

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

Also admitted in Massachusetts
and New York

July 9, 2021

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 attached to a roof-top tower and related equipment on the ground, adjacent to the building. The tower and Cellco’s use of the tower were approved 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 cell site.

Cellco now intends to modify its facility by removing nine (9) existing antennas and installing three (3) Samsung MT6407-77A antennas and six (6) JAHH-65B-R3B antennas on its existing t-arm mounting supports. Cellco also intends to remove six (6) of its remote radio heads (“RRHs”) and install six (6) new RRHs behind its antennas. Project plans showing Cellco’s proposed facility modifications and new antennas and RRHs specifications 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.

Melanie A. Bachman, Esq.
July 9, 2021
Page 2

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's replacement antennas and RRHs will be installed on Cellco's existing tower antenna mounting system.

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. A General Power Density table for the modified facility is included in Attachment 3. 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 ("SA") and Mount Analysis ("MA"), the existing roof-top tower, building and antenna mounts, with certain modifications, can support Cellco's proposed facility modifications. Copies of the SA and MA are included in Attachment 4. Also included in Attachment 4 is a separate letter prepared by the consulting engineer responsible for the preparation of the MA verifying that the antenna model described in the MA as a VZS01 Antenna or L-Sub6 Antenna, is the Samsung 64T64R model antenna.

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).

Melanie A. Bachman, Esq.
July 9, 2021
Page 3

Sincerely,

A handwritten signature in black ink, appearing to read 'Kenneth C. Baldwin', with a stylized, flowing script.

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.

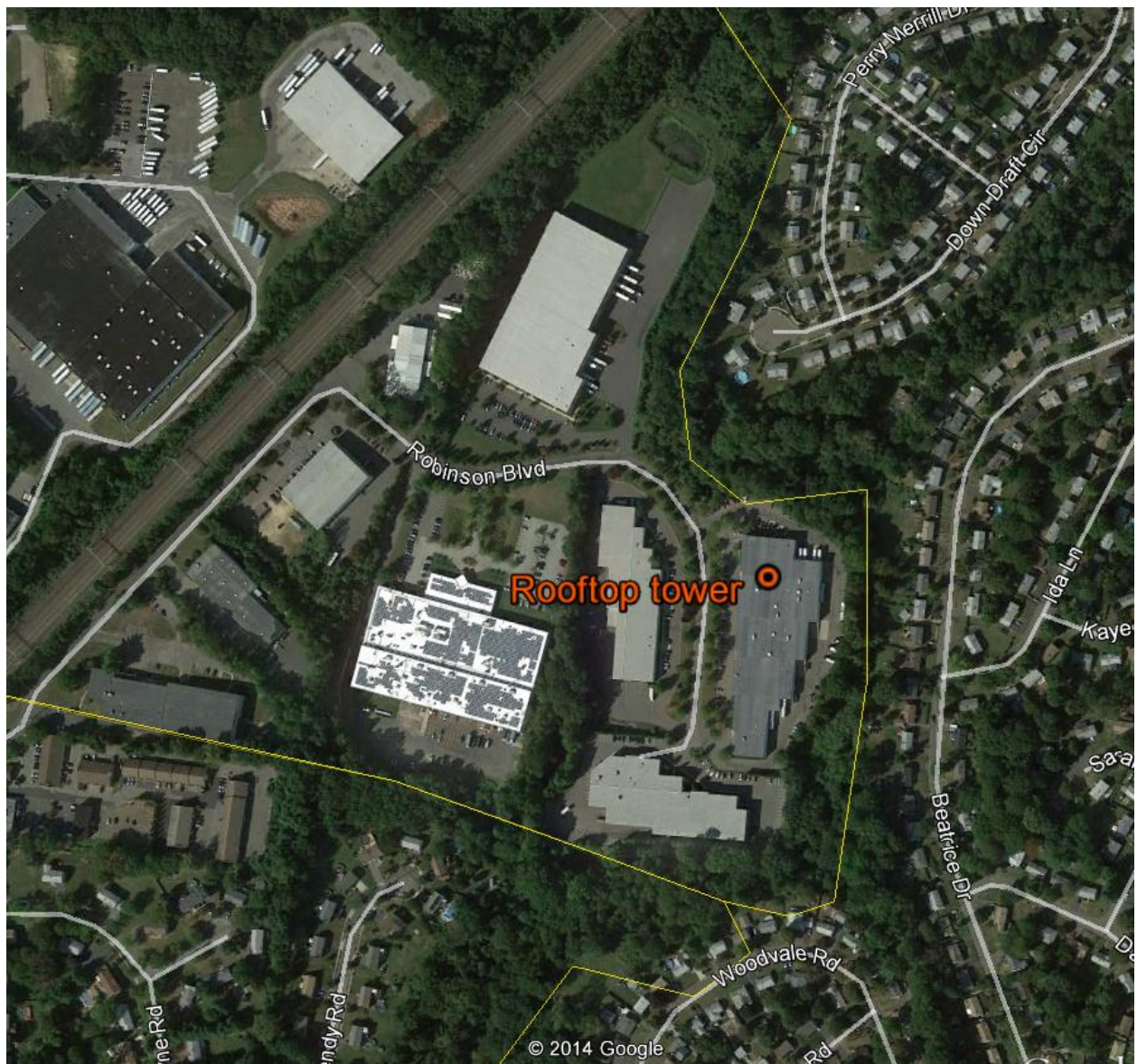
Cellco would install a 12-foot by 24-foot equipment shelter in a paved and grassy area on the north side of the building. The shelter would contain a natural gas fueled emergency generator. The shelter would extend slightly into an existing parking lot and Cellco would install bollards for vehicle protection. 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
VERIZON CONSTRUCTION:	WALTER CHARCZYNSKI (860) 306-1806
VERIZON REAL ESTATE:	ALEX TYURIN (860) 550-3195

AERIAL MAP



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.M.
DE-5	GENERAL CONSTRUCTION NOTES



WIRELESS COMMUNICATIONS FACILITY

20 ALEXANDER DRIVE
WALLINGFORD, CT 06492



88 Foundry Pond Road
Cold Spring, NY 10516
201-456-4624
onair@optonline.net

LICENSURE



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

SUBMITTALS

0	02.28.21	REVIEW
1	05.10.21	PERMITTING/CONSTRUCTION

NO DATE DESCRIPTION

DRAWN BY:	AS
CHECKED BY:	DW

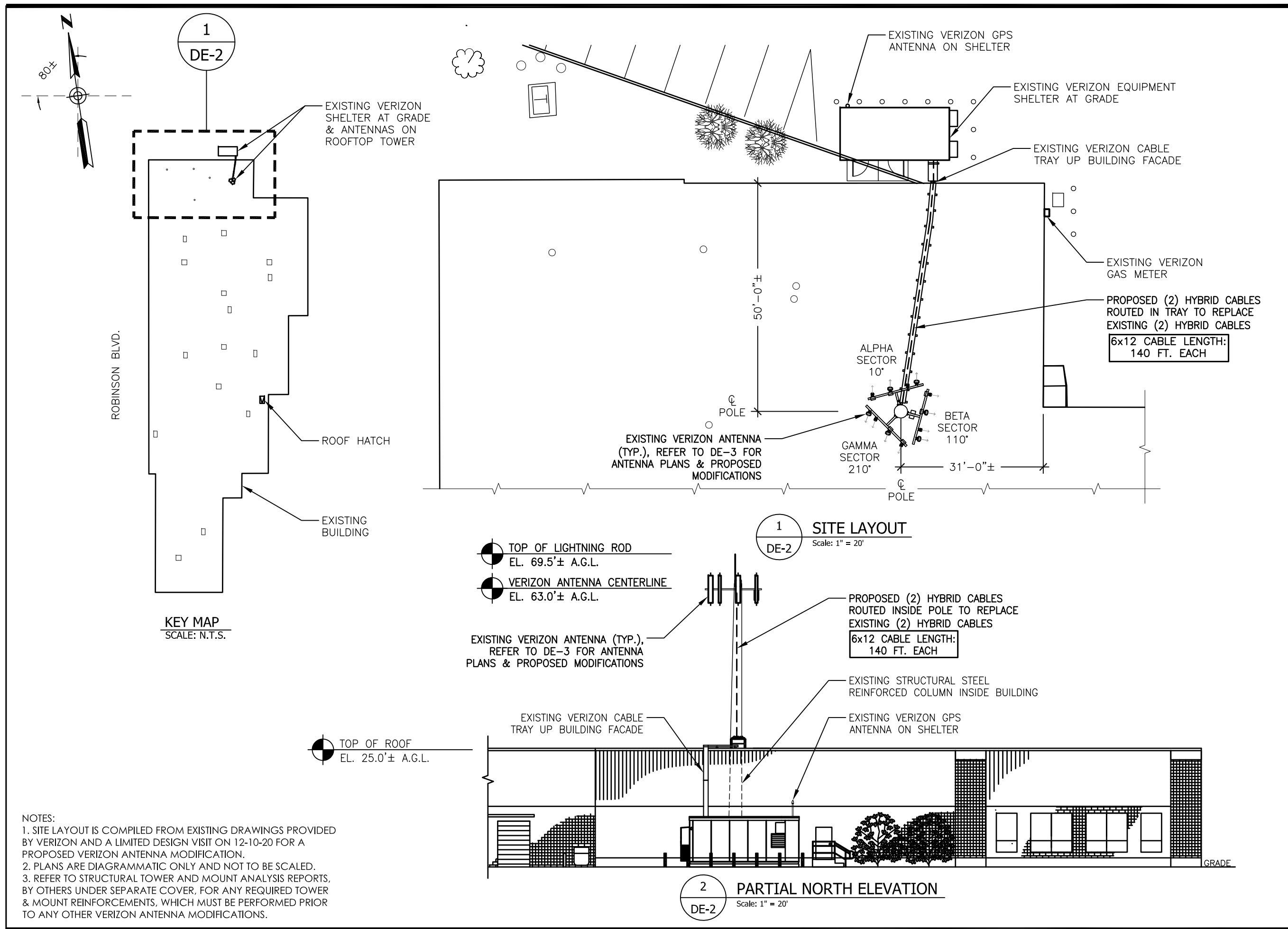
PROJECT NAME:
ANTMO
VZS01-850 LTE-PCS
DESIGN EXHIBITS

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



WIRELESS COMMUNICATIONS FACILITY

20 ALEXANDER DRIVE
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On Air Engineering, LLC

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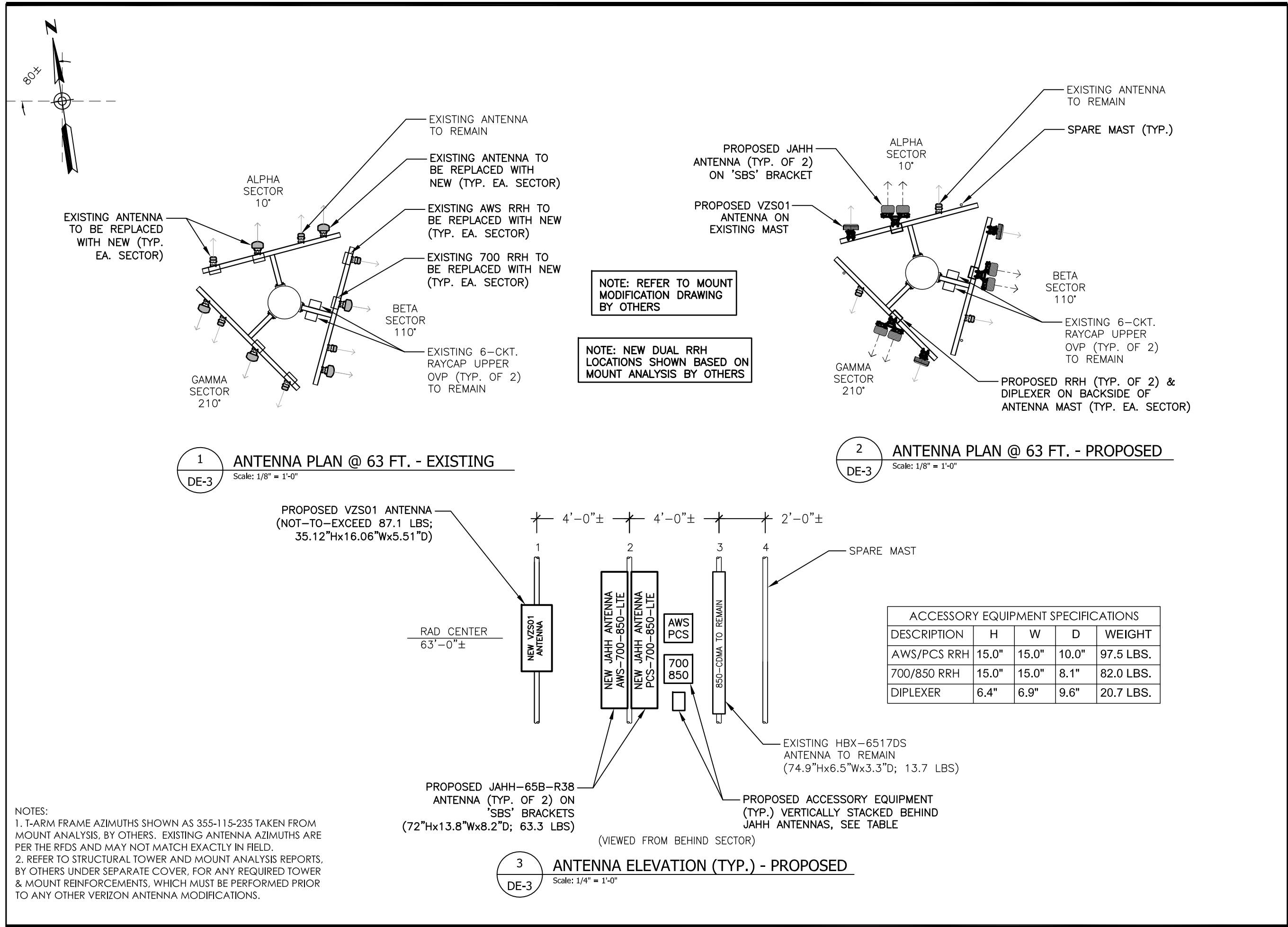
GROUP SEVEN ASSOC.
58 ROBINSON BLVD.
ORANGE, CT 06477


SHEET TITLE:

SITE LAYOUT &
PARTIAL NORTH
ELEVATION

SHEET NUMBER:


DE-2





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SHEET TITLE:

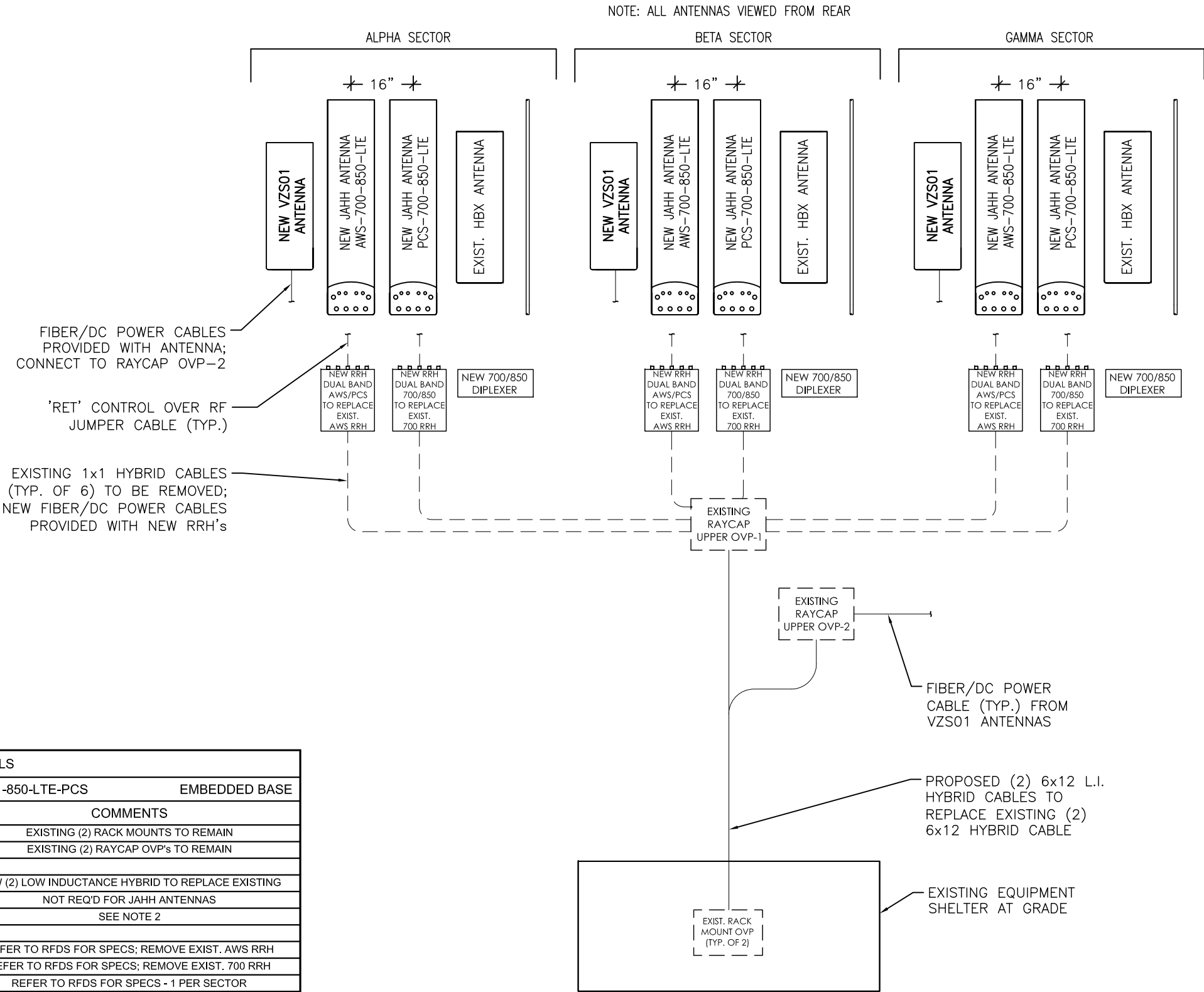
ANTENNA PLANS
& ELEVATION

SHEET NUMBER:

DE-3

GENERAL NOTES:

1. CONTRACTOR SHALL REFER TO THE LATEST VERIZON WIRELESS RFDS WHICH MAY INCLUDE ANTENNA SECTOR AZIMUTHS/ANTENNA CHANGES, ETC. THAT ARE REQUIRED AS PART OF THE PROJECT.
2. 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.
3. ALL CABLES SHALL BE ROUTED AND SECURED ON STRUCTURAL MEMBERS ONLY - DO NOT "LOOP" THE CABLES IN MID-AIR BETWEEN ANTENNAS
4. REFER TO RFDS FOR DETAILED PLUMBING DIAGRAM SHOWING ALL JUMPER AND OTHER CABLING CONNECTIONS AT ANTENNAS, RRH's, DIPLEXERS OR OTHER DEVICES.



BILL OF MATERIALS			
SITE NAME: MILFORD SOUTH 4 CT		ANTMO VZS01-850-LTE-PCS	
DESCRIPTION	QTY	LENGTH	COMMENTS
LOWER OVP	-	-	EXISTING (2) RACK MOUNTS TO REMAIN
6-CKT. UPPER OVP	-	-	EXISTING (2) RAYCAP OVP's TO REMAIN
6x12 HYBRID CABLE	2	140 FT.	NEW (2) LOW INDUCTANCE HYBRID TO REPLACE EXISTING
RET CONTROL CABLE	-	-	NOT REQ'D FOR JAHH ANTENNAS
1/2" JUMPERS	-	-	SEE NOTE 2
AWS/PCS DUAL BAND RRH	3	-	REFER TO RFDS FOR SPECS; REMOVE EXIST. AWS RRH
700/850 DUAL BAND RRH	3	-	REFER TO RFDS FOR SPECS; REMOVE EXIST. 700 RRH
700/850 DIPLEXER	3	-	REFER TO RFDS FOR SPECS - 1 PER SECTOR
VZS01 ANTENNA	3	-	SAMSUNG INTEGRATED; REFER TO RFDS
JAHH ANTENNA - AWS/700/850-LTE	3	-	REFER TO RFDS FOR SPECS - 1 PER SECTOR
JAHH ANTENNA - PCS/700/850-LTE	3	-	REFER TO RFDS FOR SPECS - 1 PER SECTOR
SBS BRACKETS	3	-	REFER TO RFDS FOR SPECS - 1 PER SECTOR
HBX ANTENNA	-	-	EXISTING (3) TO REMAIN - 1 PER SECTOR

NOTES:

1. ITEMS SHOWN ARE FOR MAJOR DESIGN ELEMENTS ONLY. REFER TO VERIZON WIRELESS RFDS FOR ALL MANUFACTURER PART NUMBERS AND ACCESSORY ITEMS REQUIRED FOR A COMPLETE INSTALLATION.

2. CONTRACTOR SHALL DETERMINE AND PROVIDE ALL REQUIRED PRE-FAB JUMPER QUANTITIES AND LENGTHS, KEEPING ALL LENGTHS TO A MINIMUM.

1 RF PLUMBING DIAGRAM
DE-4 Scale: N.T.S

verizon
WIRELESS COMMUNICATIONS FACILITY

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WALLINGFORD, CT 06492

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PROJECT NAME:
**ANTMO
VZS01-850 LTE-PCS
DESIGN EXHIBITS**

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 CONSTRUCTION NOTES:

1. CONTRACTOR SHALL NOT COMMENCE ANY WORK UNTIL HE OBTAINS, AT HIS OWN EXPENSE, ALL INSURANCE REQUIRED BY *CELLCO 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 *CELLCO 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

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1	05.10.21	PERMITTING/CONSTRUCTION

NO	DATE	DESCRIPTION
DRAWN BY:	AS	
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PROJECT NAME:
**ANTMO
VZS01-850 LTE-PCS
DESIGN EXHIBITS**

SITE NAME:
MILFORD SOUTH 4 CT

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

SHEET TITLE:
**GENERAL
CONSTRUCTION
NOTES**

SHEET NUMBER:
DE-5

JAHH-65B-R3B



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

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

General Specifications

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

Remote Electrical Tilt (RET) Information, General

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

Dimensions

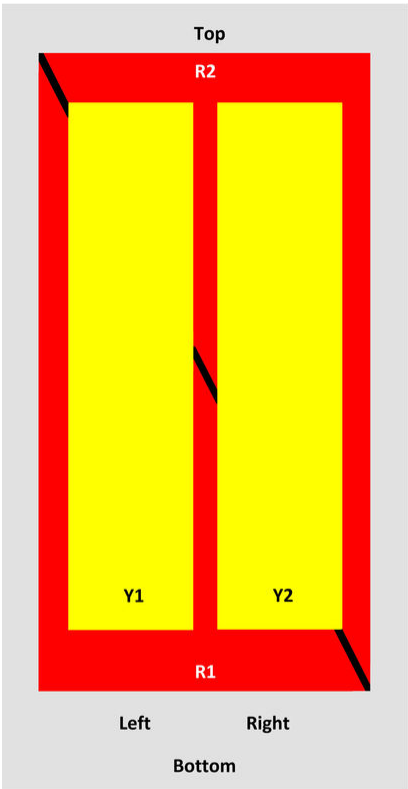
Width	350 mm 13.78 in
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JAHH-65B-R3B

Length	1828 mm 71.969 in
Depth	208 mm 8.189 in

Array Layout

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



Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
R1	698-798	1-2	1	ANxxxxxxxxxxxxx1
R2	824-894	3-4	2	ANxxxxxxxxxxxxx2
Y1	1695-2360	5-6	3	ANxxxxxxxxxxxxx3
Y2	1695-2360	7-8		

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

JAAHH-65B-R3B

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

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

Packaging and Weights

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

Regulatory Compliance/Certifications

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



Included Products

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

Performance Note	Severe environmental conditions may degrade optimum performance
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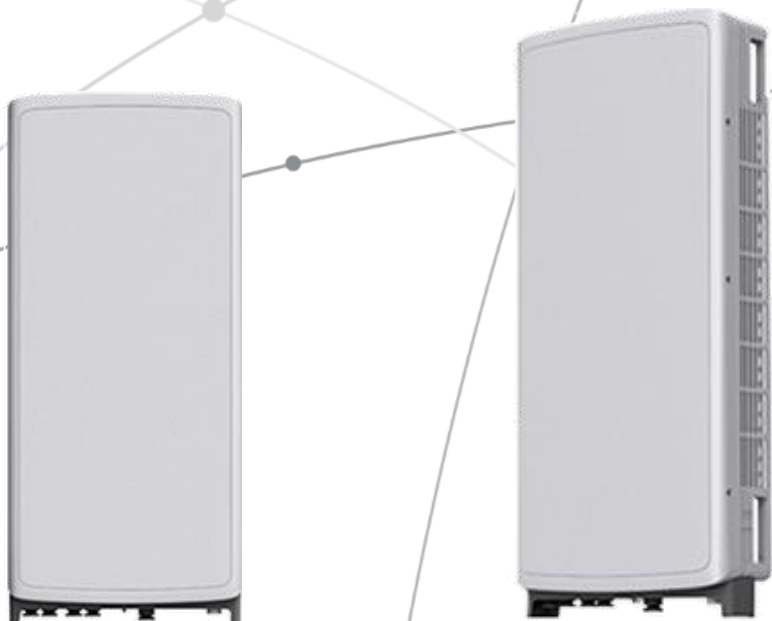
SAMSUNG

SAMSUNG C-Band 64T64R Massive MIMO Radio

for High Capacity and Wide Coverage

Samsung C-Band 64T64R Massive MIMO Radio enables mobile operators to increase coverage range, boost data speeds and ultimately offer enriched 5G experiences to users in the U.S..

Model Code : MT6407-77A



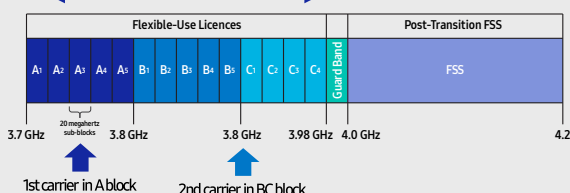
Points of Differentiation

Wide Bandwidth

With capability to support up to 2 CC carrier configuration, Samsung C-Band massive MIMO Radio supports 200 MHz bandwidth in the C-Band spectrum.

Samsung C-Band massive MIMO Radio covers the entire C-Band 280 MHz spectrum, so it can meet the operator's needs in current A block and future B/C blocks

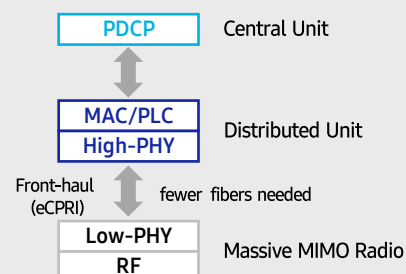
C-Band spectrum supported by Massive MIMO Radio



Future Proof Product

Samsung C-Band 64T64R Massive MIMO radio supports not only CPRI but also eCPRI as front-haul interface.

It enables operators can cut down on OPEX/CAPEX by reducing front-haul bandwidth through low layer split and using ethernet based higher efficient line.



Enhanced Performance

C-Band massive MIMO Radio creates sharp beams and extends networks' coverage on the critical mid-band spectrum using a large number of antenna elements and high output power to boost data speeds.

This helps operators reduce their CAPEX as they now need less products to cover the same area than before.

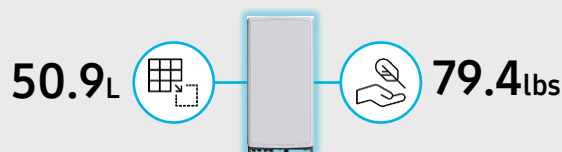
Furthermore, as C-Band massive MIMO Radio supports MU-MIMO (Multi-user MIMO), it enables to increase user throughput by minimizing interference.



Well Matched Design

Samsung C-Band Massive MIMO radio utilizes 64 antennas, supports up to 280MHz bandwidth, and delivers a 200W output power. Despite the above advanced performance, the Radio has a compact size of 50.9L and 79.4lbs. This makes it easy to install the Radio.

It is designed to look solid and compact, with a low profile appearance so that, when installed, harmonizes well with the surrounding environment.



Technical Specifications

Item	Specification
Tech	NR
Band	n77
Frequency Band	3700 - 3980 MHz
EIRP	78.5dBm (53.0 dBm+25.5 dBi)
IBW/OBW	280 MHz / 200 MHz
Installation	Pole/Wall
Size/Weight	16.06 x 35.06 x 5.51 inch (50.86L) / 79.4 lbs



SAMSUNG

About Samsung Electronics Co., Ltd.

Samsung inspires the world and shapes the future with transformative ideas and technologies. The company is redefining the worlds of TVs, smartphones, wearable devices, tablets, digital appliances, network systems, and memory, system LSI, foundry and LED solutions.

129 Samsung-ro, Yeongtong-gu, Suwon-si Gyeonggi-do, Korea

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SAMSUNG

Dual-Band Radio Unit

AWS/PCS (B66/B2)

RFV01U-D1A

Samsung's RFV01U-D1A is a compact remote Radio Unit (RU) designed for deployments that require flexibility in installation and rapid onlining, without compromising on coverage, capacity or operational expenses.



The RFV01U-D1A RU targets dual-band support across Band 66 (AWS) and Band 2 (PCS), making it an ideal product for broad coverage footprints across multiple common mid-range frequencies.

The RU handles all Radio Frequency (RF) processing in a single, compact unit, and is designed to interface via CPRI with Samsung's CDU baseband offerings, in both distributed- and central-RAN configurations.

In addition to its minimal footprint and ease of installation, the RU is also designed to reduce cost of ownership through its integrated spectrum analyzer, which allows for remote RF monitoring, greatly reducing the need for on-site maintenance visits.

Features and Benefits

- Dual-band support for broad frequency coverage
- Minimal footprint reduces site costs
- Rapid, easy installation
- Flexibly deployable in any location
- Remote RF monitoring capability
- Convection cooled, silent operation
- Built-in Broadcast Auxiliary Services (BAS) filter ensures compliant AWS operation without impacting footprint

Key Technical Specifications

Duplex Type: FDD

Operating Frequencies:

B66: DL(2,110-2,180MHz)/UL(1,710-1,780MHz)

B2: DL(1,930-1,990MHz)/UL(1,850-1,910MHz)

Instantaneous Bandwidth:

70MHz(B66) + 60MHz(B2)

RF Chain: 4T4R/2T4R/2T2R

Output Power: Total 320W

DU-RU Interface: CPRI (10Gbps)

Dimensions: 380 x 380 x 255mm (36.8L)

Weight: 38.3kg

Input Power: -48V DC

Operating Temp.: -40 - 55°(w/o solar load)

Cooling: Natural convection

SAMSUNG

Dual-Band Radio Unit 700/850MHz (B13/B5) RFV01U-D2A

Samsung's RFV01U-D2A is a compact remote Radio Unit (RU) designed for deployments that require flexibility in installation and rapid onlining, without compromising on coverage, capacity or operational expenses.



The RFV01U-D2A RU targets dual-band support across Band 13 (700MHz) and Band 5 (850MHz), making it an ideal product for broad coverage footprints across multiple common low-end, long-range frequencies.

The RU handles all Radio Frequency (RF) processing in a single, compact unit, and is designed to interface via CPRI with Samsung's CDU baseband offerings, in both distributed- and central-RAN configurations.

In addition to its minimal footprint and ease of installation, the RU is also designed to reduce cost of ownership through its integrated spectrum analyzer, which allows for remote RF monitoring, greatly reducing the need for on-site maintenance visits.

Features and Benefits

- Dual-band support for broad frequency coverage
- Minimal footprint reduces site costs
- Rapid, easy installation
- Flexibly deployable in any location
- Remote RF monitoring capability
- Convection cooled, silent operation

Key Technical Specifications

Duplex Type: FDD
Operating Frequencies:
 B13: DL(746-756MHz)/UL(777-787MHz)
 B5: DL(869-894MHz)/UL(824-849MHz)
Instantaneous Bandwidth: 10MHz(B13) + 25MHz(B5)
RF Chain: 4T4R/2T4R/2T2R
Output Power: Total 320W
DU-RU Interface: CPRI (10Gbps)
Dimensions: 380 x 380 x 207mm (29.9L)
Weight: 31.9kg
Input Power: -48V DC
Operating Temp.: -40 - 55°(w/o solar load)
Cooling: Natural convection

ATTACHMENT 3

Site Name: **MILFORD SOUTH 4 CT**
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW 700	751	4	628	2511	63	0.0228	0.5007	4.54%
VZW Cellular	874	4	725	2902	63	0.0263	0.5827	4.51%
VZW PCS	1975	4	1525	6100	63	0.0553	1.0000	5.53%
VZW AWS	2120	4	1493	5973	63	0.0541	1.0000	5.41%
VZW CBAND	3730.08	4	6531	26125	63	0.2367	1.0000	23.67%
Total Percentage of Maximum Permissible Exposure								43.67%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

**Calculation includes a -10 dB Off Beam Antenna Pattern Adjustment pursuant to Attachments B and C of the Siting Council's November 10, 2015 Memorandum for Exempt Modification filings

MHz = Megahertz

mW/cm^2 = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.

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. 210203.00

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

March 4, 2021

Prepared to ANSI/TIA-222-G-4 December 2014
Structural Standard for Antenna Supporting
Structures and Antennas

**On Air Engineering
Milford South 4 CT**

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
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4.0 ANALYSIS PROCEDURE.....	6
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

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 44.0% and the base plate is rated at 20.3%.

2.0 TOWER INVENTORY

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
HBX-6517DS-VTM (Verizon)	63	CBC78T-DS-43-2X (Verizon)	63
HBX-6517DS-VTM (Verizon)	63	CBC78T-DS-43-2X (Verizon)	63
HBX-6517DS-VTM (Verizon)	63	CBC78T-DS-43-2X (Verizon)	63
(2) JAHH-65B-R3B (Verizon)	63	RRH-BRC49 B2/B66A (Verizon)	63
(2) JAHH-65B-R3B (Verizon)	63	RRH-BRC49 B2/B66A (Verizon)	63
(2) JAHH-65B-R3B (Verizon)	63	RRH-BRC49 B2/B66A (Verizon)	63
VZS01 antenna (Verizon)	63	RRH-BRC4C B5/B13 (Verizon)	63
VZS01 antenna (Verizon)	63	RRH-BRC4C B5/B13 (Verizon)	63
VZS01 antenna (Verizon)	63	RRH-BRC4C B5/B13 (Verizon)	63
BSAMNT-SBS-2-2 (Verizon)	63	OVP6 (Verizon)	63
BSAMNT-SBS-2-2 (Verizon)	63	OVP6 (Verizon)	63
BSAMNT-SBS-2-2 (Verizon)	63	Modified T-Arm Array (Verizon)	63

Proposed Verizon Loading:

Addition of:

- * (6) JAHH-65B-R3B panel antennas @ 63' AGL (34' ARL)
- * (3) VZS01 panel antennas @ 63' AGL (34' ARL)
- * (3) RRH-BR049 B2/B66A @ 63' AGL (34' ARL)
- * (3) RRH-BR04C B5/B13 @ 63' AGL (34' ARL)
- * (3) CBC78T-DS-2X diplexers @ 63' AGL (34' ARL)
- * (3) BSAMNT-SBS-2-2 brackets @ 63' AGL (34' ARL)
- * (2) 1-5/8" 6x12 hybrid cables up to 63' AGL (34' ARL)

Removal of:

- * (3) HBX-6517DS-VTM panel antennas @ 63' AGL
- * (6) LNX-6514DS-VTM panel antennas @ 63' AGL
- * (3) UHBB B13 RRH 2x40 @ 63' AGL
- * (3) UHID B4 RRH 2x40 @ 63' AGL
- * (2) 1-5/8" hybridflex cables up to 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. Modifications for the Verizon antenna mount detailed in drawings by Maser Consulting Connecticut dated 12/31/20, and a mount analysis report by Maser Consulting Connecticut dated 12/30/20 were done to check the capacities of the mounts for the proposed loading. The existing tower inventory and proposed loading was obtained from a Verizon RFDS dated 11/30/20, design exhibits drawings by On Air Engineering, LLC dated 2/28/21, and from correspondence with the client.

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 ANSI/TIA-222-G Standard entitled "Structural Standard for Antenna Supporting Structures and Antennas."

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 - *ANSI/TIA-222-G-4 Structural Standard for Antenna Supporting Structures and Antennas*, 2014

CSBC - Connecticut State Building Code 2018

ASCE - American Society of Civil Engineers - *Minimum Design Loads for Buildings and Other Structures (ASCE/SEI 7-10)*, 2010

5.0 TOWER ANALYSIS RESULTS

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

The basic wind speed of 97 MPH with no radial ice is in accordance with ANSI/TIA-222-G is taken from Appendix N in the 2018 Connecticut State Building Code for the nominal design wind speed for the municipality of Orange, CT. The basic wind speed of 50 MPH concurrent with $\frac{3}{4}$ " design ice thickness is taken from the ANSI/TIA-222-G listing applicable for New Haven County, CT. 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) VZS01 panel antennas, (3) RRH-BR049 B2/B66A, (3) RRH-BR04C B5/B13, (3) CBC78T-DS-2X diplexers, (3) BSAMNT-SBS-2-2 brackets, (2) 1-5/8" 6x12 hybrid cables, and the removal of (3) HBX-6517DS-VTM panel antennas, (6) LNX-6514DS-VTM panel antennas, (3) UHBB B13 RRH 2x40, (3) UHID B4 RRH 2x40, and (2) 1-5/8" hybridflex cables.

The tower superstructure, base plate, and building structure has sufficient capacity and therefore meets the current TIA standards. The tower superstructure is rated at 44.0% and base plate is rated at 20.3%.

Base Plate		
Actual Stress	Allowable Stress	% Use
9.13 ksi	45 ksi	20.3%

Building Structure		
Axial	Shear	Overturning Moment
12 kips	9 kips	318 kip-ft

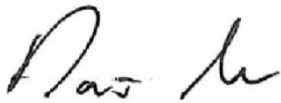
6.0 RECOMMENDATIONS

Further to our calculations, we conclude that the tower superstructure, base plate, and building structure has adequate capacity and therefore meets the current ANSI/TIA-222-G 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:



Domenic Aversa, PE
Project Manager



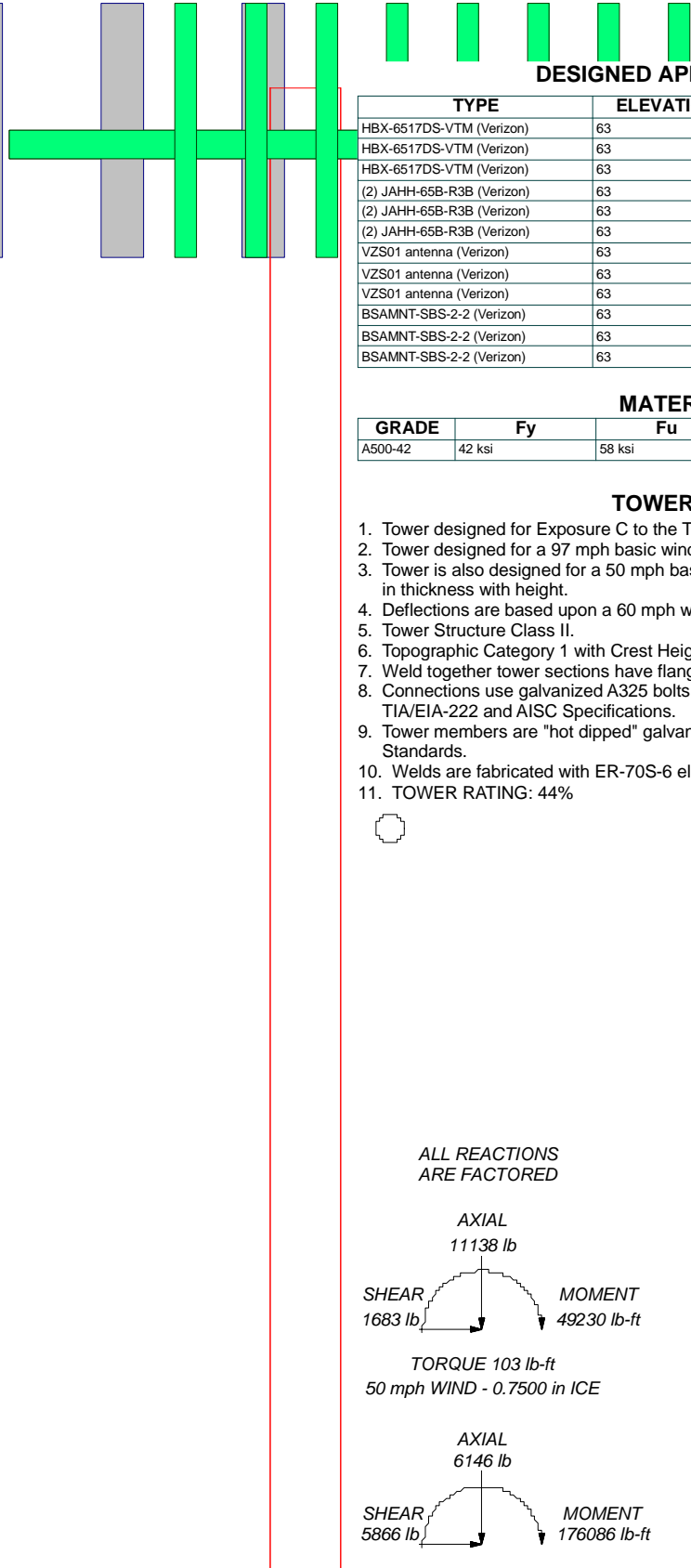
Michael L. Bohlinger, PE
Principal
CT License No. 20405

3/4/21

7.0 APPENDIX

LOAD CASE 1

1	35.00	1	0.3490	20.0000	20.0000	A500-42	2566.0
Section	Length (ft)	Number of Sides	Thickness (in)	Top Dia (in)	Bot Dia (in)	Grade	Weight (lb)
							29.0 ft



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
HBX-6517DS-VTM (Verizon)	63	CBC78T-DS-43-2X (Verizon)	63
HBX-6517DS-VTM (Verizon)	63	CBC78T-DS-43-2X (Verizon)	63
HBX-6517DS-VTM (Verizon)	63	CBC78T-DS-43-2X (Verizon)	63
(2) JAHH-65B-R3B (Verizon)	63	RRH-BR049 B2/B66A (Verizon)	63
(2) JAHH-65B-R3B (Verizon)	63	RRH-BR049 B2/B66A (Verizon)	63
(2) JAHH-65B-R3B (Verizon)	63	RRH-BR049 B2/B66A (Verizon)	63
VZS01 antenna (Verizon)	63	RRH-BR04C B5/B13 (Verizon)	63
VZS01 antenna (Verizon)	63	RRH-BR04C B5/B13 (Verizon)	63
BSAMNT-SBS-2-2 (Verizon)	63	OVP6 (Verizon)	63
BSAMNT-SBS-2-2 (Verizon)	63	OVP6 (Verizon)	63
BSAMNT-SBS-2-2 (Verizon)	63	Modified T-Arm Array (Verizon)	63

MATERIAL STRENGTH

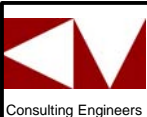
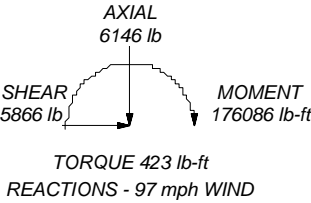
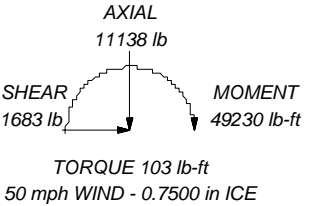
GRADE	Fy	Fu	GRADE	Fy	Fu
A500-42	42 ksi	58 ksi			

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-G Standard.
2. Tower designed for a 97 mph basic wind in accordance with the TIA-222-G Standard.
3. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Structure Class 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: 44%



ALL REACTIONS
ARE FACTORED

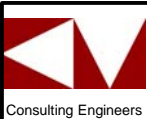
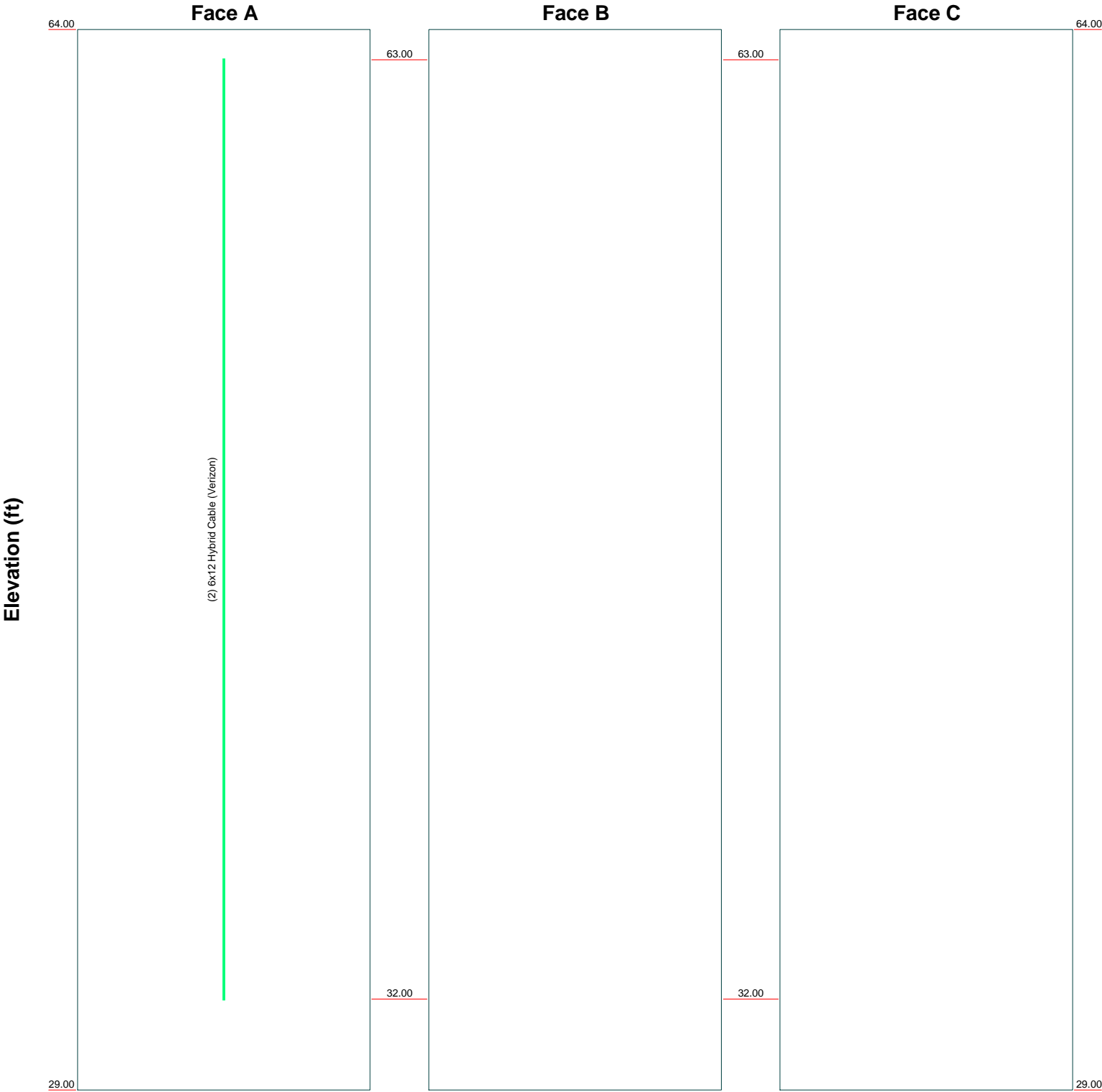


KM Consulting Engineers, Inc.
262 Upper Ferry Road
Ewing, NJ 08628
Phone: (609) 538-0400
FAX:

Job: Milford South 4 CT (35' Rooftop Monopole)		
Project: 210203.00		
Client: On Air Engineering	Drawn by: JTH	App'd:
Code: TIA-222-G	Date: 03/03/21	Scale: NTS
Path: K:\On Air Engineering\Milford 4 CT\Engineering\Milford South 4 CT LCI.en		Dwg No. E-1

Feed Line Distribution Chart
29' - 64'

Round Flat App In Face App Out Face Truss Leg



KM Consulting Engineers, Inc.
262 Upper Ferry Road
Ewing, NJ 08628
Phone: (609) 538-0400
FAX:

Job: Milford South 4 CT (35' Rooftop Monopole)		
Project: 210203.00		
Client: On Air Engineering	Drawn by: JTH	App'd:
Code: TIA-222-G	Date: 03/03/21	Scale: NTS
Path: K:\On Air Engineering\Milford 4 CT\Engineering\Milford South 4 CT LCI.dwg	Dwg No. E-7	

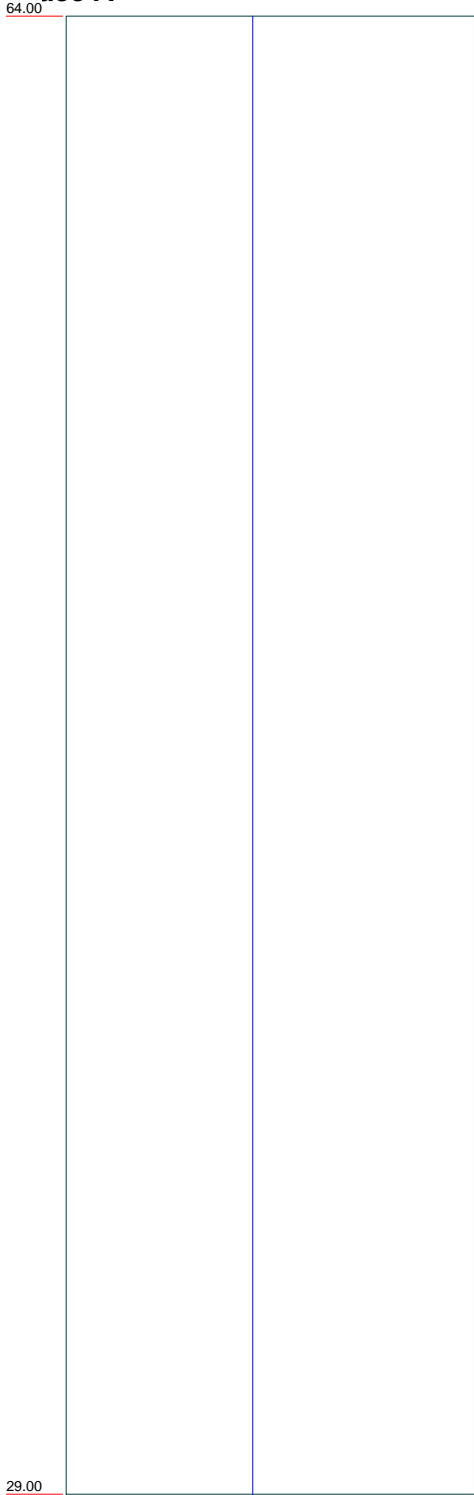
Stress Distribution Chart

29' - 64'

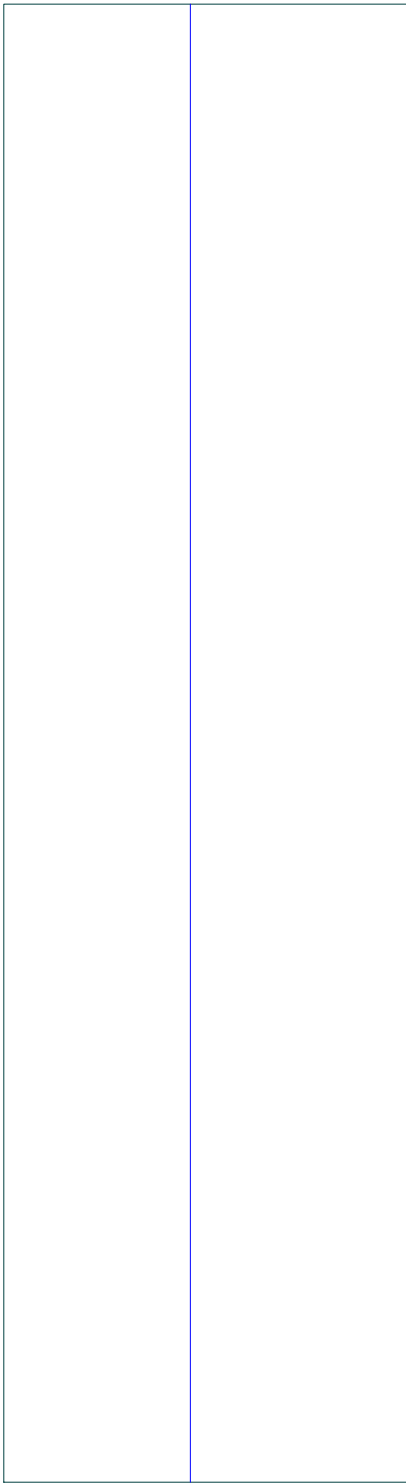
> 100% 90%-100% 75%-90% 50%-75% < 50% Overstress

Elevation (ft)

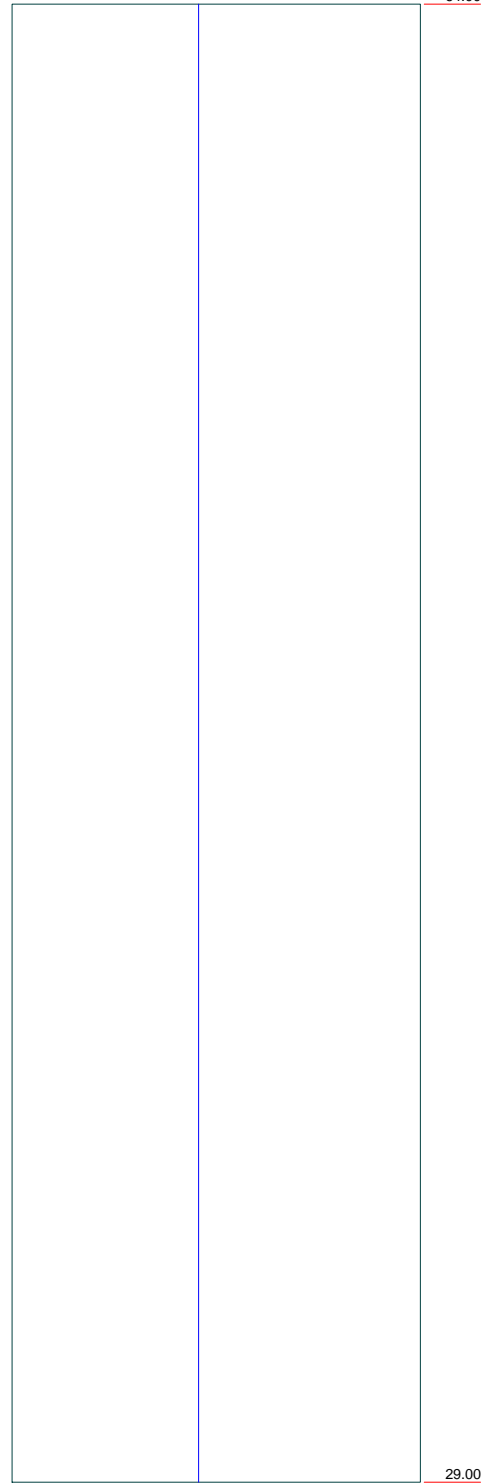
Face A



Face B



Face C



KM Consulting Engineers, Inc.

262 Upper Ferry Road

Ewing, NJ 08628

Phone: (609) 538-0400

FAX:

Job: **Milford South 4 CT (35' Rooftop Monopole)**

Project: **210203.00**

Client: On Air Engineering

Drawn by: JTH

App'd:

Code: TIA-222-G

Date: 03/03/21

Scale: NTS

Path: K:\On Air Engineering\Milford 4 CT\Engineering\Milford South 4 CT LCI.dwg

Dwg No. E-8

<i>tnxTower</i> <i>KM Consulting Engineers, Inc.</i> 262 Upper Ferry Road Ewing, NJ 08628 Phone: (609) 538-0400 FAX:	Job Milford South 4 CT (35' Rooftop Monopole)	Page 1 of 16
	Project 210203.00	Date 12:47:48 03/03/21
	Client On Air Engineering	Designed by JTH

Tower Input Data

The tower is a monopole.

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

The following design criteria apply:

ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).

Basic wind speed of 97 mph.

Structure Class II.

Exposure Category C.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 0.7500 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

Consider Moments - Legs	Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Horizontals	Assume Legs Pinned	√ Calculate Redundant Bracing Forces
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Use Moment Magnification	√ Use Clear Spans For Wind Area	SR Leg Bolts Resist Compression
√ Use Code Stress Ratios	√ Use Clear Spans For KL/r	√ All Leg Panels Have Same Allowable
√ Use Code Safety Factors - Guys	√ Retension Guys To Initial Tension	Offset Girt At Foundation
Escalate Ice	Bypass Mast Stability Checks	Consider Feed Line Torque
Always Use Max Kz	√ Use Azimuth Dish Coefficients	Include Angle Block Shear Check
Use Special Wind Profile	√ Project Wind Area of Appurt.	Use TIA-222-G Bracing Resist. Exemption
√ Include Bolts In Member Capacity	√ Autocalc Torque Arm Areas	Use TIA-222-G Tension Splice Exemption
√ Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Poles
√ Secondary Horizontal Braces Leg	Sort Capacity Reports By Component	Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	√ Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric	Ignore KL/ry For 60 Deg. Angle Legs	Pole Without Linear Attachments
		Pole With Shroud Or No Appurtenances
		Outside and Inside Corner Radii Are
		Known

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Tapered Pole Section Geometry

<i>Section</i>	<i>Elevation</i>	<i>Section Length</i>	<i>Splice Length</i>	<i>Number of Sides</i>	<i>Top Diameter</i>	<i>Bottom Diameter</i>	<i>Wall Thickness</i>	<i>Bend Radius</i>	<i>Pole Grade</i>
	<i>ft</i>	<i>ft</i>	<i>ft</i>		<i>in</i>	<i>in</i>	<i>in</i>	<i>in</i>	
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

<i>Tower Elevation</i>	<i>Gusset Area (per face)</i>	<i>Gusset Thickness</i>	<i>Gusset Grade</i>	<i>Adjust. Factor A_f</i>	<i>Adjust. Factor A_r</i>	<i>Weight Mult.</i>	<i>Double Angle Stitch Bolt Spacing Diagonals</i>	<i>Double Angle Stitch Bolt Spacing Horizontals</i>	<i>Double Angle Stitch Bolt Spacing Redundants</i>
<i>ft</i>	<i>ft²</i>	<i>in</i>					<i>in</i>	<i>in</i>	<i>in</i>
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

<i>Description</i>	<i>Face or Leg</i>	<i>Allow Shield</i>	<i>Exclude From Torque Calculation</i>	<i>Component Type</i>	<i>Placement ft</i>	<i>Total Number</i>	<i>C_AA_A ft²/ft</i>	<i>Weight plf</i>
6x12 Hybrid Cable (Verizon)	A	No	Yes	Inside Pole	63.00 - 32.00	2	No Ice 1/2" Ice	0.72 0.72

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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
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	44.64
		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	1.554	0.000	0.000	0.000	0.000	44.64
		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
HBX-6517DS-VTM (Verizon)	A	From Leg	3.00	0.0000	63.00	No Ice	5.24	13.70
			-6.00			1/2" Ice	6.13	41.50
			0.00			1" Ice	7.02	69.30
HBX-6517DS-VTM (Verizon)	B	From Leg	3.00	0.0000	63.00	No Ice	5.24	13.70
			-6.00			1/2" Ice	6.13	41.50
			0.00			1" Ice	7.02	69.30
HBX-6517DS-VTM (Verizon)	C	From Leg	3.00	0.0000	63.00	No Ice	5.24	13.70
			-6.00			1/2" Ice	6.13	41.50
			0.00			1" Ice	7.02	69.30
(2) JAHH-65B-R3B (Verizon)	A	From Leg	3.00	0.0000	63.00	No Ice	9.10	64.40
			0.00			1/2" Ice	9.90	123.80
			0.00			1" Ice	10.70	183.20
(2) JAHH-65B-R3B (Verizon)	B	From Leg	3.00	0.0000	63.00	No Ice	9.10	64.40
			0.00			1/2" Ice	9.90	123.80
			0.00			1" Ice	10.70	183.20
(2) JAHH-65B-R3B (Verizon)	C	From Leg	3.00	0.0000	63.00	No Ice	9.10	64.40
			0.00			1/2" Ice	9.90	123.80
			0.00			1" Ice	10.70	183.20

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<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert ft ft ft</i>	<i>Azimuth Adjustment °</i>	<i>Placement ft</i>	<i>C_AA_A Front ft²</i>	<i>C_AA_A Side ft²</i>	<i>Weight lb</i>
VZS01 antenna (Verizon)	A	From Leg	3.00 6.00 0.00	0.0000	63.00	No Ice 4.71 1/2" Ice 5.14 1" Ice 5.57	1.84 2.24 2.64	87.10 107.10 127.10
VZS01 antenna (Verizon)	B	From Leg	3.00 6.00 0.00	0.0000	63.00	No Ice 4.71 1/2" Ice 5.14 1" Ice 5.57	1.84 2.24 2.64	87.10 107.10 127.10
VZS01 antenna (Verizon)	C	From Leg	3.00 6.00 0.00	0.0000	63.00	No Ice 4.71 1/2" Ice 5.14 1" Ice 5.57	1.84 2.24 2.64	87.10 107.10 127.10
BSAMNT-SBS-2-2 (Verizon)	A	From Leg	3.00 0.00 0.00	0.0000	63.00	No Ice 0.00 1/2" Ice 0.00 1" Ice 0.00	0.50 0.75 1.00	65.00 105.00 145.00
BSAMNT-SBS-2-2 (Verizon)	B	From Leg	3.00 0.00 0.00	0.0000	63.00	No Ice 0.00 1/2" Ice 0.00 1" Ice 0.00	0.50 0.75 1.00	65.00 105.00 145.00
BSAMNT-SBS-2-2 (Verizon)	C	From Leg	3.00 0.00 0.00	0.0000	63.00	No Ice 0.00 1/2" Ice 0.00 1" Ice 0.00	0.50 0.75 1.00	65.00 105.00 145.00
CBC78T-DS-43-2X (Verizon)	A	From Leg	2.50 0.00 -1.00	0.0000	63.00	No Ice 0.37 1/2" Ice 0.49 1" Ice 0.61	0.52 0.66 0.80	21.80 28.30 34.80
CBC78T-DS-43-2X (Verizon)	B	From Leg	2.50 0.00 -1.00	0.0000	63.00	No Ice 0.37 1/2" Ice 0.49 1" Ice 0.61	0.52 0.66 0.80	21.80 28.30 34.80
CBC78T-DS-43-2X (Verizon)	C	From Leg	2.50 0.00 -1.00	0.0000	63.00	No Ice 0.37 1/2" Ice 0.49 1" Ice 0.61	0.52 0.66 0.80	21.80 28.30 34.80
RRH-BR049 B2/B66A (Verizon)	A	From Leg	2.50 -1.00 -1.00	0.0000	63.00	No Ice 2.46 1/2" Ice 2.76 1" Ice 3.06	1.60 1.90 2.20	84.40 107.20 130.00
RRH-BR049 B2/B66A (Verizon)	B	From Leg	2.50 -1.00 -1.00	0.0000	63.00	No Ice 2.46 1/2" Ice 2.76 1" Ice 3.06	1.60 1.90 2.20	84.40 107.20 130.00
RRH-BR049 B2/B66A (Verizon)	C	From Leg	2.50 -1.00 -1.00	0.0000	63.00	No Ice 2.46 1/2" Ice 2.76 1" Ice 3.06	1.60 1.90 2.20	84.40 107.20 130.00
RRH-BR04C B5/B13 (Verizon)	A	From Leg	2.50 1.00 -1.00	0.0000	63.00	No Ice 2.46 1/2" Ice 2.76 1" Ice 3.06	1.33 1.57 1.81	80.00 100.60 121.20
RRH-BR04C B5/B13 (Verizon)	B	From Leg	2.50 1.00 -1.00	0.0000	63.00	No Ice 2.46 1/2" Ice 2.76 1" Ice 3.06	1.33 1.57 1.81	80.00 100.60 121.20
RRH-BR04C B5/B13 (Verizon)	C	From Leg	2.50 1.00 -1.00	0.0000	63.00	No Ice 2.46 1/2" Ice 2.76 1" Ice 3.06	1.33 1.57 1.81	80.00 100.60 121.20
OVP6 (Verizon)	C	From Leg	2.50 0.00 0.00	0.0000	63.00	No Ice 2.62 1/2" Ice 2.92 1" Ice 3.22	1.72 1.98 2.24	32.00 56.00 80.00
OVP6 (Verizon)	C	From Leg	2.50 0.00 0.00	0.0000	63.00	No Ice 2.62 1/2" Ice 2.92 1" Ice 3.22	1.72 1.98 2.24	32.00 56.00 80.00
Modified T-Arm Array (Verizon)	C	None		0.0000	63.00	No Ice 30.70 1/2" Ice 37.86 1" Ice 45.02	30.70 37.86 45.02	1005.00 1300.00 1595.00

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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		ft ²	ft ²	ft ²		ft ²	ft ²
L1 64.00-29.00	46.85	1.079	25	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		ft ²	ft ²	ft ²		ft ²	ft ²
L1 64.00-29.00	46.85	1.079	7	1.5535	67.395	A	0.000	67.395	67.395	100.00	0.000	0.000
						B	0.000	67.395		100.00	0.000	0.000
						C	0.000	67.395		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		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				psf			ft ²	lb	plf	
L1 64.00-29.00	44.64	2566.04	A	1	0.6	25	1	1	58.333	946.15	27.03	C
			B	1	0.6		1	1	58.333			
			C	1	0.6		1	1	58.333			
Sum Weight:	44.64	2566.04						OTM	16889.43 lb-ft	946.15		

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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 psf	D _F	D _R	A _E ft ²	F lb	w plf	Ctrl. Face
ft	lb	lb										
L1	44.64	2566.04	A	1	0.6	25	1	1	58.333	946.15	27.03	C
64.00-29.00			B	1	0.6		1	1	58.333			
			C	1	0.6		1	1	58.333			
Sum Weight:	44.64	2566.04						OTM	16889.43 lb-ft	946.15		

Tower Forces - No 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
ft	lb	lb										
L1	44.64	2566.04	A	1	0.6	25	1	1	58.333	946.15	27.03	C
64.00-29.00			B	1	0.6		1	1	58.333			
			C	1	0.6		1	1	58.333			
Sum Weight:	44.64	2566.04						OTM	16889.43 lb-ft	946.15		

Tower Forces - With Ice - 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
ft	lb	lb										
L1	44.64	3997.81	A	1	1.2	7	1	1	67.395	580.90	16.60	C
64.00-29.00			B	1	1.2		1	1	67.395			
			C	1	1.2		1	1	67.395			
Sum Weight:	44.64	3997.81						OTM	10369.44 lb-ft	580.90		

Tower Forces - With Ice - 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
ft	lb	lb										
L1	44.64	3997.81	A	1	1.2	7	1	1	67.395	580.90	16.60	C

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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	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
64.00-29.00			B	1	1.2		1	1	67.395			
			C	1	1.2		1	1	67.395			
Sum Weight:	44.64	3997.81						OTM	10369.44 lb-ft	580.90		

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	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L1	44.64	3997.81	A	1	1.2	7	1	1	67.395	580.90	16.60	C
64.00-29.00			B	1	1.2		1	1	67.395			
			C	1	1.2		1	1	67.395			
Sum Weight:	44.64	3997.81						OTM	10369.44 lb-ft	580.90		

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	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L1	44.64	2566.04	A	1	0.6	8	1	1	58.333	323.90	9.25	C
64.00-29.00			B	1	0.6		1	1	58.333			
			C	1	0.6		1	1	58.333			
Sum Weight:	44.64	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	F	w	Ctrl. Face
ft	lb	lb							ft ²	lb	plf	
L1	44.64	2566.04	A	1	0.6	8	1	1	58.333	323.90	9.25	C
64.00-29.00			B	1	0.6		1	1	58.333			
			C	1	0.6		1	1	58.333			
Sum Weight:	44.64	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
ft	lb	lb										
L1	44.64	2566.04	A	1	0.6	8	1	1	58.333	323.90	9.25	C
64.00-29.00			B	1	0.6		1	1	58.333			
			C	1	0.6		1	1	58.333			
Sum Weight:	44.64	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	5122.08			106.67	184.75	
Wind 0 deg - No Ice		18.02	-3634.94	-107899.51	-428.02	-229.62
Wind 30 deg - No Ice		1843.49	-3156.97	-93735.82	-54702.80	-132.57
Wind 60 deg - No Ice		3174.99	-1833.08	-54427.10	-94270.51	0.00
Wind 90 deg - No Ice		3655.75	-18.02	-506.11	-108529.00	132.57
Wind 120 deg - No Ice		3156.97	1801.86	53579.08	-93657.73	229.62
Wind 150 deg - No Ice		1812.27	3138.94	93336.38	-53641.45	265.15
Wind 180 deg - No Ice		-18.02	3634.94	108112.85	797.53	229.62
Wind 210 deg - No Ice		-1843.49	3156.97	93949.15	55072.31	132.57
Wind 240 deg - No Ice		-3174.99	1833.08	54640.44	94640.01	0.00
Wind 270 deg - No Ice		-3655.75	18.02	719.44	108898.50	-132.57
Wind 300 deg - No Ice		-3156.97	-1801.86	-53365.75	94027.24	-229.62
Wind 330 deg - No Ice		-1812.27	-3138.94	-93123.04	54010.95	-265.15
Member Ice	1431.77					
Total Weight Ice	10113.52			362.70	628.21	
Wind 0 deg - Ice		5.47	-1673.92	-47048.13	442.24	-90.53
Wind 30 deg - Ice		844.86	-1452.39	-40789.27	-23345.63	-52.27
Wind 60 deg - Ice		1457.86	-841.70	-23503.77	-40709.73	0.00
Wind 90 deg - Ice		1680.24	-5.47	176.72	-46997.36	52.27
Wind 120 deg - Ice		1452.39	832.22	23907.05	-40523.76	90.53
Wind 150 deg - Ice		835.38	1446.92	41328.69	-23023.52	104.53
Wind 180 deg - Ice		-5.47	1673.92	47773.53	814.19	90.53
Wind 210 deg - Ice		-844.86	1452.39	41514.67	24602.06	52.27
Wind 240 deg - Ice		-1457.86	841.70	24229.17	41966.16	0.00
Wind 270 deg - Ice		-1680.24	5.47	548.67	48253.78	-52.27
Wind 300 deg - Ice		-1452.39	-832.22	-23181.66	41780.18	-90.53
Wind 330 deg - Ice		-835.38	-1446.92	-40603.29	24279.94	-104.53
Total Weight	5122.08			106.67	184.75	
Wind 0 deg - Service		6.17	-1244.38	-36867.89	-25.02	-78.61
Wind 30 deg - Service		631.09	-1080.75	-32019.13	-18605.31	-45.38
Wind 60 deg - Service		1086.92	-627.53	-18562.28	-32150.82	0.00
Wind 90 deg - Service		1251.50	-6.17	-103.11	-37032.03	45.38
Wind 120 deg - Service		1080.75	616.85	18412.27	-31941.04	78.61
Wind 150 deg - Service		620.41	1074.58	32022.68	-18241.97	90.77
Wind 180 deg - Service		-6.17	1244.38	37081.22	394.53	78.61

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Load Case	Vertical Forces <i>lb</i>	Sum of Forces X <i>lb</i>	Sum of Forces Z <i>lb</i>	Sum of Overturning Moments, M_x <i>lb-ft</i>	Sum of Overturning Moments, M_z <i>lb-ft</i>	Sum of Torques <i>lb-ft</i>
Wind 210 deg - Service		-631.09	1080.75	32232.46	18974.81	45.38
Wind 240 deg - Service		-1086.92	627.53	18775.62	32520.32	0.00
Wind 270 deg - Service		-1251.50	6.17	316.44	37401.54	-45.38
Wind 300 deg - Service		-1080.75	-616.85	-18198.94	32310.54	-78.61
Wind 330 deg - Service		-620.41	-1074.58	-31809.35	18611.47	-90.77

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service

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Comb. No.	Description
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 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	29	0.00	0.00	-0.00
			Max. Compression	26	-11137.94	670.54	-387.14
			Max. Mx	20	-6142.29	175480.92	-1117.57
			Max. My	14	-6142.34	1212.34	-174245.30
			Max. Vy	20	-5853.62	175480.92	-1117.57
			Max. Vx	14	5820.29	1212.34	-174245.30
			Max. Torque	25			422.98

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Pole	Max. Vert	35	11137.94	1457.86	-841.70
	Max. H _x	21	4609.87	5849.21	-28.84
	Max. H _z	2	6146.50	-28.84	5815.91
	Max. M _x	2	173986.43	-28.84	5815.91
	Max. M _z	8	175032.55	-5849.21	28.84
	Max. Torsion	25	422.91	2899.63	5022.31
	Min. Vert	25	4609.87	2899.63	5022.31
	Min. H _x	8	6146.50	-5849.21	28.84
	Min. H _z	14	6146.50	28.84	-5815.91
	Min. M _x	14	-174245.30	28.84	-5815.91
	Min. M _z	20	-175480.92	5849.21	-28.84
	Min. Torsion	13	-422.91	-2899.63	-5022.31

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	5122.08	0.00	0.00	106.67	184.75	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	6146.50	28.84	-5815.91	-173986.43	-763.98	-365.91
0.9 Dead+1.6 Wind 0 deg - No Ice	4609.87	28.84	-5815.91	-173688.41	-818.55	-366.26
1.2 Dead+1.6 Wind 30 deg - No Ice	6146.50	2949.58	-5051.14	-151153.28	-88259.94	-211.26
0.9 Dead+1.6 Wind 30 deg - No Ice	4609.87	2949.58	-5051.14	-150898.59	-88148.33	-211.47
1.2 Dead+1.6 Wind 60 deg - No Ice	6146.50	5079.98	-2932.93	-87784.15	-152046.61	-0.00

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<i>Load Combination</i>	<i>Vertical lb</i>	<i>Shear_x lb</i>	<i>Shear_z lb</i>	<i>Overturning Moment, M_x lb-ft</i>	<i>Overturning Moment, M_z lb-ft</i>	<i>Torque lb-ft</i>
Ice						
0.9 Dead+1.6 Wind 60 deg - No Ice	4609.87	5079.98	-2932.93	-87649.78	-151813.87	-0.00
1.2 Dead+1.6 Wind 90 deg - No Ice	6146.50	5849.21	-28.84	-858.71	-175032.55	211.26
0.9 Dead+1.6 Wind 90 deg - No Ice	4609.87	5849.21	-28.84	-889.40	-174756.18	211.47
1.2 Dead+1.6 Wind 120 deg - No Ice	6146.50	5051.14	2882.98	86331.59	-151058.66	365.91
0.9 Dead+1.6 Wind 120 deg - No Ice	4609.87	5051.14	2882.98	86135.32	-150827.85	366.26
1.2 Dead+1.6 Wind 150 deg - No Ice	6146.50	2899.63	5022.31	150424.16	-86548.58	422.50
0.9 Dead+1.6 Wind 150 deg - No Ice	4609.87	2899.63	5022.31	150106.15	-86440.33	422.91
1.2 Dead+1.6 Wind 180 deg - No Ice	6146.50	-28.84	5815.91	174245.30	1212.26	365.88
0.9 Dead+1.6 Wind 180 deg - No Ice	4609.87	-28.84	5815.91	173882.01	1153.80	366.23
1.2 Dead+1.6 Wind 210 deg - No Ice	6146.50	-2949.58	5051.14	151412.17	88708.26	211.23
0.9 Dead+1.6 Wind 210 deg - No Ice	4609.87	-2949.58	5051.14	151092.21	88483.61	211.44
1.2 Dead+1.6 Wind 240 deg - No Ice	6146.50	-5079.98	2932.93	88043.02	152494.98	-0.00
0.9 Dead+1.6 Wind 240 deg - No Ice	4609.87	-5079.98	2932.93	87843.37	152149.18	-0.00
1.2 Dead+1.6 Wind 270 deg - No Ice	6146.50	-5849.21	28.84	1117.52	175480.92	-211.23
0.9 Dead+1.6 Wind 270 deg - No Ice	4609.87	-5849.21	28.84	1082.95	175091.49	-211.44
1.2 Dead+1.6 Wind 300 deg - No Ice	6146.50	-5051.14	-2882.98	-86072.81	151506.98	-365.88
0.9 Dead+1.6 Wind 300 deg - No Ice	4609.87	-5051.14	-2882.98	-85941.79	151163.14	-366.23
1.2 Dead+1.6 Wind 330 deg - No Ice	6146.50	-2899.63	-5022.31	-150165.35	86996.85	-422.50
0.9 Dead+1.6 Wind 330 deg - No Ice	4609.87	-2899.63	-5022.31	-149912.59	86775.57	-422.91
1.2 Dead+1.0 Ice+1.0 Temp	11137.94	-0.00	0.00	387.14	670.54	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	11137.94	5.47	-1673.92	-47724.17	491.57	-89.38
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	11137.94	844.86	-1452.39	-41372.15	-23650.69	-51.60
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	11137.94	1457.86	-841.70	-23829.23	-41273.44	-0.00
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	11137.94	1680.24	-5.47	203.97	-47654.68	51.60
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	11137.94	1452.39	832.22	24287.79	-41084.56	89.38
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	11137.94	835.38	1446.92	41968.99	-23323.53	103.21
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	11137.94	-5.47	1673.92	48509.90	869.35	89.38
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	11137.94	-844.86	1452.39	42157.88	25011.61	51.60
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	11137.94	-1457.86	841.70	24614.96	42634.36	-0.00
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	11137.94	-1680.24	5.47	581.75	49015.60	-51.60
1.2 Dead+1.0 Wind 300	11137.94	-1452.39	-832.22	-23502.07	42445.47	-89.38

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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
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 330	11137.94	-835.38	-1446.92	-41183.27	24684.45	-103.21
deg+1.0 Ice+1.0 Temp						
Dead+Wind 0 deg - Service	5122.08	6.17	-1244.38	-37100.74	-24.64	-78.36
Dead+Wind 30 deg - Service	5122.08	631.09	-1080.75	-32221.33	-18722.47	-45.24
Dead+Wind 60 deg - Service	5122.08	1086.92	-627.53	-18679.39	-32353.65	-0.00
Dead+Wind 90 deg - Service	5122.08	1251.50	-6.17	-103.47	-37265.73	45.24
Dead+Wind 120 deg - Service	5122.08	1080.75	616.85	18529.03	-32142.50	78.36
Dead+Wind 150 deg - Service	5122.08	620.41	1074.58	32225.55	-18356.75	90.48
Dead+Wind 180 deg - Service	5122.08	-6.17	1244.38	37316.11	397.66	78.36
Dead+Wind 210 deg - Service	5122.08	-631.09	1080.75	32436.70	19095.50	45.24
Dead+Wind 240 deg - Service	5122.08	-1086.92	627.53	18894.76	32726.68	-0.00
Dead+Wind 270 deg - Service	5122.08	-1251.50	6.17	318.83	37638.75	-45.24
Dead+Wind 300 deg - Service	5122.08	-1080.75	-616.85	-18313.67	32515.53	-78.36
Dead+Wind 330 deg - Service	5122.08	-620.41	-1074.58	-32010.18	18729.77	-90.48

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	-5122.08	0.00	0.00	5122.08	0.00	0.000%
2	28.84	-6146.50	-5815.91	-28.84	6146.50	5815.91	0.000%
3	28.84	-4609.87	-5815.91	-28.84	4609.87	5815.91	0.000%
4	2949.58	-6146.50	-5051.14	-2949.58	6146.50	5051.14	0.000%
5	2949.58	-4609.87	-5051.14	-2949.58	4609.87	5051.14	0.000%
6	5079.98	-6146.50	-2932.93	-5079.98	6146.50	2932.93	0.000%
7	5079.98	-4609.87	-2932.93	-5079.98	4609.87	2932.93	0.000%
8	5849.21	-6146.50	-28.84	-5849.21	6146.50	28.84	0.000%
9	5849.21	-4609.87	-28.84	-5849.21	4609.87	28.84	0.000%
10	5051.14	-6146.50	2882.98	-5051.14	6146.50	-2882.98	0.000%
11	5051.14	-4609.87	2882.98	-5051.14	4609.87	-2882.98	0.000%
12	2899.63	-6146.50	5022.31	-2899.63	6146.50	-5022.31	0.000%
13	2899.63	-4609.87	5022.31	-2899.63	4609.87	-5022.31	0.000%
14	-28.84	-6146.50	5815.91	28.84	6146.50	-5815.91	0.000%
15	-28.84	-4609.87	5815.91	28.84	4609.87	-5815.91	0.000%
16	-2949.58	-6146.50	5051.14	2949.58	6146.50	-5051.14	0.000%
17	-2949.58	-4609.87	5051.14	2949.58	4609.87	-5051.14	0.000%
18	-5079.98	-6146.50	2932.93	5079.98	6146.50	-2932.93	0.000%
19	-5079.98	-4609.87	2932.93	5079.98	4609.87	-2932.93	0.000%
20	-5849.21	-6146.50	28.84	5849.21	6146.50	-28.84	0.000%
21	-5849.21	-4609.87	28.84	5849.21	4609.87	-28.84	0.000%
22	-5051.14	-6146.50	-2882.98	5051.14	6146.50	2882.98	0.000%
23	-5051.14	-4609.87	-2882.98	5051.14	4609.87	2882.98	0.000%
24	-2899.63	-6146.50	-5022.31	2899.63	6146.50	5022.31	0.000%
25	-2899.63	-4609.87	-5022.31	2899.63	4609.87	5022.31	0.000%
26	0.00	-11137.94	0.00	0.00	11137.94	-0.00	0.000%
27	5.47	-11137.94	-1673.92	-5.47	11137.94	1673.92	0.000%
28	844.86	-11137.94	-1452.39	-844.86	11137.94	1452.39	0.000%
29	1457.86	-11137.94	-841.70	-1457.86	11137.94	841.70	0.000%
30	1680.24	-11137.94	-5.47	-1680.24	11137.94	5.47	0.000%
31	1452.39	-11137.94	832.22	-1452.39	11137.94	-832.22	0.000%
32	835.38	-11137.94	1446.92	-835.38	11137.94	-1446.92	0.000%
33	-5.47	-11137.94	1673.92	5.47	11137.94	-1673.92	0.000%
34	-844.86	-11137.94	1452.39	844.86	11137.94	-1452.39	0.000%
35	-1457.86	-11137.94	841.70	1457.86	11137.94	-841.70	0.000%
36	-1680.24	-11137.94	5.47	1680.24	11137.94	-5.47	0.000%
37	-1452.39	-11137.94	-832.22	1452.39	11137.94	832.22	0.000%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
38	-835.38	-11137.94	-1446.92	835.38	11137.94	1446.92	0.000%
39	6.17	-5122.08	-1244.38	-6.17	5122.08	1244.38	0.000%
40	631.09	-5122.08	-1080.75	-631.09	5122.08	1080.75	0.000%
41	1086.92	-5122.08	-627.53	-1086.92	5122.08	627.53	0.000%
42	1251.50	-5122.08	-6.17	-1251.50	5122.08	6.17	0.000%
43	1080.75	-5122.08	616.85	-1080.75	5122.08	-616.85	0.000%
44	620.41	-5122.08	1074.58	-620.41	5122.08	-1074.58	0.000%
45	-6.17	-5122.08	1244.38	6.17	5122.08	-1244.38	0.000%
46	-631.09	-5122.08	1080.75	631.09	5122.08	-1080.75	0.000%
47	-1086.92	-5122.08	627.53	1086.92	5122.08	-627.53	0.000%
48	-1251.50	-5122.08	6.17	1251.50	5122.08	-6.17	0.000%
49	-1080.75	-5122.08	-616.85	1080.75	5122.08	616.85	0.000%
50	-620.41	-5122.08	-1074.58	620.41	5122.08	1074.58	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00000001
3	Yes	4	0.00000001	0.00000001
4	Yes	4	0.00000001	0.00000001
5	Yes	4	0.00000001	0.00000001
6	Yes	4	0.00000001	0.00000001
7	Yes	4	0.00000001	0.00000001
8	Yes	4	0.00000001	0.00000001
9	Yes	4	0.00000001	0.00000001
10	Yes	4	0.00000001	0.00000001
11	Yes	4	0.00000001	0.00000001
12	Yes	4	0.00000001	0.00000001
13	Yes	4	0.00000001	0.00000001
14	Yes	4	0.00000001	0.00000001
15	Yes	4	0.00000001	0.00000001
16	Yes	4	0.00000001	0.00000001
17	Yes	4	0.00000001	0.00000001
18	Yes	4	0.00000001	0.00000001
19	Yes	4	0.00000001	0.00000001
20	Yes	4	0.00000001	0.00000001
21	Yes	4	0.00000001	0.00000001
22	Yes	4	0.00000001	0.00000001
23	Yes	4	0.00000001	0.00000001
24	Yes	4	0.00000001	0.00000001
25	Yes	4	0.00000001	0.00000001
26	Yes	4	0.00000001	0.00000001
27	Yes	4	0.00000001	0.00002433
28	Yes	4	0.00000001	0.00002445
29	Yes	4	0.00000001	0.00002442
30	Yes	4	0.00000001	0.00002419
31	Yes	4	0.00000001	0.00002463
32	Yes	4	0.00000001	0.00002487
33	Yes	4	0.00000001	0.00002498
34	Yes	4	0.00000001	0.00002565
35	Yes	4	0.00000001	0.00002577
36	Yes	4	0.00000001	0.00002531
37	Yes	4	0.00000001	0.00002526
38	Yes	4	0.00000001	0.00002492

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39	Yes	4	0.00000001	0.00000001
40	Yes	4	0.00000001	0.00000001
41	Yes	4	0.00000001	0.00000001
42	Yes	4	0.00000001	0.00000001
43	Yes	4	0.00000001	0.00000001
44	Yes	4	0.00000001	0.00000001
45	Yes	4	0.00000001	0.00000001
46	Yes	4	0.00000001	0.00000001
47	Yes	4	0.00000001	0.00000001
48	Yes	4	0.00000001	0.00000001
49	Yes	4	0.00000001	0.00000001
50	Yes	4	0.00000001	0.00000001

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	64 - 29	0.842	47	0.1681	0.0011

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
63.00	HBX-6517DS-VTM	47	0.818	0.1633	0.0011	Inf

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	64 - 29	3.914	18	0.7800	0.0051

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
63.00	HBX-6517DS-VTM	18	3.802	0.7577	0.0049	Inf

Base Plate Design Data

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Plate Thickness	Number of Anchor Bolts	Anchor Bolt Size	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
in		in						
1.5000	12	1.2500	28897.32	29859.53	9.131	11.101	Bolt T	0.35
			82834.96	137506.04	45.000	45.000		✓
			0.35	0.22	0.20	0.25		

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	P _n lb	Ratio $\frac{P_u}{P_n}$
L1	64 - 29 (1)	TP20x20x0.349	35.00	35.00	60.4	21.5457	-6142.26	650737.00	0.009

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} lb-ft	M _{nx} lb-ft	Ratio $\frac{M_{ux}}{M_{nx}}$	M _{uy} lb-ft	M _{ny} lb-ft	Ratio $\frac{M_{uy}}{M_{ny}}$
L1	64 - 29 (1)	TP20x20x0.349	176085.83	409441.67	0.430	0.00	409441.67	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V _u lb	V _n lb	Ratio $\frac{V_u}{V_n}$	Actual T _u lb-ft	T _n lb-ft	Ratio $\frac{T_u}{T_n}$
L1	64 - 29 (1)	TP20x20x0.349	5870.29	407213.00	0.014	0.00	655415.83	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{P_n}$	Ratio $\frac{M_{ux}}{M_{nx}}$	Ratio $\frac{M_{uy}}{M_{ny}}$	Ratio $\frac{V_u}{V_n}$	Ratio $\frac{T_u}{T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	64 - 29 (1)	0.009	0.430	0.000	0.014	0.000	0.440	1.000	4.8.2 ✓

<i>tnxTower</i> <i>KM Consulting Engineers, Inc.</i> 262 Upper Ferry Road Ewing, NJ 08628 Phone: (609) 538-0400 FAX:	Job	Milford South 4 CT (35' Rooftop Monopole)	Page	16 of 16
	Project	210203.00	Date	12:47:48 03/03/21
	Client	On Air Engineering	Designed by	JTH

Section Capacity Table

<i>Section No.</i>	<i>Elevation ft</i>	<i>Component Type</i>	<i>Size</i>	<i>Critical Element</i>	<i>P lb</i>	<i>ϕP_{allow} lb</i>	<i>% Capacity</i>	<i>Pass Fail</i>
L1	64 - 29	Pole	TP20x20x0.349	1	-6142.26	650737.00	44.0	Pass
							Summary	
							Pole (L1)	Pass
							Base Plate	Pass
							RATING = 44.0	Pass



KM Consulting Engineers, Inc.

Wireless Engineering and Project Management

June 30, 2021

Andrew Leone
Verizon Wireless
118 Flanders Road
Westborough, MA 01581

RE: Verizon Site Name: Milford South 4 CT
35' Self-Support Rooftop Mounted Monopole
58 Robinson Boulevard
Orange, CT 06477
41°14'50.0"N, 72°59'29.1"W

KM Project No. 210203.00

Dear Mr. Leone,

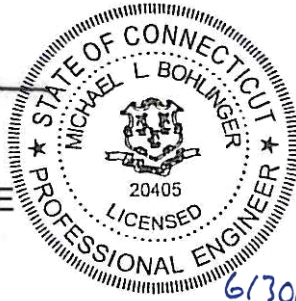
We are writing this letter to confirm that the Samsung 64T64R MMU antenna was used in the structural analysis report by KM Consulting Engineers, Inc. (KMCE) dated 3/4/21, referred to as the VZS01 panel antenna for the site referenced above.

Should you have any questions or comments, please do not hesitate to contact our office.

Sincerely,

KM CONSULTING ENGINEERS, INC.

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



6/30/21



Maser Consulting Connecticut
2000 Midlantic Drive Suite 100
Mt. Laurel, NJ 08054
856.797.0412
gdulnik@maserconsulting.com

Post-Mod Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10026443
Maser Consulting Connecticut Project #: 20777369A

December 30, 2020

Site Information

Site ID: 468983-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: 40-Ft Monopole on 22.25-Ft Rooftop
Mount Type: 12.50-Ft T-Arm

FUZE ID # 16244656

Analysis Results

T-Arm: 84.9% Pass

***Contractor PMI Requirements:

Included at the end of this MA report

Available & Submitted via portal at <https://pmi.vzwsmart.com>

Contractor - Please Review Specific Site PMI Requirements Upon Award

Requirements also Noted on Mount Modification Drawings

Requirements may also be Noted on A & E drawings

Report Prepared By: Taqi Khawaja



Executive Summary:

The objective of this report is to summarize the analysis results of the antenna support mount including the proposed modifications at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards.

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

Sources of Information:

Document Type	Remarks
<i>Radio Frequency Data Sheet (RFDS)</i>	<i>Verizon RFDS Site ID: 1816386, dated November 18, 2020</i>
<i>Mount Mapping Report</i>	<i>Tower Engineering Professionals Site ID: 468983, dated November 11, 2020</i>
<i>Previous Mount Analysis</i>	<i>Maser Consulting Connecticut, Project # 20777369A, dated December 3, 2020</i>
<i>Mount Modification Drawings</i>	<i>Maser Consulting Connecticut, Project # 20777369A, dated December 31, 2020</i>

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT} : 120 mph
	Ice Wind Speed (3-sec. Gust): 50 mph
	Design Ice Thickness: 1.00 in
	Risk Category: II
	Exposure Category: B
	Topographic Category: 1
	Topographic Feature Considered: N/A
	Topographic Method: N/A
	Ground Elevation Factor, K_e : 0.999
Seismic Parameters:	S_s : 0.020
	S_1 : 0.053
Maintenance Parameters:	Wind Speed (3-sec. Gust): 30 mph
	Maintenance Live Load, L_v : 250 lbs.
	Maintenance Live 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
60.00	63.00	3	-	nL-Sub 6 Antenna	Added
		6	Commscope	JAHH-65B-R3B	
		3	Commscope	CBC78T-DS-43-2X	
		3	Samsung	B2/B66A RRH-BR049	
		3	Samsung	B5/B13 RRH-BR04C	
		3	Andrew	HBX-6517DS-VTM	Retained
		2	Raycap	RRFDC-3315-PF-48	

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to Maser Consulting Connecticut 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 Maser Consulting Connecticut 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 by Maser Consulting Connecticut, 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. Maser Consulting Connecticut is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.

7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
- Channel, Solid Round, Angle, Plate ASTM A36 (Gr. 36)
 - HSS (Rectangular) ASTM 500 (Gr. B-46)
 - Pipe ASTM A53 (Gr. B-35)
 - Threaded Rod F1554 (Gr. 36)
 - Bolts ASTM A325
8. Any mount modifications listed under Sources of Information are assumed to have been installed per the design specifications.

Discrepancies between in-field conditions and the assumptions listed above may render this analysis invalid unless explicitly approved by Maser Consulting Connecticut.

Analysis Results:

Component	Utilization %	Pass/Fail
<i>MOD Kicker</i>	12.3%	<i>Pass</i>
<i>Mod Horizontal</i>	18.1%	<i>Pass</i>
<i>Antenna Pipe</i>	67.3%	<i>Pass</i>
<i>Horizontal</i>	26.6%	<i>Pass</i>
<i>Standoff Pipe</i>	0.1%	<i>Pass</i>
<i>Standoff Arm</i>	49.4%	<i>Pass</i>
<i>Connection Check</i>	84.9%	<i>Pass</i>

Structure Rating – (Controlling Utilization of all Components)	84.9%
---	--------------

Recommendation:

The existing mounts will be **SUFFICIENT** for the final loading after the proposed modifications are successfully completed.

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

Attachments:

1. Mount Photos
2. Mount Mapping Report (for reference only)
3. Analysis Calculations
- 4. Contractor Required PMI Report Deliverables**
5. Antenna Placement Diagrams
6. TIA Adoption and Wind Speed Usage

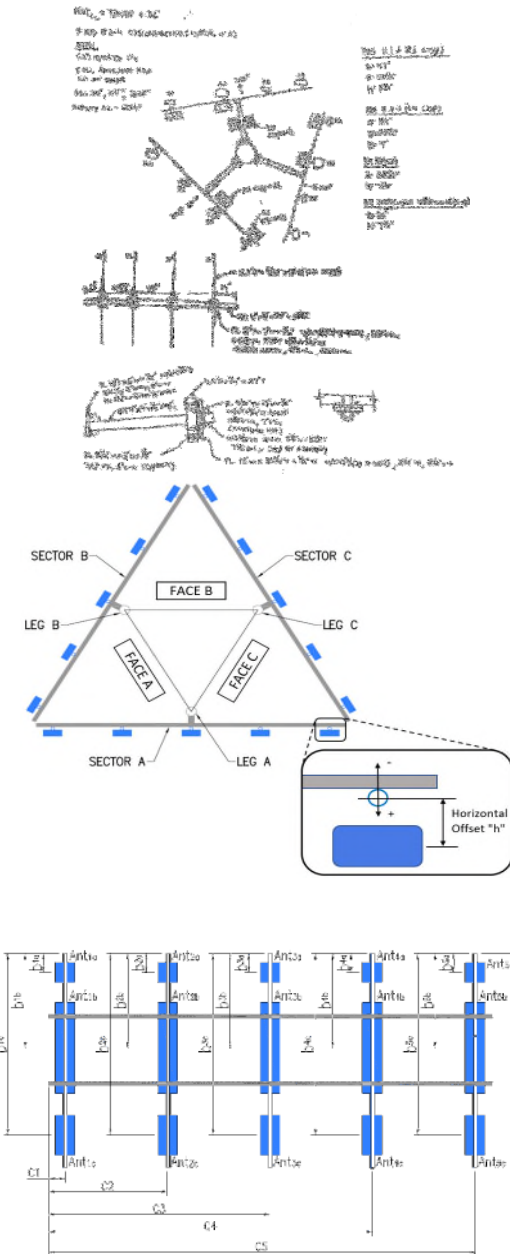




Antenna Mount Mapping Form (PATENT PENDING)

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 (Ft.):	58.25

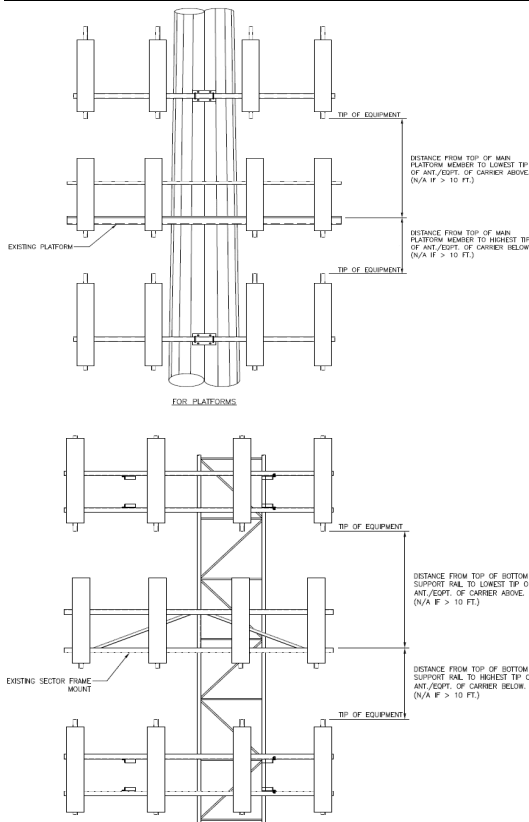
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Antenna Layout (Looking Out From Tower)

Mount Pipe Configuration and Geometries [Unit = Inches]							
Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "U"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "U"	Horizontal Offset "C1, C2, C3, etc."
A1	2.4"Ø x 5/32" x 8'-6"	50.50	14.00	C1	2.4"Ø x 5/32" x 8'-6"	50.50	14.00
A2	2.4"Ø x 5/32" x 8'-6"	50.50	63.50	C2	2.4"Ø x 5/32" x 8'-6"	50.50	63.50
A3	2.4"Ø x 5/32" x 8'-6"	50.50	111.50	C3	2.4"Ø x 5/32" x 8'-6"	50.50	111.50
A4	2.4"Ø x 5/32" x 8'-6"	50.50	136.00	C4	2.4"Ø x 5/32" x 8'-6"	50.50	136.00
A5				C5			
A6				C6			
B1	2.4"Ø x 5/32" x 8'-6"	50.50	14.00	D1			
B2	2.4"Ø x 5/32" x 8'-6"	50.50	63.50	D2			
B3	2.4"Ø x 5/32" x 8'-6"	50.50	111.50	D3			
B4	2.4"Ø x 5/32" x 8'-6"	50.50	136.00	D4			
B5				D5			
B6				D6			
Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :							0.00
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :							
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :							
Please enter additional information or comments below.							
Tower Type: Monopole on Rooftop ; Roof elevation = 22'-3"							
Tower Face Width at Mount Elev. (ft.):		Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):					20.05

[illegible]

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						
						Ant _{2b}	KS24822L1	15.00	7.90	15.70	Raycap	59.875	31.00	7.50		100						
Climbing Facility Information						Ant _{2c}																
Location:	274.00	Deg		Other		Ant _{3a}	HBX-6517DS-A1M	6.54	3.30	74.88	None	58.5417	47.00	5.50	115.00	105-107, 195-196						
Climbing Facility	Corrosion Type:		Good condition.			Ant _{3b}																
	Access:		Climbing path was unobstructed.			Ant _{3c}																
	Condition:		Good condition.			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}																						
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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 (Ft.):	58.25

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Please Insert Sketches of the Antenna Mount

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

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

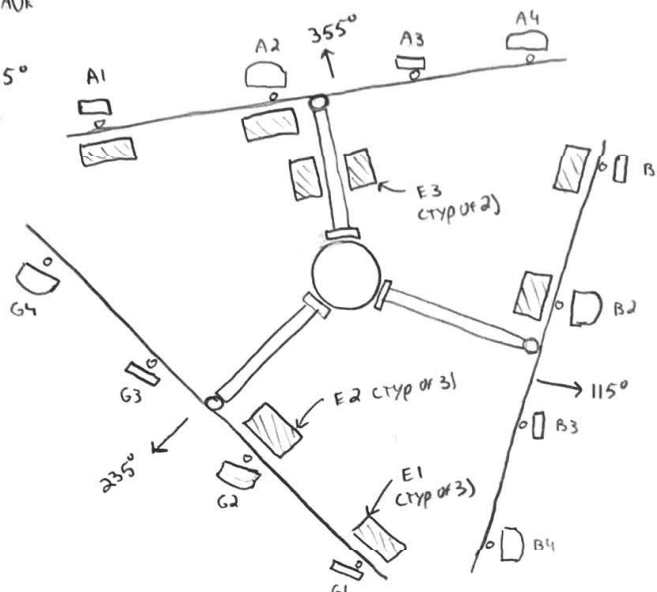
COAX

(2) HYBRID 1/4

* ALL ANTENNAS HAVE
RET ON BOTTOM

AZ: 30°, 115°, 225°

SAFETY AZ = 274°



POS # 1 + H3 (typ)

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

POS # 2 + H4 (typ)

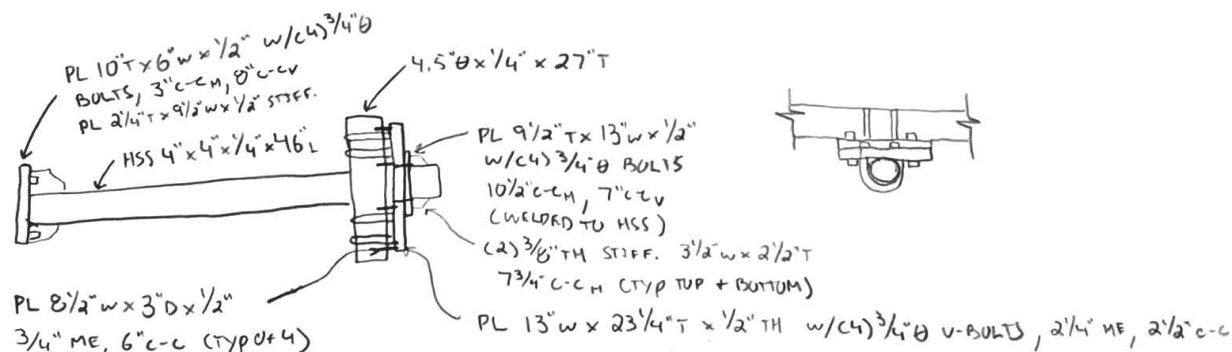
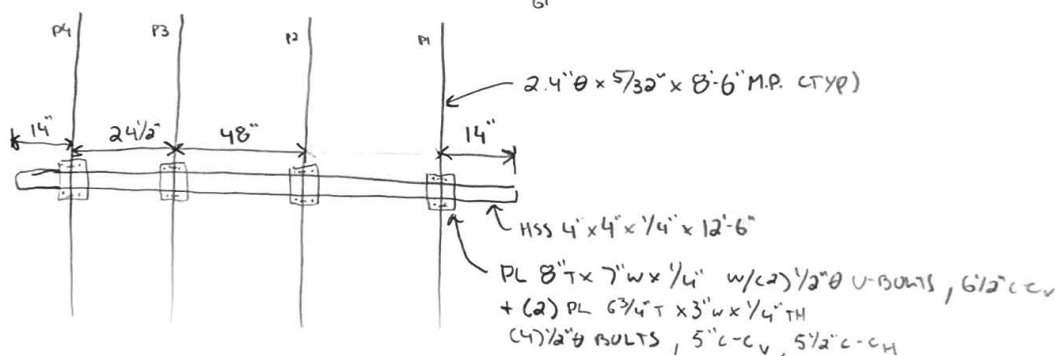
B: 54"
U: 50 1/2"
h: 7"

E1 (9442)

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

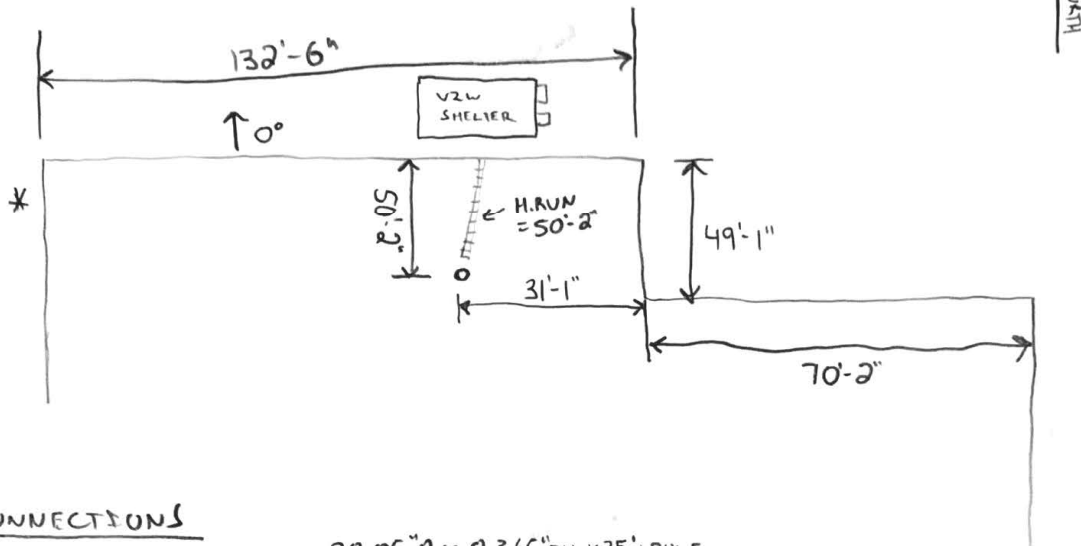
E2 MARK w/A2 16 3/4" w x 16 1/2" x 10"

B: 31"
h: 7 1/2"

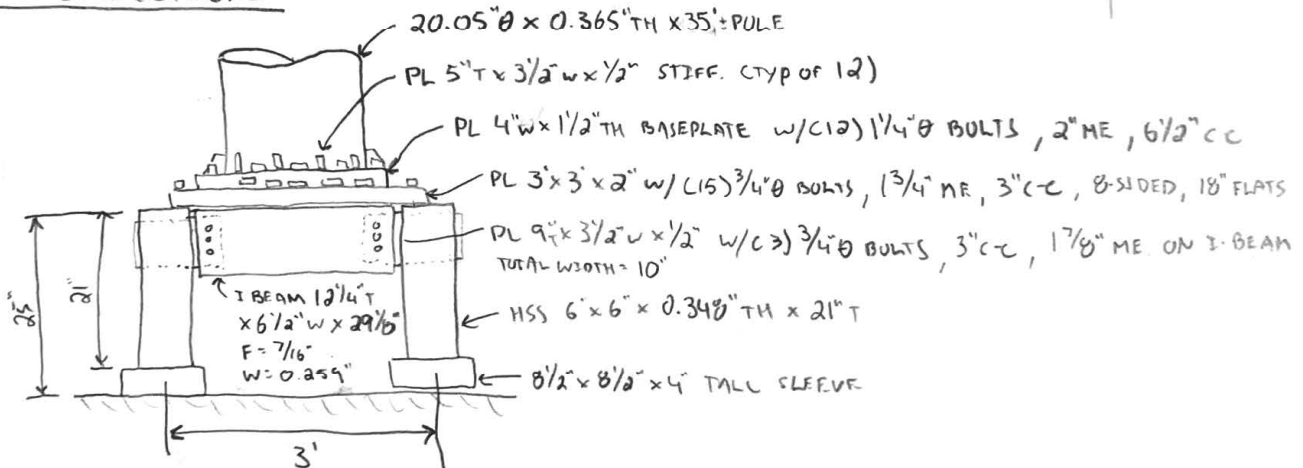


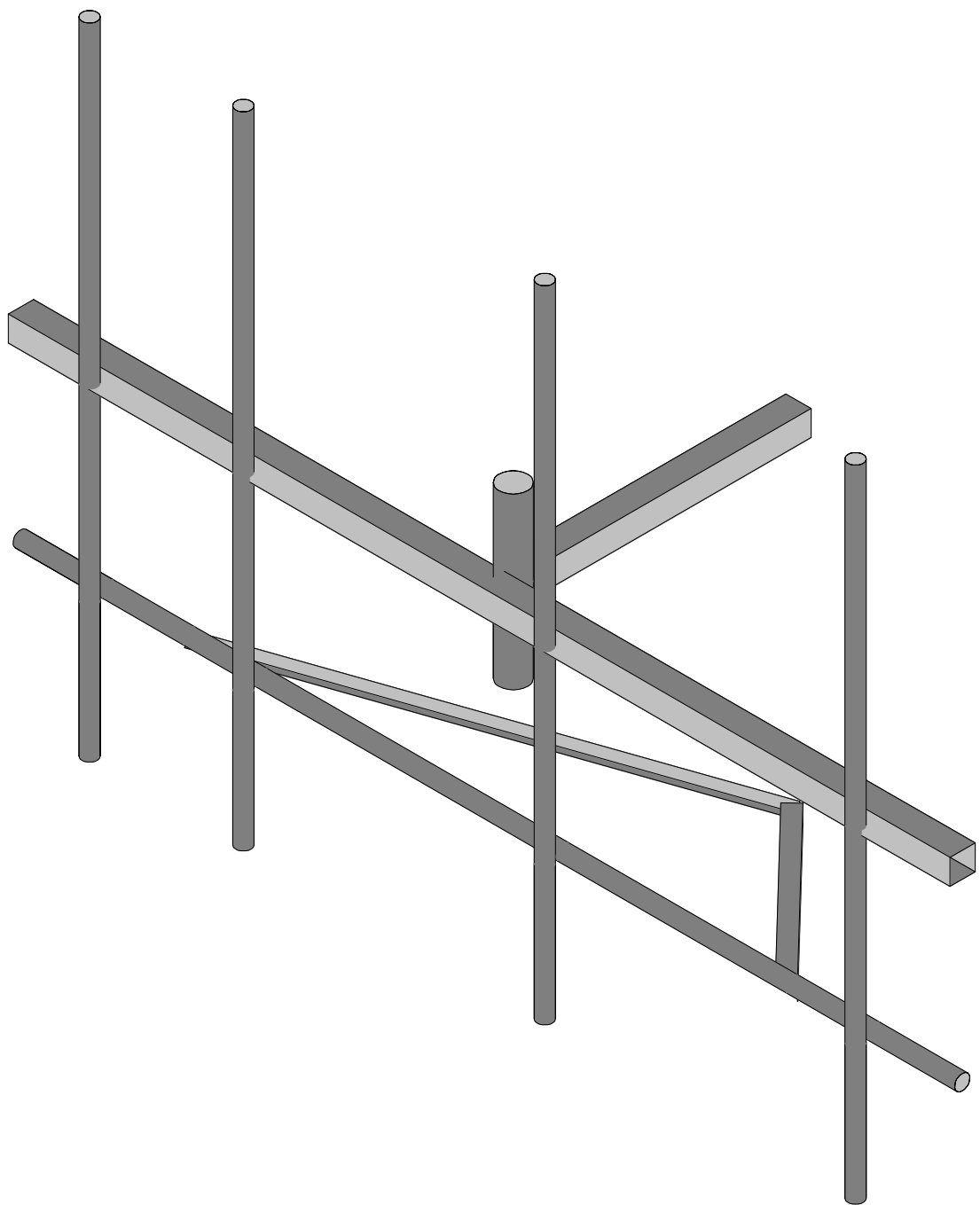
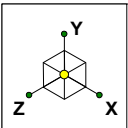
*
T/ROOF = 22'-3"

MILFORD SOUTH 4 CT

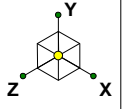


POLE CONNECTIONS

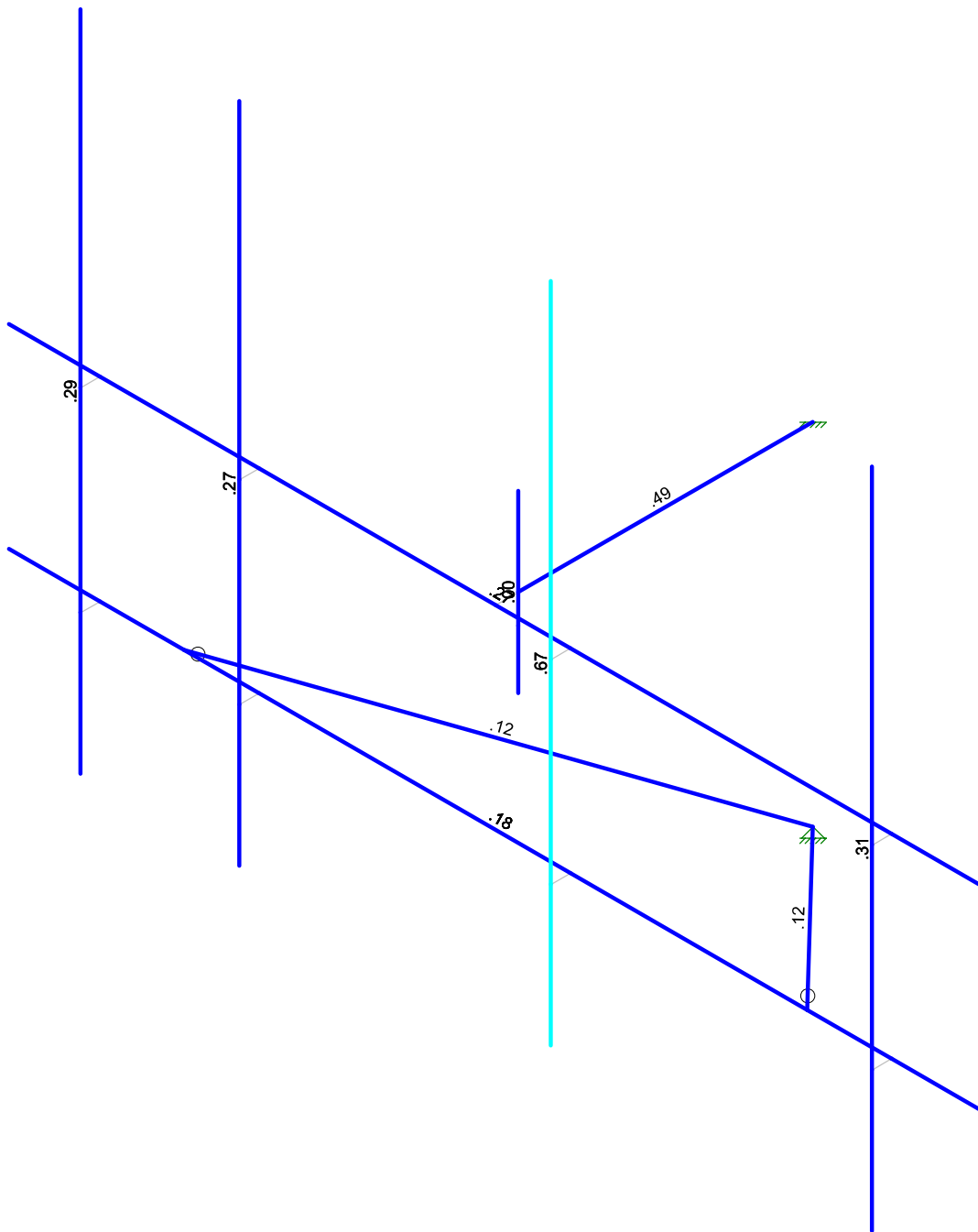
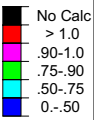




SK - 1
Dec 30, 2020 at 9:00 AM
468983-VZW_MT_LOT_A_H.r3d



Code Check
(Env)

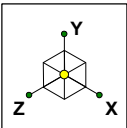


Member Code Checks Displayed (Enveloped)
Envelope Only Solution

SK - 2

Dec 29, 2020 at 5:24 PM

468983-VZW_MT_LOT_A_H - Mo...



Shear Check
(Env)

No Calc

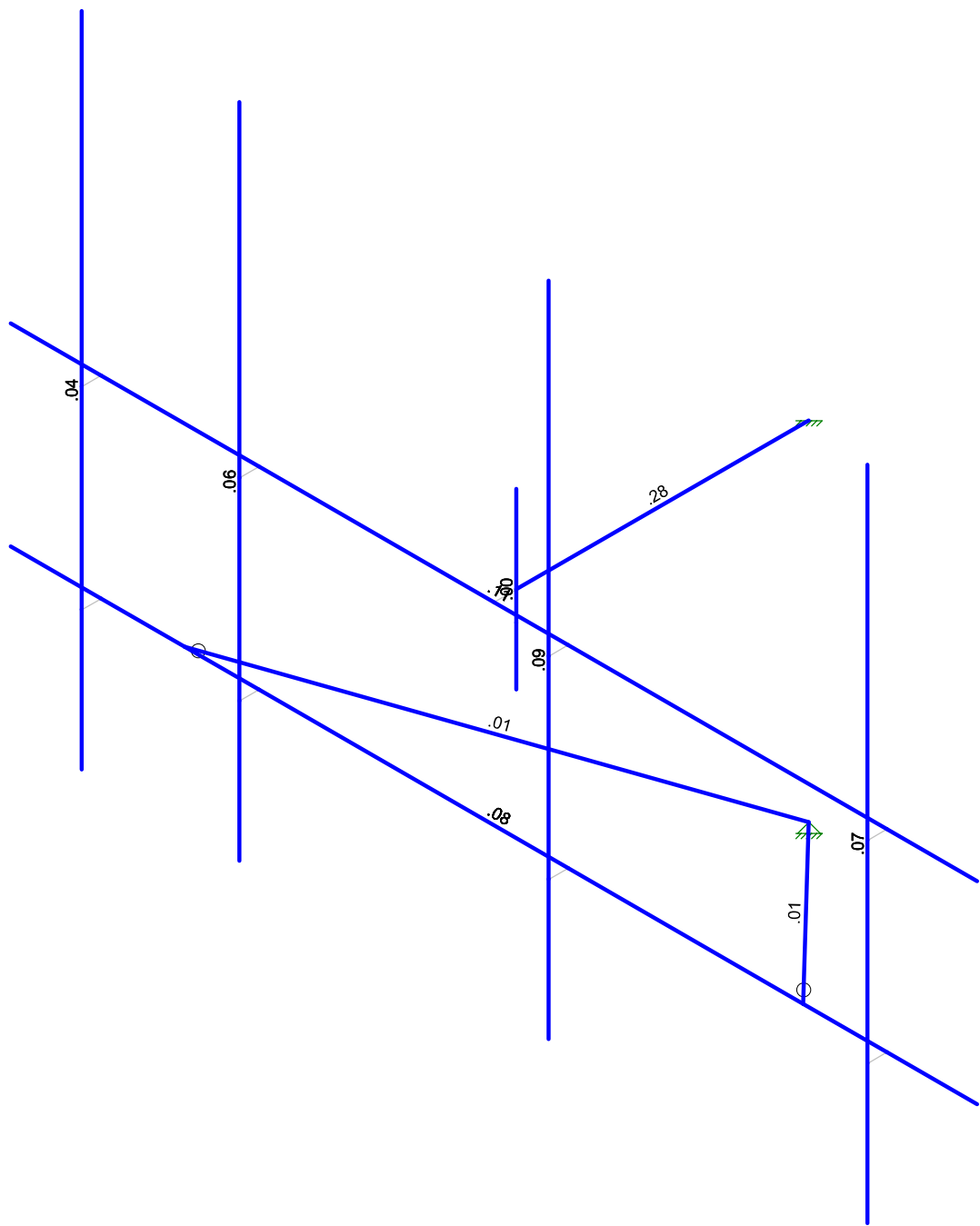
> 1.0

.90-1.0

.75-.90

.50-.75

0-.50

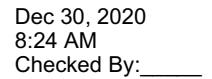


Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

		SK - 3
		Dec 29, 2020 at 5:24 PM
		468983-VZW_MT_LOT_A_H - Mo...

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 Deg)	None					39		
32	Antenna Wm (150 Deg)	None					39		
33	Antenna Wm (180 Deg)	None					39		
34	Antenna Wm (210 Deg)	None					39		
35	Antenna Wm (240 Deg)	None					39		
36	Antenna Wm (270 Deg)	None					39		
37	Antenna Wm (300 Deg)	None					39		
38	Antenna Wm (330 Deg)	None					39		
39	Structure D	None		-1					
40	Structure Di	None						10	
41	Structure Wo (0 Deg)	None						20	
42	Structure Wo (30 Deg)	None						20	
43	Structure Wo (60 Deg)	None						20	
44	Structure Wo (90 Deg)	None						20	
45	Structure Wo (120 D...	None						20	
46	Structure Wo (150 D...	None						20	
47	Structure Wo (180 D...	None						20	
48	Structure Wo (210 D...	None						20	
49	Structure Wo (240 D...	None						20	
50	Structure Wo (270 D...	None						20	
51	Structure Wo (300 D...	None						20	
52	Structure Wo (330 D...	None						20	
53	Structure Wi (0 Deg)	None						20	
54	Structure Wi (30 Deg)	None						20	
55	Structure Wi (60 Deg)	None						20	
56	Structure Wi (90 Deg)	None						20	



	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
57	Structure Wi (120 De...	None						20		
58	Structure Wi (150 De...	None						20		
59	Structure Wi (180 De...	None						20		
60	Structure Wi (210 De...	None						20		
61	Structure Wi (240 De...	None						20		
62	Structure Wi (270 De...	None						20		
63	Structure Wi (300 De...	None						20		
64	Structure Wi (330 De...	None						20		
65	Structure Wm (0 Deg)	None						20		
66	Structure Wm (30 De...	None						20		
67	Structure Wm (60 De...	None						20		
68	Structure Wm (90 De...	None						20		
69	Structure Wm (120 D...	None						20		
70	Structure Wm (150 D...	None						20		
71	Structure Wm (180 D...	None						20		
72	Structure Wm (210 D...	None						20		
73	Structure Wm (240 D...	None						20		
74	Structure Wm (270 D...	None						20		
75	Structure Wm (300 D...	None						20		
76	Structure Wm (330 D...	None						20		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
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				
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						

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
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	Seismic Mass		Y		1	1	39	1														
53	1.2D + 1.0Ev + 1.0Eh ...		Y		1	1.2	39	1.2	SX		SY	1	SZ	-1								
54	1.2D + 1.0Ev + 1.0Eh ...		Y		1	1.2	39	1.2	SX	.5	SY	1	SZ	-8...								
55	1.2D + 1.0Ev + 1.0Eh ...		Y		1	1.2	39	1.2	SX	.866	SY	1	SZ	-.5								
56	1.2D + 1.0Ev + 1.0Eh ...		Y		1	1.2	39	1.2	SX	1	SY	1	SZ									
57	1.2D + 1.0Ev + 1.0Eh ...		Y		1	1.2	39	1.2	SX	.866	SY	1	SZ	.5								
58	1.2D + 1.0Ev + 1.0Eh ...		Y		1	1.2	39	1.2	SX	.5	SY	1	SZ	.866								
59	1.2D + 1.0Ev + 1.0Eh ...		Y		1	1.2	39	1.2	SX		SY	1	SZ	1								
60	1.2D + 1.0Ev + 1.0Eh ...		Y		1	1.2	39	1.2	SX	-.5	SY	1	SZ	.866								
61	1.2D + 1.0Ev + 1.0Eh ...		Y		1	1.2	39	1.2	SX	-.8...	SY	1	SZ	.5								
62	1.2D + 1.0Ev + 1.0Eh ...		Y		1	1.2	39	1.2	SX	-1	SY	1	SZ									
63	1.2D + 1.0Ev + 1.0Eh ...		Y		1	1.2	39	1.2	SX	-.8...	SY	1	SZ	-.5								
64	1.2D + 1.0Ev + 1.0Eh ...		Y		1	1.2	39	1.2	SX	-.5	SY	1	SZ	-.8...								

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	
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	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
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	
25	N25	0	-4.5	-1.875	0	
26	N28	6.25	-2.5	2.197917	0	
27	N29	-6.25	-2.5	2.197917	0	
28	N30	5.083333	-2.5	2.197917	0	
29	N31	5.083333	-2.5	2.447917	0	
30	N32	-5.083333	-2.5	2.197917	0	
31	N33	-5.083333	-2.5	2.447917	0	
32	N34	-3.041667	-2.5	2.197917	0	
33	N35	-3.041667	-2.5	2.447917	0	
34	N36	0.958333	-2.5	2.197917	0	
35	N37	0.958333	-2.5	2.447917	0	
36	N38	4	-2.5	2.197917	0	
37	N39	-4	-2.5	2.197917	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Ru...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
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
5	Mod Standoff	HSS3X3X4	Beam	Tube	A500 Gr.46	Typical	2.44	3.02	3.02	5.08
6	Mod Horizontal	PIPE 2.0	Beam	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
7	MOD Kicker	L2.5x2.5x3	Beam	Single An...	A36 Gr.36	Typical	.901	.535	.535	.011

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (...)	Density[k/ft^3]	Yield[ksi]	Ry	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(de...	Section/Shape	Type	Design List	Material	Design Ru...
1	M1	N1	N2			Standoff Arm	Beam	Tube	A500 Gr....	Typical
2	M2	N4	N3			Standoff Pipe	Column	Pipe	A53 Gr. B	Typical
3	M4	N7	N6			Horizontal	Beam	Tube	A500 Gr....	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

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(de...	Section/Shape	Type	Design List	Material	Design Rul...
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
13	M14	N29	N28			Mod Horizontal	Beam	Pipe	A53 Gr. B	Typical
14	M15	N30	N31			RIGID	None	None	RIGID	Typical
15	M16	N32	N33			RIGID	None	None	RIGID	Typical
16	M18	N34	N35			RIGID	None	None	RIGID	Typical
17	M19	N36	N37			RIGID	None	None	RIGID	Typical
18	M20	N39	N25			MOD Kicker	Beam	Single Angle	A36 Gr.36	Typical
19	M21	N38	N25			MOD Kicker	Beam	Single Angle	A36 Gr.36	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1						Yes	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	OOOOXO					Yes	** NA **			None
9	MP3A						Yes	** NA **			None
10	M10B						Yes	** NA **			None
11	MP2A						Yes	** NA **			None
12	M12						Yes	** NA **			None
13	M14						Yes				None
14	M15						Yes	** NA **			None
15	M16						Yes	** NA **			None
16	M18						Yes	** NA **			None
17	M19						Yes	** NA **			None
18	M20	BenPIN					Yes	Default			None
19	M21	BenPIN					Yes	Default			None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	Y	-43.55	2.5
2	MP1A	My	-.022	2.5
3	MP1A	Mz	0	2.5
4	MP1A	Y	-43.55	4.5
5	MP1A	My	-.022	4.5
6	MP1A	Mz	0	4.5
7	MP2A	Y	-31.65	1
8	MP2A	My	-.016	1
9	MP2A	Mz	.021	1
10	MP2A	Y	-31.65	6
11	MP2A	My	-.016	6
12	MP2A	Mz	.021	6
13	MP2A	Y	-31.65	1
14	MP2A	My	-.016	1
15	MP2A	Mz	-.021	1
16	MP2A	Y	-31.65	6
17	MP2A	My	-.016	6
18	MP2A	Mz	-.021	6

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
19	MP2A	Y	-10.4	1
20	MP2A	My	.005	1
21	MP2A	Mz	0	1
22	MP2A	Y	-84.4	3
23	MP2A	My	.042	3
24	MP2A	Mz	0	3
25	MP2A	Y	-70.3	5
26	MP2A	My	.035	5
27	MP2A	Mz	0	5
28	MP4A	Y	-9.35	1
29	MP4A	My	-.005	1
30	MP4A	Mz	0	1
31	MP4A	Y	-9.35	6
32	MP4A	My	-.005	6
33	MP4A	Mz	0	6
34	M1	Y	-26.9	1.5
35	M1	My	0	1.5
36	M1	Mz	0	1.5
37	M1	Y	-26.9	1.5
38	M1	My	0	1.5
39	M1	Mz	0	1.5

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	Y	-32.538	2.5
2	MP1A	My	-.016	2.5
3	MP1A	Mz	0	2.5
4	MP1A	Y	-32.538	4.5
5	MP1A	My	-.016	4.5
6	MP1A	Mz	0	4.5
7	MP2A	Y	-64.006	1
8	MP2A	My	-.032	1
9	MP2A	Mz	.043	1
10	MP2A	Y	-64.006	6
11	MP2A	My	-.032	6
12	MP2A	Mz	.043	6
13	MP2A	Y	-64.006	1
14	MP2A	My	-.032	1
15	MP2A	Mz	-.043	1
16	MP2A	Y	-64.006	6
17	MP2A	My	-.032	6
18	MP2A	Mz	-.043	6
19	MP2A	Y	-9.695	1
20	MP2A	My	.005	1
21	MP2A	Mz	0	1
22	MP2A	Y	-40.971	3
23	MP2A	My	.02	3
24	MP2A	Mz	0	3
25	MP2A	Y	-36.822	5
26	MP2A	My	.018	5
27	MP2A	Mz	0	5
28	MP4A	Y	-31.281	1
29	MP4A	My	-.016	1
30	MP4A	Mz	0	1
31	MP4A	Y	-31.281	6
32	MP4A	My	-.016	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
33	MP4A	Mz	0	6
34	M1	Y	-50.499	1.5
35	M1	My	0	1.5
36	M1	Mz	0	1.5
37	M1	Y	-50.499	1.5
38	M1	My	0	1.5
39	M1	Mz	0	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	0	2.5
2	MP1A	Z	-84.492	2.5
3	MP1A	Mx	0	2.5
4	MP1A	X	0	4.5
5	MP1A	Z	-84.492	4.5
6	MP1A	Mx	0	4.5
7	MP2A	X	0	1
8	MP2A	Z	-163.772	1
9	MP2A	Mx	-.109	1
10	MP2A	X	0	6
11	MP2A	Z	-163.772	6
12	MP2A	Mx	-.109	6
13	MP2A	X	0	1
14	MP2A	Z	-163.772	1
15	MP2A	Mx	.109	1
16	MP2A	X	0	6
17	MP2A	Z	-163.772	6
18	MP2A	Mx	.109	6
19	MP2A	X	0	1
20	MP2A	Z	-13.303	1
21	MP2A	Mx	0	1
22	MP2A	X	0	3
23	MP2A	Z	-67.234	3
24	MP2A	Mx	0	3
25	MP2A	X	0	5
26	MP2A	Z	-67.234	5
27	MP2A	Mx	0	5
28	MP4A	X	0	1
29	MP4A	Z	-95.099	1
30	MP4A	Mx	0	1
31	MP4A	X	0	6
32	MP4A	Z	-95.099	6
33	MP4A	Mx	0	6
34	M1	X	0	1.5
35	M1	Z	-88.935	1.5
36	M1	Mx	0	1.5
37	M1	X	0	1.5
38	M1	Z	-88.935	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	35.819	2.5
2	MP1A	Z	-62.041	2.5
3	MP1A	Mx	-.018	2.5
4	MP1A	X	35.819	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
5	MP1A	Z	-62.041	4.5
6	MP1A	Mx	-.018	4.5
7	MP2A	X	74.86	1
8	MP2A	Z	-129.661	1
9	MP2A	Mx	-.124	1
10	MP2A	X	74.86	6
11	MP2A	Z	-129.661	6
12	MP2A	Mx	-.124	6
13	MP2A	X	74.86	1
14	MP2A	Z	-129.661	1
15	MP2A	Mx	.049	1
16	MP2A	X	74.86	6
17	MP2A	Z	-129.661	6
18	MP2A	Mx	.049	6
19	MP2A	X	6.139	1
20	MP2A	Z	-10.633	1
21	MP2A	Mx	.003	1
22	MP2A	X	30.831	3
23	MP2A	Z	-53.4	3
24	MP2A	Mx	.015	3
25	MP2A	X	29.763	5
26	MP2A	Z	-51.552	5
27	MP2A	Mx	.015	5
28	MP4A	X	43.08	1
29	MP4A	Z	-74.617	1
30	MP4A	Mx	-.022	1
31	MP4A	X	43.08	6
32	MP4A	Z	-74.617	6
33	MP4A	Mx	-.022	6
34	M1	X	38.432	1.5
35	M1	Z	-66.567	1.5
36	M1	Mx	0	1.5
37	M1	X	38.432	1.5
38	M1	Z	-66.567	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	39.778	2.5
2	MP1A	Z	-22.966	2.5
3	MP1A	Mx	-.02	2.5
4	MP1A	X	39.778	4.5
5	MP1A	Z	-22.966	4.5
6	MP1A	Mx	-.02	4.5
7	MP2A	X	105.322	1
8	MP2A	Z	-60.808	1
9	MP2A	Mx	-.093	1
10	MP2A	X	105.322	6
11	MP2A	Z	-60.808	6
12	MP2A	Mx	-.093	6
13	MP2A	X	105.322	1
14	MP2A	Z	-60.808	1
15	MP2A	Mx	-.012	1
16	MP2A	X	105.322	6
17	MP2A	Z	-60.808	6
18	MP2A	Mx	-.012	6

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
19	MP2A	X	8.859	1
20	MP2A	Z	-5.114	1
21	MP2A	Mx	.004	1
22	MP2A	X	43.748	3
23	MP2A	Z	-25.258	3
24	MP2A	Mx	.022	3
25	MP2A	X	38.202	5
26	MP2A	Z	-22.056	5
27	MP2A	Mx	.019	5
28	MP4A	X	59.135	1
29	MP4A	Z	-34.142	1
30	MP4A	Mx	-.03	1
31	MP4A	X	59.135	6
32	MP4A	Z	-34.142	6
33	MP4A	Mx	-.03	6
34	M1	X	53.744	1.5
35	M1	Z	-31.029	1.5
36	M1	Mx	0	1.5
37	M1	X	53.744	1.5
38	M1	Z	-31.029	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	33.079	2.5
2	MP1A	Z	0	2.5
3	MP1A	Mx	-.017	2.5
4	MP1A	X	33.079	4.5
5	MP1A	Z	0	4.5
6	MP1A	Mx	-.017	4.5
7	MP2A	X	107.563	1
8	MP2A	Z	0	1
9	MP2A	Mx	-.054	1
10	MP2A	X	107.563	6
11	MP2A	Z	0	6
12	MP2A	Mx	-.054	6
13	MP2A	X	107.563	1
14	MP2A	Z	0	1
15	MP2A	Mx	-.054	1
16	MP2A	X	107.563	6
17	MP2A	Z	0	6
18	MP2A	Mx	-.054	6
19	MP2A	X	9.204	1
20	MP2A	Z	0	1
21	MP2A	Mx	.005	1
22	MP2A	X	44.943	3
23	MP2A	Z	0	3
24	MP2A	Mx	.022	3
25	MP2A	X	36.404	5
26	MP2A	Z	0	5
27	MP2A	Mx	.018	5
28	MP4A	X	59.345	1
29	MP4A	Z	0	1
30	MP4A	Mx	-.03	1
31	MP4A	X	59.345	6
32	MP4A	Z	0	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
33	MP4A	Mx	-.03	6
34	M1	X	59.322	1.5
35	M1	Z	0	1.5
36	M1	Mx	0	1.5
37	M1	X	59.322	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	MP1A	X	39.778	2.5
2	MP1A	Z	22.966	2.5
3	MP1A	Mx	-.02	2.5
4	MP1A	X	39.778	4.5
5	MP1A	Z	22.966	4.5
6	MP1A	Mx	-.02	4.5
7	MP2A	X	105.322	1
8	MP2A	Z	60.808	1
9	MP2A	Mx	-.012	1
10	MP2A	X	105.322	6
11	MP2A	Z	60.808	6
12	MP2A	Mx	-.012	6
13	MP2A	X	105.322	1
14	MP2A	Z	60.808	1
15	MP2A	Mx	-.093	1
16	MP2A	X	105.322	6
17	MP2A	Z	60.808	6
18	MP2A	Mx	-.093	6
19	MP2A	X	8.859	1
20	MP2A	Z	5.114	1
21	MP2A	Mx	.004	1
22	MP2A	X	43.748	3
23	MP2A	Z	25.258	3
24	MP2A	Mx	.022	3
25	MP2A	X	38.202	5
26	MP2A	Z	22.056	5
27	MP2A	Mx	.019	5
28	MP4A	X	59.135	1
29	MP4A	Z	34.142	1
30	MP4A	Mx	-.03	1
31	MP4A	X	59.135	6
32	MP4A	Z	34.142	6
33	MP4A	Mx	-.03	6
34	M1	X	61.828	1.5
35	M1	Z	35.696	1.5
36	M1	Mx	0	1.5
37	M1	X	61.828	1.5
38	M1	Z	35.696	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	35.819	2.5
2	MP1A	Z	62.041	2.5
3	MP1A	Mx	-.018	2.5
4	MP1A	X	35.819	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
5	MP1A	Z	62.041	4.5
6	MP1A	Mx	-.018	4.5
7	MP2A	X	74.86	1
8	MP2A	Z	129.661	1
9	MP2A	Mx	.049	1
10	MP2A	X	74.86	6
11	MP2A	Z	129.661	6
12	MP2A	Mx	.049	6
13	MP2A	X	74.86	1
14	MP2A	Z	129.661	1
15	MP2A	Mx	-.124	1
16	MP2A	X	74.86	6
17	MP2A	Z	129.661	6
18	MP2A	Mx	-.124	6
19	MP2A	X	6.139	1
20	MP2A	Z	10.633	1
21	MP2A	Mx	.003	1
22	MP2A	X	30.831	3
23	MP2A	Z	53.4	3
24	MP2A	Mx	.015	3
25	MP2A	X	29.763	5
26	MP2A	Z	51.552	5
27	MP2A	Mx	.015	5
28	MP4A	X	43.08	1
29	MP4A	Z	74.617	1
30	MP4A	Mx	-.022	1
31	MP4A	X	43.08	6
32	MP4A	Z	74.617	6
33	MP4A	Mx	-.022	6
34	M1	X	43.1	1.5
35	M1	Z	74.651	1.5
36	M1	Mx	0	1.5
37	M1	X	43.1	1.5
38	M1	Z	74.651	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	0	2.5
2	MP1A	Z	84.492	2.5
3	MP1A	Mx	0	2.5
4	MP1A	X	0	4.5
5	MP1A	Z	84.492	4.5
6	MP1A	Mx	0	4.5
7	MP2A	X	0	1
8	MP2A	Z	163.772	1
9	MP2A	Mx	.109	1
10	MP2A	X	0	6
11	MP2A	Z	163.772	6
12	MP2A	Mx	.109	6
13	MP2A	X	0	1
14	MP2A	Z	163.772	1
15	MP2A	Mx	-.109	1
16	MP2A	X	0	6
17	MP2A	Z	163.772	6
18	MP2A	Mx	-.109	6

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
19	MP2A	X	0	1
20	MP2A	Z	13.303	1
21	MP2A	Mx	0	1
22	MP2A	X	0	3
23	MP2A	Z	67.234	3
24	MP2A	Mx	0	3
25	MP2A	X	0	5
26	MP2A	Z	67.234	5
27	MP2A	Mx	0	5
28	MP4A	X	0	1
29	MP4A	Z	95.099	1
30	MP4A	Mx	0	1
31	MP4A	X	0	6
32	MP4A	Z	95.099	6
33	MP4A	Mx	0	6
34	M1	X	0	1.5
35	M1	Z	88.935	1.5
36	M1	Mx	0	1.5
37	M1	X	0	1.5
38	M1	Z	88.935	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-35.819	2.5
2	MP1A	Z	62.041	2.5
3	MP1A	Mx	.018	2.5
4	MP1A	X	-35.819	4.5
5	MP1A	Z	62.041	4.5
6	MP1A	Mx	.018	4.5
7	MP2A	X	-74.86	1
8	MP2A	Z	129.661	1
9	MP2A	Mx	.124	1
10	MP2A	X	-74.86	6
11	MP2A	Z	129.661	6
12	MP2A	Mx	.124	6
13	MP2A	X	-74.86	1
14	MP2A	Z	129.661	1
15	MP2A	Mx	-.049	1
16	MP2A	X	-74.86	6
17	MP2A	Z	129.661	6
18	MP2A	Mx	-.049	6
19	MP2A	X	-6.139	1
20	MP2A	Z	10.633	1
21	MP2A	Mx	-.003	1
22	MP2A	X	-30.831	3
23	MP2A	Z	53.4	3
24	MP2A	Mx	-.015	3
25	MP2A	X	-29.763	5
26	MP2A	Z	51.552	5
27	MP2A	Mx	-.015	5
28	MP4A	X	-43.08	1
29	MP4A	Z	74.617	1
30	MP4A	Mx	.022	1
31	MP4A	X	-43.08	6
32	MP4A	Z	74.617	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
33	MP4A	Mx	.022	6
34	M1	X	-38.432	1.5
35	M1	Z	66.567	1.5
36	M1	Mx	0	1.5
37	M1	X	-38.432	1.5
38	M1	Z	66.567	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-39.778	2.5
2	MP1A	Z	22.966	2.5
3	MP1A	Mx	.02	2.5
4	MP1A	X	-39.778	4.5
5	MP1A	Z	22.966	4.5
6	MP1A	Mx	.02	4.5
7	MP2A	X	-105.322	1
8	MP2A	Z	60.808	1
9	MP2A	Mx	.093	1
10	MP2A	X	-105.322	6
11	MP2A	Z	60.808	6
12	MP2A	Mx	.093	6
13	MP2A	X	-105.322	1
14	MP2A	Z	60.808	1
15	MP2A	Mx	.012	1
16	MP2A	X	-105.322	6
17	MP2A	Z	60.808	6
18	MP2A	Mx	.012	6
19	MP2A	X	-8.859	1
20	MP2A	Z	5.114	1
21	MP2A	Mx	-.004	1
22	MP2A	X	-43.748	3
23	MP2A	Z	25.258	3
24	MP2A	Mx	-.022	3
25	MP2A	X	-38.202	5
26	MP2A	Z	22.056	5
27	MP2A	Mx	-.019	5
28	MP4A	X	-59.135	1
29	MP4A	Z	34.142	1
30	MP4A	Mx	.03	1
31	MP4A	X	-59.135	6
32	MP4A	Z	34.142	6
33	MP4A	Mx	.03	6
34	M1	X	-53.744	1.5
35	M1	Z	31.029	1.5
36	M1	Mx	0	1.5
37	M1	X	-53.744	1.5
38	M1	Z	31.029	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-33.079	2.5
2	MP1A	Z	0	2.5
3	MP1A	Mx	.017	2.5
4	MP1A	X	-33.079	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
5	MP1A	Z	0	4.5
6	MP1A	Mx	.017	4.5
7	MP2A	X	-107.563	1
8	MP2A	Z	0	1
9	MP2A	Mx	.054	1
10	MP2A	X	-107.563	6
11	MP2A	Z	0	6
12	MP2A	Mx	.054	6
13	MP2A	X	-107.563	1
14	MP2A	Z	0	1
15	MP2A	Mx	.054	1
16	MP2A	X	-107.563	6
17	MP2A	Z	0	6
18	MP2A	Mx	.054	6
19	MP2A	X	-9.204	1
20	MP2A	Z	0	1
21	MP2A	Mx	-.005	1
22	MP2A	X	-44.943	3
23	MP2A	Z	0	3
24	MP2A	Mx	-.022	3
25	MP2A	X	-36.404	5
26	MP2A	Z	0	5
27	MP2A	Mx	-.018	5
28	MP4A	X	-59.345	1
29	MP4A	Z	0	1
30	MP4A	Mx	.03	1
31	MP4A	X	-59.345	6
32	MP4A	Z	0	6
33	MP4A	Mx	.03	6
34	M1	X	-59.322	1.5
35	M1	Z	0	1.5
36	M1	Mx	0	1.5
37	M1	X	-59.322	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	MP1A	X	-39.778	2.5
2	MP1A	Z	-22.966	2.5
3	MP1A	Mx	.02	2.5
4	MP1A	X	-39.778	4.5
5	MP1A	Z	-22.966	4.5
6	MP1A	Mx	.02	4.5
7	MP2A	X	-105.322	1
8	MP2A	Z	-60.808	1
9	MP2A	Mx	.012	1
10	MP2A	X	-105.322	6
11	MP2A	Z	-60.808	6
12	MP2A	Mx	.012	6
13	MP2A	X	-105.322	1
14	MP2A	Z	-60.808	1
15	MP2A	Mx	.093	1
16	MP2A	X	-105.322	6
17	MP2A	Z	-60.808	6
18	MP2A	Mx	.093	6

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
19	MP2A	X	-8.859	1
20	MP2A	Z	-5.114	1
21	MP2A	Mx	-.004	1
22	MP2A	X	-43.748	3
23	MP2A	Z	-25.258	3
24	MP2A	Mx	-.022	3
25	MP2A	X	-38.202	5
26	MP2A	Z	-22.056	5
27	MP2A	Mx	-.019	5
28	MP4A	X	-59.135	1
29	MP4A	Z	-34.142	1
30	MP4A	Mx	.03	1
31	MP4A	X	-59.135	6
32	MP4A	Z	-34.142	6
33	MP4A	Mx	.03	6
34	M1	X	-61.828	1.5
35	M1	Z	-35.696	1.5
36	M1	Mx	0	1.5
37	M1	X	-61.828	1.5
38	M1	Z	-35.696	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-35.819	2.5
2	MP1A	Z	-62.041	2.5
3	MP1A	Mx	.018	2.5
4	MP1A	X	-35.819	4.5
5	MP1A	Z	-62.041	4.5
6	MP1A	Mx	.018	4.5
7	MP2A	X	-74.86	1
8	MP2A	Z	-129.661	1
9	MP2A	Mx	-.049	1
10	MP2A	X	-74.86	6
11	MP2A	Z	-129.661	6
12	MP2A	Mx	-.049	6
13	MP2A	X	-74.86	1
14	MP2A	Z	-129.661	1
15	MP2A	Mx	.124	1
16	MP2A	X	-74.86	6
17	MP2A	Z	-129.661	6
18	MP2A	Mx	.124	6
19	MP2A	X	-6.139	1
20	MP2A	Z	-10.633	1
21	MP2A	Mx	-.003	1
22	MP2A	X	-30.831	3
23	MP2A	Z	-53.4	3
24	MP2A	Mx	-.015	3
25	MP2A	X	-29.763	5
26	MP2A	Z	-51.552	5
27	MP2A	Mx	-.015	5
28	MP4A	X	-43.08	1
29	MP4A	Z	-74.617	1
30	MP4A	Mx	.022	1
31	MP4A	X	-43.08	6
32	MP4A	Z	-74.617	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
33	MP4A	Mx	.022	6
34	M1	X	-43.1	1.5
35	M1	Z	-74.651	1.5
36	M1	Mx	0	1.5
37	M1	X	-43.1	1.5
38	M1	Z	-74.651	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	0	2.5
2	MP1A	Z	-16.419	2.5
3	MP1A	Mx	0	2.5
4	MP1A	X	0	4.5
5	MP1A	Z	-16.419	4.5
6	MP1A	Mx	0	4.5
7	MP2A	X	0	1
8	MP2A	Z	-30.936	1
9	MP2A	Mx	-.021	1
10	MP2A	X	0	6
11	MP2A	Z	-30.936	6
12	MP2A	Mx	-.021	6
13	MP2A	X	0	1
14	MP2A	Z	-30.936	1
15	MP2A	Mx	.021	1
16	MP2A	X	0	6
17	MP2A	Z	-30.936	6
18	MP2A	Mx	.021	6
19	MP2A	X	0	1
20	MP2A	Z	-3.293	1
21	MP2A	Mx	0	1
22	MP2A	X	0	3
23	MP2A	Z	-13.778	3
24	MP2A	Mx	0	3
25	MP2A	X	0	5
26	MP2A	Z	-13.778	5
27	MP2A	Mx	0	5
28	MP4A	X	0	1
29	MP4A	Z	-18.893	1
30	MP4A	Mx	0	1
31	MP4A	X	0	6
32	MP4A	Z	-18.893	6
33	MP4A	Mx	0	6
34	M1	X	0	1.5
35	M1	Z	-17.807	1.5
36	M1	Mx	0	1.5
37	M1	X	0	1.5
38	M1	Z	-17.807	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	7.026	2.5
2	MP1A	Z	-12.169	2.5
3	MP1A	Mx	-.004	2.5
4	MP1A	X	7.026	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
5	MP1A	Z	-12.169	4.5
6	MP1A	Mx	-.004	4.5
7	MP2A	X	14.231	1
8	MP2A	Z	-24.649	1
9	MP2A	Mx	-.024	1
10	MP2A	X	14.231	6
11	MP2A	Z	-24.649	6
12	MP2A	Mx	-.024	6
13	MP2A	X	14.231	1
14	MP2A	Z	-24.649	1
15	MP2A	Mx	.009	1
16	MP2A	X	14.231	6
17	MP2A	Z	-24.649	6
18	MP2A	Mx	.009	6
19	MP2A	X	1.542	1
20	MP2A	Z	-2.671	1
21	MP2A	Mx	.000771	1
22	MP2A	X	6.361	3
23	MP2A	Z	-11.018	3
24	MP2A	Mx	.003	3
25	MP2A	X	6.16	5
26	MP2A	Z	-10.67	5
27	MP2A	Mx	.003	5
28	MP4A	X	8.627	1
29	MP4A	Z	-14.943	1
30	MP4A	Mx	-.004	1
31	MP4A	X	8.627	6
32	MP4A	Z	-14.943	6
33	MP4A	Mx	-.004	6
34	M1	X	7.789	1.5
35	M1	Z	-13.491	1.5
36	M1	Mx	0	1.5
37	M1	X	7.789	1.5
38	M1	Z	-13.491	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	8.067	2.5
2	MP1A	Z	-4.658	2.5
3	MP1A	Mx	-.004	2.5
4	MP1A	X	8.067	4.5
5	MP1A	Z	-4.658	4.5
6	MP1A	Mx	-.004	4.5
7	MP2A	X	20.365	1
8	MP2A	Z	-11.758	1
9	MP2A	Mx	-.018	1
10	MP2A	X	20.365	6
11	MP2A	Z	-11.758	6
12	MP2A	Mx	-.018	6
13	MP2A	X	20.365	1
14	MP2A	Z	-11.758	1
15	MP2A	Mx	-.002	1
16	MP2A	X	20.365	6
17	MP2A	Z	-11.758	6
18	MP2A	Mx	-.002	6

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
19	MP2A	X	2.31	1
20	MP2A	Z	-1.334	1
21	MP2A	Mx	.001	1
22	MP2A	X	9.188	3
23	MP2A	Z	-5.305	3
24	MP2A	Mx	.005	3
25	MP2A	X	8.146	5
26	MP2A	Z	-4.703	5
27	MP2A	Mx	.004	5
28	MP4A	X	12.105	1
29	MP4A	Z	-6.989	1
30	MP4A	Mx	-.006	1
31	MP4A	X	12.105	6
32	MP4A	Z	-6.989	6
33	MP4A	Mx	-.006	6
34	M1	X	11.123	1.5
35	M1	Z	-6.422	1.5
36	M1	Mx	0	1.5
37	M1	X	11.123	1.5
38	M1	Z	-6.422	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	6.947	2.5
2	MP1A	Z	0	2.5
3	MP1A	Mx	-.003	2.5
4	MP1A	X	6.947	4.5
5	MP1A	Z	0	4.5
6	MP1A	Mx	-.003	4.5
7	MP2A	X	21.043	1
8	MP2A	Z	0	1
9	MP2A	Mx	-.011	1
10	MP2A	X	21.043	6
11	MP2A	Z	0	6
12	MP2A	Mx	-.011	6
13	MP2A	X	21.043	1
14	MP2A	Z	0	1
15	MP2A	Mx	-.011	1
16	MP2A	X	21.043	6
17	MP2A	Z	0	6
18	MP2A	Mx	-.011	6
19	MP2A	X	2.458	1
20	MP2A	Z	0	1
21	MP2A	Mx	.001	1
22	MP2A	X	9.554	3
23	MP2A	Z	0	3
24	MP2A	Mx	.005	3
25	MP2A	X	7.949	5
26	MP2A	Z	0	5
27	MP2A	Mx	.004	5
28	MP4A	X	12.34	1
29	MP4A	Z	0	1
30	MP4A	Mx	-.006	1
31	MP4A	X	12.34	6
32	MP4A	Z	0	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
33	MP4A	Mx	-.006	6
34	M1	X	12.338	1.5
35	M1	Z	0	1.5
36	M1	Mx	0	1.5
37	M1	X	12.338	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	MP1A	X	8.067	2.5
2	MP1A	Z	4.658	2.5
3	MP1A	Mx	-.004	2.5
4	MP1A	X	8.067	4.5
5	MP1A	Z	4.658	4.5
6	MP1A	Mx	-.004	4.5
7	MP2A	X	20.365	1
8	MP2A	Z	11.758	1
9	MP2A	Mx	-.002	1
10	MP2A	X	20.365	6
11	MP2A	Z	11.758	6
12	MP2A	Mx	-.002	6
13	MP2A	X	20.365	1
14	MP2A	Z	11.758	1
15	MP2A	Mx	-.018	1
16	MP2A	X	20.365	6
17	MP2A	Z	11.758	6
18	MP2A	Mx	-.018	6
19	MP2A	X	2.31	1
20	MP2A	Z	1.334	1
21	MP2A	Mx	.001	1
22	MP2A	X	9.188	3
23	MP2A	Z	5.305	3
24	MP2A	Mx	.005	3
25	MP2A	X	8.146	5
26	MP2A	Z	4.703	5
27	MP2A	Mx	.004	5
28	MP4A	X	12.105	1
29	MP4A	Z	6.989	1
30	MP4A	Mx	-.006	1
31	MP4A	X	12.105	6
32	MP4A	Z	6.989	6
33	MP4A	Mx	-.006	6
34	M1	X	12.616	1.5
35	M1	Z	7.284	1.5
36	M1	Mx	0	1.5
37	M1	X	12.616	1.5
38	M1	Z	7.284	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	7.026	2.5
2	MP1A	Z	12.169	2.5
3	MP1A	Mx	-.004	2.5
4	MP1A	X	7.026	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
5	MP1A	Z	12.169	4.5
6	MP1A	Mx	-.004	4.5
7	MP2A	X	14.231	1
8	MP2A	Z	24.649	1
9	MP2A	Mx	.009	1
10	MP2A	X	14.231	6
11	MP2A	Z	24.649	6
12	MP2A	Mx	.009	6
13	MP2A	X	14.231	1
14	MP2A	Z	24.649	1
15	MP2A	Mx	-.024	1
16	MP2A	X	14.231	6
17	MP2A	Z	24.649	6
18	MP2A	Mx	-.024	6
19	MP2A	X	1.542	1
20	MP2A	Z	2.671	1
21	MP2A	Mx	.000771	1
22	MP2A	X	6.361	3
23	MP2A	Z	11.018	3
24	MP2A	Mx	.003	3
25	MP2A	X	6.16	5
26	MP2A	Z	10.67	5
27	MP2A	Mx	.003	5
28	MP4A	X	8.627	1
29	MP4A	Z	14.943	1
30	MP4A	Mx	-.004	1
31	MP4A	X	8.627	6
32	MP4A	Z	14.943	6
33	MP4A	Mx	-.004	6
34	M1	X	8.651	1.5
35	M1	Z	14.984	1.5
36	M1	Mx	0	1.5
37	M1	X	8.651	1.5
38	M1	Z	14.984	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	0	2.5
2	MP1A	Z	16.419	2.5
3	MP1A	Mx	0	2.5
4	MP1A	X	0	4.5
5	MP1A	Z	16.419	4.5
6	MP1A	Mx	0	4.5
7	MP2A	X	0	1
8	MP2A	Z	30.936	1
9	MP2A	Mx	.021	1
10	MP2A	X	0	6
11	MP2A	Z	30.936	6
12	MP2A	Mx	.021	6
13	MP2A	X	0	1
14	MP2A	Z	30.936	1
15	MP2A	Mx	-.021	1
16	MP2A	X	0	6
17	MP2A	Z	30.936	6
18	MP2A	Mx	-.021	6

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
19	MP2A	X	0	1
20	MP2A	Z	3.293	1
21	MP2A	Mx	0	1
22	MP2A	X	0	3
23	MP2A	Z	13.778	3
24	MP2A	Mx	0	3
25	MP2A	X	0	5
26	MP2A	Z	13.778	5
27	MP2A	Mx	0	5
28	MP4A	X	0	1
29	MP4A	Z	18.893	1
30	MP4A	Mx	0	1
31	MP4A	X	0	6
32	MP4A	Z	18.893	6
33	MP4A	Mx	0	6
34	M1	X	0	1.5
35	M1	Z	17.807	1.5
36	M1	Mx	0	1.5
37	M1	X	0	1.5
38	M1	Z	17.807	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-7.026	2.5
2	MP1A	Z	12.169	2.5
3	MP1A	Mx	.004	2.5
4	MP1A	X	-7.026	4.5
5	MP1A	Z	12.169	4.5
6	MP1A	Mx	.004	4.5
7	MP2A	X	-14.231	1
8	MP2A	Z	24.649	1
9	MP2A	Mx	.024	1
10	MP2A	X	-14.231	6
11	MP2A	Z	24.649	6
12	MP2A	Mx	.024	6
13	MP2A	X	-14.231	1
14	MP2A	Z	24.649	1
15	MP2A	Mx	-.009	1
16	MP2A	X	-14.231	6
17	MP2A	Z	24.649	6
18	MP2A	Mx	-.009	6
19	MP2A	X	-1.542	1
20	MP2A	Z	2.671	1
21	MP2A	Mx	-.000771	1
22	MP2A	X	-6.361	3
23	MP2A	Z	11.018	3
24	MP2A	Mx	-.003	3
25	MP2A	X	-6.16	5
26	MP2A	Z	10.67	5
27	MP2A	Mx	-.003	5
28	MP4A	X	-8.627	1
29	MP4A	Z	14.943	1
30	MP4A	Mx	.004	1
31	MP4A	X	-8.627	6
32	MP4A	Z	14.943	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
33	MP4A	Mx	.004	6
34	M1	X	-7.789	1.5
35	M1	Z	13.491	1.5
36	M1	Mx	0	1.5
37	M1	X	-7.789	1.5
38	M1	Z	13.491	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-8.067	2.5
2	MP1A	Z	4.658	2.5
3	MP1A	Mx	.004	2.5
4	MP1A	X	-8.067	4.5
5	MP1A	Z	4.658	4.5
6	MP1A	Mx	.004	4.5
7	MP2A	X	-20.365	1
8	MP2A	Z	11.758	1
9	MP2A	Mx	.018	1
10	MP2A	X	-20.365	6
11	MP2A	Z	11.758	6
12	MP2A	Mx	.018	6
13	MP2A	X	-20.365	1
14	MP2A	Z	11.758	1
15	MP2A	Mx	.002	1
16	MP2A	X	-20.365	6
17	MP2A	Z	11.758	6
18	MP2A	Mx	.002	6
19	MP2A	X	-2.31	1
20	MP2A	Z	1.334	1
21	MP2A	Mx	-.001	1
22	MP2A	X	-9.188	3
23	MP2A	Z	5.305	3
24	MP2A	Mx	-.005	3
25	MP2A	X	-8.146	5
26	MP2A	Z	4.703	5
27	MP2A	Mx	-.004	5
28	MP4A	X	-12.105	1
29	MP4A	Z	6.989	1
30	MP4A	Mx	.006	1
31	MP4A	X	-12.105	6
32	MP4A	Z	6.989	6
33	MP4A	Mx	.006	6
34	M1	X	-11.123	1.5
35	M1	Z	6.422	1.5
36	M1	Mx	0	1.5
37	M1	X	-11.123	1.5
38	M1	Z	6.422	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-6.947	2.5
2	MP1A	Z	0	2.5
3	MP1A	Mx	.003	2.5
4	MP1A	X	-6.947	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
5	MP1A	Z	0	4.5
6	MP1A	Mx	.003	4.5
7	MP2A	X	-21.043	1
8	MP2A	Z	0	1
9	MP2A	Mx	.011	1
10	MP2A	X	-21.043	6
11	MP2A	Z	0	6
12	MP2A	Mx	.011	6
13	MP2A	X	-21.043	1
14	MP2A	Z	0	1
15	MP2A	Mx	.011	1
16	MP2A	X	-21.043	6
17	MP2A	Z	0	6
18	MP2A	Mx	.011	6
19	MP2A	X	-2.458	1
20	MP2A	Z	0	1
21	MP2A	Mx	-.001	1
22	MP2A	X	-9.554	3
23	MP2A	Z	0	3
24	MP2A	Mx	-.005	3
25	MP2A	X	-7.949	5
26	MP2A	Z	0	5
27	MP2A	Mx	-.004	5
28	MP4A	X	-12.34	1
29	MP4A	Z	0	1
30	MP4A	Mx	.006	1
31	MP4A	X	-12.34	6
32	MP4A	Z	0	6
33	MP4A	Mx	.006	6
34	M1	X	-12.338	1.5
35	M1	Z	0	1.5
36	M1	Mx	0	1.5
37	M1	X	-12.338	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	MP1A	X	-8.067	2.5
2	MP1A	Z	-4.658	2.5
3	MP1A	Mx	.004	2.5
4	MP1A	X	-8.067	4.5
5	MP1A	Z	-4.658	4.5
6	MP1A	Mx	.004	4.5
7	MP2A	X	-20.365	1
8	MP2A	Z	-11.758	1
9	MP2A	Mx	.002	1
10	MP2A	X	-20.365	6
11	MP2A	Z	-11.758	6
12	MP2A	Mx	.002	6
13	MP2A	X	-20.365	1
14	MP2A	Z	-11.758	1
15	MP2A	Mx	.018	1
16	MP2A	X	-20.365	6
17	MP2A	Z	-11.758	6
18	MP2A	Mx	.018	6

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
19	MP2A	X	-2.31	1
20	MP2A	Z	-1.334	1
21	MP2A	Mx	-.001	1
22	MP2A	X	-9.188	3
23	MP2A	Z	-5.305	3
24	MP2A	Mx	-.005	3
25	MP2A	X	-8.146	5
26	MP2A	Z	-4.703	5
27	MP2A	Mx	-.004	5
28	MP4A	X	-12.105	1
29	MP4A	Z	-6.989	1
30	MP4A	Mx	.006	1
31	MP4A	X	-12.105	6
32	MP4A	Z	-6.989	6
33	MP4A	Mx	.006	6
34	M1	X	-12.616	1.5
35	M1	Z	-7.284	1.5
36	M1	Mx	0	1.5
37	M1	X	-12.616	1.5
38	M1	Z	-7.284	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-7.026	2.5
2	MP1A	Z	-12.169	2.5
3	MP1A	Mx	.004	2.5
4	MP1A	X	-7.026	4.5
5	MP1A	Z	-12.169	4.5
6	MP1A	Mx	.004	4.5
7	MP2A	X	-14.231	1
8	MP2A	Z	-24.649	1
9	MP2A	Mx	-.009	1
10	MP2A	X	-14.231	6
11	MP2A	Z	-24.649	6
12	MP2A	Mx	-.009	6
13	MP2A	X	-14.231	1
14	MP2A	Z	-24.649	1
15	MP2A	Mx	.024	1
16	MP2A	X	-14.231	6
17	MP2A	Z	-24.649	6
18	MP2A	Mx	.024	6
19	MP2A	X	-1.542	1
20	MP2A	Z	-2.671	1
21	MP2A	Mx	-.000771	1
22	MP2A	X	-6.361	3
23	MP2A	Z	-11.018	3
24	MP2A	Mx	-.003	3
25	MP2A	X	-6.16	5
26	MP2A	Z	-10.67	5
27	MP2A	Mx	-.003	5
28	MP4A	X	-8.627	1
29	MP4A	Z	-14.943	1
30	MP4A	Mx	.004	1
31	MP4A	X	-8.627	6
32	MP4A	Z	-14.943	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
33	MP4A	Mx	.004	6
34	M1	X	-8.651	1.5
35	M1	Z	-14.984	1.5
36	M1	Mx	0	1.5
37	M1	X	-8.651	1.5
38	M1	Z	-14.984	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	0	2.5
2	MP1A	Z	-5.281	2.5
3	MP1A	Mx	0	2.5
4	MP1A	X	0	4.5
5	MP1A	Z	-5.281	4.5
6	MP1A	Mx	0	4.5
7	MP2A	X	0	1
8	MP2A	Z	-10.236	1
9	MP2A	Mx	-.007	1
10	MP2A	X	0	6
11	MP2A	Z	-10.236	6
12	MP2A	Mx	-.007	6
13	MP2A	X	0	1
14	MP2A	Z	-10.236	1
15	MP2A	Mx	.007	1
16	MP2A	X	0	6
17	MP2A	Z	-10.236	6
18	MP2A	Mx	.007	6
19	MP2A	X	0	1
20	MP2A	Z	-.831	1
21	MP2A	Mx	0	1
22	MP2A	X	0	3
23	MP2A	Z	-4.202	3
24	MP2A	Mx	0	3
25	MP2A	X	0	5
26	MP2A	Z	-4.202	5
27	MP2A	Mx	0	5
28	MP4A	X	0	1
29	MP4A	Z	-5.944	1
30	MP4A	Mx	0	1
31	MP4A	X	0	6
32	MP4A	Z	-5.944	6
33	MP4A	Mx	0	6
34	M1	X	0	1.5
35	M1	Z	-5.558	1.5
36	M1	Mx	0	1.5
37	M1	X	0	1.5
38	M1	Z	-5.558	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	2.239	2.5
2	MP1A	Z	-3.878	2.5
3	MP1A	Mx	-.001	2.5
4	MP1A	X	2.239	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
5	MP1A	Z	-3.878	4.5
6	MP1A	Mx	-.001	4.5
7	MP2A	X	4.679	1
8	MP2A	Z	-8.104	1
9	MP2A	Mx	-.008	1
10	MP2A	X	4.679	6
11	MP2A	Z	-8.104	6
12	MP2A	Mx	-.008	6
13	MP2A	X	4.679	1
14	MP2A	Z	-8.104	1
15	MP2A	Mx	.003	1
16	MP2A	X	4.679	6
17	MP2A	Z	-8.104	6
18	MP2A	Mx	.003	6
19	MP2A	X	.384	1
20	MP2A	Z	-.665	1
21	MP2A	Mx	.000192	1
22	MP2A	X	1.927	3
23	MP2A	Z	-3.338	3
24	MP2A	Mx	.000964	3
25	MP2A	X	1.86	5
26	MP2A	Z	-3.222	5
27	MP2A	Mx	.00093	5
28	MP4A	X	2.693	1
29	MP4A	Z	-4.664	1
30	MP4A	Mx	-.001	1
31	MP4A	X	2.693	6
32	MP4A	Z	-4.664	6
33	MP4A	Mx	-.001	6
34	M1	X	2.402	1.5
35	M1	Z	-4.16	1.5
36	M1	Mx	0	1.5
37	M1	X	2.402	1.5
38	M1	Z	-4.16	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	2.486	2.5
2	MP1A	Z	-1.435	2.5
3	MP1A	Mx	-.001	2.5
4	MP1A	X	2.486	4.5
5	MP1A	Z	-1.435	4.5
6	MP1A	Mx	-.001	4.5
7	MP2A	X	6.583	1
8	MP2A	Z	-3.8	1
9	MP2A	Mx	-.006	1
10	MP2A	X	6.583	6
11	MP2A	Z	-3.8	6
12	MP2A	Mx	-.006	6
13	MP2A	X	6.583	1
14	MP2A	Z	-3.8	1
15	MP2A	Mx	-.000758	1
16	MP2A	X	6.583	6
17	MP2A	Z	-3.8	6
18	MP2A	Mx	-.000758	6

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
19	MP2A	X	.554	1
20	MP2A	Z	-.32	1
21	MP2A	Mx	.000277	1
22	MP2A	X	2.734	3
23	MP2A	Z	-1.579	3
24	MP2A	Mx	.001	3
25	MP2A	X	2.388	5
26	MP2A	Z	-1.378	5
27	MP2A	Mx	.001	5
28	MP4A	X	3.696	1
29	MP4A	Z	-2.134	1
30	MP4A	Mx	-.002	1
31	MP4A	X	3.696	6
32	MP4A	Z	-2.134	6
33	MP4A	Mx	-.002	6
34	M1	X	3.359	1.5
35	M1	Z	-1.939	1.5
36	M1	Mx	0	1.5
37	M1	X	3.359	1.5
38	M1	Z	-1.939	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	2.067	2.5
2	MP1A	Z	0	2.5
3	MP1A	Mx	-.001	2.5
4	MP1A	X	2.067	4.5
5	MP1A	Z	0	4.5
6	MP1A	Mx	-.001	4.5
7	MP2A	X	6.723	1
8	MP2A	Z	0	1
9	MP2A	Mx	-.003	1
10	MP2A	X	6.723	6
11	MP2A	Z	0	6
12	MP2A	Mx	-.003	6
13	MP2A	X	6.723	1
14	MP2A	Z	0	1
15	MP2A	Mx	-.003	1
16	MP2A	X	6.723	6
17	MP2A	Z	0	6
18	MP2A	Mx	-.003	6
19	MP2A	X	.575	1
20	MP2A	Z	0	1
21	MP2A	Mx	.000288	1
22	MP2A	X	2.809	3
23	MP2A	Z	0	3
24	MP2A	Mx	.001	3
25	MP2A	X	2.275	5
26	MP2A	Z	0	5
27	MP2A	Mx	.001	5
28	MP4A	X	3.709	1
29	MP4A	Z	0	1
30	MP4A	Mx	-.002	1
31	MP4A	X	3.709	6
32	MP4A	Z	0	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
33	MP4A	Mx	-.002	6
34	M1	X	3.708	1.5
35	M1	Z	0	1.5
36	M1	Mx	0	1.5
37	M1	X	3.708	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	MP1A	X	2.486	2.5
2	MP1A	Z	1.435	2.5
3	MP1A	Mx	-.001	2.5
4	MP1A	X	2.486	4.5
5	MP1A	Z	1.435	4.5
6	MP1A	Mx	-.001	4.5
7	MP2A	X	6.583	1
8	MP2A	Z	3.8	1
9	MP2A	Mx	-.000758	1
10	MP2A	X	6.583	6
11	MP2A	Z	3.8	6
12	MP2A	Mx	-.000758	6
13	MP2A	X	6.583	1
14	MP2A	Z	3.8	1
15	MP2A	Mx	-.006	1
16	MP2A	X	6.583	6
17	MP2A	Z	3.8	6
18	MP2A	Mx	-.006	6
19	MP2A	X	.554	1
20	MP2A	Z	.32	1
21	MP2A	Mx	.000277	1
22	MP2A	X	2.734	3
23	MP2A	Z	1.579	3
24	MP2A	Mx	.001	3
25	MP2A	X	2.388	5
26	MP2A	Z	1.378	5
27	MP2A	Mx	.001	5
28	MP4A	X	3.696	1
29	MP4A	Z	2.134	1
30	MP4A	Mx	-.002	1
31	MP4A	X	3.696	6
32	MP4A	Z	2.134	6
33	MP4A	Mx	-.002	6
34	M1	X	3.864	1.5
35	M1	Z	2.231	1.5
36	M1	Mx	0	1.5
37	M1	X	3.864	1.5
38	M1	Z	2.231	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	2.239	2.5
2	MP1A	Z	3.878	2.5
3	MP1A	Mx	-.001	2.5
4	MP1A	X	2.239	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
5	MP1A	Z	3.878	4.5
6	MP1A	Mx	-.001	4.5
7	MP2A	X	4.679	1
8	MP2A	Z	8.104	1
9	MP2A	Mx	.003	1
10	MP2A	X	4.679	6
11	MP2A	Z	8.104	6
12	MP2A	Mx	.003	6
13	MP2A	X	4.679	1
14	MP2A	Z	8.104	1
15	MP2A	Mx	-.008	1
16	MP2A	X	4.679	6
17	MP2A	Z	8.104	6
18	MP2A	Mx	-.008	6
19	MP2A	X	.384	1
20	MP2A	Z	.665	1
21	MP2A	Mx	.000192	1
22	MP2A	X	1.927	3
23	MP2A	Z	3.338	3
24	MP2A	Mx	.000964	3
25	MP2A	X	1.86	5
26	MP2A	Z	3.222	5
27	MP2A	Mx	.00093	5
28	MP4A	X	2.693	1
29	MP4A	Z	4.664	1
30	MP4A	Mx	-.001	1
31	MP4A	X	2.693	6
32	MP4A	Z	4.664	6
33	MP4A	Mx	-.001	6
34	M1	X	2.694	1.5
35	M1	Z	4.666	1.5
36	M1	Mx	0	1.5
37	M1	X	2.694	1.5
38	M1	Z	4.666	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	0	2.5
2	MP1A	Z	5.281	2.5
3	MP1A	Mx	0	2.5
4	MP1A	X	0	4.5
5	MP1A	Z	5.281	4.5
6	MP1A	Mx	0	4.5
7	MP2A	X	0	1
8	MP2A	Z	10.236	1
9	MP2A	Mx	.007	1
10	MP2A	X	0	6
11	MP2A	Z	10.236	6
12	MP2A	Mx	.007	6
13	MP2A	X	0	1
14	MP2A	Z	10.236	1
15	MP2A	Mx	-.007	1
16	MP2A	X	0	6
17	MP2A	Z	10.236	6
18	MP2A	Mx	-.007	6

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
19	MP2A	X	0	1
20	MP2A	Z	.831	1
21	MP2A	Mx	0	1
22	MP2A	X	0	3
23	MP2A	Z	4.202	3
24	MP2A	Mx	0	3
25	MP2A	X	0	5
26	MP2A	Z	4.202	5
27	MP2A	Mx	0	5
28	MP4A	X	0	1
29	MP4A	Z	5.944	1
30	MP4A	Mx	0	1
31	MP4A	X	0	6
32	MP4A	Z	5.944	6
33	MP4A	Mx	0	6
34	M1	X	0	1.5
35	M1	Z	5.558	1.5
36	M1	Mx	0	1.5
37	M1	X	0	1.5
38	M1	Z	5.558	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-2.239	2.5
2	MP1A	Z	3.878	2.5
3	MP1A	Mx	.001	2.5
4	MP1A	X	-2.239	4.5
5	MP1A	Z	3.878	4.5
6	MP1A	Mx	.001	4.5
7	MP2A	X	-4.679	1
8	MP2A	Z	8.104	1
9	MP2A	Mx	.008	1
10	MP2A	X	-4.679	6
11	MP2A	Z	8.104	6
12	MP2A	Mx	.008	6
13	MP2A	X	-4.679	1
14	MP2A	Z	8.104	1
15	MP2A	Mx	-.003	1
16	MP2A	X	-4.679	6
17	MP2A	Z	8.104	6
18	MP2A	Mx	-.003	6
19	MP2A	X	-.384	1
20	MP2A	Z	.665	1
21	MP2A	Mx	-.000192	1
22	MP2A	X	-1.927	3
23	MP2A	Z	3.338	3
24	MP2A	Mx	-.000964	3
25	MP2A	X	-1.86	5
26	MP2A	Z	3.222	5
27	MP2A	Mx	-.00093	5
28	MP4A	X	-2.693	1
29	MP4A	Z	4.664	1
30	MP4A	Mx	.001	1
31	MP4A	X	-2.693	6
32	MP4A	Z	4.664	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
33	MP4A	Mx	.001	6
34	M1	X	-2.402	1.5
35	M1	Z	4.16	1.5
36	M1	Mx	0	1.5
37	M1	X	-2.402	1.5
38	M1	Z	4.16	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-2.486	2.5
2	MP1A	Z	1.435	2.5
3	MP1A	Mx	.001	2.5
4	MP1A	X	-2.486	4.5
5	MP1A	Z	1.435	4.5
6	MP1A	Mx	.001	4.5
7	MP2A	X	-6.583	1
8	MP2A	Z	3.8	1
9	MP2A	Mx	.006	1
10	MP2A	X	-6.583	6
11	MP2A	Z	3.8	6
12	MP2A	Mx	.006	6
13	MP2A	X	-6.583	1
14	MP2A	Z	3.8	1
15	MP2A	Mx	.000758	1
16	MP2A	X	-6.583	6
17	MP2A	Z	3.8	6
18	MP2A	Mx	.000758	6
19	MP2A	X	-.554	1
20	MP2A	Z	.32	1
21	MP2A	Mx	-.000277	1
22	MP2A	X	-2.734	3
23	MP2A	Z	1.579	3
24	MP2A	Mx	-.001	3
25	MP2A	X	-2.388	5
26	MP2A	Z	1.378	5
27	MP2A	Mx	-.001	5
28	MP4A	X	-3.696	1
29	MP4A	Z	2.134	1
30	MP4A	Mx	.002	1
31	MP4A	X	-3.696	6
32	MP4A	Z	2.134	6
33	MP4A	Mx	.002	6
34	M1	X	-3.359	1.5
35	M1	Z	1.939	1.5
36	M1	Mx	0	1.5
37	M1	X	-3.359	1.5
38	M1	Z	1.939	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
1	MP1A	X	-2.067	2.5
2	MP1A	Z	0	2.5
3	MP1A	Mx	.001	2.5
4	MP1A	X	-2.067	4.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
5	MP1A	Z	0	4.5
6	MP1A	Mx	.001	4.5
7	MP2A	X	-6.723	1
8	MP2A	Z	0	1
9	MP2A	Mx	.003	1
10	MP2A	X	-6.723	6
11	MP2A	Z	0	6
12	MP2A	Mx	.003	6
13	MP2A	X	-6.723	1
14	MP2A	Z	0	1
15	MP2A	Mx	.003	1
16	MP2A	X	-6.723	6
17	MP2A	Z	0	6
18	MP2A	Mx	.003	6
19	MP2A	X	-.575	1
20	MP2A	Z	0	1
21	MP2A	Mx	-.000288	1
22	MP2A	X	-2.809	3
23	MP2A	Z	0	3
24	MP2A	Mx	-.001	3
25	MP2A	X	-2.275	5
26	MP2A	Z	0	5
27	MP2A	Mx	-.001	5
28	MP4A	X	-3.709	1
29	MP4A	Z	0	1
30	MP4A	Mx	.002	1
31	MP4A	X	-3.709	6
32	MP4A	Z	0	6
33	MP4A	Mx	.002	6
34	M1	X	-3.708	1.5
35	M1	Z	0	1.5
36	M1	Mx	0	1.5
37	M1	X	-3.708	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	MP1A	X	-2.486	2.5
2	MP1A	Z	-1.435	2.5
3	MP1A	Mx	.001	2.5
4	MP1A	X	-2.486	4.5
5	MP1A	Z	-1.435	4.5
6	MP1A	Mx	.001	4.5
7	MP2A	X	-6.583	1
8	MP2A	Z	-3.8	1
9	MP2A	Mx	.000758	1
10	MP2A	X	-6.583	6
11	MP2A	Z	-3.8	6
12	MP2A	Mx	.000758	6
13	MP2A	X	-6.583	1
14	MP2A	Z	-3.8	1
15	MP2A	Mx	.006	1
16	MP2A	X	-6.583	6
17	MP2A	Z	-3.8	6
18	MP2A	Mx	.006	6

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
19	MP2A	X	-.554	1
20	MP2A	Z	-.32	1
21	MP2A	Mx	-.000277	1
22	MP2A	X	-2.734	3
23	MP2A	Z	-1.579	3
24	MP2A	Mx	-.001	3
25	MP2A	X	-2.388	5
26	MP2A	Z	-1.378	5
27	MP2A	Mx	-.001	5
28	MP4A	X	-3.696	1
29	MP4A	Z	-2.134	1
30	MP4A	Mx	.002	1
31	MP4A	X	-3.696	6
32	MP4A	Z	-2.134	6
33	MP4A	Mx	.002	6
34	M1	X	-3.864	1.5
35	M1	Z	-2.231	1.5
36	M1	Mx	0	1.5
37	M1	X	-3.864	1.5
38	M1	Z	-2.231	1.5
39	M1	Mx	0	1.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-2.239	2.5
2	MP1A	Z	-3.878	2.5
3	MP1A	Mx	.001	2.5
4	MP1A	X	-2.239	4.5
5	MP1A	Z	-3.878	4.5
6	MP1A	Mx	.001	4.5
7	MP2A	X	-4.679	1
8	MP2A	Z	-8.104	1
9	MP2A	Mx	-.003	1
10	MP2A	X	-4.679	6
11	MP2A	Z	-8.104	6
12	MP2A	Mx	-.003	6
13	MP2A	X	-4.679	1
14	MP2A	Z	-8.104	1
15	MP2A	Mx	.008	1
16	MP2A	X	-4.679	6
17	MP2A	Z	-8.104	6
18	MP2A	Mx	.008	6
19	MP2A	X	-.384	1
20	MP2A	Z	-.665	1
21	MP2A	Mx	-.000192	1
22	MP2A	X	-1.927	3
23	MP2A	Z	-3.338	3
24	MP2A	Mx	-.000964	3
25	MP2A	X	-1.86	5
26	MP2A	Z	-3.222	5
27	MP2A	Mx	-.00093	5
28	MP4A	X	-2.693	1
29	MP4A	Z	-4.664	1
30	MP4A	Mx	.001	1
31	MP4A	X	-2.693	6
32	MP4A	Z	-4.664	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
33	MP4A	Mx	.001	6
34	M1	X	-2.694	1.5
35	M1	Z	-4.666	1.5
36	M1	Mx	0	1.5
37	M1	X	-2.694	1.5
38	M1	Z	-4.666	1.5
39	M1	Mx	0	1.5

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M4	Y	-500	%9

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M4	Y	-500	%58

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 Distributed Loads (BLC 40 : Structure Di)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	Y	-8.684	-8.684	0	%100
2	M2	Y	-7.188	-7.188	0	%100
3	M4	Y	-8.684	-8.684	0	%100
4	MP1A	Y	-4.44	-4.44	0	%100
5	MP4A	Y	-4.44	-4.44	0	%100
6	MP3A	Y	-4.44	-4.44	0	%100
7	MP2A	Y	-4.44	-4.44	0	%100
8	M14	Y	-4.44	-4.44	0	%100
9	M20	Y	-5.941	-5.941	0	%100
10	M21	Y	-5.941	-5.941	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	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	-9.114	-9.114	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	-14.823	-14.823	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	-7.354	-7.354	0	%100
9	MP4A	X	0	0	0	%100
10	MP4A	Z	-7.354	-7.354	0	%100
11	MP3A	X	0	0	0	%100
12	MP3A	Z	-7.354	-7.354	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	-7.354	-7.354	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
15	M14	X	0	0	0	%100
16	M14	Z	-8.449	-8.449	0	%100
17	M20	X	0	0	0	%100
18	M20	Z	-8.103	-8.103	0	%100
19	M21	X	0	0	0	%100
20	M21	Z	-8.103	-8.103	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	X	1.459	1.459	0	%100
2	M1	Z	-2.528	-2.528	0	%100
3	M2	X	4.606	4.606	0	%100
4	M2	Z	-7.979	-7.979	0	%100
5	M4	X	5.559	5.559	0	%100
6	M4	Z	-9.628	-9.628	0	%100
7	MP1A	X	3.814	3.814	0	%100
8	MP1A	Z	-6.606	-6.606	0	%100
9	MP4A	X	3.814	3.814	0	%100
10	MP4A	Z	-6.606	-6.606	0	%100
11	MP3A	X	3.814	3.814	0	%100
12	MP3A	Z	-6.606	-6.606	0	%100
13	MP2A	X	3.814	3.814	0	%100
14	MP2A	Z	-6.606	-6.606	0	%100
15	M14	X	3.168	3.168	0	%100
16	M14	Z	-5.488	-5.488	0	%100
17	M20	X	1.223	1.223	0	%100
18	M20	Z	-2.119	-2.119	0	%100
19	M21	X	6.939	6.939	0	%100
20	M21	Z	-12.019	-12.019	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	X	7.583	7.583	0	%100
2	M1	Z	-4.378	-4.378	0	%100
3	M2	X	8.151	8.151	0	%100
4	M2	Z	-4.706	-4.706	0	%100
5	M4	X	3.209	3.209	0	%100
6	M4	Z	-1.853	-1.853	0	%100
7	MP1A	X	7.08	7.08	0	%100
8	MP1A	Z	-4.088	-4.088	0	%100
9	MP4A	X	7.08	7.08	0	%100
10	MP4A	Z	-4.088	-4.088	0	%100
11	MP3A	X	7.08	7.08	0	%100
12	MP3A	Z	-4.088	-4.088	0	%100
13	MP2A	X	7.08	7.08	0	%100
14	MP2A	Z	-4.088	-4.088	0	%100
15	M14	X	1.829	1.829	0	%100
16	M14	Z	-1.056	-1.056	0	%100
17	M20	X	2.222	2.222	0	%100
18	M20	Z	-1.283	-1.283	0	%100
19	M21	X	12.122	12.122	0	%100
20	M21	Z	-6.999	-6.999	0	%100

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

Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
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Member Distributed Loads (BLC 44 : Structure Wo (90 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	X	11.674	11.674	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	9.511	9.511	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	8.449	8.449	0	%100
8	MP1A	Z	0	0	0	%100
9	MP4A	X	8.449	8.449	0	%100
10	MP4A	Z	0	0	0	%100
11	MP3A	X	8.449	8.449	0	%100
12	MP3A	Z	0	0	0	%100
13	MP2A	X	8.449	8.449	0	%100
14	MP2A	Z	0	0	0	%100
15	M14	X	0	0	0	%100
16	M14	Z	0	0	0	%100
17	M20	X	8.341	8.341	0	%100
18	M20	Z	0	0	0	%100
19	M21	X	8.341	8.341	0	%100
20	M21	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,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	X	7.583	7.583	0	%100
2	M1	Z	4.378	4.378	0	%100
3	M2	X	8.151	8.151	0	%100
4	M2	Z	4.706	4.706	0	%100
5	M4	X	3.209	3.209	0	%100
6	M4	Z	1.853	1.853	0	%100
7	MP1A	X	7.08	7.08	0	%100
8	MP1A	Z	4.088	4.088	0	%100
9	MP4A	X	7.08	7.08	0	%100
10	MP4A	Z	4.088	4.088	0	%100
11	MP3A	X	7.08	7.08	0	%100
12	MP3A	Z	4.088	4.088	0	%100
13	MP2A	X	7.08	7.08	0	%100
14	MP2A	Z	4.088	4.088	0	%100
15	M14	X	1.829	1.829	0	%100
16	M14	Z	1.056	1.056	0	%100
17	M20	X	12.122	12.122	0	%100
18	M20	Z	6.999	6.999	0	%100
19	M21	X	2.222	2.222	0	%100
20	M21	Z	1.283	1.283	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	X	1.459	1.459	0	%100
2	M1	Z	2.528	2.528	0	%100
3	M2	X	4.606	4.606	0	%100
4	M2	Z	7.979	7.979	0	%100
5	M4	X	5.559	5.559	0	%100
6	M4	Z	9.628	9.628	0	%100
7	MP1A	X	3.814	3.814	0	%100
8	MP1A	Z	6.606	6.606	0	%100
9	MP4A	X	3.814	3.814	0	%100
10	MP4A	Z	6.606	6.606	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
11	MP3A	X	3.814	3.814	0	%100
12	MP3A	Z	6.606	6.606	0	%100
13	MP2A	X	3.814	3.814	0	%100
14	MP2A	Z	6.606	6.606	0	%100
15	M14	X	3.168	3.168	0	%100
16	M14	Z	5.488	5.488	0	%100
17	M20	X	6.939	6.939	0	%100
18	M20	Z	12.019	12.019	0	%100
19	M21	X	1.223	1.223	0	%100
20	M21	Z	2.119	2.119	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	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	9.114	9.114	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	14.823	14.823	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	7.354	7.354	0	%100
9	MP4A	X	0	0	0	%100
10	MP4A	Z	7.354	7.354	0	%100
11	MP3A	X	0	0	0	%100
12	MP3A	Z	7.354	7.354	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	7.354	7.354	0	%100
15	M14	X	0	0	0	%100
16	M14	Z	8.449	8.449	0	%100
17	M20	X	0	0	0	%100
18	M20	Z	8.103	8.103	0	%100
19	M21	X	0	0	0	%100
20	M21	Z	8.103	8.103	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	M1	X	-1.459	-1.459	0	%100
2	M1	Z	2.528	2.528	0	%100
3	M2	X	-4.606	-4.606	0	%100
4	M2	Z	7.979	7.979	0	%100
5	M4	X	-5.559	-5.559	0	%100
6	M4	Z	9.628	9.628	0	%100
7	MP1A	X	-3.814	-3.814	0	%100
8	MP1A	Z	6.606	6.606	0	%100
9	MP4A	X	-3.814	-3.814	0	%100
10	MP4A	Z	6.606	6.606	0	%100
11	MP3A	X	-3.814	-3.814	0	%100
12	MP3A	Z	6.606	6.606	0	%100
13	MP2A	X	-3.814	-3.814	0	%100
14	MP2A	Z	6.606	6.606	0	%100
15	M14	X	-3.168	-3.168	0	%100
16	M14	Z	5.488	5.488	0	%100
17	M20	X	-1.223	-1.223	0	%100
18	M20	Z	2.119	2.119	0	%100
19	M21	X	-6.939	-6.939	0	%100
20	M21	Z	12.019	12.019	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	X	-7.583	-7.583	0	%100
2	M1	Z	4.378	4.378	0	%100
3	M2	X	-8.151	-8.151	0	%100
4	M2	Z	4.706	4.706	0	%100
5	M4	X	-3.209	-3.209	0	%100
6	M4	Z	1.853	1.853	0	%100
7	MP1A	X	-7.08	-7.08	0	%100
8	MP1A	Z	4.088	4.088	0	%100
9	MP4A	X	-7.08	-7.08	0	%100
10	MP4A	Z	4.088	4.088	0	%100
11	MP3A	X	-7.08	-7.08	0	%100
12	MP3A	Z	4.088	4.088	0	%100
13	MP2A	X	-7.08	-7.08	0	%100
14	MP2A	Z	4.088	4.088	0	%100
15	M14	X	-1.829	-1.829	0	%100
16	M14	Z	1.056	1.056	0	%100
17	M20	X	-2.222	-2.222	0	%100
18	M20	Z	1.283	1.283	0	%100
19	M21	X	-12.122	-12.122	0	%100
20	M21	Z	6.999	6.999	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	X	-11.674	-11.674	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	-9.511	-9.511	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	-8.449	-8.449	0	%100
8	MP1A	Z	0	0	0	%100
9	MP4A	X	-8.449	-8.449	0	%100
10	MP4A	Z	0	0	0	%100
11	MP3A	X	-8.449	-8.449	0	%100
12	MP3A	Z	0	0	0	%100
13	MP2A	X	-8.449	-8.449	0	%100
14	MP2A	Z	0	0	0	%100
15	M14	X	0	0	0	%100
16	M14	Z	0	0	0	%100
17	M20	X	-8.341	-8.341	0	%100
18	M20	Z	0	0	0	%100
19	M21	X	-8.341	-8.341	0	%100
20	M21	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,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	X	-7.583	-7.583	0	%100
2	M1	Z	-4.378	-4.378	0	%100
3	M2	X	-8.151	-8.151	0	%100
4	M2	Z	-4.706	-4.706	0	%100
5	M4	X	-3.209	-3.209	0	%100
6	M4	Z	-1.853	-1.853	0	%100
7	MP1A	X	-7.08	-7.08	0	%100
8	MP1A	Z	-4.088	-4.088	0	%100
9	MP4A	X	-7.08	-7.08	0	%100
10	MP4A	Z	-4.088	-4.088	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
11	MP3A	X	-7.08	-7.08	0	%100
12	MP3A	Z	-4.088	-4.088	0	%100
13	MP2A	X	-7.08	-7.08	0	%100
14	MP2A	Z	-4.088	-4.088	0	%100
15	M14	X	-1.829	-1.829	0	%100
16	M14	Z	-1.056	-1.056	0	%100
17	M20	X	-12.122	-12.122	0	%100
18	M20	Z	-6.999	-6.999	0	%100
19	M21	X	-2.222	-2.222	0	%100
20	M21	Z	-1.283	-1.283	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	M1	X	-1.459	-1.459	0	%100
2	M1	Z	-2.528	-2.528	0	%100
3	M2	X	-4.606	-4.606	0	%100
4	M2	Z	-7.979	-7.979	0	%100
5	M4	X	-5.559	-5.559	0	%100
6	M4	Z	-9.628	-9.628	0	%100
7	MP1A	X	-3.814	-3.814	0	%100
8	MP1A	Z	-6.606	-6.606	0	%100
9	MP4A	X	-3.814	-3.814	0	%100
10	MP4A	Z	-6.606	-6.606	0	%100
11	MP3A	X	-3.814	-3.814	0	%100
12	MP3A	Z	-6.606	-6.606	0	%100
13	MP2A	X	-3.814	-3.814	0	%100
14	MP2A	Z	-6.606	-6.606	0	%100
15	M14	X	-3.168	-3.168	0	%100
16	M14	Z	-5.488	-5.488	0	%100
17	M20	X	-6.939	-6.939	0	%100
18	M20	Z	-12.019	-12.019	0	%100
19	M21	X	-1.223	-1.223	0	%100
20	M21	Z	-2.119	-2.119	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	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	-2.683	-2.683	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	-3.922	-3.922	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	-2.612	-2.612	0	%100
9	MP4A	X	0	0	0	%100
10	MP4A	Z	-2.612	-2.612	0	%100
11	MP3A	X	0	0	0	%100
12	MP3A	Z	-2.612	-2.612	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	-2.612	-2.612	0	%100
15	M14	X	0	0	0	%100
16	M14	Z	-2.804	-2.804	0	%100
17	M20	X	0	0	0	%100
18	M20	Z	-2.144	-2.144	0	%100
19	M21	X	0	0	0	%100
20	M21	Z	-2.144	-2.144	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	M1	X	.41	.41	0	%100
2	M1	Z	-.711	-.711	0	%100
3	M2	X	1.362	1.362	0	%100
4	M2	Z	-2.358	-2.358	0	%100
5	M4	X	1.471	1.471	0	%100
6	M4	Z	-2.548	-2.548	0	%100
7	MP1A	X	1.33	1.33	0	%100
8	MP1A	Z	-2.303	-2.303	0	%100
9	MP4A	X	1.33	1.33	0	%100
10	MP4A	Z	-2.303	-2.303	0	%100
11	MP3A	X	1.33	1.33	0	%100
12	MP3A	Z	-2.303	-2.303	0	%100
13	MP2A	X	1.33	1.33	0	%100
14	MP2A	Z	-2.303	-2.303	0	%100
15	M14	X	1.051	1.051	0	%100
16	M14	Z	-1.821	-1.821	0	%100
17	M20	X	.324	.324	0	%100
18	M20	Z	-.561	-.561	0	%100
19	M21	X	1.836	1.836	0	%100
20	M21	Z	-3.18	-3.18	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	M1	X	2.132	2.132	0	%100
2	M1	Z	-1.231	-1.231	0	%100
3	M2	X	2.427	2.427	0	%100
4	M2	Z	-1.401	-1.401	0	%100
5	M4	X	.849	.849	0	%100
6	M4	Z	-.49	-.49	0	%100
7	MP1A	X	2.387	2.387	0	%100
8	MP1A	Z	-1.378	-1.378	0	%100
9	MP4A	X	2.387	2.387	0	%100
10	MP4A	Z	-1.378	-1.378	0	%100
11	MP3A	X	2.387	2.387	0	%100
12	MP3A	Z	-1.378	-1.378	0	%100
13	MP2A	X	2.387	2.387	0	%100
14	MP2A	Z	-1.378	-1.378	0	%100
15	M14	X	.607	.607	0	%100
16	M14	Z	-.35	-.35	0	%100
17	M20	X	.588	.588	0	%100
18	M20	Z	-.339	-.339	0	%100
19	M21	X	3.208	3.208	0	%100
20	M21	Z	-1.852	-1.852	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	M1	X	3.283	3.283	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	2.842	2.842	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	2.804	2.804	0	%100
8	MP1A	Z	0	0	0	%100
9	MP4A	X	2.804	2.804	0	%100
10	MP4A	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	Start Location[ft.%]	End Location[ft.%]
11	MP3A	X	2.804	2.804	0	%100
12	MP3A	Z	0	0	0	%100
13	MP2A	X	2.804	2.804	0	%100
14	MP2A	Z	0	0	0	%100
15	M14	X	0	0	0	%100
16	M14	Z	0	0	0	%100
17	M20	X	2.207	2.207	0	%100
18	M20	Z	0	0	0	%100
19	M21	X	2.207	2.207	0	%100
20	M21	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.F...	Start Location[ft.%]	End Location[ft.%]
1	M1	X	2.132	2.132	0	%100
2	M1	Z	1.231	1.231	0	%100
3	M2	X	2.427	2.427	0	%100
4	M2	Z	1.401	1.401	0	%100
5	M4	X	.849	.849	0	%100
6	M4	Z	.49	.49	0	%100
7	MP1A	X	2.387	2.387	0	%100
8	MP1A	Z	1.378	1.378	0	%100
9	MP4A	X	2.387	2.387	0	%100
10	MP4A	Z	1.378	1.378	0	%100
11	MP3A	X	2.387	2.387	0	%100
12	MP3A	Z	1.378	1.378	0	%100
13	MP2A	X	2.387	2.387	0	%100
14	MP2A	Z	1.378	1.378	0	%100
15	M14	X	.607	.607	0	%100
16	M14	Z	.35	.35	0	%100
17	M20	X	3.208	3.208	0	%100
18	M20	Z	1.852	1.852	0	%100
19	M21	X	.588	.588	0	%100
20	M21	Z	.339	.339	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	Start Location[ft.%]	End Location[ft.%]
1	M1	X	.41	.41	0	%100
2	M1	Z	.711	.711	0	%100
3	M2	X	1.362	1.362	0	%100
4	M2	Z	2.358	2.358	0	%100
5	M4	X	1.471	1.471	0	%100
6	M4	Z	2.548	2.548	0	%100
7	MP1A	X	1.33	1.33	0	%100
8	MP1A	Z	2.303	2.303	0	%100
9	MP4A	X	1.33	1.33	0	%100
10	MP4A	Z	2.303	2.303	0	%100
11	MP3A	X	1.33	1.33	0	%100
12	MP3A	Z	2.303	2.303	0	%100
13	MP2A	X	1.33	1.33	0	%100
14	MP2A	Z	2.303	2.303	0	%100
15	M14	X	1.051	1.051	0	%100
16	M14	Z	1.821	1.821	0	%100
17	M20	X	1.836	1.836	0	%100
18	M20	Z	3.18	3.18	0	%100
19	M21	X	.324	.324	0	%100
20	M21	Z	.561	.561	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft,F...	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	2.683	2.683	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	3.922	3.922	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	2.612	2.612	0	%100
9	MP4A	X	0	0	0	%100
10	MP4A	Z	2.612	2.612	0	%100
11	MP3A	X	0	0	0	%100
12	MP3A	Z	2.612	2.612	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	2.612	2.612	0	%100
15	M14	X	0	0	0	%100
16	M14	Z	2.804	2.804	0	%100
17	M20	X	0	0	0	%100
18	M20	Z	2.144	2.144	0	%100
19	M21	X	0	0	0	%100
20	M21	Z	2.144	2.144	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft,F...	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-.41	-.41	0	%100
2	M1	Z	.711	.711	0	%100
3	M2	X	-1.362	-1.362	0	%100
4	M2	Z	2.358	2.358	0	%100
5	M4	X	-1.471	-1.471	0	%100
6	M4	Z	2.548	2.548	0	%100
7	MP1A	X	-1.33	-1.33	0	%100
8	MP1A	Z	2.303	2.303	0	%100
9	MP4A	X	-1.33	-1.33	0	%100
10	MP4A	Z	2.303	2.303	0	%100
11	MP3A	X	-1.33	-1.33	0	%100
12	MP3A	Z	2.303	2.303	0	%100
13	MP2A	X	-1.33	-1.33	0	%100
14	MP2A	Z	2.303	2.303	0	%100
15	M14	X	-1.051	-1.051	0	%100
16	M14	Z	1.821	1.821	0	%100
17	M20	X	-.324	-.324	0	%100
18	M20	Z	.561	.561	0	%100
19	M21	X	-1.836	-1.836	0	%100
20	M21	Z	3.18	3.18	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft,F...	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-2.132	-2.132	0	%100
2	M1	Z	1.231	1.231	0	%100
3	M2	X	-2.427	-2.427	0	%100
4	M2	Z	1.401	1.401	0	%100
5	M4	X	-.849	-.849	0	%100
6	M4	Z	.49	.49	0	%100
7	MP1A	X	-2.387	-2.387	0	%100
8	MP1A	Z	1.378	1.378	0	%100
9	MP4A	X	-2.387	-2.387	0	%100
10	MP4A	Z	1.378	1.378	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	Start Location[ft.%]	End Location[ft.%]
11	MP3A	X	-2.387	-2.387	0	%100
12	MP3A	Z	1.378	1.378	0	%100
13	MP2A	X	-2.387	-2.387	0	%100
14	MP2A	Z	1.378	1.378	0	%100
15	M14	X	-.607	-.607	0	%100
16	M14	Z	.35	.35	0	%100
17	M20	X	-.588	-.588	0	%100
18	M20	Z	.339	.339	0	%100
19	M21	X	-3.208	-3.208	0	%100
20	M21	Z	1.852	1.852	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-3.283	-3.283	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	-2.842	-2.842	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	-2.804	-2.804	0	%100
8	MP1A	Z	0	0	0	%100
9	MP4A	X	-2.804	-2.804	0	%100
10	MP4A	Z	0	0	0	%100
11	MP3A	X	-2.804	-2.804	0	%100
12	MP3A	Z	0	0	0	%100
13	MP2A	X	-2.804	-2.804	0	%100
14	MP2A	Z	0	0	0	%100
15	M14	X	0	0	0	%100
16	M14	Z	0	0	0	%100
17	M20	X	-2.207	-2.207	0	%100
18	M20	Z	0	0	0	%100
19	M21	X	-2.207	-2.207	0	%100
20	M21	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.F...	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-2.132	-2.132	0	%100
2	M1	Z	-1.231	-1.231	0	%100
3	M2	X	-2.427	-2.427	0	%100
4	M2	Z	-1.401	-1.401	0	%100
5	M4	X	-.849	-.849	0	%100
6	M4	Z	-.49	-.49	0	%100
7	MP1A	X	-2.387	-2.387	0	%100
8	MP1A	Z	-1.378	-1.378	0	%100
9	MP4A	X	-2.387	-2.387	0	%100
10	MP4A	Z	-1.378	-1.378	0	%100
11	MP3A	X	-2.387	-2.387	0	%100
12	MP3A	Z	-1.378	-1.378	0	%100
13	MP2A	X	-2.387	-2.387	0	%100
14	MP2A	Z	-1.378	-1.378	0	%100
15	M14	X	-.607	-.607	0	%100
16	M14	Z	-.35	-.35	0	%100
17	M20	X	-3.208	-3.208	0	%100
18	M20	Z	-1.852	-1.852	0	%100
19	M21	X	-.588	-.588	0	%100
20	M21	Z	-.339	-.339	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft,F...	Start Location[ft.%,]	End Location[ft.%,]
1	M1	X	-.41	-.41	0	%100
2	M1	Z	-.711	-.711	0	%100
3	M2	X	-1.362	-1.362	0	%100
4	M2	Z	-2.358	-2.358	0	%100
5	M4	X	-1.471	-1.471	0	%100
6	M4	Z	-2.548	-2.548	0	%100
7	MP1A	X	-1.33	-1.33	0	%100
8	MP1A	Z	-2.303	-2.303	0	%100
9	MP4A	X	-1.33	-1.33	0	%100
10	MP4A	Z	-2.303	-2.303	0	%100
11	MP3A	X	-1.33	-1.33	0	%100
12	MP3A	Z	-2.303	-2.303	0	%100
13	MP2A	X	-1.33	-1.33	0	%100
14	MP2A	Z	-2.303	-2.303	0	%100
15	M14	X	-1.051	-1.051	0	%100
16	M14	Z	-1.821	-1.821	0	%100
17	M20	X	-1.836	-1.836	0	%100
18	M20	Z	-3.18	-3.18	0	%100
19	M21	X	-.324	-.324	0	%100
20	M21	Z	-.561	-.561	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft,F...	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	-.576	-.576	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	-.936	-.936	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	-.464	-.464	0	%100
9	MP4A	X	0	0	0	%100
10	MP4A	Z	-.464	-.464	0	%100
11	MP3A	X	0	0	0	%100
12	MP3A	Z	-.464	-.464	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	-.464	-.464	0	%100
15	M14	X	0	0	0	%100
16	M14	Z	-.534	-.534	0	%100
17	M20	X	0	0	0	%100
18	M20	Z	-.512	-.512	0	%100
19	M21	X	0	0	0	%100
20	M21	Z	-.512	-.512	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft,F...	Start Location[ft.%,]	End Location[ft.%,]
1	M1	X	.092	.092	0	%100
2	M1	Z	-.16	-.16	0	%100
3	M2	X	.291	.291	0	%100
4	M2	Z	-.504	-.504	0	%100
5	M4	X	.351	.351	0	%100
6	M4	Z	-.608	-.608	0	%100
7	MP1A	X	.241	.241	0	%100
8	MP1A	Z	-.417	-.417	0	%100
9	MP4A	X	.241	.241	0	%100
10	MP4A	Z	-.417	-.417	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
11	MP3A	X	.241	.241	0	%100
12	MP3A	Z	-.417	-.417	0	%100
13	MP2A	X	.241	.241	0	%100
14	MP2A	Z	-.417	-.417	0	%100
15	M14	X	.2	.2	0	%100
16	M14	Z	-.347	-.347	0	%100
17	M20	X	.077	.077	0	%100
18	M20	Z	-.134	-.134	0	%100
19	M21	X	.438	.438	0	%100
20	M21	Z	-.759	-.759	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	M1	X	.479	.479	0	%100
2	M1	Z	-.277	-.277	0	%100
3	M2	X	.515	.515	0	%100
4	M2	Z	-.297	-.297	0	%100
5	M4	X	.203	.203	0	%100
6	M4	Z	-.117	-.117	0	%100
7	MP1A	X	.447	.447	0	%100
8	MP1A	Z	-.258	-.258	0	%100
9	MP4A	X	.447	.447	0	%100
10	MP4A	Z	-.258	-.258	0	%100
11	MP3A	X	.447	.447	0	%100
12	MP3A	Z	-.258	-.258	0	%100
13	MP2A	X	.447	.447	0	%100
14	MP2A	Z	-.258	-.258	0	%100
15	M14	X	.116	.116	0	%100
16	M14	Z	-.067	-.067	0	%100
17	M20	X	.14	.14	0	%100
18	M20	Z	-.081	-.081	0	%100
19	M21	X	.766	.766	0	%100
20	M21	Z	-.442	-.442	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	M1	X	.737	.737	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	.601	.601	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	.534	.534	0	%100
8	MP1A	Z	0	0	0	%100
9	MP4A	X	.534	.534	0	%100
10	MP4A	Z	0	0	0	%100
11	MP3A	X	.534	.534	0	%100
12	MP3A	Z	0	0	0	%100
13	MP2A	X	.534	.534	0	%100
14	MP2A	Z	0	0	0	%100
15	M14	X	0	0	0	%100
16	M14	Z	0	0	0	%100
17	M20	X	.527	.527	0	%100
18	M20	Z	0	0	0	%100
19	M21	X	.527	.527	0	%100
20	M21	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,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	X	.479	.479	0	%100
2	M1	Z	.277	.277	0	%100
3	M2	X	.515	.515	0	%100
4	M2	Z	.297	.297	0	%100
5	M4	X	.203	.203	0	%100
6	M4	Z	.117	.117	0	%100
7	MP1A	X	.447	.447	0	%100
8	MP1A	Z	.258	.258	0	%100
9	MP4A	X	.447	.447	0	%100
10	MP4A	Z	.258	.258	0	%100
11	MP3A	X	.447	.447	0	%100
12	MP3A	Z	.258	.258	0	%100
13	MP2A	X	.447	.447	0	%100
14	MP2A	Z	.258	.258	0	%100
15	M14	X	.116	.116	0	%100
16	M14	Z	.067	.067	0	%100
17	M20	X	.766	.766	0	%100
18	M20	Z	.442	.442	0	%100
19	M21	X	.14	.14	0	%100
20	M21	Z	.081	.081	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	X	.092	.092	0	%100
2	M1	Z	.16	.16	0	%100
3	M2	X	.291	.291	0	%100
4	M2	Z	.504	.504	0	%100
5	M4	X	.351	.351	0	%100
6	M4	Z	.608	.608	0	%100
7	MP1A	X	.241	.241	0	%100
8	MP1A	Z	.417	.417	0	%100
9	MP4A	X	.241	.241	0	%100
10	MP4A	Z	.417	.417	0	%100
11	MP3A	X	.241	.241	0	%100
12	MP3A	Z	.417	.417	0	%100
13	MP2A	X	.241	.241	0	%100
14	MP2A	Z	.417	.417	0	%100
15	M14	X	.2	.2	0	%100
16	M14	Z	.347	.347	0	%100
17	M20	X	.438	.438	0	%100
18	M20	Z	.759	.759	0	%100
19	M21	X	.077	.077	0	%100
20	M21	Z	.134	.134	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	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	.576	.576	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	.936	.936	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	.464	.464	0	%100
9	MP4A	X	0	0	0	%100
10	MP4A	Z	.464	.464	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	Start Location[ft.%]	End Location[ft.%]
11	MP3A	X	0	0	0	%100
12	MP3A	Z	.464	.464	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	.464	.464	0	%100
15	M14	X	0	0	0	%100
16	M14	Z	.534	.534	0	%100
17	M20	X	0	0	0	%100
18	M20	Z	.512	.512	0	%100
19	M21	X	0	0	0	%100
20	M21	Z	.512	.512	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-.092	-.092	0	%100
2	M1	Z	.16	.16	0	%100
3	M2	X	-.291	-.291	0	%100
4	M2	Z	.504	.504	0	%100
5	M4	X	-.351	-.351	0	%100
6	M4	Z	.608	.608	0	%100
7	MP1A	X	-.241	-.241	0	%100
8	MP1A	Z	.417	.417	0	%100
9	MP4A	X	-.241	-.241	0	%100
10	MP4A	Z	.417	.417	0	%100
11	MP3A	X	-.241	-.241	0	%100
12	MP3A	Z	.417	.417	0	%100
13	MP2A	X	-.241	-.241	0	%100
14	MP2A	Z	.417	.417	0	%100
15	M14	X	-.2	-.2	0	%100
16	M14	Z	.347	.347	0	%100
17	M20	X	-.077	-.077	0	%100
18	M20	Z	.134	.134	0	%100
19	M21	X	-.438	-.438	0	%100
20	M21	Z	.759	.759	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft.F...	Start Location[ft.%]	End Location[ft.%]
1	M1	X	-.479	-.479	0	%100
2	M1	Z	.277	.277	0	%100
3	M2	X	-.515	-.515	0	%100
4	M2	Z	.297	.297	0	%100
5	M4	X	-.203	-.203	0	%100
6	M4	Z	.117	.117	0	%100
7	MP1A	X	-.447	-.447	0	%100
8	MP1A	Z	.258	.258	0	%100
9	MP4A	X	-.447	-.447	0	%100
10	MP4A	Z	.258	.258	0	%100
11	MP3A	X	-.447	-.447	0	%100
12	MP3A	Z	.258	.258	0	%100
13	MP2A	X	-.447	-.447	0	%100
14	MP2A	Z	.258	.258	0	%100
15	M14	X	-.116	-.116	0	%100
16	M14	Z	.067	.067	0	%100
17	M20	X	-.14	-.14	0	%100
18	M20	Z	.081	.081	0	%100
19	M21	X	-.766	-.766	0	%100
20	M21	Z	.442	.442	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	X	-.737	-.737	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	-.601	-.601	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	-.534	-.534	0	%100
8	MP1A	Z	0	0	0	%100
9	MP4A	X	-.534	-.534	0	%100
10	MP4A	Z	0	0	0	%100
11	MP3A	X	-.534	-.534	0	%100
12	MP3A	Z	0	0	0	%100
13	MP2A	X	-.534	-.534	0	%100
14	MP2A	Z	0	0	0	%100
15	M14	X	0	0	0	%100
16	M14	Z	0	0	0	%100
17	M20	X	-.527	-.527	0	%100
18	M20	Z	0	0	0	%100
19	M21	X	-.527	-.527	0	%100
20	M21	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,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	X	-.479	-.479	0	%100
2	M1	Z	-.277	-.277	0	%100
3	M2	X	-.515	-.515	0	%100
4	M2	Z	-.297	-.297	0	%100
5	M4	X	-.203	-.203	0	%100
6	M4	Z	-.117	-.117	0	%100
7	MP1A	X	-.447	-.447	0	%100
8	MP1A	Z	-.258	-.258	0	%100
9	MP4A	X	-.447	-.447	0	%100
10	MP4A	Z	-.258	-.258	0	%100
11	MP3A	X	-.447	-.447	0	%100
12	MP3A	Z	-.258	-.258	0	%100
13	MP2A	X	-.447	-.447	0	%100
14	MP2A	Z	-.258	-.258	0	%100
15	M14	X	-.116	-.116	0	%100
16	M14	Z	-.067	-.067	0	%100
17	M20	X	-.766	-.766	0	%100
18	M20	Z	-.442	-.442	0	%100
19	M21	X	-.14	-.14	0	%100
20	M21	Z	-.081	-.081	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	X	-.092	-.092	0	%100
2	M1	Z	-.16	-.16	0	%100
3	M2	X	-.291	-.291	0	%100
4	M2	Z	-.504	-.504	0	%100
5	M4	X	-.351	-.351	0	%100
6	M4	Z	-.608	-.608	0	%100
7	MP1A	X	-.241	-.241	0	%100
8	MP1A	Z	-.417	-.417	0	%100
9	MP4A	X	-.241	-.241	0	%100
10	MP4A	Z	-.417	-.417	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft,F...	Start Location[ft.%]	End Location[ft.%]
11	MP3A	X	-.241	-.241	0	%100
12	MP3A	Z	-.417	-.417	0	%100
13	MP2A	X	-.241	-.241	0	%100
14	MP2A	Z	-.417	-.417	0	%100
15	M14	X	-.2	-.2	0	%100
16	M14	Z	-.347	-.347	0	%100
17	M20	X	-.438	-.438	0	%100
18	M20	Z	-.759	-.759	0	%100
19	M21	X	-.077	-.077	0	%100
20	M21	Z	-.134	-.134	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 1474.154	9	1628.8...	19	1425.341	1	-1.256	1	5.255	9	3.046	49
2		min -1472.594	3	751.245	1	-2192.599	7	-4.715	19	-5.273	3	-3.264	26
3	N25	max 261.946	2	458.685	13	837.288	13	0	51	0	51	0	51
4		min -260.75	8	141.496	7	193.298	7	0	1	0	1	0	1
5	Totals:	max 1278.035	10	2039.0...	20	1999.356	1						
6		min -1278.033	4	1030.9...	2	-1999.3	7						

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

Member	Shape	Code Check	Loc[ft]	LC	Shear..	Loc[ft]	Dir	LC	phi*Pn...	phi*Pnt...	phi*Mn...	phi*Mn...	Cb	Eqn
1	M1	HSS4X4X4	.494	0	9	.276	0	y	26	131414...	139518	16.181	16.181	1...H1-1b
2	M2	PIPE 4.0	.001	1.125	4	.000	1.125		4	91742...	93240	10.631	10.631	1...H1-1b
3	M4	HSS4X4X4	.266	6.25	30	.113	6.25	z	1	72549...	139518	16.181	16.181	1...H1-1b
4	MP1A	PIPE 2.0	.308	4.25	17	.065	4.25		6	13511...	32130	1.872	1.872	1...H1-1b
5	MP4A	PIPE 2.0	.287	4.25	32	.040	6.021		35	13511...	32130	1.872	1.872	1...H1-1b
6	MP3A	PIPE 2.0	.273	4.25	8	.057	4.25		11	13511...	32130	1.872	1.872	1...H1-1b
7	MP2A	PIPE 2.0	.673	4.161	1	.094	6.641		2	13511...	32130	1.872	1.872	1...H1-1b
8	M14	PIPE 2.0	.181	1.172	33	.081	10.2...		2	6295.4...	32130	1.872	1.872	2...H1-1b
9	M20	L2.5x2.5x3	.121	2.835	23	.014	6.049	y	20	8975.3...	29192.4	.873	1.518	1...H2-1
10	M21	L2.5x2.5x3	.123	2.709	2	.013	6.049	y	18	8975.3...	29192.4	.873	1.559	1...H2-1



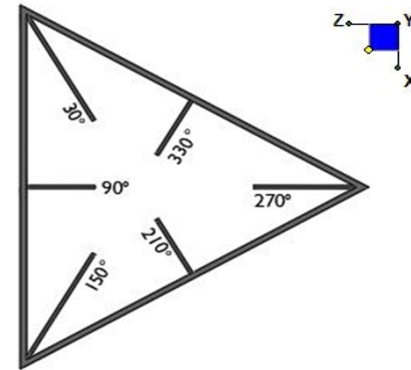
Client:	Verizon	Date:	12/30/2020
Site Name:	Milford South CT		
Project No.	20777369A		
Title:	Mount Analysis	Page:	1

Version 3.1

I. Mount-to-Tower Connection Check

RISA Model Data

Nodes (labeled per RISA)	Orientation (per graphic of typical platform)
N1	90



TYPICAL PLATFORM

Tower Connection Bolt Checks

Any moment resistance?:

Bolt Quantity per Reaction:

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

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

Bolt Type:

Bolt Diameter (in):

Required Tensile Strength (kips):

Required Shear Strength (kips):

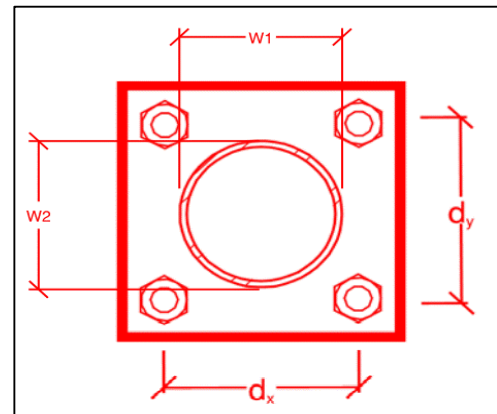
Tensile Strength / bolt (kips):

Shear Strength / bolt (kips):

Tensile Capacity Overall:

Shear Capacity Overall:

yes
4
3
8
A307
0.75
43.8
27.5
12.9
8.6
84.9%*
79.6%



*Note: Tension reduction not required if tension or shear capacity < 30%

Tower Connection Plate and Weld Check

Connecting Standoff Member Shape:

Plate Width (in):

Plate Height (in):

W1 (in):

W2 (in):

Fy (ksi, plate):

t_{plate} (in):

Weld Size (1/16 in):

$\Phi \cdot R_n$ (kip/in):

Required Weld Strength (kip/in):

Plate Bending Capacity:

Weld Capacity:

Rect
10
6
4
4
36
0.5
3
4.18
3.46
74.2%
82.8%

Max Plate Bending Strengths

$M_{u_{xx}}$ (kip-in):	15.3
$\Phi \cdot M_{n_{xx}}$ (kip-in):	20.3
$M_{u_{yy}}$ (kip-in):	-0.2
$\Phi \cdot M_{n_{yy}}$ (kip-in):	12.2

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Mount Modification

Purpose – to provide Maser Consulting Connecticut 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 modification was completed in accordance with the modification drawings.
- Contractor shall relay any data that can impact the performance of the mount or the mount modification, this includes safety issues.

Base Requirements:

- Any special photos outside of the standard requirements will be indicated on the drawings
- Provide “as built drawings” showing contractor’s name, preparer’s signature, and date. Any deviations from the drawings (proposed modification) must be shown.
- Notation that all hardware was properly installed, and the existing hardware was inspected for any issues.
- Verification that loading is as communicated in the modification drawings. NOTE If loading is different than what is conveyed in the modification drawing contact Maser Consulting Connecticut immediately.
- Each photo should be time and date stamped
- Photos should be high resolution and submitted in a Zip File and should be organized in the file structure as depicted in Schedule A attached.
- 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.
- The photos in the file structure should be uploaded to <https://pmi.vzwsmart.com> as depicted on the drawings

Photo Requirements:

- Base and “During Installation Photos”
 - Base pictures include
 - Photo of Gate Signs showing the tower owner, site name, and number
 - Photo of carrier shelter showing the carrier site name and number if available
 - Photos of the galvanizing compound and/or paint used (if applicable), clearly showing the label and name
 - “During Installation Photos if provided - must be placed only in this folder
- Photos taken at ground level
 - Overall tower structure before and after installation of the modifications
 - Photos of the appropriate mount before and after installation of the modifications; if the mounts are at different rad elevations, pictures must be provided for all elevations that the modifications were installed

- Photos taken at Mount Elevation

- Photos showing each individual sector before and also after installation of modifications. Each entire sector must be in one photo to show in the inter-connection of members.
These photos should also certify that the placement and geometry of the equipment on the mount is as depicted on the sketch and table in the mount analysis
- Close-up photos of each installed modification per the modification drawings; pictures should also include connection hardware (U-bolts, bolts, nuts, all-threaded rods, etc.)
- Photos showing the measurements of the installed modification member sizes (i.e. lengths, widths, depths, diameters, thicknesses)
- Photos showing the elevation or distances of the installed modifications from the appropriate reference locations shown in the modification drawings
- Photos showing the installed modifications onto the tower with tape drop measurements (if applicable) (i.e. ring/collar mounts, tie-backs, V-bracing kits, etc.); if the existing mount elevation needs to be changed according to the modification drawings, a tape drop measurement shall be provided before the elevation change
- Photos showing the safety climb wire rope above and below the mount prior to modification.
- Photos showing the climbing facility and safety climb if present.

Material Certification:

- Materials utilized must be as per specification on the drawings or the equivalent as validated by Maser Consulting Connecticut.
 - If the drawings are as specified on the drawings
The contractor should provide the packing list or the materials utilized to perform the mount modification
 - If an equivalent is utilized
It is required that the Maser Consulting Connecticut certification of such is included in the contractor submission package. There may be an additional charge for this certification if the equivalent submission doesn't meet specifications as prescribed in the drawings.
- The contractor must certify that the materials meet these specifications by one of these methods.

☐ The Material utilized was as specified on the Maser Consulting Connecticut Mount Modification Drawings and included in the
Material certification folder is a packing list or invoice for these materials

☐ The material utilized was an "equivalent" and included as part of the contractor submission is the Maser Consulting Connecticut certification, invoices, or specifications validating accepted status

Certifying Individual: Company _____

Name _____

Signature _____

Antenna & equipment placement and Geometry Confirmation:

- The contractor must certify that the antenna & equipment placement and geometry is in accordance with the antenna placement diagrams as included in this mount analysis.
- ☐ The contractor certifies that the photos support and the equipment on the mount is as depicted on the antenna placement diagrams as included in this mount analysis.
- ☐ The contractor notes that the equipment on the mount is not in accordance with the antenna placement diagrams and has accordingly marked up the diagrams or provided a diagram outlining the differences.

Certifying Individual: Company _____

 Name _____

 Signature _____

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

Issue:

Response:

Schedule A – Photo & Document File Structure



VzW Site Number / Name



Base & “During Installation” Photos



Pre-Installation Photos



Alpha



Beta



Gamma



Ground Level



Tape Drop



Post-Installation Photos



Alpha



Beta



Gamma



Ground Level



Tape Drop



Photos of climbing facility and safety climb – If Present



Certifications – Submission of this document including certifications



Specific Required Additional Photos

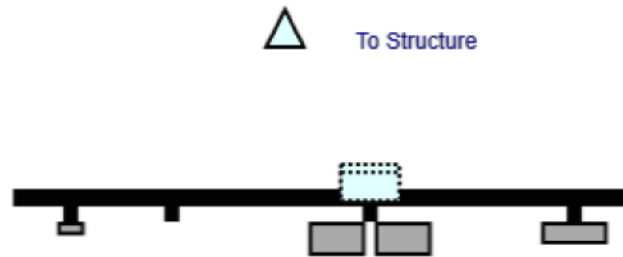
Sector: **A**
 Structure Type: Monopole
 Mount Elev: 58.25

12/2/2020

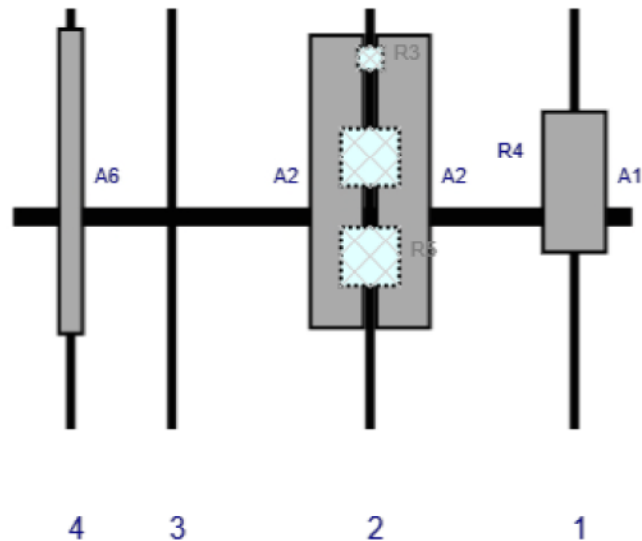
Page: 1



Plan View



Front View
 Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	nL-Sub 6 Antenna	35.1	16.1	136	1	a	Front	42	0	Added	
A2	JAHH-65B-R3B	72	13.8	86.5	2	a	Front	42	8	Added	
A2	JAHH-65B-R3B	72	13.8	86.5	2	b	Front	42	-8	Added	
R3	CBC78T-DS-43-2X	6.4	6.9	86.5	2	a	Behind	12	0	Added	
R4	B2/B66A RRRH-BR049	15	15	86.5	2	a	Behind	36	0	Added	
R5	B5/B13 RRRH-BR04C	15	15	86.5	2	a	Behind	60	0	Added	
A6	HBX-6517DS-VTM	74.9	6.6	14	4	a	Front	42	0	Retained	11/11/2020

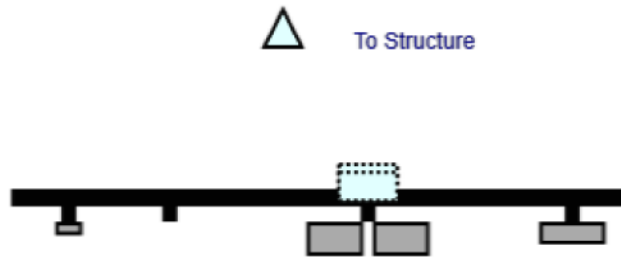
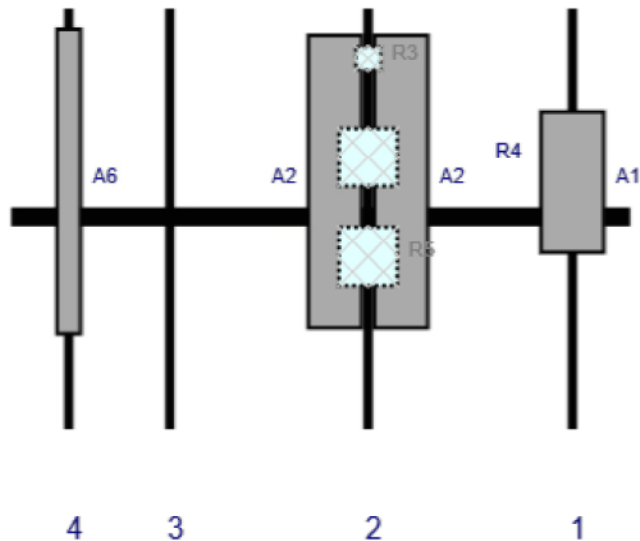
Sector: **B**
 Structure Type: Monopole
 Mount Elev: 58.25

12/2/2020

Page: 2



Plan View

Front View
Looking at Structure

Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	nL-Sub 6 Antenna	35.1	16.1	136	1	a	Front	42	0	Added	
A2	JAHH-65B-R3B	72	13.8	86.5	2	a	Front	42	8	Added	
A2	JAHH-65B-R3B	72	13.8	86.5	2	b	Front	42	-8	Added	
R3	CBC78T-DS-43-2X	6.4	6.9	86.5	2	a	Behind	12	0	Added	
R4	B2/B66A RRRH-BR049	15	15	86.5	2	a	Behind	36	0	Added	
R5	B5/B13 RRRH-BR04C	15	15	86.5	2	a	Behind	60	0	Added	
A6	HBX-6517DS-VTM	74.9	6.6	14	4	a	Front	42	0	Retained	11/11/2020

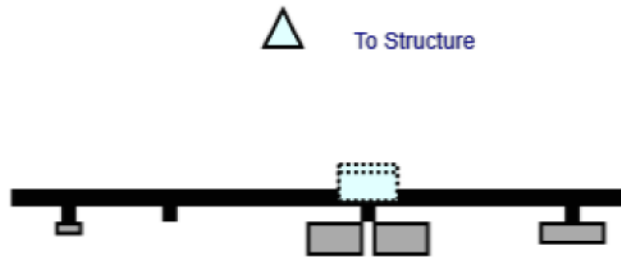
Sector: **C**
 Structure Type: Monopole
 Mount Elev: 58.25

12/2/2020

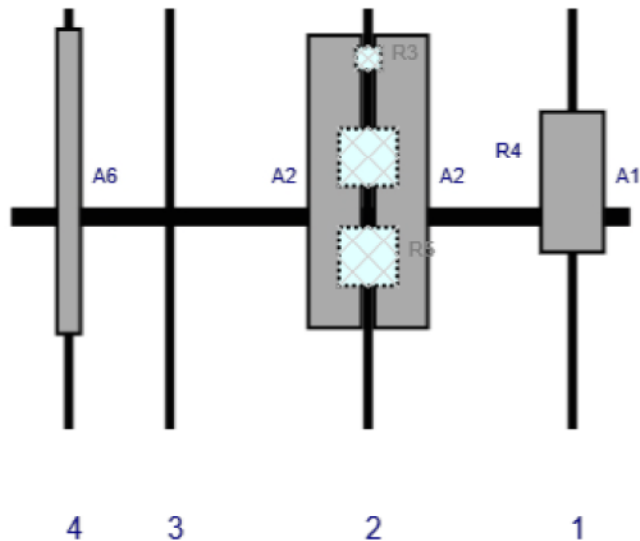
Page: 3



Plan View



Front View
 Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	nL-Sub 6 Antenna	35.1	16.1	136	1	a	Front	42	0	Added	
A2	JAHH-65B-R3B	72	13.8	86.5	2	a	Front	42	8	Added	
A2	JAHH-65B-R3B	72	13.8	86.5	2	b	Front	42	-8	Added	
R3	CBC78T-DS-43-2X	6.4	6.9	86.5	2	a	Behind	12	0	Added	
R4	B2/B66A RRH-BR049	15	15	86.5	2	a	Behind	36	0	Added	
R5	B5/B13 RRH-BR04C	15	15	86.5	2	a	Behind	60	0	Added	
A6	HBX-6517DS-VTM	74.9	6.6	14	4	a	Front	42	0	Retained	11/11/2020

Maser Consulting Connecticut

Subject

TIA-222-H Adoption and Wind Speed Usage

Site Information

Site ID: 468983-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: 40-Ft Monopole on 22.25-Ft Rooftop
Mount Type: 12.50-Ft T-Arm

To Whom It May Concern,

We respectfully submit the above referenced Antenna Mount Structural Analysis report in conformance with ANSI/TIA-222-H, Structural Standard for Antenna Supporting Structures and Antennas and Small Wind Turbine Support Structures.

The 2015 International Building Code states that, in Section 3108, telecommunication towers shall be designed and constructed in accordance with the provisions of TIA-222. The TIA-222-H is the latest revision of the TIA-222 Standard, effective as of January 01, 2018.

As with all ANSI standards and engineering best practice is to apply the most current revision of the standard. This ensures the engineer is applying all updates. As an example, the TIA-222-H standard includes updates to bring it in line with the latest AISC and ACI standards and it also incorporates the latest wind speed maps by ASCE 7 based on updated studies of the wind data.

The TIA-222-H standard clarifies these specific requirements for the antenna mount analysis such as modeling methods, seismic analysis, 30-degree increment wind directions and maintenance loading. Therefore, it is our opinion that TIA-222-H is the most appropriate standard for antenna mount structural analysis and is acceptable for use at this tower site to ensure the engineer is taking into account the most current engineering standard available.

Sincerely,



Michael Cleary, PE
Technical Specialist



MASER CONSULTING
—CONNECTICUT—

331 Newman Springs Road, Suite 203
Red Bank, NJ 07701
T: 732.383.1950
www.maserconsulting.com

March 29, 2021

Mr. Andrew Leone
Verizon Wireless
20 Alexander Dr.
Wallingford, CT 06492

Re: Verizon Wireless antenna Model Clarification for CT Siting Council

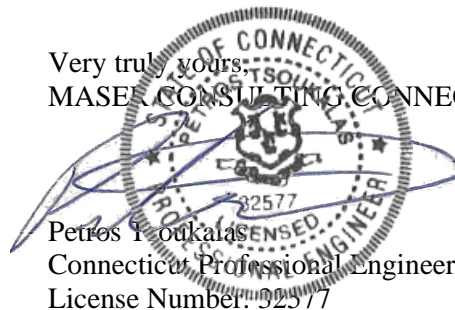
Dear Mr. Leone,

This letter is intended to clarify and confirm the antenna naming convention used by Verizon Wireless as a part of an antenna upgrade project on numerous wireless facilities.

The antenna naming convention “Licensed Sub-6, L-Sub6, nL-Sub6, VZS01” and any other slight variants refer to the 64T64RMMU antenna manufactured by Samsung Electronics. These names are interchangeable and are used in various documents, including but not limited to the “Antenna Mount Analysis”.

If you have any questions or comments, or require additional information, please do not hesitate to contact me.

Very truly yours,
MASER CONSULTING CONNECTICUT



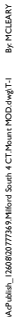
Petros I. Ioukalis
Connecticut Professional Engineer
License Number: 32577

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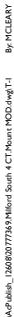
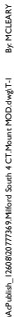
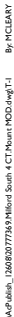
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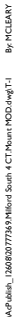
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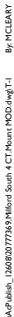


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\\p\m\12682077769\Mount South 4 CT Plant HCD\dwg\1 By: HCLBARY

BILL OF MATERIALS				
VZWSMART KITS				
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES
12	VZWSMART	VZWSMART-MSK1	CROSSOVER PLATE	
OTHER REQUIRED PARTS				
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES
3	-	-	150" LONG, P2.0 STD PIPE	GALVANIZED, FINAL LENGTH TO BE DETERMINED IN FIELD, CONTRACTOR TO TRIM AS REQUIRED
1	SITE PRO 1	PRK-SFS-L	HANDRAIL REINFORCEMENT KIT (LONG)	OR EOR APPROVED EQUAL, CONTACT MASER CONSULTING TO OBTAIN APPROVAL OF SUBSTITUTION

NOTE: ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR

VZWSMART KITS - APPROVED VENDORS	
COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM
METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM
PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM
SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM
SITE PRO 1	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM

NOTE: WHEN SPECIFIED, VZWSMART KITS SHALL BE REQUIRED AND WILL BE VERIFIED DURING THE DESKTOP PMI




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SCALE: AS SHOWN

JOB NUMBER: 20777369A

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Michael Cleary
CONNECTICUT LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER 3102
MASER CONSULTING, INC.

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SITE NAME:

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468983

58 ROBINSON BLVD
ORANGE, CT 06477
NEW HAVEN COUNTY



MT. LAUREL OFFICE
2000 Mt. Lauro Drive
Suite 100
Mount Laurel, NJ 08054

Phone: 856.797.0412
Fax: 856.722.1120

SHEET TITLE:

BILL OF MATERIALS

SHEET NUMBER:

S-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

GENERAL NOTES

1. THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-222-H. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES.
2. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES. ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THE CONTRACTOR'S WORK OR FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE BEGINNING WORK, ORDERING MATERIAL, AND PREPARING OF SHOP DRAWINGS. ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, NOTIFY THE ENGINEER IMMEDIATELY.
4. IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
5. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
6. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN AND SHALL MEET ANSI/TIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSI/TIA-322 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.
7. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
8. WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 30-MPH). THE STRUCTURE SHOWN ON THE DRAWINGS IS STRUCTURALLY SOUND ONLY IN THE COMPLETED FORM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT, SHORING, BRACING AND ANY OTHER STRUCTURAL SYSTEMS AS REQUIRED TO RESIST ALL FORCES THAT MAY OCCUR DURING HANDLING AND ERECTION UNTIL THE STRUCTURE IS FULLY COMPLETED. TEMPORARY SUPPORTS, BRACING AND OTHER STRUCTURAL SYSTEMS REQUIRED DURING CONSTRUCTION SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THEIR USE.
9. ALL INSTALLATIONS PERFORMED ON THIS STRUCTURE SHALL BE COMPLETED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS, ANSI/TIA-322.
10. CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOFABRIC, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
11. CONNECTIONS BETWEEN ITEMS SUPPORTED BY THE STRUCTURE AND THE STRUCTURE NOT SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. SUCH CONNECTIONS SHALL BE DESIGNED, COORDINATED AND INSPECTED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. SUBMIT SIGNED AND SEALED CALCULATIONS DURING SHOP DRAWING REVIEW.
12. DO NOT SCALE DRAWINGS.
13. DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
14. ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZE AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.
15. THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

DESIGN LOADS

WIND LOADS

- a. BASIC WIND SPEED (3 SECOND GUST), V = 120 MPH
- b. EXPOSURE CATEGORY B
- c. TOPOGRAPHIC CATEGORY II
- d. MEAN BASE ELEVATION (AMSL) = 19.19'

ICE LOADS

- a. ICE WIND SPEED (3 SECOND GUST), V = 50 MPH
- b. ICE THICKNESS = 1.0 IN

SEISMIC LOADS

- a. SEISMIC DESIGN CATEGORY B
- b. SHORT TERM MCER GROUND MOTION, S_s = 0.2
- c. LONG TERM MCER GROUND MOTION, S₁ = .053

STRUCTURAL STEEL

1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.

a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)

b. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS

c. AISC CODE OF STANDARD PRACTICE
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:

CHANNELS, ANGLES, PLATES, ETC.

ASTM A36 (GR 36)

STEEL PIPE

ASTM A53 (GR 35)

BOLTS

ASTM A325

NUTS

ASTM A563

LOCK WASHERS

LOCKING STRUCTURAL GRADE

3. ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.

4. PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.

a. SUBMIT SHOP DRAWINGS TO GDULNIK@MASERCONSULTING.COM

b. PROVIDE MASER CONSULTING PROJECT # AND MASER CONSULTING PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL

5. DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
6. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
7. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
8. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
9. WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
10. FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
11. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
12. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.

13. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
14. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINGA OR ZINC COTE), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
15. ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.



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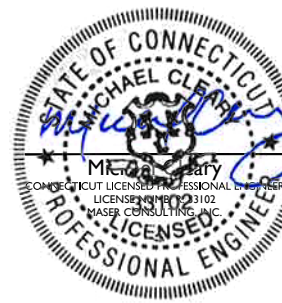
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MT. LAUREL OFFICE
2000 Mt. Lauro Drive
Suite 100
Mount Laurel, NJ 08054
Phone: 856.797.0412
Fax: 856.722.1120

SHEET TITLE:
MODIFICATION NOTES

SHEET NUMBER:
S-2

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

MODIFICATION INSPECTION NOTES

MI CHECKLIST	
CONSTRUCTION/ INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY EOR)	REPORT ITEM
PRE-CONSTRUCTION	
X	MI CHECKLIST DRAWING
X	EOR APPROVED SHOP DRAWINGS
NA	FABRICATION INSPECTION
NA	FABRICATOR CERTIFIED WELD INSPECTION
X	MATERIAL TEST REPORT (MTR)
NA	FABRICATOR NDE INSPECTION
X	PACKING SLIPS
ADDITIONAL TESTING AND INSPECTIONS:	
CONSTRUCTION	
X	CONSTRUCTION INSPECTIONS
NA	CONTRACTOR'S CERTIFIED WELD INSPECTION AND NDE REPORTS
X	ON SITE COLD GALVANIZING VERIFICATION
X	GC AS-BUILT DOCUMENTS
ADDITIONAL TESTING AND INSPECTIONS:	
POST-CONSTRUCTION	
X	MI INSPECTOR REDLINE OR RECORD DRAWING(S)
X	VZW PMI DOCUMENTS
X	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTE: X DENOTES A DOCUMENT REQUIRED FOR THE MI REPORT
NA DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE MI REPORT

THE MODIFICATION INSPECTION (MI) IS A VISUAL INSPECTION OF MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).

THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF, NOR DOES THE MI INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.

TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PURCHASE ORDER (PO) IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY.

MI INSPECTOR

THE MI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE MI TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS

THE MI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GC INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MI REPORT TO EOR.

GENERAL CONTRACTOR

THE GC IS REQUIRED TO CONTACT THE MI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE MI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MI INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS

THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MI CHECKLIST.

RECOMMENDATIONS

THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING AN MI REPORT:

- IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED.
- THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RE-TENSIONING OPERATIONS.
- IT MAY BE BENEFICIAL TO INSTALL ALL MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTIONS TO ALLOW THE FOUNDATION AND MI INSPECTION(S) TO COMMENCE WITH ONE SITE VISIT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING THE MI TO HAVE ANY DEFICIENCIES CORRECTED DURING THE INITIAL MI. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MI CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

CORRECTION OF FAILING MI'S

IF THE MODIFICATION INSTALLATION WOULD FAIL THE MI ("FAILED MI"), THE GC SHALL WORK WITH THE OWNER TO COORDINATE A REMEDIATION PLAN:

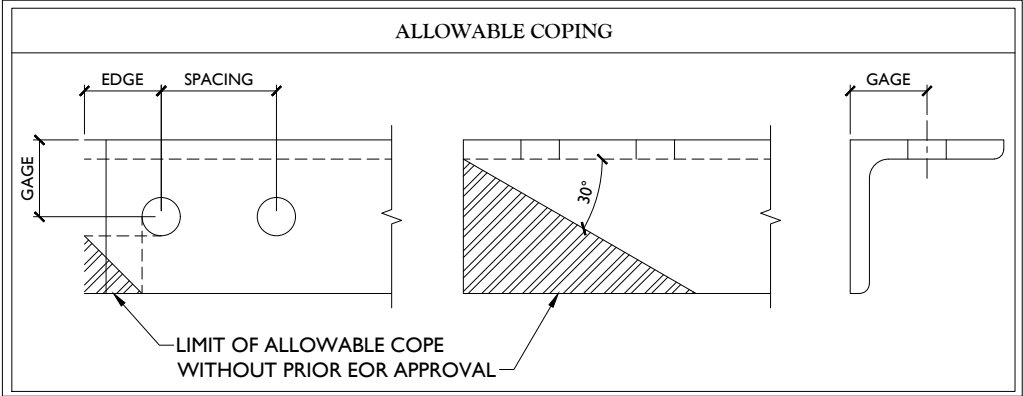
- CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MI.

REQUIRED PHOTOS

BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:

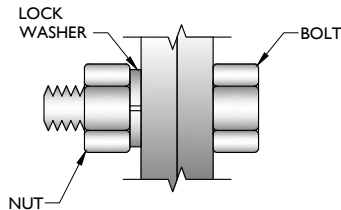
- PRE-CONSTRUCTION GENERAL SITE CONDITION
- PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION
 - RAW MATERIALS
 - PHOTOS OF ALL CRITICAL DETAILS
 - FOUNDATION MODIFICATIONS
 - WELD PREPARATION
 - BOLT INSTALLATION
 - FINAL INSTALLED CONDITION
 - SURFACE COATING REPAIR
- POST CONSTRUCTION PHOTOGRAPHS
 - FINAL INFELD CONDITION

PHOTOS OF ELEVATED MODIFICATIONS TAKEN ONLY FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.



BOLT SCHEDULE (IN.)				
BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2	9/16	9/16 x 11/16	7/8	1 1/2
5/8	11/16	11/16 x 7/8	1 1/8	1 7/8
3/4	13/16	13/16 x 1	1 1/4	2 1/4
7/8	15/16	15/16 x 1 1/8	1 1/2	2 5/8
1	1 1/16	1 1/16 x 1 5/16	1 3/4	3


WORKABLE GAGES (IN.)	
LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



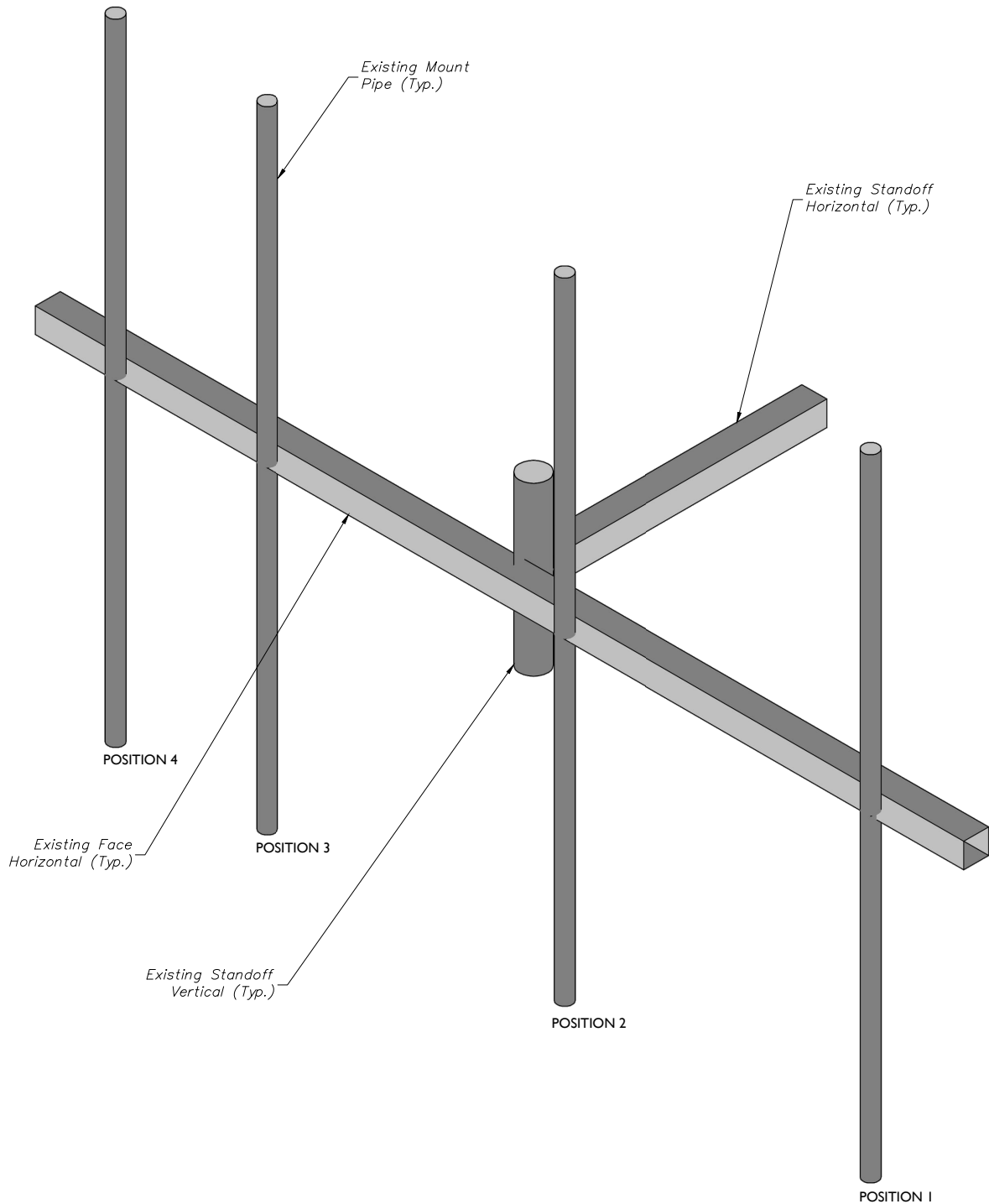
TYP. BOLT ASSEMBLY

NOTES:

1. ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
2. THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
3. SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
4. MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.

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<h2>SITE NAME:</h2> <p style="font-size: large; margin-top: 20px;">MILFORD SOUTH 4 CT 468983</p> <p style="margin-top: 20px;">58 ROBINSON BLVD ORANGE, CT 06477 NEW HAVEN COUNTY</p>																															
	<div style="border-top: 1px solid black; padding-top: 5px;"> MT. LAUREL OFFICE 2000 Midlantic Drive Suite 100 Mount Laurel, NJ 08054 Phone: 856.797.0412 Fax: 856.722.1120 </div>																														
SHEET TITLE: MODIFICATION NOTES																															
SHEET NUMBER: S-3																															

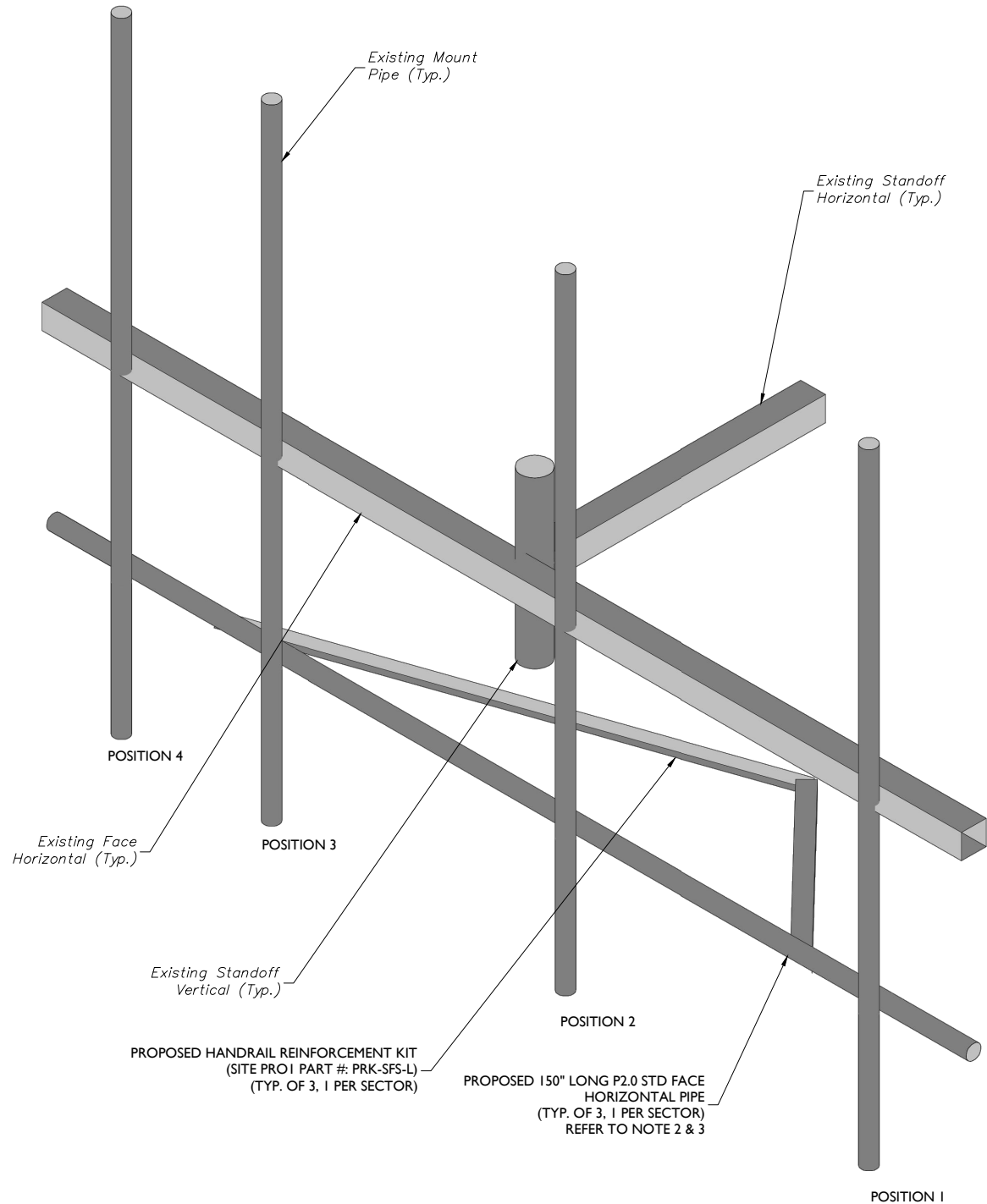
\\p01m01\126802077769\Milford South 4 CT Mount HCD\Drawings\4 By: HCEBARY



1 EXISTING T-FRAME ISOMETRIC VIEW (TYP. ALL SECTORS)
SCALE : N.T.S.

STRUCTURAL NOTES:

- PER THE MOUNT MAPPING COMPLETED BY TOWER ENGINEERING PROFESSIONALS ON 11/11/20, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (60'-0") ARE IN GOOD CONDITION. MASER DOES NOT WARRANT THIS INFORMATION.
- INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.



2 PROPOSED T-FRAME ISOMETRIC VIEW (TYP. ALL SECTORS)
SCALE : N.T.S.

MODIFICATION NOTES:

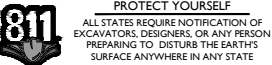
- MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.
- RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE.
- CONNECT NEW HORIZONTAL TO ALL EXISTING VERTICAL MOUNT PIPES WITH CROSSOVER PLATES (PART #: VZWSMART-MSK1).



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SCALE : AS SHOWN JOB NUMBER : 20777369A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	12/31/2020	ISSUED FOR CONSTRUCTION	FAC	MPC



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SITE NAME:

MILFORD SOUTH 4 CT
468983

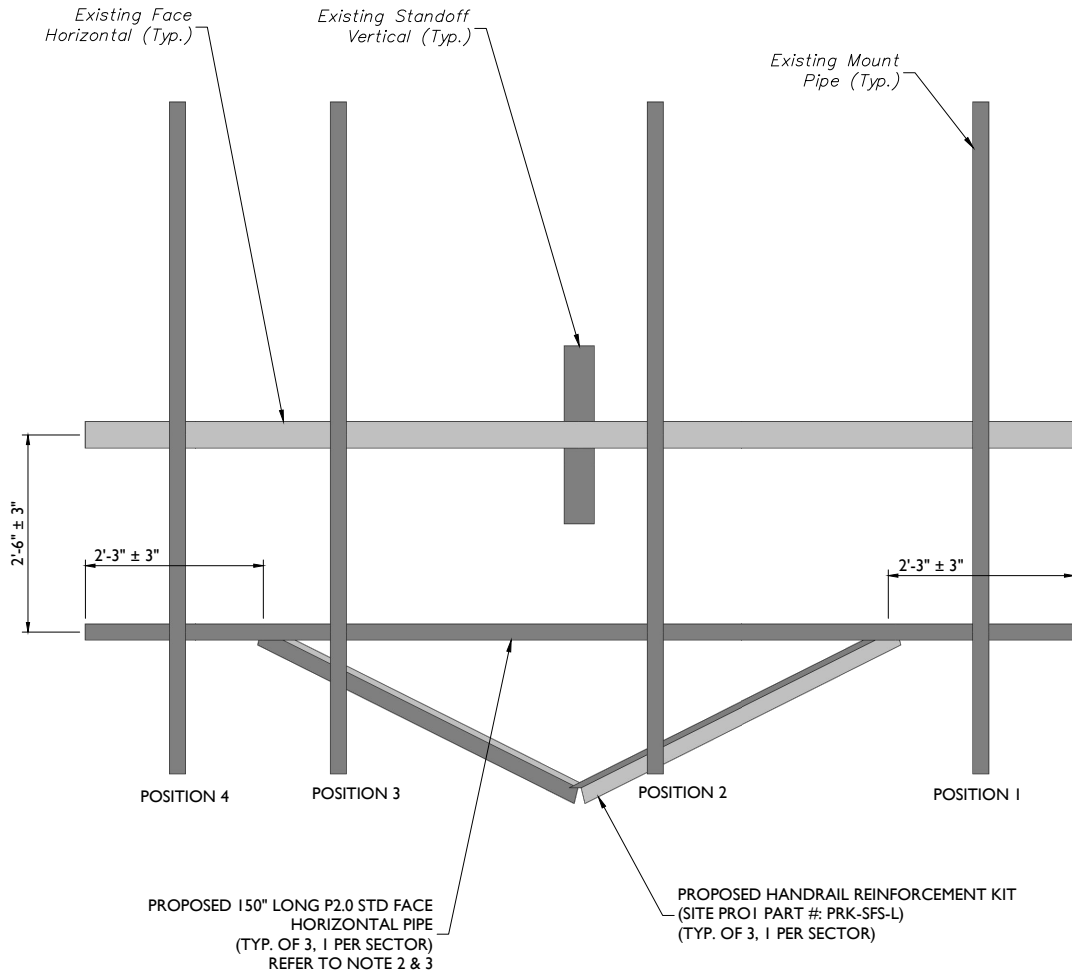
58 ROBINSON BLVD
ORANGE, CT 06477
NEW HAVEN COUNTY



SHEET TITLE:
MODIFICATION DETAILS

SHEET NUMBER:
S-4

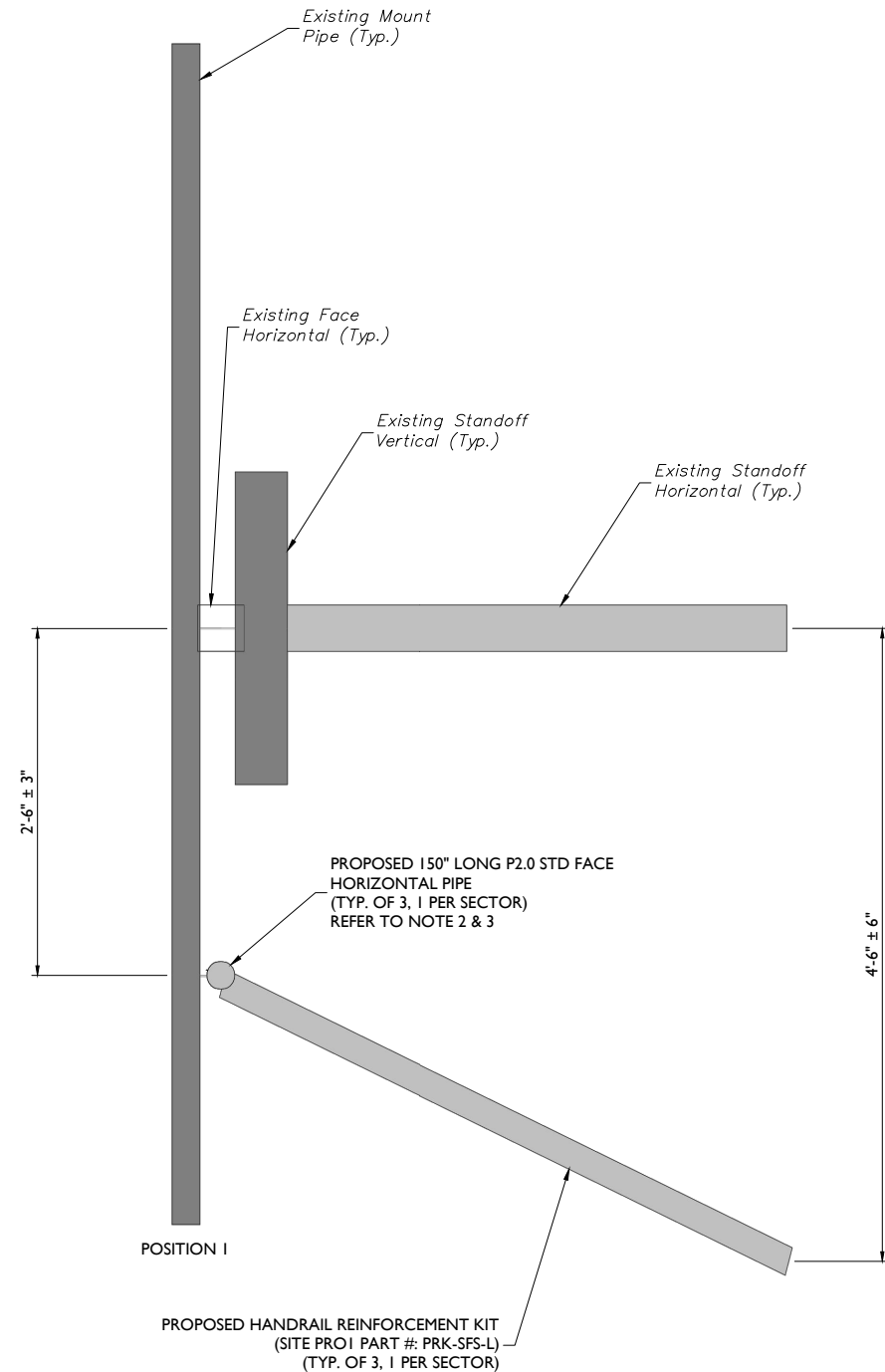
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



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

MODIFICATION NOTES:

- MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.
- RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE.
- CONNECT NEW HORIZONTAL TO ALL EXISTING VERTICAL MOUNT PIPES WITH CROSSOVER PLATES (PART #: VZWSMART-MSK1).



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



MOUNT PHOTO 1



MOUNT PHOTO 2



MOUNT PHOTO 3



MOUNT PHOTO 4



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SCALE: AS SHOWN

JOB NUMBER: 20777369A

0	12/31/2020	ISSUED FOR CONSTRUCTION	FAC	MPC
REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY



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SITE NAME:

MILFORD SOUTH 4 CT
468983

58 ROBINSON BLVD
ORANGE, CT 06477
NEW HAVEN COUNTY



MT. LAUREL OFFICE
2000 Midland Drive
Suite 100
Mount Laurel, NJ 08054

Phone: 856.797.0412
Fax: 856.722.1120

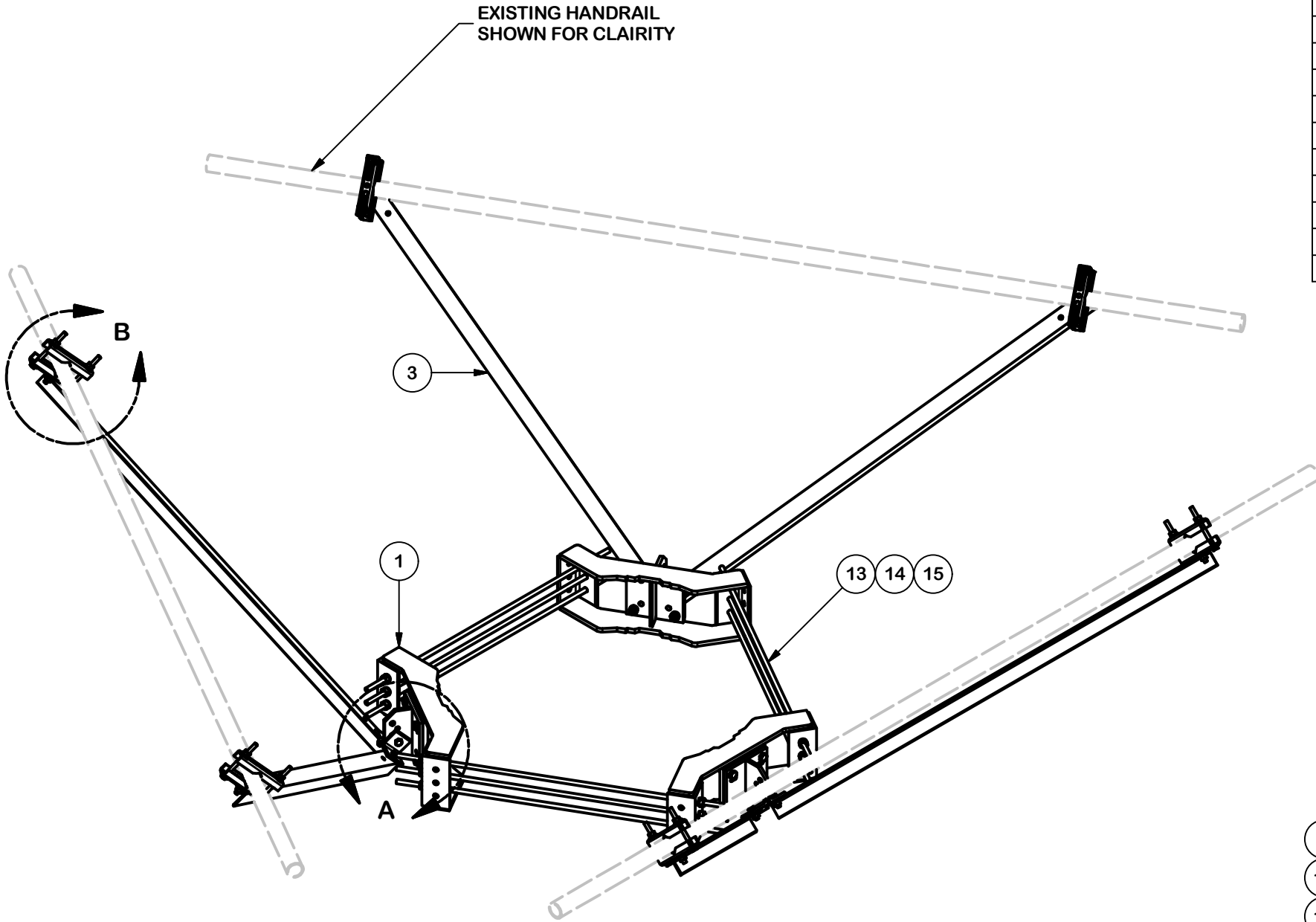
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MOUNT PHOTOS

SHEET NUMBER:
S-6

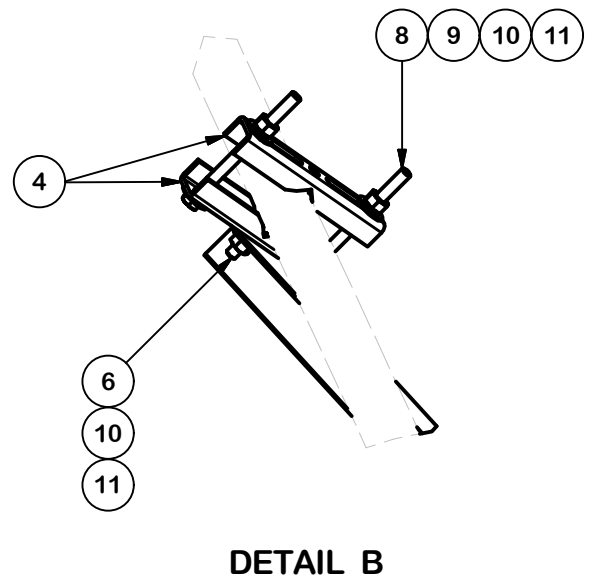
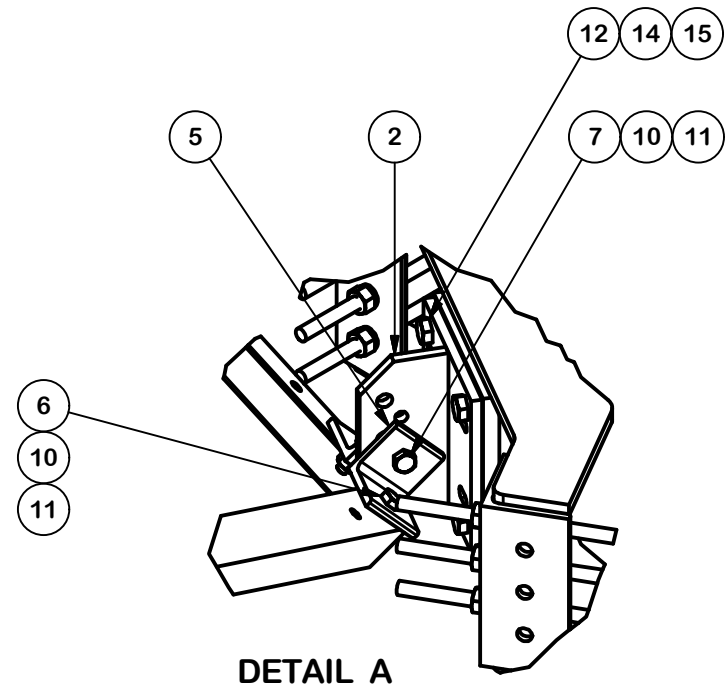
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

12682077769 Milford South 4 CT Mount HCD.dwg\$4

By: HCCLEARY



PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	3	X-LWRM	RING MOUNT WELDMENT		68.81	206.42
2	3	X-TBW	T-BRACKET WELDMENT		13.60	40.80
3	6	X-254924	DIAGONAL ANGLE - SITE PRO 1	72 in	19.71	118.24
4	12	X-STU	STIFF ARM CHANNEL BRACKET	8 1/2 in	1.37	16.46
5	6	SHCM-T	CHAIN MOUNT TIGHTENER BRACKET	3 in	1.86	11.15
6	12	G12112	1/2" x 1-1/2" HDG HEX BOLT GR5	1/2 in	0.15	1.77
7	3	G12212	1/2" x 2-1/2" HDG HEX BOLT GR5	2 1/2 in	0.20	0.61
8	12	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	6 1/2 in	0.41	4.91
9	24	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	0.82
10	27	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	0.38
11	27	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	1.93
12	12	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	3.75
13	9	G58R-24	5/8" x 24" THREADED ROD (HDG.)	24 in	0.40	3.59
13	9	G58R-48	5/8" x 48" THREADED ROD (HDG.)	48 in	0.40	3.59
14	30	G58LW	5/8" HDG LOCKWASHER		0.03	0.78
15	30	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	3.90
					TOTAL WT. #	642.04

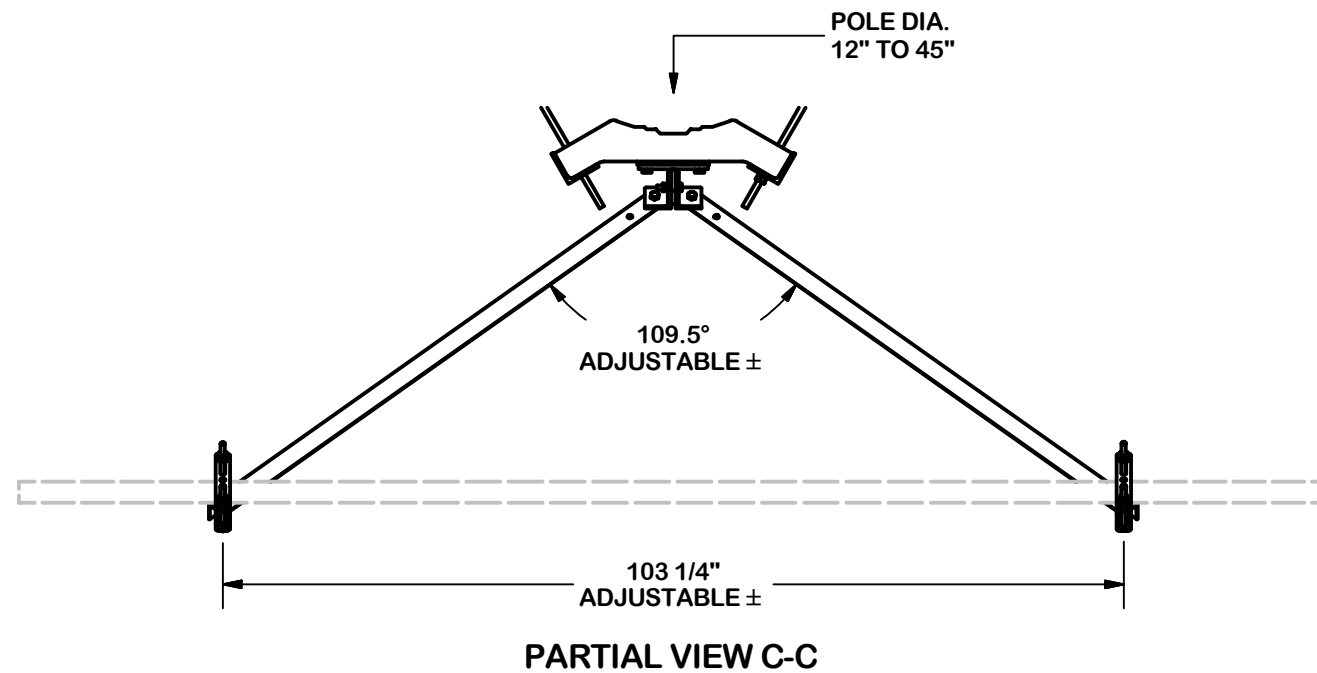


A	CHANGED MAX. DIA. FOR HANDRAIL CONNECTION	SP1	BC	10/25/2017
REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
REVISION HISTORY				

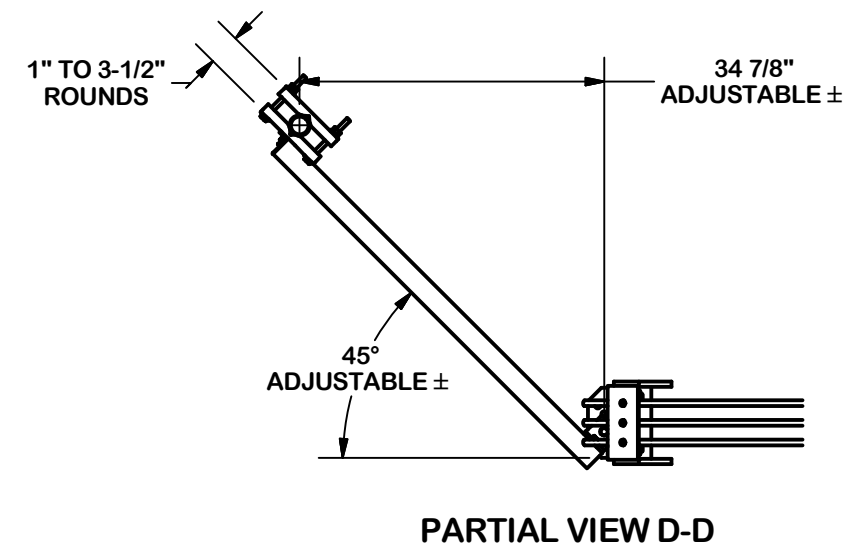
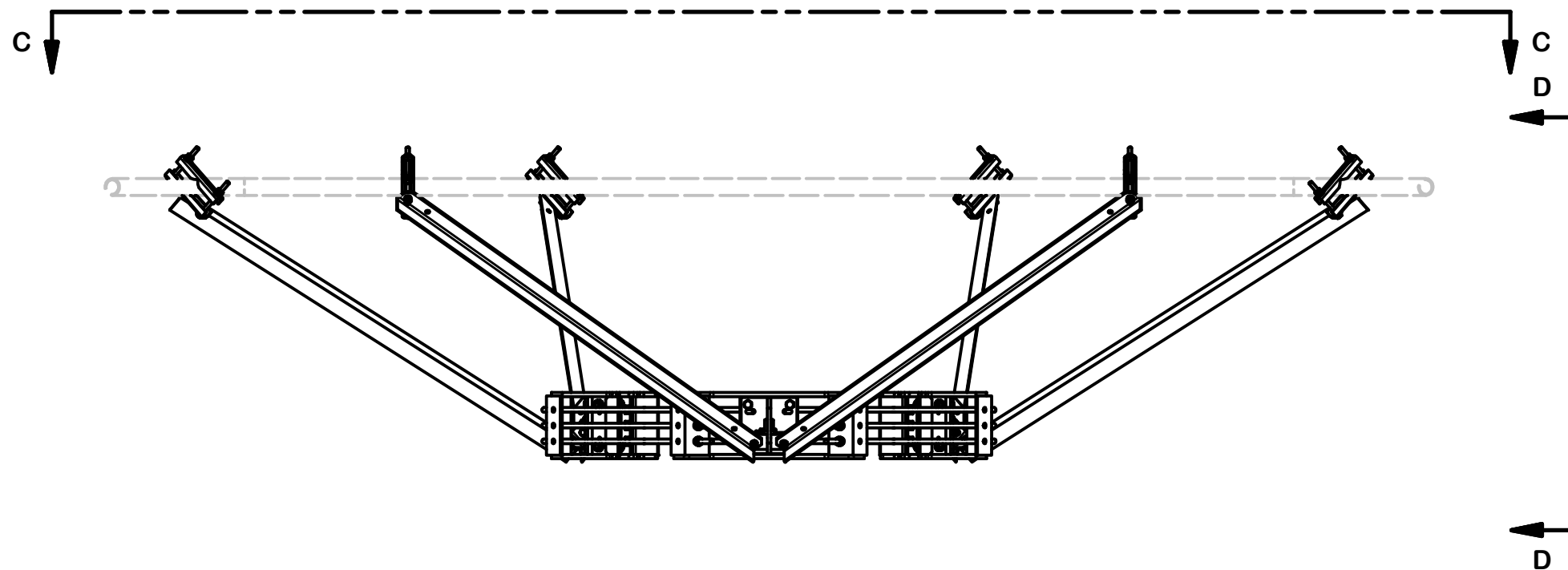
TOLERANCE NOTES				
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE: SAWED, SHEARED AND GAS CUT EDGES (± 0.030") DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES BENDS ARE ± 1/2 DEGREE ALL OTHER MACHINING (± 0.030") ALL OTHER ASSEMBLY (± 0.060")				
PROPRIETARY NOTE: THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.				

DESCRIPTION			
HANDRAIL REINFORCEMENT KIT (LONG)			
CPD NO.	DRAWN BY	ENG. APPROVAL	
SP1	CSL3 2/23/2017	3RD PARTY	
CLASS	SUB	DRAWING USAGE	CHECKED BY
81	02	SHOP	BMC 9/8/2017

<div><div><div>SITE PRO 1</div><div>A valmont COMPANY</div></div><div>Locations: New York, NY Atlanta, GA Los Angeles, CA Plymouth, IN Salem, OR Dallas, TX</div></div>		Engineering Support Team: 1-888-753-7446	PART NO. PRK-SFS-L	1 OF 3 PAGE
			DWG. NO. PRK-SFS-L	



VERTICAL POSITION

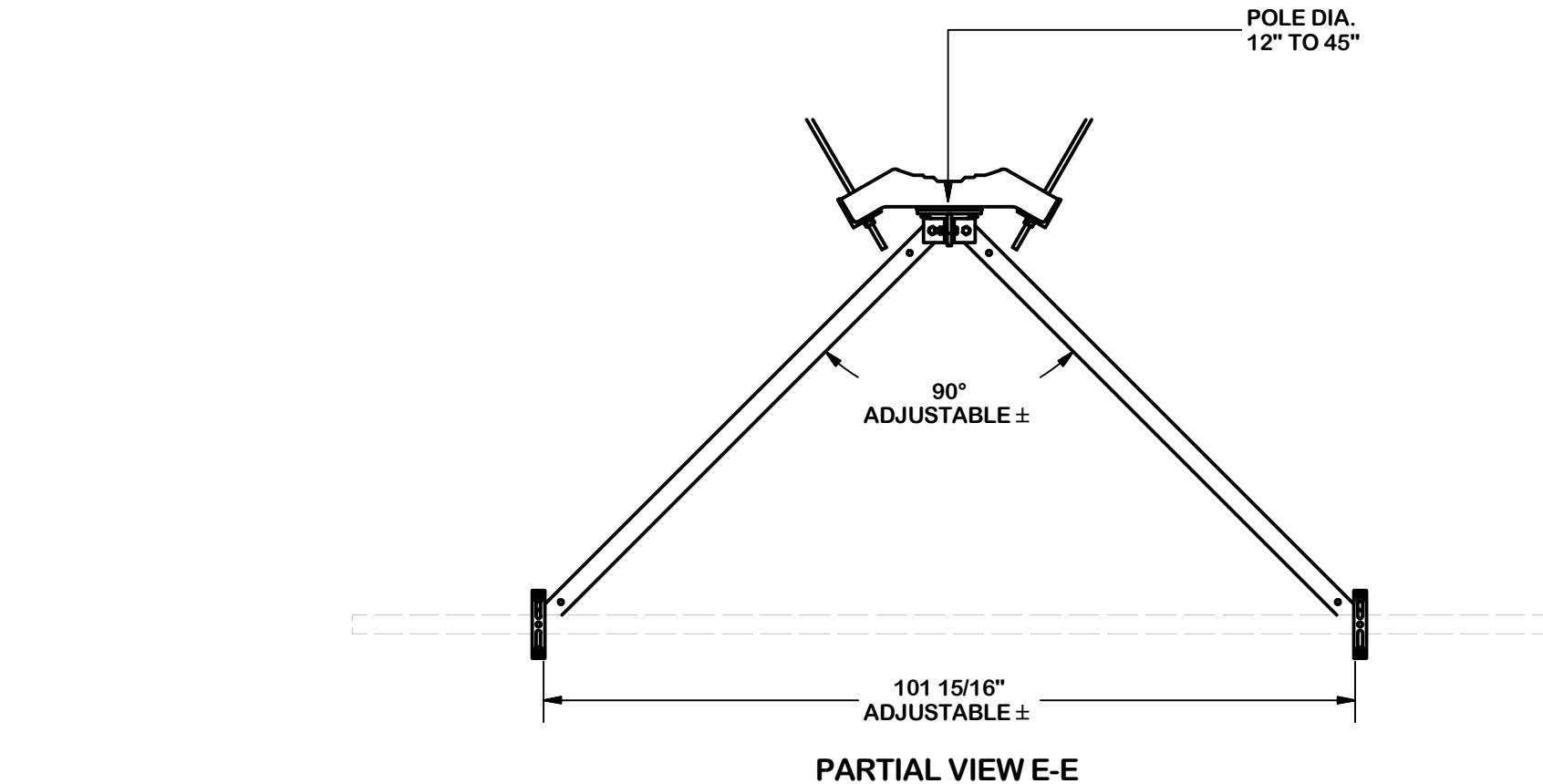


REVISION HISTORY				
A	CHANGED MAX. DIA. FOR HANDRAIL CONNECTION	SP1	BC	10/25/2017
REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE

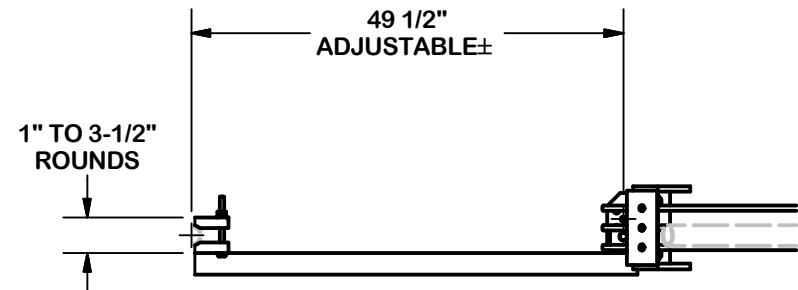
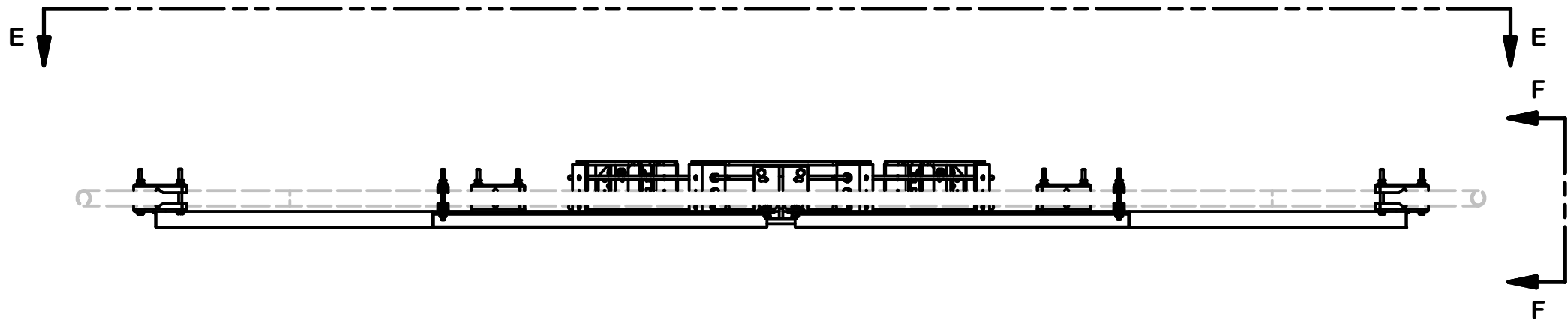
TOLERANCE NOTES				
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE: SAWED, SHEARED AND GAS CUT EDGES (± 0.030") DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES BENDS ARE ± 1/2 DEGREE ALL OTHER MACHINING (± 0.030") ALL OTHER ASSEMBLY (± 0.060")				
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DESCRIPTION			
HANDRAIL REINFORCEMENT KIT (LONG)			
CPD NO.	DRAWN BY	ENG. APPROVAL	
SP1	CSL3 2/23/2017	3RD PARTY	
CLASS	SUB	DRAWING USAGE	CHECKED BY
81	02	SHOP	BMC 9/8/2017

SITE PRO 1 A valmont COMPANY		Locations: New York, NY Atlanta, GA Los Angeles, CA Plymouth, IN Salem, OR Dallas, TX
Engineering Support Team: 1-888-753-7446		
PART NO.	PRK-SFS-L	
DWG. NO.	PRK-SFS-L	



HORIZONTAL POSITION



PARTIAL VIEW F-F

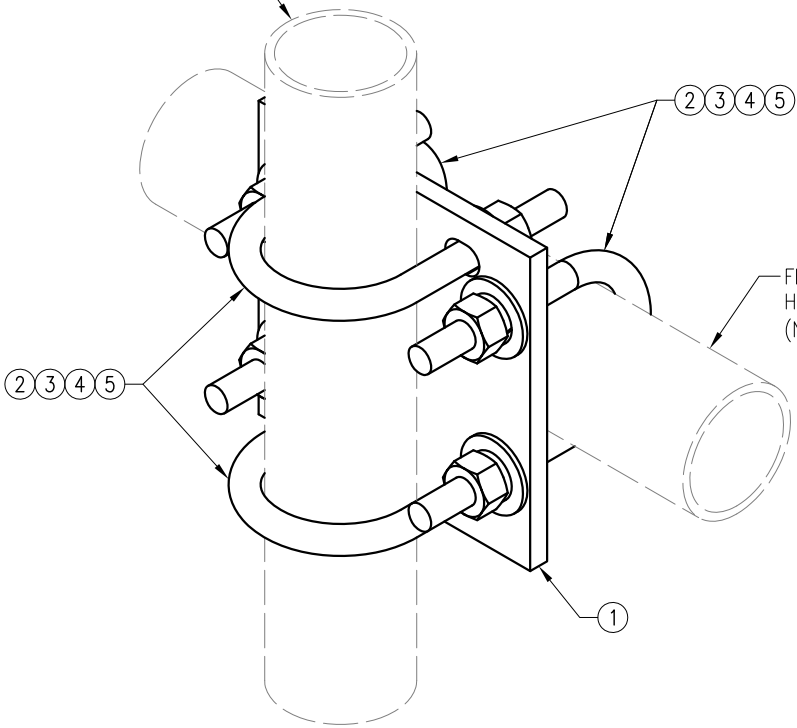
REVISION HISTORY				
A	CHANGED MAX. DIA. FOR HANDRAIL CONNECTION	SP1	BC	10/25/2017
REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE

TOLERANCE NOTES				
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE: SAWED, SHEARED AND GAS CUT EDGES (± 0.030") DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES BENDS ARE ± 1/2 DEGREE ALL OTHER MACHINING (± 0.030") ALL OTHER ASSEMBLY (± 0.060")				
PROPRIETARY NOTE: THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.				

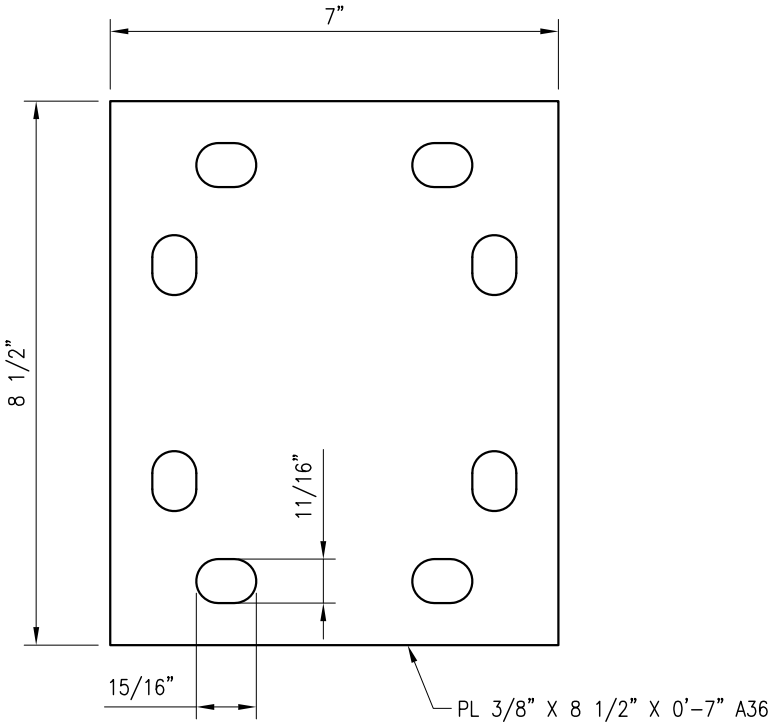
DESCRIPTION			
HANDRAIL REINFORCEMENT KIT (LONG)			
CPD NO.	DRAWN BY	ENG. APPROVAL	
SP1	CSL3 2/23/2017	3RD PARTY	
CLASS	SUB	DRAWING USAGE	CHECKED BY
81	02	SHOP	BMC 9/8/2017

SITE PRO 1 A valmont COMPANY		Locations: New York, NY Atlanta, GA Los Angeles, CA Plymouth, IN Salem, OR Dallas, TX
Engineering Support Team: 1-888-753-7446		
PART NO.	PRK-SFS-L	
DWG. NO.	PRK-SFS-L	

FITS 2.375" O.D. AND 2.875" O.D.
VERTICAL PIPE.
(NOT INCLUDED IN THIS KIT)



FITS 2.375" O.D. AND 2.875" O.D.
HORIZONTAL PIPE.
(NOT INCLUDED IN THIS KIT)



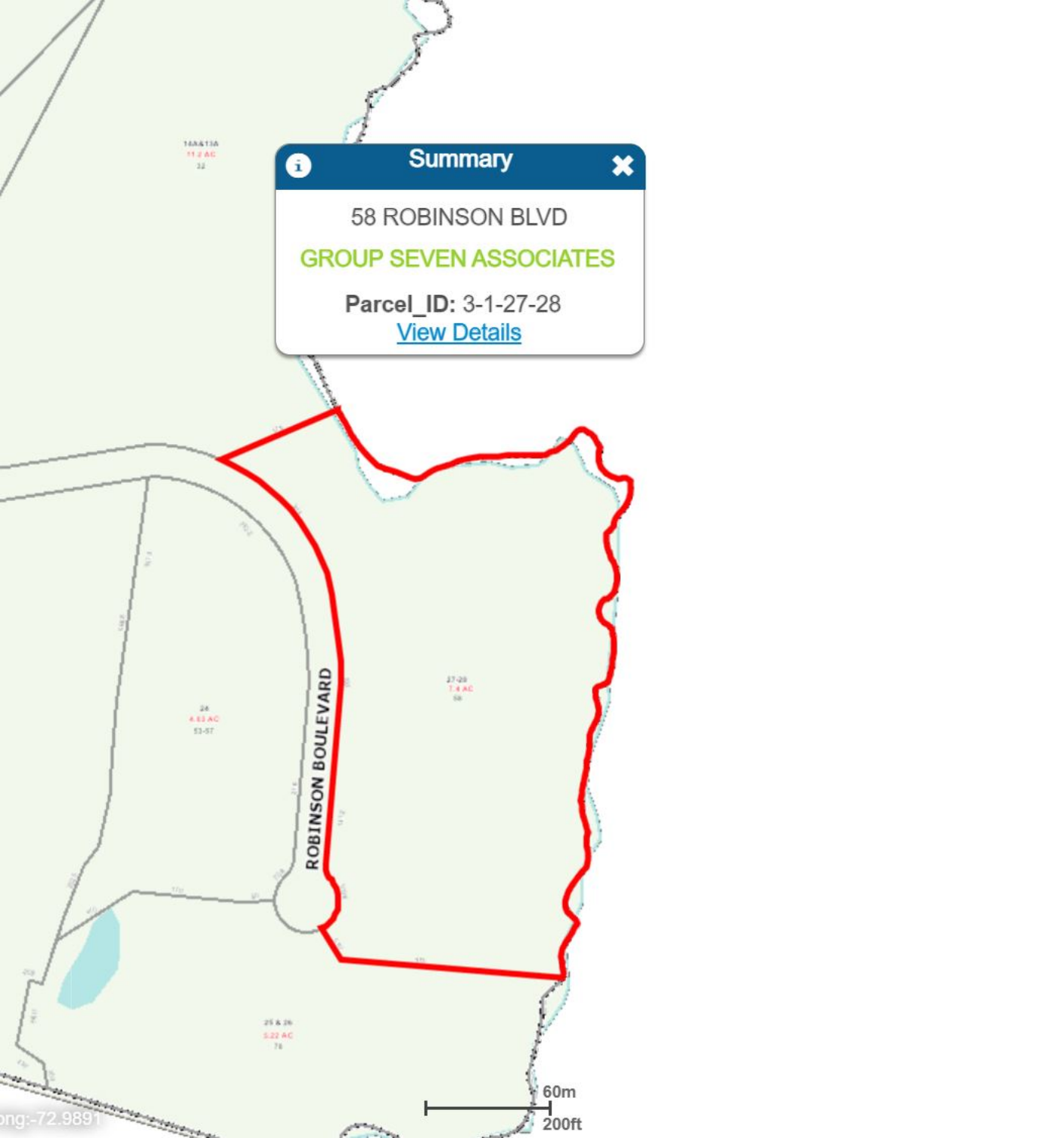
PL375-857

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

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

DRAWN BY: H.R		CHECKED BY: HMA	
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	H.R	05/08/20
1			
2			
3			
4			
SHEET TITLE:			
VZWSMART-MSK1 CROSSOVER PLATE			
SHEET NUMBER:		REV #:	
VZWSMART-MSK1		0	

ATTACHMENT 5



Summary



58 ROBINSON BLVD

GROUP SEVEN ASSOCIATES

Parcel_ID: 3-1-27-28

[View Details](#)



Orange,CT

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

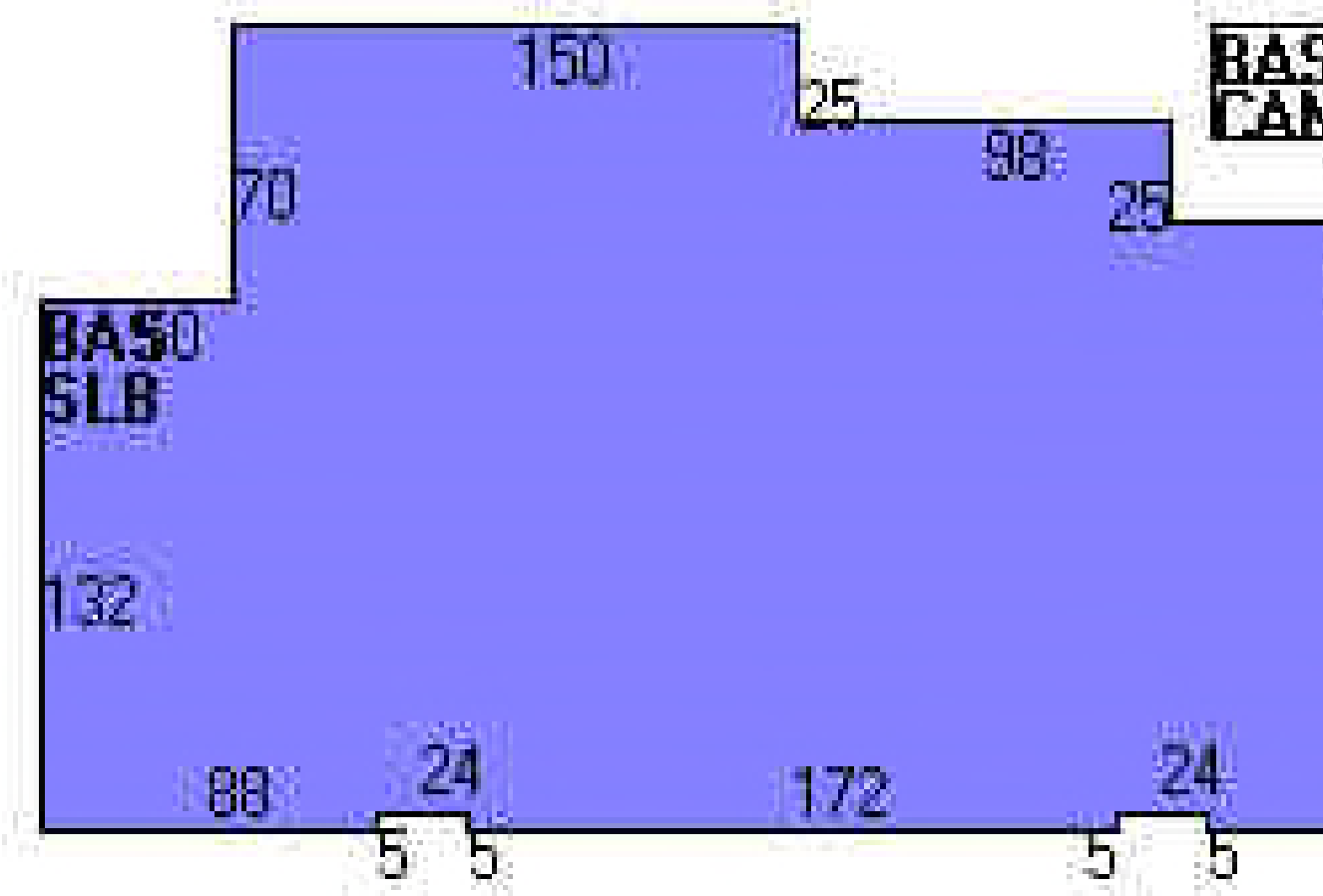
Field	Description
Style	Warehouse
Model	Ind/Comm
Grade	A-
Stories	1
Occupancy	3.00
Exterior Wall 1	Brck/Cndr Blck

Exterior Wall 2	Metal
Roof Structure	Flt-Stl Blt Js
Roof Cover	BU Comp
Interior Wall 1	Paint
Interior Wall 2	Unfinished
Interior Floor 1	Concrete
Interior Floor 2	Carpet
Heating Fuel	Gas
HVAC	Force Air Unit
Ceilings	Unfinished
Partitions	Typical
Bldg Use	Industrial
Full Baths	0
Half Baths	5
Total Fixtures	0
% Sprinkler	100
Elevator	0
1st Floor Use	
Basement	Slab
Foundation	Concrete
Park Spaces	150
Frame Type	Fire Resistant
Footprint	
Wall Height	22.00
Bldg Adj	1.00

Building Photo



Building Layout



Building Sub-Areas (sq ft) Legend

Code	Description	Gross Area	Living Area
BAS	First Floor	81,640	81,640
CAN	Canopy	240	0
SLB	Slab	81,880	0
		163,760	81,640

Extra Features**Extra Features Legend**

Code	Description	Size	Value	Bldg #
SPR1	Sprinklers-Wet	81640.00 UNITS	\$58,800	1

Land**Land Use****Use Code** 301**Description** Industrial**Zone** LI-2**Neighborhood** C20**Alt Land Appr** No**Category****Land Line Valuation****Size (Acres)** 7.4**Frontage****Depth****Assessed Value** \$1,065,400**Appraised Value** \$1,522,000**Outbuildings****Outbuildings Legend**

Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
PAV1	Concrete Paving			100000.00 UNITS	\$75,000	1

LT1	Lights			12.00 UNITS	\$7,400	1
-----	--------	--	--	-------------	---------	---

Valuation History

Appraisal

Valuation Year	Improvements	Land	Total
2020	\$4,525,600	\$1,522,000	\$6,047,600
2019	\$4,525,600	\$1,522,000	\$6,047,600
2018	\$4,525,600	\$1,522,000	\$6,047,600

Assessment

Valuation Year	Improvements	Land	Total
2020	\$3,168,000	\$1,065,400	\$4,233,400
2019	\$3,168,000	\$1,065,400	\$4,233,400
2018	\$3,168,000	\$1,065,400	\$4,233,400


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closecloseclose

ATTACHMENT 6



MILFORD SOUTH 4
Certificate of Mailing — Firm

Name and Address of Sender Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	TOTAL NO. of Pieces Listed by Sender 3	TOTAL NO. of Pieces Received at Post Office™ 3	Affix Stamp Here <i>Postmark with Date of Receipt.</i> neopost SM 07/09/2021 US POSTAGE \$002.89⁰  ZIP 06103 041L12203937
	Postmaster, per (name of receiving employee) Vp		

USPS® Tracking Number Firm-specific Identifier	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 06825				
4.					
5.					
6.					

