

February 7, 2024

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
173 1/2 West Rocks Road, Norwalk, 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. The tower and Cellco’s shared use of the tower was approved by the Siting Council (“Council”) in November of 2020 (Docket No. 489). A copy of Docket No. 489’s Decision and Order is included in Attachment 1.

Cellco’s proposed modification involves the installation of two (2) interference mitigation filters (“Filters”) on its existing antenna platform. The specification sheet for the Filter is included in Attachment 2.

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 Norwalk’s Chief Elected Official and Land Use Officer. A copy of this letter is being sent to the First Taxing District of the City of Norwalk, the owner of the Property.

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.

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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 the 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, tower foundation, antenna 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 Attachment 4. A Certificate of Mailing verifying that this filing was sent to municipal officials and the property owner is included in Attachment 5.

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:

Harry Rilling, Mayor

Steven Kleppin, Director of Planning and Development

First Taxing District of the City of Norwalk, Property Owner

Alex Tyurin, Verizon Wireless

ATTACHMENT 1

DOCKET NO. 489 – The First Taxing District Water Department of Norwalk application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at 173½ West Rocks Road, Norwalk, Connecticut.	} Connecticut } Siting } Council
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November 19, 2020

Decision and Order

Pursuant to Connecticut General Statutes §16-50p and the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and operation of a telecommunications facility, including effects on the natural environment, ecological balance, public health and safety, scenic, historic, and recreational values, agriculture, forests and parks, air and water purity, and fish, aquaculture 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 The First Taxing District Water Department of Norwalk, hereinafter referred to as the Certificate Holder, for a telecommunications facility at 173 ½ West Rocks Road, Norwalk, Connecticut.

Unless otherwise approved by the Council, the facility shall be constructed, operated, and maintained substantially as specified in the Council’s record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole at a height of 130 feet above ground level to provide the proposed wireless services, sufficient to accommodate the antennas of New Cingular Wireless PCS, LLC, Celco Partnership d/b/a Verizon Wireless, T-Mobile Northeast, LLC, Sprint Spectrum, and other entities, both public and private. The height of the tower may be extended after the date of this Decision and Order pursuant to regulations of the Federal Communications Commission.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) final site plan(s) for development of the facility that employ the governing standard in the State of Connecticut for tower design in accordance with the currently adopted International Building Code and include specifications for the tower including finish/color, tower foundation, antennas and equipment compound including, but not limited to, fencing, radio and battery backup equipment, access road, utility installation, and emergency backup generators with fuel tanks;
 - b) the tower shall be designed with a yield point to ensure that the tower setback radius remains within the boundaries of the subject property;
 - c) construction plans for site clearing, grading, landscaping, water drainage and stormwater control, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended;
 - d) final landscaping plan for the tower compound;
 - e) final aquifer protection plan that includes, but is not limited to, a petroleum/hazardous material storage and spill prevention plan; and
 - f) proposed hours and days of the week for construction activities.

3. Prior to the commencement of operation, the Certificate Holder shall 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.
4. Upon the establishment of any new federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
5. The Certificate Holder shall provide the Council with a copy of necessary permits from any other state or federal agency with concurrent jurisdiction prior to the commencement of construction.
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. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed with at least one fully operational wireless telecommunications carrier providing wireless service 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. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.
8. Any request for extension of the time period referred to in Condition 7 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 City of Norwalk.
9. 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 within 90 days from the one year period of cessation of service. The Certificate Holder may submit a written request to the Council for an extension of the 90 day period not later than 60 days prior to the expiration of the 90 day period.
10. Any nonfunctioning antenna, and associated antenna mounting equipment, on this facility shall be removed within 60 days of the date the antenna ceased to function.
11. 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.
12. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.

13. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder/transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.
14. The Certificate Holder shall maintain the facility and associated equipment, including but not limited to, the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line and landscaping in a reasonable physical and operational condition that is consistent with this Decision and Order and a Development and Management Plan to be approved by the Council.
15. If the Certificate Holder is a wholly-owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the Certificate Holder within 30 days of the sale and/or transfer.
16. This Certificate may be surrendered by the Certificate Holder upon written notification and acknowledgment by the Council.

We hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed in the Service List, dated April 24, 2020, and notice of issuance published in the Norwalk Hour.

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.

ATTACHMENT 2

KA-6030

TWIN BANDSTOP 900MHZ INTERFERENCE MITIGATION FILTER

The KA-6030 is ideal for co-located 700, 850 and 900 networks. Utilising a 2.6MHz guardband the KA-6030 provides rejection of the 900 UL band while passing 700/850 UL and DL bands. Capable of being used in an outdoor environment the KA-6030 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



TECHNICAL SPECIFICATIONS

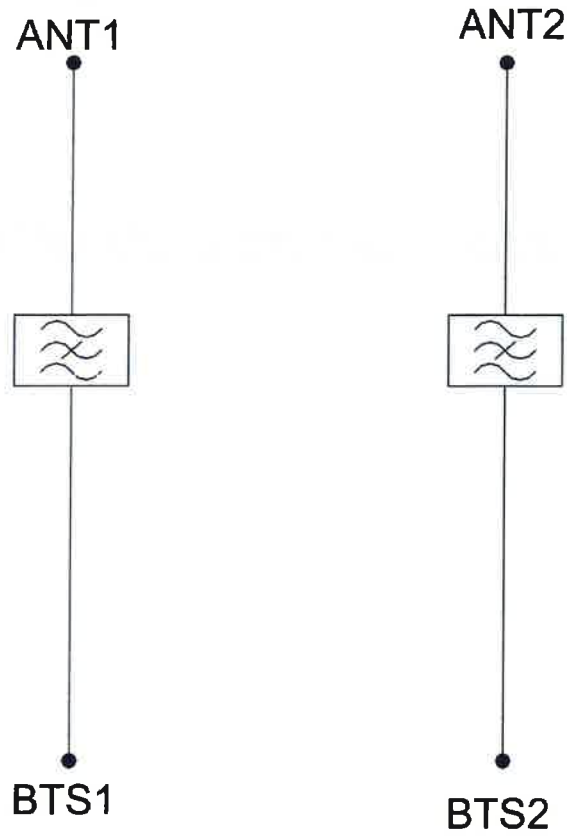
BAND NAME	700 PATH / 850 UPLINK PATH	850 DOWNLINK PATH
Passband	698 - 849MHz	869 - 891.5MHz
Insertion loss	0.1dB typical / 0.3dB maximum	0.5dB typical, 1.45dB maximum
Return loss	24dB typical, 18dB minimum	
Maximum input power (Per Port)	100W average	200W average and 66W per 5MHz
Rejection	53dB minimum @ 894.1 - 896.5MHz	
ELECTRICAL		
Impedance	50Ohms	
Intermodulation products	-160dBc maximum in UL Band (assuming 20MHz Signal), with 2 x 43dBm carriers -153dBc maximum with 2 x 43dBm	
DC / AISG		
Passband	0 - 13MHz	
Insertion loss	0.3dB maximum	
Return loss	15dB minimum	
Input voltage range	± 33V	
DC current rating	2A continuous, 4A peak	
Compliance	3GPP TS 25.461	
ENVIRONMENTAL		
For further details of environmental compliance, please contact Kaelus.		
Temperature range	-20°C to +60°C -4°F to +140°F	
Ingress protection	IP67	
Altitude	2600m 8530ft	
Lightning protection	RF port: ±5kA maximum (8/20us), IEC 61000-4-5 – Unit must be terminated with some lightning protection circuits.	
MTBF	>1,000,000 hours	
Compliance	ETSI EN 300 019 class 4.1H, RoHS, NEBS GR-487-CORE	

MECHANICAL	
Dimensions H x D x W	269 x 277 x 80mm 10.60 x 10.90 x 3.15in (Excluding brackets and connectors)
Weight	8,0 kg 17.6 lbs (no bracket)
Finish	Powder coated, light grey (RAL7035)
Connectors	RF: 4.3-10 (F) x 4
Mounting	Optional pole/wall bracket supplied with two metal clamps 45-178mm diameter poles or custom bracket. See ordering information.

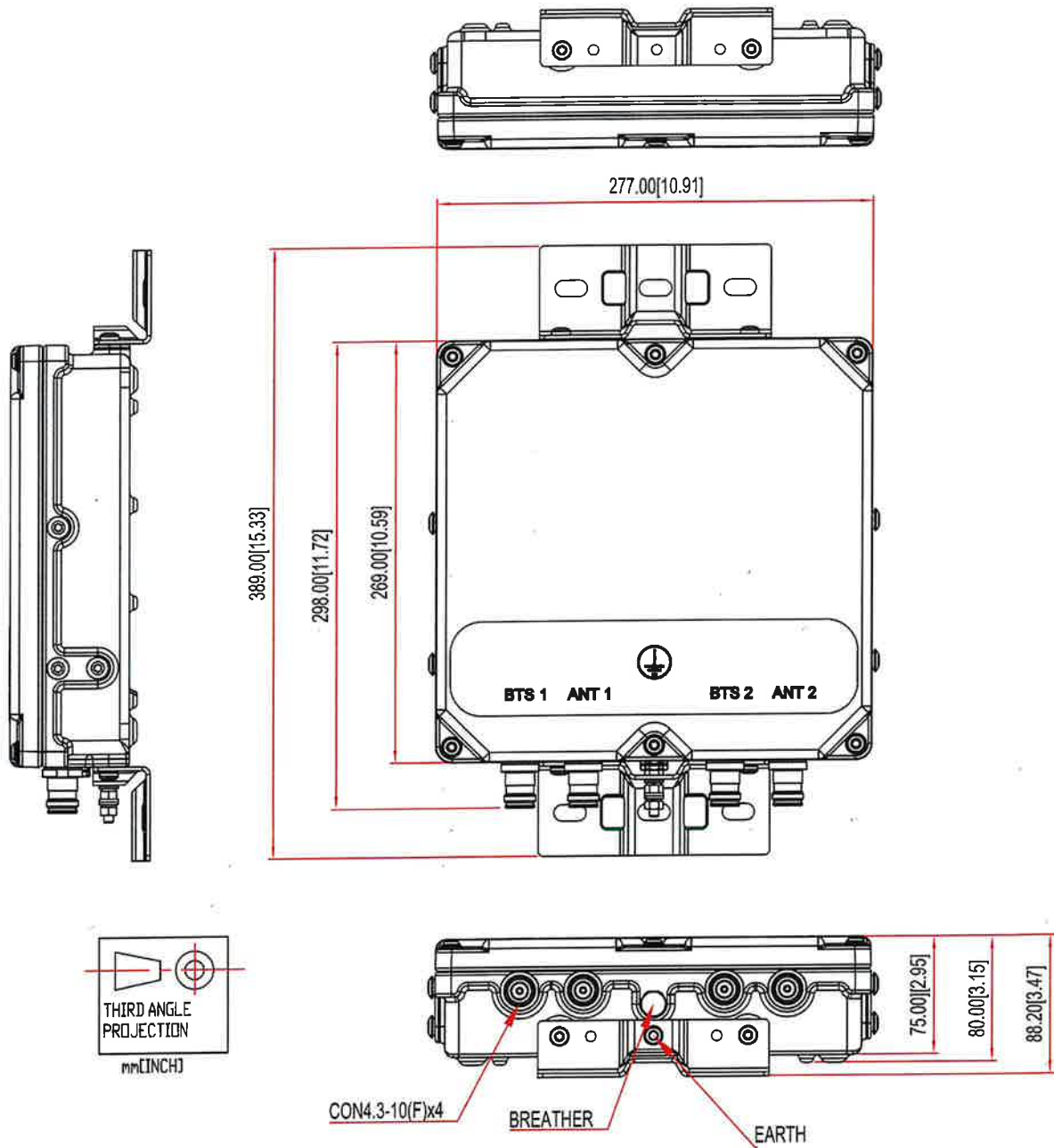
ORDERING INFORMATION

PART NUMBER	CONFIGURATION	OPTIONAL FEATURES	CONNECTORS
KA-6030-2032	TWIN, 2 in / 2 out	DC/ISG PASS	4.3-10 (F)

ELECTRICAL BLOCK DIAGRAM



MECHANICAL BLOCK DIAGRAM



ATTACHMENT 3



**STRUCTURAL ANALYSIS REPORT
130-ft +/- MONOPOLE TOWER
NORWALK, CONNECTICUT**

Prepared for
Verizon Wireless



**Verizon Site Ref:
N Norwalk CT Relo**

Site Address: 173.5 West Rocks Road, Norwalk, CT 06851
FUZE Project ID: 17123759
VZW PSLC: 468158
MDG Location ID: 5000386270
Project Type: Filter Add

APT Filing No. CT141_14380

Rev. 0 January 10, 2024



**STRUCTURAL ANALYSIS REPORT
130-ft +/- MONOPOLE TOWER
NORWALK, CONNECTICUT
prepared for
Verizon Wireless**

EXECUTIVE SUMMARY:

All-Points Technology Corporation, P.C. (APT) performed a structural analysis of the subject 130' ± monopole tower structure to support a proposed T-Mobile equipment installation.

Details of the proposed equipment configuration are included within the table on the following page.

The results of this analysis indicate that the existing tower structure meets the requirements of the 2021 International Building Code (IBC), as amended by the 2022 Connecticut State Building Code, and the ANSI/TIA-222-H standard with the proposed equipment modification.

Evaluation of the existing foundation was limited to a comparison of the calculated base reactions under the proposed and reserved loads against the design reactions indicated within original design drawings prepared by Valmont. Reactions imposed by the proposed installation are less than the published design reactions, indicating that the tower foundation is adequately sized.

The tower steel component structure usage is summarized in the table below:

Elevation/Component	Usage (%)
Pole (1'-41.9')	51%
Anchor Bolts	51%
Base Plate	45%

INTRODUCTION:

A structural analysis of this communications tower was performed by APT for Verizon Wireless. The tower is located at 173 West Rocks Road in Norwalk, Connecticut.

The following information was utilized in the preparation of this analysis:

- Lease Exhibits by Centerline Engineering Services, marked Rev 0 dated 11/17/23.
- Antenna Mount Analysis Report and PMI Requirements by Colliers Engineering & Design, Project #23777265, dated 09/18/23.
- Structural Analysis Report prepared by APT (Project No. CT265230), marked Rev 1 dated 09/21/22.
- Structural Analysis Report prepared by APT (Project No. CT141_13250), dated 04/08/22.
- Structural Analysis Report prepared by APT (Project No. CT1931650), marked Rev. 1, dated 03/08/22.
- Communication Structure Design Calculations prepared by Valmont Structures (File ID No. 512236-PI Rev B), signed and sealed on 04/29/22.
- Tower and Foundation Drawings prepared by Valmont (File ID No. 512236-PI Rev B), signed and sealed on 04/29/22.

The structure is a 130-foot +/-, galvanized steel, 18-sided monopole tower structure designed and manufactured by Valmont.

The analysis was conducted using the following antenna inventory (proposed equipment changes shown in **bold** text, reserved/future equipment shown in *italics*):

Carrier	Antenna and Appurtenance Make/Model	Elevation	Status	Mount Type	Coax/Feed-Line
AT&T	(3) CCI DMP65R-BU6DA & (3) CCI TPA65R-BU6DA-K antennas, (3) Ericsson B5/B12 4449 RRHs, (3) Ericsson 4415 4T4R RRHs, (3) Ericsson B2/B66A 8843 RRHs, (3) Ericsson B14 4478 RRHs, (3) Raycap DC6-48-60-18-8C-EV DC "squids"	126'	ETR	(3) SitePro1 6' Double T-Arms w/ (15) 2-7/8" x 8' Lg. Pipe Mounts	(2) DC fiber, (6) DC power (6AWG6)
Verizon	(6) JMA MX06FRO660-03 antennas, (3) Samsung XXDWMM-12.5-65-8TCBRS w/ integrated RRHs, (3) Samsung MT6407-77A antennas w/ integrated RRHs, (3) Samsung B2/B66A RRH ORAN (RF4439d-25A) RRHs, (3) Samsung B5/B13 RRH ORAN (RF4440d-13A) RRHs, (1) 12OVP	116'	ETR	(3) SitePro1 6' Double T-Arms w/ (15) 2-7/8" x 8' Lg. Pipe Mounts	(1) 12x24 hybrid
	(2) Kaelus KA-6030 Filters		P		
T-Mobile	(3) Commscope VV-65A-R1B, (3) RFS APXVAALL24 43-U-NA20 & (3) Ericsson 6419 B41 antennas, (3) Ericsson Radio 4460 B25+B66 RRHs, (3) Ericsson Radio 4480 B71+B85 RRHs	106'	ETR	(3) SitePro1 6' Double T-Arms w/ (15) 2-7/8" x 8' Lg. Pipe Mounts	(3) 6x24 hybrid
	<i>(9) 96" x 21" antennas, (12) 22" x 18" RRHs, (3) DC6-48-60-18-8C-EV OVP</i>	96'	F	<i>(3) SitePro1 6' Double T-Arms w/ (15) 2-7/8" x 8' Lg. Pipe Mounts</i>	<i>(3) 1-5/8"</i>

Notes:

1. ETR = Existing to Remain; ERL= Existing to be Relocated; P = Proposed; R = Reserved; F = Future.
2. Elevations are measured above ground level (AGL). Tower is approximately 1' above grade.
3. All feed-lines noted above shall be routed within interior of the pole unless otherwise noted.

STRUCTURAL ANALYSIS:

Methodology:

This structural analysis has been prepared in accordance with the ANSI/TIA-222-H standard entitled "Structural Standard for Antenna Supporting Structures, Antennas and Small Wind Turbine Support Structures"; American Institute of Steel Construction (AISC) Manual of Steel Construction, and the 2021 International Building Code (IBC), as amended by the 2022 Connecticut State Building Code, using the following design criteria:

- o Load Case 1: 120 mph (3-second gust) Ultimate wind speed, 0" ice
- o Load Case 2: 50mph (3-second gust) w/ 1.00" ice thickness required
- o Load Case 3: 60mph (3-second gust) (Service Load)
- o Risk Category: II
- o Exposure Category: C
- o Topographic Category: 1

Analysis Results:

The following table summarizes the capacity of the monopole based on combined axial and bending stresses:

Elevation	Capacity ¹
110'-130'	14%
79.3'-110'	30%
41.9'-79.3'	45%
1'-41.9'	51%
Anchor Bolts	51%
Base Plate	45%

Notes:

1. Based on ASTM A572 Gr. 65 18-sided monopole. Pole diameter and thickness vary.

Base Foundation:

Evaluation of the existing base foundation was performed by comparing reactions calculated under the proposed and existing/reserved loads with the design reactions indicated within the aforementioned original Valmont design drawings. Reactions imposed by the proposed installation are less than the published design reactions, indicating that the tower foundation is adequately sized.


The calculated base reactions utilized in the analysis of the foundation system with the proposed loading are as follows:

Load Effect	Original Design (TIA-222-H)	Calculated Reactions	Result
Compression	62.0 k	52.9 k	PASS
Base Shear	53.1 k	37.6 k	PASS
Overturning Moment	6,052 ft-k	3,532 ft-k	PASS

CONCLUSIONS:

In conclusion, our analysis indicates that the existing 130-ft± monopole tower structure located at 173 West Rocks Road in Norwalk, meets the requirements of the 2021 International Building Code (IBC), as amended by the 2022 Connecticut State Building Code, and the ANSI/TIA-222-H standard with the proposed Verizon equipment modification.

Sincerely,
 All-Points Technology Corp. P.C.


 Domenic Aversa, PE
 Senior Structural Engineer



LIMITATIONS:

This report is based on the following:

1. Tower/structure is properly installed and maintained.
2. All members and components are in a non-deteriorated condition.
3. All required members are in place.
4. All bolts are in place and are properly tightened.
5. Tower/structure is in plumb condition.
6. All tower members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.
7. Material yield stress values as follows:
 - Monopole: 65 ksi
 - Base plate: 50 ksi
 - Anchor bolts: 75 ksi

All-Points Technology Corporation, P.C. (APT) is not responsible for any modifications completed prior to or hereafter which APT is not or was not directly involved. Modifications include but are not limited to:

1. Replacing or reinforcing bracing members.
2. Reinforcing members in any manner.
3. Adding or relocating antennas.
4. Installing antenna mounts or waveguide cables.
5. Extending tower.

APT hereby states that this document represents the entire report and that it assumes no liability for any factual changes that may occur after the date of this report. All representations, recommendations, and conclusions are based upon the information contained and set forth herein. If you are aware of any information which conflicts with that which is contained herein, or you are aware of any defects arising from original design, material, fabrication, or erection deficiencies, you should disregard this report and immediately contact APT. APT disclaims all liability for any representation, recommendation, or conclusion not expressly stated herein.

Appendix A

Design Criteria

Municipality	Basic Design Wind Speeds, V (mph)				Allowable Stress Design Wind Speeds, V _{asd} (mph)				Ground Snow Load P _g (psf)	MCE Ground Accelerations		Wind-Borne Debris Region ¹		Hurricane-Prone Region
	Risk Cat. I	Risk Cat. II	Risk Cat. III	Risk Cat. IV	Risk Cat. I	Risk Cat. II	Risk Cat. III	Risk Cat. IV		S _s (g)	S _I (g)	Risk Cat. III Occup. I-2	Risk Cat. IV	
New Milford	110	115	125	130	85	89	97	101	35	0.198	0.055			
Newington	110	120	130	135	85	93	101	105	30	0.195	0.055			Yes
Newtown	110	120	130	130	85	93	101	101	30	0.209	0.055			Yes
Norfolk	105	115	125	130	81	89	97	101	40	0.165	0.054			
North Branford	115	125	135	135	89	97	105	105	30	0.204	0.054			Yes
North Canaan	105	115	125	130	81	89	97	101	40	0.164	0.054			
North Haven	110	120	130	135	85	93	101	105	30	0.204	0.054			Yes
North Stonington	120	130	140	140	93	101	108	108	30	0.186	0.052			Yes
Norwalk	110	120	130	135	85	93	101	105	30	0.240	0.056		Type B	Yes
Norwich	115	125	135	140	89	97	105	108	30	0.194	0.054			Yes
Old Lyme	120	130	135	140	93	101	105	108	30	0.201	0.053	Type B	Type B	Yes
Old Saybrook	120	130	135	140	93	101	105	108	30	0.202	0.053	Type B	Type B	Yes
Orange	110	120	130	135	85	93	101	105	30	0.201	0.054			Yes
Oxford	110	120	130	135	85	93	101	105	30	0.199	0.054			Yes
Plainfield	115	125	135	140	89	97	105	108	30	0.187	0.054			Yes
Plainville	110	120	130	135	85	93	101	105	35	0.191	0.055			Yes
Plymouth	110	120	125	130	85	93	97	101	35	0.185	0.054			Yes
Pomfret	115	125	130	135	89	97	101	105	40	0.182	0.055			Yes
Portland	110	120	130	135	85	93	101	105	30	0.208	0.056			Yes
Preston	120	125	135	140	93	97	105	108	30	0.191	0.053			Yes
Prospect	110	120	130	135	85	93	101	105	30	0.197	0.054			Yes
Putnam	115	125	130	135	89	97	101	105	40	0.184	0.055			Yes
Redding	110	120	125	130	85	93	97	101	30	0.228	0.056			Yes
Ridgefield	110	120	125	130	85	93	97	101	30	0.243	0.057			Yes
Rocky Hill	110	120	130	135	85	93	101	105	30	0.200	0.055			Yes
Roxbury	110	120	125	130	85	93	97	101	35	0.196	0.054			Yes
Salem	115	125	135	140	89	97	105	108	30	0.205	0.055			Yes
Salisbury	105	115	125	130	81	89	97	101	40	0.116	0.054			
Scotland	115	125	135	135	89	97	105	105	30	0.188	0.054			Yes
Seymour	110	120	130	135	85	93	101	105	30	0.200	0.054			Yes
Sharon	105	115	125	130	81	89	97	101	40	0.171	0.054			
Shelton	110	120	130	135	85	93	101	105	30	0.203	0.054			Yes

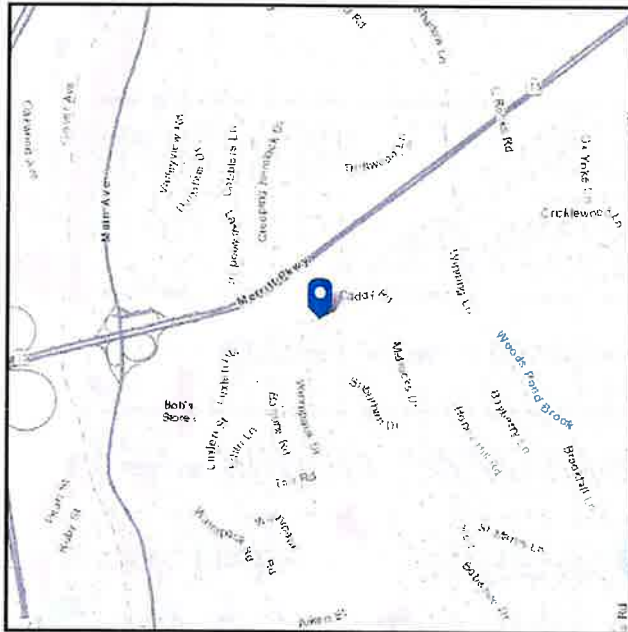


ASCE 7 Hazards Report

Address:
173 W Rocks Rd
Norwalk, Connecticut
06851

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: undefined

Latitude: 41.143138
Longitude: -73.418175
Elevation: 224.98101481422165 ft (NAVD 88)



Wind

Results:

Wind Speed	117 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	90 Vmph
100-year MRI	97 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Date Accessed: Mon Jan 08 2024

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.



Ice

Results:

Ice Thickness: 1.00 in.
Concurrent Temperature: 15 F
Gust Speed 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Mon Jan 08 2024

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

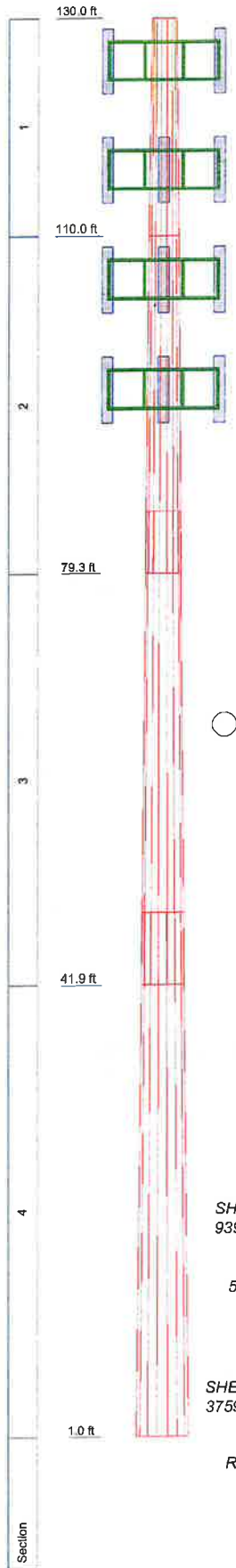
The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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Appendix B

Tower Schematic



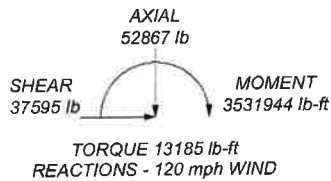
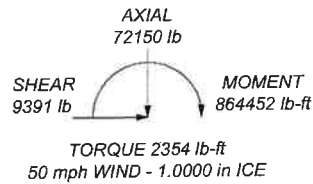
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-H Standard.
2. Tower designed for a 120 mph basic wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 51.2%

ALL REACTIONS ARE FACTORED



All-Points Technology Corporation, P.C.

567 Vauxhall Street Ext. Suite 311
Waterford, CT 06385

Phone: (860) 663-1697

FAX:

Job: **130' Monopole Tower**

Project: **CT141_14380 North Norwalk CT**

Client: **Verizon; Fuze ID 17123759**

Code: **TIA-222-H**

Path:

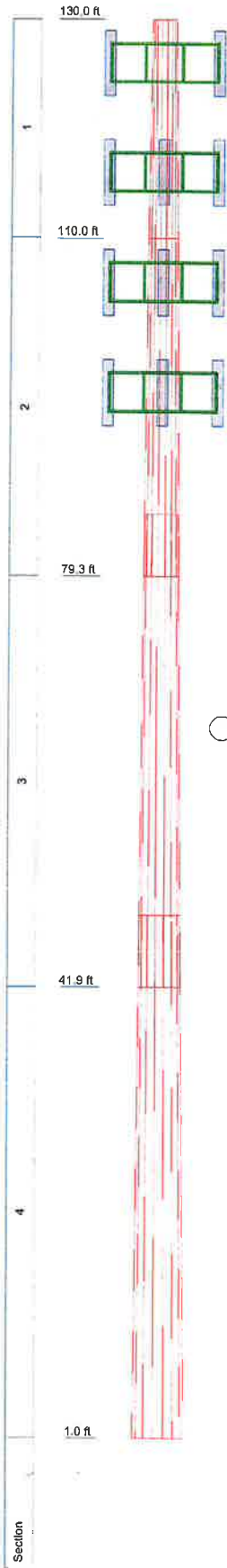
Drawn by: **DJA**

Date: **01/10/24**

App'd:

Scale: **NTS**

Dwg No. **E-1**



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
DMP65R-BU6DA (ATI)	126	SAMSUNG B5/B13 RRH (RF4440d-13A) (Verizon)	116
DMP65R-BU6DA (ATI)	126	Raycap RDC-6627-PF-48 OVP (Verizon)	116
TPA65R-BU6DA-K (ATI)	126	(5) 8'x2 7/8" Pipe Mount (Verizon)	116
TPA65R-BU6DA-K (ATI)	126	(5) 8'x2 7/8" Pipe Mount (Verizon)	116
TPA65R-BU6DA-K (ATI)	126	(5) 8'x2 7/8" Pipe Mount (Verizon)	116
Ericsson Radio 4478 B14 (ATI)	126	SitePro1 Double 6' T-Arm (Verizon)	116
Ericsson Radio 4478 B14 (ATI)	126	KA-6030 (Verizon)	116
Ericsson B2/B66A 8843 RRH (ATI)	126	Commscope VV-65A-R1B (T-Mobile)	106
Ericsson B2/B66A 8843 RRH (ATI)	126	Commscope VV-65A-R1B (T-Mobile)	106
Ericsson B2/B66A 8843 RRH (ATI)	126	APXVAALL24_43-U-NA20 (T-Mobile)	106
Ericsson RRUS 4415 4T4R (ATI)	126	APXVAALL24_43-U-NA20 (T-Mobile)	106
Ericsson RRUS 4415 4T4R (ATI)	126	APXVARR24_43-C-NA20 (T-Mobile)	106
Ericsson RRUS 4415 4T4R (ATI)	126	AIR6419 B41 (T-Mobile)	106
Ericsson B5/B12 4449 RRH (ATI)	126	AIR6419 B41 (T-Mobile)	106
Ericsson B5/B12 4449 RRH (ATI)	126	AIR6419 B41 (T-Mobile)	106
Ericsson B5/B12 4449 RRH (ATI)	126	Radio 4460 B2/B66 (T-Mobile)	106
DC6-48-60-0-8C-EV (ATI)	126	Radio 4460 B2/B66 (T-Mobile)	106
DC6-48-60-0-8C-EV (ATI)	126	Radio 4460 B2/B66 (T-Mobile)	106
DC6-48-60-0-8C-EV (ATI)	126	Radio 4480 B71/B85 (T-Mobile)	106
(5) 8'x2 7/8" Pipe Mount (ATI)	126	Radio 4480 B71/B85 (T-Mobile)	106
(5) 8'x2 7/8" Pipe Mount (ATI)	126	Radio 4480 B71/B85 (T-Mobile)	106
(5) 8'x2 7/8" Pipe Mount (ATI)	126	Radio 4480 B71/B85 (T-Mobile)	106
SitePro1 6' Double T-Arm (ATI)	126	(5) 8'x2 7/8" Pipe Mount (T-Mobile)	106
(2) JMA MX06FRO660-03 (Verizon)	116	(5) 8'x2 7/8" Pipe Mount (T-Mobile)	106
(2) JMA MX06FRO660-03 (Verizon)	116	SitePro1 6' Double T-Arm (T-Mobile)	106
(2) JMA MX06FRO660-03 (Verizon)	116	Commscope VV-65A-R1B (T-Mobile)	106
MT6407-77A (Verizon)	116	(3) 96" x 21" x 6.3" panel antenna (Future)	96
MT6407-77A (Verizon)	116	(3) 96" x 21" x 6.3" panel antenna (Future)	96
MT6407-77A (Verizon)	116	(3) 96" x 21" x 6.3" panel antenna (Future)	96
CBRS RRH-RT 4401-48A w/ XXDWMM-12.5-65-8T antenna (Verizon)	116	(4) 22" x 18" x 12" RRH (Future)	96
CBRS RRH-RT 4401-48A w/ XXDWMM-12.5-65-8T antenna (Verizon)	116	(4) 22" x 18" x 12" RRH (Future)	96
CBRS RRH-RT 4401-48A w/ XXDWMM-12.5-65-8T antenna (Verizon)	116	Raycap DC6-48-60-18-8F surge suppressor (Future)	96
CBRS RRH-RT 4401-48A w/ XXDWMM-12.5-65-8T antenna (Verizon)	116	Raycap DC6-48-60-18-8F surge suppressor (Future)	96
CBRS RRH-RT 4401-48A w/ XXDWMM-12.5-65-8T antenna (Verizon)	116	Raycap DC6-48-60-18-8F surge suppressor (Future)	96
SAMSUNG B2/B66a RRH (RF4439d-25A) (Verizon)	116	(5) 8'x2 7/8" Pipe Mount (Future)	96
SAMSUNG B2/B66a RRH (RF4439d-25A) (Verizon)	116	(5) 8'x2 7/8" Pipe Mount (Future)	96
SAMSUNG B2/B66a RRH (RF4439d-25A) (Verizon)	116	(5) 8'x2 7/8" Pipe Mount (Future)	96
SAMSUNG B5/B13 RRH (RF4440d-13A) (Verizon)	116	SitePro1 6' Double T-Arm (Future)	96
SAMSUNG B5/B13 RRH (RF4440d-13A) (Verizon)	116	(3) 96" x 21" x 6.3" panel antenna (Future)	96
SAMSUNG B5/B13 RRH (RF4440d-13A) (Verizon)	116	(3) 96" x 21" x 6.3" panel antenna (Future)	96

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

All-Points Technology Corporation, P.C.		Job: 130' Monopole Tower	
567 Vauxhall Street Ext. Suite 311		Project: CT141_14380 North Norwalk CT	
Waterford, CT 06385		Client: Verizon; Fuze ID 17123759	Drawn by: DJA App'd:
Phone: (860) 663-1697		Code: TIA-222-H	Date: 01/10/24 Scale: NTS
FAX:		Path:	Dwg No. E-1

Appendix C

Calculations

tnxTower All-Points Technology Corporation, P.C. 567 Vauxhall Street Ext. Suite 311 Waterford, CT 06385 Phone: (860) 663-1697 FAX:	Job 130' Monopole Tower	Page 1 of 7
	Project CT141_14380 North Norwalk CT	Date 15:46:56 01/10/24
	Client Verizon; Fuze ID 17123759	Designed by DJA

Tower Input Data

The tower is a monopole.
 This tower is designed using the TIA-222-H standard.
 The following design criteria apply:
 Tower base elevation above sea level: 222.00 ft.
 Basic wind speed of 120 mph.
 Risk Category II.
 Exposure Category C.
 Simplified Topographic Factor Procedure for wind speed-up calculations is used.
 Topographic Category: 1.
 Crest Height: 0.00 ft.
 Nominal ice thickness of 1.0000 in.
 Ice thickness is considered to increase with height.
 Ice density of 56 pcf.
 A wind speed of 50 mph is used in combination with ice.
 Temperature drop of 50 °F.
 Deflections calculated using a wind speed of 60 mph.
 A non-linear (P-delta) analysis was used.
 Pressures are calculated at each section.
 Stress ratio used in pole design is 1.
 Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	C _A A _A		
							No Ice	1/2" Ice	1" Ice
							ft ² /ft	plf	
3/4" power 6AWG6 (AT&T)	C	No	Yes	Inside Pole	126.00 - 4.00	6	No Ice	0.00	0.58
							1/2" Ice	0.00	0.58
							1" Ice	0.00	0.58
5/16" Fiberoptic cable (AT&T)	C	No	Yes	Inside Pole	126.00 - 4.00	2	No Ice	0.00	0.25
							1/2" Ice	0.00	0.25
							1" Ice	0.00	0.25
2" hybrid (12x24) (Verizon)	C	No	Yes	Inside Pole	116.00 - 4.00	1	No Ice	0.00	3.04
							1/2" Ice	0.00	3.04
							1" Ice	0.00	3.04
6x24 fiber cable (T-Mobile)	C	No	Yes	Inside Pole	106.00 - 4.00	3	No Ice	0.00	2.22
							1/2" Ice	0.00	2.22
							1" Ice	0.00	2.22
1 5/8 (Reserved)	C	No	Yes	Inside Pole	96.00 - 4.00	3	No Ice	0.00	1.04
							1/2" Ice	0.00	1.04
							1" Ice	0.00	1.04

tnxTower All-Points Technology Corporation, P.C. 567 Vauxhall Street Ext. Suite 311 Waterford, CT 06385 Phone: (860) 663-1697 FAX:	Job 130' Monopole Tower	Page 2 of 7
	Project CT141_14380 North Norwalk CT	Date 15:46:56 01/10/24
	Client Verizon; Fuze ID 17123759	Designed by DJA

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _A A		Weight	
			Horz Lateral	Vert			Front	Side		
			ft	ft	°	ft	ft ²	ft ²	lb	
DMP65R-BU6DA (AT&T)	A	From Leg	4.00	0.00	0.0000	126.00	No Ice	12.71	5.62	85.00
			0.00	0.00			1/2" Ice	13.21	6.07	158.96
			0.00	0.00			1" Ice	13.71	6.53	239.56
DMP65R-BU6DA (AT&T)	B	From Leg	4.00	0.00	0.0000	126.00	No Ice	12.71	5.62	85.00
			0.00	0.00			1/2" Ice	13.21	6.07	158.96
			0.00	0.00			1" Ice	13.71	6.53	239.56
DMP65R-BU6DA (AT&T)	C	From Leg	4.00	0.00	0.0000	126.00	No Ice	12.71	5.62	85.00
			0.00	0.00			1/2" Ice	13.21	6.07	158.96
			0.00	0.00			1" Ice	13.71	6.53	239.56
TPA65R-BU6DA-K (AT&T)	A	From Leg	4.00	0.00	0.0000	126.00	No Ice	12.87	5.67	75.00
			0.00	0.00			1/2" Ice	13.37	6.13	150.03
			0.00	0.00			1" Ice	13.87	6.59	231.75
TPA65R-BU6DA-K (AT&T)	B	From Leg	4.00	0.00	0.0000	126.00	No Ice	12.87	5.67	75.00
			0.00	0.00			1/2" Ice	13.37	6.13	150.03
			0.00	0.00			1" Ice	13.87	6.59	231.75
TPA65R-BU6DA-K (AT&T)	C	From Leg	4.00	0.00	0.0000	126.00	No Ice	12.87	5.67	75.00
			0.00	0.00			1/2" Ice	13.37	6.13	150.03
			0.00	0.00			1" Ice	13.87	6.59	231.75
Ericsson Radio 4478 B14 (AT&T)	A	From Leg	3.50	0.00	0.0000	126.00	No Ice	2.02	1.25	65.00
			0.00	0.00			1/2" Ice	2.20	1.40	82.66
			0.00	0.00			1" Ice	2.39	1.56	103.08
Ericsson Radio 4478 B14 (AT&T)	B	From Leg	3.50	0.00	0.0000	126.00	No Ice	2.02	1.25	65.00
			0.00	0.00			1/2" Ice	2.20	1.40	82.66
			0.00	0.00			1" Ice	2.39	1.56	103.08
Ericsson Radio 4478 B14 (AT&T)	C	From Leg	3.50	0.00	0.0000	126.00	No Ice	2.02	1.25	65.00
			0.00	0.00			1/2" Ice	2.20	1.40	82.66
			0.00	0.00			1" Ice	2.39	1.56	103.08
Ericsson B2/B66A 8843 RRH (AT&T)	A	From Leg	3.50	0.00	0.0000	126.00	No Ice	1.98	1.70	75.00
			0.00	0.00			1/2" Ice	2.16	1.86	95.54
			0.00	0.00			1" Ice	2.34	2.04	119.02
Ericsson B2/B66A 8843 RRH (AT&T)	B	From Leg	3.50	0.00	0.0000	126.00	No Ice	1.98	1.70	75.00
			0.00	0.00			1/2" Ice	2.16	1.86	95.54
			0.00	0.00			1" Ice	2.34	2.04	119.02
Ericsson B2/B66A 8843 RRH (AT&T)	C	From Leg	3.50	0.00	0.0000	126.00	No Ice	1.98	1.70	75.00
			0.00	0.00			1/2" Ice	2.16	1.86	95.54
			0.00	0.00			1" Ice	2.34	2.04	119.02
Ericsson RRUS 4415 4T4R (AT&T)	A	From Leg	3.50	0.00	0.0000	126.00	No Ice	1.84	0.82	55.00
			0.00	0.00			1/2" Ice	2.01	0.94	69.07
			0.00	0.00			1" Ice	2.19	1.07	85.66
Ericsson RRUS 4415 4T4R (AT&T)	B	From Leg	3.50	0.00	0.0000	126.00	No Ice	1.84	0.82	55.00
			0.00	0.00			1/2" Ice	2.01	0.94	69.07
			0.00	0.00			1" Ice	2.19	1.07	85.66
Ericsson RRUS 4415 4T4R (AT&T)	C	From Leg	3.50	0.00	0.0000	126.00	No Ice	1.84	0.82	55.00
			0.00	0.00			1/2" Ice	2.01	0.94	69.07
			0.00	0.00			1" Ice	2.19	1.07	85.66
Ericsson B5/B12 4449 RRH (AT&T)	A	From Leg	3.50	0.00	0.0000	126.00	No Ice	1.98	1.41	80.00
			0.00	0.00			1/2" Ice	2.16	1.57	98.55
			0.00	0.00			1" Ice	2.34	1.73	119.93
Ericsson B5/B12 4449 RRH (AT&T)	B	From Leg	3.50	0.00	0.0000	126.00	No Ice	1.98	1.41	80.00
			0.00	0.00			1/2" Ice	2.16	1.57	98.55
			0.00	0.00			1" Ice	2.34	1.73	119.93
Ericsson B5/B12 4449 RRH (AT&T)	C	From Leg	3.50	0.00	0.0000	126.00	No Ice	1.98	1.41	80.00
			0.00	0.00			1/2" Ice	2.16	1.57	98.55
			0.00	0.00			1" Ice	2.34	1.73	119.93

tnxTower All-Points Technology Corporation, P.C. 567 Vauxhall Street Ext. Suite 311 Waterford, CT 06385 Phone: (860) 663-1697 FAX:	Job	130' Monopole Tower	Page	3 of 7
	Project	CT141_14380 North Norwalk CT	Date	15:46:56 01/10/24
	Client	Verizon; Fuze ID 17123759	Designed by	DJA

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _A A _A		Weight
			Horz	Lateral			Front	Side	
			ft	ft	°	ft	ft ²	ft ²	lb
DC6-48-60-0-8C-EV (AT&T)	A	From Leg	3.50	0.0000	126.00	No Ice	1.09	1.09	30.00
			0.00			1/2" Ice	1.70	1.70	49.14
			0.00			1" Ice	1.91	1.91	71.01
DC6-48-60-0-8C-EV (AT&T)	B	From Leg	3.50	0.0000	126.00	No Ice	1.09	1.09	30.00
			0.00			1/2" Ice	1.70	1.70	49.14
			0.00			1" Ice	1.91	1.91	71.01
DC6-48-60-0-8C-EV (AT&T)	C	From Leg	3.50	0.0000	126.00	No Ice	1.09	1.09	30.00
			0.00			1/2" Ice	1.70	1.70	49.14
			0.00			1" Ice	1.91	1.91	71.01
(5) 8'x2 7/8" Pipe Mount (AT&T)	A	From Leg	3.00	0.0000	126.00	No Ice	2.30	2.30	46.32
			0.00			1/2" Ice	3.13	3.13	63.20
			0.00			1" Ice	3.62	3.62	85.40
(5) 8'x2 7/8" Pipe Mount (AT&T)	B	From Leg	3.00	0.0000	126.00	No Ice	2.30	2.30	46.32
			0.00			1/2" Ice	3.13	3.13	63.20
			0.00			1" Ice	3.62	3.62	85.40
(5) 8'x2 7/8" Pipe Mount (AT&T)	C	From Leg	3.00	0.0000	126.00	No Ice	2.30	2.30	46.32
			0.00			1/2" Ice	3.13	3.13	63.20
			0.00			1" Ice	3.62	3.62	85.40
SitePro1 6' Double T-Arm (AT&T)	C	None		0.0000	126.00	No Ice	12.87	12.87	1728.00
						1/2" Ice	0.00	0.00	0.00
						1" Ice	18.74	18.74	2130.00
(2) JMA MX06FRO660-03 (Verizon)	A	From Leg	4.00	0.0000	116.00	No Ice	9.87	7.34	65.00
			-3.00			1/2" Ice	10.34	7.78	133.84
			0.00			1" Ice	10.82	8.24	209.18
(2) JMA MX06FRO660-03 (Verizon)	B	From Leg	4.00	0.0000	116.00	No Ice	9.87	7.34	65.00
			-3.00			1/2" Ice	10.34	7.78	133.84
			0.00			1" Ice	10.82	8.24	209.18
(2) JMA MX06FRO660-03 (Verizon)	C	From Leg	4.00	0.0000	116.00	No Ice	9.87	7.34	65.00
			-3.00			1/2" Ice	10.34	7.78	133.84
			0.00			1" Ice	10.82	8.24	209.18
MT6407-77A (Verizon)	A	From Leg	4.00	0.0000	116.00	No Ice	4.71	1.84	87.10
			0.00			1/2" Ice	5.00	2.07	116.43
			0.00			1" Ice	5.29	2.30	149.62
MT6407-77A (Verizon)	B	From Leg	4.00	0.0000	116.00	No Ice	4.71	1.84	87.10
			0.00			1/2" Ice	5.00	2.07	116.43
			0.00			1" Ice	5.29	2.30	149.62
MT6407-77A (Verizon)	C	From Leg	4.00	0.0000	116.00	No Ice	4.71	1.84	87.10
			0.00			1/2" Ice	5.00	2.07	116.43
			0.00			1" Ice	5.29	2.30	149.62
CBRS RRH-RT 4401-48A w/ XXDWMM-12.5-65-8T antenna (Verizon)	A	From Leg	4.00	0.0000	116.00	No Ice	1.00	0.65	23.14
			3.00			1/2" Ice	1.20	0.87	54.00
			0.00			1" Ice	1.40	1.09	84.86
CBRS RRH-RT 4401-48A w/ XXDWMM-12.5-65-8T antenna (Verizon)	B	From Leg	4.00	0.0000	116.00	No Ice	1.00	0.65	23.14
			3.00			1/2" Ice	1.20	0.87	54.00
			0.00			1" Ice	1.40	1.09	84.86
CBRS RRH-RT 4401-48A w/ XXDWMM-12.5-65-8T antenna (Verizon)	C	From Leg	4.00	0.0000	116.00	No Ice	1.00	0.65	23.14
			3.00			1/2" Ice	1.20	0.87	54.00
			0.00			1" Ice	1.40	1.09	84.86
SAMSUNG B2/B66a RRH (RF4439d-25A) (Verizon)	A	From Leg	1.00	0.0000	116.00	No Ice	1.88	1.26	97.50
			-1.00			1/2" Ice	2.05	1.41	115.94
			0.00			1" Ice	2.22	1.56	137.18
SAMSUNG B2/B66a RRH (RF4439d-25A) (Verizon)	B	From Leg	1.00	0.0000	116.00	No Ice	1.88	1.26	97.50
			-1.00			1/2" Ice	2.05	1.41	115.94
			0.00			1" Ice	2.22	1.56	137.18

tnxTower All-Points Technology Corporation, P.C. 567 Vauxhall Street Ext. Suite 311 Waterford, CT 06385 Phone: (860) 663-1697 FAX:	Job	130' Monopole Tower	Page	4 of 7
	Project	CT141_14380 North Norwalk CT	Date	15:46:56 01/10/24
	Client	Verizon; Fuze ID 17123759	Designed by	DJA

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _A A _{Front}	C _A A _{Side}	Weight
			Horz	Vert					
			Lateral		°	ft	ft ²	ft ²	lb
			ft	ft					
			ft						
SAMSUNG B2/B66a RRH (RF4439d-25A) (Verizon)	C	From Leg	1.00	-1.00	0.0000	116.00	No Ice 1.88	1.26	97.50
			0.00	0.00			1/2" Ice 2.05	1.41	115.94
			0.00	0.00			1" Ice 2.22	1.56	137.18
SAMSUNG B5/B13 RRH (RF4440d-13A) (Verizon)	A	From Leg	1.00	1.00	0.0000	116.00	No Ice 1.88	1.14	82.00
			1.00	1.00			1/2" Ice 2.05	1.28	99.44
			0.00	0.00			1" Ice 2.22	1.42	119.61
SAMSUNG B5/B13 RRH (RF4440d-13A) (Verizon)	B	From Leg	1.00	1.00	0.0000	116.00	No Ice 1.88	1.14	82.00
			1.00	1.00			1/2" Ice 2.05	1.28	99.44
			0.00	0.00			1" Ice 2.22	1.42	119.61
SAMSUNG B5/B13 RRH (RF4440d-13A) (Verizon)	C	From Leg	1.00	1.00	0.0000	116.00	No Ice 1.88	1.14	82.00
			1.00	1.00			1/2" Ice 2.05	1.28	99.44
			0.00	0.00			1" Ice 2.22	1.42	119.61
Raycap RDC-6627-PF-48 OVP (Verizon)	C	From Leg	1.00	0.00	0.0000	116.00	No Ice 4.06	3.10	32.00
			0.00	0.00			1/2" Ice 4.32	3.34	68.49
			0.00	0.00			1" Ice 4.58	3.58	108.97
(5) 8'x2 7/8" Pipe Mount (Verizon)	A	From Leg	3.00	0.00	0.0000	116.00	No Ice 2.30	2.30	46.32
			0.00	0.00			1/2" Ice 3.13	3.13	63.20
			0.00	0.00			1" Ice 3.62	3.62	85.40
(5) 8'x2 7/8" Pipe Mount (Verizon)	B	From Leg	3.00	0.00	0.0000	116.00	No Ice 2.30	2.30	46.32
			0.00	0.00			1/2" Ice 3.13	3.13	63.20
			0.00	0.00			1" Ice 3.62	3.62	85.40
(5) 8'x2 7/8" Pipe Mount (Verizon)	C	From Leg	3.00	0.00	0.0000	116.00	No Ice 2.30	2.30	46.32
			0.00	0.00			1/2" Ice 3.13	3.13	63.20
			0.00	0.00			1" Ice 3.62	3.62	85.40
SitePro1 Double 6' T-Arm (Verizon)	C	None			0.0000	116.00	No Ice 12.87	12.87	1728.00
							1/2" Ice 0.00	0.00	0.00
							1" Ice 18.74	18.74	2130.00
Commscope VV-65A-R1B (T-Mobile)	A	From Leg	4.00	0.00	0.0000	106.00	No Ice 5.89	2.78	24.70
			0.00	0.00			1/2" Ice 6.25	3.12	58.48
			0.00	0.00			1" Ice 6.62	3.47	97.08
Commscope VV-65A-R1B (T-Mobile)	B	From Leg	4.00	0.00	0.0000	106.00	No Ice 5.89	2.78	24.70
			0.00	0.00			1/2" Ice 6.25	3.12	58.48
			0.00	0.00			1" Ice 6.62	3.47	97.08
Commscope VV-65A-R1B (T-Mobile)	C	From Leg	4.00	0.00	0.0000	106.00	No Ice 5.89	2.78	24.70
			0.00	0.00			1/2" Ice 6.25	3.12	58.48
			0.00	0.00			1" Ice 6.62	3.47	97.08
APXVAALL24_43-U-NA20 (T-Mobile)	A	From Leg	4.00	0.00	0.0000	106.00	No Ice 20.24	9.04	135.50
			0.00	0.00			1/2" Ice 20.89	9.64	248.88
			0.00	0.00			1" Ice 21.54	10.25	370.80
APXVAALL24_43-U-NA20 (T-Mobile)	B	From Leg	4.00	0.00	0.0000	106.00	No Ice 20.24	9.04	135.50
			0.00	0.00			1/2" Ice 20.89	9.64	248.88
			0.00	0.00			1" Ice 21.54	10.25	370.80
APXVARR24_43-C-NA20 (T-Mobile)	C	From Leg	4.00	0.00	0.0000	106.00	No Ice 20.24	8.89	128.00
			0.00	0.00			1/2" Ice 20.89	9.49	240.59
			0.00	0.00			1" Ice 21.54	10.09	361.72
AIR6419 B41 (T-Mobile)	A	From Leg	4.00	0.00	0.0000	106.00	No Ice 6.32	2.88	83.30
			0.00	0.00			1/2" Ice 6.64	3.12	126.75
			0.00	0.00			1" Ice 6.97	3.38	174.68
AIR6419 B41 (T-Mobile)	B	From Leg	4.00	0.00	0.0000	106.00	No Ice 6.32	2.88	83.30
			0.00	0.00			1/2" Ice 6.64	3.12	126.75
			0.00	0.00			1" Ice 6.97	3.38	174.68
AIR6419 B41 (T-Mobile)	C	From Leg	4.00	0.00	0.0000	106.00	No Ice 6.32	2.88	83.30
			0.00	0.00			1/2" Ice 6.64	3.12	126.75
			0.00	0.00			1" Ice 6.97	3.38	174.68
Radio 4460 B2/B66 (T-Mobile)	A	From Leg	3.50	0.00	0.0000	106.00	No Ice 1.50	2.14	108.00
			0.00	0.00			1/2" Ice 1.65	2.32	130.16
			0.00	0.00			1" Ice 1.81	2.51	155.36

<p>tnxTower</p> <p><i>All-Points Technology Corporation, P.C.</i> 567 Vauxhall Street Ext. Suite 311 Waterford, CT 06385 Phone: (860) 663-1697 FAX:</p>	Job 130' Monopole Tower	Page 5 of 7
	Project CT141_14380 North Norwalk CT	Date 15:46:56 01/10/24
	Client Verizon; Fuze ID 17123759	Designed by DJA

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _A A _A		Weight
			Horz Lateral	Vert			Front	Side	
			ft	ft	°	ft	ft ²	ft ²	lb
Radio 4460 B2/B66 (T-Mobile)	B	From Leg	3.50	0.0000	106.00	No Ice	1.50	2.14	108.00
			0.00			1/2" Ice	1.65	2.32	130.16
			0.00			1" Ice	1.81	2.51	155.36
Radio 4460 B2/B66 (T-Mobile)	C	From Leg	3.50	0.0000	106.00	No Ice	1.50	2.14	108.00
			0.00			1/2" Ice	1.65	2.32	130.16
			0.00			1" Ice	1.81	2.51	155.36
Radio 4480 B71/B85 (T-Mobile)	A	From Leg	3.50	0.0000	106.00	No Ice	0.94	2.42	93.00
			0.00			1/2" Ice	1.07	2.61	112.12
			0.00			1" Ice	1.21	2.81	134.14
Radio 4480 B71/B85 (T-Mobile)	B	From Leg	3.50	0.0000	106.00	No Ice	0.94	2.42	93.00
			0.00			1/2" Ice	1.07	2.61	112.12
			0.00			1" Ice	1.21	2.81	134.14
Radio 4480 B71/B85 (T-Mobile)	C	From Leg	3.50	0.0000	106.00	No Ice	0.94	2.42	93.00
			0.00			1/2" Ice	1.07	2.61	112.12
			0.00			1" Ice	1.21	2.81	134.14
(5) 8'x2 7/8" Pipe Mount (T-Mobile)	A	From Leg	3.00	0.0000	106.00	No Ice	2.30	2.30	46.32
			0.00			1/2" Ice	3.13	3.13	63.20
			0.00			1" Ice	3.62	3.62	85.40
(5) 8'x2 7/8" Pipe Mount (T-Mobile)	B	From Leg	3.00	0.0000	106.00	No Ice	2.30	2.30	46.32
			0.00			1/2" Ice	3.13	3.13	63.20
			0.00			1" Ice	3.62	3.62	85.40
(5) 8'x2 7/8" Pipe Mount (T-Mobile)	C	From Leg	3.00	0.0000	106.00	No Ice	2.30	2.30	46.32
			0.00			1/2" Ice	3.13	3.13	63.20
			0.00			1" Ice	3.62	3.62	85.40
SitePro1 6' Double T-Arm (T-Mobile)	C	None		0.0000	106.00	No Ice	12.87	12.87	1728.00
						1/2" Ice	0.00	0.00	0.00
						1" Ice	18.74	18.74	2130.00
(3) 96" x 21" x 6.3" panel antenna (Future)	A	From Leg	4.00	0.0000	96.00	No Ice	18.09	7.03	115.00
			0.00			1/2" Ice	18.72	7.62	208.25
			0.00			1" Ice	19.36	8.21	309.68
(3) 96" x 21" x 6.3" panel antenna (Future)	B	From Leg	4.00	0.0000	96.00	No Ice	18.09	7.03	115.00
			0.00			1/2" Ice	18.72	7.62	208.25
			0.00			1" Ice	19.36	8.21	309.68
(3) 96" x 21" x 6.3" panel antenna (Future)	C	From Leg	4.00	0.0000	96.00	No Ice	18.09	7.03	115.00
			0.00			1/2" Ice	18.72	7.62	208.25
			0.00			1" Ice	19.36	8.21	309.68
(4) 22" x 18" x 12" RRH (Future)	A	From Leg	3.50	0.0000	96.00	No Ice	3.30	2.20	40.00
			0.00			1/2" Ice	3.53	2.39	70.11
			0.00			1" Ice	3.76	2.59	103.78
(4) 22" x 18" x 12" RRH (Future)	B	From Leg	3.50	0.0000	96.00	No Ice	3.30	2.20	40.00
			0.00			1/2" Ice	3.53	2.39	70.11
			0.00			1" Ice	3.76	2.59	103.78
(4) 22" x 18" x 12" RRH (Future)	C	From Leg	3.50	0.0000	96.00	No Ice	3.30	2.20	40.00
			0.00			1/2" Ice	3.53	2.39	70.11
			0.00			1" Ice	3.76	2.59	103.78
Raycap DC6-48-60-18-8F surge suppressor (Future)	A	From Leg	3.50	0.0000	96.00	No Ice	0.74	0.74	30.00
			0.00			1/2" Ice	1.20	1.20	44.34
			0.00			1" Ice	1.36	1.36	60.93
Raycap DC6-48-60-18-8F surge suppressor (Future)	B	From Leg	3.50	0.0000	96.00	No Ice	0.74	0.74	30.00
			0.00			1/2" Ice	1.20	1.20	44.34
			0.00			1" Ice	1.36	1.36	60.93
Raycap DC6-48-60-18-8F surge suppressor (Future)	C	From Leg	3.50	0.0000	96.00	No Ice	0.74	0.74	30.00
			0.00			1/2" Ice	1.20	1.20	44.34
			0.00			1" Ice	1.36	1.36	60.93
(5) 8'x2 7/8" Pipe Mount (Future)	A	From Leg	3.00	0.0000	96.00	No Ice	2.30	2.30	46.32
			0.00			1/2" Ice	3.13	3.13	63.20
			0.00			1" Ice	3.62	3.62	85.40

tnxTower All-Points Technology Corporation, P.C. 567 Vauxhall Street Ext. Suite 311 Waterford, CT 06385 Phone: (860) 663-1697 FAX:	Job 130' Monopole Tower	Page 6 of 7
	Project CT141_14380 North Norwalk CT	Date 15:46:56 01/10/24
	Client Verizon; Fuze ID 17123759	Designed by DJA

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _A A _{Front}	C _A A _{Side}	Weight lb	
(5) 8'x2 7/8" Pipe Mount (Future)	B	From Leg	3.00	0.0000	96.00	No Ice	2.30	2.30	46.32
			0.00			1/2" Ice	3.13	3.13	63.20
			0.00			1" Ice	3.62	3.62	85.40
(5) 8'x2 7/8" Pipe Mount (Future)	C	From Leg	3.00	0.0000	96.00	No Ice	2.30	2.30	46.32
			0.00			1/2" Ice	3.13	3.13	63.20
			0.00			1" Ice	3.62	3.62	85.40
SitePro1 6' Double T-Arm (Future)	C	None		0.0000	96.00	No Ice	12.87	12.87	1728.00
						1/2" Ice	0.00	0.00	0.00
						1" Ice	18.74	18.74	2130.00
KA-6030 (Verizon)	A	From Leg	3.00	0.0000	116.00	No Ice	0.96	0.29	17.60
			-3.00			1/2" Ice	1.09	0.37	24.41
			-1.00			1" Ice	1.22	0.45	33.01

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	130 - 110	10.755	61	0.6548	0.0100
L2	110 - 79.3333	8.037	61	0.6331	0.0083
L3	85 - 41.9167	4.931	61	0.5362	0.0052
L4	48.5 - 1	1.612	61	0.3070	0.0020

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
126.00	DMP65R-BU6DA	61	10.205	0.6525	0.0097	94334
116.00	(2) JMA MX06FRO660-03	61	8.840	0.6435	0.0089	33691
106.00	Commscope VV-65A-R1B	61	7.511	0.6232	0.0079	20545
96.00	(3) 96" x 21" x 6.3" panel antenna	61	6.239	0.5884	0.0066	15530

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	130 - 110	48.270	22	2.9410	0.0448
L2	110 - 79.3333	36.069	22	2.8438	0.0372
L3	85 - 41.9167	22.131	22	2.4081	0.0230
L4	48.5 - 1	7.236	22	1.3780	0.0089

tnxTower All-Points Technology Corporation, P.C. 567 Vauxhall Street Ext. Suite 311 Waterford, CT 06385 Phone: (860) 663-1697 FAX:	Job 130' Monopole Tower	Page 7 of 7
	Project CT141_14380 North Norwalk CT	Date 15:46:56 01/10/24
	Client Verizon; Fuze ID 17123759	Designed by DJA

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
126.00	DMP65R-BU6DA	22	45.801	2.9309	0.0435	21118
116.00	(2) JMA MX06FRO660-03	22	39.675	2.8903	0.0399	7541
106.00	Commscope VV-65A-R1B	22	33.709	2.7993	0.0352	4596
96.00	(3) 96" x 21" x 6.3" panel antenna	22	28.004	2.6426	0.0294	3471

Section Capacity Table

Section No.	Elevation ft	Component Type	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail	
L1	130 - 110	Pole	1	-10403.90	1447370.00	13.5	Pass	
L2	110 - 79.3333	Pole	2	-23707.10	2572750.00	29.8	Pass	
L3	79.3333 - 41.9167	Pole	3	-34256.90	3638600.00	45.3	Pass	
L4	41.9167 - 1	Pole	4	-52845.30	5106170.00	51.2	Pass	
						Summary		
						Pole (L4)	51.2	Pass
						RATING =	51.2	Pass



567 Vauxhall Street Extension, Suite 311
 Waterford, CT 06385
 PH: 860-663-1697

Verizon - North Norwalk CT Relo
 173.5 West Rocks Road, Norwalk, CT 06851
 APT FILING No. CT141_14380

Anchor Bolt and Base Plate Analysis (Circular Pattern)
 Prepared by: JRM; Checked by: MST, P.E.
 Rev 0: 01.10.24

Anchor Bolt and Base Plate Analysis (Non-Grouted Base Plate)

Note: The following rational circular base analysis methodology shall be utilized when base plate design does not conform to conditions 1 thru 10 of TIA-222-H Annex Q, Section Q3.0.

Input Data:

Tower Reactions (1.2DL +1.0WL):

Overturning Moment = $M_u := 3532 \cdot \text{ft} \cdot \text{kip}$ (Input From tnxTower)
 Axial Force = $R_u := 52.9 \cdot \text{kip}$ (Input From tnxTower)
 Shear Force = $V_u := 37.6 \cdot \text{kip}$ (Input From tnxTower)

Anchor Bolt Data:

Anchor Bolt Grade = ASTM A615 Gr. 75 (User Input)
 Number of Anchor Bolts = $N := 20$ (User Input)
 Diameter of Bolt Circle = $D_{BC} := 63.00 \cdot \text{in}$ (User Input)
 Bolt "Column" Distance = $l_{ar} := 1.0 \text{ in}$ (Defined as anchor rod projection from supporting structure to bottom of leveling nut)
 Bolt Ultimate Stress = $F_{ub} := 100 \cdot \text{ksi}$ (User Input)
 Bolt Yield Stress = $F_{yb} := 75 \cdot \text{ksi}$ (User Input)
 Bolt Modulus of Elasticity = $E := 29000 \cdot \text{ksi}$ (User Input)
 Nominal Diameter of Anchor Bolts = $D := 2.25 \text{ in}$ (User Input)
 Threads per Inch = $n := 4.5$ (User Input)

Base Plate Data:

ASTM A572-50
 Plate Yield Strength = $F_{yf} := 50 \cdot \text{ksi}$ (User Input)
 Base Plate Thickness = $t_{bp} := 3.000 \text{ in}$ (User Input)
 Base Plate Diameter = $D_{bp} := 70.06 \cdot \text{in}$ (User Input)
 Outer Pole Diameter = $D_T := 55.50 \cdot \text{in}$ (User Input)



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Waterford, CT 06385
PH: 860-663-1697

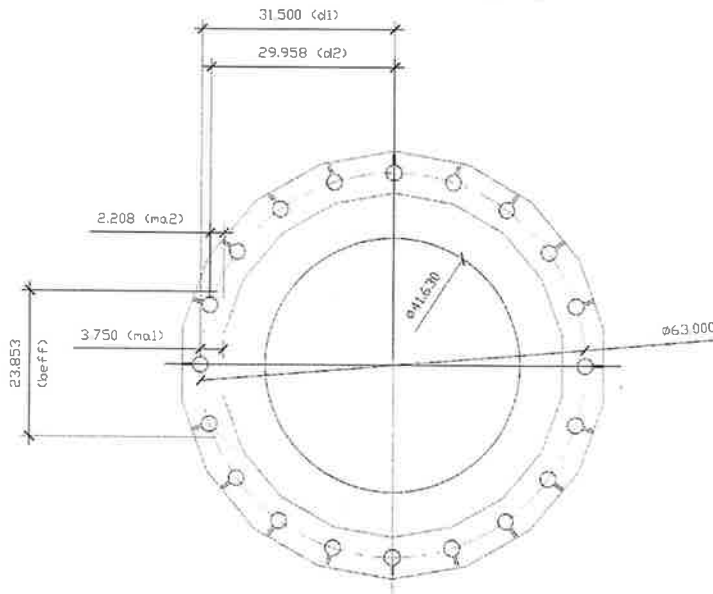
Verizon - North Norwalk CT Relo
173.5 West Rocks Road, Norwalk, CT 06851
APT FILING No. CT141_14380

Anchor Bolt and Base Plate Analysis (Circular Pattern)

Prepared by: JRM: Checked by: MST, P.E.

Rev 0: 01.10.24

Geometric Layout Data:



ANCHOR BOLT AND PLATE GEOMETRY



567 Vauxhall Street Extension, Suite 311
 Waterford, CT 06385
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Verizon - North Norwalk CT Relo
 173.5 West Rocks Road, Norwalk, CT 06851
 APT FILING No. CT141_14380

Anchor Bolt and Base Plate Analysis (Circular Pattern)
 Prepared by: JRM; Checked by: MST, P.E.
 Rev 0: 01.10.24

Anchor Rod Usage =

Note:
 Per TIA-222-H Section . . . when the anchor rod projection (l_{ar}) exceeds $1(d)$ but is not more than 3 in., it shall be permitted to consider (l_{ar}) less than or equal to $1(d)$ when 5,000 psi min. 7 day strength non shrink, non metallic grout is installed between the supporting structure and the leveling nuts, otherwise all interaction equations shall be investigated based on (l_{ar}).

$$Usage1 := \begin{cases} \text{if } l_{ar} \leq 1.0 \cdot D & \\ \max \left(\left(\frac{P_{ut}}{\phi_t R_{nt}} \right)^2 + \left(\frac{V_u}{\phi_v R_{nv}} \right)^2 \right) & \\ \left(\frac{P_{uc}}{\phi_c R_{nc}} \right) + \left(\frac{V_u}{\phi_c R_{nvc}} \right)^2 & \\ \text{also if } 1.0 \cdot D < l_{ar} \leq 4.0 \cdot D & \\ \max \left(\left(\left(\frac{P_{ut}}{\phi_t R_{nt}} \right) + \left(\frac{M_{ub}}{\phi_t M_n} \right) \right)^2 + \left(\frac{V_u}{\phi_v R_{nv}} \right)^2 \right) & \\ \left(\frac{P_{uc}}{\phi_c R_{nc}} \right) + \left(\frac{M_{ub}}{\phi_t M_n} \right) + \left(\frac{V_u}{\phi_c R_{nvc}} \right)^2 & \\ \text{else} & \\ \max \left(\left(\left(\frac{P_{ut}}{\phi_t R_{nt}} \right) + \left(\frac{M_{ub}}{\phi_t M_n} \right) \right)^2 + \left(\frac{V_u}{\phi_v R_{nv}} \right)^2 \right) & \\ \left(\frac{P_{uc}}{\phi_c R_{nb}} \right) + \left(\frac{M_{ub}}{\phi_t M_n} \right) + \left(\frac{V_u}{\phi_c R_{nvc}} \right)^2 & \end{cases} = 0.51$$

Base Plate Analysis:

Plate Plastic Section Modulus = $Z_p := \frac{B_{eff} \cdot t_{bp}^2}{4} = 53.67 \text{ in}^3$

Plate Bending = $M_p := \sum C_i \cdot MA_i = 1091.35 \text{ in} \cdot \text{kip}$

Available Plate Bending Strength = $\phi M_n := 0.90 \cdot F_{yf} \cdot Z_p = 2415.12 \text{ in} \cdot \text{kip}$

Plate Flexural Usage = $Usage2 := \frac{M_p}{\phi M_n} = 0.45$

Anchor Bolt and Base Plate Analysis Summary:

Anchor Bolt Usage (of Capacity) = **Usage1 = 51%**

Base Plate Bending Usage (of Capacity) = **Usage2 = 45%**



Colliers Engineering & Design CT, P.C.
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Antenna Mount Analysis Report and PMI Requirements

Mount Analysis

SMART Tool Project #: 10210349
Colliers Engineering & Design CT, P.C. Project #: 23777265

September 18, 2023

Site Information

Site ID: 5000386270-VZW / NORTH NORWALK CT
RELO - A
Site Name: NORTH NORWALK CT RELO - A
Carrier Name: Verizon Wireless
Address: 173 West Rock Rd
Norwalk, Connecticut 6850
Fairfield County
Latitude: 41.143508°
Longitude: -73.418967°

Structure Information

Tower Type: 130-Ft Monopole
Mount Type: 6.00-Ft T-Frame

FUZE ID # 17123759

Analysis Results

T-Frame: 21.3 % 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: Gianna Argentina



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
Mount Mapping Report	Onsight Services, Site ID: 17123759, dated September 12, 2023
Filter Add Guidance	Provided by Verizon Wireless

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H Connecticut State Building Code, Effective October 1, 2022
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT} : 120 mph Ice Wind Speed (3-sec. Gust): 50 mph Design Ice Thickness: 1.00 in Risk Category: II Exposure Category: B Topographic Category: 1 Topographic Feature Considered: N/A Topographic Method: N/A Ground Elevation Factor, K_e : 0.992
Seismic Parameters:	S_s : 0.240 g S_1 : 0.056 g
Maintenance Parameters:	Wind Speed (3-sec. Gust): 30 mph Maintenance Load, L_v : 250 lbs. Maintenance Load, L_m : 500 lbs.
Analysis Software:	RISA-3D (V17)

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
118.00	118.00	6	JMA Wireless	MX06FRO660-03	Retained
		3	Samsung	MT6407-77A	
		3	Samsung	CBRS RRH - RT4401-48A	
		1	Raycap	RVZDC-6627-PF-48	
		3	Samsung	RF4439d-25A	
		3	Samsung	RF4440d-13A	
		2	KAelus	KA-6030	Added

Any proposed antennas not currently installed should be mounted such that the centerline of the antennas does not exceed 6 inches vertically from the center of the antenna mount(s).

The recent mount mapping reported existing OVP units. 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:

1. 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.
2. 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.

3. 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.
4. 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.
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:
 - o Channel, Solid Round, Angle, Plate ASTM A36 (Gr. 36)
 - o HSS (Rectangular) ASTM 500 (Gr. B-46)
 - o Pipe ASTM A53 (Gr. B-35)
 - o Threaded Rod F1554 (Gr. 36)
 - o 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	18.4 %	Pass
Standoff Arm	12.0 %	Pass
Antenna Pipe	21.3 %	Pass
Mount Connection	18.1 %	Pass
Structure Rating – (Controlling Utilization of all Components)		21.3%

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

Ice Thickness (In)	Mount Pipes Excluded		Mount Pipes Included	
	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	12.3	8.1	20.6	16.4
0.5	16.5	11.0	27.6	22.1
1	20.4	13.5	34.4	27.5

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(s).
- Ka factors included in (EPA)a calculations

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.

Contractor shall install the proposed filter units on new Site Pro 1 Dual Swivel Mount Kit (Part #: RRUDSM or EOR approved equivalent) in the location shown in the placement diagrams.

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 #: 5000386270

SMART Project #: 10210349

Fuze Project ID: 17123759

Purpose – 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
 - 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.
- Photos that show the model number of each antenna and piece of equipment installed per sector.

Antenna & equipment placement and Geometry Confirmation:

- 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.
- 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

- 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:

Contractor shall install the proposed filter units on new Site Pro 1 Dual Swivel Mount Kit (Part #: RRUDSM or EOR approved equivalent) in the location shown in the placement diagrams.

Response:

Special Instruction Confirmation:

- The contractor has read and acknowledges the above special instructions.
- 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 prior to starting work:

Yes No

Contractor certifies no new damage created during the current installation:

Yes No

Contractor to certify the condition of the safety climb and verify no damage when leaving the site:

Safety Climb in Good Condition Safety Climb Damaged

Certifying Individual:

Company:	
Employee Name:	
Contact Phone:	
Email:	
Date:	

Structure: 5000386270-VZW - NORTH NORWALK CT RELO - A

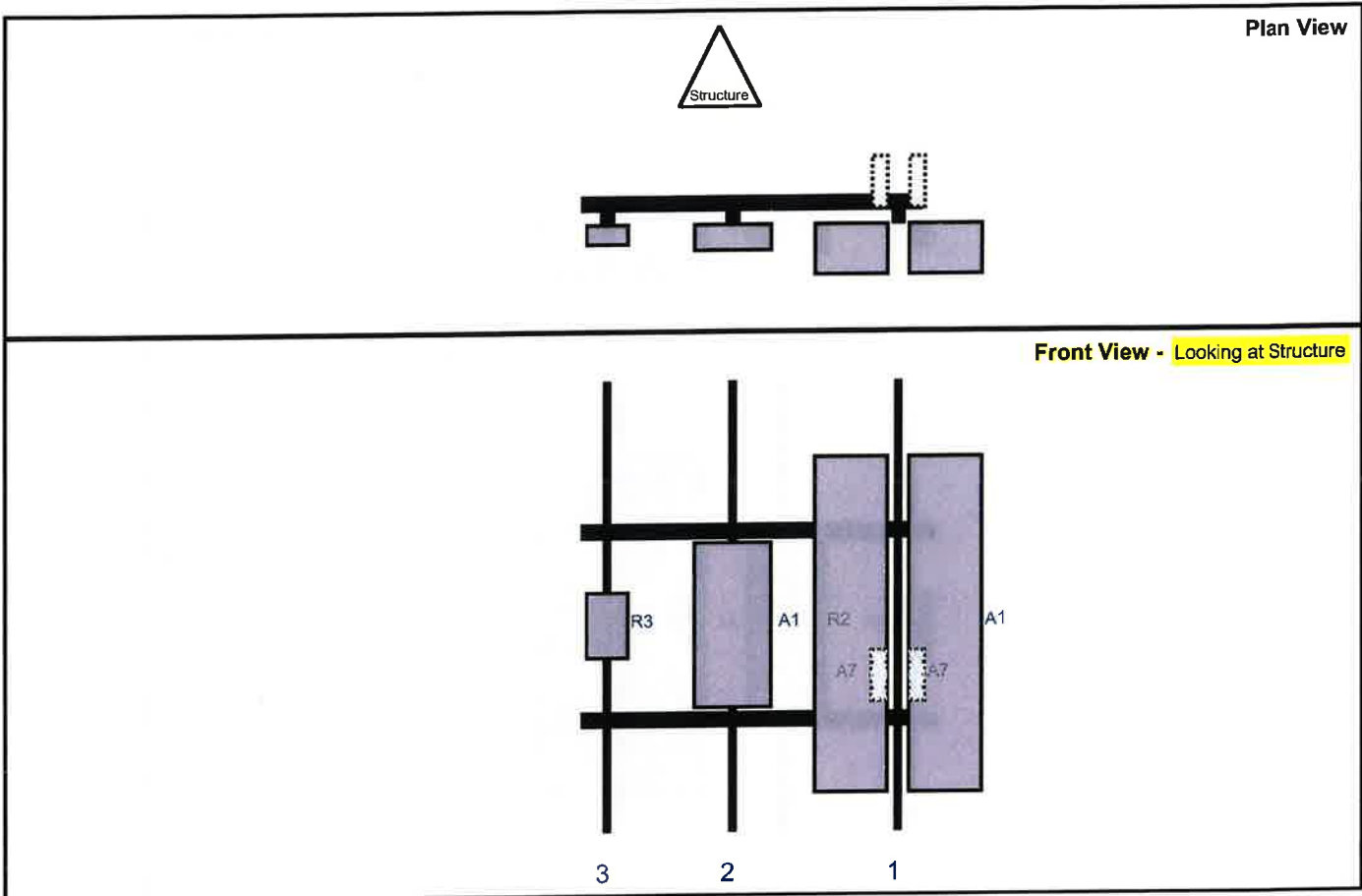
Sector: A
 Structure Type: Monopole
 Mount Elev: 118.00

10210349

9/18/2023



Page: 1



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	MX06FRO660-03	71.3	15.4	67	1	a	Front	51.96	10	Retained	09/12/2023
A1	MX06FRO660-03	71.3	15.4	67	1	b	Front	51.96	-10	Retained	09/12/2023
A7	KA-6030	10.6	3.2	67	1	a	Behind	63	-4	Added	
A7	KA-6030	10.6	3.2	67	1	b	Behind	63	4	Added	
R2	MT6407-77A	35.1	16.1	32	2	a	Front	51.96	0	Retained	09/12/2023
R3	CBRS RRH - RT4401-48A	13.9	8.6	5.5	3	a	Front	51.96	0	Retained	09/12/2023
RRU1	RVZDC-6627-PF-48	29.5	16.5				Member			Retained	09/12/2023
RRU1	RF4439d-25A	15	15				Member			Retained	09/12/2023
RRU2	RF4440d-13A	15	15				Member			Retained	09/12/2023

Structure: 5000386270-VZW - NORTH NORWALK CT RELO - A

Sector: B

9/18/2023

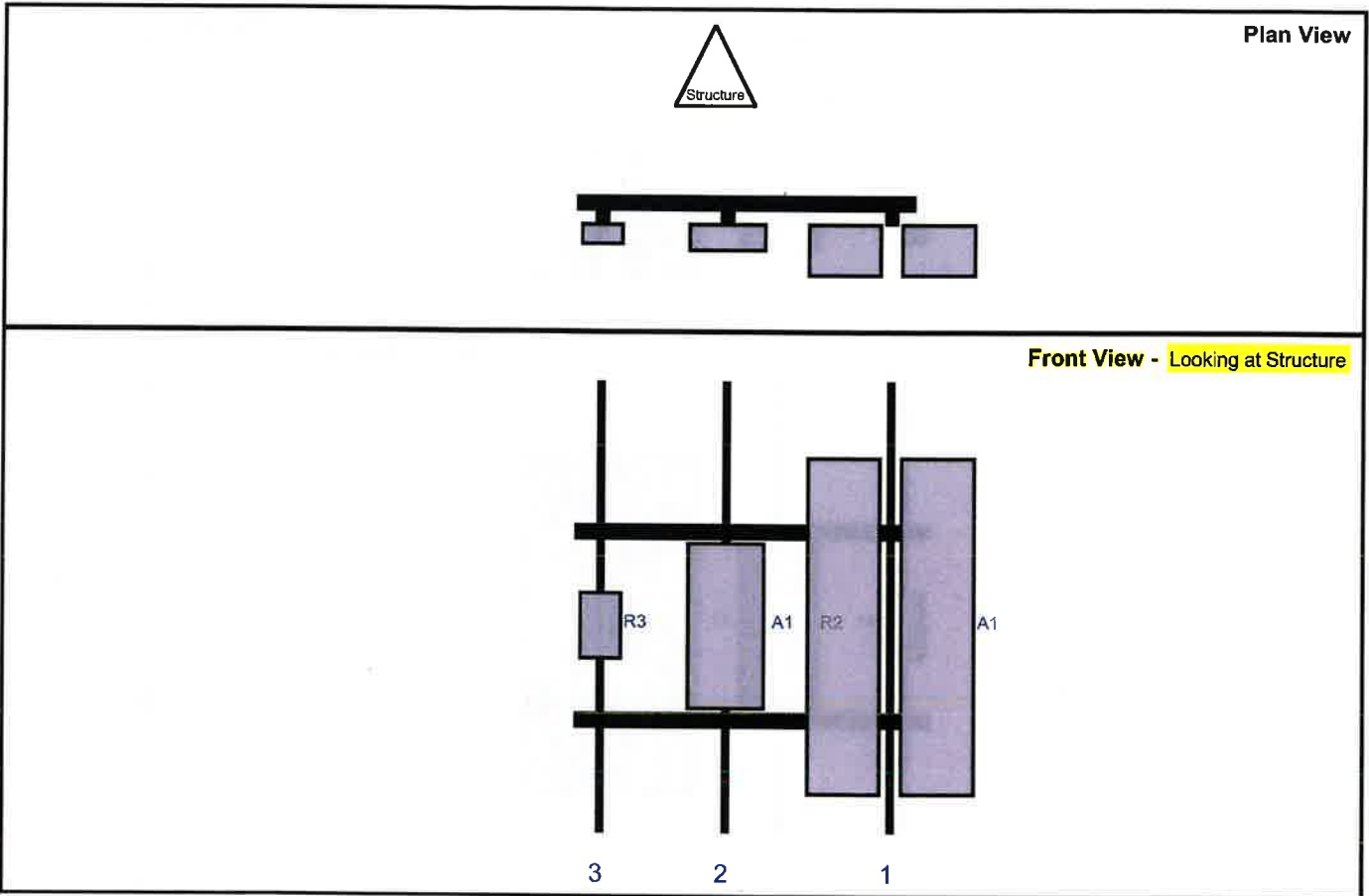
Structure Type: Monopole

10210349



Mount Elev: 118.00

Page: 2



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	MX06FRO660-03	71.3	15.4	67	1	a	Front	51.96	10	Retained	09/12/2023
A1	MX06FRO660-03	71.3	15.4	67	1	b	Front	51.96	-10	Retained	09/12/2023
R2	MT6407-77A	35.1	16.1	32	2	a	Front	51.96	0	Retained	09/12/2023
R3	CBRS RRH - RT4401-48A	13.9	8.6	5.5	3	a	Front	51.96	0	Retained	09/12/2023

Structure: 5000386270-VZW - NORTH NORWALK CT RELO - A

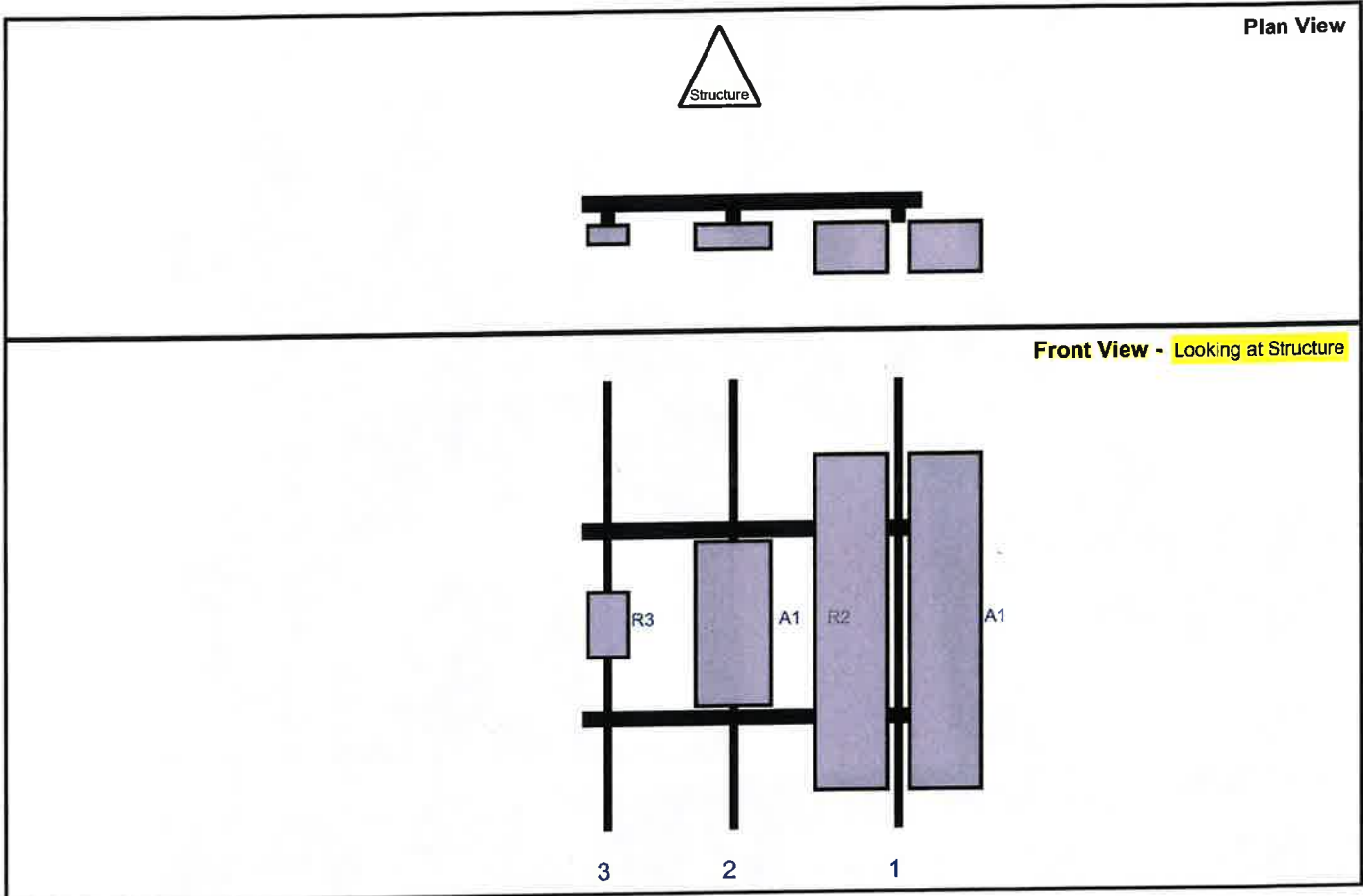
Sector: C
 Structure Type: Monopole
 Mount Elev: 118.00

10210349

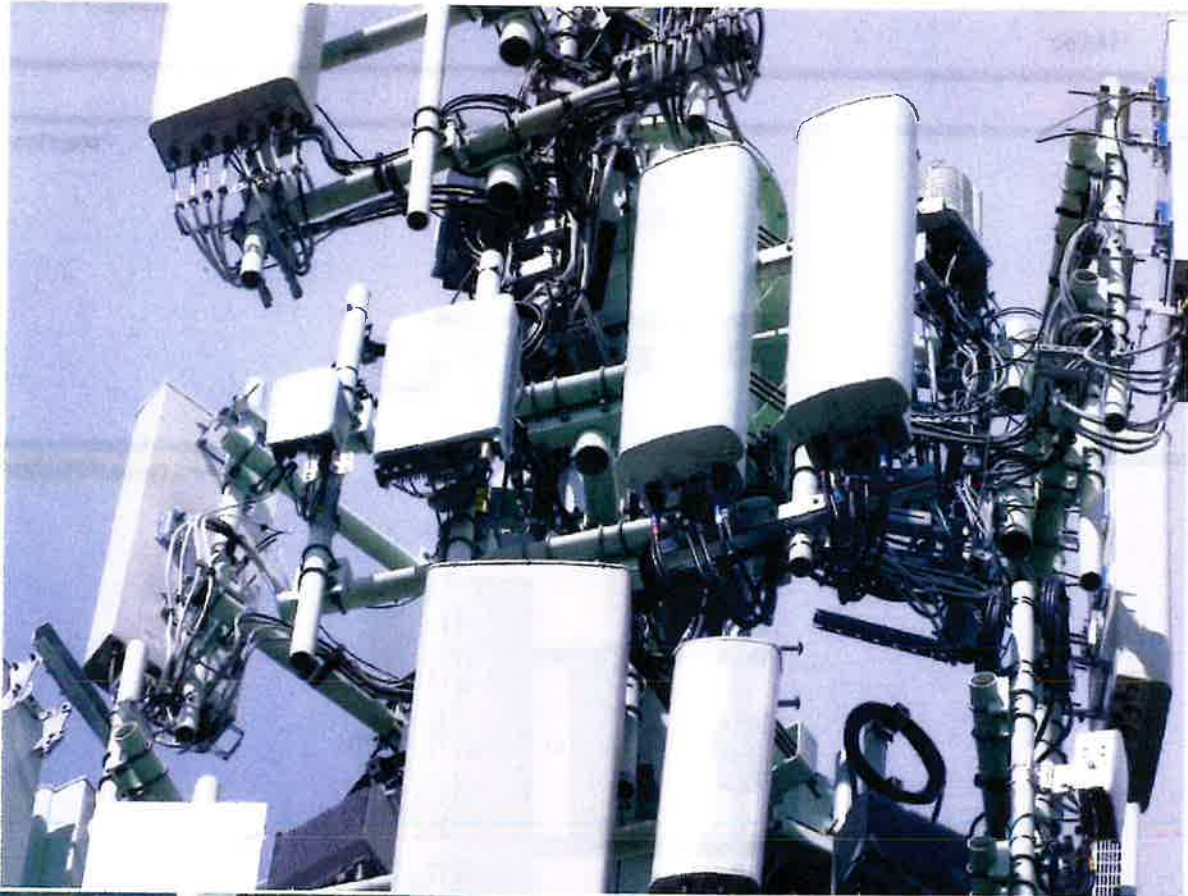
9/18/2023



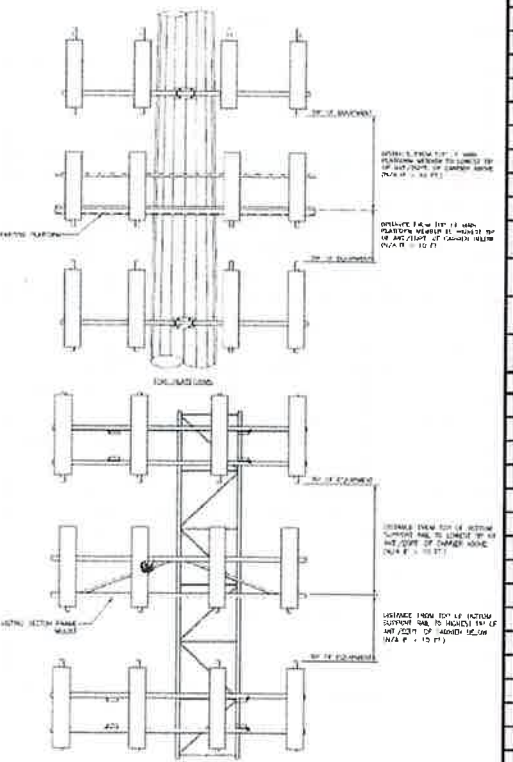
Page: 3



Reff#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	MX06FRO660-03	71.3	15.4	67	1	a	Front	51.96	10	Retained	09/12/2023
A1	MX06FRO660-03	71.3	15.4	67	1	b	Front	51.96	-10	Retained	09/12/2023
R2	MT6407-77A	35.1	16.1	32	2	a	Front	51.96	0	Retained	09/12/2023
R3	CBRS RRH - RT4401-48A	13.9	8.6	5.5	3	a	Front	51.96	0	Retained	09/12/2023



Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector				Sector B										
Sector A:	60.00	Deg	Leg A:		Deg			Ant _{1a}										
Sector B:	180.00	Deg	Leg B:		Deg			Ant _{1b}	JMA, MX06FRO660-0	16.00	10.25	70.00		118	48.00	12.00	180.00	212-224
Sector C:	300.00	Deg	Leg C:		Deg			Ant _{1c}	JMA, MX06FRO660-0	16.00	10.25	70.00		118	48.00	12.00	180.00	212-224
Sector D:		Deg	Leg D:		Deg			Ant _{2a}										
Climbing Facility Information				Sector B				Ant _{2b}	SAMSUNG, MT6407-7	16.00	5.00	36.00		118	48.00	8.00	180.00	225-233
Location:	180.00	Deg						Ant _{2c}										
Climbing Facility	Corrosion Type:	Good condition.		Ant _{3a}														
	Access:	Climbing path was unobstructed.		Ant _{3b}	SAMSUNG, RT4401-4	8.50	5.50	14.00		118	48.00	10.00	180.00	234-242				
	Condition:	Good condition.		Ant _{3c}														
				Ant _{4a}														
				Ant _{4b}														
				Ant _{4c}														
				Ant _{5a}														
				Ant _{5b}														
				Ant _{5c}														
				Ant on Standoff														
				Ant on Standoff	SAMSUNG, RF4439D-	15.00	10.00	15.00		118	47.00	9.00		197-204				
				Ant on Tower	SAMSUNG, RF4440D-	15.00	10.00	15.00		118	47.00	9.00		205-211				
				Ant on Tower														
				Sector C														
				Ant _{1a}														
				Ant _{1b}	JMA, MX06FRO660-0	16.00	10.25	70.00		118	48.00	12.00	300.00	212-224				
				Ant _{1c}	JMA, MX06FRO660-0	16.00	10.25	70.00		118	48.00	12.00	300.00	212-224				
				Ant _{2a}														
				Ant _{2b}	SAMSUNG, MT6407-7	16.00	5.00	36.00		118	48.00	8.00	300.00	225-233				
				Ant _{2c}														
				Ant _{3a}														
				Ant _{3b}	SAMSUNG, RT4401-4	8.50	5.50	14.00		118	48.00	10.00	300.00	234-242				
				Ant _{3c}														
				Ant _{4a}														
				Ant _{4b}														
				Ant _{4c}														
				Ant _{5a}														
				Ant _{5b}														
				Ant _{5c}														
				Ant on Standoff														
				Ant on Standoff	SAMSUNG, RF4439D-	15.00	10.00	15.00		118	47.00	9.00		197-204				
				Ant on Tower	SAMSUNG, RF4440D-	15.00	10.00	15.00		118	47.00	9.00		205-211				
				Ant on Tower														
				Sector D														
				Ant _{1a}														
				Ant _{1b}														
				Ant _{1c}														
				Ant _{2a}														
				Ant _{2b}														
				Ant _{2c}														
				Ant _{3a}														
				Ant _{3b}														
				Ant _{3c}														
				Ant _{4a}														
				Ant _{4b}														
				Ant _{4c}														
				Ant _{5a}														
				Ant _{5b}														
				Ant _{5c}														
				Ant on Standoff														
				Ant on Standoff														
				Ant on Tower														
				Ant on Tower														



Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of issue	Photo #
1		
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.
4. Please measure and enter the bolt sizes and types under the Members Box in the spreadsheet of the mount type.
5. Take and label the photos of the tower, mounts, connections, antennas and all measurements. Minimum 50 photos are required.
6. Please measure and report the size and length of all existing antenna mounting pipes.
7. 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.

SMART Tool[®]
Vendor

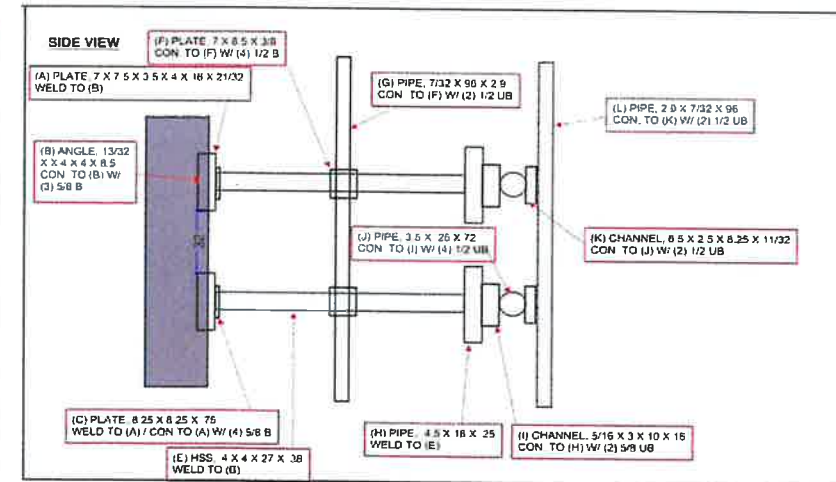
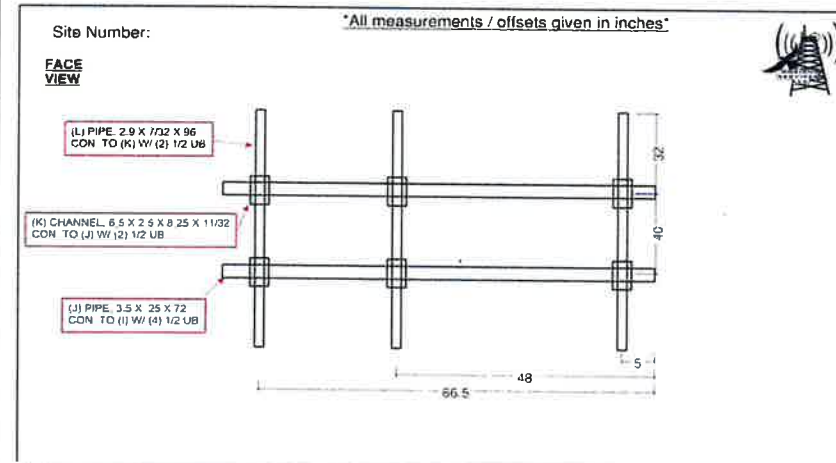
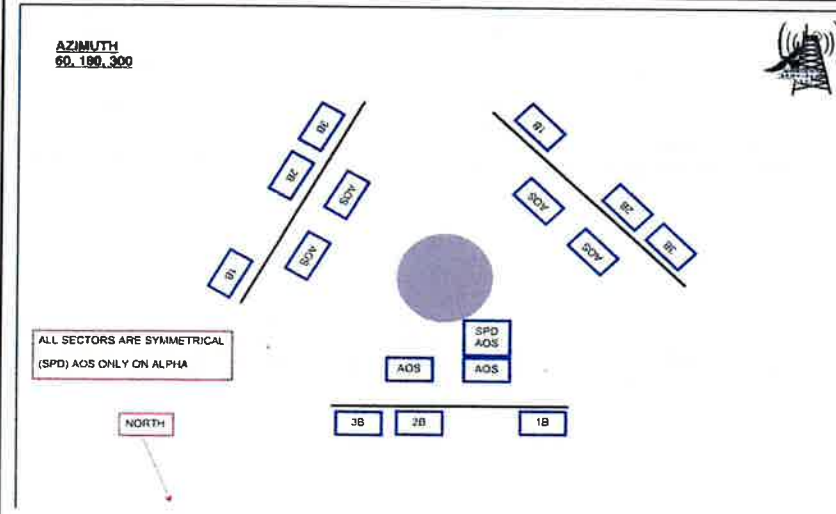
Antenna Mount Mapping Form (PATENT PENDING)

FCC #

Tower Owner:	VERIZON	Mapping Date:	9/12/2023
Site Name:	NORTH NORWALK CT RELO - A	Tower Type:	Monopole
Site Number or ID:	17123759	Tower Height (FL):	130
Mapping Contractor:	ONSIGHT SERVICES	Mount Elevation (FL):	118

This antenna mapping form is the property of TES and under PATENT PENDING. The formation contained herein is considered confidential in nature and is to be used only for the specific customer it was intended for. Reproduction, transmission, publication, modification or disclosure by any method is prohibited except by express written permission of TES. All means and methods are the responsibility of the contractor and the work shall be compliant with ANSI/ASSE A 10.48, OSHA, FCC, FAA and other safety requirements that may apply. TES is not warranting the usability of the safety climb as it must be assessed prior to each use in compliance with OSHA requirements.

Please Insert Sketches of the Antenna Mount



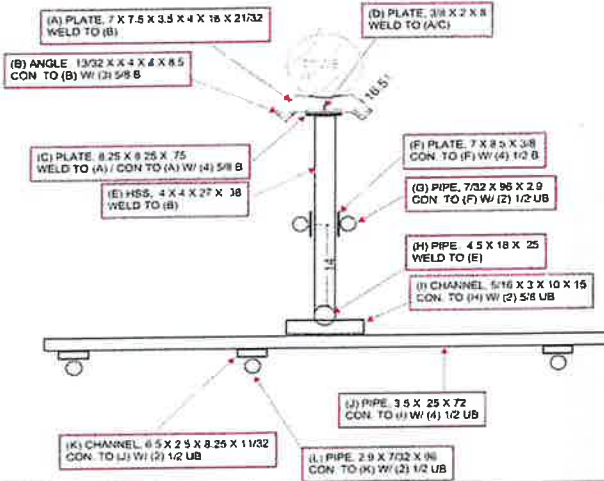
Please Insert Sketches of the Antenna Mount, cont'd

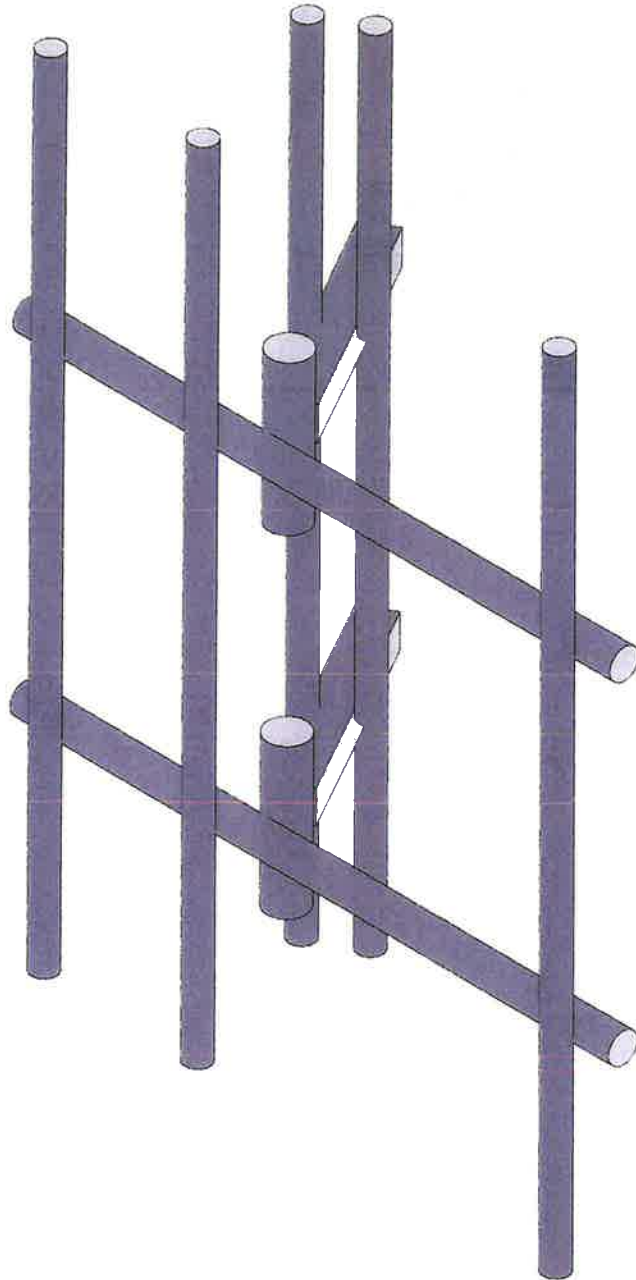
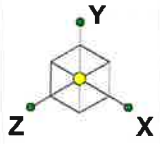
Site Number:

All measurements / offsets given in inches.



TOP VIEW



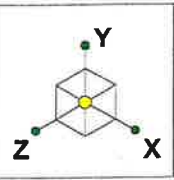


Envelope Only Solution

SK - 1

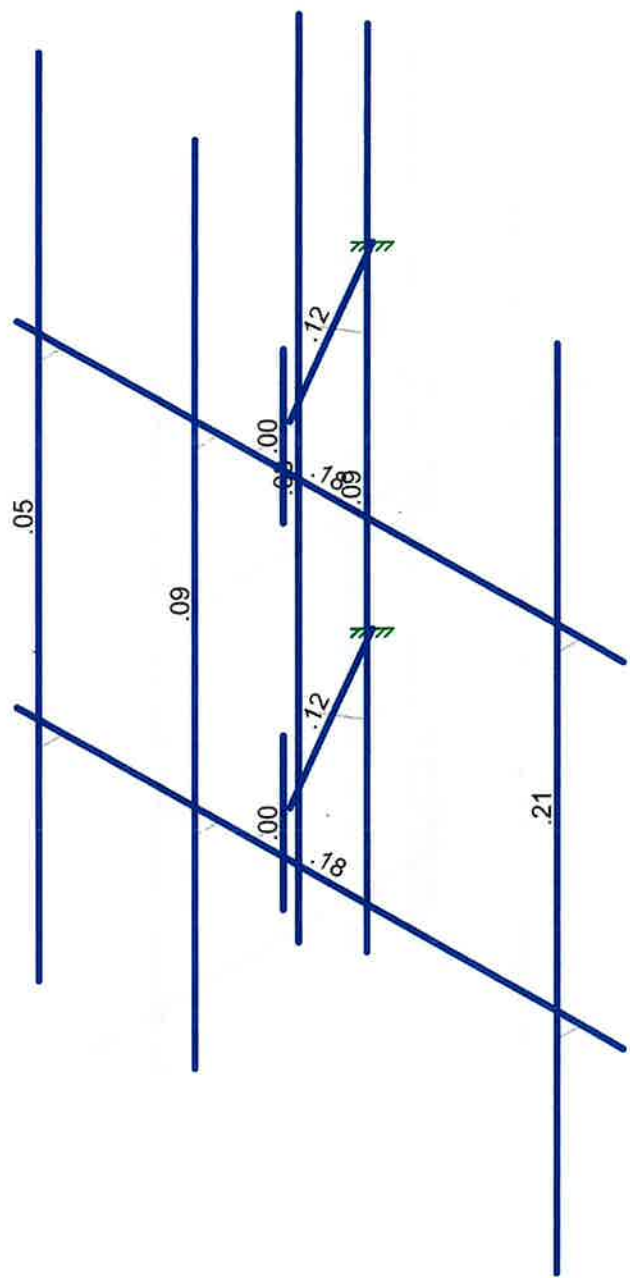
Sept 18, 2023 at 4:18 PM

5000386270-VZW_MT_LOT_A_H...



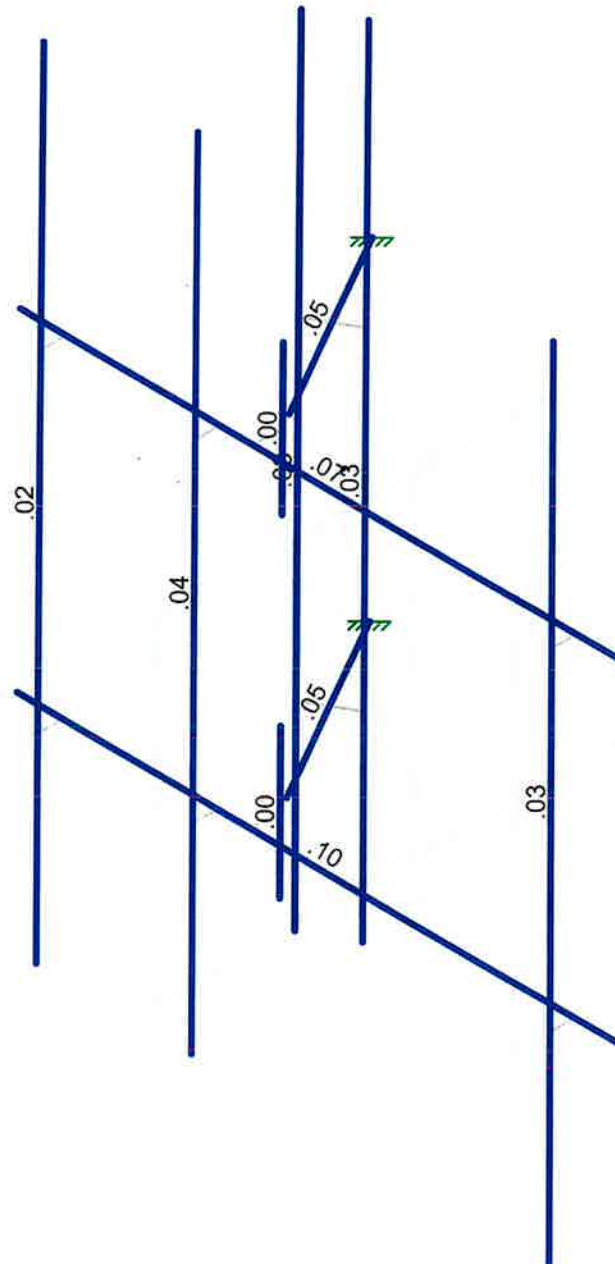
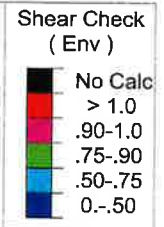
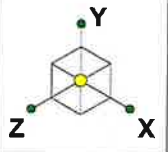
Code Check (Env)

	No Calc
	> 1.0
	.90-1.0
	.75-.90
	.50-.75
	0-.50



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

SK - 2
Sept 18, 2023 at 4:19 PM
5000386270-VZW_MT_LOT_A_H...



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

SK - 3

Sept 18, 2023 at 4:20 PM

5000386270-VZW_MT_LOT_A_H....



Company :
 Designer :
 Job Number :
 Model Name :

Sept 18, 2023
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 Checked By: _____

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
1	Antenna D	None					36		
2	Antenna Di	None					36		
3	Antenna Wo (0 Deg)	None					36		
4	Antenna Wo (30 Deg)	None					36		
5	Antenna Wo (60 Deg)	None					36		
6	Antenna Wo (90 Deg)	None					36		
7	Antenna Wo (120 Deg)	None					36		
8	Antenna Wo (150 Deg)	None					36		
9	Antenna Wo (180 Deg)	None					36		
10	Antenna Wo (210 Deg)	None					36		
11	Antenna Wo (240 Deg)	None					36		
12	Antenna Wo (270 Deg)	None					36		
13	Antenna Wo (300 Deg)	None					36		
14	Antenna Wo (330 Deg)	None					36		
15	Antenna Wi (0 Deg)	None					36		
16	Antenna Wi (30 Deg)	None					36		
17	Antenna Wi (60 Deg)	None					36		
18	Antenna Wi (90 Deg)	None					36		
19	Antenna Wi (120 Deg)	None					36		
20	Antenna Wi (150 Deg)	None					36		
21	Antenna Wi (180 Deg)	None					36		
22	Antenna Wi (210 Deg)	None					36		
23	Antenna Wi (240 Deg)	None					36		
24	Antenna Wi (270 Deg)	None					36		
25	Antenna Wi (300 Deg)	None					36		
26	Antenna Wi (330 Deg)	None					36		
27	Antenna Wm (0 Deg)	None					36		
28	Antenna Wm (30 Deg)	None					36		
29	Antenna Wm (60 Deg)	None					36		
30	Antenna Wm (90 Deg)	None					36		
31	Antenna Wm (120 Deg)	None					36		
32	Antenna Wm (150 Deg)	None					36		
33	Antenna Wm (180 Deg)	None					36		
34	Antenna Wm (210 Deg)	None					36		
35	Antenna Wm (240 Deg)	None					36		
36	Antenna Wm (270 Deg)	None					36		
37	Antenna Wm (300 Deg)	None					36		
38	Antenna Wm (330 Deg)	None					36		
39	Structure D	None		-1					
40	Structure Di	None						11	
41	Structure Wo (0 Deg)	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 D...	None						22	
46	Structure Wo (150 D...	None						22	
47	Structure Wo (180 D...	None						22	
48	Structure Wo (210 D...	None						22	
49	Structure Wo (240 D...	None						22	
50	Structure Wo (270 D...	None						22	
51	Structure Wo (300 D...	None						22	
52	Structure Wo (330 D...	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						22	



Company :
 Designer :
 Job Number :
 Model Name :

Sept 18, 2023
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 Checked By: _____

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...)	Surface(P...
57	Structure Wi (120 De..	None						22	
58	Structure Wi (150 De..	None						22	
59	Structure Wi (180 De..	None						22	
60	Structure Wi (210 De..	None						22	
61	Structure Wi (240 De..	None						22	
62	Structure Wi (270 De..	None						22	
63	Structure Wi (300 De..	None						22	
64	Structure Wi (330 De..	None						22	
65	Structure Wm (0 Deg)	None						22	
66	Structure Wm (30 De..	None						22	
67	Structure Wm (60 De..	None						22	
68	Structure Wm (90 De..	None						22	
69	Structure Wm (120 D..	None						22	
70	Structure Wm (150 D..	None						22	
71	Structure Wm (180 D..	None						22	
72	Structure Wm (210 D..	None						22	
73	Structure Wm (240 D..	None						22	
74	Structure Wm (270 D..	None						22	
75	Structure Wm (300 D..	None						22	
76	Structure Wm (330 D..	None						22	
77	Lm1	None					1		
78	Lm2	None					1		
79	Lv1	None					1		
80	Lv2	None					1		
81	Antenna Ev	None					36		
82	Antenna Eh (0 Deg)	None					24		
83	Antenna Eh (90 Deg)	None					24		
84	Structure Ev	ELY		-051					
85	Structure Eh (0 Deg)	ELZ			-128				
86	Structure Eh (90 Deg)	ELX	.128						

Load Combinations

	Description	So..	P...	S...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...	BLCFa...
1	1.2D+1.0Wo (0 Deg)	Yes	Y		1	1.2	39	1.2	3	1	41	1		
2	1.2D+1.0Wo (30 Deg)	Yes	Y		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	1.2D+1.0Wo (90 Deg)	Yes	Y		1	1.2	39	1.2	6	1	44	1		
5	1.2D+1.0Wo (120 Deg)	Yes	Y		1	1.2	39	1.2	7	1	45	1		
6	1.2D+1.0Wo (150 Deg)	Yes	Y		1	1.2	39	1.2	8	1	46	1		
7	1.2D+1.0Wo (180 Deg)	Yes	Y		1	1.2	39	1.2	9	1	47	1		
8	1.2D+1.0Wo (210 Deg)	Yes	Y		1	1.2	39	1.2	10	1	48	1		
9	1.2D+1.0Wo (240 Deg)	Yes	Y		1	1.2	39	1.2	11	1	49	1		
10	1.2D+1.0Wo (270 Deg)	Yes	Y		1	1.2	39	1.2	12	1	50	1		
11	1.2D+1.0Wo (300 Deg)	Yes	Y		1	1.2	39	1.2	13	1	51	1		
12	1.2D+1.0Wo (330 Deg)	Yes	Y		1	1.2	39	1.2	14	1	52	1		
13	1.2D + 1.0Di + 1.0Wi (0 ...)	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1
14	1.2D + 1.0Di + 1.0Wi (30...)	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1
15	1.2D + 1.0Di + 1.0Wi (60...)	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1
16	1.2D + 1.0Di + 1.0Wi (90...)	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1
17	1.2D + 1.0Di + 1.0Wi (12...)	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1
18	1.2D + 1.0Di + 1.0Wi (15...)	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1
19	1.2D + 1.0Di + 1.0Wi (18...)	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1
20	1.2D + 1.0Di + 1.0Wi (21...)	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1
21	1.2D + 1.0Di + 1.0Wi (24...)	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1
22	1.2D + 1.0Di + 1.0Wi (27...)	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1



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Load Combinations (Continued)

	Description	So.	P.	S.	BLCFa	BLCFa	BLCFa	BLCFa	BLCFa	BLCFa	BLCFa	BLCFa	BLCFa	BLCFa	BLCFa	BLCFa
23	1.2D + 1.0Di + 1.0Wi (30...	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1
24	1.2D + 1.0Di + 1.0Wi (33...	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1
25	1.2D + 1.5Lm1 + 1.0Wm	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1		
26	1.2D + 1.5Lm1 + 1.0Wm	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1		
27	1.2D + 1.5Lm1 + 1.0Wm	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1		
28	1.2D + 1.5Lm1 + 1.0Wm	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1		
29	1.2D + 1.5Lm1 + 1.0Wm	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1		
30	1.2D + 1.5Lm1 + 1.0Wm	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1		
31	1.2D + 1.5Lm1 + 1.0Wm	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1		
32	1.2D + 1.5Lm1 + 1.0Wm	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1		
33	1.2D + 1.5Lm1 + 1.0Wm	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1		
34	1.2D + 1.5Lm1 + 1.0Wm	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1		
35	1.2D + 1.5Lm1 + 1.0Wm	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1		
36	1.2D + 1.5Lm1 + 1.0Wm	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1		
37	1.2D + 1.5Lm2 + 1.0Wm	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1		
38	1.2D + 1.5Lm2 + 1.0Wm	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1		
39	1.2D + 1.5Lm2 + 1.0Wm	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1		
40	1.2D + 1.5Lm2 + 1.0Wm	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1		
41	1.2D + 1.5Lm2 + 1.0Wm	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1		
42	1.2D + 1.5Lm2 + 1.0Wm	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1		
43	1.2D + 1.5Lm2 + 1.0Wm	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1		
44	1.2D + 1.5Lm2 + 1.0Wm	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1		
45	1.2D + 1.5Lm2 + 1.0Wm	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1		
46	1.2D + 1.5Lm2 + 1.0Wm	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1		
47	1.2D + 1.5Lm2 + 1.0Wm	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1		
48	1.2D + 1.5Lm2 + 1.0Wm	Yes	Y		1	1.2	39	1.2	78	1.5	38	1	76	1		
49	1.2D + 1.5Lv1	Yes	Y		1	1.2	39	1.2	79	1.5						
50	1.2D + 1.5Lv2	Yes	Y		1	1.2	39	1.2	80	1.5						
51	1.4D	Yes	Y		1	1.4	39	1.4								
52	1.2D + 1.0Ev + 1.0Eh (0 ...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	1	83	ELZ 1 ELX
53	1.2D + 1.0Ev + 1.0Eh (3...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.866	83	.5 ELZ .866 ELX .5
54	1.2D + 1.0Ev + 1.0Eh (6...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.5	83	.866 ELZ .5 ELX .866
55	1.2D + 1.0Ev + 1.0Eh (9...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82		83	1 ELZ ELX 1
56	1.2D + 1.0Ev + 1.0Eh (1...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.5	83	.866 ELZ -.5 ELX .866
57	1.2D + 1.0Ev + 1.0Eh (1...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.866	83	.5 ELZ -.866 ELX .5
58	1.2D + 1.0Ev + 1.0Eh (1...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-1	83	ELZ -1 ELX
59	1.2D + 1.0Ev + 1.0Eh (2...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.866	83	-.5 ELZ -.866 ELX -.5
60	1.2D + 1.0Ev + 1.0Eh (2...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.5	83	-.866 ELZ -.5 ELX -.866
61	1.2D + 1.0Ev + 1.0Eh (2...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82		83	-1 ELZ ELX -1
62	1.2D + 1.0Ev + 1.0Eh (3...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.5	83	-.866 ELZ .5 ELX -.866
63	1.2D + 1.0Ev + 1.0Eh (3...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.866	83	-.5 ELZ .866 ELX -.5
64	0.9D - 1.0Ev + 1.0Eh (0 ...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	1	83	ELZ 1 ELX
65	0.9D - 1.0Ev + 1.0Eh (30...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	.5 ELZ .866 ELX .5
66	0.9D - 1.0Ev + 1.0Eh (60...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	.866 ELZ .5 ELX .866
67	0.9D - 1.0Ev + 1.0Eh (90...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	1 ELZ ELX 1
68	0.9D - 1.0Ev + 1.0Eh (12...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	.866 ELZ -.5 ELX .866
69	0.9D - 1.0Ev + 1.0Eh (15...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.866	83	.5 ELZ -.866 ELX .5
70	0.9D - 1.0Ev + 1.0Eh (18...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-1	83	ELZ -1 ELX
71	0.9D - 1.0Ev + 1.0Eh (21...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.866	83	-.5 ELZ -.866 ELX -.5
72	0.9D - 1.0Ev + 1.0Eh (24...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	-.866 ELZ -.5 ELX -.866
73	0.9D - 1.0Ev + 1.0Eh (27...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	-1 ELZ ELX -1
74	0.9D - 1.0Ev + 1.0Eh (30...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	-.866 ELZ .5 ELX -.866
75	0.9D - 1.0Ev + 1.0Eh (33...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	-.5 ELZ .866 ELX -.5



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Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	2.385334	0.9375	-0.326541	0	
2	N2	8.385337	0.9375	-0.326541	0	
3	N3	2.385334	4.270833	-0.326541	0	
4	N4	8.385337	4.270833	-0.326541	0	
5	N5	4.718667	0.9375	-0.326541	0	
6	N6	4.718667	4.270833	-0.326541	0	
7	N7	4.718667	0.9375	-0.618207	0	
8	N8	4.718667	4.270833	-0.618207	0	
9	N9	4.718667	1.6875	-0.618207	0	
10	N10	4.718667	5.020833	-0.618207	0	
11	N11	4.718667	0.1875	-0.618207	0	
12	N12	4.718667	3.520833	-0.618207	0	
13	N13	4.625	0.9375	-0.780443	0	
14	N14	4.625	4.270833	-0.780443	0	
15	N15	3.5	0.9375	-2.729	0	
16	N16	3.5	4.270833	-2.729	0	
17	N21	2.843667	0.9375	-0.326541	0	
18	N22	2.843667	4.270833	-0.326541	0	
19	N23	2.843667	0.9375	-0.076541	0	
20	N24	2.843667	4.270833	-0.076541	0	
21	N25	4.385333	0.9375	-0.326541	0	
22	N26	4.385333	4.270833	-0.326541	0	
23	N27	4.385333	0.9375	-0.076541	0	
24	N28	4.385333	4.270833	-0.076541	0	
25	N29	7.96867	0.9375	-0.326541	0	
26	N30	7.96867	4.270833	-0.326541	0	
27	N31	7.96867	0.9375	-0.076541	0	
28	N32	7.96867	4.270833	-0.076541	0	
29	N34	2.843667	6.9375	-0.076541	0	
30	N35	4.385333	6.9375	-0.076541	0	
31	N36	7.96867	6.9375	-0.076541	0	
32	N38	2.843667	-1.0625	-0.076541	0	
33	N39	4.385333	-1.0625	-0.076541	0	
34	N40	7.96867	-1.0625	-0.076541	0	
35	N41	4.04165	4.270833	-1.790835	0	
36	N42	4.04165	0.9375	-1.790835	0	
37	N43	4.258156	4.270833	-1.915835	0	
38	N44	4.258156	0.9375	-1.915835	0	
39	N45	4.258156	6.9375	-1.915835	0	
40	N46	4.258156	-1.0625	-1.915835	0	
41	N52A	4.642003	4.270833	-4.691078	0	
42	N53	2.056509	4.270833	-3.137067	0	
43	N43A	2.843667	2.604167	-0.076541	0	
44	N44A	3.825144	4.270833	-1.665835	0	
45	N45A	3.825144	0.9375	-1.665835	0	
46	N46A	3.825144	6.9375	-1.665835	0	
47	N47	3.825144	-1.0625	-1.665835	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design Li...	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Antenna Pipe	PIPE 2.5	Beam	Pipe	A53 Gr. B	Typical	1.61	1.45	1.45	2.89
2	Face Horizontal	PIPE 3.0	Beam	Pipe	A53 Gr. B	Typical	2.07	2.85	2.85	5.69
3	Mast Pipe	PIPE 4.0	Beam	Pipe	A53 Gr. B	Typical	2.96	6.82	6.82	13.6
4	Standoff Arm	HSS4X4...	Beam	Square T...	A500 Gr. B 46	Typical	4.78	10.3	10.3	17.5



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Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E...	Density[k/ft...	Yield[ksi]	Ry	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	1.1
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

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N3	N4			Face Horizontal	Beam	Pipe	A53 Gr. B	Typical
2	LV	N1	N2			Face Horizontal	Beam	Pipe	A53 Gr. B	Typical
3	M3	N8	N6			RIGID	None	None	RIGID	Typical
4	M4	N7	N5			RIGID	None	None	RIGID	Typical
5	M5	N10	N12			Mast Pipe	Beam	Pipe	A53 Gr. B	Typical
6	M6	N9	N11			Mast Pipe	Beam	Pipe	A53 Gr. B	Typical
7	M7	N8	N14			RIGID	None	None	RIGID	Typical
8	M8	N7	N13			RIGID	None	None	RIGID	Typical
9	M9	N14	N16			Standoff Arm	Beam	SquareTube	A500 Gr. ...	Typical
10	M10	N13	N15			Standoff Arm	Beam	SquareTube	A500 Gr. ...	Typical
11	M13	N22	N24			RIGID	None	None	RIGID	Typical
12	M14	N21	N23			RIGID	None	None	RIGID	Typical
13	M15	N26	N28			RIGID	None	None	RIGID	Typical
14	LM2	N25	N27			RIGID	None	None	RIGID	Typical
15	M17	N30	N32			RIGID	None	None	RIGID	Typical
16	LM1	N29	N31			RIGID	None	None	RIGID	Typical
17	MP1A	N36	N40			Antenna Pipe	Beam	Pipe	A53 Gr. B	Typical
18	MP2A	N35	N39			Antenna Pipe	Beam	Pipe	A53 Gr. B	Typical
19	MP3A	N34	N38			Antenna Pipe	Beam	Pipe	A53 Gr. B	Typical
20	M23	N42	N44			RIGID	None	None	RIGID	Typical
21	M24	N41	N43			RIGID	None	None	RIGID	Typical
22	RRU1	N45	N46			Antenna Pipe	Beam	Pipe	A53 Gr. B	Typical
23	M23A	N45A	N42			RIGID	None	None	RIGID	Typical
24	M24A	N44A	N41			RIGID	None	None	RIGID	Typical
25	RRU2	N46A	N47			Antenna Pipe	Beam	Pipe	A53 Gr. B	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1						Yes			None
2	LV						Yes			None
3	M3						Yes	** NA **		None
4	M4						Yes	** NA **		None
5	M5						Yes			None
6	M6						Yes			None
7	M7						Yes	** NA **		None
8	M8						Yes	** NA **		None
9	M9						Yes	Default		None
10	M10						Yes	Default		None
11	M13						Yes	** NA **		None
12	M14						Yes	** NA **		None
13	M15						Yes	** NA **		None
14	LM2						Yes	** NA **		None
15	M17						Yes	** NA **		None
16	LM1						Yes	** NA **		None



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Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
17	MP1A						Yes				None
18	MP2A						Yes				None
19	MP3A						Yes				None
20	M23						Yes	** NA **			None
21	M24						Yes	** NA **			None
22	RRU1						Yes				None
23	M23A						Yes	** NA **			None
24	M24A						Yes	** NA **			None
25	RRU2						Yes				None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	Y	-39	1.83
2	MP1A	My	-019	1.83
3	MP1A	Mz	.033	1.83
4	MP1A	Y	-39	6.83
5	MP1A	Mv	-019	6.83
6	MP1A	Mz	.033	6.83
7	MP1A	Y	-39	1.83
8	MP1A	My	-019	1.83
9	MP1A	Mz	-033	1.83
10	MP1A	Y	-39	6.83
11	MP1A	My	-019	6.83
12	MP1A	Mz	-033	6.83
13	MP2A	Y	-43.55	3.33
14	MP2A	My	-022	3.33
15	MP2A	Mz	0	3.33
16	MP2A	Y	-43.55	5.33
17	MP2A	Mv	-022	5.33
18	MP2A	Mz	0	5.33
19	MP3A	Y	-18.7	4.33
20	MP3A	My	-009	4.33
21	MP3A	Mz	0	4.33
22	RRU1	Y	-32	1
23	RRU1	Mv	0	1
24	RRU1	Mz	0	1
25	RRU1	Y	-74.7	4.5
26	RRU1	Mv	0	4.5
27	RRU1	Mz	0	4.5
28	RRU2	Y	-70.3	5
29	RRU2	Mv	0	5
30	RRU2	Mz	0	5
31	MP1A	Y	-17.6	5.25
32	MP1A	My	.018	5.25
33	MP1A	Mz	-006	5.25
34	MP1A	Y	-17.6	5.25
35	MP1A	Mv	.018	5.25
36	MP1A	Mz	.006	5.25

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	Y	-81.066	1.83
2	MP1A	My	-041	1.83
3	MP1A	Mz	.068	1.83
4	MP1A	Y	-81.066	6.83



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
5	MP1A	My	-.041	6.83
6	MP1A	Mz	.068	6.83
7	MP1A	Y	-81.066	1.83
8	MP1A	My	-.041	1.83
9	MP1A	Mz	-.068	1.83
10	MP1A	Y	-81.066	6.83
11	MP1A	My	-.041	6.83
12	MP1A	Mz	-.068	6.83
13	MP2A	Y	-34.992	3.33
14	MP2A	My	-.017	3.33
15	MP2A	Mz	0	3.33
16	MP2A	Y	-34.992	5.33
17	MP2A	My	-.017	5.33
18	MP2A	Mz	0	5.33
19	MP3A	Y	-19.464	4.33
20	MP3A	My	-.01	4.33
21	MP3A	Mz	0	4.33
22	RRU1	Y	-86.404	1
23	RRU1	My	0	1
24	RRU1	Mz	0	1
25	RRU1	Y	-44.105	4.5
26	RRU1	My	0	4.5
27	RRU1	Mz	0	4.5
28	RRU2	Y	-41.999	5
29	RRU2	My	0	5
30	RRU2	Mz	0	5
31	MP1A	Y	6.6	5.25
32	MP1A	My	-.007	5.25
33	MP1A	Mz	.002	5.25
34	MP1A	Y	6.6	5.25
35	MP1A	My	-.007	5.25
36	MP1A	Mz	-.002	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	0	1.83
2	MP1A	Z	-76.617	1.83
3	MP1A	Mx	-.064	1.83
4	MP1A	X	0	6.83
5	MP1A	Z	-76.617	6.83
6	MP1A	Mx	-.064	6.83
7	MP1A	X	0	1.83
8	MP1A	Z	-76.617	1.83
9	MP1A	Mx	.064	1.83
10	MP1A	X	0	6.83
11	MP1A	Z	-76.617	6.83
12	MP1A	Mx	.064	6.83
13	MP2A	X	0	3.33
14	MP2A	Z	-63.496	3.33
15	MP2A	Mx	0	3.33
16	MP2A	X	0	5.33
17	MP2A	Z	-63.496	5.33
18	MP2A	Mx	0	5.33
19	MP3A	X	0	4.33
20	MP3A	Z	-23.325	4.33
21	MP3A	Mx	0	4.33



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
22	RRU1	X	0	1
23	RRU1	Z	-84.23	1
24	RRU1	Mx	0	1
25	RRU1	X	0	4.5
26	RRU1	Z	-37.822	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	0	5
29	RRU2	Z	-35.393	5
30	RRU2	Mx	0	5
31	MP1A	X	0	5.25
32	MP1A	Z	-31.1	5.25
33	MP1A	Mx	.01	5.25
34	MP1A	X	0	5.25
35	MP1A	Z	-31.1	5.25
36	MP1A	Mx	-.01	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	35.899	1.83
2	MP1A	Z	-62.179	1.83
3	MP1A	Mx	-.07	1.83
4	MP1A	X	35.899	6.83
5	MP1A	Z	-62.179	6.83
6	MP1A	Mx	-.07	6.83
7	MP1A	X	35.899	1.83
8	MP1A	Z	-62.179	1.83
9	MP1A	Mx	.034	1.83
10	MP1A	X	35.899	6.83
11	MP1A	Z	-62.179	6.83
12	MP1A	Mx	.034	6.83
13	MP2A	X	26.545	3.33
14	MP2A	Z	-45.976	3.33
15	MP2A	Mx	-.013	3.33
16	MP2A	X	26.545	5.33
17	MP2A	Z	-45.976	5.33
18	MP2A	Mx	-.013	5.33
19	MP3A	X	10.124	4.33
20	MP3A	Z	-17.535	4.33
21	MP3A	Mx	-.005	4.33
22	RRU1	X	39.037	1
23	RRU1	Z	-67.614	1
24	RRU1	Mx	0	1
25	RRU1	X	16.846	4.5
26	RRU1	Z	-29.178	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	15.226	5
29	RRU2	Z	-26.372	5
30	RRU2	Mx	0	5
31	MP1A	X	15.562	5.25
32	MP1A	Z	-26.953	5.25
33	MP1A	Mx	.025	5.25
34	MP1A	X	15.562	5.25
35	MP1A	Z	-26.953	5.25
36	MP1A	Mx	.007	5.25



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	53.832	1.83
2	MP1A	Z	-31.08	1.83
3	MP1A	Mx	-.053	1.83
4	MP1A	X	53.832	6.83
5	MP1A	Z	-31.08	6.83
6	MP1A	Mx	-.053	6.83
7	MP1A	X	53.832	1.83
8	MP1A	Z	-31.08	1.83
9	MP1A	Mx	-.001	1.83
10	MP1A	X	53.832	6.83
11	MP1A	Z	-31.08	6.83
12	MP1A	Mx	-.001	6.83
13	MP2A	X	27.951	3.33
14	MP2A	Z	-16.137	3.33
15	MP2A	Mx	-.014	3.33
16	MP2A	X	27.951	5.33
17	MP2A	Z	-16.137	5.33
18	MP2A	Mx	-.014	5.33
19	MP3A	X	12.204	4.33
20	MP3A	Z	-7.046	4.33
21	MP3A	Mx	-.006	4.33
22	RRU1	X	72.945	1
23	RRU1	Z	-42.115	1
24	RRU1	Mx	0	1
25	RRU1	X	32.755	4.5
26	RRU1	Z	-18.911	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	30.651	5
29	RRU2	Z	-17.696	5
30	RRU2	Mx	0	5
31	MP1A	X	26.993	5.25
32	MP1A	Z	-15.585	5.25
33	MP1A	Mx	.032	5.25
34	MP1A	X	26.993	5.25
35	MP1A	Z	-15.585	5.25
36	MP1A	Mx	.022	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	57.341	1.83
2	MP1A	Z	0	1.83
3	MP1A	Mx	-.029	1.83
4	MP1A	X	57.341	6.83
5	MP1A	Z	0	6.83
6	MP1A	Mx	-.029	6.83
7	MP1A	X	57.341	1.83
8	MP1A	Z	0	1.83
9	MP1A	Mx	-.029	1.83
10	MP1A	X	57.341	6.83
11	MP1A	Z	0	6.83
12	MP1A	Mx	-.029	6.83
13	MP2A	X	21.867	3.33
14	MP2A	Z	0	3.33
15	MP2A	Mx	-.011	3.33
16	MP2A	X	21.867	5.33
17	MP2A	Z	0	5.33



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
18	MP2A	Mx	-.011	5.33
19	MP3A	X	11.015	4.33
20	MP3A	Z	0	4.33
21	MP3A	Mx	-.006	4.33
22	RRU1	X	96.54	1
23	RRU1	Z	0	1
24	RRU1	Mx	0	1
25	RRU1	X	46.083	4.5
26	RRU1	Z	0	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	45.273	5
29	RRU2	Z	0	5
30	RRU2	Mx	0	5
31	MP1A	X	31.192	5.25
32	MP1A	Z	0	5.25
33	MP1A	Mx	.031	5.25
34	MP1A	X	31.192	5.25
35	MP1A	Z	0	5.25
36	MP1A	Mx	.031	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	53.832	1.83
2	MP1A	Z	31.08	1.83
3	MP1A	Mx	-.001	1.83
4	MP1A	X	53.832	6.83
5	MP1A	Z	31.08	6.83
6	MP1A	Mx	-.001	6.83
7	MP1A	X	53.832	1.83
8	MP1A	Z	31.08	1.83
9	MP1A	Mx	-.053	1.83
10	MP1A	X	53.832	6.83
11	MP1A	Z	31.08	6.83
12	MP1A	Mx	-.053	6.83
13	MP2A	X	27.951	3.33
14	MP2A	Z	16.137	3.33
15	MP2A	Mx	-.014	3.33
16	MP2A	X	27.951	5.33
17	MP2A	Z	16.137	5.33
18	MP2A	Mx	-.014	5.33
19	MP3A	X	12.204	4.33
20	MP3A	Z	7.046	4.33
21	MP3A	Mx	-.006	4.33
22	RRU1	X	88.937	1
23	RRU1	Z	51.348	1
24	RRU1	Mx	0	1
25	RRU1	X	43.487	4.5
26	RRU1	Z	25.107	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	43.487	5
29	RRU2	Z	25.107	5
30	RRU2	Mx	0	5
31	MP1A	X	26.993	5.25
32	MP1A	Z	15.585	5.25
33	MP1A	Mx	.022	5.25
34	MP1A	X	26.993	5.25



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
35	MP1A	Z	15.585	5.25
36	MP1A	Mx	.032	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	35.899	1.83
2	MP1A	Z	62.179	1.83
3	MP1A	Mx	.034	1.83
4	MP1A	X	35.899	6.83
5	MP1A	Z	62.179	6.83
6	MP1A	Mx	.034	6.83
7	MP1A	X	35.899	1.83
8	MP1A	Z	62.179	1.83
9	MP1A	Mx	-.07	1.83
10	MP1A	X	35.899	6.83
11	MP1A	Z	62.179	6.83
12	MP1A	Mx	-.07	6.83
13	MP2A	X	26.545	3.33
14	MP2A	Z	45.976	3.33
15	MP2A	Mx	-.013	3.33
16	MP2A	X	26.545	5.33
17	MP2A	Z	45.976	5.33
18	MP2A	Mx	-.013	5.33
19	MP3A	X	10.124	4.33
20	MP3A	Z	17.535	4.33
21	MP3A	Mx	-.005	4.33
22	RRU1	X	48.27	1
23	RRU1	Z	83.606	1
24	RRU1	Mx	0	1
25	RRU1	X	23.042	4.5
26	RRU1	Z	39.909	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	22.637	5
29	RRU2	Z	39.208	5
30	RRU2	Mx	0	5
31	MP1A	X	15.562	5.25
32	MP1A	Z	26.953	5.25
33	MP1A	Mx	.007	5.25
34	MP1A	X	15.562	5.25
35	MP1A	Z	26.953	5.25
36	MP1A	Mx	.025	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	0	1.83
2	MP1A	Z	76.617	1.83
3	MP1A	Mx	.064	1.83
4	MP1A	X	0	6.83
5	MP1A	Z	76.617	6.83
6	MP1A	Mx	.064	6.83
7	MP1A	X	0	1.83
8	MP1A	Z	76.617	1.83
9	MP1A	Mx	-.064	1.83
10	MP1A	X	0	6.83
11	MP1A	Z	76.617	6.83
12	MP1A	Mx	-.064	6.83



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
13	MP2A	X	0	3.33
14	MP2A	Z	63.496	3.33
15	MP2A	Mx	0	3.33
16	MP2A	X	0	5.33
17	MP2A	Z	63.496	5.33
18	MP2A	Mx	0	5.33
19	MP3A	X	0	4.33
20	MP3A	Z	23.325	4.33
21	MP3A	Mx	0	4.33
22	RRU1	X	0	1
23	RRU1	Z	84.23	1
24	RRU1	Mx	0	1
25	RRU1	X	0	4.5
26	RRU1	Z	37.822	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	0	5
29	RRU2	Z	35.393	5
30	RRU2	Mx	0	5
31	MP1A	X	0	5.25
32	MP1A	Z	31.1	5.25
33	MP1A	Mx	-.01	5.25
34	MP1A	X	0	5.25
35	MP1A	Z	31.1	5.25
36	MP1A	Mx	.01	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-35.899	1.83
2	MP1A	Z	62.179	1.83
3	MP1A	Mx	.07	1.83
4	MP1A	X	-35.899	6.83
5	MP1A	Z	62.179	6.83
6	MP1A	Mx	.07	6.83
7	MP1A	X	-35.899	1.83
8	MP1A	Z	62.179	1.83
9	MP1A	Mx	-.034	1.83
10	MP1A	X	-35.899	6.83
11	MP1A	Z	62.179	6.83
12	MP1A	Mx	-.034	6.83
13	MP2A	X	-26.545	3.33
14	MP2A	Z	45.976	3.33
15	MP2A	Mx	.013	3.33
16	MP2A	X	-26.545	5.33
17	MP2A	Z	45.976	5.33
18	MP2A	Mx	.013	5.33
19	MP3A	X	-10.124	4.33
20	MP3A	Z	17.535	4.33
21	MP3A	Mx	.005	4.33
22	RRU1	X	-39.037	1
23	RRU1	Z	67.614	1
24	RRU1	Mx	0	1
25	RRU1	X	-16.846	4.5
26	RRU1	Z	29.178	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	-15.226	5
29	RRU2	Z	26.372	5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
30	RRU2	Mx	0	5
31	MP1A	X	-15.562	5.25
32	MP1A	Z	26.953	5.25
33	MP1A	Mx	-.025	5.25
34	MP1A	X	-15.562	5.25
35	MP1A	Z	26.953	5.25
36	MP1A	Mx	-.007	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-53.832	1.83
2	MP1A	Z	31.08	1.83
3	MP1A	Mx	.053	1.83
4	MP1A	X	-53.832	6.83
5	MP1A	Z	31.08	6.83
6	MP1A	Mx	.053	6.83
7	MP1A	X	-53.832	1.83
8	MP1A	Z	31.08	1.83
9	MP1A	Mx	.001	1.83
10	MP1A	X	-53.832	6.83
11	MP1A	Z	31.08	6.83
12	MP1A	Mx	.001	6.83
13	MP2A	X	-27.951	3.33
14	MP2A	Z	16.137	3.33
15	MP2A	Mx	.014	3.33
16	MP2A	X	-27.951	5.33
17	MP2A	Z	16.137	5.33
18	MP2A	Mx	.014	5.33
19	MP3A	X	-12.204	4.33
20	MP3A	Z	7.046	4.33
21	MP3A	Mx	.006	4.33
22	RRU1	X	-72.945	1
23	RRU1	Z	42.115	1
24	RRU1	Mx	0	1
25	RRU1	X	-32.755	4.5
26	RRU1	Z	18.911	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	-30.651	5
29	RRU2	Z	17.696	5
30	RRU2	Mx	0	5
31	MP1A	X	-26.993	5.25
32	MP1A	Z	15.585	5.25
33	MP1A	Mx	-.032	5.25
34	MP1A	X	-26.993	5.25
35	MP1A	Z	15.585	5.25
36	MP1A	Mx	-.022	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-57.341	1.83
2	MP1A	Z	0	1.83
3	MP1A	Mx	.029	1.83
4	MP1A	X	-57.341	6.83
5	MP1A	Z	0	6.83
6	MP1A	Mx	.029	6.83
7	MP1A	X	-57.341	1.83



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
8	MP1A	Z	0	1.83
9	MP1A	Mx	.029	1.83
10	MP1A	X	-57.341	6.83
11	MP1A	Z	0	6.83
12	MP1A	Mx	.029	6.83
13	MP2A	X	-21.867	3.33
14	MP2A	Z	0	3.33
15	MP2A	Mx	.011	3.33
16	MP2A	X	-21.867	5.33
17	MP2A	Z	0	5.33
18	MP2A	Mx	.011	5.33
19	MP3A	X	-11.015	4.33
20	MP3A	Z	0	4.33
21	MP3A	Mx	.006	4.33
22	RRU1	X	-96.54	1
23	RRU1	Z	0	1
24	RRU1	Mx	0	1
25	RRU1	X	-46.083	4.5
26	RRU1	Z	0	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	-45.273	5
29	RRU2	Z	0	5
30	RRU2	Mx	0	5
31	MP1A	X	-31.192	5.25
32	MP1A	Z	0	5.25
33	MP1A	Mx	-.031	5.25
34	MP1A	X	-31.192	5.25
35	MP1A	Z	0	5.25
36	MP1A	Mx	-.031	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-53.832	1.83
2	MP1A	Z	-31.08	1.83
3	MP1A	Mx	.001	1.83
4	MP1A	X	-53.832	6.83
5	MP1A	Z	-31.08	6.83
6	MP1A	Mx	.001	6.83
7	MP1A	X	-53.832	1.83
8	MP1A	Z	-31.08	1.83
9	MP1A	Mx	.053	1.83
10	MP1A	X	-53.832	6.83
11	MP1A	Z	-31.08	6.83
12	MP1A	Mx	.053	6.83
13	MP2A	X	-27.951	3.33
14	MP2A	Z	-16.137	3.33
15	MP2A	Mx	.014	3.33
16	MP2A	X	-27.951	5.33
17	MP2A	Z	-16.137	5.33
18	MP2A	Mx	.014	5.33
19	MP3A	X	-12.204	4.33
20	MP3A	Z	-7.046	4.33
21	MP3A	Mx	.006	4.33
22	RRU1	X	-88.937	1
23	RRU1	Z	-51.348	1
24	RRU1	Mx	0	1



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
25	RRU1	X	-43.487	4.5
26	RRU1	Z	-25.107	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	-43.487	5
29	RRU2	Z	-25.107	5
30	RRU2	Mx	0	5
31	MP1A	X	-26.993	5.25
32	MP1A	Z	-15.585	5.25
33	MP1A	Mx	-.022	5.25
34	MP1A	X	-26.993	5.25
35	MP1A	Z	-15.585	5.25
36	MP1A	Mx	-.032	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-35.899	1.83
2	MP1A	Z	-62.179	1.83
3	MP1A	Mx	-.034	1.83
4	MP1A	X	-35.899	6.83
5	MP1A	Z	-62.179	6.83
6	MP1A	Mx	-.034	6.83
7	MP1A	X	-35.899	1.83
8	MP1A	Z	-62.179	1.83
9	MP1A	Mx	.07	1.83
10	MP1A	X	-35.899	6.83
11	MP1A	Z	-62.179	6.83
12	MP1A	Mx	.07	6.83
13	MP2A	X	-26.545	3.33
14	MP2A	Z	-45.976	3.33
15	MP2A	Mx	.013	3.33
16	MP2A	X	-26.545	5.33
17	MP2A	Z	-45.976	5.33
18	MP2A	Mx	.013	5.33
19	MP3A	X	-10.124	4.33
20	MP3A	Z	-17.535	4.33
21	MP3A	Mx	.005	4.33
22	RRU1	X	-48.27	1
23	RRU1	Z	-83.606	1
24	RRU1	Mx	0	1
25	RRU1	X	-23.042	4.5
26	RRU1	Z	-39.909	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	-22.637	5
29	RRU2	Z	-39.208	5
30	RRU2	Mx	0	5
31	MP1A	X	-15.562	5.25
32	MP1A	Z	-26.953	5.25
33	MP1A	Mx	-.007	5.25
34	MP1A	X	-15.562	5.25
35	MP1A	Z	-26.953	5.25
36	MP1A	Mx	-.025	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	0	1.83
2	MP1A	Z	-30.226	1.83



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
3	MP1A	Mx	-.025	1.83
4	MP1A	X	0	6.83
5	MP1A	Z	-30.226	6.83
6	MP1A	Mx	-.025	6.83
7	MP1A	X	0	1.83
8	MP1A	Z	-30.226	1.83
9	MP1A	Mx	.025	1.83
10	MP1A	X	0	6.83
11	MP1A	Z	-30.226	6.83
12	MP1A	Mx	.025	6.83
13	MP2A	X	0	3.33
14	MP2A	Z	-14.904	3.33
15	MP2A	Mx	0	3.33
16	MP2A	X	0	5.33
17	MP2A	Z	-14.904	5.33
18	MP2A	Mx	0	5.33
19	MP3A	X	0	4.33
20	MP3A	Z	-7.141	4.33
21	MP3A	Mx	0	4.33
22	RRU1	X	0	1
23	RRU1	Z	-21.586	1
24	RRU1	Mx	0	1
25	RRU1	X	0	4.5
26	RRU1	Z	-9.681	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	0	5
29	RRU2	Z	-9.164	5
30	RRU2	Mx	0	5
31	MP1A	X	0	5.25
32	MP1A	Z	-2.588	5.25
33	MP1A	Mx	.000863	5.25
34	MP1A	X	0	5.25
35	MP1A	Z	-2.588	5.25
36	MP1A	Mx	-.000863	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	14.192	1.83
2	MP1A	Z	-24.581	1.83
3	MP1A	Mx	-.028	1.83
4	MP1A	X	14.192	6.83
5	MP1A	Z	-24.581	6.83
6	MP1A	Mx	-.028	6.83
7	MP1A	X	14.192	1.83
8	MP1A	Z	-24.581	1.83
9	MP1A	Mx	.013	1.83
10	MP1A	X	14.192	6.83
11	MP1A	Z	-24.581	6.83
12	MP1A	Mx	.013	6.83
13	MP2A	X	6.381	3.33
14	MP2A	Z	-11.053	3.33
15	MP2A	Mx	-.003	3.33
16	MP2A	X	6.381	5.33
17	MP2A	Z	-11.053	5.33
18	MP2A	Mx	-.003	5.33
19	MP3A	X	3.178	4.33



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
20	MP3A	Z	-5.505	4.33
21	MP3A	Mx	-0.002	4.33
22	RRU1	X	10.089	1
23	RRU1	Z	-17.474	1
24	RRU1	Mx	0	1
25	RRU1	X	4.362	4.5
26	RRU1	Z	-7.555	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	4.018	5
29	RRU2	Z	-6.959	5
30	RRU2	Mx	0	5
31	MP1A	X	1.832	5.25
32	MP1A	Z	-3.173	5.25
33	MP1A	Mx	.003	5.25
34	MP1A	X	1.832	5.25
35	MP1A	Z	-3.173	5.25
36	MP1A	Mx	.000774	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	21.392	1.83
2	MP1A	Z	-12.35	1.83
3	MP1A	Mx	-.021	1.83
4	MP1A	X	21.392	6.83
5	MP1A	Z	-12.35	6.83
6	MP1A	Mx	-.021	6.83
7	MP1A	X	21.392	1.83
8	MP1A	Z	-12.35	1.83
9	MP1A	Mx	-.000404	1.83
10	MP1A	X	21.392	6.83
11	MP1A	Z	-12.35	6.83
12	MP1A	Mx	-.000404	6.83
13	MP2A	X	7.345	3.33
14	MP2A	Z	-4.24	3.33
15	MP2A	Mx	-.004	3.33
16	MP2A	X	7.345	5.33
17	MP2A	Z	-4.24	5.33
18	MP2A	Mx	-.004	5.33
19	MP3A	X	4.145	4.33
20	MP3A	Z	-2.393	4.33
21	MP3A	Mx	-.002	4.33
22	RRU1	X	18.694	1
23	RRU1	Z	-10.793	1
24	RRU1	Mx	0	1
25	RRU1	X	8.384	4.5
26	RRU1	Z	-4.84	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	7.936	5
29	RRU2	Z	-4.582	5
30	RRU2	Mx	0	5
31	MP1A	X	5.037	5.25
32	MP1A	Z	-2.908	5.25
33	MP1A	Mx	.006	5.25
34	MP1A	X	5.037	5.25
35	MP1A	Z	-2.908	5.25
36	MP1A	Mx	.004	5.25



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	22.859	1.83
2	MP1A	Z	0	1.83
3	MP1A	Mx	-.011	1.83
4	MP1A	X	22.859	6.83
5	MP1A	Z	0	6.83
6	MP1A	Mx	-.011	6.83
7	MP1A	X	22.859	1.83
8	MP1A	Z	0	1.83
9	MP1A	Mx	-.011	1.83
10	MP1A	X	22.859	6.83
11	MP1A	Z	0	6.83
12	MP1A	Mx	-.011	6.83
13	MP2A	X	6.34	3.33
14	MP2A	Z	0	3.33
15	MP2A	Mx	-.003	3.33
16	MP2A	X	6.34	5.33
17	MP2A	Z	0	5.33
18	MP2A	Mx	-.003	5.33
19	MP3A	X	4.002	4.33
20	MP3A	Z	0	4.33
21	MP3A	Mx	-.002	4.33
22	RRU1	X	24.403	1
23	RRU1	Z	0	1
24	RRU1	Mx	0	1
25	RRU1	X	11.594	4.5
26	RRU1	Z	0	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	11.421	5
29	RRU2	Z	0	5
30	RRU2	Mx	0	5
31	MP1A	X	6.892	5.25
32	MP1A	Z	0	5.25
33	MP1A	Mx	.007	5.25
34	MP1A	X	6.892	5.25
35	MP1A	Z	0	5.25
36	MP1A	Mx	.007	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	21.392	1.83
2	MP1A	Z	12.35	1.83
3	MP1A	Mx	-.000404	1.83
4	MP1A	X	21.392	6.83
5	MP1A	Z	12.35	6.83
6	MP1A	Mx	-.000404	6.83
7	MP1A	X	21.392	1.83
8	MP1A	Z	12.35	1.83
9	MP1A	Mx	-.021	1.83
10	MP1A	X	21.392	6.83
11	MP1A	Z	12.35	6.83
12	MP1A	Mx	-.021	6.83
13	MP2A	X	7.345	3.33
14	MP2A	Z	4.24	3.33
15	MP2A	Mx	-.004	3.33
16	MP2A	X	7.345	5.33
17	MP2A	Z	4.24	5.33



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
18	MP2A	Mx	-004	5.33
19	MP3A	X	4.145	4.33
20	MP3A	Z	2.393	4.33
21	MP3A	Mx	-002	4.33
22	RRU1	X	22.354	1
23	RRU1	Z	12.906	1
24	RRU1	Mx	0	1
25	RRU1	X	10.869	4.5
26	RRU1	Z	6.275	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	10.869	5
29	RRU2	Z	6.275	5
30	RRU2	Mx	0	5
31	MP1A	X	5.037	5.25
32	MP1A	Z	2.908	5.25
33	MP1A	Mx	.004	5.25
34	MP1A	X	5.037	5.25
35	MP1A	Z	2.908	5.25
36	MP1A	Mx	.006	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	14.192	1.83
2	MP1A	Z	24.581	1.83
3	MP1A	Mx	.013	1.83
4	MP1A	X	14.192	6.83
5	MP1A	Z	24.581	6.83
6	MP1A	Mx	.013	6.83
7	MP1A	X	14.192	1.83
8	MP1A	Z	24.581	1.83
9	MP1A	Mx	-.028	1.83
10	MP1A	X	14.192	6.83
11	MP1A	Z	24.581	6.83
12	MP1A	Mx	-.028	6.83
13	MP2A	X	6.381	3.33
14	MP2A	Z	11.053	3.33
15	MP2A	Mx	-.003	3.33
16	MP2A	X	6.381	5.33
17	MP2A	Z	11.053	5.33
18	MP2A	Mx	-.003	5.33
19	MP3A	X	3.178	4.33
20	MP3A	Z	5.505	4.33
21	MP3A	Mx	-.002	4.33
22	RRU1	X	12.202	1
23	RRU1	Z	21.134	1
24	RRU1	Mx	0	1
25	RRU1	X	5.797	4.5
26	RRU1	Z	10.04	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	5.711	5
29	RRU2	Z	9.891	5
30	RRU2	Mx	0	5
31	MP1A	X	1.832	5.25
32	MP1A	Z	3.173	5.25
33	MP1A	Mx	.000774	5.25
34	MP1A	X	1.832	5.25



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
35	MP1A	Z	3.173	5.25
36	MP1A	Mx	.003	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	0	1.83
2	MP1A	Z	30.226	1.83
3	MP1A	Mx	.025	1.83
4	MP1A	X	0	6.83
5	MP1A	Z	30.226	6.83
6	MP1A	Mx	.025	6.83
7	MP1A	X	0	1.83
8	MP1A	Z	30.226	1.83
9	MP1A	Mx	-.025	1.83
10	MP1A	X	0	6.83
11	MP1A	Z	30.226	6.83
12	MP1A	Mx	-.025	6.83
13	MP2A	X	0	3.33
14	MP2A	Z	14.904	3.33
15	MP2A	Mx	0	3.33
16	MP2A	X	0	5.33
17	MP2A	Z	14.904	5.33
18	MP2A	Mx	0	5.33
19	MP3A	X	0	4.33
20	MP3A	Z	7.141	4.33
21	MP3A	Mx	0	4.33
22	RRU1	X	0	1
23	RRU1	Z	21.586	1
24	RRU1	Mx	0	1
25	RRU1	X	0	4.5
26	RRU1	Z	9.681	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	0	5
29	RRU2	Z	9.164	5
30	RRU2	Mx	0	5
31	MP1A	X	0	5.25
32	MP1A	Z	2.588	5.25
33	MP1A	Mx	-.000863	5.25
34	MP1A	X	0	5.25
35	MP1A	Z	2.588	5.25
36	MP1A	Mx	.000863	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-14.192	1.83
2	MP1A	Z	24.581	1.83
3	MP1A	Mx	.028	1.83
4	MP1A	X	-14.192	6.83
5	MP1A	Z	24.581	6.83
6	MP1A	Mx	.028	6.83
7	MP1A	X	-14.192	1.83
8	MP1A	Z	24.581	1.83
9	MP1A	Mx	-.013	1.83
10	MP1A	X	-14.192	6.83
11	MP1A	Z	24.581	6.83
12	MP1A	Mx	-.013	6.83



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
13	MP2A	X	-6.381	3.33
14	MP2A	Z	11.053	3.33
15	MP2A	Mx	.003	3.33
16	MP2A	X	-6.381	5.33
17	MP2A	Z	11.053	5.33
18	MP2A	Mx	.003	5.33
19	MP3A	X	-3.178	4.33
20	MP3A	Z	5.505	4.33
21	MP3A	Mx	.002	4.33
22	RRU1	X	-10.089	1
23	RRU1	Z	17.474	1
24	RRU1	Mx	0	1
25	RRU1	X	-4.362	4.5
26	RRU1	Z	7.555	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	-4.018	5
29	RRU2	Z	6.959	5
30	RRU2	Mx	0	5
31	MP1A	X	-1.832	5.25
32	MP1A	Z	3.173	5.25
33	MP1A	Mx	-.003	5.25
34	MP1A	X	-1.832	5.25
35	MP1A	Z	3.173	5.25
36	MP1A	Mx	-.000774	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-21.392	1.83
2	MP1A	Z	12.35	1.83
3	MP1A	Mx	.021	1.83
4	MP1A	X	-21.392	6.83
5	MP1A	Z	12.35	6.83
6	MP1A	Mx	.021	6.83
7	MP1A	X	-21.392	1.83
8	MP1A	Z	12.35	1.83
9	MP1A	Mx	.000404	1.83
10	MP1A	X	-21.392	6.83
11	MP1A	Z	12.35	6.83
12	MP1A	Mx	.000404	6.83
13	MP2A	X	-7.345	3.33
14	MP2A	Z	4.24	3.33
15	MP2A	Mx	.004	3.33
16	MP2A	X	-7.345	5.33
17	MP2A	Z	4.24	5.33
18	MP2A	Mx	.004	5.33
19	MP3A	X	-4.145	4.33
20	MP3A	Z	2.393	4.33
21	MP3A	Mx	.002	4.33
22	RRU1	X	-18.694	1
23	RRU1	Z	10.793	1
24	RRU1	Mx	0	1
25	RRU1	X	-8.384	4.5
26	RRU1	Z	4.84	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	-7.936	5
29	RRU2	Z	4.582	5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
30	RRU2	Mx	0	5
31	MP1A	X	-5.037	5.25
32	MP1A	Z	2.908	5.25
33	MP1A	Mx	-.006	5.25
34	MP1A	X	-5.037	5.25
35	MP1A	Z	2.908	5.25
36	MP1A	Mx	-.004	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-22.859	1.83
2	MP1A	Z	0	1.83
3	MP1A	Mx	.011	1.83
4	MP1A	X	-22.859	6.83
5	MP1A	Z	0	6.83
6	MP1A	Mx	.011	6.83
7	MP1A	X	-22.859	1.83
8	MP1A	Z	0	1.83
9	MP1A	Mx	.011	1.83
10	MP1A	X	-22.859	6.83
11	MP1A	Z	0	6.83
12	MP1A	Mx	.011	6.83
13	MP2A	X	-6.34	3.33
14	MP2A	Z	0	3.33
15	MP2A	Mx	.003	3.33
16	MP2A	X	-6.34	5.33
17	MP2A	Z	0	5.33
18	MP2A	Mx	.003	5.33
19	MP3A	X	-4.002	4.33
20	MP3A	Z	0	4.33
21	MP3A	Mx	.002	4.33
22	RRU1	X	-24.403	1
23	RRU1	Z	0	1
24	RRU1	Mx	0	1
25	RRU1	X	-11.594	4.5
26	RRU1	Z	0	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	-11.421	5
29	RRU2	Z	0	5
30	RRU2	Mx	0	5
31	MP1A	X	-6.892	5.25
32	MP1A	Z	0	5.25
33	MP1A	Mx	-.007	5.25
34	MP1A	X	-6.892	5.25
35	MP1A	Z	0	5.25
36	MP1A	Mx	-.007	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-21.392	1.83
2	MP1A	Z	-12.35	1.83
3	MP1A	Mx	.000404	1.83
4	MP1A	X	-21.392	6.83
5	MP1A	Z	-12.35	6.83
6	MP1A	Mx	.000404	6.83
7	MP1A	X	-21.392	1.83



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
8	MP1A	Z	-12.35	1.83
9	MP1A	Mx	.021	1.83
10	MP1A	X	-21.392	6.83
11	MP1A	Z	-12.35	6.83
12	MP1A	Mx	.021	6.83
13	MP2A	X	-7.345	3.33
14	MP2A	Z	-4.24	3.33
15	MP2A	Mx	.004	3.33
16	MP2A	X	-7.345	5.33
17	MP2A	Z	-4.24	5.33
18	MP2A	Mx	.004	5.33
19	MP3A	X	-4.145	4.33
20	MP3A	Z	-2.393	4.33
21	MP3A	Mx	.002	4.33
22	RRU1	X	-22.354	1
23	RRU1	Z	-12.906	1
24	RRU1	Mx	0	1
25	RRU1	X	-10.869	4.5
26	RRU1	Z	-6.275	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	-10.869	5
29	RRU2	Z	-6.275	5
30	RRU2	Mx	0	5
31	MP1A	X	-5.037	5.25
32	MP1A	Z	-2.908	5.25
33	MP1A	Mx	-.004	5.25
34	MP1A	X	-5.037	5.25
35	MP1A	Z	-2.908	5.25
36	MP1A	Mx	-.006	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-14.192	1.83
2	MP1A	Z	-24.581	1.83
3	MP1A	Mx	-.013	1.83
4	MP1A	X	-14.192	6.83
5	MP1A	Z	-24.581	6.83
6	MP1A	Mx	-.013	6.83
7	MP1A	X	-14.192	1.83
8	MP1A	Z	-24.581	1.83
9	MP1A	Mx	.028	1.83
10	MP1A	X	-14.192	6.83
11	MP1A	Z	-24.581	6.83
12	MP1A	Mx	.028	6.83
13	MP2A	X	-6.381	3.33
14	MP2A	Z	-11.053	3.33
15	MP2A	Mx	.003	3.33
16	MP2A	X	-6.381	5.33
17	MP2A	Z	-11.053	5.33
18	MP2A	Mx	.003	5.33
19	MP3A	X	-3.178	4.33
20	MP3A	Z	-5.505	4.33
21	MP3A	Mx	.002	4.33
22	RRU1	X	-12.202	1
23	RRU1	Z	-21.134	1
24	RRU1	Mx	0	1



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
25	RRU1	X	-5.797	4.5
26	RRU1	Z	-10.04	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	-5.711	5
29	RRU2	Z	-9.891	5
30	RRU2	Mx	0	5
31	MP1A	X	-1.832	5.25
32	MP1A	Z	-3.173	5.25
33	MP1A	Mx	-0.00774	5.25
34	MP1A	X	-1.832	5.25
35	MP1A	Z	-3.173	5.25
36	MP1A	Mx	-0.003	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	0	1.83
2	MP1A	Z	-4.789	1.83
3	MP1A	Mx	-0.004	1.83
4	MP1A	X	0	6.83
5	MP1A	Z	-4.789	6.83
6	MP1A	Mx	-0.004	6.83
7	MP1A	X	0	1.83
8	MP1A	Z	-4.789	1.83
9	MP1A	Mx	.004	1.83
10	MP1A	X	0	6.83
11	MP1A	Z	-4.789	6.83
12	MP1A	Mx	.004	6.83
13	MP2A	X	0	3.33
14	MP2A	Z	-3.969	3.33
15	MP2A	Mx	0	3.33
16	MP2A	X	0	5.33
17	MP2A	Z	-3.969	5.33
18	MP2A	Mx	0	5.33
19	MP3A	X	0	4.33
20	MP3A	Z	-1.458	4.33
21	MP3A	Mx	0	4.33
22	RRU1	X	0	1
23	RRU1	Z	-5.264	1
24	RRU1	Mx	0	1
25	RRU1	X	0	4.5
26	RRU1	Z	-2.364	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	0	5
29	RRU2	Z	-2.212	5
30	RRU2	Mx	0	5
31	MP1A	X	0	5.25
32	MP1A	Z	-1.944	5.25
33	MP1A	Mx	.000648	5.25
34	MP1A	X	0	5.25
35	MP1A	Z	-1.944	5.25
36	MP1A	Mx	-0.000648	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	2.244	1.83
2	MP1A	Z	-3.886	1.83



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
3	MP1A	Mx	-.004	1.83
4	MP1A	X	2.244	6.83
5	MP1A	Z	-3.886	6.83
6	MP1A	Mx	-.004	6.83
7	MP1A	X	2.244	1.83
8	MP1A	Z	-3.886	1.83
9	MP1A	Mx	.002	1.83
10	MP1A	X	2.244	6.83
11	MP1A	Z	-3.886	6.83
12	MP1A	Mx	.002	6.83
13	MP2A	X	1.659	3.33
14	MP2A	Z	-2.874	3.33
15	MP2A	Mx	-.00083	3.33
16	MP2A	X	1.659	5.33
17	MP2A	Z	-2.874	5.33
18	MP2A	Mx	-.00083	5.33
19	MP3A	X	.633	4.33
20	MP3A	Z	-1.096	4.33
21	MP3A	Mx	-.000316	4.33
22	RRU1	X	2.44	1
23	RRU1	Z	-4.226	1
24	RRU1	Mx	0	1
25	RRU1	X	1.053	4.5
26	RRU1	Z	-1.824	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	.952	5
29	RRU2	Z	-1.648	5
30	RRU2	Mx	0	5
31	MP1A	X	.973	5.25
32	MP1A	Z	-1.685	5.25
33	MP1A	Mx	.002	5.25
34	MP1A	X	.973	5.25
35	MP1A	Z	-1.685	5.25
36	MP1A	Mx	.000411	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	3.365	1.83
2	MP1A	Z	-1.942	1.83
3	MP1A	Mx	-.003	1.83
4	MP1A	X	3.365	6.83
5	MP1A	Z	-1.942	6.83
6	MP1A	Mx	-.003	6.83
7	MP1A	X	3.365	1.83
8	MP1A	Z	-1.942	1.83
9	MP1A	Mx	-6.4e-5	1.83
10	MP1A	X	3.365	6.83
11	MP1A	Z	-1.942	6.83
12	MP1A	Mx	-6.4e-5	6.83
13	MP2A	X	1.747	3.33
14	MP2A	Z	-1.009	3.33
15	MP2A	Mx	-.000874	3.33
16	MP2A	X	1.747	5.33
17	MP2A	Z	-1.009	5.33
18	MP2A	Mx	-.000874	5.33
19	MP3A	X	.763	4.33



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
20	MP3A	Z	-.44	4.33
21	MP3A	Mx	-.000382	4.33
22	RRU1	X	4.559	1
23	RRU1	Z	-2.632	1
24	RRU1	Mx	0	1
25	RRU1	X	2.047	4.5
26	RRU1	Z	-1.182	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	1.916	5
29	RRU2	Z	-1.106	5
30	RRU2	Mx	0	5
31	MP1A	X	1.687	5.25
32	MP1A	Z	-.974	5.25
33	MP1A	Mx	.002	5.25
34	MP1A	X	1.687	5.25
35	MP1A	Z	-.974	5.25
36	MP1A	Mx	.001	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP1A	X	3.584	1.83
2	MP1A	Z	0	1.83
3	MP1A	Mx	-.002	1.83
4	MP1A	X	3.584	6.83
5	MP1A	Z	0	6.83
6	MP1A	Mx	-.002	6.83
7	MP1A	X	3.584	1.83
8	MP1A	Z	0	1.83
9	MP1A	Mx	-.002	1.83
10	MP1A	X	3.584	6.83
11	MP1A	Z	0	6.83
12	MP1A	Mx	-.002	6.83
13	MP2A	X	1.367	3.33
14	MP2A	Z	0	3.33
15	MP2A	Mx	-.000684	3.33
16	MP2A	X	1.367	5.33
17	MP2A	Z	0	5.33
18	MP2A	Mx	-.000684	5.33
19	MP3A	X	.688	4.33
20	MP3A	Z	0	4.33
21	MP3A	Mx	-.000344	4.33
22	RRU1	X	6.034	1
23	RRU1	Z	0	1
24	RRU1	Mx	0	1
25	RRU1	X	2.88	4.5
26	RRU1	Z	0	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	2.83	5
29	RRU2	Z	0	5
30	RRU2	Mx	0	5
31	MP1A	X	1.95	5.25
32	MP1A	Z	0	5.25
33	MP1A	Mx	.002	5.25
34	MP1A	X	1.95	5.25
35	MP1A	Z	0	5.25
36	MP1A	Mx	.002	5.25



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	3.365	1.83
2	MP1A	Z	1.942	1.83
3	MP1A	Mx	-6.4e-5	1.83
4	MP1A	X	3.365	6.83
5	MP1A	Z	1.942	6.83
6	MP1A	Mx	-6.4e-5	6.83
7	MP1A	X	3.365	1.83
8	MP1A	Z	1.942	1.83
9	MP1A	Mx	-.003	1.83
10	MP1A	X	3.365	6.83
11	MP1A	Z	1.942	6.83
12	MP1A	Mx	-.003	6.83
13	MP2A	X	1.747	3.33
14	MP2A	Z	1.009	3.33
15	MP2A	Mx	-.000874	3.33
16	MP2A	X	1.747	5.33
17	MP2A	Z	1.009	5.33
18	MP2A	Mx	-.000874	5.33
19	MP3A	X	.763	4.33
20	MP3A	Z	.44	4.33
21	MP3A	Mx	-.000382	4.33
22	RRU1	X	5.559	1
23	RRU1	Z	3.209	1
24	RRU1	Mx	0	1
25	RRU1	X	2.718	4.5
26	RRU1	Z	1.569	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	2.718	5
29	RRU2	Z	1.569	5
30	RRU2	Mx	0	5
31	MP1A	X	1.687	5.25
32	MP1A	Z	.974	5.25
33	MP1A	Mx	.001	5.25
34	MP1A	X	1.687	5.25
35	MP1A	Z	.974	5.25
36	MP1A	Mx	.002	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	2.244	1.83
2	MP1A	Z	3.886	1.83
3	MP1A	Mx	.002	1.83
4	MP1A	X	2.244	6.83
5	MP1A	Z	3.886	6.83
6	MP1A	Mx	.002	6.83
7	MP1A	X	2.244	1.83
8	MP1A	Z	3.886	1.83
9	MP1A	Mx	-.004	1.83
10	MP1A	X	2.244	6.83
11	MP1A	Z	3.886	6.83
12	MP1A	Mx	-.004	6.83
13	MP2A	X	1.659	3.33
14	MP2A	Z	2.874	3.33
15	MP2A	Mx	-.00083	3.33
16	MP2A	X	1.659	5.33
17	MP2A	Z	2.874	5.33



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
18	MP2A	Mx	- .00083	5.33
19	MP3A	X	.633	4.33
20	MP3A	Z	1.096	4.33
21	MP3A	Mx	-.000316	4.33
22	RRU1	X	3.017	1
23	RRU1	Z	5.225	1
24	RRU1	Mx	0	1
25	RRU1	X	1.44	4.5
26	RRU1	Z	2.494	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	1.415	5
29	RRU2	Z	2.45	5
30	RRU2	Mx	0	5
31	MP1A	X	.973	5.25
32	MP1A	Z	1.685	5.25
33	MP1A	Mx	.000411	5.25
34	MP1A	X	.973	5.25
35	MP1A	Z	1.685	5.25
36	MP1A	Mx	.002	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	0	1.83
2	MP1A	Z	4.789	1.83
3	MP1A	Mx	.004	1.83
4	MP1A	X	0	6.83
5	MP1A	Z	4.789	6.83
6	MP1A	Mx	.004	6.83
7	MP1A	X	0	1.83
8	MP1A	Z	4.789	1.83
9	MP1A	Mx	-.004	1.83
10	MP1A	X	0	6.83
11	MP1A	Z	4.789	6.83
12	MP1A	Mx	-.004	6.83
13	MP2A	X	0	3.33
14	MP2A	Z	3.969	3.33
15	MP2A	Mx	0	3.33
16	MP2A	X	0	5.33
17	MP2A	Z	3.969	5.33
18	MP2A	Mx	0	5.33
19	MP3A	X	0	4.33
20	MP3A	Z	1.458	4.33
21	MP3A	Mx	0	4.33
22	RRU1	X	0	1
23	RRU1	Z	5.264	1
24	RRU1	Mx	0	1
25	RRU1	X	0	4.5
26	RRU1	Z	2.364	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	0	5
29	RRU2	Z	2.212	5
30	RRU2	Mx	0	5
31	MP1A	X	0	5.25
32	MP1A	Z	1.944	5.25
33	MP1A	Mx	-.000648	5.25
34	MP1A	X	0	5.25



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
35	MP1A	Z	1.944	5.25
36	MP1A	Mx	.000648	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-2.244	1.83
2	MP1A	Z	3.886	1.83
3	MP1A	Mx	.004	1.83
4	MP1A	X	-2.244	6.83
5	MP1A	Z	3.886	6.83
6	MP1A	Mx	.004	6.83
7	MP1A	X	-2.244	1.83
8	MP1A	Z	3.886	1.83
9	MP1A	Mx	-.002	1.83
10	MP1A	X	-2.244	6.83
11	MP1A	Z	3.886	6.83
12	MP1A	Mx	-.002	6.83
13	MP2A	X	-1.659	3.33
14	MP2A	Z	2.874	3.33
15	MP2A	Mx	.00083	3.33
16	MP2A	X	-1.659	5.33
17	MP2A	Z	2.874	5.33
18	MP2A	Mx	.00083	5.33
19	MP3A	X	-.633	4.33
20	MP3A	Z	1.096	4.33
21	MP3A	Mx	.000316	4.33
22	RRU1	X	-2.44	1
23	RRU1	Z	4.226	1
24	RRU1	Mx	0	1
25	RRU1	X	-1.053	4.5
26	RRU1	Z	1.824	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	-.952	5
29	RRU2	Z	1.648	5
30	RRU2	Mx	0	5
31	MP1A	X	-.973	5.25
32	MP1A	Z	1.685	5.25
33	MP1A	Mx	-.002	5.25
34	MP1A	X	-.973	5.25
35	MP1A	Z	1.685	5.25
36	MP1A	Mx	-.000411	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-3.365	1.83
2	MP1A	Z	1.942	1.83
3	MP1A	Mx	.003	1.83
4	MP1A	X	-3.365	6.83
5	MP1A	Z	1.942	6.83
6	MP1A	Mx	.003	6.83
7	MP1A	X	-3.365	1.83
8	MP1A	Z	1.942	1.83
9	MP1A	Mx	6.4e-5	1.83
10	MP1A	X	-3.365	6.83
11	MP1A	Z	1.942	6.83
12	MP1A	Mx	6.4e-5	6.83



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
13	MP2A	X	-1.747	3.33
14	MP2A	Z	1.009	3.33
15	MP2A	Mx	.000874	3.33
16	MP2A	X	-1.747	5.33
17	MP2A	Z	1.009	5.33
18	MP2A	Mx	.000874	5.33
19	MP3A	X	-.763	4.33
20	MP3A	Z	.44	4.33
21	MP3A	Mx	.000382	4.33
22	RRU1	X	-4.559	1
23	RRU1	Z	2.632	1
24	RRU1	Mx	0	1
25	RRU1	X	-2.047	4.5
26	RRU1	Z	1.182	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	-1.916	5
29	RRU2	Z	1.106	5
30	RRU2	Mx	0	5
31	MP1A	X	-1.687	5.25
32	MP1A	Z	.974	5.25
33	MP1A	Mx	-.002	5.25
34	MP1A	X	-1.687	5.25
35	MP1A	Z	.974	5.25
36	MP1A	Mx	-.001	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-3.584	1.83
2	MP1A	Z	0	1.83
3	MP1A	Mx	.002	1.83
4	MP1A	X	-3.584	6.83
5	MP1A	Z	0	6.83
6	MP1A	Mx	.002	6.83
7	MP1A	X	-3.584	1.83
8	MP1A	Z	0	1.83
9	MP1A	Mx	.002	1.83
10	MP1A	X	-3.584	6.83
11	MP1A	Z	0	6.83
12	MP1A	Mx	.002	6.83
13	MP2A	X	-1.367	3.33
14	MP2A	Z	0	3.33
15	MP2A	Mx	.000684	3.33
16	MP2A	X	-1.367	5.33
17	MP2A	Z	0	5.33
18	MP2A	Mx	.000684	5.33
19	MP3A	X	-.688	4.33
20	MP3A	Z	0	4.33
21	MP3A	Mx	.000344	4.33
22	RRU1	X	-6.034	1
23	RRU1	Z	0	1
24	RRU1	Mx	0	1
25	RRU1	X	-2.88	4.5
26	RRU1	Z	0	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	-2.83	5
29	RRU2	Z	0	5



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 Model Name :

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 4:20 PM
 Checked By: _____

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
30	RRU2	Mx	0	5
31	MP1A	X	-1.95	5.25
32	MP1A	Z	0	5.25
33	MP1A	Mx	-0.002	5.25
34	MP1A	X	-1.95	5.25
35	MP1A	Z	0	5.25
36	MP1A	Mx	-0.002	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-3.365	1.83
2	MP1A	Z	-1.942	1.83
3	MP1A	Mx	6.4e-5	1.83
4	MP1A	X	-3.365	6.83
5	MP1A	Z	-1.942	6.83
6	MP1A	Mx	6.4e-5	6.83
7	MP1A	X	-3.365	1.83
8	MP1A	Z	-1.942	1.83
9	MP1A	Mx	.003	1.83
10	MP1A	X	-3.365	6.83
11	MP1A	Z	-1.942	6.83
12	MP1A	Mx	.003	6.83
13	MP2A	X	-1.747	3.33
14	MP2A	Z	-1.009	3.33
15	MP2A	Mx	.000874	3.33
16	MP2A	X	-1.747	5.33
17	MP2A	Z	-1.009	5.33
18	MP2A	Mx	.000874	5.33
19	MP3A	X	-.763	4.33
20	MP3A	Z	-.44	4.33
21	MP3A	Mx	.000382	4.33
22	RRU1	X	-5.559	1
23	RRU1	Z	-3.209	1
24	RRU1	Mx	0	1
25	RRU1	X	-2.718	4.5
26	RRU1	Z	-1.569	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	-2.718	5
29	RRU2	Z	-1.569	5
30	RRU2	Mx	0	5
31	MP1A	X	-1.687	5.25
32	MP1A	Z	-.974	5.25
33	MP1A	Mx	-.001	5.25
34	MP1A	X	-1.687	5.25
35	MP1A	Z	-.974	5.25
36	MP1A	Mx	-.002	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-2.244	1.83
2	MP1A	Z	-3.886	1.83
3	MP1A	Mx	-.002	1.83
4	MP1A	X	-2.244	6.83
5	MP1A	Z	-3.886	6.83
6	MP1A	Mx	-.002	6.83
7	MP1A	X	-2.244	1.83



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
8	MP1A	Z	-3.886	1.83
9	MP1A	Mx	.004	1.83
10	MP1A	X	-2.244	6.83
11	MP1A	Z	-3.886	6.83
12	MP1A	Mx	.004	6.83
13	MP2A	X	-1.659	3.33
14	MP2A	Z	-2.874	3.33
15	MP2A	Mx	.00083	3.33
16	MP2A	X	-1.659	5.33
17	MP2A	Z	-2.874	5.33
18	MP2A	Mx	.00083	5.33
19	MP3A	X	-.633	4.33
20	MP3A	Z	-1.096	4.33
21	MP3A	Mx	.000316	4.33
22	RRU1	X	-3.017	1
23	RRU1	Z	-5.225	1
24	RRU1	Mx	0	1
25	RRU1	X	-1.44	4.5
26	RRU1	Z	-2.494	4.5
27	RRU1	Mx	0	4.5
28	RRU2	X	-1.415	5
29	RRU2	Z	-2.45	5
30	RRU2	Mx	0	5
31	MP1A	X	-.973	5.25
32	MP1A	Z	-1.685	5.25
33	MP1A	Mx	-.000411	5.25
34	MP1A	X	-.973	5.25
35	MP1A	Z	-1.685	5.25
36	MP1A	Mx	-.002	5.25

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	LM1	Y	-500	0

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	LM2	Y	-500	0

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	LV	Y	-250	%50

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	LV	Y	-250	0

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	Y	-1.997	1.83
2	MP1A	My	-.000998	1.83
3	MP1A	Mz	.002	1.83
4	MP1A	Y	-1.997	6.83
5	MP1A	My	-.000998	6.83
6	MP1A	Mz	.002	6.83



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Member Point Loads (BLC 81 : Antenna Ev) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
7	MP1A	Y	-1.997	1.83
8	MP1A	My	-.000998	1.83
9	MP1A	Mz	-.002	1.83
10	MP1A	Y	-1.997	6.83
11	MP1A	Mv	-.000998	6.83
12	MP1A	Mz	-.002	6.83
13	MP2A	Y	-2.23	3.33
14	MP2A	My	-.001	3.33
15	MP2A	Mz	0	3.33
16	MP2A	Y	-2.23	5.33
17	MP2A	Mv	-.001	5.33
18	MP2A	Mz	0	5.33
19	MP3A	Y	-.957	4.33
20	MP3A	My	-.000479	4.33
21	MP3A	Mz	0	4.33
22	RRU1	Y	-1.638	1
23	RRU1	My	0	1
24	RRU1	Mz	0	1
25	RRU1	Y	-3.825	4.5
26	RRU1	My	0	4.5
27	RRU1	Mz	0	4.5
28	RRU2	Y	-3.599	5
29	RRU2	Mv	0	5
30	RRU2	Mz	0	5
31	MP1A	Y	-.901	5.25
32	MP1A	My	.000901	5.25
33	MP1A	Mz	-.0003	5.25
34	MP1A	Y	-.901	5.25
35	MP1A	My	.000901	5.25
36	MP1A	Mz	.0003	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	Z	-4.992	1.83
2	MP1A	Mx	-.004	1.83
3	MP1A	Z	-4.992	6.83
4	MP1A	Mx	-.004	6.83
5	MP1A	Z	-4.992	1.83
6	MP1A	Mx	.004	1.83
7	MP1A	Z	-4.992	6.83
8	MP1A	Mx	.004	6.83
9	MP2A	Z	-5.574	3.33
10	MP2A	Mx	0	3.33
11	MP2A	Z	-5.574	5.33
12	MP2A	Mx	0	5.33
13	MP3A	Z	-2.394	4.33
14	MP3A	Mx	0	4.33
15	RRU1	Z	-4.096	1
16	RRU1	Mx	0	1
17	RRU1	Z	-9.562	4.5
18	RRU1	Mx	0	4.5
19	RRU2	Z	-8.998	5
20	RRU2	Mx	0	5
21	MP1A	Z	-2.253	5.25
22	MP1A	Mx	.000751	5.25
23	MP1A	Z	-2.253	5.25



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
24	MP1A	Mx	-0.00751	5.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	4.992	1.83
2	MP1A	Mx	-.002	1.83
3	MP1A	X	4.992	6.83
4	MP1A	Mx	-.002	6.83
5	MP1A	X	4.992	1.83
6	MP1A	Mx	-.002	1.83
7	MP1A	X	4.992	6.83
8	MP1A	Mx	-.002	6.83
9	MP2A	X	5.574	3.33
10	MP2A	Mx	-.003	3.33
11	MP2A	X	5.574	5.33
12	MP2A	Mx	-.003	5.33
13	MP3A	X	2.394	4.33
14	MP3A	Mx	-.001	4.33
15	RRU1	X	4.096	1
16	RRU1	Mx	0	1
17	RRU1	X	9.562	4.5
18	RRU1	Mx	0	4.5
19	RRU2	X	8.998	5
20	RRU2	Mx	0	5
21	MP1A	X	2.253	5.25
22	MP1A	Mx	.002	5.25
23	MP1A	X	2.253	5.25
24	MP1A	Mx	.002	5.25

Member Area Loads

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
No Data to Print ...						

Envelope Joint Reactions

Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC	
1	N16	max	282.647	10	1011.33	24	389.847	1	-.438	64	1.554	8	1.18	28
2		min	-878.097	28	372.496	74	-945.931	7	-1.227	19	-1.894	2	.328	73
3	N15	max	869.959	34	1001.783	18	819.821	1	-.439	64	1.805	8	1.183	29
4		min	-151.618	4	371.355	68	-263.736	7	-1.227	19	-1.464	2	.325	73
5	Totals:	max	964.525	10	1996.043	18	1209.668	1						
6		min	-964.526	4	747.857	75	-1209.667	7						

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

Member	Shape	Code Check	Loc...L	Shea	Loc.....	LC	phi*Pn...	phi*Pn...	phi*Mn...	phi*Mn.....	Eqn				
1	M1	PIPE 3.0	.180		2.37531	.068	2.313	19	53775...	65205	5.749	5.749	2..H1-1b		
2	LV	PIPE 3.0	.184		2.37525	.097	2.313	37	53775...	65205	5.749	5.749	2..H1-1b		
3	M5	PIPE 4.0	.000		.75	6	.000	75	6	92571...	93240	10.631	10.631	1..H1-1b	
4	M6	PIPE 4.0	.000		.75	5	.000	75	6	92571...	93240	10.631	10.631	1..H1-1b	
5	M9	HSS4X4X6	.120		2.25	2	.045	1.148	y	35	19343...	197892	22.046	22.046	1..H1-1b
6	M10	HSS4X4X6	.119		2.25	8	.048	1.148	y	30	19343...	197892	22.046	22.046	1..H1-1b
7	MP1A	PIPE 2.5	.213		2.667	29	.035	6		34	30038...	50715	3.596	3.596	1..H1-1b
8	MP2A	PIPE 2.5	.087		6	36	.036	2.667		32	30038...	50715	3.596	3.596	1..H1-1b



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

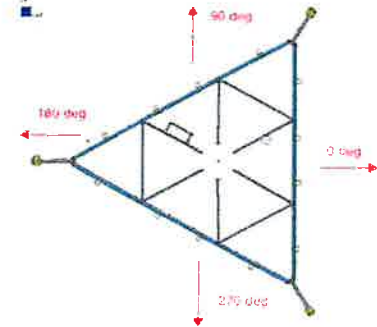
Member	Shape	Code Check	Loc...	L...	Shea...	Loc.....	LC	phi*Pn...	phi*Pn...	phi*Mn...	phi*Mn.....	Eqn
9	MP3A	PIPE 2.5			.021	2.667	30	30038...	50715	3.596	3.596	2..H1-1b
10	RRU1	PIPE 2.5			.029	2.667	29	30038...	50715	3.596	3.596	1..H1-1b
11	RRU2	PIPE 2.5			.027	2.667	29	30038...	50715	3.596	3.596	1..H1-1b

I. Mount-to-Tower Connection Check

Custom Orientation Required

Yes

Nodes (labeled per Risa)	Orientation (per graphic of typical platform)
N15	30
N16	30



Tower Connection Bolt Checks

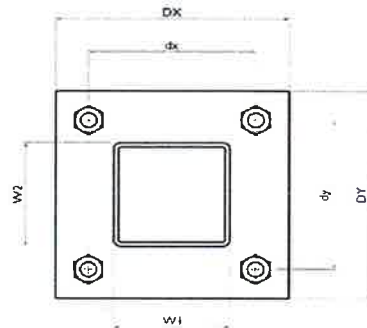
Yes

Bolt Orientation

Parallel

- 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
6.25
6.25
A325N
0.625
2.6
0.6
20.7
12.4
12.7%

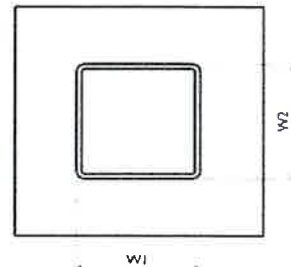


Tower Connection Baseplate Checks

Yes

- Connecting Standoff Member Shape:
- Weld Stiffener Configuration:
- Plate Width, D_x (in):
- Plate Height, D_y (in):
- W_1 (in):
- W_2 (in):
- Member Thickness (in):
- Stiffener location a_1 (in):
- Stiffener location b_1 (in):
- Stiffener location a_2 (in):
- Stiffener location b_2 (in):
- F_y (ksi, plate):
- Plate Thickness (in):
- Length of Yield Line, L_y (in):
- Bolt Eccentricity, e (in):
- M_u (kip-in):
- $\Phi * M_n$ (kip-in):
- Plate Bending Utilization:

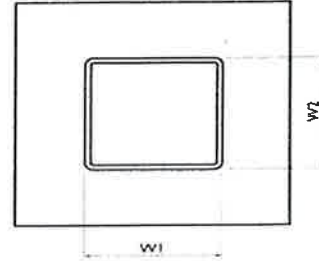
Rect Tube
No Stiffeners
8.25
8.25
4
4
0.375
36
0.75
6.20
1.94
5.10
28.23
18.0%



Tower Connection Weld Checks

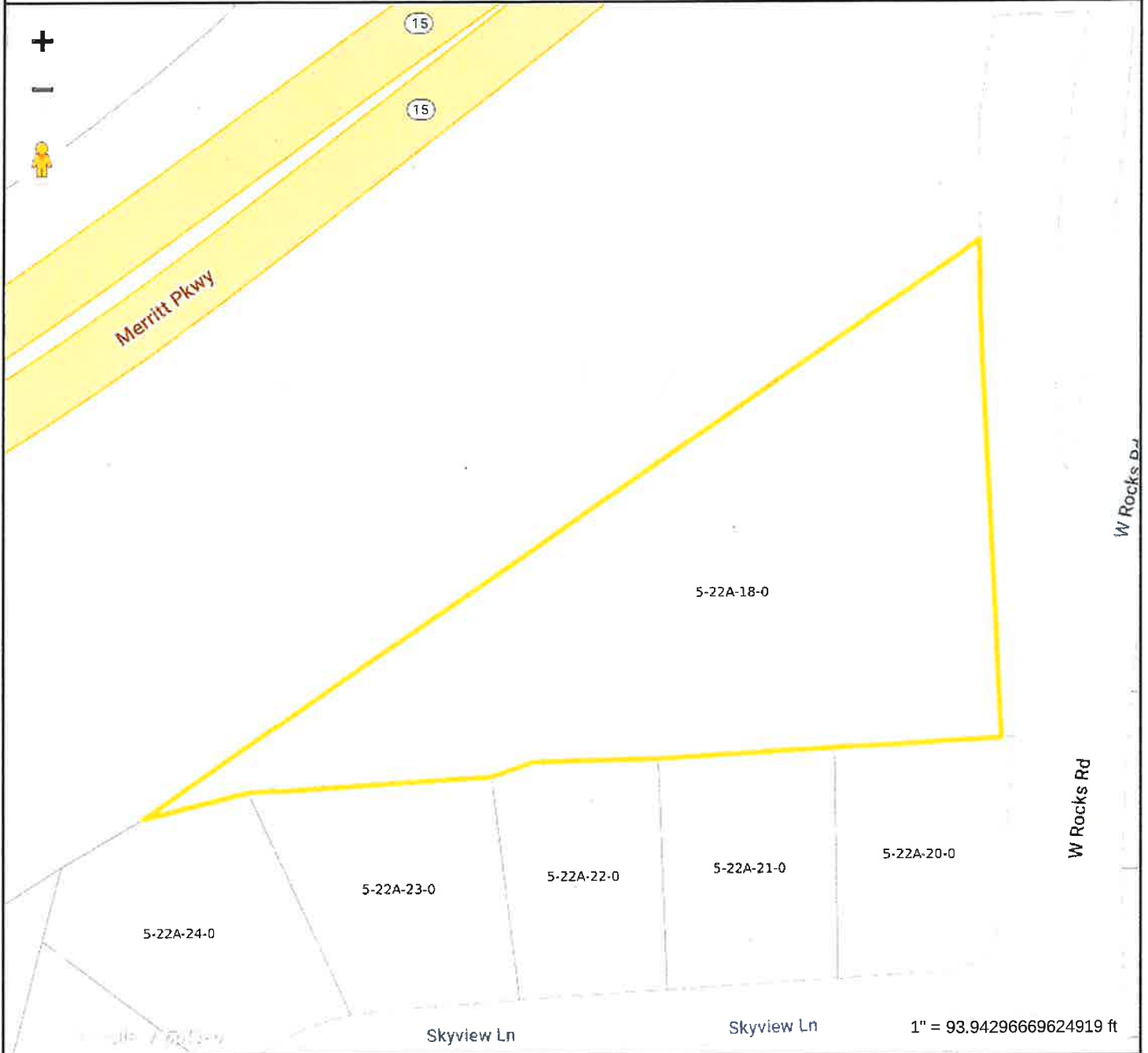
Weld Shape:
Weld Stiffener Configuration:
Stiffener Notch Length, n (in):
Weld Size (1/16 in):
W1 (in):
W2 (in):
Weld Total Length (in):
 Z_x (in³/in):
 Z_y (in³/in):
 J_p (in⁴/in):
 c_x (in)
 c_y (in)
Required combined strength (kip/in):
Weld Capacity (kip/in):
Weld Utilization:

Yes
Rectangle
None
4
4
4
16.00
21.33
21.33
85.33
2.375
2.375
1.01
5.57
18.1%




ATTACHMENT 4

CT11076 GIS MAP



Norwalk Information

ID	103-5-22A-18-0
Site Address	173 1/2 WEST ROCKS RD
Owner	FIRST TAXING DISTRICT
Co-Owner	(WATER DEPT - WATER TANK)
Owner Address	3 BELDEN AVE



**MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT**

Regional Map Viewer makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

173 1/2 WEST ROCKS RD

Location 173 1/2 WEST ROCKS RD

Mblu 5/ 22A/ 18/ 0/

Acct# 13222

Owner FIRST TAXING DISTRICT

Assessment \$1,514,730

Appraisal \$2,163,900

PID 13222

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$1,451,940	\$711,960	\$2,163,900
Assessment			
Valuation Year	Improvements	Land	Total
2018	\$1,016,360	\$498,370	\$1,514,730

Owner of Record

Owner FIRST TAXING DISTRICT
Co-Owner (WATER DEPT - WATER TANK)
Address 3 BELDEN AVE
 NORWALK, CT 06850-3303

Sale Price \$0
Certificate
Book & Page 365/140
Sale Date 12/31/1940

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
FIRST TAXING DISTRICT	\$0		365/140	12/31/1940

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: \$0
Building Percent Good:
Replacement Cost
Less Depreciation: \$0

ATTACHMENT 5

Certificate of Mailing — Firm



Name and Address of Sender

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

TOTAL NO. of Pieces Listed by Sender

3

TOTAL NO. of Pieces Received at Post Office™

3

Postmaster, per (name of receiving employee)

[Signature]

Affix Stamp Here
 Postmark with Date of Receipt.



quodient
 CORRECTION IMI
\$003.34⁹
 02/07/2024 ZIP 06101
 043M32208819
 US POSTAGE™

USPS® Tracking Number
 Firm-specific Identifier

Address
 (Name, Street, City, State, and ZIP Code™)

1. Harry Killing, Mayor
 City of Norwalk
 124 East Avenue
 Norwalk, CT 06856

2. Steven Kleppin, Director of Planning & Zoning
 City of Norwalk
 124 East Avenue
 Norwalk, CT 06856

3. First Taxing District of the City of Norwalk
 3 Belden Avenue
 Norwalk, CT 06850-3303

4.

5.

6.

Parcel Airlift

Special Handling

Fee

Postage

