.66	0.00	1.200	0.828	5.00	20.017	24.02	135.9	237.0	1155.7	
10.00		1.00	0.85	5.144	5.66	0.00	1.200	0.887	5.00	19.373	23.25	131.5	245.2	1130.7	
15.00		1.00	0.85	5.144	5.66	0.00	1.200	0.924	5.00	18.710	22.45	127.0	246.1	1098.4	
20.00		1.00	0.90	5.458	6.00	0.00	1.200	0.951	5.00	18.039	21.65	130.0	243.7	1062.8	
22.75 Bot - 8	Section 2	1.00	0.93	5.608	6.17	0.00	1.200	0.963	2.75	9.631	11.56	71.3	132.8	569.2	
25.00		1.00	0.95	5.720	6.29	0.00	1.200	0.973	2.25	7.823	9.39	59.1	109.1	742.4	
28.25 Top -	Section 1	1.00	0.97	5.869	6.46	0.00	1.200	0.985	3.25	11.058	13.27	85.7	155.2	1048.6	
30.00		1.00	0.98	5.944	6.54	0.00	1.200	0.991	1.75	5.835	7.00	45.8	82.9	293.8	
35.00		1.00	1.01	6.140	6.75	0.00	1.200	1.006	5.00	16.215	19.46	131.4	230.2	814.9	
40.00		1.00	1.04	6.315	6.95	0.00	1.200	1.019	5.00	15.533	18.64	129.5	222.9	781.1	
42.31 Appur	tenance(s)	1.00	1.06	6.390	7.03	0.00	1.200	1.025	2.31	6.944	8.33	58.6	101.3	350.2	
45.00		1.00	1.07	6.474	7.12	0.00	1.200	1.032	2.69	7.903	9.48	67.5	115.7	398.4	
50.00		1.00	1.09	6.619	7.28	0.00	1.200	1.042	5.00	14.165	17.00	123.8	206.6	711.7	
51.00 Appurt	tenance(s)	1.00	1.10	6.646	7.31	0.00	1.200	1.044	1.00	2.750	3.30	24.1	41.0	138.8	
55.00		1.00	1.12	6.753	7.43	0.00	1.200	1.052	4.00	10.728	12.87	95.6	158.3	539.0	
55.44 Appurt	tenance(s)	1.00	1.12	6.764	7.44	0.00	1.200	1.053	0.44	1.153	1.38	10.3	17.3	58.2	×
60.00		1.00	1.14	6.878	7.57	0.00	1.200	1.062	4.56	11.640	13.97	105.7	172.2	583.3	
64.00 Appurt	tenance(s)	1.00	1.15	6.972	7.67	0.00	1.200	1.068	4.00	9.740	11.69	89.6	145.0	487.4	
65.00		1.00	1.16	6.995	7.69	0.00	1.200	1.070	1.00	2.366	2.84	21.8	35.9	118.8	
67.06 Appurt	tenance(s)	1.00	1.16	7.041	7.74	0.00	1.200	1.073	2.06	4.788	5.75	44.5	72.3	239.8	
70.00		1.00	1.17	7.105	7.81	0.00	1.200	1.078	2.94	6.631	7.96	62.2	99.8	331.1	
74.00 Appurt	tenance(s)	1.00	1.19	7.188	7.91	0.00	1.200	1.084	4.00	8.641	10.37	82.0	129.4	429.3	
75.00 Appurt	٠,	1.00	1.19	7.208	7.93	0.00	1.200	1.086	1.00	2.091	2.51	19.9	31.9	104.3	
75.45 Appurt	tenance(s)	1.00	1.19	7.218	7.94	0.00	1.200	1.086	0.45	0.932	1.12	8.9	14.3	46.5	
76.00		1.00	1.19	7.229	7.95	0.00	1.200	1.087	0.55	1.132	1.36	10.8	17.3	56.4	
								Totals:	76.00			1,872.4		13,290.7	

Discrete Appurtenance Forces

CT46122-A-SBA Structure:

Site Name: Middletown North

Height:

76.00 (ft)

Base Elev: 0.000 (ft)

Gh:

1.1

Code:

TIA-222-H

С Exposure:

Crest Height: 0.00

D - Stiff Soil Site Class:

Struct Class: ||

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Iterations

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Topography: 1

1.20 **Dead Load Factor** Wind Load Factor 1.00

	Elev	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
No.	(ft)	Description	1	7.218	7.939	1.00	1.00	52.88	298.55	0.000	0.000	419.79	0.00	0.00
1		4' Branches	3	7.208	7.929	0.56	0.75	23.29	716.53	0.000	0.000	184.67	0.00	0.00
2		T-Arms	1	7.188	7.907	1.00	1.00	32.16	252.83	0.000	0.000	254.26	0.00	0.00
3		Antenna Branches	3	7.188	7.907	0.57	0.80	10.63	531.23	0.000	0.000	84.08	0.00	0.00
4		AIR6449 B41	3	7.188	7.907	0.54	0.80	3.15	214.00	0.000	0.000	24.92	0.00	0.00
5		RRUS 4415 B25	3	7.188	7.907	0.54	0.80	3.53	282.94	0.000	0.000	27.91	0.00	0.00
6		Ericsson 4415 B66A	1	7.188	7.907	1.00	1.00	10.85	768.72	0.000	0.000	85.77	0.00	0.00
7		(Handrail Kit w/end	3	7.188	7.907	0.56	0.80	35.96	1202.47	0.000	0.000	284.32	0.00	0.00
8	74.00		3	7.188	7.907	0.70	0.80	15.01	794.02	0.000	0.000	118.69	0.00	0.00
9		Air 32	6	7.188	7.907	0.80	0.80	1.23	14.13	0.000	0.000	9.76	0.00	0.00
10		ATM200-A20	3	7.188	7.907	0.54	0.80	3.71	314.28	0.000	0.000	29.37	0.00	0.00
11		Radio 4449 B71+B85	3	7.188	7.907	0.54	0.80	1.79	39.64	0.000	0.000	14.14	0.00	0.00
12		Commscope	1	7.041	7.745	1.00	1.00	119.54	1051.76	0.000	0.000	925.81	0.00	0.00
13		6' Branches	3	6.972	7.669	0.54	0.80	4.18	307.84	0.000	0.000	32.06	0.00	0.00
14		B5/B13 RRH-BR04C	3	6.972	7.669	0.54	0.80	3.15	414.97	0.000	0.000	24.12	0.00	0.00
15		B2/B66A RRH-BR049 CBC78T-DS-43-2X/E14F0	3	6.972	7.669	0.54	0.80	0.85	109.90	0.000	0.000	6.52	0.00	0.00
16			3	6.972	7.669	0.56	0.75	0.00	120.31	0.000	0.000	0.00	0.00	0.00
17		BSAMNT-SBS-1-2	2	6.972	7.669	0.90	0.80	10.25	216.44	0.000	0.000	78.62	0.00	0.00
18		DB846H80E-SX	3	6.972	7.669	0.56	0.75	20.71	1262.30	0.000	0.000	158.84	0.00	0.00
19		T-Arm	2	6.972	7.669	0.64	0.80	1.17	78.66	0.000	0.000	8.95	0.00	0.00
20		Kaelus BSF0020F3V1-1	4	6.972	7.669	0.74	0.80	23.14	548.17	0.000	0.000	177.47	0.00	0.00
21		DB846F65ZAXY	1	6.972	7.669	0.56	0.75	14.83	813.28	0.000	0.000	113.77	0.00	0.00
22		(3) VZWSMART-SFK4	2	6.972	7.669	0.54	0.80	5.70	269.66	0.000	0.000	43.74		0.00
23		DB-T1-6Z-8AB-0Z	6	6.972	7.669		0.80	39.50	1246.33	0.000	0.000	302.96		0.00
24		JAHH-65B-R3B	3	6.972	7.669		0.80	8.00	500.80	0.000	0.000	61.34		0.00
25	•	VZS01	1	6.764	7.441	1.00	1.00	214.19	4293.69	0.000	0.000	1593.70	0.00	0.00
26		8' Branches	3	6.646	7.311		0.80	23.74	552.85	0.000	0.000	173.56	0.00	0.00
27		MX08FRO665-21	ა 1	6.646	7.311		0.75	20.65	1503.64	0.000	0.000	150.95	0.00	0.00
28		MC-K6MHDX-9-96 (3	-	6.646	7.311		0.80	1.88	45.45	0.000	0.000	13.75	0.00	0.00
29		RDIDC-9181-OF-48	1	6.646	7.311		0.80	3.69	326.11	0.000	0.000	26.99	0.00	0.00
30		TA08025-B605	3	6.646	7.311		0.80	3.69	284.64	0.000	0.000	26.99	0.00	0.00
31		TA08025-B604	3	6.390	7.029	7-0-0	1.00	76.75	1409.44	0.000	0.000	539.48	0.00	0.00
32	42.31	10' Branches	1	0.390	7.028	1.00	Total		20.785.59			5,997.29		

Totals:

20,785.59

Total Applied Force Summary

Structure: CT46122-A-SBA

Site Name: Middletown North

Height:

76.00 (ft)

Base Elev: 0.000 (ft)

Gh:

1.1

Code:

TIA-222-H

Exposure:

С

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: II

7/7/2023

Tower Engineering Solution

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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Topography: 1

Dead Load Factor 1.20 Wind Load Factor 1.00



Iterations

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	
0.00		0.00	0.00	0.00	0.00	
5.00		135.91	1334.51	0.00	0.00	
10.00		131.53	1309.54	0.00	0.00	
15.00		127.03	1277.20	0.00	0.00	
20.00		129.95	1241.58	0.00	0.00	
22.75		71.29	667.50	0.00	0.00	
25.00		59.07	822.81	0.00	0.00	
28.25		85.67	1164.86	0.00	0.00	
30.00		45.78	356.37	0.00	0.00	
35.00		131.42	993.71	0.00	0.00	
40.00		129.48	959.86	0.00	0.00	
42.31	(1) attachments	598.05	1842.27	0.00	0.00	
45.00		67.53	494.58	0.00	0.00	
50.00		123.76	890.50	0.00	0.00	
51.00	(11) attachments	416.35	2887.26	0.00	0.00	
55.00		95.63	677.22	0.00	0.00	
55.44	(1) attachments	1604.00	4367.08	0.00	0.00	
60.00		105.68	740.85	0.00	0.00	
64.00	(35) attachments	1098.02	6514.34	0.00	0.00	
65.00		21.84	128.28	0.00	0.00	
67.06	(1) attachments	970.30	1311.03	0.00	0.00	
70.00		62.19	358.85	0.00	0.00	
74.00	(29) attachments	1015.22	4881.41	0.00	0.00	
75.00	(3) attachments	204.57	830.27	0.00	0.00	
75.45	(1) attachments	428.67	345.05	0.00	0.00	
76.00		10.80	56.41	0.00	0.00	
	Totals:	7,869.73	36,453.33	0.00	0.00	

Calculated Forces

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Code: TIA-222-H

Exposure: C **Crest Height:** 0.00

Site Class: D - Stiff Soil

Struct Class: ||

7/7/2023

Page: 19 Tower Engineering Solution

Iterations

16

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Topography: 1

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 Sway (deg)	Twist (deg)	Stress Ratio
0.00	-36.45	-7.89	0.00	-453.59	0.00	453.59	2976.77	803.98	3080.93	2832.01	0.00	0.000	0.000	0.173
5.00	-35.11	-7.78	0.00	-414.17	0.00	414.17	2914.38	775.44	2866.11	2673.58	0.03	-0.050	0.000	0.167
10.00	-33.79	-7.68	0.00	-375.27	0.00	375.27	2848.80	746.90	2659.05	2516.58	0.11	-0.101	0.000	0.161
15.00	-32.51	-7.58	0.00	-336.89	0.00	336.89	2780.04	718.37	2459.75	2361.34	0.24	-0.152	0.000	0.154
20.00	-31.26	-7.46	0.00	-299.01	0.00	299.01	2708.10	689.83	2268.22	2208.17	0.43	-0.203	0.000	0.147
22.75	-30.59	-7.40	0.00	-278.48	0.00	278.48	2667.17	674.14	2166.19	2124.93	0.55	-0.232	0.000	0.143
25.00	-29.77	-7.36	0.00	-261.83	0.00	261.83	2632.97	661.30	2084.45	2057.41	0.67	-0.256	0.000	0.139
28.25	-28.60	-7.28	0.00	-237.92	0.00	237.92	1920.92	522.03	1623.69	1483.43	0.86	-0.290	0.000	0.175
30.00	-28.24	-7.25	0.00	-225.18	0.00	225.18	1904.07	514.04	1574.37	1447.76	0.97	-0.308	0.000	0.171
35.00	-27.24	-7.14	0.00	-188.93	0.00	188.93	1853.76	491.22	1437.64	1346.49	1.32	-0.366	0.000	0.155
40.00	-26.27	-7.02	0.00	-153.24	0.00	153.24	1800.28	468.39	1307.12	1246.45	1.73	-0.422	0.000	0.138
42.31	-24.43	-6.42	0.00	-137.02	0.00	137.02	1774.49	457.84	1248.92	1200.72	1.95	-0.447	0.000	0.128
45.00	-23.93	-6.36	0.00	-119.75	0.00	119.75	1743.61	445.56	1182.81	1147.94	2.21	-0.474	0.000	0.118
50.00	-23.04	-6.24	0.00	-87.92	0.00	87.92	1683.75	422.73	1064.71	1051.30	2.73	-0.519	0.000	0.098
51.00	-20.16	-5.81	0.00	-81.68	0.00	81.68	1671.40	418.16	1041.84	1032.22	2.84	-0.528	0.000	0.091
55.00	-19.48	-5.71	0.00	-58.45	0.00	58.45	1620.72	399.90	952.83	956.84	3.29	-0.557	0.000	0.073
55.44	-15.13	-4.07	0.00	-55.93	0.00	55.93	1615.02	397.89	943.28	948.65	3.34	-0.560	0.000	0.068
60.00	-14.39	-3.96	0.00	-37.38	0.00	37.38	1554.50	377.07	847.15	864.91	3.89	-0.586	0.000	0.053
64.00	-7.88	-2.80		-21.54	0.00	21.54	1499.23	358.81	767.08	793.39	4.39	-0.603	0.000	0.032
65.00	-7.75	-2.77	0.00	-18.74	0.00	18.74	1485.09	354.25	747.68	775.81	4.52	-0.606	0.000	0.029
67.06	-6.45	-1.79	0.00	-13.03	0.00	13.03	1455.57	344.84	708.50	740.00	4.78	-0.612	0.000	0.022
70.00	-6.09	-1.73	0.00	-7.76	0.00	7.76	1403.00	331.42	654.42	685.23	5.16	-0.617	0.000	0.016
74.00	-1.22	-0.66		-0.86	0.00	0.86	1325.69	313.15	584.28	611.42	5.68	-0.621	0.000	0.002
75.00	-0.40	-0.44		-0.21	0.00	0.21	1306.36	308.59	567.37	593.63	5.81	-0.621	0.000	0.001
75.45	-0.46	-0.01	0.00	-0.01	0.00	0.01	1297.66	306.53	559.84	585.71	5.87	-0.621	0.000	0.000
76.00	0.00	-0.01	0.00	0.00	0.00	0.00	1287.03	304.02	550.71	576.10	5.94	-0.621	0.000	0.000

Seismic Segment Forces (Factored)

Structure: CT46122-A-SBA

Code:

С

7/7/2023

Site Name: Middletown North

Exposure:

TIA-222-H

Height:

76.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh:

1.1

Topography: 1

Struct Class: ||

Page: 20

Load Case: 1.2D + 1.0Ev + 1.0Eh **Gust Response Factor**

Sds 0.22 **Iterations** 15 Ss 0.20

Dead Load Factor

1.20 Seismic Load Factor

1.00 Sd1 0.09

S1 0.06

SA

	Wind Load Factor	0.00 St i	ructure Fre	quency (f	1) 0.81	SA	0.07	Seismic Importance Factor	1.0
Top Elev (ft)	Description		Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)		·	R: 1.50
0.00			0.00	0.00	0.00	0.00	_		
5.00			944.38	2.50	41.30	0.59			
10.00			916.72	7.50	40.09	2.55			
15.00			889.06	12.50	38.88	4.92			
20.00			861.39	17.50	37.67	7.47			
22.75	Bot - Section 2		461.97	21.38	20.20	4.19			
25.00			608.21	23.88	26.60	7.09			
28.25	Top - Section 1		860.72	26.63	37.64	13.24			
30.00			238.35	29.13	10.42	2.59			
35.00			666.08	32.50	29.13	12.25			
40.00			643.94	37.50	28.16	14.22			
42.31	Appurtenance(s)		830.03	41.16	36.30	22.85			
45.00			331.79	43.66	14.51	7.07			
50.00			599.68	47.50	26.23	17.83			
51.00	Appurtenance(s)		1648.3	50.50	72.09	77.27			
55.00			455.47	53.00	19.92	14.21			
55.44	Appurtenance(s)		1687.2	55.22	73.79	90.14			
60.00			500.18	57.72	21.87	18.16			
64.00	Appurtenance(s)		3373.8	62.00	147.55	272.46			
65.00			78.58	64.50	3.44	1.68			
67.06	Appurtenance(s)		559.09	66.03	24.45	25.41			
70.00			220.55	68.53	9.65	7.49			
74.00	Appurtenance(s)		2258.9	72.00	98.79	193.12			
75.00	Appurtenance(s)		549.73	74.50	24.04	29.29			
75.45	Appurtenance(s)		416.83	75.22	18.23	20.33			
76.00	• •		32.55	75.72	1.42	0.63			
		Totals:	20,633.7		902.4	867.0		Total Wind: 31,27	1.3

Calculated Forces

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Code:

TIA-222-H

Exposure: C

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: ||

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((III))

ES

Tower Engineering Solution

Load Case: 1.2D + 1.0Ev + 1.0Eh

Dead Load Factor

Gust Response Factor 1.10

1.20 Seismic Load Factor

Topography: 1

Sds 0.22

1.00 **Sd1** 0.09

 Iterations
 15

 Ss
 0.20

S1 0.06

Wind Load Factor 0.00 Structure Frequency (f1) 0.81 SA 0.07 Seismic Importance Factor 1.00

-1														D - 4 - 4!	
	Seg Elev	Pu FY (-)	Vu FX (-)	Tu MY (-)	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 Sway (deg)	Twist (deg)	Stress Ratio
3	(ft)	(kips)		(ft-kips) 0.00	-53.52	0.00	53.52	2976.77	803.98	3080.93	2832.01		0.00	0.00	0.027
	0.00	-25.19	-0.87	0.00	-49.18	0.00	49.18	2914.38	775.44	2866.11	2673.58		0.00	-0.01	0.027
	5.00	-24.05	-0.87	0.00	-44.83	0.00	44.83	2848.80	746.90	2659.05	2516.58		0.01	-0.01	0.026
	10.00	-22.94	-0.87		-40.48	0.00	40.48	2780.04	718.37	2459.75	2361.34		0.03	-0.02	0.025
	15.00	-21.87	-0.87	0.00	-40.46	0.00	36.15	2708.10	689.83	2268.22	2208.17		0.05	-0.02	0.024
	20.00	-20.84	-0.86	0.00	-33.78	0.00	33.78	2667.17	674.14	2166.19	2124.93		0.07	-0.03	0.024
	22.75	-20.28	-0.86	0.00	-31.85	0.00	31.85	2632.97	661.30	2084.45	2057.41		0.08	-0.03	0.023
	25.00	-19.54	-0.85	0.00	-29.09	0.00	29.09	1920.92	522.03	1623.69	1483.43		0.10	-0.03	0.029
	28.25	-18.50	-0.84	0.00	-29.09	0.00	27.62	1904.07	514.04	1574.37	1447.76		0.12	-0.04	0.029
	30.00	-18.21	-0.84	0.00		0.00	23.44	1853.76	491.22	1437.64	1346.49		0.16	-0.04	0.027
	35.00	-17.42	-0.83	0.00	-23.44 -19.30	0.00	19.30	1800.28	468.39	1307.12	1246.45		0.21	-0.05	0.025
	40.00	-16.65	-0.81	0.00	-17.43	0.00	17.43	1774.49	457.84	1248.92	1200.72		0.23	-0.05	0.023
	42.31	-15.64	-0.79	0.00	-17.43	0.00	15.30	1743.61	445.56	1182.81	1147.94		0.27	-0.06	0.022
	45.00	-15.24	-0.78	0.00		0.00	11.38	1683.75	422.73	1064.71	1051.30		0.33	-0.06	0.019
	50.00	-14.53	-0.77	0.00	-11.38	0.00	10.62	1671.40	418.16	1041.84	1032.22		0.34	-0.06	0.018
	51.00	-12.49	-0.69		-10.62	0.00	7.87	1620.72	399.90	952.83	956.84		0.40	-0.07	0.016
	55.00	-11.95	-0.67	0.00	-7.87	0.00	7.57	1615.02	397.89	943.28	948.65		0.40	-0.07	0.014
	55.44	-9.86	-0.58		-7.57	0.00	4.92	1554.50	377.07	847.15	864.91		0.47	-0.07	0.012
	60.00	-9.27	-0.56		-4.92	0.00	2.68	1499.23	358.81	767.08	793.39		0.53	-0.07	0.007
	64.00	-5.10	-0.28		-2.68	0.00	2.39	1485.09	354.25	747.68	775.81		0.55	-0.08	0.006
	65.00	-5.00	-0.28		-2.39	0.00	1.81	1455.57	344.84	708.50	740.00		0.58	-0.08	0.005
	67.06	-4.31	-0.26		-1.81		1.06	1403.00	331.42	654.42	685.23		0.63	-0.08	0.004
	70.00	-4.04	-0.25		-1.06		0.06	1325.69	313.15	584.28	611.42		0.69	-0.08	0.001
	74.00	-1.24	-0.05		-0.06		0.00	1306.36	308.59	567.37	593.63		0.71	-0.08	0.000
	75.00	-0.56	-0.02		-0.01	0.00	0.00	1297.66	306.53	559.84	585.71		0.72	-0.08	0.000
	75.45	-0.04	0.00		0.00	0.00	0.00	1287.00	304.02	550.71	576.10		0.73	-0.08	0.000
	76.00	0.00	0.00	0.00	0.00	0.00	0.00	1207.00	304.02	000.71	2. 2. 10				

Seismic Segment Forces (Factored)

Structure: CT46122-A-SBA

Code:

TIA-222-H

С

7/7/2023

Site Name: Middletown North

Exposure:

Base Elev: 0.000 (ft)

76.00 (ft)

Height:

Crest Height: 0.00

Gh: 1.1

Topography: 1

Site Class: D - Stiff Soil Struct Class: ||

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Load Case: 0.9D + 1.0Ev + 1.0Eh **Iterations** 15 **Gust Response Factor** 1.10 Sds 0.22 Ss 0.20 **Dead Load Factor** 0.90 Seismic Load Factor 1.00 \$d1 0.09 S1 0.06

Wind Load Factor 0.00 Structure Frequency (f1) 0.81 SA 0.07 Seismic Importance Factor

	Wind Load Factor	0.00 St	ructure Fred	quency (f	1) 0.81	SA 0.	.07 Seismic Importance Factor		1.00
Top Elev (ft)	Description		Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)	·		1.50
0.00			0.00	0.00	0.00	0.00		_	
5.00			899.68	2.50	39.35	0.57			
10.00			872.02	7.50	38.14	2.43			
15.00			844.36	12.50	36.93	4.68			
20.00			816.69	17.50	35.72	7.09			
22.75	Bot - Section 2		437.39	21.38	19.13	3.97			
25.00			588.09	23.88	25.72	6.92			
28.25	Top - Section 1		831.67	26.63	36.37	12.90			
30.00			222.71	29.13	9.74	2.41			
35.00			621.38	32.50	27.17	11.38			
40.00			599.24	37.50	26.21	13.17			
42.31	Appurtenance(s)		809.38	41.16	35.40	22.55			
45.00			307.74	43.66	13.46	6.51			
50.00			554.98	47.50	24.27	16.38			
51.00	Appurtenance(s)		1639.4	50.50	71.70	78.34			
55.00			420.91	53.00	18.41	13.03			
55.44	Appurtenance(s)		1683.4	55.22	73.62	91.79			
60.00			460.79	57.72	20.15	16.58			
64.00	Appurtenance(s)		3339,2	62.00	146.04	274.42			
65.00			76.22	64.50	3.33	1.65			
67.06	Appurtenance(s)		554,22	66.03	24.24	25.65			
70.00			213.60	68.53	9.34	7.33			
74.00	Appurtenance(s)		2249.4	72.00	98.38	196.14			
75.00	Appurtenance(s)		547.37	74.50	23.94	29.74			
75.45	Appurtenance(s)		416.83	75.22	18.23	20.76			
76.00			32.55	75.72	1.42	0.64			
		Totals:	20,039.4		876.4	867.0	Total Wind: 31,27	1.3	

Calculated Forces

CT46122-A-SBA Structure:

Site Name: Middletown North

Height: 76.00 (ft)

0.000 (ft) Base Elev:

Gh: 1.1

TIA-222-H Code:

Exposure:

Crest Height: 0.00

D - Stiff Soil Site Class:

1.00

Struct Class:

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((HH))) Tower Engineering Solutions

Load Case: 0.9D + 1.0Ev + 1.0Eh

Gust Response Factor

0.90 Seismic Load Factor

Topography:

0.22 Sds 0.09 Sd1

15 **Iterations** Ss 0.20 **S1** 0.06

1.00

Dead Load Factor 0.07 Seismic Importance Factor 0.00 Structure Frequency (f1) 0.81 SA Wind Load Factor

Rotation Rotation phi phi phi Total Resultant phi Mu Μu Pu ٧u Tu Seg Twist Stress Mn Deflect Swav Pπ ٧n Tn Moment FY (-) FX (-) MY (-) ΜZ MX Elev Ratio (ft-kips) (in) (deg) (deg) (kips) (ft-kips) (ft-kips) (ft-kips) (ft-kips) (kips) (kips) (ft-kips) (ft) (kips) 0.025 803.98 0.00 0.00 3080.93 2832.01 53.52 2976.77 0.00 0.00 -53.520.00 -19.09-0.870.025 -0.01 0.00 2866.11 2673.58 2914.38 775.44 -49.19 0.00 49.19 0.005.00 -18.23-0.870.024 -0.01 2659.05 2516.58 0.01 746.90 44.84 2848.80 0.00 -17.39 -0.87 0.00 -44.84 10.00 -0.02 0.023 0.03 2780.04 718.37 2459.75 2361.34 40.50 -40.50 0.00 -0.87 0.00 15.00 -16.58 -0.02 0.022 0.05689.83 2268.22 2208.17 36.18 2708.10 -0.86 0.00 -36.180.00 20.00 -15.800.07 -0.03 0.022 2124.93 2667.17 674.14 2166.19 33.81 0.00 -15.38 -0.860.00 -33.8122.75 -0.030.021 661.30 2084.45 2057 41 80.0 2632.97 31.89 0.00 0.00 -31.8925.00 -14.82-0.85-0.030.027 1623.69 1483.43 0.10 29.13 1920.92 522.03 0.00 -29.1328.25 -14.02-0.840.00 0.026 -0.041574.37 1447.76 0.12 514.04 -27.66 0.00 27.66 1904.07 0.00 -13.81 -0.8430.00 0.025 -0.04 0.16 1853.76 491.22 1437.64 1346.49 23.49 0.00 -23.49 0.00 35.00 -13.21 -0.83-0.05 0.023 1307.12 1800.28 468.39 1246.45 0.21 -19.36 0.00 19.36 0.00 -0.81 40.00 -12.63-0.05 0.021 0.23 1248.92 1200.72 1774.49 457.84 17.48 -0.79 0.00 -17.48 0.00 42.31 -11.860.27 -0.06 0.020 445.56 1182.81 1147.94 1743.61 15.36 -15.36 0.00 -11.56 -0.780.00 45.00 -0.06 0.017 0.33 1683.75 422.73 1064.71 1051.30 11.43 0.00 -11.43 0.00 50.00 -11.02 -0.77-0.06 0.016 0.34 1671.40 418.16 1041.84 1032 22 10.67 -10.670.00 51.00 -9.47 -0.690.00 -0.070.014 956.84 0.40 399.90 952.83 0.00 7.91 1620.72 -7 91 -9.07 -0.68 0.00 55.00 0.013 -0.07943.28 948,65 0.41 397.89 7.62 1615.02 -7.62 0.00 -7.48 -0.580.00 55.44 0.010 -0.07 377.07 847.15 864.91 0.47 1554.50 -4.96 0.00 4.96 0.00 60.00 -7.03 -0.570.006 -0.07 0.54 1499.23 358.81 767.08 793.39 0.00 -2.70 0.00 2,70 64.00 -3.87-0.29-0.08 0.006 0.55 747.68 775.81 1485.09 354.25 2 42 0.00 -0.290.00 -2.42-3.7965.00 0.005 0.58-0.08344.84 708.50 740.00 1.83 1455.57 -1.830.00 -0.260.00 67.06 -3.270.004 -0.08 1403.00 331.42 654.42 685.23 0.631.07 0.00 -3.07-0.250.00 -1.07 70.00 -0.08 0.001 0.70 0.06 1325.69 313.15 584.28 611.42 0.00 0.00 -0.0674.00 -0.94-0.05-0.08 0.000 0.71 567.37 593.63 0.01 1306.36 308.59 0.00 -0.01 -0.020.00 75.00 -0.420.000 559.84 585.71 0.72 -0.08 306.53 0.00 0.00 1297.66 0.00 0.00 -0.03 0.00 75.45 0.000 0.73 -0.08304.02 550.71 576.10 1287.03 0.00 0.00 0.00 76.00 0.00 0.00 0.00

Wind Loading - Shaft

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft) **Base Elev:** 0.000 (ft)

Gh: 1.1

υυυ (π) 1 **Topography:** 1 Code: TIA-222-H

Exposure: C **Crest Height:** 0.00

Site Class: D - Stiff Soil

Struct Class: II

7/7/2023

((H)) <u>IES</u> Tower Engineering Solution

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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00 Wind Load Factor 1.00 X

Iterations

16

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (Ib)	Tot Dead Load (lb)
0.00		1.00	0.85	6.627	7.29	217.15	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	6.627	7.29	209.49	0.730	0.000	5.00	19.327	14.11	102.8	0.0	765.6
10.00		1.00	0.85	6.627	7.29	201.84	0.730	0.000		18.634	13.60	99.2	0.0	737.9
15.00		1.00	0.85	6.627	7.29	194.18	0.730	0.000	5.00	17.940	13.10	95.5	0.0	710.3
20.00		1.00	0.90	7.032	7.73	192.13	0.730	0.000	5.00	17.246	12.59	97.4	0.0	682.6
22.75 Bot	- Section 2	1.00	0.93	7.225	7.95	190.36	0.730	0.000	2.75	9.190	6.71	53.3	0.0	363.6
25.00		1.00	0.95	7.370	8.11	188.63	0.730	0.000	2.25	7.458	5.44	44.1	0.0	527.7
28.25 Top	- Section 1	1.00	0.97	7.562	8.32	185.75	0.730	0.000	3.25	10.525	7.68	63.9	0.0	744.5
30.00		1.00	0.98	7.658	8.42	186.56	0.730	0.000	1.75	5.546	4.05	34.1	0.0	175.8
35.00		1.00	1.01	7.911	8.70	181.25	0.730	0.000		15,377	11.23	97.7	0.0	487.3
40.00		1.00	1.04	8.136	8.95	175.33	0.730	0.000	5.00	14.684	10.72	95.9	0.0	465.1
42.31 Appi	urtenance(s)	1.00	1.06	8.233	9.06	172.43	0.730	0.000	2.31	6.550	4.78	43.3	0.0	207.4
45.00		1.00	1.07	8.341	9.17	168.93	0.730	0.000	2.69	7.440	5.43	49.8	0.0	235,6
50.00		1.00	1.09	8.528	9.38	162.13	0.730	0.000		13.296	9.71	91.0	0.0	420.9
51.00 Appi	urtenance(s)	1.00	1.10	8.563	9.42	160.73	0.730	0.000	1.00	2.576	1.88	17.7	0.0	81.5
55.00		1.00	1.12	8.701	9.57	155.00	0.730	0.000		10.027	7.32	70.1	0.0	317.2
55.44 Appı	urtenance(s)	1.00	1.12	8.715	9.59	154.35	0.730	0.000	0.44	1.076	0.79	7.5	0.0	34.0
60.00		1.00	1.14	8.861	9.75	147.57	0.730	0.000	4.56	10.833	7.91	77.1	0.0	342.6
64.00 Appı	urtenance(s)	1.00	1.15	8.983	9.88	141.45	0.730	0.000	4.00	9.028	6.59	65.1	0.0	285.4
65.00		1.00	1.16	9.012	9.91	139.89	0.730	0.000	1.00	2.188	1.60	15.8	0.0	69.1
67.06 Appı	urtenance(s)	1.00	1.16	9.071	9.98	136.66	0.730	0.000	2.06	4,419	3.23	32.2	0.0	139.6
70.00		1.00	1.17	9.154	10.07	131.99	0.730	0.000	2.94	6.103	4.46	44.9	0.0	192.7
74.00 Appı	urtenance(s)	1.00	1.19	9.261	10.19	125.52	0.730	0.000	4.00	7.918	5.78	58.9	0.0	250.0
75.00 Appu	urtenance(s)	1.00	1.19	9.288	10.22	123.89	0.730	0.000	1.00	1.910	1.39	14.2	0.0	60.3
75.45 Appı	urtenance(s)	1.00	1.19	9.299	10.23	123.15	0.730	0.000	0.45	0.851	0.62	6.4	0.0	26.8
76.00		1.00	1.19	9.314	10.24	122.25	0.730	0.000	0.55	1.032	0.75	7.7	0.0	32.6
								Totals:	76.00			1,385.7	• • •	8,356.2

Discrete Appurtenance Forces

Structure: CT46122-A-SBA

Site Name: Middletown North

Height: 76.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Code:

TIA-222-H

С

Exposure:

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: II

7/7/2023

((H)) IES Tower Engineering Solution

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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00 Wind Load Factor 1.00

Topography: 1



Iterations

16

	Elev		qz	qzGh	Orient Factor		Total CaAa	Dead Load	Horiz Ecc	Vert Ecc	Wind FX	Mom Y	Mom Z
No.		cription Qty	(psf)	(psf)	x Ka	Ka	(sf)	(lb)	(ft)	(ft)	(lb)	(lb-ft)	(lb-ft)
1	75.45 4' Branches	1	9.299	10.229	1.00	1.00	36.86	390.00	0.000	0.000	377.05	0.00	0.00
2	75.00 T-Arms	3	9.288	10.216	0.56	0.75	13.50	480.00	0.000	0.000	137.92	0.00	0.00
3	74.00 Antenna Bra	anches 1	9.261	10.187	1.00	1.00	22.43	96.00	0.000	0.000	228.51	0.00	0.00
4	74.00 AIR6449 B4	.1 3	9.261	10.187	0.57	0.80	9.63	309.00	0.000	0.000	98.08	0.00	0.00
5	74.00 RRUS 4415	B25 3	9.261	10.187	0.54	0.80	2.64	138.00	0.000	0.000	26.87	0.00	0.00
6	74.00 Ericsson 44	15 B66A 3	9.261	10.187	0.54	0.80	2.99	148.80	0.000	0.000	30.47	0.00	0.00
7	74.00 (Handrail Ki		9.261	10.187	1.00	1.00	6.75	261.72	0.000	0.000	68.77	0.00	0.00
8	74.00 RFS	3	9.261	10.187	0.56	0.80	34.00	384.00	0.000	0.000	346.41	0.00	0.00
9	74.00 Air 32	3	9.261	10.187	0.70	0.80	13.59	396.60	0.000	0.000	138.48	0.00	0.00
10	74.00 ATM200-A2	0 6	9.261	10.187	0.40	0.80	0.29	3.00	0.000	0.000	2.93	0.00	0.00
11	74.00 Radio 4449	B71+B85 3	9.261	10.187	0.54	0.80	3.17	213.00	0.000	0.000	32.27	0.00	0.00
12	74.00 Commscope	e 3	9.261	10.187	0.54	0.80	1.16	21.00	0.000	0.000	11.79	0.00	0.00
13	67.06 6' Branches	1	9.071	9.978	1.00	1.00	83.63	400.00	0.000	0.000	834.50	0.00	0.00
14	64.00 B5/B13 RRI	H-BR04C 3	8.983	9.881	0.54	0.80	3.57	210.90	0.000	0.000	35.27	0.00	0.00
15	64.00 B2/B66A RF	RH-BR049 3	8.983	9.881	0.54	0.80	2.64	253.20	0.000	0.000	26.06	0.00	0.00
16	64.00 CBC78T-DS	S-43-2X/E14F0 3	8.983	9.881	0.54	0.80	0.59	65.40	0.000	0.000	5.88	0.00	0.00
17	64.00 BSAMNT-S		8.983	9.881	0.56	0.75	0.00	76.05	0.000	0.000	0.00	0.00	0.00
18	64.00 DB846H80E		8.983	9.881	0.90	0.80	8.98	32.00	0.000	0.000	88.71	0.00	0.00
19	64.00 T-Arm	3	8.983	9.881	0.56	0.75	13.50	960.00	0.000	0.000	133.39	0.00	0.00
20	64.00 Kaelus BSF	0020F3V1-1 2	8.983	9.881	0.64	0.80	0.90	39.60	0.000	0.000	8.85	0.00	0.00
21	64.00 DB846F65Z	'AXY 4	8.983	9.881	0.74	0.80	20.98	84.00	0.000	0.000	207.31	0.00	0.00
22	64.00 (3) VZWSM		8.983	9.881	0.56	0.75	9.28	500.00	0.000	0.000	91.71	0.00	0.00
23	64.00 DB-T1-6Z-8		8.983	9.881	0.54	0.80	3.54	88.00	0.000	0.000	34.95	0.00	0.00
24	64.00 JAHH-65B-l		8.983	9.881	0.66	0.80	36.29	379.80	0.000	0.000	358.62	0.00	0.00
25	64.00 VZS01	3	8.983	9.881	0.55	0.80	7.12	261.30	0.000	0.000	70.36	0.00	0.00
26	55.44 8' Branches	. 1	8.715	9.587	1.00	1.00	150.70	1638.00	0.000	0.000	1444.70	0.00	0.00
27	51.00 MX08FRO6		8.563	9.420	0.59	0.80	22.18	193.50	0.000	0.000	208.95	0.00	0.00
28	51.00 MC-K6MHD		8.563	9.420	0.56	0.75	11.78	899.00	0.000	0.000	111.00	0.00	0.00
29	51.00 RDIDC-918	,	8.563	9.420	0.80	0.80	1.61	21.90	0.000	0.000	15.15	0.00	0.00
30	51.00 TA08025-B		8.563	9.420	0.54	08.0	3.15	225.00	0.000	0.000	29.69	0.00	0.00
31	51.00 TA08025-B		8.563	9.420	0.54	0.80	3.15	191.70	0.000	0.000	29.69	0.00	0.00
32	42.31 10' Branche		8.233	9.056	1.00	1.00	54.43	540.00	0.000	0.000	492.94	0.00	0.00
								9,900.47			5,727.26		

Total Applied Force Summary

Structure: CT46122-A-SBA

Site Name: Middletown North

Height:

76.00 (ft)

Base Elev: 0.000 (ft)

Gh:

Code:

TIA-222-H

Exposure:

С

Crest Height: 0.00 D - Stiff Soil

Site Class:

Struct Class: II

7/7/2023

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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor

1.00

Topography: 1

Wind Load Factor 1.00

Iterations

Elev		Lateral FX (-)	Axial FY (-)	Torsion MY	Moment MZ
(ft)	Description	(lb)	(lb)	(lb-ft)	(lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		102.85	914.58	0.00	0.00
10.00		99.16	886.92	0.00	0.00
15.00		95.47	859.26	0.00	0.00
20.00		97.38	831.59	0.00	0.00
22.75		53.32	445.58	0.00	0.00
25.00		44.14	594.80	0.00	0.00
28.25		63.91	841.35	0.00	0.00
30.00		34.10	227.92	0.00	0.00
35.00		97.68	636.28	0.00	0.00
40.00		95.93	614.14	0.00	0.00
42.31	(1) attachments	536.24	816.26	0.00	0.00
45.00		49.83	315.75	0.00	0.00
50.00		91.05	569.88	0.00	0.00
51.00	(11) attachments	412.19	1642.42	0.00	0.00
55.00		70.05	432.43	0.00	0.00
55.44	(1) attachments	1452.23	1684.70	0.00	0.00
60.00		77.09	473.92	0.00	0.00
64.00	(35) attachments	1126.23	3350.81	0.00	0.00
65.00		15.83	77.01	0.00	0.00
67.06	(1) attachments	866.69	555.85	0.00	0.00
70.00	51	44.86	215.91	0.00	0.00
74.00	(29) attachments	1043.46	2252.59	0.00	0.00
75.00	(3) attachments	152.17	548.16	0.00	0.00
75.45	(1) attachments	383.40	416.83	0.00	0.00
76.00		7.72	32.55	0.00	0.00
	Totals:	7,112.96	20,237.52	0.00	0.00

Calculated Forces

CT46122-A-SBA Structure:

Site Name: Middletown North

76.00 (ft) Height:

Base Elev: 0.000 (ft)

Gh: 1.1

TIA-222-H Code:

Exposure:

Crest Height: 0.00 D - Stiff Soil Site Class:

Struct Class: ||

Page: 27



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Iterations

Load Case: 1.0D + 1.0W 60 mph Wind

Topography: 1

1.00 **Dead Load Factor** 1.00 **Wind Load Factor**

Seg	Pu	Vu	Tu	Mu	Mu	Resultant	phi	phi	phi	phi	Total	Rotation	Rotation Twist	Stress
Elev	FY (-)	FX (-)	MY (-)	MZ	MX	Moment	Pn (kina)	Vn (kina)	Tn (ft-kips)	Mn (ft-kips)	Deflect (in)	Sway (deg)	(deg)	Ratio
(ft)	(kips)		(ft-kips)	(ft-kips)	(ft-kips)	(ft-kips)	(kips)	(kips) 803.98	3080.93	2832.01	0.00	0.000	0.000	0.153
0.00	-20.23	-7.12	0.00	-413.74	0.00	413.74	2976.77	775.44	2866.11	2673.58	0.02	-0.046	0.000	0.148
5.00	-19.31	-7.03	0.00	-378.14	0.00	378.14	2914.38	746.90	2659.05	2516.58	0.10	-0.092	0.000	0.143
10.00	-18.42	-6.95	0.00	-342.98	0.00	342.98	2848.80	718.37	2459.75	2361.34	0.10	-0.139	0.000	0.137
15.00	-17.56	-6.86	0.00	-308.24	0.00	308.24	2780.04	689.83	2268.22	2208.17	0.39	-0.186	0.000	0.130
20.00	-16.72	-6.78	0.00	-273.92	0.00	273.92	2708.10	674.14	2166.19	2124.93	0.53	-0.100	0.000	0.126
22.75	-16.27	-6.73	0.00	-255.28	0.00	255.28	2667.17		2084.45	2057.41	0.61	-0.234	0.000	0.123
25.00	-15.68	-6.69	0.00	-240.15	0.00	240.15	2632.97	661.30		1483.43	0.78	-0.265	0.000	0.155
28.25	-14.83	-6.63	0.00	-218.41	0.00	218.41	1920.92	522.03	1623.69	1447.76	0.78	-0.282	0.000	0.151
30.00	-14.60	-6.60	0.00	-206.81	0.00	206.81	1904.07	514.04	1574.37 1437.64	1346.49	1.21	-0.235	0.000	0.137
35.00	-13.96	-6.51	0.00	-173.81	0.00	173.81	1853.76	491.22	1307.12	1246.45	1.59	-0.386	0.000	0.121
40.00	-13.34	-6.42	0.00	-141.24	0.00	141.24	1800.28	468.39	1307.12	1246.45	1.78	-0.409	0.000	0.113
42.31	-12.53	-5.88	0.00	-126.41	0.00	126.41	1774.49	457.84		1147.94	2.02	-0.435	0.000	0.104
45.00	-12.21	-5.84	0.00	-110.58	0.00	110.58	1743.61	445.56	1182.81	1051.30	2.50	-0.476	0.000	0.085
50.00	-11.64	-5.75	0.00	-81.38	0.00	81.38	1683.75	422.73	1064.71		2.60	-0.484	0.000	0.079
51.00	-9.99	-5.33	0.00	-75.63	0.00	75.63	1671.40	418.16	1041.84	1032.22	3.02	-0.512	0.000	0.063
55.00	-9.56	-5.26	0.00	-54.32	0.00	54.32	1620.72	399.90	952.83	956.84	3.02	-0.512	0.000	0.060
55.44	-7.89	-3.79	0.00	-52.01	0.00	52.01	1615.02	397.89	943.28	948.65	3.57	-0.514	0.000	0.045
60.00	-7.41	-3.71	0.00	-34.73	0.00	34.73	1554.50	377.07	847.15	864.91	4.03	-0.554	0.000	0.028
64.00	-4.07	-2.55	0.00	-19.89	0.00	19.89	1499.23	358.81	767.08	793.39	4.03	-0.557	0.000	0.025
65.00	-4.00	-2.54	0.00	-17.33	0.00	17.33	1485.09	354.25	747.68	775.81		-0.562	0.000	0.019
67.06	-3.45	-1.67	0.00	-12.11	0.00	12.11	1455.57	344.84	708.50	740.00	4.39	-0.568	0.000	0.013
70.00	-3.23	-1.62	0.00	-7.21	0.00	7.21	1403.00	331.42	654.42	685.23	4.73	-0.571	0.000	0.002
74.00	-0.99	-0.55	0.00	-0.74	0.00	0.74	1325.69	313.15	584.28	611.42	5.21		0.000	0.002
75.00	-0.45	-0.40	0.00	-0.18	0.00	0.18	1306.36	308.59	567.37	593.63	5.33	-0.571	0.000	0.000
75.45	-0.03	-0.01	0.00	0.00	0.00	0.00	1297.66	306.53	559.84	585.71	5.38	-0.571	0.000	0.000
76.00	0.00	-0.01	0.00	0.00	0.00	0.00	1287.03	304.02	550.71	576.10	5.45	-0.571	0.000	0.000

Final Analysis Summary

Structure: CT46122-A-SBA

Site Name: Middletown North

Height:

76.00 (ft)

Topography: 1

Base Elev: 0.000 (ft)

Gh:

Code:

TIA-222-H

Exposure: С

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: II

Page: 28

7/7/2023



Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.0W 119 mph Wind	31.3	0.00	24.23	0.00	0.00	1822.58
0.9D + 1.0W 119 mph Wind	31.3	0.00	18.16	0.00	0.00	1816.56
1.2D + 1.0Di + 1.0Wi 50 mph Wind	7.9	0.00	36.45	0.00	0.00	453.59
1.2D + 1.0Ev + 1.0Eh	0.9	0.00	25.19	0.00	0.00	53.52
0.9D + 1.0Ev + 1.0Eh	0.9	0.00	19.09	0.00	0.00	53.52
1.0D + 1.0W 60 mph Wind	7.1	0.00	20.23	0.00	0.00	413.74

Max Stresses

Load Case	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)	Elev (ft)	Stress Ratio
1.2D + 1.0W 119 mph Wind	-17.22	-29.20	0.00	-962.79	0.00	-962.79	1920.92	522.03	1623.69	1483.43	28.25	0.661
0.9D + 1.0W 119 mph Wind	-12.77	-29.10	0.00	-958.26	0.00	-958.26	1920.92	522.03	1623.69	1483.43	28.25	0.656
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-28.60	-7.28	0.00	-237.92	0.00	-237.92	1920.92	522.03	1623.69	1483.43	28.25	0.175
1.2D + 1.0Ev + 1.0Eh	-18.50	-0.84	0.00	-29.09	0.00	-29.09	1920.92	522.03	1623.69	1483.43	28.25	0.029
0.9D + 1.0Ev + 1.0Eh	-14.02	-0.84	0.00	-29.13	0.00	-29.13	1920.92	522.03	1623.69	1483.43	28.25	0.027
1.0D + 1.0W 60 mph Wind	-14.83	-6.63	0.00	-218.41	0.00	-218.41	1920.92	522.03	1623.69	1483.43	28.25	0.155

Base Plate Summary

Structure: CT46122-A-SB

Site Name: Middletown North

Height:

Gh:

76.00 (ft)

Base Elev: 0.000 (ft)

1.1

Code:

Topography: 1

TIA-222-H

Exposure: C

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: II

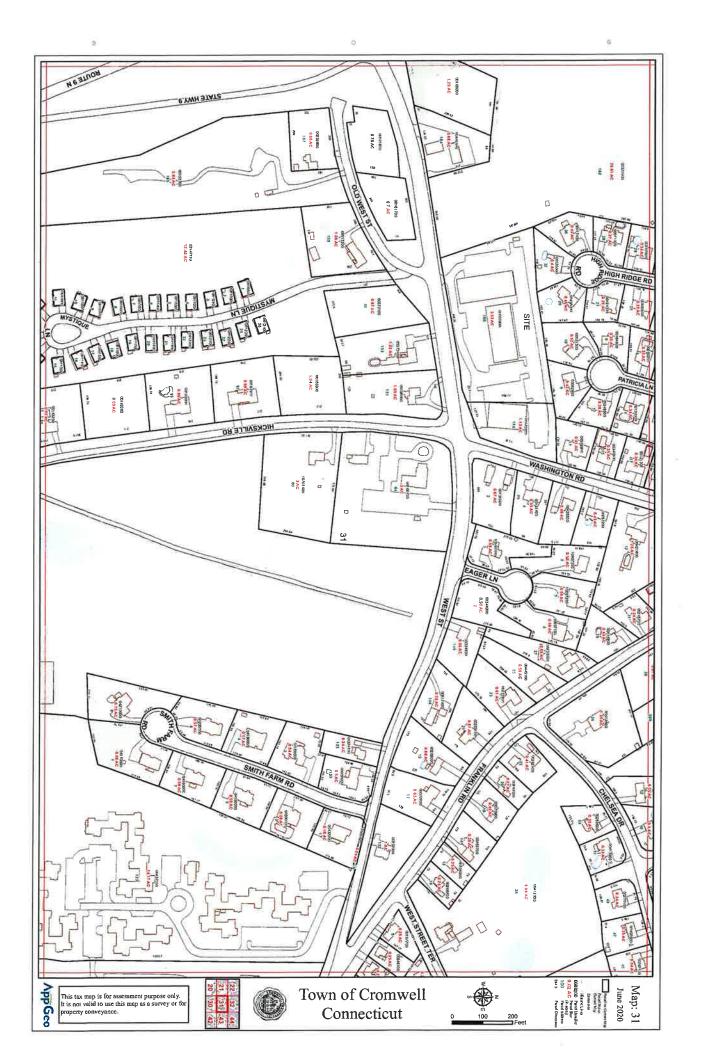
7/7/2023

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Tower Engineering Solution

Reaction	s	Base Pla	ite	Anchor B	olts
Original Des		Yield (ksi):	60.00	Bolt Circle:	54.00
Moment (kip-ft):	2800.00	Width (in):	60.00	Number Bolts:	10.00
Axial (kip):	27.00	Style:	Round	Bolt Type:	2.25" 18J
Shear (kip):	52.00	Polygon Sides:	0.00	Bolt Diameter (in):	2.25
		Clip Length (in):	0.00	Yield (ksi):	75.00
Analysis (1.2D + 1. loment (kip-ft): Axial (kip): Shear (kip):			29.11	Ultimate (ksi):	100.00
Moment (kip-ft):	1822.58	Effective Len (in):	616.61	Arrangement:	Radial
Axial (kip):	04.00	Moment (kip-in): Allow Stress (ksi):		Cluster Dist (in):	0.00
Shear (kip):	31.32		81.00	Start Angle (deg):	0.00
		Applied Stress (ksi):	31.59	Compress	sion.
		Stress Ratio:	0.39	Force (kip):	164.43
				Allowable (kip):	268.39
				Ratio:	0.61
				Tensior	1
				Force (kip):	159.58
				Allowable (kip):	243.75
				Ratio:	0.65

ATTACHMENT 4



TOWN OF CROMWELL

Printed By:

Shawna

04/06/2018

3:41:00PM

Parcel ID: 00033900

Location:

160 WEST STREET

Map-Lot 31-14A

Last Revaluation - October 1, 2017

Current Owner	Percent
160 WEST STREET LLC	100

Current V	alue Information		nc (appr)			
Use Code	Land Value	PA 490 Value	Building Value	Outbuildings	Total Value	Total Assessed
201	241,800	0	2,122,400	110,000	2,474,200	1,731,940
TOTAL	241,800	0	2,122,400	110,000	2,474,200	1,731,940

Patriot Properties Inc.

213 COURT STREET

Previous Owner(s)

MIDDLETOWN

RSHIP

MEDICAL OFFICE;

CT 06457

Previous	Value	Information
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160 WEST STREET LIMITED F 546-322

Sales Information

PA 490 Use Asmt: 0

1 10 4 10 00	Tulue illielle				
Tax Yr	Land Value	Bldg Value	Outbuildings	Total Value	Total Assessmen
2018	241,800	2,122,400	110,000	2,474,200	1,731,940
2017	241,800	2,122,400	110,000	2,474,200	1,731,940
2016	356,290	1,635,220	43,320	2,034,830	1,424,390
2015	356,290	1,635,220	43,320	2,034,830	1,424,390
2014	356,290	1,635,220	43,320	2,034,830	1,424,390
2013	356,290	1,635,220	43,320	2,034,830	1,424,390

Property Factors Census 5702

Flood: Topo: Street: Paved Dev. Map Dev. Map

General Notes

Zoning Data

Desc. 100.00 LB

Bldg #1 Middlesex Home Care + Supplies INC, Family Eye Care,

160 WEST STREET LIMITED PARTNE

Feet First

Туре Grantee Vol-Page SaleDate SalePrice Sale Verif 0 Other 160 WEST STREET LLC 896-268 01/27/2003

12/29/1993

GeneralNotes

Utilities Public Water

2 **Public Sewer**

BAA

17K

Notes

Bldg # 2 Wildwood Property management, Great Blue Research, Beacon Services of CT

Activity Information

Building Permit Information

0 Other

Date	Results	Visited By	Date	Permit #	Description	Amount	% Comp	Visit Date	CO Date	GeneralNotes
12/27/2017	Informal Review No Change	John Valente	08/15/2014	22787	Electric	900	100	09/11/2014		Reception area
09/11/2017	Change - Value Change Company	John Valente	08/13/2014	22776	Other	4,800	100	09/09/2014	09/09/2014	Emrgncy repair to drywall
05/18/2017	No Change - Fleid Review	Dave Stannard	12/12/2011	20377	Other	3,000	100	09/11/2012	09/11/2012	Run gas line to new gener
09/11/2014	Permit- Miscellaneous	AO	11/16/2011	20315	Other	10.000	100	09/11/2012	09/11/2012	New cell site for Metro P
09/11/2014	Permit- Drive By Permit- Miscellaneous	MM	09/28/2011	20183	Propane Tank	2,850	100	09/11/2012	09/11/2012	Undergrounf gas line
09/09/2014	Permit - Int & Ext Inspect	AO	09/19/2011	20156	ropano ram	35,000	100	09/11/2012	01/12/2012	Inst of cell site antenna
09/11/2012	Permit- Miscellaneous	AO	03/21/2006	15920	Remodel	33,000	100	03/28/2006	0111212012	off & bth reno
09/11/2012	Permit- Miscellaneous	AO	03/21/2006	15921	Electric	00,000	100	03/28/2006		
09/11/2012	Permit- Miscellaneous	AO	03/2 1/2000	1032	LIGOTIC	U	100	03/20/2000		wire new area,rfd exstg m

Land Data

Assessed Value: 169,260

			Unit		Land Adlustments	Special	Appraised	PA 490	Neigh	
Use	Description	Units	Type	Neigh	Land Adjustments	Land Calc	Value	Asmt	Order	
201	Commercial	43,560	SF	Cl			178,500	0	1200	
201	Commercial	2.530	AC	Cl			63,300	0	1200	

Total Appraised: 241,800

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed

Total Area: 3.53

Printed By:

Shawna

04/06/2018

3:41:00PM

Exterior Information Building Type: Office Bldg Story Ht: 1 Story

0

Living Units: Foundation:

Brick/Masonr Prim. Ext. Wall:

Sec. Ext. Wall:

Roof Type: Asphalt Shin Roof Cover: 18.00 Avg. Wall Ht:

Color:

Interior Information

Prime Wall: Drywall Sec. Wall: Floor Type: Carpet 50% Vinyl 50 % Sec. Floor: Gas Heat Fuel: Heat Type: Forced Air Sec. Ht Type: 100 % A/C: % Sprinkled: Bsmt. Gar: 0 Kitchens: Add. Kit: 0 Fireplaces: 0 Gas: Typical Int. Condition:

Room Count

Total Rooms: Bedrooms:

Code

PAV1

LT1

Bath Features

Full Baths: Addl. Full Baths: Half Baths: Addl. Half Baths: Full Bths Below: 0 Half Bths Below: 0 Other Fixtures: 00 Total Baths:

Description Qty

Light 1

Paving Asph. Total Sp. Features:

Location:

160 WEST STREET

Condo Information

Name: Style: Location:

Tot Units:

Rem. Bath Yr:

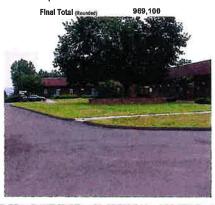
General Information

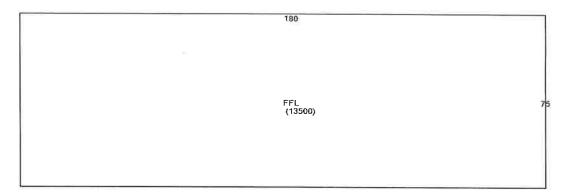
1985 Year Bit: С Grade: Remodeled Yr: Rem. Kitchen Yr:

Depreciat	%	
Phys Cond	Average	24.00
Func		0.00
Econ		5.00
Spec		0.00
ov		0.00

27.80 Total %Dep:

Calculation	
Basic \$/SQ	120,00
Replacement Cost	1,342,305
Depreciation	373,161
Depreciated Value	969,144





Extra Features / Yard Items (1st 10 Lines Displayed)							
ze	Cond.	Year	Unit Price	Dep%	UndepValue	Appraised Value	Assessment
6	AV	2002	1,000.00	13	7,200	6,300	4,410
3,400	AV	1985	3.00	25	138,240	103,700	72,590
Tota	al Yard Ite	ms	110,000	Total Appra	ised: 110,000	Total Assessed Value	77,000

Sub Area Detail				
Code	Desc.	Living	Gross Area	
FFL	First Floor	13,500	13,500	
Total		13,500	13,500	

Size

38,4

Exterior Information Office Bldg

Building Type: 1 Story Story Ht: Living Units: 0 Foundation:

Prim. Ext. Wall: Brick/Masonr

Sec. Ext. Wall: Roof Type:

Flat Asphalt Shin Roof Cover: 18.00 Avg. Wall Ht:

Color:

Interior Information

Prime Wall: Drywall Sec. Wall: 50% Carpet Floor Type: Vinyl 50 % Sec. Floor: Gas Heat Fuel: Forced Air Heat Type: Sec. Ht Type: 100 % A/C:

0 % Sprinkled: Bsmt, Gar: 0 0

Add. Kit: Kitchens: 0 Gas: Fireplaces: Typical

int. Condition:

Room Count

Total Rooms: Bedrooms:

Bath Features

Full Baths: Addi. Full Baths: Half Baths: Addi. Half Baths: 0 Full Bths Below: 0 Half Bths Below: Other Fixtures: 0 Total Baths: 00

160 WEST STREET

27.80

Condo Information

Name: Style: Location:

Rem. Bath Yr:

Total %Dep:

Tot Units: **General Information**

1985 Year Bit: C Grade: Remodeled Yr: Rem. Kitchen Yr:

Depreciation		%
Phys Cond	Average	24.00
Func		0.00
Econ		5.00 0.00
Spec		0.00
OV		0.00

Calculation	
Basic \$/SQ	120,00
Replacement Cost	1,342,305
Depreclation	373,161
Depreciated Value	969,144



75 FFL (13500)

Extra Features / Yard Items (1st 10 Lines Displayed)

Code Description Qty Size Cond. Year UndepValue **Appraised Value** Unit Price Dep% Assessmen

Total Sp. Features:

Total Yard Items

Total Appraised:

Total Assessed Value

		Sub Area Detail	
Code	Desc.	Living	Gross Area
FFL	First Floor	13,500	13,500
Total		13,500	13,500

ATTACHMENT 5



Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Her			
K (I O Baldada Fan	of Fieles Listed by Selider	Gi Fledes Received at Fost Office	Postmark with Date	e of Receipt.		
Kenneth C. Baldwin, Esq.		1	f			
Robinson & Cole LLP 280 Trumbull Street	_					
Hartford, CT 06103	2	3	neon	oost ^M		
Hartiold, CT 00103			08/0	MANAGA	000 400	
4	Postmaster, per (name of receive	ina employee)	US	POSTAGE D	003.192	
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	2	Ky De			ZIP 06103 041L12203937	
USPS® Tracking Number		Address ity, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
Firm-specific Identifier			1	7.00		
1.	Anthony Salvatore,	Town Manager	-			
	Town of Cromwell		_			
	41 West Street	-	_			
	Cromwell, CT 0641			TOURS O		
2.	Stuart Popper, Direct	tor of Planning and Develo	pment	S ALOUGH STAN		
	Town of Cromwell		- /S		3	
	41 West Street		191		181	
	Cromwell, CT 0641	.6	O O	HR 2 - 2022	(8)	
3.	160 West Street, LL	C		100 4 2023		
<u> </u>	162 West Street		1 1		/ /	
	Cromwell, CT 0641	16				
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