

March 11, 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
58 Robinson Boulevard, Orange, 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 and remote radio heads on a roof-top monopole tower. Related equipment is located on the ground, adjacent to the building. The tower and Cellco’s use of the tower were approved by the Council in July 2014 (Petition No. 1107). A copy of the Council’s Petition No. 1107 Staff Report is included in Attachment 1. Please note, Cellco refers to this site as its Milford South 4 Facility.

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 mounting system. A set of project plans showing Cellco’s proposed facility modifications and the specifications for Cellco’s new antennas 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 Orange’s Chief Elected Official and Land Use Officer. A copy of this letter is being sent to 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).

29014283-v1

Robinson+Cole

Melanie A. Bachman, Esq.

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Page 2

1. The proposed modifications will not result in an increase in the height of the existing tower. The new antennas and RRHs will be installed at the same height as Cellco's existing antennas.

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 Antenna Mount Analysis Report ("MA"), the existing tower superstructure, base plate, building structure and antenna mounts 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:

James Zeoli, Orange First Selectman

Jack Demirjian, Zoning Administrator & Enforcement Officer

Group Seven Associates, Property Owner

Aleksey Tyurin

ATTACHMENT 1

Petition No. 1107
Cellco Partnership d/b/a Verizon Wireless
Orange, Connecticut
Staff Report
July 2, 2014

On June 5, 2014, the Connecticut Siting Council (Council) received a petition from Cellco Partnership d/b/a Verizon Wireless (Cellco) for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the installation of a rooftop wireless telecommunications tower on an existing building located at 58 Robinson Boulevard in Orange, Connecticut. Council member Dr. Barbara Bell and staff members Robert Mercier and Fred Cunliffe visited the site on June 23, 2014 to review the proposal. Joey Lee Miranda, Esq., and Rachel Mayo of Robinson & Cole LLP represented Cellco.

On June 3, 2014, Cellco provided notice to all abutting property owners and Town officials in Orange, Milford and West Haven. No Town officials or abutters attended the field review. Two abutters contacted Cellco for more information but did not comment on the proposal.

Cellco proposes to install a 35-foot tall tower on the roof of an 82,000 square foot industrial building. The 25-foot high building is located in the Marsh Hill Industrial Park in the southeast corner of Orange. The tower would be constructed on the north side of the building. The tower would support 12 panel antennas mounted on a platform at the top of the tower. A professional engineer has certified that the roof can support the proposed tower and antennas. The tower would not be designed to support other carriers.

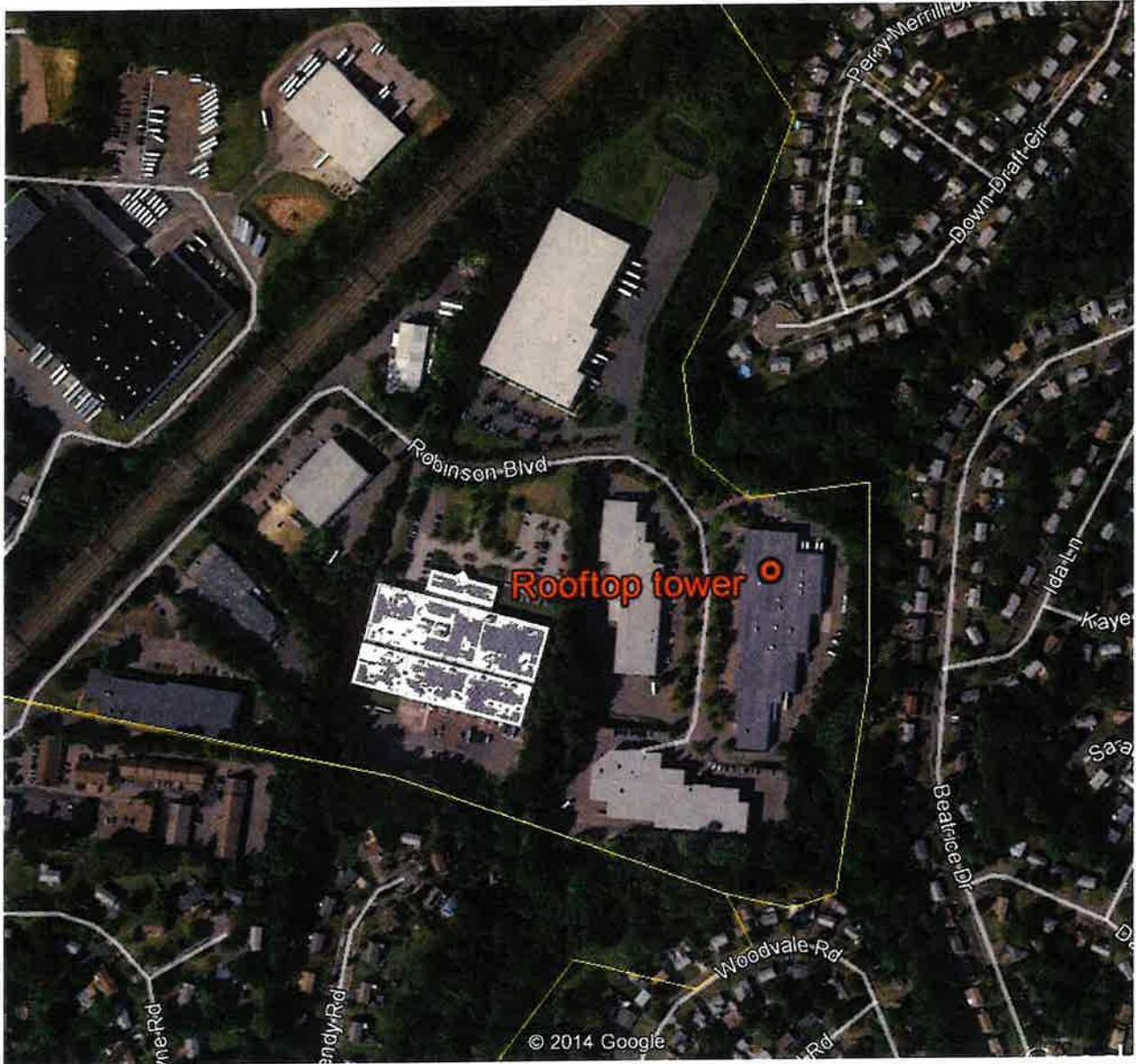
Cellco would install a 12-foot by 24-foot equipment shelter in a paved and grassy area on the north side of the building. The shelter would contain a natural gas fueled emergency generator. The shelter would extend slightly into an existing parking lot and Cellco would install bollards for vehicle protection. No fencing or landscaping is proposed.

The power density of the proposed antennas would be approximately 20.6% of the Federal Communications Commission's maximum permissible exposure at the base of the building.

The proposed facility would provide capacity relief in the area where the Orange, Milford and West Haven town lines meet. The proposed site would offload wireless traffic from adjacent Cellco facilities at 668 Jones Road in West Haven, 185 Research Parkway in Milford, and 100 Red Cedar Road in Orange, all of which are approximately 1.1 miles from the proposed site.

A 100-foot tower at the United Illuminating (UI) campus at 100 Marsh Hill Road in Orange (Docket 406) is not viable due to its location 0.6 miles north of the proposed service area. The UI facility was designed primarily for use by UI, although co-location is possible at a tower height of 60 feet.

Surrounding land use consists of residential to the east, north and south and industrial to the west. Visibility of the tower will be limited by its relatively low height and mature deciduous trees present throughout the surrounding neighborhoods and along the edges of the industrial park. Several abutting residences along Beatrice Road would have views of the tower through trees or during leaf-off conditions.



Site Location at 58 Robinson Boulevard, Orange.

ATTACHMENT 2

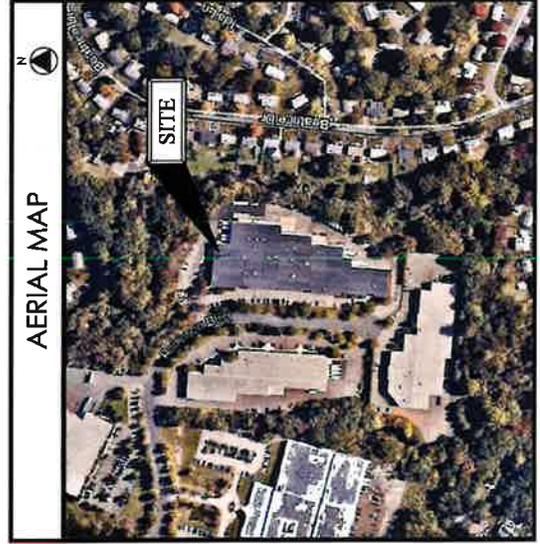


WIRELESS COMMUNICATIONS FACILITY

SITE NAME:
MILFORD SOUTH 4 CT
ROOFTOP MONOPOLE
58 ROBINSON BLVD.
ORANGE, CT 06477

ANTENNA MODIFICATION

PROJECT SUMMARY	
SITE NAME:	MILFORD SOUTH 4 CT
SITE ADDRESS:	58 ROBINSON BLVD. ORANGE, CT 06477
PROPERTY OWNER:	GROUP SEVEN ASSOCIATES 929 KINGS HIGHWAY EAST FAIRFIELD, CT 06430
PARCEL ID:	3-1-27-28
COORDINATES:	41° 14' 49.992" N 72° 59' 29.0904" W
AMSL:	30 FT.
VERIZON CONSTRUCTION:	WALTER CHARCZYNSKI (860) 308-1808
VERIZON REAL ESTATE:	ALEX TYURIN (860) 560-3195



SHEET INDEX	
DE-1	TITLE SHEET
DE-2	SITE LAYOUT & PARTIAL NORTH ELEVATION
DE-3	ANTENNA PLANS & ELEVATION
DE-4	RF PLUMBING DIAGRAM & B.O.I.M.
DE-5	GENERAL CONSTRUCTION NOTES

 WIRELESS COMMUNICATIONS FACILITY 20 ALEXANDER DRIVE WALLINGFORD, CT 06492	 On Air Engineering LLC 88 Fidelity Road Road Cold Spring, NY 10515 201-456-4624 onair@onairinc.net		<table border="1" style="width: 100%;"> <tr> <td>NO.</td> <td>DATE</td> <td>DESCRIPTION</td> </tr> <tr> <td>1</td> <td>02/23/21</td> <td>REVIEW</td> </tr> <tr> <td>2</td> <td>05/13/21</td> <td>PERMITTING/CONSTRUCTION</td> </tr> <tr> <td>3</td> <td>11/13/20</td> <td>REVISED FOR NEW ANTENNA</td> </tr> <tr> <td colspan="3">SUBMITTALS</td> </tr> <tr> <td colspan="3">DAVID WORPAHL, P.E. CT LIC NO. 22144</td> </tr> <tr> <td>DRAWN BY:</td> <td>AS</td> <td></td> </tr> <tr> <td>CHECKED BY:</td> <td>DW</td> <td></td> </tr> <tr> <td colspan="3">PROJECT NAME: ANTENNA MT6413-850 LTE-PCS DESIGN EXHIBITS</td> </tr> <tr> <td colspan="3">SITE NAME: MILFORD SOUTH 4 CT</td> </tr> <tr> <td colspan="3">SITE ADDRESS: GROUP SEVEN ASSOC. 58 ROBINSON BLVD. ORANGE, CT 06477</td> </tr> <tr> <td colspan="3">SHEET TITLE: TITLE SHEET</td> </tr> <tr> <td colspan="3">SHEET NUMBER: DE-1</td> </tr> </table>	NO.	DATE	DESCRIPTION	1	02/23/21	REVIEW	2	05/13/21	PERMITTING/CONSTRUCTION	3	11/13/20	REVISED FOR NEW ANTENNA	SUBMITTALS			DAVID WORPAHL, P.E. CT LIC NO. 22144			DRAWN BY:	AS		CHECKED BY:	DW		PROJECT NAME: ANTENNA MT6413-850 LTE-PCS DESIGN EXHIBITS			SITE NAME: MILFORD SOUTH 4 CT			SITE ADDRESS: GROUP SEVEN ASSOC. 58 ROBINSON BLVD. ORANGE, CT 06477			SHEET TITLE: TITLE SHEET			SHEET NUMBER: DE-1		
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verizon
 WIRELESS COMMUNICATIONS FACILITY
 20 ALEXANDER DRIVE
 WALLINGFORD, CT 06492

Or: Air Engineering, LLC
 88 Paradise Road
 Cold Spring, NY 10516
 201-456-4024
 oair@airengr.com



DAVID W. P. A.
 CT LIC. NO. 22144

NO.	DATE	DESCRIPTION
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2	DW	DW

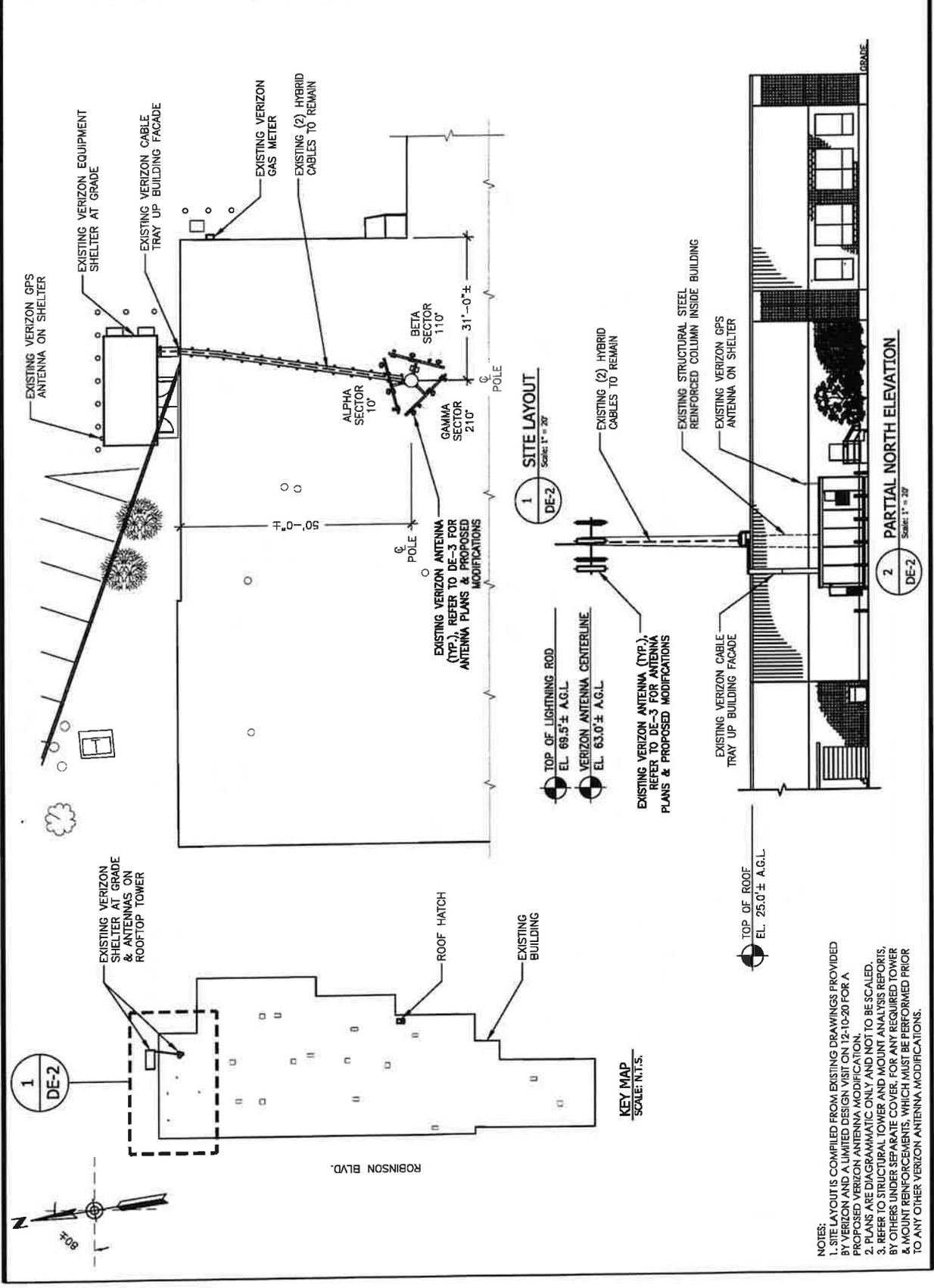
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 MT 6413-850 LTE-PCS
 DESIGN EXHIBITS

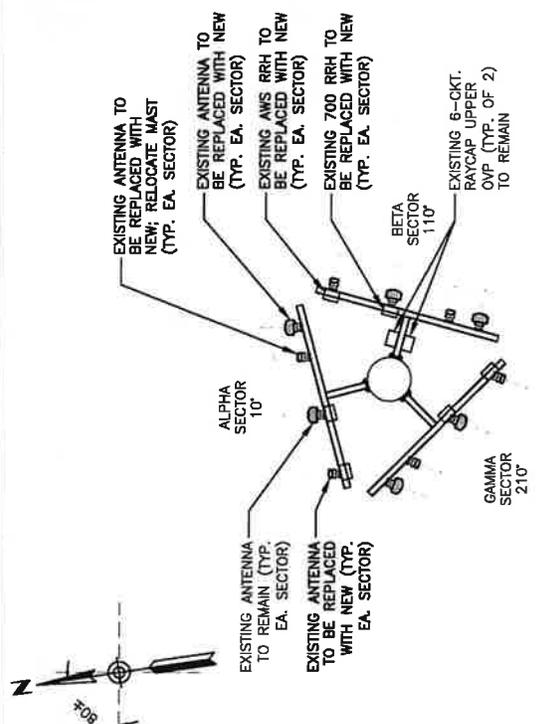
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 GROUP SEVEN ASSOC.
 58 ROBINSON BLVD.
 ORANGE, CT 06477

SHEET TITLE:
 SITE LAYOUT &
 PARTIAL NORTH
 ELEVATION

SHEET NUMBER:
 DE-2

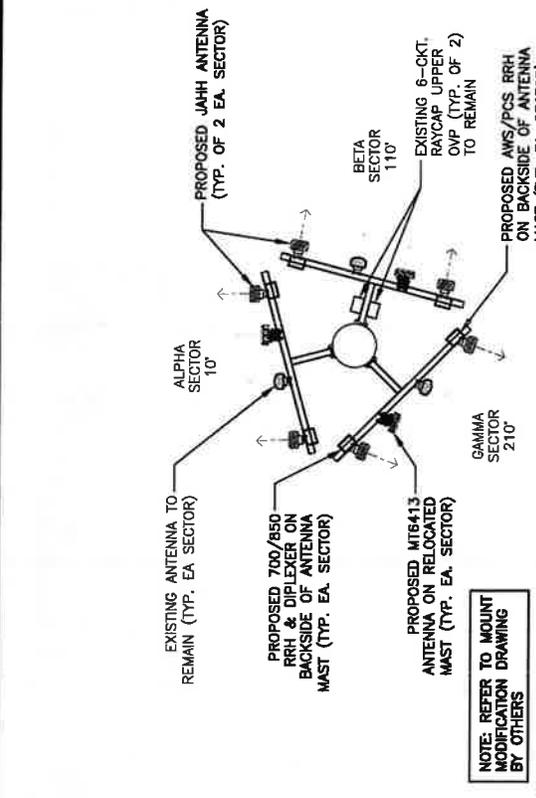




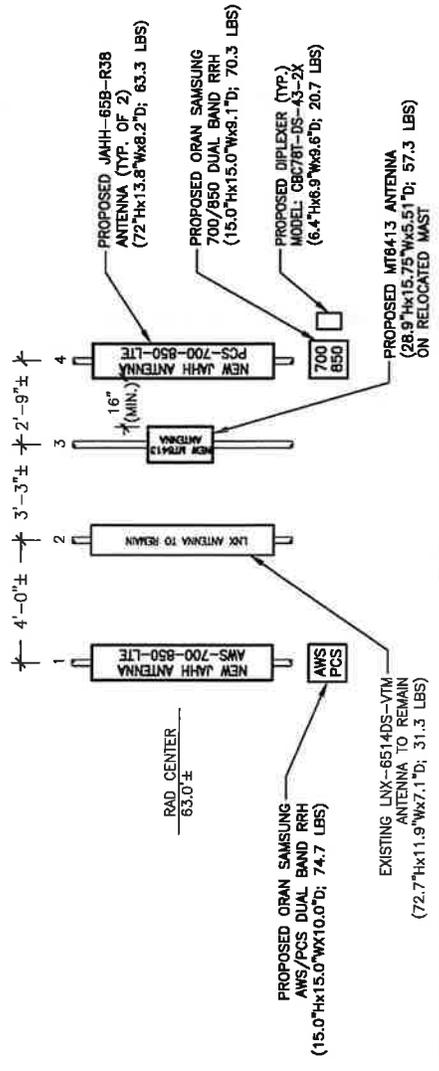
1 ANTENNA PLAN @ 63 FT. - EXISTING
Scale: 1/8" = 1'-0"

NOTE: REFER TO MOUNT MODIFICATION DRAWING BY OTHERS

NOTE: NEW DUAL RRH LOCATIONS SHOWN BASED ON MOUNT ANALYSIS BY OTHERS



2 ANTENNA PLAN @ 63 FT. - PROPOSED
Scale: 1/8" = 1'-0"



3 ANTENNA ELEVATION (TYP.) - PROPOSED
Scale: 1/8" = 1'-0"

NOTES:
1. TOWER FRAME AZIMUTHS SHOWN AS 355-115-235 TAKEN FROM MOUNT ANALYSIS BY OTHERS. EXISTING ANTENNA AZIMUTHS ARE PER THE PDS AND MAY NOT MATCH EXACTLY IN FIELD.
2. REFER TO STRUCTURAL NOTES PER MOUNT ANALYSIS REPORTS, BY OTHERS UNDER SEPARATE PERMITS FOR ANY REQUIRED TOWER & MOUNT REINFORCEMENTS WHICH MUST BE PERFORMED PRIOR TO ANY OTHER VERIZON ANTENNA MODIFICATIONS.

WIRELESS COMMUNICATIONS FACILITY 20 ALEXANDER DRIVE WALLINGFORD, CT 06492	
On Air Engineering, LLC 88 Trumbull Road Cold Spring, NY 10516 201-456-4624 oae@onairllc.com	
NO. DATE DESCRIPTION DRAWN BY: AS CHECKED BY: DW PROJECT NAME:	
ANIMO MT6413-850 LTE-PCS DESIGN EXHIBITS	
SITE NAME: MILFORD SOUTH 4 CT	
SITE ADDRESS: GROUP SEVEN ASSOC. 58 ROBINSON BLVD. ORANGE, CT 06477	
SHEET TITLE: ANTENNA PLANS & ELEVATION	
SHEET NUMBER: DE-3	

VERIZON WIRELESS COMMUNICATIONS FACILITY

20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On-Air Engineering LLC

88 Broadway Road
Cold Spring, NY 10516
201-456-4624
onair@onairllc.com

DAVID VERRUCCHIO, P.E.
CT LIC. NO. 22144

PROJECT NO: 10000000000000000000

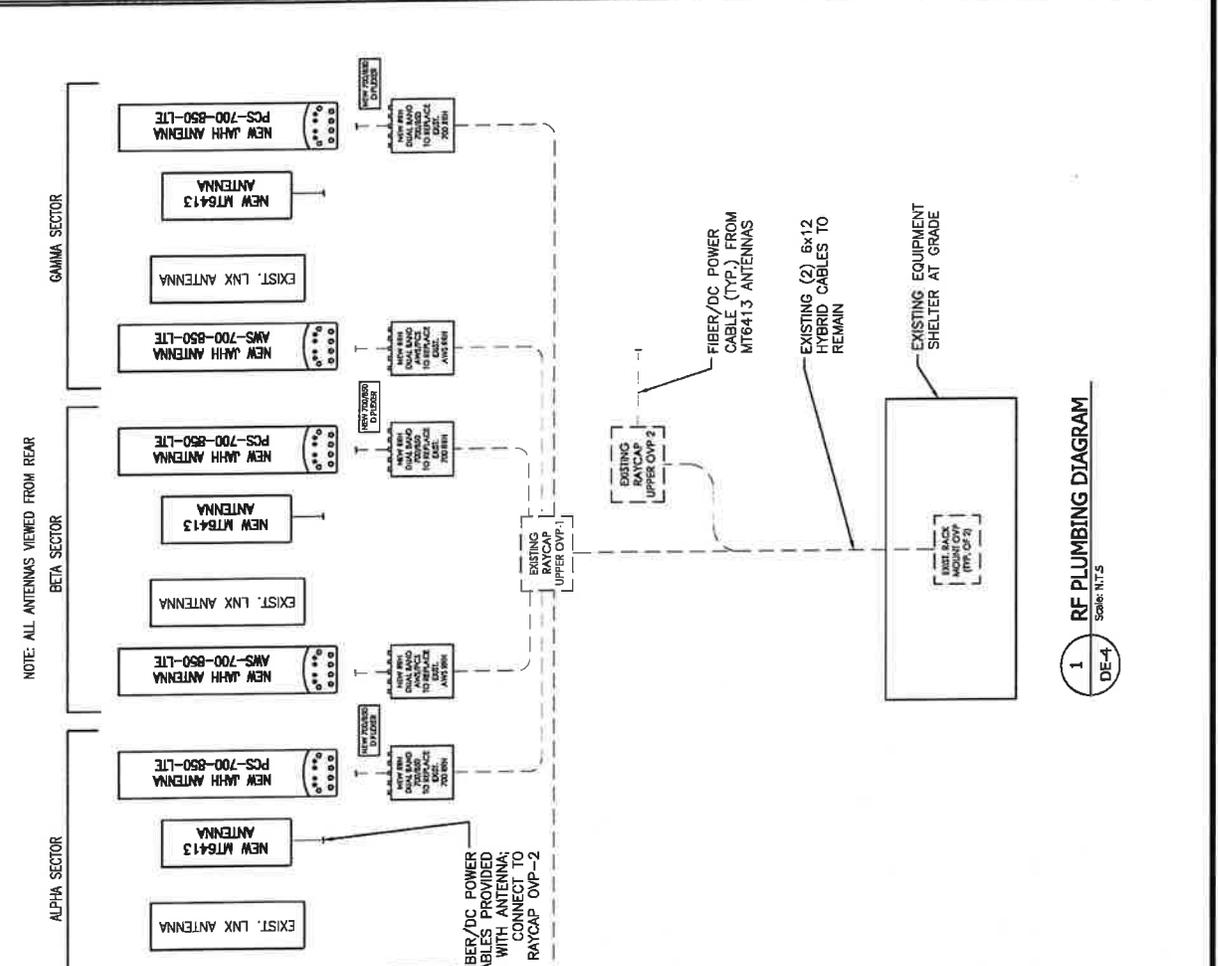
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SITE NAME: MILFORD SOUTH 4 CT

SITE ADDRESS: GROUP SEVEN ASSOC. 58 ROBINSON BLVD. ORANGE, CT 06477

SHEET TITLE: RF PLUMBING DIAGRAM & B.O.M.

SHEET NUMBER: DE-4



GENERAL NOTE:

- CONTRACTOR SHALL REFER TO THE LATEST VERIZON WIRELESS REDS WHICH MAY INCLUDE ANTENNA SECTOR AZIMUTHS/ANTENNA CHANGES, ETC. THAT ARE REQUIRED AS PART OF THE PROJECT.
- CONTRACTOR SHALL SECURE ALL CONTROL CABLES IN ACCORDANCE WITH INDUSTRY STANDARDS AND MANUFACTURERS INSTRUCTIONS. EXTERIOR CABLES MAY BE TAPED OR TIE-WRAPPED TO EXISTING SUPPORTS EVERY 4 FT. MAX. FOR HORIZONTAL RUNS. CONTRACTOR MAY USE HOISTING GRIPS AT TOP OF VERTICAL CABLE RUNS WHEN REQUIRED.
- ALL CABLES SHALL BE ROUTED AND SECURED ON STRUCTURAL MEMBERS ONLY - DO NOT "LOOP" THE CABLES IN MID-AIR BETWEEN ANTENNAS REFER TO REDS FOR DETAILED PLUMBING DIAGRAM SHOWING ALL JUMPER AND OTHER CABLING CONNECTIONS AT ANTENNAS, RRH's, DIPLEXERS OR OTHER DEVICES.

RF PLUMBING DIAGRAM
Scale: N=1:5

BILL OF MATERIALS

DESCRIPTION	QTY	LENGTH	COMMENTS	EMBEDDED BASE
LOWER OVP	-	-	EXISTING (2) BACK MOUNTS TO REMAIN	
8-CKT. UPPER OVP	-	-	EXISTING (2) RAYCAP OVP'S TO REMAIN	
8x12 HYBRID CABLE	-	-	EXISTING (2) HYBRID TO REMAIN	
RET CONTROL CABLE	-	-	NOT REQD FOR J4H ANTENNAS	
1/2" JUMPERS	-	-	SEE NOTE 2	
AWSPCS DUAL BAND RRH	3	-	REFER TO REDS FOR SPECS. REMOVE EXIST. AWS BRH	
700MHz DUAL BAND RRH	3	-	REFER TO REDS FOR SPECS. REMOVE EXIST. 700 RRH	
700MHz DIPLEXER	3	-	REFER TO REDS FOR SPECS - 1 PER SECTOR	
MT6413 ANTENNA	3	-	SAMPLING INTEGRATED. REFER TO REDS	
J4H ANTENNA - AWS700/850-LTE	3	-	REFER TO REDS FOR SPECS - 1 PER SECTOR	
J4H ANTENNA - PCS700/850-LTE	3	-	REFER TO REDS FOR SPECS - 1 PER SECTOR	
SBS BRACKETS	0	-	NOT USED IN THIS DESIGN	
LNX ANTENNA	-	-	EXISTING (2) TO REMAIN - 1 PER SECTOR	

NOTES:

- ITEMS SHOWN ARE FOR MAJOR DESIGN ELEMENTS ONLY. REFER TO VERIZON WIRELESS REDS FOR ALL MANUFACTURER PART NUMBERS AND ACCESSORY ITEMS REQUIRED FOR A COMPLETE INSTALLATION.
- CONTRACTOR SHALL DETERMINE AND PROVIDE ALL REQUIRED PRE-FAB JUMPER QUANTITIES AND LENGTHS, KEEPING ALL LENGTHS TO A MINIMUM.

GENERAL CONSTRUCTION NOTES:

1. CONTRACTOR SHALL NOT COMMENCE ANY WORK UNTIL HE OBTAINS, AT HIS OWN EXPENSE, ALL INSURANCE REQUIRED BY CELCO PARTNERSHIP *d/b/a* VERIZON, THE PROPERTY OWNER AND/OR PROPERTY MANAGEMENT COMPANY.
2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS AND ALL LOCAL LAWS AND REGULATIONS, CURRENT EDITIONS.
3. CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
4. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES AND EXISTING CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA AND SUBMIT TO THE ENGINEER ANY DISCREPANCIES FROM THE DRAWINGS.
5. CONTRACTOR IS TO REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUB-CONTRACTORS AND ALL RELATED PARTIES. THE SUB-CONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
6. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON DRAWINGS OR WRITTEN IN SPECIFICATIONS.
7. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
8. CONTRACTOR SHALL OBTAIN AT HIS OWN EXPENSE ALL PERMITS AND ALL INSPECTIONS REQUIRED FROM FEDERAL AND STATE GOVERNMENTS, COUNTIES, MUNICIPALITIES AND OTHER REGULATORY AGENCIES WHICH MAY BE REQUIRED FOR THE PROJECT.
10. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
11. ALL MATERIAL PROVIDED BY CELCO PARTNERSHIP *d/b/a* VERIZON IS TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTOR PRIOR TO INSTALLATION. ANY DEFICIENCIES TO PROVIDED MATERIALS SHALL BE BROUGHT TO THE CONSTRUCTION MANAGERS ATTENTION IMMEDIATELY.
12. THE MATERIALS INSTALLED IN THE WORK SHALL MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. NO SUBSTITUTIONS ARE ALLOWED.
13. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION, FOR SEQUENCES AND PROCEDURES TO BE USED, AND TO ENSURE THE SAFETY OF THE EXISTING BUILDING AND ITS COMPONENT DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY.
14. CONTRACTOR SHALL COORDINATE ALL CIVIL, STRUCTURAL AND ELECTRICAL DRAWINGS FOR THE LOCATION OF ALL OPENINGS, RECESSES, BUILT-IN WORK, ETC.
15. CONTRACTOR SHALL RECEIVE CLARIFICATION IN WRITING AND SHALL RECEIVE IN WRITING AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEMS NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
16. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND TO BE IN THE FIELD.

17. ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMEN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST-ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA, ADJACENT AREAS, AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL O.S.H.A. REQUIREMENTS.
19. CONTRACTOR SHALL COORDINATE HIS WORK AND SCHEDULE HIS ACTIVITIES AND WORKING HOURS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROPERTY OWNER AND/OR PROPERTY MANAGEMENT COMPANY.
20. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE WORK OF OTHERS AS IT MAY RELATE TO RADIO EQUIPMENT, ANTENNAS AND ANY OTHER PORTIONS OF THE WORK.
21. CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OR WHERE LOCAL CODES OR REGULATIONS MAY TAKE PRECEDENCE.
22. CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING SURFACES, EQUIPMENT, IMPROVEMENTS, PIPING, ANTENNA AND ANTENNA CABLES AND REPAIR ANY DAMAGE THAT OCCURS DURING CONSTRUCTION.
23. CONTRACTOR SHALL REPAIR ALL EXISTING SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND WITH ADJACENT SURFACES.
24. CONTRACTOR SHALL KEEP CONTRACT AREA CLEAN, HAZARD FREE AND DISPOSE OF ALL DEBRIS AND RUBBISH. EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OF THE OWNER SHALL BE REMOVED. LEAVE PREMISES IN CLEAN CONDITIONS AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ITEMS UNTIL COMPLETION OF CONSTRUCTION.
25. BEFORE FINAL ACCEPTANCE OF THE WORK, CONTRACTOR SHALL REMOVE ALL EQUIPMENT, TEMPORARY WORKS, UNUSED AND USELESS MATERIALS, RUBBISH AND TEMPORARY STRUCTURES.

verizon
WIRELESS COMMUNICATIONS FACILITY

30 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On Air Engineering LLC
88 Pansley Road
Cold Spring, NY 10915
201-456-4624
cont@onairma.com



DAVID VIORIO, P.E.
CT LIC. NO. 22144

NO. DATE DESCRIPTION

1	02/21/11	REVISION
2	03/01/11	PERMITS AND CONSTRUCTION
3	03/11/11	REVISED FOR JOB #204

NO. DATE DESCRIPTION

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3	03/11/11	REVISED FOR JOB #204

DE-5

SHEET NUMBER

SHEET TITLE:
GENERAL
CONSTRUCTION
NOTES

SITE ADDRESS:
GROUP SEVEN ASSOC.
58 ROBINSON BLVD.
ORANGE, CT 06477

SITE NAME:
MILFORD SOUTH 4 CT

PROJECT NAME:
ANTMO
MT6413-850 LTE-PCS
DESIGN EXHIBITS

DESIGNER:
AS
CHECKED BY:
DW

DATE:
NO. DATE DESCRIPTION

NO. DATE DESCRIPTION

1	02/21/11	REVISION
2	03/01/11	PERMITS AND CONSTRUCTION
3	03/11/11	REVISED FOR JOB #204

DAVID VIORIO, P.E.
CT LIC. NO. 22144



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verizon
WIRELESS COMMUNICATIONS FACILITY

30 ALEXANDER DRIVE
WALLINGFORD, CT 06492

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

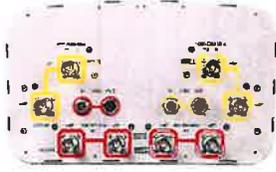
Item	Gen 2 64T64R (MT6413-77A)
Air Technology	NR n77/TDD
Frequency	3700 ~ 3980 MHz
IBW	200 MHz
OBW	200 MHz
Carrier Bandwidth	200 MHz
# of Carriers	2 carriers
Layer	DL : 16L, UL : 16RX (8L)
RF Chain	64T64R
Antenna Configuration	4V16H with 192 AE
EIRP	80.5 dBm @320W (55 dBm + 25.5 dBi)
Conductive Power	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	DL/UL 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 3GPP 38.104
Unwanted Emission	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, 8i-di (Option: Duplex)
Mounting Options	Pole, wall
NB-IoT	Not support
External Alarm	4RX
Fronthaul Interface	eCPRI



* 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)

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

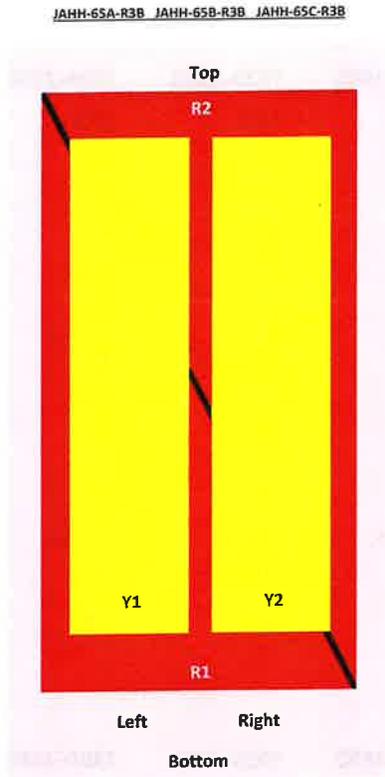
Dimensions

Width	350 mm 13.78 in
--------------	-------------------

JAHH-65B-R3B

Length 1828 mm | 71.969 in
Depth 208 mm | 8.189 in

Array Layout



Array	Freq (MHz)	Coms	RET (SRET)	AISG RET UID
R1	698-787	1-2	1	A*****
R2	824-894	3-4	2	A*****
Y1	1695-2360	5-6	3	A*****
Y2	1695-2360	7-8		A*****

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

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.

* Footnotes

Performance Note Severe environmental conditions may degrade optimum performance

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

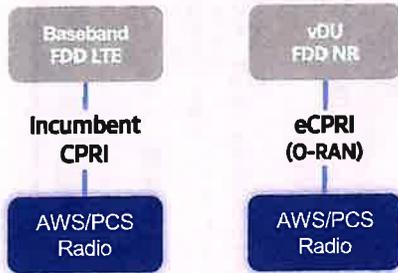


Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

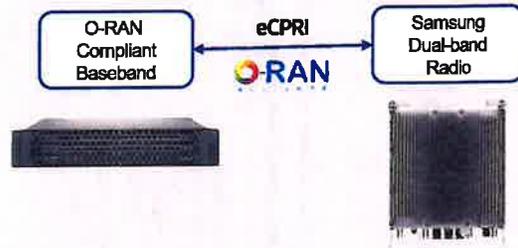
Samsung's AWS/PCS macro radio can support each incumbent CPRI interface as well as advanced eCPRI interfaces. This feature provides installable options for both legacy LTE networks and added NR networks.



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.

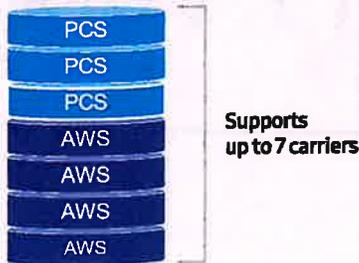
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



Optimum Spectrum Utilization

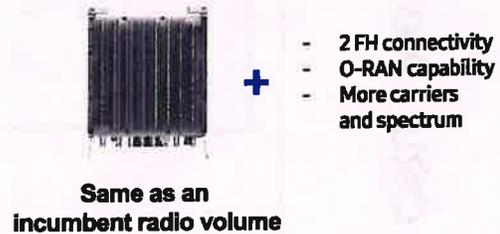
The number of required carriers varies according to site (region). Supporting many carriers is essential for using all frequencies that the operator has available.

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.



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 Band	LTE_NR(HW resource ready) Band5 (850MHz) DL: 869-894MHz UL: 824-849MHz 25MHz 25MHz
Frequency	Band13 (700MHz) DL: 746-756MHz UL: 777-787MHz 10MHz 10MHz
IBW	10MHz
OBW	10MHz
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 80W
Spectrum Analyzer	TX/RX Support
RX Sensitivity	Typ. -104.5dBm @1Rx (25RB: 5MHz)
Modulation	256QAM support, (1024QAM with 1~2dB power back-off) -48VDC (-38VDC to -57VDC)
Input Power	1.165 Watt @ 100% RF load, room temperature
Power Consumption	380 x 380 x 260 mm (14.96 x 14.96 x 10.23 inch)
Size (W*H*D)	37.5 L
Volume	35.9 kg (79.1 lb)
Weight (w/o Solar Shield & finger guard)	-40°C (-40°F) ~ 35°C (131°F) (Without solar load)
Operating Temperature	Natural convection
Cooling	3GPP 36.104 FCC 47 CFR 27.53 (i), (j)
Unwanted Emission	Not supported -69 dBm/100 kHz per path @ 896 ~901MHz
CPRI Cascade	20km, 2 ports (9.8Gbps x 2), SFP+, single mode, Duplex (Option: Bi-di)
Optic Interface	AISG 3.0
RET & TMA Interface	4 ports (2 ports per band) Pole, wall
Bias-T	2G8+2B8 or 4B8
Mounting Options	Support
NB-IoT	4
PIM Cancellation	4
# of antenna port	Opt. 8 CPRI / Opt. 7-2x selectable (not simultaneous support)
External Alarm	Not Support
Fronthaul Interface	
CPRI compression	



* 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
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Auburn, NH 03032
(603) 644-2800

support@csquaredsystems.com

Calculated Radio Frequency Emissions Report

verizon^v

Milford South 4 CT

58 Robinson Blvd, Orange, CT 06477

March 7, 2024

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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 63' on an existing monopole tower located on the rooftop at 58 Robinson Blvd in Orange, CT. The coordinates of the tower are 41° 14' 49.99" N, 72° 59' 29.10" W.

Verizon is proposing the following:

- 1) Install nine (9) multi-band antennas, three (3) per sector to support its commercial LTE and 5G network.

This report considers the planned antenna configuration for Verizon¹ 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 11/28/2023.

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:

EIRP = 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 / Azimuth	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 / 10°	750	160	14.5	4509	JAHH-65B-R3B	67	0	6	63
		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	3.42	63
	Beta / 110°	750	160	14.5	4509	JAHH-65B-R3B	67	0	6	63
		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	3.42	63
	Gamma / 210°	750	160	14.5	4509	JAHH-65B-R3B	67	0	6	63
		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	3.42	63

Table 1: Proposed Antenna Inventory²³

² Antenna heights are in reference to Verizon’s Radio Frequency Design Sheet updated 11/28/2023.

³ 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.

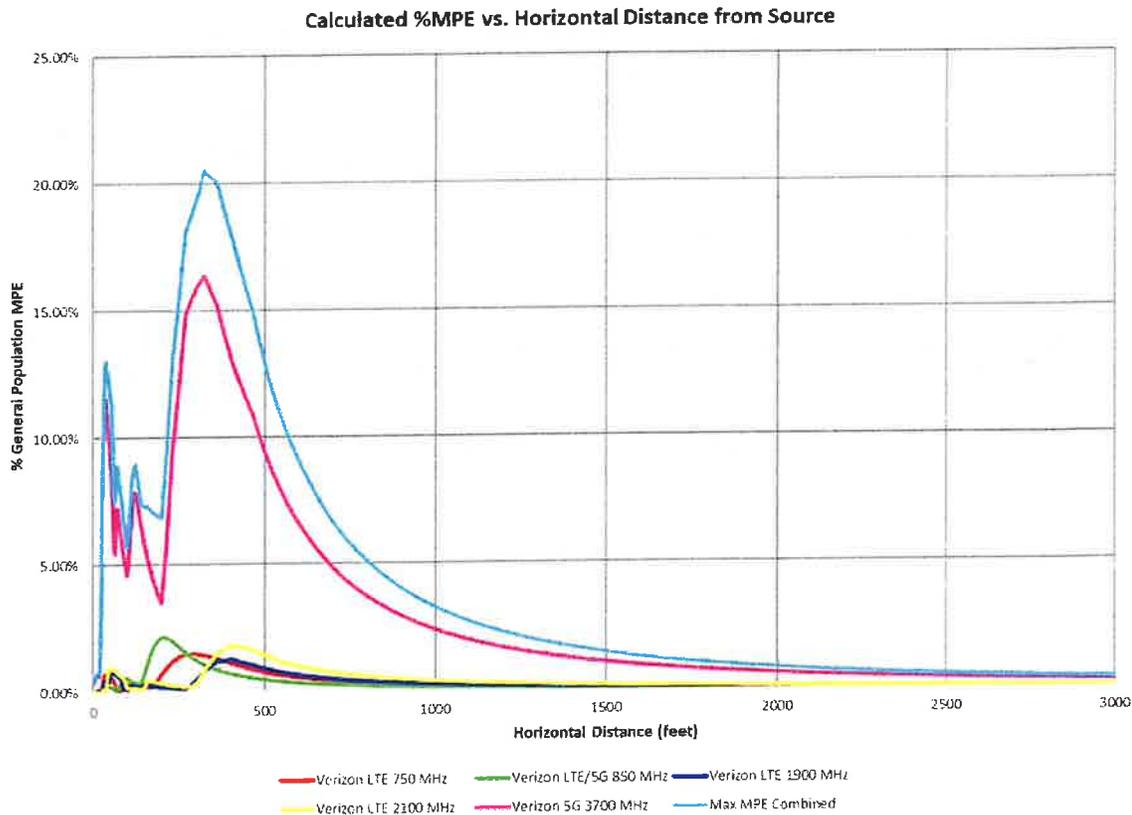


Figure 1: Graph of General Population % MPE vs. Distance

The highest percent of MPE (20.51% of the General Population limit) is calculated to occur at a horizontal distance of 324 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 324 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
Verizon 5G 3700 MHz	1	320.0	63.0	324	0.163365	1.000	16.34%
Verizon LTE 1900 MHz	1	160.0	63.0	324	0.008248	1.000	0.82%
Verizon LTE 2100 MHz	1	240.0	63.0	324	0.008522	1.000	0.85%
Verizon LTE 750 MHz	1	160.0	63.0	324	0.007142	0.500	1.43%
Verizon LTE/5G 850 MHz	1	160.0	63.0	324	0.006037	0.567	1.07%
Total							20.51%

Table 2: Maximum Percent of General Population Exposure Values^{4,5,6}

⁴ Frequencies listed are representative of the operating band and are not the specific operating frequency.

⁵ The total % MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

⁶ 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.

Attachment A: References

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

IEEE C95.1-2019. IEEE Standard Safety Levels With Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz IEEE-SA Standards Board

IEEE C95.3-2021. IEEE Recommended Practice for Measurements and Computations of Electric, Magnetic, and Electromagnetic Fields with Respect to Human Exposure to Such Fields, 0 Hz-300 GHz IEEE-SA Standards Board

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

(A) Limits for Occupational/Controlled 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)
0.3-3.0	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 Exposure⁸

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

⁷ 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.

⁸ 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.

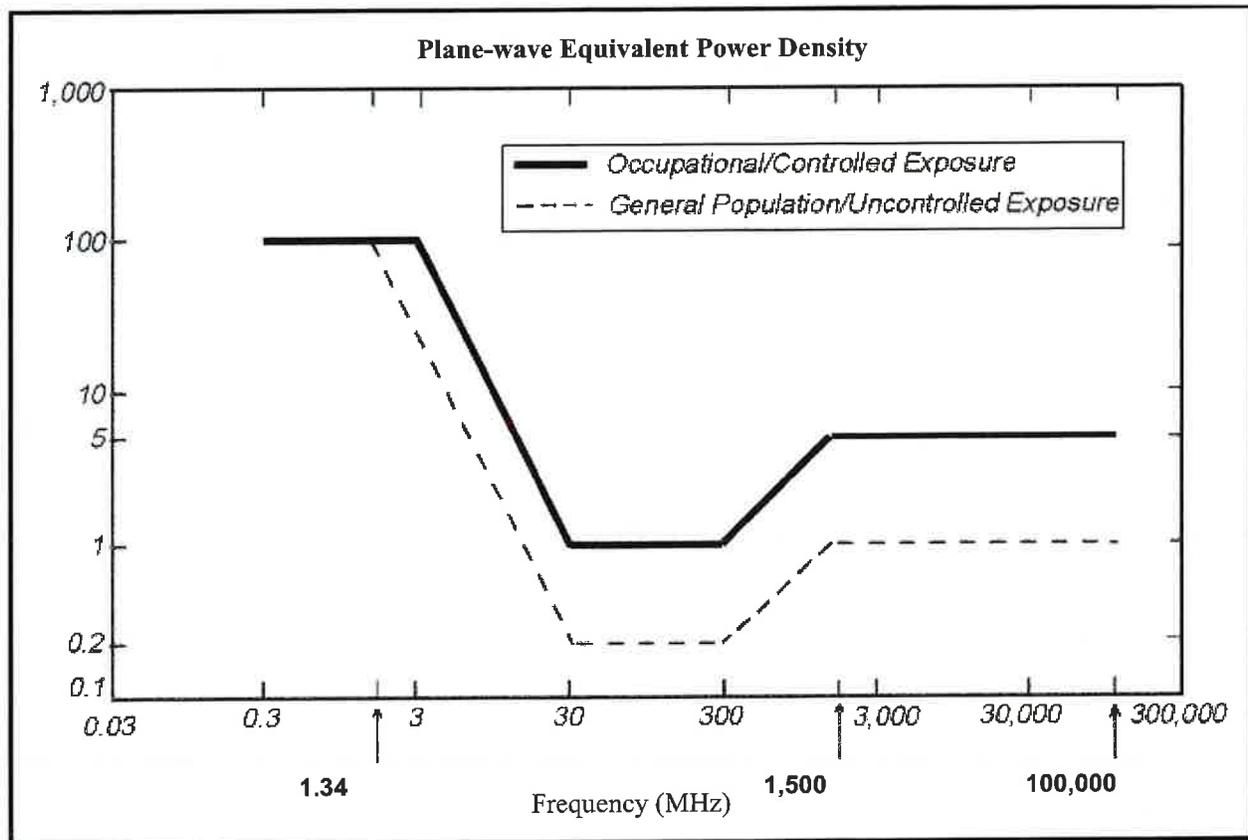
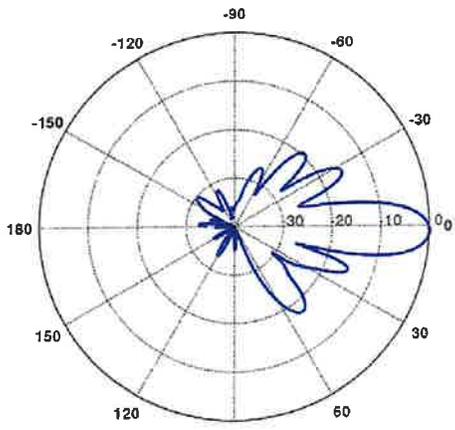
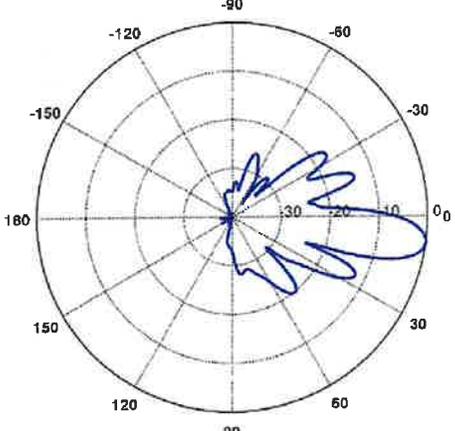
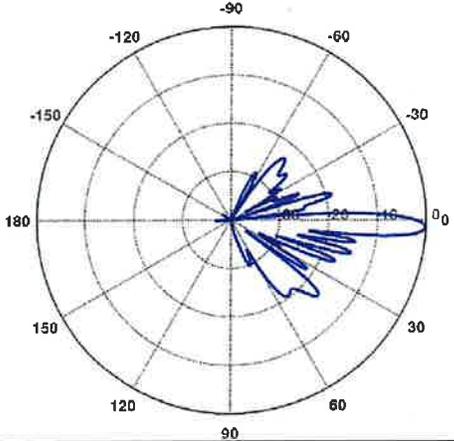
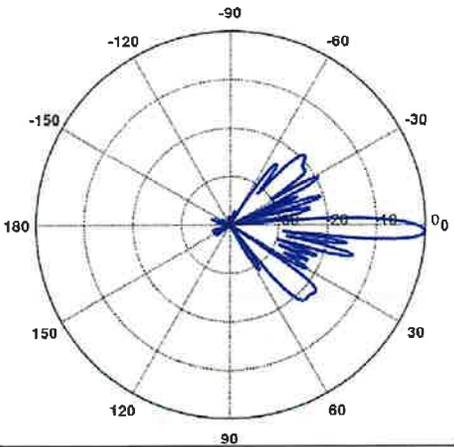


Figure 2: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: Verizon Antenna Model Data Sheets and Electrical Patterns

<p>750 MHz</p> <p>Manufacturer: COMMSCOPE Model #: JAHH-65B-R3B Frequency Band: 698-787 MHz Gain: 14.5 dBi Vertical Beamwidth: 12.4° Horizontal Beamwidth: 67° Polarization: ±45° Dimensions (L x W x D): 71.96" x 13.78" x 8.2"</p>	 <p>A polar plot showing the radiation pattern for a 750 MHz antenna. The plot is circular with concentric grid lines representing gain levels (0, 10, 20, 30) and radial lines representing angles from -180 to 180 degrees in 30-degree increments. The main radiation lobe is centered at 0 degrees, extending to approximately 30 dB. There are several side lobes, with the most prominent ones between 30 and 150 degrees.</p>
<p>850 MHz</p> <p>Manufacturer: COMMSCOPE Model #: JAHH-65B-R3B Frequency Band: 824-894 MHz Gain: 15.8 dBi Vertical Beamwidth: 5.7° Horizontal Beamwidth: 65° Polarization: ±45° Dimensions (L x W x D): 71.96" x 13.78" x 8.2"</p>	 <p>A polar plot showing the radiation pattern for an 850 MHz antenna. The plot is circular with concentric grid lines representing gain levels (0, 10, 20, 30) and radial lines representing angles from -180 to 180 degrees in 30-degree increments. The main radiation lobe is centered at 0 degrees, extending to approximately 30 dB. There are several side lobes, with the most prominent ones between 30 and 150 degrees.</p>

<p>1900 MHz</p> <p>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"</p>	 <p>A polar plot showing the radiation pattern for 1900 MHz. The plot is circular with concentric dashed lines representing gain levels and radial lines representing angles from 0 to 180 degrees. The main beam is centered at 0 degrees, with a peak gain of approximately 18.4 dBi. The horizontal beamwidth is 63 degrees, and the vertical beamwidth is 5.2 degrees. There are several side lobes extending outwards.</p>
<p>2100 MHz</p> <p>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"</p>	 <p>A polar plot showing the radiation pattern for 2100 MHz. The plot is circular with concentric dashed lines representing gain levels and radial lines representing angles from 0 to 180 degrees. The main beam is centered at 0 degrees, with a peak gain of approximately 18.5 dBi. The horizontal beamwidth is 65 degrees, and the vertical beamwidth is 4.9 degrees. There are several side lobes extending outwards.</p>

ATTACHMENT 4

STRUCTURAL ANALYSIS REPORT

For



On Air Engineering, LLC
88 Foundry Pond Road
Cold Spring, NY 10516

Verizon Site Name: Milford South 4 CT
KM No. 210203.01

35' Self Support Rooftop Mounted Monopole
58 Robinson Blvd.
Orange, CT 06477
41°14'49.992" N, 72°59'29.0904" W

Prepared By:



KM CONSULTING ENGINEERS, INC.

262 Upper Ferry Rd, Ewing, NJ 08628
Ph: (609) 538-0400 www.kmengr.com

January 8, 2024

Prepared to ANSI/TIA-222-H October 2017
Structural Standard for Antenna Supporting Structures
and Antennas and Small Wind Turbine Support Structures

**On Air Engineering
Milford South 4 CT**

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5.0 TOWER ANALYSIS RESULTS.....	7
6.0 RECOMMENDATIONS.....	8
7.0 APPENDIX.....	9
Load Case No. 1: Existing tower superstructure with existing inventory and proposed Verizon Wireless installation.	

1.0 EXECUTIVE SUMMARY

Structure

Location: 58 Robinson Blvd.
Orange, CT 06477
41°14'49.992" N, 72°59'29.0904" W

Manufacturer: Engineering Endeavors (drawing no. 17297-P01)
Dated 9/12/14

Equipment

Existing tower inventory plus the proposed installation are detailed in Section 2.0 "Tower Inventory."

Synopsis

Load Case No. 1: The existing tower superstructure with the current inventory and proposed Verizon installation.

The tower superstructure, base plate and building structure has sufficient capacity and therefore meets the current TIA standards. The tower superstructure is rated at 52.9% and the base plate is rated at 40.2%.

2.0 TOWER INVENTORY

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
LNX-6514DS-VTM (Verizon)	63	MT6413-77A (Verizon)	63
LNX-6514DS-VTM (Verizon)	63	B2/B66A RRH ORAN RF4439d-25A (Verizon)	63
LNX-6514DS-VTM (Verizon)	63	B2/B66A RRH ORAN RF4439d-25A (Verizon)	63
(2) JAHH-65B-R3B (Verizon)	63	B2/B66A RRH ORAN RF4439d-25A (Verizon)	63
(2) JAHH-65B-R3B (Verizon)	63	B2/B66A RRH ORAN RF4439d-25A (Verizon)	63
(2) JAHH-65B-R3B (Verizon)	63	B2/B66A RRH ORAN RF4439d-25A (Verizon)	63
CBC78T-DS-43-2X (Verizon)	63	RF4461d-13A (Verizon)	63
CBC78T-DS-43-2X (Verizon)	63	RF4461d-13A (Verizon)	63
CBC78T-DS-43-2X (Verizon)	63	RF4461d-13A (Verizon)	63
OVP6 (Verizon)	63	12'-6" T-Arm Mount (Verizon)	63
OVP6 (Verizon)	63	12'-6" T-Arm Mount (Verizon)	63
MT6413-77A (Verizon)	63	12'-6" T-Arm Mount (Verizon)	63
MT6413-77A (Verizon)	63		

Proposed Verizon Loading:

- *(6) JAHH-65B-R3B panel antennas @ 63' AGL (34' ARL)
- *(3) MT6413-77A panel antennas @ 63' AGL (34' ARL)
- *(3) RF4439d-25A @ 63' AGL (34' ARL)
- *(3) RF4461d-13A @ 63' AGL (34' ARL)
- *(3) CBC78T-DS-43-2X diplexers @ 63' AGL (34' ARL)

Existing Verizon Loading to be removed:

- *(6) HBX-6517DS-VTM panel antennas @ 63' AGL
- *(3) LNX-6514DS-VTM panel antennas @ 63' AGL
- *(3) UHBB B13 RRH 2x40 @63' AGL
- *(3) UHID B4 RRH 2x40 @ 63' AGL

3.0 COMMENTARY

Our scope of work is to determine if the existing structure is capable of withstanding the additional stresses/forces imposed by the installation of the proposed Verizon equipment noted in the tower inventory.

Tower structure information and foundation information was obtained from drawings (drawing no 17297-P01) by Engineered Endeavors dated 9/12/14, design analysis by Engineered Endeavors dated 9/11/14, drawings by Total Fab, LLC dated 10/11/14, and construction drawings by Centek Engineering, Inc. dated 8/15/14. The existing tower inventory and proposed loading was obtained from a Verizon RFDS dated 11/28/23, design exhibits drawings by On Air Engineering, LLC dated 12/15/23.

The following report will provide analytical calculations and commentary regarding the capacity of the proposed tower and subsequent recommendations.

4.0 ANALYSIS PROCEDURE

KM Consulting Engineers, Inc. carried out their structural analysis by correlating field inspection and tower member data into proprietary software designed specifically for communication tower analysis.

These programs run in conjunction with the guidelines set down in the TIA-222-H Standard entitled "Structural Standard for Antenna Supporting Structures and Antennas and Small Wind Turbine Support Structures."

The existing tower is analyzed by placing wind forces on the structure in 30° positional increments around the tower (i.e. wind pressure directly onto the tower corners, faces and parallel to the faces). This enables the user to "create" a three-dimensional representation, yielding results for worst case scenarios. In effect, the production of these results allows the user to study the structural integrity of the tower when influenced by wind forces from any direction.

The proceeding report includes analysis for the tower with the addition of antennas in the scenarios stated. For clarity, the analysis shall include worst case loadings and a typical elevation view with maximum foundation loads tabulated.

Codes and Standards

ACI - American Concrete Institute - *Building Code Requirements for Structural Concrete (ACI 318-14)*, 2014

AISC - American Institute of Steel Construction - *Manual of Steel Construction, 15th Edition*, 2017

TIA - Telecommunications Industry Association - *TIA-222-H Structural Standard for Antenna Supporting Structures and Antennas and Small Wind Turbine Support Structures*, 2018

CSBC - Connecticut State Building Code 2022

ASCE - American Society of Civil Engineers - *Minimum Design Loads for Buildings and Other Structures (ASCE/SEI 7-16)*, 2016

5.0 TOWER ANALYSIS RESULTS

The tower was analyzed for the inventory detailed in Section 2.0 "Tower Inventory".

The basic wind speed of 120 MPH with no radial ice in accordance with TIA-222-H is taken from Appendix P in the 2022 Connecticut State Building Code for the basic design wind speed for the municipality of Orange, CT. The basic wind speed of 50 MPH concurrent with 1" design ice thickness is in accordance from the TIA-222-H. Additional criteria include Structure Class II, Exposure Category C, and Topographic Category 1.

Load Case No. 1: Proposed Verizon addition of (6) JAHH-65B-R3B panel antennas, (3) MT6413-77A panel antennas, (3) RF4439d-25A, (3) RF4461d-13A, (3) CBC78T-DS-43-2X diplexers, and the removal of (3) HBX-6517DS-VTM panel antennas, (3) LNX-6514DS-VTM panel antennas, (3) UHBB B13 RRH 2x40 and (3) UHID B4 RRH 2x40.

The tower superstructure, base plate, and building structure has sufficient capacity and therefore meets the current TIA standards. The tower superstructure is rated at 52.9% and base plate is rated at 40.2%.

Building Structure		
Axial	Shear	Overturning Moment
8.8 kips	6.9 kips	212.7 kip-ft

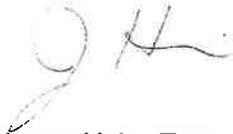
6.0 RECOMMENDATIONS

Further to our calculations, we conclude that the tower superstructure, base plate, and building structure has adequate capacity and therefore meets the current TIA-222-H design standards. The tower is acceptable to support the proposed Verizon Wireless installation.

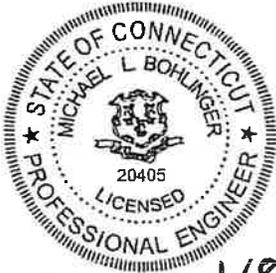
Please do not hesitate to contact our office with any questions or concerns regarding this report.

Sincerely,
KM CONSULTING ENGINEERS, INC

Reviewed and Approved by:



Jesse Hsia, EIT
Project Manager

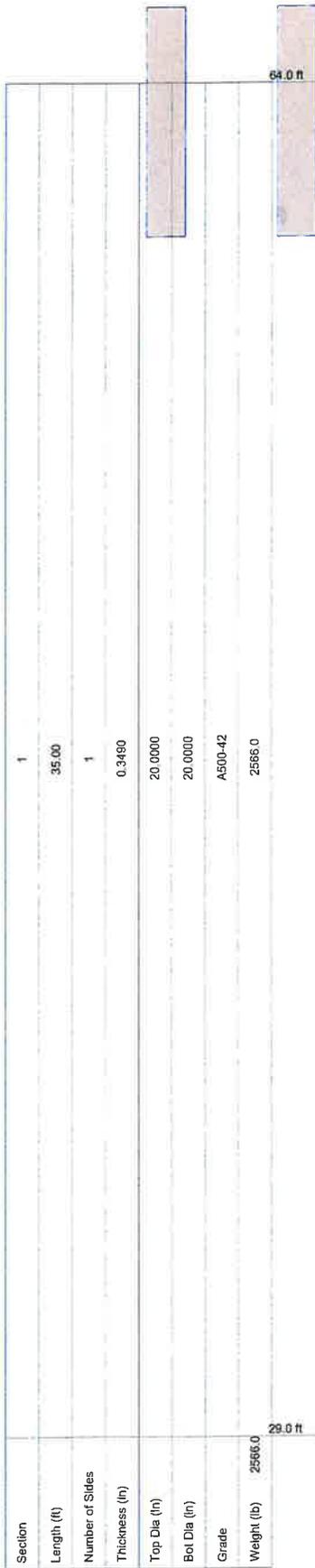


Michael L. Bohlinger, PE
Principal
CT License No. 20405

1/8/24

7.0 APPENDIX

LOAD CASE 1



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
LNX-6514DS-VTM (Verizon)	63	MT6413-77A (Verizon)	63
LNA-6514DS-VTM (Verizon)	63	B2/B66A RRH ORAN RF4439d-25A (Verizon)	63
LNX-6514DS-VTM (Verizon)	63	B2/B66A RRH ORAN RF4439d-25A (Verizon)	63
(2) JAHH-65B-R3B (Verizon)	63	B2/B66A RRH ORAN RF4439d-25A (Verizon)	63
(2) JAHH-65B-R3B (Verizon)	63	B2/B66A RRH ORAN RF4439d-25A (Verizon)	63
(2) JAHH-65B-R3B (Verizon)	63	B2/B66A RRH ORAN RF4439d-25A (Verizon)	63
CBC78T-DS-43-2X (Verizon)	63	RF4461d-13A (Verizon)	63
CBC78T-DS-43-2X (Verizon)	63	RF4461d-13A (Verizon)	63
CBC78T-DS-43-2X (Verizon)	63	RF4461d-13A (Verizon)	63
OVP6 (Verizon)	63	12'-6" T-Arm Mount (Verizon)	63
OVP6 (Verizon)	63	12'-6" T-Arm Mount (Verizon)	63
MT6413-77A (Verizon)	63	12'-6" T-Arm Mount (Verizon)	63
MT6413-77A (Verizon)	63	12'-6" T-Arm Mount (Verizon)	63

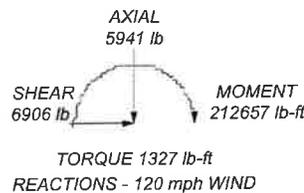
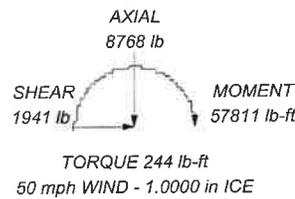
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A500-42	42 ksi	58 ksi			

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-H Standard.
2. Tower designed for a 120 mph basic wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. Weld together tower sections have flange connections.
8. Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications.
9. Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
10. Welds are fabricated with ER-70S-6 electrodes.
11. TOWER RATING: 52.9%

ALL REACTIONS ARE FACTORED

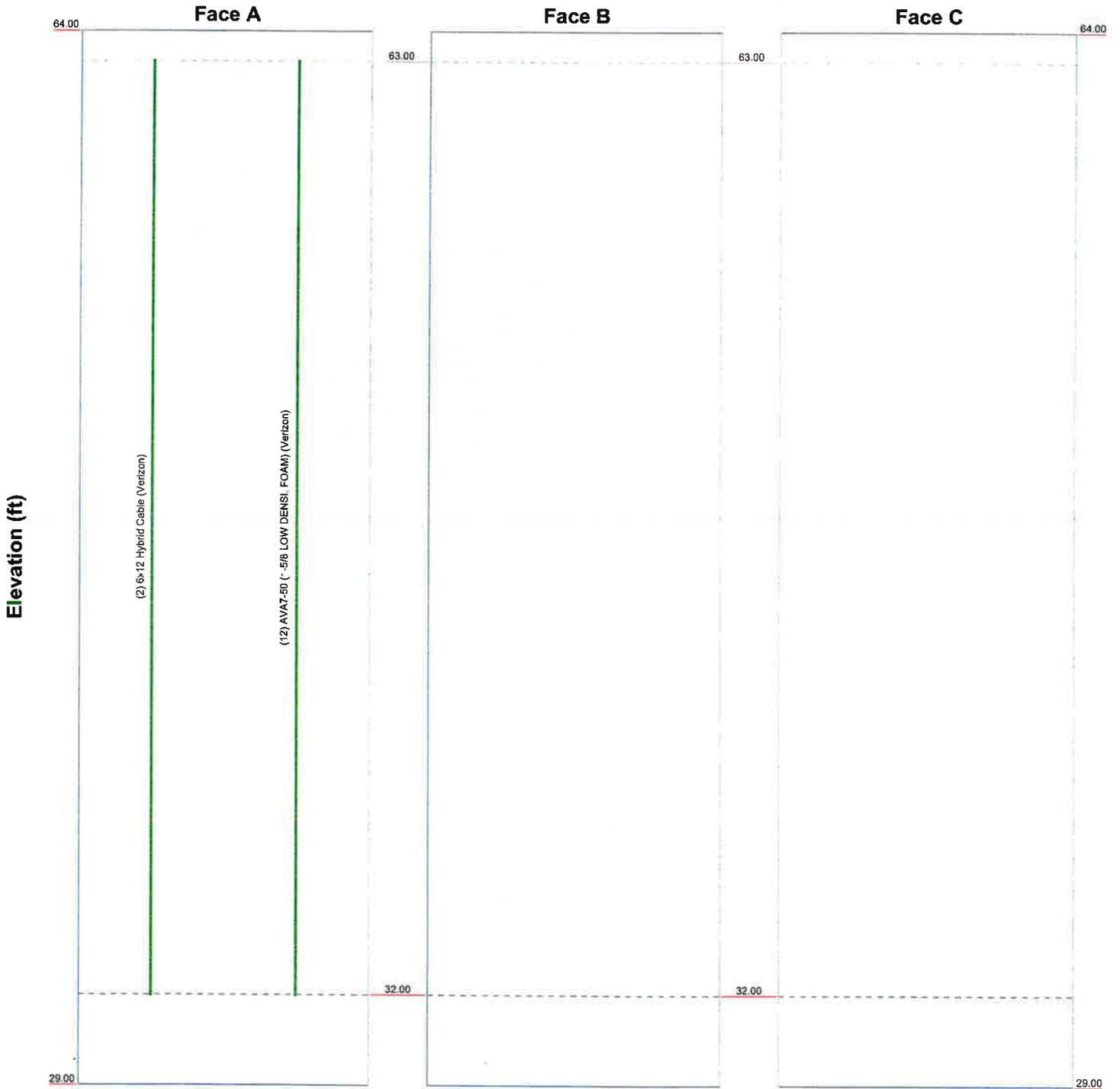


 KM Consulting Engineers 262 Upper Ferry Road Ewing, NJ 08628 Phone: 609-538-0400 FAX:	Job: Milford 4 CT (35' Rooftop Monopole) Project: 210203.00 Client: On Air Engineering Code: TIA-222-H Path:	Drawn by: Jesse Hsia Date: 01/05/24 Scale: NTS Dwg No: E-1	App'd: Scale: NTS Dwg No: E-1
	<small>K:\30 On Air Engineering\210203\4 CT Rooftop Monopole\1-22-24\Rev 1-4-24\101.dwg</small>		

Feed Line Distribution Chart

29' - 64'

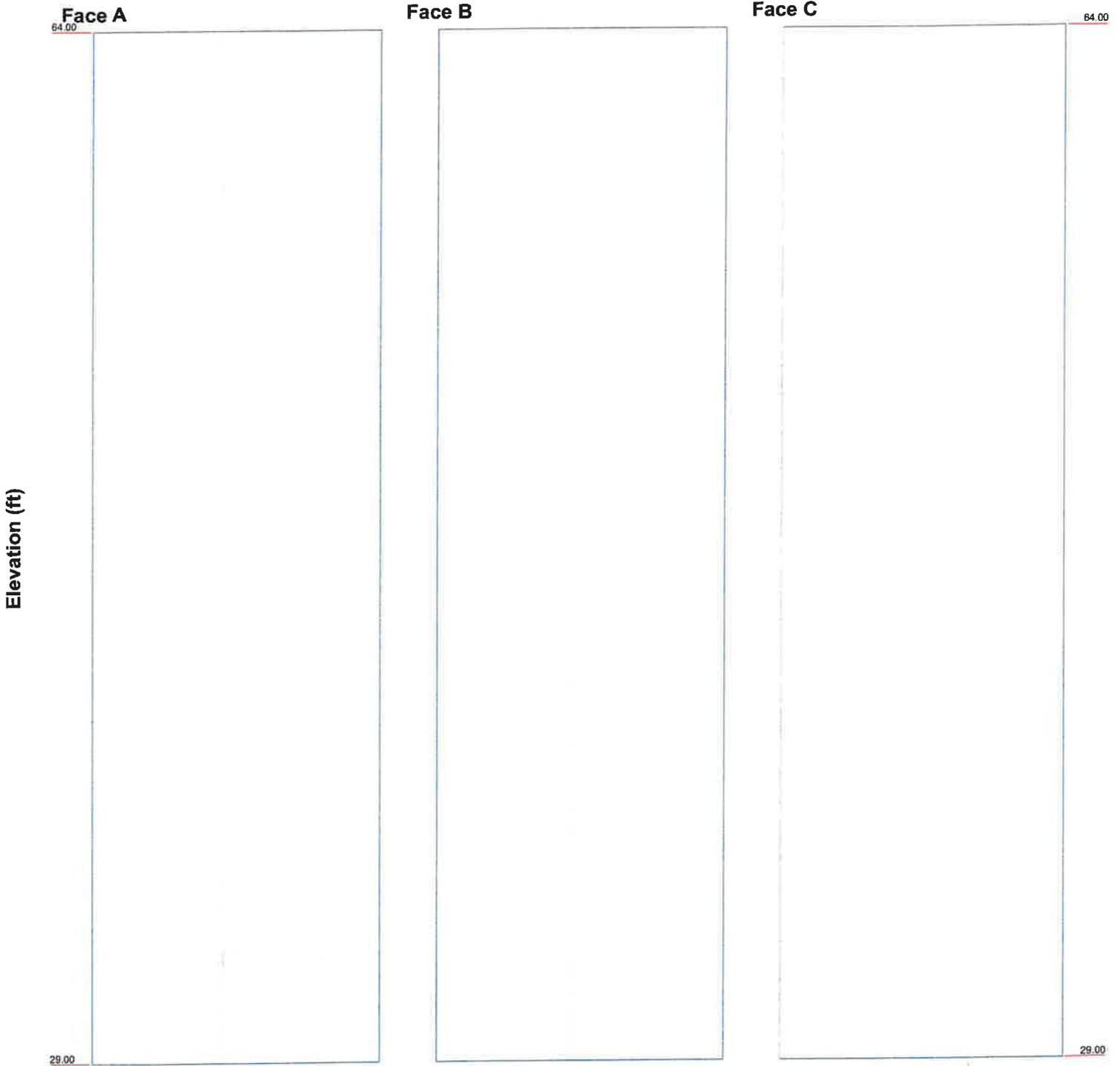
— Round
 — Flat
 — App In Face
 — App Out Face
 — Truss Leg



 KM Consulting	KM Consulting Engineers		Job: Milford 4 CT (35' Rooftop Monopole)		
	262 Upper Ferry Road		Project: 210203.00		
	Ewing, NJ 08628		Client: On Air Engineering	Drawn by: Jesse Hsia	App'd:
	Phone: 609-538-0400		Code: TIA-222-H	Date: 01/05/24	Scale: NTS
FAX:		Path: K:\On Air Engineering\Milford 4 CT\Engineering\14-200\Milford 4 CT (01).dwg		Dwg No. E-7	

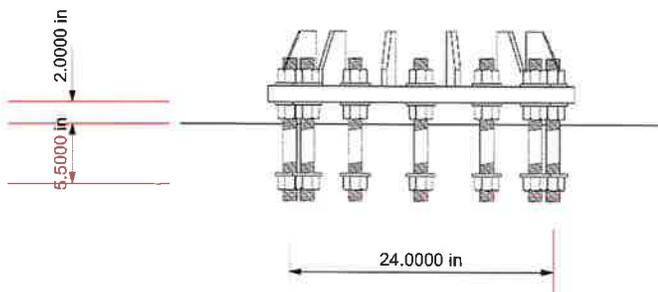
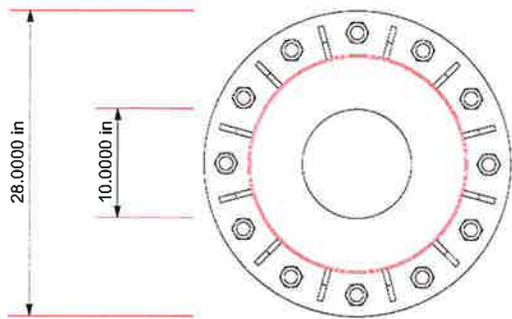
Stress Distribution Chart 29' - 64'

■ > 100%
 ■ 90%-100%
 ■ 75%-90%
 ■ 50%-75%
 ■ < 50%
 Overstress



 KM Consulting	KM Consulting Engineers		Job: Milford 4 CT (35' Rooftop Monopole)		
	262 Upper Ferry Road		Project: 210203.00		
	Ewing, NJ 08628		Client: On Air Engineering	Drawn by: Jesse Hsia	App'd:
	Phone: 609-538-0400		Code: TIA-222-H	Date: 01/05/24	Scale: NTS
FAX:		Path:	Dwg No: E-8		

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FOUNDATION NOTES

1. Plate thickness is 1.5000 in.
2. Plate grade is A572-50.
3. Anchor bolt grade is A325X.
4. fc is 4 ksi.

 KM Consulting Engineers 262 Upper Ferry Road Ewing, NJ 08628 Phone: 609-538-0400 FAX:	Job: Milford 4 CT (35' Rooftop Monopole)		
	Project: 210203.00		
	Client: On Air Engineering	Drawn by: Jesse Hsia	App'd:
	Code: TIA-222-H	Date: 01/05/24	Scale: NTS
Path:	Dwg No. F-1		

tnxTower KM Consulting Engineers 262 Upper Ferry Road Ewing, NJ 08628 Phone: 609-538-0400 FAX:	Job Milford 4 CT (35' Rooftop Monopole)	Page 1 of 13
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	Client On Air Engineering	Designed by Jesse Hsia

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

Tower base elevation above sea level: 29.00 ft.

Basic wind speed of 120 mph.

Risk Category II.

Exposure Category C.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1.

Crest Height: 0.00 ft.

Nominal ice thickness of 1.0000 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

Weld together tower sections have flange connections..

Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications..

Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards..

Welds are fabricated with ER-70S-6 electrodes..

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

- | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile √ Include Bolts In Member Capacity √ Leg Bolts Are At Top Of Section √ Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric Distribute Leg Loads As Uniform | <ul style="list-style-type: none"> Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area √ Use Clear Spans For KL/r √ Retension Guys To Initial Tension Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurtenances Alternative Appurt. EPA Calculation √ Autocalc Torque Arm Areas Add IBC .6D+W Combination Sort Capacity Reports By Component √ Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs Use ASCE 10 X-Brace Ly Rules | <ul style="list-style-type: none"> √ Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression √ All Leg Panels Have Same Allowable Offset Girt At Foundation Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <li style="text-align: center;">Poles Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Tapered Pole Section Geometry

tnxTower KM Consulting Engineers 262 Upper Ferry Road Ewing, NJ 08628 Phone: 609-538-0400 FAX:	Job Milford 4 CT (35' Rooftop Monopole)	Page 2 of 13
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Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	64.00-29.00	35.00		Round	20.0000	20.0000	0.3490		A500-42 (42 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L1	20.0000	21.5457	1040.3423	6.9488	10.0000	104.0342	2080.6845	10.7664	0.0000	0
	20.0000	21.5457	1040.3423	6.9488	10.0000	104.0342	2080.6845	10.7664	0.0000	0

Tower Elevation ft	Gusset Area ft ² (per face)	Gusset Thickness in	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 64.00-29.00				1	1	1			

Monopole Base Plate Data

Base Plate Data

Base plate is square	
Base plate is grouted	
Anchor bolt grade	A325X
Anchor bolt size	1.2500 in
Number of bolts	12
Embedment length	5.5000 in
f _c	4 ksi
Grout space	2.0000 in
Base plate grade	A572-50
Base plate thickness	1.5000 in
Bolt circle diameter	24.0000 in
Outer diameter	28.0000 in
Inner diameter	10.0000 in
Base plate type	Stiffened Plate
Bolts per stiffener	1
Stiffener thickness	0.5000 in
Stiffener height	5.0000 in

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Shield Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf
6x12 Hybrid Cable (Verizon)	A	No	Yes	Inside Pole	63.00 - 32.00	2	No Ice	0.00	0.72
							1/2" Ice	0.00	0.72
							1" Ice	0.00	0.72
AVA7-50 (1-5/8 LOW DENSL	A	No	Yes	Inside Pole	63.00 - 32.00	12	No Ice	0.00	0.72
							1/2" Ice	0.00	0.72

tnxTower KM Consulting Engineers 262 Upper Ferry Road Ewing, NJ 08628 Phone: 609-538-0400 FAX:	Job Milford 4 CT (35' Rooftop Monopole)	Page 3 of 13
	Project 210203.00	Date 16:10:56 01/05/24
	Client On Air Engineering	Designed by Jesse Hsia

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	C _A A _A ft ² /ft	Weight plf
FOAM (Verizon)						1" Ice	0.00	0.72

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight lb
L1	64.00-29.00	A	0.000	0.000	0.000	0.000	312.48
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight lb
L1	64.00-29.00	A	1.036	0.000	0.000	0.000	0.000	312.48
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _A A _A Front ft ²	C _A A _A Side ft ²	Weight lb	
LNX-6514DS-VTM (Verizon)	A	From Leg	0.00	0.0000	63.00	No Ice	8.17	5.40	38.80
			-1.00			1/2" Ice	8.98	6.25	90.40
			0.00			1" Ice	9.79	7.10	90.40
LNX-6514DS-VTM (Verizon)	B	From Leg	0.00	0.0000	63.00	No Ice	8.17	5.40	38.80
			-1.00			1/2" Ice	8.98	6.25	90.40
			0.00			1" Ice	9.79	7.10	142.00
LNX-6514DS-VTM (Verizon)	C	From Leg	0.00	0.0000	63.00	No Ice	8.17	5.40	38.80
			-1.00			1/2" Ice	8.98	6.25	90.40
			0.00			1" Ice	9.79	7.10	142.00
(2) JAHH-65B-R3B (Verizon)	A	From Leg	3.00	0.0000	63.00	No Ice	9.10	5.98	64.40
			2.25			1/2" Ice	9.90	6.80	123.80
			0.00			1" Ice	10.70	7.62	183.20
(2) JAHH-65B-R3B (Verizon)	B	From Leg	3.00	0.0000	63.00	No Ice	9.10	5.98	64.40
			2.25			1/2" Ice	9.90	6.80	123.80
			0.00			1" Ice	10.70	7.62	183.20
(2) JAHH-65B-R3B (Verizon)	C	From Leg	3.00	0.0000	63.00	No Ice	9.10	5.98	64.40
			2.25			1/2" Ice	9.90	6.80	123.80

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz Lateral	Vert					
CBC78T-DS-43-2X (Verizon)	A	From Leg	0.00	0.00	0.0000	63.00	1" Ice	7.62	183.20
			2.50	0.00			No Ice	0.37	21.80
			0.00	0.00			1/2" Ice	0.49	28.30
CBC78T-DS-43-2X (Verizon)	B	From Leg	0.00	0.00	0.0000	63.00	1" Ice	0.80	34.80
			2.50	0.00			No Ice	0.37	21.80
			0.00	0.00			1/2" Ice	0.49	28.30
CBC78T-DS-43-2X (Verizon)	C	From Leg	0.00	0.00	0.0000	63.00	1" Ice	0.80	34.80
			2.50	0.00			No Ice	0.37	21.80
			0.00	0.00			1/2" Ice	0.49	28.30
OVP6 (Verizon)	C	From Leg	0.00	0.00	0.0000	63.00	1" Ice	2.24	80.00
			2.50	0.00			No Ice	2.62	32.00
			0.00	0.00			1/2" Ice	2.92	56.00
OVP6 (Verizon)	C	From Leg	0.00	0.00	0.0000	63.00	1" Ice	2.24	80.00
			2.50	0.00			No Ice	2.62	32.00
			0.00	0.00			1/2" Ice	2.92	56.00
MT6413-77A (Verizon)	A	From Leg	0.00	0.00	0.0000	63.00	1" Ice	2.24	80.00
			3.00	0.00			No Ice	3.88	55.10
			-5.00	0.00			1/2" Ice	4.26	80.50
MT6413-77A (Verizon)	B	From Leg	0.00	0.00	0.0000	63.00	1" Ice	2.16	105.90
			3.00	0.00			No Ice	3.88	55.10
			-5.00	0.00			1/2" Ice	4.26	80.50
MT6413-77A (Verizon)	C	From Leg	0.00	0.00	0.0000	63.00	1" Ice	2.16	105.90
			3.00	0.00			No Ice	3.88	55.10
			-5.00	0.00			1/2" Ice	4.26	80.50
B2/B66A RRH ORAN RF4439d-25A (Verizon)	A	From Leg	0.00	0.00	0.0000	63.00	1" Ice	2.16	105.90
			2.50	0.00			No Ice	1.88	70.30
			5.00	0.00			1/2" Ice	2.13	88.10
B2/B66A RRH ORAN RF4439d-25A (Verizon)	B	From Leg	0.00	0.00	0.0000	63.00	1" Ice	1.57	105.90
			2.50	0.00			No Ice	1.88	70.30
			5.00	0.00			1/2" Ice	2.13	88.10
B2/B66A RRH ORAN RF4439d-25A (Verizon)	C	From Leg	0.00	0.00	0.0000	63.00	1" Ice	1.57	105.90
			2.50	0.00			No Ice	1.88	70.30
			5.00	0.00			1/2" Ice	2.13	88.10
RF4461d-13A (Verizon)	A	From Leg	0.00	0.00	0.0000	63.00	1" Ice	1.57	105.90
			2.50	0.00			No Ice	1.88	74.70
			-5.00	0.00			1/2" Ice	2.13	93.46
RF4461d-13A (Verizon)	B	From Leg	0.00	0.00	0.0000	63.00	1" Ice	1.69	112.22
			2.50	0.00			No Ice	1.88	74.70
			-5.00	0.00			1/2" Ice	2.13	93.46
RF4461d-13A (Verizon)	C	From Leg	0.00	0.00	0.0000	63.00	1" Ice	1.69	112.22
			2.50	0.00			No Ice	1.88	74.70
			-5.00	0.00			1/2" Ice	2.13	93.46
12'-6" T-Arm Mount (Verizon)	A	None	0.00	0.00	0.0000	63.00	1" Ice	1.69	112.22
			0.00	0.00			No Ice	17.40	280.00
			0.00	0.00			1/2" Ice	23.60	330.40
12'-6" T-Arm Mount (Verizon)	B	None	0.00	0.00	0.0000	63.00	1" Ice	21.80	380.80
			0.00	0.00			No Ice	17.40	280.00
			0.00	0.00			1/2" Ice	23.60	330.40
12'-6" T-Arm Mount (Verizon)	C	None	0.00	0.00	0.0000	63.00	1" Ice	21.80	380.80
			0.00	0.00			No Ice	17.40	280.00
			0.00	0.00			1/2" Ice	23.60	330.40
							1" Ice	29.50	380.80

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Tower Pressures - No Ice

$G_H = 1.100$

Section Elevation	z	K_Z	q_z	A_G	F a c e	A_F	A_R	A_{leg}	Leg %	$C_A A_A$ In Face	$C_A A_A$ Out Face
ft	ft		psf	ft ²	e	ft ²	ft ²	ft ²		ft ²	ft ²
L1 64.00-29.00	46.85	1.079	38	58.333	A	0.000	58.333	58.333	100.00	0.000	0.000
					B	0.000	58.333		100.00	0.000	0.000
					C	0.000	58.333		100.00	0.000	0.000

Tower Pressure - With Ice

$G_H = 1.100$

Section Elevation	z	K_Z	q_z	t_z	A_G	F a c e	A_F	A_R	A_{leg}	Leg %	$C_A A_A$ In Face	$C_A A_A$ Out Face
ft	ft		psf	in	ft ²	e	ft ²	ft ²	ft ²		ft ²	ft ²
L1 64.00-29.00	46.85	1.079	7	1.0357	64.375	A	0.000	64.375	64.375	100.00	0.000	0.000
						B	0.000	64.375		100.00	0.000	0.000
						C	0.000	64.375		100.00	0.000	0.000

Tower Pressure - Service

$G_H = 1.100$

Section Elevation	z	K_Z	q_z	A_G	F a c e	A_F	A_R	A_{leg}	Leg %	$C_A A_A$ In Face	$C_A A_A$ Out Face
ft	ft		psf	ft ²	e	ft ²	ft ²	ft ²		ft ²	ft ²
L1 64.00-29.00	46.85	1.079	8	58.333	A	0.000	58.333	58.333	100.00	0.000	0.000
					B	0.000	58.333		100.00	0.000	0.000
					C	0.000	58.333		100.00	0.000	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C_F	q_z	D_F	D_R	A_E	F	w	Ctrl. Face
ft	lb	lb	e			psf			ft ²	lb	plf	
L1 64.00-29.00	312.48	2566.04	A	1	0.6	38	1	1	58.333	1448.04	41.37	C
			B	1	0.6		1	1	58.333			
			C	1	0.6		1	1	58.333			
Sum Weight:	312.48	2566.04						OTM	25848.43 lb-ft	1448.04		

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Tower Forces - No Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
L1 64.00-29.00	312.48	2566.04	A	1	0.6	38	1	1	58.333	1448.04	41.37	C
			B	1	0.6		1	1	58.333			
			C	1	0.6		1	1	58.333			
Sum Weight:	312.48	2566.04						OTM	25848.43 lb-ft	1448.04		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
L1 64.00-29.00	312.48	2566.04	A	1	0.6	38	1	1	58.333	1448.04	41.37	C
			B	1	0.6		1	1	58.333			
			C	1	0.6		1	1	58.333			
Sum Weight:	312.48	2566.04						OTM	25848.43 lb-ft	1448.04		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
L1 64.00-29.00	312.48	3497.62	A	1	1.2	7	1	1	64.375	554.86	15.85	C
			B	1	1.2		1	1	64.375			
			C	1	1.2		1	1	64.375			
Sum Weight:	312.48	3497.62						OTM	9904.67 lb-ft	554.86		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z	D _F	D _R	A _E	F	w	Ctrl. Face
ft	lb	lb				psf			ft ²	lb	plf	
L1 64.00-29.00	312.48	3497.62	A	1	1.2	7	1	1	64.375	554.86	15.85	C
			B	1	1.2		1	1	64.375			

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Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb	C	1	1.2		1	1	64.375	554.86		
Sum Weight:	312.48	3497.62						OTM	9904.67 lb-ft			

Tower Forces - With Ice - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
L1 64.00-29.00	312.48	3497.62	A B C	1 1 1	1.2 1.2 1.2	7	1 1 1	1 1 1	64.375 64.375 64.375	554.86	15.85	C
Sum Weight:	312.48	3497.62						OTM	9904.67 lb-ft	554.86		

Tower Forces - Service - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
L1 64.00-29.00	312.48	2566.04	A B C	1 1 1	0.6 0.6 0.6	8	1 1 1	1 1 1	58.333 58.333 58.333	323.90	9.25	C
Sum Weight:	312.48	2566.04						OTM	5781.88 lb-ft	323.90		

Tower Forces - Service - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
L1 64.00-29.00	312.48	2566.04	A B C	1 1 1	0.6 0.6 0.6	8	1 1 1	1 1 1	58.333 58.333 58.333	323.90	9.25	C
Sum Weight:	312.48	2566.04						OTM	5781.88 lb-ft	323.90		

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Tower Forces - Service - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C _F	q _z psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
L1 64.00-29.00	312.48	2566.04	A	1	0.6	8	1	1	58.333	323.90	9.25	C
			B	1	0.6		1	1	58.333			
			C	1	0.6		1	1	58.333			
Sum Weight:	312.48	2566.04					OTM		5781.88 lb-ft	323.90		

Force Totals

Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M _x lb-ft	Sum of Overturning Moments, M _z lb-ft	Sum of Torques lb-ft
Leg Weight	2566.04					
Bracing Weight	0.00					
Total Member Self-Weight	2566.04			106.67	184.75	
Total Weight	4951.02			106.67	184.75	
Wind 0 deg - No Ice		0.00	-6874.40	-210238.10	184.75	-398.20
Wind 90 deg - No Ice		6906.25	0.00	106.67	-211242.91	1328.75
Wind 180 deg - No Ice		0.00	6874.40	210451.43	184.75	398.20
Member Ice	931.58					
Total Weight Ice	7778.01			326.10	421.90	
Wind 0 deg - Ice		0.00	-1935.12	-56507.30	421.90	-92.66
Wind 90 deg - Ice		1941.17	0.00	326.10	-56617.33	245.14
Wind 180 deg - Ice		0.00	1935.12	57159.50	421.90	92.66
Total Weight	4951.02			106.67	184.75	
Wind 0 deg - Service		0.00	-1537.70	-46944.14	184.75	-89.07
Wind 90 deg - Service		1544.82	0.00	106.67	-47108.28	297.22
Wind 180 deg - Service		0.00	1537.70	47157.47	184.75	89.07

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 90 deg - No Ice
5	0.9 Dead+1.0 Wind 90 deg - No Ice
6	1.2 Dead+1.0 Wind 180 deg - No Ice
7	0.9 Dead+1.0 Wind 180 deg - No Ice
8	1.2 Dead+1.0 Ice+1.0 Temp
9	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
10	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
11	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
12	Dead+Wind 0 deg - Service
13	Dead+Wind 90 deg - Service

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Comb. No.	Description
14	Dead+Wind 180 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
L1	64 - 29	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-8768.22	458.85	-347.43
			Max. M _x	4	-5935.20	-212656.98	-129.34
			Max. M _y	6	-5935.25	223.96	-211919.75
			Max. V _y	4	6911.43	-212656.98	-129.34
			Max. V _x	6	6879.56	223.96	-211919.75
			Max. Torque	5			-1327.82

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Pole	Max. Vert	11	8768.22	0.00	-1935.12
	Max. H _x	14	4951.02	0.00	-1537.70
	Max. H _z	2	5941.22	0.00	6874.40
	Max. M _x	2	211661.22	0.00	6874.40
	Max. M _z	4	212656.98	-6906.25	-0.00
	Max. Torsion	3	396.74	0.00	6874.40
	Min. Vert	3	4455.92	0.00	6874.40
	Min. H _x	4	5941.22	-6906.25	-0.00
	Min. H _z	6	5941.22	0.00	-6874.40
	Min. M _x	6	-211919.75	0.00	-6874.40
	Min. M _z	9	-466.45	0.00	1935.12
	Min. Torsion	5	-1327.47	-6906.25	-0.00

Tower Mast Reaction Summary

Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _z lb-ft	Torque lb-ft
Dead Only	4951.02	0.00	0.00	106.67	184.75	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	5941.22	-0.00	-6874.40	-211661.22	223.85	-396.30
0.9 Dead+1.0 Wind 0 deg - No Ice	4455.92	-0.00	-6874.40	-211326.50	167.46	-396.74
1.2 Dead+1.0 Wind 90 deg - No Ice	5941.22	6906.25	0.00	128.97	-212656.98	1327.21
0.9 Dead+1.0 Wind 90 deg - No Ice	4455.92	6906.25	0.00	96.48	-212344.15	1327.47
1.2 Dead+1.0 Wind 180 deg - No Ice	5941.22	-0.00	6874.40	211919.75	223.85	396.30
0.9 Dead+1.0 Wind 180 deg - No Ice	4455.92	-0.00	6874.40	211519.90	167.46	396.74

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Load Combination	Vertical lb	Shear _x lb	Shear _y lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _y lb-ft	Torque lb-ft
1.2 Dead+1.0 Ice+1.0 Temp	8768.22	0.00	0.00	347.43	458.85	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	8768.22	-0.00	-1935.12	-57102.29	466.45	-91.70
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	8768.22	1941.17	0.00	353.17	-57197.20	244.41
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	8768.22	-0.00	1935.12	57808.67	466.45	91.70
Dead+Wind 0 deg - Service	4951.02	-0.00	-1537.70	-47214.99	186.33	-88.75
Dead+Wind 90 deg - Service	4951.02	1544.82	0.00	107.57	-47379.90	297.03
Dead+Wind 180 deg - Service	4951.02	-0.00	1537.70	47430.15	186.33	88.75

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
1	0.00	-4951.02	0.00	0.00	4951.02	0.00	0.000%
2	0.00	-5941.22	-6874.40	0.00	5941.22	6874.40	0.000%
3	0.00	-4455.92	-6874.40	0.00	4455.92	6874.40	0.000%
4	6906.25	-5941.22	0.00	-6906.25	5941.22	-0.00	0.000%
5	6906.25	-4455.92	0.00	-6906.25	4455.92	-0.00	0.000%
6	0.00	-5941.22	6874.40	0.00	5941.22	-6874.40	0.000%
7	0.00	-4455.92	6874.40	0.00	4455.92	-6874.40	0.000%
8	0.00	-8768.22	0.00	0.00	8768.22	0.00	0.000%
9	0.00	-8768.22	-1935.12	0.00	8768.22	1935.12	0.000%
10	1941.17	-8768.22	0.00	-1941.17	8768.22	-0.00	0.000%
11	0.00	-8768.22	1935.12	0.00	8768.22	-1935.12	0.000%
12	0.00	-4951.02	-1537.70	0.00	4951.02	1537.70	0.000%
13	1544.82	-4951.02	0.00	-1544.82	4951.02	-0.00	0.000%
14	0.00	-4951.02	1537.70	0.00	4951.02	-1537.70	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.0000001	0.0000001
2	Yes	4	0.0000001	0.0000001
3	Yes	4	0.0000001	0.0000001
4	Yes	4	0.0000001	0.0000001
5	Yes	4	0.0000001	0.0000001
6	Yes	4	0.0000001	0.0000001
7	Yes	4	0.0000001	0.0000001
8	Yes	4	0.0000001	0.0000001
9	Yes	4	0.0000001	0.0000001
10	Yes	4	0.0000001	0.0000001
11	Yes	4	0.0000001	0.0000001
12	Yes	4	0.0000001	0.0000001
13	Yes	4	0.0000001	0.0000001
14	Yes	4	0.0000001	0.0000001

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Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	64 - 29	1.064	14	0.2129	0.0036

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
63.00	LNx-6514DS-VTM	14	1.034	0.2069	0.0035	Inf

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	64 - 29	4.763	4	0.9517	0.0160

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
63.00	LNx-6514DS-VTM	4	4.627	0.9245	0.0155	Inf

Base Plate Design Data

Plate Thickness in	Number of Anchor Bolts	Anchor Bolt Size in	Actual Allowable Ratio Bolt Tension lb	Actual Allowable Ratio Bolt Compression lb	Actual Allowable Ratio Plate Stress ksi	Actual Allowable Ratio Stiffener Stress ksi	Controlling Condition	Ratio
1.5000	12	1.2500	35019.87 87219.84 0.40	35937.44 144784.94 0.25	10.989 45.000 0.24	13.361 45.000 0.30	Bolt T	0.40 ✓

Compression Checks

tnxTower KM Consulting Engineers 262 Upper Ferry Road Ewing, NJ 08628 Phone: 609-538-0400 FAX:	Job Milford 4 CT (35' Rooftop Monopole)	Page 12 of 13
	Project 210203.00	Date 16:10:56 01/05/24
	Client On Air Engineering	Designed by Jesse Hsia

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _v ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
L1	64 - 29 (1)	TP20x20x0.349	35.00	35.00	60.4	21.5457	-5935.20	650737.00	0.009

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} lb-ft	φM _{ux} lb-ft	Ratio $\frac{M_{ux}}{\phi M_{ux}}$	M _{uy} lb-ft	φM _{uy} lb-ft	Ratio $\frac{M_{uy}}{\phi M_{uy}}$
L1	64 - 29 (1)	TP20x20x0.349	212656.67	409441.67	0.519	0.00	409441.67	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V _u lb	φV _n lb	Ratio $\frac{V_u}{\phi V_n}$	Actual T _u lb-ft	φT _n lb-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	64 - 29 (1)	TP20x20x0.349	6911.43	244328.00	0.028	1327.21	422121.67	0.003

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{ux}}$	Ratio $\frac{M_{uy}}{\phi M_{uy}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	64 - 29 (1)	0.009	0.519	0.000	0.028	0.003	0.529	1.000	✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	φP _{allow} lb	% Capacity	Pass Fail	
L1	64 - 29	Pole	TP20x20x0.349	1	-5935.20	650737.00	52.9	Pass	
							Summary		
							Pole (L1)	52.9	Pass
							Base Plate	40.2	Pass
							RATING =	52.9	Pass

<i>tnxTower</i> <i>KM Consulting Engineers</i> <i>262 Upper Ferry Road</i> <i>Ewing, NJ 08628</i> <i>Phone: 609-538-0400</i> <i>FAX:</i>	Job Milford 4 CT (35' Rooftop Monopole)	Page 13 of 13
	Project 210203.00	Date 16:10:56 01/05/24
	Client On Air Engineering	Designed by Jesse Hsia



Colliers Engineering & Design, Architecture,
Landscape Architecture, Surveying, CT P.C.
1055 Washington Boulevard
Stamford, CT 06901
203.324.0800
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Antenna Mount Analysis Report and PMI Requirements

Mount ReAnalysis-VZW

SMART Tool Project #: 10219752
Colliers Engineering & Design Project #: 20777369 (Rev 2)

January 19, 2024

Site Information

Site ID: 5000383291-VZW / Milford South 4 CT
Site Name: Milford South 4 CT
Carrier Name: Verizon Wireless
Address: 58 Robinson Blvd
Orange, Connecticut 06477
New Haven County
Latitude: 41.24722°
Longitude: -72.991414°

Structure Information

Tower Type: Rooftop Mounted Monopole
Mount Type: 12.50-Ft T-Arm

FUZE ID # 16244656

Analysis Results

T-Arm: 92.4% Pass*

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

***Contractor PMI Requirements:

Included at the end of this MA report
Available & Submitted via portal at <https://pmi.vzwsmart.com>

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

Report Prepared By: Cody Sherman



Executive Summary:

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

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

Sources of Information:

Document Type	Remarks
Radio Frequency Data Sheet (RFDS)	Verizon RFDS Site ID: 1816386, dated November 28, 2023
Mount Mapping Report	Tower Engineering Professionals Site ID: 468983, dated November 11, 2020

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} : 120 mph
Ice Wind Speed (3-sec. Gust): 50 mph
Design Ice Thickness: 1.00 in
Risk Category: II
Exposure Category: C
Topographic Category: 1
Topographic Feature Considered: N/A
Topographic Method: N/A
Ground Elevation Factor, K_e : 0.999

Seismic Parameters: S_s : 0.201 g
 S_1 : 0.054 g

Maintenance Parameters: Wind Speed (3-sec. Gust): 30 mph
Maintenance Load, L_v : 250 lbs.
Maintenance Load, L_m : 500 lbs.

Analysis Software: RISA-3D (V17)

Final Loading Configuration:

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

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
63.25	63.00	3	Samsung	MT6413-77A	Added
		6	Commscope	JAHH-65B-R3B	
		3	Commscope	CBC78T-DS-43-2X	
		3	Samsung	RF4439d-25A	
		3	Samsung	RF4461d-13A	
		3	Andrew	LNX-6514DS-VTM	Retained
		2	Raycap	RRFDC-3315-PF-48	

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

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

Standard Conditions:

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

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
Face Horizontal	35.4 %	Pass
Standoff Horizontal	56.6 %	Pass
Mount Pipe	32.8 %	Pass
Mount Connection	92.4 %	Pass

Structure Rating – (Controlling Utilization of all Components)	92.4%
-----------------------------------------------------------------------	--------------

The mount has been found structurally adequate for all steel and external connection capacities. Serviceability in accordance with TIA-222-H Section 4.9.11.3 has not been considered.

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	63.25	N1	927	1917	3.714	5.461	1919	440	7.551	1.295

Notes:

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

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	7.7	2.5	17.4	12.1
0.5	9.8	3.3	23.6	17.1
1	11.6	4.0	29.5	21.8

Notes:

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

Requirements:

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

None.

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

Attachments:

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

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – **Passing Mount Analysis**

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

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

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

MDG #: 5000383291

SMART Project #: 10215054

Fuze Project ID: 16244656

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

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

Base Requirements:

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

Photo Requirements:

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

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

Antenna & equipment placement and Geometry Confirmation:

- The contractor shall certify that the antenna & equipment placement and geometry is in accordance with the sketch and table as included in the mount analysis and noted below.

The contractor certifies that the photos support and the equipment on the mount is as depicted on the sketch and table included in this form and with the mount analysis provided.

OR

The contractor notes that the equipment on the mount is not in accordance with the sketch and has noted the differences below and provided photo documentation of any alterations.

Special Instructions / Validation as required from the MA or any other information the contractor deems necessary to share that was identified:

Issue:

None.

Response:

Special Instruction Confirmation:

- The contractor has read and acknowledges the above special instructions.
- All hardware listed in the Special Instructions above (if applicable) has been properly installed, and the existing hardware was inspected.
- The material utilized was as specified in the SMART Tool engineering vendor Special Instructions above (if applicable) and included in the material certification folder is a packing list or invoice for these materials.

OR

The material utilized was approved by a SMART Tool engineering vendor as an “equivalent” and this approval is included as part of the contractor submission.

Comments:

--

Contractor certifies that the climbing facility / safety climb was not damaged prior to starting work:

Yes No

Contractor certifies no new damage created during the current installation:

Yes No

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

Safety Climb in Good Condition Safety Climb Damaged

Certifying Individual:

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

Structure: 5000383291-VZW - Milford South 4 CT

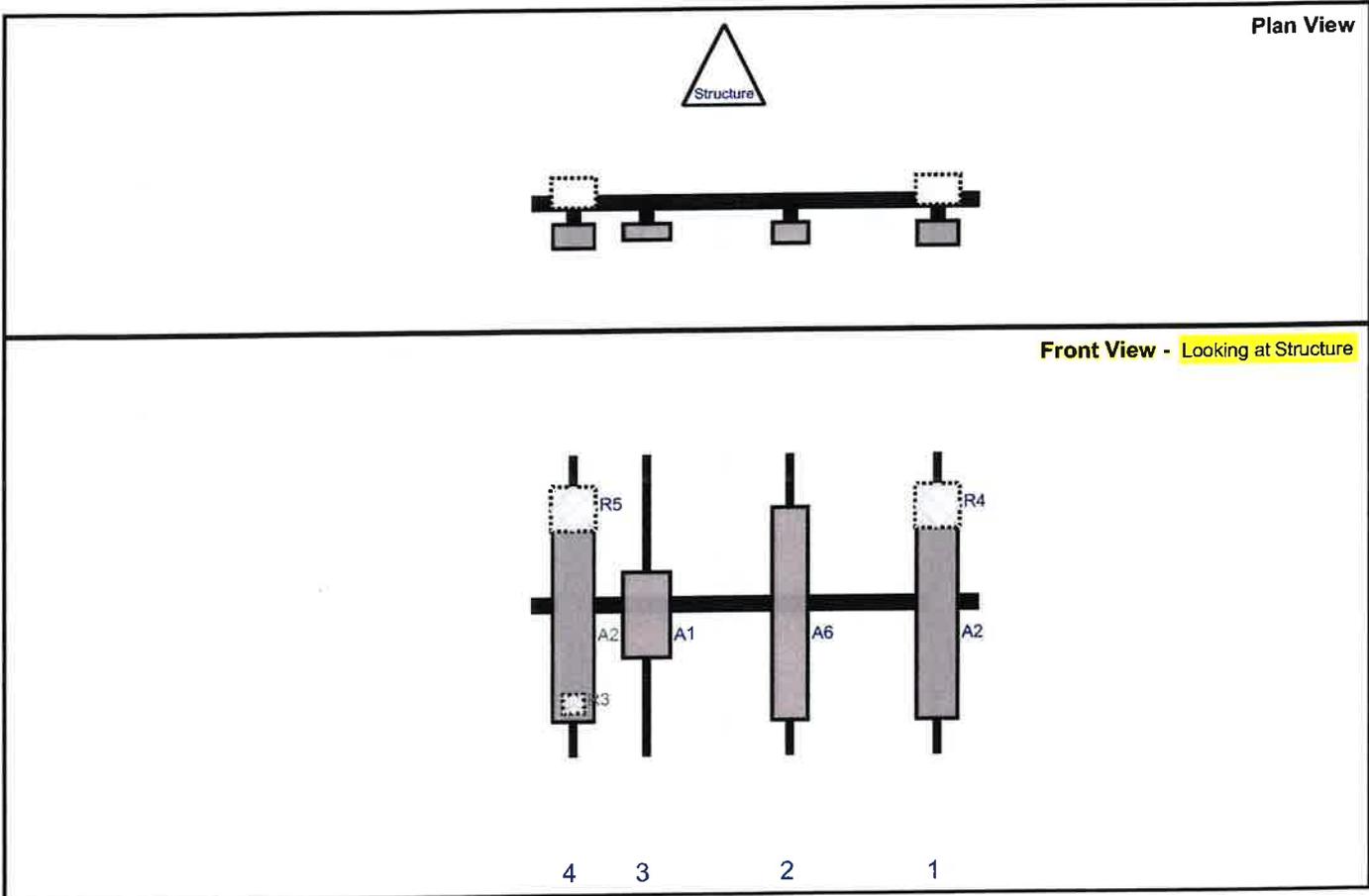
Sector: **A**
 Structure Type: Rooftop
 Mount Elev: 63.25

10215054

12/6/2023



Page: 1



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A2	JAHH-65B-R3B	72	13.8	136	1	a	Front	54	0	Added	
R4	RF4439d-25A	15	15	136	1	a	Behind	18	0	Added	
A6	LNx-6514DS-VTM	72	11.9	86.5	2	a	Front	54	0	Retained	11/11/2020
A1	MT6413-77A	28.9	15.8	38.5	3	a	Front	54	0	Added	
A2	JAHH-65B-R3B	72	13.8	14	4	a	Front	54	0	Added	
R3	CBC78T-DS-43-2X	6.4	6.9	14	4	a	Behind	84	0	Added	
R5	RF4461d-13A	15	15	14	4	a	Behind	18	0	Added	
M1	RRFDC-3315-PF-48	29.5	16.5		Member					Retained	11/11/2020

Structure: 5000383291-VZW - Milford South 4 CT

Sector: B

12/6/2023

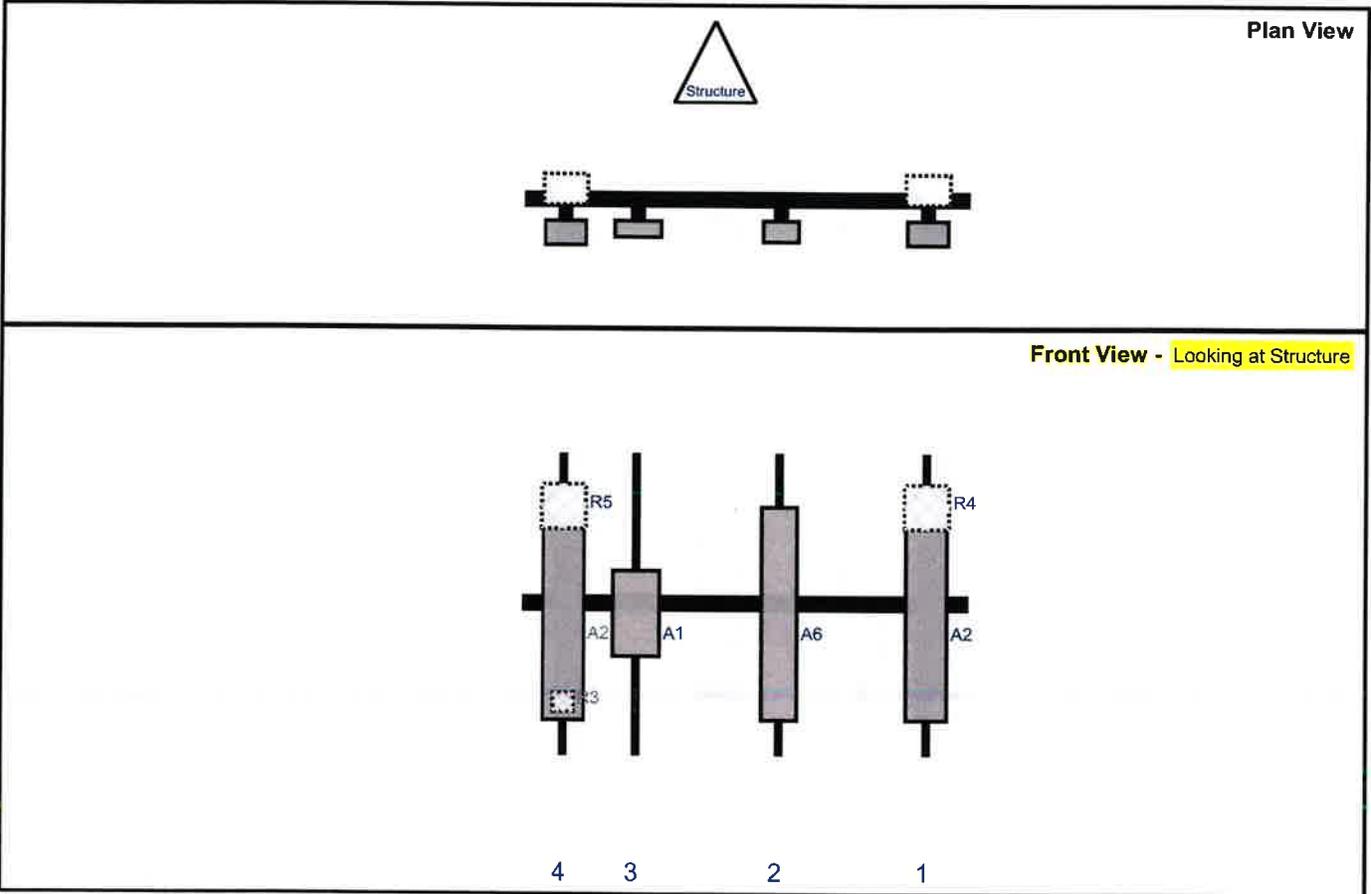
Structure Type: Rooftop

10215054



Mount Elev: 63.25

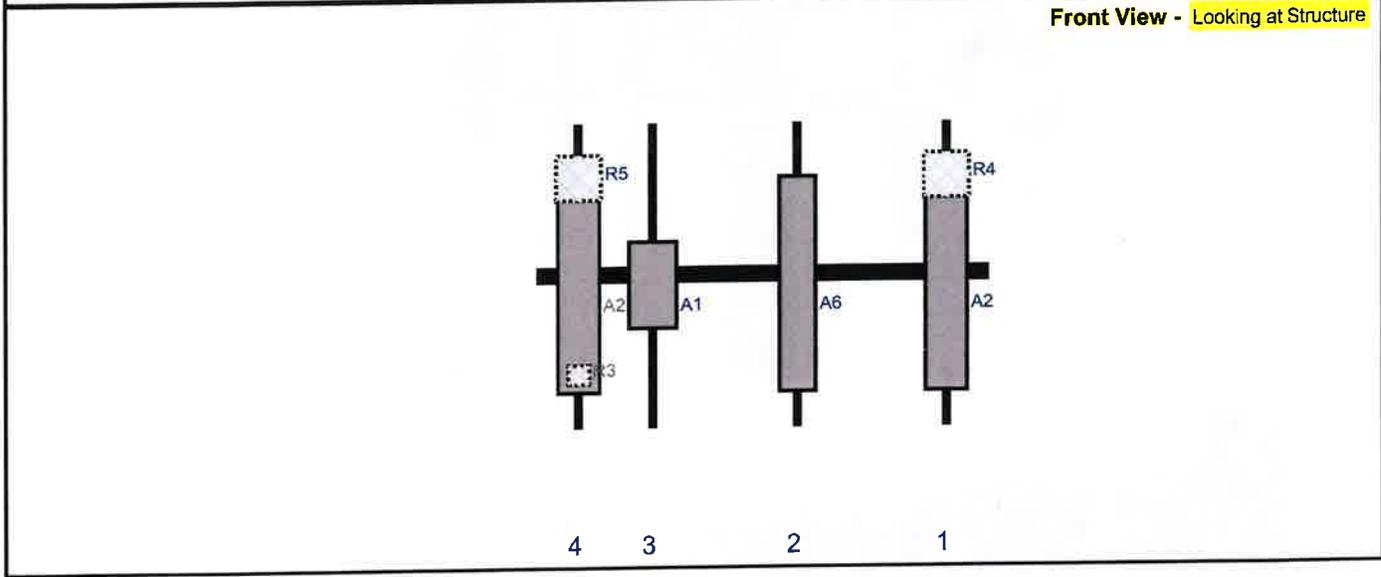
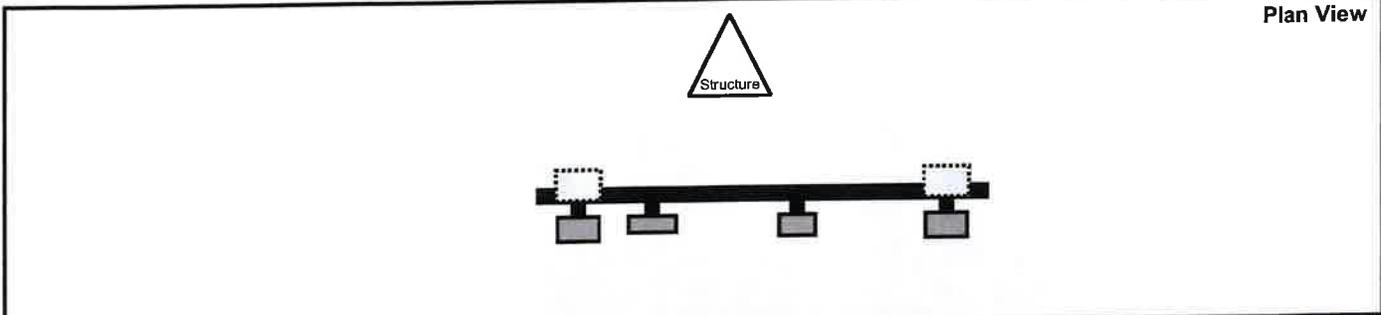
Page: 2



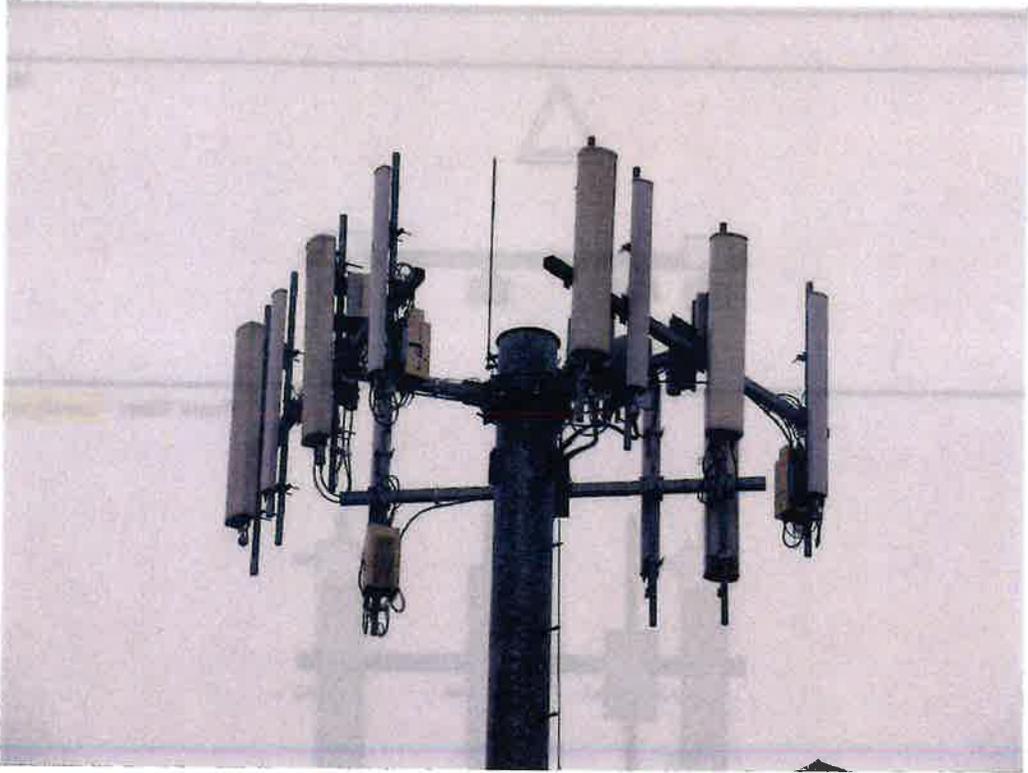
Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A2	JAHH-65B-R3B	72	13.8	136	1	a	Front	54	0	Added	
R4	RF4439d-25A	15	15	136	1	a	Behind	18	0	Added	
A6	LNX-6514DS-VTM	72	11.9	86.5	2	a	Front	54	0	Retained	11/11/2020
A1	MT6413-77A	28.9	15.8	38.5	3	a	Front	54	0	Added	
A2	JAHH-65B-R3B	72	13.8	14	4	a	Front	54	0	Added	
R3	CBC78T-DS-43-2X	6.4	6.9	14	4	a	Behind	84	0	Added	
R5	RF4461d-13A	15	15	14	4	a	Behind	18	0	Added	

Sector: C
 Structure Type: Rooftop
 Mount Elev: 63.25

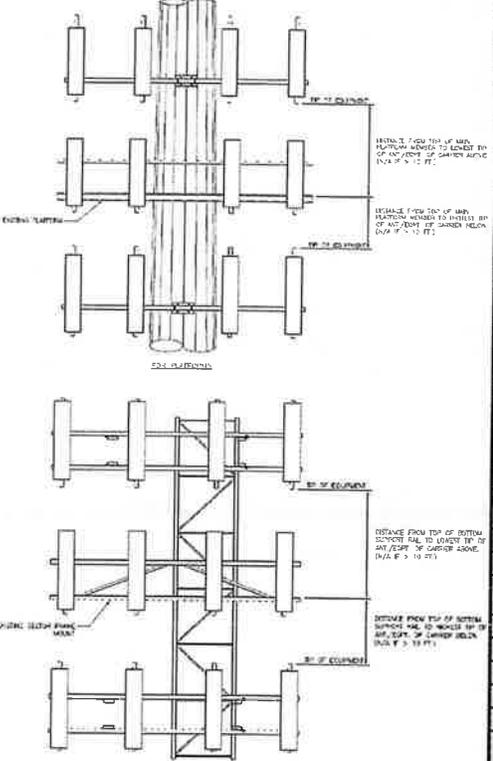
10215054



Ref#	Model	Height (in)	Width (in)	H Dist Fm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Fm T.	Ant H Off	Status	Validation
A2	JAHH-65B-R3B	72	13.8	136	1	a	Front	54	0	Added	
R4	RF4439d-25A	15	15	136	1	a	Behind	18	0	Added	
A6	LNx-6514DS-VTM	72	11.9	86.5	2	a	Front	54	0	Retained	11/11/2020
A1	MT6413-77A	28.9	15.8	38.5	3	a	Front	54	0	Added	
A2	JAHH-65B-R3B	72	13.8	14	4	a	Front	54	0	Added	
R3	CBC78T-DS-43-2X	6.4	6.9	14	4	a	Behind	84	0	Added	
R5	RF4461d-13A	15	15	14	4	a	Behind	18	0	Added	



Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector				Sector B										
Sector A:	355.00	Deg	Leg A:		Deg	Ant _{1a}	HBX-6517DS-A1M	6.54	3.30	74.88	Raycap	58.5417	47.00	5.50	115.00	91-96		
Sector B:	115.00	Deg	Leg B:		Deg	Ant _{1b}												
Sector C:	235.00	Deg	Leg C:		Deg	Ant _{1c}	9442 RRH2x40-AWS	10.60	6.70	24.40	Raycap	55.75	80.50	7.50		97-98, 186-187		
Sector D:		Deg	Leg D:		Deg	Ant _{2a}	LNX-6514DS-A1M	11.90	7.10	72.70	Raycap	57.9583	54.00	7.00	115.00	101-104, 192-194		
Climbing Facility Information						Ant _{2b}	KS24822L1	15.00	7.90	15.70	Raycap	59.875	31.00	7.50		100		
Location:	274.00	Deg	Other			Ant _{2c}												
Climbing Facility	Corrosion Type:		Good condition.			Ant _{3a}	HBX-6517DS-A1M	6.54	3.30	74.88	None	58.5417	47.00	5.50	115.00	105-107, 195-196		
	Access:		Climbing path was unobstructed.			Ant _{3b}												
	Condition:		Good condition.			Ant _{3c}												
						Ant _{4a}	LNX-6514DS-A1M	11.90	7.10	72.70	None	57.9583	54.00	7.00	115.00	108-110, 197		
						Ant _{4b}												
						Ant _{4c}												
						Ant _{5a}												
						Ant _{5b}												
						Ant _{5c}												
						Ant on Standoff												
						Ant on Standoff												
						Ant on Tower												
						Ant on Tower												
Sector C																		
						Ant _{1a}	HBX-6517DS-A1M	6.54	3.30	74.88	Raycap	58.5417	47.00	5.50	225.00	111-113, 200-201		
						Ant _{1b}												
						Ant _{1c}	9442 RRH2x40-AWS	10.60	6.70	24.40	Raycap	55.75	80.50	7.50		121-122, 198-199		
						Ant _{2a}	LNX-6514DS-A1M	11.90	7.10	72.70	Raycap	57.9583	54.00	7.00	225.00	123-128, 203-206		
						Ant _{2b}	KS24822L1	15.00	7.90	15.70	Raycap	59.875	31.00	7.50		129-140, 202		
						Ant _{2c}												
						Ant _{3a}	HBX-6517DS-A1M	6.54	3.30	74.88	None	58.5417	47.00	5.50	225.00	141-144, 207-210		
						Ant _{3b}												
						Ant _{3c}												
						Ant _{4a}	LNX-6514DS-A1M	11.90	7.10	72.70	None	57.9583	54.00	7.00	225.00	145-150, 211-212		
						Ant _{4b}												
						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												



Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #

1		
2		
3		
4		
5		
6		
7		
8		

Mapping Notes

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

Standard Conditions

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



Antenna Mount Mapping Form (PATENT PENDING)

FCC #
N/A

Tower Owner:	Unknown	Mapping Date:	11/11/2020
Site Name:	Milford South 4 CT	Tower Type:	Other
Site Number or ID:	468983	Tower Height (FT):	60
Mapping Contractor:	TEP	Mount Elevation (FL):	58.25

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 limb as it must be assessed prior to each use in compliance with OSHA requirements.

Please Insert Sketches of the Antenna Mount

$$MNT_{CL} = T/ROOF + 36'$$

X POS # 3-4 DISCONNECTED (TYPICAL OF 6)

COAX

(2) HYBRID 1/4"

X ALL ANTENNAS HAVE
REF ON BOTTOM

AZ: 30°, 115°, 225°

SAFETY AZ = 274°

POS # 1 + #3 (TYP)

B: 47"
U: 50 1/2"
h: 5 1/2"

POS # 2 + #4 (TYP)

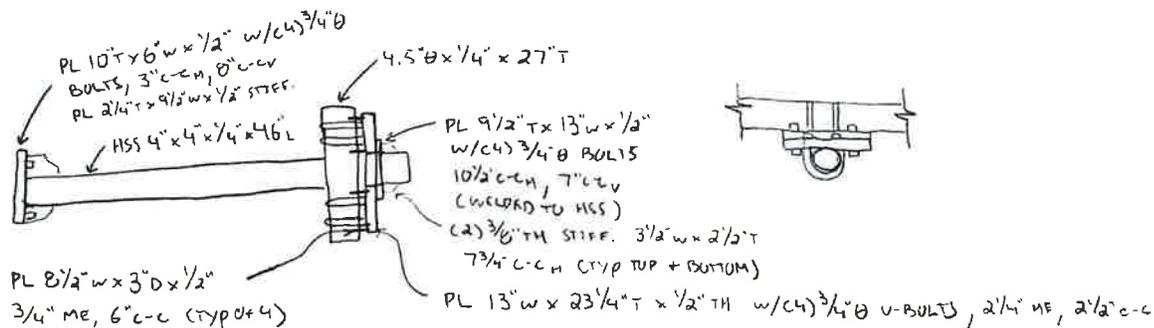
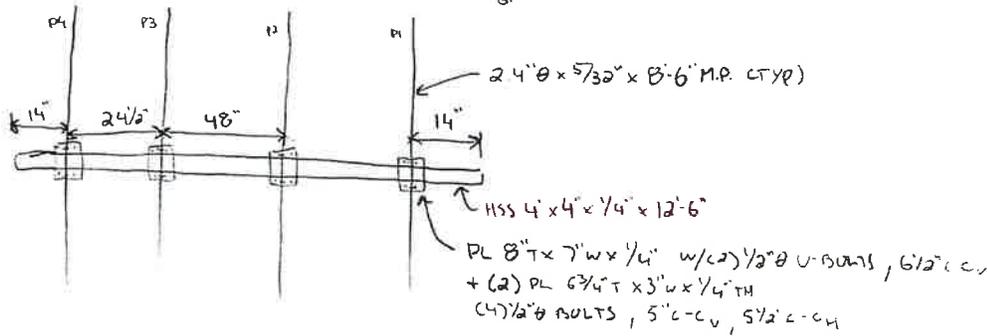
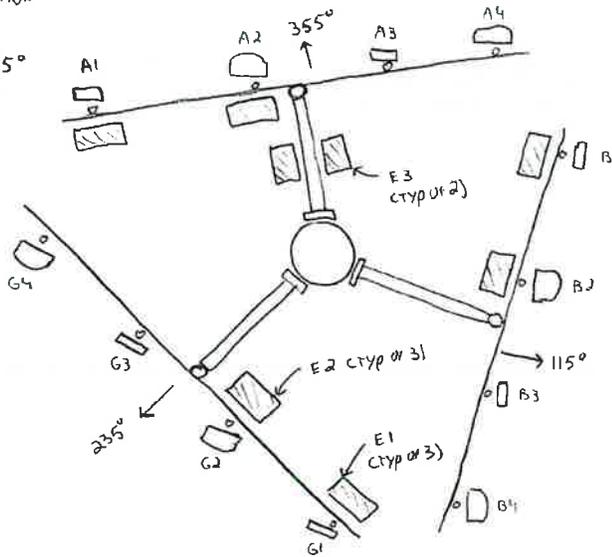
B: 54"
U: 50 1/2"
h: 7"

E1 (9442)

B: 80 1/2"
h: 7 1/2"

E2 MARH w/A2 16 3/4" w x 16 1/2" x 10"

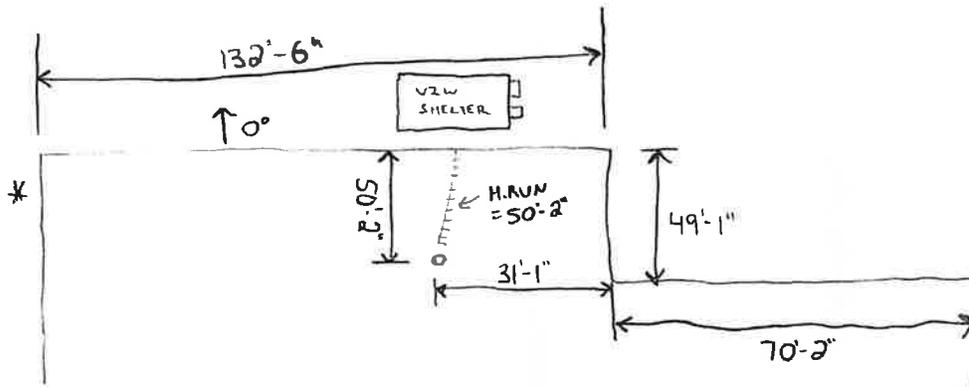
B: 31"
h: 7 1/2"



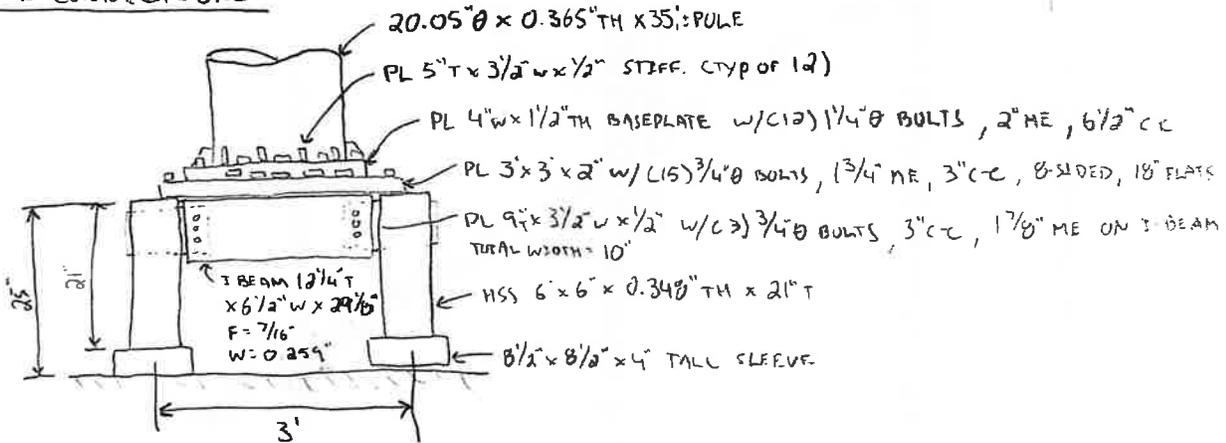
*
T/ROOF = 22'-3"

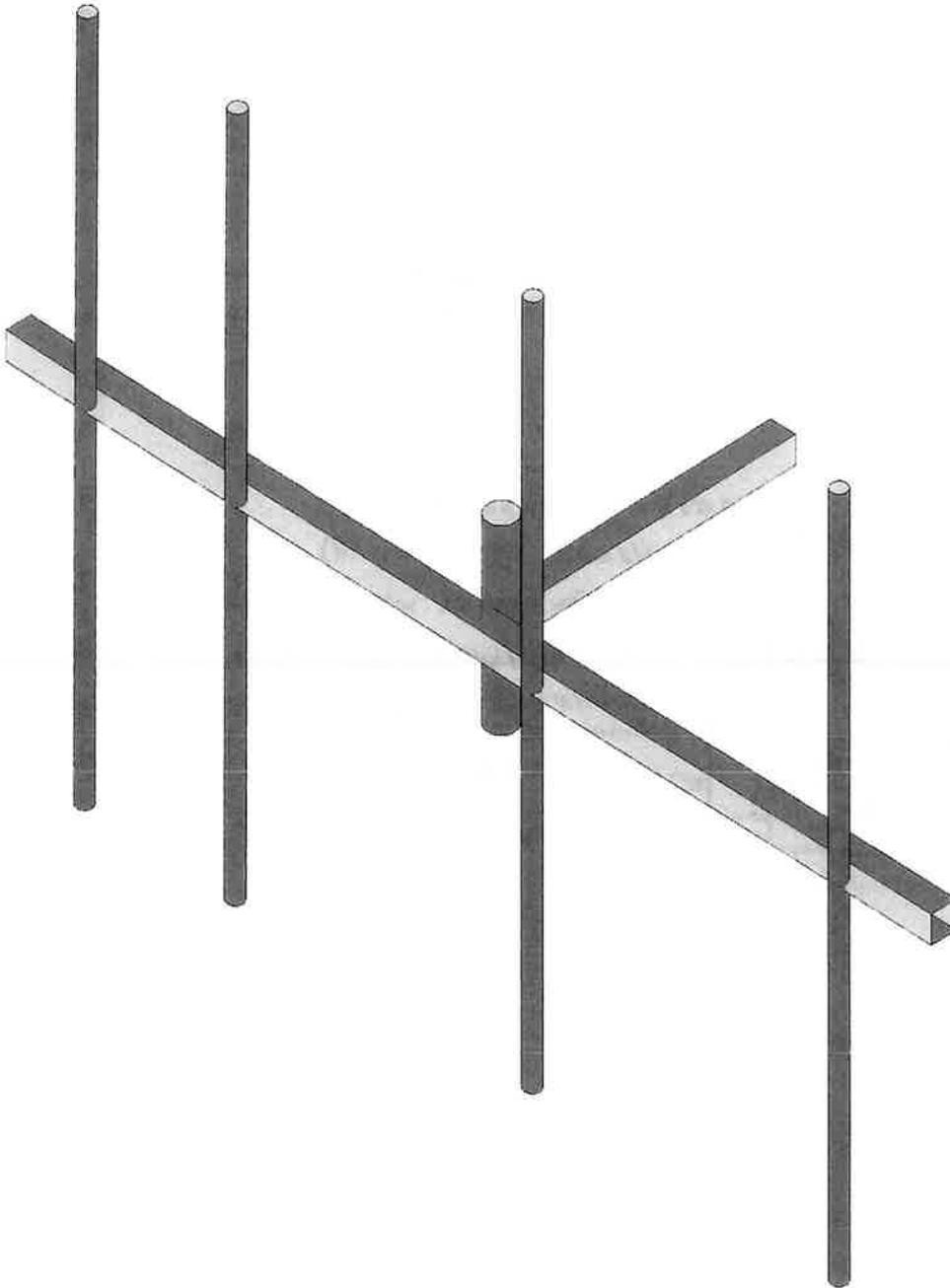
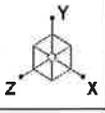
MILFORD SOUTH 4 CT

← NORTH



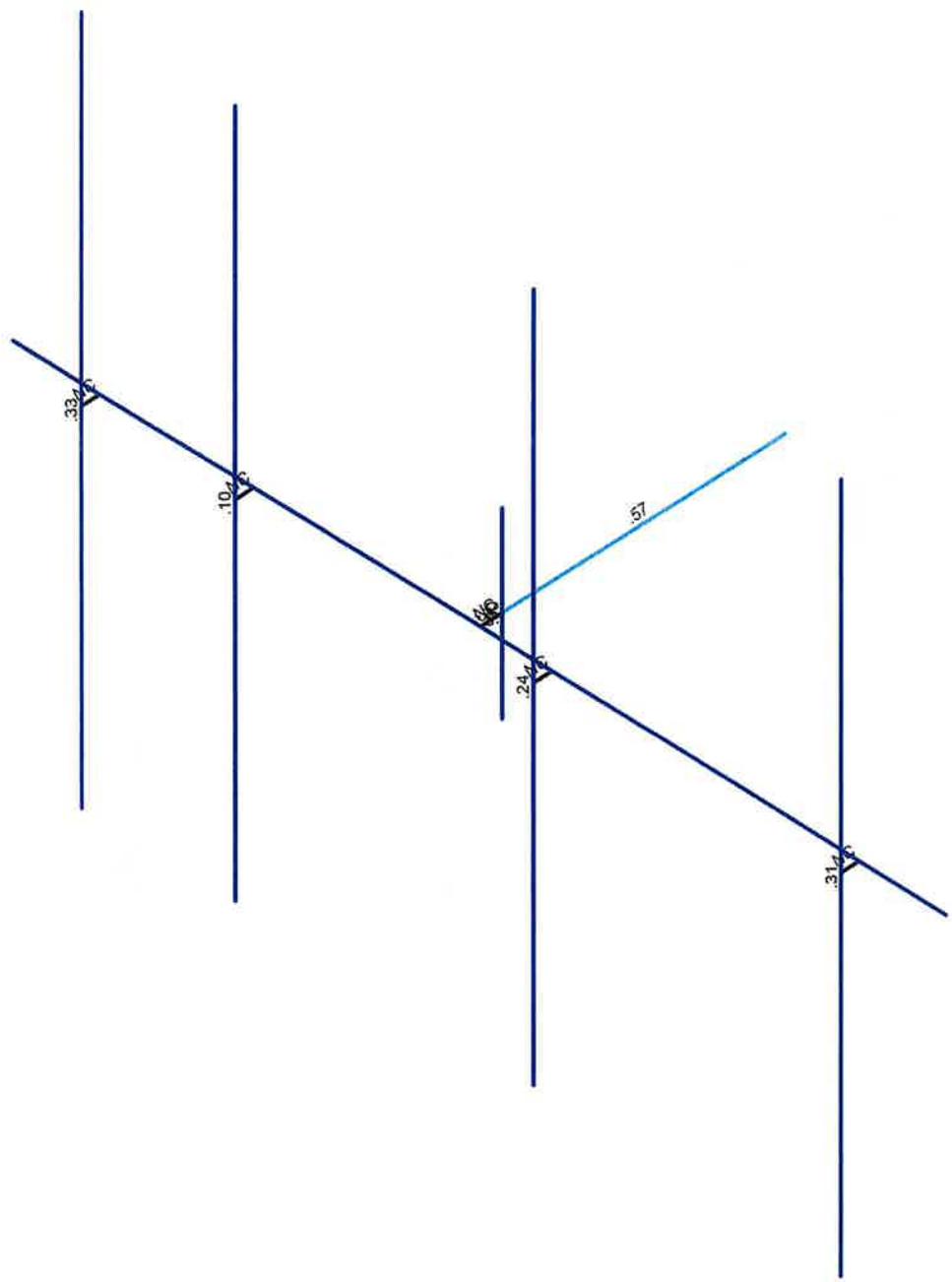
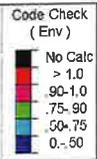
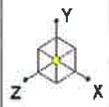
POLE CONNECTIONS





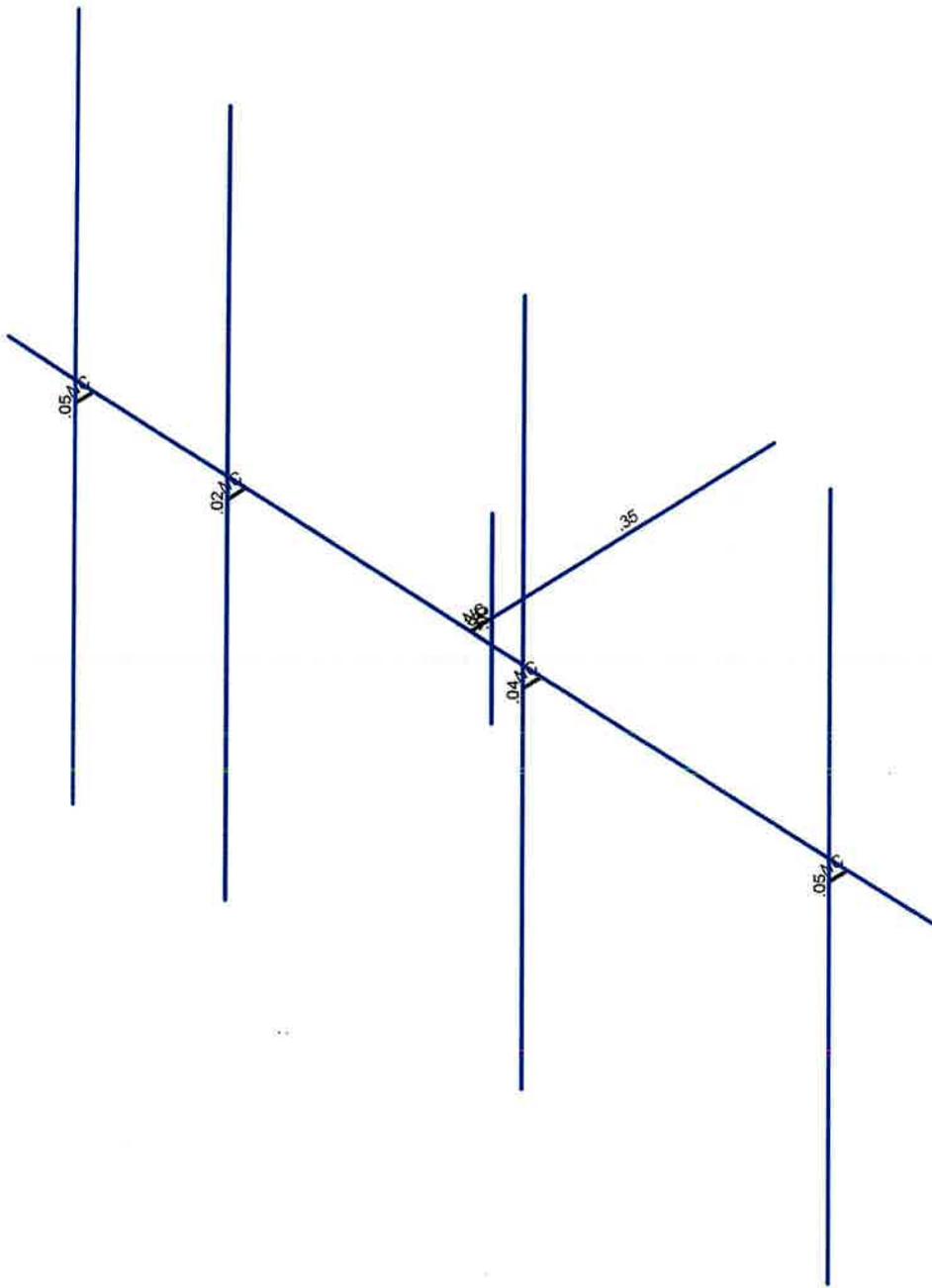
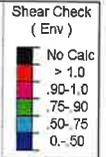
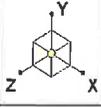
Envelope Only Solution

SK - 1
Dec 6, 2023 at 12:47 PM
5000383291-VZW_MT_LOT_A_H.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

	SK - 2
	Dec 6, 2023 at 12:47 PM
	5000383291-VZW_MT_LOT_A_H.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

SK - 3
Dec 6, 2023 at 12:47 PM
5000383291-VZW_MT_LOT_A_H.r3d



Company :
 Designer :
 Job Number :
 Model Name :

Dec 6, 2023
 12:48 PM
 Checked By: _____

Basic Load Cases

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

Basic Load Cases (Continued)

BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
56 Structure Wi (90 Deg)	None						14	
57 Structure Wi (120 De...	None						14	
58 Structure Wi (150 De...	None						14	
59 Structure Wi (180 De...	None						14	
60 Structure Wi (210 De...	None						14	
61 Structure Wi (240 De...	None						14	
62 Structure Wi (270 De...	None						14	
63 Structure Wi (300 De...	None						14	
64 Structure Wi (330 De...	None						14	
65 Structure Wm (0 Deg)	None						14	
66 Structure Wm (30 De...	None						14	
67 Structure Wm (60 De...	None						14	
68 Structure Wm (90 De...	None						14	
69 Structure Wm (120 D...	None						14	
70 Structure Wm (150 D...	None						14	
71 Structure Wm (180 D...	None						14	
72 Structure Wm (210 D...	None						14	
73 Structure Wm (240 D...	None						14	
74 Structure Wm (270 D...	None						14	
75 Structure Wm (300 D...	None						14	
76 Structure Wm (330 D...	None						14	
77 Lm1	None					1		
78 Lm2	None					1		
79 Lv1	None					1		
80 Lv2	None					1		
81 Antenna Ev	None					39		
82 Antenna Eh (0 Deg)	None					26		
83 Antenna Eh (90 Deg)	None					26		
84 Structure Ev	ELY		-129					
85 Structure Eh (0 Deg)	ELZ			-322				
86 Structure Eh (90 Deg)	ELX	.322						

Load Combinations

Description	Sol.	PDe.	S...	BLCFa...											
1 1.2D+1.0Wo (0 Deg)	Yes	Y		1	1.2	39	1.2	3	1	41	1				
2 1.2D+1.0Wo (30 Deg)	Yes	Y		1	1.2	39	1.2	4	1	42	1				
3 1.2D+1.0Wo (60 Deg)	Yes	Y		1	1.2	39	1.2	5	1	43	1				
4 1.2D+1.0Wo (90 Deg)	Yes	Y		1	1.2	39	1.2	6	1	44	1				
5 1.2D+1.0Wo (120 Deg)	Yes	Y		1	1.2	39	1.2	7	1	45	1				
6 1.2D+1.0Wo (150 Deg)	Yes	Y		1	1.2	39	1.2	8	1	46	1				
7 1.2D+1.0Wo (180 Deg)	Yes	Y		1	1.2	39	1.2	9	1	47	1				
8 1.2D+1.0Wo (210 Deg)	Yes	Y		1	1.2	39	1.2	10	1	48	1				
9 1.2D+1.0Wo (240 Deg)	Yes	Y		1	1.2	39	1.2	11	1	49	1				
10 1.2D+1.0Wo (270 Deg)	Yes	Y		1	1.2	39	1.2	12	1	50	1				
11 1.2D+1.0Wo (300 Deg)	Yes	Y		1	1.2	39	1.2	13	1	51	1				
12 1.2D+1.0Wo (330 Deg)	Yes	Y		1	1.2	39	1.2	14	1	52	1				
13 1.2D + 1.0Di + 1.0Wi ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1	53	1
14 1.2D + 1.0Di + 1.0Wi ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1
15 1.2D + 1.0Di + 1.0Wi ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1
16 1.2D + 1.0Di + 1.0Wi ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1
17 1.2D + 1.0Di + 1.0Wi ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1
18 1.2D + 1.0Di + 1.0Wi ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1
19 1.2D + 1.0Di + 1.0Wi ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1
20 1.2D + 1.0Di + 1.0Wi ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1
21 1.2D + 1.0Di + 1.0Wi ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1
22 1.2D + 1.0Di + 1.0Wi ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1
23 1.2D + 1.0Di + 1.0Wi ...	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1



Company :
 Designer :
 Job Number :
 Model Name :

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 Checked By: _____

Load Combinations (Continued)

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

Joint Coordinates and Temperatures

	Label	X (ft)	Y (ft)	Z (ft)	Temp (F)	Detach From Diap...
1	N1	0	0	-1.875	0	
2	N2	0	0	1.90625	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
3	N3	0	-1.125	1.90625	0	
4	N4	0	1.125	1.90625	0	
5	N5	0	0	2.197917	0	
6	N6	6.25	0	2.197917	0	
7	N7	-6.25	0	2.197917	0	
8	N11	5.083333	0	2.197917	0	
9	N12	5.083333	0	2.447917	0	
10	N13	5.083333	4.208333	2.447917	0	
11	N14	5.083333	-4.291667	2.447917	0	
12	N15	-5.083333	0	2.197917	0	
13	N16	-5.083333	0	2.447917	0	
14	N17	-5.083333	4.208333	2.447917	0	
15	N18	-5.083333	-4.291667	2.447917	0	
16	N21	0	-.375	1.90625	0	
17	N17A	-3.041667	0	2.197917	0	
18	N18A	-3.041667	0	2.447917	0	
19	N19	-3.041667	4.208333	2.447917	0	
20	N20	-3.041667	-4.291667	2.447917	0	
21	N21A	0.958333	0	2.197917	0	
22	N22	0.958333	0	2.447917	0	
23	N23	0.958333	4.208333	2.447917	0	
24	N24	0.958333	-4.291667	2.447917	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in ²]	I _{yy} [in ⁴]	I _{zz} [in ⁴]	J [in ⁴]
1	Antenna Pipe	PIPE 2.0	Column	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
2	Standoff Arm	HSS4X4X4	Beam	Tube	A500 Gr.46	Typical	3.37	7.8	7.8	12.8
3	Standoff Pipe	PIPE 4.0	Column	Pipe	A53 Gr. B	Typical	2.96	6.82	6.82	13.6
4	Horizontal	HSS4X4X4	Beam	Tube	A500 Gr.46	Typical	3.37	7.8	7.8	12.8

Hot Rolled Steel Properties

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

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2			Standoff Arm	Beam	Tube	A500 Gr.46	Typical
2	M2	N4	N3			Standoff Pipe	Column	Pipe	A53 Gr. B	Typical
3	M4	N7	N6			Horizontal	Beam	Tube	A500 Gr.46	Typical
4	MP1A	N13	N14			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
5	M8	N11	N12			RIGID	None	None	RIGID	Typical
6	MP4A	N17	N18			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
7	M10	N15	N16			RIGID	None	None	RIGID	Typical
8	M10A	N2	N5			RIGID	None	None	RIGID	Typical
9	MP3A	N19	N20			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
10	M10B	N17A	N18A			RIGID	None	None	RIGID	Typical
11	MP2A	N23	N24			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
12	M12	N21A	N22			RIGID	None	None	RIGID	Typical



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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	Default			None
2	M2						Yes	** NA **			None
3	M4						Yes				None
4	MP1A						Yes	** NA **			None
5	M8						Yes	** NA **			None
6	MP4A						Yes	** NA **			None
7	M10						Yes	** NA **			None
8	M10A						Yes	** NA **			None
9	MP3A						Yes	** NA **			None
10	M10B						Yes	** NA **			None
11	MP2A						Yes	** NA **			None
12	M12						Yes	** NA **			None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP3A	Y	-28.65	3.5
2	MP3A	My	-.014	3.5
3	MP3A	Mz	0	3.5
4	MP3A	Y	-28.65	5.5
5	MP3A	My	-.014	5.5
6	MP3A	Mz	0	5.5
7	MP1A	Y	-31.65	2.25
8	MP1A	My	-.016	2.25
9	MP1A	Mz	0	2.25
10	MP1A	Y	-31.65	6.75
11	MP1A	My	-.016	6.75
12	MP1A	Mz	0	6.75
13	MP4A	Y	-31.65	2.25
14	MP4A	My	-.016	2.25
15	MP4A	Mz	0	2.25
16	MP4A	Y	-31.65	6.75
17	MP4A	My	-.016	6.75
18	MP4A	Mz	0	6.75
19	MP4A	Y	-10.4	7
20	MP4A	My	.005	7
21	MP4A	Mz	0	7
22	MP1A	Y	-74.7	1.5
23	MP1A	My	.037	1.5
24	MP1A	Mz	0	1.5
25	MP4A	Y	-79.1	1.5
26	MP4A	My	.04	1.5
27	MP4A	Mz	0	1.5
28	MP2A	Y	-16.55	2.25
29	MP2A	My	-.008	2.25
30	MP2A	Mz	0	2.25
31	MP2A	Y	-16.55	6.75
32	MP2A	My	-.008	6.75
33	MP2A	Mz	0	6.75
34	M1	Y	-32	1.5
35	M1	My	0	1.5
36	M1	Mz	-.021	1.5
37	M1	Y	-32	1.5
38	M1	My	0	1.5
39	M1	Mz	.021	1.5

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP3A	Y	-27.43	3.5
2	MP3A	My	-.014	3.5
3	MP3A	Mz	0	3.5
4	MP3A	Y	-27.43	5.5
5	MP3A	My	-.014	5.5
6	MP3A	Mz	0	5.5
7	MP1A	Y	-64.555	2.25
8	MP1A	My	-.032	2.25
9	MP1A	Mz	0	2.25
10	MP1A	Y	-64.555	6.75
11	MP1A	My	-.032	6.75
12	MP1A	Mz	0	6.75
13	MP4A	Y	-64.555	2.25
14	MP4A	My	-.032	2.25
15	MP4A	Mz	0	2.25
16	MP4A	Y	-64.555	6.75
17	MP4A	My	-.032	6.75
18	MP4A	Mz	0	6.75
19	MP4A	Y	-9.791	7
20	MP4A	My	.005	7
21	MP4A	Mz	0	7
22	MP1A	Y	-41.333	1.5
23	MP1A	My	.021	1.5
24	MP1A	Mz	0	1.5
25	MP4A	Y	-41.773	1.5
26	MP4A	My	.021	1.5
27	MP4A	Mz	0	1.5
28	MP2A	Y	-55.878	2.25
29	MP2A	My	-.028	2.25
30	MP2A	Mz	0	2.25
31	MP2A	Y	-55.878	6.75
32	MP2A	My	-.028	6.75
33	MP2A	Mz	0	6.75
34	M1	Y	-81.13	1.5
35	M1	My	0	1.5
36	M1	Mz	-.054	1.5
37	M1	Y	-81.13	1.5
38	M1	My	0	1.5
39	M1	Mz	.054	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP3A	X	0	3.5
2	MP3A	Z	-69.268	3.5
3	MP3A	Mx	0	3.5
4	MP3A	X	0	5.5
5	MP3A	Z	-69.268	5.5
6	MP3A	Mx	0	5.5
7	MP1A	X	0	2.25
8	MP1A	Z	-166.5	2.25
9	MP1A	Mx	0	2.25
10	MP1A	X	0	6.75
11	MP1A	Z	-166.5	6.75
12	MP1A	Mx	0	6.75
13	MP4A	X	0	2.25
14	MP4A	Z	-166.5	2.25
15	MP4A	Mx	0	2.25
16	MP4A	X	0	6.75



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
17	MP4A	Z	-166.5	6.75
18	MP4A	Mx	0	6.75
19	MP4A	X	0	7
20	MP4A	Z	-13.525	7
21	MP4A	Mx	0	7
22	MP1A	X	0	1.5
23	MP1A	Z	-56.657	1.5
24	MP1A	Mx	0	1.5
25	MP4A	X	0	1.5
26	MP4A	Z	-68.354	1.5
27	MP4A	Mx	0	1.5
28	MP2A	X	0	2.25
29	MP2A	Z	-147.857	2.25
30	MP2A	Mx	0	2.25
31	MP2A	X	0	6.75
32	MP2A	Z	-147.857	6.75
33	MP2A	Mx	0	6.75
34	M1	X	0	1.5
35	M1	Z	-88.093	1.5
36	M1	Mx	.059	1.5
37	M1	X	0	1.5
38	M1	Z	-88.093	1.5
39	M1	Mx	-.059	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	29.31	3.5
2	MP3A	Z	-50.767	3.5
3	MP3A	Mx	-.015	3.5
4	MP3A	X	29.31	5.5
5	MP3A	Z	-50.767	5.5
6	MP3A	Mx	-.015	5.5
7	MP1A	X	76.107	2.25
8	MP1A	Z	-131.821	2.25
9	MP1A	Mx	-.038	2.25
10	MP1A	X	76.107	6.75
11	MP1A	Z	-131.821	6.75
12	MP1A	Mx	-.038	6.75
13	MP4A	X	76.107	2.25
14	MP4A	Z	-131.821	2.25
15	MP4A	Mx	-.038	2.25
16	MP4A	X	76.107	6.75
17	MP4A	Z	-131.821	6.75
18	MP4A	Mx	-.038	6.75
19	MP4A	X	6.241	7
20	MP4A	Z	-10.811	7
21	MP4A	Mx	.003	7
22	MP1A	X	25.998	1.5
23	MP1A	Z	-45.031	1.5
24	MP1A	Mx	.013	1.5
25	MP4A	X	31.459	1.5
26	MP4A	Z	-54.488	1.5
27	MP4A	Mx	.016	1.5
28	MP2A	X	67.65	2.25
29	MP2A	Z	-117.173	2.25
30	MP2A	Mx	-.034	2.25
31	MP2A	X	67.65	6.75
32	MP2A	Z	-117.173	6.75

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
33	MP2A	Mx	-.034	6.75
34	M1	X	47.519	1.5
35	M1	Z	-82.305	1.5
36	M1	Mx	.055	1.5
37	M1	X	47.519	1.5
38	M1	Z	-82.305	1.5
39	M1	Mx	-.055	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	32.325	3.5
2	MP3A	Z	-18.663	3.5
3	MP3A	Mx	-.016	3.5
4	MP3A	X	32.325	5.5
5	MP3A	Z	-18.663	5.5
6	MP3A	Mx	-.016	5.5
7	MP1A	X	107.076	2.25
8	MP1A	Z	-61.82	2.25
9	MP1A	Mx	-.054	2.25
10	MP1A	X	107.076	6.75
11	MP1A	Z	-61.82	6.75
12	MP1A	Mx	-.054	6.75
13	MP4A	X	107.076	2.25
14	MP4A	Z	-61.82	2.25
15	MP4A	Mx	-.054	2.25
16	MP4A	X	107.076	6.75
17	MP4A	Z	-61.82	6.75
18	MP4A	Mx	-.054	6.75
19	MP4A	X	9.006	7
20	MP4A	Z	-5.2	7
21	MP4A	Mx	.005	7
22	MP1A	X	36.958	1.5
23	MP1A	Z	-21.338	1.5
24	MP1A	Mx	.018	1.5
25	MP4A	X	45.07	1.5
26	MP4A	Z	-26.021	1.5
27	MP4A	Mx	.023	1.5
28	MP2A	X	95.423	2.25
29	MP2A	Z	-55.092	2.25
30	MP2A	Mx	-.048	2.25
31	MP2A	X	95.423	6.75
32	MP2A	Z	-55.092	6.75
33	MP2A	Mx	-.048	6.75
34	M1	X	94.335	1.5
35	M1	Z	-54.464	1.5
36	M1	Mx	.036	1.5
37	M1	X	94.335	1.5
38	M1	Z	-54.464	1.5
39	M1	Mx	-.036	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	26.679	3.5
2	MP3A	Z	0	3.5
3	MP3A	Mx	-.013	3.5
4	MP3A	X	26.679	5.5
5	MP3A	Z	0	5.5
6	MP3A	Mx	-.013	5.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
7	MP1A	X	109.355	2.25
8	MP1A	Z	0	2.25
9	MP1A	Mx	-.055	2.25
10	MP1A	X	109.355	6.75
11	MP1A	Z	0	6.75
12	MP1A	Mx	-.055	6.75
13	MP4A	X	109.355	2.25
14	MP4A	Z	0	2.25
15	MP4A	Mx	-.055	2.25
16	MP4A	X	109.355	6.75
17	MP4A	Z	0	6.75
18	MP4A	Mx	-.055	6.75
19	MP4A	X	9.358	7
20	MP4A	Z	0	7
21	MP4A	Mx	.005	7
22	MP1A	X	38.015	1.5
23	MP1A	Z	0	1.5
24	MP1A	Mx	.019	1.5
25	MP4A	X	46.605	1.5
26	MP4A	Z	0	1.5
27	MP4A	Mx	.023	1.5
28	MP2A	X	97.627	2.25
29	MP2A	Z	0	2.25
30	MP2A	Mx	-.049	2.25
31	MP2A	X	97.627	6.75
32	MP2A	Z	0	6.75
33	MP2A	Mx	-.049	6.75
34	M1	X	115.873	1.5
35	M1	Z	0	1.5
36	M1	Mx	0	1.5
37	M1	X	115.873	1.5
38	M1	Z	0	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	32.325	3.5
2	MP3A	Z	18.663	3.5
3	MP3A	Mx	-.016	3.5
4	MP3A	X	32.325	5.5
5	MP3A	Z	18.663	5.5
6	MP3A	Mx	-.016	5.5
7	MP1A	X	107.076	2.25
8	MP1A	Z	61.82	2.25
9	MP1A	Mx	-.054	2.25
10	MP1A	X	107.076	6.75
11	MP1A	Z	61.82	6.75
12	MP1A	Mx	-.054	6.75
13	MP4A	X	107.076	2.25
14	MP4A	Z	61.82	2.25
15	MP4A	Mx	-.054	2.25
16	MP4A	X	107.076	6.75
17	MP4A	Z	61.82	6.75
18	MP4A	Mx	-.054	6.75
19	MP4A	X	9.006	7
20	MP4A	Z	5.2	7
21	MP4A	Mx	.005	7
22	MP1A	X	36.958	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
23	MP1A	Z	21.338	1.5
24	MP1A	Mx	.018	1.5
25	MP4A	X	45.07	1.5
26	MP4A	Z	26.021	1.5
27	MP4A	Mx	.023	1.5
28	MP2A	X	95.423	2.25
29	MP2A	Z	55.092	2.25
30	MP2A	Mx	-.048	2.25
31	MP2A	X	95.423	6.75
32	MP2A	Z	55.092	6.75
33	MP2A	Mx	-.048	6.75
34	M1	X	94.335	1.5
35	M1	Z	54.464	1.5
36	M1	Mx	-.036	1.5
37	M1	X	94.335	1.5
38	M1	Z	54.464	1.5
39	M1	Mx	.036	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	29.31	3.5
2	MP3A	Z	50.767	3.5
3	MP3A	Mx	-.015	3.5
4	MP3A	X	29.31	5.5
5	MP3A	Z	50.767	5.5
6	MP3A	Mx	-.015	5.5
7	MP1A	X	76.107	2.25
8	MP1A	Z	131.821	2.25
9	MP1A	Mx	-.038	2.25
10	MP1A	X	76.107	6.75
11	MP1A	Z	131.821	6.75
12	MP1A	Mx	-.038	6.75
13	MP4A	X	76.107	2.25
14	MP4A	Z	131.821	2.25
15	MP4A	Mx	-.038	2.25
16	MP4A	X	76.107	6.75
17	MP4A	Z	131.821	6.75
18	MP4A	Mx	-.038	6.75
19	MP4A	X	6.241	7
20	MP4A	Z	10.811	7
21	MP4A	Mx	.003	7
22	MP1A	X	25.998	1.5
23	MP1A	Z	45.031	1.5
24	MP1A	Mx	.013	1.5
25	MP4A	X	31.459	1.5
26	MP4A	Z	54.488	1.5
27	MP4A	Mx	.016	1.5
28	MP2A	X	67.65	2.25
29	MP2A	Z	117.173	2.25
30	MP2A	Mx	-.034	2.25
31	MP2A	X	67.65	6.75
32	MP2A	Z	117.173	6.75
33	MP2A	Mx	-.034	6.75
34	M1	X	47.519	1.5
35	M1	Z	82.305	1.5
36	M1	Mx	-.055	1.5
37	M1	X	47.519	1.5
38	M1	Z	82.305	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
39	M1	Mx	.055	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	0	3.5
2	MP3A	Z	69.268	3.5
3	MP3A	Mx	0	3.5
4	MP3A	X	0	5.5
5	MP3A	Z	69.268	5.5
6	MP3A	Mx	0	5.5
7	MP1A	X	0	2.25
8	MP1A	Z	166.5	2.25
9	MP1A	Mx	0	2.25
10	MP1A	X	0	6.75
11	MP1A	Z	166.5	6.75
12	MP1A	Mx	0	6.75
13	MP4A	X	0	2.25
14	MP4A	Z	166.5	2.25
15	MP4A	Mx	0	2.25
16	MP4A	X	0	6.75
17	MP4A	Z	166.5	6.75
18	MP4A	Mx	0	6.75
19	MP4A	X	0	7
20	MP4A	Z	13.525	7
21	MP4A	Mx	0	7
22	MP1A	X	0	1.5
23	MP1A	Z	56.657	1.5
24	MP1A	Mx	0	1.5
25	MP4A	X	0	1.5
26	MP4A	Z	68.354	1.5
27	MP4A	Mx	0	1.5
28	MP2A	X	0	2.25
29	MP2A	Z	147.857	2.25
30	MP2A	Mx	0	2.25
31	MP2A	X	0	6.75
32	MP2A	Z	147.857	6.75
33	MP2A	Mx	0	6.75
34	M1	X	0	1.5
35	M1	Z	88.093	1.5
36	M1	Mx	-.059	1.5
37	M1	X	0	1.5
38	M1	Z	88.093	1.5
39	M1	Mx	.059	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	-29.31	3.5
2	MP3A	Z	50.767	3.5
3	MP3A	Mx	.015	3.5
4	MP3A	X	-29.31	5.5
5	MP3A	Z	50.767	5.5
6	MP3A	Mx	.015	5.5
7	MP1A	X	-76.107	2.25
8	MP1A	Z	131.821	2.25
9	MP1A	Mx	.038	2.25
10	MP1A	X	-76.107	6.75
11	MP1A	Z	131.821	6.75
12	MP1A	Mx	.038	6.75

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
13	MP4A	X	-76.107	2.25
14	MP4A	Z	131.821	2.25
15	MP4A	Mx	.038	2.25
16	MP4A	X	-76.107	6.75
17	MP4A	Z	131.821	6.75
18	MP4A	Mx	.038	6.75
19	MP4A	X	-6.241	7
20	MP4A	Z	10.811	7
21	MP4A	Mx	-.003	7
22	MP1A	X	-25.998	1.5
23	MP1A	Z	45.031	1.5
24	MP1A	Mx	-.013	1.5
25	MP4A	X	-31.459	1.5
26	MP4A	Z	54.488	1.5
27	MP4A	Mx	-.016	1.5
28	MP2A	X	-67.65	2.25
29	MP2A	Z	117.173	2.25
30	MP2A	Mx	.034	2.25
31	MP2A	X	-67.65	6.75
32	MP2A	Z	117.173	6.75
33	MP2A	Mx	.034	6.75
34	M1	X	-47.519	1.5
35	M1	Z	82.305	1.5
36	M1	Mx	-.055	1.5
37	M1	X	-47.519	1.5
38	M1	Z	82.305	1.5
39	M1	Mx	.055	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP3A	X	-32.325	3.5
2	MP3A	Z	18.663	3.5
3	MP3A	Mx	.016	3.5
4	MP3A	X	-32.325	5.5
5	MP3A	Z	18.663	5.5
6	MP3A	Mx	.016	5.5
7	MP1A	X	-107.076	2.25
8	MP1A	Z	61.82	2.25
9	MP1A	Mx	.054	2.25
10	MP1A	X	-107.076	6.75
11	MP1A	Z	61.82	6.75
12	MP1A	Mx	.054	6.75
13	MP4A	X	-107.076	2.25
14	MP4A	Z	61.82	2.25
15	MP4A	Mx	.054	2.25
16	MP4A	X	-107.076	6.75
17	MP4A	Z	61.82	6.75
18	MP4A	Mx	.054	6.75
19	MP4A	X	-9.006	7
20	MP4A	Z	5.2	7
21	MP4A	Mx	-.005	7
22	MP1A	X	-36.958	1.5
23	MP1A	Z	21.338	1.5
24	MP1A	Mx	-.018	1.5
25	MP4A	X	-45.07	1.5
26	MP4A	Z	26.021	1.5
27	MP4A	Mx	-.023	1.5
28	MP2A	X	-95.423	2.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
29	MP2A	Z	55.092	2.25
30	MP2A	Mx	.048	2.25
31	MP2A	X	-95.423	6.75
32	MP2A	Z	55.092	6.75
33	MP2A	Mx	.048	6.75
34	M1	X	-94.335	1.5
35	M1	Z	54.464	1.5
36	M1	Mx	-.036	1.5
37	M1	X	-94.335	1.5
38	M1	Z	54.464	1.5
39	M1	Mx	.036	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	-26.679	3.5
2	MP3A	Z	0	3.5
3	MP3A	Mx	.013	3.5
4	MP3A	X	-26.679	5.5
5	MP3A	Z	0	5.5
6	MP3A	Mx	.013	5.5
7	MP1A	X	-109.355	2.25
8	MP1A	Z	0	2.25
9	MP1A	Mx	.055	2.25
10	MP1A	X	-109.355	6.75
11	MP1A	Z	0	6.75
12	MP1A	Mx	.055	6.75
13	MP4A	X	-109.355	2.25
14	MP4A	Z	0	2.25
15	MP4A	Mx	.055	2.25
16	MP4A	X	-109.355	6.75
17	MP4A	Z	0	6.75
18	MP4A	Mx	.055	6.75
19	MP4A	X	-9.358	7
20	MP4A	Z	0	7
21	MP4A	Mx	-.005	7
22	MP1A	X	-38.015	1.5
23	MP1A	Z	0	1.5
24	MP1A	Mx	-.019	1.5
25	MP4A	X	-46.605	1.5
26	MP4A	Z	0	1.5
27	MP4A	Mx	-.023	1.5
28	MP2A	X	-97.627	2.25
29	MP2A	Z	0	2.25
30	MP2A	Mx	.049	2.25
31	MP2A	X	-97.627	6.75
32	MP2A	Z	0	6.75
33	MP2A	Mx	.049	6.75
34	M1	X	-115.873	1.5
35	M1	Z	0	1.5
36	M1	Mx	0	1.5
37	M1	X	-115.873	1.5
38	M1	Z	0	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	-32.325	3.5
2	MP3A	Z	-18.663	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
3	MP3A	Mx	.016	3.5
4	MP3A	X	-32.325	5.5
5	MP3A	Z	-18.663	5.5
6	MP3A	Mx	.016	5.5
7	MP1A	X	-107.076	2.25
8	MP1A	Z	-61.82	2.25
9	MP1A	Mx	.054	2.25
10	MP1A	X	-107.076	6.75
11	MP1A	Z	-61.82	6.75
12	MP1A	Mx	.054	6.75
13	MP4A	X	-107.076	2.25
14	MP4A	Z	-61.82	2.25
15	MP4A	Mx	.054	2.25
16	MP4A	X	-107.076	6.75
17	MP4A	Z	-61.82	6.75
18	MP4A	Mx	.054	6.75
19	MP4A	X	-9.006	7
20	MP4A	Z	-5.2	7
21	MP4A	Mx	-.005	7
22	MP1A	X	-36.958	1.5
23	MP1A	Z	-21.338	1.5
24	MP1A	Mx	-.018	1.5
25	MP4A	X	-45.07	1.5
26	MP4A	Z	-26.021	1.5
27	MP4A	Mx	-.023	1.5
28	MP2A	X	-95.423	2.25
29	MP2A	Z	-55.092	2.25
30	MP2A	Mx	.048	2.25
31	MP2A	X	-95.423	6.75
32	MP2A	Z	-55.092	6.75
33	MP2A	Mx	.048	6.75
34	M1	X	-94.335	1.5
35	M1	Z	-54.464	1.5
36	M1	Mx	.036	1.5
37	M1	X	-94.335	1.5
38	M1	Z	-54.464	1.5
39	M1	Mx	-.036	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP3A	X	-29.31	3.5
2	MP3A	Z	-50.767	3.5
3	MP3A	Mx	.015	3.5
4	MP3A	X	-29.31	5.5
5	MP3A	Z	-50.767	5.5
6	MP3A	Mx	.015	5.5
7	MP1A	X	-76.107	2.25
8	MP1A	Z	-131.821	2.25
9	MP1A	Mx	.038	2.25
10	MP1A	X	-76.107	6.75
11	MP1A	Z	-131.821	6.75
12	MP1A	Mx	.038	6.75
13	MP4A	X	-76.107	2.25
14	MP4A	Z	-131.821	2.25
15	MP4A	Mx	.038	2.25
16	MP4A	X	-76.107	6.75
17	MP4A	Z	-131.821	6.75
18	MP4A	Mx	.038	6.75



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
19	MP4A	X	-6.241	7
20	MP4A	Z	-10.811	7
21	MP4A	Mx	-.003	7
22	MP1A	X	-25.998	1.5
23	MP1A	Z	-45.031	1.5
24	MP1A	Mx	-.013	1.5
25	MP4A	X	-31.459	1.5
26	MP4A	Z	-54.488	1.5
27	MP4A	Mx	-.016	1.5
28	MP2A	X	-67.65	2.25
29	MP2A	Z	-117.173	2.25
30	MP2A	Mx	.034	2.25
31	MP2A	X	-67.65	6.75
32	MP2A	Z	-117.173	6.75
33	MP2A	Mx	.034	6.75
34	M1	X	-47.519	1.5
35	M1	Z	-82.305	1.5
36	M1	Mx	.055	1.5
37	M1	X	-47.519	1.5
38	M1	Z	-82.305	1.5
39	M1	Mx	-.055	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	0	3.5
2	MP3A	Z	-13.623	3.5
3	MP3A	Mx	0	3.5
4	MP3A	X	0	5.5
5	MP3A	Z	-13.623	5.5
6	MP3A	Mx	0	5.5
7	MP1A	X	0	2.25
8	MP1A	Z	-31.472	2.25
9	MP1A	Mx	0	2.25
10	MP1A	X	0	6.75
11	MP1A	Z	-31.472	6.75
12	MP1A	Mx	0	6.75
13	MP4A	X	0	2.25
14	MP4A	Z	-31.472	2.25
15	MP4A	Mx	0	2.25
16	MP4A	X	0	6.75
17	MP4A	Z	-31.472	6.75
18	MP4A	Mx	0	6.75
19	MP4A	X	0	7
20	MP4A	Z	-3.357	7
21	MP4A	Mx	0	7
22	MP1A	X	0	1.5
23	MP1A	Z	-14.025	1.5
24	MP1A	Mx	0	1.5
25	MP4A	X	0	1.5
26	MP4A	Z	-14.025	1.5
27	MP4A	Mx	0	1.5
28	MP2A	X	0	2.25
29	MP2A	Z	-28.084	2.25
30	MP2A	Mx	0	2.25
31	MP2A	X	0	6.75
32	MP2A	Z	-28.084	6.75
33	MP2A	Mx	0	6.75
34	M1	X	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
35	M1	Z	-22.584	1.5
36	M1	Mx	.015	1.5
37	M1	X	0	1.5
38	M1	Z	-22.584	1.5
39	M1	Mx	-.015	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP3A	X	5.823	3.5
2	MP3A	Z	-10.086	3.5
3	MP3A	Mx	-.003	3.5
4	MP3A	X	5.823	5.5
5	MP3A	Z	-10.086	5.5
6	MP3A	Mx	-.003	5.5
7	MP1A	X	14.479	2.25
8	MP1A	Z	-25.078	2.25
9	MP1A	Mx	-.007	2.25
10	MP1A	X	14.479	6.75
11	MP1A	Z	-25.078	6.75
12	MP1A	Mx	-.007	6.75
13	MP4A	X	14.479	2.25
14	MP4A	Z	-25.078	2.25
15	MP4A	Mx	-.007	2.25
16	MP4A	X	14.479	6.75
17	MP4A	Z	-25.078	6.75
18	MP4A	Mx	-.007	6.75
19	MP4A	X	1.572	7
20	MP4A	Z	-2.723	7
21	MP4A	Mx	.000786	7
22	MP1A	X	6.475	1.5
23	MP1A	Z	-11.216	1.5
24	MP1A	Mx	.003	1.5
25	MP4A	X	6.497	1.5
26	MP4A	Z	-11.253	1.5
27	MP4A	Mx	.003	1.5
28	MP2A	X	12.946	2.25
29	MP2A	Z	-22.422	2.25
30	MP2A	Mx	-.006	2.25
31	MP2A	X	12.946	6.75
32	MP2A	Z	-22.422	6.75
33	MP2A	Mx	-.006	6.75
34	M1	X	12.085	1.5
35	M1	Z	-20.931	1.5
36	M1	Mx	.014	1.5
37	M1	X	12.085	1.5
38	M1	Z	-20.931	1.5
39	M1	Mx	-.014	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP3A	X	6.661	3.5
2	MP3A	Z	-3.846	3.5
3	MP3A	Mx	-.003	3.5
4	MP3A	X	6.661	5.5
5	MP3A	Z	-3.846	5.5
6	MP3A	Mx	-.003	5.5
7	MP1A	X	20.722	2.25
8	MP1A	Z	-11.964	2.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
9	MP1A	Mx	-.01	2.25
10	MP1A	X	20.722	6.75
11	MP1A	Z	-11.964	6.75
12	MP1A	Mx	-.01	6.75
13	MP4A	X	20.722	2.25
14	MP4A	Z	-11.964	2.25
15	MP4A	Mx	-.01	2.25
16	MP4A	X	20.722	6.75
17	MP4A	Z	-11.964	6.75
18	MP4A	Mx	-.01	6.75
19	MP4A	X	2.355	7
20	MP4A	Z	-1.36	7
21	MP4A	Mx	.001	7
22	MP1A	X	9.355	1.5
23	MP1A	Z	-5.401	1.5
24	MP1A	Mx	.005	1.5
25	MP4A	X	9.467	1.5
26	MP4A	Z	-5.466	1.5
27	MP4A	Mx	.005	1.5
28	MP2A	X	18.623	2.25
29	MP2A	Z	-10.752	2.25
30	MP2A	Mx	-.009	2.25
31	MP2A	X	18.623	6.75
32	MP2A	Z	-10.752	6.75
33	MP2A	Mx	-.009	6.75
34	M1	X	23.677	1.5
35	M1	Z	-13.67	1.5
36	M1	Mx	.009	1.5
37	M1	X	23.677	1.5
38	M1	Z	-13.67	1.5
39	M1	Mx	-.009	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP3A	X	5.715	3.5
2	MP3A	Z	0	3.5
3	MP3A	Mx	-.003	3.5
4	MP3A	X	5.715	5.5
5	MP3A	Z	0	5.5
6	MP3A	Mx	-.003	5.5
7	MP1A	X	21.413	2.25
8	MP1A	Z	0	2.25
9	MP1A	Mx	-.011	2.25
10	MP1A	X	21.413	6.75
11	MP1A	Z	0	6.75
12	MP1A	Mx	-.011	6.75
13	MP4A	X	21.413	2.25
14	MP4A	Z	0	2.25
15	MP4A	Mx	-.011	2.25
16	MP4A	X	21.413	6.75
17	MP4A	Z	0	6.75
18	MP4A	Mx	-.011	6.75
19	MP4A	X	2.507	7
20	MP4A	Z	0	7
21	MP4A	Mx	.001	7
22	MP1A	X	9.728	1.5
23	MP1A	Z	0	1.5
24	MP1A	Mx	.005	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
25	MP4A	X	9.9	1.5
26	MP4A	Z	0	1.5
27	MP4A	Mx	.005	1.5
28	MP2A	X	19.311	2.25
29	MP2A	Z	0	2.25
30	MP2A	Mx	-.01	2.25
31	MP2A	X	19.311	6.75
32	MP2A	Z	0	6.75
33	MP2A	Mx	-.01	6.75
34	M1	X	28.926	1.5
35	M1	Z	0	1.5
36	M1	Mx	0	1.5
37	M1	X	28.926	1.5
38	M1	Z	0	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	6.661	3.5
2	MP3A	Z	3.846	3.5
3	MP3A	Mx	-.003	3.5
4	MP3A	X	6.661	5.5
5	MP3A	Z	3.846	5.5
6	MP3A	Mx	-.003	5.5
7	MP1A	X	20.722	2.25
8	MP1A	Z	11.964	2.25
9	MP1A	Mx	-.01	2.25
10	MP1A	X	20.722	6.75
11	MP1A	Z	11.964	6.75
12	MP1A	Mx	-.01	6.75
13	MP4A	X	20.722	2.25
14	MP4A	Z	11.964	2.25
15	MP4A	Mx	-.01	2.25
16	MP4A	X	20.722	6.75
17	MP4A	Z	11.964	6.75
18	MP4A	Mx	-.01	6.75
19	MP4A	X	2.355	7
20	MP4A	Z	1.36	7
21	MP4A	Mx	.001	7
22	MP1A	X	9.355	1.5
23	MP1A	Z	5.401	1.5
24	MP1A	Mx	.005	1.5
25	MP4A	X	9.467	1.5
26	MP4A	Z	5.466	1.5
27	MP4A	Mx	.005	1.5
28	MP2A	X	18.623	2.25
29	MP2A	Z	10.752	2.25
30	MP2A	Mx	-.009	2.25
31	MP2A	X	18.623	6.75
32	MP2A	Z	10.752	6.75
33	MP2A	Mx	-.009	6.75
34	M1	X	23.677	1.5
35	M1	Z	13.67	1.5
36	M1	Mx	-.009	1.5
37	M1	X	23.677	1.5
38	M1	Z	13.67	1.5
39	M1	Mx	.009	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP3A	X	5.823	3.5
2	MP3A	Z	10.086	3.5
3	MP3A	Mx	-.003	3.5
4	MP3A	X	5.823	5.5
5	MP3A	Z	10.086	5.5
6	MP3A	Mx	-.003	5.5
7	MP1A	X	14.479	2.25
8	MP1A	Z	25.078	2.25
9	MP1A	Mx	-.007	2.25
10	MP1A	X	14.479	6.75
11	MP1A	Z	25.078	6.75
12	MP1A	Mx	-.007	6.75
13	MP4A	X	14.479	2.25
14	MP4A	Z	25.078	2.25
15	MP4A	Mx	-.007	2.25
16	MP4A	X	14.479	6.75
17	MP4A	Z	25.078	6.75
18	MP4A	Mx	-.007	6.75
19	MP4A	X	1.572	7
20	MP4A	Z	2.723	7
21	MP4A	Mx	.000786	7
22	MP1A	X	6.475	1.5
23	MP1A	Z	11.216	1.5
24	MP1A	Mx	.003	1.5
25	MP4A	X	6.497	1.5
26	MP4A	Z	11.253	1.5
27	MP4A	Mx	.003	1.5
28	MP2A	X	12.946	2.25
29	MP2A	Z	22.422	2.25
30	MP2A	Mx	-.006	2.25
31	MP2A	X	12.946	6.75
32	MP2A	Z	22.422	6.75
33	MP2A	Mx	-.006	6.75
34	M1	X	12.085	1.5
35	M1	Z	20.931	1.5
36	M1	Mx	-.014	1.5
37	M1	X	12.085	1.5
38	M1	Z	20.931	1.5
39	M1	Mx	.014	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP3A	X	0	3.5
2	MP3A	Z	13.623	3.5
3	MP3A	Mx	0	3.5
4	MP3A	X	0	5.5
5	MP3A	Z	13.623	5.5
6	MP3A	Mx	0	5.5
7	MP1A	X	0	2.25
8	MP1A	Z	31.472	2.25
9	MP1A	Mx	0	2.25
10	MP1A	X	0	6.75
11	MP1A	Z	31.472	6.75
12	MP1A	Mx	0	6.75
13	MP4A	X	0	2.25
14	MP4A	Z	31.472	2.25
15	MP4A	Mx	0	2.25
16	MP4A	X	0	6.75



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
17	MP4A	Z	31.472	6.75
18	MP4A	Mx	0	6.75
19	MP4A	X	0	7
20	MP4A	Z	3.357	7
21	MP4A	Mx	0	7
22	MP1A	X	0	1.5
23	MP1A	Z	14.025	1.5
24	MP1A	Mx	0	1.5
25	MP4A	X	0	1.5
26	MP4A	Z	14.025	1.5
27	MP4A	Mx	0	1.5
28	MP2A	X	0	2.25
29	MP2A	Z	28.084	2.25
30	MP2A	Mx	0	2.25
31	MP2A	X	0	6.75
32	MP2A	Z	28.084	6.75
33	MP2A	Mx	0	6.75
34	M1	X	0	1.5
35	M1	Z	22.584	1.5
36	M1	Mx	-.015	1.5
37	M1	X	0	1.5
38	M1	Z	22.584	1.5
39	M1	Mx	.015	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	-5.823	3.5
2	MP3A	Z	10.086	3.5
3	MP3A	Mx	.003	3.5
4	MP3A	X	-5.823	5.5
5	MP3A	Z	10.086	5.5
6	MP3A	Mx	.003	5.5
7	MP1A	X	-14.479	2.25
8	MP1A	Z	25.078	2.25
9	MP1A	Mx	.007	2.25
10	MP1A	X	-14.479	6.75
11	MP1A	Z	25.078	6.75
12	MP1A	Mx	.007	6.75
13	MP4A	X	-14.479	2.25
14	MP4A	Z	25.078	2.25
15	MP4A	Mx	.007	2.25
16	MP4A	X	-14.479	6.75
17	MP4A	Z	25.078	6.75
18	MP4A	Mx	.007	6.75
19	MP4A	X	-1.572	7
20	MP4A	Z	2.723	7
21	MP4A	Mx	-.000786	7
22	MP1A	X	-6.475	1.5
23	MP1A	Z	11.216	1.5
24	MP1A	Mx	-.003	1.5
25	MP4A	X	-6.497	1.5
26	MP4A	Z	11.253	1.5
27	MP4A	Mx	-.003	1.5
28	MP2A	X	-12.946	2.25
29	MP2A	Z	22.422	2.25
30	MP2A	Mx	.006	2.25
31	MP2A	X	-12.946	6.75
32	MP2A	Z	22.422	6.75



Company :
 Designer :
 Job Number :
 Model Name :

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 Checked By: _____

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
33	MP2A	Mx	.006	6.75
34	M1	X	-12.085	1.5
35	M1	Z	20.931	1.5
36	M1	Mx	-.014	1.5
37	M1	X	-12.085	1.5
38	M1	Z	20.931	1.5
39	M1	Mx	.014	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	-6.661	3.5
2	MP3A	Z	3.846	3.5
3	MP3A	Mx	.003	3.5
4	MP3A	X	-6.661	5.5
5	MP3A	Z	3.846	5.5
6	MP3A	Mx	.003	5.5
7	MP1A	X	-20.722	2.25
8	MP1A	Z	11.964	2.25
9	MP1A	Mx	.01	2.25
10	MP1A	X	-20.722	6.75
11	MP1A	Z	11.964	6.75
12	MP1A	Mx	.01	6.75
13	MP4A	X	-20.722	2.25
14	MP4A	Z	11.964	2.25
15	MP4A	Mx	.01	2.25
16	MP4A	X	-20.722	6.75
17	MP4A	Z	11.964	6.75
18	MP4A	Mx	.01	6.75
19	MP4A	X	-2.355	7
20	MP4A	Z	1.36	7
21	MP4A	Mx	-.001	7
22	MP1A	X	-9.355	1.5
23	MP1A	Z	5.401	1.5
24	MP1A	Mx	-.005	1.5
25	MP4A	X	-9.467	1.5
26	MP4A	Z	5.466	1.5
27	MP4A	Mx	-.005	1.5
28	MP2A	X	-18.623	2.25
29	MP2A	Z	10.752	2.25
30	MP2A	Mx	.009	2.25
31	MP2A	X	-18.623	6.75
32	MP2A	Z	10.752	6.75
33	MP2A	Mx	.009	6.75
34	M1	X	-23.677	1.5
35	M1	Z	13.67	1.5
36	M1	Mx	-.009	1.5
37	M1	X	-23.677	1.5
38	M1	Z	13.67	1.5
39	M1	Mx	.009	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	-5.715	3.5
2	MP3A	Z	0	3.5
3	MP3A	Mx	.003	3.5
4	MP3A	X	-5.715	5.5
5	MP3A	Z	0	5.5
6	MP3A	Mx	.003	5.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
7	MP1A	X	-21.413	2.25
8	MP1A	Z	0	2.25
9	MP1A	Mx	.011	2.25
10	MP1A	X	-21.413	6.75
11	MP1A	Z	0	6.75
12	MP1A	Mx	.011	6.75
13	MP4A	X	-21.413	2.25
14	MP4A	Z	0	2.25
15	MP4A	Mx	.011	2.25
16	MP4A	X	-21.413	6.75
17	MP4A	Z	0	6.75
18	MP4A	Mx	.011	6.75
19	MP4A	X	-2.507	7
20	MP4A	Z	0	7
21	MP4A	Mx	-.001	7
22	MP1A	X	-9.728	1.5
23	MP1A	Z	0	1.5
24	MP1A	Mx	-.005	1.5
25	MP4A	X	-9.9	1.5
26	MP4A	Z	0	1.5
27	MP4A	Mx	-.005	1.5
28	MP2A	X	-19.311	2.25
29	MP2A	Z	0	2.25
30	MP2A	Mx	.01	2.25
31	MP2A	X	-19.311	6.75
32	MP2A	Z	0	6.75
33	MP2A	Mx	.01	6.75
34	M1	X	-28.926	1.5
35	M1	Z	0	1.5
36	M1	Mx	0	1.5
37	M1	X	-28.926	1.5
38	M1	Z	0	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	-6.661	3.5
2	MP3A	Z	-3.846	3.5
3	MP3A	Mx	.003	3.5
4	MP3A	X	-6.661	5.5
5	MP3A	Z	-3.846	5.5
6	MP3A	Mx	.003	5.5
7	MP1A	X	-20.722	2.25
8	MP1A	Z	-11.964	2.25
9	MP1A	Mx	.01	2.25
10	MP1A	X	-20.722	6.75
11	MP1A	Z	-11.964	6.75
12	MP1A	Mx	.01	6.75
13	MP4A	X	-20.722	2.25
14	MP4A	Z	-11.964	2.25
15	MP4A	Mx	.01	2.25
16	MP4A	X	-20.722	6.75
17	MP4A	Z	-11.964	6.75
18	MP4A	Mx	.01	6.75
19	MP4A	X	-2.355	7
20	MP4A	Z	-1.36	7
21	MP4A	Mx	-.001	7
22	MP1A	X	-9.355	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
23	MP1A	Z	-5.401	1.5
24	MP1A	Mx	-.005	1.5
25	MP4A	X	-9.467	1.5
26	MP4A	Z	-5.466	1.5
27	MP4A	Mx	-.005	1.5
28	MP2A	X	-18.623	2.25
29	MP2A	Z	-10.752	2.25
30	MP2A	Mx	.009	2.25
31	MP2A	X	-18.623	6.75
32	MP2A	Z	-10.752	6.75
33	MP2A	Mx	.009	6.75
34	M1	X	-23.677	1.5
35	M1	Z	-13.67	1.5
36	M1	Mx	.009	1.5
37	M1	X	-23.677	1.5
38	M1	Z	-13.67	1.5
39	M1	Mx	-.009	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	-5.823	3.5
2	MP3A	Z	-10.086	3.5
3	MP3A	Mx	.003	3.5
4	MP3A	X	-5.823	5.5
5	MP3A	Z	-10.086	5.5
6	MP3A	Mx	.003	5.5
7	MP1A	X	-14.479	2.25
8	MP1A	Z	-25.078	2.25
9	MP1A	Mx	.007	2.25
10	MP1A	X	-14.479	6.75
11	MP1A	Z	-25.078	6.75
12	MP1A	Mx	.007	6.75
13	MP4A	X	-14.479	2.25
14	MP4A	Z	-25.078	2.25
15	MP4A	Mx	.007	2.25
16	MP4A	X	-14.479	6.75
17	MP4A	Z	-25.078	6.75
18	MP4A	Mx	.007	6.75
19	MP4A	X	-1.572	7
20	MP4A	Z	-2.723	7
21	MP4A	Mx	-.000786	7
22	MP1A	X	-6.475	1.5
23	MP1A	Z	-11.216	1.5
24	MP1A	Mx	-.003	1.5
25	MP4A	X	-6.497	1.5
26	MP4A	Z	-11.253	1.5
27	MP4A	Mx	-.003	1.5
28	MP2A	X	-12.946	2.25
29	MP2A	Z	-22.422	2.25
30	MP2A	Mx	.006	2.25
31	MP2A	X	-12.946	6.75
32	MP2A	Z	-22.422	6.75
33	MP2A	Mx	.006	6.75
34	M1	X	-12.085	1.5
35	M1	Z	-20.931	1.5
36	M1	Mx	.014	1.5
37	M1	X	-12.085	1.5
38	M1	Z	-20.931	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
39	M1	Mx	-0.14	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP3A	X	0	3.5
2	MP3A	Z	-4.329	3.5
3	MP3A	Mx	0	3.5
4	MP3A	X	0	5.5
5	MP3A	Z	-4.329	5.5
6	MP3A	Mx	0	5.5
7	MP1A	X	0	2.25
8	MP1A	Z	-10.406	2.25
9	MP1A	Mx	0	2.25
10	MP1A	X	0	6.75
11	MP1A	Z	-10.406	6.75
12	MP1A	Mx	0	6.75
13	MP4A	X	0	2.25
14	MP4A	Z	-10.406	2.25
15	MP4A	Mx	0	2.25
16	MP4A	X	0	6.75
17	MP4A	Z	-10.406	6.75
18	MP4A	Mx	0	6.75
19	MP4A	X	0	7
20	MP4A	Z	-8.45	7
21	MP4A	Mx	0	7
22	MP1A	X	0	1.5
23	MP1A	Z	-3.541	1.5
24	MP1A	Mx	0	1.5
25	MP4A	X	0	1.5
26	MP4A	Z	-4.272	1.5
27	MP4A	Mx	0	1.5
28	MP2A	X	0	2.25
29	MP2A	Z	-9.241	2.25
30	MP2A	Mx	0	2.25
31	MP2A	X	0	6.75
32	MP2A	Z	-9.241	6.75
33	MP2A	Mx	0	6.75
34	M1	X	0	1.5
35	M1	Z	-5.506	1.5
36	M1	Mx	.004	1.5
37	M1	X	0	1.5
38	M1	Z	-5.506	1.5
39	M1	Mx	-.004	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP3A	X	1.832	3.5
2	MP3A	Z	-3.173	3.5
3	MP3A	Mx	-.000916	3.5
4	MP3A	X	1.832	5.5
5	MP3A	Z	-3.173	5.5
6	MP3A	Mx	-.000916	5.5
7	MP1A	X	4.757	2.25
8	MP1A	Z	-8.239	2.25
9	MP1A	Mx	-.002	2.25
10	MP1A	X	4.757	6.75
11	MP1A	Z	-8.239	6.75
12	MP1A	Mx	-.002	6.75

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
13	MP4A	X	4.757	2.25
14	MP4A	Z	-8.239	2.25
15	MP4A	Mx	-.002	2.25
16	MP4A	X	4.757	6.75
17	MP4A	Z	-8.239	6.75
18	MP4A	Mx	-.002	6.75
19	MP4A	X	.39	7
20	MP4A	Z	-.676	7
21	MP4A	Mx	.000195	7
22	MP1A	X	1.625	1.5
23	MP1A	Z	-2.814	1.5
24	MP1A	Mx	.000812	1.5
25	MP4A	X	1.966	1.5
26	MP4A	Z	-3.405	1.5
27	MP4A	Mx	.000983	1.5
28	MP2A	X	4.228	2.25
29	MP2A	Z	-7.323	2.25
30	MP2A	Mx	-.002	2.25
31	MP2A	X	4.228	6.75
32	MP2A	Z	-7.323	6.75
33	MP2A	Mx	-.002	6.75
34	M1	X	2.97	1.5
35	M1	Z	-5.144	1.5
36	M1	Mx	.003	1.5
37	M1	X	2.97	1.5
38	M1	Z	-5.144	1.5
39	M1	Mx	-.003	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	2.02	3.5
2	MP3A	Z	-1.166	3.5
3	MP3A	Mx	-.001	3.5
4	MP3A	X	2.02	5.5
5	MP3A	Z	-1.166	5.5
6	MP3A	Mx	-.001	5.5
7	MP1A	X	6.692	2.25
8	MP1A	Z	-3.864	2.25
9	MP1A	Mx	-.003	2.25
10	MP1A	X	6.692	6.75
11	MP1A	Z	-3.864	6.75
12	MP1A	Mx	-.003	6.75
13	MP4A	X	6.692	2.25
14	MP4A	Z	-3.864	2.25
15	MP4A	Mx	-.003	2.25
16	MP4A	X	6.692	6.75
17	MP4A	Z	-3.864	6.75
18	MP4A	Mx	-.003	6.75
19	MP4A	X	.563	7
20	MP4A	Z	-.325	7
21	MP4A	Mx	.000281	7
22	MP1A	X	2.31	1.5
23	MP1A	Z	-1.334	1.5
24	MP1A	Mx	.001	1.5
25	MP4A	X	2.817	1.5
26	MP4A	Z	-1.626	1.5
27	MP4A	Mx	.001	1.5
28	MP2A	X	5.964	2.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
29	MP2A	Z	-3.443	2.25
30	MP2A	Mx	-.003	2.25
31	MP2A	X	5.964	6.75
32	MP2A	Z	-3.443	6.75
33	MP2A	Mx	-.003	6.75
34	M1	X	5.896	1.5
35	M1	Z	-3.404	1.5
36	M1	Mx	.002	1.5
37	M1	X	5.896	1.5
38	M1	Z	-3.404	1.5
39	M1	Mx	-.002	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	1.667	3.5
2	MP3A	Z	0	3.5
3	MP3A	Mx	-.000834	3.5
4	MP3A	X	1.667	5.5
5	MP3A	Z	0	5.5
6	MP3A	Mx	-.000834	5.5
7	MP1A	X	6.835	2.25
8	MP1A	Z	0	2.25
9	MP1A	Mx	-.003	2.25
10	MP1A	X	6.835	6.75
11	MP1A	Z	0	6.75
12	MP1A	Mx	-.003	6.75
13	MP4A	X	6.835	2.25
14	MP4A	Z	0	2.25
15	MP4A	Mx	-.003	2.25
16	MP4A	X	6.835	6.75
17	MP4A	Z	0	6.75
18	MP4A	Mx	-.003	6.75
19	MP4A	X	.585	7
20	MP4A	Z	0	7
21	MP4A	Mx	.000292	7
22	MP1A	X	2.376	1.5
23	MP1A	Z	0	1.5
24	MP1A	Mx	.001	1.5
25	MP4A	X	2.913	1.5
26	MP4A	Z	0	1.5
27	MP4A	Mx	.001	1.5
28	MP2A	X	6.102	2.25
29	MP2A	Z	0	2.25
30	MP2A	Mx	-.003	2.25
31	MP2A	X	6.102	6.75
32	MP2A	Z	0	6.75
33	MP2A	Mx	-.003	6.75
34	M1	X	7.242	1.5
35	M1	Z	0	1.5
36	M1	Mx	0	1.5
37	M1	X	7.242	1.5
38	M1	Z	0	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	2.02	3.5
2	MP3A	Z	1.166	3.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
3	MP3A	Mx	-.001	3.5
4	MP3A	X	2.02	5.5
5	MP3A	Z	1.166	5.5
6	MP3A	Mx	-.001	5.5
7	MP1A	X	6.692	2.25
8	MP1A	Z	3.864	2.25
9	MP1A	Mx	-.003	2.25
10	MP1A	X	6.692	6.75
11	MP1A	Z	3.864	6.75
12	MP1A	Mx	-.003	6.75
13	MP4A	X	6.692	2.25
14	MP4A	Z	3.864	2.25
15	MP4A	Mx	-.003	2.25
16	MP4A	X	6.692	6.75
17	MP4A	Z	3.864	6.75
18	MP4A	Mx	-.003	6.75
19	MP4A	X	.563	7
20	MP4A	Z	.325	7
21	MP4A	Mx	.000281	7
22	MP1A	X	2.31	1.5
23	MP1A	Z	1.334	1.5
24	MP1A	Mx	.001	1.5
25	MP4A	X	2.817	1.5
26	MP4A	Z	1.626	1.5
27	MP4A	Mx	.001	1.5
28	MP2A	X	5.964	2.25
29	MP2A	Z	3.443	2.25
30	MP2A	Mx	-.003	2.25
31	MP2A	X	5.964	6.75
32	MP2A	Z	3.443	6.75
33	MP2A	Mx	-.003	6.75
34	M1	X	5.896	1.5
35	M1	Z	3.404	1.5
36	M1	Mx	-.002	1.5
37	M1	X	5.896	1.5
38	M1	Z	3.404	1.5
39	M1	Mx	.002	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	1.832	3.5
2	MP3A	Z	3.173	3.5
3	MP3A	Mx	-.000916	3.5
4	MP3A	X	1.832	5.5
5	MP3A	Z	3.173	5.5
6	MP3A	Mx	-.000916	5.5
7	MP1A	X	4.757	2.25
8	MP1A	Z	8.239	2.25
9	MP1A	Mx	-.002	2.25
10	MP1A	X	4.757	6.75
11	MP1A	Z	8.239	6.75
12	MP1A	Mx	-.002	6.75
13	MP4A	X	4.757	2.25
14	MP4A	Z	8.239	2.25
15	MP4A	Mx	-.002	2.25
16	MP4A	X	4.757	6.75
17	MP4A	Z	8.239	6.75
18	MP4A	Mx	-.002	6.75

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
19	MP4A	X	.39	7
20	MP4A	Z	.676	7
21	MP4A	Mx	.000195	7
22	MP1A	X	1.625	1.5
23	MP1A	Z	2.814	1.5
24	MP1A	Mx	.000812	1.5
25	MP4A	X	1.966	1.5
26	MP4A	Z	3.405	1.5
27	MP4A	Mx	.000983	1.5
28	MP2A	X	4.228	2.25
29	MP2A	Z	7.323	2.25
30	MP2A	Mx	-.002	2.25
31	MP2A	X	4.228	6.75
32	MP2A	Z	7.323	6.75
33	MP2A	Mx	-.002	6.75
34	M1	X	2.97	1.5
35	M1	Z	5.144	1.5
36	M1	Mx	-.003	1.5
37	M1	X	2.97	1.5
38	M1	Z	5.144	1.5
39	M1	Mx	.003	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	0	3.5
2	MP3A	Z	4.329	3.5
3	MP3A	Mx	0	3.5
4	MP3A	X	0	5.5
5	MP3A	Z	4.329	5.5
6	MP3A	Mx	0	5.5
7	MP1A	X	0	2.25
8	MP1A	Z	10.406	2.25
9	MP1A	Mx	0	2.25
10	MP1A	X	0	6.75
11	MP1A	Z	10.406	6.75
12	MP1A	Mx	0	6.75
13	MP4A	X	0	2.25
14	MP4A	Z	10.406	2.25
15	MP4A	Mx	0	2.25
16	MP4A	X	0	6.75
17	MP4A	Z	10.406	6.75
18	MP4A	Mx	0	6.75
19	MP4A	X	0	7
20	MP4A	Z	.845	7
21	MP4A	Mx	0	7
22	MP1A	X	0	1.5
23	MP1A	Z	3.541	1.5
24	MP1A	Mx	0	1.5
25	MP4A	X	0	1.5
26	MP4A	Z	4.272	1.5
27	MP4A	Mx	0	1.5
28	MP2A	X	0	2.25
29	MP2A	Z	9.241	2.25
30	MP2A	Mx	0	2.25
31	MP2A	X	0	6.75
32	MP2A	Z	9.241	6.75
33	MP2A	Mx	0	6.75
34	M1	X	0	1.5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
35	M1	Z	5.506	1.5
36	M1	Mx	-.004	1.5
37	M1	X	0	1.5
38	M1	Z	5.506	1.5
39	M1	Mx	.004	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	-1.832	3.5
2	MP3A	Z	3.173	3.5
3	MP3A	Mx	.000916	3.5
4	MP3A	X	-1.832	5.5
5	MP3A	Z	3.173	5.5
6	MP3A	Mx	.000916	5.5
7	MP1A	X	-4.757	2.25
8	MP1A	Z	8.239	2.25
9	MP1A	Mx	.002	2.25
10	MP1A	X	-4.757	6.75
11	MP1A	Z	8.239	6.75
12	MP1A	Mx	.002	6.75
13	MP4A	X	-4.757	2.25
14	MP4A	Z	8.239	2.25
15	MP4A	Mx	.002	2.25
16	MP4A	X	-4.757	6.75
17	MP4A	Z	8.239	6.75
18	MP4A	Mx	.002	6.75
19	MP4A	X	-.39	7
20	MP4A	Z	.676	7
21	MP4A	Mx	-.000195	7
22	MP1A	X	-1.625	1.5
23	MP1A	Z	2.814	1.5
24	MP1A	Mx	-.000812	1.5
25	MP4A	X	-1.966	1.5
26	MP4A	Z	3.405	1.5
27	MP4A	Mx	-.000983	1.5
28	MP2A	X	-4.228	2.25
29	MP2A	Z	7.323	2.25
30	MP2A	Mx	.002	2.25
31	MP2A	X	-4.228	6.75
32	MP2A	Z	7.323	6.75
33	MP2A	Mx	.002	6.75
34	M1	X	-2.97	1.5
35	M1	Z	5.144	1.5
36	M1	Mx	-.003	1.5
37	M1	X	-2.97	1.5
38	M1	Z	5.144	1.5
39	M1	Mx	.003	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	-2.02	3.5
2	MP3A	Z	1.166	3.5
3	MP3A	Mx	.001	3.5
4	MP3A	X	-2.02	5.5
5	MP3A	Z	1.166	5.5
6	MP3A	Mx	.001	5.5
7	MP1A	X	-6.692	2.25
8	MP1A	Z	3.864	2.25

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
9	MP1A	Mx	.003	2.25
10	MP1A	X	-6.692	6.75
11	MP1A	Z	3.864	6.75
12	MP1A	Mx	.003	6.75
13	MP4A	X	-6.692	2.25
14	MP4A	Z	3.864	2.25
15	MP4A	Mx	.003	2.25
16	MP4A	X	-6.692	6.75
17	MP4A	Z	3.864	6.75
18	MP4A	Mx	.003	6.75
19	MP4A	X	-.563	7
20	MP4A	Z	.325	7
21	MP4A	Mx	-.000281	7
22	MP1A	X	-2.31	1.5
23	MP1A	Z	1.334	1.5
24	MP1A	Mx	-.001	1.5
25	MP4A	X	-2.817	1.5
26	MP4A	Z	1.626	1.5
27	MP4A	Mx	-.001	1.5
28	MP2A	X	-5.964	2.25
29	MP2A	Z	3.443	2.25
30	MP2A	Mx	.003	2.25
31	MP2A	X	-5.964	6.75
32	MP2A	Z	3.443	6.75
33	MP2A	Mx	.003	6.75
34	M1	X	-5.896	1.5
35	M1	Z	3.404	1.5
36	M1	Mx	-.002	1.5
37	M1	X	-5.896	1.5
38	M1	Z	3.404	1.5
39	M1	Mx	.002	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP3A	X	-1.667	3.5
2	MP3A	Z	0	3.5
3	MP3A	Mx	.000834	3.5
4	MP3A	X	-1.667	5.5
5	MP3A	Z	0	5.5
6	MP3A	Mx	.000834	5.5
7	MP1A	X	-6.835	2.25
8	MP1A	Z	0	2.25
9	MP1A	Mx	.003	2.25
10	MP1A	X	-6.835	6.75
11	MP1A	Z	0	6.75
12	MP1A	Mx	.003	6.75
13	MP4A	X	-6.835	2.25
14	MP4A	Z	0	2.25
15	MP4A	Mx	.003	2.25
16	MP4A	X	-6.835	6.75
17	MP4A	Z	0	6.75
18	MP4A	Mx	.003	6.75
19	MP4A	X	-.585	7
20	MP4A	Z	0	7
21	MP4A	Mx	-.000292	7
22	MP1A	X	-2.376	1.5
23	MP1A	Z	0	1.5
24	MP1A	Mx	-.001	1.5



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 Designer :
 Job Number :
 Model Name :

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
25	MP4A	X	-2.913	1.5
26	MP4A	Z	0	1.5
27	MP4A	Mx	-.001	1.5
28	MP2A	X	-6.102	2.25
29	MP2A	Z	0	2.25
30	MP2A	Mx	.003	2.25
31	MP2A	X	-6.102	6.75
32	MP2A	Z	0	6.75
33	MP2A	Mx	.003	6.75
34	M1	X	-7.242	1.5
35	M1	Z	0	1.5
36	M1	Mx	0	1.5
37	M1	X	-7.242	1.5
38	M1	Z	0	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP3A	X	-2.02	3.5
2	MP3A	Z	-1.166	3.5
3	MP3A	Mx	.001	3.5
4	MP3A	X	-2.02	5.5
5	MP3A	Z	-1.166	5.5
6	MP3A	Mx	.001	5.5
7	MP1A	X	-6.692	2.25
8	MP1A	Z	-3.864	2.25
9	MP1A	Mx	.003	2.25
10	MP1A	X	-6.692	6.75
11	MP1A	Z	-3.864	6.75
12	MP1A	Mx	.003	6.75
13	MP4A	X	-6.692	2.25
14	MP4A	Z	-3.864	2.25
15	MP4A	Mx	.003	2.25
16	MP4A	X	-6.692	6.75
17	MP4A	Z	-3.864	6.75
18	MP4A	Mx	.003	6.75
19	MP4A	X	-.563	7
20	MP4A	Z	-.325	7
21	MP4A	Mx	-.000281	7
22	MP1A	X	-2.31	1.5
23	MP1A	Z	-1.334	1.5
24	MP1A	Mx	-.001	1.5
25	MP4A	X	-2.817	1.5
26	MP4A	Z	-1.626	1.5
27	MP4A	Mx	-.001	1.5
28	MP2A	X	-5.964	2.25
29	MP2A	Z	-3.443	2.25
30	MP2A	Mx	.003	2.25
31	MP2A	X	-5.964	6.75
32	MP2A	Z	-3.443	6.75
33	MP2A	Mx	.003	6.75
34	M1	X	-5.896	1.5
35	M1	Z	-3.404	1.5
36	M1	Mx	.002	1.5
37	M1	X	-5.896	1.5
38	M1	Z	-3.404	1.5
39	M1	Mx	-.002	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP3A	X	-1.832	3.5
2	MP3A	Z	-3.173	3.5
3	MP3A	Mx	.000916	3.5
4	MP3A	X	-1.832	5.5
5	MP3A	Z	-3.173	5.5
6	MP3A	Mx	.000916	5.5
7	MP1A	X	-4.757	2.25
8	MP1A	Z	-8.239	2.25
9	MP1A	Mx	.002	2.25
10	MP1A	X	-4.757	6.75
11	MP1A	Z	-8.239	6.75
12	MP1A	Mx	.002	6.75
13	MP4A	X	-4.757	2.25
14	MP4A	Z	-8.239	2.25
15	MP4A	Mx	.002	2.25
16	MP4A	X	-4.757	6.75
17	MP4A	Z	-8.239	6.75
18	MP4A	Mx	.002	6.75
19	MP4A	X	-.39	7
20	MP4A	Z	-.676	7
21	MP4A	Mx	-.000195	7
22	MP1A	X	-1.625	1.5
23	MP1A	Z	-2.814	1.5
24	MP1A	Mx	-.000812	1.5
25	MP4A	X	-1.966	1.5
26	MP4A	Z	-3.405	1.5
27	MP4A	Mx	-.000983	1.5
28	MP2A	X	-4.228	2.25
29	MP2A	Z	-7.323	2.25
30	MP2A	Mx	.002	2.25
31	MP2A	X	-4.228	6.75
32	MP2A	Z	-7.323	6.75
33	MP2A	Mx	.002	6.75
34	M1	X	-2.97	1.5
35	M1	Z	-5.144	1.5
36	M1	Mx	.003	1.5
37	M1	X	-2.97	1.5
38	M1	Z	-5.144	1.5
39	M1	Mx	-.003	1.5

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	M8	Y	-500	0

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	M10	Y	-500	0

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	M4	Y	-250	%100

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	M4	Y	-250	%50

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	Y	-3.686	3.5
2	MP3A	My	-.002	3.5
3	MP3A	Mz	0	3.5
4	MP3A	Y	-3.686	5.5
5	MP3A	My	-.002	5.5
6	MP3A	Mz	0	5.5
7	MP1A	Y	-4.071	2.25
8	MP1A	My	-.002	2.25
9	MP1A	Mz	0	2.25
10	MP1A	Y	-4.071	6.75
11	MP1A	My	-.002	6.75
12	MP1A	Mz	0	6.75
13	MP4A	Y	-4.071	2.25
14	MP4A	My	-.002	2.25
15	MP4A	Mz	0	2.25
16	MP4A	Y	-4.071	6.75
17	MP4A	My	-.002	6.75
18	MP4A	Mz	0	6.75
19	MP4A	Y	-1.338	7
20	MP4A	My	.000669	7
21	MP4A	Mz	0	7
22	MP1A	Y	-9.609	1.5
23	MP1A	My	.005	1.5
24	MP1A	Mz	0	1.5
25	MP4A	Y	-10.175	1.5
26	MP4A	My	.005	1.5
27	MP4A	Mz	0	1.5
28	MP2A	Y	-2.129	2.25
29	MP2A	My	-.001	2.25
30	MP2A	Mz	0	2.25
31	MP2A	Y	-2.129	6.75
32	MP2A	My	-.001	6.75
33	MP2A	Mz	0	6.75
34	M1	Y	-4.116	1.5
35	M1	My	0	1.5
36	M1	Mz	-.003	1.5
37	M1	Y	-4.116	1.5
38	M1	My	0	1.5
39	M1	Mz	.003	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	Z	-9.214	3.5
2	MP3A	Mx	0	3.5
3	MP3A	Z	-9.214	5.5
4	MP3A	Mx	0	5.5
5	MP1A	Z	-10.179	2.25
6	MP1A	Mx	0	2.25
7	MP1A	Z	-10.179	6.75
8	MP1A	Mx	0	6.75
9	MP4A	Z	-10.179	2.25
10	MP4A	Mx	0	2.25
11	MP4A	Z	-10.179	6.75
12	MP4A	Mx	0	6.75
13	MP4A	Z	-3.345	7
14	MP4A	Mx	0	7
15	MP1A	Z	-24.024	1.5
16	MP1A	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
17	MP4A	Z	-25.439	1.5
18	MP4A	Mx	0	1.5
19	MP2A	Z	-5.322	2.25
20	MP2A	Mx	0	2.25
21	MP2A	Z	-5.322	6.75
22	MP2A	Mx	0	6.75
23	M1	Z	-10.291	1.5
24	M1	Mx	.007	1.5
25	M1	Z	-10.291	1.5
26	M1	Mx	-.007	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP3A	X	9.214	3.5
2	MP3A	Mx	-.005	3.5
3	MP3A	X	9.214	5.5
4	MP3A	Mx	-.005	5.5
5	MP1A	X	10.179	2.25
6	MP1A	Mx	-.005	2.25
7	MP1A	X	10.179	6.75
8	MP1A	Mx	-.005	6.75
9	MP4A	X	10.179	2.25
10	MP4A	Mx	-.005	2.25
11	MP4A	X	10.179	6.75
12	MP4A	Mx	-.005	6.75
13	MP4A	X	3.345	7
14	MP4A	Mx	.002	7
15	MP1A	X	24.024	1.5
16	MP1A	Mx	.012	1.5
17	MP4A	X	25.439	1.5
18	MP4A	Mx	.013	1.5
19	MP2A	X	5.322	2.25
20	MP2A	Mx	-.003	2.25
21	MP2A	X	5.322	6.75
22	MP2A	Mx	-.003	6.75
23	M1	X	10.291	1.5
24	M1	Mx	0	1.5
25	M1	X	10.291	1.5
26	M1	Mx	0	1.5

Member Distributed Loads (BLC 40 : Structure Di)

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	Y	-8.767	-8.767	0	%100
2	M2	Y	-7.259	-7.259	0	%100
3	M4	Y	-8.767	-8.767	0	%100
4	MP1A	Y	-4.488	-4.488	0	%100
5	MP4A	Y	-4.488	-4.488	0	%100
6	MP3A	Y	-4.488	-4.488	0	%100
7	MP2A	Y	-4.488	-4.488	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	-9.642	-9.642	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
5	M4	X	0	0	0	%100
6	M4	Z	-15.083	-15.083	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	-8.597	-8.597	0	%100
9	MP4A	X	0	0	0	%100
10	MP4A	Z	-8.597	-8.597	0	%100
11	MP3A	X	0	0	0	%100
12	MP3A	Z	-8.597	-8.597	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	-8.597	-8.597	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	1.485	1.485	0	%100
2	M1	Z	-2.572	-2.572	0	%100
3	M2	X	4.821	4.821	0	%100
4	M2	Z	-8.35	-8.35	0	%100
5	M4	X	5.656	5.656	0	%100
6	M4	Z	-9.796	-9.796	0	%100
7	MP1A	X	4.299	4.299	0	%100
8	MP1A	Z	-7.445	-7.445	0	%100
9	MP4A	X	4.299	4.299	0	%100
10	MP4A	Z	-7.445	-7.445	0	%100
11	MP3A	X	4.299	4.299	0	%100
12	MP3A	Z	-7.445	-7.445	0	%100
13	MP2A	X	4.299	4.299	0	%100
14	MP2A	Z	-7.445	-7.445	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	7.715	7.715	0	%100
2	M1	Z	-4.454	-4.454	0	%100
3	M2	X	8.35	8.35	0	%100
4	M2	Z	-4.821	-4.821	0	%100
5	M4	X	3.265	3.265	0	%100
6	M4	Z	-1.885	-1.885	0	%100
7	MP1A	X	7.445	7.445	0	%100
8	MP1A	Z	-4.299	-4.299	0	%100
9	MP4A	X	7.445	7.445	0	%100
10	MP4A	Z	-4.299	-4.299	0	%100
11	MP3A	X	7.445	7.445	0	%100
12	MP3A	Z	-4.299	-4.299	0	%100
13	MP2A	X	7.445	7.445	0	%100
14	MP2A	Z	-4.299	-4.299	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	11.879	11.879	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	9.642	9.642	0	%100
4	M2	Z	0	0	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	0	0	0	%100
7	MP1A	X	8.597	8.597	0	%100
8	MP1A	Z	0	0	0	%100
9	MP4A	X	8.597	8.597	0	%100
10	MP4A	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[ft.%]	End Location[ft.%]
11	MP3A	X	8.597	8.597	0	%100
12	MP3A	Z	0	0	0	%100
13	MP2A	X	8.597	8.597	0	%100
14	MP2A	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[ft.%]	End Location[ft.%]
1	M1	X	7.715	7.715	0	%100
2	M1	Z	4.454	4.454	0	%100
3	M2	X	8.35	8.35	0	%100
4	M2	Z	4.821	4.821	0	%100
5	M4	X	3.265	3.265	0	%100
6	M4	Z	1.885	1.885	0	%100
7	MP1A	X	7.445	7.445	0	%100
8	MP1A	Z	4.299	4.299	0	%100
9	MP4A	X	7.445	7.445	0	%100
10	MP4A	Z	4.299	4.299	0	%100
11	MP3A	X	7.445	7.445	0	%100
12	MP3A	Z	4.299	4.299	0	%100
13	MP2A	X	7.445	7.445	0	%100
14	MP2A	Z	4.299	4.299	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[ft.%]	End Location[ft.%]
1	M1	X	1.485	1.485	0	%100
2	M1	Z	2.572	2.572	0	%100
3	M2	X	4.821	4.821	0	%100
4	M2	Z	8.35	8.35	0	%100
5	M4	X	5.656	5.656	0	%100
6	M4	Z	9.796	9.796	0	%100
7	MP1A	X	4.299	4.299	0	%100
8	MP1A	Z	7.445	7.445	0	%100
9	MP4A	X	4.299	4.299	0	%100
10	MP4A	Z	7.445	7.445	0	%100
11	MP3A	X	4.299	4.299	0	%100
12	MP3A	Z	7.445	7.445	0	%100
13	MP2A	X	4.299	4.299	0	%100
14	MP2A	Z	7.445	7.445	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[ft.%]	End Location[ft.%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	9.642	9.642	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	15.083	15.083	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	8.597	8.597	0	%100
9	MP4A	X	0	0	0	%100
10	MP4A	Z	8.597	8.597	0	%100
11	MP3A	X	0	0	0	%100
12	MP3A	Z	8.597	8.597	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	8.597	8.597	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-1.485	-1.485	0	%100
2	M1	Z	2.572	2.572	0	%100
3	M2	X	-4.821	-4.821	0	%100
4	M2	Z	8.35	8.35	0	%100
5	M4	X	-5.656	-5.656	0	%100
6	M4	Z	9.796	9.796	0	%100
7	MP1A	X	-4.299	-4.299	0	%100
8	MP1A	Z	7.445	7.445	0	%100
9	MP4A	X	-4.299	-4.299	0	%100
10	MP4A	Z	7.445	7.445	0	%100
11	MP3A	X	-4.299	-4.299	0	%100
12	MP3A	Z	7.445	7.445	0	%100
13	MP2A	X	-4.299	-4.299	0	%100
14	MP2A	Z	7.445	7.445	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-7.715	-7.715	0	%100
2	M1	Z	4.454	4.454	0	%100
3	M2	X	-8.35	-8.35	0	%100
4	M2	Z	4.821	4.821	0	%100
5	M4	X	-3.265	-3.265	0	%100
6	M4	Z	1.885	1.885	0	%100
7	MP1A	X	-7.445	-7.445	0	%100
8	MP1A	Z	4.299	4.299	0	%100
9	MP4A	X	-7.445	-7.445	0	%100
10	MP4A	Z	4.299	4.299	0	%100
11	MP3A	X	-7.445	-7.445	0	%100
12	MP3A	Z	4.299	4.299	0	%100
13	MP2A	X	-7.445	-7.445	0	%100
14	MP2A	Z	4.299	4.299	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-11.879	-11.879	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	-9.642	-9.642	0	%100
4	M2	Z	0	0	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	0	0	0	%100
7	MP1A	X	-8.597	-8.597	0	%100
8	MP1A	Z	0	0	0	%100
9	MP4A	X	-8.597	-8.597	0	%100
10	MP4A	Z	0	0	0	%100
11	MP3A	X	-8.597	-8.597	0	%100
12	MP3A	Z	0	0	0	%100
13	MP2A	X	-8.597	-8.597	0	%100
14	MP2A	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-7.715	-7.715	0	%100
2	M1	Z	-4.454	-4.454	0	%100
3	M2	X	-8.35	-8.35	0	%100
4	M2	Z	-4.821	-4.821	0	%100
5	M4	X	-3.265	-3.265	0	%100
6	M4	Z	-1.885	-1.885	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[ft.%]	End Location[ft.%]
7	MP1A	X	-7.445	-7.445	0	%100
8	MP1A	Z	-4.299	-4.299	0	%100
9	MP4A	X	-7.445	-7.445	0	%100
10	MP4A	Z	-4.299	-4.299	0	%100
11	MP3A	X	-7.445	-7.445	0	%100
12	MP3A	Z	-4.299	-4.299	0	%100
13	MP2A	X	-7.445	-7.445	0	%100
14	MP2A	Z	-4.299	-4.299	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-1.485	-1.485	0	%100
2	M1	Z	-2.572	-2.572	0	%100
3	M2	X	-4.821	-4.821	0	%100
4	M2	Z	-8.35	-8.35	0	%100
5	M4	X	-5.656	-5.656	0	%100
6	M4	Z	-9.796	-9.796	0	%100
7	MP1A	X	-4.299	-4.299	0	%100
8	MP1A	Z	-7.445	-7.445	0	%100
9	MP4A	X	-4.299	-4.299	0	%100
10	MP4A	Z	-7.445	-7.445	0	%100
11	MP3A	X	-4.299	-4.299	0	%100
12	MP3A	Z	-7.445	-7.445	0	%100
13	MP2A	X	-4.299	-4.299	0	%100
14	MP2A	Z	-7.445	-7.445	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[ft.%]	End Location[ft.%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	-2.896	-2.896	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	-3.999	-3.999	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	-2.862	-2.862	0	%100
9	MP4A	X	0	0	0	%100
10	MP4A	Z	-2.862	-2.862	0	%100
11	MP3A	X	0	0	0	%100
12	MP3A	Z	-2.862	-2.862	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	-2.862	-2.862	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[ft.%]	End Location[ft.%]
1	M1	X	.418	.418	0	%100
2	M1	Z	-.724	-.724	0	%100
3	M2	X	1.448	1.448	0	%100
4	M2	Z	-2.508	-2.508	0	%100
5	M4	X	1.5	1.5	0	%100
6	M4	Z	-2.597	-2.597	0	%100
7	MP1A	X	1.431	1.431	0	%100
8	MP1A	Z	-2.478	-2.478	0	%100
9	MP4A	X	1.431	1.431	0	%100
10	MP4A	Z	-2.478	-2.478	0	%100
11	MP3A	X	1.431	1.431	0	%100
12	MP3A	Z	-2.478	-2.478	0	%100



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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
13	MP2A	X	1.431	1.431	0	%100
14	MP2A	Z	-2.478	-2.478	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	2.171	2.171	0	%100
2	M1	Z	-1.254	-1.254	0	%100
3	M2	X	2.508	2.508	0	%100
4	M2	Z	-1.448	-1.448	0	%100
5	M4	X	.866	.866	0	%100
6	M4	Z	-5	-5	0	%100
7	MP1A	X	2.478	2.478	0	%100
8	MP1A	Z	-1.431	-1.431	0	%100
9	MP4A	X	2.478	2.478	0	%100
10	MP4A	Z	-1.431	-1.431	0	%100
11	MP3A	X	2.478	2.478	0	%100
12	MP3A	Z	-1.431	-1.431	0	%100
13	MP2A	X	2.478	2.478	0	%100
14	MP2A	Z	-1.431	-1.431	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	3.343	3.343	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	2.896	2.896	0	%100
4	M2	Z	0	0	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	0	0	0	%100
7	MP1A	X	2.862	2.862	0	%100
8	MP1A	Z	0	0	0	%100
9	MP4A	X	2.862	2.862	0	%100
10	MP4A	Z	0	0	0	%100
11	MP3A	X	2.862	2.862	0	%100
12	MP3A	Z	0	0	0	%100
13	MP2A	X	2.862	2.862	0	%100
14	MP2A	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	2.171	2.171	0	%100
2	M1	Z	1.254	1.254	0	%100
3	M2	X	2.508	2.508	0	%100
4	M2	Z	1.448	1.448	0	%100
5	M4	X	.866	.866	0	%100
6	M4	Z	.5	.5	0	%100
7	MP1A	X	2.478	2.478	0	%100
8	MP1A	Z	1.431	1.431	0	%100
9	MP4A	X	2.478	2.478	0	%100
10	MP4A	Z	1.431	1.431	0	%100
11	MP3A	X	2.478	2.478	0	%100
12	MP3A	Z	1.431	1.431	0	%100
13	MP2A	X	2.478	2.478	0	%100
14	MP2A	Z	1.431	1.431	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	.418	.418	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
2	M1	Z	.724	.724	0	%100
3	M2	X	1.448	1.448	0	%100
4	M2	Z	2.508	2.508	0	%100
5	M4	X	1.5	1.5	0	%100
6	M4	Z	2.597	2.597	0	%100
7	MP1A	X	1.431	1.431	0	%100
8	MP1A	Z	2.478	2.478	0	%100
9	MP4A	X	1.431	1.431	0	%100
10	MP4A	Z	2.478	2.478	0	%100
11	MP3A	X	1.431	1.431	0	%100
12	MP3A	Z	2.478	2.478	0	%100
13	MP2A	X	1.431	1.431	0	%100
14	MP2A	Z	2.478	2.478	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	2.896	2.896	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	3.999	3.999	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	2.862	2.862	0	%100
9	MP4A	X	0	0	0	%100
10	MP4A	Z	2.862	2.862	0	%100
11	MP3A	X	0	0	0	%100
12	MP3A	Z	2.862	2.862	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	2.862	2.862	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-418	-418	0	%100
2	M1	Z	.724	.724	0	%100
3	M2	X	-1.448	-1.448	0	%100
4	M2	Z	2.508	2.508	0	%100
5	M4	X	-1.5	-1.5	0	%100
6	M4	Z	2.597	2.597	0	%100
7	MP1A	X	-1.431	-1.431	0	%100
8	MP1A	Z	2.478	2.478	0	%100
9	MP4A	X	-1.431	-1.431	0	%100
10	MP4A	Z	2.478	2.478	0	%100
11	MP3A	X	-1.431	-1.431	0	%100
12	MP3A	Z	2.478	2.478	0	%100
13	MP2A	X	-1.431	-1.431	0	%100
14	MP2A	Z	2.478	2.478	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-2.171	-2.171	0	%100
2	M1	Z	1.254	1.254	0	%100
3	M2	X	-2.508	-2.508	0	%100
4	M2	Z	1.448	1.448	0	%100
5	M4	X	-.866	-.866	0	%100
6	M4	Z	.5	.5	0	%100
7	MP1A	X	-2.478	-2.478	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
8	MP1A	Z	1.431	1.431	0	%100
9	MP4A	X	-2.478	-2.478	0	%100
10	MP4A	Z	1.431	1.431	0	%100
11	MP3A	X	-2.478	-2.478	0	%100
12	MP3A	Z	1.431	1.431	0	%100
13	MP2A	X	-2.478	-2.478	0	%100
14	MP2A	Z	1.431	1.431	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-3.343	-3.343	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	-2.896	-2.896	0	%100
4	M2	Z	0	0	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	0	0	0	%100
7	MP1A	X	-2.862	-2.862	0	%100
8	MP1A	Z	0	0	0	%100
9	MP4A	X	-2.862	-2.862	0	%100
10	MP4A	Z	0	0	0	%100
11	MP3A	X	-2.862	-2.862	0	%100
12	MP3A	Z	0	0	0	%100
13	MP2A	X	-2.862	-2.862	0	%100
14	MP2A	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-2.171	-2.171	0	%100
2	M1	Z	-1.254	-1.254	0	%100
3	M2	X	-2.508	-2.508	0	%100
4	M2	Z	-1.448	-1.448	0	%100
5	M4	X	-.866	-.866	0	%100
6	M4	Z	-.5	-.5	0	%100
7	MP1A	X	-2.478	-2.478	0	%100
8	MP1A	Z	-1.431	-1.431	0	%100
9	MP4A	X	-2.478	-2.478	0	%100
10	MP4A	Z	-1.431	-1.431	0	%100
11	MP3A	X	-2.478	-2.478	0	%100
12	MP3A	Z	-1.431	-1.431	0	%100
13	MP2A	X	-2.478	-2.478	0	%100
14	MP2A	Z	-1.431	-1.431	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-.418	-.418	0	%100
2	M1	Z	-.724	-.724	0	%100
3	M2	X	-1.448	-1.448	0	%100
4	M2	Z	-2.508	-2.508	0	%100
5	M4	X	-1.5	-1.5	0	%100
6	M4	Z	-2.597	-2.597	0	%100
7	MP1A	X	-1.431	-1.431	0	%100
8	MP1A	Z	-2.478	-2.478	0	%100
9	MP4A	X	-1.431	-1.431	0	%100
10	MP4A	Z	-2.478	-2.478	0	%100
11	MP3A	X	-1.431	-1.431	0	%100
12	MP3A	Z	-2.478	-2.478	0	%100
13	MP2A	X	-1.431	-1.431	0	%100



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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
14	MP2A	Z	-2.478	-2.478	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	-609	-609	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	-952	-952	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	-543	-543	0	%100
9	MP4A	X	0	0	0	%100
10	MP4A	Z	-543	-543	0	%100
11	MP3A	X	0	0	0	%100
12	MP3A	Z	-543	-543	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	-543	-543	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	.094	.094	0	%100
2	M1	Z	-.162	-.162	0	%100
3	M2	X	.304	.304	0	%100
4	M2	Z	-.527	-.527	0	%100
5	M4	X	.357	.357	0	%100
6	M4	Z	-.618	-.618	0	%100
7	MP1A	X	.271	.271	0	%100
8	MP1A	Z	-.47	-.47	0	%100
9	MP4A	X	.271	.271	0	%100
10	MP4A	Z	-.47	-.47	0	%100
11	MP3A	X	.271	.271	0	%100
12	MP3A	Z	-.47	-.47	0	%100
13	MP2A	X	.271	.271	0	%100
14	MP2A	Z	-.47	-.47	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	.487	.487	0	%100
2	M1	Z	-.281	-.281	0	%100
3	M2	X	.527	.527	0	%100
4	M2	Z	-.304	-.304	0	%100
5	M4	X	.206	.206	0	%100
6	M4	Z	-.119	-.119	0	%100
7	MP1A	X	.47	.47	0	%100
8	MP1A	Z	-.271	-.271	0	%100
9	MP4A	X	.47	.47	0	%100
10	MP4A	Z	-.271	-.271	0	%100
11	MP3A	X	.47	.47	0	%100
12	MP3A	Z	-.271	-.271	0	%100
13	MP2A	X	.47	.47	0	%100
14	MP2A	Z	-.271	-.271	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	.75	.75	0	%100
2	M1	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
3	M2	X	.609	.609	0	%100
4	M2	Z	0	0	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	0	0	0	%100
7	MP1A	X	.543	.543	0	%100
8	MP1A	Z	0	0	0	%100
9	MP4A	X	.543	.543	0	%100
10	MP4A	Z	0	0	0	%100
11	MP3A	X	.543	.543	0	%100
12	MP3A	Z	0	0	0	%100
13	MP2A	X	.543	.543	0	%100
14	MP2A	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	.487	.487	0	%100
2	M1	Z	.281	.281	0	%100
3	M2	X	.527	.527	0	%100
4	M2	Z	.304	.304	0	%100
5	M4	X	.206	.206	0	%100
6	M4	Z	.119	.119	0	%100
7	MP1A	X	.47	.47	0	%100
8	MP1A	Z	.271	.271	0	%100
9	MP4A	X	.47	.47	0	%100
10	MP4A	Z	.271	.271	0	%100
11	MP3A	X	.47	.47	0	%100
12	MP3A	Z	.271	.271	0	%100
13	MP2A	X	.47	.47	0	%100
14	MP2A	Z	.271	.271	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	.094	.094	0	%100
2	M1	Z	.162	.162	0	%100
3	M2	X	.304	.304	0	%100
4	M2	Z	.527	.527	0	%100
5	M4	X	.357	.357	0	%100
6	M4	Z	.618	.618	0	%100
7	MP1A	X	.271	.271	0	%100
8	MP1A	Z	.47	.47	0	%100
9	MP4A	X	.271	.271	0	%100
10	MP4A	Z	.47	.47	0	%100
11	MP3A	X	.271	.271	0	%100
12	MP3A	Z	.47	.47	0	%100
13	MP2A	X	.271	.271	0	%100
14	MP2A	Z	.47	.47	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[ft.%]	End Location[ft.%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	.609	.609	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	.952	.952	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	.543	.543	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[ft.%]	End Location[ft.%]
9	MP4A	X	0	0	0	%100
10	MP4A	Z	.543	.543	0	%100
11	MP3A	X	0	0	0	%100
12	MP3A	Z	.543	.543	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	.543	.543	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-.094	-.094	0	%100
2	M1	Z	.162	.162	0	%100
3	M2	X	-.304	-.304	0	%100
4	M2	Z	.527	.527	0	%100
5	M4	X	-.357	-.357	0	%100
6	M4	Z	.618	.618	0	%100
7	MP1A	X	-.271	-.271	0	%100
8	MP1A	Z	.47	.47	0	%100
9	MP4A	X	-.271	-.271	0	%100
10	MP4A	Z	.47	.47	0	%100
11	MP3A	X	-.271	-.271	0	%100
12	MP3A	Z	.47	.47	0	%100
13	MP2A	X	-.271	-.271	0	%100
14	MP2A	Z	.47	.47	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-.487	-.487	0	%100
2	M1	Z	.281	.281	0	%100
3	M2	X	-.527	-.527	0	%100
4	M2	Z	.304	.304	0	%100
5	M4	X	-.206	-.206	0	%100
6	M4	Z	.119	.119	0	%100
7	MP1A	X	-.47	-.47	0	%100
8	MP1A	Z	.271	.271	0	%100
9	MP4A	X	-.47	-.47	0	%100
10	MP4A	Z	.271	.271	0	%100
11	MP3A	X	-.47	-.47	0	%100
12	MP3A	Z	.271	.271	0	%100
13	MP2A	X	-.47	-.47	0	%100
14	MP2A	Z	.271	.271	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-.75	-.75	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	-.609	-.609	0	%100
4	M2	Z	0	0	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	0	0	0	%100
7	MP1A	X	-.543	-.543	0	%100
8	MP1A	Z	0	0	0	%100
9	MP4A	X	-.543	-.543	0	%100
10	MP4A	Z	0	0	0	%100
11	MP3A	X	-.543	-.543	0	%100
12	MP3A	Z	0	0	0	%100
13	MP2A	X	-.543	-.543	0	%100
14	MP2A	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-487	-487	0	%100
2	M1	Z	-281	-281	0	%100
3	M2	X	-527	-527	0	%100
4	M2	Z	-304	-304	0	%100
5	M4	X	-206	-206	0	%100
6	M4	Z	-119	-119	0	%100
7	MP1A	X	-47	-47	0	%100
8	MP1A	Z	-271	-271	0	%100
9	MP4A	X	-47	-47	0	%100
10	MP4A	Z	-271	-271	0	%100
11	MP3A	X	-47	-47	0	%100
12	MP3A	Z	-271	-271	0	%100
13	MP2A	X	-47	-47	0	%100
14	MP2A	Z	-271	-271	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-094	-094	0	%100
2	M1	Z	-162	-162	0	%100
3	M2	X	-304	-304	0	%100
4	M2	Z	-527	-527	0	%100
5	M4	X	-357	-357	0	%100
6	M4	Z	-618	-618	0	%100
7	MP1A	X	-271	-271	0	%100
8	MP1A	Z	-47	-47	0	%100
9	MP4A	X	-271	-271	0	%100
10	MP4A	Z	-47	-47	0	%100
11	MP3A	X	-271	-271	0	%100
12	MP3A	Z	-47	-47	0	%100
13	MP2A	X	-271	-271	0	%100
14	MP2A	Z	-47	-47	0	%100

Member Area Loads

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

Envelope Joint Reactions

Joint	X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC	
1	N1	max 1370.669	10	1918.757	15	1917.478	1	-2.238	64	5.461	11	3.485	35
2		min -1370.669	4	595.934	75	-1917.478	7	-7.533	13	-5.448	4	-4.157	39
3	Totals:	max 1370.669	10	1918.757	15	1917.478	1						
4		min -1370.669	4	595.934	75	-1917.478	7						

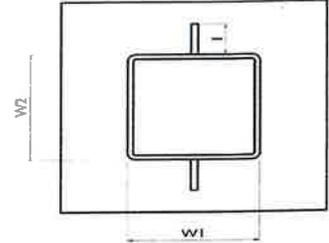
Envelope AISC 15th(360-16): LRFD Steel Code Checks

Member	Shape	Code C...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc fl...	phi*Pnt [lb]	phi*Mn y...	phi*Mn z...	Cb	Eqn
1	M1	HSS4X4X4	.566	0	11	.348	0	y	39	131414.4..	139518	16.181	16.181	1... H1-1b
2	M2	PIPE 4.0	.001	1.125	7	.000	1.125	7	91742.236	93240	10.631	10.631	1... H1-1b	
3	M4	HSS4X4X4	.354	6.25	37	.040	6.25	y	19	72549.721	139518	16.181	16.181	1... H1-1b
4	MP1A	PIPE 2.0	.309	4.161	1	.049	4.25	5	13511.278	32130	1.872	1.872	2... H1-1b	
5	MP4A	PIPE 2.0	.328	4.161	1	.047	4.25	9	13511.278	32130	1.872	1.872	1... H1-1b	
6	MP3A	PIPE 2.0	.097	4.25	1	.019	4.25	8	13511.278	32130	1.872	1.872	1... H1-1b	
7	MP2A	PIPE 2.0	.244	4.25	1	.044	4.25	9	13511.278	32130	1.872	1.872	1... H1-1b	

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:

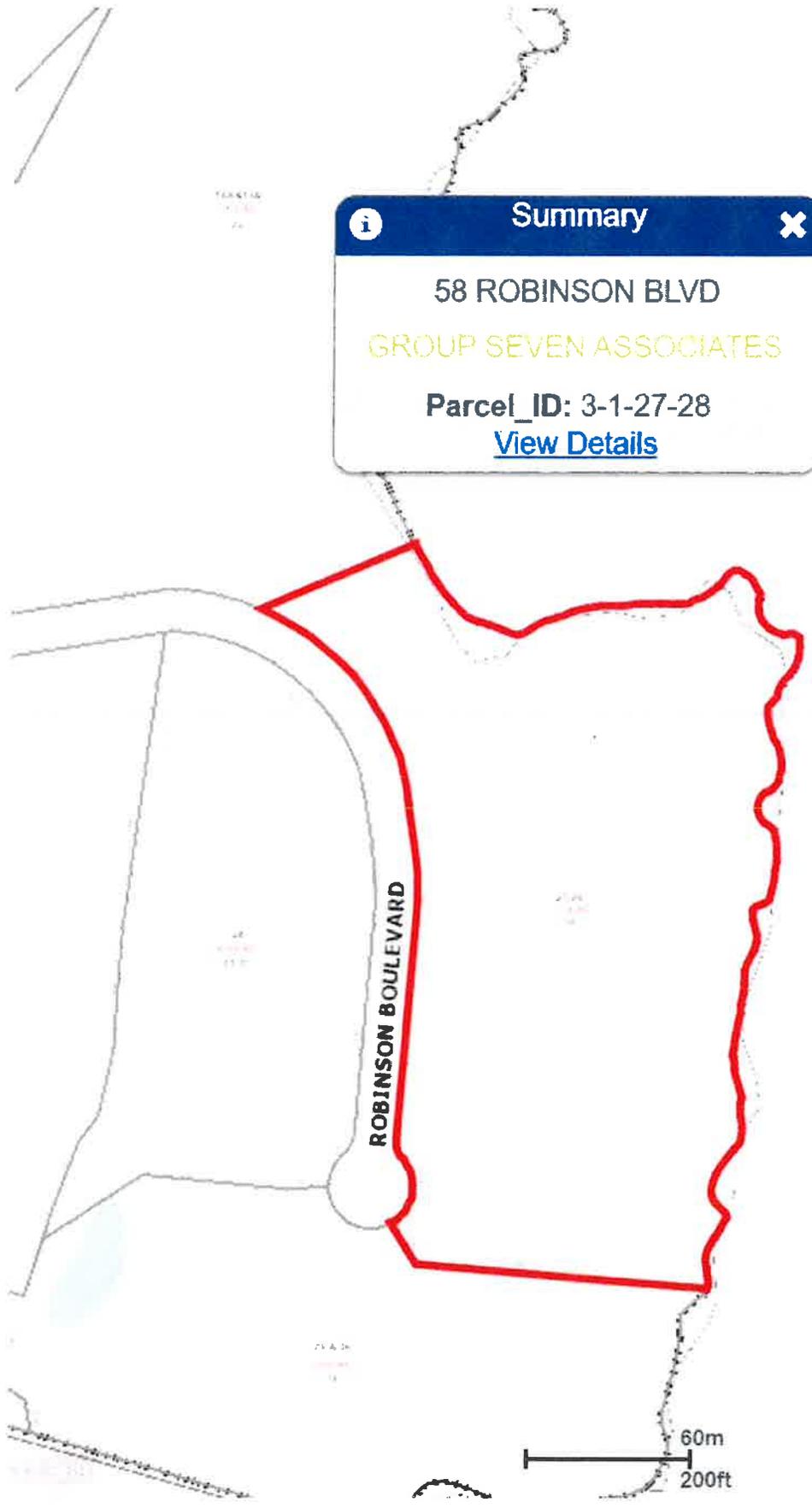
Yes
Rectangle
(1) Stiffener on top/bottom
No
2.25
3
4
4
25.00
42.91
21.33
177.02
4.25
4.25
2.75
4.18
65.8%



ATTACHMENT 5

Summary

58 ROBINSON BLVD
GROUP SEVEN ASSOCIATES
Parcel_ID: 3-1-27-28
[View Details](#)



58 ROBINSON BLVD

Location 58 ROBINSON BLVD

Mblu 3/ 1/ 27/ 28/

Acct# 444700

Owner GROUP SEVEN ASSOCIATES

Assessment \$4,233,400

Appraisal \$6,047,600

PID 47

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$4,525,600	\$1,522,000	\$6,047,600
Assessment			
Valuation Year	Improvements	Land	Total
2017	\$3,168,000	\$1,065,400	\$4,233,400

Owner of Record

Owner GROUP SEVEN ASSOCIATES
Co-Owner
Address 929 KINGS HIGHWAY EAST
 FAIRFIELD, CT 06430

Sale Price \$0
Certificate
Book & Page 0314/0053
Sale Date 12/30/1986
Instrument 00

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
GROUP SEVEN ASSOCIATES	\$0		0314/0053	00	12/30/1986

Building Information

Building 1 : Section 1

Year Built: 1989
Living Area: 81,640
Replacement Cost
Less Depreciation: \$4,384,400

Building Attributes	
Field	Description
Style	Warehouse

ATTACHMENT 6



Verizon/Milford South 4

Certificate of Mailing — Firm



Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here Postmark with Date of Receipt.	Parcel Airlift																																			
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	3	3																																					
USPS® Tracking Number Firm-specific Identifier	<table border="1"> <thead> <tr> <th data-bbox="673 210 828 514">Address (Name, Street, City, State, and ZIP Code™)</th> <th data-bbox="673 514 828 871">Postage</th> <th data-bbox="673 871 828 1071">Fee</th> <th data-bbox="673 1071 828 1281">Special Handling</th> <th data-bbox="673 1281 828 1984">Parcel Airlift</th> </tr> </thead> <tbody> <tr> <td data-bbox="828 210 860 1984">1. James Zeoli, First Selectman Town of Orange 617 Orange Center Road Orange, CT 06477</td> <td data-bbox="828 514 860 871"></td> <td data-bbox="828 871 860 1071"></td> <td data-bbox="828 1071 860 1281"></td> <td data-bbox="828 1281 860 1984"></td> </tr> <tr> <td data-bbox="860 210 893 1984">2. Jack Demirjian, Zoning Administrator & Enforcement Officer Town of Orange 617 Orange Center Road Orange, CT 06477</td> <td data-bbox="860 514 893 871"></td> <td data-bbox="860 871 893 1071"></td> <td data-bbox="860 1071 893 1281"></td> <td data-bbox="860 1281 893 1984"></td> </tr> <tr> <td data-bbox="893 210 925 1984">3. Group Seven Associates 929 Kings Highway East Fairfield, CT 06430</td> <td data-bbox="893 514 925 871"></td> <td data-bbox="893 871 925 1071"></td> <td data-bbox="893 1071 925 1281"></td> <td data-bbox="893 1281 925 1984"></td> </tr> <tr> <td data-bbox="925 210 958 1984">4.</td> <td data-bbox="925 514 958 871"></td> <td data-bbox="925 871 958 1071"></td> <td data-bbox="925 1071 958 1281"></td> <td data-bbox="925 1281 958 1984"></td> </tr> <tr> <td data-bbox="958 210 990 1984">5.</td> <td data-bbox="958 514 990 871"></td> <td data-bbox="958 871 990 1071"></td> <td data-bbox="958 1071 990 1281"></td> <td data-bbox="958 1281 990 1984"></td> </tr> <tr> <td data-bbox="990 210 1023 1984">6.</td> <td data-bbox="990 514 1023 871"></td> <td data-bbox="990 871 1023 1071"></td> <td data-bbox="990 1071 1023 1281"></td> <td data-bbox="990 1281 1023 1984"></td> </tr> </tbody> </table>				Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift	1. James Zeoli, First Selectman Town of Orange 617 Orange Center Road Orange, CT 06477					2. Jack Demirjian, Zoning Administrator & Enforcement Officer Town of Orange 617 Orange Center Road Orange, CT 06477					3. Group Seven Associates 929 Kings Highway East Fairfield, CT 06430					4.					5.					6.				
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