

February 12, 2024

Via Electronic Mail

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**
100 Tatnic Hill Road (a/k/a 130 Old Tatnic Hill Road), Brooklyn, Connecticut

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains an existing wireless telecommunications facility at the above-referenced property address (the “Property”). The facility consists of antennas on an existing tower and related equipment on the ground, near the base of the tower. The original tower was approved by the Town of Brooklyn (“Town”) in August of 1999. Cellco’s shared use of the tower was approved by the Siting Council (“Council”) in June of 2001 (EM-VER-019-010614). A copy of the Town’s approval and Cellco’s EM-VER-019-010614 approval are included in Attachment 1.

Cellco now intends to modify its facility by removing nine (9) antennas and six (6) remote radio heads (“RRHs”) and installing nine (9) new antennas and six (6) new RRHs on its existing antenna platform and mounting assemblies. A set of project plans showing Cellco’s proposed facility modifications and the specifications for Cellco’s new antenna and RRHs are 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 Brooklyn’s Chief Elected Official and Land Use Officer. A copy of this letter is being sent to SBA Towers LLC, 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).

28629107-v1

Melanie A. Bachman, Esq.

February 12, 2024

Page 2

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's new antennas and RRHs will be installed at the same height on the tower.
2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The installation of Cellco's new antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. Included in Attachment 3 is a Calculated Radio Frequency Emissions Report demonstrating that the proposed modified facility will comply with the FCC safety standards. The modified facility will be capable of providing Cellco's 5G wireless service.
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 the Post-Modification Antenna Mount Analysis Report ("MA"), the existing tower, tower foundation and antenna mounts, with certain modifications, can support Cellco's proposed modifications. Copies of the SA and MA are included in Attachment 4.

A copy of the parcel map and Property owner information is included in Attachment 5. A Certificate of Mailing verifying that this filing was sent to municipal officials and the property owner is included in Attachment 6.

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:

Austin Tanner, First Selectman
Jana Butts, AICP, Director of Community Development/Town Planner
SBA Towers, LLC, Property Owner
Aleksey Tyurin

ATTACHMENT 1

PLANNING AND ZONING COMMISSION
TOWN OF BROOKLYN
CONNECTICUT 06234

Norwich Bulletin Classified/Legals Department
Please run the following Legal Ad One Time Only:
Monday, August 9, 1999

(Bill to the Town of Brooklyn, Account #10089300)
Contact Chuck Dobrowski at 779-3411 with any question/problems
Thank you.)

Town of Brooklyn
Planning and Zoning Commission
Notice of Decision

At the Regular Meeting of the Brooklyn Planning and Zoning Commission held on August 4, 1999, the following decisions were rendered.

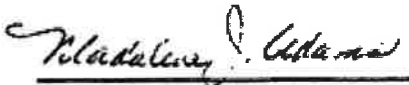
Zone Change Application 99-02 of Angela C. Revera, request for Zone Change at 207 Day Street, from R30 to RA. - APPLICATION WAS DENIED

SPR-99-17 of SBA Inc./Sprint PCS, construction of telecommunications facility at 130 Old Tatnic Hill Road, Map 15, Lot 16. - APPLICATION WAS APPROVED

SPR-99-18 of Nextel Communications, construction of telecommunications facility at Tatnic Hill Road, Map 14, Lot 10. - APPLICATION WAS WITHDRAWN

SD-99-06, Theodore Stever, Allen Hill Road, three lot subdivision. - APPLICATION WAS APPROVED WITH CONDITIONS

SPR99-19 Kenyon Oil Company, 409 Providence Road, construction of Convenience Store and Gas Station. - APPLICATION TABLED.

for 

Bruce Parsons
Chairman



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Ten Franklin Square
New Britain, Connecticut 06051
Phone: (860) 827-2935
Fax: (860) 827-2950

July 13, 2001

Sandy M. Carter
Verizon Wireless
20 Alexander Drive
P.O. Box 5029
Wallingford, CT 06492

RE: **TS-VER-019-010614** - Celco Partnership d/b/a Verizon Wireless request for an order to approve tower sharing at an existing telecommunications facility located at 130 Tatnic Hill Road, Brooklyn, Connecticut.

Dear Ms. Carter:

At a public meeting held July 11, 2001, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Any additional change to this facility may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction.

The proposed shared use is to be implemented as specified in your letter dated June 14, 2001.

Thank you for your attention and cooperation.

Very truly yours,


Mortimer A. Gelston
Chairman

MAG/RKE/laf

c: Honorable Maurice F. Bowen, First Selectman, Town of Brooklyn
Chester Dobrowski, Zoning Enforcement Officer, Town of Brooklyn
Esther McNany, SBA, Inc.
Julie M. Donaldson, Esq., Hurwitz & Sagarin LLC
Ronald C. Clark, Nextel Communications
Peter W. van Wilgen, SNET Mobility, LLC

ATTACHMENT 2



T01

REMOVE:

- 9 ANTENNAS
- 3 RADIOS (ON TOWER)
- 1 COUPLER (IN SHELTER)
- 1 COAXIAL CABLE

INSTALL:

- ANTENNA MOUNT REINFORCEMENTS
- 3 SIDE-BY-SIDE ANTENNA MOUNTS
- 9 ANTENNAS
- 3 RADIOS
- 2 COUPLERS
- 1 COUPLER
- 1 WIRELESS F

FOR THE PURPOSE OF CONSTRUCTION MATERIALS, THE FOLLOWING DEFINITIONS SHALL APPLY:

- [illegible]

1. THE SUBMITTING THE QUAL CONTACT WITH THE LOCALING STRENGTHS HERE TO THE STAFF OF CONSTRUCTION

11. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 338, ASTM A188, ASTM A183 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.

- [illegible]

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- ### CONSTRUCTION NOTES:

1. FIELD VERIFICATION

- TO THE NEAR BY LOCATION,



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	CHECKED BY:	APPROVED BY:

SUBMITTALS		DATE	DESCRIPTION	BY
1	REV/04/04		COMPLETION ISSUED	MEC
2	05/04/04		ISSUED FOR COMPLETION	MEC
3	07/04/04		ISSUED FOR MONEY	MEC

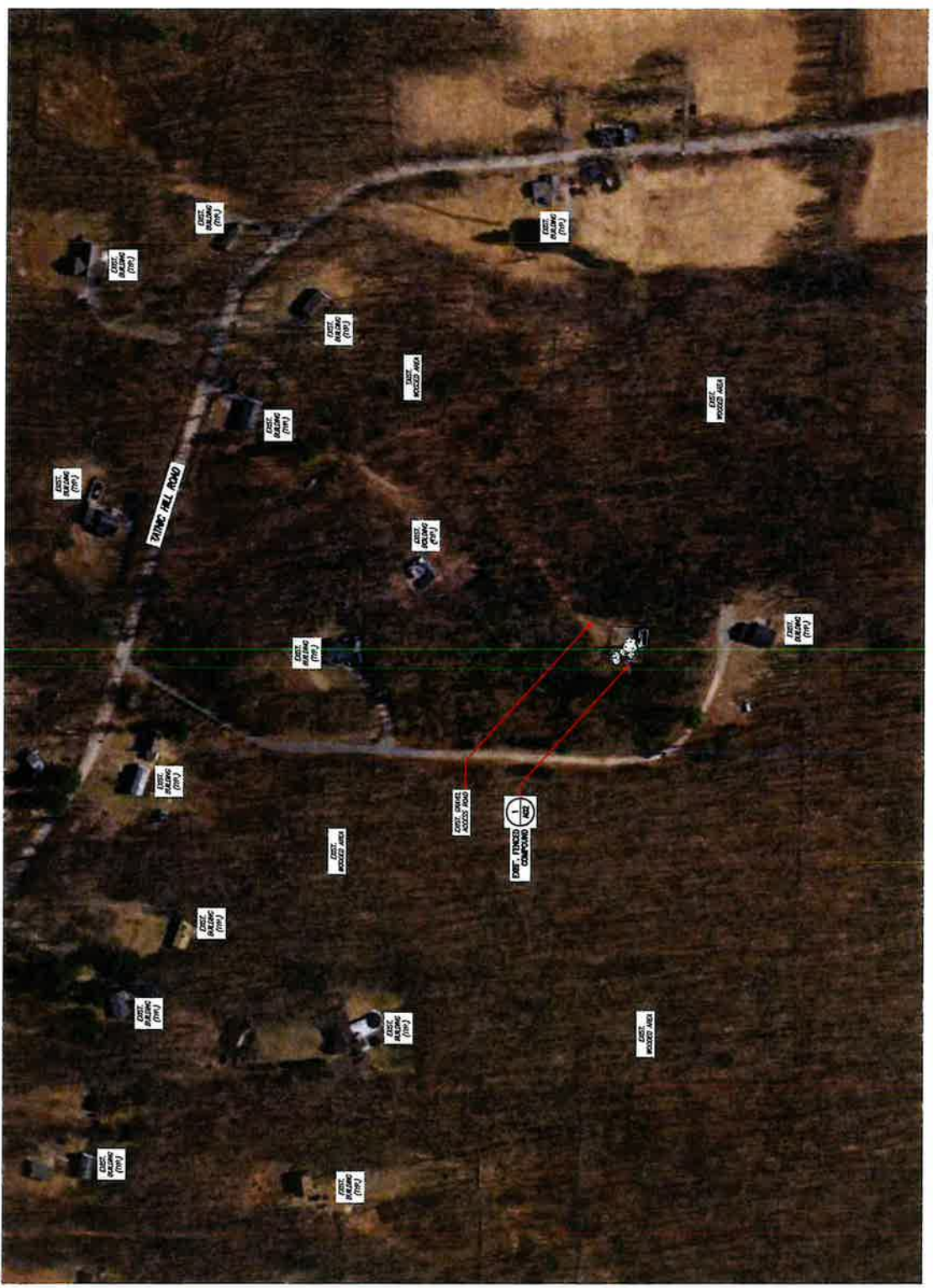
DEBONNA VAI OT

130 OLD TATNICH HILL ROAD

VIN LOCATION CODE	44788
MDI LOCATION ID	880038067

Print Code

Join



SITE PLAN
SCALE: 1" = 60'-0"
0 60' 120' 240'



2000 W. MAIN ST. 2ND FLOOR
MILWAUKEE, WI 53212
(414) 774-7338



800 CHAMBERS ST. 120
NEW YORK, NY 10007
(212) 312-0700



1000 CHAMBERS ST. 120
NEW YORK, NY 10007
(212) 312-0700



DATE: 01/11/17
DRAWN BY: JAF
CHECKED BY: JAF
APPROVED BY: JAF

SUBMITTALS	
REV	DATE
1	01/11/17
2	01/11/17
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4	01/11/17
5	01/11/17
6	01/11/17
7	01/11/17
8	01/11/17
9	01/11/17
10	01/11/17

BROOKLYN CT
130 OLD TAYLOR HILL ROAD
BROOKLYN, CT 06036

PROJECT NAME & ADDRESS
PROJECT NO.
SHEET NO.

OWNER
DESIGNER
DATE

A01



ANTENNA MOUNT REINFORCEMENT NOTE:
PRIOR TO THE COMMENCEMENT OF THE UPGRADE WORK SHOWN ON THESE DRAWINGS,
THE EXISTING VERTICAN TP-SECTOR ANTENNA MOUNTING FRAME LOCATED ON THE
EXISTING MONOPOLE SHALL BE REINFORCED AS PER THE MOUNT MODIFICATION
DRAWINGS PREPARED BY COLLIER'S ENGINEERING & DESIGN (PROJECT #61777249).



PROPERTY OF THE AIR FORCE

[illegible]

A03



20 ALAMANCE DRIVE, 2ND FLOOR
BROOKLYN, CT 06007
(203) 741-7326



SBA COMMUNICATIONS CORP.
134 FARMINGTON ROAD, SUITE 125
BROOKLYN, CT 06007
(203) 741-7326



CHAPIN & ASSOCIATES, LLC
100 E. MAIN STREET, SUITE 101
BROOKLYN, CT 06007
(203) 741-7326



DESIGNED BY: [Signature]
APPROVED BY: [Signature]

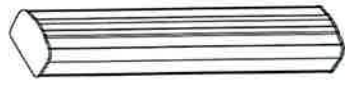
REV	DATE	DESCRIPTION	BY
1	01/15/13	ISSUED FOR CONSTRUCTION	ME
2	02/15/13	ISSUED FOR CONSTRUCTION	ME
3	03/15/13	ISSUED FOR CONSTRUCTION	ME

BROOKLYN CT
130 OLD TATNALL ROAD
BROOKLYN, CT 06006

NEW LOCATION: 0006
NEW LOCATION: 0006
NEW LOCATION: 0006

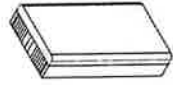
SITE DETAILS

A04



COMSCOPE JAWH-438-138-Antenna
DIMENSIONS: 7.0" x 1.5" x 1.5"
WEIGHT: 0.44 lbs
QUANTITY: 1 PER SECTION TOTAL OF 3
SECTION: ALPHA, BETA, GAMMA

ANTENNA DETAILS
SCALE: N.T.S.



SAMSING MTR413-77A-Antenna
DIMENSIONS: 5.0" x 1.5" x 1.5"
WEIGHT: 0.72 lbs
QUANTITY: 1 PER SECTION TOTAL OF 3
SECTION: ALPHA, BETA, GAMMA



SAMSING RET413-13A-REAR-Antenna
DIMENSIONS: 5.0" x 1.5" x 1.5"
WEIGHT: 0.72 lbs
QUANTITY: 1 PER SECTION TOTAL OF 3
SECTION: ALPHA, BETA, GAMMA

RADIO DETAIL
SCALE: N.T.S.

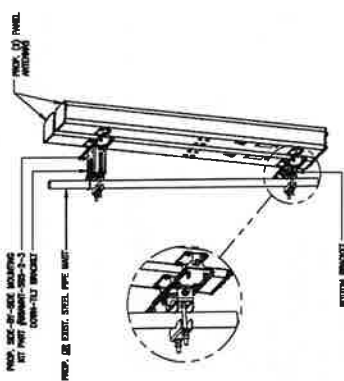


COMSCOPE CRTR-105-A3-2X-Fiber Junction Box
DIMENSIONS: 1.5" x 1.5" x 1.5"
WEIGHT: 0.17 lbs
QUANTITY: 1 PER SECTION TOTAL OF 3
SECTION: ALPHA, BETA, GAMMA

DIPLEXER DETAIL
SCALE: N.T.S.

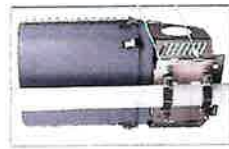
Procedure
Mounting Procedures

4.1. A mounting base is attached to the top of the antenna. The antenna is then mounted to the base.



COMSCOPE BSANT-SSE-2-2-Side-By-Side Antenna Mount Bracket
DIMENSIONS: 7.0" x 1.5" x 1.5"
WEIGHT: 0.44 lbs
QUANTITY: 1 PER SECTION TOTAL OF 3
SECTION: ALPHA, BETA, GAMMA

TYPICAL SIDE-BY-SIDE ANTENNA MOUNT KIT
SCALE: N.T.S.



4.2. Cable 1 Fiber Mount
Using a fiber mount, mount the cable to the antenna.

4.3. Cable 2 Fiber Mount
Using a fiber mount, mount the cable to the antenna.

4.4. Cable 3 Fiber Mount
Using a fiber mount, mount the cable to the antenna.

Groundwater Distribution
5.1. Set antenna to identify the antenna.

5.2. Set antenna to identify the antenna.



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1	01/15/13	ISSUED FOR CONSTRUCTION	ME
2	02/15/13	ISSUED FOR CONSTRUCTION	ME
3	03/15/13	ISSUED FOR CONSTRUCTION	ME

FIBER JUNCTION BOX
DIMENSIONS: 2.0" x 1.5" x 1.5"
WEIGHT: 0.17 lbs
QUANTITY: 1 PER SECTION TOTAL OF 3
SECTION: ALPHA, BETA, GAMMA

TYPICAL FIBER JUNCTION BOX (OVP) DETAILS
SCALE: N.T.S.



20 ALBANY DRIVE, 3RD FLOOR
ALBANY, NY 12206
(518) 717-3332



SBA COMMUNICATIONS CORP.
124 PARKER ROAD, SUITE 125
ALBANY, NY 12206
(518) 251-2720



CHAPPELL
ENGINEERING
ASSOCIATES, LLC
915 E. BROADWAY
201 SOUTH 1000 WEST, SUITE 101
MILWAUKEE, WI 53212
(414) 333-1100
www.chapell-engineering.com



DESIGNED BY: *hoelste*
DATE: *10/1/18*

APPROVED BY: *hoelste*
DATE: *10/1/18*

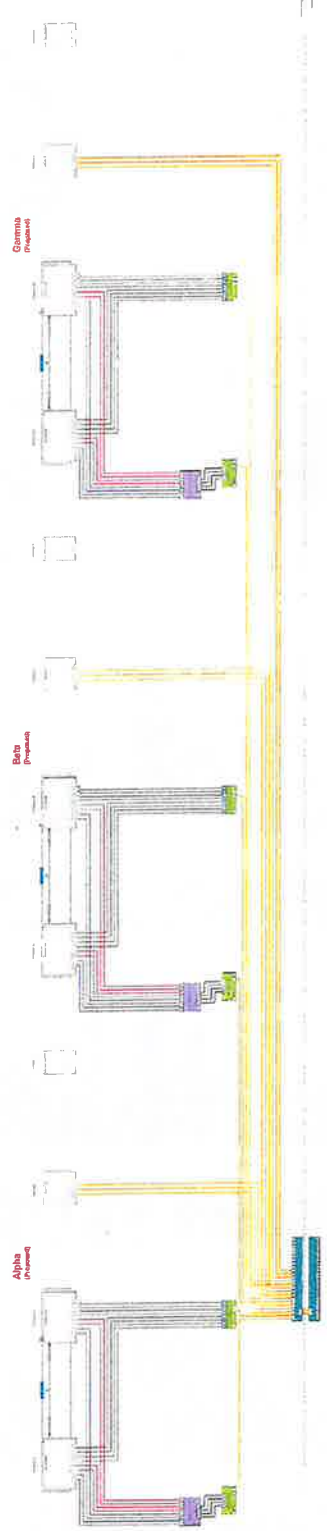
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PROJECT NAME & ADDRESS
BROOKLYN CT
130 OLD TATUNG HILL ROAD
BROOKLYN, CT 06036

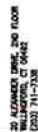
TYPE LOCATION CODE: 447988
MAY LOCATION ID: 1000000077
PLATE PROJECT ID: 10000000

PROJECT TITLE
RF PLUMBING DIAGRAM

PROJECT NUMBER
RF02



RF PLUMBING DIAGRAM
SCALE: N.T.S.
1
RF02



SEN COMMUNICATIONS CORP.
134 FLAMING ROAD, SUITE 125
WESTBOROUGH, MA 01581



A.K. CHEUNG COYNE
201 BOSTON POST ROAD WEST, SUITE 101



MT	01/01/2018
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REV	DATE	DESCRIPTION	BY
SUBMITTALS			

2	01/01/24	COMMENTS	NOTES
1	01/01/24	READY FOR CONCRETE	
0	01/01/24	READY FOR CONCRETE	
0	01/01/24	READY FOR CONCRETE	

PROJECT NAME & NUMBER

BROOKLYN CT

50 OLD TATNICHILL ROAD
BROOKLYN, CT 06005

VIEW LOCATION CODE	407200
400 LOCATIONS	407200

True or False

RF COLOR CODE SPECIFICATIONS

HYBRID CABLE COLOR CODE SPECIFICATIONS

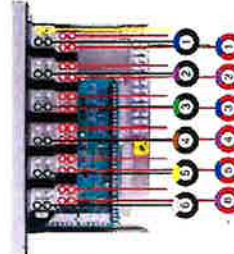
LINE COLOR CODE SPECIFICATIONS

CABLE NOTE:
SEE FEEDLINE SCHEDULE A & B ON SHEET RF-01
FOR EXISTING & PROPOSED CABLE QUANTITIES.

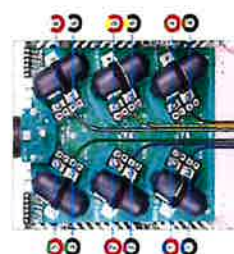
Figure 1 consists of three maps of the Iberian Peninsula, each showing the distribution of a different genetic lineage. The maps are labeled 'Green Lineage', 'Blue Lineage', and 'Red Lineage' from top to bottom. Each map includes a legend with symbols for the lineage and a scale bar indicating distances in kilometers (0, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000). The Green Lineage is represented by green shading, the Blue Lineage by blue shading, and the Red Lineage by red shading. The maps show the geographical spread of these lineages across the Iberian Peninsula, with the Green Lineage primarily in the north and west, the Blue Lineage in the center, and the Red Lineage in the south and east.

Hybrid Cable on Towers

Sector	Identification Color	-48V	RTN
700 Alpha			
AMS Alpha	White		
PCS Alpha	Green		
850 Alpha	Brown		
Spare	Yellow		
Spare	White		



Sector	Hybrid Cable 2 Identification Color	-48V	RTN
300 Bata	Blue		
AW5 Bata	White		
PCS Bata	Green		
850 Bata	Brown		
Spore	Yellow		
Spore	White		



RF03

DATA SHEET 101

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[illegible]

20 ALAMANCE DRIVE, 2ND FLOOR
BROOKLYN, CT 06007
(860) 341-7324

SBA COMMERCIAL CODE
134 LAMARKE BLVD, SUITE 125
BROOKLYN, CT 06007
(860) 341-7324

ALAN J. GARDNER, P.E.
1000 4th Street, Suite 101
BROOKLYN, CT 06007
(860) 341-7324

PROJECT NAME & ADDRESS

BROOKLYN CT
130 OLD TATUNG HILL ROAD
BROOKLYN, CT 06005

VER LICENSE CODE: 407088

VER PROJECT ID: 00000000000000000000

VER LOCATION ID: 00000000000000000000

PROJECT TITLE

MOUNT MODIFICATION DRAWINGS II

PROJECT NUMBER

MM02

DATE: 10/1/2019

TIME: 10:00 AM

BY: [Signature]

APPROVED BY: [Signature]

DATE: 10/1/2019

TIME: 10:00 AM

BY: [Signature]

APPROVED BY: [Signature]

20 ALAMANCE DRIVE, 2ND FLOOR
BROOKLYN, CT 06007
(860) 341-7324

SBA COMMERCIAL CODE
134 LAMARKE BLVD, SUITE 125
BROOKLYN, CT 06007
(860) 341-7324

ALAN J. GARDNER, P.E.
1000 4th Street, Suite 101
BROOKLYN, CT 06007
(860) 341-7324

PROJECT NAME & ADDRESS

BROOKLYN CT
130 OLD TATUNG HILL ROAD
BROOKLYN, CT 06005

VER LICENSE CODE: 407088

VER PROJECT ID: 00000000000000000000

VER LOCATION ID: 00000000000000000000

PROJECT TITLE

MOUNT MODIFICATION DRAWINGS II

PROJECT NUMBER

MM02

DATE: 10/1/2019

TIME: 10:00 AM

BY: [Signature]

APPROVED BY: [Signature]

DATE: 10/1/2019

TIME: 10:00 AM

BY: [Signature]

APPROVED BY: [Signature]

20 ALAMANCE DRIVE, 2ND FLOOR
BROOKLYN, CT 06007
(860) 341-7324

SBA COMMERCIAL CODE
134 LAMARKE BLVD, SUITE 125
BROOKLYN, CT 06007
(860) 341-7324

ALAN J. GARDNER, P.E.
1000 4th Street, Suite 101
BROOKLYN, CT 06007
(860) 341-7324

PROJECT NAME & ADDRESS

BROOKLYN CT
130 OLD TATUNG HILL ROAD
BROOKLYN, CT 06005

VER LICENSE CODE: 407088

VER PROJECT ID: 00000000000000000000

VER LOCATION ID: 00000000000000000000

PROJECT TITLE

MOUNT MODIFICATION DRAWINGS II

PROJECT NUMBER

MM02

DATE: 10/1/2019

TIME: 10:00 AM

BY: [Signature]

APPROVED BY: [Signature]

DATE: 10/1/2019

TIME: 10:00 AM

BY: [Signature]

APPROVED BY: [Signature]

C-band 64T64R

Gen 2

SAMSUNG

Gen 2 : Higher conducted power radio with reduced size/volume/weight vs Gen 1 and also SOC embedded for flexibility to support new features



* Preliminary Design: External appearance and mechanical design can be subject to change

Gen 2. 64T64R C-band MMU Dimensions		
Size (WxHxD)	400 x 734 x 140 mm (15.75 x 28.90 x 5.51 inch)	
Weight	26kg (57.3 lb)	

Item	Gen 2 64T64R (MT6413-77A)
Air Technology	NR n77/TDD
Frequency	3700 ~ 3980 MHz
IBW	200 MHz
OBW	200 MHz
Carrier Bandwidth	200 MHz
# of Carriers	2 carriers
Layer	DL : 16L, UL : 16RX (8L)
RF Chain	64T64R
Antenna Configuration	4V16H with 192 AE
EIRP	80.5 dBm @320W (55 dBm + 25.5 dBi)
Conductive Power	320W
Spectrum Analyzer	TX/RX support
RX Sensitivity	Typical -97.8dBm @1Rx, 18.36MHz with 30kHz 51RBs
Modulation	DL 256QAM support, DL 1024QAM with 1~2dB power back-off
Function Split	DLUL option 7-2x
Input Power	-48 VDC (-38 VDC to -57 VDC)
Power Consumption	1,287W (100% load, room temp.)
Size (WHD)	400 x 734 x 140 mm (15.75 x 28.90 x 5.51 inch)
Volume	41.1L
Weight	26kg (57.3 lb)
Operating Temperature	-40°C ~ 55°C (w/o solar load)
Cooling	Natural convection
Unwanted Emission	3GPP 36.104 FCC 47 CFR 27.53 : < -13dBm/MHz < -40 dBm/MHz @ above 4 GHz < -50 dBm /MHz @ 4,040 ~ 4,050 MHz < -60 dBm /MHz @ above 4,050 MHz
Optic Interface	15km, 4 ports (25Gbps x 4), SFP28, single mode, Bi-di (Option: Duplex)
Mounting Options	Pole, wall
NB-IoT	Not support
External Alarm	4RX
Fronthaul Interface	eCPRI

JAHH-65B-R3B



8-port sector antenna, 2x 698–787, 2x 824–894 and 4x 1695–2360 MHz, 65° HPBW, 3x RET and low bands have diplexers. Internal SBT's on first LB(Port 1) and first HB(Port 5).

- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- One RET for 700MHz, one RET for 850MHz, and one RET for both high bands to ensure same tilt level for 4x Rx or 4x MIMO
- Internal filter on low band and interleaved dipole technology providing for attractive, low wind load mechanical package
- Separate RS-485 RET input/output for low and high band

General Specifications

Antenna Type	Sector
Band	Multiband
Color	Light gray
Effective Projective Area (EPA), frontal	0.28 m ² 3.014 ft ²
Effective Projective Area (EPA), lateral	0.24 m ² 2.583 ft ²
Grounding Type	RF connector body grounded to reflector and mounting bracket
Performance Note	Outdoor usage Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN
Radome Material	Fiberglass, UV resistant
Radiator Material	Aluminum Low loss circuit board
Reflector Material	Aluminum
RF Connector Interface	4.3-10 Female
RF Connector Location	Bottom
RF Connector Quantity, high band	4
RF Connector Quantity, low band	4
RF Connector Quantity, total	8

Remote Electrical Tilt (RET) Information, General

RET Interface	8-pin DIN Female 8-pin DIN Male
RET Interface, quantity	2 female 2 male

Dimensions

Width	350 mm 13.78 in
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JAHH-65B-R3B

Length

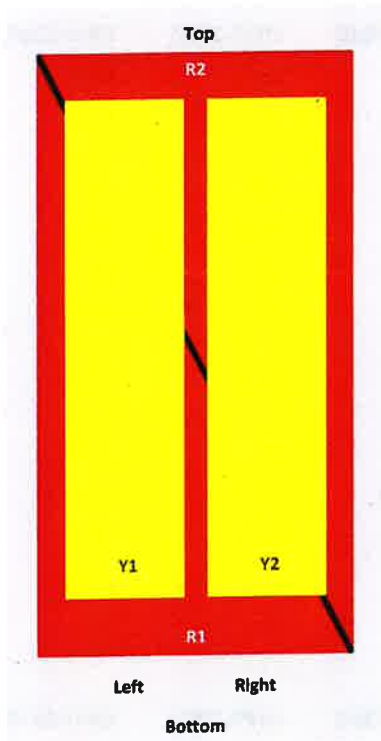
1828 mm | 71.969 in

Depth

208 mm | 8.189 in

Array Layout

JAHH-65A-R3B JAHH-65B-R3B JAHH-65C-R3B



Array	Freq (MHz)	Coors	RET (SRET)	AISG RET UID
R1	698-787	1-2	1	ANXXXXXXXXXXXX1
R2	824-894	3-4	2	ANXXXXXXXXXXXX2
Y1	1695-2360	5-6	3	ANXXXXXXXXXXXX3
Y2	1695-2360	7-8	3	ANXXXXXXXXXXXX4

View from the front of the antenna

(Sizes of colored boxes are not true depictions of array sizes)

Electrical Specifications

Impedance

50 ohm

Operating Frequency Band

1695 – 2360 MHz | 698 – 787 MHz | 824 – 894 MHz

Polarization

±45°

Remote Electrical Tilt (RET) Information, Electrical

Protocol

3GPP/AISG 2.0 (Single RET)

Power Consumption, idle state, maximum

2 W

JAHH-65B-R3B

Power Consumption, normal conditions, maximum	13 W
Input Voltage	10–30 Vdc
Internal Bias Tee	Port 1 Port 5
Internal RET	High band (1) Low band (2)

Electrical Specifications

Frequency Band, MHz	698–787	824–894	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	14.5	15.8	18	18.4	18.5	18.8
Beamwidth, Horizontal, degrees	67	65	63	63	65	68
Beamwidth, Vertical, degrees	12.4	10.5	5.7	5.2	4.9	4.4
Beam Tilt, degrees	2–14	2–14	0–10	0–10	0–10	0–10
USLS (First Lobe), dB	18	18	20	20	21	23
Front-to-Back Ratio at 180°, dB	32	34	31	35	36	38
Isolation, Cross Polarization, dB	25	25	25	25	25	25
Isolation, Inter-band, dB	30	30	30	30	30	30
VSWR Return loss, dB	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port at 50° C, maximum, watts	200	200	300	300	300	250

Electrical Specifications, BASTA

Frequency Band, MHz	698–787	824–894	1695–1880	1850–1990	1920–2200	2300–2360
Gain by all Beam Tilts, average, dBi	14.3	14.9	17.6	18.1	18.2	18.5
Gain by all Beam Tilts Tolerance, dB	±0.3	±0.5	±0.6	±0.4	±0.5	±0.6
Gain by Beam Tilt, average, dBi	2° 14.3 8° 14.3 14° 14.3	2° 15.0 8° 14.9 14° 15.4	0° 17.2 5° 17.6 10° 17.6	0° 17.6 5° 18.2 10° 18.2	0° 17.7 5° 18.3 10° 18.3	0° 17.9 5° 18.7 10° 18.7
Beamwidth, Horizontal Tolerance, degrees	±1.2	±1.4	±4	±2.4	±2.9	±2.7
Beamwidth, Vertical Tolerance, degrees	±0.9	±0.5	±0.3	±0.2	±0.3	±0.1
USLS, beampeak to 20° above beampeak, dB	18	17	17	18	19	18
Front-to-Back Total Power at 180° ± 30°, dB	25	24	26	29	27	29
CPR at Boresight, dB	22	23	20	21	21	24

JAHH-65B-R3B

CPR at Sector, dB	11	12	11	11	11	8
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Mechanical Specifications

Wind Loading at Velocity, frontal	301.0 N @ 150 km/h 67.7 lbf @ 150 km/h
Wind Loading at Velocity, lateral	254.0 N @ 150 km/h 57.1 lbf @ 150 km/h
Wind Loading at Velocity, maximum	143.4 lbf @ 150 km/h 638.0 N @ 150 km/h
Wind Speed, maximum	241 km/h 149.75 mph

Packaging and Weights

Width, packed	456 mm 17.953 in
Depth, packed	357 mm 14.055 in
Length, packed	1975 mm 77.756 in
Net Weight, without mounting kit	29.2 kg 64.375 lb
Weight, gross	42.5 kg 93.696 lb

Regulatory Compliance/Certifications

Agency	Classification
CHINA-ROHS	Above maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
ROHS	Compliant/Exempted



Included Products

BSAMNT-3	— Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.
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* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance
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SAMSUNG

AWS/PCS MACRO RADIO

DUAL-BAND AND HIGH POWER
FOR MACRO COVERAGE

Samsung's future proof dual-band radio is designed to help effectively increase the coverage areas in wireless networks. This AWS/PCS 4T4R dual-band radio has 4Tx/4Rx to 2Tx/2Rx RF chains options and a total output power of 320W, making it ideal for macro sites.

Model Code RF4439d-25A



Homepage
samsungnetworks.com

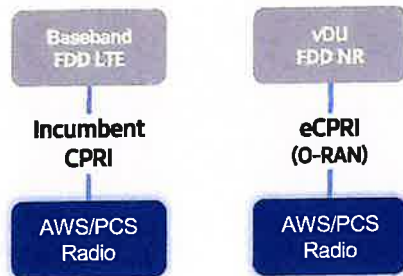


Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

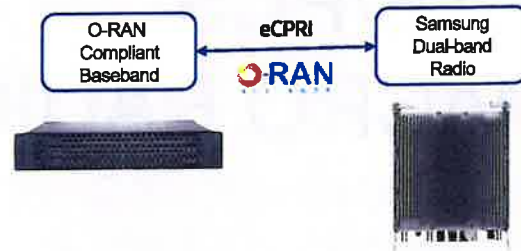
Samsung's AWS/PCS macro radio can support each incumbent CPRI interface as well as advanced eCPRI interfaces. This feature provides installable options for both legacy LTE networks and added NR networks.



O-RAN Compliant

A standardized O-RAN radio can help in implementing cost-effective networks, which are capable of sending more data without compromising additional investments.

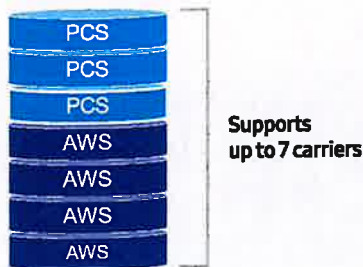
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



Optimum Spectrum Utilization

The number of required carriers varies according to site (region). Supporting many carriers is essential for using all frequencies that the operator has available.

The new AWS/PCS dual-band radio can support up to 3 carriers in the PCS (1.9GHz) band and 4 carriers in the AWS (2.1GHz) band, respectively.



Brand New Features in a Compact Size

Samsung's AWS/PCS macro radio offers several features, such as dual connectivity for baseband for both CDU and vDU, O-RAN capability, more carriers and an enlarged PCS spectrum, combined into an incumbent radio volume of 36.8L.



+

- 2 FH connectivity
- O-RAN capability
- More carriers and spectrum

Same as an incumbent radio volume

Technical Specifications

Item	Specification
Tech	LTE / NR
Brand	B25(PCS), B66(AWS)
Frequency Band	DL: 1930 – 1995MHz, UL: 1850 – 1915MHz DL: 2110 – 2200MHz, UL: 1710 – 1780MHz
RF Power	(B25) 4 × 40W or 2 × 60W (B66) 4 × 60W or 2 × 80W
IBW/OBW	(B25) 65MHz / 30MHz (B66) DL 90MHz, UL 70MHz / 60MHz
Installation	Pole, Wall
Size/Weight	14.96 x 14.96 x 10.04inch (36.8L) / 74.7lb

SAMSUNG

AWS/PCS MACRO RADIO

DUAL-BAND AND HIGH POWER
FOR MACRO COVERAGE

Samsung's future proof dual-band radio is designed to help effectively increase the coverage areas in wireless networks. This AWS/PCS 4T4R dual-band radio has 4Tx/4Rx to 2Tx/2Rx RF chains options and a total output power of 320W, making it ideal for macro sites.

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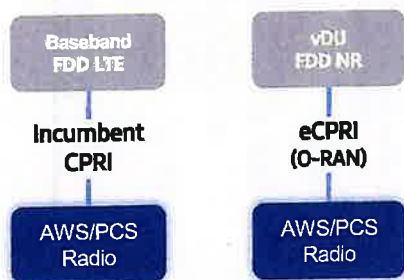


Youtube
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Points of Differentiation

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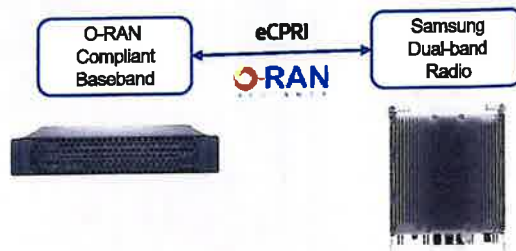
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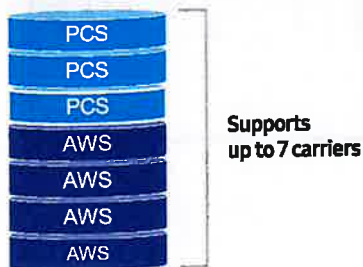
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+

- 2 FH connectivity
- O-RAN capability
- More carriers and spectrum

Same as an incumbent radio volume

Technical Specifications

Item	Specification
Tech	LTE / NR
Brand	B25(PCS), B66(AWS)
Frequency Band	DL: 1930 – 1995MHz, UL: 1850 – 1915MHz DL: 2110 – 2200MHz, UL: 1710 – 1780MHz
RF Power	(B25) 4 × 40W or 2 × 60W (B66) 4 × 60W or 2 × 80W
IBW/OBW	(B25) 65MHz / 30MHz (B66) DL 90MHz, UL 70MHz / 60MHz
Installation	Pole, Wall
Size/Weight	14.96 x 14.96 x 10.04inch (36.8L) / 74.7lb

700/850 4T4R Macro 320W ORU - New Filter (RF4461d-13A)

SAMSUNG

Specifications

Item	Specification
Air Interface	LTE, NR(HW resource ready)
Band	Band13 (700MHz) DL: 746~756MHz UL: 777~787MHz
Frequency	DL: 869~894MHz UL: 824~849MHz
IPW	25MHz
OBW	25MHz
Carrier Bandwidth	LTE/NR 5*/10MHz
# of carriers	2C*
Total # of carriers	4C + B13 (SDL) 1C
RF Chain	4T4R/2T4R/2T2R/1T2R 2T2R-2T2R bi-sector Total : 320W
RF Output Power	4 x 40W or 2 x 60W
Spectrum Analyzer	TX/RX Support
RX Sensitivity	Typ. -104.5dBm @1Rx (25RBs 5MHz)
Modulation	256QAM support, 1024QAM with 1~2dB power back-off)
Input Power	-48VDC (-38VDC to -57VDC)
Power Consumption	1,165 Watt @ 100% RF load, room temperature
Size (WHD)	380 x 380 x 260 mm (14.96 x 14.96 x 10.23 inch)
Volume	37.5 L
Weight (W/o Solar Shield & finger guard)	35.9 kg (79.1 lb)
Operating Temperature	-40°C (-40°F) ~ 55°C (131°F) (Without solar load)
Cooling	Natural convection
Unwanted Emission	3GPP 36.104 FCC 47 CFR 27.33 c), f)
CPRI Cascade	-59 dBm/100 kHz per path @ 896 ~901MHz
Optic Interface	Not supported
RET & TMA Interface	20km, 2 ports (9.8Gbps x 2) SFP+, single mode, Duplex (Option: Bi-di)
Bias-T	AISG 3.0
Mounting Options	4 ports (2 ports per band) Pole, wall
NB-IoT	25A-2GB or 2GB+21B or 4GB
PIM Cancellation	Support
# of antenna port	4
External Alarm	
Fronthaul Interface	Opt. 8 CPRI / Opt. 7-2x selectable (not simultaneous support)
CPRI compression	Not Support



* 5MHz supporting in B13(700MHz) depends on 3Gpp std. and UE capability.
External filters in interferer and victim sides for Mexican boarder to support 5MHz service need to be considered
** Finger guard is not needed.

ATTACHMENT 3



C Squared Systems, LLC
65 Dartmouth Drive
Auburn, NH 03032
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Calculated Radio Frequency Emissions Report



Brooklyn CT
130 Old Tatnic Hill Road, Brooklyn, CT

January 11, 2024

Table of Contents

1. Introduction.....	1
2. FCC Guidelines for Evaluating RF Radiation Exposure Limits	1
3. RF Exposure Prediction Methods	2
4. Antenna Inventory	3
5. Calculation Results	4
6. Conclusion.....	6
7. Statement of Certification.....	6
Attachment A: References.....	7
Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)	8
Attachment C: Verizon Antenna Model Data Sheets and Electrical Patterns.....	10

List of Figures

Figure 1: Graph of General Population % MPE vs. Distance.....	4
Figure 2: Graph of FCC Limits for Maximum Permissible Exposure (MPE).....	9

List of Tables

Table 1: Proposed Antenna Inventory	3
Table 2: Maximum Percent of General Population Exposure Values	5
Table 4: FCC Limits for Maximum Permissible Exposure	8

1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modification of Verizon's antenna arrays to be mounted at 177' on an existing monopole tower located at 130 Old Tatnic Hill Road in Brooklyn, CT. The coordinates of the tower are 41° 46' 1.78" N, 71° 58' 19.02" W.

Verizon is proposing the following:

- 1) Install six (6) multi-band antennas, two (2) per sector to support its commercial LTE network.
- 2) Install three (3) C-Band antenna, one (1) per sector.

This report considers the planned antenna configuration for Verizon¹ as well as existing antenna configuration for T-Mobile² to derive the resulting % MPE of its proposed modification.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm²). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment C of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment C contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

¹ As referenced to Verizon's Radio Frequency Design Sheet updated 01/05/2024.

² As referenced to T-Mobile's Connecticut Siting Council Notice of Exempt Modification – 130 Old Tatnic Hill Road, Brooklyn, Connecticut, dated 3/07/2019

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{\text{GRF}^2 \times 1.64 \times \text{ERP}}{4\pi \times R^2} \right) \times \text{Off Beam Loss}$$

Where:

ERP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{H^2 + V^2}$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Off Beam Loss is determined by the selected antenna patterns

Ground reflection factor (GRF) of 1.6

These calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the final installations.

4. Antenna Inventory

Table 1 below outlines Verizon's proposed antenna configuration for the site. The associated data sheets and antenna patterns for these specific antenna models are included in Attachments C.

Operator	Sector / Call Sign	TX Freq (MHz)	Power at Antenna (Watts)	Ant Gain (dBi)	Power EIRP (Watts)	Antenna Model	Beam Width	Mech. Tilt	Length (ft)	Antenna Centerline Height (ft)
Verizon	Alpha / 30°	700	160	14.5	4509	JAHH-65-R3B	67	0	5.99	177
		850	160	15.8	6083		65			
		1900	160	18.4	11069		63			
		2100	240	18.5	16991		65			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	177
	Beta / 150°	700	160	14.5	4509	JAHH-65-R3B	67	0	5.99	177
		850	160	15.8	6083		65			
		1900	160	18.4	11069		63			
		2100	240	18.5	16991		65			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	177
	Gamma / 270°	700	160	14.5	4509	JAHH-65-R3B	67	0	5.99	177
		850	160	15.8	6083		65			
		1900	160	18.4	11069		63			
		2100	240	18.5	16991		65			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	177

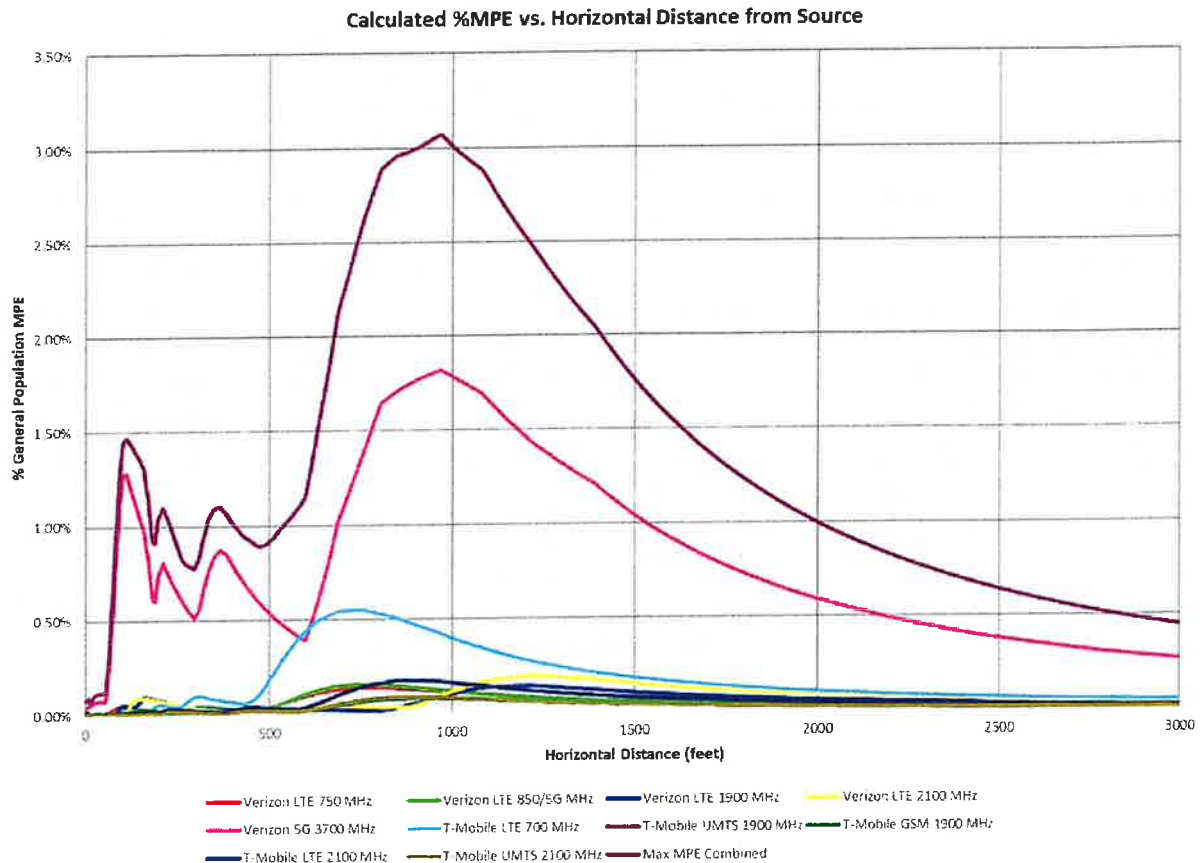
Table 1: Proposed Antenna Inventory³⁴

³ Antenna heights are in reference to Verizon's Radio Frequency Design Sheet updated 01/09/2024.

⁴ Transmit power assumes 0 dB of cable loss.

5. Calculation Results

The calculated power density results are shown in Figure 1 below. For completeness, the calculations for this analysis range from 0 feet horizontal distance (directly below the antennas) to a value of 3,000 feet horizontal distance from the site. In addition to the other worst-case scenario considerations that were previously mentioned, the power density calculations to each horizontal distance point away from the antennas was completed using a local maximum off beam antenna gain (within ± 5 degrees of the true mathematical angle) to incorporate a realistic worst-case scenario.



The highest percent of MPE (3.07% of the General Population limit) is calculated to occur at a horizontal distance of 970 feet from antennas. Please note that the percent of MPE calculations close to the site take into account off beam loss, which is determined from the vertical pattern of the antennas used. Therefore, RF power density levels may increase as the distance from the site increases. At distances of approximately 1500 feet and beyond, one would now be in the main beam of the antenna pattern and off beam loss is no longer considered. Beyond this point, RF levels become calculated solely on distance from the site and the percent of MPE decreases significantly as distance from the site increases.

Table 2 below lists percent of MPE values as well as the associated parameters that were included in the calculations. The highest percent of MPE value was calculated to occur at a horizontal distance of 970 feet from the site (reference Figure 1).

As stated in Section 3, all calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings etc.) that would normally attenuate the signal are not taken into account. In addition, a six foot height offset was considered in this analysis to account for average human height. As a result, the predicted signal levels are significantly higher than the actual signal levels will be from the final configuration. The results presented in Figure 1 and Table 2 assume level ground elevation from the base of the tower out to the horizontal distances calculated.

Carrier	Number of Transmitters	Power out of Base Station Per Transmitter (Watts)	Antenna Height (Feet)	Distance to the Base of Antennas (Feet)	Power Density (mW/cm ²)	Limit (mW/cm ²)	% MPE
T-Mobile GSM 1900 MHz	2	30.0	140.0	970	0.000788	1.000	0.08%
T-Mobile LTE 2100 MHz	2	60.0	140.0	970	0.001659	1.000	0.17%
T-Mobile LTE 700 MHz	1	160.0	140.0	970	0.001675	0.400	0.42%
T-Mobile UMTS 1900 MHz	2	30.0	140.0	970	0.000788	1.000	0.08%
T-Mobile UMTS 2100 MHz	2	30.0	140.0	970	0.000830	1.000	0.08%
Verizon 5G 3700 MHz	1	320.0	177.0	970	0.018174	1.000	1.82%
Verizon LTE 1900 MHz	1	160.0	177.0	970	0.000910	1.000	0.09%
Verizon LTE 2100 MHz	1	240.0	177.0	970	0.000946	1.000	0.09%
Verizon LTE 750 MHz	1	160.0	177.0	970	0.000580	0.500	0.12%
Verizon LTE 850/5G MHz	1	160.0	177.0	970	0.000691	0.567	0.12%
						Total	3.07%

Table 2: Maximum Percent of General Population Exposure Values⁵

⁵ In the case where antenna pattern data was unavailable from the manufacturer, generic antenna pattern was used based on the frequency, bandwidth and gain of the antenna

6. Conclusion

The above analysis verifies that RF exposure levels from the site with Verizon's proposed antenna configuration will be well below the maximum permissible levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using the conservative calculation methods and parameters detailed above, the maximum cumulative percent of MPE in consideration of all transmitters is calculated to be **3.07%** of the FCC limit (General Population/Uncontrolled). This maximum cumulative percent of MPE value is calculated to occur 970 feet away from the site.

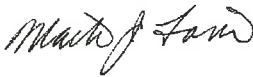
7. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.



Report Prepared By: Ram Acharya
RF Engineer
C Squared Systems, LLC

January 9, 2024
Date



Reviewed/Approved By: Martin Lavin
Senior RF Engineer
C Squared Systems, LLC

January 11, 2024
Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

IEEE C95.1-2005, IEEE Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz IEEE-SA Standards Board

IEEE C95.3-2002 (R2008), IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100 kHz-300 GHz IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure⁶

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

(B) Limits for General Population/Uncontrolled Exposure⁷

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

f = frequency in MHz * Plane-wave equivalent power density

Table 3: FCC Limits for Maximum Permissible Exposure

⁶ Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

⁷ General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

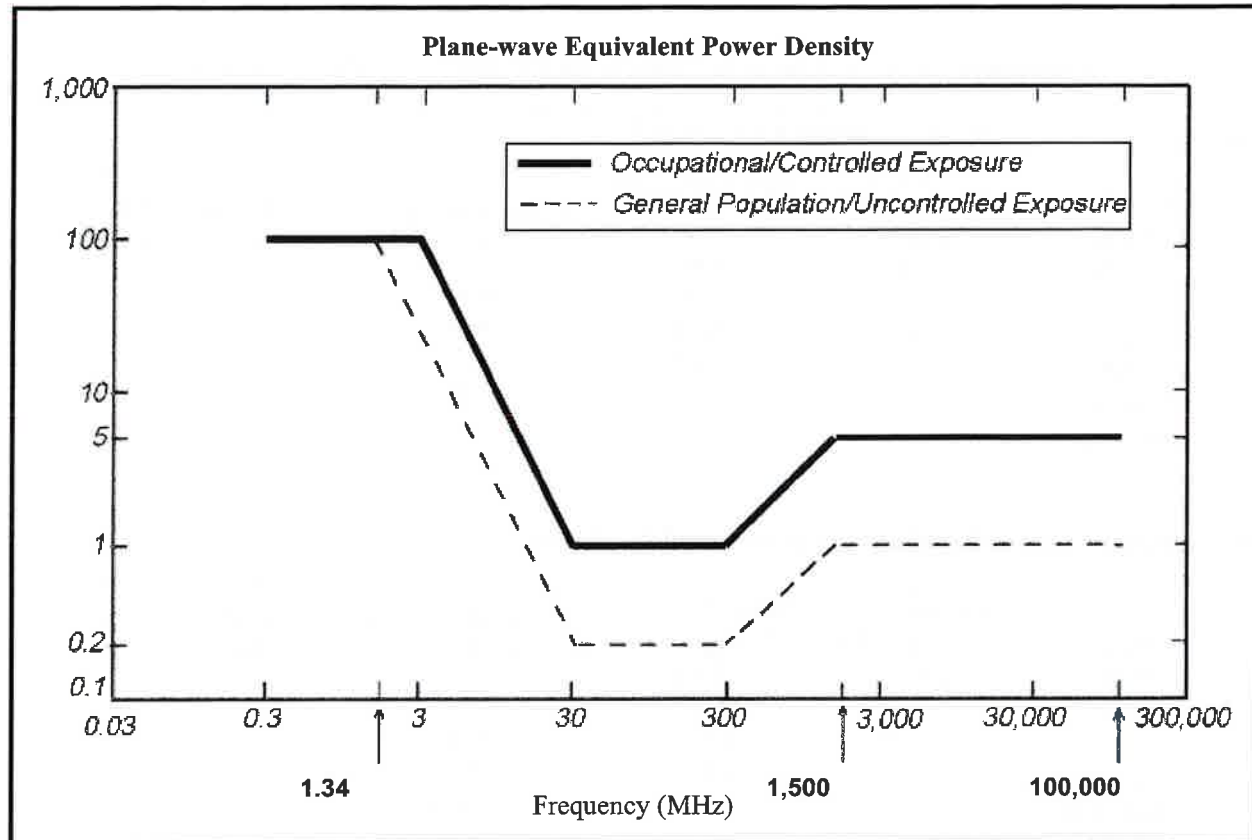
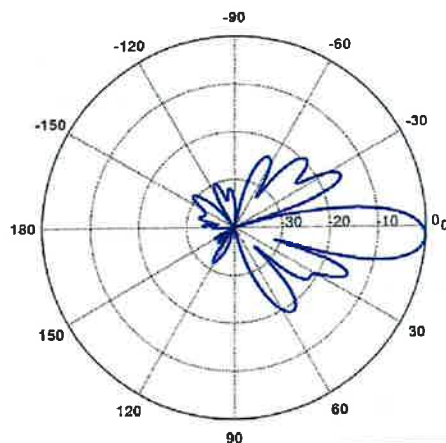


Figure 2: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: Verizon Antenna Model Data Sheets and Electrical Patterns

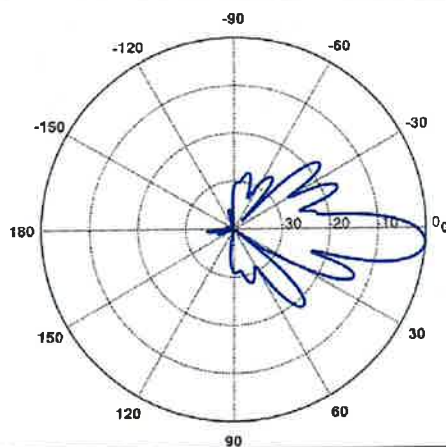
LTE 750 MHz

Manufacturer: COMMSCOPE
 Model #: JAHH-65B-R3B
 Frequency Band: 698-787 MHz
 Gain: 14.5 dBi
 Vertical Beamwidth: 12.4°
 Horizontal Beamwidth: 67°
 Polarization: $\pm 45^\circ$
 Dimensions (L x W x D): 71.96" x 13.78" x 8.2"



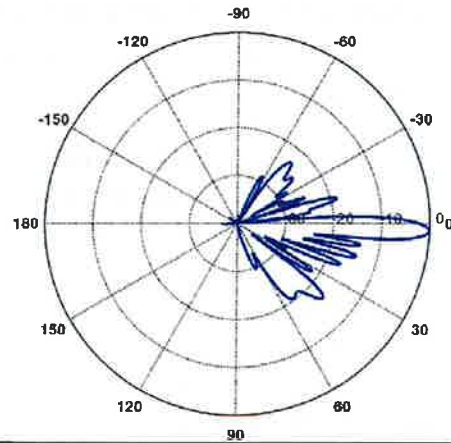
LTE 850 MHz

Manufacturer: COMMSCOPE
 Model #: JAHH-65B-R3B
 Frequency Band: 824-894 MHz
 Gain: 15.8 dBi
 Vertical Beamwidth: 10.5°
 Horizontal Beamwidth: 65°
 Polarization: $\pm 45^\circ$
 Dimensions (L x W x D): 71.96" x 13.78" x 8.2"



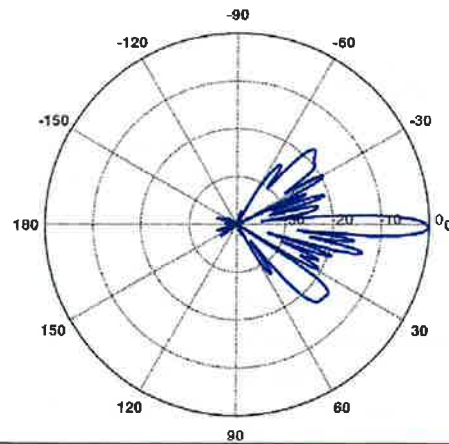
LTE 1900 MHz

Manufacturer: COMMScope
 Model #: JAHH-65B-R3B
 Frequency Band: 1850-1990 MHz
 Gain: 18.4 dBi
 Vertical Beamwidth: 5.2°
 Horizontal Beamwidth: 63°
 Polarization: ±45°
 Dimensions (L x W x D): 71.96" x 13.78" x 8.2"



LTE 2100 MHz

Manufacturer: COMMScope
 Model #: JAHH-65B-R3B
 Frequency Band: 1920-2200 MHz
 Gain: 18.5 dBi
 Vertical Beamwidth: 4.9°
 Horizontal Beamwidth: 65°
 Polarization: ±45°
 Dimensions (L x W x D): 71.96" x 13.78" x 8.2"



ATTACHMENT 4



Tower Engineering Solutions

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

Structural Analysis Report

Existing 175 ft SUMMIT Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT01915-S
Customer Site Name: South Brooklyn
Carrier Name: Verizon (App#: 242159, V4)
Carrier Site ID / Name: 5000392577 / Brooklyn CT
Site Location: 100 Old Tatnic Hill Road
Brooklyn, Connecticut
Windham County
Latitude: 41.767160
Longitude: -71.971949

Analysis Result:

Max Structural Usage: 76.8% [Pass]
Max Foundation Usage: 54.0% [Pass]
Additional Usage Caused by New Mount/Mount Modification: +4.6%

Report Prepared By: Wei-Hsiang Chen





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Analysis Result:

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Max Foundation Usage: 54.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification: +4.6%

Report Prepared By: Wei-Hsiang Chen

Introduction

The purpose of this report is to summarize the analysis results on the 175 ft SUMMIT Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Tower Drawings prepared by Paul J. Ford and Company, Job # 29200-401 Dated 04/05/2000
Foundation Drawing	Foundation Drawings prepared by Paul J. Ford and Company, Job # 29200-401 Dated 04/05/2000
Geotechnical Report	Geotechnical Report prepared by FDH Engineering, Project # 1201186EG1 Dated 08/16/2012
Modification Drawings	TES PCI Job # 128014 Dated 09/21/2022
Mount Analysis	N/A

Analysis Criteria

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

Wind Speed Used in the Analysis:	122.0 mph (3-Sec. Gust) (Ultimate wind speed)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Service Load Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_s = 0.185$, $S_1 = 0.054$

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
-	177.0	3	Samsung MT6407-77A - Panel	LP Platform w/ Mods [(6) Support Rail, (1) PLK5 Kicker Kit, (1) PLK7 Collar Mount, (3) 24" P2 1/2 STD]	(1) 1 5/8" 6x12 Hybriflex (11) 1 5/8" (1) 1 5/8" Hybrid	Verizon
-		3	Antel BXA-70080-6CF - Panel			
-		6	JMA Wireless MX06FRO660-03 - Panel			
-		3	Samsung B2/B66A RRU			
-		3	Samsung B5/B13 RRU			
-		1	Raycap RVZDC-6627-PF-48 OVP			
8	157.0	3	RFS - APXVTM14-C-I20 - Panel	(1) LP Platform w/ handrail kit & v-brace kit [(1) SitePro PRK-1245L (1) SitePro HRK-14-U & (1) SitePro PRK-SFS-H-L]	(4) 1 1/4" Fiber	Sprint Nextel
9		3	Commscope - NNVV-65B-R4 - Panel			
10		3	ALU - 1900 MHz - RRU			
11		6	ALU - 800 MHz - RRU			
12		3	ALU - TD-RRH8x20-25 - RRU			
13	140.0	3	Ericsson AIR 6449 B41 - Panel	Platform w/ Handrails Commscope MT-195-12	(8) 1 5/8" (1) 1 5/8" Fiber (2) 1.9" Fiber	T-Mobile
14		3	RFS APXVAARR24_43-U-NA20			
15		3	Ericsson KRY 112 489/2			
16		3	Ericsson Radio 4449 B71 + B12			
17		3	Ericsson Radio 4460 B25 + B66			
18		3	Kathrein 782 11056			
19	110.0	3	Commscope FFVV-65B-R2 - Panel	Commscope MC-PK8-DSH	(1) 1.6" Hybrid	Dish Wireless
20		3	Fujitsu TA08025-B605 RRU			
21		3	Fujitsu TA08025-B604 RRU			
22		1	Raycap RDIDC-9181-PF-48-OVP			
-	75.0	1	GPS	Direct	(1) 1/2"	Sprint Nextel

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	177.0	3	Antel BXA-70080-6CF - EDIN - Panel	Platform w/ Modifications + Dual Mount Spacing Bracket [JMA 91900314-02]	(11) 1 5/8" (2) 1 5/8" Hybrid	Verizon
2		3	Commscope CBC78T-DS-43-2X - Diplexer			
3		6	Commscope JAHH-65B-R3B - Panel			
4		3	Samsung B2/B66A RRH-BR049 (RFV01U-D1A)			
5		3	Samsung B5/B13 RRH ORAN (RF44619-13A)			
6		3	Samsung MT6413 77A - Panel			
7	75.0	1	Raycap RVZDC-6627-PF-48 - OVP			
23		1	Lucent KS-24019 - GPS			

All transmission lines are considered running inside of the pole shafts.

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate	Bridge Stiffener	Flange Plate
Max. Usage:	76.8%	38.3%	74.3%	38.5%	21.6%
Pass/Fail	Pass	Pass	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	4062.4	31.8	59.7

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Service Load Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.6388 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

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

Usage Diagram - Max Ratio 76.82% at 83.8ft

Structure: CT01915-S-SBA
Site Name: South Brooklyn
Height: 175.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-H
Exposure: B
Gh: 1.1

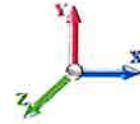
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Page: 1



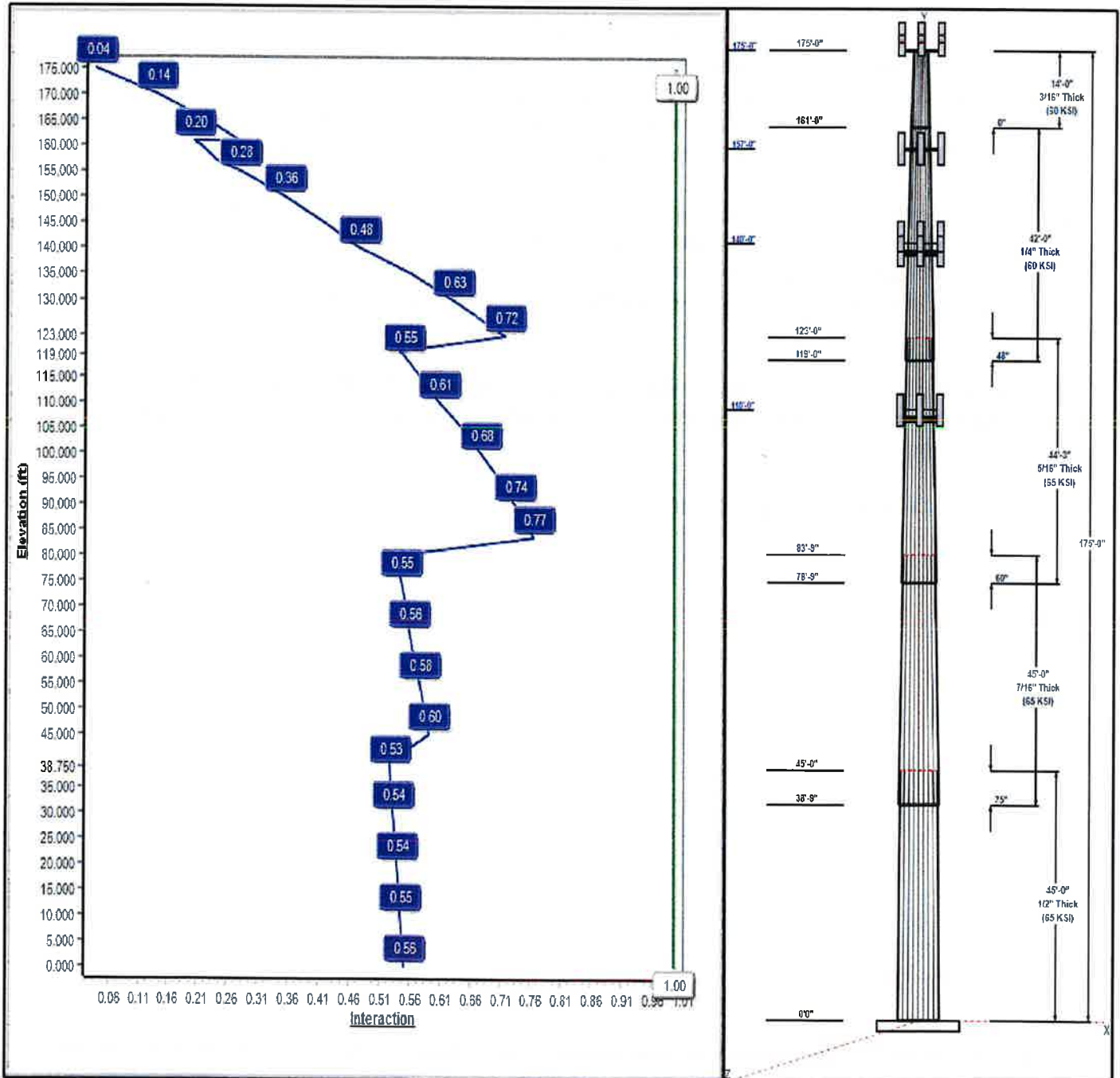
Dead Load Factor: 1.20
Wind Load Factor: 1.00

Load Case : 1.2D + 1.0W 122 mph Wind



Iterations: 26

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Structure: CT01915-S-SBA

Type: Tapered
Site Name: South Brooklyn
Height: 175.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23000

1/9/2024

Page: 2



Shaft Properties

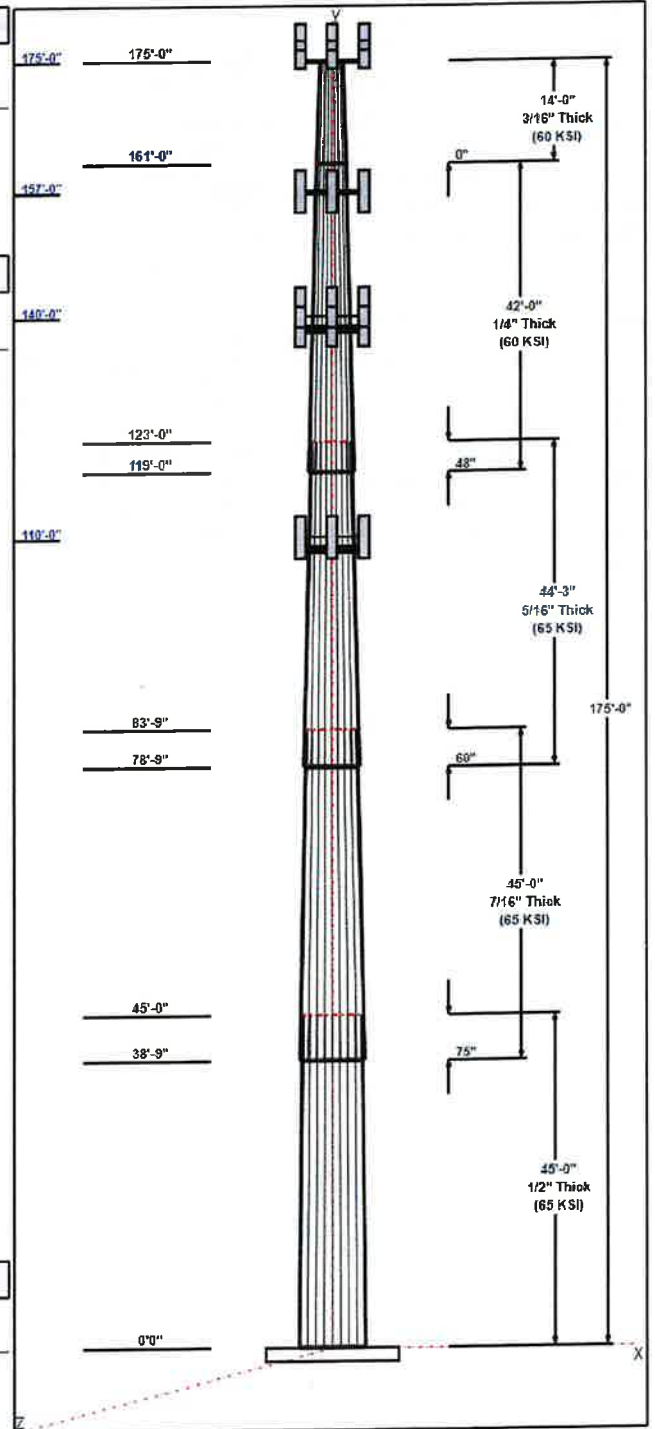
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	45.00	46.68	57.03	0.500		0.23000	65
2	45.00	38.64	48.99	0.438	Slip	0.23000	65
3	44.25	30.24	40.42	0.313	Slip	0.23000	65
4	42.00	22.00	31.66	0.250	Slip	0.23000	60
5	14.00	18.78	22.00	0.188	Butt	0.23000	60

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
175.00	177.00	3	Antel BXA-70080-6CF	Verizon
175.00	177.00	3	Samsung B2/B66A	Verizon
175.00	177.00	3	Samsung B5/B13	Verizon
175.00	177.00	1	RVZDC-6627-PF-48	Verizon
175.00	175.00	1	6' Lightning rod	
175.00	177.00	3	MT6413 77A	Verizon
175.00	177.00	3	14' Support rail	Verizon
175.00	177.00	1	Low Profile Platform-flat	Verizon
175.00	177.00	1	kicker kit	Verizon
175.00	175.50	3	91900314-02	Verizon
175.00	177.00	6	JAHH-65B-R3B	Verizon
175.00	177.00	3	CBC78T-DS-43-2X	Verizon
161.00	161.00	1	Bridge Stiffener	
157.00	157.00	1	Platform w/ Handrail +	Sprint Nextel
157.00	157.00	3	APXVTM14-C-I20	Sprint Nextel
157.00	157.00	3	NNVV-65B-R4	Sprint Nextel
157.00	157.00	3	ALU - 1900 MHz - RRU	Sprint Nextel
157.00	157.00	6	ALU - 800 MHz - RRU	Sprint Nextel
157.00	157.00	3	ALU - TD-RRH8x20-25 -	Sprint Nextel
140.00	140.00	3	Ericsson AIR6449 B41	T-Mobile
140.00	140.00	3	Ericsson 4449 B71 + B85	T-Mobile
140.00	140.00	3	Ericsson 4460 B25 + B66	T-Mobile
140.00	140.00	3	Kathrein 782 11056	T-Mobile
140.00	140.00	1	MS-HRECP-35	T-Mobile
140.00	140.00	3	APXVAARR24_43-U-NA20	T-Mobile
140.00	140.00	3	KRY 112 489/2	T-Mobile
140.00	140.00	1	MT-195-12	T-Mobile
110.00	110.00	3	Commscope	Dish Wireless
110.00	110.00	1	MC-PK8-DSH	Dish Wireless
110.00	110.00	3	Fujitsu TA08025-B605	Dish Wireless
110.00	110.00	3	Fujitsu TA08025-B604	Dish Wireless
110.00	110.00	1	Raycap	Dish Wireless
75.00	75.00	1	KS-24019	Verizon

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	175.00	Inside	1 5/8" Coax	Verizon
0.00	175.00	Inside	1 5/8" Hybrid	Verizon
0.00	175.00	Outside	Safety Cable	
0.00	175.00	Outside	Step bolts	
0.00	157.00	Inside	1 1/4" Fiber	Sprint Nextel
0.00	140.00	Inside	1 5/8" Coax	T-Mobile
0.00	140.00	Inside	1 5/8" Fiber	T-Mobile
0.00	140.00	Inside	1.9" Fiber	T-Mobile



Structure: CT01915-S-SBA

Type: Tapered
Site Name: South Brooklyn
Height: 175.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23000

1/9/2024

Page: 3



0.00 110.00 Inside 1.6" Hybrid Dish Wireless

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
32	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.5000	68.0	50.0	Clipped

Reactions

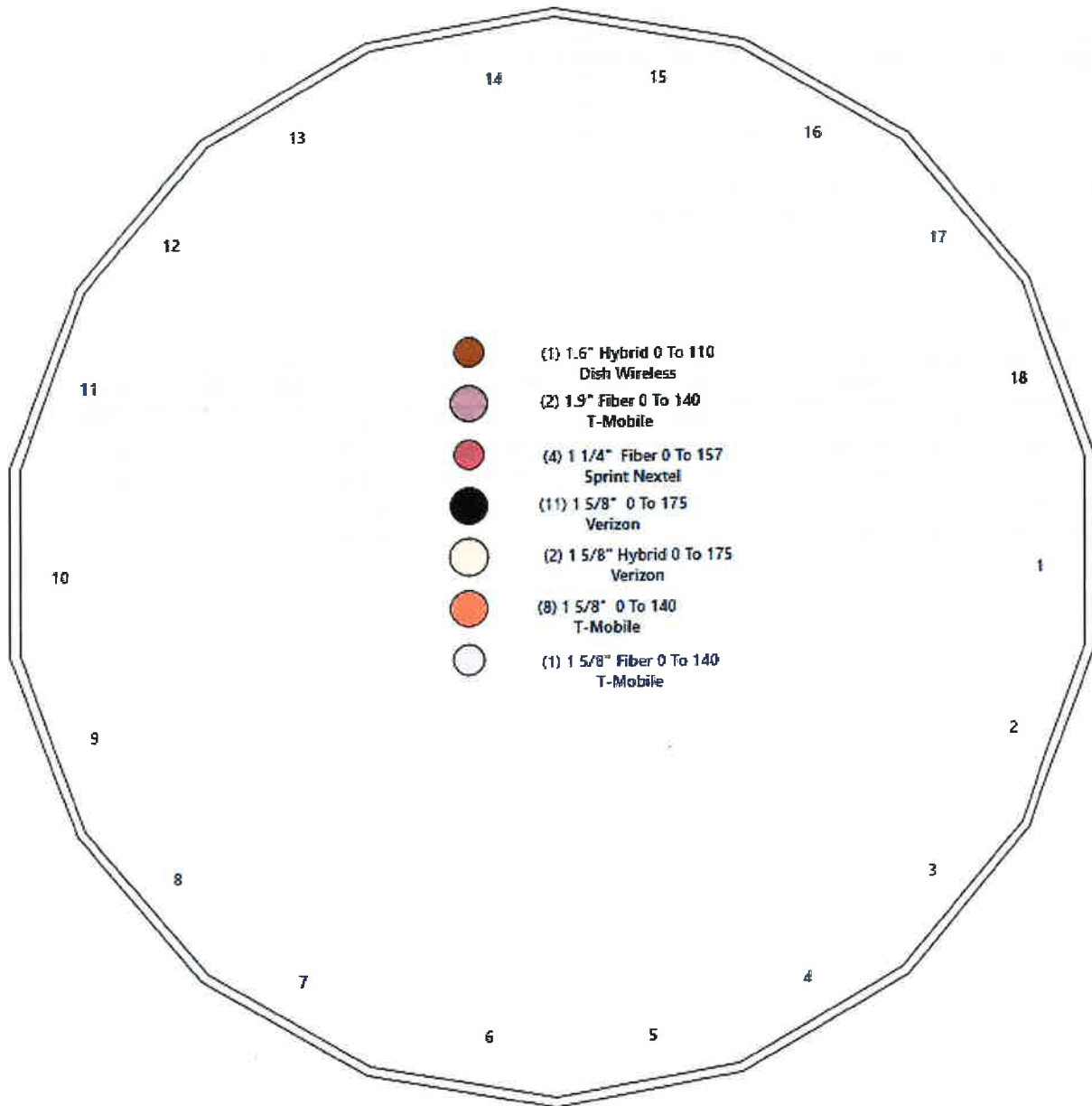
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 122 mph Wind	4062.4	31.8	59.7
0.9D + 1.0W 122 mph Wind	4001.8	31.8	44.7
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1059.0	8.3	78.1
1.2D + 1.0Ev + 1.0Eh	120.4	0.8	61.7
0.9D + 1.0Ev + 1.0Eh	118.8	0.8	46.7
1.0D + 1.0W 60 mph Wind	871.9	6.9	49.8

Structure: CT01915-S-SBA - Coax Line Placement

Type: Monopole
Site Name: South Brooklyn
Height: 175.00 (ft)

1/9/2024

Page: 4



Shaft Properties

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 5



Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	45.000	0.5000	65		0.00	12,479
2	18	45.000	0.4375	65	Slip	75.00	9,224
3	18	44.250	0.3125	65	Slip	60.00	5,229
4	18	42.000	0.2500	60	Slip	48.00	3,014
5	18	14.000	0.1875	60	Flange	0.00	573
Total Shaft Weight:							30,519

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	57.03	0.00	89.71	36220.24	18.70	114.06	46.68	45.00	73.29	19745.8	15.05	93.36	0.230000
2	48.99	38.75	67.42	20082.80	18.33	111.98	38.64	83.75	53.05	9783.25	14.16	88.33	0.230000
3	40.42	78.75	39.78	8083.32	21.39	129.34	30.24	123.00	29.68	3358.97	15.65	96.77	0.230000
4	31.66	119.0	24.92	3106.62	20.92	126.64	22.00	161.00	17.26	1031.48	14.11	88.00	0.230000
5	22.00	161.0	12.98	780.30	19.28	117.33	18.78	175.00	11.06	483.24	16.25	100.1	0.230000

Load Summary

Structure: CT01915-S-SBA
Site Name: South Brooklyn
Height: 175.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: TIA-222-H
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

1/9/2024

Page: 6



Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	175.00	Antel BXA-70080-6CF	3	18.00	5.76	0.87	103.77	7.366	0.87	0.00	2.00
2	175.00	Samsung B2/B66A	3	84.40	1.87	0.67	132.27	2.247	0.67	0.00	2.00
3	175.00	Samsung B5/B13	3	70.30	1.87	0.67	113.46	2.247	0.67	0.00	2.00
4	175.00	RVZDC-6627-PF-48	1	32.00	4.06	1.00	109.13	4.617	1.00	0.00	2.00
5	175.00	6' Lightning rod	1	6.50	0.38	1.00	31.08	1.116	1.00	0.00	0.00
6	175.00	MT6413 77A	3	57.32	3.79	0.60	117.54	4.356	1.00	0.00	2.00
7	175.00	14' Support rail	3	302.36	8.13	1.00	545.29	13.509	1.00	0.00	2.00
8	175.00	Low Profile Platform-flat	1	1200.00	25.00	1.00	1908.93	39.179	1.00	0.00	2.00
9	175.00	kicker kit	1	464.91	9.50	1.00	684.64	16.235	1.00	0.00	0.50
10	175.00	91900314-02	3	28.70	1.90	1.00	69.26	3.570	1.00	0.00	2.00
11	175.00	JAHH-65B-R3B	6	63.30	8.68	0.85	216.89	9.595	0.85	0.00	2.00
12	175.00	CBC78T-DS-43-2X	3	20.70	0.37	0.67	38.43	0.548	0.67	0.00	2.00
13	161.00	Bridge Stiffener	1	204.17	5.77	1.00	299.86	8.474	1.00	0.00	0.00
14	157.00	Platform w/ Handrail +	1	2800.00	54.00	1.00	4436.31	84.295	1.00	0.00	0.00
15	157.00	APXVTM14-C-I20	3	56.20	6.34	0.77	156.55	7.070	0.77	0.00	0.00
16	157.00	NNVV-65B-R4	3	84.70	12.27	0.74	293.98	13.245	0.74	0.00	0.00
17	157.00	ALU - 1900 MHz - RRU	3	60.00	2.77	0.67	115.88	3.619	0.67	0.00	0.00
18	157.00	ALU - 800 MHz - RRU	6	53.00	2.49	0.67	102.53	3.256	0.67	0.00	0.00
19	157.00	ALU - TD-RRH8x20-25 - RRU	3	70.00	4.05	0.67	138.98	4.580	0.67	0.00	0.00
20	140.00	Ericsson AIR6449 B41	3	103.00	5.65	0.71	193.78	6.279	0.71	0.00	0.00
21	140.00	Ericsson 4449 B71 + B85 RRU	3	75.00	1.97	0.67	114.17	2.347	0.67	0.00	0.00
22	140.00	Ericsson 4460 B25 + B66 RRU	3	104.00	2.85	0.67	149.42	3.296	0.67	0.00	0.00
23	140.00	Kathrein 782 11056	3	1.80	0.28	0.67	4.79	0.546	0.67	0.00	0.00
24	140.00	MS-HRECP-35	1	514.00	12.25	1.00	917.86	20.177	1.00	0.00	0.00
25	140.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	392.91	21.482	0.70	0.00	0.00
26	140.00	KRY 112 489/2	3	15.40	0.67	0.67	29.29	1.096	0.67	0.00	0.00
27	140.00	MT-195-12	1	2000.00	40.00	1.00	3386.57	53.866	1.00	0.00	0.00
28	110.00	Commscope FFV-65B-R2	3	70.80	12.27	0.74	239.62	13.211	0.74	0.00	0.00
29	110.00	MC-PK8-DSH	1	1727.00	37.59	1.00	2817.86	68.118	1.00	0.00	0.00
30	110.00	Fujitsu TA08025-B605 RRU	3	75.00	1.96	0.67	108.80	2.323	0.67	0.00	0.00
31	110.00	Fujitsu TA08025-B604 RRU	3	63.90	1.96	0.67	96.62	2.323	0.67	0.00	0.00
32	110.00	Raycap RDIDC-9181-PF-48-OVP	1	21.90	2.01	1.00	56.31	2.377	1.00	0.00	0.00
33	75.00	KS-24019	1	4.00	0.91	1.00	19.69	1.535	1.00	0.00	0.00
Totals:			83	14,141.02			26,049.34				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	175.00	(11) 1 5/8" Coax	0.00	Inside
0.00	175.00	(2) 1 5/8" Hybrid	0.00	Inside
0.00	175.00	(1) Safety Cable	0.38	Outside
0.00	175.00	(1) Step bolts	0.63	Outside
0.00	157.00	(4) 1 1/4" Fiber	0.00	Inside
0.00	140.00	(8) 1 5/8" Coax	0.00	Inside
0.00	140.00	(1) 1 5/8" Fiber	0.00	Inside
0.00	140.00	(2) 1.9" Fiber	0.00	Inside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
0.00	110.00	(1) 1.6" Hybrid		0.00	Inside						

Shaft Section Properties

Structure: CT01915-S-SBA

Site Name: South Brooklyn

Height: 175.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Topography: 1

Code: TIA-222-H

Exposure: B

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: II

1/9/2024

Page: 8



Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.5000	57.030	89.710	36220.2	18.70	114.06	79.4	1250.	0.0
5.00		0.5000	55.880	87.885	34054.4	18.30	111.76	79.9	1200.	1510.8
10.00		0.5000	54.730	86.060	31976.7	17.89	109.46	80.4	1150.	1479.7
15.00		0.5000	53.580	84.235	29985.2	17.48	107.16	80.8	1102.	1448.7
20.00		0.5000	52.430	82.410	28078.2	17.08	104.86	81.3	1054.	1417.6
25.00		0.5000	51.280	80.585	26253.8	16.67	102.56	81.8	1008.	1386.6
30.00		0.5000	50.130	78.760	24510.2	16.27	100.26	82.3	963.0	1355.5
35.00		0.5000	48.980	76.935	22845.6	15.86	97.96	82.5	918.7	1324.5
38.75	Bot - Section 2	0.5000	48.117	75.566	21647.8	15.56	96.23	82.5	886.1	973.0
40.00		0.5000	47.830	75.110	21258.1	15.46	95.66	82.5	875.4	606.4
45.00	Top - Section 1	0.4375	47.555	65.426	18351.4	17.76	108.70	0.0	0.0	2389.1
50.00		0.4375	46.405	63.829	17040.2	17.29	106.07	81.1	723.3	1099.6
55.00		0.4375	45.255	62.232	15793.0	16.83	103.44	81.6	687.4	1072.4
60.00		0.4375	44.105	60.636	14608.2	16.37	100.81	82.2	652.4	1045.2
65.00		0.4375	42.955	59.039	13484.2	15.90	98.18	82.5	618.3	1018.1
70.00		0.4375	41.805	57.442	12419.4	15.44	95.55	82.5	585.1	990.9
75.00		0.4375	40.655	55.845	11412.2	14.97	92.93	82.5	552.9	963.7
78.75	Bot - Section 3	0.4375	39.792	54.647	10693.6	14.63	90.95	82.5	529.3	705.0
80.00		0.4375	39.505	54.248	10460.9	14.51	90.30	82.5	521.6	400.2
83.75	Top - Section 2	0.3125	39.267	38.637	7407.7	20.75	125.66	0.0	0.0	1183.1
85.00		0.3125	38.980	38.352	7244.9	20.58	124.74	77.2	366.1	163.7
90.00		0.3125	37.830	37.211	6617.5	19.93	121.06	78.0	344.5	642.8
95.00		0.3125	36.680	36.071	6027.5	19.29	117.38	78.7	323.7	623.4
100.00		0.3125	35.530	34.930	5473.6	18.64	113.70	79.5	303.4	604.0
105.00		0.3125	34.380	33.789	4954.7	17.99	110.02	80.2	283.9	584.6
110.00		0.3125	33.230	32.649	4469.7	17.34	106.34	81.0	264.9	565.2
115.00		0.3125	32.080	31.508	4017.4	16.69	102.66	81.8	246.7	545.8
119.00	Bot - Section 4	0.3125	31.160	30.596	3678.4	16.17	99.71	82.4	232.5	422.7
120.00		0.3125	30.930	30.368	3596.7	16.04	98.98	82.5	229.0	188.2
123.00	Top - Section 3	0.2500	30.740	24.193	2841.6	20.27	122.96	0.0	0.0	556.3
125.00		0.2500	30.280	23.828	2714.9	19.95	121.12	72.8	176.6	163.4
130.00		0.2500	29.130	22.915	2414.8	19.14	116.52	73.6	163.3	397.6
135.00		0.2500	27.980	22.003	2137.6	18.32	111.92	74.5	150.5	382.1
140.00		0.2500	26.830	21.090	1882.6	17.51	107.32	75.3	138.2	366.6
145.00		0.2500	25.680	20.178	1648.6	16.70	102.72	76.2	126.4	351.1
150.00		0.2500	24.530	19.265	1434.9	15.89	98.12	76.2	115.2	335.5
155.00		0.2500	23.380	18.353	1240.5	15.08	93.52	76.2	104.5	320.0
157.00		0.2500	22.920	17.988	1168.0	14.76	91.68	76.2	100.4	123.7
160.00		0.2500	22.230	17.441	1064.6	14.27	88.92	76.2	94.3	180.8
161.00	Top - Section 4	0.2500	22.000	17.258	1031.5	14.11	88.00	76.2	92.3	59.0
161.00	Bot - Section 5	0.1875	22.000	12.981	780.3	18.81	117.33	73.5	69.9	
165.00		0.1875	21.080	12.433	685.7	18.41	112.43	74.4	64.1	173.0
170.00		0.1875	19.930	11.749	578.6	17.33	106.29	75.5	57.2	205.7
175.00		0.1875	18.780	11.064	483.2	16.25	100.16	76.2	50.7	194.1
										30519.4

Wind Loading - Shaft

Structure: CT01915-S-SBA
Site Name: South Brooklyn
Height: 175.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: TIA-222-H
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

1/9/2024

Page: 9



Load Case: 1.2D + 1.0W 122 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 26

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	24.861	27.35	487.92	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	24.861	27.35	478.08	0.730	0.000	5.00	23.886	17.44	476.8	0.0	1812.9
10.00		1.00	0.70	24.861	27.35	468.24	0.730	0.000	5.00	23.399	17.08	467.1	0.0	1775.7
15.00		1.00	0.70	24.861	27.35	458.40	0.730	0.000	5.00	22.913	16.73	457.4	0.0	1738.4
20.00		1.00	0.70	24.861	27.35	448.56	0.730	0.000	5.00	22.426	16.37	447.7	0.0	1701.2
25.00		1.00	0.70	24.861	27.35	438.72	0.730	0.000	5.00	21.940	16.02	438.0	0.0	1663.9
30.00		1.00	0.70	24.882	27.37	429.06	0.730	0.000	5.00	21.453	15.66	428.6	0.0	1626.6
35.00		1.00	0.73	26.002	28.60	428.56	0.730	0.000	5.00	20.966	15.31	437.8	0.0	1589.4
38.75 Bot - Section 2		1.00	0.75	26.769	29.45	427.18	0.730	0.000	3.75	15.406	11.25	331.2	0.0	1167.6
40.00		1.00	0.76	27.013	29.71	426.55	0.730	0.000	1.25	5.167	3.77	112.1	0.0	727.7
45.00 Top - Section 1		1.00	0.79	27.938	30.73	423.36	0.730	0.000	5.00	20.364	14.87	456.8	0.0	2867.0
50.00		1.00	0.81	28.792	31.67	427.25	0.730	0.000	5.00	19.877	14.51	459.5	0.0	1319.5
55.00		1.00	0.83	29.586	32.54	422.37	0.730	0.000	5.00	19.390	14.16	460.7	0.0	1286.9
60.00		1.00	0.85	30.331	33.36	416.79	0.730	0.000	5.00	18.904	13.80	460.4	0.0	1254.3
65.00		1.00	0.87	31.033	34.14	410.59	0.730	0.000	5.00	18.417	13.44	458.9	0.0	1221.7
70.00		1.00	0.89	31.697	34.87	403.85	0.730	0.000	5.00	17.931	13.09	456.4	0.0	1189.1
75.00 Appurtenance(s)		1.00	0.91	32.328	35.56	396.63	0.730	0.000	5.00	17.444	12.73	452.8	0.0	1156.5
78.75 Bot - Section 3		1.00	0.92	32.782	36.06	390.93	0.730	0.000	3.75	12.764	9.32	336.0	0.0	846.0
80.00		1.00	0.93	32.929	36.22	388.98	0.730	0.000	1.25	4.260	3.11	112.6	0.0	480.2
83.75 Top - Section 2		1.00	0.94	33.363	36.70	382.99	0.730	0.000	3.75	12.597	9.20	337.5	0.0	1419.7
85.00		1.00	0.94	33.505	36.86	387.15	0.730	0.000	1.25	4.138	3.02	111.3	0.0	196.5
90.00		1.00	0.96	34.056	37.46	378.81	0.730	0.000	5.00	16.249	11.86	444.4	0.0	771.4
95.00		1.00	0.97	34.587	38.05	370.14	0.730	0.000	5.00	15.762	11.51	437.8	0.0	748.1
100.00		1.00	0.99	35.097	38.61	361.17	0.730	0.000	5.00	15.276	11.15	430.5	0.0	724.8
105.00		1.00	1.00	35.590	39.15	351.93	0.730	0.000	5.00	14.789	10.80	422.7	0.0	701.5
110.00 Appurtenance(s)		1.00	1.02	36.066	39.67	342.43	0.730	0.000	5.00	14.303	10.44	414.2	0.0	678.2
115.00		1.00	1.03	36.527	40.18	332.68	0.730	0.000	5.00	13.816	10.09	405.2	0.0	654.9
119.00 Bot - Section 4		1.00	1.04	36.886	40.57	324.72	0.730	0.000	4.00	10.703	7.81	317.0	0.0	507.2
120.00		1.00	1.04	36.974	40.67	322.71	0.730	0.000	1.00	2.669	1.95	79.3	0.0	225.9
123.00 Top - Section 3		1.00	1.05	37.236	40.96	316.63	0.730	0.000	3.00	7.891	5.76	235.9	0.0	667.5
125.00		1.00	1.05	37.408	41.15	317.78	0.730	0.000	2.00	5.163	3.77	155.1	0.0	196.1
130.00		1.00	1.07	37.829	41.61	307.43	0.730	0.000	5.00	12.568	9.17	381.8	0.0	477.2
135.00		1.00	1.08	38.239	42.06	296.89	0.730	0.000	5.00	12.081	8.82	371.0	0.0	458.5
140.00 Appurtenance(s)		1.00	1.09	38.639	42.50	286.17	0.730	0.000	5.00	11.595	8.46	359.8	0.0	439.9
145.00		1.00	1.10	39.028	42.93	275.28	0.730	0.000	5.00	11.108	8.11	348.1	0.0	421.3
150.00		1.00	1.11	39.408	43.35	264.23	0.730	0.000	5.00	10.622	7.75	336.1	0.0	402.7
155.00		1.00	1.12	39.779	43.76	253.02	0.730	0.000	5.00	10.135	7.40	323.7	0.0	384.0
157.00 Appurtenance(s)		1.00	1.12	39.925	43.92	248.50	0.730	0.000	2.00	3.918	2.86	125.6	0.0	148.4
160.00		1.00	1.13	40.141	44.16	241.67	0.730	0.000	3.00	5.731	4.18	184.7	0.0	217.0
161.00 Top - Section 4		1.00	1.13	40.213	44.23	239.38	0.730	0.000	1.00	1.871	1.37	60.4	0.0	70.8
165.00		1.00	1.14	40.496	44.55	230.18	0.730	0.000	4.00	7.291	5.32	237.1	0.0	207.5
170.00		1.00	1.15	40.843	44.93	218.55	0.730	0.000	5.00	8.676	6.33	284.5	0.0	246.9
175.00 Appurtenance(s)		1.00	1.16	41.182	45.30	206.79	0.730	0.000	5.00	8.189	5.98	270.8	0.0	232.9
Totals:									175.00			14,325.5		36,623.3

Discrete Appurtenance Forces

Structure: CT01915-S-SBA

Site Name: South Brooklyn

Height: 175.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Topography: 1

Code: TIA-222-H

Exposure: B

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: II

1/9/2024

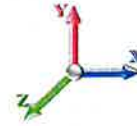
Page: 10



Load Case: 1.2D + 1.0W 122 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	175.00	MT6413 77A	3	41.316	45.448	0.45	0.75	5.12	206.35	0.000	2.000	232.53	0.00	465.07
2	175.00	6' Lightning rod	1	41.182	45.301	1.00	1.00	0.38	7.80	0.000	0.000	17.21	0.00	0.00
3	175.00	Antel BXA-70080-6CF	3	41.316	45.448	0.65	0.75	11.28	64.80	0.000	2.000	512.44	0.00	1024.87
4	175.00	Samsung B2/B66A	3	41.316	45.448	0.50	0.75	2.82	303.84	0.000	2.000	128.12	0.00	256.24
5	175.00	Samsung B5/B13	3	41.316	45.448	0.50	0.75	2.82	253.08	0.000	2.000	128.12	0.00	256.24
6	175.00	RVZDC-6627-PF-48	1	41.316	45.448	0.75	0.75	3.04	38.40	0.000	2.000	138.39	0.00	276.78
7	175.00	CBC78T-DS-43-2X	3	41.316	45.448	0.50	0.75	0.56	74.52	0.000	2.000	25.35	0.00	50.70
8	175.00	14' Support rail	3	41.316	45.448	1.00	1.00	24.39	1088.50	0.000	2.000	1108.48	0.00	2216.96
9	175.00	Low Profile Platform-flat	1	41.316	45.448	1.00	1.00	25.00	1440.00	0.000	2.000	1136.20	0.00	2272.40
10	175.00	kicker kit	1	41.316	45.448	1.00	1.00	9.50	557.89	0.000	2.000	431.76	0.00	863.51
11	175.00	91900314-02	3	41.216	45.338	1.00	1.00	5.70	103.32	0.000	0.500	258.42	0.00	129.21
12	175.00	JAHH-65B-R3B	6	41.316	45.448	0.64	0.75	33.20	455.76	0.000	2.000	1508.92	0.00	3017.84
13	161.00	Bridge Stiffener	1	40.213	44.234	1.00	1.00	5.77	245.00	0.000	0.000	255.23	0.00	0.00
14	157.00	ALU - TD-RRH8x20-25 -	3	39.925	43.917	0.50	0.75	6.11	252.00	0.000	0.000	268.13	0.00	0.00
15	157.00	ALU - 800 MHz - RRU	6	39.925	43.917	0.50	0.75	7.51	381.60	0.000	0.000	329.70	0.00	0.00
16	157.00	ALU - 1900 MHz - RRU	3	39.925	43.917	0.50	0.75	4.18	216.00	0.000	0.000	183.39	0.00	0.00
17	157.00	NNVV-65B-R4	3	39.925	43.917	0.55	0.75	20.43	304.92	0.000	0.000	897.21	0.00	0.00
18	157.00	Platform w/ Handrail +	1	39.925	43.917	1.00	1.00	54.00	3360.00	0.000	0.000	2371.54	0.00	0.00
19	157.00	APXVTM14-C-I20	3	39.925	43.917	0.58	0.75	10.98	202.32	0.000	0.000	482.39	0.00	0.00
20	140.00	Ericsson AIR6449 B41	3	38.639	42.503	0.53	0.75	9.03	370.80	0.000	0.000	383.62	0.00	0.00
21	140.00	APXVAARR24_43-U-NA2	3	38.639	42.503	0.52	0.75	31.88	460.80	0.000	0.000	1354.90	0.00	0.00
22	140.00	KRY 112 489/2	3	38.639	42.503	0.50	0.75	1.01	55.44	0.000	0.000	42.93	0.00	0.00
23	140.00	MT-195-12	1	38.639	42.503	1.00	1.00	40.00	2400.00	0.000	0.000	1700.11	0.00	0.00
24	140.00	Ericsson 4449 B71 + B85	3	38.639	42.503	0.50	0.75	2.97	270.00	0.000	0.000	126.22	0.00	0.00
25	140.00	Ericsson 4460 B25 + B66	3	38.639	42.503	0.50	0.75	4.30	374.40	0.000	0.000	182.61	0.00	0.00
26	140.00	Kathrein 782 11056	3	38.639	42.503	0.50	0.75	0.42	6.48	0.000	0.000	17.94	0.00	0.00
27	140.00	MS-HRECP-35	1	38.639	42.503	1.00	1.00	12.25	616.80	0.000	0.000	520.66	0.00	0.00
28	110.00	Raycap	1	36.066	39.673	1.00	1.00	2.01	26.28	0.000	0.000	79.74	0.00	0.00
29	110.00	Fujitsu TA08025-B604	3	36.066	39.673	0.50	0.75	2.95	230.04	0.000	0.000	117.22	0.00	0.00
30	110.00	Fujitsu TA08025-B605	3	36.066	39.673	0.50	0.75	2.95	270.00	0.000	0.000	117.22	0.00	0.00
31	110.00	MC-PK8-DSH	1	36.066	39.673	1.00	1.00	37.59	2072.40	0.000	0.000	1491.30	0.00	0.00
32	110.00	Commscope	3	36.066	39.673	0.55	0.75	20.43	254.88	0.000	0.000	810.50	0.00	0.00
33	75.00	KS-24019	1	32.328	35.561	1.00	1.00	0.91	4.80	0.000	0.000	32.36	0.00	0.00
Totals:									16,969.22			17,390.88		

Total Applied Force Summary

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

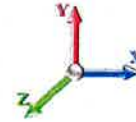
Page: 11



Load Case: 1.2D + 1.0W 122 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		476.83	2009.84	0.00	0.00
10.00		467.12	1972.58	0.00	0.00
15.00		457.41	1935.32	0.00	0.00
20.00		447.70	1898.06	0.00	0.00
25.00		437.98	1860.80	0.00	0.00
30.00		428.63	1823.54	0.00	0.00
35.00		437.77	1786.28	0.00	0.00
38.75		331.15	1315.26	0.00	0.00
40.00		112.08	776.88	0.00	0.00
45.00		456.84	3063.84	0.00	0.00
50.00		459.55	1516.37	0.00	0.00
55.00		460.67	1483.77	0.00	0.00
60.00		460.42	1451.17	0.00	0.00
65.00		458.95	1418.57	0.00	0.00
70.00		456.38	1385.96	0.00	0.00
75.00	(1) attachments	485.20	1358.16	0.00	0.00
78.75		335.99	993.62	0.00	0.00
80.00		112.64	529.44	0.00	0.00
83.75		337.49	1567.35	0.00	0.00
85.00		111.34	245.70	0.00	0.00
90.00		444.37	968.27	0.00	0.00
95.00		437.77	944.98	0.00	0.00
100.00		430.52	921.69	0.00	0.00
105.00		422.66	898.40	0.00	0.00
110.00	(11) attachments	3030.20	3728.71	0.00	0.00
115.00		405.25	840.91	0.00	0.00
119.00		317.00	655.96	0.00	0.00
120.00		79.25	263.06	0.00	0.00
123.00		235.95	779.11	0.00	0.00
125.00		155.10	270.47	0.00	0.00
130.00		381.78	663.14	0.00	0.00
135.00		370.98	644.51	0.00	0.00
140.00	(20) attachments	4688.75	5180.60	0.00	0.00
145.00		348.13	526.84	0.00	0.00
150.00		336.12	508.21	0.00	0.00
155.00		323.74	489.58	0.00	0.00
157.00	(19) attachments	4657.98	4907.46	0.00	0.00
160.00		184.72	270.83	0.00	0.00
161.00	(1) attachments	315.66	333.79	0.00	0.00
165.00		237.08	279.32	0.00	0.00
170.00		284.53	336.58	0.00	0.00
175.00	(31) attachments	5896.75	4916.86	0.00	10829.82
Totals:		31,716.43	59,721.77	0.00	10,829.82

Linear Appurtenance Segment Forces (Factored)

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

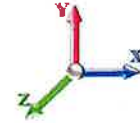
Page: 12



Load Case: 1.2D + 1.0W 122 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	24.861	0.00	1.64
5.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	24.861	0.00	6.24
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	24.861	0.00	1.64
10.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	24.861	0.00	6.24
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	24.861	0.00	1.64
15.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	24.861	0.00	6.24
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	24.861	0.00	1.64
20.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	24.861	0.00	6.24
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	24.861	0.00	1.64
25.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	24.861	0.00	6.24
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	24.882	0.00	1.64
30.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	24.882	0.00	6.24
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	26.002	0.00	1.64
35.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	26.002	0.00	6.24
38.75	Safety Cable	Yes	3.75	0.000	0.38	0.12	0.00	0.020	0.000	26.769	0.00	1.23
38.75	Step bolts	Yes	3.75	0.000	0.63	0.20	0.00	0.020	0.000	26.769	0.00	4.68
40.00	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.021	0.000	27.013	0.00	0.41
40.00	Step bolts	Yes	1.25	0.000	0.63	0.07	0.00	0.021	0.000	27.013	0.00	1.56
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	27.938	0.00	1.64
45.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	27.938	0.00	6.24
50.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	28.792	0.00	1.64
50.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	28.792	0.00	6.24
55.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	29.586	0.00	1.64
55.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	29.586	0.00	6.24
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	30.331	0.00	1.64
60.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	30.331	0.00	6.24
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	31.033	0.00	1.64
65.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	31.033	0.00	6.24
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	31.697	0.00	1.64
70.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	31.697	0.00	6.24
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	32.328	0.00	1.64
75.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	32.328	0.00	6.24
78.75	Safety Cable	Yes	3.75	0.000	0.38	0.12	0.00	0.025	0.000	32.782	0.00	1.23
78.75	Step bolts	Yes	3.75	0.000	0.63	0.20	0.00	0.025	0.000	32.782	0.00	4.68
80.00	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.025	0.000	32.929	0.00	0.41
80.00	Step bolts	Yes	1.25	0.000	0.63	0.07	0.00	0.025	0.000	32.929	0.00	1.56
83.75	Safety Cable	Yes	3.75	0.000	0.38	0.12	0.00	0.025	0.000	33.363	0.00	1.23
83.75	Step bolts	Yes	3.75	0.000	0.63	0.20	0.00	0.025	0.000	33.363	0.00	4.68
85.00	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.025	0.000	33.505	0.00	0.41
85.00	Step bolts	Yes	1.25	0.000	0.63	0.07	0.00	0.025	0.000	33.505	0.00	1.56
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	34.056	0.00	1.64
90.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	34.056	0.00	6.24
95.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.027	0.000	34.587	0.00	1.64
95.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.027	0.000	34.587	0.00	6.24
100.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	35.097	0.00	1.64
100.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	35.097	0.00	6.24
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	35.590	0.00	1.64

Linear Appurtenance Segment Forces (Factored)

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 13

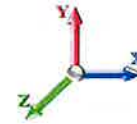


Load Case: 1.2D + 1.0W 122 mph Wind

Iterations 26

Dead Load Factor 1.20

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
105.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	35.590	0.00	6.24
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	36.066	0.00	1.64
110.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	36.066	0.00	6.24
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	36.527	0.00	1.64
115.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	36.527	0.00	6.24
119.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.031	0.000	36.886	0.00	1.31
119.00	Step bolts	Yes	4.00	0.000	0.63	0.21	0.00	0.031	0.000	36.886	0.00	4.99
120.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.032	0.000	36.974	0.00	0.33
120.00	Step bolts	Yes	1.00	0.000	0.63	0.05	0.00	0.032	0.000	36.974	0.00	1.25
123.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.033	0.000	37.236	0.00	0.98
123.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.033	0.000	37.236	0.00	3.74
125.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	37.408	0.00	0.66
125.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	37.408	0.00	2.50
130.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	37.829	0.00	1.64
130.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	37.829	0.00	6.24
135.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.035	0.000	38.239	0.00	1.64
135.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.035	0.000	38.239	0.00	6.24
140.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.036	0.000	38.639	0.00	1.64
140.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.036	0.000	38.639	0.00	6.24
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.038	0.000	39.028	0.00	1.64
145.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.038	0.000	39.028	0.00	6.24
150.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.040	0.000	39.408	0.00	1.64
150.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.040	0.000	39.408	0.00	6.24
155.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.042	0.000	39.779	0.00	1.64
155.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.042	0.000	39.779	0.00	6.24
157.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.043	0.000	39.925	0.00	0.66
157.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.043	0.000	39.925	0.00	2.50
160.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.044	0.000	40.141	0.00	0.98
160.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.044	0.000	40.141	0.00	3.74
161.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.045	0.000	40.213	0.00	0.33
161.00	Step bolts	Yes	1.00	0.000	0.63	0.05	0.00	0.045	0.000	40.213	0.00	1.25
165.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.046	0.000	40.496	0.00	1.31
165.00	Step bolts	Yes	4.00	0.000	0.63	0.21	0.00	0.046	0.000	40.496	0.00	4.99
170.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.049	0.000	40.843	0.00	1.64
170.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.049	0.000	40.843	0.00	6.24
175.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.051	0.000	41.182	0.00	1.64
175.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.051	0.000	41.182	0.00	6.24
Totals:											0.0	275.7

Calculated Forces

Structure: CT01915-S-SBA
Site Name: South Brooklyn
Height: 175.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: TIA-222-H
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

1/9/2024

Page: 14



Load Case: 1.2D + 1.0W 122 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-59.68	-31.80	0.00	-4062.4	0.00	4062.40	6411.04	1574.41	7384.33	7449.66	0.00	0.000	0.000	0.555
5.00	-57.58	-31.48	0.00	-3903.4	0.00	3903.40	6318.35	1542.38	7086.94	7191.28	0.08	-0.156	0.000	0.552
10.00	-55.52	-31.16	0.00	-3746.0	0.00	3746.01	6224.09	1510.35	6795.67	6935.58	0.33	-0.316	0.000	0.549
15.00	-53.50	-30.84	0.00	-3590.2	0.00	3590.21	6128.26	1478.32	6510.51	6682.66	0.75	-0.479	0.000	0.546
20.00	-51.52	-30.53	0.00	-3436.0	0.00	3436.00	6030.87	1446.29	6231.46	6432.65	1.34	-0.646	0.000	0.543
25.00	-49.57	-30.22	0.00	-3283.3	0.00	3283.36	5931.91	1414.27	5958.52	6185.64	2.11	-0.816	0.000	0.540
30.00	-47.67	-29.90	0.00	-3132.2	0.00	3132.28	5831.38	1382.24	5691.69	5941.76	3.06	-0.990	0.000	0.536
35.00	-45.81	-29.56	0.00	-2982.7	0.00	2982.76	5715.88	1350.21	5430.98	5687.79	4.19	-1.168	0.000	0.533
38.75	-44.45	-29.27	0.00	-2871.9	0.00	2871.92	5614.19	1326.19	5239.46	5486.19	5.16	-1.304	0.000	0.532
40.00	-43.62	-29.23	0.00	-2835.3	0.00	2835.33	5580.30	1318.18	5176.38	5419.80	5.51	-1.351	0.000	0.531
45.00	-40.47	-28.83	0.00	-2689.1	0.00	2689.19	4741.11	1148.23	4488.75	4589.89	7.03	-1.536	0.000	0.595
50.00	-38.87	-28.46	0.00	-2545.0	0.00	2545.05	4656.71	1120.20	4272.31	4397.14	8.73	-1.724	0.000	0.588
55.00	-37.30	-28.09	0.00	-2402.7	0.00	2402.76	4570.75	1092.18	4061.22	4206.97	10.65	-1.931	0.000	0.580
60.00	-35.77	-27.71	0.00	-2262.3	0.00	2262.33	4483.21	1064.15	3855.47	4019.49	12.79	-2.141	0.000	0.571
65.00	-34.27	-27.32	0.00	-2123.7	0.00	2123.79	4386.28	1036.13	3655.08	3828.00	15.14	-2.355	0.000	0.563
70.00	-32.80	-26.93	0.00	-1987.1	0.00	1987.18	4267.64	1008.10	3460.03	3622.70	17.72	-2.571	0.000	0.557
75.00	-31.37	-26.49	0.00	-1852.5	0.00	1852.52	4149.01	980.08	3270.33	3423.05	20.53	-2.791	0.000	0.549
78.75	-30.35	-26.16	0.00	-1753.1	0.00	1753.18	4060.03	959.06	3131.56	3277.03	22.79	-2.960	0.000	0.543
80.00	-29.77	-26.08	0.00	-1720.4	0.00	1720.48	4030.37	952.06	3085.97	3229.07	23.58	-3.018	0.000	0.541
83.75	-28.18	-25.72	0.00	-1622.6	0.00	1622.67	2677.54	678.08	2191.59	2145.77	26.01	-3.188	0.000	0.768
85.00	-27.85	-25.68	0.00	-1590.5	0.00	1590.52	2664.37	673.08	2159.36	2119.33	26.86	-3.247	0.000	0.762
90.00	-26.78	-25.32	0.00	-1462.1	0.00	1462.11	2610.69	653.06	2032.83	2014.37	30.42	-3.546	0.000	0.738
95.00	-25.74	-24.96	0.00	-1335.5	0.00	1335.51	2555.44	633.04	1910.12	1910.80	34.29	-3.847	0.000	0.711
100.00	-24.72	-24.59	0.00	-1210.7	0.00	1210.72	2498.62	613.02	1791.22	1808.74	38.48	-4.147	0.000	0.681
105.00	-23.73	-24.23	0.00	-1087.7	0.00	1087.75	2440.24	593.01	1676.15	1708.29	42.98	-4.446	0.000	0.648
110.00	-20.15	-21.01	0.00	-966.60	0.00	966.60	2380.29	572.99	1564.90	1609.56	47.79	-4.741	0.000	0.610
115.00	-19.25	-20.63	0.00	-861.54	0.00	861.54	2318.78	552.97	1457.47	1512.67	52.91	-5.032	0.000	0.579
119.00	-18.58	-20.30	0.00	-779.04	0.00	779.04	2268.44	536.96	1374.27	1436.56	57.22	-5.264	0.000	0.552
120.00	-18.28	-20.23	0.00	-758.74	0.00	758.74	2255.69	532.95	1353.86	1417.73	58.32	-5.324	0.000	0.545
123.00	-17.48	-19.97	0.00	-698.05	0.00	698.05	1577.63	391.93	991.46	989.40	61.72	-5.497	0.000	0.719
125.00	-17.15	-19.85	0.00	-658.11	0.00	658.11	1561.09	386.01	961.77	964.13	64.04	-5.611	0.000	0.696
130.00	-16.42	-19.50	0.00	-558.85	0.00	558.85	1518.76	371.23	889.52	901.77	70.09	-5.930	0.000	0.633
135.00	-15.72	-19.14	0.00	-461.37	0.00	461.37	1475.03	356.45	820.09	840.64	76.45	-6.231	0.000	0.562
140.00	-11.03	-13.95	0.00	-365.69	0.00	365.69	1429.92	341.67	753.48	780.83	83.11	-6.506	0.000	0.478
145.00	-10.49	-13.59	0.00	-295.92	0.00	295.92	1383.42	326.88	689.69	722.45	90.05	-6.756	0.000	0.419
150.00	-9.98	-13.23	0.00	-227.97	0.00	227.97	1321.23	312.10	628.72	658.46	97.23	-6.982	0.000	0.356
155.00	-9.50	-12.87	0.00	-161.81	0.00	161.81	1258.65	297.32	570.57	597.26	104.64	-7.175	0.000	0.280
157.00	-5.21	-7.64	0.00	-136.07	0.00	136.07	1233.62	291.41	548.11	573.62	107.65	-7.243	0.000	0.242
160.00	-4.96	-7.43	0.00	-113.14	0.00	113.14	1196.07	282.54	515.25	539.05	112.22	-7.335	0.000	0.215
161.00	-4.66	-7.08	0.00	-105.72	0.00	105.72	1183.55	279.58	504.52	527.76	113.75	-7.364	0.000	0.205
161.00	-4.66	-7.08	0.00	-105.72	0.00	105.72	858.57	210.29	380.57	385.05	113.75	-7.364	0.000	0.281
165.00	-4.40	-6.82	0.00	-77.40	0.00	77.40	832.45	201.42	349.14	357.46	119.95	-7.465	0.000	0.223
170.00	-4.09	-6.50	0.00	-43.32	0.00	43.32	798.56	190.33	311.76	323.86	127.82	-7.590	0.000	0.140
175.00	0.00	-5.90	0.00	-10.83	0.00	10.83	758.80	179.24	276.50	289.64	135.79	-7.657	0.000	0.038

Wind Loading - Shaft

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

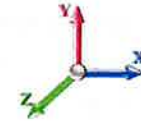
Page: 15



Load Case: 0.9D + 1.0W 122 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	24.861	27.35	487.92	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	24.861	27.35	478.08	0.730	0.000	5.00	23.886	17.44	476.8	0.0	1359.7
10.00		1.00	0.70	24.861	27.35	468.24	0.730	0.000	5.00	23.399	17.08	467.1	0.0	1331.8
15.00		1.00	0.70	24.861	27.35	458.40	0.730	0.000	5.00	22.913	16.73	457.4	0.0	1303.8
20.00		1.00	0.70	24.861	27.35	448.56	0.730	0.000	5.00	22.426	16.37	447.7	0.0	1275.9
25.00		1.00	0.70	24.861	27.35	438.72	0.730	0.000	5.00	21.940	16.02	438.0	0.0	1247.9
30.00		1.00	0.70	24.882	27.37	429.06	0.730	0.000	5.00	21.453	15.66	428.6	0.0	1220.0
35.00		1.00	0.73	26.002	28.60	428.56	0.730	0.000	5.00	20.966	15.31	437.8	0.0	1192.0
38.75 Bot - Section 2		1.00	0.75	26.769	29.45	427.18	0.730	0.000	3.75	15.406	11.25	331.2	0.0	875.7
40.00		1.00	0.76	27.013	29.71	426.55	0.730	0.000	1.25	5.167	3.77	112.1	0.0	545.7
45.00 Top - Section 1		1.00	0.79	27.938	30.73	423.36	0.730	0.000	5.00	20.364	14.87	456.8	0.0	2150.2
50.00		1.00	0.81	28.792	31.67	427.25	0.730	0.000	5.00	19.877	14.51	459.5	0.0	989.6
55.00		1.00	0.83	29.586	32.54	422.37	0.730	0.000	5.00	19.390	14.16	460.7	0.0	965.2
60.00		1.00	0.85	30.331	33.36	416.79	0.730	0.000	5.00	18.904	13.80	460.4	0.0	940.7
65.00		1.00	0.87	31.033	34.14	410.59	0.730	0.000	5.00	18.417	13.44	458.9	0.0	916.3
70.00		1.00	0.89	31.697	34.87	403.85	0.730	0.000	5.00	17.931	13.09	456.4	0.0	891.8
75.00 Appurtenance(s)		1.00	0.91	32.328	35.56	396.63	0.730	0.000	5.00	17.444	12.73	452.8	0.0	867.4
78.75 Bot - Section 3		1.00	0.92	32.782	36.06	390.93	0.730	0.000	3.75	12.764	9.32	336.0	0.0	634.5
80.00		1.00	0.93	32.929	36.22	388.98	0.730	0.000	1.25	4.260	3.11	112.6	0.0	360.2
83.75 Top - Section 2		1.00	0.94	33.363	36.70	382.99	0.730	0.000	3.75	12.597	9.20	337.5	0.0	1064.8
85.00		1.00	0.94	33.505	36.86	387.15	0.730	0.000	1.25	4.138	3.02	111.3	0.0	147.4
90.00		1.00	0.96	34.056	37.46	378.81	0.730	0.000	5.00	16.249	11.86	444.4	0.0	578.5
95.00		1.00	0.97	34.587	38.05	370.14	0.730	0.000	5.00	15.762	11.51	437.8	0.0	561.1
100.00		1.00	0.99	35.097	38.61	361.17	0.730	0.000	5.00	15.276	11.15	430.5	0.0	543.6
105.00		1.00	1.00	35.590	39.15	351.93	0.730	0.000	5.00	14.789	10.80	422.7	0.0	526.1
110.00 Appurtenance(s)		1.00	1.02	36.066	39.67	342.43	0.730	0.000	5.00	14.303	10.44	414.2	0.0	508.7
115.00		1.00	1.03	36.527	40.18	332.68	0.730	0.000	5.00	13.816	10.09	405.2	0.0	491.2
119.00 Bot - Section 4		1.00	1.04	36.886	40.57	324.72	0.730	0.000	4.00	10.703	7.81	317.0	0.0	380.4
120.00		1.00	1.04	36.974	40.67	322.71	0.730	0.000	1.00	2.669	1.95	79.3	0.0	169.4
123.00 Top - Section 3		1.00	1.05	37.236	40.96	316.63	0.730	0.000	3.00	7.891	5.76	235.9	0.0	500.6
125.00		1.00	1.05	37.408	41.15	317.78	0.730	0.000	2.00	5.163	3.77	155.1	0.0	147.1
130.00		1.00	1.07	37.829	41.61	307.43	0.730	0.000	5.00	12.568	9.17	381.8	0.0	357.9
135.00		1.00	1.08	38.239	42.06	296.89	0.730	0.000	5.00	12.081	8.82	371.0	0.0	343.9
140.00 Appurtenance(s)		1.00	1.09	38.639	42.50	286.17	0.730	0.000	5.00	11.595	8.46	359.8	0.0	329.9
145.00		1.00	1.10	39.028	42.93	275.28	0.730	0.000	5.00	11.108	8.11	348.1	0.0	316.0
150.00		1.00	1.11	39.408	43.35	264.23	0.730	0.000	5.00	10.622	7.75	336.1	0.0	302.0
155.00		1.00	1.12	39.779	43.76	253.02	0.730	0.000	5.00	10.135	7.40	323.7	0.0	288.0
157.00 Appurtenance(s)		1.00	1.12	39.925	43.92	248.50	0.730	0.000	2.00	3.918	2.86	125.6	0.0	111.3
160.00		1.00	1.13	40.141	44.16	241.67	0.730	0.000	3.00	5.731	4.18	184.7	0.0	162.7
161.00 Top - Section 4		1.00	1.13	40.213	44.23	239.38	0.730	0.000	1.00	1.871	1.37	60.4	0.0	53.1
165.00		1.00	1.14	40.496	44.55	230.18	0.730	0.000	4.00	7.291	5.32	237.1	0.0	155.7
170.00		1.00	1.15	40.843	44.93	218.55	0.730	0.000	5.00	8.676	6.33	284.5	0.0	185.1
175.00 Appurtenance(s)		1.00	1.16	41.182	45.30	206.79	0.730	0.000	5.00	8.189	5.98	270.8	0.0	174.7
Totals:									175.00			14,325.5		27,467.4

Discrete Appurtenance Forces

Structure: CT01915-S-SBA

Site Name: South Brooklyn

Height: 175.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Topography: 1

Code: TIA-222-H

Exposure: B

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: II

1/9/2024

Page: 16



Load Case: 0.9D + 1.0W 122 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	175.00	MT6413 77A	3	41.316	45.448	0.45	0.75	5.12	154.76	0.000	2.000	232.53	0.00	465.07
2	175.00	6' Lightning rod	1	41.182	45.301	1.00	1.00	0.38	5.85	0.000	0.000	17.21	0.00	0.00
3	175.00	Antel BXA-70080-6CF	3	41.316	45.448	0.65	0.75	11.28	48.60	0.000	2.000	512.44	0.00	1024.87
4	175.00	Samsung B2/B66A	3	41.316	45.448	0.50	0.75	2.82	227.88	0.000	2.000	128.12	0.00	256.24
5	175.00	Samsung B5/B13	3	41.316	45.448	0.50	0.75	2.82	189.81	0.000	2.000	128.12	0.00	256.24
6	175.00	RVZDC-6627-PF-48	1	41.316	45.448	0.75	0.75	3.04	28.80	0.000	2.000	138.39	0.00	276.78
7	175.00	CBC78T-DS-43-2X	3	41.316	45.448	0.50	0.75	0.56	55.89	0.000	2.000	25.35	0.00	50.70
8	175.00	14' Support rail	3	41.316	45.448	1.00	1.00	24.39	816.37	0.000	2.000	1108.48	0.00	2216.96
9	175.00	Low Profile Platform-flat	1	41.316	45.448	1.00	1.00	25.00	1080.00	0.000	2.000	1136.20	0.00	2272.40
10	175.00	kicker kit	1	41.316	45.448	1.00	1.00	9.50	418.42	0.000	2.000	431.76	0.00	863.51
11	175.00	91900314-02	3	41.216	45.338	1.00	1.00	5.70	77.49	0.000	0.500	258.42	0.00	129.21
12	175.00	JAHH-65B-R3B	6	41.316	45.448	0.64	0.75	33.20	341.82	0.000	2.000	1508.92	0.00	3017.84
13	161.00	Bridge Stiffener	1	40.213	44.234	1.00	1.00	5.77	183.75	0.000	0.000	255.23	0.00	0.00
14	157.00	ALU - TD-RRH8x20-25 -	3	39.925	43.917	0.50	0.75	6.11	189.00	0.000	0.000	268.13	0.00	0.00
15	157.00	ALU - 800 MHz - RRU	6	39.925	43.917	0.50	0.75	7.51	286.20	0.000	0.000	329.70	0.00	0.00
16	157.00	ALU - 1900 MHz - RRU	3	39.925	43.917	0.50	0.75	4.18	162.00	0.000	0.000	183.39	0.00	0.00
17	157.00	NNVV-65B-R4	3	39.925	43.917	0.55	0.75	20.43	228.69	0.000	0.000	897.21	0.00	0.00
18	157.00	Platform w/ Handrail +	1	39.925	43.917	1.00	1.00	54.00	2520.00	0.000	0.000	2371.54	0.00	0.00
19	157.00	APXVTM14-C-I20	3	39.925	43.917	0.58	0.75	10.98	151.74	0.000	0.000	482.39	0.00	0.00
20	140.00	Ericsson AIR6449 B41	3	38.639	42.503	0.53	0.75	9.03	278.10	0.000	0.000	383.62	0.00	0.00
21	140.00	APXVAARR24_43-U-NA2	3	38.639	42.503	0.52	0.75	31.88	345.60	0.000	0.000	1354.90	0.00	0.00
22	140.00	KRY 112 489/2	3	38.639	42.503	0.50	0.75	1.01	41.58	0.000	0.000	42.93	0.00	0.00
23	140.00	MT-195-12	1	38.639	42.503	1.00	1.00	40.00	1800.00	0.000	0.000	1700.11	0.00	0.00
24	140.00	Ericsson 4449 B71 + B85	3	38.639	42.503	0.50	0.75	2.97	202.50	0.000	0.000	126.22	0.00	0.00
25	140.00	Ericsson 4460 B25 + B66	3	38.639	42.503	0.50	0.75	4.30	280.80	0.000	0.000	182.61	0.00	0.00
26	140.00	Kathrein 782 11056	3	38.639	42.503	0.50	0.75	0.42	4.86	0.000	0.000	17.94	0.00	0.00
27	140.00	MS-HRECP-35	1	38.639	42.503	1.00	1.00	12.25	462.60	0.000	0.000	520.66	0.00	0.00
28	110.00	Raycap	1	36.066	39.673	1.00	1.00	2.01	19.71	0.000	0.000	79.74	0.00	0.00
29	110.00	Fujitsu TA08025-B604	3	36.066	39.673	0.50	0.75	2.95	172.53	0.000	0.000	117.22	0.00	0.00
30	110.00	Fujitsu TA08025-B605	3	36.066	39.673	0.50	0.75	2.95	202.50	0.000	0.000	117.22	0.00	0.00
31	110.00	MC-PK8-DSH	1	36.066	39.673	1.00	1.00	37.59	1554.30	0.000	0.000	1491.30	0.00	0.00
32	110.00	Commscope	3	36.066	39.673	0.55	0.75	20.43	191.16	0.000	0.000	810.50	0.00	0.00
33	75.00	KS-24019	1	32.328	35.561	1.00	1.00	0.91	3.60	0.000	0.000	32.36	0.00	0.00
Totals:									12,726.92			17,390.88		

Total Applied Force Summary

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 17



Load Case: 0.9D + 1.0W 122 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		476.83	1507.38	0.00	0.00
10.00		467.12	1479.43	0.00	0.00
15.00		457.41	1451.49	0.00	0.00
20.00		447.70	1423.54	0.00	0.00
25.00		437.98	1395.60	0.00	0.00
30.00		428.63	1367.65	0.00	0.00
35.00		437.77	1339.71	0.00	0.00
38.75		331.15	986.44	0.00	0.00
40.00		112.08	582.66	0.00	0.00
45.00		456.84	2297.88	0.00	0.00
50.00		459.55	1137.28	0.00	0.00
55.00		460.67	1112.83	0.00	0.00
60.00		460.42	1088.38	0.00	0.00
65.00		458.95	1063.92	0.00	0.00
70.00		456.38	1039.47	0.00	0.00
75.00	(1) attachments	485.20	1018.62	0.00	0.00
78.75		335.99	745.22	0.00	0.00
80.00		112.64	397.08	0.00	0.00
83.75		337.49	1175.51	0.00	0.00
85.00		111.34	184.28	0.00	0.00
90.00		444.37	726.20	0.00	0.00
95.00		437.77	708.73	0.00	0.00
100.00		430.52	691.27	0.00	0.00
105.00		422.66	673.80	0.00	0.00
110.00	(11) attachments	3030.20	2796.54	0.00	0.00
115.00		405.25	630.68	0.00	0.00
119.00		317.00	491.97	0.00	0.00
120.00		79.25	197.29	0.00	0.00
123.00		235.95	584.33	0.00	0.00
125.00		155.10	202.85	0.00	0.00
130.00		381.78	497.36	0.00	0.00
135.00		370.98	483.38	0.00	0.00
140.00	(20) attachments	4688.75	3885.45	0.00	0.00
145.00		348.13	395.13	0.00	0.00
150.00		336.12	381.16	0.00	0.00
155.00		323.74	367.18	0.00	0.00
157.00	(19) attachments	4657.98	3680.59	0.00	0.00
160.00		184.72	203.12	0.00	0.00
161.00	(1) attachments	315.66	250.34	0.00	0.00
165.00		237.08	209.49	0.00	0.00
170.00		284.53	252.43	0.00	0.00
175.00	(31) attachments	5896.75	3687.65	0.00	10829.82
Totals:		31,716.43	44,791.33	0.00	10,829.82

Linear Appurtenance Segment Forces (Factored)

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 18



Load Case: 0.9D + 1.0W 122 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	24.861	0.00	1.23
5.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	24.861	0.00	4.68
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	24.861	0.00	1.23
10.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	24.861	0.00	4.68
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	24.861	0.00	1.23
15.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	24.861	0.00	4.68
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	24.861	0.00	1.23
20.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	24.861	0.00	4.68
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	24.861	0.00	1.23
25.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	24.861	0.00	4.68
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	24.882	0.00	1.23
30.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	24.882	0.00	4.68
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	26.002	0.00	1.23
35.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	26.002	0.00	4.68
38.75	Safety Cable	Yes	3.75	0.000	0.38	0.12	0.00	0.020	0.000	26.769	0.00	0.92
38.75	Step bolts	Yes	3.75	0.000	0.63	0.20	0.00	0.020	0.000	26.769	0.00	3.51
40.00	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.021	0.000	27.013	0.00	0.31
40.00	Step bolts	Yes	1.25	0.000	0.63	0.07	0.00	0.021	0.000	27.013	0.00	1.17
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	27.938	0.00	1.23
45.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	27.938	0.00	4.68
50.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	28.792	0.00	1.23
50.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	28.792	0.00	4.68
55.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	29.586	0.00	1.23
55.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	29.586	0.00	4.68
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	30.331	0.00	1.23
60.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	30.331	0.00	4.68
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	31.033	0.00	1.23
65.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	31.033	0.00	4.68
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	31.697	0.00	1.23
70.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	31.697	0.00	4.68
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	32.328	0.00	1.23
75.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	32.328	0.00	4.68
78.75	Safety Cable	Yes	3.75	0.000	0.38	0.12	0.00	0.025	0.000	32.782	0.00	0.92
78.75	Step bolts	Yes	3.75	0.000	0.63	0.20	0.00	0.025	0.000	32.782	0.00	3.51
80.00	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.025	0.000	32.929	0.00	0.31
80.00	Step bolts	Yes	1.25	0.000	0.63	0.07	0.00	0.025	0.000	32.929	0.00	1.17
83.75	Safety Cable	Yes	3.75	0.000	0.38	0.12	0.00	0.025	0.000	33.363	0.00	0.92
83.75	Step bolts	Yes	3.75	0.000	0.63	0.20	0.00	0.025	0.000	33.363	0.00	3.51
85.00	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.025	0.000	33.505	0.00	0.31
85.00	Step bolts	Yes	1.25	0.000	0.63	0.07	0.00	0.025	0.000	33.505	0.00	1.17
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	34.056	0.00	1.23
90.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	34.056	0.00	4.68
95.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.027	0.000	34.587	0.00	1.23
95.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.027	0.000	34.587	0.00	4.68
100.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	35.097	0.00	1.23
100.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	35.097	0.00	4.68
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	35.590	0.00	1.23

Linear Appurtenance Segment Forces (Factored)

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 19



Load Case: 0.9D + 1.0W 122 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
105.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	35.590	0.00	4.68
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	36.066	0.00	1.23
110.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	36.066	0.00	4.68
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	36.527	0.00	1.23
115.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	36.527	0.00	4.68
119.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.031	0.000	36.886	0.00	0.98
119.00	Step bolts	Yes	4.00	0.000	0.63	0.21	0.00	0.031	0.000	36.886	0.00	3.74
120.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.032	0.000	36.974	0.00	0.25
120.00	Step bolts	Yes	1.00	0.000	0.63	0.05	0.00	0.032	0.000	36.974	0.00	0.94
123.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.033	0.000	37.236	0.00	0.74
123.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.033	0.000	37.236	0.00	2.81
125.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	37.408	0.00	0.49
125.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	37.408	0.00	1.87
130.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	37.829	0.00	1.23
130.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	37.829	0.00	4.68
135.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.035	0.000	38.239	0.00	1.23
135.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.035	0.000	38.239	0.00	4.68
140.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.036	0.000	38.639	0.00	1.23
140.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.036	0.000	38.639	0.00	4.68
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.038	0.000	39.028	0.00	1.23
145.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.038	0.000	39.028	0.00	4.68
150.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.040	0.000	39.408	0.00	1.23
150.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.040	0.000	39.408	0.00	4.68
155.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.042	0.000	39.779	0.00	1.23
155.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.042	0.000	39.779	0.00	4.68
157.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.043	0.000	39.925	0.00	0.49
157.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.043	0.000	39.925	0.00	1.87
160.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.044	0.000	40.141	0.00	0.74
160.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.044	0.000	40.141	0.00	2.81
161.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.045	0.000	40.213	0.00	0.25
161.00	Step bolts	Yes	1.00	0.000	0.63	0.05	0.00	0.045	0.000	40.213	0.00	0.94
165.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.046	0.000	40.496	0.00	0.98
165.00	Step bolts	Yes	4.00	0.000	0.63	0.21	0.00	0.046	0.000	40.496	0.00	3.74
170.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.049	0.000	40.843	0.00	1.23
170.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.049	0.000	40.843	0.00	4.68
175.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.051	0.000	41.182	0.00	1.23
175.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.051	0.000	41.182	0.00	4.68
Totals:											0.0	206.8

Calculated Forces

Structure: CT01915-S-SBA

Site Name: South Brooklyn

Height: 175.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Topography: 1

Code: TIA-222-H

Exposure: B

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: II

1/9/2024

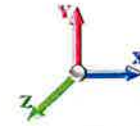
Page: 20



Load Case: 0.9D + 1.0W 122 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 25

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-44.75	-31.78	0.00	-4001.8	0.00	4001.82	6411.04	1574.41	7384.33	7449.66	0.00	0.000	0.000	0.545
5.00	-43.16	-31.42	0.00	-3842.9	0.00	3842.94	6318.35	1542.38	7086.94	7191.28	0.08	-0.154	0.000	0.542
10.00	-41.59	-31.06	0.00	-3685.8	0.00	3685.87	6224.09	1510.35	6795.67	6935.58	0.33	-0.311	0.000	0.539
15.00	-40.06	-30.70	0.00	-3530.5	0.00	3530.58	6128.26	1478.32	6510.51	6682.66	0.74	-0.472	0.000	0.535
20.00	-38.55	-30.35	0.00	-3377.0	0.00	3377.07	6030.87	1446.29	6231.46	6432.65	1.32	-0.636	0.000	0.532
25.00	-37.07	-30.01	0.00	-3225.3	0.00	3225.30	5931.91	1414.27	5958.52	6185.64	2.08	-0.803	0.000	0.528
30.00	-35.62	-29.67	0.00	-3075.2	0.00	3075.26	5831.38	1382.24	5691.69	5941.76	3.01	-0.974	0.000	0.524
35.00	-34.21	-29.29	0.00	-2926.9	0.00	2926.94	5715.88	1350.21	5430.98	5687.79	4.12	-1.148	0.000	0.521
38.75	-33.19	-28.99	0.00	-2817.0	0.00	2817.09	5614.19	1326.19	5239.46	5486.19	5.08	-1.282	0.000	0.520
40.00	-32.55	-28.93	0.00	-2780.8	0.00	2780.84	5580.30	1318.18	5176.38	5419.80	5.42	-1.328	0.000	0.519
45.00	-30.17	-28.52	0.00	-2636.1	0.00	2636.17	4741.11	1148.23	4488.75	4589.89	6.91	-1.509	0.000	0.581
50.00	-28.95	-28.12	0.00	-2493.5	0.00	2493.59	4656.71	1120.20	4272.31	4397.14	8.59	-1.694	0.000	0.574
55.00	-27.76	-27.73	0.00	-2352.9	0.00	2352.97	4570.75	1092.18	4061.22	4206.97	10.47	-1.896	0.000	0.566
60.00	-26.59	-27.33	0.00	-2214.3	0.00	2214.33	4483.21	1064.15	3855.47	4019.49	12.57	-2.102	0.000	0.557
65.00	-25.44	-26.92	0.00	-2077.7	0.00	2077.70	4386.28	1036.13	3655.08	3828.00	14.88	-2.311	0.000	0.549
70.00	-24.33	-26.51	0.00	-1943.1	0.00	1943.11	4267.64	1008.10	3460.03	3622.70	17.41	-2.523	0.000	0.543
75.00	-23.24	-26.06	0.00	-1810.5	0.00	1810.55	4149.01	980.08	3270.33	3423.05	20.17	-2.738	0.000	0.535
78.75	-22.47	-25.73	0.00	-1712.8	0.00	1712.84	4060.03	959.06	3131.56	3277.03	22.39	-2.903	0.000	0.529
80.00	-22.03	-25.64	0.00	-1680.6	0.00	1680.68	4030.37	952.06	3085.97	3229.07	23.15	-2.959	0.000	0.527
83.75	-20.82	-25.28	0.00	-1584.5	0.00	1584.54	2677.54	678.08	2191.59	2145.77	25.54	-3.126	0.000	0.748
85.00	-20.57	-25.22	0.00	-1552.9	0.00	1552.94	2664.37	673.08	2159.36	2119.33	26.37	-3.183	0.000	0.742
90.00	-19.74	-24.84	0.00	-1426.8	0.00	1426.83	2610.69	653.06	2032.83	2014.37	29.86	-3.475	0.000	0.717
95.00	-18.93	-24.45	0.00	-1302.6	0.00	1302.65	2555.44	633.04	1910.12	1910.80	33.65	-3.768	0.000	0.691
100.00	-18.15	-24.07	0.00	-1180.3	0.00	1180.39	2498.62	613.02	1791.22	1808.74	37.75	-4.061	0.000	0.661
105.00	-17.39	-23.69	0.00	-1060.0	0.00	1060.05	2440.24	593.01	1676.15	1708.29	42.16	-4.353	0.000	0.629
110.00	-14.74	-20.52	0.00	-941.62	0.00	941.62	2380.29	572.99	1564.90	1609.56	46.87	-4.640	0.000	0.592
115.00	-14.06	-20.13	0.00	-839.03	0.00	839.03	2318.78	552.97	1457.47	1512.67	51.88	-4.923	0.000	0.562
119.00	-13.55	-19.80	0.00	-758.53	0.00	758.53	2268.44	536.96	1374.27	1436.56	56.10	-5.150	0.000	0.535
120.00	-13.32	-19.73	0.00	-738.73	0.00	738.73	2255.69	532.95	1353.86	1417.73	57.18	-5.207	0.000	0.528
123.00	-12.71	-19.47	0.00	-679.54	0.00	679.54	1577.63	391.93	991.46	989.40	60.50	-5.376	0.000	0.697
125.00	-12.45	-19.35	0.00	-640.60	0.00	640.60	1561.09	386.01	961.77	964.13	62.77	-5.488	0.000	0.675
130.00	-11.89	-18.98	0.00	-543.87	0.00	543.87	1518.76	371.23	889.52	901.77	68.68	-5.798	0.000	0.614
135.00	-11.36	-18.62	0.00	-448.98	0.00	448.98	1475.03	356.45	820.09	840.64	74.90	-6.090	0.000	0.545
140.00	-7.95	-13.57	0.00	-355.90	0.00	355.90	1429.92	341.67	753.48	780.83	81.42	-6.358	0.000	0.463
145.00	-7.54	-13.21	0.00	-288.06	0.00	288.06	1383.42	326.88	689.69	722.45	88.20	-6.601	0.000	0.406
150.00	-7.15	-12.86	0.00	-222.02	0.00	222.02	1321.23	312.10	628.72	658.46	95.22	-6.822	0.000	0.344
155.00	-6.80	-12.51	0.00	-157.74	0.00	157.74	1258.65	297.32	570.57	597.26	102.45	-7.010	0.000	0.271
157.00	-3.71	-7.44	0.00	-132.73	0.00	132.73	1233.62	291.41	548.11	573.62	105.39	-7.076	0.000	0.235
160.00	-3.52	-7.23	0.00	-110.42	0.00	110.42	1196.07	282.54	515.25	539.05	109.86	-7.165	0.000	0.208
161.00	-3.31	-6.89	0.00	-103.19	0.00	103.19	1183.55	279.58	504.52	527.76	111.36	-7.194	0.000	0.199
161.00	-3.31	-6.89	0.00	-103.19	0.00	103.19	858.57	210.29	380.57	385.05	111.36	-7.194	0.000	0.273
165.00	-3.12	-6.63	0.00	-75.63	0.00	75.63	832.45	201.42	349.14	357.46	117.41	-7.292	0.000	0.216
170.00	-2.89	-6.33	0.00	-42.46	0.00	42.46	798.56	190.33	311.76	323.86	125.10	-7.415	0.000	0.136
175.00	0.00	-5.90	0.00	-10.83	0.00	10.83	758.80	179.24	276.50	289.64	132.89	-7.480	0.000	0.038

Wind Loading - Shaft

Structure: CT01915-S-SBA
Site Name: South Brooklyn
Height: 175.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: TIA-222-H
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

1/9/2024

Page: 21



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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	4.176	4.59	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	4.176	4.59	0.00	1.200	0.828	5.00	24.576	29.49	135.5	294.2	2107.1
10.00		1.00	0.70	4.176	4.59	0.00	1.200	0.887	5.00	24.139	28.97	133.1	309.2	2084.9
15.00		1.00	0.70	4.176	4.59	0.00	1.200	0.924	5.00	23.683	28.42	130.5	315.6	2054.0
20.00		1.00	0.70	4.176	4.59	0.00	1.200	0.951	5.00	23.219	27.86	128.0	318.1	2019.3
25.00		1.00	0.70	4.176	4.59	0.00	1.200	0.973	5.00	22.750	27.30	125.4	318.4	1982.3
30.00		1.00	0.70	4.179	4.60	0.00	1.200	0.991	5.00	22.278	26.73	122.9	317.2	1943.9
35.00		1.00	0.73	4.367	4.80	0.00	1.200	1.006	5.00	21.805	26.17	125.7	315.0	1904.4
38.75 Bot - Section 2		1.00	0.75	4.496	4.95	0.00	1.200	1.016	3.75	16.041	19.25	95.2	234.6	1402.2
40.00		1.00	0.76	4.537	4.99	0.00	1.200	1.019	1.25	5.379	6.46	32.2	79.4	807.0
45.00 Top - Section 1		1.00	0.79	4.693	5.16	0.00	1.200	1.032	5.00	21.223	25.47	131.5	314.0	3180.9
50.00		1.00	0.81	4.836	5.32	0.00	1.200	1.042	5.00	20.746	24.89	132.4	309.8	1629.3
55.00		1.00	0.83	4.969	5.47	0.00	1.200	1.052	5.00	20.267	24.32	132.9	305.3	1592.2
60.00		1.00	0.85	5.095	5.60	0.00	1.200	1.062	5.00	19.789	23.75	133.1	300.4	1554.7
65.00		1.00	0.87	5.212	5.73	0.00	1.200	1.070	5.00	19.309	23.17	132.9	295.1	1516.8
70.00		1.00	0.89	5.324	5.86	0.00	1.200	1.078	5.00	18.829	22.59	132.3	289.6	1478.7
75.00 Appurtenance(s)		1.00	0.91	5.430	5.97	0.00	1.200	1.086	5.00	18.349	22.02	131.5	283.8	1440.3
78.75 Bot - Section 3		1.00	0.92	5.506	6.06	0.00	1.200	1.091	3.75	13.446	16.13	97.7	209.5	1055.5
80.00		1.00	0.93	5.531	6.08	0.00	1.200	1.093	1.25	4.488	5.39	32.8	70.5	550.7
83.75 Top - Section 2		1.00	0.94	5.604	6.16	0.00	1.200	1.098	3.75	13.283	15.94	98.3	208.1	1627.8
85.00		1.00	0.94	5.628	6.19	0.00	1.200	1.099	1.25	4.367	5.24	32.4	69.0	265.5
90.00		1.00	0.96	5.720	6.29	0.00	1.200	1.106	5.00	17.170	20.60	129.6	269.6	1041.0
95.00		1.00	0.97	5.809	6.39	0.00	1.200	1.112	5.00	16.689	20.03	128.0	263.1	1011.2
100.00		1.00	0.99	5.895	6.48	0.00	1.200	1.117	5.00	16.207	19.45	126.1	256.5	981.3
105.00		1.00	1.00	5.978	6.58	0.00	1.200	1.123	5.00	15.725	18.87	124.1	249.7	951.2
110.00 Appurtenance(s)		1.00	1.02	6.058	6.66	0.00	1.200	1.128	5.00	15.243	18.29	121.9	242.7	921.0
115.00		1.00	1.03	6.135	6.75	0.00	1.200	1.133	5.00	14.760	17.71	119.5	235.7	890.6
119.00 Bot - Section 4		1.00	1.04	6.196	6.82	0.00	1.200	1.137	4.00	11.460	13.75	93.7	184.0	691.2
120.00		1.00	1.04	6.210	6.83	0.00	1.200	1.138	1.00	2.859	3.43	23.4	46.4	272.3
123.00 Top - Section 3		1.00	1.05	6.254	6.88	0.00	1.200	1.141	3.00	8.461	10.15	69.9	136.7	804.2
125.00		1.00	1.05	6.283	6.91	0.00	1.200	1.142	2.00	5.544	6.65	46.0	89.9	286.0
130.00		1.00	1.07	6.354	6.99	0.00	1.200	1.147	5.00	13.524	16.23	113.4	217.5	694.7
135.00		1.00	1.08	6.423	7.07	0.00	1.200	1.151	5.00	13.041	15.65	110.6	210.0	668.6
140.00 Appurtenance(s)		1.00	1.09	6.490	7.14	0.00	1.200	1.155	5.00	12.558	15.07	107.6	202.5	642.4
145.00		1.00	1.10	6.555	7.21	0.00	1.200	1.160	5.00	12.075	14.49	104.5	194.9	616.2
150.00		1.00	1.11	6.619	7.28	0.00	1.200	1.163	5.00	11.591	13.91	101.3	187.2	589.9
155.00		1.00	1.12	6.682	7.35	0.00	1.200	1.167	5.00	11.108	13.33	98.0	179.4	563.5
157.00 Appurtenance(s)		1.00	1.12	6.706	7.38	0.00	1.200	1.169	2.00	4.307	5.17	38.1	70.5	218.9
160.00		1.00	1.13	6.742	7.42	0.00	1.200	1.171	3.00	6.316	7.58	56.2	103.0	320.0
161.00 Top - Section 4		1.00	1.13	6.754	7.43	0.00	1.200	1.172	1.00	2.067	2.48	18.4	34.0	104.8
165.00		1.00	1.14	6.802	7.48	0.00	1.200	1.175	4.00	8.074	9.69	72.5	130.9	338.5
170.00		1.00	1.15	6.860	7.55	0.00	1.200	1.178	5.00	9.657	11.59	87.5	155.7	402.6
175.00 Appurtenance(s)		1.00	1.16	6.917	7.61	0.00	1.200	1.182	5.00	9.174	11.01	83.8	147.7	380.6
Totals:									175.00			4,190.3		45,587.9

Discrete Appurtenance Forces

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 22



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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	175.00	MT6413 77A	3	6.940	7.634	0.75	0.75	9.80	25.28	0.000	2.000	74.82	0.00	149.64
2	175.00	6' Lightning rod	1	6.917	7.609	1.00	1.00	1.12	27.08	0.000	0.000	8.49	0.00	0.00
3	175.00	Antel BXA-70080-6CF	3	6.940	7.634	0.65	0.75	14.42	213.21	0.000	2.000	110.07	0.00	220.14
4	175.00	Samsung B2/B66A	3	6.940	7.634	0.50	0.75	3.39	447.46	0.000	2.000	25.86	0.00	51.71
5	175.00	Samsung B5/B13	3	6.940	7.634	0.50	0.75	3.39	382.57	0.000	2.000	25.86	0.00	51.71
6	175.00	RVZDC-6627-PF-48	1	6.940	7.634	0.75	0.75	3.46	90.33	0.000	2.000	26.43	0.00	52.86
7	175.00	CBC78T-DS-43-2X	3	6.940	7.634	0.50	0.75	0.83	127.72	0.000	2.000	6.31	0.00	12.61
8	175.00	14' Support rail	3	6.940	7.634	1.00	1.00	40.53	2724.37	0.000	2.000	309.38	0.00	618.76
9	175.00	Low Profile Platform-flat	1	6.940	7.634	1.00	1.00	39.18	1848.93	0.000	2.000	299.08	0.00	598.16
10	175.00	kicker kit	1	6.940	7.634	1.00	1.00	16.23	682.53	0.000	2.000	123.93	0.00	247.86
11	175.00	91900314-02	3	6.923	7.615	1.00	1.00	10.71	181.19	0.000	0.500	81.56	0.00	40.78
12	175.00	JAHH-65B-R3B	6	6.940	7.634	0.64	0.75	36.70	-465.88	0.000	2.000	280.16	0.00	560.32
13	161.00	Bridge Stiffener	1	6.754	7.430	1.00	1.00	8.47	544.87	0.000	0.000	62.96	0.00	0.00
14	157.00	ALU - TD-RRH8x20-25 -	3	6.706	7.377	0.50	0.75	6.90	458.94	0.000	0.000	50.93	0.00	0.00
15	157.00	ALU - 800 MHz - RRU	6	6.706	7.377	0.50	0.75	9.82	552.19	0.000	0.000	72.41	0.00	0.00
16	157.00	ALU - 1900 MHz - RRU	3	6.706	7.377	0.50	0.75	5.46	311.93	0.000	0.000	40.25	0.00	0.00
17	157.00	NNVV-65B-R4	3	6.706	7.377	0.55	0.75	22.05	757.26	0.000	0.000	162.68	0.00	0.00
18	157.00	Platform w/ Handrail +	1	6.706	7.377	1.00	1.00	84.30	6296.31	0.000	0.000	621.81	0.00	0.00
19	157.00	APXVTM14-C-I20	3	6.706	7.377	0.58	0.75	12.25	503.38	0.000	0.000	90.35	0.00	0.00
20	140.00	Ericsson AIR6449 B41	3	6.490	7.139	0.53	0.75	10.03	548.05	0.000	0.000	71.61	0.00	0.00
21	140.00	APXVAARR24_43-U-NA2	3	6.490	7.139	0.52	0.75	33.83	1255.54	0.000	0.000	241.55	0.00	0.00
22	140.00	KRY 112 489/2	3	6.490	7.139	0.50	0.75	1.65	88.42	0.000	0.000	11.79	0.00	0.00
23	140.00	MT-195-12	1	6.490	7.139	1.00	1.00	53.87	3186.57	0.000	0.000	384.55	0.00	0.00
24	140.00	Ericsson 4449 B71 + B85	3	6.490	7.139	0.50	0.75	3.54	217.71	0.000	0.000	25.26	0.00	0.00
25	140.00	Ericsson 4460 B25 + B66	3	6.490	7.139	0.50	0.75	4.97	444.67	0.000	0.000	35.48	0.00	0.00
26	140.00	Kathrein 782 11056	3	6.490	7.139	0.50	0.75	0.82	7.36	0.000	0.000	5.87	0.00	0.00
27	140.00	MS-HRECP-35	1	6.490	7.139	1.00	1.00	20.18	212.94	0.000	0.000	144.04	0.00	0.00
28	110.00	Raycap	1	6.058	6.664	1.00	1.00	2.38	47.99	0.000	0.000	15.84	0.00	0.00
29	110.00	Fujitsu TA08025-B604	3	6.058	6.664	0.50	0.75	3.50	291.91	0.000	0.000	23.33	0.00	0.00
30	110.00	Fujitsu TA08025-B605	3	6.058	6.664	0.50	0.75	3.50	333.61	0.000	0.000	23.33	0.00	0.00
31	110.00	MC-PK8-DSH	1	6.058	6.664	1.00	1.00	68.12	2790.26	0.000	0.000	453.91	0.00	0.00
32	110.00	Commscope	3	6.058	6.664	0.55	0.75	22.00	544.14	0.000	0.000	146.58	0.00	0.00
33	75.00	KS-24019	1	5.430	5.973	1.00	1.00	1.54	13.29	0.000	0.000	9.17	0.00	0.00
Totals:									25,692.14			4,065.66		

Total Applied Force Summary

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 23



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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		135.46	2315.85	0.00	0.00
10.00		133.05	2295.11	0.00	0.00
15.00		130.54	2265.15	0.00	0.00
20.00		127.98	2231.13	0.00	0.00
25.00		125.40	2194.75	0.00	0.00
30.00		122.90	2156.82	0.00	0.00
35.00		125.70	2117.77	0.00	0.00
38.75		95.20	1562.44	0.00	0.00
40.00		32.22	860.49	0.00	0.00
45.00		131.46	3395.04	0.00	0.00
50.00		132.43	1843.77	0.00	0.00
55.00		132.95	1806.91	0.00	0.00
60.00		133.07	1769.66	0.00	0.00
65.00		132.85	1732.07	0.00	0.00
70.00		132.32	1694.19	0.00	0.00
75.00	(1) attachments	140.69	1669.33	0.00	0.00
78.75		97.73	1217.40	0.00	0.00
80.00		32.76	604.73	0.00	0.00
83.75		98.26	1789.91	0.00	0.00
85.00		32.44	319.51	0.00	0.00
90.00		129.65	1257.35	0.00	0.00
95.00		127.97	1227.74	0.00	0.00
100.00		126.11	1197.97	0.00	0.00
105.00		124.08	1168.05	0.00	0.00
110.00	(11) attachments	784.88	5145.92	0.00	0.00
115.00		119.54	1096.90	0.00	0.00
119.00		93.73	856.28	0.00	0.00
120.00		23.44	313.57	0.00	0.00
123.00		69.86	928.09	0.00	0.00
125.00		45.98	368.65	0.00	0.00
130.00		113.43	901.39	0.00	0.00
135.00		110.56	875.45	0.00	0.00
140.00	(20) attachments	1027.73	6810.69	0.00	0.00
145.00		104.48	742.90	0.00	0.00
150.00		101.28	716.70	0.00	0.00
155.00		97.97	690.42	0.00	0.00
157.00	(19) attachments	1076.57	9149.74	0.00	0.00
160.00		56.21	386.70	0.00	0.00
161.00	(1) attachments	81.39	671.97	0.00	0.00
165.00		72.49	427.58	0.00	0.00
170.00		87.45	514.04	0.00	0.00
175.00	(31) attachments	1455.71	6776.92	0.00	2604.55
Totals:		8,255.93	78,067.07	0.00	2,604.55

Linear Appurtenance Segment Forces (Factored)

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

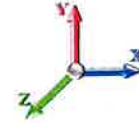
Page: 24



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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.85	0.00	0.018	0.000	4.176	0.00	7.09
5.00	Step bolts	Yes	5.00	0.000	0.63	0.95	0.00	0.018	0.000	4.176	0.00	12.60
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.90	0.00	0.018	0.000	4.176	0.00	7.80
10.00	Step bolts	Yes	5.00	0.000	0.63	1.00	0.00	0.018	0.000	4.176	0.00	13.37
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.93	0.00	0.018	0.000	4.176	0.00	8.26
15.00	Step bolts	Yes	5.00	0.000	0.63	1.03	0.00	0.018	0.000	4.176	0.00	13.87
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.95	0.00	0.019	0.000	4.176	0.00	8.61
20.00	Step bolts	Yes	5.00	0.000	0.63	1.06	0.00	0.019	0.000	4.176	0.00	14.24
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.97	0.00	0.019	0.000	4.176	0.00	8.89
25.00	Step bolts	Yes	5.00	0.000	0.63	1.07	0.00	0.019	0.000	4.176	0.00	14.55
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.98	0.00	0.020	0.000	4.179	0.00	9.13
30.00	Step bolts	Yes	5.00	0.000	0.63	1.09	0.00	0.020	0.000	4.179	0.00	14.80
35.00	Safety Cable	Yes	5.00	0.000	0.38	1.00	0.00	0.020	0.000	4.367	0.00	9.34
35.00	Step bolts	Yes	5.00	0.000	0.63	1.10	0.00	0.020	0.000	4.367	0.00	15.03
38.75	Safety Cable	Yes	3.75	0.000	0.38	0.75	0.00	0.020	0.000	4.496	0.00	7.12
38.75	Step bolts	Yes	3.75	0.000	0.63	0.83	0.00	0.020	0.000	4.496	0.00	11.39
40.00	Safety Cable	Yes	1.25	0.000	0.38	0.25	0.00	0.021	0.000	4.537	0.00	2.38
40.00	Step bolts	Yes	1.25	0.000	0.63	0.28	0.00	0.021	0.000	4.537	0.00	3.81
45.00	Safety Cable	Yes	5.00	0.000	0.38	1.02	0.00	0.021	0.000	4.693	0.00	9.70
45.00	Step bolts	Yes	5.00	0.000	0.63	1.12	0.00	0.021	0.000	4.693	0.00	15.41
50.00	Safety Cable	Yes	5.00	0.000	0.38	1.03	0.00	0.021	0.000	4.836	0.00	9.85
50.00	Step bolts	Yes	5.00	0.000	0.63	1.13	0.00	0.021	0.000	4.836	0.00	15.57
55.00	Safety Cable	Yes	5.00	0.000	0.38	1.04	0.00	0.022	0.000	4.969	0.00	10.00
55.00	Step bolts	Yes	5.00	0.000	0.63	1.14	0.00	0.022	0.000	4.969	0.00	15.73
60.00	Safety Cable	Yes	5.00	0.000	0.38	1.04	0.00	0.022	0.000	5.095	0.00	10.13
60.00	Step bolts	Yes	5.00	0.000	0.63	1.15	0.00	0.022	0.000	5.095	0.00	15.87
65.00	Safety Cable	Yes	5.00	0.000	0.38	1.05	0.00	0.023	0.000	5.212	0.00	10.25
65.00	Step bolts	Yes	5.00	0.000	0.63	1.15	0.00	0.023	0.000	5.212	0.00	16.00
70.00	Safety Cable	Yes	5.00	0.000	0.38	1.06	0.00	0.023	0.000	5.324	0.00	10.37
70.00	Step bolts	Yes	5.00	0.000	0.63	1.16	0.00	0.023	0.000	5.324	0.00	16.12
75.00	Safety Cable	Yes	5.00	0.000	0.38	1.06	0.00	0.024	0.000	5.430	0.00	10.48
75.00	Step bolts	Yes	5.00	0.000	0.63	1.17	0.00	0.024	0.000	5.430	0.00	16.24
78.75	Safety Cable	Yes	3.75	0.000	0.38	0.80	0.00	0.025	0.000	5.506	0.00	7.92
78.75	Step bolts	Yes	3.75	0.000	0.63	0.88	0.00	0.025	0.000	5.506	0.00	12.24
80.00	Safety Cable	Yes	1.25	0.000	0.38	0.27	0.00	0.025	0.000	5.531	0.00	2.65
80.00	Step bolts	Yes	1.25	0.000	0.63	0.29	0.00	0.025	0.000	5.531	0.00	4.09
83.75	Safety Cable	Yes	3.75	0.000	0.38	0.80	0.00	0.025	0.000	5.604	0.00	7.99
83.75	Step bolts	Yes	3.75	0.000	0.63	0.88	0.00	0.025	0.000	5.604	0.00	12.32
85.00	Safety Cable	Yes	1.25	0.000	0.38	0.27	0.00	0.025	0.000	5.628	0.00	2.67
85.00	Step bolts	Yes	1.25	0.000	0.63	0.29	0.00	0.025	0.000	5.628	0.00	4.11
90.00	Safety Cable	Yes	5.00	0.000	0.38	1.08	0.00	0.026	0.000	5.720	0.00	10.77
90.00	Step bolts	Yes	5.00	0.000	0.63	1.18	0.00	0.026	0.000	5.720	0.00	16.56
95.00	Safety Cable	Yes	5.00	0.000	0.38	1.08	0.00	0.027	0.000	5.809	0.00	10.86
95.00	Step bolts	Yes	5.00	0.000	0.63	1.19	0.00	0.027	0.000	5.809	0.00	16.65
100.00	Safety Cable	Yes	5.00	0.000	0.38	1.09	0.00	0.028	0.000	5.895	0.00	10.95
100.00	Step bolts	Yes	5.00	0.000	0.63	1.19	0.00	0.028	0.000	5.895	0.00	16.74
105.00	Safety Cable	Yes	5.00	0.000	0.38	1.09	0.00	0.028	0.000	5.978	0.00	11.03

Linear Appurtenance Segment Forces (Factored)

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 25



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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
105.00	Step bolts	Yes	5.00	0.000	0.63	1.20	0.00	0.028	0.000	5.978	0.00	16.83
110.00	Safety Cable	Yes	5.00	0.000	0.38	1.10	0.00	0.029	0.000	6.058	0.00	11.11
110.00	Step bolts	Yes	5.00	0.000	0.63	1.20	0.00	0.029	0.000	6.058	0.00	16.92
115.00	Safety Cable	Yes	5.00	0.000	0.38	1.10	0.00	0.030	0.000	6.135	0.00	11.19
115.00	Step bolts	Yes	5.00	0.000	0.63	1.21	0.00	0.030	0.000	6.135	0.00	17.00
119.00	Safety Cable	Yes	4.00	0.000	0.38	0.88	0.00	0.031	0.000	6.196	0.00	9.00
119.00	Step bolts	Yes	4.00	0.000	0.63	0.97	0.00	0.031	0.000	6.196	0.00	13.65
120.00	Safety Cable	Yes	1.00	0.000	0.38	0.22	0.00	0.032	0.000	6.210	0.00	2.25
120.00	Step bolts	Yes	1.00	0.000	0.63	0.24	0.00	0.032	0.000	6.210	0.00	3.42
123.00	Safety Cable	Yes	3.00	0.000	0.38	0.67	0.00	0.033	0.000	6.254	0.00	6.78
123.00	Step bolts	Yes	3.00	0.000	0.63	0.73	0.00	0.033	0.000	6.254	0.00	10.27
125.00	Safety Cable	Yes	2.00	0.000	0.38	0.44	0.00	0.033	0.000	6.283	0.00	4.53
125.00	Step bolts	Yes	2.00	0.000	0.63	0.49	0.00	0.033	0.000	6.283	0.00	6.86
130.00	Safety Cable	Yes	5.00	0.000	0.38	1.11	0.00	0.033	0.000	6.354	0.00	11.41
130.00	Step bolts	Yes	5.00	0.000	0.63	1.22	0.00	0.033	0.000	6.354	0.00	17.23
135.00	Safety Cable	Yes	5.00	0.000	0.38	1.12	0.00	0.035	0.000	6.423	0.00	11.47
135.00	Step bolts	Yes	5.00	0.000	0.63	1.22	0.00	0.035	0.000	6.423	0.00	17.30
140.00	Safety Cable	Yes	5.00	0.000	0.38	1.12	0.00	0.036	0.000	6.490	0.00	11.54
140.00	Step bolts	Yes	5.00	0.000	0.63	1.23	0.00	0.036	0.000	6.490	0.00	17.37
145.00	Safety Cable	Yes	5.00	0.000	0.38	1.12	0.00	0.038	0.000	6.555	0.00	11.60
145.00	Step bolts	Yes	5.00	0.000	0.63	1.23	0.00	0.038	0.000	6.555	0.00	17.43
150.00	Safety Cable	Yes	5.00	0.000	0.38	1.13	0.00	0.040	0.000	6.619	0.00	11.66
150.00	Step bolts	Yes	5.00	0.000	0.63	1.23	0.00	0.040	0.000	6.619	0.00	17.50
155.00	Safety Cable	Yes	5.00	0.000	0.38	1.13	0.00	0.042	0.000	6.682	0.00	11.72
155.00	Step bolts	Yes	5.00	0.000	0.63	1.24	0.00	0.042	0.000	6.682	0.00	17.56
157.00	Safety Cable	Yes	2.00	0.000	0.38	0.45	0.00	0.043	0.000	6.706	0.00	4.70
157.00	Step bolts	Yes	2.00	0.000	0.63	0.49	0.00	0.043	0.000	6.706	0.00	7.04
160.00	Safety Cable	Yes	3.00	0.000	0.38	0.68	0.00	0.044	0.000	6.742	0.00	7.07
160.00	Step bolts	Yes	3.00	0.000	0.63	0.74	0.00	0.044	0.000	6.742	0.00	10.58
161.00	Safety Cable	Yes	1.00	0.000	0.38	0.23	0.00	0.045	0.000	6.754	0.00	2.36
161.00	Step bolts	Yes	1.00	0.000	0.63	0.25	0.00	0.045	0.000	6.754	0.00	3.53
165.00	Safety Cable	Yes	4.00	0.000	0.38	0.91	0.00	0.046	0.000	6.802	0.00	9.47
165.00	Step bolts	Yes	4.00	0.000	0.63	0.99	0.00	0.046	0.000	6.802	0.00	14.15
170.00	Safety Cable	Yes	5.00	0.000	0.38	1.14	0.00	0.049	0.000	6.860	0.00	11.89
170.00	Step bolts	Yes	5.00	0.000	0.63	1.24	0.00	0.049	0.000	6.860	0.00	17.75
175.00	Safety Cable	Yes	5.00	0.000	0.38	1.14	0.00	0.051	0.000	6.917	0.00	11.95
175.00	Step bolts	Yes	5.00	0.000	0.63	1.25	0.00	0.051	0.000	6.917	0.00	17.80
Totals:											0.0	933.5

Calculated Forces

Structure: CT01915-S-SBA

Site Name: South Brooklyn

Height: 175.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Topography: 1

Code: TIA-222-H

Exposure: B

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: II

1/9/2024

Page: 26



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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-78.06	-8.28	0.00	-1059.0	0.00	1059.04	6411.04	1574.41	7384.33	7449.66	0.00	0.000	0.000	0.154
5.00	-75.74	-8.20	0.00	-1017.6	0.00	1017.62	6318.35	1542.38	7086.94	7191.28	0.02	-0.041	0.000	0.154
10.00	-73.44	-8.12	0.00	-976.61	0.00	976.61	6224.09	1510.35	6795.67	6935.58	0.09	-0.082	0.000	0.153
15.00	-71.17	-8.04	0.00	-936.01	0.00	936.01	6128.26	1478.32	6510.51	6682.66	0.20	-0.125	0.000	0.152
20.00	-68.93	-7.96	0.00	-895.81	0.00	895.81	6030.87	1446.29	6231.46	6432.65	0.35	-0.168	0.000	0.151
25.00	-66.73	-7.88	0.00	-856.02	0.00	856.02	5931.91	1414.27	5958.52	6185.64	0.55	-0.213	0.000	0.150
30.00	-64.57	-7.80	0.00	-816.63	0.00	816.63	5831.38	1382.24	5691.69	5941.76	0.80	-0.258	0.000	0.149
35.00	-62.45	-7.71	0.00	-777.64	0.00	777.64	5715.88	1350.21	5430.98	5687.79	1.09	-0.304	0.000	0.148
38.75	-60.88	-7.63	0.00	-748.75	0.00	748.75	5614.19	1326.19	5239.46	5486.19	1.35	-0.340	0.000	0.147
40.00	-60.02	-7.62	0.00	-739.21	0.00	739.21	5580.30	1318.18	5176.38	5419.80	1.44	-0.352	0.000	0.147
45.00	-56.62	-7.52	0.00	-701.10	0.00	701.10	4741.11	1148.23	4488.75	4589.89	1.83	-0.400	0.000	0.165
50.00	-54.77	-7.42	0.00	-663.52	0.00	663.52	4656.71	1120.20	4272.31	4397.14	2.28	-0.450	0.000	0.163
55.00	-52.96	-7.32	0.00	-626.43	0.00	626.43	4570.75	1092.18	4061.22	4206.97	2.78	-0.503	0.000	0.161
60.00	-51.18	-7.22	0.00	-589.82	0.00	589.82	4483.21	1064.15	3855.47	4019.49	3.33	-0.558	0.000	0.158
65.00	-49.44	-7.12	0.00	-553.71	0.00	553.71	4386.28	1036.13	3655.08	3828.00	3.95	-0.614	0.000	0.156
70.00	-47.74	-7.02	0.00	-518.11	0.00	518.11	4267.64	1008.10	3460.03	3622.70	4.62	-0.670	0.000	0.154
75.00	-46.07	-6.90	0.00	-483.04	0.00	483.04	4149.01	980.08	3270.33	3423.05	5.35	-0.728	0.000	0.152
78.75	-44.85	-6.80	0.00	-457.18	0.00	457.18	4060.03	959.06	3131.56	3277.03	5.94	-0.772	0.000	0.151
80.00	-44.24	-6.79	0.00	-448.68	0.00	448.68	4030.37	952.06	3085.97	3229.07	6.15	-0.787	0.000	0.150
83.75	-42.45	-6.69	0.00	-423.23	0.00	423.23	2677.54	678.08	2191.59	2145.77	6.78	-0.831	0.000	0.213
85.00	-42.13	-6.68	0.00	-414.87	0.00	414.87	2664.37	673.08	2159.36	2119.33	7.00	-0.846	0.000	0.212
90.00	-40.86	-6.59	0.00	-381.46	0.00	381.46	2610.69	653.06	2032.83	2014.37	7.93	-0.925	0.000	0.205
95.00	-39.63	-6.50	0.00	-348.51	0.00	348.51	2555.44	633.04	1910.12	1910.80	8.94	-1.003	0.000	0.198
100.00	-38.42	-6.40	0.00	-316.03	0.00	316.03	2498.62	613.02	1791.22	1808.74	10.04	-1.082	0.000	0.190
105.00	-37.25	-6.30	0.00	-284.04	0.00	284.04	2440.24	593.01	1676.15	1708.29	11.21	-1.159	0.000	0.182
110.00	-32.11	-5.45	0.00	-252.52	0.00	252.52	2380.29	572.99	1564.90	1609.56	12.47	-1.237	0.000	0.170
115.00	-31.01	-5.35	0.00	-225.25	0.00	225.25	2318.78	552.97	1457.47	1512.67	13.80	-1.313	0.000	0.162
119.00	-30.16	-5.25	0.00	-203.86	0.00	203.86	2268.44	536.96	1374.27	1436.56	14.93	-1.373	0.000	0.155
120.00	-29.84	-5.24	0.00	-198.61	0.00	198.61	2255.69	532.95	1353.86	1417.73	15.22	-1.389	0.000	0.153
123.00	-28.91	-5.16	0.00	-182.90	0.00	182.90	1577.63	391.93	991.46	989.40	16.10	-1.434	0.000	0.203
125.00	-28.54	-5.14	0.00	-172.57	0.00	172.57	1561.09	386.01	961.77	964.13	16.71	-1.464	0.000	0.197
130.00	-27.63	-5.04	0.00	-146.88	0.00	146.88	1518.76	371.23	889.52	901.77	18.29	-1.548	0.000	0.181
135.00	-26.76	-4.94	0.00	-121.68	0.00	121.68	1475.03	356.45	820.09	840.64	19.96	-1.627	0.000	0.163
140.00	-19.97	-3.74	0.00	-96.98	0.00	96.98	1429.92	341.67	753.48	780.83	21.70	-1.700	0.000	0.138
145.00	-19.23	-3.63	0.00	-78.28	0.00	78.28	1383.42	326.88	689.69	722.45	23.52	-1.766	0.000	0.122
150.00	-18.51	-3.53	0.00	-60.11	0.00	60.11	1321.23	312.10	628.72	658.46	25.40	-1.826	0.000	0.105
155.00	-17.82	-3.42	0.00	-42.47	0.00	42.47	1258.65	297.32	570.57	597.26	27.34	-1.877	0.000	0.085
157.00	-8.71	-2.04	0.00	-35.64	0.00	35.64	1233.62	291.41	548.11	573.62	28.13	-1.894	0.000	0.069
160.00	-8.33	-1.98	0.00	-29.50	0.00	29.50	1196.07	282.54	515.25	539.05	29.33	-1.918	0.000	0.062
161.00	-7.66	-1.88	0.00	-27.53	0.00	27.53	1183.55	279.58	504.52	527.76	29.73	-1.926	0.000	0.059
161.00	-7.66	-1.88	0.00	-27.53	0.00	27.53	858.57	210.29	380.57	385.05	29.73	-1.926	0.000	0.080
165.00	-7.23	-1.79	0.00	-20.02	0.00	20.02	832.45	201.42	349.14	357.46	31.35	-1.952	0.000	0.065
170.00	-6.72	-1.69	0.00	-11.06	0.00	11.06	798.56	190.33	311.76	323.86	33.42	-1.984	0.000	0.043
175.00	0.00	-1.46	0.00	-2.60	0.00	2.60	758.80	179.24	276.50	289.64	35.51	-2.001	0.000	0.009

Seismic Segment Forces (Factored)

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 27



Load Case: 1.2D + 1.0Ev + 1.0Eh

Iterations 22

Gust Response Factor 1.10

Sds 0.20

Ss 0.18

Dead Load Factor 1.20 **Seismic Load Factor** 1.00

Sd1 0.09

S1 0.05

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.29

SA 0.03

Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	H _z (lb)	Vertical Ev (lb)	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	
5.00		1707.6	2.50	67.40	0.01	
10.00		1676.6	7.50	66.17	0.08	
15.00		1645.5	12.50	64.95	0.21	
20.00		1614.5	17.50	63.72	0.39	
25.00		1583.4	22.50	62.49	0.63	
30.00		1552.4	27.50	61.27	0.90	
35.00		1521.3	32.50	60.04	1.21	
38.75	Bot - Section 2	1120.6	36.88	44.23	0.84	
40.00		655.60	39.38	25.87	0.33	
45.00	Top - Section 1	2586.0	42.50	102.06	5.97	
50.00		1296.4	47.50	51.17	1.87	
55.00		1269.2	52.50	50.09	2.20	
60.00		1242.1	57.50	49.02	2.52	
65.00		1214.9	62.50	47.95	2.85	
70.00		1187.7	67.50	46.88	3.18	
75.00	Appurtenance(s)	1164.6	72.50	45.96	3.52	
78.75	Bot - Section 3	852.63	76.88	33.65	2.12	
80.00		449.40	79.38	17.74	0.63	
83.75	Top - Section 2	1330.7	81.88	52.52	5.87	
85.00		212.96	84.38	8.40	0.16	
90.00		839.70	87.50	33.14	2.67	
95.00		820.30	92.50	32.37	2.85	
100.00		800.89	97.50	31.61	3.01	
105.00		781.48	102.50	30.84	3.17	
110.00	Appurtenance(s)	3140.0	107.50	123.93	56.33	
115.00		731.75	112.50	28.88	3.35	
119.00	Bot - Section 4	571.43	117.00	22.55	2.21	
120.00		225.41	119.50	8.90	0.36	
123.00	Top - Section 3	667.86	121.50	26.36	3.25	
125.00		237.79	124.00	9.38	0.43	
130.00		583.61	127.50	23.03	2.74	
135.00		568.09	132.50	22.42	2.80	
140.00	Appurtenance(s)	4348.1	137.50	171.61	176.70	
145.00		456.63	142.50	18.02	2.09	
150.00		441.10	147.50	17.41	2.09	
155.00		425.58	152.50	16.80	2.08	
157.00	Appurtenance(s)	4096.5	156.00	161.68	201.89	
160.00		234.66	158.50	9.26	0.68	
161.00	Top - Section 4	281.15	160.50	11.10	1.01	
165.00		244.73	163.00	9.66	0.79	
170.00		295.43	167.50	11.66	1.21	
175.00	Appurtenance(s)	4112.3	172.50	162.30	248.75	
Totals:		50,789.7		2,004.5	756.0	
					Total Wind:	31,716.4

Calculated Forces

Structure: CT01915-S-SBA

Site Name: South Brooklyn

Height: 175.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Topography: 1

Code: TIA-222-H

Exposure: B

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: II

1/9/2024

Page: 28



Load Case: 1.2D + 1.0Ev + 1.0Eh

Gust Response Factor 1.10

Dead Load Factor 1.20 **Seismic Load Factor** 1.00

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.29

Sds 0.20

Sd1 0.09

SA 0.03

Seismic Importance Factor 1.00



Iterations 22

Ss 0.18

S1 0.05

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-61.73	-0.76	0.00	-120.41	0.00	120.41	6411.04	1574.41	7384.33	7449.66	0.00	0.00	0.00	0.026
5.00	-59.65	-0.76	0.00	-116.63	0.00	116.63	6318.35	1542.38	7086.94	7191.28	0.00	0.00	0.00	0.026
10.00	-57.61	-0.77	0.00	-112.82	0.00	112.82	6224.09	1510.35	6795.67	6935.58	0.01	-0.01	0.00	0.026
15.00	-55.61	-0.77	0.00	-108.99	0.00	108.99	6128.26	1478.32	6510.51	6682.66	0.02	-0.01	0.00	0.025
20.00	-53.65	-0.77	0.00	-105.13	0.00	105.13	6030.87	1446.29	6231.46	6432.65	0.04	-0.02	0.00	0.025
25.00	-51.72	-0.78	0.00	-101.26	0.00	101.26	5931.91	1414.27	5958.52	6185.64	0.06	-0.02	0.00	0.025
30.00	-49.84	-0.78	0.00	-97.37	0.00	97.37	5831.38	1382.24	5691.69	5941.76	0.09	-0.03	0.00	0.025
35.00	-47.99	-0.78	0.00	-93.46	0.00	93.46	5715.88	1350.21	5430.98	5687.79	0.13	-0.04	0.00	0.025
38.75	-46.63	-0.78	0.00	-90.53	0.00	90.53	5614.19	1326.19	5239.46	5486.19	0.16	-0.04	0.00	0.025
40.00	-45.83	-0.79	0.00	-89.55	0.00	89.55	5580.30	1318.18	5176.38	5419.80	0.17	-0.04	0.00	0.025
45.00	-42.67	-0.78	0.00	-85.62	0.00	85.62	4741.11	1148.23	4488.75	4589.89	0.21	-0.05	0.00	0.028
50.00	-41.10	-0.78	0.00	-81.71	0.00	81.71	4656.71	1120.20	4272.31	4397.14	0.27	-0.05	0.00	0.027
55.00	-39.56	-0.78	0.00	-77.80	0.00	77.80	4570.75	1092.18	4061.22	4206.97	0.33	-0.06	0.00	0.027
60.00	-38.06	-0.78	0.00	-73.88	0.00	73.88	4483.21	1064.15	3855.47	4019.49	0.39	-0.07	0.00	0.027
65.00	-36.60	-0.78	0.00	-69.96	0.00	69.96	4386.28	1036.13	3655.08	3828.00	0.47	-0.07	0.00	0.027
70.00	-35.16	-0.78	0.00	-66.04	0.00	66.04	4267.64	1008.10	3460.03	3622.70	0.55	-0.08	0.00	0.026
75.00	-33.76	-0.78	0.00	-62.12	0.00	62.12	4149.01	980.08	3270.33	3423.05	0.64	-0.09	0.00	0.026
78.75	-32.73	-0.78	0.00	-59.19	0.00	59.19	4060.03	959.06	3131.56	3277.03	0.71	-0.09	0.00	0.026
80.00	-32.18	-0.78	0.00	-58.22	0.00	58.22	4030.37	952.06	3085.97	3229.07	0.73	-0.10	0.00	0.026
83.75	-30.56	-0.77	0.00	-55.29	0.00	55.29	2677.54	678.08	2191.59	2145.77	0.81	-0.10	0.00	0.037
85.00	-30.31	-0.78	0.00	-54.32	0.00	54.32	2664.37	673.08	2159.36	2119.33	0.84	-0.10	0.00	0.037
90.00	-29.31	-0.78	0.00	-50.44	0.00	50.44	2610.69	653.06	2032.83	2014.37	0.95	-0.11	0.00	0.036
95.00	-28.33	-0.78	0.00	-46.55	0.00	46.55	2555.44	633.04	1910.12	1910.80	1.08	-0.12	0.00	0.035
100.00	-27.38	-0.78	0.00	-42.66	0.00	42.66	2498.62	613.02	1791.22	1808.74	1.21	-0.13	0.00	0.035
105.00	-26.45	-0.78	0.00	-38.77	0.00	38.77	2440.24	593.01	1676.15	1708.29	1.36	-0.15	0.00	0.034
110.00	-22.60	-0.72	0.00	-34.88	0.00	34.88	2380.29	572.99	1564.90	1609.56	1.52	-0.16	0.00	0.031
115.00	-21.73	-0.71	0.00	-31.31	0.00	31.31	2318.78	552.97	1457.47	1512.67	1.69	-0.17	0.00	0.030
119.00	-21.05	-0.71	0.00	-28.45	0.00	28.45	2268.44	536.96	1374.27	1436.56	1.83	-0.18	0.00	0.029
120.00	-20.78	-0.71	0.00	-27.74	0.00	27.74	2255.69	532.95	1353.86	1417.73	1.87	-0.18	0.00	0.029
123.00	-19.97	-0.71	0.00	-25.61	0.00	25.61	1577.63	391.93	991.46	989.40	1.98	-0.18	0.00	0.039
125.00	-19.69	-0.71	0.00	-24.20	0.00	24.20	1561.09	386.01	961.77	964.13	2.06	-0.19	0.00	0.038
130.00	-19.00	-0.71	0.00	-20.65	0.00	20.65	1518.76	371.23	889.52	901.77	2.26	-0.20	0.00	0.035
135.00	-18.34	-0.71	0.00	-17.12	0.00	17.12	1475.03	356.45	820.09	840.64	2.48	-0.21	0.00	0.033
140.00	-12.99	-0.51	0.00	-13.59	0.00	13.59	1429.92	341.67	753.48	780.83	2.70	-0.22	0.00	0.026
145.00	-12.44	-0.51	0.00	-11.03	0.00	11.03	1383.42	326.88	689.69	722.45	2.94	-0.23	0.00	0.024
150.00	-11.91	-0.51	0.00	-8.49	0.00	8.49	1321.23	312.10	628.72	658.46	3.18	-0.24	0.00	0.022
155.00	-11.41	-0.50	0.00	-5.96	0.00	5.96	1258.65	297.32	570.57	597.26	3.44	-0.25	0.00	0.019
157.00	-6.34	-0.28	0.00	-4.95	0.00	4.95	1233.62	291.41	548.11	573.62	3.54	-0.25	0.00	0.014
160.00	-6.06	-0.28	0.00	-4.11	0.00	4.11	1196.07	282.54	515.25	539.05	3.70	-0.25	0.00	0.013
161.00	-5.72	-0.28	0.00	-3.83	0.00	3.83	1183.55	279.58	504.52	527.76	3.75	-0.25	0.00	0.012
161.00	-5.72	-0.28	0.00	-3.83	0.00	3.83	858.57	210.29	380.57	385.05	3.75	-0.25	0.00	0.017
165.00	-5.43	-0.27	0.00	-2.73	0.00	2.73	832.45	201.42	349.14	357.46	3.96	-0.26	0.00	0.014
170.00	-5.08	-0.27	0.00	-1.36	0.00	1.36	798.56	190.33	311.76	323.86	4.24	-0.26	0.00	0.011
175.00	0.00	-0.25	0.00	0.00	0.00	0.00	758.80	179.24	276.50	289.64	4.51	-0.26	0.00	0.000

Seismic Segment Forces (Factored)

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 29



Load Case: 0.9D + 1.0Ev + 1.0Eh

Iterations 22

Gust Response Factor 1.10

Sds 0.20

Ss 0.18

Dead Load Factor 0.90 **Seismic Load Factor** 1.00

Sd1 0.09

S1 0.05

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.29

SA 0.03

Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)	
						R: 1.50
0.00		0.00	0.00	0.00	0.00	
5.00		1658.4	2.50	65.45	0.01	
10.00		1627.4	7.50	64.23	0.08	
15.00		1596.3	12.50	63.00	0.20	
20.00		1565.3	17.50	61.78	0.38	
25.00		1534.2	22.50	60.55	0.60	
30.00		1503.2	27.50	59.33	0.86	
35.00		1472.1	32.50	58.10	1.16	
38.75	Bot - Section 2	1083.7	36.88	42.77	0.81	
40.00		643.30	39.38	25.39	0.32	
45.00	Top - Section 1	2536.7	42.50	100.12	5.87	
50.00		1247.2	47.50	49.22	1.77	
55.00		1220.0	52.50	48.15	2.07	
60.00		1192.9	57.50	47.08	2.38	
65.00		1165.7	62.50	46.01	2.68	
70.00		1138.5	67.50	44.94	2.98	
75.00	Appurtenance(s)	1115.3	72.50	44.02	3.30	
78.75	Bot - Section 3	815.72	76.88	32.19	1.99	
80.00		437.10	79.38	17.25	0.61	
83.75	Top - Section 2	1293.8	81.88	51.06	5.67	
85.00		200.65	84.38	7.92	0.14	
90.00		790.48	87.50	31.20	2.42	
95.00		771.07	92.50	30.43	2.57	
100.00		751.67	97.50	29.67	2.71	
105.00		732.26	102.50	28.90	2.85	
110.00	Appurtenance(s)	3090.8	107.50	121.99	55.75	
115.00		685.26	112.50	27.04	3.00	
119.00	Bot - Section 4	534.23	117.00	21.08	1.97	
120.00		216.11	119.50	8.53	0.34	
123.00	Top - Section 3	639.96	121.50	25.26	3.05	
125.00		219.20	124.00	8.65	0.37	
130.00		537.12	127.50	21.20	2.37	
135.00		521.60	132.50	20.59	2.41	
140.00	Appurtenance(s)	4301.6	137.50	169.77	176.68	
145.00		430.24	142.50	16.98	1.90	
150.00		414.71	147.50	16.37	1.89	
155.00		399.19	152.50	15.75	1.87	
157.00	Appurtenance(s)	4086.0	156.00	161.26	205.19	
160.00		221.21	158.50	8.73	0.62	
161.00	Top - Section 4	276.66	160.50	10.92	1.00	
165.00		226.79	163.00	8.95	0.69	
170.00		273.00	167.50	10.77	1.06	
175.00	Appurtenance(s)	4089.9	172.50	161.42	251.37	
Totals:		49,257.4		1,944.0	756.0	
						Total Wind: 31,716.4

Calculated Forces

Structure: CT01915-S-SBA

Site Name: South Brooklyn

Height: 175.00 (ft)

Base Elev: 0.000 (ft)

Gh: 1.1

Topography: 1

Code: TIA-222-H

Exposure: B

Crest Height: 0.00

Site Class: D - Stiff Soil

Struct Class: II

1/9/2024

Page: 30



Load Case: 0.9D + 1.0Ev + 1.0Eh

Gust Response Factor 1.10

Dead Load Factor 0.90

Wind Load Factor 0.00

Seismic Load Factor 1.00

Structure Frequency (f1) 0.29

Sds 0.20

Sd1 0.09

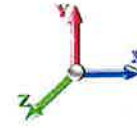
SA 0.03

Seismic Importance Factor 1.00

Iterations 22

Ss 0.18

S1 0.05



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-46.74	-0.76	0.00	-118.82	0.00	118.82	6411.04	1574.41	7384.33	7449.66	0.00	0.00	0.00	0.023
5.00	-45.16	-0.76	0.00	-115.04	0.00	115.04	6318.35	1542.38	7086.94	7191.28	0.00	0.00	0.00	0.023
10.00	-43.62	-0.76	0.00	-111.24	0.00	111.24	6224.09	1510.35	6795.67	6935.58	0.01	-0.01	0.00	0.023
15.00	-42.10	-0.77	0.00	-107.42	0.00	107.42	6128.26	1478.32	6510.51	6682.66	0.02	-0.01	0.00	0.023
20.00	-40.62	-0.77	0.00	-103.58	0.00	103.58	6030.87	1446.29	6231.46	6432.65	0.04	-0.02	0.00	0.023
25.00	-39.16	-0.77	0.00	-99.74	0.00	99.74	5931.91	1414.27	5958.52	6185.64	0.06	-0.02	0.00	0.023
30.00	-37.74	-0.77	0.00	-95.88	0.00	95.88	5831.38	1382.24	5691.69	5941.76	0.09	-0.03	0.00	0.023
35.00	-36.34	-0.78	0.00	-92.01	0.00	92.01	5715.88	1350.21	5430.98	5687.79	0.12	-0.04	0.00	0.023
38.75	-35.31	-0.78	0.00	-89.10	0.00	89.10	5614.19	1326.19	5239.46	5486.19	0.15	-0.04	0.00	0.023
40.00	-34.70	-0.78	0.00	-88.13	0.00	88.13	5580.30	1318.18	5176.38	5419.80	0.16	-0.04	0.00	0.022
45.00	-32.30	-0.77	0.00	-84.25	0.00	84.25	4741.11	1148.23	4488.75	4589.89	0.21	-0.05	0.00	0.025
50.00	-31.12	-0.77	0.00	-80.38	0.00	80.38	4656.71	1120.20	4272.31	4397.14	0.26	-0.05	0.00	0.025
55.00	-29.95	-0.77	0.00	-76.52	0.00	76.52	4570.75	1092.18	4061.22	4206.97	0.32	-0.06	0.00	0.025
60.00	-28.82	-0.77	0.00	-72.65	0.00	72.65	4483.21	1064.15	3855.47	4019.49	0.39	-0.07	0.00	0.025
65.00	-27.71	-0.77	0.00	-68.79	0.00	68.79	4386.28	1036.13	3655.08	3828.00	0.46	-0.07	0.00	0.024
70.00	-26.62	-0.77	0.00	-64.93	0.00	64.93	4267.64	1008.10	3460.03	3622.70	0.54	-0.08	0.00	0.024
75.00	-25.56	-0.77	0.00	-61.07	0.00	61.07	4149.01	980.08	3270.33	3423.05	0.63	-0.09	0.00	0.024
78.75	-24.78	-0.77	0.00	-58.18	0.00	58.18	4060.03	959.06	3131.56	3277.03	0.70	-0.09	0.00	0.024
80.00	-24.37	-0.77	0.00	-57.22	0.00	57.22	4030.37	952.06	3085.97	3229.07	0.72	-0.09	0.00	0.024
83.75	-23.14	-0.76	0.00	-54.34	0.00	54.34	2677.54	678.08	2191.59	2145.77	0.80	-0.10	0.00	0.034
85.00	-22.95	-0.76	0.00	-53.39	0.00	53.39	2664.37	673.08	2159.36	2119.33	0.82	-0.10	0.00	0.034
90.00	-22.19	-0.76	0.00	-49.57	0.00	49.57	2610.69	653.06	2032.83	2014.37	0.94	-0.11	0.00	0.033
95.00	-21.45	-0.76	0.00	-45.75	0.00	45.75	2555.44	633.04	1910.12	1910.80	1.06	-0.12	0.00	0.032
100.00	-20.73	-0.76	0.00	-41.93	0.00	41.93	2498.62	613.02	1791.22	1808.74	1.19	-0.13	0.00	0.031
105.00	-20.03	-0.76	0.00	-38.12	0.00	38.12	2440.24	593.01	1676.15	1708.29	1.34	-0.14	0.00	0.031
110.00	-17.11	-0.70	0.00	-34.30	0.00	34.30	2380.29	572.99	1564.90	1609.56	1.49	-0.15	0.00	0.029
115.00	-16.45	-0.70	0.00	-30.79	0.00	30.79	2318.78	552.97	1457.47	1512.67	1.66	-0.16	0.00	0.027
119.00	-15.94	-0.70	0.00	-27.99	0.00	27.99	2268.44	536.96	1374.27	1436.56	1.80	-0.17	0.00	0.027
120.00	-15.73	-0.70	0.00	-27.29	0.00	27.29	2255.69	532.95	1353.86	1417.73	1.84	-0.17	0.00	0.026
123.00	-15.13	-0.69	0.00	-25.20	0.00	25.20	1577.63	391.93	991.46	989.40	1.95	-0.18	0.00	0.035
125.00	-14.91	-0.70	0.00	-23.81	0.00	23.81	1561.09	386.01	961.77	964.13	2.02	-0.18	0.00	0.034
130.00	-14.40	-0.69	0.00	-20.33	0.00	20.33	1518.76	371.23	889.52	901.77	2.22	-0.20	0.00	0.032
135.00	-13.89	-0.69	0.00	-16.85	0.00	16.85	1475.03	356.45	820.09	840.64	2.44	-0.21	0.00	0.029
140.00	-9.84	-0.50	0.00	-13.39	0.00	13.39	1429.92	341.67	753.48	780.83	2.66	-0.22	0.00	0.024
145.00	-9.42	-0.50	0.00	-10.87	0.00	10.87	1383.42	326.88	689.69	722.45	2.89	-0.23	0.00	0.022
150.00	-9.03	-0.50	0.00	-8.37	0.00	8.37	1321.23	312.10	628.72	658.46	3.13	-0.23	0.00	0.020
155.00	-8.64	-0.50	0.00	-5.87	0.00	5.87	1258.65	297.32	570.57	597.26	3.38	-0.24	0.00	0.017
157.00	-4.80	-0.27	0.00	-4.88	0.00	4.88	1233.62	291.41	548.11	573.62	3.48	-0.24	0.00	0.012
160.00	-4.59	-0.27	0.00	-4.06	0.00	4.06	1196.07	282.54	515.25	539.05	3.64	-0.25	0.00	0.011
161.00	-4.33	-0.27	0.00	-3.78	0.00	3.78	1183.55	279.58	504.52	527.76	3.69	-0.25	0.00	0.011
161.00	-4.33	-0.27	0.00	-3.78	0.00	3.78	858.57	210.29	380.57	385.05	3.69	-0.25	0.00	0.015
165.00	-4.11	-0.27	0.00	-2.70	0.00	2.70	832.45	201.42	349.14	357.46	3.90	-0.25	0.00	0.012
170.00	-3.85	-0.27	0.00	-1.34	0.00	1.34	798.56	190.33	311.76	323.86	4.17	-0.26	0.00	0.009
175.00	0.00	-0.25	0.00	0.00	0.00	0.00	758.80	179.24	276.50	289.64	4.44	-0.26	0.00	0.000

Wind Loading - Shaft

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 31



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	5.380	5.92	239.96	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	5.380	5.92	235.12	0.730	0.000	5.00	23.886	17.44	103.2	0.0	1510.8
10.00		1.00	0.70	5.380	5.92	230.28	0.730	0.000	5.00	23.399	17.08	101.1	0.0	1479.7
15.00		1.00	0.70	5.380	5.92	225.44	0.730	0.000	5.00	22.913	16.73	99.0	0.0	1448.7
20.00		1.00	0.70	5.380	5.92	220.60	0.730	0.000	5.00	22.426	16.37	96.9	0.0	1417.6
25.00		1.00	0.70	5.380	5.92	215.77	0.730	0.000	5.00	21.940	16.02	94.8	0.0	1386.6
30.00		1.00	0.70	5.385	5.92	211.02	0.730	0.000	5.00	21.453	15.66	92.8	0.0	1355.5
35.00		1.00	0.73	5.627	6.19	210.77	0.730	0.000	5.00	20.966	15.31	94.7	0.0	1324.5
38.75 Bot - Section 2		1.00	0.75	5.793	6.37	210.09	0.730	0.000	3.75	15.406	11.25	71.7	0.0	973.0
40.00		1.00	0.76	5.846	6.43	209.78	0.730	0.000	1.25	5.167	3.77	24.3	0.0	606.4
45.00 Top - Section 1		1.00	0.79	6.046	6.65	208.21	0.730	0.000	5.00	20.364	14.87	98.9	0.0	2389.1
50.00		1.00	0.81	6.231	6.85	210.12	0.730	0.000	5.00	19.877	14.51	99.5	0.0	1099.6
55.00		1.00	0.83	6.403	7.04	207.73	0.730	0.000	5.00	19.390	14.16	99.7	0.0	1072.4
60.00		1.00	0.85	6.564	7.22	204.98	0.730	0.000	5.00	18.904	13.80	99.6	0.0	1045.2
65.00		1.00	0.87	6.716	7.39	201.93	0.730	0.000	5.00	18.417	13.44	99.3	0.0	1018.1
70.00		1.00	0.89	6.860	7.55	198.62	0.730	0.000	5.00	17.931	13.09	98.8	0.0	990.9
75.00 Appurtenance(s)		1.00	0.91	6.996	7.70	195.06	0.730	0.000	5.00	17.444	12.73	98.0	0.0	963.7
78.75 Bot - Section 3		1.00	0.92	7.094	7.80	192.26	0.730	0.000	3.75	12.764	9.32	72.7	0.0	705.0
80.00		1.00	0.93	7.126	7.84	191.30	0.730	0.000	1.25	4.260	3.11	24.4	0.0	400.2
83.75 Top - Section 2		1.00	0.94	7.220	7.94	188.35	0.730	0.000	3.75	12.597	9.20	73.0	0.0	1183.1
85.00		1.00	0.94	7.251	7.98	190.40	0.730	0.000	1.25	4.138	3.02	24.1	0.0	163.7
90.00		1.00	0.96	7.370	8.11	186.30	0.730	0.000	5.00	16.249	11.86	96.2	0.0	642.8
95.00		1.00	0.97	7.485	8.23	182.04	0.730	0.000	5.00	15.762	11.51	94.7	0.0	623.4
100.00		1.00	0.99	7.595	8.35	177.63	0.730	0.000	5.00	15.276	11.15	93.2	0.0	604.0
105.00		1.00	1.00	7.702	8.47	173.08	0.730	0.000	5.00	14.789	10.80	91.5	0.0	584.6
110.00 Appurtenance(s)		1.00	1.02	7.805	8.59	168.41	0.730	0.000	5.00	14.303	10.44	89.6	0.0	565.2
115.00		1.00	1.03	7.905	8.70	163.61	0.730	0.000	5.00	13.816	10.09	87.7	0.0	545.8
119.00 Bot - Section 4		1.00	1.04	7.982	8.78	159.70	0.730	0.000	4.00	10.703	7.81	68.6	0.0	422.7
120.00		1.00	1.04	8.002	8.80	158.71	0.730	0.000	1.00	2.669	1.95	17.2	0.0	188.2
123.00 Top - Section 3		1.00	1.05	8.058	8.86	155.72	0.730	0.000	3.00	7.891	5.76	51.1	0.0	556.3
125.00		1.00	1.05	8.095	8.90	156.28	0.730	0.000	2.00	5.163	3.77	33.6	0.0	163.4
130.00		1.00	1.07	8.187	9.01	151.19	0.730	0.000	5.00	12.568	9.17	82.6	0.0	397.6
135.00		1.00	1.08	8.275	9.10	146.01	0.730	0.000	5.00	12.081	8.82	80.3	0.0	382.1
140.00 Appurtenance(s)		1.00	1.09	8.362	9.20	140.74	0.730	0.000	5.00	11.595	8.46	77.9	0.0	366.6
145.00		1.00	1.10	8.446	9.29	135.38	0.730	0.000	5.00	11.108	8.11	75.3	0.0	351.1
150.00		1.00	1.11	8.528	9.38	129.95	0.730	0.000	5.00	10.622	7.75	72.7	0.0	335.5
155.00		1.00	1.12	8.609	9.47	124.44	0.730	0.000	5.00	10.135	7.40	70.1	0.0	320.0
157.00 Appurtenance(s)		1.00	1.12	8.640	9.50	122.21	0.730	0.000	2.00	3.918	2.86	27.2	0.0	123.7
160.00		1.00	1.13	8.687	9.56	118.85	0.730	0.000	3.00	5.731	4.18	40.0	0.0	180.8
161.00 Top - Section 4		1.00	1.13	8.703	9.57	117.73	0.730	0.000	1.00	1.871	1.37	13.1	0.0	59.0
165.00		1.00	1.14	8.764	9.64	113.20	0.730	0.000	4.00	7.291	5.32	51.3	0.0	173.0
170.00		1.00	1.15	8.839	9.72	107.48	0.730	0.000	5.00	8.676	6.33	61.6	0.0	205.7
175.00 Appurtenance(s)		1.00	1.16	8.912	9.80	101.70	0.730	0.000	5.00	8.189	5.98	58.6	0.0	194.1
Totals:									175.00			3,100.2		30,519.4

Discrete Appurtenance Forces

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 32



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations

24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	175.00	MT6413 77A	3	8.941	9.835	0.45	0.75	5.12	171.96	0.000	2.000	50.32	0.00	100.65
2	175.00	6' Lightning rod	1	8.912	9.804	1.00	1.00	0.38	6.50	0.000	0.000	3.73	0.00	0.00
3	175.00	Antel BXA-70080-6CF	3	8.941	9.835	0.65	0.75	11.28	54.00	0.000	2.000	110.90	0.00	221.79
4	175.00	Samsung B2/B66A	3	8.941	9.835	0.50	0.75	2.82	253.20	0.000	2.000	27.73	0.00	55.45
5	175.00	Samsung B5/B13	3	8.941	9.835	0.50	0.75	2.82	210.90	0.000	2.000	27.73	0.00	55.45
6	175.00	RVZDC-6627-PF-48	1	8.941	9.835	0.75	0.75	3.04	32.00	0.000	2.000	29.95	0.00	59.90
7	175.00	CBC78T-DS-43-2X	3	8.941	9.835	0.50	0.75	0.56	62.10	0.000	2.000	5.49	0.00	10.97
8	175.00	14' Support rail	3	8.941	9.835	1.00	1.00	24.39	907.08	0.000	2.000	239.89	0.00	479.77
9	175.00	Low Profile Platform-flat	1	8.941	9.835	1.00	1.00	25.00	1200.00	0.000	2.000	245.89	0.00	491.77
10	175.00	kicker kit	1	8.941	9.835	1.00	1.00	9.50	464.91	0.000	2.000	93.44	0.00	186.87
11	175.00	91900314-02	3	8.920	9.812	1.00	1.00	5.70	86.10	0.000	0.500	55.93	0.00	27.96
12	175.00	JAHH-65B-R3B	6	8.941	9.835	0.64	0.75	33.20	379.80	0.000	2.000	326.55	0.00	653.09
13	161.00	Bridge Stiffener	1	8.703	9.573	1.00	1.00	5.77	204.17	0.000	0.000	55.23	0.00	0.00
14	157.00	ALU - TD-RRH8x20-25 -	3	8.640	9.504	0.50	0.75	6.11	210.00	0.000	0.000	58.03	0.00	0.00
15	157.00	ALU - 800 MHz - RRU	6	8.640	9.504	0.50	0.75	7.51	318.00	0.000	0.000	71.35	0.00	0.00
16	157.00	ALU - 1900 MHz - RRU	3	8.640	9.504	0.50	0.75	4.18	180.00	0.000	0.000	39.69	0.00	0.00
17	157.00	NNVV-65B-R4	3	8.640	9.504	0.55	0.75	20.43	254.10	0.000	0.000	194.17	0.00	0.00
18	157.00	Platform w/ Handrail +	1	8.640	9.504	1.00	1.00	54.00	2800.00	0.000	0.000	513.23	0.00	0.00
19	157.00	APXVTM14-C-I20	3	8.640	9.504	0.58	0.75	10.98	168.60	0.000	0.000	104.39	0.00	0.00
20	140.00	Ericsson AIR6449 B41	3	8.362	9.198	0.53	0.75	9.03	309.00	0.000	0.000	83.02	0.00	0.00
21	140.00	APXVAARR24_43-U-NA2	3	8.362	9.198	0.52	0.75	31.88	384.00	0.000	0.000	293.21	0.00	0.00
22	140.00	KRY 112 489/2	3	8.362	9.198	0.50	0.75	1.01	46.20	0.000	0.000	9.29	0.00	0.00
23	140.00	MT-195-12	1	8.362	9.198	1.00	1.00	40.00	2000.00	0.000	0.000	367.92	0.00	0.00
24	140.00	Ericsson 4449 B71 + B85	3	8.362	9.198	0.50	0.75	2.97	225.00	0.000	0.000	27.32	0.00	0.00
25	140.00	Ericsson 4460 B25 + B66	3	8.362	9.198	0.50	0.75	4.30	312.00	0.000	0.000	39.52	0.00	0.00
26	140.00	Kathrein 782 11056	3	8.362	9.198	0.50	0.75	0.42	5.40	0.000	0.000	3.88	0.00	0.00
27	140.00	MS-HRECP-35	1	8.362	9.198	1.00	1.00	12.25	514.00	0.000	0.000	112.68	0.00	0.00
28	110.00	Raycap	1	7.805	8.586	1.00	1.00	2.01	21.90	0.000	0.000	17.26	0.00	0.00
29	110.00	Fujitsu TA08025-B604	3	7.805	8.586	0.50	0.75	2.95	191.70	0.000	0.000	25.37	0.00	0.00
30	110.00	Fujitsu TA08025-B605	3	7.805	8.586	0.50	0.75	2.95	225.00	0.000	0.000	25.37	0.00	0.00
31	110.00	MC-PK8-DSH	1	7.805	8.586	1.00	1.00	37.59	1727.00	0.000	0.000	322.73	0.00	0.00
32	110.00	Commscope	3	7.805	8.586	0.55	0.75	20.43	212.40	0.000	0.000	175.40	0.00	0.00
33	75.00	KS-24019	1	6.996	7.696	1.00	1.00	0.91	4.00	0.000	0.000	7.00	0.00	0.00
Totals:									14,141.02			3,763.57		

Total Applied Force Summary

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 33



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		103.19	1674.86	0.00	0.00
10.00		101.09	1643.81	0.00	0.00
15.00		98.99	1612.76	0.00	0.00
20.00		96.89	1581.71	0.00	0.00
25.00		94.78	1550.66	0.00	0.00
30.00		92.76	1519.61	0.00	0.00
35.00		94.74	1488.56	0.00	0.00
38.75		71.66	1096.05	0.00	0.00
40.00		24.25	647.40	0.00	0.00
45.00		98.86	2553.20	0.00	0.00
50.00		99.45	1263.64	0.00	0.00
55.00		99.69	1236.48	0.00	0.00
60.00		99.64	1209.31	0.00	0.00
65.00		99.32	1182.14	0.00	0.00
70.00		98.77	1154.97	0.00	0.00
75.00	(1) attachments	105.00	1131.80	0.00	0.00
78.75		72.71	828.02	0.00	0.00
80.00		24.38	441.20	0.00	0.00
83.75		73.04	1306.13	0.00	0.00
85.00		24.09	204.75	0.00	0.00
90.00		96.17	806.89	0.00	0.00
95.00		94.74	787.48	0.00	0.00
100.00		93.17	768.07	0.00	0.00
105.00		91.47	748.67	0.00	0.00
110.00	(11) attachments	655.77	3107.26	0.00	0.00
115.00		87.70	700.76	0.00	0.00
119.00		68.60	546.63	0.00	0.00
120.00		17.15	219.21	0.00	0.00
123.00		51.06	649.26	0.00	0.00
125.00		33.57	225.39	0.00	0.00
130.00		82.62	552.62	0.00	0.00
135.00		80.28	537.09	0.00	0.00
140.00	(20) attachments	1014.69	4317.17	0.00	0.00
145.00		75.34	439.03	0.00	0.00
150.00		72.74	423.51	0.00	0.00
155.00		70.06	407.98	0.00	0.00
157.00	(19) attachments	1008.04	4089.55	0.00	0.00
160.00		39.98	225.69	0.00	0.00
161.00	(1) attachments	68.31	278.16	0.00	0.00
165.00		51.31	232.77	0.00	0.00
170.00		61.58	280.48	0.00	0.00
175.00	(31) attachments	1276.12	4097.39	0.00	2343.69
Totals:		6,863.77	49,768.14	0.00	2,343.69

Linear Appurtenance Segment Forces (Factored)

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 34



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations

24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	5.380	0.00	1.37
5.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	5.380	0.00	5.20
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	5.380	0.00	1.37
10.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	5.380	0.00	5.20
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	5.380	0.00	1.37
15.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	5.380	0.00	5.20
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	5.380	0.00	1.37
20.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	5.380	0.00	5.20
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	5.380	0.00	1.37
25.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	5.380	0.00	5.20
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	5.385	0.00	1.37
30.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	5.385	0.00	5.20
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	5.627	0.00	1.37
35.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	5.627	0.00	5.20
38.75	Safety Cable	Yes	3.75	0.000	0.38	0.12	0.00	0.020	0.000	5.793	0.00	1.02
38.75	Step bolts	Yes	3.75	0.000	0.63	0.20	0.00	0.020	0.000	5.793	0.00	3.90
40.00	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.021	0.000	5.846	0.00	0.34
40.00	Step bolts	Yes	1.25	0.000	0.63	0.07	0.00	0.021	0.000	5.846	0.00	1.30
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	6.046	0.00	1.37
45.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	6.046	0.00	5.20
50.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	6.231	0.00	1.37
50.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	6.231	0.00	5.20
55.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	6.403	0.00	1.37
55.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	6.403	0.00	5.20
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	6.564	0.00	1.37
60.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	6.564	0.00	5.20
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	6.716	0.00	1.37
65.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	6.716	0.00	5.20
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	6.860	0.00	1.37
70.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	6.860	0.00	5.20
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	6.996	0.00	1.37
75.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	6.996	0.00	5.20
78.75	Safety Cable	Yes	3.75	0.000	0.38	0.12	0.00	0.025	0.000	7.094	0.00	1.02
78.75	Step bolts	Yes	3.75	0.000	0.63	0.20	0.00	0.025	0.000	7.094	0.00	3.90
80.00	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.025	0.000	7.126	0.00	0.34
80.00	Step bolts	Yes	1.25	0.000	0.63	0.07	0.00	0.025	0.000	7.126	0.00	1.30
83.75	Safety Cable	Yes	3.75	0.000	0.38	0.12	0.00	0.025	0.000	7.220	0.00	1.02
83.75	Step bolts	Yes	3.75	0.000	0.63	0.20	0.00	0.025	0.000	7.220	0.00	3.90
85.00	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.025	0.000	7.251	0.00	0.34
85.00	Step bolts	Yes	1.25	0.000	0.63	0.07	0.00	0.025	0.000	7.251	0.00	1.30
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	7.370	0.00	1.37
90.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	7.370	0.00	5.20
95.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.027	0.000	7.485	0.00	1.37
95.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.027	0.000	7.485	0.00	5.20
100.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	7.595	0.00	1.37
100.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	7.595	0.00	5.20
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	7.702	0.00	1.37

Linear Appurtenance Segment Forces (Factored)

Structure: CT01915-S-SBA

Code: TIA-222-H

1/9/2024

Site Name: South Brooklyn

Exposure: B

Height: 175.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 35



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
105.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	7.702	0.00	5.20
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	7.805	0.00	1.37
110.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	7.805	0.00	5.20
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	7.905	0.00	1.37
115.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	7.905	0.00	5.20
119.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.031	0.000	7.982	0.00	1.09
119.00	Step bolts	Yes	4.00	0.000	0.63	0.21	0.00	0.031	0.000	7.982	0.00	4.16
120.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.032	0.000	8.002	0.00	0.27
120.00	Step bolts	Yes	1.00	0.000	0.63	0.05	0.00	0.032	0.000	8.002	0.00	1.04
123.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.033	0.000	8.058	0.00	0.82
123.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.033	0.000	8.058	0.00	3.12
125.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	8.095	0.00	0.55
125.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	8.095	0.00	2.08
130.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	8.187	0.00	1.37
130.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	8.187	0.00	5.20
135.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.035	0.000	8.275	0.00	1.37
135.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.035	0.000	8.275	0.00	5.20
140.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.036	0.000	8.362	0.00	1.37
140.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.036	0.000	8.362	0.00	5.20
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.038	0.000	8.446	0.00	1.37
145.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.038	0.000	8.446	0.00	5.20
150.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.040	0.000	8.528	0.00	1.37
150.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.040	0.000	8.528	0.00	5.20
155.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.042	0.000	8.609	0.00	1.37
155.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.042	0.000	8.609	0.00	5.20
157.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.043	0.000	8.640	0.00	0.55
157.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.043	0.000	8.640	0.00	2.08
160.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.044	0.000	8.687	0.00	0.82
160.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.044	0.000	8.687	0.00	3.12
161.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.045	0.000	8.703	0.00	0.27
161.00	Step bolts	Yes	1.00	0.000	0.63	0.05	0.00	0.045	0.000	8.703	0.00	1.04
165.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.046	0.000	8.764	0.00	1.09
165.00	Step bolts	Yes	4.00	0.000	0.63	0.21	0.00	0.046	0.000	8.764	0.00	4.16
170.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.049	0.000	8.839	0.00	1.37
170.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.049	0.000	8.839	0.00	5.20
175.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.051	0.000	8.912	0.00	1.37
175.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.051	0.000	8.912	0.00	5.20
Totals:											0.0	229.8

Calculated Forces

Structure: CT01915-S-SBA
Site Name: South Brooklyn
Height: 175.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: TIA-222-H
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

1/9/2024

Page: 36



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-49.77	-6.88	0.00	-871.94	0.00	871.94	6411.04	1574.41	7384.33	7449.66	0.00	0.000	0.000	0.125
5.00	-48.09	-6.80	0.00	-837.55	0.00	837.55	6318.35	1542.38	7086.94	7191.28	0.02	-0.034	0.000	0.124
10.00	-46.44	-6.73	0.00	-803.54	0.00	803.54	6224.09	1510.35	6795.67	6935.58	0.07	-0.068	0.000	0.123
15.00	-44.82	-6.65	0.00	-769.90	0.00	769.90	6128.26	1478.32	6510.51	6682.66	0.16	-0.103	0.000	0.123
20.00	-43.24	-6.58	0.00	-736.63	0.00	736.63	6030.87	1446.29	6231.46	6432.65	0.29	-0.139	0.000	0.122
25.00	-41.68	-6.51	0.00	-703.72	0.00	703.72	5931.91	1414.27	5958.52	6185.64	0.45	-0.175	0.000	0.121
30.00	-40.16	-6.44	0.00	-671.18	0.00	671.18	5831.38	1382.24	5691.69	5941.76	0.66	-0.212	0.000	0.120
35.00	-38.67	-6.36	0.00	-638.99	0.00	638.99	5715.88	1350.21	5430.98	5687.79	0.90	-0.250	0.000	0.119
38.75	-37.57	-6.30	0.00	-615.14	0.00	615.14	5614.19	1326.19	5239.46	5486.19	1.11	-0.280	0.000	0.119
40.00	-36.92	-6.28	0.00	-607.27	0.00	607.27	5580.30	1318.18	5176.38	5419.80	1.18	-0.290	0.000	0.119
45.00	-34.36	-6.20	0.00	-575.85	0.00	575.85	4741.11	1148.23	4488.75	4589.89	1.51	-0.329	0.000	0.133
50.00	-33.09	-6.11	0.00	-544.88	0.00	544.88	4656.71	1120.20	4272.31	4397.14	1.87	-0.370	0.000	0.131
55.00	-31.85	-6.03	0.00	-514.31	0.00	514.31	4570.75	1092.18	4061.22	4206.97	2.28	-0.414	0.000	0.129
60.00	-30.64	-5.95	0.00	-484.16	0.00	484.16	4483.21	1064.15	3855.47	4019.49	2.74	-0.459	0.000	0.127
65.00	-29.46	-5.86	0.00	-454.44	0.00	454.44	4386.28	1036.13	3655.08	3828.00	3.25	-0.504	0.000	0.125
70.00	-28.30	-5.77	0.00	-425.14	0.00	425.14	4267.64	1008.10	3460.03	3622.70	3.80	-0.551	0.000	0.124
75.00	-27.16	-5.68	0.00	-396.28	0.00	396.28	4149.01	980.08	3270.33	3423.05	4.40	-0.598	0.000	0.122
78.75	-26.33	-5.61	0.00	-374.99	0.00	374.99	4060.03	959.06	3131.56	3277.03	4.89	-0.634	0.000	0.121
80.00	-25.89	-5.59	0.00	-367.99	0.00	367.99	4030.37	952.06	3085.97	3229.07	5.05	-0.646	0.000	0.120
83.75	-24.58	-5.51	0.00	-347.03	0.00	347.03	2677.54	678.08	2191.59	2145.77	5.58	-0.683	0.000	0.171
85.00	-24.37	-5.50	0.00	-340.14	0.00	340.14	2664.37	673.08	2159.36	2119.33	5.76	-0.695	0.000	0.170
90.00	-23.56	-5.42	0.00	-312.65	0.00	312.65	2610.69	653.06	2032.83	2014.37	6.52	-0.759	0.000	0.164
95.00	-22.77	-5.34	0.00	-285.55	0.00	285.55	2555.44	633.04	1910.12	1910.80	7.35	-0.824	0.000	0.158
100.00	-22.00	-5.26	0.00	-258.85	0.00	258.85	2498.62	613.02	1791.22	1808.74	8.25	-0.888	0.000	0.152
105.00	-21.24	-5.18	0.00	-232.55	0.00	232.55	2440.24	593.01	1676.15	1708.29	9.21	-0.952	0.000	0.145
110.00	-18.14	-4.49	0.00	-206.65	0.00	206.65	2380.29	572.99	1564.90	1609.56	10.24	-1.015	0.000	0.136
115.00	-17.44	-4.41	0.00	-184.20	0.00	184.20	2318.78	552.97	1457.47	1512.67	11.34	-1.077	0.000	0.129
119.00	-16.89	-4.34	0.00	-166.57	0.00	166.57	2268.44	536.96	1374.27	1436.56	12.26	-1.127	0.000	0.123
120.00	-16.67	-4.32	0.00	-162.23	0.00	162.23	2255.69	532.95	1353.86	1417.73	12.50	-1.139	0.000	0.122
123.00	-16.02	-4.27	0.00	-149.26	0.00	149.26	1577.63	391.93	991.46	989.40	13.23	-1.176	0.000	0.161
125.00	-15.79	-4.24	0.00	-140.73	0.00	140.73	1561.09	386.01	961.77	964.13	13.73	-1.201	0.000	0.156
130.00	-15.24	-4.17	0.00	-119.52	0.00	119.52	1518.76	371.23	889.52	901.77	15.02	-1.269	0.000	0.143
135.00	-14.70	-4.09	0.00	-98.69	0.00	98.69	1475.03	356.45	820.09	840.64	16.38	-1.333	0.000	0.127
140.00	-10.40	-2.98	0.00	-78.25	0.00	78.25	1429.92	341.67	753.48	780.83	17.81	-1.392	0.000	0.108
145.00	-9.96	-2.90	0.00	-63.34	0.00	63.34	1383.42	326.88	689.69	722.45	19.30	-1.446	0.000	0.095
150.00	-9.54	-2.83	0.00	-48.81	0.00	48.81	1321.23	312.10	628.72	658.46	20.84	-1.494	0.000	0.081
155.00	-9.13	-2.75	0.00	-34.67	0.00	34.67	1258.65	297.32	570.57	597.26	22.43	-1.536	0.000	0.065
157.00	-5.07	-1.64	0.00	-29.17	0.00	29.17	1233.62	291.41	548.11	573.62	23.08	-1.550	0.000	0.055
160.00	-4.85	-1.59	0.00	-24.26	0.00	24.26	1196.07	282.54	515.25	539.05	24.06	-1.570	0.000	0.049
161.00	-4.57	-1.52	0.00	-22.67	0.00	22.67	1183.55	279.58	504.52	527.76	24.39	-1.576	0.000	0.047
161.00	-4.57	-1.52	0.00	-22.67	0.00	22.67	1183.55	279.58	504.52	527.76	24.39	-1.576	0.000	0.047
165.00	-4.34	-1.46	0.00	-16.61	0.00	16.61	832.45	201.42	349.14	357.46	25.72	-1.598	0.000	0.052
170.00	-4.06	-1.39	0.00	-9.31	0.00	9.31	798.56	190.33	311.76	323.86	27.40	-1.624	0.000	0.034
175.00	0.00	-1.28	0.00	-2.34	0.00	2.34	758.80	179.24	276.50	289.64	29.12	-1.639	0.000	0.008

Final Analysis Summary

Structure: CT01915-S-SBA
Site Name: South Brooklyn
Height: 175.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Code: TIA-222-H
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

1/9/2024

Page: 37



Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.0W 122 mph Wind	31.8	0.00	59.68	0.00	0.00	4062.40
0.9D + 1.0W 122 mph Wind	31.8	0.00	44.75	0.00	0.00	4001.82
1.2D + 1.0Di + 1.0Wi 50 mph Wind	8.3	0.00	78.06	0.00	0.00	1059.04
1.2D + 1.0Ev + 1.0Eh	0.8	0.00	61.73	0.00	0.00	120.41
0.9D + 1.0Ev + 1.0Eh	0.8	0.00	46.74	0.00	0.00	118.82
1.0D + 1.0W 60 mph Wind	6.9	0.00	49.77	0.00	0.00	871.94

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.0W 122 mph Wind	-28.18	-25.72	0.00	-1622.6	0.00	-1622.6	2677.54	678.08	2191.59	2145.77	83.75	0.768
0.9D + 1.0W 122 mph Wind	-20.82	-25.28	0.00	-1584.5	0.00	-1584.5	2677.54	678.08	2191.59	2145.77	83.75	0.748
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-42.45	-6.69	0.00	-423.23	0.00	-423.23	2677.54	678.08	2191.59	2145.77	83.75	0.213
1.2D + 1.0Ev + 1.0Eh	-19.97	-0.71	0.00	-25.61	0.00	-25.61	1577.63	391.93	991.46	989.40	123.00	0.039
0.9D + 1.0Ev + 1.0Eh	-15.13	-0.69	0.00	-25.20	0.00	-25.20	1577.63	391.93	991.46	989.40	123.00	0.035
1.0D + 1.0W 60 mph Wind	-24.58	-5.51	0.00	-347.03	0.00	-347.03	2677.54	678.08	2191.59	2145.77	83.75	0.171

Base Plate Summary

Structure: CT01915-S-SB	Code: TIA-222-H	1/9/2024
Site Name: South Brooklyn	Exposure: B	
Height: 175.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 38



Reactions		Base Plate		Anchor Bolts	
Original Design		Yield (ksi):	50.00	Bolt Circle:	64.00
Moment (kip-ft):	3710.00	Width (in):	68.00	Number Bolts:	32.00
Axial (kip):	38.30	Style:	Clipped	Bolt Type:	2.25" 18J
Shear (kip):	29.70	Polygon Sides:	8.00	Bolt Diameter (in):	2.25
Analysis (1.2D + 1.0W)		Clip Length (in):	18.50	Yield (ksi):	75.00
Moment (kip-ft):	4062.40	Effective Len (in):	6.47	Ultimate (ksi):	100.00
Axial (kip):	59.68	Moment (kip-in):	338.31	Arrangement:	Clustered
Shear (kip):	31.80	Allow Stress (ksi):	67.50	Cluster Dist (in):	6.00
		Applied Stress (ksi):	49.95	Start Angle (deg):	45.00
		Stress Ratio:	0.74	Compression	
				Force (kip):	97.08
				Allowable (kip):	268.39
				Ratio:	0.36
				Tension	
				Force (kip):	93.35
				Allowable (kip):	243.75
				Ratio:	0.38

	Monopole Mat Foundation Design		Date	
			1/9/2024	
	Customer Name:	Verizon	TIA Standard:	TIA-222-H
	Site Name:		Structure Height (Ft.):	175
	Site Number:	CT01915-S-SBA	Engineer Name:	J. Tibbetts
	Engr. Number:	144388	Engineer Login ID:	

Foundation Info Obtained from:

Structure Type:

Drawings/Calculations

Monopole

Analysis or Design?

Analysis

Base Reactions (Factored):

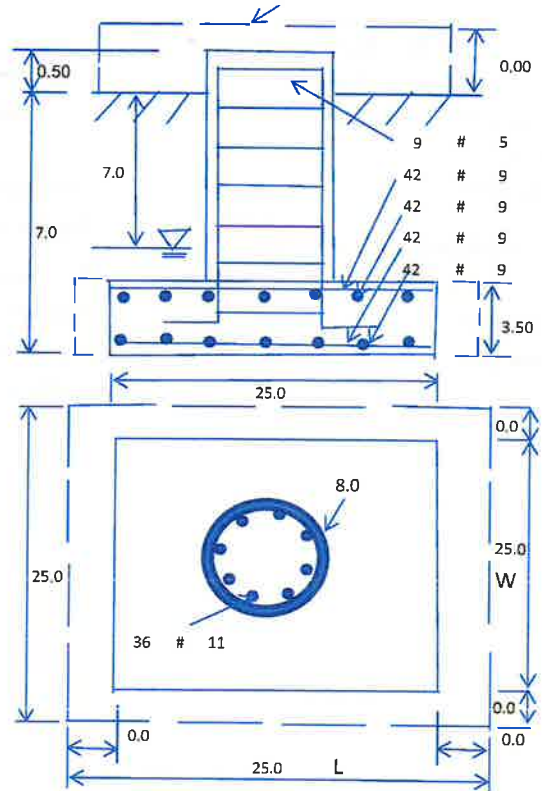
Axial Load (Kips):	59.7	Shear Force (Kips):	31.8
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4062.4

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.0	Depth of Base BG (ft.):	7.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	3.50
Length of Pad (ft.):	25	Width of Pad (ft.):	25
Final Length of pad (ft)	25.0	Final width of pad (ft):	25.0

Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	36	Tie Spacing (in):	11.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	42	Qty. of Rebar in Pad (W):	42	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	42	Qty. of Rebar in Pad (W):	42	



Soil Design Parameters:

Soil Unit Weight (pcf):	125.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	7.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	30000	Ultimate Skin Friction:	425	Psf
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No	
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:	1.00	
		Angle from Top of Pad:	30	
		Angle from Bottm of Pad:	25	
		Angle from Bottm of Pad:	25	

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	2011.57	Total Dry Soil Weight (Kips):	251.45
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	251.45	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2388.56	Total Dry Concrete Weight (Kips):	358.28
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	358.28	Total Vertical Load on Base (Kips):	669.43

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	3344	<	Allowable Factored Soil Bearing (psf):	22500	0.15	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	7605.7	>	Design Factored Momont (kips-ft):	4069	0.54	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.87					

Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):
Strength reduction factor (Axial compression):

0.90 Strength reduction factor (Shear): 0.75
0.65 Wind Load Factor on Concrete Design: 1.00

Load/
Capacity
Ratio

(1) Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	1.56	Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	10388.7	> Design Factored Moment (Mu, Kips-F	4189.6	0.40	OK!
Calculated Shear Capacity (Kips):	854.4	> Design Factored Shear (Kips):	31.8	0.04	OK!
Calculated Tension Capacity (Tn, Kips):	3032.6	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9523.4	> Design Factored Axial Load (Pu Kips):	59.7	0.01	OK!
Moment & Axial Strength Combination:	0.40	OK! Check Tie Spacing (Design/Required):		0.9167	OK!
Pier Reinforcement Ratio:	0.008	Reinforcement Ratio is satisfied per ACI			

(2) Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	947.4	> One-Way Factored Shear (L-D. Kips):	293.4	0.31	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	947.4	> One-Way Factored Shear (W-D., Kips)	293.4	0.31	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	793.9	> One-Way Factored Shear (C-C, Kips):	268.6	0.34	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0036	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0036		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	6953.4	> Moment at Bottom (L-Dir. K-Ft):	1755.4	0.25	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	6953.4	> Moment at Bottom (W-Dir. K-Ft):	1755.4	0.25	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	9704.8	> Moment at Bottom (C-C Dir. K-Ft):	2482.5	0.26	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0036	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0036		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	6953.4	> Moment at the top (L-Dir K-Ft):	558.1	0.08	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	6953.4	> Moment at the top (W-Dir K-Ft):	558.1	0.08	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	9704.8	> Moment at the top (C-C Dir. K-Ft):	527.1	0.05	OK!

(3).Check Punching Shear Capacity due to Moment in the Pier:

Moment transferred by punching shear:	1625.0	k-ft.	Max. factored shear stress $v_{u,CD}$:	2.2	Psi
Max. factored shear stress $v_{u,AB}$:	7.9	Psi	Factored shear Strength ϕv_n :	164.3	Psi
Max. factored shear stress v_u :	7.9	Psi	Check Usage of Punching Shear Capacity:	0.05	OK!

(4).Check Bending Capacity of the Pad Within the Effective Slab Width:

Overturning moment to be transferred by flexure:	1218.7	k-ft.	Effective Width for resisting OT moment:	18.5	ft.
Calculated number of Rebar in Effective width:	32		Actual number of Rebar in Effective width:	32	
Steel Pad Moment Capacity (L-Direc. Kips-ft):	5290.8	k-ft.	Check Usage of the Flexure Capacity:	0.23	OK!



Colliers Engineering & Design, Architecture, Landscaping
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Stamford, CT 06901
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Post-Modification Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10221773
Colliers Engineering & Design Project #: 21777249 (Rev 2)

February 7, 2024

Site Information

Site ID: 5000392577-VZW / BROOKLYN CT
Site Name: BROOKLYN CT
Carrier Name: Verizon Wireless
Address: 130 Old Tatnic Hill Rd
Brooklyn, Connecticut 06095
Windham County
Latitude: 41.76716°
Longitude: -71.97195°

Structure Information

Tower Type: 176-Ft Monopole
Mount Type: 14.36-Ft Platform

FUZE ID # 16272042

Analysis Results

Platform: 75.1% Pass w/ Modifications*

*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 summarize the analysis results of the antenna support mount including the proposed modifications at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards.

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

Sources of Information:

Document Type	Remarks
Radio Frequency Data Sheet (RFDS)	Verizon RFDS Site ID: 323501 Dated January 5, 2024
Mount Mapping Report	Hudson Design Group LLC, Site ID: 467252 Dated August 10, 2021
Previous Analysis Report	Colliers Engineering & Design, Project #: 21777249 (Rev 2), dated January 24, 2024
Mount Modification Drawings	Colliers Engineering & Design, Project #: 21777249 (Rev 2), dated February 7, 2024

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H 2022 Connecticut State Building Code (CSBC), Effective October 1, 2022
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT} : 125 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 : 0.981
Seismic Parameters:	S_s : 0.184 g S_1 : 0.054 g
Maintenance Parameters:	Wind Speed (3-sec. Gust): 30 mph Maintenance Load, L_v : 250 lbs. Maintenance Lve Load, L_m : 500 lbs.
Analysis Software:	RISA-3D (V17)

Final Loading Configuration:

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

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
175.50	177.00	6	Commscope	CBC78T-DS-43-2X	Added
		6	Commscope	JAHH-65B-R3B	
		3	Samsung	MT6413-77A	
		3	Samsung	RF4461d-13A	
		3	Samsung	RF4439d-25A	
		1	Raycap	RVZDC-6627-PF-48	
		3	Amphenol Antel	BXA-70080-6CF-EDIN	Retained

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 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 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 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
8. Any mount modifications listed under Sources of Information are assumed to have been installed per the design specifications.

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

Analysis Results:

Component	Utilization %	Pass/Fail
Standoff_1	25.1 %	Pass
Standoff_2	10.0 %	Pass
Grating Angle	33.8 %	Pass
Cross Members	21.2 %	Pass
Face Horizontal	75.1 %	Pass
Mount Pipe	37.6 %	Pass
Support Rail	18.3 %	Pass
Support Rail Corner	27.2 %	Pass
Kicker	7.2 %	Pass
Mount Connection	23.7 %	Pass

Structure Rating – (Controlling Utilization of all Components)	75.1%
---	--------------

Mount Connection Envelope Reactions:

Connection Description	Elev. AGL (Ft)	Node Label	Envelope Wind Reactions				Envelope Wind + Ice Reactions			
			Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)	Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)
Sector A Standoff	175.5	N2	487	3303	1.461	2.558	861	766	2.674	0.595
Sector C Standoff	175.5	N77	521	3386	1.489	2.603	971	785	2.728	0.603
Sector B Standoff	175.5	N109	466	3259	1.453	2.537	814	752	2.652	0.588
Sector B Bottom Reinforcement	172.5	N124 A	1126	1911	0.000	0.000	1731	2936	0.000	0.000
Sector A Bottom Reinforcement	172.5	N126	1122	1904	0.000	0.000	1731	2934	0.000	0.000
Sector C Bottom Reinforcement	172.5	N128	1126	1911	0.000	0.000	1732	2937	0.000	0.000

Notes:

- Axial loads act along the axis of the tower
- Lateral reactions act perpendicular to the tower
- Moment loads introduce bending moment to the tower
- Torsion loads introduce twisting moment to the tower
- Batch solutions by individual load cases are included at the end of this document

BASELINE mount weight per SBA agreement: 1798.8 lbs

Increase in mount weight due to Verizon loading change per SBA agreement: 625.3 lbs

The weights listed above includes three sectors.

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	35.4	35.4	52.5	52.5
0.5	44.5	44.5	68.8	68.8
1	52.6	52.6	84.1	84.1

Notes:

- (EPA)a values listed above may be used in the absence of more precise information
- (EPA)a values in the table above include 3 sectors.
- Ka factors included in (EPA)a calculations

Requirements:

The existing mount will be **SUFFICIENT** for the final loading configuration (attachment 2) after the modifications detailed in attachment 3 are successfully completed.

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

Attachments:

1. **Contractor Required PMI Report Deliverables**
2. Antenna Placement Diagrams
3. Mount Modification Drawings
4. Mount Photos
5. Mount Mapping Report (for reference only)
6. Analysis Calculations

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Mount Modification

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 #: 5000392577

SMART Project #: 10221773

Fuze Project ID: 16272042

Purpose – to upload the proper documentation to the SMART Tool in order to allow the SMART Tool engineering vendor 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 modification was completed in accordance with the modification drawings.
- Contractor shall relay any data that can impact the performance of the mount or the mount modification, this includes safety issues.

Base Requirements:

- If installation of the modification 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 drawings” showing contractor’s name, 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 post-modification passing mount analysis (MA) contact the SMART Tool vendor immediately.
- Each photo shall be time and date stamped.
- Photos should be high resolution.
- Contractor shall ensure that the safety climb wire rope is 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 of the modifications.
 - Photos of the mount after installation of the modifications; if the mounts are at different rad elevations, pictures must be provided for all elevations that the modifications were installed
- Photos taken at Mount Elevation
 - Photos showing the safety climb wire rope above and below the mount prior to modification.
 - Photos showing the climbing facility and safety climb if present.

- Photos showing each individual sector after installation of modifications. Each entire sector must 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.
- Photos of each installed modification per the modification drawings; pictures shall also include connection hardware (U-bolts, bolts, nuts, all-threaded rods, etc.)
- Photos showing the distances (relative distance between collars) of the installed modifications from the appropriate reference locations shown in the modification drawings.
- Photos showing the installed modifications onto the tower (i.e. ring/collar mounts, tie-backs, V-bracing kits, etc.); if the existing mount elevation needs to be changed according to the modification drawings, an elevation measurement shall be provided before the elevation change.

Material Certification:

- Materials utilized must be as per specification on the drawings or the equivalent as validated by the SMART Tool vendor.
 - If the materials are as specified on the drawings
 - The contractor shall provide the packing list, or the materials certifications for the materials utilized to perform the mount modification
 - Commscope, Metrosite, Perfect Vision, Sabre, and Site Pro have all agreed to support Verizon vendors with the necessary material certifications
 - If seeking permission to use an equivalent
 - It is required that the SMART Tool engineering vendor approval of such is included in the contractor submission package. There may be an additional charge for approval if the equivalent submission doesn't meet specifications as prescribed in the drawings.

☐ All hardware has been properly installed, and the existing hardware was inspected.

☐ The material utilized was as specified on the SMART Tool engineering vendor Mount Modification Drawings 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.

Antenna & Equipment Placement and Geometry Confirmation:

☐ 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.

Comments:

Was the mount modification completed in conjunction with the equipment change / installation?

- ☐ Yes ☐ No

Special Instructions / Validation as required from the MA or Mod Drawings:

Issue:

Install the proposed OVP unit on to the existing standoff OVP pipe replacing the existing.

Response:

Special Instruction Confirmation:

- ☐ The contractor has read and acknowledges the above special instructions.

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

Comments:

--

Certifying Individual:

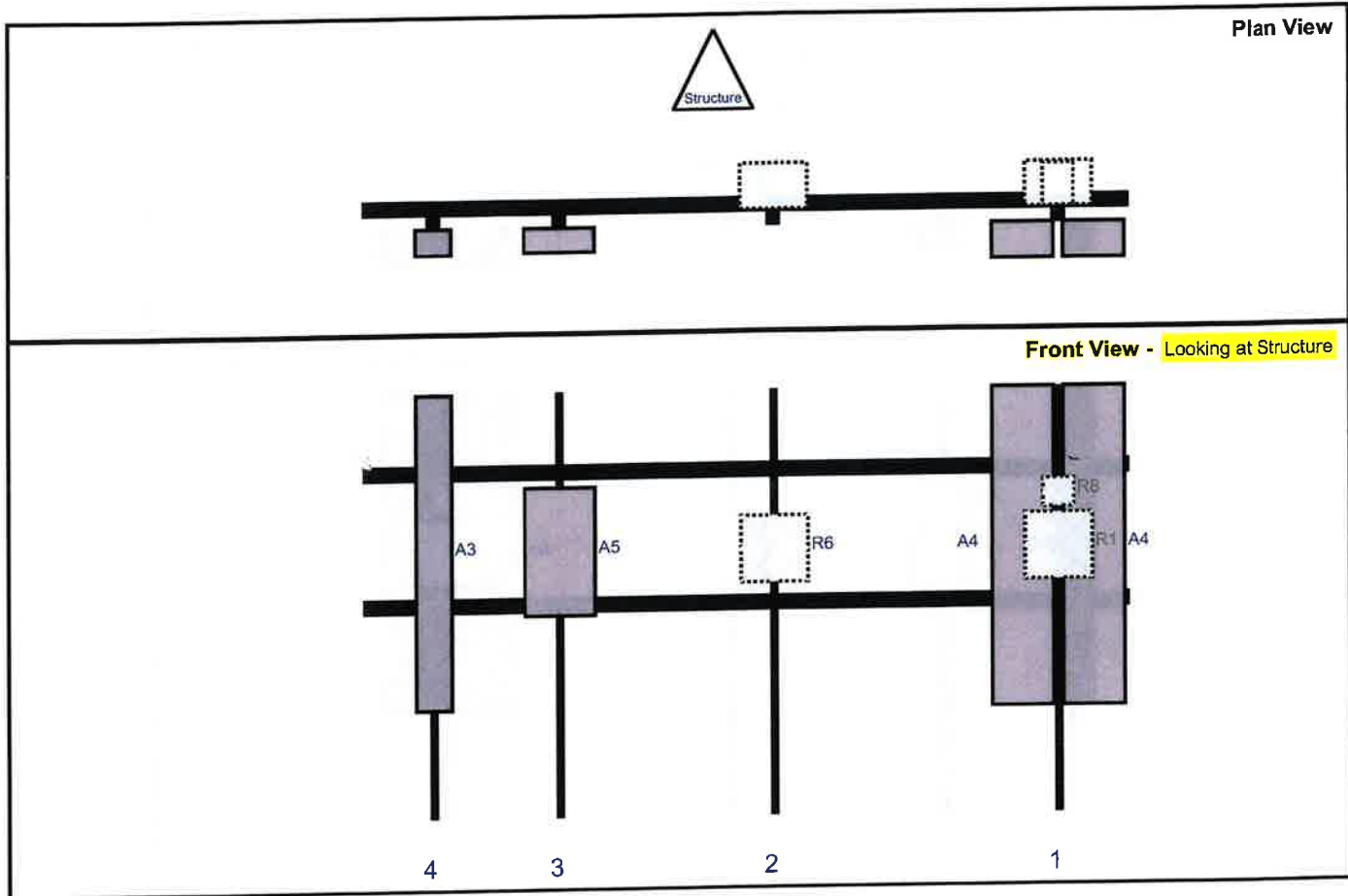
Company:	
Employee Name:	
Contact Phone:	
Email:	
Date:	

Sector: **A**
 Structure Type: Monopole
 Mount Elev: 175.50

10221773

2/4/2024

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
A4	JAHH-65B-R3B	72	13.8	156.339	1	a	Front	36	-8	Added	
A4	JAHH-65B-R3B	72	13.8	156.339	1	b	Front	36	8	Added	
R1	RF4439d-25A	15	15	156.339	1	a	Behind	36	0	Added	
R8	CBC78T-DS-43-2X	6.4	6.9	156.339	1	a	Behind	24	0	Added	
R6	RF4461d-13A	15	15	92.3391	2	a	Behind	36	0	Added	
A5	MT6413-77A	28.9	15.8	44.3391	3	a	Front	36	0	Added	
A3	BXA-70080-6CF-EDIN	71	8	16	4	a	Front	36	0	Retained	08/10/2021
M70	RVZDC-6627-PF-48	29.5	16.5		Member					Added	

Structure: 5000392577-VZW - BROOKLYN CT

Sector: B

2/4/2024

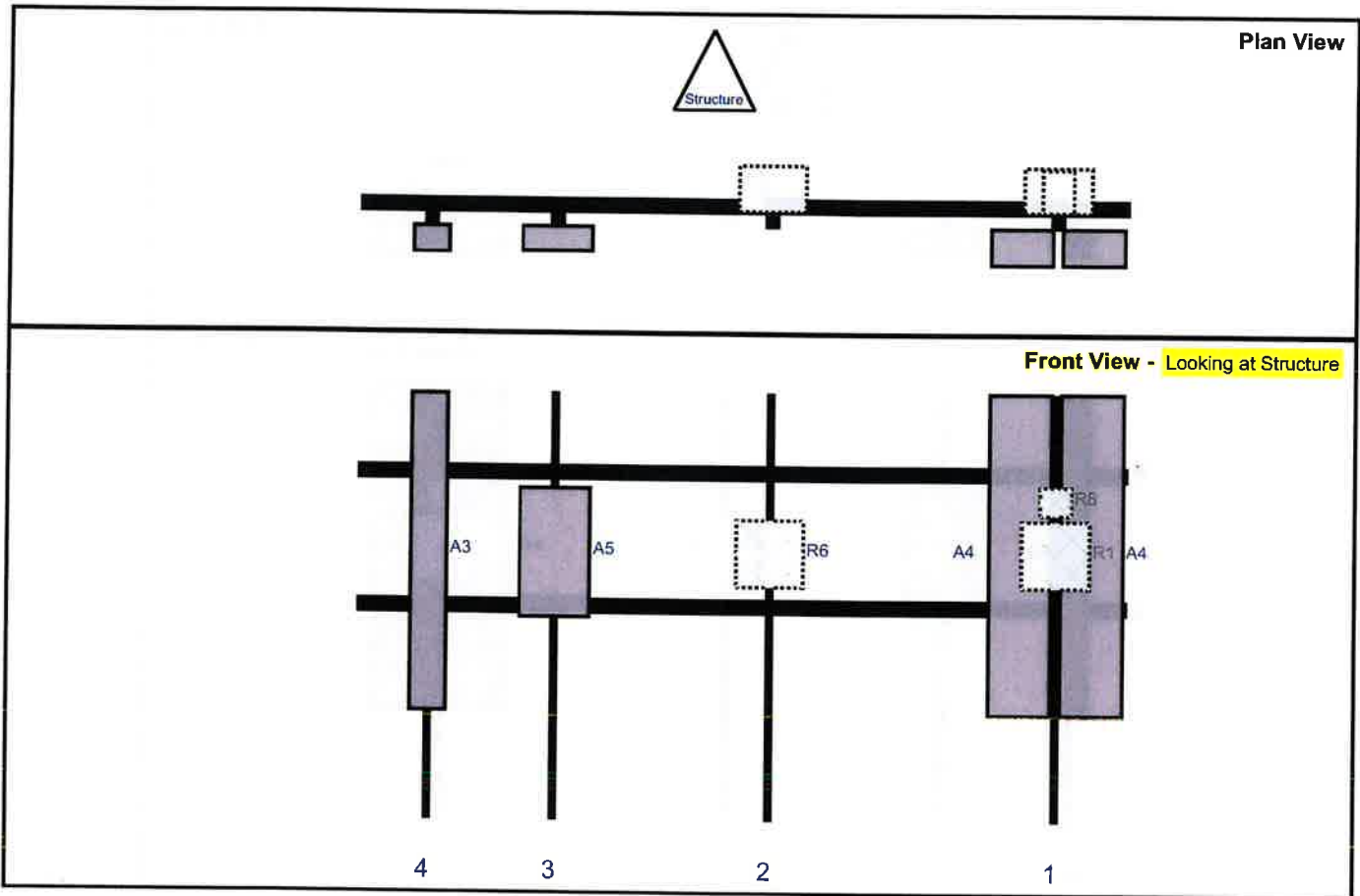
Structure Type: Monopole

10221773



Mount Elev: 175.50

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
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R6	RF4461d-13A	15	15	92.3391	2	a	Behind	36	0	Added	
A5	MT6413-77A	28.9	15.8	44.3391	3	a	Front	36	0	Added	
A3	BXA-70080-6CF-EDIN	71	8	16	4	a	Front	36	0	Retained	08/10/2021

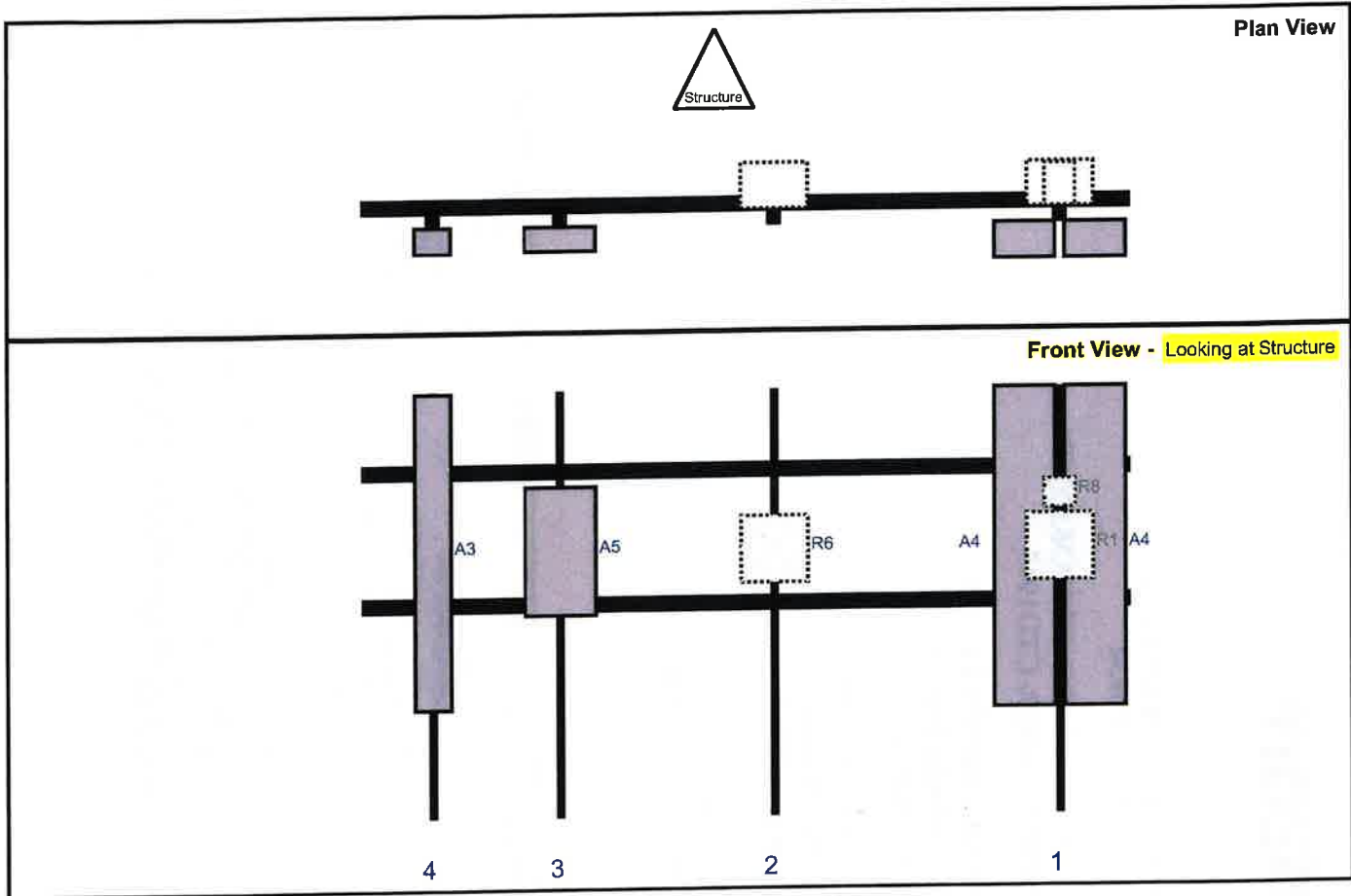
Sector: C

Structure Type: Monopole

10221773

Mount Elev: 175.50

Page: 3



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
A4	JAHH-65B-R3B	72	13.8	156.339	1	a	Front	36	-8	Added	
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R8	CBC78T-DS-43-2X	6.4	6.9	156.339	1	a	Behind	24	0	Added	
R6	RF4461d-13A	15	15	92.3391	2	a	Behind	36	0	Added	
A5	MT6413-77A	28.9	15.8	44.3391	3	a	Front	36	0	Added	
A3	BXA-70080-6CF-EDIN	71	8	16	4	a	Front	36	0	Retained	08/10/2021



MOUNT MODIFICATION DRAWINGS
EXISTING 14.36' PLATFORM
TOWER OWNER: SBA COMMUNICATIONS CORPORATION
TOWER OWNER SITE NUMBER: CTO1915

CARRIER SITE NAME: BROOKLYN CT
CARRIER SITE NUMBER: 5000392577
FUZE ID: 16272042

130 OLD TATNIC HILL RD
BROOKLYN, CT 06095
WINDHAM COUNTY

LATITUDE: 41.76716° N
LONGITUDE: 71.97195° W

DESIGN CRITERIA	
WIND LOADS	
BASIC WIND SPEED (1 SECOND GUST), $V = 125$ MPH	
WIND DIRECTION CATEGORY B	
TOPOGRAPHY CONSIDERED: 1	
MEAN ANNUAL WIND SPEED: N/A	
MEAN BASE ELEVATION (AMSL) = 523.9'	
ICE LOADS	
ICE WIND SPEED (1 SECOND GUST), $V = 50$ MPH	
ICE THICKNESS = 1.00 IN	
SEISMIC LOADS	
SEISMIC DESIGN CATEGORY B	
SHORT TERM PCER GROUND MOTION $S_s = .184$	
LONG TERM PCER GROUND MOTION $S_1 = .051$	

PROJECT INFORMATION	
APPLICANT/LESSEE	VERIZON WIRELESS
CLIENT REPRESENTATIVE	PETER ALBANO@COLLIERSENGINEERING.COM
PROJECT MANAGER	PETER ALBANO@COLLIERSENGINEERING.COM
COMPANY	COLLIERS ENGINEERING & DESIGN
PHONE	860.397.7012
EMAIL	PETER.ALBANO@COLLIERSENGINEERING.COM
CONTRACTOR PMI REQUIREMENTS	
PMI LOCATION	10231773
SMART TOOL PROJECT #	5000392577
VZW MDG #	2172024
ANALYSIS DATE	
PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT	

SHEET INDEX	
SHEET	DESCRIPTION
ST-1	TITLE SHEET
SBOM-1	BILL OF MATERIALS
SCM-1	GENERAL NOTES
SCF-1	CLIMBING FACILITY DETAIL
SS-1	MODIFICATION DETAILS
SS-2	MOUNT PHOTOS
SS-3	SPECIFICATION SHEETS
SS-4	
SS-5	
SS-6	
SS-7	
SS-8	
SS-9	
SS-10	
SS-11	
SS-12	
SS-13	
SS-14	
SS-15	
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FOR 100% COMPLIANCE WITH 100% VOTER

DATE	11/11/2024
BY	ALBANO
FOR	VERIZON
PROJECT	130 OLD TATNIC HILL RD
CITY	BROOKLYN, CT
COUNTY	WINDHAM
STATE	CT
ZIP	06095

COLLIERS ENGINEERING & DESIGN, LLC
CT 06095

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SITE NAME

BROOKLYN CT
5000392577
130 OLD TATNIC HILL RD
BROOKLYN, CT 06095
WINDHAM COUNTY



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TITLE SHEET

ST-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION

The figure consists of two main parts. Part 1, titled 'CLIMBING FACILITY LOCATION', is a plan view of a triangular climbing structure divided into three sectors: ALPHA SECTOR, BETA SECTOR, and GAMMA SECTOR. It shows the layout of the safety climb and wire rope guide systems. Part 2, titled 'PROPOSED WIRE ROPE GUIDE ATTACHMENT - PLAN VIEW', is a detailed view of the attachment mechanism. It includes a table with the following data:

ITEM #	QTY	PART NUMBER	DESCRIPTIONS
A	1	H4C-0501-06	STANDOFF CLAMP BRACKET (PERFECT VISION OR EOR APPROVED EQ)
B	1	PA-CMX-CG-80	WIRE ROPE GUIDE (PERFECT VISION OR EOR APPROVED EQ)

Below the table is a note: 'NOTE: CONTRACTOR SHALL ENSURE THAT WIRE ROPE GUIDE DOES NOT PUSH THE WIRE ROPE OUTSIDE OF THE VERTICAL PLANE OF THE SAFETY CLIMB. CONTRACT EOR WITH PHOTOS OF SAFETY CLIMB AND COLLAR FOR FURTHER DIRECTION IF NEEDED.' Part 2 also includes a photograph of the climbing facility with labels for 'Existing Safety Climb' and 'Existing Climbing Facility'.

LEGEND:

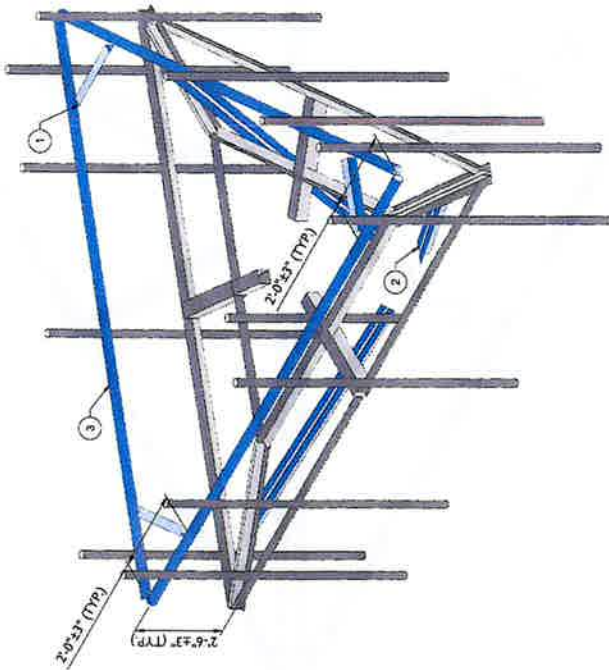


MOUNT MODIFICATION SCHEDULE

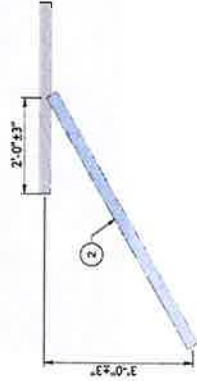
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1		3	PROPOSED 24" LONG, 1/2" X 1/4" BRACING ANGLE	CONTRACTOR SHALL CONNECT PROPOSED ANGLE TO SUPPORT RAIL CORNER BRACKET (PART # VZWSMART-PLK3) USING THE PROVIDED (8) 3/8" DIA. BOLTS, (4) BOLT PER CONNECTION. CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY. CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY. CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY.
2	175'-4"	1	PROPOSED KICKER KIT (PART # VZWSMART-PLK5)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY. CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY. CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY.
3		3	PROPOSED 168" LONG, RFE 2 1/2" SCH40 SUPPORT RAIL	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY. CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY. CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY.

GENERAL NOTES:

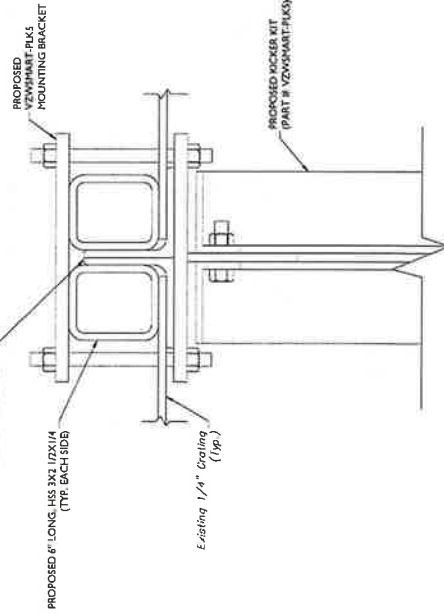
- CONTRACTOR SHALL VERIFY THAT NEW & EXISTING STEEL IS FREE OF CORROSION. VISIBLE MINOR CORROSION SHALL BE WIRE BRUSHED, CLEAN AND TREATED WITH COLD GALVANIZATION (ZINC KOTE OR EON SIGNIFICANT CORROSION TO EON).
- THREADED ROD FROM PROPOSED KITS SHALL BE TRIMMED TO EXTEND NO MORE THAN 3" BEYOND THE LOCK NUT. TREAT ALL CUT ENDS WITH (2) COATS OF COLD GALVANIZATION (ZINC KOTE OR EON APPROVED EQUAL).
- MOUNT HITCHES NOT SHOWN FOR CLARITY UNO.



1 PROPOSED ISOMETRIC VIEW (TYP. ALL SECTORS)
SCALE: N.T.S.



2 PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)
SCALE: N.T.S.



3 KICKER TO STANDOFF HORIZONTAL CONNECTION DETAIL
SCALE: N.T.S.



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Collins Engineering & Design
130 Old Tatic Hill Rd
Brooklyn, CT 06095
Windham County



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1-800-4-A-DAWN
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NO.	AS SHOWN	PER UNIT	21/1/2020
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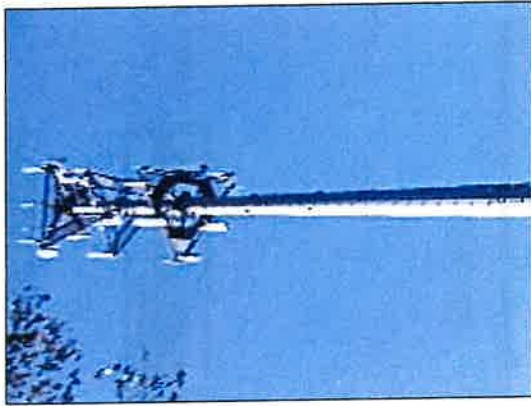
BROOKLYN CT
5000393577

130 OLD TATIC HILL RD
BROOKLYN, CT 06095
WINDHAM COUNTY



MODIFICATION DETAILS

SS-1

[illegible]

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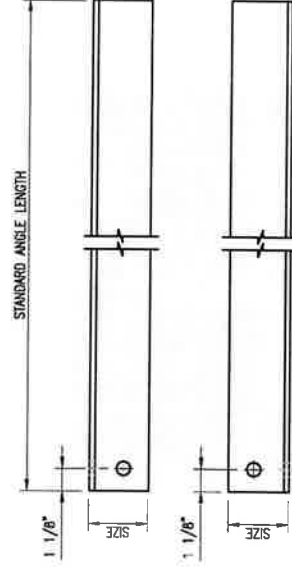
DATE: 07/04/21
REV: 01
DESCRIPTION: VZWSMART-PLK2, VZWSMART-PLK5, VZWSMART-SFK3-SFK3-SI, -PLK6, & -PLK8
BY: [Signature]
DATE: 07/04/21

SHEET TITLE:

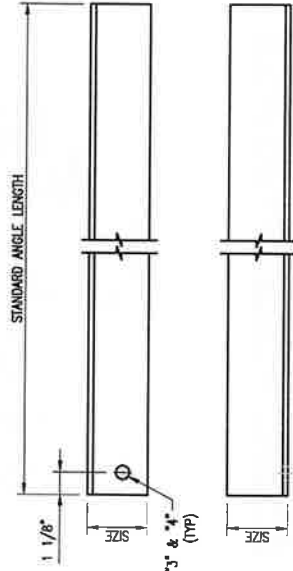
VZWSMART
STANDARD ANGLE

SHEET NUMBER: 0

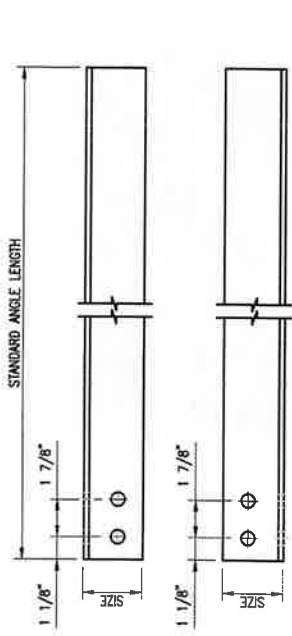
VZWSMART-ANGLE



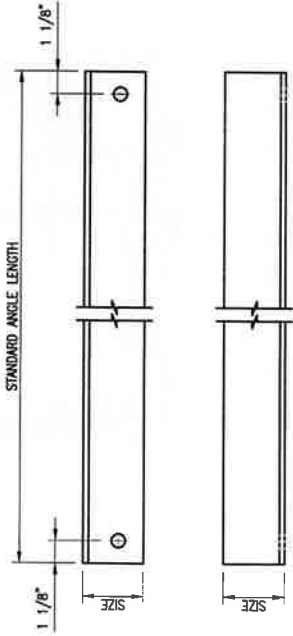
HOLE STYLE "B"



HOLE STYLE "D"



HOLE STYLE "A"



HOLE STYLE "C"

SEE NOTE "3" & "4"
(TYP)

VZWSMART Standard Angle

VZWSMART Number	Size	Length	Hole Style	Hole Gauge	Also Used In:
A-PLK2-01	L 3" X 3" X 1/4"	96"	A	1-3/4"	VZWSMART-PLK2
A-PLK5-01	L 3" X 3" X 3/16"	96"	B	1-3/4"	VZWSMART-PLK5
A-SFK3-01	L 2-1/2" X 2-1/2" X 1/4"	96"	C	1-3/8"	VZWSMART-SFK3-SFK3-SI, -PLK6, & -PLK8
A-L25X25X4X120	L 2-1/2" X 2-1/2" X 1/4"	120"	D	1-5/16"	
A-L25X25X4X240	L 2-1/2" X 2-1/2" X 1/4"	240"	D	1-5/16"	
A-L30X30X4X120	L 3" X 3" X 1/4"	120"	D	1-1/2"	
A-L30X30X4X240	L 3" X 3" X 1/4"	240"	D	1-1/2"	
A-L40X40X4X120	L 4" X 4" X 1/4"	120"	D	2"	
A-L40X40X4X240	L 4" X 4" X 1/4"	240"	D	2"	
A-L50X30X6X120	L 5" X 3" X 3/8"	120"	D	2-1/2"	
A-L50X50X6X120	L 5" X 5" X 3/8"	120"	D	2-1/2"	

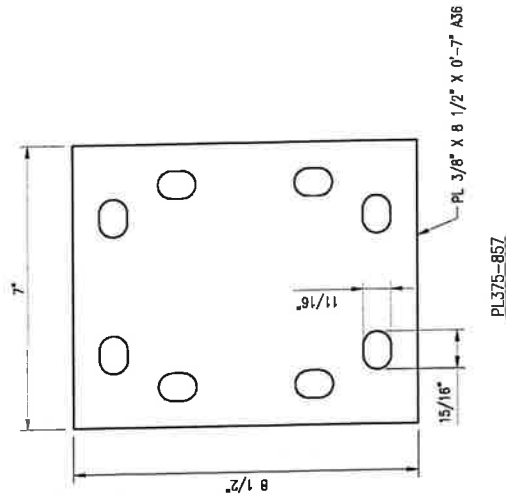
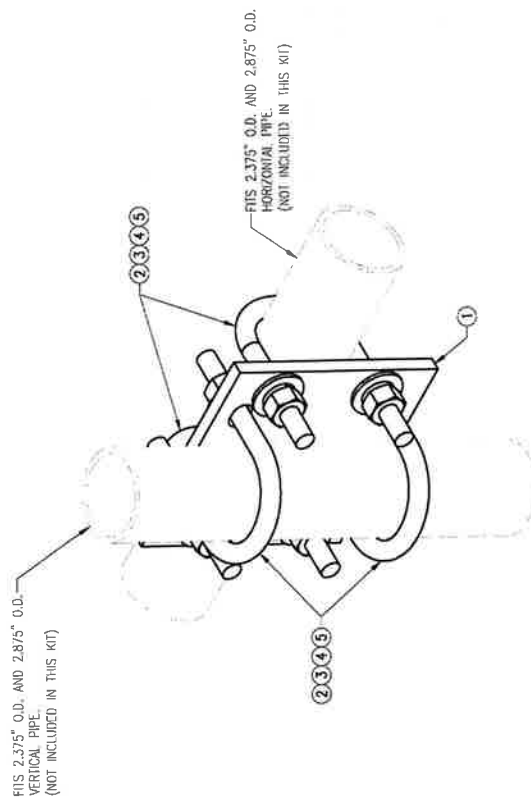
NOTE:
APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION
ANGLES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE.
SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

- NOTES:
1. ALL ANGLE GRADE A36 OR BETTER.
 2. HOT-DIPPED GALVANIZED PER ASTM A123.
 3. ALL HOLES ARE 11/16" DIA. UNO.
 4. HOLES MAY OR MAY NOT BE PRESENT. DEPEND UPON MANUFACTURE DISCRETION.
 5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

FOR REFERENCE
ONLY

DESIGNED BY: HMA	CHECKED BY: HMA
REV	DESCRIPTION
DATE	BY
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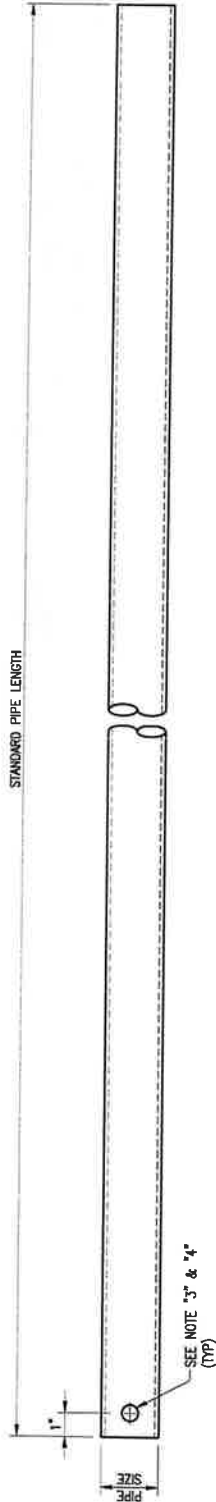
SHEET NAME:	VZSMART-MSK1
REV #:	0



VZSMART-MSK1 (CROSSOVER PLATE)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	PL375-857	PL 3/8" X 8 1/2" X 0'-7" A36	MSK1-F1	6
2	4	MS02-625-300-500	RL-ROLL 5/8" X 3" LW X 5" LL A36 (OR EQUIV)	RBC-1	5
3	8	FW-625	5/8" HDG USS FLAT WASHER		1
4	8	LW-625	5/8" HDG LOCK WASHER		0
5	8	NUT-625	5/8" HDG HEX NUT		1
GALVANIZED WT					14

NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.



VZWSMART Standard Pipe		
VZWSMART Number	Size	Length
P40-238X048	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	48"
P40-238X072	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	72"
P40-238X096	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	96"
P40-238X120	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	120"
P40-238X126	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	126"
P40-238X150	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	150"
P40-238X174	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	174"
P40-278X048	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	48"
P40-278X072	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	72"
P40-278X096	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	96"
P40-278X120	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	120"
P40-278X126	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	126"
P40-278X150	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	150"
P40-278X174	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	174"
P40-312X048	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	48"
P40-312X072	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	72"
P40-312X126	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	126"
P40-312X150	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	150"
P40-312X174	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	174"

NOTE:
APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION
PIPES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE.
SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

- NOTES:
1. ALL PIPE GRADE A53-B OR BETTER.
2. HOT-DIPPED GALVANIZED PER ASTM A123.
3. ALL HOLES ARE 1/16" DIA. UNO
4. HOLES MAY OR MAY NOT BE PRESENT; DEPEND UPON MANUFACTURE DISCRETION.
5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS
OF ZINCA OR ZINC COAT PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

VZW
SMART Tool®
Vendor

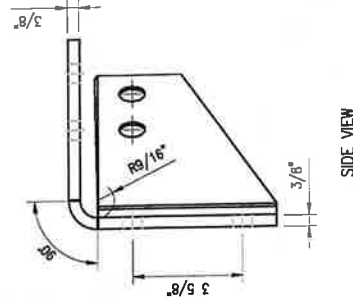
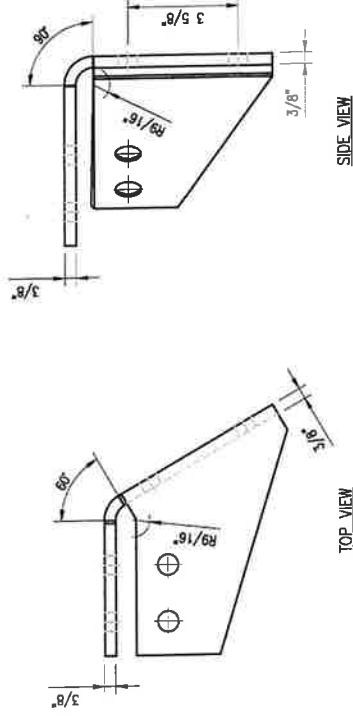
verizon

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QUANTITY: 10000
CHECKED BY: HMA
BY: DALL
DATE: 06/06/20
REV: 1
FIRST ISSUE: HLR 06/06/20
SHEET TITLE:
SHEET #11

VZWSMART-PLK3
SUPPORT RAIL CORNER
BRACKET

SHEET NUMBER:
REV #:
VZWSMART-PLK3 0



NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

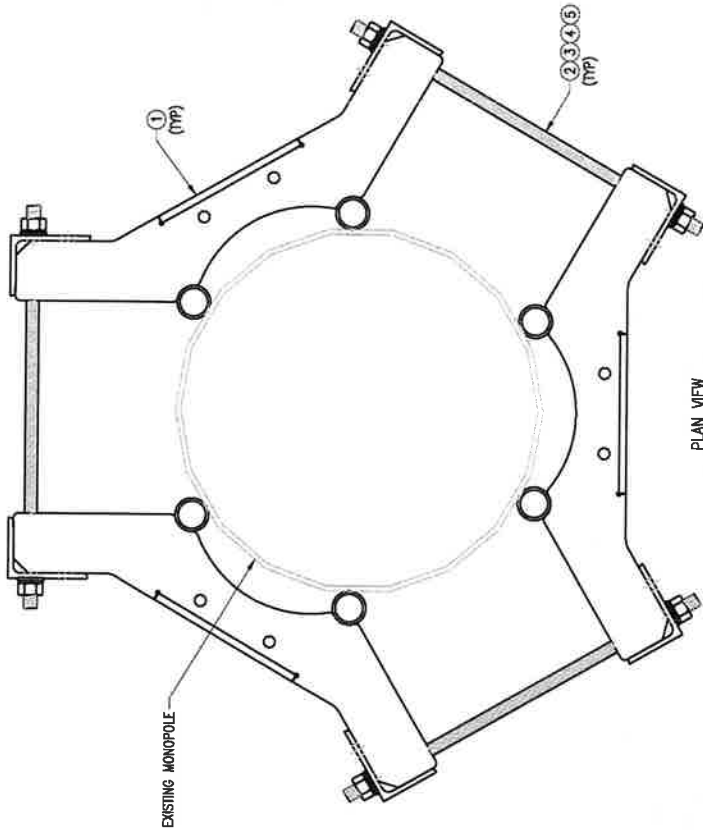
VZWSMART-PLK3 (SUPPORT RAIL CORNER BRACKET)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	CBP-L	CORNER BENT PLATE BRACKET	PLK3-F1	9
2	1	CBP-R	CORNER BENT PLATE BRACKET	PLK3-F1	9
3	4	MS02-625-300-500	RU-BOLT 5/8" X 3" LW, X 5" LL, A36 (OR EQUIV.)	RBC-1	5
4	8	---	BOLT 5/8" X 2" A325	---	3
5	16	FW-625	5/8" HDG USS FLAT WASHER	---	1
6	16	LW-625	5/8" HDG LOCK WASHER	---	0
7	16	NUT-625	5/8" HDG HEX NUT	---	2
GALVANIZED WT					30

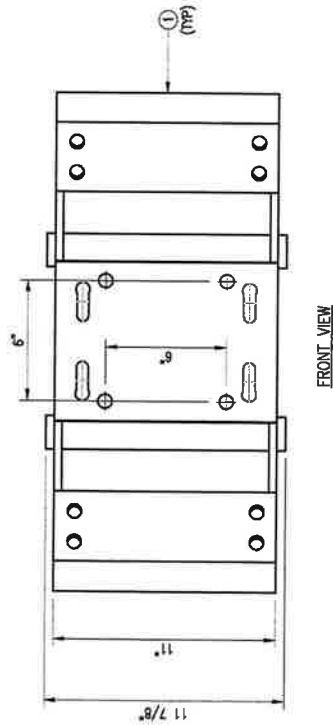
VZW
SMART Tool[®]
Vendor

FOR REFERENCE ONLY

DOWN BY BT
REV
DESCRIPTION
DATE
BT 05/11/20
SHEET TITLE
VZWSMART-PLK7
MONOPOLE COLLAR
MOUNT ASSEMBLY
SHEET NUMBER
VZWSMART-PLK7
REV #
0



PLAN VIEW
MONOPOLE COLLAR MOUNT ASSEMBLY

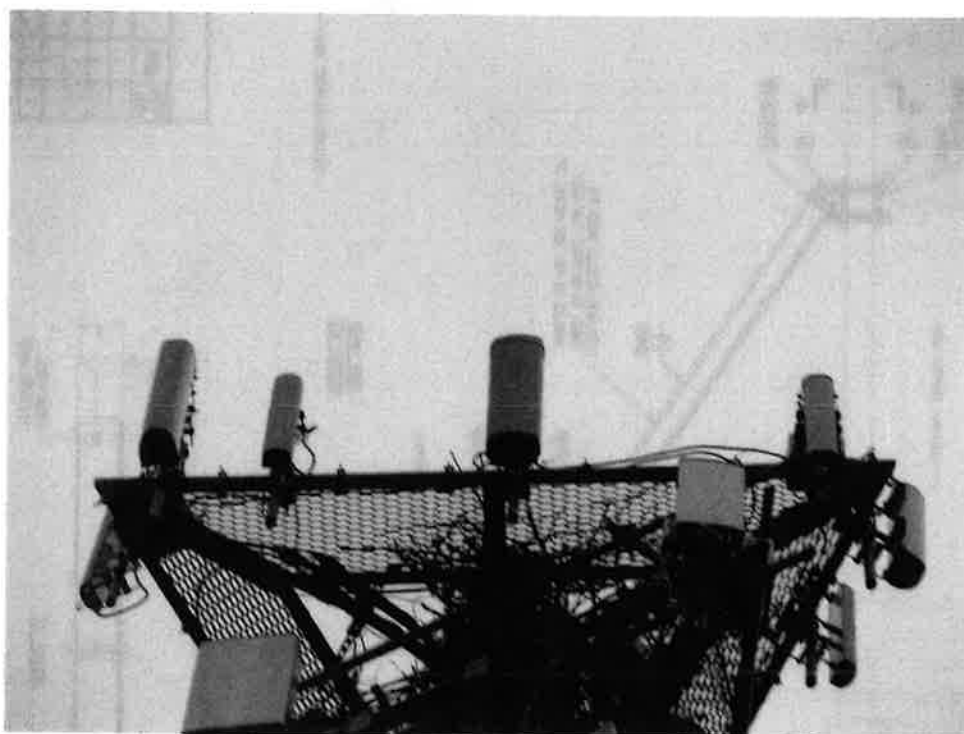
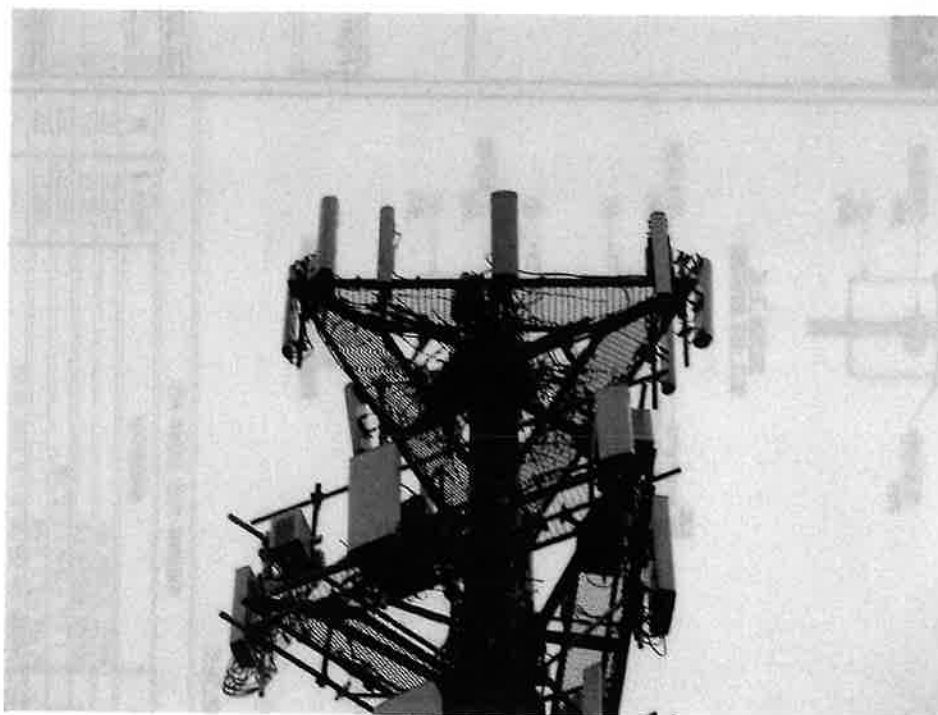


FRONT VIEW

VZWSMART-PLK7 (MONOPOLE COLLAR MOUNT ASSEMBLY)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	CM-1245	COLLAR MOUNT ASSEMBLY	PLK7-F1	147
2	6		THREADED ROD 5/8" X 4'-0" A193-B7		
3	12	FW-625	5/8" HDG USS FLAT WASHER		
4	12	LW-625	5/8" HDG LOCK WASHER		
5	12	NUT-625	5/8" HDG HEX NUT		
GALVANIZED WT					150

- NOTES:
1. FIT 12" TO 45" DIA MONOPOLE
 2. HOT-DIPPED GALVANIZED PER ASTM A123.

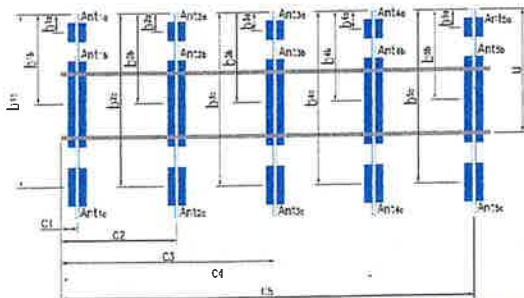
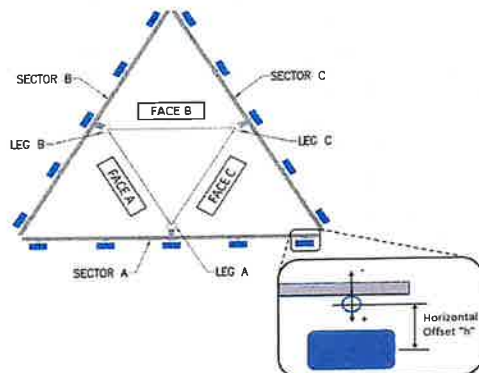


FCC #
123179

Tower Owner:	OTHER	Mapping Date:	8/10/2021
Site Name:	BROOKLYN CT	Tower Type:	Monopole
Site Number or ID:	467252	Tower Height (FT.):	177'-0"
Mapping Contractor:	HUDSON DESIGN GROUP LLC.	Mount Elevation (FT.):	176.8

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



Antenna Layout (Looking Out From Tower)

Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "V"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "V"	Horizontal Offset "C1, C2, C3, etc."
A1	2" STD. PIPE X 96" LONG	48.00	16.00	C1	2" STD. PIPE X 96" LONG	48.00	16.00
A2	2" STD. PIPE X 96" LONG	48.00	80.00	C2	2" STD. PIPE X 96" LONG	48.00	80.00
A3	2" STD. PIPE X 96" LONG	48.00	128.00	C3	2" STD. PIPE X 96" LONG	48.00	128.00
A4	2" STD. PIPE X 96" LONG	48.00	132.00	C4	2" STD. PIPE X 96" LONG	48.00	132.00
A5				C5			
A6				C6			
B1	2" STD. PIPE X 96" LONG	48.00	16.00	D1			
B2	2" STD. PIPE X 96" LONG	48.00	80.00	D2			
B3	2" STD. PIPE X 96" LONG	48.00	128.00	D3			
B4	2" STD. PIPE X 96" LONG	48.00	132.00	D4			
B5				D5			
B6				D6			

Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details.:	16.00
---	-------

Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.):

Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.):

Please enter additional information or comments below.

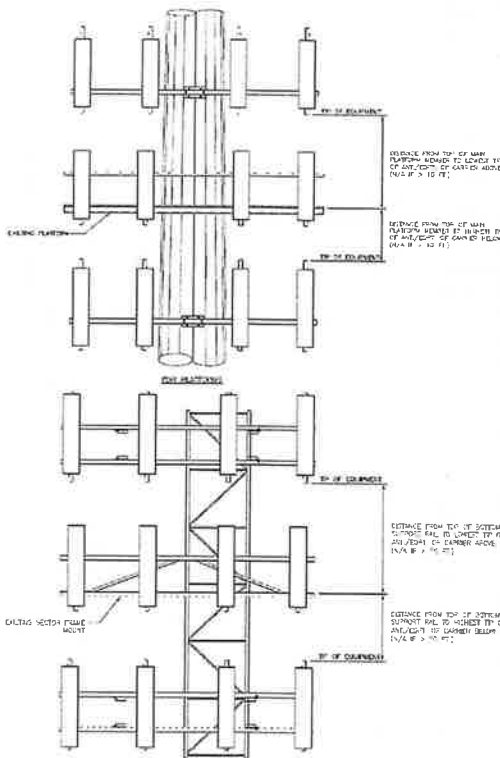
Tower Face Width at Mount Elev. (ft.):	Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):	22
For T-Arms (Platforms on monopoles), report the weld size from the main standoff to the plate bolting into the collar mount.		0.375

For T-Arms/Platforms on monopoles, report the weld size from the main standoff to the plate bolting into the collar mount.

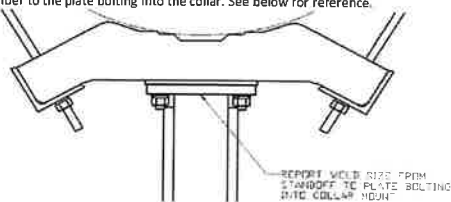
[illegible]

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector		Sector B										
Sector A:	45.00	Deg	Leg A:		Deg	Ant _{1a}	9442 RRH2x40-AWS	12.00	8.00	25.00		177.717	21.00	-7.00		61
Sector B:	165.00	Deg	Leg B:		Deg	Ant _{1b}	W8X066X19R050G	7.00	3.00	77.00		176.467	36.00	6.00	165.00	34,61
Sector C:	285.00	Deg	Leg C:		Deg	Ant _{1c}										
Sector D:		Deg	Leg D:		Deg	Ant _{2a}										
Climbing Facility Information						Ant _{2b}	BXA-70063-6CF-EDIN	11.00	7.00	72.00		176.967	30.00	12.00	165.00	35,62
Location:	40.00	Deg	N/A			Ant _{2c}										
Climbing Facility	Corrosion Type:		Good condition.			Ant _{3a}										
	Access:		Climbing path was obstructed.			Ant _{3b}	BXA-171085-12CF-ED	6.00	4.00	72.00		173.467	72.00	7.00	165.00	36,63
	Condition:		Good condition.			Ant _{3c}										
						Ant _{4a}										
						Ant _{4b}	BXA-70080-6CF-EDIN	8.00	5.00	72.00		173.467	72.00	10.00	165.00	36,63
						Ant _{4c}										
						Ant _{5a}										
						Ant _{5b}										
						Ant _{5c}										
						Ant on Standoff										
						Ant on Standoff										
						Ant on Tower										
						Ant on Tower										
						Sector C										
						Ant _{1a}	9442 RRH2x40-AWS	12.00	8.00	25.00		177.717	21.00	-7.00		64
						Ant _{1b}	W8X066X19R050G	7.00	3.00	77.00		176.467	36.00	6.00	285.00	41,64
						Ant _{1c}										
						Ant _{2a}										
						Ant _{2b}	BXA-70063-6CF-EDIN	11.00	7.00	72.00		176.967	30.00	12.00	285.00	42,65
						Ant _{2c}										
						Ant _{3a}										
						Ant _{3b}	BXA-171085-12CF-ED	6.00	4.00	72.00		176.633	34.00	7.00	285.00	43,66
						Ant _{3c}										
						Ant _{4a}										
						Ant _{4b}	BXA-70080-6CF-EDIN	8.00	5.00	72.00		176.967	30.00	10.00	285.00	43,66
						Ant _{4c}										
						Ant _{5a}										
						Ant _{5b}										
						Ant _{5c}										
						Ant on Standoff										
						Ant on Standoff										
						Ant on Tower										
						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										

Please insert a photo of the mount centerline measurement here.



For T-Arms/Platforms on monopoles, record the weld size from the main standoff member to the plate bolting into the collar. See below for reference.



Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #
1	BENT CLIMBING PEG	140
2	SAFETY CLIMB IS TWISTED AT TOP	57
3	SAFETY CLIMB IS TRAPPED BEHIND RING MOUNT	139
4		
5		
6		
7		
8		

Observed Obstructions to Tower Lighting System			
If the tower lighting system is being obstructed by the carrier's equipment (for example: a light nested by the antennas), please provide photos and fill in the information below.			Photo #
Description of Obstruction:			
Type of Light:	Photo #	Additional Comments:	
Lighting Technology:	Photo #		
Elevation (AGL) at base of light (ft.):	Photo #		
Is a service loop available?	Photo #		
Is beacon installed on an extension?	Photo #		

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.



Antenna Mount Mapping Form (PATENT PENDING)

FCC #

1231795

Tower Owner:	OTHER	Mapping Date:	8/10/2021
Site Name:	BROOKLYN CT	Tower Type:	Monopole
Site Number or ID:	467252	Tower Height (FL):	177'-0"
Mapping Contractor:	HUDSON DESIGN GROUP LLC	Mount Elevation (FL):	176.8

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

TOWER D = 20"

WALL = 5/16"

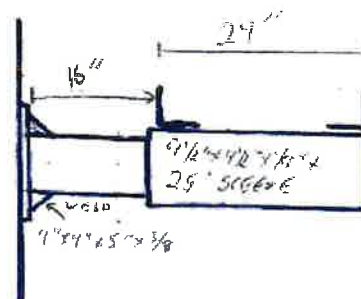
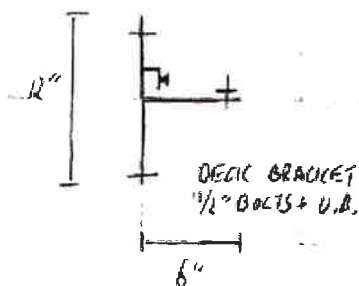
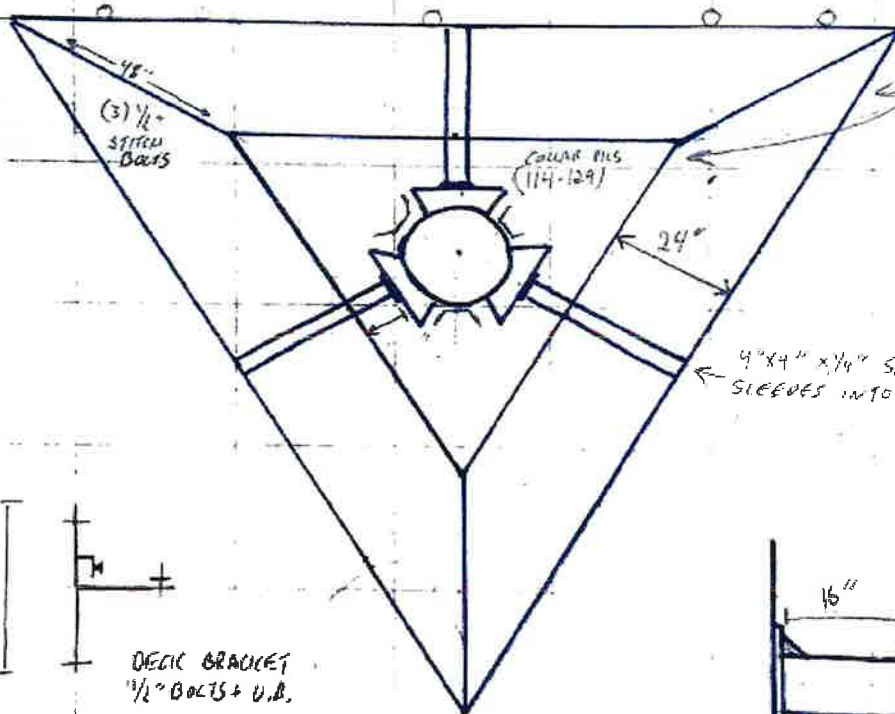
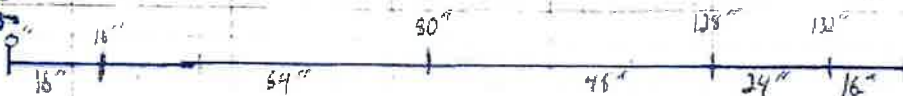
CL = FACE @ 17.5" AGC

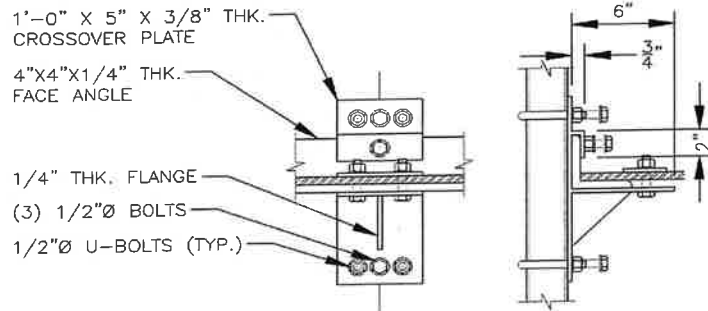
T-F = 88"

T-A = 40"

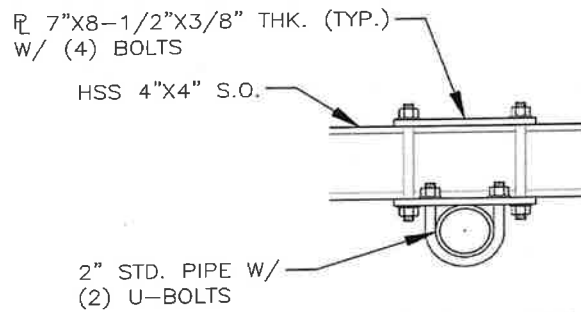
COLLAR = 12" x 1/2"

T-ROD = (3) 3/4"

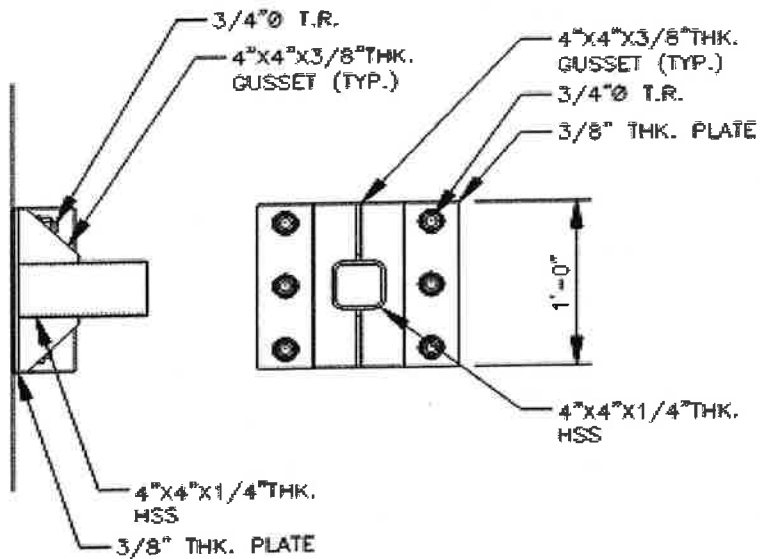
~~PLATE =~~~~BOLTS =~~



CROSSOVER PLATE DETAIL



S.O. MOUNT DETAIL

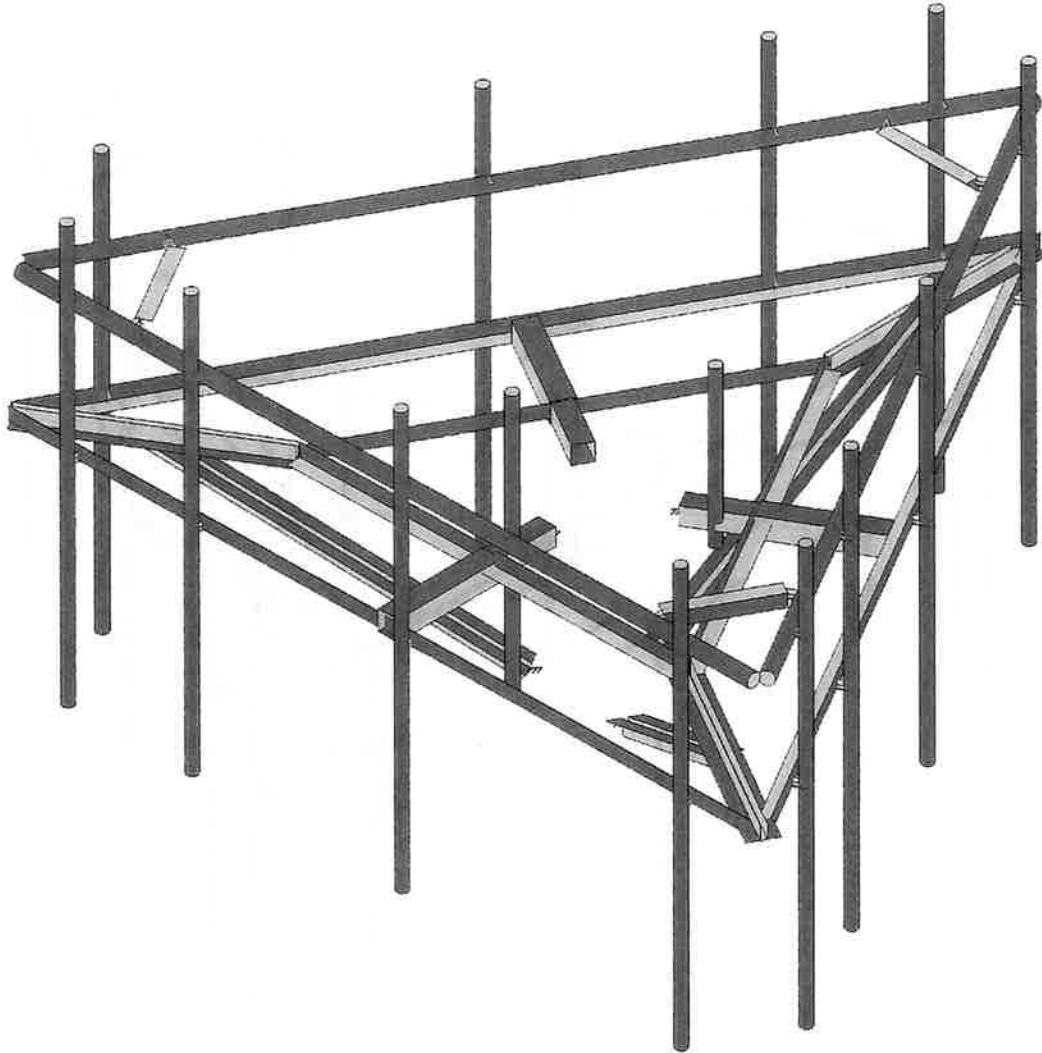
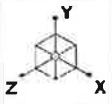


RING MOUNT STANDOFF DETAIL

FCC #
231795

Mapping Date:	8/10/2021
Tower Type:	Monopole
Tower Height (FL):	177'-0"
Mount Elevation (FL):	176.8

[illegible][illegible]



Envelope Only Solution

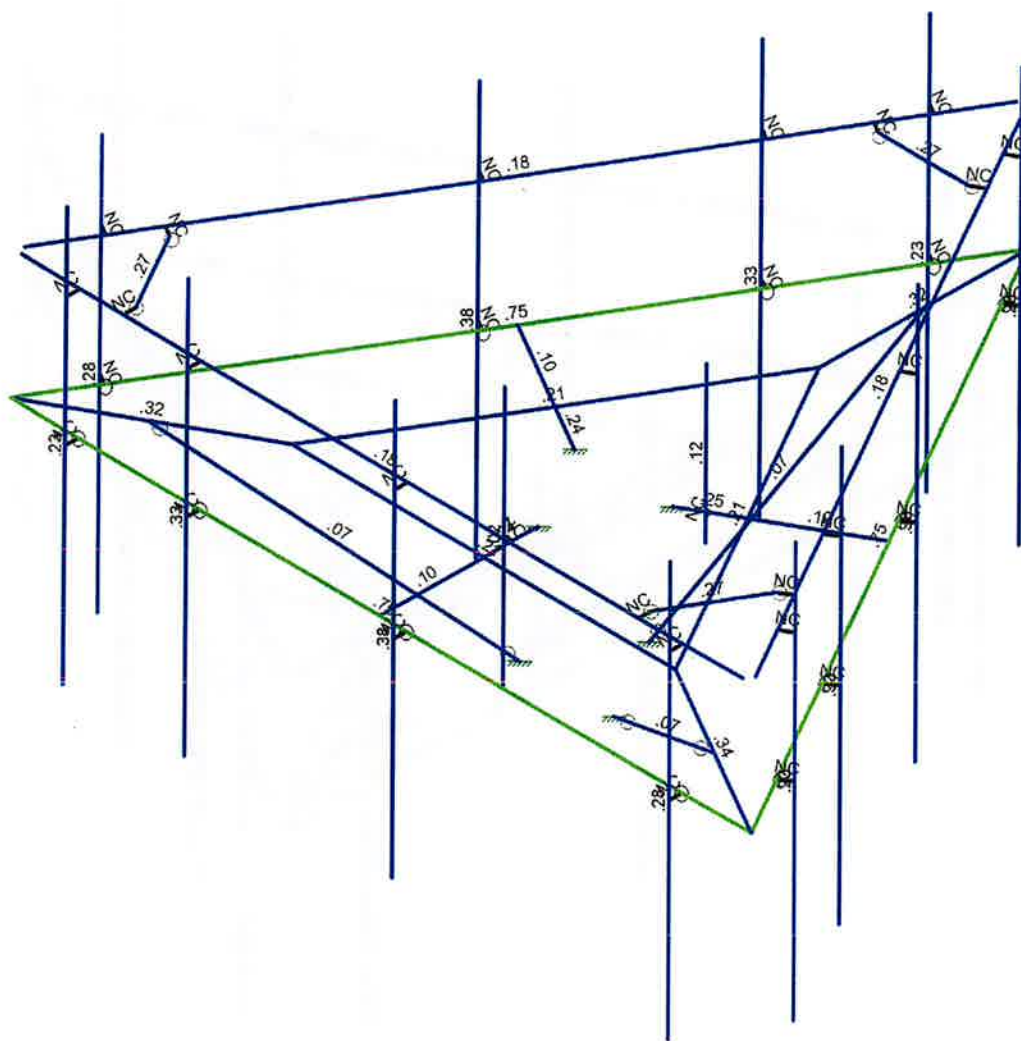
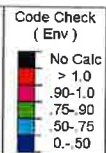
Colliers Engineering & Des...

5000392577-VZW_MT_LO_H

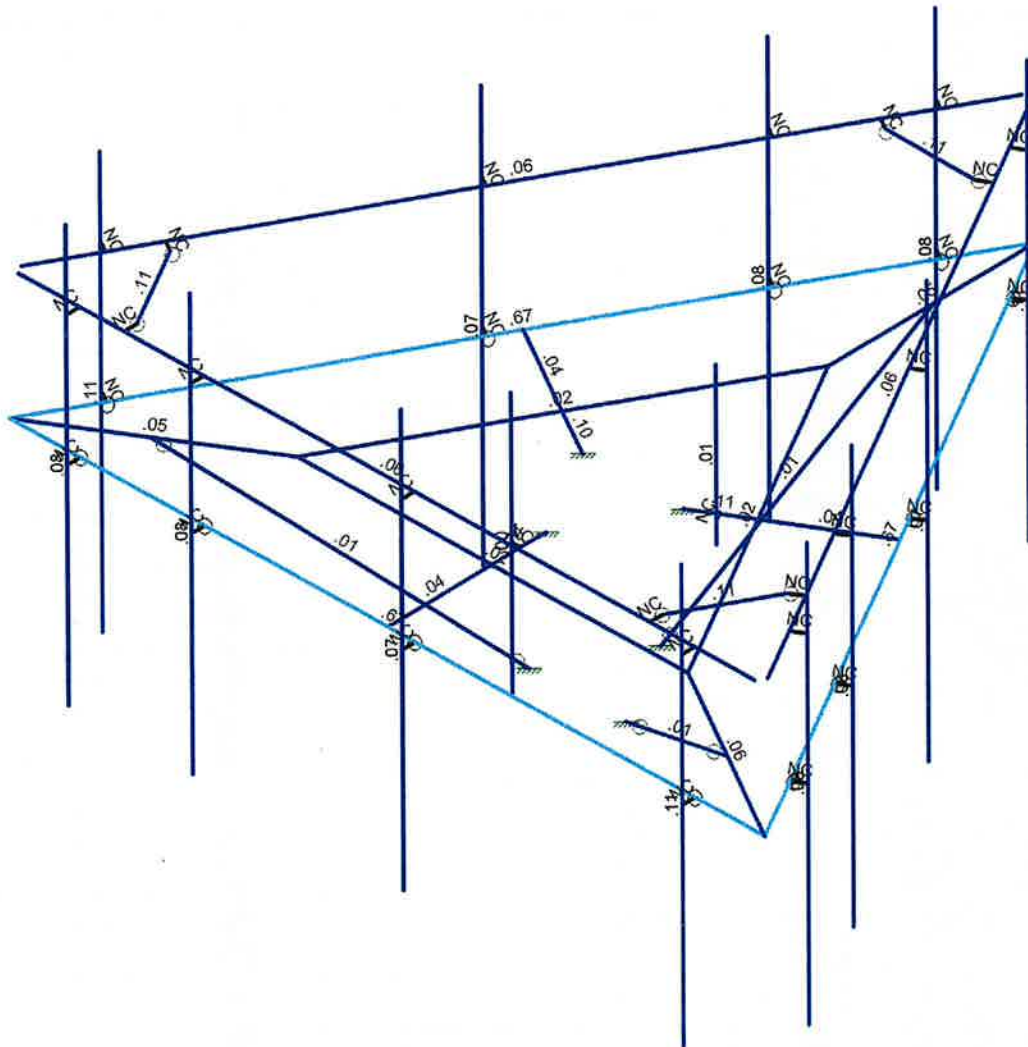
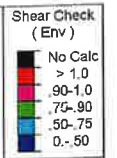
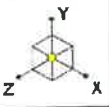
SK - 1

Feb 4, 2024 at 2:54 PM

5000392577-VZW_MT_LO_H.r3d



5000392577-VZW_MT_LO_H.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & Des...

5000392577-VZW_MT_LO_H

SK - 3

Feb 4, 2024 at 2:54 PM

5000392577-VZW_MT_LO_H.r3d

Basic Load Cases

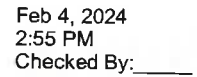
	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
1	Antenna D	None					102		
2	Antenna Di	None					102		
3	Antenna Wo (0 Deg)	None					102		
4	Antenna Wo (30 Deg)	None					102		
5	Antenna Wo (60 Deg)	None					102		
6	Antenna Wo (90 Deg)	None					102		
7	Antenna Wo (120 Deg)	None					102		
8	Antenna Wo (150 Deg)	None					102		
9	Antenna Wo (180 Deg)	None					102		
10	Antenna Wo (210 Deg)	None					102		
11	Antenna Wo (240 Deg)	None					102		
12	Antenna Wo (270 Deg)	None					102		
13	Antenna Wo (300 Deg)	None					102		
14	Antenna Wo (330 Deg)	None					102		
15	Antenna Wi (0 Deg)	None					102		
16	Antenna Wi (30 Deg)	None					102		
17	Antenna Wi (60 Deg)	None					102		
18	Antenna Wi (90 Deg)	None					102		
19	Antenna Wi (120 Deg)	None					102		
20	Antenna Wi (150 Deg)	None					102		
21	Antenna Wi (180 Deg)	None					102		
22	Antenna Wi (210 Deg)	None					102		
23	Antenna Wi (240 Deg)	None					102		
24	Antenna Wi (270 Deg)	None					102		
25	Antenna Wi (300 Deg)	None					102		
26	Antenna Wi (330 Deg)	None					102		
27	Antenna Wm (0 Deg)	None					102		
28	Antenna Wm (30 Deg)	None					102		
29	Antenna Wm (60 Deg)	None					102		
30	Antenna Wm (90 Deg)	None					102		
31	Antenna Wm (120 Deg)	None					102		
32	Antenna Wm (150 Deg)	None					102		
33	Antenna Wm (180 Deg)	None					102		
34	Antenna Wm (210 Deg)	None					102		
35	Antenna Wm (240 Deg)	None					102		
36	Antenna Wm (270 Deg)	None					102		
37	Antenna Wm (300 Deg)	None					102		
38	Antenna Wm (330 Deg)	None					102		
39	Structure D	None		-1					3
40	Structure Di	None						38	3
41	Structure Wo (0 Deg)	None						76	
42	Structure Wo (30 Deg)	None						76	
43	Structure Wo (60 Deg)	None						76	
44	Structure Wo (90 Deg)	None						76	
45	Structure Wo (120 D...	None						76	
46	Structure Wo (150 D...	None						76	
47	Structure Wo (180 D...	None						76	
48	Structure Wo (210 D...	None						76	
49	Structure Wo (240 D...	None						76	
50	Structure Wo (270 D...	None						76	
51	Structure Wo (300 D...	None						76	
52	Structure Wo (330 D...	None						76	
53	Structure Wi (0 Deg)	None						76	

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
54	Structure Wi (30 Deg)	None						76	
55	Structure Wi (60 Deg)	None						76	
56	Structure Wi (90 Deg)	None						76	
57	Structure Wi (120 De...	None						76	
58	Structure Wi (150 De...	None						76	
59	Structure Wi (180 De...	None						76	
60	Structure Wi (210 De...	None						76	
61	Structure Wi (240 De...	None						76	
62	Structure Wi (270 De...	None						76	
63	Structure Wi (300 De...	None						76	
64	Structure Wi (330 De...	None						76	
65	Structure Wm (0 Deg)	None						76	
66	Structure Wm (30 De...	None						76	
67	Structure Wm (60 De...	None						76	
68	Structure Wm (90 De...	None						76	
69	Structure Wm (120 D...	None						76	
70	Structure Wm (150 D...	None						76	
71	Structure Wm (180 D...	None						76	
72	Structure Wm (210 D...	None						76	
73	Structure Wm (240 D...	None						76	
74	Structure Wm (270 D...	None						76	
75	Structure Wm (300 D...	None						76	
76	Structure Wm (330 D...	None						76	
77	Lm1	None					1		
78	Lm2	None					1		
79	Lv1	None					1		
80	Lv2	None					1		
81	Antenna Ev	None					102		
82	Antenna Eh (0 Deg)	None					68		
83	Antenna Eh (90 Deg)	None					68		
84	Structure Ev	ELY		-0.039					3
85	Structure Eh (0 Deg)	ELZ			-0.098				3
86	Structure Eh (90 Deg)	ELX	.098						3
87	BLC 39 Transient Are...	None						30	
88	BLC 40 Transient Are...	None						30	
89	BLC 84 Transient Are...	None						30	
90	BLC 85 Transient Are...	None						30	
91	BLC 86 Transient Are...	None						30	

Load Combinations

[illegible]



Load Combinations (Continued)

[illegible]

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design ...	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Mount Pipe	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
2	Support Rail	PIPE 2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
3	Bottom Corner Plate	L15X6.5X6	Beam	Single A..	A36 Gr.36	Typical	7.922	24.473	192.705	.363
4	Standoff 2	HSS4.5X4.5X4	Beam	Tube	A500 Gr.B Rect	Typical	3.84	11.4	11.4	18.5
5	Cross Members	L3X3X4	Beam	Channel	A36 Gr.36	Typical	1.44	1.23	1.23	.031
6	Face Horizontal	L3X3X4	Beam	Single A..	A36 Gr.36	Typical	1.44	1.23	1.23	.031
7	Standoff 1	HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
8	Grating Angle	LL3x3x4x0	Beam	Double ...	A36 Gr.36	Typical	2.88	4.5	2.46	.063
9	Top Corner Plate	L2.5x2.5x4	Beam	Single A..	A36 Gr.36	Typical	1.19	.692	.692	.026
10	Support Rail Corner	L3X3X4	Beam	Single A..	A36 Gr.36	Typical	1.44	1.23	1.23	.031
11	Support Bracing	L2.5x2.5x4	Column	Single A..	A36 Gr.36	Typical	1.19	.692	.692	.026
12	Kicker	LL3x3x3x3	Column	Double ...	A36 Gr.36	Typical	2.18	4.09	1.9	.027

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N2	N15A			Standoff 1	Beam	Tube	A500 Gr.B...	Typical
2	M2	N15A	N16A			Standoff 2	Beam	Tube	A500 Gr.B...	Typical
3	M5	N14	N10		180	Grating Angle	Beam	Double Angle (..	A36 Gr.36	Typical
4	M6	N16	N15		180	Grating Angle	Beam	Double Angle (..	A36 Gr.36	Typical
5	M7	N18	N17		180	Grating Angle	Beam	Double Angle (..	A36 Gr.36	Typical
6	M6A	N17	N15		270	Cross Members	Beam	Channel	A36 Gr.36	Typical
7	M7A	N16	N18		270	Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
8	M23A	N10	N17		270	Cross Members	Beam	Channel	A36 Gr.36	Typical
9	M24	N18	N14		270	Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
10	M38	N77	N78			Standoff 1	Beam	Tube	A500 Gr.B...	Typical
11	M39A	N15	N10		270	Cross Members	Beam	Channel	A36 Gr.36	Typical
12	M40	N14	N16		270	Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
13	M54	N109	N110			Standoff 1	Beam	Tube	A500 Gr.B...	Typical
14	M55	N78	N108A			Standoff 2	Beam	Tube	A500 Gr.B...	Typical
15	M56	N110	N110A			Standoff 2	Beam	Tube	A500 Gr.B...	Typical
16	M16	N35	N36			RIGID	None	None	RIGID	Typical
17	MP1A	N34	N35A			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
18	M18	N36A	N37			RIGID	None	None	RIGID	Typical
19	MP2A	N38	N39			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
20	M20	N40	N41			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
21	MP3A	N42	N43			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
22	M22	N44	N45			RIGID	None	None	RIGID	Typical
23	MP4A	N46	N47			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
24	M24A	N48	N49			RIGID	None	None	RIGID	Typical
25	MP1C	N50	N51			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
26	M26	N52	N53			RIGID	None	None	RIGID	Typical
27	MP2C	N54	N55			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
28	M28	N56	N57			RIGID	None	None	RIGID	Typical
29	MP3C	N58	N59			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
30	M30	N60	N61			RIGID	None	None	RIGID	Typical
31	MP4C	N62	N63			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
32	M32	N64	N65			RIGID	None	None	RIGID	Typical
33	MP1B	N66	N67A			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
34	M34	N68	N69			RIGID	None	None	RIGID	Typical
35	MP2B	N70	N71			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
36	M36	N72	N73			RIGID	None	None	RIGID	Typical
37	MP3B	N74	N75			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
38	M38A	N76	N77A			RIGID	None	None	RIGID	Typical
39	MP4B	N78A	N79			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
40	M40A	N80	N81			RIGID	None	None	RIGID	Typical
41	M41	N82	N84			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
42	M42	N84A	N85		270	Support Rail	Beam	Pipe	A53 Gr.B	Typical
43	M43	N86	N87			RIGID	None	None	RIGID	Typical
44	M44	N88	N89			RIGID	None	None	RIGID	Typical
45	M45	N90A	N91A			RIGID	None	None	RIGID	Typical
46	M46	N92	N93			RIGID	None	None	RIGID	Typical
47	M47	N94	N95			RIGID	None	None	RIGID	Typical
48	M48	N96	N97			RIGID	None	None	RIGID	Typical
49	M49	N98	N99		270	Support Rail	Beam	Pipe	A53 Gr.B	Typical
50	M50	N100	N101			RIGID	None	None	RIGID	Typical
51	M51	N102A	N103			RIGID	None	None	RIGID	Typical
52	M52	N104	N105			RIGID	None	None	RIGID	Typical
53	M53	N106	N107			RIGID	None	None	RIGID	Typical
54	M54A	N108B	N109A			RIGID	None	None	RIGID	Typical
55	M55A	N110B	N111			RIGID	None	None	RIGID	Typical
56	M56A	N112	N113		270	Support Rail	Beam	Pipe	A53 Gr.B	Typical
57	M57	N114	N115			RIGID	None	None	RIGID	Typical
58	M58	N116	N117			RIGID	None	None	RIGID	Typical
59	M59	N118	N119			RIGID	None	None	RIGID	Typical
60	M60	N120	N121			RIGID	None	None	RIGID	Typical
61	M61	N122	N123			RIGID	None	None	RIGID	Typical
62	M62	N124	N125			RIGID	None	None	RIGID	Typical
63	M63	N95	N125		90	Support Rail C...	Beam	Single Angle	A36 Gr.36	Typical
64	M64	N123	N111		90	Support Rail C...	Beam	Single Angle	A36 Gr.36	Typical
65	M65	N109A	N97		90	Support Rail C...	Beam	Single Angle	A36 Gr.36	Typical
66	M66	N12	N124A			Kicker	Column	Double Angle (...)	A36 Gr.36	Typical
67	M67	N16B	N126			Kicker	Column	Double Angle (...)	A36 Gr.36	Typical
68	M68	N19	N128			Kicker	Column	Double Angle (...)	A36 Gr.36	Typical
69	M69	N127	N128A			RIGID	None	None	RIGID	Typical
70	M70	N129	N130			Mount 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	M2						Yes				None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
3	M5						Yes				None
4	M6						Yes				None
5	M7						Yes				None
6	M6A						Yes				None
7	M7A						Yes				None
8	M23A						Yes				None
9	M24						Yes				None
10	M38						Yes				None
11	M39A						Yes				None
12	M40						Yes				None
13	M54						Yes				None
14	M55						Yes				None
15	M56						Yes				None
16	M16		000X00				Yes	** NA **			None
17	MP1A						Yes				None
18	M18		000X00				Yes	** NA **			None
19	MP2A						Yes				None
20	M20		000X00				Yes	** NA **			None
21	MP3A						Yes				None
22	M22		000X00				Yes	** NA **			None
23	MP4A						Yes				None
24	M24A		000X00				Yes	** NA **			None
25	MP1C						Yes				None
26	M26		000X00				Yes	** NA **			None
27	MP2C						Yes				None
28	M28		000X00				Yes	** NA **			None
29	MP3C						Yes				None
30	M30		000X00				Yes	** NA **			None
31	MP4C						Yes				None
32	M32		000X00				Yes	** NA **			None
33	MP1B						Yes				None
34	M34		000X00				Yes	** NA **			None
35	MP2B						Yes				None
36	M36		000X00				Yes	** NA **			None
37	MP3B						Yes				None
38	M38A		000X00				Yes	** NA **			None
39	MP4B						Yes				None
40	M40A						Yes	** NA **			None
41	M41						Yes	Default			None
42	M42						Yes				None
43	M43						Yes	** NA **			None
44	M44						Yes	** NA **			None
45	M45						Yes	** NA **			None
46	M46						Yes	** NA **			None
47	M47	00000X					Yes	** NA **			None
48	M48	00000X					Yes	** NA **			None
49	M49						Yes				None
50	M50						Yes	** NA **			None
51	M51						Yes	** NA **			None
52	M52						Yes	** NA **			None
53	M53						Yes	** NA **			None
54	M54A	00000X					Yes	** NA **			None
55	M55A	00000X					Yes	** NA **			None
56	M56A						Yes				None
57	M57						Yes	** NA **			None
58	M58						Yes	** NA **			None
59	M59						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat.	Analysis ...	Inactive	Seismic...
60	M60						Yes	** NA **			None
61	M61	OOOOOX					Yes	** NA **			None
62	M62	OOOOOX					Yes	** NA **			None
63	M63						Yes				None
64	M64						Yes				None
65	M65						Yes				None
66	M66	BenPIN	BenPIN				Yes	** NA **			None
67	M67	BenPIN	BenPIN				Yes	** NA **			None
68	M68	BenPIN	BenPIN				Yes	** NA **			None
69	M69						Yes	** NA **			None
70	M70						Yes	Default			None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	Y	-31.65	1
2	MP1A	My	-.016	1
3	MP1A	Mz	-.021	1
4	MP1A	Y	-31.65	5
5	MP1A	Mv	-.016	5
6	MP1A	Mz	-.021	5
7	MP1B	Y	-31.65	1
8	MP1B	My	.026	1
9	MP1B	Mz	-.003	1
10	MP1B	Y	-31.65	5
11	MP1B	Mv	.026	5
12	MP1B	Mz	-.003	5
13	MP1C	Y	-31.65	1
14	MP1C	My	-.01	1
15	MP1C	Mz	.024	1
16	MP1C	Y	-31.65	5
17	MP1C	Mv	-.01	5
18	MP1C	Mz	.024	5
19	MP1A	Y	-31.65	1
20	MP1A	My	-.016	1
21	MP1A	Mz	.021	1
22	MP1A	Y	-31.65	5
23	MP1A	Mv	-.016	5
24	MP1A	Mz	.021	5
25	MP1B	Y	-31.65	1
26	MP1B	Mv	-.01	1
27	MP1B	Mz	-.024	1
28	MP1B	Y	-31.65	5
29	MP1B	Mv	-.01	5
30	MP1B	Mz	-.024	5
31	MP1C	Y	-31.65	1
32	MP1C	Mv	.026	1
33	MP1C	Mz	.003	1
34	MP1C	Y	-31.65	5
35	MP1C	Mv	.026	5
36	MP1C	Mz	.003	5
37	MP3A	Y	-28.65	2
38	MP3A	My	-.019	2
39	MP3A	Mz	0	2
40	MP3A	Y	-28.65	4
41	MP3A	My	-.019	4



Company : Colliers Engineering & Design
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Model Name : 5000392577-VZW_MT_LO_H

Feb 4, 2024
2:55 PM
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Member Point Loads (BLC 1 : Antenna D) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
42	MP3A	Mz	0	4
43	MP3B	Y	-28.65	2
44	MP3B	My	.01	2
45	MP3B	Mz	-.017	2
46	MP3B	Y	-28.65	4
47	MP3B	My	.01	4
48	MP3B	Mz	-.017	4
49	MP3C	Y	-28.65	2
50	MP3C	My	.01	2
51	MP3C	Mz	.017	2
52	MP3C	Y	-28.65	4
53	MP3C	My	.01	4
54	MP3C	Mz	.017	4
55	MP2A	Y	-79.1	3
56	MP2A	My	.04	3
57	MP2A	Mz	0	3
58	MP2B	Y	-79.1	3
59	MP2B	My	-.02	3
60	MP2B	Mz	.034	3
61	MP2C	Y	-79.1	3
62	MP2C	My	-.02	3
63	MP2C	Mz	-.034	3
64	MP1A	Y	-20.8	2
65	MP1A	My	.01	2
66	MP1A	Mz	0	2
67	MP1B	Y	-20.8	2
68	MP1B	My	-.005	2
69	MP1B	Mz	.009	2
70	MP1C	Y	-20.8	2
71	MP1C	My	-.005	2
72	MP1C	Mz	-.009	2
73	MP1A	Y	-74.7	3
74	MP1A	My	.037	3
75	MP1A	Mz	0	3
76	MP1B	Y	-74.7	3
77	MP1B	My	-.019	3
78	MP1B	Mz	.032	3
79	MP1C	Y	-74.7	3
80	MP1C	My	-.019	3
81	MP1C	Mz	-.032	3
82	M70	Y	-32	1
83	M70	My	0	1
84	M70	Mz	0	1
85	MP4A	Y	-9	.5
86	MP4A	My	-.004	.5
87	MP4A	Mz	0	.5
88	MP4A	Y	-9	5.5
89	MP4A	My	-.004	5.5
90	MP4A	Mz	0	5.5
91	MP4B	Y	-9	.5
92	MP4B	My	.002	.5
93	MP4B	Mz	-.004	.5
94	MP4B	Y	-9	5.5
95	MP4B	My	.002	5.5
96	MP4B	Mz	-.004	5.5
97	MP4C	Y	-9	.5
98	MP4C	My	.002	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft. %]
99	MP4C	Mz	.004	.5
100	MP4C	Y	-9	5.5
101	MP4C	Mv	.002	5.5
102	MP4C	Mz	.004	5.5

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft. %]
1	MP1A	Y	-71.801	1
2	MP1A	My	-.036	1
3	MP1A	Mz	-.048	1
4	MP1A	Y	-71.801	5
5	MP1A	Mv	-.036	5
6	MP1A	Mz	-.048	5
7	MP1B	Y	-71.801	1
8	MP1B	My	.059	1
9	MP1B	Mz	-.007	1
10	MP1B	Y	-71.801	5
11	MP1B	Mv	.059	5
12	MP1B	Mz	-.007	5
13	MP1C	Y	-71.801	1
14	MP1C	My	-.024	1
15	MP1C	Mz	.055	1
16	MP1C	Y	-71.801	5
17	MP1C	Mv	-.024	5
18	MP1C	Mz	.055	5
19	MP1A	Y	-71.801	1
20	MP1A	My	-.036	1
21	MP1A	Mz	.048	1
22	MP1A	Y	-71.801	5
23	MP1A	Mv	-.036	5
24	MP1A	Mz	.048	5
25	MP1B	Y	-71.801	1
26	MP1B	My	-.024	1
27	MP1B	Mz	-.055	1
28	MP1B	Y	-71.801	5
29	MP1B	Mv	-.024	5
30	MP1B	Mz	-.055	5
31	MP1C	Y	-71.801	1
32	MP1C	My	.059	1
33	MP1C	Mz	.007	1
34	MP1C	Y	-71.801	5
35	MP1C	Mv	.059	5
36	MP1C	Mz	.007	5
37	MP3A	Y	-30.588	2
38	MP3A	Mv	-.02	2
39	MP3A	Mz	0	2
40	MP3A	Y	-30.588	4
41	MP3A	Mv	-.02	4
42	MP3A	Mz	0	4
43	MP3B	Y	-30.588	2
44	MP3B	Mv	.01	2
45	MP3B	Mz	-.018	2
46	MP3B	Y	-30.588	4
47	MP3B	Mv	.01	4
48	MP3B	Mz	-.018	4
49	MP3C	Y	-30.588	2



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 Job Number :
 Model Name : 5000392577-VZW_MT_LO H

Feb 4, 2024
 2:55 PM
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Member Point Loads (BLC 2 : Antenna Di) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
50	MP3C	My	.01	2
51	MP3C	Mz	.018	2
52	MP3C	Y	-30.588	4
53	MP3C	Mv	.01	4
54	MP3C	Mz	.018	4
55	MP2A	Y	-46.618	3
56	MP2A	My	.023	3
57	MP2A	Mz	0	3
58	MP2B	Y	-46.618	3
59	MP2B	Mv	-.012	3
60	MP2B	Mz	.02	3
61	MP2C	Y	-46.618	3
62	MP2C	My	-.012	3
63	MP2C	Mz	-.02	3
64	MP1A	Y	-16.644	2
65	MP1A	Mv	.008	2
66	MP1A	Mz	0	2
67	MP1B	Y	-16.644	2
68	MP1B	My	-.004	2
69	MP1B	Mz	.007	2
70	MP1C	Y	-16.644	2
71	MP1C	Mv	-.004	2
72	MP1C	Mz	-.007	2
73	MP1A	Y	-46.13	3
74	MP1A	My	.023	3
75	MP1A	Mz	0	3
76	MP1B	Y	-46.13	3
77	MP1B	Mv	-.012	3
78	MP1B	Mz	.02	3
79	MP1C	Y	-46.13	3
80	MP1C	My	-.012	3
81	MP1C	Mz	-.02	3
82	M70	Y	-90.244	1
83	M70	Mv	0	1
84	M70	Mz	0	1
85	MP4A	Y	-45.757	.5
86	MP4A	My	-.023	.5
87	MP4A	Mz	0	.5
88	MP4A	Y	-45.757	5.5
89	MP4A	Mv	-.023	5.5
90	MP4A	Mz	0	5.5
91	MP4B	Y	-45.757	.5
92	MP4B	Mv	.011	.5
93	MP4B	Mz	-.02	.5
94	MP4B	Y	-45.757	5.5
95	MP4B	Mv	.011	5.5
96	MP4B	Mz	-.02	5.5
97	MP4C	Y	-45.757	.5
98	MP4C	My	.011	.5
99	MP4C	Mz	.02	.5
100	MP4C	Y	-45.757	5.5
101	MP4C	Mv	.011	5.5
102	MP4C	Mz	.02	5.5

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

Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
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Member Point Loads (BLC 3 : Antenna Wo (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	0	1
2	MP1A	Z	-177.397	1
3	MP1A	Mx	.118	1
4	MP1A	X	0	5
5	MP1A	Z	-177.397	5
6	MP1A	Mx	.118	5
7	MP1B	X	0	1
8	MP1B	Z	-131.733	1
9	MP1B	Mx	.013	1
10	MP1B	X	0	5
11	MP1B	Z	-131.733	5
12	MP1B	Mx	.013	5
13	MP1C	X	0	1
14	MP1C	Z	-131.733	1
15	MP1C	Mx	-.101	1
16	MP1C	X	0	5
17	MP1C	Z	-131.733	5
18	MP1C	Mx	-.101	5
19	MP1A	X	0	1
20	MP1A	Z	-177.397	1
21	MP1A	Mx	-.118	1
22	MP1A	X	0	5
23	MP1A	Z	-177.397	5
24	MP1A	Mx	-.118	5
25	MP1B	X	0	1
26	MP1B	Z	-131.733	1
27	MP1B	Mx	.101	1
28	MP1B	X	0	5
29	MP1B	Z	-131.733	5
30	MP1B	Mx	.101	5
31	MP1C	X	0	1
32	MP1C	Z	-131.733	1
33	MP1C	Mx	-.013	1
34	MP1C	X	0	5
35	MP1C	Z	-131.733	5
36	MP1C	Mx	-.013	5
37	MP3A	X	0	2
38	MP3A	Z	-61.534	2
39	MP3A	Mx	0	2
40	MP3A	X	0	4
41	MP3A	Z	-61.534	4
42	MP3A	Mx	0	4
43	MP3B	X	0	2
44	MP3B	Z	-31.595	2
45	MP3B	Mx	.018	2
46	MP3B	X	0	4
47	MP3B	Z	-31.595	4
48	MP3B	Mx	.018	4
49	MP3C	X	0	2
50	MP3C	Z	-31.595	2
51	MP3C	Mx	-.018	2
52	MP3C	X	0	4
53	MP3C	Z	-31.595	4
54	MP3C	Mx	-.018	4
55	MP2A	X	0	3
56	MP2A	Z	-72.828	3
57	MP2A	Mx	0	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
58	MP2B	X	0	3
59	MP2B	Z	-55.449	3
60	MP2B	Mx	-.024	3
61	MP2C	X	0	3
62	MP2C	Z	-55.449	3
63	MP2C	Mx	.024	3
64	MP1A	X	0	2
65	MP1A	Z	-14.41	2
66	MP1A	Mx	0	2
67	MP1B	X	0	2
68	MP1B	Z	-18.558	2
69	MP1B	Mx	-.008	2
70	MP1C	X	0	2
71	MP1C	Z	-18.558	2
72	MP1C	Mx	.008	2
73	MP1A	X	0	3
74	MP1A	Z	-60.366	3
75	MP1A	Mx	0	3
76	MP1B	X	0	3
77	MP1B	Z	-45.469	3
78	MP1B	Mx	-.02	3
79	MP1C	X	0	3
80	MP1C	Z	-45.469	3
81	MP1C	Mx	.02	3
82	M70	X	0	1
83	M70	Z	-116.058	1
84	M70	Mx	0	1
85	MP4A	X	0	.5
86	MP4A	Z	-112.163	.5
87	MP4A	Mx	0	.5
88	MP4A	X	0	5.5
89	MP4A	Z	-112.163	5.5
90	MP4A	Mx	0	5.5
91	MP4B	X	0	.5
92	MP4B	Z	-94.649	.5
93	MP4B	Mx	.041	.5
94	MP4B	X	0	5.5
95	MP4B	Z	-94.649	5.5
96	MP4B	Mx	.041	5.5
97	MP4C	X	0	.5
98	MP4C	Z	-94.649	.5
99	MP4C	Mx	-.041	.5
100	MP4C	X	0	5.5
101	MP4C	Z	-94.649	5.5
102	MP4C	Mx	-.041	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	81.088	1
2	MP1A	Z	-140.448	1
3	MP1A	Mx	.053	1
4	MP1A	X	81.088	5
5	MP1A	Z	-140.448	5
6	MP1A	Mx	.053	5
7	MP1B	X	58.256	1
8	MP1B	Z	-100.902	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
9	MP1B	Mx	.058	1
10	MP1B	X	58.256	5
11	MP1B	Z	-100.902	5
12	MP1B	Mx	.058	5
13	MP1C	X	81.088	1
14	MP1C	Z	-140.448	1
15	MP1C	Mx	-.134	1
16	MP1C	X	81.088	5
17	MP1C	Z	-140.448	5
18	MP1C	Mx	-.134	5
19	MP1A	X	81.088	1
20	MP1A	Z	-140.448	1
21	MP1A	Mx	-.134	1
22	MP1A	X	81.088	5
23	MP1A	Z	-140.448	5
24	MP1A	Mx	-.134	5
25	MP1B	X	58.256	1
26	MP1B	Z	-100.902	1
27	MP1B	Mx	.058	1
28	MP1B	X	58.256	5
29	MP1B	Z	-100.902	5
30	MP1B	Mx	.058	5
31	MP1C	X	81.088	1
32	MP1C	Z	-140.448	1
33	MP1C	Mx	.053	1
34	MP1C	X	81.088	5
35	MP1C	Z	-140.448	5
36	MP1C	Mx	.053	5
37	MP3A	X	25.777	2
38	MP3A	Z	-44.647	2
39	MP3A	Mx	-.017	2
40	MP3A	X	25.777	4
41	MP3A	Z	-44.647	4
42	MP3A	Mx	-.017	4
43	MP3B	X	10.807	2
44	MP3B	Z	-18.719	2
45	MP3B	Mx	.014	2
46	MP3B	X	10.807	4
47	MP3B	Z	-18.719	4
48	MP3B	Mx	.014	4
49	MP3C	X	25.777	2
50	MP3C	Z	-44.647	2
51	MP3C	Mx	-.017	2
52	MP3C	X	25.777	4
53	MP3C	Z	-44.647	4
54	MP3C	Mx	-.017	4
55	MP2A	X	33.517	3
56	MP2A	Z	-58.054	3
57	MP2A	Mx	.017	3
58	MP2B	X	24.828	3
59	MP2B	Z	-43.003	3
60	MP2B	Mx	-.025	3
61	MP2C	X	33.517	3
62	MP2C	Z	-58.054	3
63	MP2C	Mx	.017	3
64	MP1A	X	7.896	2
65	MP1A	Z	-13.677	2



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 Job Number :
 Model Name : 5000392577-VZW_MT_LO_H

Feb 4, 2024
 2:55 PM
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Member Point Loads (BLC 4 : Antenna Wo (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
66	MP1A	Mx	.004	2
67	MP1B	X	9.97	2
68	MP1B	Z	-17.269	2
69	MP1B	Mx	-.01	2
70	MP1C	X	7.896	2
71	MP1C	Z	-13.677	2
72	MP1C	Mx	.004	2
73	MP1A	X	27.7	3
74	MP1A	Z	-47.978	3
75	MP1A	Mx	.014	3
76	MP1B	X	20.252	3
77	MP1B	Z	-35.077	3
78	MP1B	Mx	-.02	3
79	MP1C	X	27.7	3
80	MP1C	Z	-47.978	3
81	MP1C	Mx	.014	3
82	M70	X	50.629	1
83	M70	Z	-87.692	1
84	M70	Mx	0	1
85	MP4A	X	53.162	.5
86	MP4A	Z	-92.08	.5
87	MP4A	Mx	-.027	.5
88	MP4A	X	53.162	5.5
89	MP4A	Z	-92.08	5.5
90	MP4A	Mx	-.027	5.5
91	MP4B	X	44.405	.5
92	MP4B	Z	-76.912	.5
93	MP4B	Mx	.044	.5
94	MP4B	X	44.405	5.5
95	MP4B	Z	-76.912	5.5
96	MP4B	Mx	.044	5.5
97	MP4C	X	53.162	.5
98	MP4C	Z	-92.08	.5
99	MP4C	Mx	-.027	.5
100	MP4C	X	53.162	5.5
101	MP4C	Z	-92.08	5.5
102	MP4C	Mx	-.027	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	114.084	1
2	MP1A	Z	-65.867	1
3	MP1A	Mx	-.013	1
4	MP1A	X	114.084	5
5	MP1A	Z	-65.867	5
6	MP1A	Mx	-.013	5
7	MP1B	X	114.084	1
8	MP1B	Z	-65.867	1
9	MP1B	Mx	.101	1
10	MP1B	X	114.084	5
11	MP1B	Z	-65.867	5
12	MP1B	Mx	.101	5
13	MP1C	X	153.63	1
14	MP1C	Z	-88.698	1
15	MP1C	Mx	-.118	1
16	MP1C	X	153.63	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
17	MP1C	Z	-88.698	5
18	MP1C	Mx	-.118	5
19	MP1A	X	114.084	1
20	MP1A	Z	-65.867	1
21	MP1A	Mx	-.101	1
22	MP1A	X	114.084	5
23	MP1A	Z	-65.867	5
24	MP1A	Mx	-.101	5
25	MP1B	X	114.084	1
26	MP1B	Z	-65.867	1
27	MP1B	Mx	.013	1
28	MP1B	X	114.084	5
29	MP1B	Z	-65.867	5
30	MP1B	Mx	.013	5
31	MP1C	X	153.63	1
32	MP1C	Z	-88.698	1
33	MP1C	Mx	.118	1
34	MP1C	X	153.63	5
35	MP1C	Z	-88.698	5
36	MP1C	Mx	.118	5
37	MP3A	X	27.362	2
38	MP3A	Z	-15.797	2
39	MP3A	Mx	-.018	2
40	MP3A	X	27.362	4
41	MP3A	Z	-15.797	4
42	MP3A	Mx	-.018	4
43	MP3B	X	27.362	2
44	MP3B	Z	-15.797	2
45	MP3B	Mx	.018	2
46	MP3B	X	27.362	4
47	MP3B	Z	-15.797	4
48	MP3B	Mx	.018	4
49	MP3C	X	53.29	2
50	MP3C	Z	-30.767	2
51	MP3C	Mx	0	2
52	MP3C	X	53.29	4
53	MP3C	Z	-30.767	4
54	MP3C	Mx	0	4
55	MP2A	X	48.02	3
56	MP2A	Z	-27.724	3
57	MP2A	Mx	.024	3
58	MP2B	X	48.02	3
59	MP2B	Z	-27.724	3
60	MP2B	Mx	-.024	3
61	MP2C	X	63.071	3
62	MP2C	Z	-36.414	3
63	MP2C	Mx	0	3
64	MP1A	X	16.071	2
65	MP1A	Z	-9.279	2
66	MP1A	Mx	.008	2
67	MP1B	X	16.071	2
68	MP1B	Z	-9.279	2
69	MP1B	Mx	-.008	2
70	MP1C	X	12.479	2
71	MP1C	Z	-7.205	2
72	MP1C	Mx	0	2
73	MP1A	X	39.377	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
74	MP1A	Z	-22.734	3
75	MP1A	Mx	.02	3
76	MP1B	X	39.377	3
77	MP1B	Z	-22.734	3
78	MP1B	Mx	-.02	3
79	MP1C	X	52.278	3
80	MP1C	Z	-30.183	3
81	MP1C	Mx	0	3
82	M70	X	81.284	1
83	M70	Z	-46.929	1
84	M70	Mx	0	1
85	MP4A	X	81.968	.5
86	MP4A	Z	-47.324	.5
87	MP4A	Mx	-.041	.5
88	MP4A	X	81.968	5.5
89	MP4A	Z	-47.324	5.5
90	MP4A	Mx	-.041	5.5
91	MP4B	X	81.968	.5
92	MP4B	Z	-47.324	.5
93	MP4B	Mx	.041	.5
94	MP4B	X	81.968	5.5
95	MP4B	Z	-47.324	5.5
96	MP4B	Mx	.041	5.5
97	MP4C	X	97.136	.5
98	MP4C	Z	-56.082	.5
99	MP4C	Mx	0	.5
100	MP4C	X	97.136	5.5
101	MP4C	Z	-56.082	5.5
102	MP4C	Mx	0	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	116.512	1
2	MP1A	Z	0	1
3	MP1A	Mx	-.058	1
4	MP1A	X	116.512	5
5	MP1A	Z	0	5
6	MP1A	Mx	-.058	5
7	MP1B	X	162.176	1
8	MP1B	Z	0	1
9	MP1B	Mx	.134	1
10	MP1B	X	162.176	5
11	MP1B	Z	0	5
12	MP1B	Mx	.134	5
13	MP1C	X	162.176	1
14	MP1C	Z	0	1
15	MP1C	Mx	-.053	1
16	MP1C	X	162.176	5
17	MP1C	Z	0	5
18	MP1C	Mx	-.053	5
19	MP1A	X	116.512	1
20	MP1A	Z	0	1
21	MP1A	Mx	-.058	1
22	MP1A	X	116.512	5
23	MP1A	Z	0	5
24	MP1A	Mx	-.058	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
25	MP1B	X	162.176	1
26	MP1B	Z	0	1
27	MP1B	Mx	-.053	1
28	MP1B	X	162.176	5
29	MP1B	Z	0	5
30	MP1B	Mx	-.053	5
31	MP1C	X	162.176	1
32	MP1C	Z	0	1
33	MP1C	Mx	.134	1
34	MP1C	X	162.176	5
35	MP1C	Z	0	5
36	MP1C	Mx	.134	5
37	MP3A	X	21.615	2
38	MP3A	Z	0	2
39	MP3A	Mx	-.014	2
40	MP3A	X	21.615	4
41	MP3A	Z	0	4
42	MP3A	Mx	-.014	4
43	MP3B	X	51.554	2
44	MP3B	Z	0	2
45	MP3B	Mx	.017	2
46	MP3B	X	51.554	4
47	MP3B	Z	0	4
48	MP3B	Mx	.017	4
49	MP3C	X	51.554	2
50	MP3C	Z	0	2
51	MP3C	Mx	.017	2
52	MP3C	X	51.554	4
53	MP3C	Z	0	4
54	MP3C	Mx	.017	4
55	MP2A	X	49.656	3
56	MP2A	Z	0	3
57	MP2A	Mx	.025	3
58	MP2B	X	67.035	3
59	MP2B	Z	0	3
60	MP2B	Mx	-.017	3
61	MP2C	X	67.035	3
62	MP2C	Z	0	3
63	MP2C	Mx	-.017	3
64	MP1A	X	19.94	2
65	MP1A	Z	0	2
66	MP1A	Mx	.01	2
67	MP1B	X	15.792	2
68	MP1B	Z	0	2
69	MP1B	Mx	-.004	2
70	MP1C	X	15.792	2
71	MP1C	Z	0	2
72	MP1C	Mx	-.004	2
73	MP1A	X	40.503	3
74	MP1A	Z	0	3
75	MP1A	Mx	.02	3
76	MP1B	X	55.4	3
77	MP1B	Z	0	3
78	MP1B	Mx	-.014	3
79	MP1C	X	55.4	3
80	MP1C	Z	0	3
81	MP1C	Mx	-.014	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
82	M70	X	101.258	1
83	M70	Z	0	1
84	M70	Mx	0	1
85	MP4A	X	88.811	.5
86	MP4A	Z	0	.5
87	MP4A	Mx	-.044	.5
88	MP4A	X	88.811	5.5
89	MP4A	Z	0	5.5
90	MP4A	Mx	-.044	5.5
91	MP4B	X	106.325	.5
92	MP4B	Z	0	.5
93	MP4B	Mx	.027	.5
94	MP4B	X	106.325	5.5
95	MP4B	Z	0	5.5
96	MP4B	Mx	.027	5.5
97	MP4C	X	106.325	.5
98	MP4C	Z	0	.5
99	MP4C	Mx	.027	.5
100	MP4C	X	106.325	5.5
101	MP4C	Z	0	5.5
102	MP4C	Mx	.027	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	114.084	1
2	MP1A	Z	65.867	1
3	MP1A	Mx	-.101	1
4	MP1A	X	114.084	5
5	MP1A	Z	65.867	5
6	MP1A	Mx	-.101	5
7	MP1B	X	153.63	1
8	MP1B	Z	88.698	1
9	MP1B	Mx	.118	1
10	MP1B	X	153.63	5
11	MP1B	Z	88.698	5
12	MP1B	Mx	.118	5
13	MP1C	X	114.084	1
14	MP1C	Z	65.867	1
15	MP1C	Mx	.013	1
16	MP1C	X	114.084	5
17	MP1C	Z	65.867	5
18	MP1C	Mx	.013	5
19	MP1A	X	114.084	1
20	MP1A	Z	65.867	1
21	MP1A	Mx	-.013	1
22	MP1A	X	114.084	5
23	MP1A	Z	65.867	5
24	MP1A	Mx	-.013	5
25	MP1B	X	153.63	1
26	MP1B	Z	88.698	1
27	MP1B	Mx	-.118	1
28	MP1B	X	153.63	5
29	MP1B	Z	88.698	5
30	MP1B	Mx	-.118	5
31	MP1C	X	114.084	1
32	MP1C	Z	65.867	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
33	MP1C	Mx	.101	1
34	MP1C	X	114.084	5
35	MP1C	Z	65.867	5
36	MP1C	Mx	.101	5
37	MP3A	X	27.362	2
38	MP3A	Z	15.797	2
39	MP3A	Mx	-.018	2
40	MP3A	X	27.362	4
41	MP3A	Z	15.797	4
42	MP3A	Mx	-.018	4
43	MP3B	X	53.29	2
44	MP3B	Z	30.767	2
45	MP3B	Mx	0	2
46	MP3B	X	53.29	4
47	MP3B	Z	30.767	4
48	MP3B	Mx	0	4
49	MP3C	X	27.362	2
50	MP3C	Z	15.797	2
51	MP3C	Mx	.018	2
52	MP3C	X	27.362	4
53	MP3C	Z	15.797	4
54	MP3C	Mx	.018	4
55	MP2A	X	48.02	3
56	MP2A	Z	27.724	3
57	MP2A	Mx	.024	3
58	MP2B	X	63.071	3
59	MP2B	Z	36.414	3
60	MP2B	Mx	0	3
61	MP2C	X	48.02	3
62	MP2C	Z	27.724	3
63	MP2C	Mx	-.024	3
64	MP1A	X	16.071	2
65	MP1A	Z	9.279	2
66	MP1A	Mx	.008	2
67	MP1B	X	12.479	2
68	MP1B	Z	7.205	2
69	MP1B	Mx	0	2
70	MP1C	X	16.071	2
71	MP1C	Z	9.279	2
72	MP1C	Mx	-.008	2
73	MP1A	X	39.377	3
74	MP1A	Z	22.734	3
75	MP1A	Mx	.02	3
76	MP1B	X	52.278	3
77	MP1B	Z	30.183	3
78	MP1B	Mx	0	3
79	MP1C	X	39.377	3
80	MP1C	Z	22.734	3
81	MP1C	Mx	-.02	3
82	M70	X	100.509	1
83	M70	Z	58.029	1
84	M70	Mx	0	1
85	MP4A	X	81.968	.5
86	MP4A	Z	47.324	.5
87	MP4A	Mx	-.041	.5
88	MP4A	X	81.968	5.5
89	MP4A	Z	47.324	5.5



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 Model Name : 5000392577-VZW_MT_LO_H

Feb 4, 2024
 2:55 PM
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Member Point Loads (BLC 7 : Antenna Wo (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
90	MP4A	Mx	-.041	5.5
91	MP4B	X	97.136	.5
92	MP4B	Z	56.082	.5
93	MP4B	Mx	0	.5
94	MP4B	X	97.136	5.5
95	MP4B	Z	56.082	5.5
96	MP4B	Mx	0	5.5
97	MP4C	X	81.968	.5
98	MP4C	Z	47.324	.5
99	MP4C	Mx	.041	.5
100	MP4C	X	81.968	5.5
101	MP4C	Z	47.324	5.5
102	MP4C	Mx	.041	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	81.088	1
2	MP1A	Z	140.448	1
3	MP1A	Mx	-.134	1
4	MP1A	X	81.088	5
5	MP1A	Z	140.448	5
6	MP1A	Mx	-.134	5
7	MP1B	X	81.088	1
8	MP1B	Z	140.448	1
9	MP1B	Mx	.053	1
10	MP1B	X	81.088	5
11	MP1B	Z	140.448	5
12	MP1B	Mx	.053	5
13	MP1C	X	58.256	1
14	MP1C	Z	100.902	1
15	MP1C	Mx	.058	1
16	MP1C	X	58.256	5
17	MP1C	Z	100.902	5
18	MP1C	Mx	.058	5
19	MP1A	X	81.088	1
20	MP1A	Z	140.448	1
21	MP1A	Mx	.053	1
22	MP1A	X	81.088	5
23	MP1A	Z	140.448	5
24	MP1A	Mx	.053	5
25	MP1B	X	81.088	1
26	MP1B	Z	140.448	1
27	MP1B	Mx	-.134	1
28	MP1B	X	81.088	5
29	MP1B	Z	140.448	5
30	MP1B	Mx	-.134	5
31	MP1C	X	58.256	1
32	MP1C	Z	100.902	1
33	MP1C	Mx	.058	1
34	MP1C	X	58.256	5
35	MP1C	Z	100.902	5
36	MP1C	Mx	.058	5
37	MP3A	X	25.777	2
38	MP3A	Z	44.647	2
39	MP3A	Mx	-.017	2
40	MP3A	X	25.777	4

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
41	MP3A	Z	44.647	4
42	MP3A	Mx	-.017	4
43	MP3B	X	25.777	2
44	MP3B	Z	44.647	2
45	MP3B	Mx	-.017	2
46	MP3B	X	25.777	4
47	MP3B	Z	44.647	4
48	MP3B	Mx	-.017	4
49	MP3C	X	10.807	2
50	MP3C	Z	18.719	2
51	MP3C	Mx	.014	2
52	MP3C	X	10.807	4
53	MP3C	Z	18.719	4
54	MP3C	Mx	.014	4
55	MP2A	X	33.517	3
56	MP2A	Z	58.054	3
57	MP2A	Mx	.017	3
58	MP2B	X	33.517	3
59	MP2B	Z	58.054	3
60	MP2B	Mx	.017	3
61	MP2C	X	24.828	3
62	MP2C	Z	43.003	3
63	MP2C	Mx	-.025	3
64	MP1A	X	7.896	2
65	MP1A	Z	13.677	2
66	MP1A	Mx	.004	2
67	MP1B	X	7.896	2
68	MP1B	Z	13.677	2
69	MP1B	Mx	.004	2
70	MP1C	X	9.97	2
71	MP1C	Z	17.269	2
72	MP1C	Mx	-.01	2
73	MP1A	X	27.7	3
74	MP1A	Z	47.978	3
75	MP1A	Mx	.014	3
76	MP1B	X	27.7	3
77	MP1B	Z	47.978	3
78	MP1B	Mx	.014	3
79	MP1C	X	20.252	3
80	MP1C	Z	35.077	3
81	MP1C	Mx	-.02	3
82	M70	X	61.729	1
83	M70	Z	106.917	1
84	M70	Mx	0	1
85	MP4A	X	53.162	.5
86	MP4A	Z	92.08	.5
87	MP4A	Mx	-.027	.5
88	MP4A	X	53.162	5.5
89	MP4A	Z	92.08	5.5
90	MP4A	Mx	-.027	5.5
91	MP4B	X	53.162	.5
92	MP4B	Z	92.08	.5
93	MP4B	Mx	-.027	.5
94	MP4B	X	53.162	5.5
95	MP4B	Z	92.08	5.5
96	MP4B	Mx	-.027	5.5
97	MP4C	X	44.405	.5



Company : Colliers Engineering & Design
 Designer :
 Job Number :
 Model Name : 5000392577-V7W_MT_LO_H

Feb 4, 2024
 2:55 PM
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Member Point Loads (BLC 8 : Antenna Wo (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
98	MP4C	Z	76.912	.5
99	MP4C	Mx	.044	.5
100	MP4C	X	44.405	5.5
101	MP4C	Z	76.912	5.5
102	MP4C	Mx	.044	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	0	1
2	MP1A	Z	177.397	1
3	MP1A	Mx	-.118	1
4	MP1A	X	0	5
5	MP1A	Z	177.397	5
6	MP1A	Mx	-.118	5
7	MP1B	X	0	1
8	MP1B	Z	131.733	1
9	MP1B	Mx	-.013	1
10	MP1B	X	0	5
11	MP1B	Z	131.733	5
12	MP1B	Mx	-.013	5
13	MP1C	X	0	1
14	MP1C	Z	131.733	1
15	MP1C	Mx	.101	1
16	MP1C	X	0	5
17	MP1C	Z	131.733	5
18	MP1C	Mx	.101	5
19	MP1A	X	0	1
20	MP1A	Z	177.397	1
21	MP1A	Mx	.118	1
22	MP1A	X	0	5
23	MP1A	Z	177.397	5
24	MP1A	Mx	.118	5
25	MP1B	X	0	1
26	MP1B	Z	131.733	1
27	MP1B	Mx	-.101	1
28	MP1B	X	0	5
29	MP1B	Z	131.733	5
30	MP1B	Mx	-.101	5
31	MP1C	X	0	1
32	MP1C	Z	131.733	1
33	MP1C	Mx	.013	1
34	MP1C	X	0	5
35	MP1C	Z	131.733	5
36	MP1C	Mx	.013	5
37	MP3A	X	0	2
38	MP3A	Z	61.534	2
39	MP3A	Mx	0	2
40	MP3A	X	0	4
41	MP3A	Z	61.534	4
42	MP3A	Mx	0	4
43	MP3B	X	0	2
44	MP3B	Z	31.595	2
45	MP3B	Mx	-.018	2
46	MP3B	X	0	4
47	MP3B	Z	31.595	4
48	MP3B	Mx	-.018	4

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
49	MP3C	X	0	2
50	MP3C	Z	31.595	2
51	MP3C	Mx	.018	2
52	MP3C	X	0	4
53	MP3C	Z	31.595	4
54	MP3C	Mx	.018	4
55	MP2A	X	0	3
56	MP2A	Z	72.828	3
57	MP2A	Mx	0	3
58	MP2B	X	0	3
59	MP2B	Z	55.449	3
60	MP2B	Mx	.024	3
61	MP2C	X	0	3
62	MP2C	Z	55.449	3
63	MP2C	Mx	-.024	3
64	MP1A	X	0	2
65	MP1A	Z	14.41	2
66	MP1A	Mx	0	2
67	MP1B	X	0	2
68	MP1B	Z	18.558	2
69	MP1B	Mx	.008	2
70	MP1C	X	0	2
71	MP1C	Z	18.558	2
72	MP1C	Mx	-.008	2
73	MP1A	X	0	3
74	MP1A	Z	60.366	3
75	MP1A	Mx	0	3
76	MP1B	X	0	3
77	MP1B	Z	45.469	3
78	MP1B	Mx	.02	3
79	MP1C	X	0	3
80	MP1C	Z	45.469	3
81	MP1C	Mx	-.02	3
82	M70	X	0	1
83	M70	Z	116.058	1
84	M70	Mx	0	1
85	MP4A	X	0	.5
86	MP4A	Z	112.163	.5
87	MP4A	Mx	0	.5
88	MP4A	X	0	5.5
89	MP4A	Z	112.163	5.5
90	MP4A	Mx	0	5.5
91	MP4B	X	0	.5
92	MP4B	Z	94.649	.5
93	MP4B	Mx	-.041	.5
94	MP4B	X	0	5.5
95	MP4B	Z	94.649	5.5
96	MP4B	Mx	-.041	5.5
97	MP4C	X	0	.5
98	MP4C	Z	94.649	.5
99	MP4C	Mx	.041	.5
100	MP4C	X	0	5.5
101	MP4C	Z	94.649	5.5
102	MP4C	Mx	.041	5.5

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



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 Model Name : 5000392577-VZW_MT LO H

Feb 4, 2024
 2:55 PM
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Member Point Loads (BLC 10 : Antenna Wo (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-81.088	1
2	MP1A	Z	140.448	1
3	MP1A	Mx	-.053	1
4	MP1A	X	-81.088	5
5	MP1A	Z	140.448	5
6	MP1A	Mx	-.053	5
7	MP1B	X	-58.256	1
8	MP1B	Z	100.902	1
9	MP1B	Mx	-.058	1
10	MP1B	X	-58.256	5
11	MP1B	Z	100.902	5
12	MP1B	Mx	-.058	5
13	MP1C	X	-81.088	1
14	MP1C	Z	140.448	1
15	MP1C	Mx	.134	1
16	MP1C	X	-81.088	5
17	MP1C	Z	140.448	5
18	MP1C	Mx	.134	5
19	MP1A	X	-81.088	1
20	MP1A	Z	140.448	1
21	MP1A	Mx	.134	1
22	MP1A	X	-81.088	5
23	MP1A	Z	140.448	5
24	MP1A	Mx	.134	5
25	MP1B	X	-58.256	1
26	MP1B	Z	100.902	1
27	MP1B	Mx	-.058	1
28	MP1B	X	-58.256	5
29	MP1B	Z	100.902	5
30	MP1B	Mx	-.058	5
31	MP1C	X	-81.088	1
32	MP1C	Z	140.448	1
33	MP1C	Mx	-.053	1
34	MP1C	X	-81.088	5
35	MP1C	Z	140.448	5
36	MP1C	Mx	-.053	5
37	MP3A	X	-25.777	2
38	MP3A	Z	44.647	2
39	MP3A	Mx	.017	2
40	MP3A	X	-25.777	4
41	MP3A	Z	44.647	4
42	MP3A	Mx	.017	4
43	MP3B	X	-10.807	2
44	MP3B	Z	18.719	2
45	MP3B	Mx	-.014	2
46	MP3B	X	-10.807	4
47	MP3B	Z	18.719	4
48	MP3B	Mx	-.014	4
49	MP3C	X	-25.777	2
50	MP3C	Z	44.647	2
51	MP3C	Mx	.017	2
52	MP3C	X	-25.777	4
53	MP3C	Z	44.647	4
54	MP3C	Mx	.017	4
55	MP2A	X	-33.517	3
56	MP2A	Z	58.054	3
57	MP2A	Mx	-.017	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
58	MP2B	X	-24.828	3
59	MP2B	Z	43.003	3
60	MP2B	Mx	.025	3
61	MP2C	X	-33.517	3
62	MP2C	Z	58.054	3
63	MP2C	Mx	-.017	3
64	MP1A	X	-7.896	2
65	MP1A	Z	13.677	2
66	MP1A	Mx	-.004	2
67	MP1B	X	-9.97	2
68	MP1B	Z	17.269	2
69	MP1B	Mx	.01	2
70	MP1C	X	-7.896	2
71	MP1C	Z	13.677	2
72	MP1C	Mx	-.004	2
73	MP1A	X	-27.7	3
74	MP1A	Z	47.978	3
75	MP1A	Mx	-.014	3
76	MP1B	X	-20.252	3
77	MP1B	Z	35.077	3
78	MP1B	Mx	.02	3
79	MP1C	X	-27.7	3
80	MP1C	Z	47.978	3
81	MP1C	Mx	-.014	3
82	M70	X	-50.629	1
83	M70	Z	87.692	1
84	M70	Mx	0	1
85	MP4A	X	-53.162	.5
86	MP4A	Z	92.08	.5
87	MP4A	Mx	.027	.5
88	MP4A	X	-53.162	5.5
89	MP4A	Z	92.08	5.5
90	MP4A	Mx	.027	5.5
91	MP4B	X	-44.405	.5
92	MP4B	Z	76.912	.5
93	MP4B	Mx	-.044	.5
94	MP4B	X	-44.405	5.5
95	MP4B	Z	76.912	5.5
96	MP4B	Mx	-.044	5.5
97	MP4C	X	-53.162	.5
98	MP4C	Z	92.08	.5
99	MP4C	Mx	.027	.5
100	MP4C	X	-53.162	5.5
101	MP4C	Z	92.08	5.5
102	MP4C	Mx	.027	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-114.084	1
2	MP1A	Z	65.867	1
3	MP1A	Mx	.013	1
4	MP1A	X	-114.084	5
5	MP1A	Z	65.867	5
6	MP1A	Mx	.013	5
7	MP1B	X	-114.084	1
8	MP1B	Z	65.867	1



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Feb 4, 2024
2:55 PM
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Member Point Loads (BLC 11 : Antenna Wo (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
9	MP1B	Mx	-.101	1
10	MP1B	X	-114.084	5
11	MP1B	Z	65.867	5
12	MP1B	Mx	-.101	5
13	MP1C	X	-153.63	1
14	MP1C	Z	88.698	1
15	MP1C	Mx	.118	1
16	MP1C	X	-153.63	5
17	MP1C	Z	88.698	5
18	MP1C	Mx	.118	5
19	MP1A	X	-114.084	1
20	MP1A	Z	65.867	1
21	MP1A	Mx	.101	1
22	MP1A	X	-114.084	5
23	MP1A	Z	65.867	5
24	MP1A	Mx	.101	5
25	MP1B	X	-114.084	1
26	MP1B	Z	65.867	1
27	MP1B	Mx	-.013	1
28	MP1B	X	-114.084	5
29	MP1B	Z	65.867	5
30	MP1B	Mx	-.013	5
31	MP1C	X	-153.63	1
32	MP1C	Z	88.698	1
33	MP1C	Mx	-.118	1
34	MP1C	X	-153.63	5
35	MP1C	Z	88.698	5
36	MP1C	Mx	-.118	5
37	MP3A	X	-27.362	2
38	MP3A	Z	15.797	2
39	MP3A	Mx	.018	2
40	MP3A	X	-27.362	4
41	MP3A	Z	15.797	4
42	MP3A	Mx	.018	4
43	MP3B	X	-27.362	2
44	MP3B	Z	15.797	2
45	MP3B	Mx	-.018	2
46	MP3B	X	-27.362	4
47	MP3B	Z	15.797	4
48	MP3B	Mx	-.018	4
49	MP3C	X	-53.29	2
50	MP3C	Z	30.767	2
51	MP3C	Mx	0	2
52	MP3C	X	-53.29	4
53	MP3C	Z	30.767	4
54	MP3C	Mx	0	4
55	MP2A	X	-48.02	3
56	MP2A	Z	27.724	3
57	MP2A	Mx	-.024	3
58	MP2B	X	-48.02	3
59	MP2B	Z	27.724	3
60	MP2B	Mx	.024	3
61	MP2C	X	-63.071	3
62	MP2C	Z	36.414	3
63	MP2C	Mx	0	3
64	MP1A	X	-16.071	2
65	MP1A	Z	9.279	2

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
66	MP1A	Mx	-.008	2
67	MP1B	X	-16.071	2
68	MP1B	Z	9.279	2
69	MP1B	Mx	.008	2
70	MP1C	X	-12.479	2
71	MP1C	Z	7.205	2
72	MP1C	Mx	0	2
73	MP1A	X	-39.377	3
74	MP1A	Z	22.734	3
75	MP1A	Mx	-.02	3
76	MP1B	X	-39.377	3
77	MP1B	Z	22.734	3
78	MP1B	Mx	.02	3
79	MP1C	X	-52.278	3
80	MP1C	Z	30.183	3
81	MP1C	Mx	0	3
82	M70	X	-81.284	1
83	M70	Z	46.929	1
84	M70	Mx	0	1
85	MP4A	X	-81.968	.5
86	MP4A	Z	47.324	.5
87	MP4A	Mx	.041	.5
88	MP4A	X	-81.968	5.5
89	MP4A	Z	47.324	5.5
90	MP4A	Mx	.041	5.5
91	MP4B	X	-81.968	.5
92	MP4B	Z	47.324	.5
93	MP4B	Mx	-.041	.5
94	MP4B	X	-81.968	5.5
95	MP4B	Z	47.324	5.5
96	MP4B	Mx	-.041	5.5
97	MP4C	X	-97.136	.5
98	MP4C	Z	56.082	.5
99	MP4C	Mx	0	.5
100	MP4C	X	-97.136	5.5
101	MP4C	Z	56.082	5.5
102	MP4C	Mx	0	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-116.512	1
2	MP1A	Z	0	1
3	MP1A	Mx	.058	1
4	MP1A	X	-116.512	5
5	MP1A	Z	0	5
6	MP1A	Mx	.058	5
7	MP1B	X	-162.176	1
8	MP1B	Z	0	1
9	MP1B	Mx	-.134	1
10	MP1B	X	-162.176	5
11	MP1B	Z	0	5
12	MP1B	Mx	-.134	5
13	MP1C	X	-162.176	1
14	MP1C	Z	0	1
15	MP1C	Mx	.053	1
16	MP1C	X	-162.176	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
17	MP1C	Z	0	5
18	MP1C	Mx	.053	5
19	MP1A	X	-116.512	1
20	MP1A	Z	0	1
21	MP1A	Mx	.058	1
22	MP1A	X	-116.512	5
23	MP1A	Z	0	5
24	MP1A	Mx	.058	5
25	MP1B	X	-162.176	1
26	MP1B	Z	0	1
27	MP1B	Mx	.053	1
28	MP1B	X	-162.176	5
29	MP1B	Z	0	5
30	MP1B	Mx	.053	5
31	MP1C	X	-162.176	1
32	MP1C	Z	0	1
33	MP1C	Mx	-.134	1
34	MP1C	X	-162.176	5
35	MP1C	Z	0	5
36	MP1C	Mx	-.134	5
37	MP3A	X	-21.615	2
38	MP3A	Z	0	2
39	MP3A	Mx	.014	2
40	MP3A	X	-21.615	4
41	MP3A	Z	0	4
42	MP3A	Mx	.014	4
43	MP3B	X	-51.554	2
44	MP3B	Z	0	2
45	MP3B	Mx	-.017	2
46	MP3B	X	-51.554	4
47	MP3B	Z	0	4
48	MP3B	Mx	-.017	4
49	MP3C	X	-51.554	2
50	MP3C	Z	0	2
51	MP3C	Mx	-.017	2
52	MP3C	X	-51.554	4
53	MP3C	Z	0	4
54	MP3C	Mx	-.017	4
55	MP2A	X	-49.656	3
56	MP2A	Z	0	3
57	MP2A	Mx	-.025	3
58	MP2B	X	-67.035	3
59	MP2B	Z	0	3
60	MP2B	Mx	.017	3
61	MP2C	X	-67.035	3
62	MP2C	Z	0	3
63	MP2C	Mx	.017	3
64	MP1A	X	-19.94	2
65	MP1A	Z	0	2
66	MP1A	Mx	-.01	2
67	MP1B	X	-15.792	2
68	MP1B	Z	0	2
69	MP1B	Mx	.004	2
70	MP1C	X	-15.792	2
71	MP1C	Z	0	2
72	MP1C	Mx	.004	2
73	MP1A	X	-40.503	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
74	MP1A	Z	0	3
75	MP1A	Mx	-.02	3
76	MP1B	X	-55.4	3
77	MP1B	Z	0	3
78	MP1B	Mx	.014	3
79	MP1C	X	-55.4	3
80	MP1C	Z	0	3
81	MP1C	Mx	.014	3
82	M70	X	-101.258	1
83	M70	Z	0	1
84	M70	Mx	0	1
85	MP4A	X	-88.811	.5
86	MP4A	Z	0	.5
87	MP4A	Mx	.044	.5
88	MP4A	X	-88.811	5.5
89	MP4A	Z	0	5.5
90	MP4A	Mx	.044	5.5
91	MP4B	X	-106.325	.5
92	MP4B	Z	0	.5
93	MP4B	Mx	-.027	.5
94	MP4B	X	-106.325	5.5
95	MP4B	Z	0	5.5
96	MP4B	Mx	-.027	5.5
97	MP4C	X	-106.325	.5
98	MP4C	Z	0	.5
99	MP4C	Mx	-.027	.5
100	MP4C	X	-106.325	5.5
101	MP4C	Z	0	5.5
102	MP4C	Mx	-.027	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-114.084	1
2	MP1A	Z	-65.867	1
3	MP1A	Mx	.101	1
4	MP1A	X	-114.084	5
5	MP1A	Z	-65.867	5
6	MP1A	Mx	.101	5
7	MP1B	X	-153.63	1
8	MP1B	Z	-88.698	1
9	MP1B	Mx	-.118	1
10	MP1B	X	-153.63	5
11	MP1B	Z	-88.698	5
12	MP1B	Mx	-.118	5
13	MP1C	X	-114.084	1
14	MP1C	Z	-65.867	1
15	MP1C	Mx	-.013	1
16	MP1C	X	-114.084	5
17	MP1C	Z	-65.867	5
18	MP1C	Mx	-.013	5
19	MP1A	X	-114.084	1
20	MP1A	Z	-65.867	1
21	MP1A	Mx	.013	1
22	MP1A	X	-114.084	5
23	MP1A	Z	-65.867	5
24	MP1A	Mx	.013	5



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Feb 4, 2024
 2:55 PM
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Member Point Loads (BLC 13 : Antenna Wo (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
25	MP1B	X	-153.63	1
26	MP1B	Z	-88.698	1
27	MP1B	Mx	.118	1
28	MP1B	X	-153.63	5
29	MP1B	Z	-88.698	5
30	MP1B	Mx	.118	5
31	MP1C	X	-114.084	1
32	MP1C	Z	-65.867	1
33	MP1C	Mx	-.101	1
34	MP1C	X	-114.084	5
35	MP1C	Z	-65.867	5
36	MP1C	Mx	-.101	5
37	MP3A	X	-27.362	2
38	MP3A	Z	-15.797	2
39	MP3A	Mx	.018	2
40	MP3A	X	-27.362	4
41	MP3A	Z	-15.797	4
42	MP3A	Mx	.018	4
43	MP3B	X	-53.29	2
44	MP3B	Z	-30.767	2
45	MP3B	Mx	0	2
46	MP3B	X	-53.29	4
47	MP3B	Z	-30.767	4
48	MP3B	Mx	0	4
49	MP3C	X	-27.362	2
50	MP3C	Z	-15.797	2
51	MP3C	Mx	-.018	2
52	MP3C	X	-27.362	4
53	MP3C	Z	-15.797	4
54	MP3C	Mx	-.018	4
55	MP2A	X	-48.02	3
56	MP2A	Z	-27.724	3
57	MP2A	Mx	-.024	3
58	MP2B	X	-63.071	3
59	MP2B	Z	-36.414	3
60	MP2B	Mx	0	3
61	MP2C	X	-48.02	3
62	MP2C	Z	-27.724	3
63	MP2C	Mx	.024	3
64	MP1A	X	-16.071	2
65	MP1A	Z	-9.279	2
66	MP1A	Mx	-.008	2
67	MP1B	X	-12.479	2
68	MP1B	Z	-7.205	2
69	MP1B	Mx	0	2
70	MP1C	X	-16.071	2
71	MP1C	Z	-9.279	2
72	MP1C	Mx	.008	2
73	MP1A	X	-39.377	3
74	MP1A	Z	-22.734	3
75	MP1A	Mx	-.02	3
76	MP1B	X	-52.278	3
77	MP1B	Z	-30.183	3
78	MP1B	Mx	0	3
79	MP1C	X	-39.377	3
80	MP1C	Z	-22.734	3
81	MP1C	Mx	.02	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
82	M70	X	-100.509	1
83	M70	Z	-58.029	1
84	M70	Mx	0	1
85	MP4A	X	-81.968	.5
86	MP4A	Z	-47.324	.5
87	MP4A	Mx	.041	.5
88	MP4A	X	-81.968	5.5
89	MP4A	Z	-47.324	5.5
90	MP4A	Mx	.041	5.5
91	MP4B	X	-97.136	.5
92	MP4B	Z	-56.082	.5
93	MP4B	Mx	0	.5
94	MP4B	X	-97.136	5.5
95	MP4B	Z	-56.082	5.5
96	MP4B	Mx	0	5.5
97	MP4C	X	-81.968	.5
98	MP4C	Z	-47.324	.5
99	MP4C	Mx	-.041	.5
100	MP4C	X	-81.968	5.5
101	MP4C	Z	-47.324	5.5
102	MP4C	Mx	-.041	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-81.088	1
2	MP1A	Z	-140.448	1
3	MP1A	Mx	.134	1
4	MP1A	X	-81.088	5
5	MP1A	Z	-140.448	5
6	MP1A	Mx	.134	5
7	MP1B	X	-81.088	1
8	MP1B	Z	-140.448	1
9	MP1B	Mx	-.053	1
10	MP1B	X	-81.088	5
11	MP1B	Z	-140.448	5
12	MP1B	Mx	-.053	5
13	MP1C	X	-58.256	1
14	MP1C	Z	-100.902	1
15	MP1C	Mx	-.058	1
16	MP1C	X	-58.256	5
17	MP1C	Z	-100.902	5
18	MP1C	Mx	-.058	5
19	MP1A	X	-81.088	1
20	MP1A	Z	-140.448	1
21	MP1A	Mx	-.053	1
22	MP1A	X	-81.088	5
23	MP1A	Z	-140.448	5
24	MP1A	Mx	-.053	5
25	MP1B	X	-81.088	1
26	MP1B	Z	-140.448	1
27	MP1B	Mx	.134	1
28	MP1B	X	-81.088	5
29	MP1B	Z	-140.448	5
30	MP1B	Mx	.134	5
31	MP1C	X	-58.256	1
32	MP1C	Z	-100.902	1



Company : Colliers Engineering & Design
 Designer :
 Job Number :
 Model Name : 5000392577-VZW_MT_LO_H

Feb 4, 2024
 2:55 PM
 Checked By: _____

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
33	MP1C	Mx	-.058	1
34	MP1C	X	-58.256	5
35	MP1C	Z	-100.902	5
36	MP1C	Mx	-.058	5
37	MP3A	X	-25.777	2
38	MP3A	Z	-44.647	2
39	MP3A	Mx	.017	2
40	MP3A	X	-25.777	4
41	MP3A	Z	-44.647	4
42	MP3A	Mx	.017	4
43	MP3B	X	-25.777	2
44	MP3B	Z	-44.647	2
45	MP3B	Mx	.017	2
46	MP3B	X	-25.777	4
47	MP3B	Z	-44.647	4
48	MP3B	Mx	.017	4
49	MP3C	X	-10.807	2
50	MP3C	Z	-18.719	2
51	MP3C	Mx	-.014	2
52	MP3C	X	-10.807	4
53	MP3C	Z	-18.719	4
54	MP3C	Mx	-.014	4
55	MP2A	X	-33.517	3
56	MP2A	Z	-58.054	3
57	MP2A	Mx	-.017	3
58	MP2B	X	-33.517	3
59	MP2B	Z	-58.054	3
60	MP2B	Mx	-.017	3
61	MP2C	X	-24.828	3
62	MP2C	Z	-43.003	3
63	MP2C	Mx	.025	3
64	MP1A	X	-7.896	2
65	MP1A	Z	-13.677	2
66	MP1A	Mx	-.004	2
67	MP1B	X	-7.896	2
68	MP1B	Z	-13.677	2
69	MP1B	Mx	-.004	2
70	MP1C	X	-9.97	2
71	MP1C	Z	-17.269	2
72	MP1C	Mx	.01	2
73	MP1A	X	-27.7	3
74	MP1A	Z	-47.978	3
75	MP1A	Mx	-.014	3
76	MP1B	X	-27.7	3
77	MP1B	Z	-47.978	3
78	MP1B	Mx	-.014	3
79	MP1C	X	-20.252	3
80	MP1C	Z	-35.077	3
81	MP1C	Mx	.02	3
82	M70	X	-61.729	1
83	M70	Z	-106.917	1
84	M70	Mx	0	1
85	MP4A	X	-53.162	.5
86	MP4A	Z	-92.08	.5
87	MP4A	Mx	.027	.5
88	MP4A	X	-53.162	5.5
89	MP4A	Z	-92.08	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
90	MP4A	Mx	.027	5.5
91	MP4B	X	-53.162	.5
92	MP4B	Z	-92.08	.5
93	MP4B	Mx	.027	.5
94	MP4B	X	-53.162	5.5
95	MP4B	Z	-92.08	5.5
96	MP4B	Mx	.027	5.5
97	MP4C	X	-44.405	.5
98	MP4C	Z	-76.912	.5
99	MP4C	Mx	-.044	.5
100	MP4C	X	-44.405	5.5
101	MP4C	Z	-76.912	5.5
102	MP4C	Mx	-.044	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	0	1
2	MP1A	Z	-31.171	1
3	MP1A	Mx	.021	1
4	MP1A	X	0	5
5	MP1A	Z	-31.171	5
6	MP1A	Mx	.021	5
7	MP1B	X	0	1
8	MP1B	Z	-23.755	1
9	MP1B	Mx	.002	1
10	MP1B	X	0	5
11	MP1B	Z	-23.755	5
12	MP1B	Mx	.002	5
13	MP1C	X	0	1
14	MP1C	Z	-23.755	1
15	MP1C	Mx	-.018	1
16	MP1C	X	0	5
17	MP1C	Z	-23.755	5
18	MP1C	Mx	-.018	5
19	MP1A	X	0	1
20	MP1A	Z	-31.171	1
21	MP1A	Mx	-.021	1
22	MP1A	X	0	5
23	MP1A	Z	-31.171	5
24	MP1A	Mx	-.021	5
25	MP1B	X	0	1
26	MP1B	Z	-23.755	1
27	MP1B	Mx	.018	1
28	MP1B	X	0	5
29	MP1B	Z	-23.755	5
30	MP1B	Mx	.018	5
31	MP1C	X	0	1
32	MP1C	Z	-23.755	1
33	MP1C	Mx	-.002	1
34	MP1C	X	0	5
35	MP1C	Z	-23.755	5
36	MP1C	Mx	-.002	5
37	MP3A	X	0	2
38	MP3A	Z	-13.54	2
39	MP3A	Mx	0	2
40	MP3A	X	0	4

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
41	MP3A	Z	-13.54	4
42	MP3A	Mx	0	4
43	MP3B	X	0	2
44	MP3B	Z	-7.683	2
45	MP3B	Mx	.004	2
46	MP3B	X	0	4
47	MP3B	Z	-7.683	4
48	MP3B	Mx	.004	4
49	MP3C	X	0	2
50	MP3C	Z	-7.683	2
51	MP3C	Mx	-.004	2
52	MP3C	X	0	4
53	MP3C	Z	-7.683	4
54	MP3C	Mx	-.004	4
55	MP2A	X	0	3
56	MP2A	Z	-14.001	3
57	MP2A	Mx	0	3
58	MP2B	X	0	3
59	MP2B	Z	-10.939	3
60	MP2B	Mx	-.005	3
61	MP2C	X	0	3
62	MP2C	Z	-10.939	3
63	MP2C	Mx	.005	3
64	MP1A	X	0	2
65	MP1A	Z	-3.415	2
66	MP1A	Mx	0	2
67	MP1B	X	0	2
68	MP1B	Z	-4.233	2
69	MP1B	Mx	-.002	2
70	MP1C	X	0	2
71	MP1C	Z	-4.233	2
72	MP1C	Mx	.002	2
73	MP1A	X	0	3
74	MP1A	Z	-14.001	3
75	MP1A	Mx	0	3
76	MP1B	X	0	3
77	MP1B	Z	-10.812	3
78	MP1B	Mx	-.005	3
79	MP1C	X	0	3
80	MP1C	Z	-10.812	3
81	MP1C	Mx	.005	3
82	M70	X	0	1
83	M70	Z	-27.175	1
84	M70	Mx	0	1
85	MP4A	X	0	.5
86	MP4A	Z	-20.574	.5
87	MP4A	Mx	0	.5
88	MP4A	X	0	5.5
89	MP4A	Z	-20.574	5.5
90	MP4A	Mx	0	5.5
91	MP4B	X	0	.5
92	MP4B	Z	-17.645	.5
93	MP4B	Mx	.008	.5
94	MP4B	X	0	5.5
95	MP4B	Z	-17.645	5.5
96	MP4B	Mx	.008	5.5
97	MP4C	X	0	.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
98	MP4C	Z	-17.645	.5
99	MP4C	Mx	-.008	.5
100	MP4C	X	0	5.5
101	MP4C	Z	-17.645	5.5
102	MP4C	Mx	-.008	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	14.35	1
2	MP1A	Z	-24.854	1
3	MP1A	Mx	.009	1
4	MP1A	X	14.35	5
5	MP1A	Z	-24.854	5
6	MP1A	Mx	.009	5
7	MP1B	X	10.641	1
8	MP1B	Z	-18.431	1
9	MP1B	Mx	.011	1
10	MP1B	X	10.641	5
11	MP1B	Z	-18.431	5
12	MP1B	Mx	.011	5
13	MP1C	X	14.35	1
14	MP1C	Z	-24.854	1
15	MP1C	Mx	-.024	1
16	MP1C	X	14.35	5
17	MP1C	Z	-24.854	5
18	MP1C	Mx	-.024	5
19	MP1A	X	14.35	1
20	MP1A	Z	-24.854	1
21	MP1A	Mx	-.024	1
22	MP1A	X	14.35	5
23	MP1A	Z	-24.854	5
24	MP1A	Mx	-.024	5
25	MP1B	X	10.641	1
26	MP1B	Z	-18.431	1
27	MP1B	Mx	.011	1
28	MP1B	X	10.641	5
29	MP1B	Z	-18.431	5
30	MP1B	Mx	.011	5
31	MP1C	X	14.35	1
32	MP1C	Z	-24.854	1
33	MP1C	Mx	.009	1
34	MP1C	X	14.35	5
35	MP1C	Z	-24.854	5
36	MP1C	Mx	.009	5
37	MP3A	X	5.794	2
38	MP3A	Z	-10.035	2
39	MP3A	Mx	-.004	2
40	MP3A	X	5.794	4
41	MP3A	Z	-10.035	4
42	MP3A	Mx	-.004	4
43	MP3B	X	2.865	2
44	MP3B	Z	-4.963	2
45	MP3B	Mx	.004	2
46	MP3B	X	2.865	4
47	MP3B	Z	-4.963	4
48	MP3B	Mx	.004	4



Company : Colliers Engineering & Design
 Designer :
 Job Number :
 Model Name : 5000392577-VZW_MT_LO_H

Feb 4, 2024
 2:55 PM
 Checked By: _____

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
49	MP3C	X	5.794	2
50	MP3C	Z	-10.035	2
51	MP3C	Mx	-.004	2
52	MP3C	X	5.794	4
53	MP3C	Z	-10.035	4
54	MP3C	Mx	-.004	4
55	MP2A	X	6.49	3
56	MP2A	Z	-11.241	3
57	MP2A	Mx	.003	3
58	MP2B	X	4.959	3
59	MP2B	Z	-8.59	3
60	MP2B	Mx	-.005	3
61	MP2C	X	6.49	3
62	MP2C	Z	-11.241	3
63	MP2C	Mx	.003	3
64	MP1A	X	1.844	2
65	MP1A	Z	-3.193	2
66	MP1A	Mx	.000922	2
67	MP1B	X	2.253	2
68	MP1B	Z	-3.902	2
69	MP1B	Mx	-.002	2
70	MP1C	X	1.844	2
71	MP1C	Z	-3.193	2
72	MP1C	Mx	.000922	2
73	MP1A	X	6.469	3
74	MP1A	Z	-11.204	3
75	MP1A	Mx	.003	3
76	MP1B	X	4.874	3
77	MP1B	Z	-8.442	3
78	MP1B	Mx	-.005	3
79	MP1C	X	6.469	3
80	MP1C	Z	-11.204	3
81	MP1C	Mx	.003	3
82	M70	X	12.024	1
83	M70	Z	-20.827	1
84	M70	Mx	0	1
85	MP4A	X	9.799	.5
86	MP4A	Z	-16.972	.5
87	MP4A	Mx	-.005	.5
88	MP4A	X	9.799	5.5
89	MP4A	Z	-16.972	5.5
90	MP4A	Mx	-.005	5.5
91	MP4B	X	8.334	.5
92	MP4B	Z	-14.435	.5
93	MP4B	Mx	.008	.5
94	MP4B	X	8.334	5.5
95	MP4B	Z	-14.435	5.5
96	MP4B	Mx	.008	5.5
97	MP4C	X	9.799	.5
98	MP4C	Z	-16.972	.5
99	MP4C	Mx	-.005	.5
100	MP4C	X	9.799	5.5
101	MP4C	Z	-16.972	5.5
102	MP4C	Mx	-.005	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
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Member Point Loads (BLC 17 : Antenna Wi (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location(ft.%)
1	MP1A	X	20.572	1
2	MP1A	Z	-11.877	1
3	MP1A	Mx	-.002	1
4	MP1A	X	20.572	5
5	MP1A	Z	-11.877	5
6	MP1A	Mx	-.002	5
7	MP1B	X	20.572	1
8	MP1B	Z	-11.877	1
9	MP1B	Mx	.018	1
10	MP1B	X	20.572	5
11	MP1B	Z	-11.877	5
12	MP1B	Mx	.018	5
13	MP1C	X	26.995	1
14	MP1C	Z	-15.586	1
15	MP1C	Mx	-.021	1
16	MP1C	X	26.995	5
17	MP1C	Z	-15.586	5
18	MP1C	Mx	-.021	5
19	MP1A	X	20.572	1
20	MP1A	Z	-11.877	1
21	MP1A	Mx	-.018	1
22	MP1A	X	20.572	5
23	MP1A	Z	-11.877	5
24	MP1A	Mx	-.018	5
25	MP1B	X	20.572	1
26	MP1B	Z	-11.877	1
27	MP1B	Mx	.002	1
28	MP1B	X	20.572	5
29	MP1B	Z	-11.877	5
30	MP1B	Mx	.002	5
31	MP1C	X	26.995	1
32	MP1C	Z	-15.586	1
33	MP1C	Mx	.021	1
34	MP1C	X	26.995	5
35	MP1C	Z	-15.586	5
36	MP1C	Mx	.021	5
37	MP3A	X	6.654	2
38	MP3A	Z	-3.841	2
39	MP3A	Mx	-.004	2
40	MP3A	X	6.654	4
41	MP3A	Z	-3.841	4
42	MP3A	Mx	-.004	4
43	MP3B	X	6.654	2
44	MP3B	Z	-3.841	2
45	MP3B	Mx	.004	2
46	MP3B	X	6.654	4
47	MP3B	Z	-3.841	4
48	MP3B	Mx	.004	4
49	MP3C	X	11.726	2
50	MP3C	Z	-6.77	2
51	MP3C	Mx	0	2
52	MP3C	X	11.726	4
53	MP3C	Z	-6.77	4
54	MP3C	Mx	0	4
55	MP2A	X	9.474	3
56	MP2A	Z	-5.47	3
57	MP2A	Mx	.005	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
58	MP2B	X	9.474	3
59	MP2B	Z	-5.47	3
60	MP2B	Mx	-.005	3
61	MP2C	X	12.125	3
62	MP2C	Z	-7	3
63	MP2C	Mx	0	3
64	MP1A	X	3.666	2
65	MP1A	Z	-2.116	2
66	MP1A	Mx	.002	2
67	MP1B	X	3.666	2
68	MP1B	Z	-2.116	2
69	MP1B	Mx	-.002	2
70	MP1C	X	2.957	2
71	MP1C	Z	-1.707	2
72	MP1C	Mx	0	2
73	MP1A	X	9.363	3
74	MP1A	Z	-5.406	3
75	MP1A	Mx	.005	3
76	MP1B	X	9.363	3
77	MP1B	Z	-5.406	3
78	MP1B	Mx	-.005	3
79	MP1C	X	12.125	3
80	MP1C	Z	-7	3
81	MP1C	Mx	0	3
82	M70	X	19.473	1
83	M70	Z	-11.243	1
84	M70	Mx	0	1
85	MP4A	X	15.281	.5
86	MP4A	Z	-8.822	.5
87	MP4A	Mx	-.008	.5
88	MP4A	X	15.281	5.5
89	MP4A	Z	-8.822	5.5
90	MP4A	Mx	-.008	5.5
91	MP4B	X	15.281	.5
92	MP4B	Z	-8.822	.5
93	MP4B	Mx	.008	.5
94	MP4B	X	15.281	5.5
95	MP4B	Z	-8.822	5.5
96	MP4B	Mx	.008	5.5
97	MP4C	X	17.817	.5
98	MP4C	Z	-10.287	.5
99	MP4C	Mx	0	.5
100	MP4C	X	17.817	5.5
101	MP4C	Z	-10.287	5.5
102	MP4C	Mx	0	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	21.282	1
2	MP1A	Z	0	1
3	MP1A	Mx	-.011	1
4	MP1A	X	21.282	5
5	MP1A	Z	0	5
6	MP1A	Mx	-.011	5
7	MP1B	X	28.699	1
8	MP1B	Z	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
9	MP1B	Mx	.024	1
10	MP1B	X	28.699	5
11	MP1B	Z	0	5
12	MP1B	Mx	.024	5
13	MP1C	X	28.699	1
14	MP1C	Z	0	1
15	MP1C	Mx	-.009	1
16	MP1C	X	28.699	5
17	MP1C	Z	0	5
18	MP1C	Mx	-.009	5
19	MP1A	X	21.282	1
20	MP1A	Z	0	1
21	MP1A	Mx	-.011	1
22	MP1A	X	21.282	5
23	MP1A	Z	0	5
24	MP1A	Mx	-.011	5
25	MP1B	X	28.699	1
26	MP1B	Z	0	1
27	MP1B	Mx	-.009	1
28	MP1B	X	28.699	5
29	MP1B	Z	0	5
30	MP1B	Mx	-.009	5
31	MP1C	X	28.699	1
32	MP1C	Z	0	1
33	MP1C	Mx	.024	1
34	MP1C	X	28.699	5
35	MP1C	Z	0	5
36	MP1C	Mx	.024	5
37	MP3A	X	5.73	2
38	MP3A	Z	0	2
39	MP3A	Mx	-.004	2
40	MP3A	X	5.73	4
41	MP3A	Z	0	4
42	MP3A	Mx	-.004	4
43	MP3B	X	11.588	2
44	MP3B	Z	0	2
45	MP3B	Mx	.004	2
46	MP3B	X	11.588	4
47	MP3B	Z	0	4
48	MP3B	Mx	.004	4
49	MP3C	X	11.588	2
50	MP3C	Z	0	2
51	MP3C	Mx	.004	2
52	MP3C	X	11.588	4
53	MP3C	Z	0	4
54	MP3C	Mx	.004	4
55	MP2A	X	9.918	3
56	MP2A	Z	0	3
57	MP2A	Mx	.005	3
58	MP2B	X	12.98	3
59	MP2B	Z	0	3
60	MP2B	Mx	-.003	3
61	MP2C	X	12.98	3
62	MP2C	Z	0	3
63	MP2C	Mx	-.003	3
64	MP1A	X	4.505	2
65	MP1A	Z	0	2



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 Designer :
 Job Number :
 Model Name : 5000392577-V7W_MT_LO_H

Feb 4, 2024
 2:55 PM
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Member Point Loads (BLC 18 : Antenna Wi (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
66	MP1A	Mx	.002	2
67	MP1B	X	3.687	2
68	MP1B	Z	0	2
69	MP1B	Mx	-.000922	2
70	MP1C	X	3.687	2
71	MP1C	Z	0	2
72	MP1C	Mx	-.000922	2
73	MP1A	X	9.748	3
74	MP1A	Z	0	3
75	MP1A	Mx	.005	3
76	MP1B	X	12.938	3
77	MP1B	Z	0	3
78	MP1B	Mx	-.003	3
79	MP1C	X	12.938	3
80	MP1C	Z	0	3
81	MP1C	Mx	-.003	3
82	M70	X	24.048	1
83	M70	Z	0	1
84	M70	Mx	0	1
85	MP4A	X	16.668	.5
86	MP4A	Z	0	.5
87	MP4A	Mx	-.008	.5
88	MP4A	X	16.668	5.5
89	MP4A	Z	0	5.5
90	MP4A	Mx	-.008	5.5
91	MP4B	X	19.597	.5
92	MP4B	Z	0	.5
93	MP4B	Mx	.005	.5
94	MP4B	X	19.597	5.5
95	MP4B	Z	0	5.5
96	MP4B	Mx	.005	5.5
97	MP4C	X	19.597	.5
98	MP4C	Z	0	.5
99	MP4C	Mx	.005	.5
100	MP4C	X	19.597	5.5
101	MP4C	Z	0	5.5
102	MP4C	Mx	.005	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	20.572	1
2	MP1A	Z	11.877	1
3	MP1A	Mx	-.018	1
4	MP1A	X	20.572	5
5	MP1A	Z	11.877	5
6	MP1A	Mx	-.018	5
7	MP1B	X	26.995	1
8	MP1B	Z	15.586	1
9	MP1B	Mx	.021	1
10	MP1B	X	26.995	5
11	MP1B	Z	15.586	5
12	MP1B	Mx	.021	5
13	MP1C	X	20.572	1
14	MP1C	Z	11.877	1
15	MP1C	Mx	.002	1
16	MP1C	X	20.572	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
17	MP1C	Z	11.877	5
18	MP1C	Mx	.002	5
19	MP1A	X	20.572	1
20	MP1A	Z	11.877	1
21	MP1A	Mx	-.002	1
22	MP1A	X	20.572	5
23	MP1A	Z	11.877	5
24	MP1A	Mx	-.002	5
25	MP1B	X	26.995	1
26	MP1B	Z	15.586	1
27	MP1B	Mx	-.021	1
28	MP1B	X	26.995	5
29	MP1B	Z	15.586	5
30	MP1B	Mx	-.021	5
31	MP1C	X	20.572	1
32	MP1C	Z	11.877	1
33	MP1C	Mx	.018	1
34	MP1C	X	20.572	5
35	MP1C	Z	11.877	5
36	MP1C	Mx	.018	5
37	MP3A	X	6.654	2
38	MP3A	Z	3.841	2
39	MP3A	Mx	-.004	2
40	MP3A	X	6.654	4
41	MP3A	Z	3.841	4
42	MP3A	Mx	-.004	4
43	MP3B	X	11.726	2
44	MP3B	Z	6.77	2
45	MP3B	Mx	0	2
46	MP3B	X	11.726	4
47	MP3B	Z	6.77	4
48	MP3B	Mx	0	4
49	MP3C	X	6.654	2
50	MP3C	Z	3.841	2
51	MP3C	Mx	.004	2
52	MP3C	X	6.654	4
53	MP3C	Z	3.841	4
54	MP3C	Mx	.004	4
55	MP2A	X	9.474	3
56	MP2A	Z	5.47	3
57	MP2A	Mx	.005	3
58	MP2B	X	12.125	3
59	MP2B	Z	7	3
60	MP2B	Mx	0	3
61	MP2C	X	9.474	3
62	MP2C	Z	5.47	3
63	MP2C	Mx	-.005	3
64	MP1A	X	3.666	2
65	MP1A	Z	2.116	2
66	MP1A	Mx	.002	2
67	MP1B	X	2.957	2
68	MP1B	Z	1.707	2
69	MP1B	Mx	0	2
70	MP1C	X	3.666	2
71	MP1C	Z	2.116	2
72	MP1C	Mx	-.002	2
73	MP1A	X	9.363	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
74	MP1A	Z	5.406	3
75	MP1A	Mx	.005	3
76	MP1B	X	12.125	3
77	MP1B	Z	7	3
78	MP1B	Mx	0	3
79	MP1C	X	9.363	3
80	MP1C	Z	5.406	3
81	MP1C	Mx	-.005	3
82	M70	X	23.534	1
83	M70	Z	13.588	1
84	M70	Mx	0	1
85	MP4A	X	15.281	.5
86	MP4A	Z	8.822	.5
87	MP4A	Mx	-.008	.5
88	MP4A	X	15.281	5.5
89	MP4A	Z	8.822	5.5
90	MP4A	Mx	-.008	5.5
91	MP4B	X	17.817	.5
92	MP4B	Z	10.287	.5
93	MP4B	Mx	0	.5
94	MP4B	X	17.817	5.5
95	MP4B	Z	10.287	5.5
96	MP4B	Mx	0	5.5
97	MP4C	X	15.281	.5
98	MP4C	Z	8.822	.5
99	MP4C	Mx	.008	.5
100	MP4C	X	15.281	5.5
101	MP4C	Z	8.822	5.5
102	MP4C	Mx	.008	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	14.35	1
2	MP1A	Z	24.854	1
3	MP1A	Mx	-.024	1
4	MP1A	X	14.35	5
5	MP1A	Z	24.854	5
6	MP1A	Mx	-.024	5
7	MP1B	X	14.35	1
8	MP1B	Z	24.854	1
9	MP1B	Mx	.009	1
10	MP1B	X	14.35	5
11	MP1B	Z	24.854	5
12	MP1B	Mx	.009	5
13	MP1C	X	10.641	1
14	MP1C	Z	18.431	1
15	MP1C	Mx	.011	1
16	MP1C	X	10.641	5
17	MP1C	Z	18.431	5
18	MP1C	Mx	.011	5
19	MP1A	X	14.35	1
20	MP1A	Z	24.854	1
21	MP1A	Mx	.009	1
22	MP1A	X	14.35	5
23	MP1A	Z	24.854	5
24	MP1A	Mx	.009	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
25	MP1B	X	14.35	1
26	MP1B	Z	24.854	1
27	MP1B	Mx	-.024	1
28	MP1B	X	14.35	5
29	MP1B	Z	24.854	5
30	MP1B	Mx	-.024	5
31	MP1C	X	10.641	1
32	MP1C	Z	18.431	1
33	MP1C	Mx	.011	1
34	MP1C	X	10.641	5
35	MP1C	Z	18.431	5
36	MP1C	Mx	.011	5
37	MP3A	X	5.794	2
38	MP3A	Z	10.035	2
39	MP3A	Mx	-.004	2
40	MP3A	X	5.794	4
41	MP3A	Z	10.035	4
42	MP3A	Mx	-.004	4
43	MP3B	X	5.794	2
44	MP3B	Z	10.035	2
45	MP3B	Mx	-.004	2
46	MP3B	X	5.794	4
47	MP3B	Z	10.035	4
48	MP3B	Mx	-.004	4
49	MP3C	X	2.865	2
50	MP3C	Z	4.963	2
51	MP3C	Mx	.004	2
52	MP3C	X	2.865	4
53	MP3C	Z	4.963	4
54	MP3C	Mx	.004	4
55	MP2A	X	6.49	3
56	MP2A	Z	11.241	3
57	MP2A	Mx	.003	3
58	MP2B	X	6.49	3
59	MP2B	Z	11.241	3
60	MP2B	Mx	.003	3
61	MP2C	X	4.959	3
62	MP2C	Z	8.59	3
63	MP2C	Mx	-.005	3
64	MP1A	X	1.844	2
65	MP1A	Z	3.193	2
66	MP1A	Mx	.000922	2
67	MP1B	X	1.844	2
68	MP1B	Z	3.193	2
69	MP1B	Mx	.000922	2
70	MP1C	X	2.253	2
71	MP1C	Z	3.902	2
72	MP1C	Mx	-.002	2
73	MP1A	X	6.469	3
74	MP1A	Z	11.204	3
75	MP1A	Mx	.003	3
76	MP1B	X	6.469	3
77	MP1B	Z	11.204	3
78	MP1B	Mx	.003	3
79	MP1C	X	4.874	3
80	MP1C	Z	8.442	3
81	MP1C	Mx	-.005	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
82	M70	X	14.369	1
83	M70	Z	24.888	1
84	M70	Mx	0	1
85	MP4A	X	9.799	.5
86	MP4A	Z	16.972	.5
87	MP4A	Mx	-.005	.5
88	MP4A	X	9.799	5.5
89	MP4A	Z	16.972	5.5
90	MP4A	Mx	-.005	5.5
91	MP4B	X	9.799	.5
92	MP4B	Z	16.972	.5
93	MP4B	Mx	-.005	.5
94	MP4B	X	9.799	5.5
95	MP4B	Z	16.972	5.5
96	MP4B	Mx	-.005	5.5
97	MP4C	X	8.334	.5
98	MP4C	Z	14.435	.5
99	MP4C	Mx	.008	.5
100	MP4C	X	8.334	5.5
101	MP4C	Z	14.435	5.5
102	MP4C	Mx	.008	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	0	1
2	MP1A	Z	31.171	1
3	MP1A	Mx	-.021	1
4	MP1A	X	0	5
5	MP1A	Z	31.171	5
6	MP1A	Mx	-.021	5
7	MP1B	X	0	1
8	MP1B	Z	23.755	1
9	MP1B	Mx	-.002	1
10	MP1B	X	0	5
11	MP1B	Z	23.755	5
12	MP1B	Mx	-.002	5
13	MP1C	X	0	1
14	MP1C	Z	23.755	1
15	MP1C	Mx	.018	1
16	MP1C	X	0	5
17	MP1C	Z	23.755	5
18	MP1C	Mx	.018	5
19	MP1A	X	0	1
20	MP1A	Z	31.171	1
21	MP1A	Mx	.021	1
22	MP1A	X	0	5
23	MP1A	Z	31.171	5
24	MP1A	Mx	.021	5
25	MP1B	X	0	1
26	MP1B	Z	23.755	1
27	MP1B	Mx	-.018	1
28	MP1B	X	0	5
29	MP1B	Z	23.755	5
30	MP1B	Mx	-.018	5
31	MP1C	X	0	1
32	MP1C	Z	23.755	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
33	MP1C	Mx	.002	1
34	MP1C	X	0	5
35	MP1C	Z	23.755	5
36	MP1C	Mx	.002	5
37	MP3A	X	0	2
38	MP3A	Z	13.54	2
39	MP3A	Mx	0	2
40	MP3A	X	0	4
41	MP3A	Z	13.54	4
42	MP3A	Mx	0	4
43	MP3B	X	0	2
44	MP3B	Z	7.683	2
45	MP3B	Mx	-.004	2
46	MP3B	X	0	4
47	MP3B	Z	7.683	4
48	MP3B	Mx	-.004	4
49	MP3C	X	0	2
50	MP3C	Z	7.683	2
51	MP3C	Mx	.004	2
52	MP3C	X	0	4
53	MP3C	Z	7.683	4
54	MP3C	Mx	.004	4
55	MP2A	X	0	3
56	MP2A	Z	14.001	3
57	MP2A	Mx	0	3
58	MP2B	X	0	3
59	MP2B	Z	10.939	3
60	MP2B	Mx	.005	3
61	MP2C	X	0	3
62	MP2C	Z	10.939	3
63	MP2C	Mx	-.005	3
64	MP1A	X	0	2
65	MP1A	Z	3.415	2
66	MP1A	Mx	0	2
67	MP1B	X	0	2
68	MP1B	Z	4.233	2
69	MP1B	Mx	.002	2
70	MP1C	X	0	2
71	MP1C	Z	4.233	2
72	MP1C	Mx	-.002	2
73	MP1A	X	0	3
74	MP1A	Z	14.001	3
75	MP1A	Mx	0	3
76	MP1B	X	0	3
77	MP1B	Z	10.812	3
78	MP1B	Mx	.005	3
79	MP1C	X	0	3
80	MP1C	Z	10.812	3
81	MP1C	Mx	-.005	3
82	M70	X	0	1
83	M70	Z	27.175	1
84	M70	Mx	0	1
85	MP4A	X	0	.5
86	MP4A	Z	20.574	.5
87	MP4A	Mx	0	.5
88	MP4A	X	0	5.5
89	MP4A	Z	20.574	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
90	MP4A	Mx	0	5.5
91	MP4B	X	0	.5
92	MP4B	Z	17.645	.5
93	MP4B	Mx	-.008	.5
94	MP4B	X	0	5.5
95	MP4B	Z	17.645	5.5
96	MP4B	Mx	-.008	5.5
97	MP4C	X	0	.5
98	MP4C	Z	17.645	.5
99	MP4C	Mx	.008	.5
100	MP4C	X	0	5.5
101	MP4C	Z	17.645	5.5
102	MP4C	Mx	.008	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-14.35	1
2	MP1A	Z	24.854	1
3	MP1A	Mx	-.009	1
4	MP1A	X	-14.35	5
5	MP1A	Z	24.854	5
6	MP1A	Mx	-.009	5
7	MP1B	X	-10.641	1
8	MP1B	Z	18.431	1
9	MP1B	Mx	-.011	1
10	MP1B	X	-10.641	5
11	MP1B	Z	18.431	5
12	MP1B	Mx	-.011	5
13	MP1C	X	-14.35	1
14	MP1C	Z	24.854	1
15	MP1C	Mx	.024	1
16	MP1C	X	-14.35	5
17	MP1C	Z	24.854	5
18	MP1C	Mx	.024	5
19	MP1A	X	-14.35	1
20	MP1A	Z	24.854	1
21	MP1A	Mx	.024	1
22	MP1A	X	-14.35	5
23	MP1A	Z	24.854	5
24	MP1A	Mx	.024	5
25	MP1B	X	-10.641	1
26	MP1B	Z	18.431	1
27	MP1B	Mx	-.011	1
28	MP1B	X	-10.641	5
29	MP1B	Z	18.431	5
30	MP1B	Mx	-.011	5
31	MP1C	X	-14.35	1
32	MP1C	Z	24.854	1
33	MP1C	Mx	-.009	1
34	MP1C	X	-14.35	5
35	MP1C	Z	24.854	5
36	MP1C	Mx	-.009	5
37	MP3A	X	-5.794	2
38	MP3A	Z	10.035	2
39	MP3A	Mx	.004	2
40	MP3A	X	-5.794	4

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
41	MP3A	Z	10.035	4
42	MP3A	Mx	.004	4
43	MP3B	X	-2.865	2
44	MP3B	Z	4.963	2
45	MP3B	Mx	-.004	2
46	MP3B	X	-2.865	4
47	MP3B	Z	4.963	4
48	MP3B	Mx	-.004	4
49	MP3C	X	-5.794	2
50	MP3C	Z	10.035	2
51	MP3C	Mx	.004	2
52	MP3C	X	-5.794	4
53	MP3C	Z	10.035	4
54	MP3C	Mx	.004	4
55	MP2A	X	-6.49	3
56	MP2A	Z	11.241	3
57	MP2A	Mx	-.003	3
58	MP2B	X	-4.959	3
59	MP2B	Z	8.59	3
60	MP2B	Mx	.005	3
61	MP2C	X	-6.49	3
62	MP2C	Z	11.241	3
63	MP2C	Mx	-.003	3
64	MP1A	X	-1.844	2
65	MP1A	Z	3.193	2
66	MP1A	Mx	-.000922	2
67	MP1B	X	-2.253	2
68	MP1B	Z	3.902	2
69	MP1B	Mx	.002	2
70	MP1C	X	-1.844	2
71	MP1C	Z	3.193	2
72	MP1C	Mx	-.000922	2
73	MP1A	X	-6.469	3
74	MP1A	Z	11.204	3
75	MP1A	Mx	-.003	3
76	MP1B	X	-4.874	3
77	MP1B	Z	8.442	3
78	MP1B	Mx	.005	3
79	MP1C	X	-6.469	3
80	MP1C	Z	11.204	3
81	MP1C	Mx	-.003	3
82	M70	X	-12.024	1
83	M70	Z	20.827	1
84	M70	Mx	0	1
85	MP4A	X	-9.799	.5
86	MP4A	Z	16.972	.5
87	MP4A	Mx	.005	.5
88	MP4A	X	-9.799	5.5
89	MP4A	Z	16.972	5.5
90	MP4A	Mx	.005	5.5
91	MP4B	X	-8.334	.5
92	MP4B	Z	14.435	.5
93	MP4B	Mx	-.008	.5
94	MP4B	X	-8.334	5.5
95	MP4B	Z	14.435	5.5
96	MP4B	Mx	-.008	5.5
97	MP4C	X	-9.799	.5



Company : Colliers Engineering & Design
 Designer :
 Job Number :
 Model Name : 5000392577-VZW_MT_LO_H

Feb 4, 2024
 2:55 PM
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Member Point Loads (BLC 22 : Antenna Wi (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
98	MP4C	Z	16.972	.5
99	MP4C	Mx	.005	.5
100	MP4C	X	-9.799	5.5
101	MP4C	Z	16.972	5.5
102	MP4C	Mx	.005	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-20.572	1
2	MP1A	Z	11.877	1
3	MP1A	Mx	.002	1
4	MP1A	X	-20.572	5
5	MP1A	Z	11.877	5
6	MP1A	Mx	.002	5
7	MP1B	X	-20.572	1
8	MP1B	Z	11.877	1
9	MP1B	Mx	-.018	1
10	MP1B	X	-20.572	5
11	MP1B	Z	11.877	5
12	MP1B	Mx	-.018	5
13	MP1C	X	-26.995	1
14	MP1C	Z	15.586	1
15	MP1C	Mx	.021	1
16	MP1C	X	-26.995	5
17	MP1C	Z	15.586	5
18	MP1C	Mx	.021	5
19	MP1A	X	-20.572	1
20	MP1A	Z	11.877	1
21	MP1A	Mx	.018	1
22	MP1A	X	-20.572	5
23	MP1A	Z	11.877	5
24	MP1A	Mx	.018	5
25	MP1B	X	-20.572	1
26	MP1B	Z	11.877	1
27	MP1B	Mx	-.002	1
28	MP1B	X	-20.572	5
29	MP1B	Z	11.877	5
30	MP1B	Mx	-.002	5
31	MP1C	X	-26.995	1
32	MP1C	Z	15.586	1
33	MP1C	Mx	-.021	1
34	MP1C	X	-26.995	5
35	MP1C	Z	15.586	5
36	MP1C	Mx	-.021	5
37	MP3A	X	-6.654	2
38	MP3A	Z	3.841	2
39	MP3A	Mx	.004	2
40	MP3A	X	-6.654	4
41	MP3A	Z	3.841	4
42	MP3A	Mx	.004	4
43	MP3B	X	-6.654	2
44	MP3B	Z	3.841	2
45	MP3B	Mx	-.004	2
46	MP3B	X	-6.654	4
47	MP3B	Z	3.841	4
48	MP3B	Mx	-.004	4

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
49	MP3C	X	-11.726	2
50	MP3C	Z	6.77	2
51	MP3C	Mx	0	2
52	MP3C	X	-11.726	4
53	MP3C	Z	6.77	4
54	MP3C	Mx	0	4
55	MP2A	X	-9.474	3
56	MP2A	Z	5.47	3
57	MP2A	Mx	-.005	3
58	MP2B	X	-9.474	3
59	MP2B	Z	5.47	3
60	MP2B	Mx	.005	3
61	MP2C	X	-12.125	3
62	MP2C	Z	7	3
63	MP2C	Mx	0	3
64	MP1A	X	-3.666	2
65	MP1A	Z	2.116	2
66	MP1A	Mx	-.002	2
67	MP1B	X	-3.666	2
68	MP1B	Z	2.116	2
69	MP1B	Mx	.002	2
70	MP1C	X	-2.957	2
71	MP1C	Z	1.707	2
72	MP1C	Mx	0	2
73	MP1A	X	-9.363	3
74	MP1A	Z	5.406	3
75	MP1A	Mx	-.005	3
76	MP1B	X	-9.363	3
77	MP1B	Z	5.406	3
78	MP1B	Mx	.005	3
79	MP1C	X	-12.125	3
80	MP1C	Z	7	3
81	MP1C	Mx	0	3
82	M70	X	-19.473	1
83	M70	Z	11.243	1
84	M70	Mx	0	1
85	MP4A	X	-15.281	.5
86	MP4A	Z	8.822	.5
87	MP4A	Mx	.008	.5
88	MP4A	X	-15.281	5.5
89	MP4A	Z	8.822	5.5
90	MP4A	Mx	.008	5.5
91	MP4B	X	-15.281	.5
92	MP4B	Z	8.822	.5
93	MP4B	Mx	-.008	.5
94	MP4B	X	-15.281	5.5
95	MP4B	Z	8.822	5.5
96	MP4B	Mx	-.008	5.5
97	MP4C	X	-17.817	.5
98	MP4C	Z	10.287	.5
99	MP4C	Mx	0	.5
100	MP4C	X	-17.817	5.5
101	MP4C	Z	10.287	5.5
102	MP4C	Mx	0	5.5

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

Member Label	Direction	Magnitude[lb.k.ft]	Location[ft. %]
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 Model Name : 5000392577-VZW_MT_LO_H

Feb 4, 2024
 2:55 PM
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Member Point Loads (BLC 24 : Antenna Wi (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-21.282	1
2	MP1A	Z	0	1
3	MP1A	Mx	.011	1
4	MP1A	X	-21.282	5
5	MP1A	Z	0	5
6	MP1A	Mx	.011	5
7	MP1B	X	-28.699	1
8	MP1B	Z	0	1
9	MP1B	Mx	-.024	1
10	MP1B	X	-28.699	5
11	MP1B	Z	0	5
12	MP1B	Mx	-.024	5
13	MP1C	X	-28.699	1
14	MP1C	Z	0	1
15	MP1C	Mx	.009	1
16	MP1C	X	-28.699	5
17	MP1C	Z	0	5
18	MP1C	Mx	.009	5
19	MP1A	X	-21.282	1
20	MP1A	Z	0	1
21	MP1A	Mx	.011	1
22	MP1A	X	-21.282	5
23	MP1A	Z	0	5
24	MP1A	Mx	.011	5
25	MP1B	X	-28.699	1
26	MP1B	Z	0	1
27	MP1B	Mx	.009	1
28	MP1B	X	-28.699	5
29	MP1B	Z	0	5
30	MP1B	Mx	.009	5
31	MP1C	X	-28.699	1
32	MP1C	Z	0	1
33	MP1C	Mx	-.024	1
34	MP1C	X	-28.699	5
35	MP1C	Z	0	5
36	MP1C	Mx	-.024	5
37	MP3A	X	-5.73	2
38	MP3A	Z	0	2
39	MP3A	Mx	.004	2
40	MP3A	X	-5.73	4
41	MP3A	Z	0	4
42	MP3A	Mx	.004	4
43	MP3B	X	-11.588	2
44	MP3B	Z	0	2
45	MP3B	Mx	-.004	2
46	MP3B	X	-11.588	4
47	MP3B	Z	0	4
48	MP3B	Mx	-.004	4
49	MP3C	X	-11.588	2
50	MP3C	Z	0	2
51	MP3C	Mx	-.004	2
52	MP3C	X	-11.588	4
53	MP3C	Z	0	4
54	MP3C	Mx	-.004	4
55	MP2A	X	-9.918	3
56	MP2A	Z	0	3
57	MP2A	Mx	-.005	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
58	MP2B	X	-12.98	3
59	MP2B	Z	0	3
60	MP2B	Mx	.003	3
61	MP2C	X	-12.98	3
62	MP2C	Z	0	3
63	MP2C	Mx	.003	3
64	MP1A	X	-4.505	2
65	MP1A	Z	0	2
66	MP1A	Mx	-.002	2
67	MP1B	X	-3.687	2
68	MP1B	Z	0	2
69	MP1B	Mx	.000922	2
70	MP1C	X	-3.687	2
71	MP1C	Z	0	2
72	MP1C	Mx	.000922	2
73	MP1A	X	-9.748	3
74	MP1A	Z	0	3
75	MP1A	Mx	-.005	3
76	MP1B	X	-12.938	3
77	MP1B	Z	0	3
78	MP1B	Mx	.003	3
79	MP1C	X	-12.938	3
80	MP1C	Z	0	3
81	MP1C	Mx	.003	3
82	M70	X	-24.048	1
83	M70	Z	0	1
84	M70	Mx	0	1
85	MP4A	X	-16.668	.5
86	MP4A	Z	0	.5
87	MP4A	Mx	.008	.5
88	MP4A	X	-16.668	5.5
89	MP4A	Z	0	5.5
90	MP4A	Mx	.008	5.5
91	MP4B	X	-19.597	.5
92	MP4B	Z	0	.5
93	MP4B	Mx	-.005	.5
94	MP4B	X	-19.597	5.5
95	MP4B	Z	0	5.5
96	MP4B	Mx	-.005	5.5
97	MP4C	X	-19.597	.5
98	MP4C	Z	0	.5
99	MP4C	Mx	-.005	.5
100	MP4C	X	-19.597	5.5
101	MP4C	Z	0	5.5
102	MP4C	Mx	-.005	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-20.572	1
2	MP1A	Z	-11.877	1
3	MP1A	Mx	.018	1
4	MP1A	X	-20.572	5
5	MP1A	Z	-11.877	5
6	MP1A	Mx	.018	5
7	MP1B	X	-26.995	1
8	MP1B	Z	-15.586	1



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 Job Number :
 Model Name : 5000392577-VZW_MT_LO_H

Feb 4, 2024
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Member Point Loads (BLC 25 : Antenna Wi (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
9	MP1B	Mx	-.021	1
10	MP1B	X	-26.995	5
11	MP1B	Z	-15.586	5
12	MP1B	Mx	-.021	5
13	MP1C	X	-20.572	1
14	MP1C	Z	-11.877	1
15	MP1C	Mx	-.002	1
16	MP1C	X	-20.572	5
17	MP1C	Z	-11.877	5
18	MP1C	Mx	-.002	5
19	MP1A	X	-20.572	1
20	MP1A	Z	-11.877	1
21	MP1A	Mx	.002	1
22	MP1A	X	-20.572	5
23	MP1A	Z	-11.877	5
24	MP1A	Mx	.002	5
25	MP1B	X	-26.995	1
26	MP1B	Z	-15.586	1
27	MP1B	Mx	.021	1
28	MP1B	X	-26.995	5
29	MP1B	Z	-15.586	5
30	MP1B	Mx	.021	5
31	MP1C	X	-20.572	1
32	MP1C	Z	-11.877	1
33	MP1C	Mx	-.018	1
34	MP1C	X	-20.572	5
35	MP1C	Z	-11.877	5
36	MP1C	Mx	-.018	5
37	MP3A	X	-6.654	2
38	MP3A	Z	-3.841	2
39	MP3A	Mx	.004	2
40	MP3A	X	-6.654	4
41	MP3A	Z	-3.841	4
42	MP3A	Mx	.004	4
43	MP3B	X	-11.726	2
44	MP3B	Z	-6.77	2
45	MP3B	Mx	0	2
46	MP3B	X	-11.726	4
47	MP3B	Z	-6.77	4
48	MP3B	Mx	0	4
49	MP3C	X	-6.654	2
50	MP3C	Z	-3.841	2
51	MP3C	Mx	-.004	2
52	MP3C	X	-6.654	4
53	MP3C	Z	-3.841	4
54	MP3C	Mx	-.004	4
55	MP2A	X	-9.474	3
56	MP2A	Z	-5.47	3
57	MP2A	Mx	-.005	3
58	MP2B	X	-12.125	3
59	MP2B	Z	-7	3
60	MP2B	Mx	0	3
61	MP2C	X	-9.474	3
62	MP2C	Z	-5.47	3
63	MP2C	Mx	.005	3
64	MP1A	X	-3.666	2
65	MP1A	Z	-2.116	2

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
66	MP1A	Mx	-.002	2
67	MP1B	X	-2.957	2
68	MP1B	Z	-1.707	2
69	MP1B	Mx	0	2
70	MP1C	X	-3.666	2
71	MP1C	Z	-2.116	2
72	MP1C	Mx	.002	2
73	MP1A	X	-9.363	3
74	MP1A	Z	-5.406	3
75	MP1A	Mx	-.005	3
76	MP1B	X	-12.125	3
77	MP1B	Z	-7	3
78	MP1B	Mx	0	3
79	MP1C	X	-9.363	3
80	MP1C	Z	-5.406	3
81	MP1C	Mx	.005	3
82	M70	X	-23.534	1
83	M70	Z	-13.588	1
84	M70	Mx	0	1
85	MP4A	X	-15.281	.5
86	MP4A	Z	-8.822	.5
87	MP4A	Mx	.008	.5
88	MP4A	X	-15.281	5.5
89	MP4A	Z	-8.822	5.5
90	MP4A	Mx	.008	5.5
91	MP4B	X	-17.817	.5
92	MP4B	Z	-10.287	.5
93	MP4B	Mx	0	.5
94	MP4B	X	-17.817	5.5
95	MP4B	Z	-10.287	5.5
96	MP4B	Mx	0	5.5
97	MP4C	X	-15.281	.5
98	MP4C	Z	-8.822	.5
99	MP4C	Mx	-.008	.5
100	MP4C	X	-15.281	5.5
101	MP4C	Z	-8.822	5.5
102	MP4C	Mx	-.008	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-14.35	1
2	MP1A	Z	-24.854	1
3	MP1A	Mx	.024	1
4	MP1A	X	-14.35	5
5	MP1A	Z	-24.854	5
6	MP1A	Mx	.024	5
7	MP1B	X	-14.35	1
8	MP1B	Z	-24.854	1
9	MP1B	Mx	-.009	1
10	MP1B	X	-14.35	5
11	MP1B	Z	-24.854	5
12	MP1B	Mx	-.009	5
13	MP1C	X	-10.641	1
14	MP1C	Z	-18.431	1
15	MP1C	Mx	-.011	1
16	MP1C	X	-10.641	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
17	MP1C	Z	-18.431	5
18	MP1C	Mx	-.011	5
19	MP1A	X	-14.35	1
20	MP1A	Z	-24.854	1
21	MP1A	Mx	-.009	1
22	MP1A	X	-14.35	5
23	MP1A	Z	-24.854	5
24	MP1A	Mx	-.009	5
25	MP1B	X	-14.35	1
26	MP1B	Z	-24.854	1
27	MP1B	Mx	.024	1
28	MP1B	X	-14.35	5
29	MP1B	Z	-24.854	5
30	MP1B	Mx	.024	5
31	MP1C	X	-10.641	1
32	MP1C	Z	-18.431	1
33	MP1C	Mx	-.011	1
34	MP1C	X	-10.641	5
35	MP1C	Z	-18.431	5
36	MP1C	Mx	-.011	5
37	MP3A	X	-5.794	2
38	MP3A	Z	-10.035	2
39	MP3A	Mx	.004	2
40	MP3A	X	-5.794	4
41	MP3A	Z	-10.035	4
42	MP3A	Mx	.004	4
43	MP3B	X	-5.794	2
44	MP3B	Z	-10.035	2
45	MP3B	Mx	.004	2
46	MP3B	X	-5.794	4
47	MP3B	Z	-10.035	4
48	MP3B	Mx	.004	4
49	MP3C	X	-2.865	2
50	MP3C	Z	-4.963	2
51	MP3C	Mx	-.004	2
52	MP3C	X	-2.865	4
53	MP3C	Z	-4.963	4
54	MP3C	Mx	-.004	4
55	MP2A	X	-6.49	3
56	MP2A	Z	-11.241	3
57	MP2A	Mx	-.003	3
58	MP2B	X	-6.49	3
59	MP2B	Z	-11.241	3
60	MP2B	Mx	-.003	3
61	MP2C	X	-4.959	3
62	MP2C	Z	-8.59	3
63	MP2C	Mx	.005	3
64	MP1A	X	-1.844	2
65	MP1A	Z	-3.193	2
66	MP1A	Mx	-.000922	2
67	MP1B	X	-1.844	2
68	MP1B	Z	-3.193	2
69	MP1B	Mx	-.000922	2
70	MP1C	X	-2.253	2
71	MP1C	Z	-3.902	2
72	MP1C	Mx	.002	2
73	MP1A	X	-6.469	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
74	MP1A	Z	-11.204	3
75	MP1A	Mx	-.003	3
76	MP1B	X	-6.469	3
77	MP1B	Z	-11.204	3
78	MP1B	Mx	-.003	3
79	MP1C	X	-4.874	3
80	MP1C	Z	-8.442	3
81	MP1C	Mx	.005	3
82	M70	X	-14.369	1
83	M70	Z	-24.888	1
84	M70	Mx	0	1
85	MP4A	X	-9.799	.5
86	MP4A	Z	-16.972	.5
87	MP4A	Mx	.005	.5
88	MP4A	X	-9.799	5.5
89	MP4A	Z	-16.972	5.5
90	MP4A	Mx	.005	5.5
91	MP4B	X	-9.799	.5
92	MP4B	Z	-16.972	.5
93	MP4B	Mx	.005	.5
94	MP4B	X	-9.799	5.5
95	MP4B	Z	-16.972	5.5
96	MP4B	Mx	.005	5.5
97	MP4C	X	-8.334	.5
98	MP4C	Z	-14.435	.5
99	MP4C	Mx	-.008	.5
100	MP4C	X	-8.334	5.5
101	MP4C	Z	-14.435	5.5
102	MP4C	Mx	-.008	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	0	1
2	MP1A	Z	-10.218	1
3	MP1A	Mx	.007	1
4	MP1A	X	0	5
5	MP1A	Z	-10.218	5
6	MP1A	Mx	.007	5
7	MP1B	X	0	1
8	MP1B	Z	-7.588	1
9	MP1B	Mx	.000756	1
10	MP1B	X	0	5
11	MP1B	Z	-7.588	5
12	MP1B	Mx	.000756	5
13	MP1C	X	0	1
14	MP1C	Z	-7.588	1
15	MP1C	Mx	-.006	1
16	MP1C	X	0	5
17	MP1C	Z	-7.588	5
18	MP1C	Mx	-.006	5
19	MP1A	X	0	1
20	MP1A	Z	-10.218	1
21	MP1A	Mx	-.007	1
22	MP1A	X	0	5
23	MP1A	Z	-10.218	5
24	MP1A	Mx	-.007	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
25	MP1B	X	0	1
26	MP1B	Z	-7.588	1
27	MP1B	Mx	.006	1
28	MP1B	X	0	5
29	MP1B	Z	-7.588	5
30	MP1B	Mx	.006	5
31	MP1C	X	0	1
32	MP1C	Z	-7.588	1
33	MP1C	Mx	-.000756	1
34	MP1C	X	0	5
35	MP1C	Z	-7.588	5
36	MP1C	Mx	-.000756	5
37	MP3A	X	0	2
38	MP3A	Z	-3.544	2
39	MP3A	Mx	0	2
40	MP3A	X	0	4
41	MP3A	Z	-3.544	4
42	MP3A	Mx	0	4
43	MP3B	X	0	2
44	MP3B	Z	-1.82	2
45	MP3B	Mx	.001	2
46	MP3B	X	0	4
47	MP3B	Z	-1.82	4
48	MP3B	Mx	.001	4
49	MP3C	X	0	2
50	MP3C	Z	-1.82	2
51	MP3C	Mx	-.001	2
52	MP3C	X	0	4
53	MP3C	Z	-1.82	4
54	MP3C	Mx	-.001	4
55	MP2A	X	0	3
56	MP2A	Z	-4.195	3
57	MP2A	Mx	0	3
58	MP2B	X	0	3
59	MP2B	Z	-3.194	3
60	MP2B	Mx	-.001	3
61	MP2C	X	0	3
62	MP2C	Z	-3.194	3
63	MP2C	Mx	.001	3
64	MP1A	X	0	2
65	MP1A	Z	-.83	2
66	MP1A	Mx	0	2
67	MP1B	X	0	2
68	MP1B	Z	-1.069	2
69	MP1B	Mx	-.000463	2
70	MP1C	X	0	2
71	MP1C	Z	-1.069	2
72	MP1C	Mx	.000463	2
73	MP1A	X	0	3
74	MP1A	Z	-3.477	3
75	MP1A	Mx	0	3
76	MP1B	X	0	3
77	MP1B	Z	-2.619	3
78	MP1B	Mx	-.001	3
79	MP1C	X	0	3
80	MP1C	Z	-2.619	3
81	MP1C	Mx	.001	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
82	M70	X	0	1
83	M70	Z	-6.685	1
84	M70	Mx	0	1
85	MP4A	X	0	.5
86	MP4A	Z	-6.461	.5
87	MP4A	Mx	0	.5
88	MP4A	X	0	5.5
89	MP4A	Z	-6.461	5.5
90	MP4A	Mx	0	5.5
91	MP4B	X	0	.5
92	MP4B	Z	-5.452	.5
93	MP4B	Mx	.002	.5
94	MP4B	X	0	5.5
95	MP4B	Z	-5.452	5.5
96	MP4B	Mx	.002	5.5
97	MP4C	X	0	.5
98	MP4C	Z	-5.452	.5
99	MP4C	Mx	-.002	.5
100	MP4C	X	0	5.5
101	MP4C	Z	-5.452	5.5
102	MP4C	Mx	-.002	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	4.671	1
2	MP1A	Z	-8.09	1
3	MP1A	Mx	.003	1
4	MP1A	X	4.671	5
5	MP1A	Z	-8.09	5
6	MP1A	Mx	.003	5
7	MP1B	X	3.356	1
8	MP1B	Z	-5.812	1
9	MP1B	Mx	.003	1
10	MP1B	X	3.356	5
11	MP1B	Z	-5.812	5
12	MP1B	Mx	.003	5
13	MP1C	X	4.671	1
14	MP1C	Z	-8.09	1
15	MP1C	Mx	-.008	1
16	MP1C	X	4.671	5
17	MP1C	Z	-8.09	5
18	MP1C	Mx	-.008	5
19	MP1A	X	4.671	1
20	MP1A	Z	-8.09	1
21	MP1A	Mx	-.008	1
22	MP1A	X	4.671	5
23	MP1A	Z	-8.09	5
24	MP1A	Mx	-.008	5
25	MP1B	X	3.356	1
26	MP1B	Z	-5.812	1
27	MP1B	Mx	.003	1
28	MP1B	X	3.356	5
29	MP1B	Z	-5.812	5
30	MP1B	Mx	.003	5
31	MP1C	X	4.671	1
32	MP1C	Z	-8.09	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
33	MP1C	Mx	.003	1
34	MP1C	X	4.671	5
35	MP1C	Z	-8.09	5
36	MP1C	Mx	.003	5
37	MP3A	X	1.485	2
38	MP3A	Z	-2.572	2
39	MP3A	Mx	-.00099	2
40	MP3A	X	1.485	4
41	MP3A	Z	-2.572	4
42	MP3A	Mx	-.00099	4
43	MP3B	X	.623	2
44	MP3B	Z	-1.078	2
45	MP3B	Mx	.00083	2
46	MP3B	X	.623	4
47	MP3B	Z	-1.078	4
48	MP3B	Mx	.00083	4
49	MP3C	X	1.485	2
50	MP3C	Z	-2.572	2
51	MP3C	Mx	-.00099	2
52	MP3C	X	1.485	4
53	MP3C	Z	-2.572	4
54	MP3C	Mx	-.00099	4
55	MP2A	X	1.931	3
56	MP2A	Z	-3.344	3
57	MP2A	Mx	.000966	3
58	MP2B	X	1.43	3
59	MP2B	Z	-2.477	3
60	MP2B	Mx	-.001	3
61	MP2C	X	1.931	3
62	MP2C	Z	-3.344	3
63	MP2C	Mx	.000965	3
64	MP1A	X	.455	2
65	MP1A	Z	-.788	2
66	MP1A	Mx	.000228	2
67	MP1B	X	.574	2
68	MP1B	Z	-.995	2
69	MP1B	Mx	-.000574	2
70	MP1C	X	.455	2
71	MP1C	Z	-.788	2
72	MP1C	Mx	.000227	2
73	MP1A	X	1.596	3
74	MP1A	Z	-2.764	3
75	MP1A	Mx	.000798	3
76	MP1B	X	1.166	3
77	MP1B	Z	-2.02	3
78	MP1B	Mx	-.001	3
79	MP1C	X	1.596	3
80	MP1C	Z	-2.764	3
81	MP1C	Mx	.000798	3
82	M70	X	2.916	1
83	M70	Z	-5.051	1
84	M70	Mx	0	1
85	MP4A	X	3.062	.5
86	MP4A	Z	-5.304	.5
87	MP4A	Mx	-.002	.5
88	MP4A	X	3.062	5.5
89	MP4A	Z	-5.304	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
90	MP4A	Mx	-.002	5.5
91	MP4B	X	2.558	.5
92	MP4B	Z	-4.43	.5
93	MP4B	Mx	.003	.5
94	MP4B	X	2.558	5.5
95	MP4B	Z	-4.43	5.5
96	MP4B	Mx	.003	5.5
97	MP4C	X	3.062	.5
98	MP4C	Z	-5.304	.5
99	MP4C	Mx	-.002	.5
100	MP4C	X	3.062	5.5
101	MP4C	Z	-5.304	5.5
102	MP4C	Mx	-.002	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	6.571	1
2	MP1A	Z	-3.794	1
3	MP1A	Mx	-.000756	1
4	MP1A	X	6.571	5
5	MP1A	Z	-3.794	5
6	MP1A	Mx	-.000756	5
7	MP1B	X	6.571	1
8	MP1B	Z	-3.794	1
9	MP1B	Mx	.006	1
10	MP1B	X	6.571	5
11	MP1B	Z	-3.794	5
12	MP1B	Mx	.006	5
13	MP1C	X	8.849	1
14	MP1C	Z	-5.109	1
15	MP1C	Mx	-.007	1
16	MP1C	X	8.849	5
17	MP1C	Z	-5.109	5
18	MP1C	Mx	-.007	5
19	MP1A	X	6.571	1
20	MP1A	Z	-3.794	1
21	MP1A	Mx	-.006	1
22	MP1A	X	6.571	5
23	MP1A	Z	-3.794	5
24	MP1A	Mx	-.006	5
25	MP1B	X	6.571	1
26	MP1B	Z	-3.794	1
27	MP1B	Mx	.000756	1
28	MP1B	X	6.571	5
29	MP1B	Z	-3.794	5
30	MP1B	Mx	.000756	5
31	MP1C	X	8.849	1
32	MP1C	Z	-5.109	1
33	MP1C	Mx	.007	1
34	MP1C	X	8.849	5
35	MP1C	Z	-5.109	5
36	MP1C	Mx	.007	5
37	MP3A	X	1.576	2
38	MP3A	Z	-.91	2
39	MP3A	Mx	-.001	2
40	MP3A	X	1.576	4



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Feb 4, 2024
 2:55 PM
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Member Point Loads (BLC 29 : Antenna Wm (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
41	MP3A	Z	-.91	4
42	MP3A	Mx	-.001	4
43	MP3B	X	1.576	2
44	MP3B	Z	-.91	2
45	MP3B	Mx	.001	2
46	MP3B	X	1.576	4
47	MP3B	Z	-.91	4
48	MP3B	Mx	.001	4
49	MP3C	X	3.069	2
50	MP3C	Z	-1.772	2
51	MP3C	Mx	0	2
52	MP3C	X	3.069	4
53	MP3C	Z	-1.772	4
54	MP3C	Mx	0	4
55	MP2A	X	2.766	3
56	MP2A	Z	-1.597	3
57	MP2A	Mx	.001	3
58	MP2B	X	2.766	3
59	MP2B	Z	-1.597	3
60	MP2B	Mx	-.001	3
61	MP2C	X	3.633	3
62	MP2C	Z	-2.097	3
63	MP2C	Mx	0	3
64	MP1A	X	.926	2
65	MP1A	Z	-.534	2
66	MP1A	Mx	.000463	2
67	MP1B	X	.926	2
68	MP1B	Z	-.534	2
69	MP1B	Mx	-.000463	2
70	MP1C	X	.719	2
71	MP1C	Z	-.415	2
72	MP1C	Mx	0	2
73	MP1A	X	2.268	3
74	MP1A	Z	-1.31	3
75	MP1A	Mx	.001	3
76	MP1B	X	2.268	3
77	MP1B	Z	-1.31	3
78	MP1B	Mx	-.001	3
79	MP1C	X	3.011	3
80	MP1C	Z	-1.739	3
81	MP1C	Mx	0	3
82	M70	X	4.682	1
83	M70	Z	-2.703	1
84	M70	Mx	0	1
85	MP4A	X	4.721	.5
86	MP4A	Z	-2.726	.5
87	MP4A	Mx	-.002	.5
88	MP4A	X	4.721	5.5
89	MP4A	Z	-2.726	5.5
90	MP4A	Mx	-.002	5.5
91	MP4B	X	4.721	.5
92	MP4B	Z	-2.726	.5
93	MP4B	Mx	.002	.5
94	MP4B	X	4.721	5.5
95	MP4B	Z	-2.726	5.5
96	MP4B	Mx	.002	5.5
97	MP4C	X	5.595	.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
98	MP4C	Z	-3.23	.5
99	MP4C	Mx	0	.5
100	MP4C	X	5.595	5.5
101	MP4C	Z	-3.23	5.5
102	MP4C	Mx	0	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	6.711	1
2	MP1A	Z	0	1
3	MP1A	Mx	-.003	1
4	MP1A	X	6.711	5
5	MP1A	Z	0	5
6	MP1A	Mx	-.003	5
7	MP1B	X	9.341	1
8	MP1B	Z	0	1
9	MP1B	Mx	.008	1
10	MP1B	X	9.341	5
11	MP1B	Z	0	5
12	MP1B	Mx	.008	5
13	MP1C	X	9.341	1
14	MP1C	Z	0	1
15	MP1C	Mx	-.003	1
16	MP1C	X	9.341	5
17	MP1C	Z	0	5
18	MP1C	Mx	-.003	5
19	MP1A	X	6.711	1
20	MP1A	Z	0	1
21	MP1A	Mx	-.003	1
22	MP1A	X	6.711	5
23	MP1A	Z	0	5
24	MP1A	Mx	-.003	5
25	MP1B	X	9.341	1
26	MP1B	Z	0	1
27	MP1B	Mx	-.003	1
28	MP1B	X	9.341	5
29	MP1B	Z	0	5
30	MP1B	Mx	-.003	5
31	MP1C	X	9.341	1
32	MP1C	Z	0	1
33	MP1C	Mx	.008	1
34	MP1C	X	9.341	5
35	MP1C	Z	0	5
36	MP1C	Mx	.008	5
37	MP3A	X	1.245	2
38	MP3A	Z	0	2
39	MP3A	Mx	-.00083	2
40	MP3A	X	1.245	4
41	MP3A	Z	0	4
42	MP3A	Mx	-.00083	4
43	MP3B	X	2.97	2
44	MP3B	Z	0	2
45	MP3B	Mx	.00099	2
46	MP3B	X	2.97	4
47	MP3B	Z	0	4
48	MP3B	Mx	.00099	4



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Feb 4, 2024
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Member Point Loads (BLC 30 : Antenna Wm (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
49	MP3C	X	2.97	2
50	MP3C	Z	0	2
51	MP3C	Mx	.00099	2
52	MP3C	X	2.97	4
53	MP3C	Z	0	4
54	MP3C	Mx	.00099	4
55	MP2A	X	2.86	3
56	MP2A	Z	0	3
57	MP2A	Mx	.001	3
58	MP2B	X	3.861	3
59	MP2B	Z	0	3
60	MP2B	Mx	-.000965	3
61	MP2C	X	3.861	3
62	MP2C	Z	0	3
63	MP2C	Mx	-.000965	3
64	MP1A	X	1.149	2
65	MP1A	Z	0	2
66	MP1A	Mx	.000574	2
67	MP1B	X	.91	2
68	MP1B	Z	0	2
69	MP1B	Mx	-.000228	2
70	MP1C	X	.91	2
71	MP1C	Z	0	2
72	MP1C	Mx	-.000228	2
73	MP1A	X	2.333	3
74	MP1A	Z	0	3
75	MP1A	Mx	.001	3
76	MP1B	X	3.191	3
77	MP1B	Z	0	3
78	MP1B	Mx	-.000798	3
79	MP1C	X	3.191	3
80	MP1C	Z	0	3
81	MP1C	Mx	-.000798	3
82	M70	X	5.832	1
83	M70	Z	0	1
84	M70	Mx	0	1
85	MP4A	X	5.115	.5
86	MP4A	Z	0	.5
87	MP4A	Mx	-.003	.5
88	MP4A	X	5.115	5.5
89	MP4A	Z	0	5.5
90	MP4A	Mx	-.003	5.5
91	MP4B	X	6.124	.5
92	MP4B	Z	0	.5
93	MP4B	Mx	.002	.5
94	MP4B	X	6.124	5.5
95	MP4B	Z	0	5.5
96	MP4B	Mx	.002	5.5
97	MP4C	X	6.124	.5
98	MP4C	Z	0	.5
99	MP4C	Mx	.002	.5
100	MP4C	X	6.124	5.5
101	MP4C	Z	0	5.5
102	MP4C	Mx	.002	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
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Member Point Loads (BLC 31 : Antenna Wm (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	6.571	1
2	MP1A	Z	3.794	1
3	MP1A	Mx	-.006	1
4	MP1A	X	6.571	5
5	MP1A	Z	3.794	5
6	MP1A	Mx	-.006	5
7	MP1B	X	8.849	1
8	MP1B	Z	5.109	1
9	MP1B	Mx	.007	1
10	MP1B	X	8.849	5
11	MP1B	Z	5.109	5
12	MP1B	Mx	.007	5
13	MP1C	X	6.571	1
14	MP1C	Z	3.794	1
15	MP1C	Mx	.000756	1
16	MP1C	X	6.571	5
17	MP1C	Z	3.794	5
18	MP1C	Mx	.000756	5
19	MP1A	X	6.571	1
20	MP1A	Z	3.794	1
21	MP1A	Mx	-.000756	1
22	MP1A	X	6.571	5
23	MP1A	Z	3.794	5
24	MP1A	Mx	-.000756	5
25	MP1B	X	8.849	1
26	MP1B	Z	5.109	1
27	MP1B	Mx	-.007	1
28	MP1B	X	8.849	5
29	MP1B	Z	5.109	5
30	MP1B	Mx	-.007	5
31	MP1C	X	6.571	1
32	MP1C	Z	3.794	1
33	MP1C	Mx	.006	1
34	MP1C	X	6.571	5
35	MP1C	Z	3.794	5
36	MP1C	Mx	.006	5
37	MP3A	X	1.576	2
38	MP3A	Z	.91	2
39	MP3A	Mx	-.001	2
40	MP3A	X	1.576	4
41	MP3A	Z	.91	4
42	MP3A	Mx	-.001	4
43	MP3B	X	3.069	2
44	MP3B	Z	1.772	2
45	MP3B	Mx	0	2
46	MP3B	X	3.069	4
47	MP3B	Z	1.772	4
48	MP3B	Mx	0	4
49	MP3C	X	1.576	2
50	MP3C	Z	.91	2
51	MP3C	Mx	.001	2
52	MP3C	X	1.576	4
53	MP3C	Z	.91	4
54	MP3C	Mx	.001	4
55	MP2A	X	2.766	3
56	MP2A	Z	1.597	3
57	MP2A	Mx	.001	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
58	MP2B	X	3.633	3
59	MP2B	Z	2.097	3
60	MP2B	Mx	0	3
61	MP2C	X	2.766	3
62	MP2C	Z	1.597	3
63	MP2C	Mx	-.001	3
64	MP1A	X	.926	2
65	MP1A	Z	.534	2
66	MP1A	Mx	.000463	2
67	MP1B	X	.719	2
68	MP1B	Z	.415	2
69	MP1B	Mx	0	2
70	MP1C	X	.926	2
71	MP1C	Z	.534	2
72	MP1C	Mx	-.000463	2
73	MP1A	X	2.268	3
74	MP1A	Z	1.31	3
75	MP1A	Mx	.001	3
76	MP1B	X	3.011	3
77	MP1B	Z	1.739	3
78	MP1B	Mx	0	3
79	MP1C	X	2.268	3
80	MP1C	Z	1.31	3
81	MP1C	Mx	-.001	3
82	M70	X	5.789	1
83	M70	Z	3.342	1
84	M70	Mx	0	1
85	MP4A	X	4.721	.5
86	MP4A	Z	2.726	.5
87	MP4A	Mx	-.002	.5
88	MP4A	X	4.721	5.5
89	MP4A	Z	2.726	5.5
90	MP4A	Mx	-.002	5.5
91	MP4B	X	5.595	.5
92	MP4B	Z	3.23	.5
93	MP4B	Mx	0	.5
94	MP4B	X	5.595	5.5
95	MP4B	Z	3.23	5.5
96	MP4B	Mx	0	5.5
97	MP4C	X	4.721	.5
98	MP4C	Z	2.726	.5
99	MP4C	Mx	.002	.5
100	MP4C	X	4.721	5.5
101	MP4C	Z	2.726	5.5
102	MP4C	Mx	.002	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	4.671	1
2	MP1A	Z	8.09	1
3	MP1A	Mx	-.008	1
4	MP1A	X	4.671	5
5	MP1A	Z	8.09	5
6	MP1A	Mx	-.008	5
7	MP1B	X	4.671	1
8	MP1B	Z	8.09	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
9	MP1B	Mx	.003	1
10	MP1B	X	4.671	5
11	MP1B	Z	8.09	5
12	MP1B	Mx	.003	5
13	MP1C	X	3.356	1
14	MP1C	Z	5.812	1
15	MP1C	Mx	.003	1
16	MP1C	X	3.356	5
17	MP1C	Z	5.812	5
18	MP1C	Mx	.003	5
19	MP1A	X	4.671	1
20	MP1A	Z	8.09	1
21	MP1A	Mx	.003	1
22	MP1A	X	4.671	5
23	MP1A	Z	8.09	5
24	MP1A	Mx	.003	5
25	MP1B	X	4.671	1
26	MP1B	Z	8.09	1
27	MP1B	Mx	-.008	1
28	MP1B	X	4.671	5
29	MP1B	Z	8.09	5
30	MP1B	Mx	-.008	5
31	MP1C	X	3.356	1
32	MP1C	Z	5.812	1
33	MP1C	Mx	.003	1
34	MP1C	X	3.356	5
35	MP1C	Z	5.812	5
36	MP1C	Mx	.003	5
37	MP3A	X	1.485	2
38	MP3A	Z	2.572	2
39	MP3A	Mx	-.00099	2
40	MP3A	X	1.485	4
41	MP3A	Z	2.572	4
42	MP3A	Mx	-.00099	4
43	MP3B	X	1.485	2
44	MP3B	Z	2.572	2
45	MP3B	Mx	-.00099	2
46	MP3B	X	1.485	4
47	MP3B	Z	2.572	4
48	MP3B	Mx	-.00099	4
49	MP3C	X	.623	2
50	MP3C	Z	1.078	2
51	MP3C	Mx	.00083	2
52	MP3C	X	.623	4
53	MP3C	Z	1.078	4
54	MP3C	Mx	.00083	4
55	MP2A	X	1.931	3
56	MP2A	Z	3.344	3
57	MP2A	Mx	.000966	3
58	MP2B	X	1.931	3
59	MP2B	Z	3.344	3
60	MP2B	Mx	.000965	3
61	MP2C	X	1.43	3
62	MP2C	Z	2.477	3
63	MP2C	Mx	-.001	3
64	MP1A	X	.455	2
65	MP1A	Z	.788	2



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Feb 4, 2024
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Member Point Loads (BLC 32 : Antenna Wm (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
66	MP1A	Mx	.000228	2
67	MP1B	X	.455	2
68	MP1B	Z	.788	2
69	MP1B	Mx	.000227	2
70	MP1C	X	.574	2
71	MP1C	Z	.995	2
72	MP1C	Mx	-.000574	2
73	MP1A	X	1.596	3
74	MP1A	Z	2.764	3
75	MP1A	Mx	.000798	3
76	MP1B	X	1.596	3
77	MP1B	Z	2.764	3
78	MP1B	Mx	.000798	3
79	MP1C	X	1.166	3
80	MP1C	Z	2.02	3
81	MP1C	Mx	-.001	3
82	M70	X	3.556	1
83	M70	Z	6.158	1
84	M70	Mx	0	1
85	MP4A	X	3.062	.5
86	MP4A	Z	5.304	.5
87	MP4A	Mx	-.002	.5
88	MP4A	X	3.062	5.5
89	MP4A	Z	5.304	5.5
90	MP4A	Mx	-.002	5.5
91	MP4B	X	3.062	.5
92	MP4B	Z	5.304	.5
93	MP4B	Mx	-.002	.5
94	MP4B	X	3.062	5.5
95	MP4B	Z	5.304	5.5
96	MP4B	Mx	-.002	5.5
97	MP4C	X	2.558	.5
98	MP4C	Z	4.43	.5
99	MP4C	Mx	.003	.5
100	MP4C	X	2.558	5.5
101	MP4C	Z	4.43	5.5
102	MP4C	Mx	.003	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	0	1
2	MP1A	Z	10.218	1
3	MP1A	Mx	-.007	1
4	MP1A	X	0	5
5	MP1A	Z	10.218	5
6	MP1A	Mx	-.007	5
7	MP1B	X	0	1
8	MP1B	Z	7.588	1
9	MP1B	Mx	-.000756	1
10	MP1B	X	0	5
11	MP1B	Z	7.588	5
12	MP1B	Mx	-.000756	5
13	MP1C	X	0	1
14	MP1C	Z	7.588	1
15	MP1C	Mx	.006	1
16	MP1C	X	0	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
17	MP1C	Z	7.588	5
18	MP1C	Mx	.006	5
19	MP1A	X	0	1
20	MP1A	Z	10.218	1
21	MP1A	Mx	.007	1
22	MP1A	X	0	5
23	MP1A	Z	10.218	5
24	MP1A	Mx	.007	5
25	MP1B	X	0	1
26	MP1B	Z	7.588	1
27	MP1B	Mx	-.006	1
28	MP1B	X	0	5
29	MP1B	Z	7.588	5
30	MP1B	Mx	-.006	5
31	MP1C	X	0	1
32	MP1C	Z	7.588	1
33	MP1C	Mx	.000756	1
34	MP1C	X	0	5
35	MP1C	Z	7.588	5
36	MP1C	Mx	.000756	5
37	MP3A	X	0	2
38	MP3A	Z	3.544	2
39	MP3A	Mx	0	2
40	MP3A	X	0	4
41	MP3A	Z	3.544	4
42	MP3A	Mx	0	4
43	MP3B	X	0	2
44	MP3B	Z	1.82	2
45	MP3B	Mx	-.001	2
46	MP3B	X	0	4
47	MP3B	Z	1.82	4
48	MP3B	Mx	-.001	4
49	MP3C	X	0	2
50	MP3C	Z	1.82	2
51	MP3C	Mx	.001	2
52	MP3C	X	0	4
53	MP3C	Z	1.82	4
54	MP3C	Mx	.001	4
55	MP2A	X	0	3
56	MP2A	Z	4.195	3
57	MP2A	Mx	0	3
58	MP2B	X	0	3
59	MP2B	Z	3.194	3
60	MP2B	Mx	.001	3
61	MP2C	X	0	3
62	MP2C	Z	3.194	3
63	MP2C	Mx	-.001	3
64	MP1A	X	0	2
65	MP1A	Z	.83	2
66	MP1A	Mx	0	2
67	MP1B	X	0	2
68	MP1B	Z	1.069	2
69	MP1B	Mx	.000463	2
70	MP1C	X	0	2
71	MP1C	Z	1.069	2
72	MP1C	Mx	-.000463	2
73	MP1A	X	0	3



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 Designer :
 Job Number :
 Model Name : 5000392577-VZW_MT_LO_H

Feb 4, 2024
 2:55 PM
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Member Point Loads (BLC 33 : Antenna Wm (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
74	MP1A	Z	3.477	3
75	MP1A	Mx	0	3
76	MP1B	X	0	3
77	MP1B	Z	2.619	3
78	MP1B	Mx	.001	3
79	MP1C	X	0	3
80	MP1C	Z	2.619	3
81	MP1C	Mx	-.001	3
82	M70	X	0	1
83	M70	Z	6.685	1
84	M70	Mx	0	1
85	MP4A	X	0	.5
86	MP4A	Z	6.461	.5
87	MP4A	Mx	0	.5
88	MP4A	X	0	5.5
89	MP4A	Z	6.461	5.5
90	MP4A	Mx	0	5.5
91	MP4B	X	0	.5
92	MP4B	Z	5.452	.5
93	MP4B	Mx	-.002	.5
94	MP4B	X	0	5.5
95	MP4B	Z	5.452	5.5
96	MP4B	Mx	-.002	5.5
97	MP4C	X	0	.5
98	MP4C	Z	5.452	.5
99	MP4C	Mx	.002	.5
100	MP4C	X	0	5.5
101	MP4C	Z	5.452	5.5
102	MP4C	Mx	.002	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-4.671	1
2	MP1A	Z	8.09	1
3	MP1A	Mx	-.003	1
4	MP1A	X	-4.671	5
5	MP1A	Z	8.09	5
6	MP1A	Mx	-.003	5
7	MP1B	X	-3.356	1
8	MP1B	Z	5.812	1
9	MP1B	Mx	-.003	1
10	MP1B	X	-3.356	5
11	MP1B	Z	5.812	5
12	MP1B	Mx	-.003	5
13	MP1C	X	-4.671	1
14	MP1C	Z	8.09	1
15	MP1C	Mx	.008	1
16	MP1C	X	-4.671	5
17	MP1C	Z	8.09	5
18	MP1C	Mx	.008	5
19	MP1A	X	-4.671	1
20	MP1A	Z	8.09	1
21	MP1A	Mx	.008	1
22	MP1A	X	-4.671	5
23	MP1A	Z	8.09	5
24	MP1A	Mx	.008	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
25	MP1B	X	-3.356	1
26	MP1B	Z	5.812	1
27	MP1B	Mx	-.003	1
28	MP1B	X	-3.356	5
29	MP1B	Z	5.812	5
30	MP1B	Mx	-.003	5
31	MP1C	X	-4.671	1
32	MP1C	Z	8.09	1
33	MP1C	Mx	-.003	1
34	MP1C	X	-4.671	5
35	MP1C	Z	8.09	5
36	MP1C	Mx	-.003	5
37	MP3A	X	-1.485	2
38	MP3A	Z	2.572	2
39	MP3A	Mx	.00099	2
40	MP3A	X	-1.485	4
41	MP3A	Z	2.572	4
42	MP3A	Mx	.00099	4
43	MP3B	X	-.623	2
44	MP3B	Z	1.078	2
45	MP3B	Mx	-.00083	2
46	MP3B	X	-.623	4
47	MP3B	Z	1.078	4
48	MP3B	Mx	-.00083	4
49	MP3C	X	-1.485	2
50	MP3C	Z	2.572	2
51	MP3C	Mx	.00099	2
52	MP3C	X	-1.485	4
53	MP3C	Z	2.572	4
54	MP3C	Mx	.00099	4
55	MP2A	X	-1.931	3
56	MP2A	Z	3.344	3
57	MP2A	Mx	-.000966	3
58	MP2B	X	-1.43	3
59	MP2B	Z	2.477	3
60	MP2B	Mx	.001	3
61	MP2C	X	-1.931	3
62	MP2C	Z	3.344	3
63	MP2C	Mx	-.000965	3
64	MP1A	X	-.455	2
65	MP1A	Z	.788	2
66	MP1A	Mx	-.000228	2
67	MP1B	X	-.574	2
68	MP1B	Z	.995	2
69	MP1B	Mx	.000574	2
70	MP1C	X	-.455	2
71	MP1C	Z	.788	2
72	MP1C	Mx	-.000227	2
73	MP1A	X	-1.596	3
74	MP1A	Z	2.764	3
75	MP1A	Mx	-.000798	3
76	MP1B	X	-1.166	3
77	MP1B	Z	2.02	3
78	MP1B	Mx	.001	3
79	MP1C	X	-1.596	3
80	MP1C	Z	2.764	3
81	MP1C	Mx	-.000798	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
82	M70	X	-2.916	1
83	M70	Z	5.051	1
84	M70	Mx	0	1
85	MP4A	X	-3.062	.5
86	MP4A	Z	5.304	.5
87	MP4A	Mx	.002	.5
88	MP4A	X	-3.062	5.5
89	MP4A	Z	5.304	5.5
90	MP4A	Mx	.002	5.5
91	MP4B	X	-2.558	.5
92	MP4B	Z	4.43	.5
93	MP4B	Mx	-.003	.5
94	MP4B	X	-2.558	5.5
95	MP4B	Z	4.43	5.5
96	MP4B	Mx	-.003	5.5
97	MP4C	X	-3.062	.5
98	MP4C	Z	5.304	.5
99	MP4C	Mx	.002	.5
100	MP4C	X	-3.062	5.5
101	MP4C	Z	5.304	5.5
102	MP4C	Mx	.002	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-6.571	1
2	MP1A	Z	3.794	1
3	MP1A	Mx	.000756	1
4	MP1A	X	-6.571	5
5	MP1A	Z	3.794	5
6	MP1A	Mx	.000756	5
7	MP1B	X	-6.571	1
8	MP1B	Z	3.794	1
9	MP1B	Mx	-.006	1
10	MP1B	X	-6.571	5
11	MP1B	Z	3.794	5
12	MP1B	Mx	-.006	5
13	MP1C	X	-8.849	1
14	MP1C	Z	5.109	1
15	MP1C	Mx	.007	1
16	MP1C	X	-8.849	5
17	MP1C	Z	5.109	5
18	MP1C	Mx	.007	5
19	MP1A	X	-6.571	1
20	MP1A	Z	3.794	1
21	MP1A	Mx	.006	1
22	MP1A	X	-6.571	5
23	MP1A	Z	3.794	5
24	MP1A	Mx	.006	5
25	MP1B	X	-6.571	1
26	MP1B	Z	3.794	1
27	MP1B	Mx	-.000756	1
28	MP1B	X	-6.571	5
29	MP1B	Z	3.794	5
30	MP1B	Mx	-.000756	5
31	MP1C	X	-8.849	1
32	MP1C	Z	5.109	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
33	MP1C	Mx	-.007	1
34	MP1C	X	-8.849	5
35	MP1C	Z	5.109	5
36	MP1C	Mx	-.007	5
37	MP3A	X	-1.576	2
38	MP3A	Z	.91	2
39	MP3A	Mx	.001	2
40	MP3A	X	-1.576	4
41	MP3A	Z	.91	4
42	MP3A	Mx	.001	4
43	MP3B	X	-1.576	2
44	MP3B	Z	.91	2
45	MP3B	Mx	-.001	2
46	MP3B	X	-1.576	4
47	MP3B	Z	.91	4
48	MP3B	Mx	-.001	4
49	MP3C	X	-3.069	2
50	MP3C	Z	1.772	2
51	MP3C	Mx	0	2
52	MP3C	X	-3.069	4
53	MP3C	Z	1.772	4
54	MP3C	Mx	0	4
55	MP2A	X	-2.766	3
56	MP2A	Z	1.597	3
57	MP2A	Mx	-.001	3
58	MP2B	X	-2.766	3
59	MP2B	Z	1.597	3
60	MP2B	Mx	.001	3
61	MP2C	X	-3.633	3
62	MP2C	Z	2.097	3
63	MP2C	Mx	0	3
64	MP1A	X	-.926	2
65	MP1A	Z	.534	2
66	MP1A	Mx	-.000463	2
67	MP1B	X	-.926	2
68	MP1B	Z	.534	2
69	MP1B	Mx	.000463	2
70	MP1C	X	-.719	2
71	MP1C	Z	.415	2
72	MP1C	Mx	0	2
73	MP1A	X	-2.268	3
74	MP1A	Z	1.31	3
75	MP1A	Mx	-.001	3
76	MP1B	X	-2.268	3
77	MP1B	Z	1.31	3
78	MP1B	Mx	.001	3
79	MP1C	X	-3.011	3
80	MP1C	Z	1.739	3
81	MP1C	Mx	0	3
82	M70	X	-4.682	1
83	M70	Z	2.703	1
84	M70	Mx	0	1
85	MP4A	X	-4.721	.5
86	MP4A	Z	2.726	.5
87	MP4A	Mx	.002	.5
88	MP4A	X	-4.721	5.5
89	MP4A	Z	2.726	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
90	MP4A	Mx	.002	5.5
91	MP4B	X	-4.721	.5
92	MP4B	Z	2.726	.5
93	MP4B	Mx	-.002	.5
94	MP4B	X	-4.721	5.5
95	MP4B	Z	2.726	5.5
96	MP4B	Mx	-.002	5.5
97	MP4C	X	-5.595	.5
98	MP4C	Z	3.23	.5
99	MP4C	Mx	0	.5
100	MP4C	X	-5.595	5.5
101	MP4C	Z	3.23	5.5
102	MP4C	Mx	0	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-6.711	1
2	MP1A	Z	0	1
3	MP1A	Mx	.003	1
4	MP1A	X	-6.711	5
5	MP1A	Z	0	5
6	MP1A	Mx	.003	5
7	MP1B	X	-9.341	1
8	MP1B	Z	0	1
9	MP1B	Mx	-.008	1
10	MP1B	X	-9.341	5
11	MP1B	Z	0	5
12	MP1B	Mx	-.008	5
13	MP1C	X	-9.341	1
14	MP1C	Z	0	1
15	MP1C	Mx	.003	1
16	MP1C	X	-9.341	5
17	MP1C	Z	0	5
18	MP1C	Mx	.003	5
19	MP1A	X	-6.711	1
20	MP1A	Z	0	1
21	MP1A	Mx	.003	1
22	MP1A	X	-6.711	5
23	MP1A	Z	0	5
24	MP1A	Mx	.003	5
25	MP1B	X	-9.341	1
26	MP1B	Z	0	1
27	MP1B	Mx	.003	1
28	MP1B	X	-9.341	5
29	MP1B	Z	0	5
30	MP1B	Mx	.003	5
31	MP1C	X	-9.341	1
32	MP1C	Z	0	1
33	MP1C	Mx	-.008	1
34	MP1C	X	-9.341	5
35	MP1C	Z	0	5
36	MP1C	Mx	-.008	5
37	MP3A	X	-1.245	2
38	MP3A	Z	0	2
39	MP3A	Mx	.00083	2
40	MP3A	X	-1.245	4

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
41	MP3A	Z	0	4
42	MP3A	Mx	.00083	4
43	MP3B	X	-2.97	2
44	MP3B	Z	0	2
45	MP3B	Mx	-.00099	2
46	MP3B	X	-2.97	4
47	MP3B	Z	0	4
48	MP3B	Mx	-.00099	4
49	MP3C	X	-2.97	2
50	MP3C	Z	0	2
51	MP3C	Mx	-.00099	2
52	MP3C	X	-2.97	4
53	MP3C	Z	0	4
54	MP3C	Mx	-.00099	4
55	MP2A	X	-2.86	3
56	MP2A	Z	0	3
57	MP2A	Mx	-.001	3
58	MP2B	X	-3.861	3
59	MP2B	Z	0	3
60	MP2B	Mx	.000965	3
61	MP2C	X	-3.861	3
62	MP2C	Z	0	3
63	MP2C	Mx	.000965	3
64	MP1A	X	-1.149	2
65	MP1A	Z	0	2
66	MP1A	Mx	-.000574	2
67	MP1B	X	-.91	2
68	MP1B	Z	0	2
69	MP1B	Mx	.000228	2
70	MP1C	X	-.91	2
71	MP1C	Z	0	2
72	MP1C	Mx	.000228	2
73	MP1A	X	-2.333	3
74	MP1A	Z	0	3
75	MP1A	Mx	-.001	3
76	MP1B	X	-3.191	3
77	MP1B	Z	0	3
78	MP1B	Mx	.000798	3
79	MP1C	X	-3.191	3
80	MP1C	Z	0	3
81	MP1C	Mx	.000798	3
82	M70	X	-5.832	1
83	M70	Z	0	1
84	M70	Mx	0	1
85	MP4A	X	-5.115	.5
86	MP4A	Z	0	.5
87	MP4A	Mx	.003	.5
88	MP4A	X	-5.115	5.5
89	MP4A	Z	0	5.5
90	MP4A	Mx	.003	5.5
91	MP4B	X	-6.124	.5
92	MP4B	Z	0	.5
93	MP4B	Mx	-.002	.5
94	MP4B	X	-6.124	5.5
95	MP4B	Z	0	5.5
96	MP4B	Mx	-.002	5.5
97	MP4C	X	-6.124	.5



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Designer :
Job Number :
Model Name : 5000392577-VZW_MT_LO_H

Feb 4, 2024
2:55 PM
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Member Point Loads (BLC 36 : Antenna Wm (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
98	MP4C	Z	0	.5
99	MP4C	Mx	-.002	.5
100	MP4C	X	-6.124	5.5
101	MP4C	Z	0	5.5
102	MP4C	Mx	-.002	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-6.571	1
2	MP1A	Z	-3.794	1
3	MP1A	Mx	.006	1
4	MP1A	X	-6.571	5
5	MP1A	Z	-3.794	5
6	MP1A	Mx	.006	5
7	MP1B	X	-8.849	1
8	MP1B	Z	-5.109	1
9	MP1B	Mx	-.007	1
10	MP1B	X	-8.849	5
11	MP1B	Z	-5.109	5
12	MP1B	Mx	-.007	5
13	MP1C	X	-6.571	1
14	MP1C	Z	-3.794	1
15	MP1C	Mx	-.000756	1
16	MP1C	X	-6.571	5
17	MP1C	Z	-3.794	5
18	MP1C	Mx	-.000756	5
19	MP1A	X	-6.571	1
20	MP1A	Z	-3.794	1
21	MP1A	Mx	.000756	1
22	MP1A	X	-6.571	5
23	MP1A	Z	-3.794	5
24	MP1A	Mx	.000756	5
25	MP1B	X	-8.849	1
26	MP1B	Z	-5.109	1
27	MP1B	Mx	.007	1
28	MP1B	X	-8.849	5
29	MP1B	Z	-5.109	5
30	MP1B	Mx	.007	5
31	MP1C	X	-6.571	1
32	MP1C	Z	-3.794	1
33	MP1C	Mx	-.006	1
34	MP1C	X	-6.571	5
35	MP1C	Z	-3.794	5
36	MP1C	Mx	-.006	5
37	MP3A	X	-1.576	2
38	MP3A	Z	-.91	2
39	MP3A	Mx	.001	2
40	MP3A	X	-1.576	4
41	MP3A	Z	-.91	4
42	MP3A	Mx	.001	4
43	MP3B	X	-3.069	2
44	MP3B	Z	-1.772	2
45	MP3B	Mx	0	2
46	MP3B	X	-3.069	4
47	MP3B	Z	-1.772	4
48	MP3B	Mx	0	4

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location(ft. %)
49	MP3C	X	-1.576	2
50	MP3C	Z	-.91	2
51	MP3C	Mx	-.001	2
52	MP3C	X	-1.576	4
53	MP3C	Z	-.91	4
54	MP3C	Mx	-.001	4
55	MP2A	X	-2.766	3
56	MP2A	Z	-1.597	3
57	MP2A	Mx	-.001	3
58	MP2B	X	-3.633	3
59	MP2B	Z	-2.097	3
60	MP2B	Mx	0	3
61	MP2C	X	-2.766	3
62	MP2C	Z	-1.597	3
63	MP2C	Mx	.001	3
64	MP1A	X	-.926	2
65	MP1A	Z	-.534	2
66	MP1A	Mx	-.000463	2
67	MP1B	X	-.719	2
68	MP1B	Z	-.415	2
69	MP1B	Mx	0	2
70	MP1C	X	-.926	2
71	MP1C	Z	-.534	2
72	MP1C	Mx	.000463	2
73	MP1A	X	-2.268	3
74	MP1A	Z	-1.31	3
75	MP1A	Mx	-.001	3
76	MP1B	X	-3.011	3
77	MP1B	Z	-1.739	3
78	MP1B	Mx	0	3
79	MP1C	X	-2.268	3
80	MP1C	Z	-1.31	3
81	MP1C	Mx	.001	3
82	M70	X	-5.789	1
83	M70	Z	-3.342	1
84	M70	Mx	0	1
85	MP4A	X	-4.721	.5
86	MP4A	Z	-2.726	.5
87	MP4A	Mx	.002	.5
88	MP4A	X	-4.721	5.5
89	MP4A	Z	-2.726	5.5
90	MP4A	Mx	.002	5.5
91	MP4B	X	-5.595	.5
92	MP4B	Z	-3.23	.5
93	MP4B	Mx	0	.5
94	MP4B	X	-5.595	5.5
95	MP4B	Z	-3.23	5.5
96	MP4B	Mx	0	5.5
97	MP4C	X	-4.721	.5
98	MP4C	Z	-2.726	.5
99	MP4C	Mx	-.002	.5
100	MP4C	X	-4.721	5.5
101	MP4C	Z	-2.726	5.5
102	MP4C	Mx	-.002	5.5

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

	Member Label	Direction	Magnitude[lb.k.ft]	Location(ft. %)
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Company : Colliers Engineering & Design
 Designer :
 Job Number :
 Model Name : 5000392577-VZW_MT_LO_H

Feb 4, 2024
 2:55 PM
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Member Point Loads (BLC 38 : Antenna Wm (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-4.671	1
2	MP1A	Z	-8.09	1
3	MP1A	Mx	.008	1
4	MP1A	X	-4.671	5
5	MP1A	Z	-8.09	5
6	MP1A	Mx	.008	5
7	MP1B	X	-4.671	1
8	MP1B	Z	-8.09	1
9	MP1B	Mx	-.003	1
10	MP1B	X	-4.671	5
11	MP1B	Z	-8.09	5
12	MP1B	Mx	-.003	5
13	MP1C	X	-3.356	1
14	MP1C	Z	-5.812	1
15	MP1C	Mx	-.003	1
16	MP1C	X	-3.356	5
17	MP1C	Z	-5.812	5
18	MP1C	Mx	-.003	5
19	MP1A	X	-4.671	1
20	MP1A	Z	-8.09	1
21	MP1A	Mx	-.003	1
22	MP1A	X	-4.671	5
23	MP1A	Z	-8.09	5
24	MP1A	Mx	-.003	5
25	MP1B	X	-4.671	1
26	MP1B	Z	-8.09	1
27	MP1B	Mx	.008	1
28	MP1B	X	-4.671	5
29	MP1B	Z	-8.09	5
30	MP1B	Mx	.008	5
31	MP1C	X	-3.356	1
32	MP1C	Z	-5.812	1
33	MP1C	Mx	-.003	1
34	MP1C	X	-3.356	5
35	MP1C	Z	-5.812	5
36	MP1C	Mx	-.003	5
37	MP3A	X	-1.485	2
38	MP3A	Z	-2.572	2
39	MP3A	Mx	.00099	2
40	MP3A	X	-1.485	4
41	MP3A	Z	-2.572	4
42	MP3A	Mx	.00099	4
43	MP3B	X	-1.485	2
44	MP3B	Z	-2.572	2
45	MP3B	Mx	.00099	2
46	MP3B	X	-1.485	4
47	MP3B	Z	-2.572	4
48	MP3B	Mx	.00099	4
49	MP3C	X	-.623	2
50	MP3C	Z	-1.078	2
51	MP3C	Mx	-.00083	2
52	MP3C	X	-.623	4
53	MP3C	Z	-1.078	4
54	MP3C	Mx	-.00083	4
55	MP2A	X	-1.931	3
56	MP2A	Z	-3.344	3
57	MP2A	Mx	-.000966	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
58	MP2B	X	-1.931	3
59	MP2B	Z	-3.344	3
60	MP2B	Mx	-.000965	3
61	MP2C	X	-1.43	3
62	MP2C	Z	-2.477	3
63	MP2C	Mx	.001	3
64	MP1A	X	-.455	2
65	MP1A	Z	-.788	2
66	MP1A	Mx	-.000228	2
67	MP1B	X	-.455	2
68	MP1B	Z	-.788	2
69	MP1B	Mx	-.000227	2
70	MP1C	X	-.574	2
71	MP1C	Z	-.995	2
72	MP1C	Mx	.000574	2
73	MP1A	X	-1.596	3
74	MP1A	Z	-2.764	3
75	MP1A	Mx	-.000798	3
76	MP1B	X	-1.596	3
77	MP1B	Z	-2.764	3
78	MP1B	Mx	-.000798	3
79	MP1C	X	-1.166	3
80	MP1C	Z	-2.02	3
81	MP1C	Mx	.001	3
82	M70	X	-3.556	1
83	M70	Z	-6.158	1
84	M70	Mx	0	1
85	MP4A	X	-3.062	.5
86	MP4A	Z	-5.304	.5
87	MP4A	Mx	.002	.5
88	MP4A	X	-3.062	5.5
89	MP4A	Z	-5.304	5.5
90	MP4A	Mx	.002	5.5
91	MP4B	X	-3.062	.5
92	MP4B	Z	-5.304	.5
93	MP4B	Mx	.002	.5
94	MP4B	X	-3.062	5.5
95	MP4B	Z	-5.304	5.5
96	MP4B	Mx	.002	5.5
97	MP4C	X	-2.558	.5
98	MP4C	Z	-4.43	.5
99	MP4C	Mx	-.003	.5
100	MP4C	X	-2.558	5.5
101	MP4C	Z	-4.43	5.5
102	MP4C	Mx	-.003	5.5

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	M16	Y	-500	0

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	M20	Y	-500	0

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
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Company : Colliers Engineering & Design
 Designer :
 Job Number :
 Model Name : 5000392577-VZW_MT_LO_H

Feb 4, 2024
 2:55 PM
 Checked By: _____

Member Point Loads (BLC 79 : Lv1) (Continued)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	M7A	Y	-250	%50

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	M7A	Y	-250	%100

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	Y	-1.242	1
2	MP1A	My	-.000621	1
3	MP1A	Mz	-.000828	1
4	MP1A	Y	-1.242	5
5	MP1A	My	-.000621	5
6	MP1A	Mz	-.000828	5
7	MP1B	Y	-1.242	1
8	MP1B	My	.001	1
9	MP1B	Mz	-.000124	1
10	MP1B	Y	-1.242	5
11	MP1B	My	.001	5
12	MP1B	Mz	-.000124	5
13	MP1C	Y	-1.242	1
14	MP1C	My	-.000407	1
15	MP1C	Mz	.000952	1
16	MP1C	Y	-1.242	5
17	MP1C	My	-.000407	5
18	MP1C	Mz	.000952	5
19	MP1A	Y	-1.242	1
20	MP1A	My	-.000621	1
21	MP1A	Mz	.000828	1
22	MP1A	Y	-1.242	5
23	MP1A	My	-.000621	5
24	MP1A	Mz	.000828	5
25	MP1B	Y	-1.242	1
26	MP1B	My	-.000407	1
27	MP1B	Mz	-.000952	1
28	MP1B	Y	-1.242	5
29	MP1B	My	-.000407	5
30	MP1B	Mz	-.000952	5
31	MP1C	Y	-1.242	1
32	MP1C	My	.001	1
33	MP1C	Mz	.000124	1
34	MP1C	Y	-1.242	5
35	MP1C	My	.001	5
36	MP1C	Mz	.000124	5
37	MP3A	Y	-1.125	2
38	MP3A	My	-.00075	2
39	MP3A	Mz	0	2
40	MP3A	Y	-1.125	4
41	MP3A	My	-.00075	4
42	MP3A	Mz	0	4
43	MP3B	Y	-1.125	2
44	MP3B	My	.000375	2
45	MP3B	Mz	-.000649	2
46	MP3B	Y	-1.125	4
47	MP3B	My	.000375	4
48	MP3B	Mz	-.000649	4

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
49	MP3C	Y	-1.125	2
50	MP3C	My	.000375	2
51	MP3C	Mz	.000649	2
52	MP3C	Y	-1.125	4
53	MP3C	My	.000375	4
54	MP3C	Mz	.000649	4
55	MP2A	Y	-3.105	3
56	MP2A	My	.002	3
57	MP2A	Mz	0	3
58	MP2B	Y	-3.105	3
59	MP2B	My	-.000776	3
60	MP2B	Mz	.001	3
61	MP2C	Y	-3.105	3
62	MP2C	My	-.000776	3
63	MP2C	Mz	-.001	3
64	MP1A	Y	-.816	2
65	MP1A	My	.000408	2
66	MP1A	Mz	0	2
67	MP1B	Y	-.816	2
68	MP1B	My	-.000204	2
69	MP1B	Mz	.000354	2
70	MP1C	Y	-.816	2
71	MP1C	My	-.000204	2
72	MP1C	Mz	-.000354	2
73	MP1A	Y	-2.932	3
74	MP1A	My	.001	3
75	MP1A	Mz	0	3
76	MP1B	Y	-2.932	3
77	MP1B	My	-.000733	3
78	MP1B	Mz	.001	3
79	MP1C	Y	-2.932	3
80	MP1C	My	-.000733	3
81	MP1C	Mz	-.001	3
82	M70	Y	-1.256	1
83	M70	My	0	1
84	M70	Mz	0	1
85	MP4A	Y	-.353	.5
86	MP4A	My	-.000177	.5
87	MP4A	Mz	0	.5
88	MP4A	Y	-.353	5.5
89	MP4A	My	-.000177	5.5
90	MP4A	Mz	0	5.5
91	MP4B	Y	-.353	.5
92	MP4B	My	8.8e-5	.5
93	MP4B	Mz	-.000153	.5
94	MP4B	Y	-.353	5.5
95	MP4B	My	8.8e-5	5.5
96	MP4B	Mz	-.000153	5.5
97	MP4C	Y	-.353	.5
98	MP4C	My	8.8e-5	.5
99	MP4C	Mz	.000153	.5
100	MP4C	Y	-.353	5.5
101	MP4C	My	8.8e-5	5.5
102	MP4C	Mz	.000153	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
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Company : Colliers Engineering & Design
Designer :
Job Number :
Model Name : 5000392577-VZW_MT_LO_H

Feb 4, 2024
2:55 PM
Checked By: _____

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	Z	-3.106	1
2	MP1A	Mx	.002	1
3	MP1A	Z	-3.106	5
4	MP1A	Mx	.002	5
5	MP1B	Z	-3.106	1
6	MP1B	Mx	.00031	1
7	MP1B	Z	-3.106	5
8	MP1B	Mx	.00031	5
9	MP1C	Z	-3.106	1
10	MP1C	Mx	-.002	1
11	MP1C	Z	-3.106	5
12	MP1C	Mx	-.002	5
13	MP1A	Z	-3.106	1
14	MP1A	Mx	-.002	1
15	MP1A	Z	-3.106	5
16	MP1A	Mx	-.002	5
17	MP1B	Z	-3.106	1
18	MP1B	Mx	.002	1
19	MP1B	Z	-3.106	5
20	MP1B	Mx	.002	5
21	MP1C	Z	-3.106	1
22	MP1C	Mx	-.00031	1
23	MP1C	Z	-3.106	5
24	MP1C	Mx	-.00031	5
25	MP3A	Z	-2.812	2
26	MP3A	Mx	0	2
27	MP3A	Z	-2.812	4
28	MP3A	Mx	0	4
29	MP3B	Z	-2.812	2
30	MP3B	Mx	.002	2
31	MP3B	Z	-2.812	4
32	MP3B	Mx	.002	4
33	MP3C	Z	-2.812	2
34	MP3C	Mx	-.002	2
35	MP3C	Z	-2.812	4
36	MP3C	Mx	-.002	4
37	MP2A	Z	-7.762	3
38	MP2A	Mx	0	3
39	MP2B	Z	-7.762	3
40	MP2B	Mx	-.003	3
41	MP2C	Z	-7.762	3
42	MP2C	Mx	.003	3
43	MP1A	Z	-2.041	2
44	MP1A	Mx	0	2
45	MP1B	Z	-2.041	2
46	MP1B	Mx	-.000884	2
47	MP1C	Z	-2.041	2
48	MP1C	Mx	.000884	2
49	MP1A	Z	-7.331	3
50	MP1A	Mx	0	3
51	MP1B	Z	-7.331	3
52	MP1B	Mx	-.003	3
53	MP1C	Z	-7.331	3
54	MP1C	Mx	.003	3
55	M70	Z	-3.14	1
56	M70	Mx	0	1
57	MP4A	Z	-.883	.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
58	MP4A	Mx	0	.5
59	MP4A	Z	-.883	5.5
60	MP4A	Mx	0	5.5
61	MP4B	Z	-.883	.5
62	MP4B	Mx	.000382	.5
63	MP4B	Z	-.883	5.5
64	MP4B	Mx	.000382	5.5
65	MP4C	Z	-.883	.5
66	MP4C	Mx	-.000382	.5
67	MP4C	Z	-.883	5.5
68	MP4C	Mx	-.000382	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	3.106	1
2	MP1A	Mx	-.002	1
3	MP1A	X	3.106	5
4	MP1A	Mx	-.002	5
5	MP1B	X	3.106	1
6	MP1B	Mx	.003	1
7	MP1B	X	3.106	5
8	MP1B	Mx	.003	5
9	MP1C	X	3.106	1
10	MP1C	Mx	-.001	1
11	MP1C	X	3.106	5
12	MP1C	Mx	-.001	5
13	MP1A	X	3.106	1
14	MP1A	Mx	-.002	1
15	MP1A	X	3.106	5
16	MP1A	Mx	-.002	5
17	MP1B	X	3.106	1
18	MP1B	Mx	-.001	1
19	MP1B	X	3.106	5
20	MP1B	Mx	-.001	5
21	MP1C	X	3.106	1
22	MP1C	Mx	.003	1
23	MP1C	X	3.106	5
24	MP1C	Mx	.003	5
25	MP3A	X	2.812	2
26	MP3A	Mx	-.002	2
27	MP3A	X	2.812	4
28	MP3A	Mx	-.002	4
29	MP3B	X	2.812	2
30	MP3B	Mx	.000937	2
31	MP3B	X	2.812	4
32	MP3B	Mx	.000937	4
33	MP3C	X	2.812	2
34	MP3C	Mx	.000937	2
35	MP3C	X	2.812	4
36	MP3C	Mx	.000937	4
37	MP2A	X	7.762	3
38	MP2A	Mx	.004	3
39	MP2B	X	7.762	3
40	MP2B	Mx	-.002	3
41	MP2C	X	7.762	3
42	MP2C	Mx	-.002	3

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
43	MP1A	X	2.041	2
44	MP1A	Mx	.001	2
45	MP1B	X	2.041	2
46	MP1B	Mx	-.00051	2
47	MP1C	X	2.041	2
48	MP1C	Mx	-.00051	2
49	MP1A	X	7.331	3
50	MP1A	Mx	.004	3
51	MP1B	X	7.331	3
52	MP1B	Mx	-.002	3
53	MP1C	X	7.331	3
54	MP1C	Mx	-.002	3
55	M70	X	3.14	1
56	M70	Mx	0	1
57	MP4A	X	.883	.5
58	MP4A	Mx	-.000442	.5
59	MP4A	X	.883	5.5
60	MP4A	Mx	-.000442	5.5
61	MP4B	X	.883	.5
62	MP4B	Mx	.000221	.5
63	MP4B	X	.883	5.5
64	MP4B	Mx	.000221	5.5
65	MP4C	X	.883	.5
66	MP4C	Mx	.000221	.5
67	MP4C	X	.883	5.5
68	MP4C	Mx	.000221	5.5

Member Area Loads (BLC 39 : Structure D)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	Y	Two Way	-.005
2	N18	N17	N10	N14	Y	Two Way	-.005
3	N14	N10	N15	N16	Y	Two Way	-.005

Member Area Loads (BLC 40 : Structure Di)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	Y	Two Way	-.01
2	N18	N17	N10	N14	Y	Two Way	-.01
3	N14	N10	N15	N16	Y	Two Way	-.01

Member Area Loads (BLC 84 : Structure Ev)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	Y	Two Way	-.000204
2	N18	N17	N10	N14	Y	Two Way	-.000204
3	N14	N10	N15	N16	Y	Two Way	-.000204

Member Area Loads (BLC 85 : Structure Eh (0 Deg))

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	Z	Two Way	-.00051
2	N18	N17	N10	N14	Z	Two Way	-.00051
3	N14	N10	N15	N16	Z	Two Way	-.00051

Member Area Loads (BLC 86 : Structure Eh (90 Deg))

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
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Member Area Loads (BLC 86 : Structure Eh (90 Deg)) (Continued)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	X	Two Way	.00051
2	N18	N17	N10	N14	X	Two Way	.00051
3	N14	N10	N15	N16	X	Two Way	.00051

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	N2	max	3291.629	11	860.598	14	655.909	1	- .882	72	2.51	11	.238	17
2		min	-3240.818	5	284.701	71	-621.46	7	-2.664	15	-2.558	5	-.254	47
3	N77	max	1758.235	11	970.898	22	3016.654	1	1.586	13	2.555	7	2.227	16
4		min	-1754.242	5	292.978	28	-3077.671	7	.401	6	-2.603	1	.743	69
5	N109	max	1785.188	9	814.241	18	2724.716	2	1.125	16	2.489	3	-.795	64
6		min	-1839.026	3	269.829	75	-2697.195	8	.372	74	-2.537	9	-2.408	19
7	N124A	max	57.624	10	1731.37	13	-523.182	7	0	75	0	4	0	22
8		min	-57.541	4	311.283	7	-2935.682	13	0	1	0	22	0	4
9	N126	max	-458.466	3	1730.502	21	1467.109	21	0	18	0	48	0	48
10		min	-2541.03	21	314.808	3	264.671	3	0	48	0	18	0	18
11	N128	max	2543.215	17	1731.907	17	1468.281	17	0	8	0	8	0	8
12		min	453.49	11	311.553	11	261.846	11	-.001	26	0	26	0	26
13	Totals:	max	5369.847	10	7534.142	14	5384.577	1						
14		min	-5369.845	4	2422.54	72	-5384.587	7						

Joint Reactions

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N2	22.574	465.861	655.909	-1.364	-.096	.103
2	1	N77	1413.568	446.55	3016.654	1.036	-2.603	1.07
3	1	N109	-1341.584	306.309	2663.261	.498	2.132	-.901
4	1	N124A	-.101	1125.716	-1910.561	0	0	0
5	1	N126	-792.455	547.481	506.979	0	0	0
6	1	N128	698.002	485.436	452.333	0	0	0
7	1	Totals:	.004	3377.353	5384.577			
8	1	COG (ft):	X: .021	Y: .601	Z: 0			
9	2	N2	-2127.333	487.05	505.249	-1.439	-1.983	.178
10	2	N77	670.021	404.525	2290.321	.933	-2.133	1.077
11	2	N109	-1621.592	332.851	2724.716	.514	2.014	-.94
12	2	N124A	-16.349	1086.862	-1837.618	0	0	0
13	2	N126	-558.974	383.706	341.509	0	0	0
14	2	N128	969.318	682.362	626.168	0	0	0
15	2	Totals:	-2684.91	3377.356	4650.344			
16	2	COG (ft):	X: .021	Y: .601	Z: 0			
17	3	N2	-2969.772	481.175	223.146	-1.448	-2.204	.192
18	3	N77	-611.108	366.342	323.406	.745	.035	1.078
19	3	N109	-1839.026	367.584	2690.648	.563	2.489	-.996
20	3	N124A	-42.418	954.433	-1607.112	0	0	0
21	3	N126	-458.466	314.808	264.671	0	0	0
22	3	N128	1276.787	893.013	786.419	0	0	0
23	3	Totals:	-4644.003	3377.356	2681.179			
24	3	COG (ft):	X: .021	Y: .601	Z: 0			
25	4	N2	-3167.752	455.139	-12.329	-1.405	-2.087	.191
26	4	N77	-1572.349	346.392	-1645.587	.565	1.939	1.082
27	4	N109	-1579.59	406.949	1750.93	.598	2.044	-1.091
28	4	N124A	-57.541	758.45	-1286.44	0	0	0
29	4	N126	-529.696	353.797	287.067	0	0	0
30	4	N128	1537.083	1056.627	906.356	0	0	0
31	4	Totals:	-5369.845	3377.353	-.003			

Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
32	4	COG (ft):	X: .021	Y: .601	Z: 0		
33	5	N2	-3240.818	419.312	-239.118	-1.331	-2.558
34	5	N77	-1754.242	354.427	-2562.356	.455	2.184
35	5	N109	-538.31	445.168	-287.107	.583	-.098
36	5	N124A	-42.826	546.46	-937.975	0	0
37	5	N126	-741.838	486.158	378.956	0	0
38	5	N128	1654.804	1125.824	955.299	0	0
39	5	Totals:	-4663.23	3377.349	-2692.302		
40	5	COG (ft):	X: .021	Y: .601	Z: 0		
41	6	N2	-2281.28	378.752	-498.845	-1.233	-2.105
42	6	N77	-1621.415	383.52	-2893.75	.401	2.086
43	6	N109	649.219	466.203	-2056.881	.556	-1.974
44	6	N124A	-16.264	380.957	-650.005	0	0
45	6	N126	-1025.406	681.354	525.479	0	0
46	6	N128	1599.132	1086.556	904.396	0	0
47	6	Totals:	-2696.014	3377.343	-4669.605		
48	6	COG (ft):	X: .021	Y: .601	Z: 0		
49	7	N2	24.719	340.868	-621.46	-1.128	.045
50	7	N77	-1410.973	420.741	-3077.671	.405	2.555
51	7	N109	1290.808	460.355	-2638.67	.55	-2.185
52	7	N124A	.024	311.283	-523.182	0	0
53	7	N126	-1315.967	890.725	710.5	0	0
54	7	N128	1411.388	953.367	765.896	0	0
55	7	Totals:	-.001	3377.339	-5384.587		
56	7	COG (ft):	X: .021	Y: .601	Z: 0		
57	8	N2	2172.403	320.404	-471.85	-1.054	1.929
58	8	N77	-665.544	461.536	-2351.816	.508	2.086
59	8	N109	1569.762	434.387	-2697.195	.531	-2.064
60	8	N124A	16.243	350.64	-596.714	0	0
61	8	N126	-1548.554	1053.406	875.134	0	0
62	8	N128	1140.603	756.964	592.087	0	0
63	8	Totals:	2684.912	3377.336	-4650.354		
64	8	COG (ft):	X: .021	Y: .601	Z: 0		
65	9	N2	3016.154	326.959	-191.516	-1.042	2.151
66	9	N77	616.998	500.197	-382.233	.696	-.085
67	9	N109	1785.188	398.481	-2662.715	.477	-2.537
68	9	N124A	42.737	483.963	-828.07	0	0
69	9	N126	-1649.285	1122.27	952.318	0	0
70	9	N128	832.214	545.466	431.027	0	0
71	9	Totals:	4644.005	3377.336	-2681.189		
72	9	COG (ft):	X: .021	Y: .601	Z: 0		
73	10	N2	3217.212	353.555	43.412	-1.083	2.037
74	10	N77	1578.483	520.864	1589.24	.872	-1.992
75	10	N109	1524.343	357.856	-1724.406	.442	-2.091
76	10	N124A	57.624	680.498	-1149.264	0	0
77	10	N126	-1578.581	1083.8	930.263	0	0
78	10	N128	570.766	380.766	310.749	0	0
79	10	Totals:	5369.847	3377.339	-.007		
80	10	COG (ft):	X: .021	Y: .601	Z: 0		
81	11	N2	3291.629	388.199	271.737	-1.156	2.51
82	11	N77	1758.235	513.475	2505.735	.98	-2.236
83	11	N109	484.619	320.108	311.1	.463	.047
84	11	N124A	42.666	891.667	-1496.577	0	0
85	11	N126	-1367.406	952.342	838.45	0	0
86	11	N128	453.49	311.553	261.846	0	0
87	11	Totals:	4663.233	3377.343	2692.292		
88	11	COG (ft):	X: .021	Y: .601	Z: 0		

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
	89	12	N2	2331.557	427.503	533.384	-1.254	2.057	.023
	90	12	N77	1623.401	484.918	2834.692	1.036	-2.135	1.043
	91	12	N109	-700.888	299.783	2079.469	.494	1.919	-.92
	92	12	N124A	16.378	1056.091	-1783.394	0	0	0
	93	12	N126	-1084.173	757.696	692.394	0	0	0
	94	12	N128	509.741	351.358	313.05	0	0	0
	95	12	Totals:	2696.017	3377.348	4669.596			
	96	12	COG (ft):	X: .021	Y: .601	Z: 0			
	97	13	N2	48.04	855.857	218.56	-2.646	-.058	.213
	98	13	N77	328.66	954.98	596.776	1.586	-.603	2.22
	99	13	N109	-357.013	780.165	599.669	1.103	.432	-2.31
	100	13	N124A	-.043	1731.37	-2935.682	0	0	0
	101	13	N126	-2364.526	1612.337	1376.57	0	0	0
	102	13	N128	2344.885	1599.432	1365.12	0	0	0
	103	13	Totals:	.003	7534.141	1221.012			
	104	13	COG (ft):	X: .029	Y: .572	Z: -.004			
	105	14	N2	-428.923	860.598	183.802	-2.662	-.478	.231
	106	14	N77	160.456	946.38	445.094	1.563	-.507	2.224
	107	14	N109	-420.604	785.864	603.605	1.107	.397	-2.319
	108	14	N124A	-3.629	1723.256	-2920.053	0	0	0
	109	14	N126	-2315.964	1578.319	1341.318	0	0	0
	110	14	N128	2399.714	1639.726	1400.941	0	0	0
	111	14	Totals:	-608.95	7534.142	1054.708			
	112	14	COG (ft):	X: .029	Y: .572	Z: -.004			
	113	15	N2	-619.554	859.269	115.291	-2.664	-.536	.235
	114	15	N77	-121.717	938.058	20.242	1.52	-.042	2.226
	115	15	N109	-470.688	793.104	586.571	1.118	.489	-2.332
	116	15	N124A	-9.81	1696.159	-2872.527	0	0	0
	117	15	N126	-2294.963	1564.112	1324.995	0	0	0
	118	15	N128	2463.355	1683.44	1433.577	0	0	0
	119	15	Totals:	-1053.377	7534.142	608.149			
	120	15	COG (ft):	X: .029	Y: .572	Z: -.004			
	121	16	N2	-656.983	853.581	54.775	-2.653	-.503	.234
	122	16	N77	-333.695	933.473	-417.333	1.477	.382	2.227
	123	16	N109	-422.049	801.301	382.03	1.125	.399	-2.352
	124	16	N124A	-13.427	1655.982	-2807.318	0	0	0
	125	16	N126	-2310.194	1572.171	1329.649	0	0	0
	126	16	N128	2518.456	1717.633	1458.191	0	0	0
	127	16	Totals:	-1217.891	7534.141	-.007			
	128	16	COG (ft):	X: .029	Y: .572	Z: -.004			
	129	17	N2	-665.597	846.311	-4.381	-2.637	-.595	.238
	130	17	N77	-370.364	935.206	-626.418	1.451	.445	2.225
	131	17	N109	-200.692	809.533	-60.22	1.121	-.059	-2.382
	132	17	N124A	-9.879	1612.112	-2735.626	0	0	0
	133	17	N126	-2354.123	1599.07	1347.851	0	0	0
	134	17	N128	2543.215	1731.907	1468.281	0	0	0
	135	17	Totals:	-1057.439	7534.14	-610.512			
	136	17	COG (ft):	X: .029	Y: .572	Z: -.004			
	137	18	N2	-458.876	838.085	-69.718	-2.616	-.502	.234
	138	18	N77	-330.419	941.536	-697.655	1.438	.415	2.217
	139	18	N109	62.244	814.241	-450.519	1.114	-.475	-2.405
	140	18	N124A	-3.629	1577.671	-2675.198	0	0	0
	141	18	N126	-2411.905	1638.935	1377.045	0	0	0
	142	18	N128	2531.289	1723.671	1457.255	0	0	0
	143	18	Totals:	-611.297	7534.139	-1058.79			
	144	18	COG (ft):	X: .029	Y: .572	Z: -.004			
	145	19	N2	42.098	829.844	-100.908	-2.592	-.041	.216



Company : Colliers Engineering & Design
 Designer :
 Job Number :
 Model Name : 5000392577-VZW_MT_LO_H

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Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
146	19	N77	-272.858	949.39	-735.917	1.438	.506	2.208
147	19	N109	209.308	812.918	-579.241	1.112	-.53	-2.408
148	19	N124A	.006	1563.264	-2648.499	0	0	0
149	19	N126	-2471.498	1682.328	1415.559	0	0	0
150	19	N128	2492.945	1696.393	1427.98	0	0	0
151	19	Totals:	.001	7534.138	-1221.027			
152	19	COG (ft):	X: .029	Y: .572	Z: -.004			
153	20	N2	518.958	825.122	-66.205	-2.576	.379	.198
154	20	N77	-104.562	957.95	-584.256	1.461	.41	2.204
155	20	N109	272.849	807.244	-583.043	1.107	-.495	-2.399
156	20	N124A	3.59	1571.399	-2664.153	0	0	0
157	20	N126	-2520.021	1716.298	1450.773	0	0	0
158	20	N128	2438.14	1656.123	1392.16	0	0	0
159	20	Totals:	608.955	7534.138	-1054.723			
160	20	COG (ft):	X: .029	Y: .572	Z: -.004			
161	21	N2	709.651	826.474	2.226	-2.575	.437	.194
162	21	N77	177.671	966.295	-159.28	1.504	-.055	2.203
163	21	N109	322.839	799.958	-565.991	1.096	-.588	-2.387
164	21	N124A	9.79	1598.536	-2711.717	0	0	0
165	21	N126	-2541.03	1730.502	1467.109	0	0	0
166	21	N128	2374.46	1612.373	1359.489	0	0	0
167	21	Totals:	1053.382	7534.138	-608.164			
168	21	COG (ft):	X: .029	Y: .572	Z: -.004			
169	22	N2	747.223	832.185	62.719	-2.585	.403	.194
170	22	N77	389.656	970.898	278.413	1.546	-.479	2.201
171	22	N109	274.133	791.721	-361.52	1.089	-.497	-2.366
172	22	N124A	13.397	1638.739	-2776.949	0	0	0
173	22	N126	-2525.821	1722.465	1462.47	0	0	0
174	22	N128	2319.309	1578.131	1334.86	0	0	0
175	22	Totals:	1217.896	7534.138	-.008			
176	22	COG (ft):	X: .029	Y: .572	Z: -.004			
177	23	N2	755.898	839.409	121.948	-2.601	.495	.191
178	23	N77	426.228	969.185	487.482	1.573	-.542	2.203
179	23	N109	52.85	783.51	80.617	1.093	-.04	-2.336
180	23	N124A	9.837	1682.573	-2848.594	0	0	0
181	23	N126	-2481.936	1695.607	1444.272	0	0	0
182	23	N128	2294.567	1563.855	1324.772	0	0	0
183	23	Totals:	1057.443	7534.139	610.497			
184	23	COG (ft):	X: .029	Y: .572	Z: -.004			
185	24	N2	549.148	847.595	187.378	-2.622	.403	.194
186	24	N77	386.191	962.877	558.605	1.586	-.512	2.211
187	24	N109	-209.988	778.82	470.854	1.1	.376	-2.313
188	24	N124A	3.6	1716.967	-2908.971	0	0	0
189	24	N126	-2424.169	1655.766	1415.099	0	0	0
190	24	N128	2306.519	1572.114	1335.81	0	0	0
191	24	Totals:	611.301	7534.14	1058.775			
192	24	COG (ft):	X: .029	Y: .572	Z: -.004			
193	25	N2	-805.053	496.36	120.916	-1.696	-.709	.231
194	25	N77	-357.288	298.651	-617.158	.708	.443	.769
195	25	N109	-128.062	378.829	177.198	.518	.078	-1.113
196	25	N124A	.022	748.904	-1268.182	0	0	0
197	25	N126	-992.938	679.056	576.22	0	0	0
198	25	N128	2283.32	1525.544	1321.156	-.001	0	0
199	25	Totals:	0	4127.343	310.149			
200	25	COG (ft):	X: 1.08	Y: .492	Z: .753			
201	26	N2	-928.725	497.634	112.233	-1.7	-.818	.236
202	26	N77	-400.177	296.294	-658.856	.702	.47	.77

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
	203	26	N109	-144.165	380.335	180.665	.519	.071	-1.115
	204	26	N124A	-.913	746.66	-1263.978	0	0	0
	205	26	N126	-979.512	669.648	566.708	0	0	0
	206	26	N128	2298.833	1536.771	1331.087	-.001	0	0
	207	26	Totals:	-154.658	4127.343	267.859			
	208	26	COG (ft):	X: 1.08	Y: .492	Z: .753			
	209	27	N2	-977.16	497.334	95.997	-1.701	-.831	.237
	210	27	N77	-474.036	294.124	-772.152	.691	.595	.77
	211	27	N109	-156.627	382.364	178.682	.522	.098	-1.118
	212	27	N124A	-2.426	739.009	-1250.681	0	0	0
	213	27	N126	-973.706	665.673	562.266	0	0	0
	214	27	N128	2316.464	1548.841	1340.318	-.001	0	0
	215	27	Totals:	-267.49	4127.343	154.431			
	216	27	COG (ft):	X: 1.08	Y: .492	Z: .753			
	217	28	N2	-988.588	495.856	82.433	-1.699	-.824	.237
	218	28	N77	-529.45	292.978	-885.609	.681	.704	.77
	219	28	N109	-141.645	384.668	124.593	.524	.072	-1.124
	220	28	N124A	-3.291	727.705	-1232.197	0	0	0
	221	28	N126	-977.766	667.886	563.531	0	0	0
	222	28	N128	2331.44	1558.25	1347.243	-.001	0	0
	223	28	Totals:	-309.3	4127.343	-.006			
	224	28	COG (ft):	X: 1.08	Y: .492	Z: .753			
	225	29	N2	-992.82	493.833	69.339	-1.694	-.851	.238
	226	29	N77	-539.896	293.441	-938.403	.675	.718	.769
	227	29	N109	-81.716	386.859	7.279	.523	-.051	-1.132
	228	29	N124A	-2.437	715.513	-1212.153	0	0	0
	229	29	N126	-989.937	675.473	568.808	0	0	0
	230	29	N128	2338.21	1562.224	1350.047	-.001	0	0
	231	29	Totals:	-268.597	4127.343	-155.083			
	232	29	COG (ft):	X: 1.08	Y: .492	Z: .753			
	233	30	N2	-937.566	491.493	54.35	-1.689	-.825	.237
	234	30	N77	-532.203	295.128	-957.472	.671	.713	.767
	235	30	N109	-13.37	388.052	-94.632	.522	-.159	-1.138
	236	30	N124A	-.916	705.998	-1195.579	0	0	0
	237	30	N126	-1006.258	686.701	577.234	0	0	0
	238	30	N128	2335.013	1559.97	1347.119	-.001	0	0
	239	30	Totals:	-155.299	4127.343	-268.979			
	240	30	COG (ft):	X: 1.08	Y: .492	Z: .753			
	241	31	N2	-804.709	489.226	47.316	-1.682	-.701	.232
	242	31	N77	-520.098	297.309	-968.125	.672	.74	.766
	243	31	N109	23.568	387.702	-128.213	.521	-.171	-1.139
	244	31	N124A	.028	701.974	-1188.243	0	0	0
	245	31	N126	-1023.028	698.789	587.907	0	0	0
	246	31	N128	2324.24	1552.343	1339.196	-.001	0	0
	247	31	Totals:	0	4127.342	-310.161			
	248	31	COG (ft):	X: 1.08	Y: .492	Z: .753			
	249	32	N2	-681.044	487.954	55.996	-1.678	-.593	.227
	250	32	N77	-477.203	299.662	-926.428	.678	.713	.765
	251	32	N109	39.667	386.197	-131.671	.52	-.164	-1.136
	252	32	N124A	.963	704.22	-1192.449	0	0	0
	253	32	N126	-1036.452	708.193	597.416	0	0	0
	254	32	N128	2308.728	1541.117	1329.265	-.001	0	0
	255	32	Totals:	154.659	4127.342	-267.871			
	256	32	COG (ft):	X: 1.08	Y: .492	Z: .753			
	257	33	N2	-632.605	488.256	72.226	-1.677	-.58	.226
	258	33	N77	-403.34	301.834	-813.123	.689	.588	.765
	259	33	N109	52.122	384.165	-129.687	.517	-.192	-1.133



Company : Colliers Engineering & Design
 Designer :
 Job Number :
 Model Name : 5000392577-VZW_MT_LO_H

Feb 4, 2024
 2:55 PM
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Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
260	33	N124A	2.477	711.874	-1205.749	0	0	0
261	33	N126	-1042.258	712.168	601.859	0	0	0
262	33	N128	2291.094	1529.045	1320.031	-0.001	0	0
263	33	Totals:	267.49	4127.342	-154.443			
264	33	COG (ft):	X: 1.08	Y: .492	Z: .753			
265	34	N2	-621.167	489.736	85.788	-1.68	-.587	.226
266	34	N77	-347.925	302.982	-699.659	.699	.478	.765
267	34	N109	37.136	381.857	-75.602	.515	-.166	-1.128
268	34	N124A	3.342	723.18	-1224.234	0	0	0
269	34	N126	-1038.2	709.956	600.595	0	0	0
270	34	N128	2276.114	1519.632	1313.106	-0.001	0	0
271	34	Totals:	309.3	4127.342	-.006			
272	34	COG (ft):	X: 1.08	Y: .492	Z: .753			
273	35	N2	-616.93	491.755	98.887	-1.684	-.559	.225
274	35	N77	-337.485	302.521	-646.865	.705	.464	.766
275	35	N109	-22.788	379.667	41.704	.516	-.043	-1.12
276	35	N124A	2.487	735.369	-1244.275	0	0	0
277	35	N126	-1026.032	702.373	595.318	0	0	0
278	35	N128	2269.346	1515.658	1310.301	-0.001	0	0
279	35	Totals:	268.598	4127.343	155.07			
280	35	COG (ft):	X: 1.08	Y: .492	Z: .753			
281	36	N2	-672.187	494.091	113.883	-1.69	-.585	.226
282	36	N77	-345.185	300.835	-627.805	.708	.47	.768
283	36	N109	-91.128	378.476	143.609	.518	.065	-1.114
284	36	N124A	.966	744.88	-1260.845	0	0	0
285	36	N126	-1009.713	691.146	586.894	0	0	0
286	36	N128	2272.545	1517.914	1313.23	-0.001	0	0
287	36	Totals:	155.299	4127.343	268.967			
288	36	COG (ft):	X: 1.08	Y: .492	Z: .753			
289	37	N2	453.965	811.413	96.96	-2.554	.352	-.249
290	37	N77	101.108	430.178	160.805	.734	-.155	1.035
291	37	N109	159.924	292.308	-246.202	.481	-.218	-.888
292	37	N124A	-.011	754.055	-1277.311	0	0	0
293	37	N126	-1717.241	1154.255	994.345	0	0	0
294	37	N128	1002.257	685.127	581.55	0	0	0
295	37	Totals:	.001	4127.336	310.148			
296	37	COG (ft):	X: -.616	Y: .492	Z: .753			
297	38	N2	330.243	812.558	88.328	-2.558	.243	-.244
298	38	N77	58.231	427.796	118.981	.728	-.128	1.035
299	38	N109	143.839	293.81	-242.83	.482	-.225	-.89
300	38	N124A	-.946	751.797	-1273.083	0	0	0
301	38	N126	-1703.892	1144.918	984.899	0	0	0
302	38	N128	1017.869	696.457	591.563	0	0	0
303	38	Totals:	-154.657	4127.336	267.858			
304	38	COG (ft):	X: -.616	Y: .492	Z: .753			
305	39	N2	281.739	812.198	72.142	-2.559	.231	-.243
306	39	N77	-15.583	425.594	5.631	.717	-.003	1.035
307	39	N109	131.385	295.837	-244.843	.485	-.197	-.893
308	39	N124A	-2.459	744.139	-1259.772	0	0	0
309	39	N126	-1698.136	1140.978	980.478	0	0	0
310	39	N128	1035.565	708.589	600.793	0	0	0
311	39	Totals:	-267.489	4127.336	154.43			
312	39	COG (ft):	X: -.616	Y: .492	Z: .753			
313	40	N2	270.257	810.745	58.601	-2.556	.237	-.243
314	40	N77	-70.93	424.434	-107.81	.707	.106	1.035
315	40	N109	146.381	298.123	-298.921	.487	-.223	-.898
316	40	N124A	-3.323	732.84	-1241.295	0	0	0

Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
317	40	N126	-1702.206	1143.194	981.747	0	0
318	40	N128	1050.523	718.001	607.673	0	0
319	40	Totals:	-309.299	4127.336	-0.007		
320	40	COG (ft):	X: -.616	Y: .492	Z: .753		
321	41	N2	265.969	808.801	45.492	-2.552	.21
322	41	N77	-81.328	424.883	-160.575	.701	.121
323	41	N109	206.33	300.3	-416.206	.486	-.346
324	41	N124A	-2.469	720.661	-1221.272	0	0
325	41	N126	-1714.329	1150.743	987.022	0	0
326	41	N128	1057.23	721.947	610.456	0	0
327	41	Totals:	-268.596	4127.336	-155.083		
328	41	COG (ft):	X: -.616	Y: .492	Z: .753		
329	42	N2	321.165	806.575	30.467	-2.547	.236
330	42	N77	-73.616	426.544	-179.588	.698	.115
331	42	N109	274.68	301.511	-518.043	.485	-.454
332	42	N124A	-.947	711.159	-1204.72	0	0
333	42	N126	-1730.556	1161.896	995.406	0	0
334	42	N128	1053.976	719.649	607.497	0	0
335	42	Totals:	-155.297	4127.335	-268.98		
336	42	COG (ft):	X: -.616	Y: .492	Z: .753		
337	43	N2	454.007	804.451	23.392	-2.541	.36
338	43	N77	-61.507	428.716	-190.126	.698	.142
339	43	N109	311.599	301.186	-551.506	.484	-.466
340	43	N124A	-.003	707.148	-1197.407	0	0
341	43	N126	-1747.226	1173.893	1005.998	0	0
342	43	N128	1043.132	711.941	599.487	0	0
343	43	Totals:	.001	4127.335	-310.162		
344	43	COG (ft):	X: -.616	Y: .492	Z: .753		
345	44	N2	577.721	803.308	32.021	-2.536	.469
346	44	N77	-18.624	431.094	-148.303	.704	.115
347	44	N109	327.681	299.687	-554.868	.483	-.459
348	44	N124A	.932	709.407	-1201.637	0	0
349	44	N126	-1760.572	1183.226	1015.442	0	0
350	44	N128	1027.522	700.613	589.474	0	0
351	44	Totals:	154.66	4127.335	-267.871		
352	44	COG (ft):	X: -.616	Y: .492	Z: .753		
353	45	N2	626.23	803.67	48.201	-2.536	.481
354	45	N77	55.194	433.298	-34.945	.715	-.01
355	45	N109	340.128	297.655	-552.854	.48	-.487
356	45	N124A	2.446	717.068	-1214.951	0	0
357	45	N126	-1766.329	1187.165	1019.863	0	0
358	45	N128	1009.822	688.478	580.241	0	0
359	45	Totals:	267.492	4127.335	-154.444		
360	45	COG (ft):	X: -.616	Y: .492	Z: .753		
361	46	N2	637.722	805.125	61.74	-2.538	.475
362	46	N77	110.543	434.46	78.505	.725	-.12
363	46	N109	325.127	295.366	-498.78	.478	-.461
364	46	N124A	3.309	728.37	-1233.429	0	0
365	46	N126	-1762.261	1184.951	1018.596	0	0
366	46	N128	994.86	679.063	573.361	0	0
367	46	Totals:	309.301	4127.335	-.007		
368	46	COG (ft):	X: -.616	Y: .492	Z: .753		
369	47	N2	642.014	807.065	74.854	-2.542	.502
370	47	N77	120.933	434.013	131.269	.731	-.134
371	47	N109	265.183	293.19	-381.504	.479	-.338
372	47	N124A	2.455	740.546	-1253.448	0	0
373	47	N126	-1750.141	1177.405	1013.321	0	0



Company : Colliers Engineering & Design
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 Model Name : 5000392577-VZW_MT_LO_H

Feb 4, 2024
 2:55 PM
 Checked By: _____

Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
374	47	N128	988.155	675.117	570.578	0	0
375	47	Totals:	268.599	4127.335	155.07		
376	47	COG (ft):	X: -.616	Y: .492	Z: .753		
377	48	N2	586.817	809.286	89.885	-2.548	.476
378	48	N77	113.214	432.353	150.274	.734	-.128
379	48	N109	196.84	291.981	-279.672	.481	-.23
380	48	N124A	.933	750.044	-1269.997	0	0
381	48	N126	-1733.915	1166.254	1004.938	0	0
382	48	N128	991.411	677.416	573.537	0	0
383	48	Totals:	155.3	4127.336	268.966		
384	48	COG (ft):	X: -.616	Y: .492	Z: .753		
385	49	N2	23.272	733.629	13.794	-2.264	-.026
386	49	N77	-11.553	426.581	-48.8	.712	-.009
387	49	N109	-12.342	375.927	-7.506	.517	-.042
388	49	N124A	-.003	722.63	-1223.396	0	0
389	49	N126	-1095.986	746.583	632.775	0	0
390	49	N128	1096.613	746.992	633.129	0	0
391	49	Totals:	.001	3752.344	-.005		
392	49	COG (ft):	X: .019	Y: .541	Z: .414		
393	50	N2	-524.698	334.07	40.955	-1.184	-.444
394	50	N77	-248.724	365.344	-515.629	.744	.394
395	50	N109	-34.975	384.968	6.997	.524	-.025
396	50	N124A	.035	712.184	-1204.938	0	0
397	50	N126	-1044.31	712.724	602.979	0	0
398	50	N128	1852.671	1243.054	1069.633	0	0
399	50	Totals:	0	3752.345	-.003		
400	50	COG (ft):	X: .736	Y: .541	Z: .414		
401	51	N2	27.314	469.639	20.146	-1.453	-.03
402	51	N77	3.632	504.486	-34.126	.839	-.03
403	51	N109	-31.236	445.451	13.755	.61	-.03
404	51	N124A	-.004	840.137	-1422.186	0	0
405	51	N126	-1231.692	840.166	711.123	0	0
406	51	N128	1231.987	840.357	711.283	0	0
407	51	Totals:	.001	3940.237	-.006		
408	51	COG (ft):	X: .021	Y: .601	Z: 0		
409	52	N2	28.07	418.725	54.083	-1.292	-.023
410	52	N77	65.054	447.561	116.118	.755	-.144
411	52	N109	-88.05	390.251	150.746	.539	.087
412	52	N124A	-.003	763.197	-1291.055	0	0
413	52	N126	-1078.052	735.705	624.606	0	0
414	52	N128	1072.982	732.375	621.67	0	0
415	52	Totals:	.001	3487.815	276.168		
416	52	COG (ft):	X: .021	Y: .601	Z: 0		
417	53	N2	-61.141	419.806	49.045	-1.296	-.09
418	53	N77	20.709	445.324	67.368	.75	-.096
419	53	N109	-115.763	391.355	164.128	.54	.106
420	53	N124A	-1.097	761.596	-1288.528	0	0
421	53	N126	-1067.177	727.855	617.403	0	0
422	53	N128	1086.381	741.879	629.745	0	0
423	53	Totals:	-138.087	3487.815	239.161		
424	53	COG (ft):	X: .021	Y: .601	Z: 0		
425	54	N2	-127.483	419.794	35.65	-1.297	-.14
426	54	N77	-28.315	443.422	-7.52	.743	-.03
427	54	N109	-119.87	393.251	136.795	.542	.09
428	54	N124A	-1.898	755.19	-1278.046	0	0
429	54	N126	-1062.479	724.248	613.427	0	0
430	54	N128	1100.877	751.911	637.776	0	0

Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
431	54	Totals:	-239.167	3487.815	138.081		
432	54	COG (ft):	X: .021	Y: .601	Z: 0		
433	55	N2	-153.194	418.691	17.485	-1.295	-.16
434	55	N77	-68.893	442.365	-88.497	.736	.038
435	55	N109	-99.272	395.432	76.065	.543	.042
436	55	N124A	-2.191	745.693	-1262.416	0	0
437	55	N126	-1065.216	725.85	613.744	0	0
438	55	N128	1112.591	759.784	643.614	0	0
439	55	Totals:	-276.175	3487.815	-.005		
440	55	COG (ft):	X: .021	Y: .601	Z: 0		
441	56	N2	-131.37	416.793	-.581	-1.291	-.143
442	56	N77	-90.144	442.435	-153.858	.731	.088
443	56	N109	-59.481	397.316	-1.79	.543	-.024
444	56	N124A	-1.899	735.649	-1245.826	0	0
445	56	N126	-1074.655	732.232	618.268	0	0
446	56	N128	1118.381	763.389	645.694	0	0
447	56	Totals:	-239.167	3487.815	-138.092		
448	56	COG (ft):	X: .021	Y: .601	Z: 0		
449	57	N2	-67.877	414.609	-13.708	-1.286	-.096
450	57	N77	-86.377	443.614	-186.09	.729	.108
451	57	N109	-11.17	398.396	-75.897	.543	-.09
452	57	N124A	-1.098	727.753	-1232.723	0	0
453	57	N126	-1088.264	741.681	625.787	0	0
454	57	N128	1116.699	761.762	643.46	0	0
455	57	Totals:	-138.087	3487.814	-239.171		
456	57	COG (ft):	X: .021	Y: .601	Z: 0		
457	58	N2	20.285	412.725	-18.381	-1.28	-.03
458	58	N77	-58.6	445.584	-176.56	.731	.092
459	58	N109	32.725	398.383	-126.413	.542	-.14
460	58	N124A	-.004	724.118	-1226.618	0	0
461	58	N126	-1102.398	751.667	634.286	0	0
462	58	N128	1107.993	755.336	637.509	0	0
463	58	Totals:	.001	3487.814	-276.178		
464	58	COG (ft):	X: .021	Y: .601	Z: 0		
465	59	N2	109.493	411.647	-13.346	-1.276	.037
466	59	N77	-14.251	447.82	-127.808	.736	.044
467	59	N109	60.433	397.28	-139.788	.54	-.159
468	59	N124A	1.091	725.721	-1229.149	0	0
469	59	N126	-1113.27	759.514	641.487	0	0
470	59	N128	1094.593	745.832	629.434	0	0
471	59	Totals:	138.089	3487.814	-239.171		
472	59	COG (ft):	X: .021	Y: .601	Z: 0		
473	60	N2	175.839	411.661	.047	-1.275	.087
474	60	N77	34.777	449.722	-52.914	.743	-.023
475	60	N109	64.537	395.381	-112.453	.539	-.143
476	60	N124A	1.892	732.131	-1239.634	0	0
477	60	N126	-1117.968	763.12	645.463	0	0
478	60	N128	1080.094	735.799	621.4	0	0
479	60	Totals:	239.17	3487.814	-138.091		
480	60	COG (ft):	X: .021	Y: .601	Z: 0		
481	61	N2	201.557	412.764	18.212	-1.277	.107
482	61	N77	75.355	450.781	28.068	.75	-.09
483	61	N109	43.938	393.198	-51.728	.538	-.095
484	61	N124A	2.185	741.628	-1255.264	0	0
485	61	N126	-1115.235	761.521	645.148	0	0
486	61	N128	1068.377	727.922	615.56	0	0
487	61	Totals:	276.177	3487.814	-.005		



Company : Colliers Engineering & Design
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Feb 4, 2024
 2:55 PM
 Checked By: _____

Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
488	61 COG (ft):	X: .021	Y: .601	Z: 0			
489	62 N2	179.737	414.66	36.281	-1.281	.09	.105
490	62 N77	96.602	450.713	93.427	.755	-.141	1.076
491	62 N109	4.151	391.314	26.121	.537	-.029	-1.156
492	62 N124A	1.892	751.669	-1271.851	0	0	0
493	62 N126	-1105.799	755.142	640.624	0	0	0
494	62 N128	1062.587	724.317	613.48	0	0	0
495	62 Totals:	239.17	3487.814	138.082			
496	62 COG (ft):	X: .021	Y: .601	Z: 0			
497	63 N2	116.24	416.841	49.41	-1.286	.043	.107
498	63 N77	92.831	449.534	125.652	.757	-.161	1.076
499	63 N109	-44.156	390.236	100.226	.538	.037	-1.151
500	63 N124A	1.091	759.563	-1284.95	0	0	0
501	63 N126	-1092.189	745.693	633.106	0	0	0
502	63 N128	1064.273	725.947	615.717	0	0	0
503	63 Totals:	138.089	3487.815	239.161			
504	63 COG (ft):	X: .021	Y: .601	Z: 0			
505	64 N2	20.668	291.761	48.663	-.899	-.015	.076
506	64 N77	64.073	311.187	125.3	.528	-.136	.748
507	64 N109	-79.617	269.842	146.999	.374	.095	-.795
508	64 N124A	-.001	536.042	-906.466	0	0	0
509	64 N126	-744.991	508.536	432.318	0	0	0
510	64 N128	739.87	505.173	429.357	0	0	0
511	64 Totals:	.001	2422.541	276.17			
512	64 COG (ft):	X: .021	Y: .601	Z: 0			
513	65 N2	-68.524	292.842	43.624	-.903	-.082	.079
514	65 N77	19.731	308.953	76.555	.523	-.088	.747
515	65 N109	-107.323	270.942	160.368	.375	.114	-.796
516	65 N124A	-1.098	534.436	-903.932	0	0	0
517	65 N126	-734.132	500.691	425.121	0	0	0
518	65 N128	753.26	514.677	437.427	0	0	0
519	65 Totals:	-138.087	2422.541	239.162			
520	65 COG (ft):	X: .021	Y: .601	Z: 0			
521	66 N2	-134.847	292.831	30.228	-.904	-.132	.081
522	66 N77	-29.286	307.054	1.679	.516	-.022	.746
523	66 N109	-111.429	272.833	133.031	.377	.098	-.799
524	66 N124A	-1.902	528.027	-893.453	0	0	0
525	66 N126	-729.447	497.09	421.149	0	0	0
526	66 N128	767.743	524.706	445.449	0	0	0
527	66 Totals:	-239.168	2422.541	138.083			
528	66 COG (ft):	X: .021	Y: .601	Z: 0			
529	67 N2	-160.544	291.732	12.062	-.903	-.152	.082
530	67 N77	-69.854	305.998	-79.282	.509	.046	.744
531	67 N109	-90.833	275.01	72.305	.378	.05	-.805
532	67 N124A	-2.196	518.53	-877.833	0	0	0
533	67 N126	-732.191	498.697	421.466	0	0	0
534	67 N128	779.443	532.574	451.277	0	0	0
535	67 Totals:	-276.175	2422.541	-.004			
536	67 COG (ft):	X: .021	Y: .601	Z: 0			
537	68 N2	-138.715	289.839	-6.005	-.898	-.135	.081
538	68 N77	-91.094	306.066	-144.626	.504	.096	.743
539	68 N109	-51.05	276.891	-5.537	.378	-.015	-.811
540	68 N124A	-1.902	508.489	-861.258	0	0	0
541	68 N126	-741.63	505.082	425.988	0	0	0
542	68 N128	785.224	536.174	453.348	0	0	0
543	68 Totals:	-239.168	2422.541	-138.09			
544	68 COG (ft):	X: .021	Y: .601	Z: 0			

Joint Reactions (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
545	69	N2	-75.228	287.659	-19.132	-.893	-.088
546	69	N77	-87.32	307.241	-176.846	.502	.116
547	69	N109	-2.748	277.971	-79.627	.378	-.082
548	69	N124A	-1.099	500.597	-848.172	0	0
549	69	N126	-755.23	514.531	433.5	0	0
550	69	N128	783.538	534.541	451.108	0	0
551	69	Totals:	-138.087	2422.541	-239.169		
552	69	COG (ft):	X: .021	Y: .601	Z: 0		
553	70	N2	12.92	285.779	-23.805	-.888	-.022
554	70	N77	-59.539	309.206	-167.313	.504	.1
555	70	N109	41.138	277.96	-130.126	.377	-.132
556	70	N124A	-.002	496.969	-842.08	0	0
557	70	N126	-769.35	524.515	441.992	0	0
558	70	N128	774.835	528.113	445.155	0	0
559	70	Totals:	0	2422.54	-276.177		
560	70	COG (ft):	X: .021	Y: .601	Z: 0		
561	71	N2	102.108	284.701	-18.769	-.884	.045
562	71	N77	-15.193	311.437	-118.566	.509	.052
563	71	N109	68.84	276.86	-143.489	.375	-.151
564	71	N124A	1.096	498.577	-844.618	0	0
565	71	N126	-780.207	532.356	449.187	0	0
566	71	N128	761.445	518.609	437.085	0	0
567	71	Totals:	138.089	2422.54	-239.169		
568	71	COG (ft):	X: .021	Y: .601	Z: 0		
569	72	N2	168.435	284.713	-5.375	-.882	.095
570	72	N77	33.827	313.337	-43.684	.516	-.015
571	72	N109	72.942	274.966	-116.149	.374	-.135
572	72	N124A	1.899	504.989	-855.101	0	0
573	72	N126	-784.892	535.957	453.159	0	0
574	72	N128	746.958	508.578	429.06	0	0
575	72	Totals:	239.169	2422.54	-138.09		
576	72	COG (ft):	X: .021	Y: .601	Z: 0		
577	73	N2	194.139	285.812	12.791	-.884	.115
578	73	N77	74.395	314.395	37.282	.523	-.082
579	73	N109	52.346	272.787	-55.428	.373	-.087
580	73	N124A	2.193	514.487	-870.72	0	0
581	73	N126	-782.151	534.352	452.843	0	0
582	73	N128	735.255	500.707	423.23	0	0
583	73	Totals:	276.177	2422.54	-.003		
584	73	COG (ft):	X: .021	Y: .601	Z: 0		
585	74	N2	172.314	287.703	30.86	-.888	.098
586	74	N77	95.631	314.329	102.624	.528	-.133
587	74	N109	12.567	270.906	22.408	.372	-.021
588	74	N124A	1.899	524.525	-887.291	0	0
589	74	N126	-772.716	527.97	448.323	0	0
590	74	N128	729.474	497.107	421.16	0	0
591	74	Totals:	239.17	2422.541	138.083		
592	74	COG (ft):	X: .021	Y: .601	Z: 0		
593	75	N2	108.823	289.88	43.989	-.893	.051
594	75	N77	91.853	313.155	134.838	.53	-.153
595	75	N109	-35.731	269.829	96.496	.373	.045
596	75	N124A	1.096	532.414	-900.374	0	0
597	75	N126	-759.115	518.522	440.811	0	0
598	75	N128	731.164	498.742	423.403	0	0
599	75	Totals:	138.089	2422.541	239.163		
600	75	COG (ft):	X: .021	Y: .601	Z: 0		



Company : Colliers Engineering & Design
Designer :
Job Number :
Model Name : 5000392577-VZW MT LO H

Feb 4, 2024
2:55 PM
Checked By: _____

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

	Member	Shape	Code Check	Loc[ft]	LC Shear	Loc[ft]	Dir	LC	phi*Pnc	phi*Pnt	phi*Mn y	phi*Mn z	Cb	Eqn
1	M1	HSS4X4X4	.241	0	5 .100	0	z	5	138875....	139518	16.181	16.181	1...	H1-1b
2	M2	HSS4.5X4.5...	.099	0	22 .039	0	y	46	156914....	158976	20.907	20.907	1...	H1-1b
3	M5	LL3x3x4x0	.321	0	15 .053	1.958	y	13	76288.1...	93312	6.48	4.357	1...	H1-1b
4	M6	LL3x3x4x0	.321	0	23 .053	1.958	y	21	76288.1...	93312	6.48	4.357	1...	H1-1b
5	M7	LL3x3x4x0	.338	0	31 .062	1.958	y	29	76288.1...	93312	6.48	4.357	1...	H1-1b
6	M6A	L3X3X4	.212	3.639	11 .015	7.433	z	24	13991.9...	46656	1.688	3.197	1...	H2-1
7	M7A	L3X3X4	.751	14.362	6 .668	7.181	z	17	3748.406	46656	1.688	2.881	1...	H2-1
8	M23A	L3X3X4	.210	3.639	7 .015	7.433	z	20	13991.9...	46656	1.688	3.2	1...	H2-1
9	M24	L3X3X4	.751	14.362	2 .667	7.181	z	24	3748.406	46656	1.688	2.884	1...	H2-1
10	M38	HSS4X4X4	.251	0	1 .113	0	z	1	138875....	139518	16.181	16.181	1...	H1-1b
11	M39A	L3X3X4	.211	3.639	3 .015	7.433	z	16	13991.9...	46656	1.688	3.194	1...	H2-1
12	M40	L3X3X4	.750	14.362	10 .668	7.181	z	21	3748.406	46656	1.688	2.881	1...	H2-1
13	M54	HSS4X4X4	.239	0	9 .099	0	z	9	138875....	139518	16.181	16.181	1...	H1-1b
14	M55	HSS4.5X4.5...	.100	0	12 .037	0	y	24	156914....	158976	20.907	20.907	1...	H1-1b
15	M56	HSS4.5X4.5...	.099	0	8 .037	0	y	20	156914....	158976	20.907	20.907	1...	H1-1b
16	MP1A	PIPE 2.0	.283	1.5	10 .109	4	10	14916.0...	32130	1.872	1.872	1.872	2...	H1-1b
17	MP2A	PIPE 2.0	.376	1.5	10 .075	2.917	5	14916.0...	32130	1.872	1.872	1.872	2...	H1-1b
18	MP3A	PIPE 2.0	.328	1.5	4 .083	4	2	14916.0...	32130	1.872	1.872	1.872	2...	H1-1b
19	MP4A	PIPE 2.0	.232	1.5	10 .081	4	11	14916.0...	32130	1.872	1.872	1.872	1...	H1-1b
20	MP1C	PIPE 2.0	.283	1.5	6 .109	4	6	14916.0...	32130	1.872	1.872	1.872	1...	H1-1b
21	MP2C	PIPE 2.0	.376	1.5	6 .075	2.917	1	14916.0...	32130	1.872	1.872	1.872	2...	H1-1b
22	MP3C	PIPE 2.0	.328	1.5	12 .083	4	10	14916.0...	32130	1.872	1.872	1.872	2...	H1-1b
23	MP4C	PIPE 2.0	.233	1.5	6 .081	4	7	14916.0...	32130	1.872	1.872	1.872	2...	H1-1b
24	MP1B	PIPE 2.0	.283	1.5	2 .109	4	2	14916.0...	32130	1.872	1.872	1.872	1...	H1-1b
25	MP2B	PIPE 2.0	.376	1.5	2 .075	2.917	9	14916.0...	32130	1.872	1.872	1.872	2...	H1-1b
26	MP3B	PIPE 2.0	.329	1.5	8 .083	4	6	14916.0...	32130	1.872	1.872	1.872	2...	H1-1b
27	MP4B	PIPE 2.0	.233	1.5	2 .081	4	3	14916.0...	32130	1.872	1.872	1.872	1...	H1-1b
28	M41	PIPE 2.0	.016	2.5	6 .002	2.5	6	23808.54	32130	1.872	1.872	1.872	1...	H1-1b
29	M42	PIPE 2.5	.183	12.833	10 .062	7.437	2	11606.8...	50715	3.596	3.596	3.596	2...	H1-1b
30	M49	PIPE 2.5	.183	12.833	6 .062	7.437	10	11606.8...	50715	3.596	3.596	3.596	2...	H1-1b
31	M56A	PIPE 2.5	.183	12.833	2 .062	7.437	6	11606.8...	50715	3.596	3.596	3.596	2...	H1-1b
32	M63	L3X3X4	.272	1.748	12 .110	0	y	6	43602.6...	46656	1.688	3.756	2...	H2-1
33	M64	L3X3X4	.272	1.748	4 .109	0	y	10	43602.6...	46656	1.688	3.756	2...	H2-1
34	M65	L3X3X4	.272	1.748	8 .109	0	y	2	43602.6...	46656	1.688	3.756	2...	H2-1
35	M66	LL3x3x3x3	.072	6.069	13 .005	0	z	10	47182.8...	70632	5.543	3.741	1	H1-1b*
36	M67	LL3x3x3x3	.072	6.069	21 .005	6.069	z	6	47182.8...	70632	5.543	3.741	1	H1-1b*
37	M68	LL3x3x3x3	.072	6.069	17 .006	6.069	y	27	47182.8...	70632	5.543	3.741	1	H1-1b*
38	M70	PIPE 2.0	.117	2.562	12 .015	2.562	12	28843.4...	32130	1.872	1.872	1.872	2...	H1-1b

VzW
SMART Tool®
Vendor

Client:	Verizon Wireless	Date:	2/4/2024
Site Name:	Brooklyn CT		
MDG #:	5000392577		
Fuze ID #:	16272042	Page:	1

Version 2.00

I. Mount-to-Tower Connection Check

Custom Orientation Required

Tower Connection Bolt Checks

Tower Connection Baseplate Checks

Tower Connection Weld Checks

Weld Shape:

Weld Stiffener Configuration:

Stiffener Notch Present?

Stiffener Length, l (in):

Stiffener Spacing/Width, s (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)

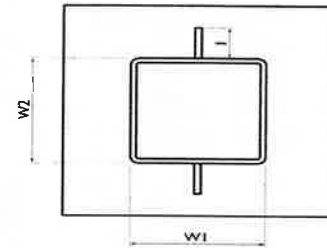
c_y (in)

Required combined strength (kip/in):

Weld Capacity (kip/in):

Weld Utilization:

Rectangle
(1) Stiffener on top/bottom
No
4
4
4
4
32.00
67.56
21.33
362.67
6
6
1.32
5.57
23.7%



ATTACHMENT 5



neccog

Ashford Brooklyn Canterbury Chaplin Eastford Hampton Killingly Plainfield
Pomfret Putnam Scotland Sterling Thompson Union Voluntown Woodstock

Parcel Information:

Report Generated:

1/4/2024 9:05:26 AM

SIS ID: CT-019-15-16-5

Assessment:

Owner Name: SBA TOWERS LLC

Appraisal: \$267,100.00

Street Address: 100 TATNIC HILL RD
19

Mailing Address: 8051 CONGRESS AVE

BOCA RATON FL 33487

Land: 1.67

Buildings:

Land Value:

Improvement Value:

Total Value:

Appraised

\$0.00

\$267,100.00

Assessed

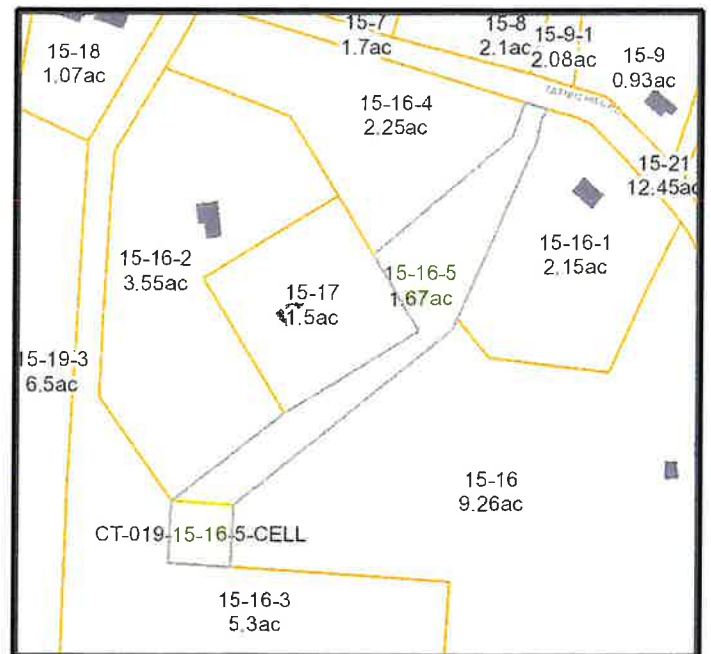
Sale Date:

Sale Price: \$950,000

Year Built:

Primary Structure Area:

sq. ft.



Taxlot highlighted in blue

n canterbury chaplin eastford hampton killingly plainfield
n scotland sterling thompson union voluntown woodstock

100 TATNIC HILL RD



I want to...



CT-019-15-18
1.07ac

CT-019-15-19-4
2.04ac

CT-019-15-7
1.7ac

CT-019-15-8
2.1ac

CT-019-15-9-1
2.6ac

CT-019-15-9
0.93ac

CT-019-15-16-4
2.25ac

CT-019-15-16-2
3.55ac

CT-019-15-16-1
2.15ac

CT-019-15-16-5
1.67ac

CT-019-15-17
1.5ac

CT-019-15-19-6
7.24ac

CT-019-15-19-3
6.5ac

CT-019
18.1

CT-019-15-16
9.26ac

CT-019-15-16-3
5.3ac

TATNIC HILL RD

CT-019-15-21
12.45ac

ATTACHMENT 6

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™ 	Affix Stamp Here Postmark with Date of Receipt.	
USPS® Tracking Number Firm-specific Identifier		Postmaster, per (name of receiving enterprise) 			
1. Austin Tanner, First Selectman Town of Brooklyn 4 Wolf Den Road Brooklyn, CT 06234		Postage			
2. Jana Butts, Director of Community Development/Town Planner Town of Brooklyn - Clifford B. Green Memorial 69 South Main Street Brooklyn, CT 06234 SBA Towers LLC 8051 Congress Avenue Boca Raton, FL 33487		Special Handling			
3.		Fee			
4.		Parcel Airlift			
5.					
6.					