Robinson+Cole

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Also admitted in Massachusetts and New York

March 23, 2022

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**
1323 King Street, Greenwich, 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 tower and associated equipment on the ground near the base of the tower. Cellco refers to this site as its BRUCES CT facility. Cellco's site acquisition consultant did reach out to the Town Officials in advance of this filing in an effort to obtain a copy of the Town's original tower approval and was told that no copy of the Town's original approval could be located. Cellco's shared use of the tower was approved by the Siting Council ("Council") in July of 1993. A copy of Cellco's approval is included in Attachment 1.

Cellco now intends to modify its facility by removing eight (8) existing antennas and installing two (2) new Samsung MT6407-77A antennas and four (4) new MX06FRO660-03 antennas on Cellco's existing antenna mounts. Cellco also intends to replace four (4) remote radio heads ("RRHs') with four (4) new RRHs behind its antennas. A set of project plans showing Cellco's proposed facility modifications and the specifications for Cellco's new antennas and RRH 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 the Town's Chief Elected Official and Land Use Officer. The Town of Greenwich is the owner of the property.

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

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

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 cumulative General Power Density table for Cellco's 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 tower, tower foundation and antenna platform, with certain modifications, can support Cellco's proposed modifications. Copies of the SA and MA are included in Attachment 4.

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

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

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Fred Camillo, Greenwich First Selectman
Katie DeLuco, Director of Planning and Zoning
Alex Tyrurin, Verizon Wireless

ATTACHMENT 1

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL
136 Main Street, Suite 401
New Britain, Connecticut 06051-4225
Phone: 827-7682

July 20, 1993

David S. Malko, P.E.
General Manager Engineering
Bell Atlantic Metro Mobile
20 Alexander Drive
P.O. Box 5029
Wallingford, CT 06492

RE: Metro Mobile CTS of Fairfield County, Inc., notice of intent to modify an existing telecommunications tower and associated equipment located on the Bruce Memorial Golf Course off King Street in Greenwich, Connecticut.

Dear Mr. Malko:

At a public meeting on July 14, 1993, the Connecticut Siting Council (Council) ruled that the proposed placement of cellular antennas on and associated equipment at a non-facility tower under construction on the Bruce Memorial Golf Course off King Street, in Greenwich, Connecticut, would not cause a significant change or alteration in the physical and environmental characteristics of the site and acknowledged your notice of intent to modify this existing non-facility tower pursuant to section 16-50j-73 of the Regulations of State Agencies (RSA).

The proposed modifications are to be implemented as specified in your notice dated July 1, 1993. As proposed, the modifications are in compliance with the exception criteria specified in RSA section 16-50j-72(c) as changes to an existing non-facility tower that do not extend the boundaries of the site; increase noise levels at the site boundary by six decibels or more; increase the total radiofrequency electromagnetic radiation power density measured at the site boundary to or above the standard adopted by the Connecticut Department of Environmental Protection pursuant to section 22a-162 of the Connecticut General Statutes; and received all municipal zoning approvals and building permits.

The Council is pleased to note that multiple use of an existing tower serves the Council's long-term goal of protecting the public interest and avoiding proliferation of additional unnecessary tower structures.

Please notify the Council upon completion of construction.

Very truly yours,

Mortimer A. Gelston
Chairman

MAG/RKE/ss

cc: Honorable John B. Margenot, Jr.
First Selectman, Town of Greenwich

ATTACHMENT 2

verizon

BRUCES CT
1323 KING ST
GREENWICH, CT 06831

GENERAL NOTES AND SPECIFICATIONS

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2018 CONNECTICUT SUPPLEMENT, INCLUDING THE TIA/EIA-222 REVISION "G" STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES, 2017 CONNECTICUT FIRE SAFETY CODE, NATIONAL ELECTRICAL CODE, AND LOCAL CODES.
2. SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
3. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
4. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
5. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
6. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, AND ALL TRADES AS APPLICABLE PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
7. CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN 'AS-BUILT' SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
8. LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING BUILDING'S/PROPERTY'S OPERATIONS, COORDINATE WORK WITH BUILDING/PROPERTY OWNER.
10. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
11. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
12. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MFR.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
13. ANY AND ALL ERRORS, DISCREPANCIES, AND "MISSED" ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE VERIZON WIRELESS CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO 'EXTRA' WILL BE ALLOWED FOR MISSED ITEMS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
15. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
16. THE 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.
17. COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUIT AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
18. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB- CONTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
19. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
20. THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED PRIOR TO ANY EXCAVATION WORK. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
21. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE GOVERNING BUILDING CODE.
22. BEFORE BEGINNING THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUCH INVESTIGATIONS CONCERNING PHYSICAL CONDITIONS (SURFACE AND SUBSURFACE) AT OR CONTIGUOUS TO THE SITE WHICH MAY AFFECT PERFORMANCE AND COST OF THE WORK.
23. ALL DIMENSIONS, ELEVATIONS, AND OTHER REFERENCES TO EXISTING STRUCTURES, SURFACE, AND SUBSURFACE CONDITIONS ARE APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS, ANGLES WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL AND SITE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
24. AS THE WORK PROGRESSES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS WHICH ARE IN CONFLICT OR OTHERWISE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS AND SHALL NOT PROCEED WITH SUCH WORK UNTIL THE CONFLICT IS SATISFACTORILY RESOLVED.

SITE DIRECTIONS

FROM: 20 ALEXANDER DRIVE, WALLINGFORD, CONNECTICUT

TO: 1323 KING ST, GREENWICH, CT 06831

1.	START OUT GOING NORTH ON ALEXANDER DR TOWARD BARNES INDUSTRIAL PARK RD.	0.18 MI
2.	TURN RIGHT ONTO BARNES INDUSTRIAL PARK RD.	0.11 MI
3.	TAKE THE 1ST LEFT ONTO CT-68.	0.35 MI
4.	TURN RIGHT ONTO RAMP.	0.17 MI
5.	TURN RIGHT ONTO N COLONY RD/US-5 N.	0.39 MI
6.	MERGE ONTO CT-15 S VIA THE RAMP ON THE LEFT.	56.51 MI
7.	TAKE EXIT 29 TOWARD LAKE AVE.	0.07 MI
8.	TURN SLIGHT LEFT ONTO OLD MILL RD.	0.94 MI
9.	TURN LEFT ONTO ROUND HILL RD.	0.01 MI
10.	TAKE THE 1ST RIGHT ONTO OLD MILL RD.	0.74 MI
11.	TURN RIGHT ONTO N PORCHUCK RD.	0.58 MI
12.	TURN LEFT ONTO RIVERSVILLE RD.	0.75 MI
13.	TURN RIGHT ONTO CLIFFDALE RD.	1.16 MI
14.	TURN LEFT ONTO KING ST/NY-120A.	0.21 MI
15.	TURN LEFT.	0.20 MI
16.	1323 KING ST, GREENWICH, CT 06831-2907, 1323 KING ST.	

VICINITY MAP

SCALE: 1" = 2000'

DESIGN BASIS:

GOVERNING CODE: 2015 INTERNATIONAL BUILDING (IBC) AS MODIFIED BY THE 2018 CT STATE BUILDING CODE AND AMENDMENTS.

1. DESIGN CRITERIA:
   - RISK CATEGORY: II (BASED ON TABLE 1604.5 OF THE 2015 IBC)
   - NOMINAL DESIGN SPEED (TOWER): 93 MPH (Vasd) (EXPOSURE B/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7-10) PER 2015 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2018 CONNECTICUT STATE BUILDING CODE.
   - SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

PROJECT SUMMARY

1. THE PROPOSED UPGRADE SCOPE OF WORK AT THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY GENERALLY INCLUDES THE FOLLOWING:

A. AT THE EXISTING TOWER MOUNTED ANTENNA SECTORS:
- REMOVE (4) EXISTING ANDREW - HBXX-6516DS-A2M ANTENNAS.
- REMOVE (4) EXISTING DECIBEL DB844H90-XY ANTENNAS.
- RETAIN (2) EXISTING KATHREIN - 800 10734 746MHZ ANTENNAS.
- REMOVE (4) EXISTING NOKIA RADIOS.
- RETAIN (1) EXISTING 6x12 HYBRID CABLE.
- RETAIN (1) EXISTING OVP-6 BOX.
- RETAIN (4) EXISTING 7/8" COAXIAL CABLES.
- INSTALL (4) JMA - MX06FRO660-03 ANTENNAS.
- INSTALL (2) SAMSUNG - MT6407-77A ALL-IN-ONE ANTENNA/ RRUs.
- INSTALL (2) SAMSUNG - B5/B13 ORAN RRUs (RF4440d-13A).
- INSTALL (2) SAMSUNG - B2/B66A ORAN RRUs (RF4439d-25A.
- INSTALL (2) JMA - 91900314-02 ANTENNA MOUNTS.
- PERFORM ANTENNA MOUNT MODIFICATIONS (DESIGN BY OTHERS, AS REFERENCED HEREIN).

B. AT THE EXISTING EQUIPMENT SHELTER:
- RETAIN (1) EXISTING OVP-6 BOX.

PROJECT INFORMATION

SITE NAME:	BRUCES CT
SITE ADDRESS:	1323 KING ST GREENWICH, CT 06831
LESSEE/TENANT:	CELLCO PARTNERSHIP d.b.a. VERIZON WIRELESS 20 ALEXANDER DRIVE WALLINGFORD, CT 06492
CONTACT PERSON:	WALTER CHARCZNSKI (CONSTRUCTION MANAGER) VERIZON WIRELESS (860) 306-1806
ENGINEER:	CENTEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT. 06405 (203) 488-0580
PROJECT COORDINATES:	LATITUDE: 41° 4' 27.3396"N LONGITUDE: 73° 41' 50.46"W (COORDINATES REFERENCED FROM VERIZON WIRELESS RFDS DATED 12/07/21)

SHEET INDEX

SHT. NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	2
B-1	RF BILL OF MATERIALS	2
C-1	COMPOUND PLAN AND ELEVATION	2
C-2	ANTENNA SECTOR CONFIGURATION DETAILS	2
C-3	RF DETAILS	2
E-1	ELECTRICAL DETAILS AND SPECIFICATIONS	2

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
A	11/30/21	JLD	DMD	CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW
B	01/24/22	DMD	ANC	CONSTRUCTION DRAWINGS - REVISED PER RFDS DATED 12/07/21
C	02/14/22	DMD	ANC	CONSTRUCTION DRAWINGS - REVISED PER LATEST MA DATED 01/31/22
1	03/15/22	DMD	ANC	CONSTRUCTION DRAWINGS - UPDATED REFERENCES TO MOD. DWGS AND SA
2	03/23/22	DMD	ANC	CONSTRUCTION DRAWINGS - UPDATED REFERENCE TO MOUNT ANALYSIS

PROFESSIONAL ENGINEER SEAL

verizon

CENTEK engineering
Centered on Solutions
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless

BRUCES CT
1323 KING ST
GREENWICH, CT 06831

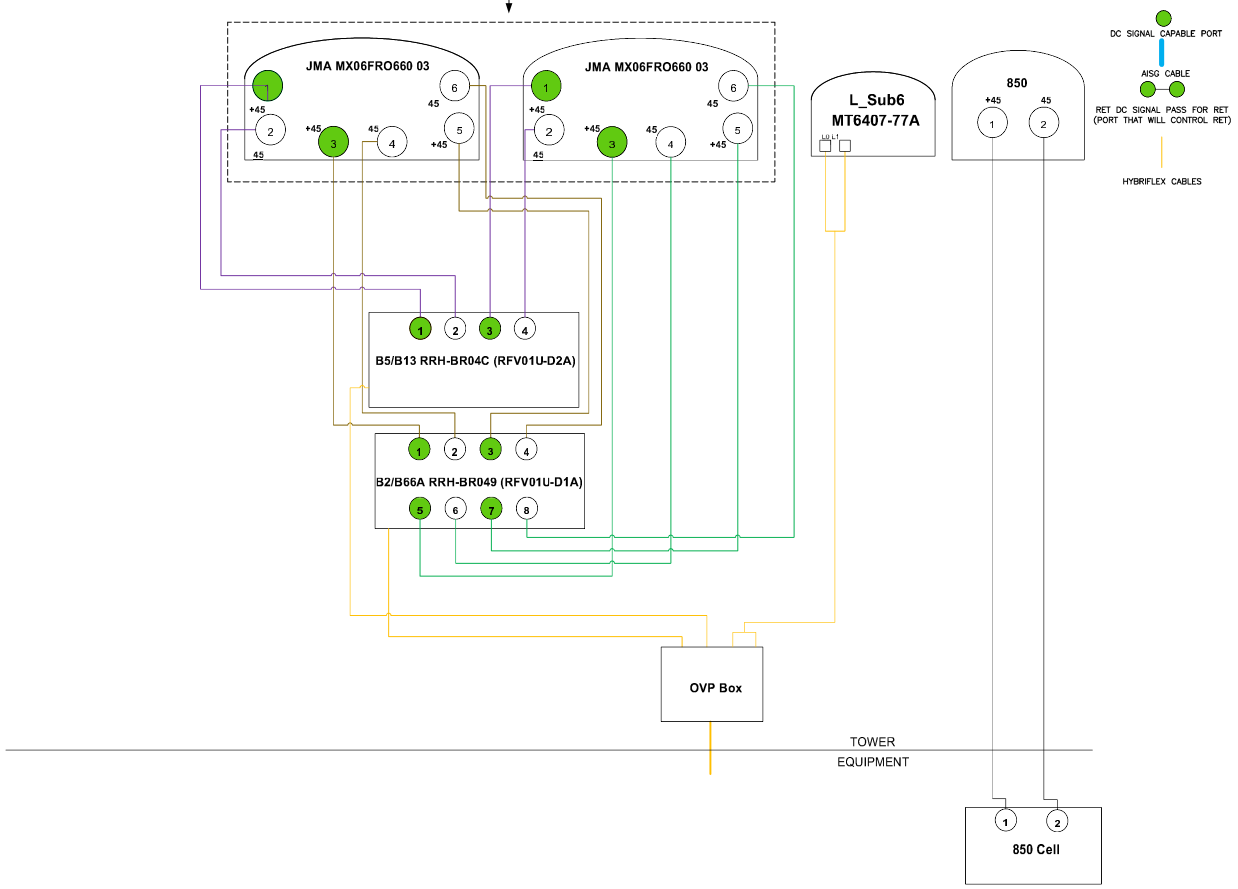
DATE: 11/30/21
SCALE: AS NOTED
JOB NO. 21007.71

TITLE SHEET

T-1

Sheet No. 1 of 6

91900314-02



PLUMBING DIAGRAM NOTES:

1. PORTS 1 & 2 ARE FOR LOW BAND (698–896 MHz).
2. PORTS 3, 4, 5 & 6 ARE FOR HIGH BAND (1695–2360 MHz).
3. SMART BIAS TEE (SBT) IS THROUGH ANTENNA PORTS 1 & 3 (1 FOR LOW BAND AND 3 FOR HIGH BAND).
4. AISG CABLE IS ONLY NEEDED WHEN DRAWN IN THE DIAGRAMS ABOVE. IF IT IS NOT DRAWN THEN SBT IS ENOUGH TO CONTROL ALL RET MOTORS.
5. NOT ALL SBT PORTS ARE NEEDED TO CONTROL RET. ONLY GREEN PORT CONNECTION TO GREEN PORT WILL CONTROL RET.

RET DC SIGNAL PASS FOR RET
(PORT THAT WILL CONTROL RET)

PLUMBING DIAGRAM COMMENTS:

A. DIAGRAMS SHOW ANTENNA PORT CONFIGURATIONS AS VIEWED FROM STANDING BEHIND THE ANTENNAS.

B. ANTENNA WILL BE INSTALLED IN THAT ORDER FROM LEFT TO RIGHT.

C. CAP AND WEATHERPROOF UNUSED ANTENNA PORTS.

D. ALL PLUMBING DIAGRAM COLORS ARE IRRELEVANT EXCEPT FOR AISG AND HYBRIFLEX CABLE. (FOR THE COAX COLORS, FOLLOW COAX COLORS GUIDE IN DIAGRAM)

NOTES:

1. INFORMATION SHOWN HEREIN IS FOR USE BY VERIZON WIRELESS EQUIPMENT OPERATIONS.
2. THIS B.O.M. DRAWING IS BASED ON FACILITY UPGRADE DESIGN DRAWINGS PREPARED BY CENTEK ENGINEERING (REV.2 DATED: 03/22/22), & VERIZON WIRELESS RF ANTENNA EQUIPMENT RECOMMENDATION (DATED 12/07/21).

BILL OF MATERIALS

TECHNOLOGY	QUANTITY	ANTENNA
LTE 700 LTE 850 5G LTE PCS 1900 LTE AWS 2100	4	JMA ANTENNA MODEL: MX06FRO660-03
5G	2	SAMSUNG ANTENNA MODEL: MT6407-77A

RADIOS	QUANTITY	COMMENTS
LTE 700 LTE 850 5G	2	SAMSUNG MODEL: RF4439d-25A
LTE PCS 1900 LTE AWS 2100	2	SAMSUNG MODEL: RF4440d-13A
5G	2	INTEGRATED INTO MT6407-77A ANTENNA

ANTENNA MOUNT	QUANTITY	COMMENTS
SIDE-BY-SIDE MOUNTING KIT	2	JMA MODEL: 91900314-02

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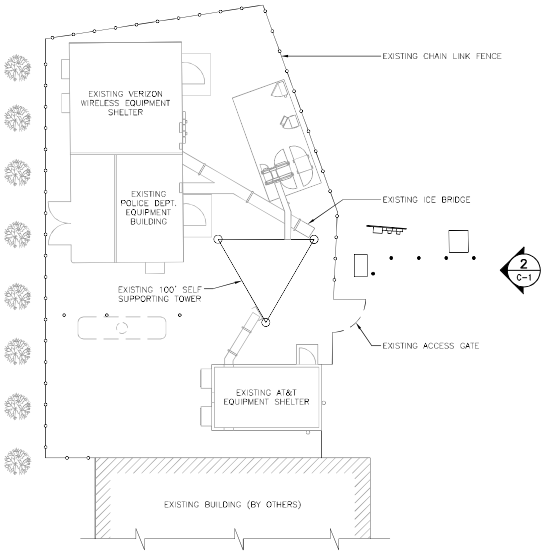
RF BILL OF MATERIALS

B-1

Sheet No. 2 of 6

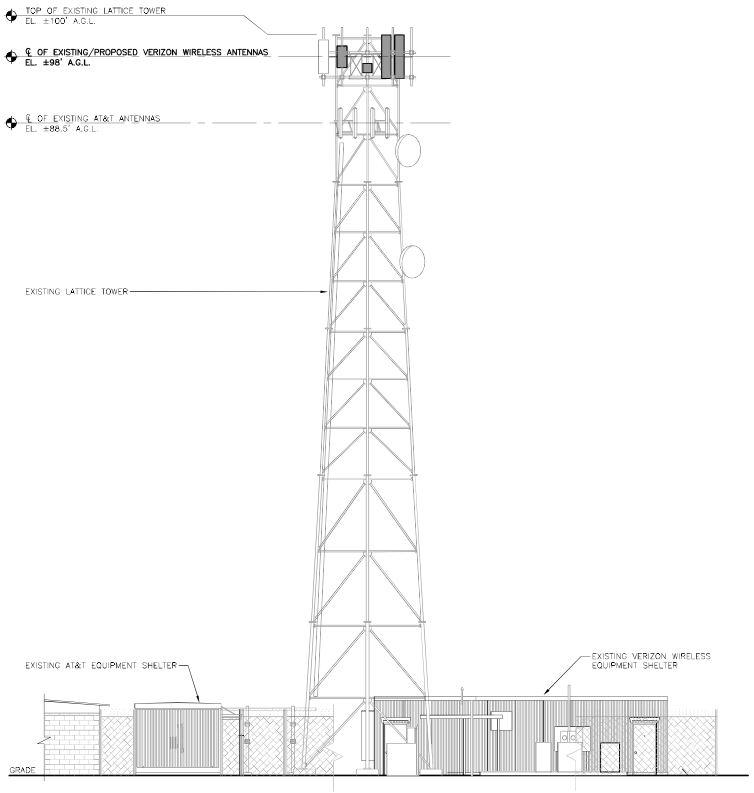
TOWER STRUCTURAL ANALYSIS REFERENCE NOTE:

REFER TO PASSING TOWER STRUCTURAL ANALYSIS REPORT PREPARED BY CENTEK ENGINEERING, REVISION 3, DATED 03/15/2022, CENTEK PROJECT NO. 21007.71 FOR ADDITIONAL INFORMATION.



1 / C-1 **COMPOUND PLAN**
SCALE: 3/32" = 1'

APPROXIMATE NORTH



2 / C-1 **SOUTHWEST ELEVATION - PROPOSED**
SCALE: 1/8" = 1'

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
2	03/23/22	DMD	ANC	CONSTRUCTION DRAWINGS – UPDATED REFERENCE TO MOUNT ANALYSIS
1	03/15/22	DMD	ANC	CONSTRUCTION DRAWINGS – UPDATED REFERENCES TO MOD. DWGS AND SA
0	02/25/22	DMD	ANC	CONSTRUCTION DRAWINGS – ISSUED FOR CONSTRUCTION
C	02/14/22	DMD	ANC	CONSTRUCTION DRAWINGS – REVISED PER LATEST MA DATED 01/31/22
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DATE: 11/30/21
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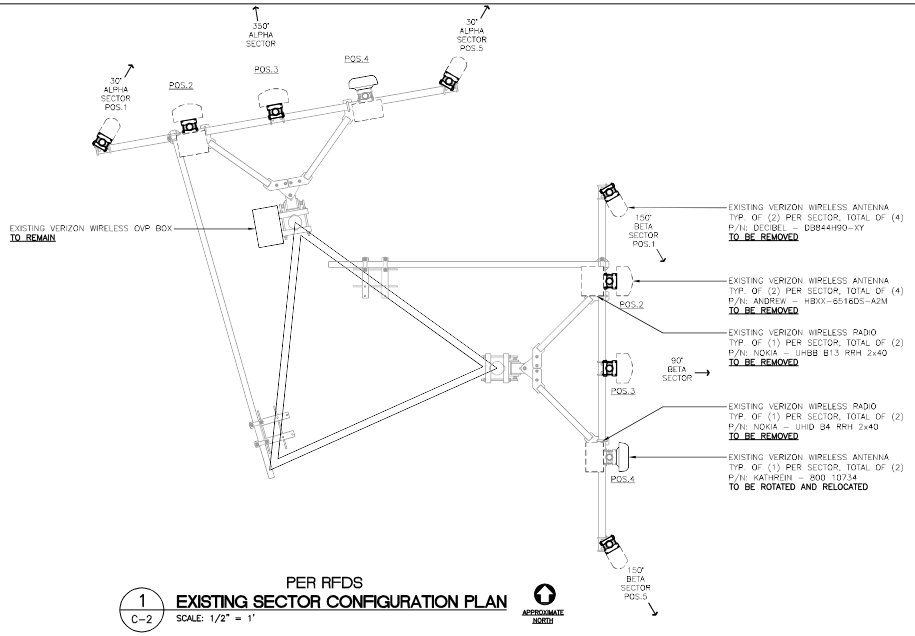
JOB NO. 21007.71

COMPOUND PLAN AND ELEVATION

C-1

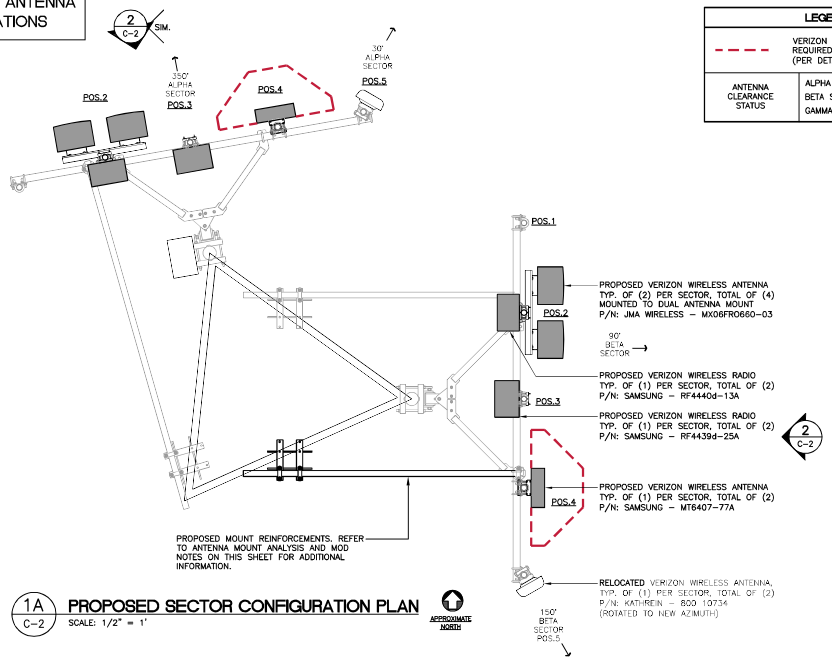
Sheet No. 3 of 6

EXISTING ANTENNA CONFIGURATIONS



1 C-2 **PER RFDS EXISTING SECTOR CONFIGURATION PLAN**
SCALE: 1/2" = 1'

PROPOSED ANTENNA CONFIGURATIONS

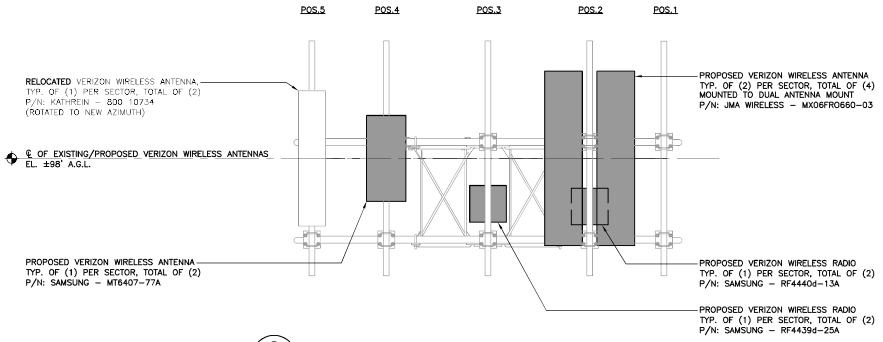


1A C-2 **PROPOSED SECTOR CONFIGURATION PLAN**
SCALE: 1/2" = 1'

LEGEND	
VERIZON WIRELESS MT6407-77 REQUIRED ANTENNA CLEARANCE LIMITS (PER DETAILS ON SHEET C-3)	
ANTENNA CLEARANCE STATUS	ALPHA SECTOR: COMPLIANT BETA SECTOR: COMPLIANT GAMMA SECTOR: COMPLIANT

ANTENNA MOUNT ANALYSIS AND MOD. REFERENCE NOTE:

REFER TO PASSING VERIZON WIRELESS MOUNT ANALYSIS REPORT DATED 01/31/22 AND MOUNT MODIFICATION DRAWINGS PREPARED BY MASER CONSULTING CONNECTICUT DATED 02/02/2022 FOR ADDITIONAL INFORMATION.



2 C-2 **PROPOSED SECTOR CONFIGURATION ELEVATION**
SCALE: 1/2" = 1'

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
2	03/22/22	DMD	ANC	CONSTRUCTION DRAWINGS – UPDATED REFERENCE TO MOUNT ANALYSIS
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PROFESSIONAL ENGINEER SEAL

verizon

CENTEK engineering
Centered on Solutions
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Cellco Partnership d/b/a Verizon Wireless

BRUCES CT

1323 KING ST
GREENWICH, CT 06831

DATE: 11/30/21
SCALE: AS NOTED
JOB NO. 21007.71

ANTENNA SECTOR CONFIGURATION DETAILS

C-2

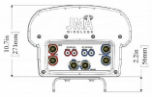
Sheet No. 4 of 6

ANTENNA FRONT

SECTOR ANTENNA		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: SAMSUNG MODEL: MT6407-77A	35.1"h x 16.1"W x 5.5"D (NOT TO EXCEED)	87 LBS. (NOT TO EXCEED)
CLEARANCES AND SERVICE AREA		
TOP: 31.5"	HORIZONTAL DISTANCE: 31.5" (ANT. TO ANT.)	
FRONT, SIDES & BOTTOM: 15.7"	VERTICAL DISTANCE: 63.0" (ANT. TO ANT.)	
NOTES: 1. THIS ANTENNA HAS ITS OWN BUILT-IN RRH.		

1 / C-3 ANTENNA DETAIL
NOT TO SCALE

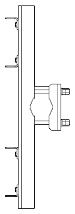
ELEVATION - ISOMETRIC



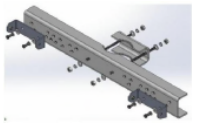
BOTTOM

8-PORT SECTOR ANTENNA		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: JMA MODEL: MX06FRO660-03	71.3"L x 15.4"W x 10.7"D	60.0 LBS. (W/OUT MOUNT KIT)

2 / C-3 ANTENNA DETAIL
NOT TO SCALE



PLAN VIEW



ANTENNA MOUNT ISOMETRIC

DUAL ANTENNA MOUNTING KIT	
EQUIPMENT	DESCRIPTION
MOUNT MAKE: JMA MODEL: 919003314-02	• SIDE-BY-SIDE MOUNTING KIT, ACCOMMODATES (2) COMPATIBLE ANTENNAS • 2 BRACKETS REQUIRED FOR 4'-6' ANTENNAS • 3 BRACKETS REQUIRED FOR 6'-8' ANTENNAS

3 / C-3 DUAL ANTENNA MOUNT DETAIL
NOT TO SCALE

NRH - ISOMETRIC

DUAL BAND RRU (REMOTE RADIO UNIT)			
EQUIPMENT	BANDS	DIMENSIONS	WEIGHT
MAKE: SAMSUNG MODEL: RF4439d-25A	B25: PCS (1900 MHz) B66: AWS (2100 MHz)	15.0"H x 15.0"W x 10.0"D	74.7 LBS.
NOTES: 1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO ORDERING.			

4 / C-3 DUAL-BAND AWS/PCS MACRO RADIO UNIT DETAIL
NOT TO SCALE

NRH - ISOMETRIC

DUAL BAND RRU (REMOTE RADIO UNIT)			
EQUIPMENT	BANDS	DIMENSIONS	WEIGHT
MAKE: SAMSUNG MODEL: RF440d-13A	B5: 850 MHz B13: 700 MHz	15.0"H x 15.0"W x 9.0"D	70.3 LBS.
NOTES: 1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO ORDERING.			

5 / C-3 DUAL-BAND 700/850 MHZ MACRO RADIO UNIT DETAIL
NOT TO SCALE

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
A	11/30/21	JLD	DMD	ISSUED FOR CLIENT REVIEW
B	01/24/22	DMD	ANC	CONSTRUCTION DRAWINGS – REVISED PER RFDS DATED 12/07/21
C	02/14/22	DMD	ANC	CONSTRUCTION DRAWINGS – REVISED PER LATEST MA DATED 01/31/22
D	03/04/22	DMD	ANC	CONSTRUCTION DRAWINGS – ISSUED FOR CONSTRUCTION
1	03/15/22	DMD	ANC	CONSTRUCTION DRAWINGS – UPDATED REFERENCES TO MOD. DWGS AND SA
2	03/23/22	DMD	ANC	CONSTRUCTION DRAWINGS – UPDATED REFERENCE TO MOUNT ANALYSIS

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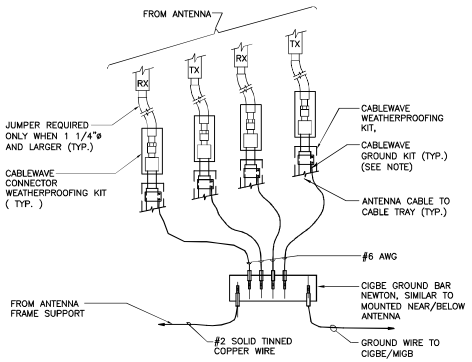
RF DETAILS

C-3
Sheet No. 5 of 6

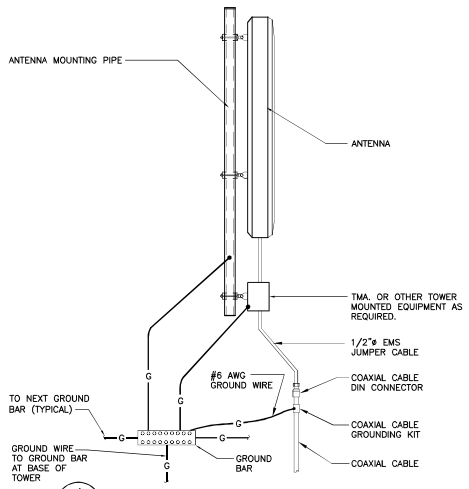


NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

1 E-1 CONNECTION OF GROUND WIRES TO GROUND BAR

NOT TO SCALE

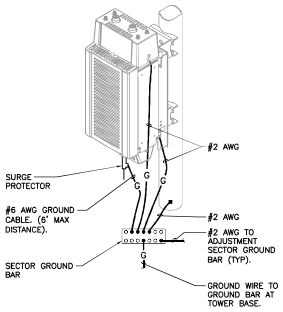


4 E-1 TYPICAL ANTENNA GROUNDING DETAIL

NOT TO SCALE

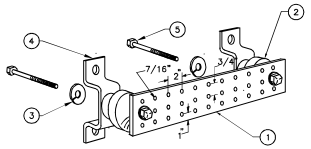
EACH RRH CABINET SHALL BE GROUNDED IN THE FOLLOWING MANNER:

1. AT TOP OF THE CABINET
2. AT RIGHT SIDE OF THE CABINET.



2 E-1 RRH POLE MOUNT GROUNDING

NOT TO SCALE

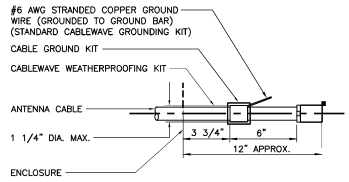


NOTES

1. TINNED COPPER GROUND BAR, 1/4" x 4" x 20", NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
2. INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4.
3. 5/8" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8.
4. WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056.
5. 5/8-11 x 1" STAINLESS STEEL TRUSS SPANNER MACHINE SCREWS.

5 E-1 GROUND BAR DETAIL

NOT TO SCALE



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

3 E-1 ANTENNA CABLE GROUNDING DETAIL

NOT TO SCALE

ELECTRICAL SPECIFICATIONS

SECTION 16010

1.01. SCOPE OF WORK

A. WORK SHALL INCLUDE ALL LABOR, EQUIPMENT AND SERVICES REQUIRED TO COMPLETE (MAKE READY FOR OPERATION) ALL THE ELECTRICAL WORK INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

1. CELLULAR GROUNDING SYSTEMS CONSISTING OF ANTENNA GROUNDING, GROUND BARS, ETC.

1.02. GENERAL REQUIREMENTS

A. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE INTERPRETED AS AN INFRINGEMENT OF SUCH CODES OR REGULATIONS.

B. THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COORDINATION OF THE ENTIRE ELECTRICAL SERVICE. ALL ACTIVITIES TO BE COORDINATED THROUGH OWNERS REPRESENTATIVE, DESIGN ENGINEER AND OTHER AUTHORITIES HAVING JURISDICTION OF TRADES.

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES THAT MAY BE REQUIRED FOR THE ELECTRICAL WORK AND FOR SCHEDULING OF ALL INSPECTIONS THAT MAY BE REQUIRED BY THE LOCAL AUTHORITY.

D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE BUILDING OWNER FOR NEW AND/OR DEMOLITION WORK INVOLVED.

E. NO MATERIAL OTHER THAN THAT CONTAINED IN THE "LATEST LIST OF ELECTRICAL FITTINGS" APPROVED BY THE UNDERWRITERS' LABORATORIES, SHALL BE USED IN ANY PART OF THE WORK. ALL MATERIAL FOR WHICH LABEL SERVICE HAS BEEN ESTABLISHED SHALL BEAR THE U.L. LABEL.

F. THE CONTRACTOR SHALL GUARANTEE ALL NEW WORK FOR A PERIOD OF ONE YEAR FROM THE ACCEPTANCE DATE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WARRANTIES FROM ALL EQUIPMENT MANUFACTURERS FOR SUBMISSION TO THE OWNER.

G. DRAWINGS INDICATE GENERAL ARRANGEMENT OF WORK INCLUDED IN CONTRACT. CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE MODIFICATIONS TO THE LAYOUT OF THE WORK TO PREVENT CONFLICT WITH WORK OF OTHER TRADES AND FOR THE PROPER INSTALLATION OF WORK. CHECK ALL DRAWINGS AND VISIT JOB SITE TO VERIFY SPACE AND TYPE OF EXISTING CONDITIONS IN WHICH WORK WILL BE DONE, PRIOR TO SUBMITTAL OF BID.

H. THE ELECTRICAL CONTRACTOR SHALL SUPPLY THREE (3) COMPLETE SETS OF APPROVED DRAWINGS, ENGINEERING DATA SHEETS, MAINTENANCE AND OPERATING INSTRUCTION MANUALS FOR ALL SYSTEMS AND THEIR RESPECTIVE EQUIPMENT. THESE MANUALS SHALL BE INSERTED IN VINYL COVERED 3-RING BINDERS AND TURNED OVER TO OWNER'S REPRESENTATIVE ONE (1) WEEK PRIOR TO FINAL PUNCH LIST.

I. ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER AND WILL BE SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE.

J. ALL EQUIPMENT AND MATERIALS TO BE INSTALLED SHALL BE NEW, UNLESS OTHERWISE NOTED.

K. BEFORE FINAL PAYMENT, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF PRINTS (AS-BUILTS), LEGIBLY MARKED IN RED PENCIL TO SHOW ALL CHANGES FROM THE ORIGINAL PLANS.

L. ENTIRE ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH OWNER'S SPECIFICATIONS, AND REQUIREMENTS OF ALL LOCAL AUTHORITIES HAVING JURISDICTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH APPROPRIATE INDIVIDUALS TO OBTAIN ALL SUCH SPECIFICATIONS AND REQUIREMENTS. NOTHING CONTAINED IN, OR OMITTED FROM, THESE DOCUMENTS SHALL RELIEVE CONTRACTOR FROM THIS OBLIGATION.

SECTION 16450

1.01. GROUNDING

A. ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL AND TELEPHONE CONDUIT SYSTEMS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO PROVIDE AN INDEPENDENT RETURN PATH TO THE EQUIPMENT GROUNDING SOURCES.

B. GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR HAVING JURISDICTION.

C. EQUIPMENT GROUNDING CONDUCTOR:

1. EACH EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C. ARTICLE 250-122.

2. THE MINIMUM SIZE OF EQUIPMENT GROUND CONDUCTOR SHALL BE #12 AWG COPPER.

D. CELLULAR GROUNDING SYSTEM:

PROVIDE THE CELLULAR GROUNDING SYSTEM AS SPECIFIED ON DRAWINGS, INCLUDING, BUT NOT LIMITED TO:

1. GROUND BARS
2. ANTENNA GROUND CONNECTIONS AND PLATES.

E. ALL EQUIPMENT SHALL BE BONDED TO GROUND AS REQUIRED BY N.E.C., MFG. SPECIFICATIONS, AND OWNER'S SPECIFICATIONS.

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				CONSTRUCTION DRAWINGS – UPDATED REFERENCE TO MOUNT ANALYSIS

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ELECTRICAL DETAILS AND SPECIFICATIONS

E-1

Sheet No. 6 of 6

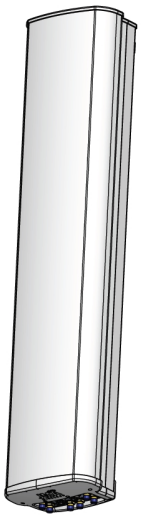
MX06FRO660-03

NWAV™ X-Pol Hex-Port Antenna

X-Pol Hex-Port 6 ft 60° Fast Roll Off antenna with independent tilt on 700 & 850 MHz:

2 ports 698-798, 824-894 MHz and 4 ports 1695-2180 MHz

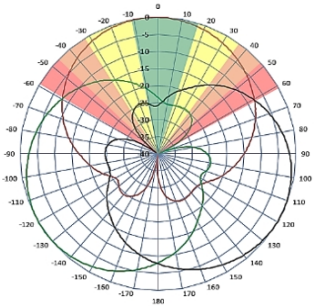
- Fast Roll Off (FRO™) azimuth beam pattern improves Intra- and Inter-cell SINR
- Compatible with dual band 700/850 MHz radios with independent low band EDT without external diplexers
- Fully integrated (iRETs) with independent RET control for low and high bands for ease of network optimization
- SON-Ready array spacing supports beamforming capabilities
- Suitable for LTE/CDMA/PCS/UMTS/GSM air interface technologies
- Integrated Smart Bias-Ts reduce leasing costs



Fast Roll-Off antennas increase data throughput without compromising coverage

The horizontal beam produced by Fast Roll-Off (FRO) technology increases the Signal to Interference & Noise Ratio (SINR) by eliminating overlap between sectors .

Non-FRO antenna



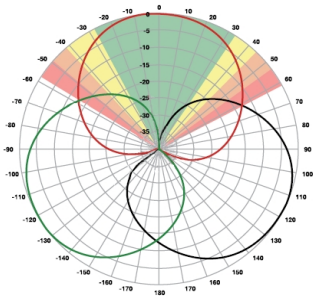
Large traditional antenna pattern overlap creates harmful interference.

JMA's FRO antenna pattern minimizes overlap, thereby minimizing interference.

LTE throughput	SINR	Speed (bps/Hz)	Speed increase	CQI
Excellent	>18	>4.5	333+%	8-10
Good	15-18	3.3-4.5	277%	6-7
Fair	10-15	2-3.3	160%	4-6
Poor	<10	<2	0%	1-3

The LTE radio automatically selects the best throughput based on measured SINR.

JMA FRO antenna



Electrical specification (minimum/maximum)	Ports 1, 2		Ports 3, 4, 5, 6		
Frequency bands, MHz	698-798	824-894	1695-1880	1850-1990	1920-2180
Polarization	± 45°		± 45°		
Average gain over all tilts, dBi	14.4	14.0	17.6	18.0	18.2
Horizontal beamwidth (HBW), degrees	60.5	53.0	55.0	55.0	55.5
Front-to-back ratio, co-polar power @180°± 30°, dB	>24	>24.0	>25.0	>25.0	>25.0
X-Pol discrimination (CPR) at boresight, dB	>15.0	>14.2	>18	>18	>15
Sector power ratio, percent	<3.5	<3.0	<3.7	<3.8	<3.6
Vertical beamwidth (VBW), degrees[1]	13.1	11.8	6.0	5.5	5.5
Electrical downtilt (EDT) range, degrees	2-14	2-14	0-9		
First upper side lobe (USLS) suppression, dB[1]	≤-15.0	≤-16.5	≤-16.0	≤-16.0	≤-16.0
Cross-polar isolation, port-to-port, dB[1]	25	25	25	25	25
Max VSWR / return loss, dB	1.5:1 / -14.0		1.5:1 / -14.0		
Max passive intermodulation (PIM), 2x20W carrier, dBc	-153		-153		
Max input power per any port, watts	300		250		
Total composite power all ports, watts	1500				

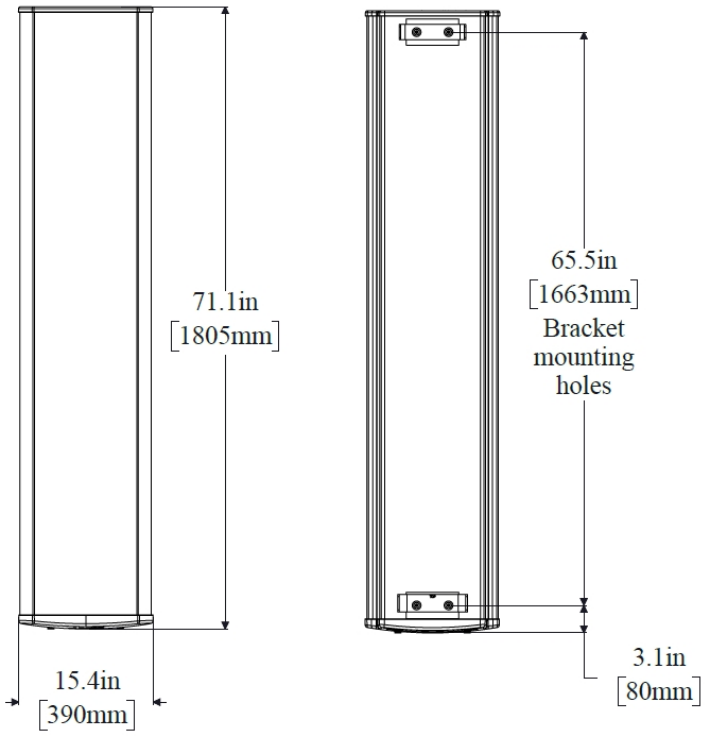
[1] Typical value over frequency and tilt

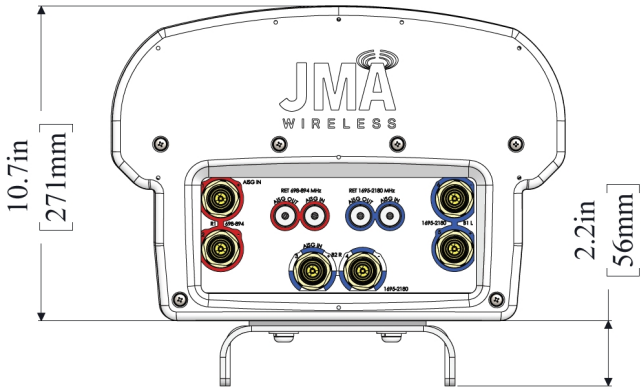
MX06FRO660-03

NWAV™ X-Pol Hex-Port Antenna

Mechanical specifications	
Dimensions height/width/depth, inches (mm)	71.3/ 15.4/ 10.7 (1811/ 392/ 273)
Shipping dimensions length/width/height, inches (mm)	82/ 20/ 15 (2083/ 508/ 381)
No. of RF input ports, connector type, and location	6 x 4.3-10 female, bottom
RF connector torque	96 lbf·in (10.85 N·m or 8 lbf·ft)
Net antenna weight, lb (kg)	60 (27.0)
Shipping weight, lb (kg)	90 (41.0)
Antenna mounting and downtilt kit included with antenna	91900318
Net weight of the mounting and downtilt kit, lb (kg)	18 (8.18)
Range of mechanical up/down tilt	-2° to 14°
Rated wind survival speed, mph (km/h)	150 (241)
Frontal, lateral, and rear wind loading @ 150 km/h, lbf (N)	154 (685), 73 (325), 158 (703)
Equivalent flat plate @ 100 mph and Cd=2, sq ft	2.6

Front view | **Back view** | **Bottom view**





Ordering information	
Antenna model	**Description**
MX06FRO660-03	6F X-Pol HEX FRO 60° independent tilt 700/850 RET, 4.3-10 & SBT
Optional accessories	
AISG cables	M/F cables for AISG connections
PCU-1000 RET controller	Stand-alone controller for RET control and configurations

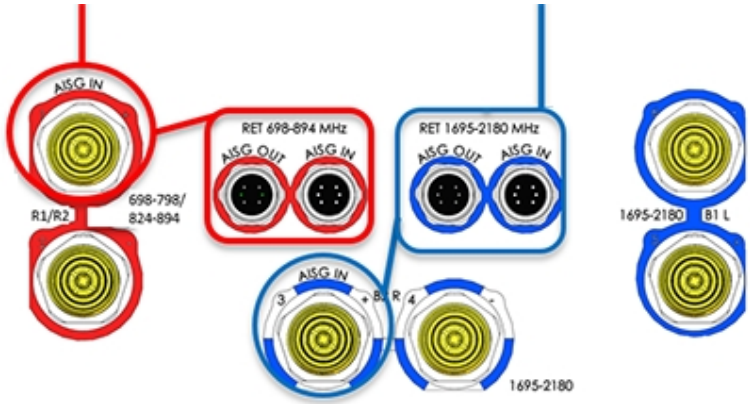
Remote electrical tilt (RET 1000) information	
RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9
RET connector torque	Min 0.5 N·m to max 1.0 N·m (hand pressure & finger tight)
RET interface connector quantity	2 pairs of AISG male/female connectors
RET interface connector location	Bottom of the antenna
Total no. of internal RETs (low bands)	2
Total no. of internal RETs (high bands)	1
RET input operating voltage, vdc	10-30
RET max power consumption, idle state, W	≤ 2.0
RET max power consumption, normal operating conditions, W	≤ 13.0
RET communication protocol	AISG 2.0 / 3GPP

RET and RF connector topology

Each RET device can be controlled either via the designated external AISG connector or RF port as shown below:

RET device	Band	RF port
R1	698-798	1-2
R2	824-894	1-2

RET device	Band	RF port
B1/B2	1695-2180	3-6

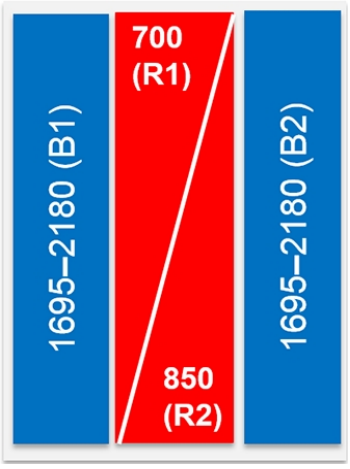


Array topology

3 sets of radiating arrays

R1/R2: 698-894 MHz
B1: 1695-2180 MHz
B2: 1695-2180 MHz

Band	RF port
1695-2180	3-4
698-894	1-2
1695-2180	5-6



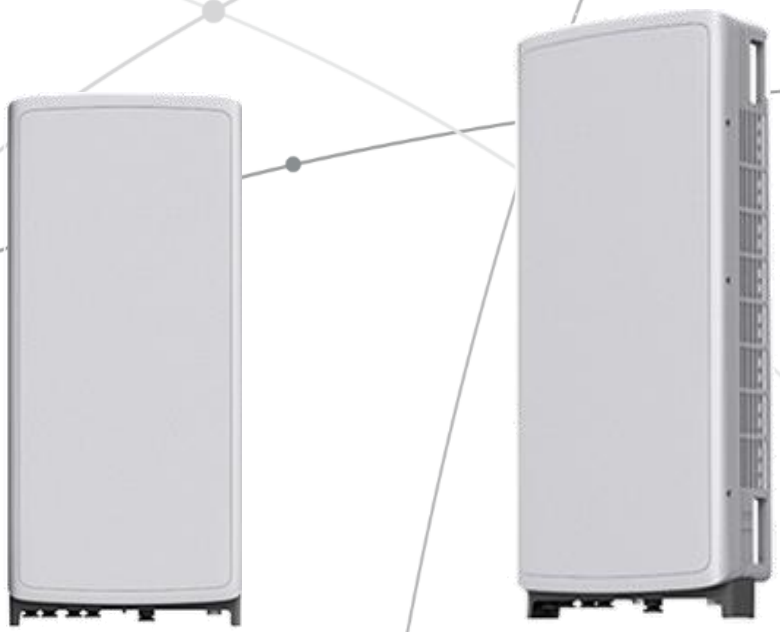
SAMSUNG

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

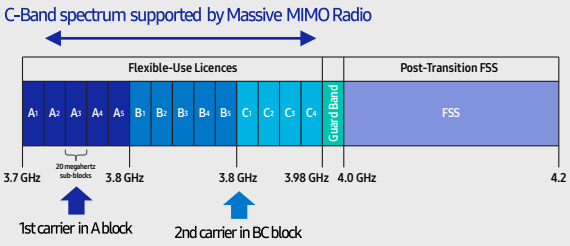


Points of Differentiation

Wide Bandwidth

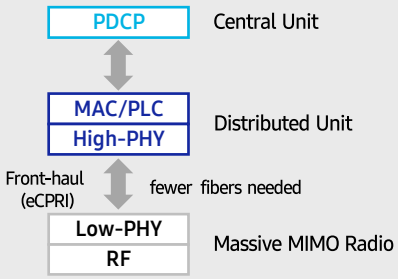
With capability to support up to 2 CC carrier configuration, Samsung C-Band massive MIMO Radio supports 200 MHz bandwidth in the C-Band spectrum.

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



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.

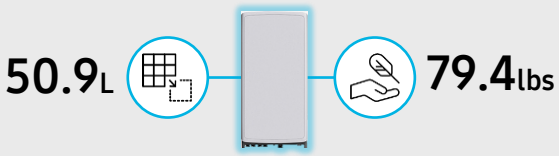
This helps operators reduce their CAPEX as they now need less products to cover the same area than before.

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

SAMSUNG

700/850MHZ MACRO RADIO

DUAL-BAND AND HIGH POWER FOR MACRO COVERAGE

Samsung's future proof dual-band radio is designed to help effectively increase the coverage areas in wireless networks. This 700/850MHz 4T4R dual-band radio has 4Tx/4Rx to 2Tx/2Rx RF chains options and a total output power of 320W, making it ideal for macro sites.

Model Code	RF4440d-13A

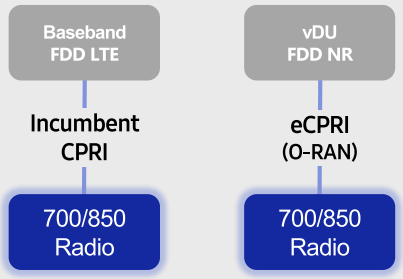
Homepage
samsungnetworks.com

Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

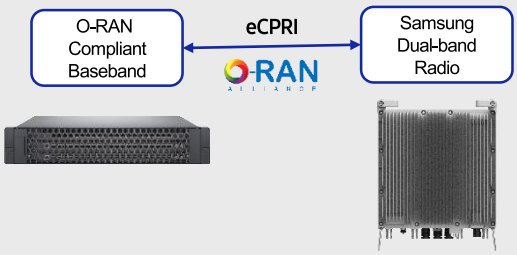
Samsung's 700/850MHz macro radio can support each incumbent CPRI interface as well as an advanced eCPRI interface. This feature provides installable options for both legacy LTE networks and added NR networks.



O-RAN Compliant

A standardized O-RAN radio can help when implementing cost-effective networks because it is capable of sending more data without compromising additional investments.

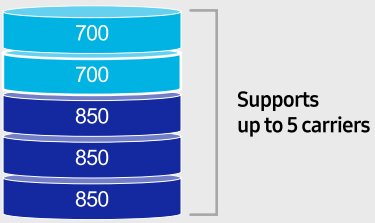
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



Optimum Spectrum Utilization

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

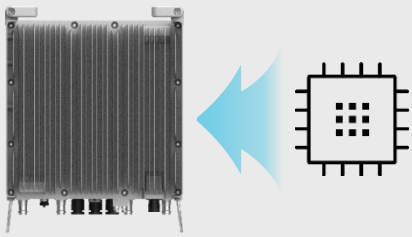
The new 700/850MHz dual-band radio can support up to 2 carriers in the B13 (700MHz) band and 3 carriers in the B5 (850MHz) band, respectively.



Secured Integrity

Access to sensitive data is allowed only to authorized software.

The Samsung radio's CPU can protect root of trust, which is credential information to verify SW integrity, and secure storage provides access control to sensitive data by using dedicated hardware (TPM).



Technical Specifications

Item	Specification
Tech	LTE / NR
Brand	B13(700MHz), B5(850MHz)
Frequency Band	DL: 746 – 756MHz, UL: 777 – 787MHz DL: 869 – 894MHz, UL: 824 – 849MHz
RF Power	(B13) 4 × 40W or 2 × 60W (B5) 4 × 40W or 2 × 60W
IBW/OBW	(B13) 10MHz / 10MHz (B5) 25MHz / 25MHz
Installation	Pole, Wall
Size/ Weight	14.96 x 14.96 x 9.05inch (33.2L) / 70.33 lb

SAMSUNG

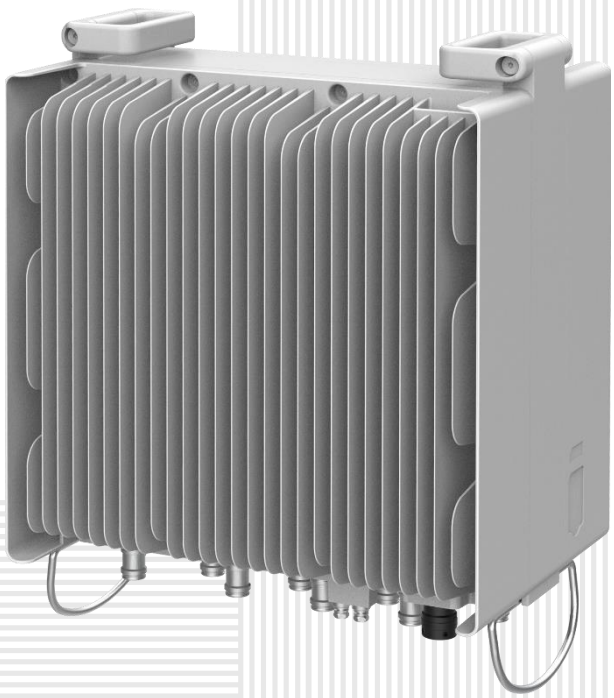
AWS/PCS MACRO RADIO

DUAL-BAND AND HIGH POWER FOR MACRO COVERAGE

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

57196

Model Code	RF4439d-25A



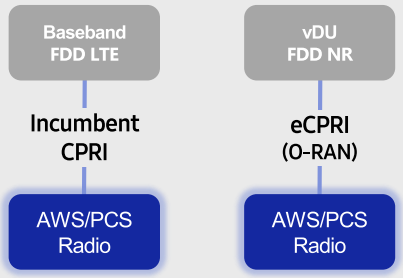
Homepage
samsungnetworks.com

Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

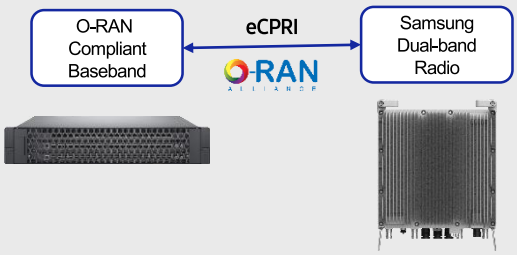
Samsung's AWS/PCS macro radio can support each incumbent CPRI interface as well as advanced eCPRI interfaces. This feature provides installable options for both legacy LTE networks and added NR networks.



O-RAN Compliant

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

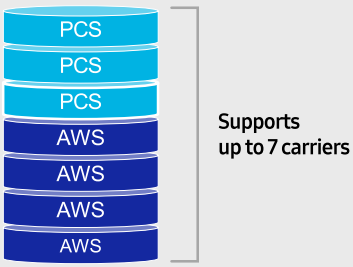
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



Optimum Spectrum Utilization

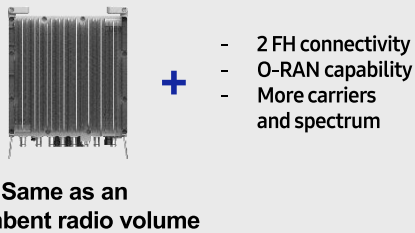
The number of required carriers varies according to site (region). Supporting many carriers is essential for using all frequencies that the operator has available.

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



Brand New Features in a Compact Size

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



Technical Specifications

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

ATTACHMENT 3

	General	Power	Density					
Site Name: Bruces CT (Greenwich)								
Tower Height: Verizon @ 98ft								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**FREQ.**	**CALC. POWER DENS**	**MAX. PERMISS.EXP.**	**FRACTION MPE**	**Total**
*AT&T	1	500	88	850	0.026741534	0.566666667	0.47%	
*AT&T	1	1476	88	700	0.07894101	0.466666667	1.69%	
*AT&T	2	4842	88	1900	0.517930039	1	5.18%	
*AT&T	1	5070	88	2100	0.271159159	1	2.71%	
*AT&T	1	1285	88	2300	0.068725744	1	0.69%	
VZW 700	**4**	**477**	**98**	**751**	**0.0071**	**0.5007**	**1.43%**	
VZW CDMA	**2**	**499**	**98**	**876.03**	**0.0037**	**0.5840**	**0.64%**	
VZW Cellular	**4**	**477**	**98**	**874**	**0.0071**	**0.5827**	**1.23%**	
VZW PCS	**4**	**1462**	**98**	**1980**	**0.0219**	**1.0000**	**2.19%**	
VZW AWS	**4**	**1566**	**98**	**2120**	**0.0235**	**1.0000**	**2.35%**	
VZW CBRS	**4**	**0**	**98**	**3625**	**0.0000**	**1.0000**	**0.00%**	
VZW CBAND	**2**	**13335**	**98**	**3730.08**	**0.0999**	**1.0000**	**9.99%**	
								28.57%
* Source: Siting Council								

ATTACHMENT 4

CENTEK engineering

Centered on Solutions℠

Structural Analysis Report

100' Existing Rohn Lattice Tower

Proposed Verizon
Antenna Upgrade

Site Ref: Bruces CT

1323 King Street
Greenwich, CT

CENTEK Project No. 21007.71

~~Date: November 30, 2021~~
Rev. 3: March 15, 2022

Max Stress Ratio = 56.0%

Prepared for:

Verizon Wireless
20 Alexander Drive
Wallingford, CT 06492

Table of Contents

Introduction

The purpose of this report is to summarize the results of the non-linear, P-Δ structural analysis of the antenna modification proposed by Verizon on the existing lattice tower located in Greenwich, Connecticut.

The host tower is a 100-ft, three-legged, lattice tower originally manufactured by ROHN Eng. file no. 29307JC dated 4/23/93. The tower geometry, structure member sizes and foundation information were taken from a previous structural report prepared by Centek engineering job no. 18092.00 dated August 19, 2019.

Antenna and appurtenance inventory were taken from the aforementioned Centek structural report, a structural report prepared by Paul J.Ford job no. A00020-0092.002.8700, a Verizon RF data sheet, and the Antenna Mount Analysis performed by Maser Consulting Connecticut, project no. 21777810A (rev. 1), dated February 2, 2022.

The tower consists of five (5) tapered vertical sections consisting of steel pipe legs conforming to ASTM A572 Gr. 50 and lateral bracing conforming to ASTM A572 Gr. 50 and ASTM A36. The vertical tower sections are connected by bolted flange plates with the diagonal and horizontal bracing to pipe legs consisting of bolted connections. The width of the tower face is 8-ft 6-in at the top and 17-ft 5-in at the bottom.

Antenna and Appurtenance Summary

The existing tower supports several communication antennas. The existing and proposed loads considered in the analysis consist of the following:

- UNKNOWN (Existing):
  Antenna: One (1) 8-ft Omni-directional whip antenna leg mounted with an elevation of ±100-ft above grade level.
  Coax Cable: One (1) 7/8" ∅ coax cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (Existing):
  Antenna: One (1) 4-ft ∅ dish leg mounted with an elevation of ±84-ft above grade level.
  Coax Cable: One (1) EW90 cable running on a leg/face of the existing tower as specified in Section 3 of this report.
- AT&T (Existing):
  Antenna: Three (3) CCI HPA-65R-BUU-H6 panel antennas, three (3) Quintel QS66512-2 panel antennas, three (3) Ericsson RRUS-32 remote radio heads, three (3) Ericsson 8843 B2/B66A remote radio heads, three (3) Ericsson 4449 B5/B12 remote radio heads and two (2) Raycap Squid surge arrestor mounted on three (3) 12-ft Wireless Frames with a RAD center elevation of ±88-ft above grade level.
  Coax Cable: Six (6) 1-5/8" ∅ coax cables, two (2) fiber cable and four (4) dc control cables running on a leg/face of the existing tower as specified in Section 3 of this report.
- UNKNOWN (Existing):
  Antenna: One (1) 4-ft ∅ dish leg mounted with an elevation of ±70-ft above grade level.
  Coax Cable: One (1) EW90 cable running on a leg/face of the existing tower as specified in Section 3 of this report.

- VERIZON (Existing to Remain):
  Antennas: Two (2) Kathrein 800-10734 panel antennas and one (1) OVP box mounted on two (2) 12-ft T-Frames with a RAD center elevation of ±98-ft above grade level.
  Cables: Twelve (12) 7/8" ∅ coax cables and one (1) 6x12 hybrid cable running on a leg/face of the existing tower as specified in Section 3 of this report..
- **VERIZON (Existing to Remove):**
  Antennas: Four (4) Andrew HBXX-6516DS-A2M panel antennas, four (4) Andrew DB844H90E-XY panel antennas, two (2) Nokia UHBB B13 RRH2x40 remote radio heads and two (2) Nokia UHID B4 RRH2x40 remote radio heads mounted on two (2) 12-ft T-Frames with a RAD center elevation of ±98-ft above grade level.
- **VERIZON (Proposed):**
  Antennas: Four (4) JMA MX06FRO660-03 panel antennas, two (2) Samsung MT6407-77A panel antennas, two (2) Samsung 4439-d25A RRHs and two (2) Samsung 4440-13A RRHs mounted on two (2) 12-ft T-Frames with a RAD center elevation of ±98-ft above grade level.
  Mount Modifications: All mount modifications per the mount modification drawings by Maser dated 02/02/22.

Primary Assumptions Used in the Analysis

- The tower structure's theoretical capacity not including any assessment of the condition of the tower.
- The tower carries the horizontal and vertical loads due to the weight of antennas, ice load and wind.
- Tower is properly installed and maintained.
- Tower is in plumb condition.
- Tower loading for antennas and mounts as listed in this report.
- All bolts are appropriately tightened providing the necessary connection continuity.
- All welds are fabricated with ER-70S-6 electrodes.
- All members are assumed to be as specified in the original tower design documents.
- All members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
- All member protective coatings are in good condition.
- All tower members were properly designed, detailed, fabricated, installed and have been properly maintained since erection.
- Any deviation from the analyzed antenna loading will require a new analysis for verification of structural adequacy.
- All coax cables should be routed as specified in section 3 of this report.

Analysis

The existing tower was analyzed using a comprehensive computer program entitled tnxTower. The program analyzes the tower, considering the worst-case loading condition. The tower is considered as loaded by concentric forces along the tower, and the model assumes that the tower members are subjected to bending, axial, and shear forces.

The existing tower was analyzed for the controlling basic wind speed (3-second gust) with no ice and the applicable wind and ice combination to determine stresses in members as per guidelines of TIA-222-G-2005 entitled "Structural Standard for Antenna Support Structures and Antennas", the American Institute of Steel Construction (AISC) and the Manual of Steel Construction; Load and Resistance Factor Design (LRFD).

The controlling wind speed is determined by evaluating the local available wind speed data as provided in Appendix N of the CSBC[1] and the wind speed data available in the TIA-222-G-2005 Standard.

Tower Loading

Tower loading was determined by the basic wind speed as applied to projected surface areas with modification factors per TIA-222-G-2005, gravity loads of the tower structure and its components, and the application of 0.75" radial ice on the tower structure and its components.

Basic Wind Speed:	*Greenwich*; v = 93 mph (Nominal)	*[Appendix N of the 2018 CT Building Code]*
Load Cases:	Load Case 1; 93 mph wind speed w/ no ice plus gravity load – used in calculation of tower stresses and rotation.	*[Appendix N of the 2016 CT Building Code]*
	Load Case 2; 50 mph wind speed w/ 0.75" radial ice plus gravity load – used in calculation of tower stresses.	*[Annex B of TIA-222-G-2005]*

[1] The 2015 International Building Code as amended by the 2018 Connecticut State Building Code (CSBC).

Tower Capacity

- Calculated stresses were found to be within allowable limits. This tower was found to be at **56.0%** of its total capacity.

Tower Section	Elevation	Stress Ratio (percentage of capacity)	Result
Diagonal (T3)	40'-0"-60'-0"	46.3%	**PASS**
Leg (T3)	40'-0"-60'-0"	56.0%	**PASS**

Foundation and Anchors

The existing foundation consists of three (3) 3-ft ∅ x 3-ft long reinforced concrete piers on a 24-ft square x 4-ft thick reinforced concrete pad bearing directly on existing sub grade. The sub-grade conditions used in the analysis of the existing foundation were obtained from the aforementioned structural report prepared by Centek. Tower legs are connected to the foundation by means of (4) 1"∅, ASTM A354-BC anchor bolts per leg, embedded into the concrete foundation structure.

- The tower reactions developed from the governing Load Case 1 were used in the verification of the foundation:

Reactions	Vector	Proposed Base Reactions
Base	Shear	**21 kips**
	Compression	**18 kips**
	Moment	**1311 kip-ft**
Leg	Shear	**12 kips**
	Uplift	**82 kips**
	Compression	**91 kips**

- The anchor bolts were found to be within allowable limits.

Tower Component	Design Limit	Stress Ratio (percentage of capacity)	Result
Anchor Bolts	Tension	34.0%	**PASS**

- The foundation was found to be within allowable limits.

Foundation	Design Limit	TIA-222-G Section 9.4 FS(1)	Proposed Loading (FS)(1)	Result
Reinforced Concrete Mat	OM(2)	1.0	3.84	**PASS**

Note 1: FS denotes Factor of Safety
Note 2: OM denotes Overturning Moment.

C o n c l u s i o n

This analysis shows that the subject tower **is adequate** to support the proposed modified antenna configuration.

The analysis is based, in part, on the information provided to this office by Verizon. If the existing conditions are different than the information in this report, Centek Engineering, Inc. must be contacted for resolution of any potential issues.

Please feel free to call with any questions or comments.

Respectfully Submitted by:

Timothy J. Lynn, PE
Structural Engineer

STATE OF CONNECTICUT
TIMOTHY J. LYNN
No. 29336
LICENSED
PROFESSIONAL ENGINEER

Prepared by:

Pablo Perez-Gomez
Engineer

Standard Conditions for Furnishing of Professional Engineering Services on Existing Structures

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessarily limited to:

- Information supplied by the client regarding the structure itself, its foundations, the soil conditions, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from the field and/or drawings in the possession of Centek Engineering, Inc. or generated by field inspections or measurements of the structure.
- It is the responsibility of the client to ensure that the information provided to Centek Engineering, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated. It is therefore assumed that its capacity has not significantly changed from the “as new” condition.
- All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest revision of ANSI/ASCE10 & ANSI/EIA-222
- All services performed, results obtained, and recommendations made are in accordance with generally accepted engineering principles and practices. Centek Engineering, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

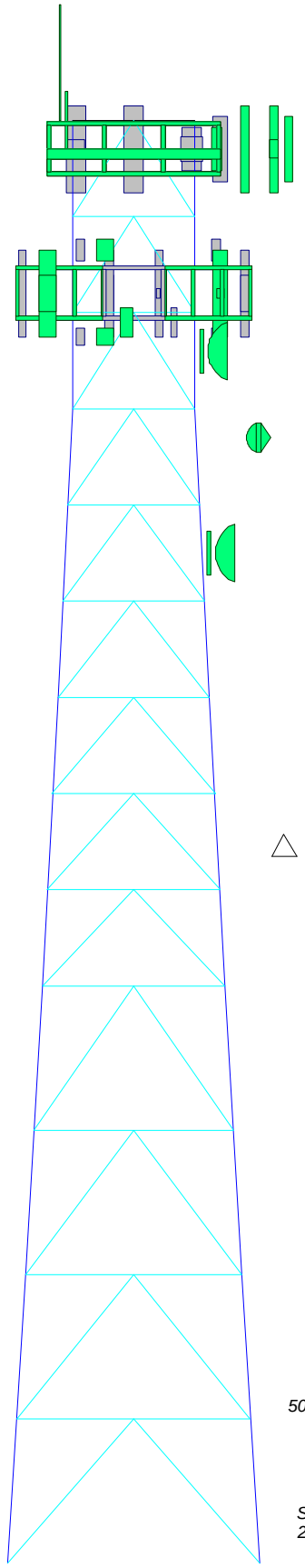
GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM

TnxTower, is an integrated structural analysis and design software package for Designed specifically for the telecommunications industry, TnxTower, formerly ERITower, automates much of the tower analysis and design required by the TIA/EIA 222 Standard.

TnxTower Features:

- TnxTower can analyze and design 3- and 4-sided guyed towers, 3- and 4-sided self-supporting towers and either round or tapered ground mounted poles with or without guys.
- The program analyzes towers using the TIA-222-G (2005) standard or any of the previous TIA/EIA standards back to RS-222 (1959). Steel design is checked using the AISC ASD 9th Edition or the AISC LRFD specifications.
- Linear and non-linear (P-delta) analyses can be used in determining displacements and forces in the structure. Wind pressures and forces are automatically calculated.
- Extensive graphics plots include material take-off, shear-moment, leg compression, displacement, twist, feed line, guy anchor and stress plots.
- TnxTower contains unique features such as True Cable behavior, hog rod take-up, foundation stiffness and much more.

Section		T1	T2	T3	T4	T5
Legs		ROHN 2.5 STD	ROHN 3 STD	ROHN 3.5 STD	ROHN 4 EH	ROHN 5 X-STR
Leg Grade		A572-50				
Diagonals		ROHN 2 STD			ROHN 2.5 STD	
Diagonal Grade		A572-50				
Top Girts		ROHN 1.5 STD				
Horizontals		ROHN 1.5 STD			ROHN 2 STD	
Inner Bracing		L2x2x1/8				L2 1/2x2 1/2x3/16
Face Width (ft)	17.4583	8.5	8.54167	10.5833	12.625	14.9583
# Panels @ (ft)	8.8	1.1	1.3	1.6	2.1	2.6
Weight (K)		9 @ 6.66667			4 @ 10	



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
8' x 3" Dia Omni	100	12' Frame (ATI Existing)	88
4' x 2.875" Pipe Mount	100	12' Frame (ATI Existing)	88
Pirod 12' T-Frame Sector Mount (1) (Verizon Existing)	98	HPA-65R-BUU-H6 (ATI Existing)	88
Pirod 12' T-Frame Sector Mount (1) (Verizon Existing)	98	QS66512-2 (ATI Existing)	88
(2) Commscope VZWSMART-SFK3 (Verizon Proposed)	98	HPA-65R-BUU-H6 (ATI Existing)	88
(2) Commscope VZWSMART-SFK3 (Verizon Proposed)	98	QS66512-2 (ATI Existing)	88
MX06FRO660 (Verizon Proposed)	98	HPA-65R-BUU-H6 (ATI Existing)	88
MX06FRO660 (Verizon Proposed)	98	QS66512-2 (ATI Existing)	88
MT6407-77A (Verizon Proposed)	98	DBC0061F1V51-2 (ATI Existing)	88
800-10734 (Verizon Existing)	98	DBC0061F1V51-2 (ATI Existing)	88
800-10734 (Verizon Existing)	98	DBC0061F1V51-2 (ATI Existing)	88
MX06FRO660 (Verizon Proposed)	98	RRUS-32 (ATI Existing)	88
MX06FRO660 (Verizon Proposed)	98	RRUS-32 (ATI Existing)	88
MT6407-77A (Verizon Proposed)	98	RRUS-32 (ATI Existing)	88
RF4439d-25A (B2/B66A RRH) (Verizon Proposed)	98	4449 B5/B12 (ATI Existing)	88
RF4439d-25A (B2/B66A RRH) (Verizon Proposed)	98	4449 B5/B12 (ATI Existing)	88
DC-12-48-60-0-25E (Verizon Proposed)	98	4449 B5/B12 (ATI Existing)	88
RF4440d-13A (B5/B13 RRH) (Verizon Proposed)	98	8843 B2/B66A (ATI Existing)	88
RF4440d-13A (B5/B13 RRH) (Verizon Proposed)	98	8843 B2/B66A (ATI Existing)	88
P1000 Unistrut (9' Long) (ATI Existing)	88.5	8843 B2/B66A (ATI Existing)	88
P1000 Unistrut (9' Long) (ATI Existing)	88.5	DC6-48-60-18-8F Surge Arrestor (ATI Existing)	86
P1000 Unistrut (9' Long) (ATI Existing)	88.5	DC6-48-60-18-8F Surge Arrestor (ATI Existing)	86
12' Frame (ATI Existing)	88	3' x 4.5" Pipe Mont	84
		4 FT DISH	84
		P1000 Unistrut (9' Long) (ATI Existing)	78.5
		P1000 Unistrut (9' Long) (ATI Existing)	78.5
		P1000 Unistrut (9' Long) (ATI Existing)	78.5
		SC2-W100AB	78
		4 FT DISH	70
		3' x 4.5" Pipe Mont	70

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi			

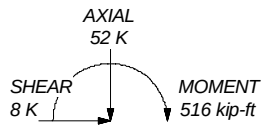
TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-G Standard.
2. Tower designed for a 93 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. TOWER RATING: 56%

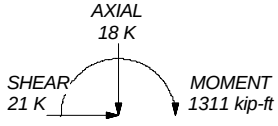
ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 91 K
SHEAR: 12 K

UPLIFT: -82 K
SHEAR: 11 K



TORQUE 7 kip-ft
50 mph WIND - 0.7500 in ICE



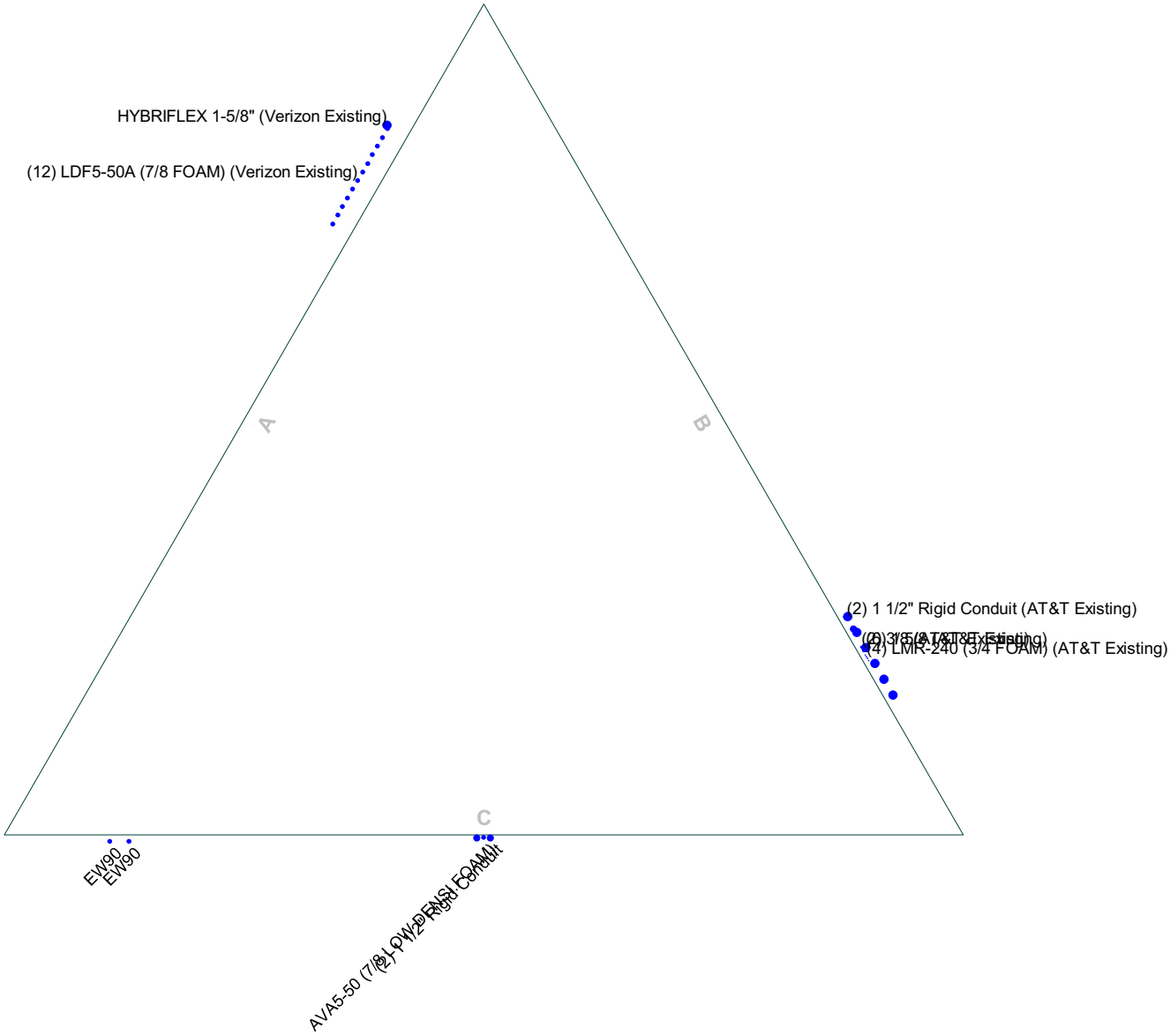
TORQUE 19 kip-ft
REACTIONS - 93 mph WIND

Centek Engineering Inc.
63-2 North Branford Rd.
Branford, CT 06405
Phone: (203) 488-0580
FAX: (203) 488-8587

Job: **21007.71 - Bruces CT**		
Project: **100' Rohn Lattice Tower - 1323 King St., Greenwich, CT**		
Client: Verizon Wireless	Drawn by: TJL	App'd:
Code: TIA-222-G	Date: 01/24/22	Scale: NTS
Path: J:\Jobs\21007\00.WF\71_Bruces CT\05_Structural\Backup Documentation\Rev (1)\ER Rise\100-ft Rohn Lattice Tower.eri		Dwg No. E-1

Feed Line Plan

Round Flat App In Face App Out Face



Centek Engineering
63-2 North Branford Rd.
Branford, CT 06405
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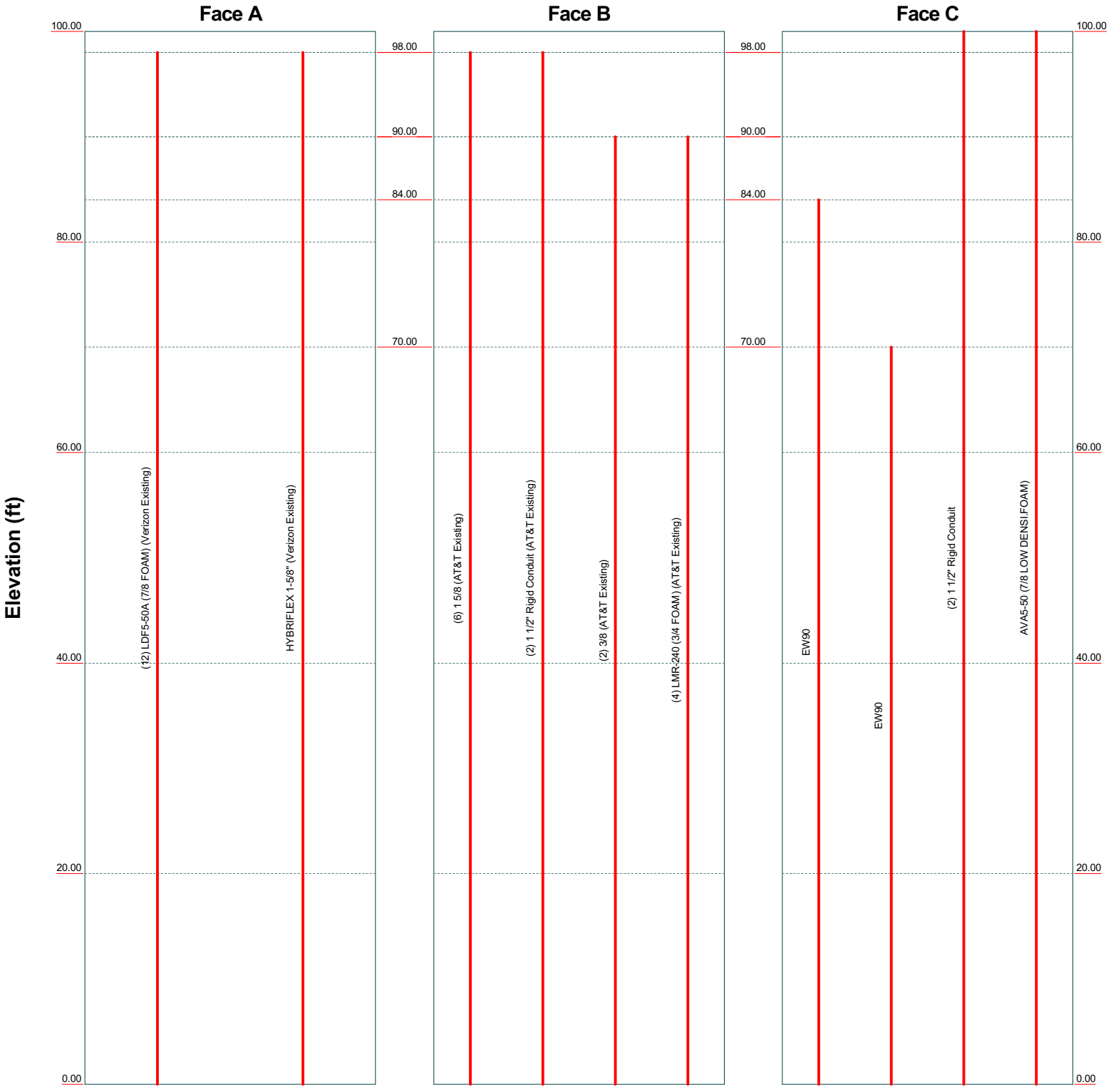
Job:	***21007.71 - Bruces CT***		
Project:	***100' Rohn Lattice Tower - 1323 King St., Greenwich, CT***		
Client: Verizon Wireless		Drawn by: PPG	App'd:
Code: TIA-222-G		Date: 01/21/22	Scale: NTS
Path: J:\Jobs\21007\00.WI\71_Bruces CT\05_Structural\Backup Documentation\Rev (1)\ERI Files\100-ft Rohn Lattice Tower.eri			Dwg No. E-7

Feed Line Distribution Chart
0' - 100'

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



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Path: J:\Jobs\21007\00.WI\71_Bruces CT\05_Structural\Backup Documentation\Rev (1)\ER Files\100-ft Rohn Lattice Tower.er		Dwg No. E-7	

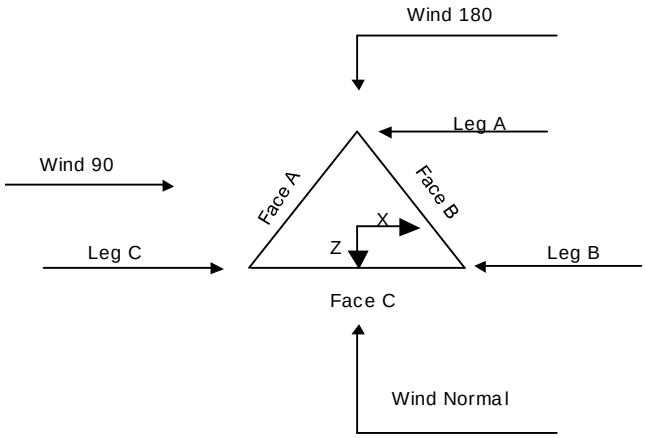
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 100.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 8.50 ft at the top and 17.46 ft at the base.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Basic wind speed of 93 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.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member 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



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	100.00-80.00			8.50	1	20.00
T2	80.00-60.00			8.54	1	20.00
T3	60.00-40.00			10.58	1	20.00
T4	40.00-20.00			12.63	1	20.00
T5	20.00-0.00			14.96	1	20.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T1	100.00-80.00	6.67	K Brace Down	No	Yes	0.0000	0.0000
T2	80.00-60.00	6.67	K Brace Down	No	Yes	0.0000	0.0000
T3	60.00-40.00	6.67	K Brace Down	No	Yes	0.0000	0.0000
T4	40.00-20.00	10.00	K Brace Down	No	Yes	0.0000	0.0000
T5	20.00-0.00	10.00	K Brace Down	No	Yes	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 100.00-80.00	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)
T2 80.00-60.00	Pipe	ROHN 3 STD	A572-50 (50 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)
T3 60.00-40.00	Pipe	ROHN 3.5 STD	A572-50 (50 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)
T4 40.00-20.00	Pipe	ROHN 4 EH	A572-50 (50 ksi)	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)
T5 20.00-0.00	Pipe	ROHN 5 X-STR	A572-50 (50 ksi)	Pipe	ROHN 2.5 STD	A572-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 100.00-80.00	Pipe	ROHN 1.5 STD	A572-50 (50 ksi)	Single Angle		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T1 100.00-80.00	None	Single Angle		A36 (36 ksi)	Pipe	ROHN 1.5 STD	A572-50 (50 ksi)
T2 80.00-60.00	None	Solid Round		A572-50 (50 ksi)	Pipe	ROHN 1.5 STD	A572-50 (50 ksi)
T3 60.00-40.00	None	Single Angle		A36 (36 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)
T4 40.00-20.00	None	Single Angle		A36 (36 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)
T5 20.00-0.00	None	Single Angle		A36 (36 ksi)	Pipe	ROHN 2 STD	A572-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T1 100.00-80.00	Single Angle		A36 (36 ksi)	Single Angle	L2x2x1/8	A36 (36 ksi)
T2 80.00-60.00	Single Angle		A36 (36 ksi)	Single Angle	L2x2x1/8	A36 (36 ksi)

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T3 60.00-40.00	Single Angle		A36 (36 ksi)	Single Angle	L2x2x1/8	A36 (36 ksi)
T4 40.00-20.00	Single Angle		A36 (36 ksi)	Single Angle	L2x2x1/8	A36 (36 ksi)
T5 20.00-0.00	Single Angle		A36 (36 ksi)	Single Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 100.00-80.00	0.00	0.0000	A36 (36 ksi)	1	1	1	30.0000	30.0000	36.0000
T2 80.00-60.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T3 60.00-40.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T4 40.00-20.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T5 20.00-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1	Yes	Yes	1	1	1	1	1	1	1	1
100.00-80.00				1	1	1	1	1	1	1
T2	Yes	Yes	1	1	1	1	1	1	1	1
80.00-60.00				1	1	1	1	1	1	1
T3	Yes	Yes	1	1	1	1	1	1	1	1
60.00-40.00				1	1	1	1	1	1	1
T4	Yes	Yes	1	1	1	1	1	1	1	1
40.00-20.00				1	1	1	1	1	1	1
T5 20.00-0.00	Yes	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 100.00-80.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	1	0.0000	0.75
T2 80.00-60.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1
T3 60.00-40.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1
T4 40.00-20.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1
T5 20.00-0.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 100.00-80.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 80.00-60.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 60.00-40.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 40.00-20.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 20.00-0.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 100.00-80.00	Flange	0.7500 A325N	4	0.6250 A325N	3	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T2 80.00-60.00	Flange	0.8750 A325N	4	0.6250 A325N	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T3 60.00-40.00	Flange	0.8750 A325N	4	0.6250 A325N	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T4 40.00-20.00	Flange	1.0000 A325N	4	0.6250 A325N	3	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T5 20.00-0.00	Flange	1.0000 A354-BC	4	0.6250 A325N	3	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
1 5/8	B	No	No	Ar (CaAa)	98.00 - 0.00	1.0000	0.29	6	6	1.9800	1.9800		1.04

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
(AT&T Existing) 1 1/2" Rigid Conduit	B	No	No	Ar (CaAa)	98.00 - 0.00	1.0000	0.25	2	2	1.5000	1.5000		1.00
(AT&T Existing) 3/8	B	No	No	Ar (CaAa)	90.00 - 0.00	1.0000	0.28	2	2	0.5000	0.5000		0.40
(AT&T Existing) LMR-240 (3/4 FOAM)	B	No	No	Ar (CaAa)	90.00 - 0.00	1.0000	0.29	4	4	0.2500	0.2400		0.04
(AT&T Existing) EW90	C	No	No	Ar (CaAa)	84.00 - 0.00	1.0000	0.39	1	1	0.9869	0.9869		0.32
EW90	C	No	No	Ar (CaAa)	70.00 - 0.00	1.0000	0.37	1	1	0.9869	0.9869		0.32
LDF5-50A (7/8 FOAM) (Verizon Existing)	A	No	No	Ar (CaAa)	98.00 - 0.00	4.0000	0.28	12	12	1.0900	1.0900		0.33
HYBRIFLEX 1-5/8" (Verizon Existing)	A	No	No	Ar (CaAa)	98.00 - 0.00	4.0000	0.34	1	1	1.9800	1.9800		1.90
1 1/2" Rigid Conduit	C	No	No	Ar (CaAa)	100.00 - 0.00	0.0000	0	2	2	1.5000	1.5000		1.00
AVA5-50 (7/8 LOW DENSI.FOAM)	C	No	No	Ar (CaAa)	100.00 - 0.00	0.0000	0	1	1	1.1000	1.1000		0.30

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	100.00-80.00	A	0.000	0.000	27.108	0.000	0.11
		B	0.000	0.000	28.744	0.000	0.16
		C	0.000	0.000	8.595	0.000	0.05
T2	80.00-60.00	A	0.000	0.000	30.120	0.000	0.12
		B	0.000	0.000	33.680	0.000	0.18
		C	0.000	0.000	11.161	0.000	0.06
T3	60.00-40.00	A	0.000	0.000	30.120	0.000	0.12
		B	0.000	0.000	33.680	0.000	0.18
		C	0.000	0.000	12.148	0.000	0.06
T4	40.00-20.00	A	0.000	0.000	30.120	0.000	0.12
		B	0.000	0.000	33.680	0.000	0.18
		C	0.000	0.000	12.148	0.000	0.06
T5	20.00-0.00	A	0.000	0.000	30.120	0.000	0.12
		B	0.000	0.000	33.680	0.000	0.18
		C	0.000	0.000	12.148	0.000	0.06

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_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	100.00-80.00	A	1.658	0.000	0.000	74.169	0.000	1.01
		B		0.000	0.000	93.748	0.000	1.24
		C		0.000	0.000	33.508	0.000	0.41
T2	80.00-60.00	A	1.617	0.000	0.000	82.010	0.000	1.09
		B		0.000	0.000	116.732	0.000	1.45
		C		0.000	0.000	44.003	0.000	0.54
T3	60.00-40.00	A	1.564	0.000	0.000	81.492	0.000	1.06
		B		0.000	0.000	115.300	0.000	1.41
		C		0.000	0.000	47.214	0.000	0.57
T4	40.00-20.00	A	1.486	0.000	0.000	80.738	0.000	1.01
		B		0.000	0.000	113.219	0.000	1.35
		C		0.000	0.000	45.746	0.000	0.53
T5	20.00-0.00	A	1.331	0.000	0.000	79.247	0.000	0.92
		B		0.000	0.000	109.097	0.000	1.23
		C		0.000	0.000	42.832	0.000	0.46

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	100.00-80.00	5.9568	-3.5315	7.8756	-1.8596
T2	80.00-60.00	6.3557	-3.4087	8.8915	-1.1502
T3	60.00-40.00	6.8530	-3.4340	9.7907	-0.9185
T4	40.00-20.00	7.9942	-3.8726	11.6664	-1.1923
T5	20.00-0.00	8.8475	-4.1713	13.2125	-1.7378

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	2	1 5/8	80.00 - 98.00	0.6000	0.6000
T1	3	1 1/2" Rigid Conduit	80.00 - 98.00	0.6000	0.6000
T1	4	3/8	80.00 - 90.00	0.6000	0.6000
T1	5	LMR-240 (3/4 FOAM)	80.00 - 90.00	0.6000	0.6000
T1	6	EW90	80.00 - 84.00	0.6000	0.6000
T1	8	LDF5-50A (7/8 FOAM)	80.00 - 98.00	0.6000	0.6000
T1	9	HYBRIFLEX 1-5/8"	80.00 - 98.00	0.6000	0.6000
T1	10	1 1/2" Rigid Conduit	80.00 - 100.00	1.0000	1.0000
T1	11	AVA5-50 (7/8 LOW DENSI.FOAM)	80.00 - 100.00	1.0000	1.0000
T2	2	1 5/8	60.00 - 80.00	0.6000	0.6000
T2	3	1 1/2" Rigid Conduit	60.00 - 80.00	0.6000	0.6000
T2	4	3/8	60.00 - 80.00	0.6000	0.6000
T2	5	LMR-240 (3/4 FOAM)	60.00 - 80.00	0.6000	0.6000
T2	6	EW90	60.00 - 80.00	0.6000	0.6000
T2	7	EW90	60.00 - 70.00	0.6000	0.6000
T2	8	LDF5-50A (7/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T2	9	HYBRIFLEX 1-5/8"	60.00 - 80.00	0.6000	0.6000
T2	10	1 1/2" Rigid Conduit	60.00 - 80.00	1.0000	1.0000
T2	11	AVA5-50 (7/8 LOW	60.00 - 80.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		DENSI.FOAM)			
T3	2	1 5/8	40.00 - 60.00	0.6000	0.6000
T3	3	1 1/2" Rigid Conduit	40.00 - 60.00	0.6000	0.6000
T3	4	3/8	40.00 - 60.00	0.6000	0.6000
T3	5	LMR-240 (3/4 FOAM)	40.00 - 60.00	0.6000	0.6000
T3	6	EW90	40.00 - 60.00	0.6000	0.6000
T3	7	EW90	40.00 - 60.00	0.6000	0.6000
T3	8	LDF5-50A (7/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T3	9	HYBRIFLEX 1-5/8"	40.00 - 60.00	0.6000	0.6000
T3	10	1 1/2" Rigid Conduit	40.00 - 60.00	1.0000	1.0000
T3	11	AVA5-50 (7/8 LOW	40.00 - 60.00	1.0000	1.0000
		DENSI.FOAM)			
T4	2	1 5/8	20.00 - 40.00	0.6000	0.6000
T4	3	1 1/2" Rigid Conduit	20.00 - 40.00	0.6000	0.6000
T4	4	3/8	20.00 - 40.00	0.6000	0.6000
T4	5	LMR-240 (3/4 FOAM)	20.00 - 40.00	0.6000	0.6000
T4	6	EW90	20.00 - 40.00	0.6000	0.6000
T4	7	EW90	20.00 - 40.00	0.6000	0.6000
T4	8	LDF5-50A (7/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T4	9	HYBRIFLEX 1-5/8"	20.00 - 40.00	0.6000	0.6000
T4	10	1 1/2" Rigid Conduit	20.00 - 40.00	1.0000	1.0000
T4	11	AVA5-50 (7/8 LOW	20.00 - 40.00	1.0000	1.0000
		DENSI.FOAM)			
T5	2	1 5/8	0.00 - 20.00	0.6000	0.6000
T5	3	1 1/2" Rigid Conduit	0.00 - 20.00	0.6000	0.6000
T5	4	3/8	0.00 - 20.00	0.6000	0.6000
T5	5	LMR-240 (3/4 FOAM)	0.00 - 20.00	0.6000	0.6000
T5	6	EW90	0.00 - 20.00	0.6000	0.6000
T5	7	EW90	0.00 - 20.00	0.6000	0.6000
T5	8	LDF5-50A (7/8 FOAM)	0.00 - 20.00	0.6000	0.6000
T5	9	HYBRIFLEX 1-5/8"	0.00 - 20.00	0.6000	0.6000
T5	10	1 1/2" Rigid Conduit	0.00 - 20.00	1.0000	1.0000
T5	11	AVA5-50 (7/8 LOW	0.00 - 20.00	1.0000	1.0000
		DENSI.FOAM)			

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
8' x 3" Dia Omni	C	From Leg	1.00 0.00 4.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	2.40 3.19 3.67	2.40 3.19 3.67	0.03 0.04 0.07
4' x 2.875" Pipe Mount	C	From Leg	0.50 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	0.97 1.22 1.48	0.97 1.22 1.48	0.02 0.03 0.04
Pirod 12' T-Frame Sector Mount (1) (Verizon Existing)	A	None		0.0000	98.00	No Ice 1/2" Ice 1" Ice	13.60 18.40 23.20	13.60 18.40 23.20	0.47 0.60 0.73
Pirod 12' T-Frame Sector Mount (1)	B	None		0.0000	98.00	No Ice 1/2" Ice	13.60 18.40	13.60 18.40	0.47 0.60

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(Verizon Existing)						1" Ice	23.20	23.20	0.73
(2) Commscope	A	None		0.0000	98.00	No Ice	5.00	5.00	0.09
VZWSMART-SFK3						1/2" Ice	7.00	7.00	0.12
(Verizon Proposed)						1" Ice	9.00	9.00	0.16
(2) Commscope	B	None		0.0000	98.00	No Ice	5.00	5.00	0.09
VZWSMART-SFK3						1/2" Ice	7.00	7.00	0.12
(Verizon Proposed)						1" Ice	9.00	9.00	0.16
MX06FRO660	A	From Leg	4.00	0.0000	98.00	No Ice	9.87	7.34	0.06
(Verizon Proposed)			-4.00			1/2" Ice	10.34	7.78	0.13
			0.00			1" Ice	10.82	8.24	0.20
MX06FRO660	A	From Leg	4.00	0.0000	98.00	No Ice	9.87	7.34	0.06
(Verizon Proposed)			0.00			1/2" Ice	10.34	7.78	0.13
			0.00			1" Ice	10.82	8.24	0.20
MT6407-77A	A	From Leg	4.00	0.0000	98.00	No Ice	4.71	1.84	0.00
(Verizon Proposed)			4.00			1/2" Ice	5.00	2.06	0.03
			0.00			1" Ice	5.29	2.29	0.06
800-10734	A	From Leg	4.00	0.0000	98.00	No Ice	5.67	2.34	0.03
(Verizon Existing)			6.00			1/2" Ice	6.03	2.67	0.06
			0.00			1" Ice	6.39	3.01	0.09
800-10734	B	From Leg	4.00	0.0000	98.00	No Ice	5.67	2.34	0.03
(Verizon Existing)			-6.00			1/2" Ice	6.03	2.67	0.06
			0.00			1" Ice	6.39	3.01	0.09
MX06FRO660	B	From Leg	4.00	0.0000	98.00	No Ice	9.87	7.34	0.06
(Verizon Proposed)			-4.00			1/2" Ice	10.34	7.78	0.13
			0.00			1" Ice	10.82	8.24	0.20
MX06FRO660	B	From Leg	4.00	0.0000	98.00	No Ice	9.87	7.34	0.06
(Verizon Proposed)			0.00			1/2" Ice	10.34	7.78	0.13
			0.00			1" Ice	10.82	8.24	0.20
MT6407-77A	B	From Leg	4.00	0.0000	98.00	No Ice	4.71	1.84	0.00
(Verizon Proposed)			4.00			1/2" Ice	5.00	2.06	0.03
			0.00			1" Ice	5.29	2.29	0.06
RF4439d-25A (B2/B66A	A	From Leg	4.00	0.0000	98.00	No Ice	1.88	1.25	0.08
RRH)			-4.00			1/2" Ice	2.05	1.39	0.09
(Verizon Proposed)			0.00			1" Ice	2.22	1.54	0.11
RF4439d-25A (B2/B66A	B	From Leg	4.00	0.0000	98.00	No Ice	1.88	1.25	0.08
RRH)			-4.00			1/2" Ice	2.05	1.39	0.09
(Verizon Proposed)			0.00			1" Ice	2.22	1.54	0.11
DC-12-48-60-0-25E	A	From Leg	4.00	0.0000	98.00	No Ice	3.04	1.09	0.06
(Verizon Proposed)			4.00			1/2" Ice	3.25	1.24	0.08
			0.00			1" Ice	3.48	1.39	0.10
RF4440d-13A (B5/B13 RRH)	A	From Leg	4.00	0.0000	98.00	No Ice	1.88	1.13	0.08
(Verizon Proposed)			-4.00			1/2" Ice	2.05	1.26	0.09
			0.00			1" Ice	2.22	1.41	0.11
RF4440d-13A (B5/B13 RRH)	B	From Leg	4.00	0.0000	98.00	No Ice	1.88	1.13	0.08
(Verizon Proposed)			-4.00			1/2" Ice	2.05	1.26	0.09
			0.00			1" Ice	2.22	1.41	0.11
12' Frame	A	From Leg	1.00	0.0000	88.00	No Ice	9.80	9.80	0.26
(AT&T Existing)			0.00			1/2" Ice	14.80	14.80	0.36
			0.00			1" Ice	19.80	19.80	0.46
12' Frame	B	From Leg	1.00	0.0000	88.00	No Ice	9.80	9.80	0.26
(AT&T Existing)			0.00			1/2" Ice	14.80	14.80	0.36
			0.00			1" Ice	19.80	19.80	0.46
12' Frame	C	From Leg	1.00	0.0000	88.00	No Ice	9.80	9.80	0.26
(AT&T Existing)			0.00			1/2" Ice	14.80	14.80	0.36
			0.00			1" Ice	19.80	19.80	0.46
P1000 Unistrut (9' Long)	A	From Face	3.00	0.0000	88.50	No Ice	1.71	0.03	0.02
(AT&T Existing)			0.00			1/2" Ice	2.42	0.05	0.03

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1" Ice	3.13	0.07	0.05
P1000 Unistrut (9' Long)	A	From Face	3.00	0.0000	78.50	No Ice	1.71	0.03	0.02
(AT&T Existing)			0.00			1/2" Ice	2.42	0.05	0.03
			0.00			1" Ice	3.13	0.07	0.05
P1000 Unistrut (9' Long)	B	From Face	3.00	0.0000	88.50	No Ice	1.71	0.03	0.02
(AT&T Existing)			0.00			1/2" Ice	2.42	0.05	0.03
			0.00			1" Ice	3.13	0.07	0.05
P1000 Unistrut (9' Long)	B	From Face	3.00	0.0000	78.50	No Ice	1.71	0.03	0.02
(AT&T Existing)			0.00			1/2" Ice	2.42	0.05	0.03
			0.00			1" Ice	3.13	0.07	0.05
P1000 Unistrut (9' Long)	C	From Face	3.00	0.0000	88.50	No Ice	1.71	0.03	0.02
(AT&T Existing)			0.00			1/2" Ice	2.42	0.05	0.03
			0.00			1" Ice	3.13	0.07	0.05
P1000 Unistrut (9' Long)	C	From Face	3.00	0.0000	78.50	No Ice	1.71	0.03	0.02
(AT&T Existing)			0.00			1/2" Ice	2.42	0.05	0.03
			0.00			1" Ice	3.13	0.07	0.05
HPA-65R-BUU-H6	A	From Face	3.00	0.0000	88.00	No Ice	9.66	6.45	0.05
(AT&T Existing)			6.00			1/2" Ice	10.13	6.91	0.11
			0.00			1" Ice	10.61	7.38	0.18
QS66512-2	A	From Face	3.00	0.0000	88.00	No Ice	8.13	6.80	0.11
(AT&T Existing)			-6.00			1/2" Ice	8.59	7.27	0.17
			0.00			1" Ice	9.05	7.72	0.23
HPA-65R-BUU-H6	B	From Face	3.00	0.0000	88.00	No Ice	9.66	6.45	0.05
(AT&T Existing)			6.00			1/2" Ice	10.13	6.91	0.11
			0.00			1" Ice	10.61	7.38	0.18
QS66512-2	B	From Face	3.00	0.0000	88.00	No Ice	8.13	6.80	0.11
(AT&T Existing)			-6.00			1/2" Ice	8.59	7.27	0.17
			0.00			1" Ice	9.05	7.72	0.23
HPA-65R-BUU-H6	C	From Face	3.00	0.0000	88.00	No Ice	9.66	6.45	0.05
(AT&T Existing)			6.00			1/2" Ice	10.13	6.91	0.11
			0.00			1" Ice	10.61	7.38	0.18
QS66512-2	C	From Face	3.00	0.0000	88.00	No Ice	8.13	6.80	0.11
(AT&T Existing)			-6.00			1/2" Ice	8.59	7.27	0.17
			0.00			1" Ice	9.05	7.72	0.23
DBC0061F1V51-2	A	From Face	3.00	0.0000	88.00	No Ice	0.41	0.43	0.02
(AT&T Existing)			-6.00			1/2" Ice	0.50	0.51	0.02
			0.00			1" Ice	0.59	0.61	0.03
DBC0061F1V51-2	B	From Face	3.00	0.0000	88.00	No Ice	0.41	0.43	0.02
(AT&T Existing)			-6.00			1/2" Ice	0.50	0.51	0.02
			0.00			1" Ice	0.59	0.61	0.03
DBC0061F1V51-2	C	From Face	3.00	0.0000	88.00	No Ice	0.41	0.43	0.02
(AT&T Existing)			-6.00			1/2" Ice	0.50	0.51	0.02
			0.00			1" Ice	0.59	0.61	0.03
RRUS-32	A	From Face	3.00	0.0000	88.00	No Ice	3.31	2.42	0.08
(AT&T Existing)			6.00			1/2" Ice	3.56	2.64	0.10
			0.00			1" Ice	3.81	2.86	0.14
RRUS-32	B	From Face	3.00	0.0000	88.00	No Ice	3.31	2.42	0.08
(AT&T Existing)			6.00			1/2" Ice	3.56	2.64	0.10
			0.00			1" Ice	3.81	2.86	0.14
RRUS-32	C	From Face	3.00	0.0000	88.00	No Ice	3.31	2.42	0.08
(AT&T Existing)			6.00			1/2" Ice	3.56	2.64	0.10
			0.00			1" Ice	3.81	2.86	0.14
4449 B5/B12	A	From Face	3.00	0.0000	88.00	No Ice	1.97	1.41	0.07
(AT&T Existing)			2.00			1/2" Ice	2.14	1.56	0.09
			3.00			1" Ice	2.33	1.73	0.11
4449 B5/B12	B	From Face	3.00	0.0000	88.00	No Ice	1.97	1.41	0.07
(AT&T Existing)			2.00			1/2" Ice	2.14	1.56	0.09

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			3.00			1" Ice	2.33	1.73	0.11
4449 B5/B12	C	From Face	3.00	0.0000	88.00	No Ice	1.97	1.41	0.07
(AT&T Existing)			2.00			1/2" Ice	2.14	1.56	0.09
			3.00			1" Ice	2.33	1.73	0.11
8843 B2/B66A	A	From Face	3.00	0.0000	88.00	No Ice	1.64	1.35	0.07
(AT&T Existing)			2.00			1/2" Ice	1.80	1.50	0.09
			-3.00			1" Ice	1.97	1.65	0.11
8843 B2/B66A	B	From Face	3.00	0.0000	88.00	No Ice	1.64	1.35	0.07
(AT&T Existing)			2.00			1/2" Ice	1.80	1.50	0.09
			-3.00			1" Ice	1.97	1.65	0.11
8843 B2/B66A	C	From Face	3.00	0.0000	88.00	No Ice	1.64	1.35	0.07
(AT&T Existing)			2.00			1/2" Ice	1.80	1.50	0.09
			-3.00			1" Ice	1.97	1.65	0.11
DC6-48-60-18-8F Surge	C	From Face	0.50	0.0000	86.00	No Ice	1.91	1.91	0.02
Arrestor			0.50			1/2" Ice	2.10	2.10	0.04
(AT&T Existing)			0.00			1" Ice	2.29	2.29	0.06
DC6-48-60-18-8F Surge	B	From Face	0.50	0.0000	86.00	No Ice	1.91	1.91	0.02
Arrestor			0.50			1/2" Ice	2.10	2.10	0.04
(AT&T Existing)			0.00			1" Ice	2.29	2.29	0.06
3' x 4.5" Pipe Mont	B	From Leg	0.50	0.0000	84.00	No Ice	0.85	0.85	0.03
			0.00			1/2" Ice	1.12	1.12	0.04
			0.00			1" Ice	1.33	1.33	0.06
3' x 4.5" Pipe Mont	B	From Leg	0.50	0.0000	70.00	No Ice	0.86	0.86	0.03
			0.00			1/2" Ice	1.12	1.12	0.04
			0.00			1" Ice	1.33	1.33	0.06

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
4 FT DISH	B	Paraboloid w/o Radome	From Leg	1.00	0.0000		84.00	4.00	No Ice	12.56	0.17
				0.00					1/2" Ice	13.09	0.24
				0.00					1" Ice	13.62	0.30
4 FT DISH	B	Paraboloid w/o Radome	From Leg	1.00	0.0000		70.00	4.00	No Ice	12.56	0.17
				0.00					1/2" Ice	13.09	0.24
				0.00					1" Ice	13.62	0.30
SC2-W100AB	B	Paraboloid w/Radome	From Leg	4.00	0.0000		78.00	2.00	No Ice	3.14	0.02
				0.00					1/2" Ice	3.41	0.04
				0.00					1" Ice	3.68	0.06

Tower Pressures - No Ice

$G_H = 0.850$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1	90.00	1.238	23	175.208	A	0.000	22.647	9.583	42.32	27.108	0.000
100.00-80.00					B	0.000	22.647		42.32	28.744	0.000
					C	0.000	22.647		42.32	8.595	0.000
T2 80.00-60.00	70.00	1.174	22	197.091	A	0.000	25.506	11.687	45.82	30.120	0.000
					B	0.000	25.506		45.82	33.680	0.000
					C	0.000	25.506		45.82	11.161	0.000
T3 60.00-40.00	50.00	1.094	21	238.758	A	0.000	30.184	13.356	44.25	30.120	0.000
					B	0.000	30.184		44.25	33.680	0.000
					C	0.000	30.184		44.25	12.148	0.000
T4 40.00-20.00	30.00	0.982	18	283.346	A	0.000	31.614	15.034	47.55	30.120	0.000
					B	0.000	31.614		47.55	33.680	0.000
					C	0.000	31.614		47.55	12.148	0.000
T5 20.00-0.00	10.00	0.85	16	333.456	A	0.000	36.764	18.592	50.57	30.120	0.000
					B	0.000	36.764		50.57	33.680	0.000
					C	0.000	36.764		50.57	12.148	0.000

Tower Pressure - With Ice

$G_H = 0.850$

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1 100.00-80.00	90.00	1.238	7	1.6583	180.736	A	0.000	53.318	20.639	38.71	74.169	0.000
						B	0.000	53.318		38.71	93.748	0.000
						C	0.000	53.318		38.71	33.508	0.000
T2 80.00-60.00	70.00	1.174	6	1.6171	202.488	A	0.000	56.568	22.487	39.75	82.010	0.000
						B	0.000	56.568		39.75	116.732	0.000
						C	0.000	56.568		39.75	44.003	0.000
T3 60.00-40.00	50.00	1.094	6	1.5636	243.977	A	0.000	62.783	23.799	37.91	81.492	0.000
						B	0.000	62.783		37.91	115.300	0.000
						C	0.000	62.783		37.91	47.214	0.000
T4 40.00-20.00	30.00	0.982	5	1.4858	288.307	A	0.000	59.784	24.962	41.75	80.738	0.000
						B	0.000	59.784		41.75	113.219	0.000
						C	0.000	59.784		41.75	45.746	0.000
T5 20.00-0.00	10.00	0.85	5	1.3312	337.902	A	0.000	63.657	27.489	43.18	79.247	0.000
						B	0.000	63.657		43.18	109.097	0.000
						C	0.000	63.657		43.18	42.832	0.000

Tower Pressure - Service

$G_H = 0.850$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1	90.00	1.238	10	175.208	A	0.000	22.647	9.583	42.32	27.108	0.000
100.00-80.00					B	0.000	22.647		42.32	28.744	0.000
					C	0.000	22.647		42.32	8.595	0.000
T2 80.00-60.00	70.00	1.174	9	197.091	A	0.000	25.506	11.687	45.82	30.120	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
					B	0.000	25.506		45.82	33.680	0.000
					C	0.000	25.506		45.82	11.161	0.000
T3 60.00-40.00	50.00	1.094	9	238.758	A	0.000	30.184	13.356	44.25	30.120	0.000
					B	0.000	30.184		44.25	33.680	0.000
					C	0.000	30.184		44.25	12.148	0.000
T4 40.00-20.00	30.00	0.982	8	283.346	A	0.000	31.614	15.034	47.55	30.120	0.000
					B	0.000	31.614		47.55	33.680	0.000
					C	0.000	31.614		47.55	12.148	0.000
T5 20.00-0.00	10.00	0.85	7	333.456	A	0.000	36.764	18.592	50.57	30.120	0.000
					B	0.000	36.764		50.57	33.680	0.000
					C	0.000	36.764		50.57	12.148	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1	0.31	1.14	A	0.129	2.849	23	1	1	12.813	1.55	77.68	C
100.00-80.00			B	0.129	2.849		1	1	12.813			
			C	0.129	2.849		1	1	12.813			
T2	0.36	1.30	A	0.129	2.849	22	1	1	14.430	1.68	83.92	C
80.00-60.00			B	0.129	2.849		1	1	14.430			
			C	0.129	2.849		1	1	14.430			
T3	0.36	1.59	A	0.126	2.86	21	1	1	17.043	1.71	85.38	C
60.00-40.00			B	0.126	2.86		1	1	17.043			
			C	0.126	2.86		1	1	17.043			
T4	0.36	2.11	A	0.112	2.918	18	1	1	17.656	1.58	78.86	C
40.00-20.00			B	0.112	2.918		1	1	17.656			
			C	0.112	2.918		1	1	17.656			
T5 20.00-0.00	0.36	2.65	A	0.11	2.923	16	1	1	20.017	1.46	72.99	C
			B	0.11	2.923		1	1	20.017			
			C	0.11	2.923		1	1	20.017			
Sum Weight:	1.75	8.79						OTM	404.60 kip-ft	7.98		

Tower Forces - No Ice - Wind 45 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1	0.31	1.14	A	0.129	2.849	23	0.825	1	12.813	1.55	77.68	C
100.00-80.00			B	0.129	2.849		0.825	1	12.813			
			C	0.129	2.849		0.825	1	12.813			
T2	0.36	1.30	A	0.129	2.849	22	0.825	1	14.430	1.68	83.92	C
80.00-60.00			B	0.129	2.849		0.825	1	14.430			
			C	0.129	2.849		0.825	1	14.430			
T3	0.36	1.59	A	0.126	2.86	21	0.825	1	17.043	1.71	85.38	C
60.00-40.00			B	0.126	2.86		0.825	1	17.043			
			C	0.126	2.86		0.825	1	17.043			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T4	0.36	2.11	A	0.112	2.918	18	0.825	1	17.656	1.58	78.86	C
40.00-20.00			B	0.112	2.918		0.825	1	17.656			
			C	0.112	2.918		0.825	1	17.656			
T5 20.00-0.00	0.36	2.65	A	0.11	2.923	16	0.825	1	20.017	1.46	72.99	C
			B	0.11	2.923		0.825	1	20.017			
			C	0.11	2.923		0.825	1	20.017			
Sum Weight:	1.75	8.79						OTM	404.60 kip-ft	7.98		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1	0.31	1.14	A	0.129	2.849	23	0.8	1	12.813	1.55	77.68	C
100.00-80.00			B	0.129	2.849		0.8	1	12.813			
			C	0.129	2.849		0.8	1	12.813			
T2	0.36	1.30	A	0.129	2.849	22	0.8	1	14.430	1.68	83.92	C
80.00-60.00			B	0.129	2.849		0.8	1	14.430			
			C	0.129	2.849		0.8	1	14.430			
T3	0.36	1.59	A	0.126	2.86	21	0.8	1	17.043	1.71	85.38	C
60.00-40.00			B	0.126	2.86		0.8	1	17.043			
			C	0.126	2.86		0.8	1	17.043			
T4	0.36	2.11	A	0.112	2.918	18	0.8	1	17.656	1.58	78.86	C
40.00-20.00			B	0.112	2.918		0.8	1	17.656			
			C	0.112	2.918		0.8	1	17.656			
T5 20.00-0.00	0.36	2.65	A	0.11	2.923	16	0.8	1	20.017	1.46	72.99	C
			B	0.11	2.923		0.8	1	20.017			
			C	0.11	2.923		0.8	1	20.017			
Sum Weight:	1.75	8.79						OTM	404.60 kip-ft	7.98		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1	0.31	1.14	A	0.129	2.849	23	0.85	1	12.813	1.55	77.68	C
100.00-80.00			B	0.129	2.849		0.85	1	12.813			
			C	0.129	2.849		0.85	1	12.813			
T2	0.36	1.30	A	0.129	2.849	22	0.85	1	14.430	1.68	83.92	C
80.00-60.00			B	0.129	2.849		0.85	1	14.430			
			C	0.129	2.849		0.85	1	14.430			
T3	0.36	1.59	A	0.126	2.86	21	0.85	1	17.043	1.71	85.38	C
60.00-40.00			B	0.126	2.86		0.85	1	17.043			
			C	0.126	2.86		0.85	1	17.043			
T4	0.36	2.11	A	0.112	2.918	18	0.85	1	17.656	1.58	78.86	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
40.00-20.00			B	0.112	2.918		0.85	1	17.656			
			C	0.112	2.918		0.85	1	17.656			
T5 20.00-0.00	0.36	2.65	A	0.11	2.923	16	0.85	1	20.017	1.46	72.99	C
			B	0.11	2.923		0.85	1	20.017			
			C	0.11	2.923		0.85	1	20.017			
Sum Weight:	1.75	8.79						OTM	404.60 kip-ft	7.98		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1	2.65	3.76	A	0.295	2.309	7	1	1	31.851	1.19	59.28	C
100.00-80.00			B	0.295	2.309		1	1	31.851			
			C	0.295	2.309		1	1	31.851			
T2	3.08	4.03	A	0.279	2.352	6	1	1	33.532	1.29	64.35	C
80.00-60.00			B	0.279	2.352		1	1	33.532			
			C	0.279	2.352		1	1	33.532			
T3	3.04	4.63	A	0.257	2.416	6	1	1	36.843	1.25	62.64	C
60.00-40.00			B	0.257	2.416		1	1	36.843			
			C	0.257	2.416		1	1	36.843			
T4	2.89	4.80	A	0.207	2.572	5	1	1	34.424	1.11	55.48	C
40.00-20.00			B	0.207	2.572		1	1	34.424			
			C	0.207	2.572		1	1	34.424			
T5 20.00-0.00	2.62	5.33	A	0.188	2.635	5	1	1	36.447	0.97	48.35	C
			B	0.188	2.635		1	1	36.447			
			C	0.188	2.635		1	1	36.447			
Sum Weight:	14.28	22.54						OTM	302.39 kip-ft	5.80		

Tower Forces - With Ice - Wind 45 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1	2.65	3.76	A	0.295	2.309	7	0.825	1	31.851	1.19	59.28	C
100.00-80.00			B	0.295	2.309		0.825	1	31.851			
			C	0.295	2.309		0.825	1	31.851			
T2	3.08	4.03	A	0.279	2.352	6	0.825	1	33.532	1.29	64.35	C
80.00-60.00			B	0.279	2.352		0.825	1	33.532			
			C	0.279	2.352		0.825	1	33.532			
T3	3.04	4.63	A	0.257	2.416	6	0.825	1	36.843	1.25	62.64	C
60.00-40.00			B	0.257	2.416		0.825	1	36.843			
			C	0.257	2.416		0.825	1	36.843			
T4	2.89	4.80	A	0.207	2.572	5	0.825	1	34.424	1.11	55.48	C
40.00-20.00			B	0.207	2.572		0.825	1	34.424			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
			C	0.207	2.572		0.825	1	34.424			
T5 20.00-0.00	2.62	5.33	A	0.188	2.635	5	0.825	1	36.447	0.97	48.35	C
			B	0.188	2.635		0.825	1	36.447			
			C	0.188	2.635		0.825	1	36.447			
Sum Weight:	14.28	22.54						OTM	302.39 kip-ft	5.80		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T1	2.65	3.76	A	0.295	2.309	7	0.8	1	31.851	1.19	59.28	C
100.00-80.00			B	0.295	2.309		0.8	1	31.851			
			C	0.295	2.309		0.8	1	31.851			
T2	3.08	4.03	A	0.279	2.352	6	0.8	1	33.532	1.29	64.35	C
80.00-60.00			B	0.279	2.352		0.8	1	33.532			
			C	0.279	2.352		0.8	1	33.532			
T3	3.04	4.63	A	0.257	2.416	6	0.8	1	36.843	1.25	62.64	C
60.00-40.00			B	0.257	2.416		0.8	1	36.843			
			C	0.257	2.416		0.8	1	36.843			
T4	2.89	4.80	A	0.207	2.572	5	0.8	1	34.424	1.11	55.48	C
40.00-20.00			B	0.207	2.572		0.8	1	34.424			
			C	0.207	2.572		0.8	1	34.424			
T5 20.00-0.00	2.62	5.33	A	0.188	2.635	5	0.8	1	36.447	0.97	48.35	C
			B	0.188	2.635		0.8	1	36.447			
			C	0.188	2.635		0.8	1	36.447			
Sum Weight:	14.28	22.54						OTM	302.39 kip-ft	5.80		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T1	2.65	3.76	A	0.295	2.309	7	0.85	1	31.851	1.19	59.28	C
100.00-80.00			B	0.295	2.309		0.85	1	31.851			
			C	0.295	2.309		0.85	1	31.851			
T2	3.08	4.03	A	0.279	2.352	6	0.85	1	33.532	1.29	64.35	C
80.00-60.00			B	0.279	2.352		0.85	1	33.532			
			C	0.279	2.352		0.85	1	33.532			
T3	3.04	4.63	A	0.257	2.416	6	0.85	1	36.843	1.25	62.64	C
60.00-40.00			B	0.257	2.416		0.85	1	36.843			
			C	0.257	2.416		0.85	1	36.843			
T4	2.89	4.80	A	0.207	2.572	5	0.85	1	34.424	1.11	55.48	C
40.00-20.00			B	0.207	2.572		0.85	1	34.424			
			C	0.207	2.572		0.85	1	34.424			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T5 20.00-0.00	2.62	5.33	A	0.188	2.635	5	0.85	1	36.447	0.97	48.35	C
			B	0.188	2.635		0.85	1	36.447			
			C	0.188	2.635		0.85	1	36.447			
Sum Weight:	14.28	22.54						OTM	302.39 kip-ft	5.80		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T1	0.31	1.14	A	0.129	2.849	10	1	1	12.813	0.65	32.33	C
100.00-80.00			B	0.129	2.849		1	1	12.813			
			C	0.129	2.849		1	1	12.813			
T2	0.36	1.30	A	0.129	2.849	9	1	1	14.430	0.70	34.93	C
80.00-60.00			B	0.129	2.849		1	1	14.430			
			C	0.129	2.849		1	1	14.430			
T3	0.36	1.59	A	0.126	2.86	9	1	1	17.071	0.71	35.57	C
60.00-40.00			B	0.126	2.86		1	1	17.071			
			C	0.126	2.86		1	1	17.071			
T4	0.36	2.11	A	0.112	2.918	8	1	1	17.854	0.66	33.01	C
40.00-20.00			B	0.112	2.918		1	1	17.854			
			C	0.112	2.918		1	1	17.854			
T5 20.00-0.00	0.36	2.65	A	0.11	2.923	7	1	1	20.761	0.62	31.00	C
			B	0.11	2.923		1	1	20.761			
			C	0.11	2.923		1	1	20.761			
Sum Weight:	1.75	8.79						OTM	168.68 kip-ft	3.34		

Tower Forces - Service - Wind 45 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
T1	0.31	1.14	A	0.129	2.849	10	0.825	1	12.813	0.65	32.33	C
100.00-80.00			B	0.129	2.849		0.825	1	12.813			
			C	0.129	2.849		0.825	1	12.813			
T2	0.36	1.30	A	0.129	2.849	9	0.825	1	14.430	0.70	34.93	C
80.00-60.00			B	0.129	2.849		0.825	1	14.430			
			C	0.129	2.849		0.825	1	14.430			
T3	0.36	1.59	A	0.126	2.86	9	0.825	1	17.071	0.71	35.57	C
60.00-40.00			B	0.126	2.86		0.825	1	17.071			
			C	0.126	2.86		0.825	1	17.071			
T4	0.36	2.11	A	0.112	2.918	8	0.825	1	17.854	0.66	33.01	C
40.00-20.00			B	0.112	2.918		0.825	1	17.854			
			C	0.112	2.918		0.825	1	17.854			
T5 20.00-0.00	0.36	2.65	A	0.11	2.923	7	0.825	1	20.761	0.62	31.00	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			B	0.11	2.923		0.825	1	20.761			
			C	0.11	2.923		0.825	1	20.761			
Sum Weight:	1.75	8.79						OTM	168.68 kip-ft	3.34		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1	0.31	1.14	A	0.129	2.849	10	0.8	1	12.813	0.65	32.33	C
100.00-80.00			B	0.129	2.849		0.8	1	12.813			
			C	0.129	2.849		0.8	1	12.813			
T2	0.36	1.30	A	0.129	2.849	9	0.8	1	14.430	0.70	34.93	C
80.00-60.00			B	0.129	2.849		0.8	1	14.430			
			C	0.129	2.849		0.8	1	14.430			
T3	0.36	1.59	A	0.126	2.86	9	0.8	1	17.071	0.71	35.57	C
60.00-40.00			B	0.126	2.86		0.8	1	17.071			
			C	0.126	2.86		0.8	1	17.071			
T4	0.36	2.11	A	0.112	2.918	8	0.8	1	17.854	0.66	33.01	C
40.00-20.00			B	0.112	2.918		0.8	1	17.854			
			C	0.112	2.918		0.8	1	17.854			
T5 20.00-0.00	0.36	2.65	A	0.11	2.923	7	0.8	1	20.761	0.62	31.00	C
			B	0.11	2.923		0.8	1	20.761			
			C	0.11	2.923		0.8	1	20.761			
Sum Weight:	1.75	8.79						OTM	168.68 kip-ft	3.34		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1	0.31	1.14	A	0.129	2.849	10	0.85	1	12.813	0.65	32.33	C
100.00-80.00			B	0.129	2.849		0.85	1	12.813			
			C	0.129	2.849		0.85	1	12.813			
T2	0.36	1.30	A	0.129	2.849	9	0.85	1	14.430	0.70	34.93	C
80.00-60.00			B	0.129	2.849		0.85	1	14.430			
			C	0.129	2.849		0.85	1	14.430			
T3	0.36	1.59	A	0.126	2.86	9	0.85	1	17.071	0.71	35.57	C
60.00-40.00			B	0.126	2.86		0.85	1	17.071			
			C	0.126	2.86		0.85	1	17.071			
T4	0.36	2.11	A	0.112	2.918	8	0.85	1	17.854	0.66	33.01	C
40.00-20.00			B	0.112	2.918		0.85	1	17.854			
			C	0.112	2.918		0.85	1	17.854			
T5 20.00-0.00	0.36	2.65	A	0.11	2.923	7	0.85	1	20.761	0.62	31.00	C
			B	0.11	2.923		0.85	1	20.761			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F K	w plf	Ctrl. Face
Sum Weight:	1.75	8.79	C	0.11	2.923		0.85	1 OTM	20.761 168.68 kip-ft	3.34		

Force Totals

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Leg Weight	3.50					
Bracing Weight	5.28					
Total Member Self-Weight	8.79			-2.24	-7.74	
Total Weight	15.08			-2.24	-7.74	
Wind 0 deg - No Ice		-0.75	-12.56	-826.73	52.08	9.70
Wind 30 deg - No Ice		5.93	-10.53	-687.81	-388.92	6.50
Wind 45 deg - No Ice		8.60	-8.51	-554.63	-564.51	4.12
Wind 60 deg - No Ice		10.54	-6.01	-391.66	-691.02	1.60
Wind 90 deg - No Ice		12.31	0.14	10.48	-809.36	-3.88
Wind 120 deg - No Ice		10.80	6.38	419.87	-713.89	-9.12
Wind 135 deg - No Ice		8.82	8.92	585.23	-584.76	-10.98
Wind 150 deg - No Ice		6.27	10.85	710.59	-419.57	-11.92
Wind 180 deg - No Ice		0.19	12.35	805.83	-24.61	-10.72
Wind 210 deg - No Ice		-5.93	10.52	683.14	373.77	-6.50
Wind 225 deg - No Ice		-8.88	8.36	538.73	570.91	-4.04
Wind 240 deg - No Ice		-11.00	5.64	358.20	711.23	-0.58
Wind 270 deg - No Ice		-12.55	-0.50	-43.03	812.47	5.37
Wind 300 deg - No Ice		-11.02	-6.51	-433.96	715.06	9.12
Wind 315 deg - No Ice		-9.16	-8.97	-593.57	595.48	10.00
Wind 330 deg - No Ice		-6.71	-10.88	-717.14	437.69	10.42
Member Ice	13.76					
Total Weight Ice	48.93			-13.70	-35.27	
Wind 0 deg - Ice		-0.24	-7.99	-517.42	-15.84	6.66
Wind 30 deg - Ice		3.88	-6.81	-440.68	-277.26	5.19
Wind 45 deg - Ice		5.56	-5.53	-359.98	-383.19	3.88
Wind 60 deg - Ice		6.81	-3.91	-258.26	-461.76	2.34
Wind 90 deg - Ice		7.91	0.04	-9.78	-531.78	-1.18
Wind 120 deg - Ice		6.90	4.03	241.18	-469.07	-4.65
Wind 135 deg - Ice		5.63	5.66	343.77	-389.52	-6.00
Wind 150 deg - Ice		3.99	6.91	422.00	-286.92	-6.88
Wind 180 deg - Ice		0.06	7.92	484.57	-40.55	-6.99
Wind 210 deg - Ice		-3.88	6.80	413.19	206.87	-5.19
Wind 225 deg - Ice		-5.65	5.48	328.81	319.90	-3.85
Wind 240 deg - Ice		-6.96	3.79	221.33	403.01	-2.01
Wind 270 deg - Ice		-7.99	-0.16	-26.85	467.41	1.67
Wind 300 deg - Ice		-6.97	-4.07	-271.75	404.03	4.65
Wind 315 deg - Ice		-5.74	-5.68	-372.46	327.63	5.68
Wind 330 deg - Ice		-4.14	-6.92	-450.12	227.46	6.39
Total Weight	15.08			-2.24	-7.74	
Wind 0 deg - Service		-0.31	-5.25	-344.87	20.35	4.04
Wind 30 deg - Service		2.48	-4.40	-287.00	-163.39	2.71
Wind 45 deg - Service		3.59	-3.55	-231.51	-236.54	1.72
Wind 60 deg - Service		4.40	-2.51	-163.60	-289.26	0.67
Wind 90 deg - Service		5.14	0.06	3.96	-338.57	-1.61

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Wind 120 deg - Service		4.51	2.67	174.54	-298.78	-3.80
Wind 135 deg - Service		3.68	3.73	243.44	-244.97	-4.57
Wind 150 deg - Service		2.62	4.53	295.68	-176.14	-4.96
Wind 180 deg - Service		0.08	5.16	335.37	-11.57	-4.47
Wind 210 deg - Service		-2.48	4.40	284.25	154.43	-2.71
Wind 225 deg - Service		-3.71	3.49	224.09	236.55	-1.69
Wind 240 deg - Service		-4.59	2.35	148.87	295.02	-0.25
Wind 270 deg - Service		-5.24	-0.21	-18.31	337.20	2.23
Wind 300 deg - Service		-4.60	-2.72	-181.21	296.61	3.80
Wind 315 deg - Service		-3.82	-3.75	-247.71	246.78	4.16
Wind 330 deg - Service		-2.80	-4.54	-299.20	181.03	4.34

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 45 deg - No Ice
7	0.9 Dead+1.6 Wind 45 deg - No Ice
8	1.2 Dead+1.6 Wind 60 deg - No Ice
9	0.9 Dead+1.6 Wind 60 deg - No Ice
10	1.2 Dead+1.6 Wind 90 deg - No Ice
11	0.9 Dead+1.6 Wind 90 deg - No Ice
12	1.2 Dead+1.6 Wind 120 deg - No Ice
13	0.9 Dead+1.6 Wind 120 deg - No Ice
14	1.2 Dead+1.6 Wind 135 deg - No Ice
15	0.9 Dead+1.6 Wind 135 deg - No Ice
16	1.2 Dead+1.6 Wind 150 deg - No Ice
17	0.9 Dead+1.6 Wind 150 deg - No Ice
18	1.2 Dead+1.6 Wind 180 deg - No Ice
19	0.9 Dead+1.6 Wind 180 deg - No Ice
20	1.2 Dead+1.6 Wind 210 deg - No Ice
21	0.9 Dead+1.6 Wind 210 deg - No Ice
22	1.2 Dead+1.6 Wind 225 deg - No Ice
23	0.9 Dead+1.6 Wind 225 deg - No Ice
24	1.2 Dead+1.6 Wind 240 deg - No Ice
25	0.9 Dead+1.6 Wind 240 deg - No Ice
26	1.2 Dead+1.6 Wind 270 deg - No Ice
27	0.9 Dead+1.6 Wind 270 deg - No Ice
28	1.2 Dead+1.6 Wind 300 deg - No Ice
29	0.9 Dead+1.6 Wind 300 deg - No Ice
30	1.2 Dead+1.6 Wind 315 deg - No Ice
31	0.9 Dead+1.6 Wind 315 deg - No Ice
32	1.2 Dead+1.6 Wind 330 deg - No Ice
33	0.9 Dead+1.6 Wind 330 deg - No Ice
34	1.2 Dead+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
39	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
40	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp

Comb. No.	Description
41	1.2 Dead+1.0 Wind 135 deg+1.0 Ice+1.0 Temp
42	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
43	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
44	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
45	1.2 Dead+1.0 Wind 225 deg+1.0 Ice+1.0 Temp
46	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
47	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
48	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
49	1.2 Dead+1.0 Wind 315 deg+1.0 Ice+1.0 Temp
50	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
51	Dead+Wind 0 deg - Service
52	Dead+Wind 30 deg - Service
53	Dead+Wind 45 deg - Service
54	Dead+Wind 60 deg - Service
55	Dead+Wind 90 deg - Service
56	Dead+Wind 120 deg - Service
57	Dead+Wind 135 deg - Service
58	Dead+Wind 150 deg - Service
59	Dead+Wind 180 deg - Service
60	Dead+Wind 210 deg - Service
61	Dead+Wind 225 deg - Service
62	Dead+Wind 240 deg - Service
63	Dead+Wind 270 deg - Service
64	Dead+Wind 300 deg - Service
65	Dead+Wind 315 deg - Service
66	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	100 - 80	Leg	Max Tension	9	5.27	-0.36	-0.07
			Max. Compression	2	-9.37	0.06	-0.16
			Max. Mx	18	-1.25	1.45	0.25
			Max. My	28	-1.32	0.40	1.89
			Max. Vy	18	-0.73	-0.00	-0.00
			Max. Vx	28	-0.96	-0.00	-0.00
		Diagonal	Max Tension	16	6.47	0.00	0.00
			Max. Compression	16	-6.54	0.00	0.00
			Max. Mx	39	1.55	0.05	0.00
			Max. My	35	0.02	0.00	-0.00
			Max. Vy	39	0.03	0.00	0.00
			Max. Vx	35	0.00	0.00	0.00
		Horizontal	Max Tension	30	3.60	-0.01	0.00
			Max. Compression	15	-3.53	-0.01	-0.00
			Max. Mx	38	-0.16	-0.03	-0.00
			Max. My	28	-0.15	-0.02	-0.01
			Max. Vy	38	-0.03	-0.03	-0.00
			Max. Vx	28	0.00	-0.02	-0.01
		Top Girt	Max Tension	30	1.20	-0.01	0.00
			Max. Compression	14	-1.20	-0.01	-0.00
			Max. Mx	37	-0.05	-0.03	-0.00
			Max. My	2	0.22	-0.01	0.00
			Max. Vy	37	0.03	-0.03	-0.00
			Max. Vx	2	-0.00	0.00	0.00
		Inner Bracing	Max Tension	24	0.00	0.00	0.00
			Max. Compression	32	-0.00	0.00	0.00
			Max. Mx	34	-0.00	-0.03	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	40	0.00	0.00	-0.00
			Max. Vy	34	0.02	0.00	0.00
			Max. Vx	40	0.00	0.00	0.00
T2	80 - 60	Leg	Max Tension	29	26.00	-0.19	-0.02
			Max. Compression	12	-31.52	0.07	0.02
			Max. Mx	24	7.43	0.26	0.09
			Max. My	2	-24.32	0.15	0.25
			Max. Vy	28	0.14	-0.20	-0.02
			Max. Vx	26	0.13	0.06	-0.18
		Diagonal	Max Tension	17	6.17	0.00	0.00
			Max. Compression	16	-6.26	0.00	0.00
			Max. Mx	39	1.51	0.07	0.00
			Max. My	41	-0.31	0.00	0.00
			Max. Vy	39	-0.03	0.00	0.00
			Max. Vx	41	-0.00	0.00	0.00
		Horizontal	Max Tension	32	3.88	-0.01	0.00
			Max. Compression	17	-3.85	-0.01	-0.00
			Max. Mx	38	-0.11	-0.04	-0.00
			Max. My	28	0.08	-0.02	-0.01
			Max. Vy	38	-0.03	-0.04	-0.00
			Max. Vx	28	0.00	-0.02	-0.01
		Inner Bracing	Max Tension	27	0.00	0.00	0.00
			Max. Compression	16	-0.01	0.00	0.00
			Max. Mx	34	-0.00	-0.03	0.00
			Max. My	38	-0.01	0.00	0.00
			Max. Vy	34	0.03	0.00	0.00
			Max. Vx	38	-0.00	0.00	0.00
T3	60 - 40	Leg	Max Tension	29	45.81	-0.11	-0.01
			Max. Compression	12	-51.90	0.17	0.03
			Max. Mx	28	44.74	-0.18	-0.03
			Max. My	27	-5.63	0.00	-0.18
			Max. Vy	28	0.05	-0.13	-0.02
			Max. Vx	18	-0.05	0.08	0.17
		Diagonal	Max Tension	17	6.02	0.00	0.00
			Max. Compression	16	-6.12	0.00	0.00
			Max. Mx	39	1.61	0.09	0.00
			Max. My	35	-0.02	0.00	-0.00
			Max. Vy	39	-0.04	0.00	0.00
			Max. Vx	35	0.00	0.00	0.00
		Horizontal	Max Tension	16	4.11	-0.02	-0.00
			Max. Compression	17	-4.10	-0.02	-0.00
			Max. Mx	38	-0.07	-0.07	-0.00
			Max. My	28	0.41	-0.04	-0.01
			Max. Vy	38	-0.05	-0.07	-0.00
			Max. Vx	28	0.00	-0.04	-0.01
		Inner Bracing	Max Tension	25	0.00	0.00	0.00
			Max. Compression	48	-0.01	0.00	0.00
			Max. Mx	34	-0.00	-0.05	0.00
			Max. My	38	-0.01	0.00	0.00
			Max. Vy	34	0.03	0.00	0.00
			Max. Vx	38	0.00	0.00	0.00
T4	40 - 20	Leg	Max Tension	29	60.24	-0.22	-0.03
			Max. Compression	12	-67.35	0.17	0.03
			Max. Mx	28	59.07	-0.23	-0.03
			Max. My	4	-3.47	-0.01	-0.23
			Max. Vy	28	0.06	-0.23	-0.03
			Max. Vx	4	0.07	-0.01	-0.23
		Diagonal	Max Tension	17	7.04	0.00	0.00
			Max. Compression	16	-7.19	0.00	0.00
			Max. Mx	39	1.96	0.17	0.00
			Max. My	28	-0.99	0.00	-0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	39	-0.06	0.00	0.00
			Max. Vx	28	0.00	0.00	0.00
		Horizontal	Max Tension	16	4.14	-0.03	-0.00
			Max. Compression	17	-4.15	-0.02	-0.00
			Max. Mx	38	-0.13	-0.08	-0.00
			Max. My	28	0.24	-0.05	-0.01
			Max. Vy	38	-0.05	-0.08	-0.00
			Max. Vx	28	0.00	-0.05	-0.01
		Inner Bracing	Max Tension	25	0.00	0.00	0.00
			Max. Compression	49	-0.01	0.00	0.00
			Max. Mx	34	-0.01	-0.06	0.00
			Max. My	38	-0.01	0.00	0.00
			Max. Vy	34	-0.03	0.00	0.00
			Max. Vx	38	-0.00	0.00	0.00
T5	20 - 0	Leg	Max Tension	29	75.13	-0.39	-0.03
			Max. Compression	12	-83.89	-0.00	-0.00
			Max. Mx	28	66.54	-0.39	-0.03
			Max. My	27	-7.81	-0.00	-0.37
			Max. Vy	28	-0.10	-0.39	-0.03
			Max. Vx	4	-0.10	-0.03	-0.36
		Diagonal	Max Tension	17	6.44	0.00	0.00
			Max. Compression	16	-6.63	0.00	0.00
			Max. Mx	50	2.43	0.20	0.00
			Max. My	28	-0.89	0.00	-0.00
			Max. Vy	50	-0.06	0.00	0.00
			Max. Vx	28	0.00	0.00	0.00
		Horizontal	Max Tension	16	4.26	-0.04	-0.00
			Max. Compression	17	-4.25	-0.03	-0.00
			Max. Mx	38	-0.21	-0.08	-0.00
			Max. My	28	0.22	-0.05	-0.01
			Max. Vy	38	-0.05	-0.08	-0.00
			Max. Vx	28	0.00	-0.05	-0.01
		Inner Bracing	Max Tension	1	0.00	0.00	0.00
			Max. Compression	49	-0.01	0.00	0.00
			Max. Mx	34	-0.01	-0.10	0.00
			Max. My	40	-0.01	0.00	-0.00
			Max. Vy	34	0.05	0.00	0.00
			Max. Vx	40	-0.00	0.00	0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg C	Max. Vert	24	87.95	10.20	-5.77
	Max. H_x	24	87.95	10.20	-5.77
	Max. H_z	7	-73.82	-8.74	5.36
	Min. Vert	9	-76.71	-9.26	5.24
	Min. H_x	9	-76.71	-9.26	5.24
	Min. H_z	22	84.72	9.66	-5.85
Leg B	Max. Vert	12	91.11	-10.09	-6.40
	Max. H_x	29	-81.78	9.51	6.06
	Max. H_z	31	-79.35	8.94	6.36
	Min. Vert	29	-81.78	9.51	6.06
	Min. H_x	12	91.11	-10.09	-6.40
	Min. H_z	14	88.11	-9.43	-6.71
Leg A	Max. Vert	2	91.04	0.60	11.95

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Max. H_x	26	10.54	2.27	1.01
	Max. H_z	2	91.04	0.60	11.95
	Min. Vert	19	-78.40	-0.58	-10.85
	Min. H_x	13	-38.79	-2.19	-5.42
	Min. H_z	19	-78.40	-0.58	-10.85

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	15.08	0.00	0.00	-2.24	-7.74	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	18.10	-1.19	-20.10	-1285.33	86.55	15.55
0.9 Dead+1.6 Wind 0 deg - No Ice	13.57	-1.19	-20.10	-1284.09	88.84	15.54
1.2 Dead+1.6 Wind 30 deg - No Ice	18.10	9.48	-16.84	-1067.87	-600.84	10.42
0.9 Dead+1.6 Wind 30 deg - No Ice	13.57	9.48	-16.84	-1066.73	-598.25	10.41
1.2 Dead+1.6 Wind 45 deg - No Ice	18.10	13.75	-13.61	-860.58	-874.21	6.61
0.9 Dead+1.6 Wind 45 deg - No Ice	13.57	13.75	-13.61	-859.53	-871.50	6.61
1.2 Dead+1.6 Wind 60 deg - No Ice	18.10	16.86	-9.62	-607.42	-1070.81	2.57
0.9 Dead+1.6 Wind 60 deg - No Ice	13.57	16.86	-9.62	-606.48	-1068.01	2.57
1.2 Dead+1.6 Wind 90 deg - No Ice	18.10	19.70	0.22	17.69	-1255.28	-6.22
0.9 Dead+1.6 Wind 90 deg - No Ice	13.57	19.70	0.22	18.36	-1252.40	-6.21
1.2 Dead+1.6 Wind 120 deg - No Ice	18.10	17.28	10.21	654.42	-1107.49	-14.62
0.9 Dead+1.6 Wind 120 deg - No Ice	13.57	17.28	10.21	654.81	-1104.67	-14.61
1.2 Dead+1.6 Wind 135 deg - No Ice	18.10	14.11	14.27	911.41	-906.70	-17.61
0.9 Dead+1.6 Wind 135 deg - No Ice	13.57	14.11	14.27	911.68	-903.97	-17.60
1.2 Dead+1.6 Wind 150 deg - No Ice	18.10	10.04	17.36	1106.17	-650.00	-19.10
0.9 Dead+1.6 Wind 150 deg - No Ice	13.57	10.04	17.36	1106.35	-647.38	-19.10
1.2 Dead+1.6 Wind 180 deg - No Ice	18.10	0.30	19.76	1253.62	-36.40	-17.18
0.9 Dead+1.6 Wind 180 deg - No Ice	13.57	0.30	19.76	1253.74	-34.06	-17.18
1.2 Dead+1.6 Wind 210 deg - No Ice	18.10	-9.49	16.84	1062.19	582.71	-10.42
0.9 Dead+1.6 Wind 210 deg - No Ice	13.57	-9.49	16.84	1062.39	584.79	-10.41
1.2 Dead+1.6 Wind 225 deg - No Ice	18.10	-14.21	13.38	836.89	890.64	-6.48
0.9 Dead+1.6 Wind 225 deg - No Ice	13.57	-14.21	13.38	837.20	892.58	-6.47
1.2 Dead+1.6 Wind 240 deg -	18.10	-17.60	9.02	555.57	1109.38	-0.93

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
No Ice						
0.9 Dead+1.6 Wind 240 deg - No Ice	13.57	-17.60	9.02	556.00	1111.22	-0.93
1.2 Dead+1.6 Wind 270 deg - No Ice	18.10	-20.08	-0.80	-68.10	1266.44	8.61
0.9 Dead+1.6 Wind 270 deg - No Ice	13.57	-20.08	-0.80	-67.39	1268.22	8.61
1.2 Dead+1.6 Wind 300 deg - No Ice	18.10	-17.63	-10.41	-675.27	1115.51	14.62
0.9 Dead+1.6 Wind 300 deg - No Ice	13.57	-17.63	-10.41	-674.29	1117.34	14.61
1.2 Dead+1.6 Wind 315 deg - No Ice	18.10	-14.65	-14.35	-923.03	930.02	16.03
0.9 Dead+1.6 Wind 315 deg - No Ice	13.57	-14.65	-14.35	-921.94	931.94	16.02
1.2 Dead+1.6 Wind 330 deg - No Ice	18.10	-10.73	-17.40	-1114.91	685.16	16.71
0.9 Dead+1.6 Wind 330 deg - No Ice	13.57	-10.73	-17.40	-1113.74	687.19	16.70
1.2 Dead+1.0 Ice+1.0 Temp	51.95	0.00	0.00	-14.23	-37.03	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	51.95	-0.24	-7.99	-500.74	-17.56	6.71
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	51.95	3.88	-6.81	-426.26	-270.40	5.22
1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp	51.95	5.56	-5.53	-348.29	-372.76	3.89
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	51.95	6.81	-3.91	-250.16	-448.58	2.35
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	51.95	7.91	0.04	-10.31	-516.31	-1.20
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	51.95	6.90	4.03	232.03	-455.94	-4.69
1.2 Dead+1.0 Wind 135 deg+1.0 Ice+1.0 Temp	51.95	5.63	5.66	331.04	-379.14	-6.04
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	51.95	3.99	6.91	406.52	-280.12	-6.93
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	51.95	0.06	7.92	466.76	-42.40	-7.04
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	51.95	-3.88	6.80	397.67	196.38	-5.22
1.2 Dead+1.0 Wind 225 deg+1.0 Ice+1.0 Temp	51.95	-5.65	5.48	316.00	305.87	-3.87
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	51.95	-6.96	3.79	212.08	386.26	-2.02
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	51.95	-7.99	-0.16	-27.48	448.34	1.69
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	51.95	-6.97	-4.07	-263.73	387.30	4.69
1.2 Dead+1.0 Wind 315 deg+1.0 Ice+1.0 Temp	51.95	-5.74	-5.68	-360.85	313.66	5.72
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	51.95	-4.14	-6.92	-435.76	217.08	6.44
Dead+Wind 0 deg - Service	15.08	-0.31	-5.25	-336.12	17.17	4.05
Dead+Wind 30 deg - Service	15.08	2.48	-4.40	-279.53	-161.75	2.72
Dead+Wind 45 deg - Service	15.08	3.59	-3.55	-225.57	-232.90	1.72
Dead+Wind 60 deg - Service	15.08	4.40	-2.51	-159.67	-284.08	0.67
Dead+Wind 90 deg - Service	15.08	5.14	0.06	3.06	-332.10	-1.61
Dead+Wind 120 deg - Service	15.08	4.51	2.67	168.80	-293.62	-3.80
Dead+Wind 135 deg - Service	15.08	3.68	3.73	235.69	-241.35	-4.58
Dead+Wind 150 deg - Service	15.08	2.62	4.53	286.39	-174.54	-4.97
Dead+Wind 180 deg - Service	15.08	0.08	5.16	324.80	-14.80	-4.47

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Wind 210 deg - Service	15.08	-2.48	4.40	274.96	146.36	-2.72
Dead+Wind 225 deg - Service	15.08	-3.71	3.49	216.32	226.51	-1.69
Dead+Wind 240 deg - Service	15.08	-4.59	2.35	143.10	283.44	-0.25
Dead+Wind 270 deg - Service	15.08	-5.24	-0.21	-19.25	324.34	2.24
Dead+Wind 300 deg - Service	15.08	-4.60	-2.72	-177.32	285.05	3.80
Dead+Wind 315 deg - Service	15.08	-3.82	-3.75	-241.82	236.76	4.17
Dead+Wind 330 deg - Service	15.08	-2.80	-4.54	-291.76	173.00	4.35

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-15.08	0.00	0.00	15.08	0.00	0.000%
2	-1.19	-18.10	-20.10	1.19	18.10	20.10	0.000%
3	-1.19	-13.57	-20.10	1.19	13.57	20.10	0.000%
4	9.48	-18.10	-16.84	-9.48	18.10	16.84	0.000%
5	9.48	-13.57	-16.84	-9.48	13.57	16.84	0.000%
6	13.75	-18.10	-13.61	-13.75	18.10	13.61	0.000%
7	13.75	-13.57	-13.61	-13.75	13.57	13.61	0.000%
8	16.86	-18.10	-9.62	-16.86	18.10	9.62	0.000%
9	16.86	-13.57	-9.62	-16.86	13.57	9.62	0.000%
10	19.70	-18.10	0.22	-19.70	18.10	-0.22	0.000%
11	19.70	-13.57	0.22	-19.70	13.57	-0.22	0.000%
12	17.28	-18.10	10.21	-17.28	18.10	-10.21	0.000%
13	17.28	-13.57	10.21	-17.28	13.57	-10.21	0.000%
14	14.11	-18.10	14.27	-14.11	18.10	-14.27	0.000%
15	14.11	-13.57	14.27	-14.11	13.57	-14.27	0.000%
16	10.04	-18.10	17.36	-10.04	18.10	-17.36	0.000%
17	10.04	-13.57	17.36	-10.04	13.57	-17.36	0.000%
18	0.30	-18.10	19.76	-0.30	18.10	-19.76	0.000%
19	0.30	-13.57	19.76	-0.30	13.57	-19.76	0.000%
20	-9.49	-18.10	16.84	9.49	18.10	-16.84	0.000%
21	-9.49	-13.57	16.84	9.49	13.57	-16.84	0.000%
22	-14.21	-18.10	13.38	14.21	18.10	-13.38	0.000%
23	-14.21	-13.57	13.38	14.21	13.57	-13.38	0.000%
24	-17.60	-18.10	9.02	17.60	18.10	-9.02	0.000%
25	-17.60	-13.57	9.02	17.60	13.57	-9.02	0.000%
26	-20.08	-18.10	-0.80	20.08	18.10	0.80	0.000%
27	-20.08	-13.57	-0.80	20.08	13.57	0.80	0.000%
28	-17.63	-18.10	-10.41	17.63	18.10	10.41	0.000%
29	-17.63	-13.57	-10.41	17.63	13.57	10.41	0.000%
30	-14.65	-18.10	-14.35	14.65	18.10	14.35	0.000%
31	-14.65	-13.57	-14.35	14.65	13.57	14.35	0.000%
32	-10.73	-18.10	-17.40	10.73	18.10	17.40	0.000%
33	-10.73	-13.57	-17.40	10.73	13.57	17.40	0.000%
34	0.00	-51.95	0.00	0.00	51.95	0.00	0.000%
35	-0.24	-51.95	-7.99	0.24	51.95	7.99	0.000%
36	3.88	-51.95	-6.81	-3.88	51.95	6.81	0.000%
37	5.56	-51.95	-5.53	-5.56	51.95	5.53	0.000%
38	6.81	-51.95	-3.91	-6.81	51.95	3.91	0.000%
39	7.91	-51.95	0.04	-7.91	51.95	-0.04	0.000%
40	6.90	-51.95	4.03	-6.90	51.95	-4.03	0.000%
41	5.63	-51.95	5.66	-5.63	51.95	-5.66	0.000%
42	3.99	-51.95	6.91	-3.99	51.95	-6.91	0.000%
43	0.06	-51.95	7.92	-0.06	51.95	-7.92	0.000%
44	-3.88	-51.95	6.80	3.88	51.95	-6.80	0.000%
45	-5.65	-51.95	5.48	5.65	51.95	-5.48	0.000%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
46	-6.96	-51.95	3.79	6.96	51.95	-3.79	0.000%
47	-7.99	-51.95	-0.16	7.99	51.95	0.16	0.000%
48	-6.97	-51.95	-4.07	6.97	51.95	4.07	0.000%
49	-5.74	-51.95	-5.68	5.74	51.95	5.68	0.000%
50	-4.14	-51.95	-6.92	4.14	51.95	6.92	0.000%
51	-0.31	-15.08	-5.25	0.31	15.08	5.25	0.000%
52	2.48	-15.08	-4.40	-2.48	15.08	4.40	0.000%
53	3.59	-15.08	-3.55	-3.59	15.08	3.55	0.000%
54	4.40	-15.08	-2.51	-4.40	15.08	2.51	0.000%
55	5.14	-15.08	0.06	-5.14	15.08	-0.06	0.000%
56	4.51	-15.08	2.67	-4.51	15.08	-2.67	0.000%
57	3.68	-15.08	3.73	-3.68	15.08	-3.73	0.000%
58	2.62	-15.08	4.53	-2.62	15.08	-4.53	0.000%
59	0.08	-15.08	5.16	-0.08	15.08	-5.16	0.000%
60	-2.48	-15.08	4.40	2.48	15.08	-4.40	0.000%
61	-3.71	-15.08	3.49	3.71	15.08	-3.49	0.000%
62	-4.59	-15.08	2.35	4.59	15.08	-2.35	0.000%
63	-5.24	-15.08	-0.21	5.24	15.08	0.21	0.000%
64	-4.60	-15.08	-2.72	4.60	15.08	2.72	0.000%
65	-3.82	-15.08	-3.75	3.82	15.08	3.75	0.000%
66	-2.80	-15.08	-4.54	2.80	15.08	4.54	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	0.00000001
28	Yes	4	0.00000001	0.00000001
29	Yes	4	0.00000001	0.00000001
30	Yes	4	0.00000001	0.00000001

31	Yes	4	0.00000001	0.00000001
32	Yes	4	0.00000001	0.00000001
33	Yes	4	0.00000001	0.00000001
34	Yes	4	0.00000001	0.00000001
35	Yes	4	0.00000001	0.00000001
36	Yes	4	0.00000001	0.00000001
37	Yes	4	0.00000001	0.00000001
38	Yes	4	0.00000001	0.00000001
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
51	Yes	4	0.00000001	0.00000001
52	Yes	4	0.00000001	0.00000001
53	Yes	4	0.00000001	0.00000001
54	Yes	4	0.00000001	0.00000001
55	Yes	4	0.00000001	0.00000001
56	Yes	4	0.00000001	0.00000001
57	Yes	4	0.00000001	0.00000001
58	Yes	4	0.00000001	0.00000001
59	Yes	4	0.00000001	0.00000001
60	Yes	4	0.00000001	0.00000001
61	Yes	4	0.00000001	0.00000001
62	Yes	4	0.00000001	0.00000001
63	Yes	4	0.00000001	0.00000001
64	Yes	4	0.00000001	0.00000001
65	Yes	4	0.00000001	0.00000001
66	Yes	4	0.00000001	0.00000001

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	100 - 80	0.941	56	0.0777	0.0403
T2	80 - 60	0.606	56	0.0734	0.0300
T3	60 - 40	0.320	66	0.0552	0.0177
T4	40 - 20	0.130	66	0.0310	0.0093
T5	20 - 0	0.034	65	0.0135	0.0040

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
100.00	8' x 3" Dia Omni	56	0.941	0.0777	0.0403	375215
98.00	Pirod 12' T-Frame Sector Mount (1)	56	0.907	0.0776	0.0394	375215
88.50	P1000 Unistrut (9' Long)	56	0.745	0.0764	0.0347	163137

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
88.00	12' Frame	56	0.737	0.0763	0.0344	156340
86.00	DC6-48-60-18-8F Surge Arrestor	56	0.704	0.0758	0.0333	134005
84.00	4 FT DISH	56	0.671	0.0752	0.0323	117256
78.50	P1000 Unistrut (9' Long)	56	0.582	0.0725	0.0291	87487
78.00	SC2-W100AB	56	0.574	0.0722	0.0288	85542
70.00	4 FT DISH	56	0.453	0.0659	0.0237	62428

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	100 - 80	3.591	33	0.2917	0.1550
T2	80 - 60	2.329	31	0.2767	0.1152
T3	60 - 40	1.236	31	0.2103	0.0681
T4	40 - 20	0.500	31	0.1189	0.0356
T5	20 - 0	0.132	30	0.0519	0.0153

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
100.00	8' x 3" Dia Omni	33	3.591	0.2917	0.1550	116457
98.00	Pirod 12' T-Frame Sector Mount (1)	33	3.462	0.2913	0.1513	116457
88.50	P1000 Unistrut (9' Long)	33	2.855	0.2874	0.1332	50633
88.00	12' Frame	33	2.823	0.2871	0.1322	48524
86.00	DC6-48-60-18-8F Surge Arrestor	31	2.698	0.2853	0.1281	41592
84.00	4 FT DISH	31	2.573	0.2830	0.1240	36388
78.50	P1000 Unistrut (9' Long)	31	2.238	0.2736	0.1118	26451
78.00	SC2-W100AB	31	2.209	0.2725	0.1106	25734
70.00	4 FT DISH	31	1.748	0.2498	0.0913	17119

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	100	Leg	A325N	0.7500	4	1.32	29.82	0.044 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	3	2.18	12.43	0.175 ✓	1	Bolt Shear
		Horizontal	A325N	0.6250	2	1.80	12.43	0.145 ✓	1	Bolt Shear
		Top Girt	A325N	0.6250	2	0.60	12.43	0.048 ✓	1	Bolt Shear
T2	80	Leg	A325N	0.8750	4	6.50	40.59	0.160 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	3	2.09	12.43	0.168 ✓	1	Bolt Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
		Horizontal	A325N	0.6250	2	1.94	12.43	0.156 ✔	1	Bolt Shear
T3	60	Leg	A325N	0.8750	4	11.45	40.59	0.282 ✔	1	Bolt Tension
		Diagonal	A325N	0.6250	3	2.04	12.43	0.164 ✔	1	Bolt Shear
		Horizontal	A325N	0.6250	2	2.05	12.43	0.165 ✔	1	Bolt Shear
T4	40	Leg	A325N	1.0000	4	15.06	53.01	0.284 ✔	1	Bolt Tension
		Diagonal	A325N	0.6250	3	2.40	12.43	0.193 ✔	1	Bolt Shear
		Horizontal	A325N	0.6250	2	2.07	12.43	0.167 ✔	1	Bolt Shear
T5	20	Leg	A354-BC	1.0000	4	18.78	55.22	0.340 ✔	1	Bolt Tension
		Diagonal	A325N	0.6250	3	2.21	12.43	0.178 ✔	1	Bolt Shear
		Horizontal	A325N	0.6250	2	2.13	12.43	0.171 ✔	1	Bolt Shear

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	ROHN 2.5 STD	20.00	6.67	84.4 K=1.00	1.7040	-9.37	45.53	0.206 [1] ✔
T2	80 - 60	ROHN 3 STD	20.03	6.68	68.9 K=1.00	2.2285	-31.52	70.89	0.445 [1] ✔
T3	60 - 40	ROHN 3.5 STD	20.03	6.68	60.0 K=1.00	2.6795	-51.90	92.71	0.560 [1] ✔
T4	40 - 20	ROHN 4 EH	20.05	10.02	81.4 K=1.00	4.4074	-67.35	122.11	0.552 [1] ✔
T5	20 - 0	ROHN 5 X-STR	20.05	10.03	65.4 K=1.00	6.1120	-83.89	201.13	0.417 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	ROHN 2 STD	7.92	7.70	117.3 K=1.00	1.0745	-6.54	17.64	0.371 [1] ✔
T2	80 - 60	ROHN 2 STD	8.51	8.28	126.2 K=1.00	1.0745	-6.26	15.24	0.411 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T3	60 - 40	ROHN 2 STD	9.18	8.94	136.3 K=1.00	1.0745	-6.04	13.07	0.463 [1] ✔
T4	40 - 20	ROHN 2.5 STD	12.49	12.18	154.3 K=1.00	1.7040	-7.04	16.18	0.435 [1] ✔
T5	20 - 0	ROHN 2.5 STD	13.28	12.93	163.7 K=1.00	1.7040	-6.61	14.36	0.460 [1] ✔

[1] P_u / ϕP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	ROHN 1.5 STD	8.53	4.14	79.9 K=1.00	0.7995	-3.53	22.56	0.156 [1] ✔
T2	80 - 60	ROHN 1.5 STD	9.90	4.81	92.6 K=1.00	0.7995	-3.85	19.21	0.200 [1] ✔
T3	60 - 40	ROHN 2 STD	11.94	5.81	88.5 K=1.00	1.0745	-4.10	27.27	0.150 [1] ✔
T4	40 - 20	ROHN 2 STD	13.79	6.71	102.3 K=1.00	1.0745	-4.15	22.51	0.184 [1] ✔
T5	20 - 0	ROHN 2 STD	16.21	7.87	120.0 K=1.00	1.0745	-4.25	16.85	0.252 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	ROHN 1.5 STD	8.50	4.13	79.6 K=1.00	0.7995	-1.20	22.63	0.053 [1] ✔

[1] P_u / ϕP_n controls

Inner Bracing Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	L2x2x1/8	4.26	4.26	128.7 K=1.00	0.4844	-0.00	6.53	0.001 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	80 - 60	L2x2x1/8	4.95	4.95	149.5 K=1.00	0.4844	-0.01	4.90	0.001 [1]
T3	60 - 40	L2x2x1/8	5.97	5.97	180.3 K=1.00	0.4844	-0.01	3.37	0.002 [1]
T4	40 - 20	L2x2x1/8	6.90	6.90	208.2 K=1.00	0.4844	-0.01	2.53	0.003 [1]
T5	20 - 0	L2 1/2x2 1/2x3/16	8.10	8.10	196.5 K=1.00	0.9020	-0.01	5.28	0.002 [1]

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	ROHN 2.5 STD	20.00	6.67	84.4	1.7040	5.27	76.68	0.069 [1]
T2	80 - 60	ROHN 3 STD	20.03	6.68	68.9	2.2285	26.00	100.28	0.259 [1]
T3	60 - 40	ROHN 3.5 STD	20.03	6.68	60.0	2.6795	45.81	120.58	0.380 [1]
T4	40 - 20	ROHN 4 EH	20.05	10.02	81.4	4.4074	60.24	198.34	0.304 [1]
T5	20 - 0	ROHN 5 X-STR	20.05	10.03	65.4	6.1120	75.13	275.04	0.273 [1]

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	ROHN 2 STD	7.92	7.70	117.3	1.0745	6.47	48.35	0.134 [1]
T2	80 - 60	ROHN 2 STD	8.51	8.28	126.2	1.0745	6.17	48.35	0.128 [1]
T3	60 - 40	ROHN 2 STD	8.73	8.49	129.4	1.0745	6.02	48.35	0.125 [1]
T4	40 - 20	ROHN 2.5 STD	12.15	11.84	150.0	1.7040	7.04	76.68	0.092 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T5	20 - 0	ROHN 2.5 STD	12.88	12.52	158.6	1.7040	6.44	76.68	0.084 [1] ✔

[1] P_u / ϕP_n controls

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	ROHN 1.5 STD	8.53	4.14	79.9	0.7995	3.60	35.98	0.100 [1] ✔
T2	80 - 60	ROHN 1.5 STD	9.90	4.81	92.6	0.7995	3.88	35.98	0.108 [1] ✔
T3	60 - 40	ROHN 2 STD	11.94	5.81	88.5	1.0745	4.11	48.35	0.085 [1] ✔
T4	40 - 20	ROHN 2 STD	13.79	6.71	102.3	1.0745	4.14	48.35	0.086 [1] ✔
T5	20 - 0	ROHN 2 STD	16.21	7.87	120.0	1.0745	4.26	48.35	0.088 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	ROHN 1.5 STD	8.50	4.13	79.6	0.7995	1.20	35.98	0.033 [1] ✔

[1] P_u / ϕP_n controls

Inner Bracing Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	L2x2x1/8	4.26	4.26	81.7	0.4844	0.00	15.69	0.000 [1] ✔
T2	80 - 60	L2x2x1/8	4.27	4.27	81.8	0.4844	0.00	15.69	0.000 [1] ✔
T3	60 - 40	L2x2x1/8	5.29	5.29	101.4	0.4844	0.00	15.69	0.000 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T4	40 - 20	L2x2x1/8	6.31	6.31	121.0	0.4844	0.00	15.69	0.000 [1]

[1] P_u / ϕP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	100 - 80	Leg	ROHN 2.5 STD	3	-9.37	45.53	20.6	Pass
T2	80 - 60	Leg	ROHN 3 STD	41	-31.52	70.89	44.5	Pass
T3	60 - 40	Leg	ROHN 3.5 STD	80	-51.90	92.71	56.0	Pass
T4	40 - 20	Leg	ROHN 4 EH	119	-67.35	122.11	55.2	Pass
T5	20 - 0	Leg	ROHN 5 X-STR	146	-83.89	201.13	41.7	Pass
T1	100 - 80	Diagonal	ROHN 2 STD	11	-6.54	17.64	37.1	Pass
T2	80 - 60	Diagonal	ROHN 2 STD	47	-6.26	15.24	41.1	Pass
T3	60 - 40	Diagonal	ROHN 2 STD	86	-6.04	13.07	46.3	Pass
T4	40 - 20	Diagonal	ROHN 2.5 STD	125	-7.04	16.18	43.5	Pass
T5	20 - 0	Diagonal	ROHN 2.5 STD	152	-6.61	14.36	46.0	Pass
T1	100 - 80	Horizontal	ROHN 1.5 STD	10	-3.53	22.56	15.6	Pass
T2	80 - 60	Horizontal	ROHN 1.5 STD	46	-3.85	19.21	20.0	Pass
T3	60 - 40	Horizontal	ROHN 2 STD	85	-4.10	27.27	15.0 16.5 (b)	Pass
T4	40 - 20	Horizontal	ROHN 2 STD	124	-4.15	22.51	18.4	Pass
T5	20 - 0	Horizontal	ROHN 2 STD	151	-4.25	16.85	25.2	Pass
T1	100 - 80	Top Girt	ROHN 1.5 STD	5	-1.20	22.63	5.3	Pass
T1	100 - 80	Inner Bracing	L2x2x1/8	16	-0.00	6.53	0.5	Pass
T2	80 - 60	Inner Bracing	L2x2x1/8	53	-0.01	4.90	0.5	Pass
T3	60 - 40	Inner Bracing	L2x2x1/8	92	-0.01	3.37	0.6	Pass
T4	40 - 20	Inner Bracing	L2x2x1/8	130	-0.01	2.53	0.7	Pass
T5	20 - 0	Inner Bracing	L2 1/2x2 1/2x3/16	157	-0.01	5.28	0.5	Pass
							Summary	
						Leg (T3)	56.0	Pass
						Diagonal (T3)	46.3	Pass
						Horizontal (T5)	25.2	Pass
						Top Girt (T1)	5.3	Pass
						Inner Bracing (T4)	0.7	Pass
						Bolt Checks	34.0	Pass
						RATING =	**56.0**	**Pass**

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Subject: Foundation Analysis

Location: Greenwich, CT

Rev. 1: 01/24/22

Prepared by: PPG Checked by: TJL
Job No. 21007.71

Pier and Mat Foundation Analysis:

Input Data:

Tower Data

Overturning Moment =	$OM := 1311 \cdot ft \cdot kips$	(User Input from tnxTower)	
Shear Force =	$S_t := 21 \cdot kip$	(User Input from tnxTower)	
Axial Force =	$WT_t := 18 \cdot kip$	(User Input from tnxTower)	
Max Compression Force =	$C_t := 91 \cdot kip$	(User Input from tnxTower)	
Max Uplift Force =	$U_t := 82 \cdot kip$	(User Input from tnxTower)	
Tower Height =	$H_t := 100 \cdot ft$	(User Input)	
Tower Width =	$W_t := 17.45 \cdot ft$	(User Input)	
Tower Position on Foundation (1=offset, 2=centered) =	$Pos_t := 2$	(User Input)	

Footing Data:

Overall Depth of Footing =	$D_f := 6.5 \cdot ft$	(User Input)	
Length of Pier =	$L_p := 3.0 \cdot ft$	(User Input)	
Extension of Pier Above Grade =	$L_{pag} := 0.5 \cdot ft$	(User Input)	
Diameter of Pier =	$d_p := 3.0 \cdot ft$	(User Input)	
Thickness of Footing =	$T_f := 4.0 \cdot ft$	(User Input)	
Width of Footing =	$W_f := 24.0 \cdot ft$	(User Input)	

Material Properties:

Concrete Compressive Strength =	$f_c := 3000 \cdot psi$	(User Input)	
Steel Reinforcement Yield Strength =	$f_y := 60000 \cdot psi$	(User Input)	
Internal Friction Angle of Soil =	$\Phi_s := 15 \cdot deg$	(User Input)	
Allowable Soil Bearing Capacity =	$q_s := 8000 \cdot psf$	(User Input)	
Unit Weight of Soil =	$\gamma_{soil} := 100 \cdot pcf$	(User Input)	
Unit Weight of Concrete =	$\gamma_{conc} := 150 \cdot pcf$	(User Input)	
Foundation Buoyancy =	$Bouyancy := 0$	(User Input)	(Yes=1 / No=0)
Depth to Neglect =	$n := 0 \cdot ft$	(User Input)	
Cohesion of Clay Type Soil =	$c := 0 \cdot ksf$	(User Input)	(Use 0 for Sandy Soil)
Seismic Zone Factor =	$Z := 2$	(User Input)	(UBC-1997 Fig 23-2)
Coefficient of Friction Between Concrete =	$\mu := 0.45$	(User Input)	

Pier Reinforcement:

Bar Size =	$BS_{pier} := 8$	(User Input)	
Bar Diameter =	$d_{bpier} := 1.0 \cdot in$	(User Input)	
Number of Bars =	$NB_{pier} := 12$	(User Input)	
Clear Cover of Reinforcement =	$Cvr_{pier} := 3 \cdot in$	(User Input)	
Reinforcement Location Factor =	$\alpha_{pier} := 1.0$	(User Input)	(ACI-2008 12.2.4)
Coating Factor =	$\beta_{pier} := 1.0$	(User Input)	(ACI-2008 12.2.4)
Concrete Strength Factor =	$\lambda_{pier} := 1.0$	(User Input)	(ACI-2008 12.2.4)
Reinforcement Size Factor =	$\gamma_{pier} := 1.0$	(User Input)	(ACI-2008 12.2.4)
Diameter of Tie =	$d_{Tie} := 4 \cdot in$	(User Input)	

Pad Reinforcement:

Bar Size =	$BS_{top} := 7$	(User Input)	(Top of Pad)
Bar Diameter =	$d_{btop} := 0.875 \cdot in$	(User Input)	(Top of Pad)
Number of Bars =	$NB_{top} := 25$	(User Input)	(Top of Pad)
Bar Size =	$BS_{bot} := 7$	(User Input)	(Bottom of Pad)
Bar Diameter =	$d_{bbot} := 0.875 \cdot in$	(User Input)	(Bottom of Pad)
Number of Bars =	$NB_{bot} := 25$	(User Input)	(Bottom of Pad)
Clear Cover of Reinforcement =	$Cvr_{pad} := 3.0 \cdot in$	(User Input)	
Reinforcement Location Factor =	$\alpha_{pad} := 1.0$	(User Input)	(ACI-2008 12.2.4)
Coating Factor =	$\beta_{pad} := 1.0$	(User Input)	(ACI-2008 12.2.4)
Concrete Strength Factor =	$\lambda_{pad} := 1.0$	(User Input)	(ACI-2008 12.2.4)
Reinforcement Size Factor =	$\gamma_{pad} := 1.0$	(User Input)	(ACI-2008 12.2.4)

Calculated Factors:

Pier Reinforcement Bar Area = $A_{bpier} := \frac{\pi \cdot d_{bpier}^{2}}{4} = 0.785\ in^2$

Pad Top Reinforcement Bar Area = $A_{btop} := \frac{\pi \cdot d_{btop}^{2}}{4} = 0.601\ in^2$

Pad Bottom Reinforcement Bar Area = $A_{bbot} := \frac{\pi \cdot d_{bbot}^{2}}{4} = 0.601\ in^2$

Coefficient of Lateral Soil Pressure = $K_p := \frac{1 + \sin(\Phi_s)}{1 - \sin(\Phi_s)} = 1.698$

Load Factor = $LF := 1$

Stability of Footing:

Adjusted Concrete Unit Weight = $\gamma_c := \text{if}\left(Bouyancy = 1, \gamma_{conc} - 62.4 \cdot pcf, \gamma_{conc}\right) = 150\ pcf$

Adjusted Soil Unit Weight = $\gamma_s := \text{if}\left(Bouyancy = 1, \gamma_{soil} - 62.4 \cdot pcf, \gamma_{soil}\right) = 100\ pcf$

Passive Pressure = $P_{pn} := K_p \cdot \gamma_s \cdot n + c \cdot 2 \cdot \sqrt{K_p} = 0\ ksf$

$P_{pt} := K_p \cdot \gamma_s \cdot \left(D_f - T_f\right) + c \cdot 2 \cdot \sqrt{K_p} = 0.425\ ksf$

$P_{top} := \text{if}\left(n < \left(D_f - T_f\right), P_{pt}, P_{pn}\right) = 0.425\ ksf$

$P_{bot} := K_p \cdot \gamma_s \cdot D_f + c \cdot 2 \cdot \sqrt{K_p} = 1.104\ ksf$

$P_{ave} := \frac{P_{top} + P_{bot}}{2} = 0.764\ ksf$

$T_p := \text{if}\left(n < \left(D_f - T_f\right), T_f, \left(D_f - n\right)\right) = 4\ ft$

$A_p := W_f \cdot T_p = 96\ ft^2$

Ultimate Shear = $S_u := P_{ave} \cdot A_p = 73.371\ kip$

Weight of Concrete = $WT_c := \left(\left(W_f{}^2 \cdot T_f\right) + (3) \cdot \left(\frac{d_p{}^2 \cdot \pi}{4} \cdot L_p\right)\right) \cdot \gamma_c = 355.143\ kip$

Weight of Soil Above Footing = $WT_{s1} := \left(\left(W_f{}^2 - (3) \cdot \left(\frac{d_p{}^2 \cdot \pi}{4}\right)\right) \cdot \left(\left|L_p - L_{pag} - n\right|\right)\right) \cdot \gamma_s = 138.7\ kip$

Weight of Soil Wedge at Back Face = $WT_{s2} := \left(\frac{\left(D_f - n\right)^2 \cdot \tan\left(\Phi_s\right)}{2} \cdot W_f\right) \cdot \gamma_s = 13.585\ kip$

Foundation has undercut toe per Fred A. Nudd dwg 96-4992-1

Tower Offset = $X_{t1} := \left(\frac{W_f}{2} - \frac{\left(W_t \cdot \cos\left(30 \cdot deg\right)\right)}{2}\right) \quad X_{t2} := \frac{W_f}{2} - \frac{\left(W_t \cdot \cos\left(30 \cdot deg\right)\right)}{3}$

$X_t := \text{if}\left(Pos_t = 1, X_{t1}, X_{t2}\right) = 6.963$

$X_{off1} := \frac{W_f}{2} - \left(\frac{\left(W_t \cdot \cos\left(30 \cdot deg\right)\right)}{3} + X_t\right) = 0 \qquad X_{off2} := 0$

$X_{off} := \text{if}\left(Pos_t = 1, X_{off1}, X_{off2}\right) \qquad X_{off} = ?\ ft$

Total Weight = $WT_{tot} := 0.9 \cdot WT_c + 0.75 \cdot WT_{s1} = 423.7\ kip$

Resisting Moment =

$$M_r := \left(WT_{tot}\right) \cdot \frac{W_f}{2} + 0.9 \cdot WT_t \cdot \left(\frac{W_f}{2} - X_{off}\right) + 0.75 \cdot \left(S_u \cdot \frac{T_p}{3}\right) + 0.75 \cdot WT_{s2} \cdot \left(W_f + \frac{\left(D_f - n\right) \cdot \tan\left(\Phi_s\right)}{3}\right) = 5602\ kip \cdot ft$$

Overturning Moment = $M_{ot} := OM + S_t \cdot \left(L_p + T_f\right) = 1458\ kip \cdot ft$

Foundation has undercut toe per Fred A. Nudd dwg 96-4992-1

Factor of Safety Actual = $FS := \frac{M_r}{M_{ot}} = 3.84$

Factor of Safety Required = $FS_{req} := 1$

$OverTurning\_Moment\_Check := \text{if}\left(FS \geq FS_{req}, \text{“Okay”}, \text{“No Good”}\right)$

$OverTurning\_Moment\_Check = \text{“Okay”}$

Shear Capacity in Pier:

Shear Resistance of Pier = $S_p := \frac{P_{ave} \cdot A_p + \mu \cdot WT_{tot}}{FS_{req}} = 264.014\ kips$

$Shear\_Check := \text{if}\left(S_p > S_t, \text{“Okay”}, \text{“No Good”}\right)$

$Shear\_Check = \text{“Okay”}$

Bearing Pressure Caused by Footing:

Total Load = $Load_{tot} := WT_c + WT_{s1} + WT_t = 512\ kip$

Area of the Mat = $A_{mat} := W_f{}^2 = 576$

Section Modulus of Mat = $S := \frac{W_f{}^3}{6} = 2304\ ft^3$

Maximum Pressure in Mat = $P_{max} := \frac{Load_{tot}}{A_{mat}} + \frac{M_{ot}}{S} = 1.521\ ksf$

$Max\_Pressure\_Check := \text{if}\left(P_{max} < 0.75 \cdot q_s, \text{“Okay”}, \text{“No Good”}\right)$

$Max\_Pressure\_Check = \text{“Okay”}$

Minimum Pressure in Mat = $P_{min} := \frac{Load_{tot}}{A_{mat}} - \frac{M_{ot}}{S} = 0.256\ ksf$

$Min\_Pressure\_Check := \text{if}\left(\left(P_{min} \geq 0\right) \cdot \left(P_{min} < 0.75 \cdot q_s\right), \text{“Okay”}, \text{“No Good”}\right)$

$Min\_Pressure\_Check = \text{“Okay”}$

Distance to Resultant of Pressure Distribution = $X_p := \frac{P_{max}}{\frac{P_{max} - P_{min}}{W_f}} \cdot \frac{1}{3} = 9.617$

Distance to Kern = $X_k := \frac{W_f}{6} = 4$ Since Resultant Force is Not in Kern, Area to which Pressure is Applied Must be Reduced.

Eccentricity = $e := \frac{M_{ot}}{Load_{tot}} = 2.849$

Adjusted Soil Pressure = $P_a := \frac{2 \cdot Load_{tot}}{3 \cdot W_f \cdot \left(\frac{W_f}{2} - e\right)} = 1.554\ ksf$

$q_{adj} := \text{if}\left(P_{min} < 0, P_a, P_{max}\right) = 1.521\ ksf$

$Pressure\_Check := \text{if}\left(q_{adj} < 0.75 \cdot q_s, \text{“Okay”}, \text{“No Good”}\right)$

$Pressure\_Check = \text{“Okay”}$

Concrete Bearing Capacity:

Strength Reduction Factor = $\Phi_c := 0.65$ (ACI-2008 9.3.2.2)

Bearing Strength Between Pier and Pad = $P_b := \Phi_c \cdot 0.85 \cdot f_c \cdot \frac{\pi \cdot d_p{}^2}{4} = \left(1.687 \cdot 10^3\right)\ kips$ (ACI-2008 10.14)

$Bearing\_Check := \text{if}\left(P_b > LF \cdot C_t, \text{“Okay”}, \text{“No Good”}\right)$

$Bearing\_Check = \text{“Okay”}$

Shear Strength of Concrete:

Beam Shear: (Critical section located at a distance d from the face of Pier) (ACI 11.3.1.1)

$\phi_c := 0.85$ (ACI 9.3.2.5)

$d := T_f - Cvr_{pad} - d_{bbot} = 44.125\ in$

$FL := LF \cdot \frac{C_t}{W_f^{\,2}} = 0.158\ ksf$

$V_{req} := FL \cdot \left(X_t - .5 \cdot d_p - d\right) \cdot W_f = 6.77\ kips$

$V_{Avail} := \phi_c \cdot 2 \cdot \sqrt{f_c \cdot psi} \cdot W_f \cdot d = 1183\ kip$ (ACI-2008 11.2.1.1)

$Beam\_Shear\_Check := \text{if}\left(V_{req} < V_{Avail}, \text{“Okay”}, \text{“No Good”}\right)$

$Beam\_Shear\_Check = \text{“Okay”}$

Punching Shear: (Critical Section Located at a distance of d/2 from the face of pier) (ACI 11.11.1.2)

Critical Perimeter of Punching Shear = $b_o := \left(d_p + d\right) \cdot \pi = 21$

Area Included Inside Perimeter = $A_{bo} := \frac{\pi \cdot \left(d_p + d\right)^2}{4} = 35$

Required Shear Strength = $V_{req} := FL \cdot \left(W_f^{\,2} - A_{bo}\right) = 85\ kips$

Available Shear Strength = $V_{Avail} := \phi_c \cdot 4 \cdot \sqrt{f_c \cdot psi} \cdot b_o \cdot d = 2068.4\ kip$ (ACI-2008 11.11.2.1)

$Punching\_Shear\_Check := \text{if}\left(V_{req} < V_{Avail}, \text{“Okay”}, \text{“No Good”}\right)$

$Punching\_Shear\_Check = \text{“Okay”}$

Steel Reinforcement in Pad:

Required Reinforcement for Bending:

Strength Reduction Factor = $\phi_m := .90$ (ACI-2008 9.3.2.1)

Maximum Moment in Pad = $M_{max} := 700 \cdot kip \cdot ft$ (User Input)

Design Moment = $M_n := \frac{LF \cdot M_{max}}{\phi_m} = 777.778\ kips \cdot ft$

$$\beta := \left\| \begin{array}{l} \text{if } 2500 \cdot psi \le f_c \le 4000 \cdot psi \\ \quad \| \ 0.85 \\ \text{also if } f_c > 8000 \cdot psi \\ \quad \| \ 0.65 \\ \text{else} \\ \quad \| \ \left(\left(0.85 - \left(\frac{\left(\frac{f_c}{psi} - 4000 \right)}{1000} \right) \cdot 0.5 \right) \right) \end{array} \right| = 0.85$$

(ACI-200810.2.7.3)

$$b_{eff} := W_t \cdot \cos(30 \cdot deg) + d_p = 217.346\ in$$

$$A_s := \frac{M_n}{(f_y \cdot d)} = 3.525\ in^2$$

$$a := \frac{A_s \cdot f_y}{\beta \cdot f_c \cdot b_{eff}} = 0.382\ in$$

$$A_s := \frac{M_n}{f_y \cdot \left(d - \frac{a}{2}\right)} = 3.541\ in^2$$

$$\rho := \frac{A_s}{b_{eff} \cdot d} = 0.00443\ in$$

Required Reinforcement for Temperature and Shrinkage:

$$\rho_{sh} := \left\| \begin{array}{l} \text{if } f_y \geq 60000 \cdot psi \\ \quad .0018 \\ \text{else} \\ \quad .0020 \end{array} \right\| = 0.0018$$

(ACI -2008 7.12.2.1)

Check Bottom Bars:

$$As := \text{if}\left(\rho \geq \rho_{sh}, A_s, \rho_{sh} \cdot \frac{b_{eff}}{2} \cdot d\right) = 8.6\ in^2$$

$$As_{prov} := A_{bbot} \cdot NB_{bot} = 15\ in^2$$

$$Pad\_Reinforcement\_Bot := \text{if}\left(As_{prov} > As, \text{“Okay”}, \text{“No Good”}\right)$$

$$Pad\_Reinforcement\_Bot = \text{“Okay”}$$

Check top Bars:

$$As := \text{if}\left(\rho \geq \rho_{sh}, A_s, \rho_{sh} \cdot \frac{b_{eff}}{2} \cdot d\right) = 8.6\ in^2$$

$$As_{prov} := A_{btop} \cdot NB_{top} = 15\ in^2$$

$$Pad\_Reinforcement\_Top := \text{if}\left(As_{prov} > As, \text{“Okay”}, \text{“No Good”}\right)$$

$$Pad\_Reinforcement\_Top = \text{“Okay”}$$

Development Length Pad Reinforcement:

Bar Spacing =

$$B_{sPad} := \frac{W_f - 2 \cdot Cvr_{pad} - NB_{bot} \cdot d_{bbot}}{NB_{bot} - 1} = 10.84\ in$$

Spacing or Cover Dimension =

$$c := \text{if}\left(Cvr_{pad} < \frac{B_{sPad}}{2}, Cvr_{pad}, \frac{B_{sPad}}{2}\right) = 3\ in$$

Transverse Reinforcement Index =

$$k_{tr} := 0$$

(ACI-2008 12.2.3)

$$L_{dbt} := \frac{3 \cdot f_y \cdot \alpha_{pad} \cdot \beta_{pad} \cdot \gamma_{pad} \cdot \lambda_{pad}}{40 \cdot \sqrt{f_c \cdot psi} \cdot \frac{c + k_{tr}}{d_{bbot}}} \cdot d_{bbot} = 21\ in$$

Minimum Development Length = $L_{dbmin} := 12 \cdot in$ (ACI-2008 12.2.1)

$L_{dbtCheck} := \text{if}\left(L_{dbt} \geq L_{dbmin}, \text{“Use L.dbt”}, \text{“Use L.dbmin”}\right) = \text{“Use L.dbt”}$

Available Length in Pad = $L_{Pad} := \frac{W_f}{2} - \frac{W_t}{2} - Cvr_{pad} = 36.3\ in$

$Lpad\_Check := \text{if}\left(L_{Pad} > L_{dbt}, \text{“Okay”}, \text{“No Good”}\right)$

$Lpad\_Check = \text{“Okay”}$

Steel Reinforcement in Pier:

Area of Pier = $A_p := \frac{\pi \cdot d_p^{\,2}}{4} = 1017.88\ in^2$

$A_{smin} := 0.01 \cdot 0.5 \cdot A_p = 5.09\ in^2$ (ACI-2008 10.8.4 & 10.9.1)

$A_{sprov} := NB_{pier} \cdot A_{bpier} = 9.42\ in^2$

$Steel\_Area\_Check := \text{if}\left(A_{sprov} > A_{smin}, \text{“Okay”}, \text{“No Good”}\right)$

$Steel\_Area\_Check = \text{“Okay”}$

Bar Spacing In Pier = $B_{sPier} := \frac{d_p \cdot \pi}{NB_{pier}} - d_{bpier} = 8.425\ in$

Diameter of Reinforcement Cage = $Diam_{cage} := d_p - 2 \cdot Cvr_{pier} = 30\ in$

Maximum Moment in Pier = $M_p := S_t \cdot \left(L_p\right) \cdot LF = 756\ in \cdot kips$

Pier Check evaluated from outside program and results are listed below;

$$\left[D\ \ N\ \ n\ \ P_u\ \ M_{xu}\right] := \left[d_p \cdot 12\ \ NB_{pier}\ \ BS_{pier}\ \ \frac{C_t \cdot 1.333}{kips}\ \ \frac{M_p}{in \cdot kips}\right]$$

$$\left[D\ \ N\ \ n\ \ P_u\ \ M_{xu}\right] = \left[36\ \ 12\ \ 8\ \ 121.303\ \ 756\right]$$

$$\left[\phi P_n\ \ \phi M_{xn}\ \ f_{sp}\ \ \rho\right] := \left[0\ \ 0\ \ 0\ \ 0\right]$$

$$\left[\phi P_n\ \ \phi M_{xn}\ \ f_{sp}\ \ \rho\right] := \phi P'_n\left(D, N, n, P_u, M_{xu}\right)^{\mathrm{T}}$$

$$\left[\phi P_n\ \ \phi M_{xn}\ \ f_{sp}\ \ \rho\right] = \left[1.35 \cdot 10^3\ \ 8.415 \cdot 10^3\ \ -32.723\ \ 0.009\right]$$

$Axial\_Load\_Check := \text{if}\left(\phi P_n \geq P_u, \text{“Okay”}, \text{“No Good”}\right)$

$Axial\_Load\_Check = \text{“Okay”}$

$Bending\_Check := \text{if}\left(\phi M_{xn} \geq M_{xu}, \text{“Okay”}, \text{“No Good”}\right)$

$Bending\_Check = \text{“Okay”}$

Development Length Pier Reinforcement:

Available Length in Foundation:

$$L_{pier} := L_p - Cvr_{pier} = 33\ in$$

$$L_{pad} := T_f - Cvr_{pad} = 45\ in$$

Tension: (ACI-2008 12.2.3)

Spacing or Cover Dimension =

$$c := \mathbf{if}\left(Cvr_{pier} < \frac{B_{sPier}}{2}, Cvr_{pier}, \frac{B_{sPier}}{2}\right) = 3\ in$$

Transverse Reinforcement = $k_{tr} := 0$ (ACI-2008 12.2.3)

$$L_{dbt} := \frac{3 \cdot f_y \cdot \alpha_{pier} \cdot \beta_{pier} \cdot \gamma_{pier} \cdot \lambda_{pier}}{40 \cdot \sqrt{f_c \cdot psi} \cdot \left(\frac{c + k_{tr}}{d_{bpier}}\right)} \cdot d_{bpier} = 27.39\ in$$

Minimum Development Length =

$$L_{dh} := \frac{1200 \cdot d_{bpier}}{\sqrt{\frac{f_c}{psi}}} \cdot .7 = 15.336\ in$$ (ACI 12.2.1)

Pier reinforcement bars are standard 90 degree hooks and therefore development in the pad is computed as follows:

$$L_{db} := \max\left(L_{dbt}, L_{dbmin}\right) = 27.386\ in$$

$$L_{tension\_Check} := \mathbf{if}\left(L_{pier} + L_{pad} > L_{dbt}, \text{“Okay”}, \text{“No Good”}\right)$$

$L_{tension\_Check} = \text{“Okay”}$

Compression: (ACI-2008 12.3.2)

$$L_{dbc1} := \frac{.02 \cdot d_{bpier} \cdot f_y}{\sqrt{f_c \cdot psi}} = 21.909\ in$$

$$L_{dbmin} := 0.0003 \cdot \frac{in^2}{lb} \cdot \left(d_{bpier} \cdot f_y\right) = 18\ in$$

$$L_{dbc} := \mathbf{if}\left(L_{dbc1} \geq L_{dbmin}, L_{dbc1}, L_{dbmin}\right) = 21.909\ in$$

$$L_{compression\_Check} := \mathbf{if}\left(L_{pier} + L_{pad} > L_{dbc}, \text{“Okay”}, \text{“No Good”}\right)$$

$L_{compression\_Check} = \text{“Okay”}$

verizon fuze | RFDS

EAST > North East > New England > New England West > BRUCES CT

Gadasu, Shiva - shiva.gadasu@verizonwireless.com - 12/7/2021 16:54:7

Project Details

FUZE Project ID:	2155969
Project Name:	BRUCE CT - Antenna Modification 11/03/2014
Project Alt Name:	BRUCE CT - 850-LTE, 5G_850,PCS-LTE, 5G_L-Sub6 Add
Project Type:	Modification
Modification Type:	VDU_UPGRADE_OR_ADD
Designed Sector Carrier 4G:	10
Designed Sector Carrier 5G:	2
Additional Sector Carrier 4G:	N/A
Additional Sector Carrier 5G:	N/A
FP Solution Type & Tech Type:	MODIFICATION;4G_850,4G_PCS,5G_850,5G_L-Sub6-Prep
Carrier Aggregation:	false
MPT Id:	
eCIP-0:	false
Suffix:	Rev1_12.07.2021

Location Information

Site ID:	323503
E-NodeB ID:	0659452,065121
PSLC:	467320
Switch Name:	Wallingford 2
Tower Owner:	
Tower Type:	Self Support (Lattice Tower)
Site Type:	MACRO
Site Sub Type:	SPOKE
Street Address:	1323 King St.
City:	Greenwich
State:	CT
Zip Code:	06831
County:	Fairfield
Latitude:	41.074261 / 41° 4' 27.3396" N
Longitude:	-73.69735 / 73° 41' 50.46" W

RFDS Project Scope: *******2 sector site*********

Rev1_12.07.2021 : Revised to retain 700 X-pole antennas for CDMA due Az interference with LTE, remove any unused coax
Rev0_10.13.2021: Initial Design.
850-LTE, 5G_850,PCS-LTE, 5G_L-Sub6 Add:

- Replace existing LTE antennas with JMA MX06FRO660-03.
- 850 CDMA 1xRTT Antenna remains in all sectors.
- Add 2" Side by Side Antenna Mounting Bracket.
- Retain existing OVPs and Hybrid/Fiber cables.
- Add L-Sub6 Samsung antennas to all sectors.
- Upgrade Nokia RRHs to Samsung RRHs: DB LB / DB HB.
- Place all RRHs near antennas on Tower.

Antenna Summary

Added

700	850	1900	AWS	L-Sub6	Make	Model	Centerline	Tip Height	Azimuth	RET	4xRx	Inst. Type	Quantity	Item ID
LTE	LTE 5G	LTE	LTE		JMA WIRELESS	MX06FRO660-03	98	101	350(01) 90(02) 350(0148) 90(0149)	false	false	PHYSICAL	4	MX06FRO660-03
				5G	Samsung	MT6407-77A	98	99.5	350(0148) 90(0149)	false	false	PHYSICAL	2	

Removed

700	850	1900	AWS	L-Sub6	Make	Model	Centerline	Tip Height	Azimuth	RET	4xRx	Inst. Type	Quantity	Item ID
			LTE		ANDREW	HBXX-6516DS-A2M	98	100.1	350(01) 90(02)	false	false	PHYSICAL	4	
	CDMA				DECIBEL PRODUCTS	DB844H90-XY (42313)	98	100	30(D1) 150(D2)	false	false	PHYSICAL	4	

Retained

700	850	1900	AWS	L-Sub6	Make	Model	Centerline	Tip Height	Azimuth	RET	4xRx	Inst. Type	Quantity	Item ID
	CDMA				KATHREIN	800 10734 746MHZ	98	100.2	30(D1) 150(D2)	false	false	PHYSICAL	2	

Added: 6 **Removed:** 8 **Retained:** 2

Equipment Summary

Added

Equipment Type	Location	700	850	1900	AWS	L-Sub6	Make	Model	Cable Length	Cable Size	Install Type	Quantity	Item ID
Mount	Tower						Antenna Vendor	Beamforming / 2" spacing			PHYSICAL	2	
RRU	Tower			LTE	LTE		Samsung	B2/B66A RRH ORAN (RF4439d-25A)			PHYSICAL	2	
RRU	Tower	LTE	LTE 5G				Samsung	B5/B13 RRH ORAN (RF4440d-13A)			PHYSICAL	2	
RRU	Tower					5G	Samsung	MT6407-77A			PHYSICAL	2	

Removed

Equipment Type	Location	700	850	1900	AWS	L-Sub6	Make	Model	Cable Length	Cable Size	Install Type	Quantity	Item ID
RRU	Tower	LTE					Nokia	UHBB B13 RRH 2x40			PHYSICAL	2	
RRU	Tower				LTE		Nokia	UHID B4 RRH 2x40			PHYSICAL	2	

Retained

Equipment Type	Location	700	850	1900	AWS	L-Sub6	Make	Model	Cable Length	Cable Size	Install Type	Quantity	Item ID
Hybrid Cable	Tower						Hybrid	6x12			PHYSICAL	1	
OVP Box	Tower						OVP	6-OVP			PHYSICAL	1	
Coaxial Cables	Tower						coax	coax		7/8	PHYSICAL	4	
OVP Box	Shelter						OVP	6-OVP			PHYSICAL	1	

Service Info

700 MHz LTE		0000		5GLS
Sector	01	02	01	02
Azimuth	350	90	350	90
Cell / ENode B ID	065121	065121	065121	065121
Antenna Model	800 10734 746MHZ 4DT	800 10734 746MHZ 8DT	MX06FRO660-03	MX06FRO660-03
Antenna Make	KATHREIN	KATHREIN	JMA WIRELESS	JMA WIRELESS
Antenna Centerline(Ft)	98	98	98	98
Mechanical Down-Tilt(Deg.)	0	0	0	0
Electrical Down-Tilt	4	8	4	8
Tip Height	100.2	100.2	101	101
Regulatory Power	54.05	54.92	52.19	53.03
DLEARFCN	5230	5230	5230	5230
Channel Bandwidth(MHz)	10	10	10	10
Total ERP (W)	486.41	494.31	469.68	477.31
TMA Make				
TMA Model				
RRU Make	Nokia	Nokia	Samsung	Samsung
RRU Model	UHBB B13 RRH 2x40	UHBB B13 RRH 2x40	B5/B13 RRH ORAN (RF4440d-13A)	B5/B13 RRH ORAN (RF4440d-13A)
Number of Tx, Rx Lines	2,2	2,2	2,2	2,2
Position				
Transmitter Id	1947416	1947508	7794352	7794355
Source	ATOLL_API	ATOLL_API	ATOLL_API	ATOLL_API

850 MHz LTE				5GLS
Sector			01	02
Azimuth			350	90
Cell / ENode B ID			065121	065121
Antenna Model			MX06FRO660-03	MX06FRO660-03
Antenna Make			JMA WIRELESS	JMA WIRELESS
Antenna Centerline(Ft)			98	98
Mechanical Down-Tilt(Deg.)			0	0
Electrical Down-Tilt			4	8
Tip Height			101	101
Regulatory Power			104.37	106.07
DLEARFCN			2450	2450
Channel Bandwidth(MHz)			10	10
Total ERP (W)			469.68	477.31
TMA Make				
TMA Model				
RRU Make			Samsung	Samsung
RRU Model			B5/B13 RRH ORAN (RF4440d-13A)	B5/B13 RRH ORAN (RF4440d-13A)
Number of Tx, Rx Lines			2,2	2,2
Position				
Transmitter Id			11044317	11044318
Source			ATOLL_API	ATOLL_API

850 MHz CDMA

	0000		5GLS	
Sector	D1	D2	D1	D2
Azimuth	30	150	30	150
Cell / ENode B ID				
Antenna Model	DB844H90-XY (42313)	DB844H90-XY (42313)	800 10734 746MHZ 0DT	800 10734 746MHZ 7DT
Antenna Make	DECIBEL PRODUCTS	DECIBEL PRODUCTS	KATHREIN	KATHREIN
Antenna Centerline(Ft)	98	98	98	98
Mechanical Down-Tilt(Deg.)	0	7	0	0
Electrical Down-Tilt	0	0	0	7
Tip Height	100	100	100.2	100.2
Regulatory Power	207.97	211.35	223.36	226.99
DLEARFCN	201, 242, 283	201, 242, 283	201, 242, 283	201, 242, 283
Channel Bandwidth(MHz)	3	3	3	3
Total ERP (W)				
TMA Make				
TMA Model				
RRU Make				
RRU Model				
Number of Tx, Rx Lines	2,2	2,2	2,2	2,2
Position				
Transmitter Id				
Source	ATOLL_API	ATOLL_API	ATOLL_API	ATOLL_API

850 MHz 5GNR

			5GLS	
Sector			0148	0149
Azimuth			350	90
Cell / ENode B ID			0659452	0659452
Antenna Model			MX06FRO660-03	MX06FRO660-03
Antenna Make			JMA WIRELESS	JMA WIRELESS
Antenna Centerline(Ft)			98	98
Mechanical Down-Tilt(Deg.)			0	0
Electrical Down-Tilt			4	8
Tip Height			101	101
Regulatory Power			104.37	106.07
DLEARFCN			2450	2450
Channel Bandwidth(MHz)			10	10
Total ERP (W)			469.68	477.31
TMA Make				
TMA Model				
RRU Make			Samsung	Samsung
RRU Model			B5/B13 RRH ORAN (RF4440d-13A)	B5/B13 RRH ORAN (RF4440d-13A)
Number of Tx, Rx Lines			2,2	2,2
Position				
Transmitter Id			11044317	11044318
Source			ATOLL_API	ATOLL_API

1900 MHz LTE

Sector			5GLS	
			01	02
Azimuth			350	90
Cell / ENode B ID			065121	065121
Antenna Model			MX06FRO660-03	MX06FRO660-03
Antenna Make			JMA WIRELESS	JMA WIRELESS
Antenna Centerline(Ft)			98	98
Mechanical Down-Tilt(Deg.)			0	0
Electrical Down-Tilt			2	2
Tip Height			101	101
Regulatory Power			133.21	133.21
DLEARFCN			1100	1100
Channel Bandwidth(MHz)			20	20
Total ERP (W)			1461.5	1461.5
TMA Make				
TMA Model				
RRU Make			Samsung	Samsung
RRU Model			B2/B66A RRH ORAN (RF4439d-25A)	B2/B66A RRH ORAN (RF4439d-25A)
Number of Tx, Rx Lines			2,2	2,2
Position				
Transmitter Id			11044315	11044316
Source			ATOLL_API	ATOLL_API

2100 MHz LTE

Sector	01	02	5GLS	
			01	02
Azimuth	350	90	350	90
Cell / ENode B ID	065121	065121	065121	065121
Antenna Model	HBXX-6516DS-A2M	HBXX-6516DS-A2M	MX06FRO660-03	MX06FRO660-03
Antenna Make	ANDREW	ANDREW	JMA WIRELESS	JMA WIRELESS
Antenna Centerline(Ft)	98	98	98	98
Mechanical Down-Tilt(Deg.)	0	0	0	0
Electrical Down-Tilt	2	2	2	2
Tip Height	100.1	100.1	101	101
Regulatory Power	134.81	134.81	142.73	142.73
DLEARFCN	2050	2050	2050	2050
Channel Bandwidth(MHz)	20	20	20	20
Total ERP (W)	1479.11	1479.11	1566.03	1566.03
TMA Make				
TMA Model				
RRU Make	Nokia	Nokia	Samsung	Samsung
RRU Model	UHID B4 RRH 2x40	UHID B4 RRH 2x40	B2/B66A RRH ORAN (RF4439d-25A)	B2/B66A RRH ORAN (RF4439d-25A)
Number of Tx, Rx Lines	2,2	2,2	2,2	2,2
Position				
Transmitter Id	1947503	1947512	7794353	7794354
Source	ATOLL_API	ATOLL_API	ATOLL_API	ATOLL_API

nL-Sub6

	5GLS	
Sector	0148	0149
Azimuth	350	90
Cell / ENode B ID	0659452	0659452
Antenna Model	MT6407-77A	MT6407-77A
Antenna Make	Samsung	Samsung
Antenna Centerline(Ft)	98	98
Mechanical Down-Tilt(Deg.)	0	0
Electrical Down-Tilt	6	6
Tip Height	99.5	99.5
Regulatory Power	1314.12	1314.12
DLEARFCN	648672	648672
Channel Bandwidth(MHz)	60	60
Total ERP (W)	21627.19	21627.19
TMA Make		
TMA Model		
RRU Make	Samsung	Samsung
RRU Model	MT6407-77A	MT6407-77A
Number of Tx, Rx Lines	2,2	2,2
Position		
Transmitter Id	7794360	7794361
Source	ATOLL_API	ATOLL_API

Service Comments

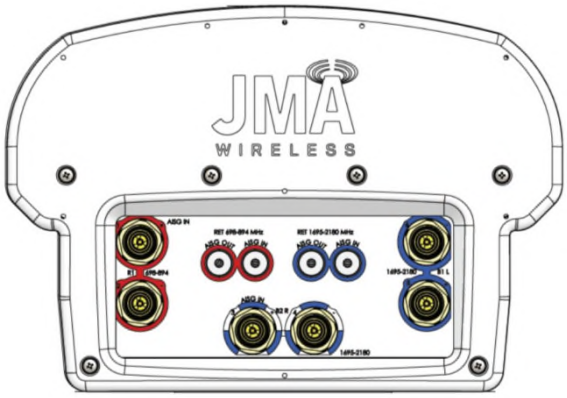
Callsigns Per Antenna

Sector	Antenna Make	Antenna Model	Ant CL Height AGL	Tip Height	Azimuth (TN)	Elec Tilt	Mech Tilt	Gain	Beam Width	Regulatory Power	Callsigns						
											700	850	1900	2100	28 GHz	31 GHz	39 GHz
0148	Samsung	MT6407-77A	98	99.5	350	6	0	23.35	100	1314.12							
0149	Samsung	MT6407-77A	98	99.5	90	6	0	23.35	100	1314.12							
01	JMA WIRELESS	MX06FRO660-03	98	101	350	2	0	15.748	57	133.21			KNLF644 KNLH264 WQBT539				
D2	KATHREIN	800 10734 746MHZ 7DT	98	100.2	150	7	0	12.31	68.75	248.31		KNKA363					
02	JMA WIRELESS	MX06FRO660-03	98	101	90	8	0	12.048	57.3	53.03	WQJQ689						
D1	KATHREIN	800 10734 746MHZ 0DT	98	100.2	30	0	0	12.25	68	223.36		KNKA363					
01	JMA WIRELESS	MX06FRO660-03	98	101	350	2	0	16.048	50.4	142.73				WQGA906 WQGB279			
02	JMA WIRELESS	MX06FRO660-03	98	101	90	8	0	12.148	50.4	106.07		KNKA363					
01	JMA WIRELESS	MX06FRO660-03	98	101	350	4	0	12.148	51.1	104.37		KNKA363					
0148	JMA WIRELESS	MX06FRO660-03	98	101	350	4	0	12.148	51.1	104.37		KNKA363					
01	JMA WIRELESS	MX06FRO660-03	98	101	350	4	0	12.048	57.1	52.19	WQJQ689						
0149	JMA WIRELESS	MX06FRO660-03	98	101	90	8	0	12.148	50.4	106.07		KNKA363					
D2	KATHREIN	800 10734 746MHZ 7DT	98	100.2	150	7	0	12.31	68.75	226.99		KNKA363					
D1	KATHREIN	800 10734 746MHZ 0DT	98	100.2	30	0	0	12.25	68	244.34		KNKA363					
02	JMA WIRELESS	MX06FRO660-03	98	101	90	2	0	16.048	50.4	142.73				WQGA906 WQGB279			
02	JMA WIRELESS	MX06FRO660-03	98	101	90	2	0	15.748	57	133.21			KNLF644 KNLH264 WQBT539				

Callsigns

Callsign	Market	Radio Code	Market Number	Block	State	County	Licensee Name	Wholly Owned	Total MHZ	Freq Range 1	Freq Range 2	Freq Range 3	Freq Range 4	Regulatory Power	Threshold (W)	POPs /Sq Mi	Status	Action	Approved for Insvc
WQJQ689	Northeast	WU	REA001	C	CT	Fairfield	Cellco Partnership	Yes	22.000	746.000-757.000	776.000-787.000	.000-.000	.000-.000	53.03	1000	1467.18	Active	added	Yes
KNKA363	Bridgeport-Stamford-Norwalk-Danbury, CT	CL	CMA042	A	CT	Fairfield	Cellco Partnership	Yes	25.000	824.000-835.000	869.000-880.000	845.000-846.500	890.000-891.500	248.31	400	1467.18	Active	added	Yes
WQBT539	New York, NY	CW	BTA321	C	CT	Fairfield	Cellco Partnership	Yes	10.000	1895.000-1900.000	1975.000-1980.000	.000-.000	.000-.000	133.21	1640	1467.18	Active	added	Yes
KNLF644	New York, NY	CW	BTA321	C	CT	Fairfield	AirTouch Cellular	Yes	20.000	1900.000-1910.000	1980.000-1990.000	.000-.000	.000-.000	133.21	1640	1467.18	Active	added	Yes
KNLH264	New York, NY	CW	BTA321	F	CT	Fairfield	Cellco Partnership	Yes	10.000	1890.000-1895.000	1970.000-1975.000	.000-.000	.000-.000	133.21	1640	1467.18	Active	added	Yes
WQGB279	Bridgeport-Stamford-Norwalk-Danbury, CT	AW	CMA042	A	CT	Fairfield	Cellco Partnership	Yes	20.000	1710.000-1720.000	2110.000-2120.000	.000-.000	.000-.000	142.73	1640	1467.18	Active	added	Yes
WRNE581	New York, NY	PM	PEA001	A1	CT	Fairfield	Cellco Partnership	Yes	20.000	3700.000-3720.000	.000-.000	.000-.000	.000-.000	1314.12	1640	1467.18	Active	added	No
WRNE582	New York, NY	PM	PEA001	A2	CT	Fairfield	Cellco Partnership	Yes	20.000	3720.000-3740.000	.000-.000	.000-.000	.000-.000	1314.12	1640	1467.18	Active	added	No
WRNE583	New York, NY	PM	PEA001	A3	CT	Fairfield	Cellco Partnership	Yes	20.000	3740.000-3760.000	.000-.000	.000-.000	.000-.000	1314.12	1640	1467.18	Active	added	No
WQGA906	New York-No. New Jer.-Long Island, NY-NJ-CT-PA-MA-	AW	BEA010	B	CT	Fairfield	Cellco Partnership	Yes	20.000	1720.000-1730.000	2120.000-2130.000	.000-.000	.000-.000	142.73	1640	1467.18	Active	added	Yes
WRBA702	New York, NY	UU	BTA321	L1	CT	Fairfield	Cellco Partnership	Yes	325.000	27600.000-27925.000	.000-.000	.000-.000	.000-.000			1467.18	Active		Yes
WRBA703	New York, NY	UU	BTA321	L2	CT	Fairfield	Cellco Partnership	Yes	325.000	27925.000-27950.000	28050.000-28350.000	.000-.000	.000-.000			1467.18	Active		Yes
WRHD609	New York, NY	UU	PEA001	M1	CT	Fairfield	Straight Path Spectrum, LLC	Yes	100.000	37600.000-37700.000	.000-.000	.000-.000	.000-.000			1467.18	Active		Yes
WRHD610	New York, NY	UU	PEA001	M10	CT	Fairfield	Straight Path Spectrum, LLC	Yes	100.000	38500.000-38600.000	.000-.000	.000-.000	.000-.000			1467.18	Active		Yes
WRHD611	New York, NY	UU	PEA001	M2	CT	Fairfield	Straight Path Spectrum, LLC	Yes	100.000	37700.000-37800.000	.000-.000	.000-.000	.000-.000			1467.18	Active		Yes
WRHD612	New York, NY	UU	PEA001	M3	CT	Fairfield	Straight Path Spectrum, LLC	Yes	100.000	37800.000-37900.000	.000-.000	.000-.000	.000-.000			1467.18	Active		Yes
WRHD613	New York, NY	UU	PEA001	M4	CT	Fairfield	Straight Path Spectrum, LLC	Yes	100.000	37900.000-38000.000	.000-.000	.000-.000	.000-.000			1467.18	Active		Yes
WRHD614	New York, NY	UU	PEA001	M5	CT	Fairfield	Straight Path Spectrum, LLC	Yes	100.000	38000.000-38100.000	.000-.000	.000-.000	.000-.000			1467.18	Active		Yes
WRHD615	New York, NY	UU	PEA001	M6	CT	Fairfield	Straight Path Spectrum, LLC	Yes	100.000	38100.000-38200.000	.000-.000	.000-.000	.000-.000			1467.18	Active		Yes
WRHD616	New York, NY	UU	PEA001	M7	CT	Fairfield	Straight Path Spectrum, LLC	Yes	100.000	38200.000-38300.000	.000-.000	.000-.000	.000-.000			1467.18	Active		Yes
WRHD617	New York, NY	UU	PEA001	M8	CT	Fairfield	Straight Path Spectrum, LLC	Yes	100.000	38300.000-38400.000	.000-.000	.000-.000	.000-.000			1467.18	Active		Yes
WRHD618	New York, NY	UU	PEA001	M9	CT	Fairfield	Straight Path Spectrum, LLC	Yes	100.000	38400.000-38500.000	.000-.000	.000-.000	.000-.000			1467.18	Active		Yes

WRHD619	New York, NY	UU	PEA001	N1	CT	Fairfield	Straight Path Spectrum, LLC	Yes	100.000	38600.000-38700.000	.000-.000	.000-.000	.000-.000			1467.18	Active	N/A	No
WRLD511	D09001 - Fairfield, CT	PL	D09001	0	CT	Fairfield	Verizon Wireless Network Procurement LP	Yes	100.000	3550.000-3650.000	.000-.000	.000-.000	.000-.000		501	.00	Active		Yes
WRLD509	D09001 - Fairfield, CT	PL	D09001	0	CT	Fairfield	Verizon Wireless Network Procurement LP	Yes	100.000	3550.000-3650.000	.000-.000	.000-.000	.000-.000		501	.00	Active		Yes
WRLD512	D09001 - Fairfield, CT	PL	D09001	0	CT	Fairfield	Verizon Wireless Network Procurement LP	Yes	100.000	3550.000-3650.000	.000-.000	.000-.000	.000-.000		501	.00	Active		Yes
WRLD510	D09001 - Fairfield, CT	PL	D09001	0	CT	Fairfield	Verizon Wireless Network Procurement LP	Yes	100.000	3550.000-3650.000	.000-.000	.000-.000	.000-.000		501	.00	Active		Yes
WRNE584	New York, NY	PM	PEA001	A4	CT	Fairfield	Cellco Partnership	Yes	20.000	3760.000-3780.000	.000-.000	.000-.000	.000-.000		1640	1467.18	Active		No
WRNE585	New York, NY	PM	PEA001	A5	CT	Fairfield	Cellco Partnership	Yes	20.000	3780.000-3800.000	.000-.000	.000-.000	.000-.000		1640	1467.18	Active		No
WRNE586	New York, NY	PM	PEA001	B1	CT	Fairfield	Cellco Partnership	Yes	20.000	3800.000-3820.000	.000-.000	.000-.000	.000-.000		1640	1467.18	Active		No
WRNE587	New York, NY	PM	PEA001	B2	CT	Fairfield	Cellco Partnership	Yes	20.000	3820.000-3840.000	.000-.000	.000-.000	.000-.000		1640	1467.18	Active		No
WRNE588	New York, NY	PM	PEA001	B3	CT	Fairfield	Cellco Partnership	Yes	20.000	3840.000-3860.000	.000-.000	.000-.000	.000-.000		1640	1467.18	Active		No



- Port 1 & 2 are for low band (698-896 MHz).
- Port 3,4,5, & 6 are for high band (1695-2360 MHz).
- Antenna Smart Bias Tee (SBT) is through port 1 for low band and port 3 for high band.
- AISG cable is only needed when drawn in the diagrams below, if it is not drawn then SBT is enough to control all RET motors.
- Not all SBT ports are needed to control RET, only green port connection to green port will control RET.

RET DC signal pass for RET
(Port that will control RET)

DC signal capable Port

AISG Cable

RET DC signal pass for RET
(Port that will control RET)

Hybriflex cables

2" Side By Side Mount

JMA MX06FRO660-03

JMA MX06FRO660-03

L_Sub6
MT6407-77A

850

B5/B13 RRH-BR04C (RFV01U-D2A)

B2/B66A RRH-BR049 (RFV01U-D1A)

OVP Box

Tower/
Watertank/
Rooftop

Equipment
Pad

850 Cell

Comments:

Diagram shows configuration as viewed from standing behind the antennas.

Antennas will be installed in that order from left to right.

Cap and weatherproof unused antenna ports.

All plumbing diagram colors are irrelevant except for AISG & Hybriflex cable. (For the coax colors follow Coax Colors guide above)

Maser Consulting Connecticut
1055 Washington Boulevard
Stamford, CT 06901
203.324.0800
peter.albano@colliersengineering.com

Post-Modification Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10130917
Maser Consulting Connecticut Project #: 21777810A Rev. 1

February 2, 2022

Site Information	*Site ID:*	*467320-VZW / BRUCES CT*
	Site Name:	*BRUCES CT*
	Carrier Name:	*Verizon Wireless*
	Address:	*1323 King St.* *Greenwich, Connecticut 06831* *Fairfield County*
	Latitude:	*41.074261°*
	Longitude:	*-73.697350°*
Structure Information	*Tower Type:*	*100-Ft Self Support*
	Mount Type:	*12.00-Ft T- Frame*

FUZE ID # 2155969

Analysis Results

Sector Frame: **43.8% Pass w/ Modifications***

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

******Contractor PMI Requirements*:**
Included at the end of this MA report
Available & Submitted via portal at https://pmi.vzwsmart.com
For additional questions and support, please reach out to:
pmisupport@colliersengineering.com

2/2/22

STATE OF CONNECTICUT
DEREK R HARTZELL
32710
LICENSED
PROFESSIONAL ENGINEER

Report Prepared By: Abigail Enriquez

Executive Summary:

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

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

Sources of Information:

Document Type	Remarks
Radio Frequency Data Sheet (RFDS)	*Verizon RFDS Site ID: 323503, dated December 7, 2021*
Mount Mapping Report	*Structural Components Site ID: 2155969, dated October 7, 2021*
Previous Mount Analysis Report	*Maser Consulting Connecticut Project #: 21777810A (Rev 1), dated January 31, 2022*
Mount Modification Drawings	*Maser Consulting Connecticut, Project #: 21777810A, dated February 2, 2022*

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H	
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT}:	115 mph
	Ice Wind Speed (3-sec. Gust):	50 mph
	Design Ice Thickness:	1.00 in
	Risk Category:	II
	Exposure Category:	C
	Topographic Category:	1
	Topographic Feature Considered:	N/A
	Topographic Method:	N/A
	Ground Elevation Factor, K_e:	0.985
Seismic Parameters:	S_S:	0.284 g
	S_1:	0.060 g
Maintenance Parameters:	Wind Speed (3-sec. Gust):	30 mph
	Maintenance Live Load, Lv:	250 lbs.
	Maintenance Live Load, Lm:	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
96.75	98.00	4	JMA Wireless	MX06FRO660-03	Added
		2	Samsung	MT6407-77A	
		2	Samsung	RF4439d-25A	
		2	Samsung	RF4440d-13A	
		2	Kathrein	800 10734	Retained
		1	Raycap	RRFDC-3315-PF-48*	

* Equipment to be flush mounted directly to the Self Support. They are not mounted on sector frame mounts and are not included in this mount analysis.

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

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

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to 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 in accordance with the NSTD-446 Standard, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

4. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.

5. The mount was checked up to, and including, the bolts that fasten it to the mount collar/attachment and threaded rod connections in collar members if applicable. Local deformation and interaction between the mount collar/attachment and the supporting tower structure are outside the scope of this analysis.

6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. 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.

Analysis Results:

Component	Utilization %	Pass/Fail
Mod Face Horizontal	*36.2%*	*Pass*
Mod V-Bracing Kit	*18.4%*	*Pass*
Mount Pipe	*23.2%*	*Pass*
Tieback	*7.9%*	*Pass*
Mod Tieback	*5.0%*	*Pass*
Face Bracing	*9.6%*	*Pass*
Vertical Face Bracing	*1.8%*	*Pass*
Dual Mount Pipe	*14.4%*	*Pass*
Standoff Bracing	*24.2%*	*Pass*
Face Horizontal	*43.8%*	*Pass*
Standoff Horizontal	*24.8%*	*Pass*
Connection Check	*14.1%*	*Pass*

Structure Rating – *(Controlling Utilization of all Components)*	**43.8%**

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

Ice Thickness (In)	Mount Pipes Excluded		Mount Pipes Included	
	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	21.4	18.1	31.8	28.5
0.5	32.2	27.3	46.8	41.9
1	41.9	35.2	60.7	54.0

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

Requirements:

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

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

Attachments:

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

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Mount Modification

Electronic pdf version of this can be downloaded at https://pmi.vzwsmart.com
For additional questions and support, please reach out to pmisupport@colliersengineering.com

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PSLC #: 467320 SMART Project #: 10130917 Fuze Project ID: 2155969

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

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

Base Requirements:

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

Photo Requirements:

- *Photos taken at ground level*
  - Photo of Gate Signs showing the tower owner, site name, and number.
  - Overall tower structure after installation of the modifications.
  - Photos of the mount after installation of the modifications; if the mounts are at different rad elevations, pictures must be provided for all elevations that the modifications were installed

- *Photos taken at Mount Elevation*
  - Photos showing the safety climb wire rope above and below the mount prior to modification.
  - Photos showing the climbing facility and safety climb if present.

- Photos showing each individual sector after installation of modifications. Each entire sector must be in one photo to show the interconnection of members.
    - These photos shall also certify that the placement and geometry of the equipment on the mount is as depicted in the antenna placement diagram in this form.
- Photos that show the model number of each antenna and piece of equipment installed per sector.
- Photos of each installed modification per the modification drawings; pictures shall also include connection hardware (U-bolts, bolts, nuts, all-threaded rods, etc.)
- Photos showing the distances (relative distance between collars) of the installed modifications from the appropriate reference locations shown in the modification drawings.
- Photos showing the installed modifications onto the tower (i.e. ring/collar mounts, tie-backs, V-bracing kits, etc.); if the existing mount elevation needs to be changed according to the modification drawings, an elevation measurement shall be provided before the elevation change.

Material Certification:

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

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

☐ The material utilized was as specified on the SMART Tool engineering vendor Mount Modification Drawings and included in the material certification folder is a packing list or invoice for these materials.

OR

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

Antenna & Equipment Placement and Geometry Confirmation:

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

OR

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

Comments:

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

☐ Yes ☐ No

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

Issue:

Contractor shall inspect all rusted mount connection hardware. If material loss is discovered contractor shall replace the damaged connection with new galvanized parts of same size and grade or higher. Otherwise, contractor shall wire brush clean all rusted mount members and protect with two (2) coats of cold galvanization (Zinga or Zinc Kote). Contractor shall remove tower mounted RRH pipes. Contractor shall tighten all loose hardware on mount to leg connection in Alpha sector. Contractor to replace rusty antenna hardware in position 1 & 5 on both sectors, see placement diagram (read from in front of mount). Contractor shall install safety climb wire rope guides in locations where wire rope is rubbing against the mount or mount-to-tower connection steel. Contractor shall provide photos of wire rope guide installation as part of PMI documents.

Response:

Special Instruction Confirmation:

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

Comments:

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

☐ Yes ☐ No

Contractor certifies no new damage created during the current installation:

☐ Yes ☐ No

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

☐ Safety Climb in Good Condition ☐ Safety Climb Damaged

Comments:

Certifying Individual:

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

Structure: 467320-VZW - BRUCES CT

Sector: **A**

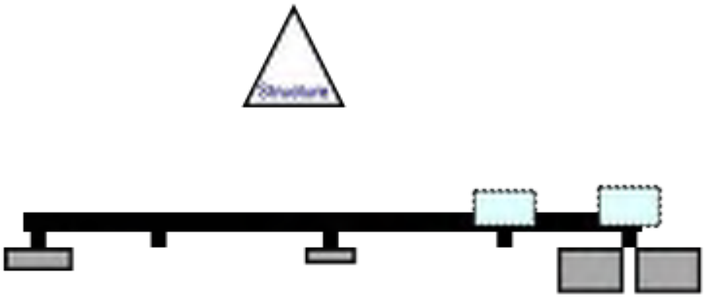
Structure Type: Self Support

Mount Elev: 96.75

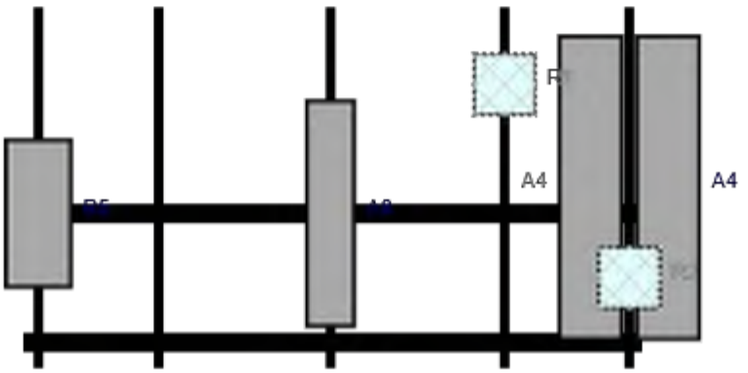
10130917

2/1/2022

Plan View



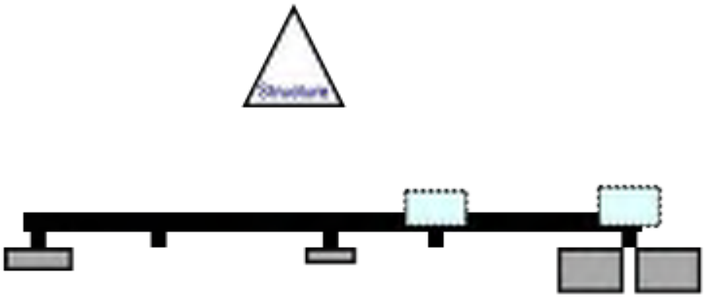
Front View - Looking at Structure



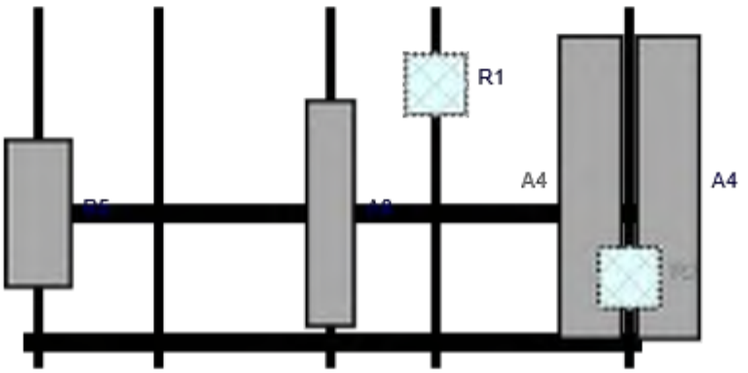
5 4 3 2 1

Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A4	MX06FRO660-03	71.3	15.4	141	1	a	Front	42	-9	Added	
A4	MX06FRO660-03	71.3	15.4	141	1	b	Front	42	9	Added	
R2	RF4439d-25A	15	15	141	1	a	Behind	63	0	Added	
R1	RF4440d-13A	15	15	112	2	a	Behind	18	0	Added	
A8	800 10734	53.3	11.9	71.5	3	a	Front	48	0	Retained	
R5	MT6407-77A	35.1	16.1	3.5	5	a	Front	48	0	Added	

Plan View



Front View - Looking at Structure



5 4 3 2 1

Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A4	MX06FRO660-03	71.3	15.4	141	1	a	Front	42	-9	Added	
A4	MX06FRO660-03	71.3	15.4	141	1	b	Front	42	9	Added	
R2	RF4439d-25A	15	15	141	1	a	Behind	63	0	Added	
R1	RF4440d-13A	15	15	96	2	a	Behind	18	0	Added	
A8	800 10734	53.3	11.9	71.5	3	a	Front	48	0	Retained	
R5	MT6407-77A	35.1	16.1	3.5	5	a	Front	48	0	Added	

MOUNT MODIFICATION DRAWINGS
EXISTING 12.00' T-FRAME

TOWER OWNER: BRUCE GOLF COURSE
TOWER OWNER SITE NUMBER: N/A
CARRIER SITE NAME: BRUCES CT
CARRIER SITE NUMBER: 467320
FUZE ID: 2155969

1323 KING ST.
GREENWICH, CT 06831
FAIRFIELD COUNTY

LATITUDE: 41.074261° N
LONGITUDE: 73.69735° W

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), V = 115 MPH
EXPOSURE CATEGORY C
TOPOGRAPHIC CATEGORY 1
MEAN BASE ELEVATION (AMSL) = 419.77'

ICE LOADS

ICE WIND SPEED (3 SECOND GUST), V = 50 MPH
ICE THICKNESS = 1.00 IN

SEISMIC LOADS

SEISMIC DESIGN CATEGORY b
SHORT TERM MCER GROUND MOTION, S_S = .284
LONG TERM MCER GROUND MOTION, S_1 = .060

PROJECT INFORMATION

APPLICANT/LESSEE

COMPANY: VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY: VERIZON WIRELESS

PROJECT MANAGER

COMPANY: COLLIERS ENGINEERING & DESIGN CT
CONTACT: PETER ALBANO
PHONE: 856.797.0412
E-MAIL: PETER.ALBANO@COLLIERSENGINEERING.COM

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #: 10130917
VZW LOCATION CODE (PSLC): 467320
ANALYSIS DATE: 02/02/2022

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

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www.colliersengineering.com

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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE: AS SHOWN
JOB NUMBER: 21777810A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	02/02/22	ISSUED FOR CONSTRUCTION	AE	JL

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF THE RESPONSIBLE LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SITE NAME:

BRUCES CT
467320

1323 KING ST.
GREENWICH, CT 06831
FAIRFIELD COUNTY

Colliers Engineering & Design
MADISON
135 New Road
Madison, CT 06443
Phone: 860.395.0055
COLLIERS ENGINEERING & DESIGN CT, P.C.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE: TITLE SHEET

SHEET NUMBER: ST-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
12	VZWSMART	VZWSMART-MSK1	CROSSOVER PLATE		14	196
4		VZWSMART-SFK3	V-BRACING KIT		122	488
		VZWSMART-SFK3	V-BRACING KIT		122	

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
2	SITE PRO 1	SPTB278-NP	SLIDING PIPE TIEBACK ASSEMBLY		48	96
2	-	-	144" LONG, P2 1/2 XSTR	GALVANIZED	70	140
2	-	-	84" LONG, P2 1/2 STD	GALVANIZED	41	82
2	-	-	150" LONG, P2 1/2 STD	GALVANIZED	73	146
					TOTAL:	1148

NOTES:

1. THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KITS. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZW APPROVAL PROCESS AND THEY ARE IN TURN APPROVED TO SELL. PLEASE NOTE THAT THE MATERIAL UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVIEWED AS A PART OF THE DESKTOP PMI COMPLETED BY THE SMART TOOL VENDOR. IT WILL BE REQUIRED THAT THE VZW KITS SPECIFIED ARE UTILIZED IN THE MODIFICATIONS.
2. 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

VZWSMART KITS - APPROVED VENDORS	
NEWAVE	
CONTACT	NEWAVE SALES TEAM
PHONE	(971) 239-4762
EMAIL	SALES@NEWAVETC.COM
WEBSITE	WWW.NEWAVETC.COM
BETTER METAL, LLC	
CONTACT	DAVID STANSBERRY
PHONE	(615) 535-0990 (O), (615) 631-2520 (M)
EMAIL	DLS@BETTERMETAL.COM
WEBSITE	WWW.BETTERMETAL.COM

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SITE NAME:

BRUCES CT
467320

1323 KING ST.
GREENWICH, CT 06831
FAIRFIELD COUNTY

Colliers Engineering & Design

MADISON
135 New Road
Madison, CT 06443
Phone: 860.395.0055
COLLIERS ENGINEERING & DESIGN CT, P.C.
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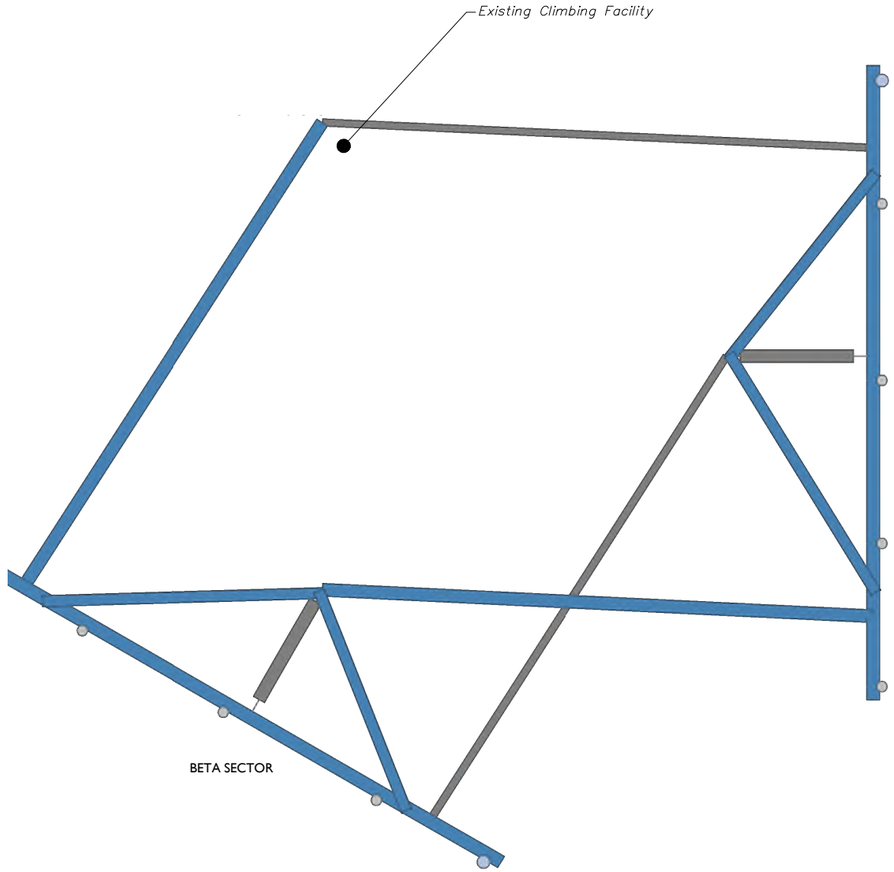
SHEET TITLE: BILL OF MATERIALS

SHEET NUMBER: SBOM-1



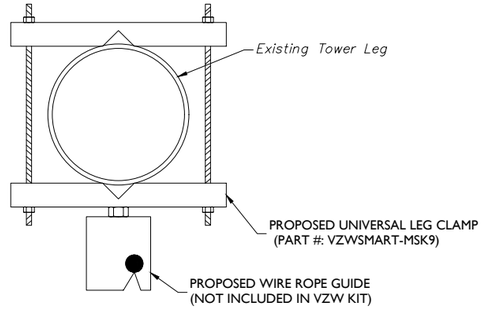
1 CLIMBING FACILITY LOCATION

SCALE : N.T.S.

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY STRUCTURAL COMPONENTS ON 10/7/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (96'-9") ARE IN GOOD CONDITION. MASER DOES NOT WARRANT THIS INFORMATION.

2. 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 WIRE ROPE GUIDE ATTACHMENT - PLAN VIEW

SCALE : N.T.S.

CLIMBING FACILITY PHOTO

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SHEET TITLE :
CLIMBING FACILITY DETAIL

SHEET NUMBER :
SCF-1

PROJECT NOTES

1. SEE MODIFICATION NOTES

2. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITY COMPANIES OR OTHER PUBLIC/GOVERNING AUTHORITIES.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.

4. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE AS A RESULT OF CONSTRUCTION OF THIS FACILITY AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.

6. THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

7. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING THE BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND CONSTRUCTION DRAWINGS.

8. THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THESE DRAWINGS MUST BE VERIFIED. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

9. SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY POTENTIALLY DANGEROUS EXPOSURE LEVELS.

10. NO NOISE, SMOKE, DUST OR ODOR WILL RESULT FROM THIS FACILITY AS TO CAUSE A NUISANCE.

11. THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS IS REQUIRED).

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.

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

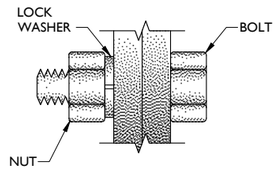
3. ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND 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
      PETER.ALBANO@COLLIERSENGINEERING.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. CONTRACTOR SHALL PROTECT CUT ENDS OF ALL FIELD-CUT STEEL WITH TWO (2) COATS OF COLD GALVANIZATION (ZINGA OR ZINC COTE).
9. 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.
10. 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.
11. FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
12. 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.
13. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
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.

WELDING NOTES

1. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH AWS D1.0 (LATEST EDITION). THIS SHALL INCLUDE A CERTIFIED WELD INSPECTION (CWI) FOR ACCEPTANCE OR REJECTION OF ALL WELDING OPERATIONS, PRE, DURING, AND POST INSTALLATION, USING THE ACCEPTANCE CRITERIA OF AWS D1.1.
2. CONTRACTOR IS RESPONSIBLE FOR COMMISSIONING A THIRD PARTY CERTIFIED WELD INSPECTOR (CWI) THROUGHOUT THE ENTIRETY OF THE PROJECT. A PASSING CWI REPORT SHALL BE PROVIDED TO THE ENGINEER UPON COMPLETION OF THE PROJECT.
3. THE CERTIFIED WELD INSPECTOR SHALL INDICATE, IN A WRITTEN CWI REPORT, THAT ALL WELDING OPERATIONS PRE, DURING, AND POST INSTALLATION WERE CONDUCTED IN ACCORDANCE WITH AWS D1.1 WITH PHOTOGRAPHS AND DOCUMENTATION SUPPORTING THE ACCEPTANCE OR REJECTION OF ALL WELDING. ALL CWI WELD INSPECTION DOCUMENTATION AND PHOTOS SHALL BE SUBMITTED DURING THE PMI.
4. IN CASES WHERE A WELD IS SPECIFIED BETWEEN TWO MEMBERS IN WHICH THERE IS A GAP IN BETWEEN, THE WELD IS TO BE BUILT-UP SUCH THAT THE SIZE OF WELD ON THE MEMBER IS EQUAL TO THAT SHOWN IN THE DRAWINGS.
5. OXY FUEL GAS WELDING OR BRAZING IS STRICTLY PROHIBITED. SPECIFICALLY, NO TORCH CUTTING IS PERMITTED ON SITE. ALL HOLES SHALL BE CUT WITH A GRINDER.
6. CONTRACTOR SHALL EXERCISE CAUTION WHEN WELDING A GALVANIZED SURFACE.
7. CONTRACTOR SHALL HAVE A FIRE PROTECTION PLAN IN PLACE THAT CONFORMS WITH ALL OSHA, ANSI/ASSP A10.48, ANSI Z49.1, AND LOCAL JURISDICTIONAL REQUIREMENTS.

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

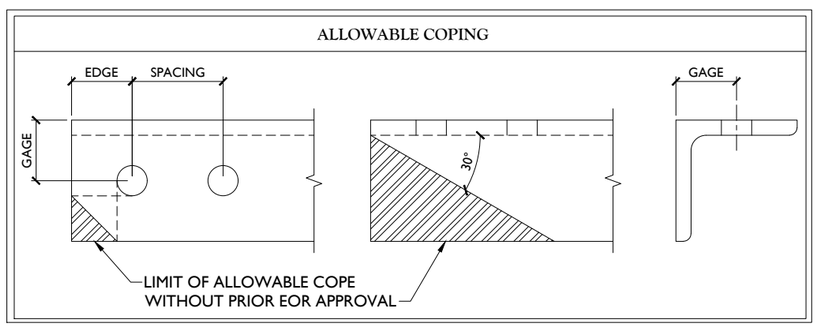
WORKABLE GAGES (IN.)	
LEG	**GAGE**
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



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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SHEET TITLE: MODIFICATION NOTES

SHEET NUMBER: SGN-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

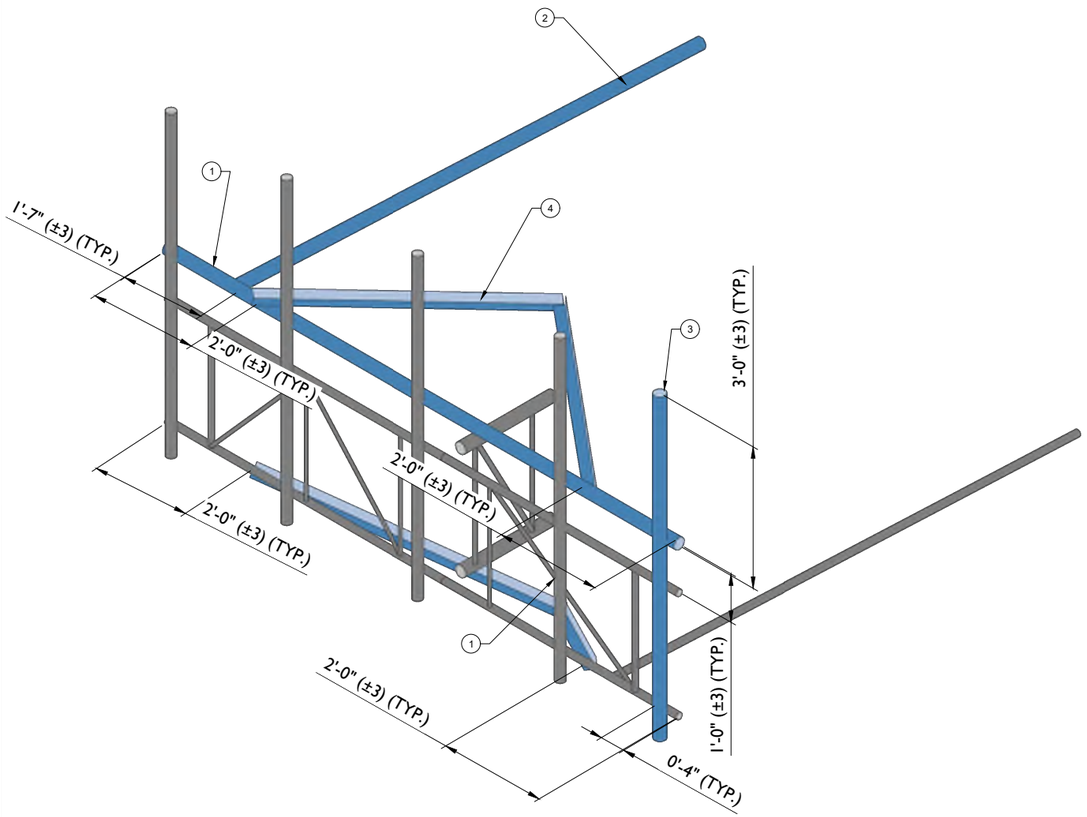
LEGEND:

- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE				
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	96'-9"	2	PROPOSED 150" LONG, P2 1/2 STD FACE HORIZONTAL	CONNECT NEW HORIZONTAL TO ALL EXISTING VERTICAL EXISTING AND PROPOSED MOUNT PIPES WITH CROSSOVER PLATES (PART #: VZWSMART-MSK1).
2		0	PROPOSED 144" LONG, P2 1/2 XSTR TIEBACK	TIEBACK ASSEMBLY WILL UTILIZE 144" LONG P2 1/2 X-STR PIPE. CONNECT OTHER END TO ADJACENT TOWER LEG. PROPOSED TIE-BACK SHALL EXTEND NO MORE THAN 12" BEYOND THE TOWER LEG. CONTRACTOR SHALL TRIM AS REQUIRED AND PROTECT CUT END WITH TWO COATS OF ZINGA OR ZINC COTE. USE SITEPRO1 SPTB278-NP TO CONNECT AT BOTH ENDS.
3		2	PROPOSED 84" LONG, P2 1/2 STD MOUNT PIPE	CONNECT NEW MOUNT PIPE TO EXISTING HORIZONTAL WITH CROSSOVER PLATES (PART #: VZWSMART-MSK1).
4		4	V-BRACING KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.

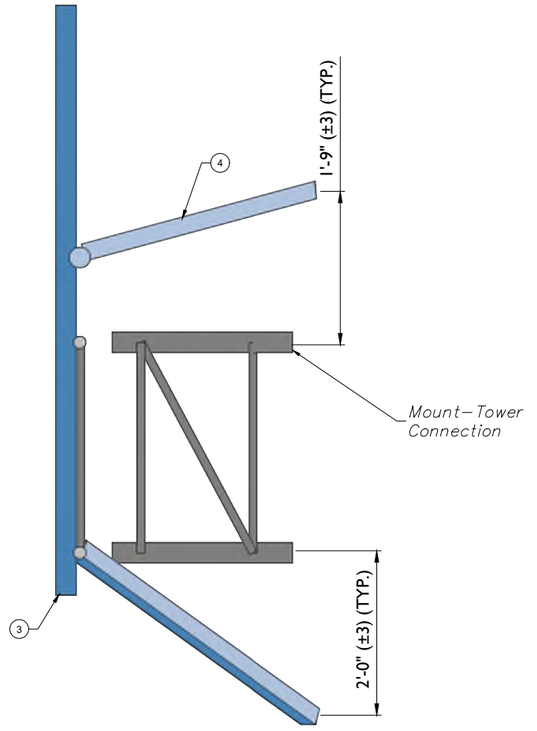
NOTES.

MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.



1 PROPOSED ISOMETRIC VIEW (ALPHA AND BETA SECTOR ONLY)

SCALE : N.T.S.



2 PROPOSED SIDE ELEVATION VIEW (ALPHA AND BETA SECTOR ONLY)

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SHEET TITLE :

MODIFICATION DETAILS

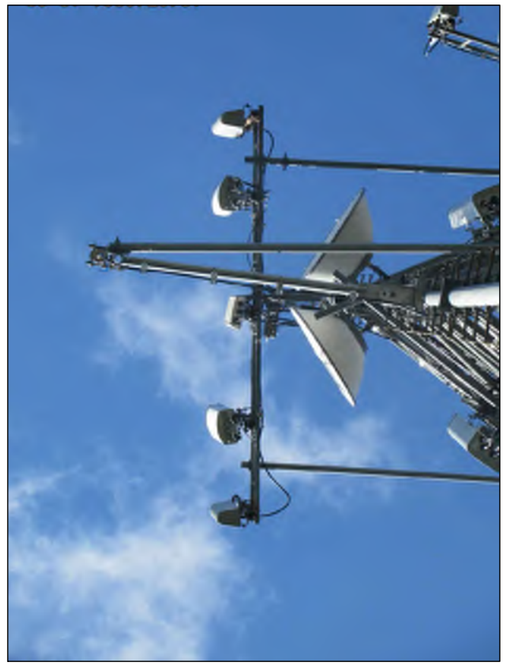
SHEET NUMBER :

SS-1

MOUNT PHOTO 1

MOUNT PHOTO 2

MOUNT PHOTO 3



MOUNT PHOTO 4

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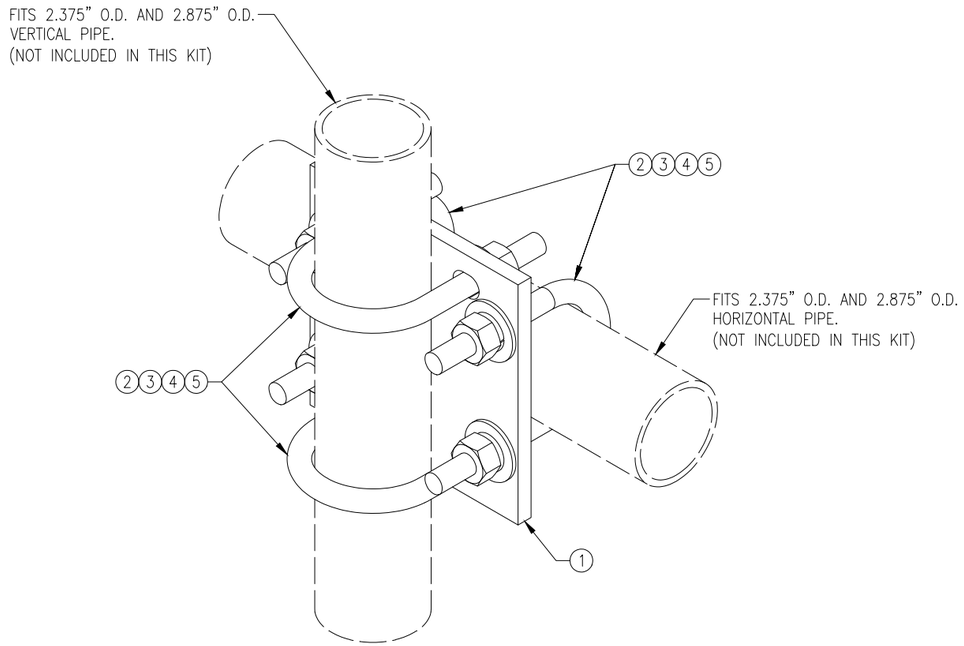
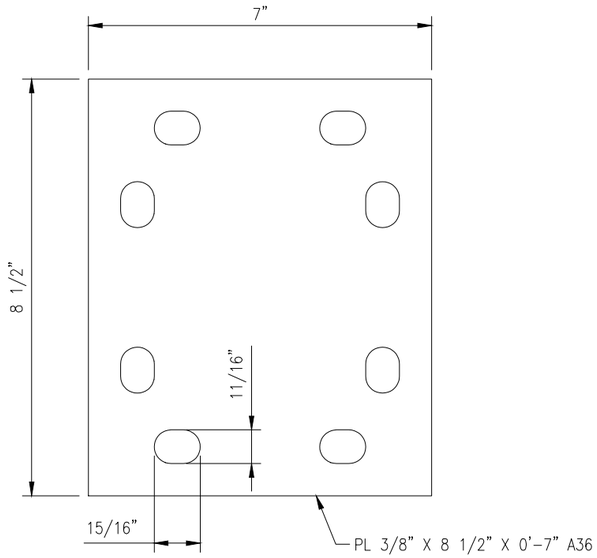
SHEET TITLE :

MOUNT PHOTOS

SHEET NUMBER :

SS-2





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

VzW SMART Tool© Vendor

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DRAWN BY: H.R | CHECKED BY: HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	H.R	05/08/20

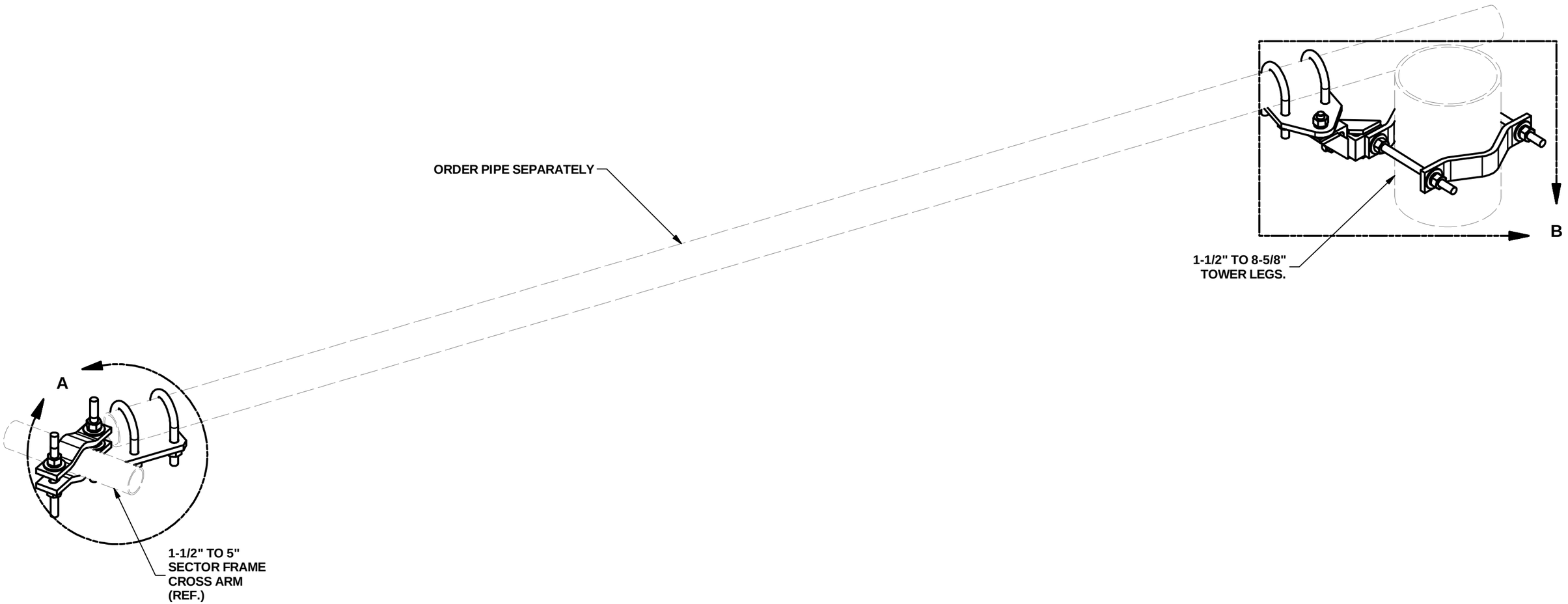
SHEET TITLE:

VZWSMART-MSK1
CROSSOVER PLATE

SHEET NUMBER: VZWSMART-MSK1

REV #: 0

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-SPTB278	SLIDING PIPE TIE BACK PLATE	5 1/2 in	5.70	11.40
2	2	X-TBCA	TIE BACK CLIP ANGLE		2.01	4.01
3	2	MCP	CLAMP HALF 1/2" THICK, 11-5/8" LONG	12 1/16 in	3.59	7.19
4	4	DCP	1/2" THICK, 5-3/4" CNTER TO CENTER CLAMP HALF	8 1/8 in	2.36	9.45
5	2	G58R-12	5/8" x 12" THREADED ROD (HDG.)		1.05	2.09
6	4	G58R-8	5/8" x 8" THREADED ROD (HDG.)		0.70	2.79
7	4	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
8	4	G5804	5/8" x 4" HDG HEX BOLT GR5		0.44	1.78
9	2	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	0.54
10	10	G58FW	5/8" HDG USS FLATWASHER	1/8 in	0.07	0.70
11	18	G58LW	5/8" HDG LOCKWASHER		0.03	0.47
12	20	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	2.60
					TOTAL WT. #	47.61



TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES (Ñ0.030")
DRILLED AND GAS CUT HOLES (Ñ0.030") - NO CONING OF HOLES
LASER CUT EDGES AND HOLES (Ñ0.010") - NO CONING OF HOLES
BENDS ARE Ñ1/2 DEGREE
ALL OTHER MACHINING (Ñ0.030")
ALL OTHER ASSEMBLY (Ñ0.060")

DESCRIPTION
SLIDING PIPE
TIE BACK ASSEMBLY
(NO PIPE)

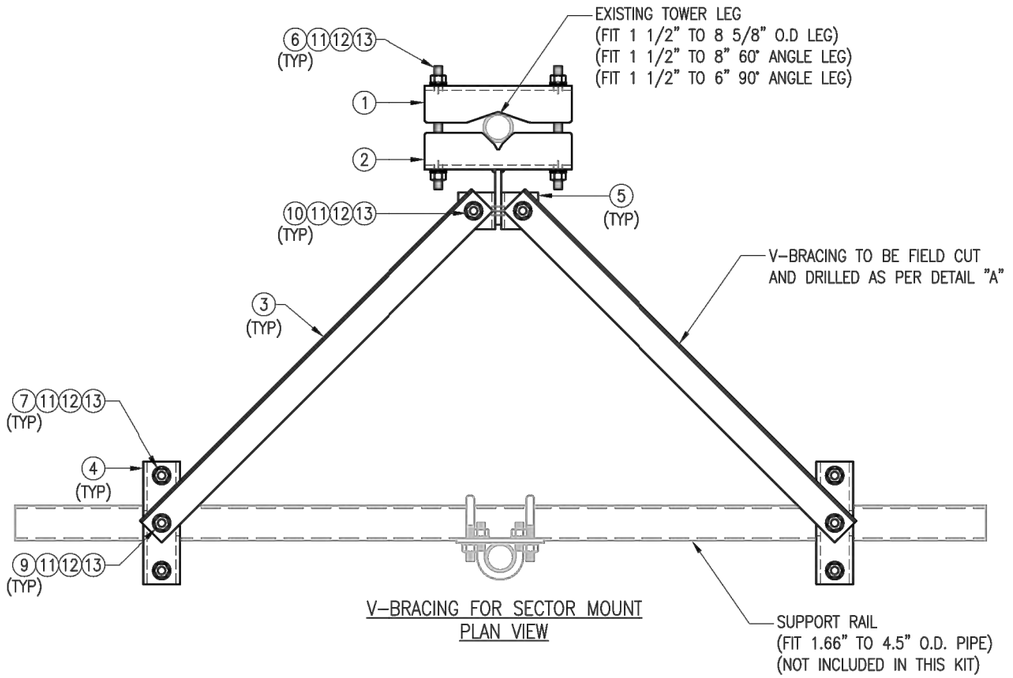
SITE PRO 1
A valmont COMPANY

Engineering
Support Team:
1-888-753-7446

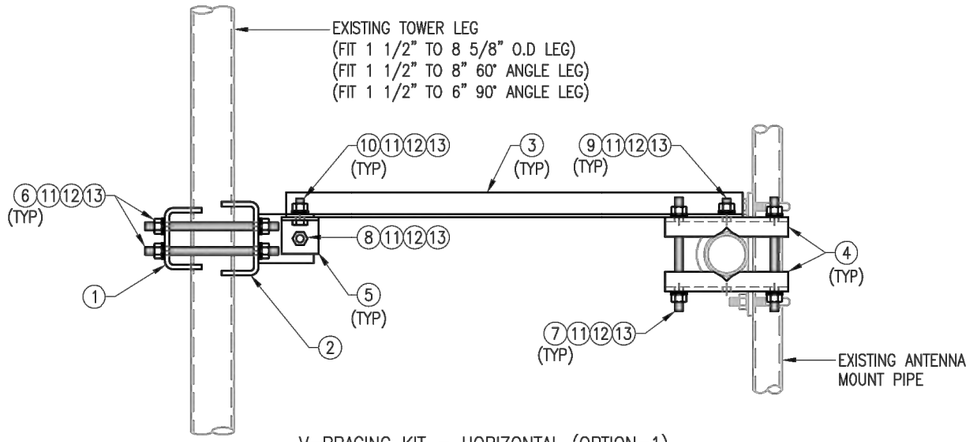
Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Salem, OR
Dallas, TX

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
	CSL 1/7/2020		SPTB278-NP

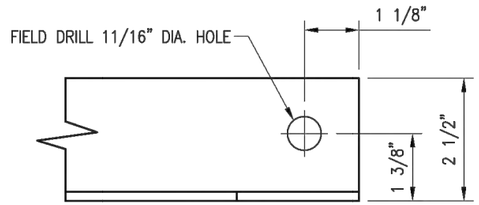
CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87	02	CUSTOMER	BMC 2/19/2019	SPTB278-NP



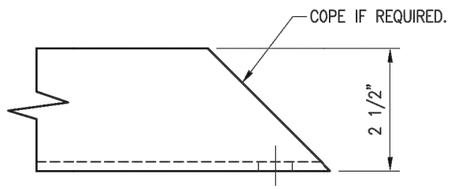
V-BRACING FOR SECTOR MOUNT
PLAN VIEW



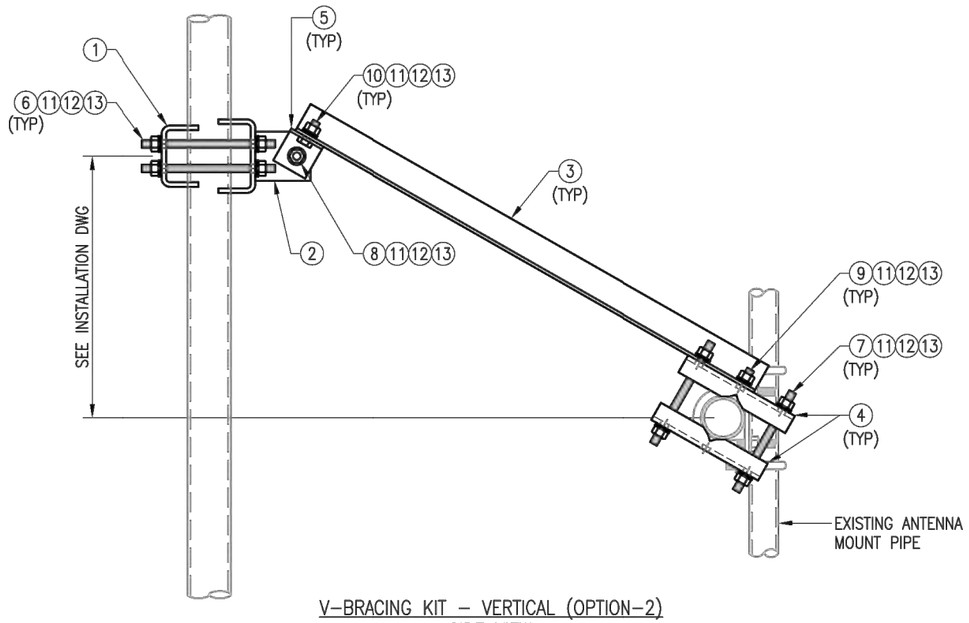
V-BRACING KIT – HORIZONTAL (OPTION-1)
SIDE VIEW



PLAN VIEW



FRONT VIEW
DETAIL "A"



V-BRACING KIT – VERTICAL (OPTION-2)
SIDE VIEW

VZWSMART-SFK3 (V-BRACING KIT)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	BP9625-12	PL 3/8" X 9 5/8" X 1'-0" A36 BENT PLATE	VBSM-F1	12
2	1	BRKW-VBSM	WELDMENT BRACKET	VBSM-F3	16
3	2	L252525-8	L 2 1/2" X 2 1/2" X 1/4" X 8'-0" A36	VBSM-F5	67
4	4	BP6875-10	PL 3/8" X 6 7/8" X 10" A36 BENT PLATE	VBSM-F2	20
5	2	AL-333	L 3" X 3" X 1/4" X 3" A36	VBSM-F2	3
6	4	---	THREADED ROD 5/8" DIA. X 1'-6" F1554-36 HDG	---	--
7	4	---	THREADED ROD 5/8" DIA. X 10" F1554-36 HDG	---	--
8	1	---	BOLT 5/8" X 2 1/4" A325	---	--
9	2	---	BOLT 5/8" X 2" A325	---	--
10	2	---	BOLT 5/8" X 1 3/4" A325	---	--
11	21	FW-625	5/8" HDG USS FLAT WASHER	---	2
12	21	LW-625	5/8" HDG LOCK WASHER	---	0
13	21	NUT-625	5/8" HDG HEX NUT	---	2
				GALVANIZED WT	122

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

VzW SMART Tool© Vendor

verizon

DRAWN BY: H.R. | CHECKED BY: HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	H.R.	05/08/20

SHEET TITLE:
VZWSMART-SFK3
V-BRACING KIT

SHEET NUMBER: VZWSMART-SFK3

REV #: 0


04.20.2021 15:23

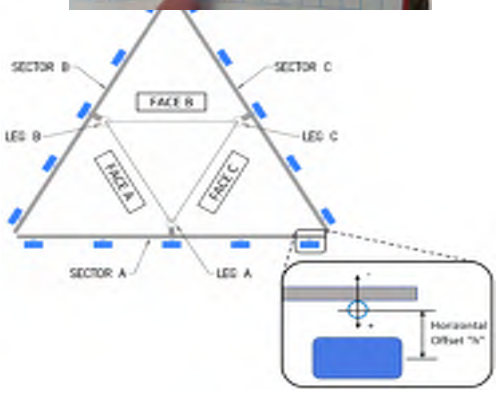

10/07/2021 10:42

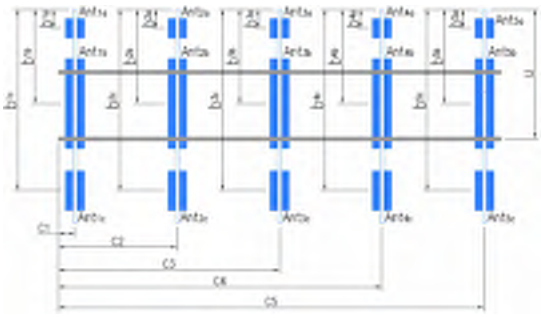
V4.0 Updated on 3-31-2021

Antenna Mount Mapping Form (PATENT PENDING)

FCC #

Tower Owner:	Bruce Golf Course	**Mapping Date:**	10/7/2021
Site Name:	Bruces CT	**Tower Type:**	Self Support
Site Number or ID:	2155969	**Tower Height (Ft.):**	100
Mapping Contractor:	Structural Components	**Mount Elevation (Ft.):**	98





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	2.375 x .154 x 84	78.00	3.50	C1			
A2	2.375 x .154 x 84	78.00	31.50	C2			
A3	2.375 x .154 x 84	78.00	71.50	C3			
A4	2.375 x .154 x 84	78.00	108.50	C4			
A5	2.375 x .154 x 84	78.00	141.00	C5			
A6				C6			
B1	2.375 x .154 x 84	78.00	3.50	D1			
B2	2.375 x .154 x 84	78.00	31.50	D2			
B3	2.375 x .154 x 84	78.00	71.50	D3			
B4	2.375 x .154 x 84	78.00	108.50	D4			
B5	2.375 x .154 x 84	78.00	141.00	D5			
B6				D6			

Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :	15.00
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :	0
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :	27

Please enter additional infomation or comments below.

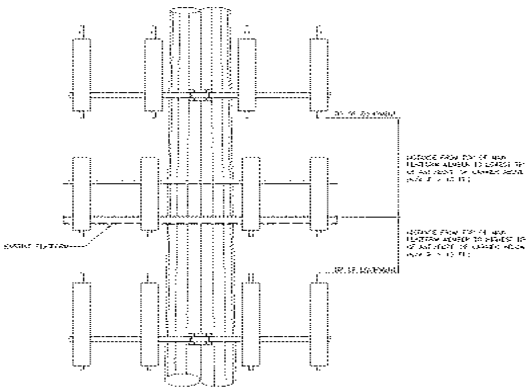
Tower Face Width at Mount Elev. (ft.):	160	Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):	2.875

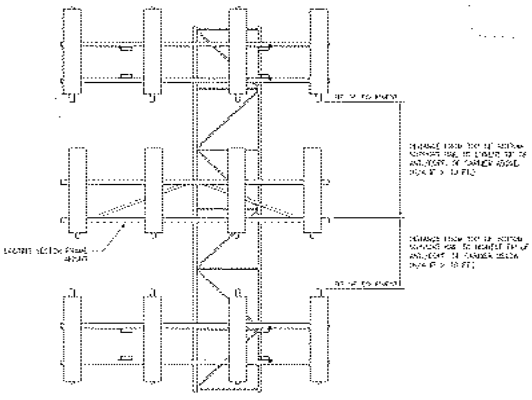
For T-Arms/Platforms on monopoles, report the weld size from the main standoff to the plate bolting into the collar mount.

	Enter antenna model. If not labeled, enter "Unknown".						Mounting Locations [Units are inches and degrees]			Photos of antennas
Ants. Items	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Vertical Distances"b_{1a}, b_{2a}, b_{3a}, b_{1b}...." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photo Numbers
Sector A										
Ant_{1a}										
Ant_{1b}	UNKNOWN	6.50	8.00	48.00	(1) 7/8 tx	99.0833	50.00	7.50	0.00	36
Ant_{1c}										
Ant_{2a}										
Ant_{2b}	HBXX-6516DS-A2M	12.00	6.50	51.00	jumpers	99.25	48.00	9.00	0.00	36
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	80010734V01	12.00	4.00	53.00	jumpers	99.375	46.50	4.00	0.00	36
Ant_{3c}	RF101002	15.00	9.00	16.00	jumpers	100.875	28.50	-8.50		
Ant_{4a}										
Ant_{4b}	HBXX-6516DS-A2M	12.00	6.50	51.00	0	99.25	48.00	9.00	0.00	36
Ant_{4c}										
Ant_{5a}										
Ant_{5b}	UNKNOWN	6.50	8.00	48.00	(1) 7/8 tx	99.0833	50.00	9.00	0.00	36
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower	9442RRH2x40-AWS	12.00	8.00	25.00		99				52
Ant on Tower										

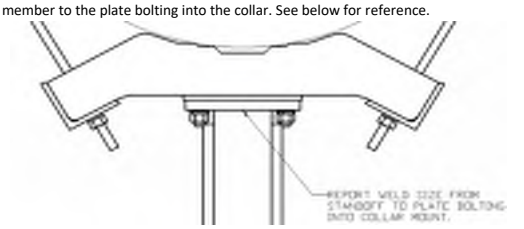
Mount Azimuth (Degree) for Each Sector			Tower Leg Azimuth (Degree) for Each Sector		
Sector A:	0.00	Deg	Leg A:	330.00	Deg
Sector B:	90.00	Deg	Leg B:	90.00	Deg
Sector C:		Deg	Leg C:	210.00	Deg
Sector D:		Deg	Leg D:		Deg

Climbing Facility Information		
Location:	210.00 Deg	Sector C
Climbing Facility	Corrosion Type:	Good condition.
	Access:	Climbing path was obstructed.
	Condition:	Good condition.





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



Sector B										
Ant_{1a}										
Ant_{1b}	UNKNOWN	6.50	8.00	48.00	(1) 7/8 tx	99.0833	50.00	7.50	0.00	54
Ant_{1c}										
Ant_{2a}										54
Ant_{2b}	HBXX-6516DS-A2M	12.00	6.50	51.00	jumpers	99.25	48.00	9.00	0.00	54
Ant_{2c}										
Ant_{3a}										54
Ant_{3b}	80010734V01	12.00	4.00	53.00	jumpers	99.375	46.50	4.00	0.00	
Ant_{3c}	RF101002	15.00	9.00	16.00	jumpers	100.875	28.50	-8.50		
Ant_{4a}										
Ant_{4b}	HBXX-6516DS-A2M	12.00	6.50	51.00	0	99.25	48.00	9.00	0.00	55
Ant_{4c}										
Ant_{5a}										
Ant_{5b}	UNKNOWN	6.50	8.00	48.00	(1) 7/8 tx	99.0833	50.00	9.00	0.00	55
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower	9442RRH2x40-AWS	12.00	8.00	25.00		99				54
Ant on Tower										
Sector C										
Ant_{1a}										
Ant_{1b}										
Ant_{1c}										
Ant_{2a}										
Ant_{2b}										
Ant_{2c}										
Ant_{3a}										
Ant_{3b}										
Ant_{3c}										
Ant_{4a}										
Ant_{4b}										
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower	RRFDC-3315-PF-48	14.00	9.00	19.00	..5" Hybri	99				62
Ant on Tower										
Sector D										
Ant_{1a}										
Ant_{1b}										
Ant_{1c}										
Ant_{2a}										
Ant_{2b}										
Ant_{2c}										
Ant_{3a}										
Ant_{3b}										
Ant_{3c}										
Ant_{4a}										
Ant_{4b}										
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										

Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #
1	loose hardware on mount to leg connection Alpha	
2	very rusty antenna hardware pos 1 and 5 both sectors	84
3		
4		
5		
6		
7		
8		

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

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

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

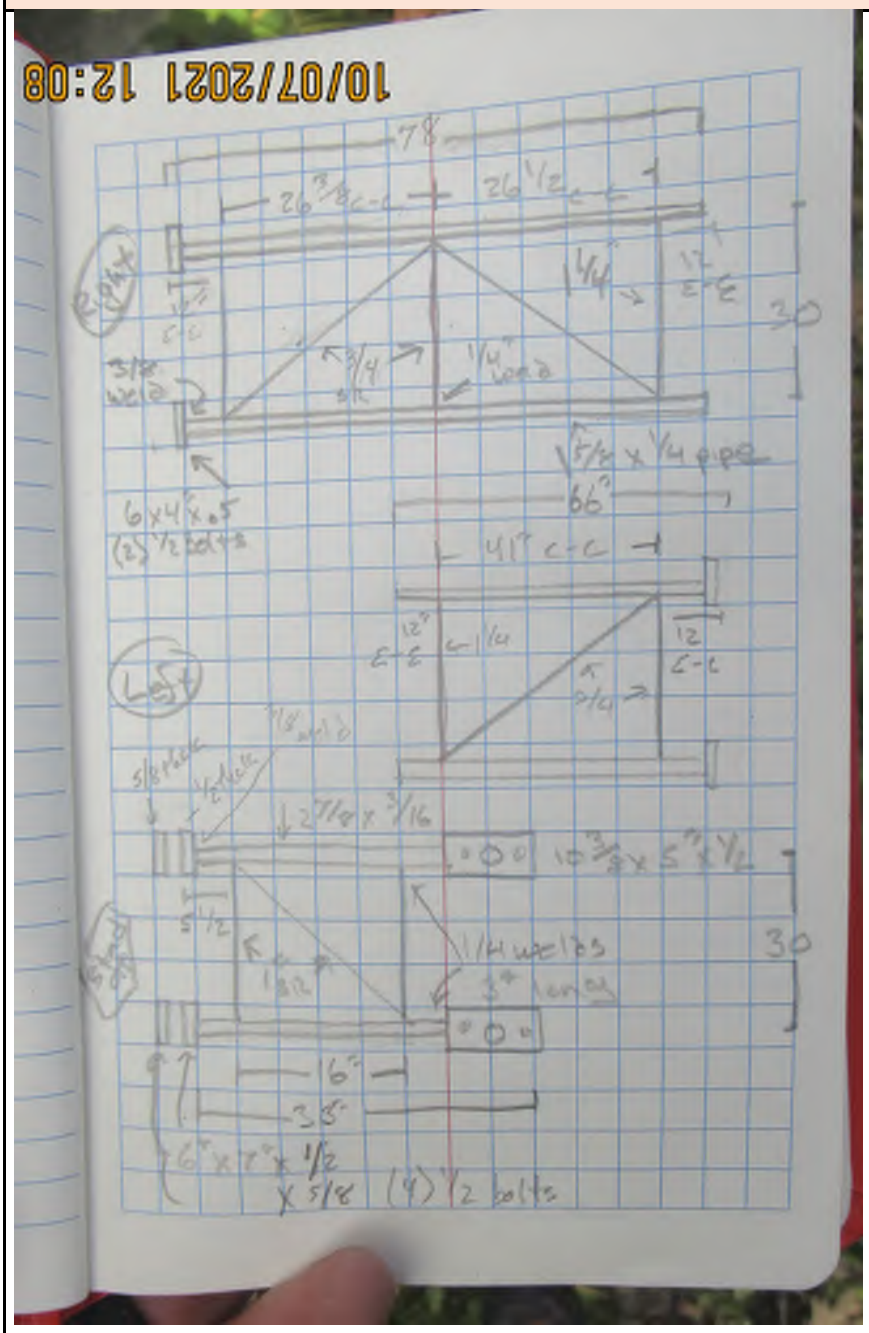
V4.0 Updated on 3-31-2021

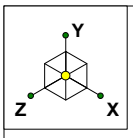
Antenna Mount Mapping Form (PATENT PENDING)

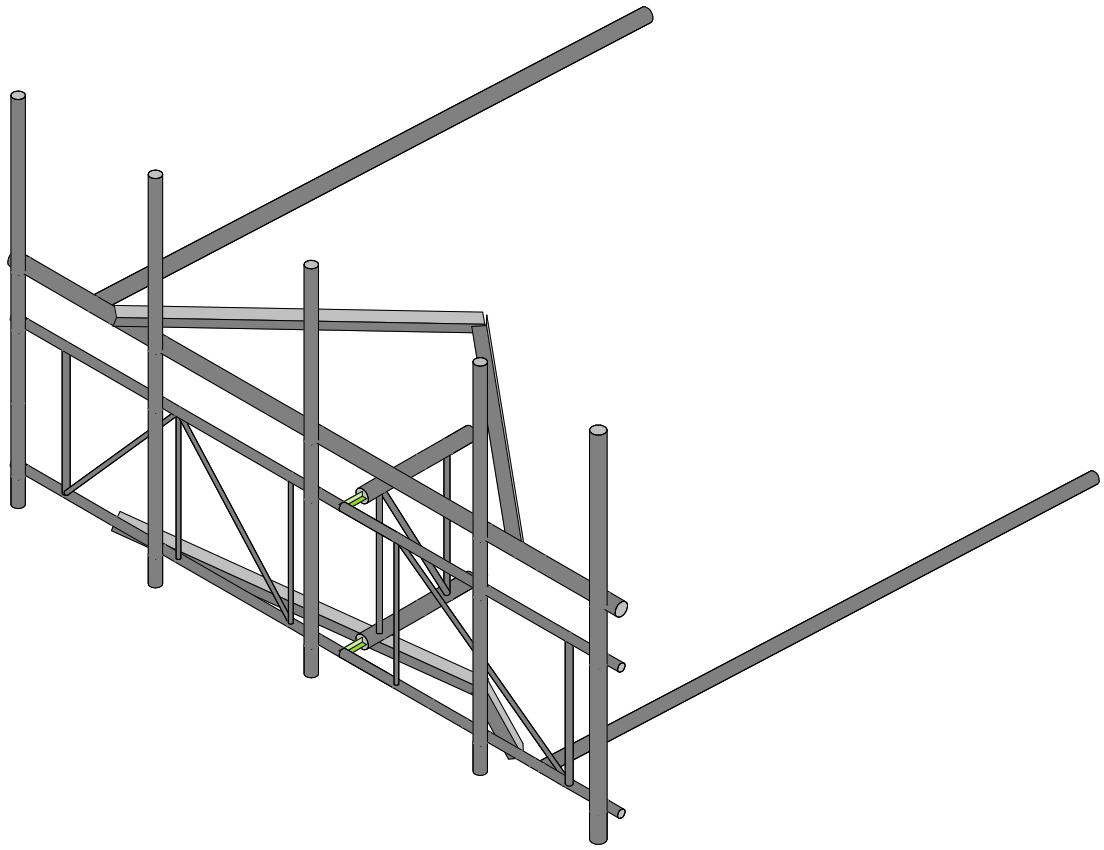
FCC #

Tower Owner:	Bruce Golf Course	**Mapping Date:**	10/7/2021
Site Name:	Bruces CT	**Tower Type:**	Self Support
Site Number or ID:	2155969	**Tower Height (Ft.):**	100
Mapping Contractor:	Structural Components	**Mount Elevation (Ft.):**	98

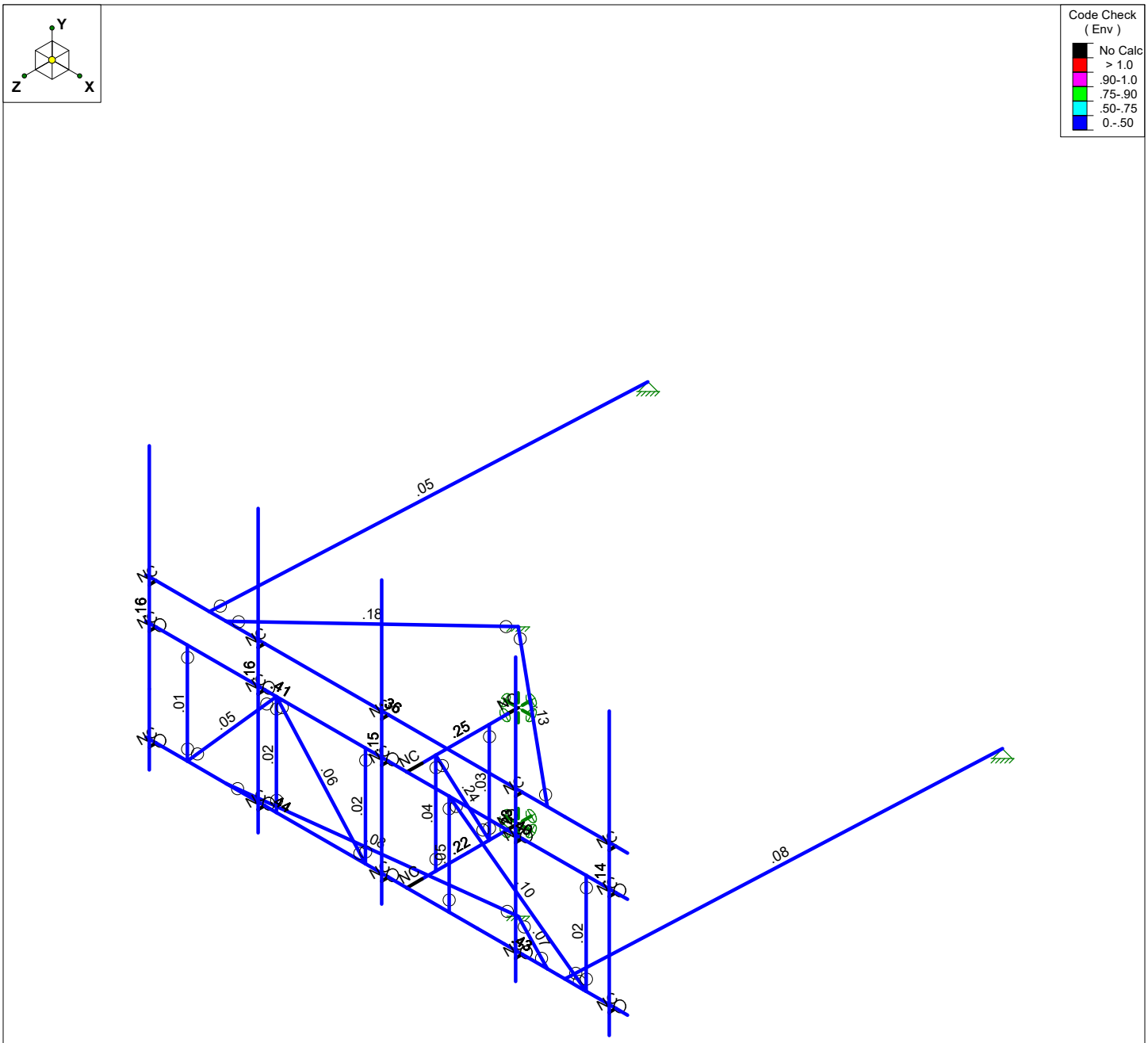
Please Insert Sketches of the Antenna Mount





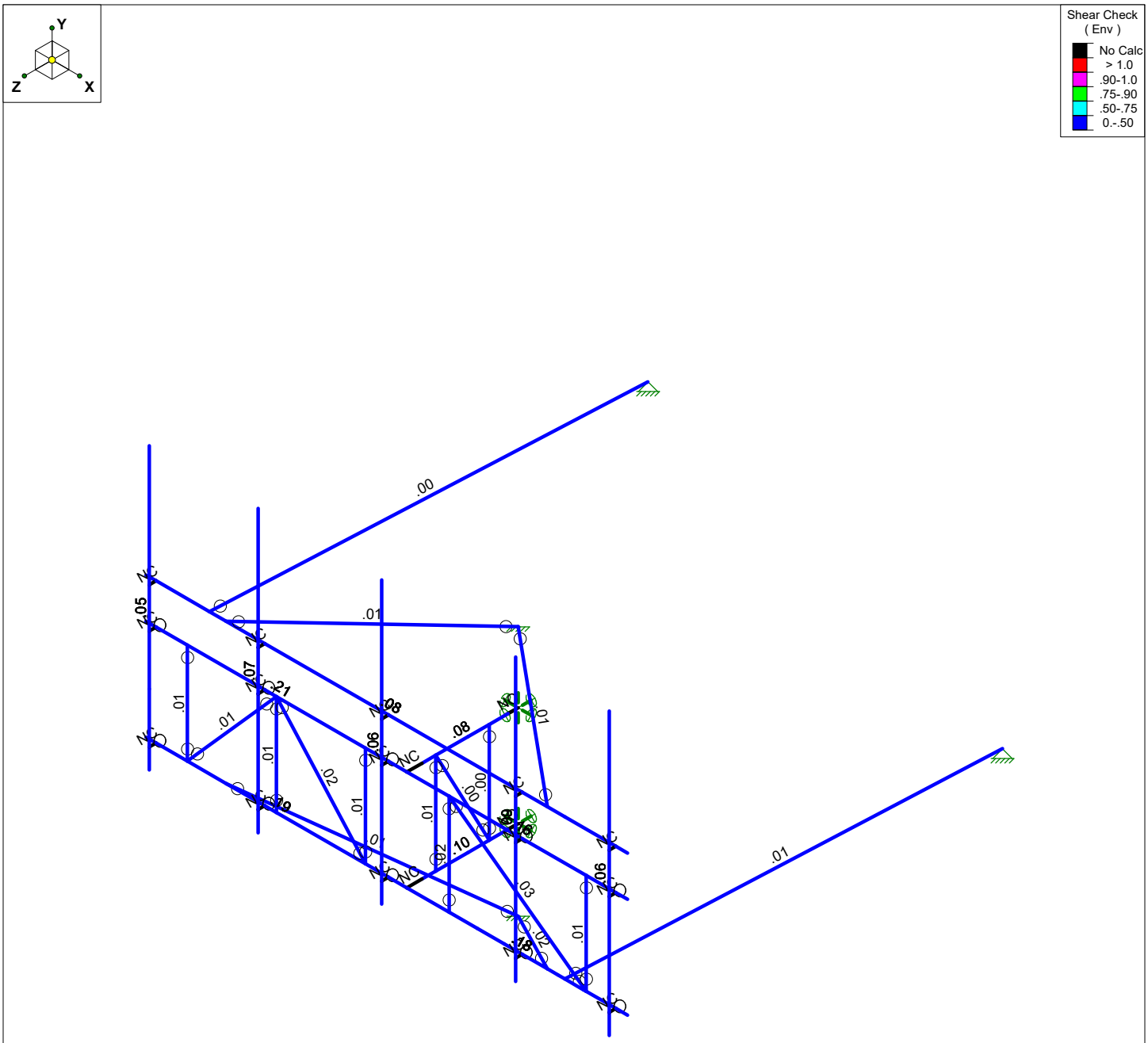


		SK - 1
		Feb 2, 2022 at 4:06 PM
		467320-VZW_MT_LOT_A_H_load...



Member Code Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.0Wo (0 Deg)

		SK - 2
		Feb 2, 2022 at 4:06 PM
		467320-VZW_MT_LOT_A_H_load...



Member Shear Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.0Wo (0 Deg)

		SK - 3
		Feb 2, 2022 at 4:06 PM
		467320-VZW_MT_LOT_A_H_load...

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Antenna D	None					30			
2	Antenna Di	None					30			
3	Antenna Wo (0 Deg)	None					30			
4	Antenna Wo (30 Deg)	None					30			
5	Antenna Wo (60 Deg)	None					30			
6	Antenna Wo (90 Deg)	None					30			
7	Antenna Wo (120 Deg)	None					30			
8	Antenna Wo (150 Deg)	None					30			
9	Antenna Wo (180 Deg)	None					30			
10	Antenna Wo (210 Deg)	None					30			
11	Antenna Wo (240 Deg)	None					30			
12	Antenna Wo (270 Deg)	None					30			
13	Antenna Wo (300 Deg)	None					30			
14	Antenna Wo (330 Deg)	None					30			
15	Antenna Wi (0 Deg)	None					30			
16	Antenna Wi (30 Deg)	None					30			
17	Antenna Wi (60 Deg)	None					30			
18	Antenna Wi (90 Deg)	None					30			
19	Antenna Wi (120 Deg)	None					30			
20	Antenna Wi (150 Deg)	None					30			
21	Antenna Wi (180 Deg)	None					30			
22	Antenna Wi (210 Deg)	None					30			
23	Antenna Wi (240 Deg)	None					30			
24	Antenna Wi (270 Deg)	None					30			
25	Antenna Wi (300 Deg)	None					30			
26	Antenna Wi (330 Deg)	None					30			
27	Antenna Wm (0 Deg)	None					30			
28	Antenna Wm (30 Deg)	None					30			
29	Antenna Wm (60 Deg)	None					30			
30	Antenna Wm (90 Deg)	None					30			
31	Antenna Wm (120 Deg)	None					30			
32	Antenna Wm (150 Deg)	None					30			
33	Antenna Wm (180 Deg)	None					30			
34	Antenna Wm (210 Deg)	None					30			
35	Antenna Wm (240 Deg)	None					30			
36	Antenna Wm (270 Deg)	None					30			
37	Antenna Wm (300 Deg)	None					30			
38	Antenna Wm (330 Deg)	None					30			
39	Structure D	None		-1						
40	Structure Di	None						29		
41	Structure Wo (0 Deg)	None						58		
42	Structure Wo (30 Deg)	None						58		
43	Structure Wo (60 Deg)	None						58		
44	Structure Wo (90 Deg)	None						58		
45	Structure Wo (120 D...	None						58		
46	Structure Wo (150 D...	None						58		
47	Structure Wo (180 D...	None						58		
48	Structure Wo (210 D...	None						58		
49	Structure Wo (240 D...	None						58		
50	Structure Wo (270 D...	None						58		
51	Structure Wo (300 D...	None						58		
52	Structure Wo (330 D...	None						58		
53	Structure Wi (0 Deg)	None						58		
54	Structure Wi (30 Deg)	None						58		
55	Structure Wi (60 Deg)	None						58		
56	Structure Wi (90 Deg)	None						58		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
57	Structure Wi (120 De...	None						58		
58	Structure Wi (150 De...	None						58		
59	Structure Wi (180 De...	None						58		
60	Structure Wi (210 De...	None						58		
61	Structure Wi (240 De...	None						58		
62	Structure Wi (270 De...	None						58		
63	Structure Wi (300 De...	None						58		
64	Structure Wi (330 De...	None						58		
65	Structure Wm (0 Deg)	None						58		
66	Structure Wm (30 De...	None						58		
67	Structure Wm (60 De...	None						58		
68	Structure Wm (90 De...	None						58		
69	Structure Wm (120 D...	None						58		
70	Structure Wm (150 D...	None						58		
71	Structure Wm (180 D...	None						58		
72	Structure Wm (210 D...	None						58		
73	Structure Wm (240 D...	None						58		
74	Structure Wm (270 D...	None						58		
75	Structure Wm (300 D...	None						58		
76	Structure Wm (330 D...	None						58		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					30			
82	Antenna Eh (0 Deg)	None					20			
83	Antenna Eh (90 Deg)	None					20			
84	Structure Ev	ELY								
85	Structure Eh (0 Deg)	ELZ			-.03					
86	Structure Eh (90 Deg)	ELX	.03							

Load Combinations

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	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 (0 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1	53	1										
14	1.2D + 1.0Di + 1.0Wi (30 De...	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1										
15	1.2D + 1.0Di + 1.0Wi (60 De...	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1										
16	1.2D + 1.0Di + 1.0Wi (90 De...	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1										
17	1.2D + 1.0Di + 1.0Wi (120 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1										
18	1.2D + 1.0Di + 1.0Wi (150 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1										
19	1.2D + 1.0Di + 1.0Wi (180 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1										
20	1.2D + 1.0Di + 1.0Wi (210 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1										
21	1.2D + 1.0Di + 1.0Wi (240 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1										
22	1.2D + 1.0Di + 1.0Wi (270 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	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...	B...	Fa...
23	1.2D + 1.0Di + 1.0Wi (300 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1								
24	1.2D + 1.0Di + 1.0Wi (330 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1								
25	1.2D + 1.5Lm1 + 1.0Wm (0 ...	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1										
26	1.2D + 1.5Lm1 + 1.0Wm (30...	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1										
27	1.2D + 1.5Lm1 + 1.0Wm (60...	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1										
28	1.2D + 1.5Lm1 + 1.0Wm (90...	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1										
29	1.2D + 1.5Lm1 + 1.0Wm (12...	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1										
30	1.2D + 1.5Lm1 + 1.0Wm (15...	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1										
31	1.2D + 1.5Lm1 + 1.0Wm (18...	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1										
32	1.2D + 1.5Lm1 + 1.0Wm (21...	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1										
33	1.2D + 1.5Lm1 + 1.0Wm (24...	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1										
34	1.2D + 1.5Lm1 + 1.0Wm (27...	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1										
35	1.2D + 1.5Lm1 + 1.0Wm (30...	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1										
36	1.2D + 1.5Lm1 + 1.0Wm (33...	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1										
37	1.2D + 1.5Lm2 + 1.0Wm (0 ...	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1										
38	1.2D + 1.5Lm2 + 1.0Wm (30...	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1										
39	1.2D + 1.5Lm2 + 1.0Wm (60...	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1										
40	1.2D + 1.5Lm2 + 1.0Wm (90...	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1										
41	1.2D + 1.5Lm2 + 1.0Wm (12...	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1										
42	1.2D + 1.5Lm2 + 1.0Wm (15...	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1										
43	1.2D + 1.5Lm2 + 1.0Wm (18...	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1										
44	1.2D + 1.5Lm2 + 1.0Wm (21...	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1										
45	1.2D + 1.5Lm2 + 1.0Wm (24...	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1										
46	1.2D + 1.5Lm2 + 1.0Wm (27...	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1										
47	1.2D + 1.5Lm2 + 1.0Wm (30...	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1										
48	1.2D + 1.5Lm2 + 1.0Wm (33...	Yes	Y		1	1.2	39	1.2	78	1.5	38	1	76	1										
49	1.2D + 1.5Lv1	Yes	Y		1	1.2	39	1.2	79	1.5														
50	1.2D + 1.5Lv2	Yes	Y		1	1.2	39	1.2	80	1.5														
51	1.4D	Yes	Y		1	1.4	39	1.4																
52	1.2D + 1.0Ev + 1.0Eh (0 Deg)	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	1	83		E...	1	E...					
53	1.2D + 1.0Ev + 1.0Eh (30 D...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.866	83	.5	E...	.866	E...	.5				
54	1.2D + 1.0Ev + 1.0Eh (60 D...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.5	83	.866	E...	.5	E...	.866				
55	1.2D + 1.0Ev + 1.0Eh (90 D...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	1	E...		E...	1				
56	1.2D + 1.0Ev + 1.0Eh (120 ...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.5	83	.866	E...	-.5	E...	.866				
57	1.2D + 1.0Ev + 1.0Eh (150 ...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.8...	83	.5	E...	-.8...	E...	.5				
58	1.2D + 1.0Ev + 1.0Eh (180 ...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-1	83		E...	-1	E...					
59	1.2D + 1.0Ev + 1.0Eh (210 ...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.8...	83	-.5	E...	-.8...	E...	-.5				
60	1.2D + 1.0Ev + 1.0Eh (240 ...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.5	83	-.8...	E...	-.5	E...	-.8...				
61	1.2D + 1.0Ev + 1.0Eh (270 ...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	-1	E...		E...	-1				
62	1.2D + 1.0Ev + 1.0Eh (300 ...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.5	83	-.8...	E...	.5	E...	-.8...				
63	1.2D + 1.0Ev + 1.0Eh (330 ...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.866	83	-.5	E...	.866	E...	-.5				
64	0.9D - 1.0Ev + 1.0Eh (0 Deg)	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	1	83		E...	1	E...					
65	0.9D - 1.0Ev + 1.0Eh (30 De...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.866	83	.5	E...	.866	E...	.5				
66	0.9D - 1.0Ev + 1.0Eh (60 De...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.5	83	.866	E...	.5	E...	.866				
67	0.9D - 1.0Ev + 1.0Eh (90 De...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	1	E...		E...	1				
68	0.9D - 1.0Ev + 1.0Eh (120 D...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.5	83	.866	E...	-.5	E...	.866				
69	0.9D - 1.0Ev + 1.0Eh (150 D...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.8...	83	.5	E...	-.8...	E...	.5				
70	0.9D - 1.0Ev + 1.0Eh (180 D...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-1	83		E...	-1	E...					
71	0.9D - 1.0Ev + 1.0Eh (210 D...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.8...	83	-.5	E...	-.8...	E...	-.5				
72	0.9D - 1.0Ev + 1.0Eh (240 D...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.5	83	-.8...	E...	-.5	E...	-.8...				
73	0.9D - 1.0Ev + 1.0Eh (270 D...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	-1	E...		E...	-1				
74	0.9D - 1.0Ev + 1.0Eh (300 D...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.5	83	-.8...	E...	.5	E...	-.8...				
75	0.9D - 1.0Ev + 1.0Eh (330 D...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.866	83	-.5	E...	.866	E...	-.5				

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	0	0	0.979167	0	
2	N2	0	0	3.5	0	
3	N3	0	0	3.125	0	
4	N4	5.5	0	3.5	0	
5	N5	-6.5	0	3.5	0	
6	N6	0	0	2.78125	0	
7	N7	0	0	1.447917	0	
8	N8	0	0	0.729167	0	
9	N9	0	2.5	0.979167	0	
10	N10	0	2.5	3.5	0	
11	N11	0	2.5	3.125	0	
12	N12	5.5	2.5	3.5	0	
13	N13	-6.5	2.5	3.5	0	
14	N14	0	2.5	2.78125	0	
15	N15	0	2.5	1.447917	0	
16	N16	0	2.5	0.729167	0	
17	N27	5.208333	0	3.5	0	
18	N28	5.208333	2.5	3.5	0	
19	N33	5.208333	0	3.666667	0	
20	N34	5.208333	2.5	3.666667	0	
21	N37	5.208333	6.5	3.666667	0	
22	N40	5.208333	-.5	3.666667	0	
23	N41	1.052083	0	3.5	0	
24	N42	1.052083	2.5	3.5	0	
25	N43	-3.25	0	3.5	0	
26	N44	-3.25	2.5	3.5	0	
27	N45	-5.46875	0	3.5	0	
28	N46	-5.46875	2.5	3.5	0	
29	N47	4.46875	0	3.5	0	
30	N48	4.46875	2.5	3.5	0	
31	N53	-1.03125	0	3.5	0	
32	N54	-1.03125	2.5	3.5	0	
33	N55	3.9375	0	3.5	0	
34	N56	-4.916667	3.5	3.5	0	
35	N54A	-4.416667	3.5	-6.920724	0	
36	N55B	4.416667	0	-6.920724	0	
37	N37A	2.875	0	3.5	0	
38	N38	2.875	2.5	3.5	0	
39	N39	2.875	0	3.666667	0	
40	N40A	2.875	2.5	3.666667	0	
41	N41A	2.875	6.5	3.666667	0	
42	N42A	2.875	-.5	3.666667	0	
43	N43A	-0.458333	0	3.5	0	
44	N44A	-0.458333	2.5	3.5	0	
45	N45A	-0.458333	0	3.666667	0	
46	N46A	-0.458333	2.5	3.666667	0	
47	N47A	-0.458333	6.5	3.666667	0	
48	N48A	-0.458333	-.5	3.666667	0	
49	N49	-3.541667	0	3.5	0	
50	N50	-3.541667	2.5	3.5	0	
51	N51	-3.541667	0	3.666667	0	
52	N52	-3.541667	2.5	3.666667	0	
53	N53A	-3.541667	6.5	3.666667	0	
54	N54B	-3.541667	-.5	3.666667	0	
55	N55A	-6.25	0	3.5	0	
56	N56A	-6.25	2.5	3.5	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
57	N57	-6.25	0	3.666667	0	
58	N58	-6.25	2.5	3.666667	0	
59	N59	-6.25	6.5	3.666667	0	
60	N60	-6.25	-.5	3.666667	0	
61	N61	-4.5	0	3.5	0	
62	N63	-4.5	3.5	3.5	0	
63	N63A	3.5	0	3.5	0	
64	N64	3.5	3.5	3.5	0	
65	N65	0	4.25	0.729167	0	
66	N66	0	-2	0.729167	0	
67	N67	-6.25	1.25	3.666667	0	
68	N68	0	2.5	1.979167	0	
69	N70	0	0	1.979167	0	
70	N72	0.229167	-.5	1.979167	0	
71	N71	5.5	3.5	3.5	0	
72	N72A	-6.5	3.5	3.5	0	
73	N73	5.208333	3.5	3.5	0	
74	N74	5.208333	3.5	3.666667	0	
75	N75	2.875	3.5	3.5	0	
76	N76	2.875	3.5	3.666667	0	
77	N77	-0.458333	3.5	3.5	0	
78	N78	-0.458333	3.5	3.666667	0	
79	N79	-3.541667	3.5	3.5	0	
80	N80	-3.541667	3.5	3.666667	0	
81	N81	-6.25	3.5	3.5	0	
82	N82	-6.25	3.5	3.666667	0	
83	N85	3.9375	3.5	3.5	0	
84	N85A	4.4	0	3.5	0	
85	N86A	3.758333	0	3.5	0	
86	N87	2.425	0	3.5	0	
87	N88	1.754167	0	3.5	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Mount Pipe	PIPE_2.0	Beam	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
2	Dual Mount Pipe	PIPE_2.5	Beam	Pipe	A53 Gr. B	Typical	1.61	1.45	1.45	2.89
3	Tieback	PIPE_2.0	Beam	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
4	Mod Tieback	PIPE_2.5X	Beam	Pipe	A53 Gr. B	Typical	2.1	1.83	1.83	3.66
5	Mast Pipe	PIPE_4.0	Beam	Pipe	A53 Gr. B	Typical	2.96	6.82	6.82	13.6
6	Standoff Horizontal	PIPE_2.5	Beam	Pipe	A53 Gr. B	Typical	1.61	1.45	1.45	2.89
7	Face Horizontal	PIPE_1.25	Beam	Pipe	A53 Gr. B	Typical	.625	.184	.184	.368
8	Vertical Face Bracing	SR_1.25	Beam	BAR	A36 Gr.36	Typical	1.227	.12	.12	.24
9	Standoff Bracing	SR_1	Beam	BAR	A36 Gr.36	Typical	.785	.049	.049	.098
10	Mod Angle	L2.5x2.5x4	Beam	BAR	A36 Gr.36	Typical	1.19	.692	.692	.026
11	Face Bracing	SR_0.75	Beam	BAR	A36 Gr.36	Typical	.442	.016	.016	.031
12	Standoff Plate	PL1/2x5	Beam	BAR	A36 Gr.36	Typical	2.5	.052	5.208	.195
13	Proposed FH	PIPE_2.5	Beam	Pipe	A53 Gr. B	Typical	1.61	1.45	1.45	2.89
14	Projsed Tieback	PIPE_2.5	Beam	Pipe	A53 Gr. B	Typical	1.61	1.45	1.45	2.89

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1...	Density[k/...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A53 Gr. B	29000	11154	.3	.65	.49	35	1.5	60	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1

Hot Rolled Steel Properties (Continued)

	Label	E [ksi]	G [ksi]	Nu	Therm (/1...	Density[k/...	Yield[ksi]	Ry	Fu[ksi]	Rt
4	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
5	A500 Gr. B 42	29000	11154	.3	.65	.49	42	1.4	58	1.3
6	A500 Gr. B 46	29000	11154	.3	.65	.49	46	1.4	58	1.3

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N3			Standoff Horiz...	Beam	Pipe	A53 Gr. B	Typical
2	M2	N3	N2			RIGID	None	None	RIGID	Typical
3	M3	N5	N2			Face Horizontal	Beam	Pipe	A53 Gr. B	Typical
4	M4	N2	N4			Face Horizontal	Beam	Pipe	A53 Gr. B	Typical
5	M5	N1	N8			RIGID	None	None	RIGID	Typical
6	M6	N9	N11			Standoff Horiz...	Beam	Pipe	A53 Gr. B	Typical
7	M7	N11	N10			RIGID	None	None	RIGID	Typical
8	M8	N13	N10			Face Horizontal	Beam	Pipe	A53 Gr. B	Typical
9	M9	N10	N12			Face Horizontal	Beam	Pipe	A53 Gr. B	Typical
10	M10	N9	N16			RIGID	None	None	RIGID	Typical
11	M14	N6	N14			Standoff Braci...	Beam	BAR	A36 Gr.36	Typical
12	M15	N7	N15			Standoff Braci...	Beam	BAR	A36 Gr.36	Typical
13	M16	N14	N7			Standoff Braci...	Beam	BAR	A36 Gr.36	Typical
14	M21	N28	N34			RIGID	None	None	RIGID	Typical
15	M22	N27	N33			RIGID	None	None	RIGID	Typical
16	MP1A	N37	N40			Dual Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
17	M26	N45	N46			Vertical Face ...	Beam	BAR	A36 Gr.36	Typical
18	M27	N43	N44			Face Bracing	Beam	BAR	A36 Gr.36	Typical
19	M28	N41	N42			Face Bracing	Beam	BAR	A36 Gr.36	Typical
20	M29	N47	N48			Vertical Face ...	Beam	BAR	A36 Gr.36	Typical
21	M30	N44	N45			Face Bracing	Beam	BAR	A36 Gr.36	Typical
22	M31	N42	N47			Face Bracing	Beam	BAR	A36 Gr.36	Typical
23	M34	N54	N53			Face Bracing	Beam	BAR	A36 Gr.36	Typical
24	M35	N53	N44			Face Bracing	Beam	BAR	A36 Gr.36	Typical
25	M34A	N56	N54A			Mod Tieback	Beam	Pipe	A53 Gr. B	Typical
26	M35A	N55	N55B			Tieback	Beam	Pipe	A53 Gr. B	Typical
27	M27A	N38	N40A			RIGID	None	None	RIGID	Typical
28	M28A	N37A	N39			RIGID	None	None	RIGID	Typical
29	MP2A	N41A	N42A			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
30	M30A	N44A	N46A			RIGID	None	None	RIGID	Typical
31	M31A	N43A	N45A			RIGID	None	None	RIGID	Typical
32	MP3A	N47A	N48A			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
33	M33	N50	N52			RIGID	None	None	RIGID	Typical
34	M34B	N49	N51			RIGID	None	None	RIGID	Typical
35	MP4A	N53A	N54B			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
36	M36	N56A	N58			RIGID	None	None	RIGID	Typical
37	M37	N55A	N57			RIGID	None	None	RIGID	Typical
38	MP5A	N59	N60			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
39	M39	N63	N65			Mod Angle	Beam	BAR	A36 Gr.36	Typical
40	M40	N65	N64			Mod Angle	Beam	BAR	A36 Gr.36	Typical
41	M41	N61	N66			Mod Angle	Beam	BAR	A36 Gr.36	Typical
42	M42	N66	N63A			Mod Angle	Beam	BAR	A36 Gr.36	Typical
43	M43	N73	N74			RIGID	None	None	RIGID	Typical
44	M44	N75	N76			RIGID	None	None	RIGID	Typical
45	M45	N77	N78			RIGID	None	None	RIGID	Typical
46	M46	N79	N80			RIGID	None	None	RIGID	Typical
47	M47	N81	N82			RIGID	None	None	RIGID	Typical
48	M48	N72A	N71			Proposed FH	Beam	Pipe	A53 Gr. B	Typical

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	Standoff Ho...	2.146			Lbyy						Lateral
2	M3	Face Horizo...	6.5			Lbyy						Lateral
3	M4	Face Horizo...	5.5			Lbyy						Lateral
4	M6	Standoff Ho...	2.146			Lbyy						Lateral
5	M8	Face Horizo...	6.5			Lbyy						Lateral
6	M9	Face Horizo...	5.5			Lbyy						Lateral
7	M14	Standoff Br...	2.5			Lbyy			.7	.7		Lateral
8	M15	Standoff Br...	2.5			Lbyy			.7	.7		Lateral
9	M16	Standoff Br...	2.833			Lbyy			.7	.7		Lateral
10	MP1A	Dual Mount ...	7			Lbyy						Lateral
11	M26	Vertical Fac...	2.5			Lbyy						Lateral
12	M27	Face Bracing	2.5			Lbyy			.7	.7		Lateral
13	M28	Face Bracing	2.5			Lbyy			.7	.7		Lateral
14	M29	Vertical Fac...	2.5			Lbyy						Lateral
15	M30	Face Bracing	3.343			Lbyy			.7	.7		Lateral
16	M31	Face Bracing	4.234			Lbyy			.7	.7		Lateral
17	M34	Face Bracing	2.5	.058	.058	Lbyy						Lateral
18	M35	Face Bracing	3.343	.058	.058	Lbyy						Lateral
19	M34A	Mod Tieback	10.433			Lbyy						Lateral
20	M35A	Tieback	10.432			Lbyy						Lateral
21	MP2A	Mount Pipe	7			Lbyy						Lateral
22	MP3A	Mount Pipe	7			Lbyy						Lateral
23	MP4A	Mount Pipe	7			Lbyy						Lateral
24	MP5A	Mount Pipe	7			Lbyy						Lateral
25	M39	Mod Angle	5.338			Lbyy						Lateral
26	M40	Mod Angle	4.527			Lbyy						Lateral
27	M41	Mod Angle	5.65			Lbyy						Lateral
28	M42	Mod Angle	4.892			Lbyy						Lateral
29	M48	Proposed FH	12			Lbyy						Lateral

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-23	2.5
2	MP1A	My	-.011	2.5
3	MP1A	Mz	-.017	2.5
4	MP1A	Y	-23	4.5
5	MP1A	My	-.011	4.5
6	MP1A	Mz	-.017	4.5
7	MP1A	Y	-23	2.5
8	MP1A	My	-.011	2.5
9	MP1A	Mz	.017	2.5
10	MP1A	Y	-23	4.5
11	MP1A	My	-.011	4.5
12	MP1A	Mz	.017	4.5
13	MP5A	Y	-43.55	3
14	MP5A	My	-.022	3
15	MP5A	Mz	0	3
16	MP5A	Y	-43.55	5
17	MP5A	My	-.022	5
18	MP5A	Mz	0	5
19	MP3A	Y	-12.15	2.28
20	MP3A	My	-.006	2.28
21	MP3A	Mz	0	2.28
22	MP3A	Y	-12.15	5.72

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
23	MP3A	My	-.006	5.72
24	MP3A	Mz	0	5.72
25	MP2A	Y	-70.3	1.5
26	MP2A	My	.035	1.5
27	MP2A	Mz	0	1.5
28	MP1A	Y	-74.7	5.25
29	MP1A	My	.037	5.25
30	MP1A	Mz	0	5.25

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-79.455	2.5
2	MP1A	My	-.04	2.5
3	MP1A	Mz	-.06	2.5
4	MP1A	Y	-79.455	4.5
5	MP1A	My	-.04	4.5
6	MP1A	Mz	-.06	4.5
7	MP1A	Y	-79.455	2.5
8	MP1A	My	-.04	2.5
9	MP1A	Mz	.06	2.5
10	MP1A	Y	-79.455	4.5
11	MP1A	My	-.04	4.5
12	MP1A	Mz	.06	4.5
13	MP5A	Y	-34.277	3
14	MP5A	My	-.017	3
15	MP5A	Mz	0	3
16	MP5A	Y	-34.277	5
17	MP5A	My	-.017	5
18	MP5A	Mz	0	5
19	MP3A	Y	-36.574	2.28
20	MP3A	My	-.018	2.28
21	MP3A	Mz	0	2.28
22	MP3A	Y	-36.574	5.72
23	MP3A	My	-.018	5.72
24	MP3A	Mz	0	5.72
25	MP2A	Y	-41.067	1.5
26	MP2A	My	.021	1.5
27	MP2A	Mz	0	1.5
28	MP1A	Y	-43.129	5.25
29	MP1A	My	.022	5.25
30	MP1A	Mz	0	5.25

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	-177.315	2.5
3	MP1A	Mx	.133	2.5
4	MP1A	X	0	4.5
5	MP1A	Z	-177.315	4.5
6	MP1A	Mx	.133	4.5
7	MP1A	X	0	2.5
8	MP1A	Z	-177.315	2.5
9	MP1A	Mx	-.133	2.5
10	MP1A	X	0	4.5
11	MP1A	Z	-177.315	4.5
12	MP1A	Mx	-.133	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
13	MP5A	X	0	3
14	MP5A	Z	-84.436	3
15	MP5A	Mx	0	3
16	MP5A	X	0	5
17	MP5A	Z	-84.436	5
18	MP5A	Mx	0	5
19	MP3A	X	0	2.28
20	MP3A	Z	-102.041	2.28
21	MP3A	Mx	0	2.28
22	MP3A	X	0	5.72
23	MP3A	Z	-102.041	5.72
24	MP3A	Mx	0	5.72
25	MP2A	X	0	1.5
26	MP2A	Z	-67.008	1.5
27	MP2A	Mx	0	1.5
28	MP1A	X	0	5.25
29	MP1A	Z	-67.008	5.25
30	MP1A	Mx	0	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	82.971	2.5
2	MP1A	Z	-143.711	2.5
3	MP1A	Mx	.066	2.5
4	MP1A	X	82.971	4.5
5	MP1A	Z	-143.711	4.5
6	MP1A	Mx	.066	4.5
7	MP1A	X	82.971	2.5
8	MP1A	Z	-143.711	2.5
9	MP1A	Mx	-.149	2.5
10	MP1A	X	82.971	4.5
11	MP1A	Z	-143.711	4.5
12	MP1A	Mx	-.149	4.5
13	MP5A	X	35.795	3
14	MP5A	Z	-62	3
15	MP5A	Mx	-.018	3
16	MP5A	X	35.795	5
17	MP5A	Z	-62	5
18	MP5A	Mx	-.018	5
19	MP3A	X	43.524	2.28
20	MP3A	Z	-75.386	2.28
21	MP3A	Mx	-.022	2.28
22	MP3A	X	43.524	5.72
23	MP3A	Z	-75.386	5.72
24	MP3A	Mx	-.022	5.72
25	MP2A	X	30.223	1.5
26	MP2A	Z	-52.348	1.5
27	MP2A	Mx	.015	1.5
28	MP1A	X	30.727	5.25
29	MP1A	Z	-53.221	5.25
30	MP1A	Mx	.015	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	124.014	2.5
2	MP1A	Z	-71.599	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
3	MP1A	Mx	-.008	2.5
4	MP1A	X	124.014	4.5
5	MP1A	Z	-71.599	4.5
6	MP1A	Mx	-.008	4.5
7	MP1A	X	124.014	2.5
8	MP1A	Z	-71.599	2.5
9	MP1A	Mx	-.116	2.5
10	MP1A	X	124.014	4.5
11	MP1A	Z	-71.599	4.5
12	MP1A	Mx	-.116	4.5
13	MP5A	X	39.752	3
14	MP5A	Z	-22.951	3
15	MP5A	Mx	-.02	3
16	MP5A	X	39.752	5
17	MP5A	Z	-22.951	5
18	MP5A	Mx	-.02	5
19	MP3A	X	49.418	2.28
20	MP3A	Z	-28.531	2.28
21	MP3A	Mx	-.025	2.28
22	MP3A	X	49.418	5.72
23	MP3A	Z	-28.531	5.72
24	MP3A	Mx	-.025	5.72
25	MP2A	X	40.982	1.5
26	MP2A	Z	-23.661	1.5
27	MP2A	Mx	.02	1.5
28	MP1A	X	43.6	5.25
29	MP1A	Z	-25.173	5.25
30	MP1A	Mx	.022	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	131.827	2.5
2	MP1A	Z	0	2.5
3	MP1A	Mx	-.066	2.5
4	MP1A	X	131.827	4.5
5	MP1A	Z	0	4.5
6	MP1A	Mx	-.066	4.5
7	MP1A	X	131.827	2.5
8	MP1A	Z	0	2.5
9	MP1A	Mx	-.066	2.5
10	MP1A	X	131.827	4.5
11	MP1A	Z	0	4.5
12	MP1A	Mx	-.066	4.5
13	MP5A	X	33.056	3
14	MP5A	Z	0	3
15	MP5A	Mx	-.017	3
16	MP5A	X	33.056	5
17	MP5A	Z	0	5
18	MP5A	Mx	-.017	5
19	MP3A	X	42.07	2.28
20	MP3A	Z	0	2.28
21	MP3A	Mx	-.021	2.28
22	MP3A	X	42.07	5.72
23	MP3A	Z	0	5.72
24	MP3A	Mx	-.021	5.72
25	MP2A	X	40.76	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
26	MP2A	Z	0	1.5
27	MP2A	Mx	.02	1.5
28	MP1A	X	44.791	5.25
29	MP1A	Z	0	5.25
30	MP1A	Mx	.022	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	124.014	2.5
2	MP1A	Z	71.599	2.5
3	MP1A	Mx	-.116	2.5
4	MP1A	X	124.014	4.5
5	MP1A	Z	71.599	4.5
6	MP1A	Mx	-.116	4.5
7	MP1A	X	124.014	2.5
8	MP1A	Z	71.599	2.5
9	MP1A	Mx	-.008	2.5
10	MP1A	X	124.014	4.5
11	MP1A	Z	71.599	4.5
12	MP1A	Mx	-.008	4.5
13	MP5A	X	39.752	3
14	MP5A	Z	22.951	3
15	MP5A	Mx	-.02	3
16	MP5A	X	39.752	5
17	MP5A	Z	22.951	5
18	MP5A	Mx	-.02	5
19	MP3A	X	49.418	2.28
20	MP3A	Z	28.531	2.28
21	MP3A	Mx	-.025	2.28
22	MP3A	X	49.418	5.72
23	MP3A	Z	28.531	5.72
24	MP3A	Mx	-.025	5.72
25	MP2A	X	40.982	1.5
26	MP2A	Z	23.661	1.5
27	MP2A	Mx	.02	1.5
28	MP1A	X	43.6	5.25
29	MP1A	Z	25.173	5.25
30	MP1A	Mx	.022	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	82.971	2.5
2	MP1A	Z	143.711	2.5
3	MP1A	Mx	-.149	2.5
4	MP1A	X	82.971	4.5
5	MP1A	Z	143.711	4.5
6	MP1A	Mx	-.149	4.5
7	MP1A	X	82.971	2.5
8	MP1A	Z	143.711	2.5
9	MP1A	Mx	.066	2.5
10	MP1A	X	82.971	4.5
11	MP1A	Z	143.711	4.5
12	MP1A	Mx	.066	4.5
13	MP5A	X	35.795	3
14	MP5A	Z	62	3
15	MP5A	Mx	-.018	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
16	MP5A	X	35.795	5
17	MP5A	Z	62	5
18	MP5A	Mx	-.018	5
19	MP3A	X	43.524	2.28
20	MP3A	Z	75.386	2.28
21	MP3A	Mx	-.022	2.28
22	MP3A	X	43.524	5.72
23	MP3A	Z	75.386	5.72
24	MP3A	Mx	-.022	5.72
25	MP2A	X	30.223	1.5
26	MP2A	Z	52.348	1.5
27	MP2A	Mx	.015	1.5
28	MP1A	X	30.727	5.25
29	MP1A	Z	53.221	5.25
30	MP1A	Mx	.015	5.25

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	177.315	2.5
3	MP1A	Mx	-.133	2.5
4	MP1A	X	0	4.5
5	MP1A	Z	177.315	4.5
6	MP1A	Mx	-.133	4.5
7	MP1A	X	0	2.5
8	MP1A	Z	177.315	2.5
9	MP1A	Mx	.133	2.5
10	MP1A	X	0	4.5
11	MP1A	Z	177.315	4.5
12	MP1A	Mx	.133	4.5
13	MP5A	X	0	3
14	MP5A	Z	84.436	3
15	MP5A	Mx	0	3
16	MP5A	X	0	5
17	MP5A	Z	84.436	5
18	MP5A	Mx	0	5
19	MP3A	X	0	2.28
20	MP3A	Z	102.041	2.28
21	MP3A	Mx	0	2.28
22	MP3A	X	0	5.72
23	MP3A	Z	102.041	5.72
24	MP3A	Mx	0	5.72
25	MP2A	X	0	1.5
26	MP2A	Z	67.008	1.5
27	MP2A	Mx	0	1.5
28	MP1A	X	0	5.25
29	MP1A	Z	67.008	5.25
30	MP1A	Mx	0	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-82.971	2.5
2	MP1A	Z	143.711	2.5
3	MP1A	Mx	-.066	2.5
4	MP1A	X	-82.971	4.5
5	MP1A	Z	143.711	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
6	MP1A	Mx	-.066	4.5
7	MP1A	X	-82.971	2.5
8	MP1A	Z	143.711	2.5
9	MP1A	Mx	.149	2.5
10	MP1A	X	-82.971	4.5
11	MP1A	Z	143.711	4.5
12	MP1A	Mx	.149	4.5
13	MP5A	X	-35.795	3
14	MP5A	Z	62	3
15	MP5A	Mx	.018	3
16	MP5A	X	-35.795	5
17	MP5A	Z	62	5
18	MP5A	Mx	.018	5
19	MP3A	X	-43.524	2.28
20	MP3A	Z	75.386	2.28
21	MP3A	Mx	.022	2.28
22	MP3A	X	-43.524	5.72
23	MP3A	Z	75.386	5.72
24	MP3A	Mx	.022	5.72
25	MP2A	X	-30.223	1.5
26	MP2A	Z	52.348	1.5
27	MP2A	Mx	-.015	1.5
28	MP1A	X	-30.727	5.25
29	MP1A	Z	53.221	5.25
30	MP1A	Mx	-.015	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-124.014	2.5
2	MP1A	Z	71.599	2.5
3	MP1A	Mx	.008	2.5
4	MP1A	X	-124.014	4.5
5	MP1A	Z	71.599	4.5
6	MP1A	Mx	.008	4.5
7	MP1A	X	-124.014	2.5
8	MP1A	Z	71.599	2.5
9	MP1A	Mx	.116	2.5
10	MP1A	X	-124.014	4.5
11	MP1A	Z	71.599	4.5
12	MP1A	Mx	.116	4.5
13	MP5A	X	-39.752	3
14	MP5A	Z	22.951	3
15	MP5A	Mx	.02	3
16	MP5A	X	-39.752	5
17	MP5A	Z	22.951	5
18	MP5A	Mx	.02	5
19	MP3A	X	-49.418	2.28
20	MP3A	Z	28.531	2.28
21	MP3A	Mx	.025	2.28
22	MP3A	X	-49.418	5.72
23	MP3A	Z	28.531	5.72
24	MP3A	Mx	.025	5.72
25	MP2A	X	-40.982	1.5
26	MP2A	Z	23.661	1.5
27	MP2A	Mx	-.02	1.5
28	MP1A	X	-43.6	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP1A	Z	25.173	5.25
30	MP1A	Mx	-.022	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-131.827	2.5
2	MP1A	Z	0	2.5
3	MP1A	Mx	.066	2.5
4	MP1A	X	-131.827	4.5
5	MP1A	Z	0	4.5
6	MP1A	Mx	.066	4.5
7	MP1A	X	-131.827	2.5
8	MP1A	Z	0	2.5
9	MP1A	Mx	.066	2.5
10	MP1A	X	-131.827	4.5
11	MP1A	Z	0	4.5
12	MP1A	Mx	.066	4.5
13	MP5A	X	-33.056	3
14	MP5A	Z	0	3
15	MP5A	Mx	.017	3
16	MP5A	X	-33.056	5
17	MP5A	Z	0	5
18	MP5A	Mx	.017	5
19	MP3A	X	-42.07	2.28
20	MP3A	Z	0	2.28
21	MP3A	Mx	.021	2.28
22	MP3A	X	-42.07	5.72
23	MP3A	Z	0	5.72
24	MP3A	Mx	.021	5.72
25	MP2A	X	-40.76	1.5
26	MP2A	Z	0	1.5
27	MP2A	Mx	-.02	1.5
28	MP1A	X	-44.791	5.25
29	MP1A	Z	0	5.25
30	MP1A	Mx	-.022	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-124.014	2.5
2	MP1A	Z	-71.599	2.5
3	MP1A	Mx	.116	2.5
4	MP1A	X	-124.014	4.5
5	MP1A	Z	-71.599	4.5
6	MP1A	Mx	.116	4.5
7	MP1A	X	-124.014	2.5
8	MP1A	Z	-71.599	2.5
9	MP1A	Mx	.008	2.5
10	MP1A	X	-124.014	4.5
11	MP1A	Z	-71.599	4.5
12	MP1A	Mx	.008	4.5
13	MP5A	X	-39.752	3
14	MP5A	Z	-22.951	3
15	MP5A	Mx	.02	3
16	MP5A	X	-39.752	5
17	MP5A	Z	-22.951	5
18	MP5A	Mx	.02	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
19	MP3A	X	-49.418	2.28
20	MP3A	Z	-28.531	2.28
21	MP3A	Mx	.025	2.28
22	MP3A	X	-49.418	5.72
23	MP3A	Z	-28.531	5.72
24	MP3A	Mx	.025	5.72
25	MP2A	X	-40.982	1.5
26	MP2A	Z	-23.661	1.5
27	MP2A	Mx	-.02	1.5
28	MP1A	X	-43.6	5.25
29	MP1A	Z	-25.173	5.25
30	MP1A	Mx	-.022	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-82.971	2.5
2	MP1A	Z	-143.711	2.5
3	MP1A	Mx	.149	2.5
4	MP1A	X	-82.971	4.5
5	MP1A	Z	-143.711	4.5
6	MP1A	Mx	.149	4.5
7	MP1A	X	-82.971	2.5
8	MP1A	Z	-143.711	2.5
9	MP1A	Mx	-.066	2.5
10	MP1A	X	-82.971	4.5
11	MP1A	Z	-143.711	4.5
12	MP1A	Mx	-.066	4.5
13	MP5A	X	-35.795	3
14	MP5A	Z	-62	3
15	MP5A	Mx	.018	3
16	MP5A	X	-35.795	5
17	MP5A	Z	-62	5
18	MP5A	Mx	.018	5
19	MP3A	X	-43.524	2.28
20	MP3A	Z	-75.386	2.28
21	MP3A	Mx	.022	2.28
22	MP3A	X	-43.524	5.72
23	MP3A	Z	-75.386	5.72
24	MP3A	Mx	.022	5.72
25	MP2A	X	-30.223	1.5
26	MP2A	Z	-52.348	1.5
27	MP2A	Mx	-.015	1.5
28	MP1A	X	-30.727	5.25
29	MP1A	Z	-53.221	5.25
30	MP1A	Mx	-.015	5.25

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	-36.445	2.5
3	MP1A	Mx	.027	2.5
4	MP1A	X	0	4.5
5	MP1A	Z	-36.445	4.5
6	MP1A	Mx	.027	4.5
7	MP1A	X	0	2.5
8	MP1A	Z	-36.445	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
9	MP1A	Mx	-.027	2.5
10	MP1A	X	0	4.5
11	MP1A	Z	-36.445	4.5
12	MP1A	Mx	-.027	4.5
13	MP5A	X	0	3
14	MP5A	Z	-17.96	3
15	MP5A	Mx	0	3
16	MP5A	X	0	5
17	MP5A	Z	-17.96	5
18	MP5A	Mx	0	5
19	MP3A	X	0	2.28
20	MP3A	Z	-21.496	2.28
21	MP3A	Mx	0	2.28
22	MP3A	X	0	5.72
23	MP3A	Z	-21.496	5.72
24	MP3A	Mx	0	5.72
25	MP2A	X	0	1.5
26	MP2A	Z	-15.064	1.5
27	MP2A	Mx	0	1.5
28	MP1A	X	0	5.25
29	MP1A	Z	-15.064	5.25
30	MP1A	Mx	0	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	17.111	2.5
2	MP1A	Z	-29.637	2.5
3	MP1A	Mx	.014	2.5
4	MP1A	X	17.111	4.5
5	MP1A	Z	-29.637	4.5
6	MP1A	Mx	.014	4.5
7	MP1A	X	17.111	2.5
8	MP1A	Z	-29.637	2.5
9	MP1A	Mx	-.031	2.5
10	MP1A	X	17.111	4.5
11	MP1A	Z	-29.637	4.5
12	MP1A	Mx	-.031	4.5
13	MP5A	X	7.688	3
14	MP5A	Z	-13.317	3
15	MP5A	Mx	-.004	3
16	MP5A	X	7.688	5
17	MP5A	Z	-13.317	5
18	MP5A	Mx	-.004	5
19	MP3A	X	9.291	2.28
20	MP3A	Z	-16.093	2.28
21	MP3A	Mx	-.005	2.28
22	MP3A	X	9.291	5.72
23	MP3A	Z	-16.093	5.72
24	MP3A	Mx	-.005	5.72
25	MP2A	X	6.854	1.5
26	MP2A	Z	-11.871	1.5
27	MP2A	Mx	.003	1.5
28	MP1A	X	6.957	5.25
29	MP1A	Z	-12.05	5.25
30	MP1A	Mx	.003	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	25.787	2.5
2	MP1A	Z	-14.888	2.5
3	MP1A	Mx	-.002	2.5
4	MP1A	X	25.787	4.5
5	MP1A	Z	-14.888	4.5
6	MP1A	Mx	-.002	4.5
7	MP1A	X	25.787	2.5
8	MP1A	Z	-14.888	2.5
9	MP1A	Mx	-.024	2.5
10	MP1A	X	25.787	4.5
11	MP1A	Z	-14.888	4.5
12	MP1A	Mx	-.024	4.5
13	MP5A	X	8.843	3
14	MP5A	Z	-5.105	3
15	MP5A	Mx	-.004	3
16	MP5A	X	8.843	5
17	MP5A	Z	-5.105	5
18	MP5A	Mx	-.004	5
19	MP3A	X	11.047	2.28
20	MP3A	Z	-6.378	2.28
21	MP3A	Mx	-.006	2.28
22	MP3A	X	11.047	5.72
23	MP3A	Z	-6.378	5.72
24	MP3A	Mx	-.006	5.72
25	MP2A	X	9.52	1.5
26	MP2A	Z	-5.496	1.5
27	MP2A	Mx	.005	1.5
28	MP1A	X	10.058	5.25
29	MP1A	Z	-5.807	5.25
30	MP1A	Mx	.005	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	27.553	2.5
2	MP1A	Z	0	2.5
3	MP1A	Mx	-.014	2.5
4	MP1A	X	27.553	4.5
5	MP1A	Z	0	4.5
6	MP1A	Mx	-.014	4.5
7	MP1A	X	27.553	2.5
8	MP1A	Z	0	2.5
9	MP1A	Mx	-.014	2.5
10	MP1A	X	27.553	4.5
11	MP1A	Z	0	4.5
12	MP1A	Mx	-.014	4.5
13	MP5A	X	7.628	3
14	MP5A	Z	0	3
15	MP5A	Mx	-.004	3
16	MP5A	X	7.628	5
17	MP5A	Z	0	5
18	MP5A	Mx	-.004	5
19	MP3A	X	9.843	2.28
20	MP3A	Z	0	2.28
21	MP3A	Mx	-.005	2.28
22	MP3A	X	9.843	5.72
23	MP3A	Z	0	5.72

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
24	MP3A	Mx	-.005	5.72
25	MP2A	X	9.636	1.5
26	MP2A	Z	0	1.5
27	MP2A	Mx	.005	1.5
28	MP1A	X	10.464	5.25
29	MP1A	Z	0	5.25
30	MP1A	Mx	.005	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	25.787	2.5
2	MP1A	Z	14.888	2.5
3	MP1A	Mx	-.024	2.5
4	MP1A	X	25.787	4.5
5	MP1A	Z	14.888	4.5
6	MP1A	Mx	-.024	4.5
7	MP1A	X	25.787	2.5
8	MP1A	Z	14.888	2.5
9	MP1A	Mx	-.002	2.5
10	MP1A	X	25.787	4.5
11	MP1A	Z	14.888	4.5
12	MP1A	Mx	-.002	4.5
13	MP5A	X	8.843	3
14	MP5A	Z	5.105	3
15	MP5A	Mx	-.004	3
16	MP5A	X	8.843	5
17	MP5A	Z	5.105	5
18	MP5A	Mx	-.004	5
19	MP3A	X	11.047	2.28
20	MP3A	Z	6.378	2.28
21	MP3A	Mx	-.006	2.28
22	MP3A	X	11.047	5.72
23	MP3A	Z	6.378	5.72
24	MP3A	Mx	-.006	5.72
25	MP2A	X	9.52	1.5
26	MP2A	Z	5.496	1.5
27	MP2A	Mx	.005	1.5
28	MP1A	X	10.058	5.25
29	MP1A	Z	5.807	5.25
30	MP1A	Mx	.005	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	17.111	2.5
2	MP1A	Z	29.637	2.5
3	MP1A	Mx	-.031	2.5
4	MP1A	X	17.111	4.5
5	MP1A	Z	29.637	4.5
6	MP1A	Mx	-.031	4.5
7	MP1A	X	17.111	2.5
8	MP1A	Z	29.637	2.5
9	MP1A	Mx	.014	2.5
10	MP1A	X	17.111	4.5
11	MP1A	Z	29.637	4.5
12	MP1A	Mx	.014	4.5
13	MP5A	X	7.688	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
14	MP5A	Z	13.317	3
15	MP5A	Mx	-.004	3
16	MP5A	X	7.688	5
17	MP5A	Z	13.317	5
18	MP5A	Mx	-.004	5
19	MP3A	X	9.291	2.28
20	MP3A	Z	16.093	2.28
21	MP3A	Mx	-.005	2.28
22	MP3A	X	9.291	5.72
23	MP3A	Z	16.093	5.72
24	MP3A	Mx	-.005	5.72
25	MP2A	X	6.854	1.5
26	MP2A	Z	11.871	1.5
27	MP2A	Mx	.003	1.5
28	MP1A	X	6.957	5.25
29	MP1A	Z	12.05	5.25
30	MP1A	Mx	.003	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	2.5
2	MP1A	Z	36.445	2.5
3	MP1A	Mx	-.027	2.5
4	MP1A	X	0	4.5
5	MP1A	Z	36.445	4.5
6	MP1A	Mx	-.027	4.5
7	MP1A	X	0	2.5
8	MP1A	Z	36.445	2.5
9	MP1A	Mx	.027	2.5
10	MP1A	X	0	4.5
11	MP1A	Z	36.445	4.5
12	MP1A	Mx	.027	4.5
13	MP5A	X	0	3
14	MP5A	Z	17.96	3
15	MP5A	Mx	0	3
16	MP5A	X	0	5
17	MP5A	Z	17.96	5
18	MP5A	Mx	0	5
19	MP3A	X	0	2.28
20	MP3A	Z	21.496	2.28
21	MP3A	Mx	0	2.28
22	MP3A	X	0	5.72
23	MP3A	Z	21.496	5.72
24	MP3A	Mx	0	5.72
25	MP2A	X	0	1.5
26	MP2A	Z	15.064	1.5
27	MP2A	Mx	0	1.5
28	MP1A	X	0	5.25
29	MP1A	Z	15.064	5.25
30	MP1A	Mx	0	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-17.111	2.5
2	MP1A	Z	29.637	2.5
3	MP1A	Mx	-.014	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP1A	X	-17.111	4.5
5	MP1A	Z	29.637	4.5
6	MP1A	Mx	-.014	4.5
7	MP1A	X	-17.111	2.5
8	MP1A	Z	29.637	2.5
9	MP1A	Mx	.031	2.5
10	MP1A	X	-17.111	4.5
11	MP1A	Z	29.637	4.5
12	MP1A	Mx	.031	4.5
13	MP5A	X	-7.688	3
14	MP5A	Z	13.317	3
15	MP5A	Mx	.004	3
16	MP5A	X	-7.688	5
17	MP5A	Z	13.317	5
18	MP5A	Mx	.004	5
19	MP3A	X	-9.291	2.28
20	MP3A	Z	16.093	2.28
21	MP3A	Mx	.005	2.28
22	MP3A	X	-9.291	5.72
23	MP3A	Z	16.093	5.72
24	MP3A	Mx	.005	5.72
25	MP2A	X	-6.854	1.5
26	MP2A	Z	11.871	1.5
27	MP2A	Mx	-.003	1.5
28	MP1A	X	-6.957	5.25
29	MP1A	Z	12.05	5.25
30	MP1A	Mx	-.003	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-25.787	2.5
2	MP1A	Z	14.888	2.5
3	MP1A	Mx	.002	2.5
4	MP1A	X	-25.787	4.5
5	MP1A	Z	14.888	4.5
6	MP1A	Mx	.002	4.5
7	MP1A	X	-25.787	2.5
8	MP1A	Z	14.888	2.5
9	MP1A	Mx	.024	2.5
10	MP1A	X	-25.787	4.5
11	MP1A	Z	14.888	4.5
12	MP1A	Mx	.024	4.5
13	MP5A	X	-8.843	3
14	MP5A	Z	5.105	3
15	MP5A	Mx	.004	3
16	MP5A	X	-8.843	5
17	MP5A	Z	5.105	5
18	MP5A	Mx	.004	5
19	MP3A	X	-11.047	2.28
20	MP3A	Z	6.378	2.28
21	MP3A	Mx	.006	2.28
22	MP3A	X	-11.047	5.72
23	MP3A	Z	6.378	5.72
24	MP3A	Mx	.006	5.72
25	MP2A	X	-9.52	1.5
26	MP2A	Z	5.496	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
27	MP2A	Mx	-.005	1.5
28	MP1A	X	-10.058	5.25
29	MP1A	Z	5.807	5.25
30	MP1A	Mx	-.005	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-27.553	2.5
2	MP1A	Z	0	2.5
3	MP1A	Mx	.014	2.5
4	MP1A	X	-27.553	4.5
5	MP1A	Z	0	4.5
6	MP1A	Mx	.014	4.5
7	MP1A	X	-27.553	2.5
8	MP1A	Z	0	2.5
9	MP1A	Mx	.014	2.5
10	MP1A	X	-27.553	4.5
11	MP1A	Z	0	4.5
12	MP1A	Mx	.014	4.5
13	MP5A	X	-7.628	3
14	MP5A	Z	0	3
15	MP5A	Mx	.004	3
16	MP5A	X	-7.628	5
17	MP5A	Z	0	5
18	MP5A	Mx	.004	5
19	MP3A	X	-9.843	2.28
20	MP3A	Z	0	2.28
21	MP3A	Mx	.005	2.28
22	MP3A	X	-9.843	5.72
23	MP3A	Z	0	5.72
24	MP3A	Mx	.005	5.72
25	MP2A	X	-9.636	1.5
26	MP2A	Z	0	1.5
27	MP2A	Mx	-.005	1.5
28	MP1A	X	-10.464	5.25
29	MP1A	Z	0	5.25
30	MP1A	Mx	-.005	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-25.787	2.5
2	MP1A	Z	-14.888	2.5
3	MP1A	Mx	.024	2.5
4	MP1A	X	-25.787	4.5
5	MP1A	Z	-14.888	4.5
6	MP1A	Mx	.024	4.5
7	MP1A	X	-25.787	2.5
8	MP1A	Z	-14.888	2.5
9	MP1A	Mx	.002	2.5
10	MP1A	X	-25.787	4.5
11	MP1A	Z	-14.888	4.5
12	MP1A	Mx	.002	4.5
13	MP5A	X	-8.843	3
14	MP5A	Z	-5.105	3
15	MP5A	Mx	.004	3
16	MP5A	X	-8.843	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
17	MP5A	Z	-5.105	5
18	MP5A	Mx	.004	5
19	MP3A	X	-11.047	2.28
20	MP3A	Z	-6.378	2.28
21	MP3A	Mx	.006	2.28
22	MP3A	X	-11.047	5.72
23	MP3A	Z	-6.378	5.72
24	MP3A	Mx	.006	5.72
25	MP2A	X	-9.52	1.5
26	MP2A	Z	-5.496	1.5
27	MP2A	Mx	-.005	1.5
28	MP1A	X	-10.058	5.25
29	MP1A	Z	-5.807	5.25
30	MP1A	Mx	-.005	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-17.111	2.5
2	MP1A	Z	-29.637	2.5
3	MP1A	Mx	.031	2.5
4	MP1A	X	-17.111	4.5
5	MP1A	Z	-29.637	4.5
6	MP1A	Mx	.031	4.5
7	MP1A	X	-17.111	2.5
8	MP1A	Z	-29.637	2.5
9	MP1A	Mx	-.014	2.5
10	MP1A	X	-17.111	4.5
11	MP1A	Z	-29.637	4.5
12	MP1A	Mx	-.014	4.5
13	MP5A	X	-7.688	3
14	MP5A	Z	-13.317	3
15	MP5A	Mx	.004	3
16	MP5A	X	-7.688	5
17	MP5A	Z	-13.317	5
18	MP5A	Mx	.004	5
19	MP3A	X	-9.291	2.28
20	MP3A	Z	-16.093	2.28
21	MP3A	Mx	.005	2.28
22	MP3A	X	-9.291	5.72
23	MP3A	Z	-16.093	5.72
24	MP3A	Mx	.005	5.72
25	MP2A	X	-6.854	1.5
26	MP2A	Z	-11.871	1.5
27	MP2A	Mx	-.003	1.5
28	MP1A	X	-6.957	5.25
29	MP1A	Z	-12.05	5.25
30	MP1A	Mx	-.003	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	2.5
2	MP1A	Z	-12.067	2.5
3	MP1A	Mx	.009	2.5
4	MP1A	X	0	4.5
5	MP1A	Z	-12.067	4.5
6	MP1A	Mx	.009	4.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
7	MP1A	X	0	2.5
8	MP1A	Z	-12.067	2.5
9	MP1A	Mx	-.009	2.5
10	MP1A	X	0	4.5
11	MP1A	Z	-12.067	4.5
12	MP1A	Mx	-.009	4.5
13	MP5A	X	0	3
14	MP5A	Z	-5.746	3
15	MP5A	Mx	0	3
16	MP5A	X	0	5
17	MP5A	Z	-5.746	5
18	MP5A	Mx	0	5
19	MP3A	X	0	2.28
20	MP3A	Z	-6.944	2.28
21	MP3A	Mx	0	2.28
22	MP3A	X	0	5.72
23	MP3A	Z	-6.944	5.72
24	MP3A	Mx	0	5.72
25	MP2A	X	0	1.5
26	MP2A	Z	-4.56	1.5
27	MP2A	Mx	0	1.5
28	MP1A	X	0	5.25
29	MP1A	Z	-4.56	5.25
30	MP1A	Mx	0	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	5.646	2.5
2	MP1A	Z	-9.78	2.5
3	MP1A	Mx	.005	2.5
4	MP1A	X	5.646	4.5
5	MP1A	Z	-9.78	4.5
6	MP1A	Mx	.005	4.5
7	MP1A	X	5.646	2.5
8	MP1A	Z	-9.78	2.5
9	MP1A	Mx	-.01	2.5
10	MP1A	X	5.646	4.5
11	MP1A	Z	-9.78	4.5
12	MP1A	Mx	-.01	4.5
13	MP5A	X	2.436	3
14	MP5A	Z	-4.219	3
15	MP5A	Mx	-.001	3
16	MP5A	X	2.436	5
17	MP5A	Z	-4.219	5
18	MP5A	Mx	-.001	5
19	MP3A	X	2.962	2.28
20	MP3A	Z	-5.13	2.28
21	MP3A	Mx	-.001	2.28
22	MP3A	X	2.962	5.72
23	MP3A	Z	-5.13	5.72
24	MP3A	Mx	-.001	5.72
25	MP2A	X	2.057	1.5
26	MP2A	Z	-3.562	1.5
27	MP2A	Mx	.001	1.5
28	MP1A	X	2.091	5.25
29	MP1A	Z	-3.622	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
30	MP1A	Mx	.001	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	8.439	2.5
2	MP1A	Z	-4.873	2.5
3	MP1A	Mx	-.000565	2.5
4	MP1A	X	8.439	4.5
5	MP1A	Z	-4.873	4.5
6	MP1A	Mx	-.000565	4.5
7	MP1A	X	8.439	2.5
8	MP1A	Z	-4.873	2.5
9	MP1A	Mx	-.008	2.5
10	MP1A	X	8.439	4.5
11	MP1A	Z	-4.873	4.5
12	MP1A	Mx	-.008	4.5
13	MP5A	X	2.705	3
14	MP5A	Z	-1.562	3
15	MP5A	Mx	-.001	3
16	MP5A	X	2.705	5
17	MP5A	Z	-1.562	5
18	MP5A	Mx	-.001	5
19	MP3A	X	3.363	2.28
20	MP3A	Z	-1.942	2.28
21	MP3A	Mx	-.002	2.28
22	MP3A	X	3.363	5.72
23	MP3A	Z	-1.942	5.72
24	MP3A	Mx	-.002	5.72
25	MP2A	X	2.789	1.5
26	MP2A	Z	-1.61	1.5
27	MP2A	Mx	.001	1.5
28	MP1A	X	2.967	5.25
29	MP1A	Z	-1.713	5.25
30	MP1A	Mx	.001	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	8.971	2.5
2	MP1A	Z	0	2.5
3	MP1A	Mx	-.004	2.5
4	MP1A	X	8.971	4.5
5	MP1A	Z	0	4.5
6	MP1A	Mx	-.004	4.5
7	MP1A	X	8.971	2.5
8	MP1A	Z	0	2.5
9	MP1A	Mx	-.004	2.5
10	MP1A	X	8.971	4.5
11	MP1A	Z	0	4.5
12	MP1A	Mx	-.004	4.5
13	MP5A	X	2.25	3
14	MP5A	Z	0	3
15	MP5A	Mx	-.001	3
16	MP5A	X	2.25	5
17	MP5A	Z	0	5
18	MP5A	Mx	-.001	5
19	MP3A	X	2.863	2.28

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
20	MP3A	Z	0	2.28
21	MP3A	Mx	-.001	2.28
22	MP3A	X	2.863	5.72
23	MP3A	Z	0	5.72
24	MP3A	Mx	-.001	5.72
25	MP2A	X	2.774	1.5
26	MP2A	Z	0	1.5
27	MP2A	Mx	.001	1.5
28	MP1A	X	3.048	5.25
29	MP1A	Z	0	5.25
30	MP1A	Mx	.002	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	8.439	2.5
2	MP1A	Z	4.873	2.5
3	MP1A	Mx	-.008	2.5
4	MP1A	X	8.439	4.5
5	MP1A	Z	4.873	4.5
6	MP1A	Mx	-.008	4.5
7	MP1A	X	8.439	2.5
8	MP1A	Z	4.873	2.5
9	MP1A	Mx	-.000565	2.5
10	MP1A	X	8.439	4.5
11	MP1A	Z	4.873	4.5
12	MP1A	Mx	-.000565	4.5
13	MP5A	X	2.705	3
14	MP5A	Z	1.562	3
15	MP5A	Mx	-.001	3
16	MP5A	X	2.705	5
17	MP5A	Z	1.562	5
18	MP5A	Mx	-.001	5
19	MP3A	X	3.363	2.28
20	MP3A	Z	1.942	2.28
21	MP3A	Mx	-.002	2.28
22	MP3A	X	3.363	5.72
23	MP3A	Z	1.942	5.72
24	MP3A	Mx	-.002	5.72
25	MP2A	X	2.789	1.5
26	MP2A	Z	1.61	1.5
27	MP2A	Mx	.001	1.5
28	MP1A	X	2.967	5.25
29	MP1A	Z	1.713	5.25
30	MP1A	Mx	.001	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	5.646	2.5
2	MP1A	Z	9.78	2.5
3	MP1A	Mx	-.01	2.5
4	MP1A	X	5.646	4.5
5	MP1A	Z	9.78	4.5
6	MP1A	Mx	-.01	4.5
7	MP1A	X	5.646	2.5
8	MP1A	Z	9.78	2.5
9	MP1A	Mx	.005	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
10	MP1A	X	5.646	4.5
11	MP1A	Z	9.78	4.5
12	MP1A	Mx	.005	4.5
13	MP5A	X	2.436	3
14	MP5A	Z	4.219	3
15	MP5A	Mx	-.001	3
16	MP5A	X	2.436	5
17	MP5A	Z	4.219	5
18	MP5A	Mx	-.001	5
19	MP3A	X	2.962	2.28
20	MP3A	Z	5.13	2.28
21	MP3A	Mx	-.001	2.28
22	MP3A	X	2.962	5.72
23	MP3A	Z	5.13	5.72
24	MP3A	Mx	-.001	5.72
25	MP2A	X	2.057	1.5
26	MP2A	Z	3.562	1.5
27	MP2A	Mx	.001	1.5
28	MP1A	X	2.091	5.25
29	MP1A	Z	3.622	5.25
30	MP1A	Mx	.001	5.25

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	12.067	2.5
3	MP1A	Mx	-.009	2.5
4	MP1A	X	0	4.5
5	MP1A	Z	12.067	4.5
6	MP1A	Mx	-.009	4.5
7	MP1A	X	0	2.5
8	MP1A	Z	12.067	2.5
9	MP1A	Mx	.009	2.5
10	MP1A	X	0	4.5
11	MP1A	Z	12.067	4.5
12	MP1A	Mx	.009	4.5
13	MP5A	X	0	3
14	MP5A	Z	5.746	3
15	MP5A	Mx	0	3
16	MP5A	X	0	5
17	MP5A	Z	5.746	5
18	MP5A	Mx	0	5
19	MP3A	X	0	2.28
20	MP3A	Z	6.944	2.28
21	MP3A	Mx	0	2.28
22	MP3A	X	0	5.72
23	MP3A	Z	6.944	5.72
24	MP3A	Mx	0	5.72
25	MP2A	X	0	1.5
26	MP2A	Z	4.56	1.5
27	MP2A	Mx	0	1.5
28	MP1A	X	0	5.25
29	MP1A	Z	4.56	5.25
30	MP1A	Mx	0	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-5.646	2.5
2	MP1A	Z	9.78	2.5
3	MP1A	Mx	-.005	2.5
4	MP1A	X	-5.646	4.5
5	MP1A	Z	9.78	4.5
6	MP1A	Mx	-.005	4.5
7	MP1A	X	-5.646	2.5
8	MP1A	Z	9.78	2.5
9	MP1A	Mx	.01	2.5
10	MP1A	X	-5.646	4.5
11	MP1A	Z	9.78	4.5
12	MP1A	Mx	.01	4.5
13	MP5A	X	-2.436	3
14	MP5A	Z	4.219	3
15	MP5A	Mx	.001	3
16	MP5A	X	-2.436	5
17	MP5A	Z	4.219	5
18	MP5A	Mx	.001	5
19	MP3A	X	-2.962	2.28
20	MP3A	Z	5.13	2.28
21	MP3A	Mx	.001	2.28
22	MP3A	X	-2.962	5.72
23	MP3A	Z	5.13	5.72
24	MP3A	Mx	.001	5.72
25	MP2A	X	-2.057	1.5
26	MP2A	Z	3.562	1.5
27	MP2A	Mx	-.001	1.5
28	MP1A	X	-2.091	5.25
29	MP1A	Z	3.622	5.25
30	MP1A	Mx	-.001	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-8.439	2.5
2	MP1A	Z	4.873	2.5
3	MP1A	Mx	.000565	2.5
4	MP1A	X	-8.439	4.5
5	MP1A	Z	4.873	4.5
6	MP1A	Mx	.000565	4.5
7	MP1A	X	-8.439	2.5
8	MP1A	Z	4.873	2.5
9	MP1A	Mx	.008	2.5
10	MP1A	X	-8.439	4.5
11	MP1A	Z	4.873	4.5
12	MP1A	Mx	.008	4.5
13	MP5A	X	-2.705	3
14	MP5A	Z	1.562	3
15	MP5A	Mx	.001	3
16	MP5A	X	-2.705	5
17	MP5A	Z	1.562	5
18	MP5A	Mx	.001	5
19	MP3A	X	-3.363	2.28
20	MP3A	Z	1.942	2.28
21	MP3A	Mx	.002	2.28
22	MP3A	X	-3.363	5.72
23	MP3A	Z	1.942	5.72

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
24	MP3A	Mx	.002	5.72
25	MP2A	X	-2.789	1.5
26	MP2A	Z	1.61	1.5
27	MP2A	Mx	-.001	1.5
28	MP1A	X	-2.967	5.25
29	MP1A	Z	1.713	5.25
30	MP1A	Mx	-.001	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-8.971	2.5
2	MP1A	Z	0	2.5
3	MP1A	Mx	.004	2.5
4	MP1A	X	-8.971	4.5
5	MP1A	Z	0	4.5
6	MP1A	Mx	.004	4.5
7	MP1A	X	-8.971	2.5
8	MP1A	Z	0	2.5
9	MP1A	Mx	.004	2.5
10	MP1A	X	-8.971	4.5
11	MP1A	Z	0	4.5
12	MP1A	Mx	.004	4.5
13	MP5A	X	-2.25	3
14	MP5A	Z	0	3
15	MP5A	Mx	.001	3
16	MP5A	X	-2.25	5
17	MP5A	Z	0	5
18	MP5A	Mx	.001	5
19	MP3A	X	-2.863	2.28
20	MP3A	Z	0	2.28
21	MP3A	Mx	.001	2.28
22	MP3A	X	-2.863	5.72
23	MP3A	Z	0	5.72
24	MP3A	Mx	.001	5.72
25	MP2A	X	-2.774	1.5
26	MP2A	Z	0	1.5
27	MP2A	Mx	-.001	1.5
28	MP1A	X	-3.048	5.25
29	MP1A	Z	0	5.25
30	MP1A	Mx	-.002	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-8.439	2.5
2	MP1A	Z	-4.873	2.5
3	MP1A	Mx	.008	2.5
4	MP1A	X	-8.439	4.5
5	MP1A	Z	-4.873	4.5
6	MP1A	Mx	.008	4.5
7	MP1A	X	-8.439	2.5
8	MP1A	Z	-4.873	2.5
9	MP1A	Mx	.000565	2.5
10	MP1A	X	-8.439	4.5
11	MP1A	Z	-4.873	4.5
12	MP1A	Mx	.000565	4.5
13	MP5A	X	-2.705	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
14	MP5A	Z	-1.562	3
15	MP5A	Mx	.001	3
16	MP5A	X	-2.705	5
17	MP5A	Z	-1.562	5
18	MP5A	Mx	.001	5
19	MP3A	X	-3.363	2.28
20	MP3A	Z	-1.942	2.28
21	MP3A	Mx	.002	2.28
22	MP3A	X	-3.363	5.72
23	MP3A	Z	-1.942	5.72
24	MP3A	Mx	.002	5.72
25	MP2A	X	-2.789	1.5
26	MP2A	Z	-1.61	1.5
27	MP2A	Mx	-.001	1.5
28	MP1A	X	-2.967	5.25
29	MP1A	Z	-1.713	5.25
30	MP1A	Mx	-.001	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-5.646	2.5
2	MP1A	Z	-9.78	2.5
3	MP1A	Mx	.01	2.5
4	MP1A	X	-5.646	4.5
5	MP1A	Z	-9.78	4.5
6	MP1A	Mx	.01	4.5
7	MP1A	X	-5.646	2.5
8	MP1A	Z	-9.78	2.5
9	MP1A	Mx	-.005	2.5
10	MP1A	X	-5.646	4.5
11	MP1A	Z	-9.78	4.5
12	MP1A	Mx	-.005	4.5
13	MP5A	X	-2.436	3
14	MP5A	Z	-4.219	3
15	MP5A	Mx	.001	3
16	MP5A	X	-2.436	5
17	MP5A	Z	-4.219	5
18	MP5A	Mx	.001	5
19	MP3A	X	-2.962	2.28
20	MP3A	Z	-5.13	2.28
21	MP3A	Mx	.001	2.28
22	MP3A	X	-2.962	5.72
23	MP3A	Z	-5.13	5.72
24	MP3A	Mx	.001	5.72
25	MP2A	X	-2.057	1.5
26	MP2A	Z	-3.562	1.5
27	MP2A	Mx	-.001	1.5
28	MP1A	X	-2.091	5.25
29	MP1A	Z	-3.622	5.25
30	MP1A	Mx	-.001	5.25

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M4	Y	-500	%52

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M4	Y	-500	%95

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M3	Y	-250	0

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M3	Y	-250	%100

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	0	2.5
2	MP1A	My	0	2.5
3	MP1A	Mz	0	2.5
4	MP1A	Y	0	4.5
5	MP1A	My	0	4.5
6	MP1A	Mz	0	4.5
7	MP1A	Y	0	2.5
8	MP1A	My	0	2.5
9	MP1A	Mz	0	2.5
10	MP1A	Y	0	4.5
11	MP1A	My	0	4.5
12	MP1A	Mz	0	4.5
13	MP5A	Y	0	3
14	MP5A	My	0	3
15	MP5A	Mz	0	3
16	MP5A	Y	0	5
17	MP5A	My	0	5
18	MP5A	Mz	0	5
19	MP3A	Y	0	2.28
20	MP3A	My	0	2.28
21	MP3A	Mz	0	2.28
22	MP3A	Y	0	5.72
23	MP3A	My	0	5.72
24	MP3A	Mz	0	5.72
25	MP2A	Y	0	1.5
26	MP2A	My	0	1.5
27	MP2A	Mz	0	1.5
28	MP1A	Y	0	5.25
29	MP1A	My	0	5.25
30	MP1A	Mz	0	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Z	-.69	2.5
2	MP1A	Mx	.000518	2.5
3	MP1A	Z	-.69	4.5
4	MP1A	Mx	.000518	4.5
5	MP1A	Z	-.69	2.5
6	MP1A	Mx	-.000518	2.5
7	MP1A	Z	-.69	4.5
8	MP1A	Mx	-.000518	4.5
9	MP5A	Z	-1.306	3
10	MP5A	Mx	0	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
11	MP5A	Z	-1.306	5
12	MP5A	Mx	0	5
13	MP3A	Z	-.364	2.28
14	MP3A	Mx	0	2.28
15	MP3A	Z	-.364	5.72
16	MP3A	Mx	0	5.72
17	MP2A	Z	-2.109	1.5
18	MP2A	Mx	0	1.5
19	MP1A	Z	-2.241	5.25
20	MP1A	Mx	0	5.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	.69	2.5
2	MP1A	Mx	-.000345	2.5
3	MP1A	X	.69	4.5
4	MP1A	Mx	-.000345	4.5
5	MP1A	X	.69	2.5
6	MP1A	Mx	-.000345	2.5
7	MP1A	X	.69	4.5
8	MP1A	Mx	-.000345	4.5
9	MP5A	X	1.306	3
10	MP5A	Mx	-.000653	3
11	MP5A	X	1.306	5
12	MP5A	Mx	-.000653	5
13	MP3A	X	.364	2.28
14	MP3A	Mx	-.000182	2.28
15	MP3A	X	.364	5.72
16	MP3A	Mx	-.000182	5.72
17	MP2A	X	2.109	1.5
18	MP2A	Mx	.001	1.5
19	MP1A	X	2.241	5.25
20	MP1A	Mx	.001	5.25

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	-5.426	-5.426	0	%100
2	M3	Y	-3.773	-3.773	0	%100
3	M4	Y	-3.773	-3.773	0	%100
4	M6	Y	-5.426	-5.426	0	%100
5	M8	Y	-3.773	-3.773	0	%100
6	M9	Y	-3.773	-3.773	0	%100
7	M14	Y	-2.875	-2.875	0	%100
8	M15	Y	-2.875	-2.875	0	%100
9	M16	Y	-2.875	-2.875	0	%100
10	MP1A	Y	-5.426	-5.426	0	%100
11	M26	Y	-3.216	-3.216	0	%100
12	M27	Y	-2.535	-2.535	0	%100
13	M28	Y	-2.535	-2.535	0	%100
14	M29	Y	-3.216	-3.216	0	%100
15	M30	Y	-2.535	-2.535	0	%100
16	M31	Y	-2.535	-2.535	0	%100
17	M34	Y	-2.535	-2.535	0	%100
18	M35	Y	-2.535	-2.535	0	%100
19	M34A	Y	-5.426	-5.426	0	%100

Member Distributed Loads (BLC 40 : Structure Di) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
20	M35A	Y	-4.746	-4.746	0	%100
21	MP2A	Y	-4.746	-4.746	0	%100
22	MP3A	Y	-4.746	-4.746	0	%100
23	MP4A	Y	-4.746	-4.746	0	%100
24	MP5A	Y	-4.746	-4.746	0	%100
25	M39	Y	-6.325	-6.325	0	%100
26	M40	Y	-6.325	-6.325	0	%100
27	M41	Y	-6.325	-6.325	0	%100
28	M42	Y	-6.325	-6.325	0	%100
29	M48	Y	-5.426	-5.426	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	M3	X	0	0	0	%100
4	M3	Z	-5.948	-5.948	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	-5.948	-5.948	0	%100
7	M6	X	0	0	0	%100
8	M6	Z	0	0	0	%100
9	M8	X	0	0	0	%100
10	M8	Z	-5.948	-5.948	0	%100
11	M9	X	0	0	0	%100
12	M9	Z	-5.948	-5.948	0	%100
13	M14	X	0	0	0	%100
14	M14	Z	-3.583	-3.583	0	%100
15	M15	X	0	0	0	%100
16	M15	Z	-3.583	-3.583	0	%100
17	M16	X	0	0	0	%100
18	M16	Z	-2.79	-2.79	0	%100
19	MP1A	X	0	0	0	%100
20	MP1A	Z	-10.302	-10.302	0	%100
21	M26	X	0	0	0	%100
22	M26	Z	-4.396	-4.396	0	%100
23	M27	X	0	0	0	%100
24	M27	Z	-2.687	-2.687	0	%100
25	M28	X	0	0	0	%100
26	M28	Z	-2.687	-2.687	0	%100
27	M29	X	0	0	0	%100
28	M29	Z	-4.396	-4.396	0	%100
29	M30	X	0	0	0	%100
30	M30	Z	-2.687	-2.687	0	%100
31	M31	X	0	0	0	%100
32	M31	Z	-2.687	-2.687	0	%100
33	M34	X	0	0	0	%100
34	M34	Z	-2.687	-2.687	0	%100
35	M35	X	0	0	0	%100
36	M35	Z	-2.687	-2.687	0	%100
37	M34A	X	0	0	0	%100
38	M34A	Z	-.024	-.024	0	%100
39	M35A	X	0	0	0	%100
40	M35A	Z	-.018	-.018	0	%100
41	MP2A	X	0	0	0	%100
42	MP2A	Z	-8.51	-8.51	0	%100
43	MP3A	X	0	0	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,%]
44	MP3A	Z	-8.51	-8.51	0	%100
45	MP4A	X	0	0	0	%100
46	MP4A	Z	-8.51	-8.51	0	%100
47	MP5A	X	0	0	0	%100
48	MP5A	Z	-8.51	-8.51	0	%100
49	M39	X	0	0	0	%100
50	M39	Z	-10.907	-10.907	0	%100
51	M40	X	0	0	0	%100
52	M40	Z	-8.827	-8.827	0	%100
53	M41	X	0	0	0	%100
54	M41	Z	-11.34	-11.34	0	%100
55	M42	X	0	0	0	%100
56	M42	Z	-9.883	-9.883	0	%100
57	M48	X	0	0	0	%100
58	M48	Z	-10.302	-10.302	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	.905	.905	0	%100
2	M1	Z	-1.568	-1.568	0	%100
3	M3	X	2.231	2.231	0	%100
4	M3	Z	-3.864	-3.864	0	%100
5	M4	X	2.231	2.231	0	%100
6	M4	Z	-3.864	-3.864	0	%100
7	M6	X	.905	.905	0	%100
8	M6	Z	-1.568	-1.568	0	%100
9	M8	X	2.231	2.231	0	%100
10	M8	Z	-3.864	-3.864	0	%100
11	M9	X	2.231	2.231	0	%100
12	M9	Z	-3.864	-3.864	0	%100
13	M14	X	1.792	1.792	0	%100
14	M14	Z	-3.103	-3.103	0	%100
15	M15	X	1.792	1.792	0	%100
16	M15	Z	-3.103	-3.103	0	%100
17	M16	X	1.494	1.494	0	%100
18	M16	Z	-2.588	-2.588	0	%100
19	MP1A	X	5.151	5.151	0	%100
20	MP1A	Z	-8.922	-8.922	0	%100
21	M26	X	2.198	2.198	0	%100
22	M26	Z	-3.807	-3.807	0	%100
23	M27	X	1.344	1.344	0	%100
24	M27	Z	-2.327	-2.327	0	%100
25	M28	X	1.344	1.344	0	%100
26	M28	Z	-2.327	-2.327	0	%100
27	M29	X	2.198	2.198	0	%100
28	M29	Z	-3.807	-3.807	0	%100
29	M30	X	1.196	1.196	0	%100
30	M30	Z	-2.071	-2.071	0	%100
31	M31	X	1.125	1.125	0	%100
32	M31	Z	-1.948	-1.948	0	%100
33	M34	X	1.344	1.344	0	%100
34	M34	Z	-2.327	-2.327	0	%100
35	M35	X	1.196	1.196	0	%100
36	M35	Z	-2.071	-2.071	0	%100
37	M34A	X	1.08	1.08	0	%100
38	M34A	Z	-1.871	-1.871	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
39	M35A	X	.899	.899	0	%100
40	M35A	Z	-1.557	-1.557	0	%100
41	MP2A	X	4.255	4.255	0	%100
42	MP2A	Z	-7.37	-7.37	0	%100
43	MP3A	X	4.255	4.255	0	%100
44	MP3A	Z	-7.37	-7.37	0	%100
45	MP4A	X	4.255	4.255	0	%100
46	MP4A	Z	-7.37	-7.37	0	%100
47	MP5A	X	4.255	4.255	0	%100
48	MP5A	Z	-7.37	-7.37	0	%100
49	M39	X	1.8	1.8	0	%100
50	M39	Z	-3.118	-3.118	0	%100
51	M40	X	6.913	6.913	0	%100
52	M40	Z	-11.973	-11.973	0	%100
53	M41	X	2.41	2.41	0	%100
54	M41	Z	-4.175	-4.175	0	%100
55	M42	X	7.148	7.148	0	%100
56	M42	Z	-12.38	-12.38	0	%100
57	M48	X	3.863	3.863	0	%100
58	M48	Z	-6.691	-6.691	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	4.703	4.703	0	%100
2	M1	Z	-2.715	-2.715	0	%100
3	M3	X	1.288	1.288	0	%100
4	M3	Z	-.744	-.744	0	%100
5	M4	X	1.288	1.288	0	%100
6	M4	Z	-.744	-.744	0	%100
7	M6	X	4.703	4.703	0	%100
8	M6	Z	-2.715	-2.715	0	%100
9	M8	X	1.288	1.288	0	%100
10	M8	Z	-.744	-.744	0	%100
11	M9	X	1.288	1.288	0	%100
12	M9	Z	-.744	-.744	0	%100
13	M14	X	3.103	3.103	0	%100
14	M14	Z	-1.792	-1.792	0	%100
15	M15	X	3.103	3.103	0	%100
16	M15	Z	-1.792	-1.792	0	%100
17	M16	X	2.931	2.931	0	%100
18	M16	Z	-1.692	-1.692	0	%100
19	MP1A	X	8.922	8.922	0	%100
20	MP1A	Z	-5.151	-5.151	0	%100
21	M26	X	3.807	3.807	0	%100
22	M26	Z	-2.198	-2.198	0	%100
23	M27	X	2.327	2.327	0	%100
24	M27	Z	-1.344	-1.344	0	%100
25	M28	X	2.327	2.327	0	%100
26	M28	Z	-1.344	-1.344	0	%100
27	M29	X	3.807	3.807	0	%100
28	M29	Z	-2.198	-2.198	0	%100
29	M30	X	1.558	1.558	0	%100
30	M30	Z	-.9	-.9	0	%100
31	M31	X	1.191	1.191	0	%100
32	M31	Z	-.687	-.687	0	%100
33	M34	X	2.327	2.327	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
34	M34	Z	-1.344	-1.344	0	%100
35	M35	X	1.558	1.558	0	%100
36	M35	Z	-.9	-.9	0	%100
37	M34A	X	6.311	6.311	0	%100
38	M34A	Z	-3.644	-3.644	0	%100
39	M35A	X	5.227	5.227	0	%100
40	M35A	Z	-3.018	-3.018	0	%100
41	MP2A	X	7.37	7.37	0	%100
42	MP2A	Z	-4.255	-4.255	0	%100
43	MP3A	X	7.37	7.37	0	%100
44	MP3A	Z	-4.255	-4.255	0	%100
45	MP4A	X	7.37	7.37	0	%100
46	MP4A	Z	-4.255	-4.255	0	%100
47	MP5A	X	7.37	7.37	0	%100
48	MP5A	Z	-4.255	-4.255	0	%100
49	M39	X	.265	.265	0	%100
50	M39	Z	-.153	-.153	0	%100
51	M40	X	10.609	10.609	0	%100
52	M40	Z	-6.125	-6.125	0	%100
53	M41	X	1.629	1.629	0	%100
54	M41	Z	-.941	-.941	0	%100
55	M42	X	11.176	11.176	0	%100
56	M42	Z	-6.453	-6.453	0	%100
57	M48	X	2.23	2.23	0	%100
58	M48	Z	-1.288	-1.288	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,%]
1	M1	X	7.241	7.241	0	%100
2	M1	Z	0	0	0	%100
3	M3	X	0	0	0	%100
4	M3	Z	0	0	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	0	0	0	%100
7	M6	X	7.241	7.241	0	%100
8	M6	Z	0	0	0	%100
9	M8	X	0	0	0	%100
10	M8	Z	0	0	0	%100
11	M9	X	0	0	0	%100
12	M9	Z	0	0	0	%100
13	M14	X	3.583	3.583	0	%100
14	M14	Z	0	0	0	%100
15	M15	X	3.583	3.583	0	%100
16	M15	Z	0	0	0	%100
17	M16	X	3.583	3.583	0	%100
18	M16	Z	0	0	0	%100
19	MP1A	X	10.302	10.302	0	%100
20	MP1A	Z	0	0	0	%100
21	M26	X	4.396	4.396	0	%100
22	M26	Z	0	0	0	%100
23	M27	X	2.687	2.687	0	%100
24	M27	Z	0	0	0	%100
25	M28	X	2.687	2.687	0	%100
26	M28	Z	0	0	0	%100
27	M29	X	4.396	4.396	0	%100
28	M29	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
29	M30	X	1.503	1.503	0	%100
30	M30	Z	0	0	0	%100
31	M31	X	.937	.937	0	%100
32	M31	Z	0	0	0	%100
33	M34	X	2.687	2.687	0	%100
34	M34	Z	0	0	0	%100
35	M35	X	1.503	1.503	0	%100
36	M35	Z	0	0	0	%100
37	M34A	X	10.278	10.278	0	%100
38	M34A	Z	0	0	0	%100
39	M35A	X	8.492	8.492	0	%100
40	M35A	Z	0	0	0	%100
41	MP2A	X	8.51	8.51	0	%100
42	MP2A	Z	0	0	0	%100
43	MP3A	X	8.51	8.51	0	%100
44	MP3A	Z	0	0	0	%100
45	MP4A	X	8.51	8.51	0	%100
46	MP4A	Z	0	0	0	%100
47	MP5A	X	8.51	8.51	0	%100
48	MP5A	Z	0	0	0	%100
49	M39	X	4.318	4.318	0	%100
50	M39	Z	0	0	0	%100
51	M40	X	5.677	5.677	0	%100
52	M40	Z	0	0	0	%100
53	M41	X	5.461	5.461	0	%100
54	M41	Z	0	0	0	%100
55	M42	X	7.102	7.102	0	%100
56	M42	Z	0	0	0	%100
57	M48	X	0	0	0	%100
58	M48	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	4.703	4.703	0	%100
2	M1	Z	2.715	2.715	0	%100
3	M3	X	1.288	1.288	0	%100
4	M3	Z	.744	.744	0	%100
5	M4	X	1.288	1.288	0	%100
6	M4	Z	.744	.744	0	%100
7	M6	X	4.703	4.703	0	%100
8	M6	Z	2.715	2.715	0	%100
9	M8	X	1.288	1.288	0	%100
10	M8	Z	.744	.744	0	%100
11	M9	X	1.288	1.288	0	%100
12	M9	Z	.744	.744	0	%100
13	M14	X	3.103	3.103	0	%100
14	M14	Z	1.792	1.792	0	%100
15	M15	X	3.103	3.103	0	%100
16	M15	Z	1.792	1.792	0	%100
17	M16	X	2.931	2.931	0	%100
18	M16	Z	1.692	1.692	0	%100
19	MP1A	X	8.922	8.922	0	%100
20	MP1A	Z	5.151	5.151	0	%100
21	M26	X	3.807	3.807	0	%100
22	M26	Z	2.198	2.198	0	%100
23	M27	X	2.327	2.327	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
24	M27	Z	1.344	1.344	0	%100
25	M28	X	2.327	2.327	0	%100
26	M28	Z	1.344	1.344	0	%100
27	M29	X	3.807	3.807	0	%100
28	M29	Z	2.198	2.198	0	%100
29	M30	X	1.558	1.558	0	%100
30	M30	Z	.9	.9	0	%100
31	M31	X	1.191	1.191	0	%100
32	M31	Z	.687	.687	0	%100
33	M34	X	2.327	2.327	0	%100
34	M34	Z	1.344	1.344	0	%100
35	M35	X	1.558	1.558	0	%100
36	M35	Z	.9	.9	0	%100
37	M34A	X	7.051	7.051	0	%100
38	M34A	Z	4.071	4.071	0	%100
39	M35A	X	5.813	5.813	0	%100
40	M35A	Z	3.356	3.356	0	%100
41	MP2A	X	7.37	7.37	0	%100
42	MP2A	Z	4.255	4.255	0	%100
43	MP3A	X	7.37	7.37	0	%100
44	MP3A	Z	4.255	4.255	0	%100
45	MP4A	X	7.37	7.37	0	%100
46	MP4A	Z	4.255	4.255	0	%100
47	MP5A	X	7.37	7.37	0	%100
48	MP5A	Z	4.255	4.255	0	%100
49	M39	X	10.067	10.067	0	%100
50	M39	Z	5.812	5.812	0	%100
51	M40	X	.587	.587	0	%100
52	M40	Z	.339	.339	0	%100
53	M41	X	10.375	10.375	0	%100
54	M41	Z	5.99	5.99	0	%100
55	M42	X	2.329	2.329	0	%100
56	M42	Z	1.345	1.345	0	%100
57	M48	X	2.23	2.23	0	%100
58	M48	Z	1.288	1.288	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	.905	.905	0	%100
2	M1	Z	1.568	1.568	0	%100
3	M3	X	2.231	2.231	0	%100
4	M3	Z	3.864	3.864	0	%100
5	M4	X	2.231	2.231	0	%100
6	M4	Z	3.864	3.864	0	%100
7	M6	X	.905	.905	0	%100
8	M6	Z	1.568	1.568	0	%100
9	M8	X	2.231	2.231	0	%100
10	M8	Z	3.864	3.864	0	%100
11	M9	X	2.231	2.231	0	%100
12	M9	Z	3.864	3.864	0	%100
13	M14	X	1.792	1.792	0	%100
14	M14	Z	3.103	3.103	0	%100
15	M15	X	1.792	1.792	0	%100
16	M15	Z	3.103	3.103	0	%100
17	M16	X	1.494	1.494	0	%100
18	M16	Z	2.588	2.588	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,%]
19	MP1A	X	5.151	5.151	0	%100
20	MP1A	Z	8.922	8.922	0	%100
21	M26	X	2.198	2.198	0	%100
22	M26	Z	3.807	3.807	0	%100
23	M27	X	1.344	1.344	0	%100
24	M27	Z	2.327	2.327	0	%100
25	M28	X	1.344	1.344	0	%100
26	M28	Z	2.327	2.327	0	%100
27	M29	X	2.198	2.198	0	%100
28	M29	Z	3.807	3.807	0	%100
29	M30	X	1.196	1.196	0	%100
30	M30	Z	2.071	2.071	0	%100
31	M31	X	1.125	1.125	0	%100
32	M31	Z	1.948	1.948	0	%100
33	M34	X	1.344	1.344	0	%100
34	M34	Z	2.327	2.327	0	%100
35	M35	X	1.196	1.196	0	%100
36	M35	Z	2.071	2.071	0	%100
37	M34A	X	1.507	1.507	0	%100
38	M34A	Z	2.611	2.611	0	%100
39	M35A	X	1.237	1.237	0	%100
40	M35A	Z	2.143	2.143	0	%100
41	MP2A	X	4.255	4.255	0	%100
42	MP2A	Z	7.37	7.37	0	%100
43	MP3A	X	4.255	4.255	0	%100
44	MP3A	Z	7.37	7.37	0	%100
45	MP4A	X	4.255	4.255	0	%100
46	MP4A	Z	7.37	7.37	0	%100
47	MP5A	X	4.255	4.255	0	%100
48	MP5A	Z	7.37	7.37	0	%100
49	M39	X	7.459	7.459	0	%100
50	M39	Z	12.92	12.92	0	%100
51	M40	X	1.127	1.127	0	%100
52	M40	Z	1.951	1.951	0	%100
53	M41	X	7.46	7.46	0	%100
54	M41	Z	12.921	12.921	0	%100
55	M42	X	2.04	2.04	0	%100
56	M42	Z	3.533	3.533	0	%100
57	M48	X	3.863	3.863	0	%100
58	M48	Z	6.691	6.691	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	M3	X	0	0	0	%100
4	M3	Z	5.948	5.948	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	5.948	5.948	0	%100
7	M6	X	0	0	0	%100
8	M6	Z	0	0	0	%100
9	M8	X	0	0	0	%100
10	M8	Z	5.948	5.948	0	%100
11	M9	X	0	0	0	%100
12	M9	Z	5.948	5.948	0	%100
13	M14	X	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
14	M14	Z	3.583	3.583	0	%100
15	M15	X	0	0	0	%100
16	M15	Z	3.583	3.583	0	%100
17	M16	X	0	0	0	%100
18	M16	Z	2.79	2.79	0	%100
19	MP1A	X	0	0	0	%100
20	MP1A	Z	10.302	10.302	0	%100
21	M26	X	0	0	0	%100
22	M26	Z	4.396	4.396	0	%100
23	M27	X	0	0	0	%100
24	M27	Z	2.687	2.687	0	%100
25	M28	X	0	0	0	%100
26	M28	Z	2.687	2.687	0	%100
27	M29	X	0	0	0	%100
28	M29	Z	4.396	4.396	0	%100
29	M30	X	0	0	0	%100
30	M30	Z	2.687	2.687	0	%100
31	M31	X	0	0	0	%100
32	M31	Z	2.687	2.687	0	%100
33	M34	X	0	0	0	%100
34	M34	Z	2.687	2.687	0	%100
35	M35	X	0	0	0	%100
36	M35	Z	2.687	2.687	0	%100
37	M34A	X	0	0	0	%100
38	M34A	Z	.024	.024	0	%100
39	M35A	X	0	0	0	%100
40	M35A	Z	.018	.018	0	%100
41	MP2A	X	0	0	0	%100
42	MP2A	Z	8.51	8.51	0	%100
43	MP3A	X	0	0	0	%100
44	MP3A	Z	8.51	8.51	0	%100
45	MP4A	X	0	0	0	%100
46	MP4A	Z	8.51	8.51	0	%100
47	MP5A	X	0	0	0	%100
48	MP5A	Z	8.51	8.51	0	%100
49	M39	X	0	0	0	%100
50	M39	Z	10.907	10.907	0	%100
51	M40	X	0	0	0	%100
52	M40	Z	8.827	8.827	0	%100
53	M41	X	0	0	0	%100
54	M41	Z	11.34	11.34	0	%100
55	M42	X	0	0	0	%100
56	M42	Z	9.883	9.883	0	%100
57	M48	X	0	0	0	%100
58	M48	Z	10.302	10.302	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	-.905	-.905	0	%100
2	M1	Z	1.568	1.568	0	%100
3	M3	X	-2.231	-2.231	0	%100
4	M3	Z	3.864	3.864	0	%100
5	M4	X	-2.231	-2.231	0	%100
6	M4	Z	3.864	3.864	0	%100
7	M6	X	-.905	-.905	0	%100
8	M6	Z	1.568	1.568	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
9	M8	X	-2.231	-2.231	0	%100
10	M8	Z	3.864	3.864	0	%100
11	M9	X	-2.231	-2.231	0	%100
12	M9	Z	3.864	3.864	0	%100
13	M14	X	-1.792	-1.792	0	%100
14	M14	Z	3.103	3.103	0	%100
15	M15	X	-1.792	-1.792	0	%100
16	M15	Z	3.103	3.103	0	%100
17	M16	X	-1.494	-1.494	0	%100
18	M16	Z	2.588	2.588	0	%100
19	MP1A	X	-5.151	-5.151	0	%100
20	MP1A	Z	8.922	8.922	0	%100
21	M26	X	-2.198	-2.198	0	%100
22	M26	Z	3.807	3.807	0	%100
23	M27	X	-1.344	-1.344	0	%100
24	M27	Z	2.327	2.327	0	%100
25	M28	X	-1.344	-1.344	0	%100
26	M28	Z	2.327	2.327	0	%100
27	M29	X	-2.198	-2.198	0	%100
28	M29	Z	3.807	3.807	0	%100
29	M30	X	-1.196	-1.196	0	%100
30	M30	Z	2.071	2.071	0	%100
31	M31	X	-1.125	-1.125	0	%100
32	M31	Z	1.948	1.948	0	%100
33	M34	X	-1.344	-1.344	0	%100
34	M34	Z	2.327	2.327	0	%100
35	M35	X	-1.196	-1.196	0	%100
36	M35	Z	2.071	2.071	0	%100
37	M34A	X	-1.08	-1.08	0	%100
38	M34A	Z	1.871	1.871	0	%100
39	M35A	X	-.899	-.899	0	%100
40	M35A	Z	1.557	1.557	0	%100
41	MP2A	X	-4.255	-4.255	0	%100
42	MP2A	Z	7.37	7.37	0	%100
43	MP3A	X	-4.255	-4.255	0	%100
44	MP3A	Z	7.37	7.37	0	%100
45	MP4A	X	-4.255	-4.255	0	%100
46	MP4A	Z	7.37	7.37	0	%100
47	MP5A	X	-4.255	-4.255	0	%100
48	MP5A	Z	7.37	7.37	0	%100
49	M39	X	-1.8	-1.8	0	%100
50	M39	Z	3.118	3.118	0	%100
51	M40	X	-6.913	-6.913	0	%100
52	M40	Z	11.973	11.973	0	%100
53	M41	X	-2.41	-2.41	0	%100
54	M41	Z	4.175	4.175	0	%100
55	M42	X	-7.148	-7.148	0	%100
56	M42	Z	12.38	12.38	0	%100
57	M48	X	-3.863	-3.863	0	%100
58	M48	Z	6.691	6.691	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	-4.703	-4.703	0	%100
2	M1	Z	2.715	2.715	0	%100
3	M3	X	-1.288	-1.288	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
4	M3	Z	.744	.744	0	%100
5	M4	X	-1.288	-1.288	0	%100
6	M4	Z	.744	.744	0	%100
7	M6	X	-4.703	-4.703	0	%100
8	M6	Z	2.715	2.715	0	%100
9	M8	X	-1.288	-1.288	0	%100
10	M8	Z	.744	.744	0	%100
11	M9	X	-1.288	-1.288	0	%100
12	M9	Z	.744	.744	0	%100
13	M14	X	-3.103	-3.103	0	%100
14	M14	Z	1.792	1.792	0	%100
15	M15	X	-3.103	-3.103	0	%100
16	M15	Z	1.792	1.792	0	%100
17	M16	X	-2.931	-2.931	0	%100
18	M16	Z	1.692	1.692	0	%100
19	MP1A	X	-8.922	-8.922	0	%100
20	MP1A	Z	5.151	5.151	0	%100
21	M26	X	-3.807	-3.807	0	%100
22	M26	Z	2.198	2.198	0	%100
23	M27	X	-2.327	-2.327	0	%100
24	M27	Z	1.344	1.344	0	%100
25	M28	X	-2.327	-2.327	0	%100
26	M28	Z	1.344	1.344	0	%100
27	M29	X	-3.807	-3.807	0	%100
28	M29	Z	2.198	2.198	0	%100
29	M30	X	-1.558	-1.558	0	%100
30	M30	Z	.9	.9	0	%100
31	M31	X	-1.191	-1.191	0	%100
32	M31	Z	.687	.687	0	%100
33	M34	X	-2.327	-2.327	0	%100
34	M34	Z	1.344	1.344	0	%100
35	M35	X	-1.558	-1.558	0	%100
36	M35	Z	.9	.9	0	%100
37	M34A	X	-6.311	-6.311	0	%100
38	M34A	Z	3.644	3.644	0	%100
39	M35A	X	-5.227	-5.227	0	%100
40	M35A	Z	3.018	3.018	0	%100
41	MP2A	X	-7.37	-7.37	0	%100
42	MP2A	Z	4.255	4.255	0	%100
43	MP3A	X	-7.37	-7.37	0	%100
44	MP3A	Z	4.255	4.255	0	%100
45	MP4A	X	-7.37	-7.37	0	%100
46	MP4A	Z	4.255	4.255	0	%100
47	MP5A	X	-7.37	-7.37	0	%100
48	MP5A	Z	4.255	4.255	0	%100
49	M39	X	-.265	-.265	0	%100
50	M39	Z	.153	.153	0	%100
51	M40	X	-10.609	-10.609	0	%100
52	M40	Z	6.125	6.125	0	%100
53	M41	X	-1.629	-1.629	0	%100
54	M41	Z	.941	.941	0	%100
55	M42	X	-11.176	-11.176	0	%100
56	M42	Z	6.453	6.453	0	%100
57	M48	X	-2.23	-2.23	0	%100
58	M48	Z	1.288	1.288	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	-7.241	-7.241	0	%100
2	M1	Z	0	0	0	%100
3	M3	X	0	0	0	%100
4	M3	Z	0	0	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	0	0	0	%100
7	M6	X	-7.241	-7.241	0	%100
8	M6	Z	0	0	0	%100
9	M8	X	0	0	0	%100
10	M8	Z	0	0	0	%100
11	M9	X	0	0	0	%100
12	M9	Z	0	0	0	%100
13	M14	X	-3.583	-3.583	0	%100
14	M14	Z	0	0	0	%100
15	M15	X	-3.583	-3.583	0	%100
16	M15	Z	0	0	0	%100
17	M16	X	-3.583	-3.583	0	%100
18	M16	Z	0	0	0	%100
19	MP1A	X	-10.302	-10.302	0	%100
20	MP1A	Z	0	0	0	%100
21	M26	X	-4.396	-4.396	0	%100
22	M26	Z	0	0	0	%100
23	M27	X	-2.687	-2.687	0	%100
24	M27	Z	0	0	0	%100
25	M28	X	-2.687	-2.687	0	%100
26	M28	Z	0	0	0	%100
27	M29	X	-4.396	-4.396	0	%100
28	M29	Z	0	0	0	%100
29	M30	X	-1.503	-1.503	0	%100
30	M30	Z	0	0	0	%100
31	M31	X	-.937	-.937	0	%100
32	M31	Z	0	0	0	%100
33	M34	X	-2.687	-2.687	0	%100
34	M34	Z	0	0	0	%100
35	M35	X	-1.503	-1.503	0	%100
36	M35	Z	0	0	0	%100
37	M34A	X	-10.278	-10.278	0	%100
38	M34A	Z	0	0	0	%100
39	M35A	X	-8.492	-8.492	0	%100
40	M35A	Z	0	0	0	%100
41	MP2A	X	-8.51	-8.51	0	%100
42	MP2A	Z	0	0	0	%100
43	MP3A	X	-8.51	-8.51	0	%100
44	MP3A	Z	0	0	0	%100
45	MP4A	X	-8.51	-8.51	0	%100
46	MP4A	Z	0	0	0	%100
47	MP5A	X	-8.51	-8.51	0	%100
48	MP5A	Z	0	0	0	%100
49	M39	X	-4.318	-4.318	0	%100
50	M39	Z	0	0	0	%100
51	M40	X	-5.677	-5.677	0	%100
52	M40	Z	0	0	0	%100
53	M41	X	-5.461	-5.461	0	%100
54	M41	Z	0	0	0	%100
55	M42	X	-7.102	-7.102	0	%100
56	M42	Z	0	0	0	%100
57	M48	X	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
58	M48	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	-4.703	-4.703	0	%100
2	M1	Z	-2.715	-2.715	0	%100
3	M3	X	-1.288	-1.288	0	%100
4	M3	Z	-.744	-.744	0	%100
5	M4	X	-1.288	-1.288	0	%100
6	M4	Z	-.744	-.744	0	%100
7	M6	X	-4.703	-4.703	0	%100
8	M6	Z	-2.715	-2.715	0	%100
9	M8	X	-1.288	-1.288	0	%100
10	M8	Z	-.744	-.744	0	%100
11	M9	X	-1.288	-1.288	0	%100
12	M9	Z	-.744	-.744	0	%100
13	M14	X	-3.103	-3.103	0	%100
14	M14	Z	-1.792	-1.792	0	%100
15	M15	X	-3.103	-3.103	0	%100
16	M15	Z	-1.792	-1.792	0	%100
17	M16	X	-2.931	-2.931	0	%100
18	M16	Z	-1.692	-1.692	0	%100
19	MP1A	X	-8.922	-8.922	0	%100
20	MP1A	Z	-5.151	-5.151	0	%100
21	M26	X	-3.807	-3.807	0	%100
22	M26	Z	-2.198	-2.198	0	%100
23	M27	X	-2.327	-2.327	0	%100
24	M27	Z	-1.344	-1.344	0	%100
25	M28	X	-2.327	-2.327	0	%100
26	M28	Z	-1.344	-1.344	0	%100
27	M29	X	-3.807	-3.807	0	%100
28	M29	Z	-2.198	-2.198	0	%100
29	M30	X	-1.558	-1.558	0	%100
30	M30	Z	-.9	-.9	0	%100
31	M31	X	-1.191	-1.191	0	%100
32	M31	Z	-.687	-.687	0	%100
33	M34	X	-2.327	-2.327	0	%100
34	M34	Z	-1.344	-1.344	0	%100
35	M35	X	-1.558	-1.558	0	%100
36	M35	Z	-.9	-.9	0	%100
37	M34A	X	-7.051	-7.051	0	%100
38	M34A	Z	-4.071	-4.071	0	%100
39	M35A	X	-5.813	-5.813	0	%100
40	M35A	Z	-3.356	-3.356	0	%100
41	MP2A	X	-7.37	-7.37	0	%100
42	MP2A	Z	-4.255	-4.255	0	%100
43	MP3A	X	-7.37	-7.37	0	%100
44	MP3A	Z	-4.255	-4.255	0	%100
45	MP4A	X	-7.37	-7.37	0	%100
46	MP4A	Z	-4.255	-4.255	0	%100
47	MP5A	X	-7.37	-7.37	0	%100
48	MP5A	Z	-4.255	-4.255	0	%100
49	M39	X	-10.067	-10.067	0	%100
50	M39	Z	-5.812	-5.812	0	%100
51	M40	X	-.587	-.587	0	%100
52	M40	Z	-.339	-.339	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,%]
53	M41	X	-10.375	-10.375	0	%100
54	M41	Z	-5.99	-5.99	0	%100
55	M42	X	-2.329	-2.329	0	%100
56	M42	Z	-1.345	-1.345	0	%100
57	M48	X	-2.23	-2.23	0	%100
58	M48	Z	-1.288	-1.288	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	-.905	-.905	0	%100
2	M1	Z	-1.568	-1.568	0	%100
3	M3	X	-2.231	-2.231	0	%100
4	M3	Z	-3.864	-3.864	0	%100
5	M4	X	-2.231	-2.231	0	%100
6	M4	Z	-3.864	-3.864	0	%100
7	M6	X	-.905	-.905	0	%100
8	M6	Z	-1.568	-1.568	0	%100
9	M8	X	-2.231	-2.231	0	%100
10	M8	Z	-3.864	-3.864	0	%100
11	M9	X	-2.231	-2.231	0	%100
12	M9	Z	-3.864	-3.864	0	%100
13	M14	X	-1.792	-1.792	0	%100
14	M14	Z	-3.103	-3.103	0	%100
15	M15	X	-1.792	-1.792	0	%100
16	M15	Z	-3.103	-3.103	0	%100
17	M16	X	-1.494	-1.494	0	%100
18	M16	Z	-2.588	-2.588	0	%100
19	MP1A	X	-5.151	-5.151	0	%100
20	MP1A	Z	-8.922	-8.922	0	%100
21	M26	X	-2.198	-2.198	0	%100
22	M26	Z	-3.807	-3.807	0	%100
23	M27	X	-1.344	-1.344	0	%100
24	M27	Z	-2.327	-2.327	0	%100
25	M28	X	-1.344	-1.344	0	%100
26	M28	Z	-2.327	-2.327	0	%100
27	M29	X	-2.198	-2.198	0	%100
28	M29	Z	-3.807	-3.807	0	%100
29	M30	X	-1.196	-1.196	0	%100
30	M30	Z	-2.071	-2.071	0	%100
31	M31	X	-1.125	-1.125	0	%100
32	M31	Z	-1.948	-1.948	0	%100
33	M34	X	-1.344	-1.344	0	%100
34	M34	Z	-2.327	-2.327	0	%100
35	M35	X	-1.196	-1.196	0	%100
36	M35	Z	-2.071	-2.071	0	%100
37	M34A	X	-1.507	-1.507	0	%100
38	M34A	Z	-2.611	-2.611	0	%100
39	M35A	X	-1.237	-1.237	0	%100
40	M35A	Z	-2.143	-2.143	0	%100
41	MP2A	X	-4.255	-4.255	0	%100
42	MP2A	Z	-7.37	-7.37	0	%100
43	MP3A	X	-4.255	-4.255	0	%100
44	MP3A	Z	-7.37	-7.37	0	%100
45	MP4A	X	-4.255	-4.255	0	%100
46	MP4A	Z	-7.37	-7.37	0	%100
47	MP5A	X	-4.255	-4.255	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
48	MP5A	Z	-7.37	-7.37	0	%100
49	M39	X	-7.459	-7.459	0	%100
50	M39	Z	-12.92	-12.92	0	%100
51	M40	X	-1.127	-1.127	0	%100
52	M40	Z	-1.951	-1.951	0	%100
53	M41	X	-7.46	-7.46	0	%100
54	M41	Z	-12.921	-12.921	0	%100
55	M42	X	-2.04	-2.04	0	%100
56	M42	Z	-3.533	-3.533	0	%100
57	M48	X	-3.863	-3.863	0	%100
58	M48	Z	-6.691	-6.691	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	M3	X	0	0	0	%100
4	M3	Z	-2.633	-2.633	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	-2.633	-2.633	0	%100
7	M6	X	0	0	0	%100
8	M6	Z	0	0	0	%100
9	M8	X	0	0	0	%100
10	M8	Z	-2.633	-2.633	0	%100
11	M9	X	0	0	0	%100
12	M9	Z	-2.633	-2.633	0	%100
13	M14	X	0	0	0	%100
14	M14	Z	-1.864	-1.864	0	%100
15	M15	X	0	0	0	%100
16	M15	Z	-1.864	-1.864	0	%100
17	M16	X	0	0	0	%100
18	M16	Z	-1.49	-1.49	0	%100
19	MP1A	X	0	0	0	%100
20	MP1A	Z	-3.456	-3.456	0	%100
21	M26	X	0	0	0	%100
22	M26	Z	-2.018	-2.018	0	%100
23	M27	X	0	0	0	%100
24	M27	Z	-1.695	-1.695	0	%100
25	M28	X	0	0	0	%100
26	M28	Z	-1.695	-1.695	0	%100
27	M29	X	0	0	0	%100
28	M29	Z	-2.018	-2.018	0	%100
29	M30	X	0	0	0	%100
30	M30	Z	-1.821	-1.821	0	%100
31	M31	X	0	0	0	%100
32	M31	Z	-1.955	-1.955	0	%100
33	M34	X	0	0	0	%100
34	M34	Z	-1.695	-1.695	0	%100
35	M35	X	0	0	0	%100
36	M35	Z	-1.821	-1.821	0	%100
37	M34A	X	0	0	0	%100
38	M34A	Z	-.008	-.008	0	%100
39	M35A	X	0	0	0	%100
40	M35A	Z	-.007	-.007	0	%100
41	MP2A	X	0	0	0	%100
42	MP2A	Z	-3.117	-3.117	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
43	MP3A	X	0	0	0	%100
44	MP3A	Z	-3.117	-3.117	0	%100
45	MP4A	X	0	0	0	%100
46	MP4A	Z	-3.117	-3.117	0	%100
47	MP5A	X	0	0	0	%100
48	MP5A	Z	-3.117	-3.117	0	%100
49	M39	X	0	0	0	%100
50	M39	Z	-3.164	-3.164	0	%100
51	M40	X	0	0	0	%100
52	M40	Z	-2.601	-2.601	0	%100
53	M41	X	0	0	0	%100
54	M41	Z	-3.29	-3.29	0	%100
55	M42	X	0	0	0	%100
56	M42	Z	-2.893	-2.893	0	%100
57	M48	X	0	0	0	%100
58	M48	Z	-3.456	-3.456	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	.313	.313	0	%100
2	M1	Z	-.542	-.542	0	%100
3	M3	X	.987	.987	0	%100
4	M3	Z	-1.71	-1.71	0	%100
5	M4	X	.987	.987	0	%100
6	M4	Z	-1.71	-1.71	0	%100
7	M6	X	.313	.313	0	%100
8	M6	Z	-.542	-.542	0	%100
9	M8	X	.987	.987	0	%100
10	M8	Z	-1.71	-1.71	0	%100
11	M9	X	.987	.987	0	%100
12	M9	Z	-1.71	-1.71	0	%100
13	M14	X	.932	.932	0	%100
14	M14	Z	-1.614	-1.614	0	%100
15	M15	X	.932	.932	0	%100
16	M15	Z	-1.614	-1.614	0	%100
17	M16	X	.798	.798	0	%100
18	M16	Z	-1.382	-1.382	0	%100
19	MP1A	X	1.728	1.728	0	%100
20	MP1A	Z	-2.993	-2.993	0	%100
21	M26	X	1.009	1.009	0	%100
22	M26	Z	-1.747	-1.747	0	%100
23	M27	X	.847	.847	0	%100
24	M27	Z	-1.467	-1.467	0	%100
25	M28	X	.847	.847	0	%100
26	M28	Z	-1.467	-1.467	0	%100
27	M29	X	1.009	1.009	0	%100
28	M29	Z	-1.747	-1.747	0	%100
29	M30	X	.81	.81	0	%100
30	M30	Z	-1.404	-1.404	0	%100
31	M31	X	.819	.819	0	%100
32	M31	Z	-1.418	-1.418	0	%100
33	M34	X	.847	.847	0	%100
34	M34	Z	-1.467	-1.467	0	%100
35	M35	X	.81	.81	0	%100
36	M35	Z	-1.404	-1.404	0	%100
37	M34A	X	.362	.362	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
38	M34A	Z	-.628	-.628	0	%100
39	M35A	X	.329	.329	0	%100
40	M35A	Z	-.57	-.57	0	%100
41	MP2A	X	1.559	1.559	0	%100
42	MP2A	Z	-2.7	-2.7	0	%100
43	MP3A	X	1.559	1.559	0	%100
44	MP3A	Z	-2.7	-2.7	0	%100
45	MP4A	X	1.559	1.559	0	%100
46	MP4A	Z	-2.7	-2.7	0	%100
47	MP5A	X	1.559	1.559	0	%100
48	MP5A	Z	-2.7	-2.7	0	%100
49	M39	X	.522	.522	0	%100
50	M39	Z	-.905	-.905	0	%100
51	M40	X	2.037	2.037	0	%100
52	M40	Z	-3.528	-3.528	0	%100
53	M41	X	.699	.699	0	%100
54	M41	Z	-1.211	-1.211	0	%100
55	M42	X	2.092	2.092	0	%100
56	M42	Z	-3.624	-3.624	0	%100
57	M48	X	1.296	1.296	0	%100
58	M48	Z	-2.245	-2.245	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	1.625	1.625	0	%100
2	M1	Z	-.938	-.938	0	%100
3	M3	X	.57	.57	0	%100
4	M3	Z	-.329	-.329	0	%100
5	M4	X	.57	.57	0	%100
6	M4	Z	-.329	-.329	0	%100
7	M6	X	1.625	1.625	0	%100
8	M6	Z	-.938	-.938	0	%100
9	M8	X	.57	.57	0	%100
10	M8	Z	-.329	-.329	0	%100
11	M9	X	.57	.57	0	%100
12	M9	Z	-.329	-.329	0	%100
13	M14	X	1.614	1.614	0	%100
14	M14	Z	-.932	-.932	0	%100
15	M15	X	1.614	1.614	0	%100
16	M15	Z	-.932	-.932	0	%100
17	M16	X	1.566	1.566	0	%100
18	M16	Z	-.904	-.904	0	%100
19	MP1A	X	2.993	2.993	0	%100
20	MP1A	Z	-1.728	-1.728	0	%100
21	M26	X	1.747	1.747	0	%100
22	M26	Z	-1.009	-1.009	0	%100
23	M27	X	1.467	1.467	0	%100
24	M27	Z	-.847	-.847	0	%100
25	M28	X	1.467	1.467	0	%100
26	M28	Z	-.847	-.847	0	%100
27	M29	X	1.747	1.747	0	%100
28	M29	Z	-1.009	-1.009	0	%100
29	M30	X	1.056	1.056	0	%100
30	M30	Z	-.61	-.61	0	%100
31	M31	X	.866	.866	0	%100
32	M31	Z	-.5	-.5	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
33	M34	X	1.467	1.467	0	%100
34	M34	Z	-.847	-.847	0	%100
35	M35	X	1.056	1.056	0	%100
36	M35	Z	-.61	-.61	0	%100
37	M34A	X	2.117	2.117	0	%100
38	M34A	Z	-1.222	-1.222	0	%100
39	M35A	X	1.915	1.915	0	%100
40	M35A	Z	-1.105	-1.105	0	%100
41	MP2A	X	2.7	2.7	0	%100
42	MP2A	Z	-1.559	-1.559	0	%100
43	MP3A	X	2.7	2.7	0	%100
44	MP3A	Z	-1.559	-1.559	0	%100
45	MP4A	X	2.7	2.7	0	%100
46	MP4A	Z	-1.559	-1.559	0	%100
47	MP5A	X	2.7	2.7	0	%100
48	MP5A	Z	-1.559	-1.559	0	%100
49	M39	X	.077	.077	0	%100
50	M39	Z	-.044	-.044	0	%100
51	M40	X	3.126	3.126	0	%100
52	M40	Z	-1.805	-1.805	0	%100
53	M41	X	.473	.473	0	%100
54	M41	Z	-.273	-.273	0	%100
55	M42	X	3.271	3.271	0	%100
56	M42	Z	-1.889	-1.889	0	%100
57	M48	X	.748	.748	0	%100
58	M48	Z	-.432	-.432	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	2.502	2.502	0	%100
2	M1	Z	0	0	0	%100
3	M3	X	0	0	0	%100
4	M3	Z	0	0	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	0	0	0	%100
7	M6	X	2.502	2.502	0	%100
8	M6	Z	0	0	0	%100
9	M8	X	0	0	0	%100
10	M8	Z	0	0	0	%100
11	M9	X	0	0	0	%100
12	M9	Z	0	0	0	%100
13	M14	X	1.864	1.864	0	%100
14	M14	Z	0	0	0	%100
15	M15	X	1.864	1.864	0	%100
16	M15	Z	0	0	0	%100
17	M16	X	1.914	1.914	0	%100
18	M16	Z	0	0	0	%100
19	MP1A	X	3.456	3.456	0	%100
20	MP1A	Z	0	0	0	%100
21	M26	X	2.018	2.018	0	%100
22	M26	Z	0	0	0	%100
23	M27	X	1.695	1.695	0	%100
24	M27	Z	0	0	0	%100
25	M28	X	1.695	1.695	0	%100
26	M28	Z	0	0	0	%100
27	M29	X	2.018	2.018	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,%]
28	M29	Z	0	0	0	%100
29	M30	X	1.019	1.019	0	%100
30	M30	Z	0	0	0	%100
31	M31	X	.682	.682	0	%100
32	M31	Z	0	0	0	%100
33	M34	X	1.695	1.695	0	%100
34	M34	Z	0	0	0	%100
35	M35	X	1.019	1.019	0	%100
36	M35	Z	0	0	0	%100
37	M34A	X	3.448	3.448	0	%100
38	M34A	Z	0	0	0	%100
39	M35A	X	3.111	3.111	0	%100
40	M35A	Z	0	0	0	%100
41	MP2A	X	3.117	3.117	0	%100
42	MP2A	Z	0	0	0	%100
43	MP3A	X	3.117	3.117	0	%100
44	MP3A	Z	0	0	0	%100
45	MP4A	X	3.117	3.117	0	%100
46	MP4A	Z	0	0	0	%100
47	MP5A	X	3.117	3.117	0	%100
48	MP5A	Z	0	0	0	%100
49	M39	X	1.253	1.253	0	%100
50	M39	Z	0	0	0	%100
51	M40	X	1.673	1.673	0	%100
52	M40	Z	0	0	0	%100
53	M41	X	1.584	1.584	0	%100
54	M41	Z	0	0	0	%100
55	M42	X	2.079	2.079	0	%100
56	M42	Z	0	0	0	%100
57	M48	X	0	0	0	%100
58	M48	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	1.625	1.625	0	%100
2	M1	Z	.938	.938	0	%100
3	M3	X	.57	.57	0	%100
4	M3	Z	.329	.329	0	%100
5	M4	X	.57	.57	0	%100
6	M4	Z	.329	.329	0	%100
7	M6	X	1.625	1.625	0	%100
8	M6	Z	.938	.938	0	%100
9	M8	X	.57	.57	0	%100
10	M8	Z	.329	.329	0	%100
11	M9	X	.57	.57	0	%100
12	M9	Z	.329	.329	0	%100
13	M14	X	1.614	1.614	0	%100
14	M14	Z	.932	.932	0	%100
15	M15	X	1.614	1.614	0	%100
16	M15	Z	.932	.932	0	%100
17	M16	X	1.566	1.566	0	%100
18	M16	Z	.904	.904	0	%100
19	MP1A	X	2.993	2.993	0	%100
20	MP1A	Z	1.728	1.728	0	%100
21	M26	X	1.747	1.747	0	%100
22	M26	Z	1.009	1.009	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
23	M27	X	1.467	1.467	0	%100
24	M27	Z	.847	.847	0	%100
25	M28	X	1.467	1.467	0	%100
26	M28	Z	.847	.847	0	%100
27	M29	X	1.747	1.747	0	%100
28	M29	Z	1.009	1.009	0	%100
29	M30	X	1.056	1.056	0	%100
30	M30	Z	.61	.61	0	%100
31	M31	X	.866	.866	0	%100
32	M31	Z	.5	.5	0	%100
33	M34	X	1.467	1.467	0	%100
34	M34	Z	.847	.847	0	%100
35	M35	X	1.056	1.056	0	%100
36	M35	Z	.61	.61	0	%100
37	M34A	X	2.365	2.365	0	%100
38	M34A	Z	1.366	1.366	0	%100
39	M35A	X	2.129	2.129	0	%100
40	M35A	Z	1.229	1.229	0	%100
41	MP2A	X	2.7	2.7	0	%100
42	MP2A	Z	1.559	1.559	0	%100
43	MP3A	X	2.7	2.7	0	%100
44	MP3A	Z	1.559	1.559	0	%100
45	MP4A	X	2.7	2.7	0	%100
46	MP4A	Z	1.559	1.559	0	%100
47	MP5A	X	2.7	2.7	0	%100
48	MP5A	Z	1.559	1.559	0	%100
49	M39	X	2.92	2.92	0	%100
50	M39	Z	1.686	1.686	0	%100
51	M40	X	.173	.173	0	%100
52	M40	Z	.1	.1	0	%100
53	M41	X	3.01	3.01	0	%100
54	M41	Z	1.738	1.738	0	%100
55	M42	X	.682	.682	0	%100
56	M42	Z	.394	.394	0	%100
57	M48	X	.748	.748	0	%100
58	M48	Z	.432	.432	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	.313	.313	0	%100
2	M1	Z	.542	.542	0	%100
3	M3	X	.987	.987	0	%100
4	M3	Z	1.71	1.71	0	%100
5	M4	X	.987	.987	0	%100
6	M4	Z	1.71	1.71	0	%100
7	M6	X	.313	.313	0	%100
8	M6	Z	.542	.542	0	%100
9	M8	X	.987	.987	0	%100
10	M8	Z	1.71	1.71	0	%100
11	M9	X	.987	.987	0	%100
12	M9	Z	1.71	1.71	0	%100
13	M14	X	.932	.932	0	%100
14	M14	Z	1.614	1.614	0	%100
15	M15	X	.932	.932	0	%100
16	M15	Z	1.614	1.614	0	%100
17	M16	X	.798	.798	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
18	M16	Z	1.382	1.382	0	%100
19	MP1A	X	1.728	1.728	0	%100
20	MP1A	Z	2.993	2.993	0	%100
21	M26	X	1.009	1.009	0	%100
22	M26	Z	1.747	1.747	0	%100
23	M27	X	.847	.847	0	%100
24	M27	Z	1.467	1.467	0	%100
25	M28	X	.847	.847	0	%100
26	M28	Z	1.467	1.467	0	%100
27	M29	X	1.009	1.009	0	%100
28	M29	Z	1.747	1.747	0	%100
29	M30	X	.81	.81	0	%100
30	M30	Z	1.404	1.404	0	%100
31	M31	X	.819	.819	0	%100
32	M31	Z	1.418	1.418	0	%100
33	M34	X	.847	.847	0	%100
34	M34	Z	1.467	1.467	0	%100
35	M35	X	.81	.81	0	%100
36	M35	Z	1.404	1.404	0	%100
37	M34A	X	.506	.506	0	%100
38	M34A	Z	.876	.876	0	%100
39	M35A	X	.453	.453	0	%100
40	M35A	Z	.785	.785	0	%100
41	MP2A	X	1.559	1.559	0	%100
42	MP2A	Z	2.7	2.7	0	%100
43	MP3A	X	1.559	1.559	0	%100
44	MP3A	Z	2.7	2.7	0	%100
45	MP4A	X	1.559	1.559	0	%100
46	MP4A	Z	2.7	2.7	0	%100
47	MP5A	X	1.559	1.559	0	%100
48	MP5A	Z	2.7	2.7	0	%100
49	M39	X	2.164	2.164	0	%100
50	M39	Z	3.748	3.748	0	%100
51	M40	X	.332	.332	0	%100
52	M40	Z	.575	.575	0	%100
53	M41	X	2.164	2.164	0	%100
54	M41	Z	3.748	3.748	0	%100
55	M42	X	.597	.597	0	%100
56	M42	Z	1.034	1.034	0	%100
57	M48	X	1.296	1.296	0	%100
58	M48	Z	2.245	2.245	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	M3	X	0	0	0	%100
4	M3	Z	2.633	2.633	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	2.633	2.633	0	%100
7	M6	X	0	0	0	%100
8	M6	Z	0	0	0	%100
9	M8	X	0	0	0	%100
10	M8	Z	2.633	2.633	0	%100
11	M9	X	0	0	0	%100
12	M9	Z	2.633	2.633	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
13	M14	X	0	0	0	%100
14	M14	Z	1.864	1.864	0	%100
15	M15	X	0	0	0	%100
16	M15	Z	1.864	1.864	0	%100
17	M16	X	0	0	0	%100
18	M16	Z	1.49	1.49	0	%100
19	MP1A	X	0	0	0	%100
20	MP1A	Z	3.456	3.456	0	%100
21	M26	X	0	0	0	%100
22	M26	Z	2.018	2.018	0	%100
23	M27	X	0	0	0	%100
24	M27	Z	1.695	1.695	0	%100
25	M28	X	0	0	0	%100
26	M28	Z	1.695	1.695	0	%100
27	M29	X	0	0	0	%100
28	M29	Z	2.018	2.018	0	%100
29	M30	X	0	0	0	%100
30	M30	Z	1.821	1.821	0	%100
31	M31	X	0	0	0	%100
32	M31	Z	1.955	1.955	0	%100
33	M34	X	0	0	0	%100
34	M34	Z	1.695	1.695	0	%100
35	M35	X	0	0	0	%100
36	M35	Z	1.821	1.821	0	%100
37	M34A	X	0	0	0	%100
38	M34A	Z	.008	.008	0	%100
39	M35A	X	0	0	0	%100
40	M35A	Z	.007	.007	0	%100
41	MP2A	X	0	0	0	%100
42	MP2A	Z	3.117	3.117	0	%100
43	MP3A	X	0	0	0	%100
44	MP3A	Z	3.117	3.117	0	%100
45	MP4A	X	0	0	0	%100
46	MP4A	Z	3.117	3.117	0	%100
47	MP5A	X	0	0	0	%100
48	MP5A	Z	3.117	3.117	0	%100
49	M39	X	0	0	0	%100
50	M39	Z	3.164	3.164	0	%100
51	M40	X	0	0	0	%100
52	M40	Z	2.601	2.601	0	%100
53	M41	X	0	0	0	%100
54	M41	Z	3.29	3.29	0	%100
55	M42	X	0	0	0	%100
56	M42	Z	2.893	2.893	0	%100
57	M48	X	0	0	0	%100
58	M48	Z	3.456	3.456	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	-.313	-.313	0	%100
2	M1	Z	.542	.542	0	%100
3	M3	X	-.987	-.987	0	%100
4	M3	Z	1.71	1.71	0	%100
5	M4	X	-.987	-.987	0	%100
6	M4	Z	1.71	1.71	0	%100
7	M6	X	-.313	-.313	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
8	M6	Z	.542	.542	0	%100
9	M8	X	-.987	-.987	0	%100
10	M8	Z	1.71	1.71	0	%100
11	M9	X	-.987	-.987	0	%100
12	M9	Z	1.71	1.71	0	%100
13	M14	X	-.932	-.932	0	%100
14	M14	Z	1.614	1.614	0	%100
15	M15	X	-.932	-.932	0	%100
16	M15	Z	1.614	1.614	0	%100
17	M16	X	-.798	-.798	0	%100
18	M16	Z	1.382	1.382	0	%100
19	MP1A	X	-1.728	-1.728	0	%100
20	MP1A	Z	2.993	2.993	0	%100
21	M26	X	-1.009	-1.009	0	%100
22	M26	Z	1.747	1.747	0	%100
23	M27	X	-.847	-.847	0	%100
24	M27	Z	1.467	1.467	0	%100
25	M28	X	-.847	-.847	0	%100
26	M28	Z	1.467	1.467	0	%100
27	M29	X	-1.009	-1.009	0	%100
28	M29	Z	1.747	1.747	0	%100
29	M30	X	-.81	-.81	0	%100
30	M30	Z	1.404	1.404	0	%100
31	M31	X	-.819	-.819	0	%100
32	M31	Z	1.418	1.418	0	%100
33	M34	X	-.847	-.847	0	%100
34	M34	Z	1.467	1.467	0	%100
35	M35	X	-.81	-.81	0	%100
36	M35	Z	1.404	1.404	0	%100
37	M34A	X	-.362	-.362	0	%100
38	M34A	Z	.628	.628	0	%100
39	M35A	X	-.329	-.329	0	%100
40	M35A	Z	.57	.57	0	%100
41	MP2A	X	-1.559	-1.559	0	%100
42	MP2A	Z	2.7	2.7	0	%100
43	MP3A	X	-1.559	-1.559	0	%100
44	MP3A	Z	2.7	2.7	0	%100
45	MP4A	X	-1.559	-1.559	0	%100
46	MP4A	Z	2.7	2.7	0	%100
47	MP5A	X	-1.559	-1.559	0	%100
48	MP5A	Z	2.7	2.7	0	%100
49	M39	X	-.522	-.522	0	%100
50	M39	Z	.905	.905	0	%100
51	M40	X	-2.037	-2.037	0	%100
52	M40	Z	3.528	3.528	0	%100
53	M41	X	-.699	-.699	0	%100
54	M41	Z	1.211	1.211	0	%100
55	M42	X	-2.092	-2.092	0	%100
56	M42	Z	3.624	3.624	0	%100
57	M48	X	-1.296	-1.296	0	%100
58	M48	Z	2.245	2.245	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	-1.625	-1.625	0	%100
2	M1	Z	.938	.938	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,%]
3	M3	X	-.57	-.57	0	%100
4	M3	Z	.329	.329	0	%100
5	M4	X	-.57	-.57	0	%100
6	M4	Z	.329	.329	0	%100
7	M6	X	-1.625	-1.625	0	%100
8	M6	Z	.938	.938	0	%100
9	M8	X	-.57	-.57	0	%100
10	M8	Z	.329	.329	0	%100
11	M9	X	-.57	-.57	0	%100
12	M9	Z	.329	.329	0	%100
13	M14	X	-1.614	-1.614	0	%100
14	M14	Z	.932	.932	0	%100
15	M15	X	-1.614	-1.614	0	%100
16	M15	Z	.932	.932	0	%100
17	M16	X	-1.566	-1.566	0	%100
18	M16	Z	.904	.904	0	%100
19	MP1A	X	-2.993	-2.993	0	%100
20	MP1A	Z	1.728	1.728	0	%100
21	M26	X	-1.747	-1.747	0	%100
22	M26	Z	1.009	1.009	0	%100
23	M27	X	-1.467	-1.467	0	%100
24	M27	Z	.847	.847	0	%100
25	M28	X	-1.467	-1.467	0	%100
26	M28	Z	.847	.847	0	%100
27	M29	X	-1.747	-1.747	0	%100
28	M29	Z	1.009	1.009	0	%100
29	M30	X	-1.056	-1.056	0	%100
30	M30	Z	.61	.61	0	%100
31	M31	X	-.866	-.866	0	%100
32	M31	Z	.5	.5	0	%100
33	M34	X	-1.467	-1.467	0	%100
34	M34	Z	.847	.847	0	%100
35	M35	X	-1.056	-1.056	0	%100
36	M35	Z	.61	.61	0	%100
37	M34A	X	-2.117	-2.117	0	%100
38	M34A	Z	1.222	1.222	0	%100
39	M35A	X	-1.915	-1.915	0	%100
40	M35A	Z	1.105	1.105	0	%100
41	MP2A	X	-2.7	-2.7	0	%100
42	MP2A	Z	1.559	1.559	0	%100
43	MP3A	X	-2.7	-2.7	0	%100
44	MP3A	Z	1.559	1.559	0	%100
45	MP4A	X	-2.7	-2.7	0	%100
46	MP4A	Z	1.559	1.559	0	%100
47	MP5A	X	-2.7	-2.7	0	%100
48	MP5A	Z	1.559	1.559	0	%100
49	M39	X	-.077	-.077	0	%100
50	M39	Z	.044	.044	0	%100
51	M40	X	-3.126	-3.126	0	%100
52	M40	Z	1.805	1.805	0	%100
53	M41	X	-.473	-.473	0	%100
54	M41	Z	.273	.273	0	%100
55	M42	X	-3.271	-3.271	0	%100
56	M42	Z	1.889	1.889	0	%100
57	M48	X	-.748	-.748	0	%100
58	M48	Z	.432	.432	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	-2.502	-2.502	0	%100
2	M1	Z	0	0	0	%100
3	M3	X	0	0	0	%100
4	M3	Z	0	0	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	0	0	0	%100
7	M6	X	-2.502	-2.502	0	%100
8	M6	Z	0	0	0	%100
9	M8	X	0	0	0	%100
10	M8	Z	0	0	0	%100
11	M9	X	0	0	0	%100
12	M9	Z	0	0	0	%100
13	M14	X	-1.864	-1.864	0	%100
14	M14	Z	0	0	0	%100
15	M15	X	-1.864	-1.864	0	%100
16	M15	Z	0	0	0	%100
17	M16	X	-1.914	-1.914	0	%100
18	M16	Z	0	0	0	%100
19	MP1A	X	-3.456	-3.456	0	%100
20	MP1A	Z	0	0	0	%100
21	M26	X	-2.018	-2.018	0	%100
22	M26	Z	0	0	0	%100
23	M27	X	-1.695	-1.695	0	%100
24	M27	Z	0	0	0	%100
25	M28	X	-1.695	-1.695	0	%100
26	M28	Z	0	0	0	%100
27	M29	X	-2.018	-2.018	0	%100
28	M29	Z	0	0	0	%100
29	M30	X	-1.019	-1.019	0	%100
30	M30	Z	0	0	0	%100
31	M31	X	-.682	-.682	0	%100
32	M31	Z	0	0	0	%100
33	M34	X	-1.695	-1.695	0	%100
34	M34	Z	0	0	0	%100
35	M35	X	-1.019	-1.019	0	%100
36	M35	Z	0	0	0	%100
37	M34A	X	-3.448	-3.448	0	%100
38	M34A	Z	0	0	0	%100
39	M35A	X	-3.111	-3.111	0	%100
40	M35A	Z	0	0	0	%100
41	MP2A	X	-3.117	-3.117	0	%100
42	MP2A	Z	0	0	0	%100
43	MP3A	X	-3.117	-3.117	0	%100
44	MP3A	Z	0	0	0	%100
45	MP4A	X	-3.117	-3.117	0	%100
46	MP4A	Z	0	0	0	%100
47	MP5A	X	-3.117	-3.117	0	%100
48	MP5A	Z	0	0	0	%100
49	M39	X	-1.253	-1.253	0	%100
50	M39	Z	0	0	0	%100
51	M40	X	-1.673	-1.673	0	%100
52	M40	Z	0	0	0	%100
53	M41	X	-1.584	-1.584	0	%100
54	M41	Z	0	0	0	%100
55	M42	X	-2.079	-2.079	0	%100
56	M42	Z	0	0	0	%100
57	M48	X	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
58	M48	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	-1.625	-1.625	0	%100
2	M1	Z	-.938	-.938	0	%100
3	M3	X	-.57	-.57	0	%100
4	M3	Z	-.329	-.329	0	%100
5	M4	X	-.57	-.57	0	%100
6	M4	Z	-.329	-.329	0	%100
7	M6	X	-1.625	-1.625	0	%100
8	M6	Z	-.938	-.938	0	%100
9	M8	X	-.57	-.57	0	%100
10	M8	Z	-.329	-.329	0	%100
11	M9	X	-.57	-.57	0	%100
12	M9	Z	-.329	-.329	0	%100
13	M14	X	-1.614	-1.614	0	%100
14	M14	Z	-.932	-.932	0	%100
15	M15	X	-1.614	-1.614	0	%100
16	M15	Z	-.932	-.932	0	%100
17	M16	X	-1.566	-1.566	0	%100
18	M16	Z	-.904	-.904	0	%100
19	MP1A	X	-2.993	-2.993	0	%100
20	MP1A	Z	-1.728	-1.728	0	%100
21	M26	X	-1.747	-1.747	0	%100
22	M26	Z	-1.009	-1.009	0	%100
23	M27	X	-1.467	-1.467	0	%100
24	M27	Z	-.847	-.847	0	%100
25	M28	X	-1.467	-1.467	0	%100
26	M28	Z	-.847	-.847	0	%100
27	M29	X	-1.747	-1.747	0	%100
28	M29	Z	-1.009	-1.009	0	%100
29	M30	X	-1.056	-1.056	0	%100
30	M30	Z	-.61	-.61	0	%100
31	M31	X	-.866	-.866	0	%100
32	M31	Z	-.5	-.5	0	%100
33	M34	X	-1.467	-1.467	0	%100
34	M34	Z	-.847	-.847	0	%100
35	M35	X	-1.056	-1.056	0	%100
36	M35	Z	-.61	-.61	0	%100
37	M34A	X	-2.365	-2.365	0	%100
38	M34A	Z	-1.366	-1.366	0	%100
39	M35A	X	-2.129	-2.129	0	%100
40	M35A	Z	-1.229	-1.229	0	%100
41	MP2A	X	-2.7	-2.7	0	%100
42	MP2A	Z	-1.559	-1.559	0	%100
43	MP3A	X	-2.7	-2.7	0	%100
44	MP3A	Z	-1.559	-1.559	0	%100
45	MP4A	X	-2.7	-2.7	0	%100
46	MP4A	Z	-1.559	-1.559	0	%100
47	MP5A	X	-2.7	-2.7	0	%100
48	MP5A	Z	-1.559	-1.559	0	%100
49	M39	X	-2.92	-2.92	0	%100
50	M39	Z	-1.686	-1.686	0	%100
51	M40	X	-.173	-.173	0	%100
52	M40	Z	-.1	-.1	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
53	M41	X	-3.01	-3.01	0	%100
54	M41	Z	-1.738	-1.738	0	%100
55	M42	X	-.682	-.682	0	%100
56	M42	Z	-.394	-.394	0	%100
57	M48	X	-.748	-.748	0	%100
58	M48	Z	-.432	-.432	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	-.313	-.313	0	%100
2	M1	Z	-.542	-.542	0	%100
3	M3	X	-.987	-.987	0	%100
4	M3	Z	-1.71	-1.71	0	%100
5	M4	X	-.987	-.987	0	%100
6	M4	Z	-1.71	-1.71	0	%100
7	M6	X	-.313	-.313	0	%100
8	M6	Z	-.542	-.542	0	%100
9	M8	X	-.987	-.987	0	%100
10	M8	Z	-1.71	-1.71	0	%100
11	M9	X	-.987	-.987	0	%100
12	M9	Z	-1.71	-1.71	0	%100
13	M14	X	-.932	-.932	0	%100
14	M14	Z	-1.614	-1.614	0	%100
15	M15	X	-.932	-.932	0	%100
16	M15	Z	-1.614	-1.614	0	%100
17	M16	X	-.798	-.798	0	%100
18	M16	Z	-1.382	-1.382	0	%100
19	MP1A	X	-1.728	-1.728	0	%100
20	MP1A	Z	-2.993	-2.993	0	%100
21	M26	X	-1.009	-1.009	0	%100
22	M26	Z	-1.747	-1.747	0	%100
23	M27	X	-.847	-.847	0	%100
24	M27	Z	-1.467	-1.467	0	%100
25	M28	X	-.847	-.847	0	%100
26	M28	Z	-1.467	-1.467	0	%100
27	M29	X	-1.009	-1.009	0	%100
28	M29	Z	-1.747	-1.747	0	%100
29	M30	X	-.81	-.81	0	%100
30	M30	Z	-1.404	-1.404	0	%100
31	M31	X	-.819	-.819	0	%100
32	M31	Z	-1.418	-1.418	0	%100
33	M34	X	-.847	-.847	0	%100
34	M34	Z	-1.467	-1.467	0	%100
35	M35	X	-.81	-.81	0	%100
36	M35	Z	-1.404	-1.404	0	%100
37	M34A	X	-.506	-.506	0	%100
38	M34A	Z	-.876	-.876	0	%100
39	M35A	X	-.453	-.453	0	%100
40	M35A	Z	-.785	-.785	0	%100
41	MP2A	X	-1.559	-1.559	0	%100
42	MP2A	Z	-2.7	-2.7	0	%100
43	MP3A	X	-1.559	-1.559	0	%100
44	MP3A	Z	-2.7	-2.7	0	%100
45	MP4A	X	-1.559	-1.559	0	%100
46	MP4A	Z	-2.7	-2.7	0	%100
47	MP5A	X	-1.559	-1.559	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
48	MP5A	Z	-2.7	-2.7	0	%100
49	M39	X	-2.164	-2.164	0	%100
50	M39	Z	-3.748	-3.748	0	%100
51	M40	X	-.332	-.332	0	%100
52	M40	Z	-.575	-.575	0	%100
53	M41	X	-2.164	-2.164	0	%100
54	M41	Z	-3.748	-3.748	0	%100
55	M42	X	-.597	-.597	0	%100
56	M42	Z	-1.034	-1.034	0	%100
57	M48	X	-1.296	-1.296	0	%100
58	M48	Z	-2.245	-2.245	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	M3	X	0	0	0	%100
4	M3	Z	-.405	-.405	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	-.405	-.405	0	%100
7	M6	X	0	0	0	%100
8	M6	Z	0	0	0	%100
9	M8	X	0	0	0	%100
10	M8	Z	-.405	-.405	0	%100
11	M9	X	0	0	0	%100
12	M9	Z	-.405	-.405	0	%100
13	M14	X	0	0	0	%100
14	M14	Z	-.244	-.244	0	%100
15	M15	X	0	0	0	%100
16	M15	Z	-.244	-.244	0	%100
17	M16	X	0	0	0	%100
18	M16	Z	-.19	-.19	0	%100
19	MP1A	X	0	0	0	%100
20	MP1A	Z	-.701	-.701	0	%100
21	M26	X	0	0	0	%100
22	M26	Z	-.299	-.299	0	%100
23	M27	X	0	0	0	%100
24	M27	Z	-.183	-.183	0	%100
25	M28	X	0	0	0	%100
26	M28	Z	-.183	-.183	0	%100
27	M29	X	0	0	0	%100
28	M29	Z	-.299	-.299	0	%100
29	M30	X	0	0	0	%100
30	M30	Z	-.183	-.183	0	%100
31	M31	X	0	0	0	%100
32	M31	Z	-.183	-.183	0	%100
33	M34	X	0	0	0	%100
34	M34	Z	-.183	-.183	0	%100
35	M35	X	0	0	0	%100
36	M35	Z	-.183	-.183	0	%100
37	M34A	X	0	0	0	%100
38	M34A	Z	-.002	-.002	0	%100
39	M35A	X	0	0	0	%100
40	M35A	Z	-.001	-.001	0	%100
41	MP2A	X	0	0	0	%100
42	MP2A	Z	-.579	-.579	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
43	MP3A	X	0	0	0	%100
44	MP3A	Z	-.579	-.579	0	%100
45	MP4A	X	0	0	0	%100
46	MP4A	Z	-.579	-.579	0	%100
47	MP5A	X	0	0	0	%100
48	MP5A	Z	-.579	-.579	0	%100
49	M39	X	0	0	0	%100
50	M39	Z	-.742	-.742	0	%100
51	M40	X	0	0	0	%100
52	M40	Z	-.601	-.601	0	%100
53	M41	X	0	0	0	%100
54	M41	Z	-.772	-.772	0	%100
55	M42	X	0	0	0	%100
56	M42	Z	-.673	-.673	0	%100
57	M48	X	0	0	0	%100
58	M48	Z	-.701	-.701	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	.062	.062	0	%100
2	M1	Z	-.107	-.107	0	%100
3	M3	X	.152	.152	0	%100
4	M3	Z	-.263	-.263	0	%100
5	M4	X	.152	.152	0	%100
6	M4	Z	-.263	-.263	0	%100
7	M6	X	.062	.062	0	%100
8	M6	Z	-.107	-.107	0	%100
9	M8	X	.152	.152	0	%100
10	M8	Z	-.263	-.263	0	%100
11	M9	X	.152	.152	0	%100
12	M9	Z	-.263	-.263	0	%100
13	M14	X	.122	.122	0	%100
14	M14	Z	-.211	-.211	0	%100
15	M15	X	.122	.122	0	%100
16	M15	Z	-.211	-.211	0	%100
17	M16	X	.102	.102	0	%100
18	M16	Z	-.176	-.176	0	%100
19	MP1A	X	.351	.351	0	%100
20	MP1A	Z	-.607	-.607	0	%100
21	M26	X	.15	.15	0	%100
22	M26	Z	-.259	-.259	0	%100
23	M27	X	.091	.091	0	%100
24	M27	Z	-.158	-.158	0	%100
25	M28	X	.091	.091	0	%100
26	M28	Z	-.158	-.158	0	%100
27	M29	X	.15	.15	0	%100
28	M29	Z	-.259	-.259	0	%100
29	M30	X	.081	.081	0	%100
30	M30	Z	-.141	-.141	0	%100
31	M31	X	.077	.077	0	%100
32	M31	Z	-.133	-.133	0	%100
33	M34	X	.091	.091	0	%100
34	M34	Z	-.158	-.158	0	%100
35	M35	X	.081	.081	0	%100
36	M35	Z	-.141	-.141	0	%100
37	M34A	X	.074	.074	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,%]
38	M34A	Z	-.127	-.127	0	%100
39	M35A	X	.061	.061	0	%100
40	M35A	Z	-.106	-.106	0	%100
41	MP2A	X	.29	.29	0	%100
42	MP2A	Z	-.502	-.502	0	%100
43	MP3A	X	.29	.29	0	%100
44	MP3A	Z	-.502	-.502	0	%100
45	MP4A	X	.29	.29	0	%100
46	MP4A	Z	-.502	-.502	0	%100
47	MP5A	X	.29	.29	0	%100
48	MP5A	Z	-.502	-.502	0	%100
49	M39	X	.123	.123	0	%100
50	M39	Z	-.212	-.212	0	%100
51	M40	X	.47	.47	0	%100
52	M40	Z	-.815	-.815	0	%100
53	M41	X	.164	.164	0	%100
54	M41	Z	-.284	-.284	0	%100
55	M42	X	.486	.486	0	%100
56	M42	Z	-.843	-.843	0	%100
57	M48	X	.263	.263	0	%100
58	M48	Z	-.455	-.455	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	.32	.32	0	%100
2	M1	Z	-.185	-.185	0	%100
3	M3	X	.088	.088	0	%100
4	M3	Z	-.051	-.051	0	%100
5	M4	X	.088	.088	0	%100
6	M4	Z	-.051	-.051	0	%100
7	M6	X	.32	.32	0	%100
8	M6	Z	-.185	-.185	0	%100
9	M8	X	.088	.088	0	%100
10	M8	Z	-.051	-.051	0	%100
11	M9	X	.088	.088	0	%100
12	M9	Z	-.051	-.051	0	%100
13	M14	X	.211	.211	0	%100
14	M14	Z	-.122	-.122	0	%100
15	M15	X	.211	.211	0	%100
16	M15	Z	-.122	-.122	0	%100
17	M16	X	.199	.199	0	%100
18	M16	Z	-.115	-.115	0	%100
19	MP1A	X	.607	.607	0	%100
20	MP1A	Z	-.351	-.351	0	%100
21	M26	X	.259	.259	0	%100
22	M26	Z	-.15	-.15	0	%100
23	M27	X	.158	.158	0	%100
24	M27	Z	-.091	-.091	0	%100
25	M28	X	.158	.158	0	%100
26	M28	Z	-.091	-.091	0	%100
27	M29	X	.259	.259	0	%100
28	M29	Z	-.15	-.15	0	%100
29	M30	X	.106	.106	0	%100
30	M30	Z	-.061	-.061	0	%100
31	M31	X	.081	.081	0	%100
32	M31	Z	-.047	-.047	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
33	M34	X	.158	.158	0	%100
34	M34	Z	-.091	-.091	0	%100
35	M35	X	.106	.106	0	%100
36	M35	Z	-.061	-.061	0	%100
37	M34A	X	.429	.429	0	%100
38	M34A	Z	-.248	-.248	0	%100
39	M35A	X	.356	.356	0	%100
40	M35A	Z	-.205	-.205	0	%100
41	MP2A	X	.502	.502	0	%100
42	MP2A	Z	-.29	-.29	0	%100
43	MP3A	X	.502	.502	0	%100
44	MP3A	Z	-.29	-.29	0	%100
45	MP4A	X	.502	.502	0	%100
46	MP4A	Z	-.29	-.29	0	%100
47	MP5A	X	.502	.502	0	%100
48	MP5A	Z	-.29	-.29	0	%100
49	M39	X	.018	.018	0	%100
50	M39	Z	-.01	-.01	0	%100
51	M40	X	.722	.722	0	%100
52	M40	Z	-.417	-.417	0	%100
53	M41	X	.111	.111	0	%100
54	M41	Z	-.064	-.064	0	%100
55	M42	X	.761	.761	0	%100
56	M42	Z	-.439	-.439	0	%100
57	M48	X	.152	.152	0	%100
58	M48	Z	-.088	-.088	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	.493	.493	0	%100
2	M1	Z	0	0	0	%100
3	M3	X	0	0	0	%100
4	M3	Z	0	0	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	0	0	0	%100
7	M6	X	.493	.493	0	%100
8	M6	Z	0	0	0	%100
9	M8	X	0	0	0	%100
10	M8	Z	0	0	0	%100
11	M9	X	0	0	0	%100
12	M9	Z	0	0	0	%100
13	M14	X	.244	.244	0	%100
14	M14	Z	0	0	0	%100
15	M15	X	.244	.244	0	%100
16	M15	Z	0	0	0	%100
17	M16	X	.244	.244	0	%100
18	M16	Z	0	0	0	%100
19	MP1A	X	.701	.701	0	%100
20	MP1A	Z	0	0	0	%100
21	M26	X	.299	.299	0	%100
22	M26	Z	0	0	0	%100
23	M27	X	.183	.183	0	%100
24	M27	Z	0	0	0	%100
25	M28	X	.183	.183	0	%100
26	M28	Z	0	0	0	%100
27	M29	X	.299	.299	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
28	M29	Z	0	0	0	%100
29	M30	X	.102	.102	0	%100
30	M30	Z	0	0	0	%100
31	M31	X	.064	.064	0	%100
32	M31	Z	0	0	0	%100
33	M34	X	.183	.183	0	%100
34	M34	Z	0	0	0	%100
35	M35	X	.102	.102	0	%100
36	M35	Z	0	0	0	%100
37	M34A	X	.699	.699	0	%100
38	M34A	Z	0	0	0	%100
39	M35A	X	.578	.578	0	%100
40	M35A	Z	0	0	0	%100
41	MP2A	X	.579	.579	0	%100
42	MP2A	Z	0	0	0	%100
43	MP3A	X	.579	.579	0	%100
44	MP3A	Z	0	0	0	%100
45	MP4A	X	.579	.579	0	%100
46	MP4A	Z	0	0	0	%100
47	MP5A	X	.579	.579	0	%100
48	MP5A	Z	0	0	0	%100
49	M39	X	.294	.294	0	%100
50	M39	Z	0	0	0	%100
51	M40	X	.386	.386	0	%100
52	M40	Z	0	0	0	%100
53	M41	X	.372	.372	0	%100
54	M41	Z	0	0	0	%100
55	M42	X	.483	.483	0	%100
56	M42	Z	0	0	0	%100
57	M48	X	0	0	0	%100
58	M48	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	.32	.32	0	%100
2	M1	Z	.185	.185	0	%100
3	M3	X	.088	.088	0	%100
4	M3	Z	.051	.051	0	%100
5	M4	X	.088	.088	0	%100
6	M4	Z	.051	.051	0	%100
7	M6	X	.32	.32	0	%100
8	M6	Z	.185	.185	0	%100
9	M8	X	.088	.088	0	%100
10	M8	Z	.051	.051	0	%100
11	M9	X	.088	.088	0	%100
12	M9	Z	.051	.051	0	%100
13	M14	X	.211	.211	0	%100
14	M14	Z	.122	.122	0	%100
15	M15	X	.211	.211	0	%100
16	M15	Z	.122	.122	0	%100
17	M16	X	.199	.199	0	%100
18	M16	Z	.115	.115	0	%100
19	MP1A	X	.607	.607	0	%100
20	MP1A	Z	.351	.351	0	%100
21	M26	X	.259	.259	0	%100
22	M26	Z	.15	.15	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
23	M27	X	.158	.158	0	%100
24	M27	Z	.091	.091	0	%100
25	M28	X	.158	.158	0	%100
26	M28	Z	.091	.091	0	%100
27	M29	X	.259	.259	0	%100
28	M29	Z	.15	.15	0	%100
29	M30	X	.106	.106	0	%100
30	M30	Z	.061	.061	0	%100
31	M31	X	.081	.081	0	%100
32	M31	Z	.047	.047	0	%100
33	M34	X	.158	.158	0	%100
34	M34	Z	.091	.091	0	%100
35	M35	X	.106	.106	0	%100
36	M35	Z	.061	.061	0	%100
37	M34A	X	.48	.48	0	%100
38	M34A	Z	.277	.277	0	%100
39	M35A	X	.396	.396	0	%100
40	M35A	Z	.228	.228	0	%100
41	MP2A	X	.502	.502	0	%100
42	MP2A	Z	.29	.29	0	%100
43	MP3A	X	.502	.502	0	%100
44	MP3A	Z	.29	.29	0	%100
45	MP4A	X	.502	.502	0	%100
46	MP4A	Z	.29	.29	0	%100
47	MP5A	X	.502	.502	0	%100
48	MP5A	Z	.29	.29	0	%100
49	M39	X	.685	.685	0	%100
50	M39	Z	.396	.396	0	%100
51	M40	X	.04	.04	0	%100
52	M40	Z	.023	.023	0	%100
53	M41	X	.706	.706	0	%100
54	M41	Z	.408	.408	0	%100
55	M42	X	.158	.158	0	%100
56	M42	Z	.092	.092	0	%100
57	M48	X	.152	.152	0	%100
58	M48	Z	.088	.088	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	.062	.062	0	%100
2	M1	Z	.107	.107	0	%100
3	M3	X	.152	.152	0	%100
4	M3	Z	.263	.263	0	%100
5	M4	X	.152	.152	0	%100
6	M4	Z	.263	.263	0	%100
7	M6	X	.062	.062	0	%100
8	M6	Z	.107	.107	0	%100
9	M8	X	.152	.152	0	%100
10	M8	Z	.263	.263	0	%100
11	M9	X	.152	.152	0	%100
12	M9	Z	.263	.263	0	%100
13	M14	X	.122	.122	0	%100
14	M14	Z	.211	.211	0	%100
15	M15	X	.122	.122	0	%100
16	M15	Z	.211	.211	0	%100
17	M16	X	.102	.102	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
18	M16	Z	.176	.176	0	%100
19	MP1A	X	.351	.351	0	%100
20	MP1A	Z	.607	.607	0	%100
21	M26	X	.15	.15	0	%100
22	M26	Z	.259	.259	0	%100
23	M27	X	.091	.091	0	%100
24	M27	Z	.158	.158	0	%100
25	M28	X	.091	.091	0	%100
26	M28	Z	.158	.158	0	%100
27	M29	X	.15	.15	0	%100
28	M29	Z	.259	.259	0	%100
29	M30	X	.081	.081	0	%100
30	M30	Z	.141	.141	0	%100
31	M31	X	.077	.077	0	%100
32	M31	Z	.133	.133	0	%100
33	M34	X	.091	.091	0	%100
34	M34	Z	.158	.158	0	%100
35	M35	X	.081	.081	0	%100
36	M35	Z	.141	.141	0	%100
37	M34A	X	.103	.103	0	%100
38	M34A	Z	.178	.178	0	%100
39	M35A	X	.084	.084	0	%100
40	M35A	Z	.146	.146	0	%100
41	MP2A	X	.29	.29	0	%100
42	MP2A	Z	.502	.502	0	%100
43	MP3A	X	.29	.29	0	%100
44	MP3A	Z	.502	.502	0	%100
45	MP4A	X	.29	.29	0	%100
46	MP4A	Z	.502	.502	0	%100
47	MP5A	X	.29	.29	0	%100
48	MP5A	Z	.502	.502	0	%100
49	M39	X	.508	.508	0	%100
50	M39	Z	.879	.879	0	%100
51	M40	X	.077	.077	0	%100
52	M40	Z	.133	.133	0	%100
53	M41	X	.508	.508	0	%100
54	M41	Z	.879	.879	0	%100
55	M42	X	.139	.139	0	%100
56	M42	Z	.24	.24	0	%100
57	M48	X	.263	.263	0	%100
58	M48	Z	.455	.455	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	M3	X	0	0	0	%100
4	M3	Z	.405	.405	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	.405	.405	0	%100
7	M6	X	0	0	0	%100
8	M6	Z	0	0	0	%100
9	M8	X	0	0	0	%100
10	M8	Z	.405	.405	0	%100
11	M9	X	0	0	0	%100
12	M9	Z	.405	.405	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,%]
13	M14	X	0	0	0	%100
14	M14	Z	.244	.244	0	%100
15	M15	X	0	0	0	%100
16	M15	Z	.244	.244	0	%100
17	M16	X	0	0	0	%100
18	M16	Z	.19	.19	0	%100
19	MP1A	X	0	0	0	%100
20	MP1A	Z	.701	.701	0	%100
21	M26	X	0	0	0	%100
22	M26	Z	.299	.299	0	%100
23	M27	X	0	0	0	%100
24	M27	Z	.183	.183	0	%100
25	M28	X	0	0	0	%100
26	M28	Z	.183	.183	0	%100
27	M29	X	0	0	0	%100
28	M29	Z	.299	.299	0	%100
29	M30	X	0	0	0	%100
30	M30	Z	.183	.183	0	%100
31	M31	X	0	0	0	%100
32	M31	Z	.183	.183	0	%100
33	M34	X	0	0	0	%100
34	M34	Z	.183	.183	0	%100
35	M35	X	0	0	0	%100
36	M35	Z	.183	.183	0	%100
37	M34A	X	0	0	0	%100
38	M34A	Z	.002	.002	0	%100
39	M35A	X	0	0	0	%100
40	M35A	Z	.001	.001	0	%100
41	MP2A	X	0	0	0	%100
42	MP2A	Z	.579	.579	0	%100
43	MP3A	X	0	0	0	%100
44	MP3A	Z	.579	.579	0	%100
45	MP4A	X	0	0	0	%100
46	MP4A	Z	.579	.579	0	%100
47	MP5A	X	0	0	0	%100
48	MP5A	Z	.579	.579	0	%100
49	M39	X	0	0	0	%100
50	M39	Z	.742	.742	0	%100
51	M40	X	0	0	0	%100
52	M40	Z	.601	.601	0	%100
53	M41	X	0	0	0	%100
54	M41	Z	.772	.772	0	%100
55	M42	X	0	0	0	%100
56	M42	Z	.673	.673	0	%100
57	M48	X	0	0	0	%100
58	M48	Z	.701	.701	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	-.062	-.062	0	%100
2	M1	Z	.107	.107	0	%100
3	M3	X	-.152	-.152	0	%100
4	M3	Z	.263	.263	0	%100
5	M4	X	-.152	-.152	0	%100
6	M4	Z	.263	.263	0	%100
7	M6	X	-.062	-.062	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
8	M6	Z	.107	.107	0	%100
9	M8	X	-.152	-.152	0	%100
10	M8	Z	.263	.263	0	%100
11	M9	X	-.152	-.152	0	%100
12	M9	Z	.263	.263	0	%100
13	M14	X	-.122	-.122	0	%100
14	M14	Z	.211	.211	0	%100
15	M15	X	-.122	-.122	0	%100
16	M15	Z	.211	.211	0	%100
17	M16	X	-.102	-.102	0	%100
18	M16	Z	.176	.176	0	%100
19	MP1A	X	-.351	-.351	0	%100
20	MP1A	Z	.607	.607	0	%100
21	M26	X	-.15	-.15	0	%100
22	M26	Z	.259	.259	0	%100
23	M27	X	-.091	-.091	0	%100
24	M27	Z	.158	.158	0	%100
25	M28	X	-.091	-.091	0	%100
26	M28	Z	.158	.158	0	%100
27	M29	X	-.15	-.15	0	%100
28	M29	Z	.259	.259	0	%100
29	M30	X	-.081	-.081	0	%100
30	M30	Z	.141	.141	0	%100
31	M31	X	-.077	-.077	0	%100
32	M31	Z	.133	.133	0	%100
33	M34	X	-.091	-.091	0	%100
34	M34	Z	.158	.158	0	%100
35	M35	X	-.081	-.081	0	%100
36	M35	Z	.141	.141	0	%100
37	M34A	X	-.074	-.074	0	%100
38	M34A	Z	.127	.127	0	%100
39	M35A	X	-.061	-.061	0	%100
40	M35A	Z	.106	.106	0	%100
41	MP2A	X	-.29	-.29	0	%100
42	MP2A	Z	.502	.502	0	%100
43	MP3A	X	-.29	-.29	0	%100
44	MP3A	Z	.502	.502	0	%100
45	MP4A	X	-.29	-.29	0	%100
46	MP4A	Z	.502	.502	0	%100
47	MP5A	X	-.29	-.29	0	%100
48	MP5A	Z	.502	.502	0	%100
49	M39	X	-.123	-.123	0	%100
50	M39	Z	.212	.212	0	%100
51	M40	X	-.47	-.47	0	%100
52	M40	Z	.815	.815	0	%100
53	M41	X	-.164	-.164	0	%100
54	M41	Z	.284	.284	0	%100
55	M42	X	-.486	-.486	0	%100
56	M42	Z	.843	.843	0	%100
57	M48	X	-.263	-.263	0	%100
58	M48	Z	.455	.455	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	-.32	-.32	0	%100
2	M1	Z	.185	.185	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
3	M3	X	-.088	-.088	0	%100
4	M3	Z	.051	.051	0	%100
5	M4	X	-.088	-.088	0	%100
6	M4	Z	.051	.051	0	%100
7	M6	X	-.32	-.32	0	%100
8	M6	Z	.185	.185	0	%100
9	M8	X	-.088	-.088	0	%100
10	M8	Z	.051	.051	0	%100
11	M9	X	-.088	-.088	0	%100
12	M9	Z	.051	.051	0	%100
13	M14	X	-.211	-.211	0	%100
14	M14	Z	.122	.122	0	%100
15	M15	X	-.211	-.211	0	%100
16	M15	Z	.122	.122	0	%100
17	M16	X	-.199	-.199	0	%100
18	M16	Z	.115	.115	0	%100
19	MP1A	X	-.607	-.607	0	%100
20	MP1A	Z	.351	.351	0	%100
21	M26	X	-.259	-.259	0	%100
22	M26	Z	.15	.15	0	%100
23	M27	X	-.158	-.158	0	%100
24	M27	Z	.091	.091	0	%100
25	M28	X	-.158	-.158	0	%100
26	M28	Z	.091	.091	0	%100
27	M29	X	-.259	-.259	0	%100
28	M29	Z	.15	.15	0	%100
29	M30	X	-.106	-.106	0	%100
30	M30	Z	.061	.061	0	%100
31	M31	X	-.081	-.081	0	%100
32	M31	Z	.047	.047	0	%100
33	M34	X	-.158	-.158	0	%100
34	M34	Z	.091	.091	0	%100
35	M35	X	-.106	-.106	0	%100
36	M35	Z	.061	.061	0	%100
37	M34A	X	-.429	-.429	0	%100
38	M34A	Z	.248	.248	0	%100
39	M35A	X	-.356	-.356	0	%100
40	M35A	Z	.205	.205	0	%100
41	MP2A	X	-.502	-.502	0	%100
42	MP2A	Z	.29	.29	0	%100
43	MP3A	X	-.502	-.502	0	%100
44	MP3A	Z	.29	.29	0	%100
45	MP4A	X	-.502	-.502	0	%100
46	MP4A	Z	.29	.29	0	%100
47	MP5A	X	-.502	-.502	0	%100
48	MP5A	Z	.29	.29	0	%100
49	M39	X	-.018	-.018	0	%100
50	M39	Z	.01	.01	0	%100
51	M40	X	-.722	-.722	0	%100
52	M40	Z	.417	.417	0	%100
53	M41	X	-.111	-.111	0	%100
54	M41	Z	.064	.064	0	%100
55	M42	X	-.761	-.761	0	%100
56	M42	Z	.439	.439	0	%100
57	M48	X	-.152	-.152	0	%100
58	M48	Z	.088	.088	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	-.493	-.493	0	%100
2	M1	Z	0	0	0	%100
3	M3	X	0	0	0	%100
4	M3	Z	0	0	0	%100
5	M4	X	0	0	0	%100
6	M4	Z	0	0	0	%100
7	M6	X	-.493	-.493	0	%100
8	M6	Z	0	0	0	%100
9	M8	X	0	0	0	%100
10	M8	Z	0	0	0	%100
11	M9	X	0	0	0	%100
12	M9	Z	0	0	0	%100
13	M14	X	-.244	-.244	0	%100
14	M14	Z	0	0	0	%100
15	M15	X	-.244	-.244	0	%100
16	M15	Z	0	0	0	%100
17	M16	X	-.244	-.244	0	%100
18	M16	Z	0	0	0	%100
19	MP1A	X	-.701	-.701	0	%100
20	MP1A	Z	0	0	0	%100
21	M26	X	-.299	-.299	0	%100
22	M26	Z	0	0	0	%100
23	M27	X	-.183	-.183	0	%100
24	M27	Z	0	0	0	%100
25	M28	X	-.183	-.183	0	%100
26	M28	Z	0	0	0	%100
27	M29	X	-.299	-.299	0	%100
28	M29	Z	0	0	0	%100
29	M30	X	-.102	-.102	0	%100
30	M30	Z	0	0	0	%100
31	M31	X	-.064	-.064	0	%100
32	M31	Z	0	0	0	%100
33	M34	X	-.183	-.183	0	%100
34	M34	Z	0	0	0	%100
35	M35	X	-.102	-.102	0	%100
36	M35	Z	0	0	0	%100
37	M34A	X	-.699	-.699	0	%100
38	M34A	Z	0	0	0	%100
39	M35A	X	-.578	-.578	0	%100
40	M35A	Z	0	0	0	%100
41	MP2A	X	-.579	-.579	0	%100
42	MP2A	Z	0	0	0	%100
43	MP3A	X	-.579	-.579	0	%100
44	MP3A	Z	0	0	0	%100
45	MP4A	X	-.579	-.579	0	%100
46	MP4A	Z	0	0	0	%100
47	MP5A	X	-.579	-.579	0	%100
48	MP5A	Z	0	0	0	%100
49	M39	X	-.294	-.294	0	%100
50	M39	Z	0	0	0	%100
51	M40	X	-.386	-.386	0	%100
52	M40	Z	0	0	0	%100
53	M41	X	-.372	-.372	0	%100
54	M41	Z	0	0	0	%100
55	M42	X	-.483	-.483	0	%100
56	M42	Z	0	0	0	%100
57	M48	X	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
58	M48	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	-.32	-.32	0	%100
2	M1	Z	-.185	-.185	0	%100
3	M3	X	-.088	-.088	0	%100
4	M3	Z	-.051	-.051	0	%100
5	M4	X	-.088	-.088	0	%100
6	M4	Z	-.051	-.051	0	%100
7	M6	X	-.32	-.32	0	%100
8	M6	Z	-.185	-.185	0	%100
9	M8	X	-.088	-.088	0	%100
10	M8	Z	-.051	-.051	0	%100
11	M9	X	-.088	-.088	0	%100
12	M9	Z	-.051	-.051	0	%100
13	M14	X	-.211	-.211	0	%100
14	M14	Z	-.122	-.122	0	%100
15	M15	X	-.211	-.211	0	%100
16	M15	Z	-.122	-.122	0	%100
17	M16	X	-.199	-.199	0	%100
18	M16	Z	-.115	-.115	0	%100
19	MP1A	X	-.607	-.607	0	%100
20	MP1A	Z	-.351	-.351	0	%100
21	M26	X	-.259	-.259	0	%100
22	M26	Z	-.15	-.15	0	%100
23	M27	X	-.158	-.158	0	%100
24	M27	Z	-.091	-.091	0	%100
25	M28	X	-.158	-.158	0	%100
26	M28	Z	-.091	-.091	0	%100
27	M29	X	-.259	-.259	0	%100
28	M29	Z	-.15	-.15	0	%100
29	M30	X	-.106	-.106	0	%100
30	M30	Z	-.061	-.061	0	%100
31	M31	X	-.081	-.081	0	%100
32	M31	Z	-.047	-.047	0	%100
33	M34	X	-.158	-.158	0	%100
34	M34	Z	-.091	-.091	0	%100
35	M35	X	-.106	-.106	0	%100
36	M35	Z	-.061	-.061	0	%100
37	M34A	X	-.48	-.48	0	%100
38	M34A	Z	-.277	-.277	0	%100
39	M35A	X	-.396	-.396	0	%100
40	M35A	Z	-.228	-.228	0	%100
41	MP2A	X	-.502	-.502	0	%100
42	MP2A	Z	-.29	-.29	0	%100
43	MP3A	X	-.502	-.502	0	%100
44	MP3A	Z	-.29	-.29	0	%100
45	MP4A	X	-.502	-.502	0	%100
46	MP4A	Z	-.29	-.29	0	%100
47	MP5A	X	-.502	-.502	0	%100
48	MP5A	Z	-.29	-.29	0	%100
49	M39	X	-.685	-.685	0	%100
50	M39	Z	-.396	-.396	0	%100
51	M40	X	-.04	-.04	0	%100
52	M40	Z	-.023	-.023	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
53	M41	X	-.706	-.706	0	%100
54	M41	Z	-.408	-.408	0	%100
55	M42	X	-.158	-.158	0	%100
56	M42	Z	-.092	-.092	0	%100
57	M48	X	-.152	-.152	0	%100
58	M48	Z	-.088	-.088	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	-.062	-.062	0	%100
2	M1	Z	-.107	-.107	0	%100
3	M3	X	-.152	-.152	0	%100
4	M3	Z	-.263	-.263	0	%100
5	M4	X	-.152	-.152	0	%100
6	M4	Z	-.263	-.263	0	%100
7	M6	X	-.062	-.062	0	%100
8	M6	Z	-.107	-.107	0	%100
9	M8	X	-.152	-.152	0	%100
10	M8	Z	-.263	-.263	0	%100
11	M9	X	-.152	-.152	0	%100
12	M9	Z	-.263	-.263	0	%100
13	M14	X	-.122	-.122	0	%100
14	M14	Z	-.211	-.211	0	%100
15	M15	X	-.122	-.122	0	%100
16	M15	Z	-.211	-.211	0	%100
17	M16	X	-.102	-.102	0	%100
18	M16	Z	-.176	-.176	0	%100
19	MP1A	X	-.351	-.351	0	%100
20	MP1A	Z	-.607	-.607	0	%100
21	M26	X	-.15	-.15	0	%100
22	M26	Z	-.259	-.259	0	%100
23	M27	X	-.091	-.091	0	%100
24	M27	Z	-.158	-.158	0	%100
25	M28	X	-.091	-.091	0	%100
26	M28	Z	-.158	-.158	0	%100
27	M29	X	-.15	-.15	0	%100
28	M29	Z	-.259	-.259	0	%100
29	M30	X	-.081	-.081	0	%100
30	M30	Z	-.141	-.141	0	%100
31	M31	X	-.077	-.077	0	%100
32	M31	Z	-.133	-.133	0	%100
33	M34	X	-.091	-.091	0	%100
34	M34	Z	-.158	-.158	0	%100
35	M35	X	-.081	-.081	0	%100
36	M35	Z	-.141	-.141	0	%100
37	M34A	X	-.103	-.103	0	%100
38	M34A	Z	-.178	-.178	0	%100
39	M35A	X	-.084	-.084	0	%100
40	M35A	Z	-.146	-.146	0	%100
41	MP2A	X	-.29	-.29	0	%100
42	MP2A	Z	-.502	-.502	0	%100
43	MP3A	X	-.29	-.29	0	%100
44	MP3A	Z	-.502	-.502	0	%100
45	MP4A	X	-.29	-.29	0	%100
46	MP4A	Z	-.502	-.502	0	%100
47	MP5A	X	-.29	-.29	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,%]
48	MP5A	Z	-.502	-.502	0	%100
49	M39	X	-.508	-.508	0	%100
50	M39	Z	-.879	-.879	0	%100
51	M40	X	-.077	-.077	0	%100
52	M40	Z	-.133	-.133	0	%100
53	M41	X	-.508	-.508	0	%100
54	M41	Z	-.879	-.879	0	%100
55	M42	X	-.139	-.139	0	%100
56	M42	Z	-.24	-.24	0	%100
57	M48	X	-.263	-.263	0	%100
58	M48	Z	-.455	-.455	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	N16	max	5.104	46	469.236	15	135.595	8	-.048	8	0	75	.095	48
2		min	-8.894	4	83.167	8	-1745.078	14	-.262	15	0	1	-.063	49
3	N8	max	38.899	7	1487.424	15	1668.774	14	-.138	8	0	75	.082	48
4		min	-46.143	1	227.365	8	159.269	8	-.901	15	0	1	-.066	49
5	N54A	max	37.745	2	73.414	15	771.115	8	0	75	0	75	0	75
6		min	-31.905	8	33.561	73	-899.105	2	0	1	0	1	0	1
7	N55B	max	59.637	10	46.619	21	280.46	3	0	75	0	75	0	75
8		min	-52.679	4	16.303	67	-500.735	45	0	1	0	1	0	1
9	N65	max	981.3	10	644.758	8	2390.611	2	.002	2	0	7	0	1
10		min	-1101.965	4	-620.879	2	-2325.696	8	0	8	0	1	0	7
11	N66	max	676.911	47	465.725	48	626.963	12	0	7	0	6	0	6
12		min	-308.995	5	-221.216	6	-387.635	6	-.005	13	0	24	-.001	24
13	Totals:	max	1498.98	10	2278.57	24	2101.42	1						
14		min	-1498.98	4	798.394	68	-2101.366	7						

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Lo...	Dir	LC	phi*Pn...	phi*...	phi*...	phi*...	...	Eqn
1	M1	PIPE_2.5	.215	1.811	14	.099	0		15	48839....	50715	3.596	3.596	...	H1-...
2	M3	PIPE_1.25	.438	6.5	15	.192	6.5		14	6832.3...	1968..	.801	.801	...	H1-...
3	M4	PIPE_1.25	.430	0	14	.177	3....		45	9232.0...	1968..	.801	.801	...	H1-...
4	M6	PIPE_2.5	.248	1.788	14	.077	1....		38	48839....	50715	3.596	3.596	...	H1-...
5	M8	PIPE_1.25	.406	6.5	15	.213	6.5		14	6832.3...	1968..	.801	.801	...	H1-...
6	M9	PIPE_1.25	.403	0	14	.156	0		14	9232.0...	1968..	.801	.801	...	H1-...
7	M14	SR_1	.035	1.276	15	.008	0		7	17534....	25434	.423	.423	...	H1-...
8	M15	SR_1	.026	1.276	15	.005	0		7	17534....	25434	.423	.423	...	H1-...
9	M16	SR_1	.242	1.476	15	.005	0		31	15773....	25434	.423	.423	...	H1-...
10	MP1A	PIPE_2.5	.144	3.063	41	.061	2.99		4	33961....	50715	3.596	3.596	...	H1-...
11	M26	SR_1.25	.010	0	49	.011	0		12	24476....	3976..	.828	.828	1	H1-...
12	M27	SR_0.75	.016	1.25	2	.011	0		17	7395.5...	1431..	.179	.179	...	H1-...
13	M28	SR_0.75	.053	0	15	.018	0		37	7395.5...	1431..	.179	.179	...	H1-...
14	M29	SR_1.25	.018	0	13	.013	0		48	24476....	3976..	.828	.828	1	H1-...
15	M30	SR_0.75	.045	1.671	14	.014	0		49	4450.8...	1431..	.179	.179	...	H1-...
16	M31	SR_0.75	.096	2.117	24	.028	0		7	2774.49	1431..	.179	.179	...	H1-...
17	M34	SR_0.75	.021	1.25	2	.013	0		49	14303....	1431..	.179	.179	1	H1-...

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Lo...	Dir	LC	phi*Pn...	phi*...	phi*...	phi*...	...	Eqn
18	M35	SR_0.75	.058	0	15	.018	0		2	14303....	1431..	.179	.179	1	H1-...
19	M34A	PIPE_2.5X	.050	5.216	10	.004	0		22	26347....	66150	4.646	4.646	...	H1-...
20	M35A	PIPE_2.0	.079	5.216	4	.005	10...		10	9039.2...	32130	1.872	1.872	...	H1-...
21	MP2A	PIPE_2.0	.232	3.063	38	.086	3....		2	17855....	32130	1.872	1.872	...	H1-...
22	MP3A	PIPE_2.0	.153	3.063	2	.059	3....		8	17855....	32130	1.872	1.872	...	H1-...
23	MP4A	PIPE_2.0	.158	3.063	49	.071	3....		49	17855....	32130	1.872	1.872	...	H1-...
24	MP5A	PIPE_2.0	.159	3.063	49	.052	3....		49	17855....	32130	1.872	1.872	...	H1-...
25	M39	L2.5x2.5x4	.184	2.724	2	.008	0	z	6	15217....	38556	1.114	2.216	...	H2-1
26	M40	L2.5x2.5x4	.126	2.216	1	.010	0	z	2	19757....	38556	1.114	2.298	...	H2-1
27	M41	L2.5x2.5x4	.085	2.825	12	.014	0	z	1	13584.8	38556	1.114	2.186	...	H2-1
28	M42	L2.5x2.5x4	.070	2.395	48	.022	0	y	13	17660....	38556	1.114	2.26	...	H2-1
29	M48	PIPE_2.5	.362	10	7	.079	9....		1	15797.3	50715	3.596	3.596	...	H1-...

VzW SMART Tool© Vendor

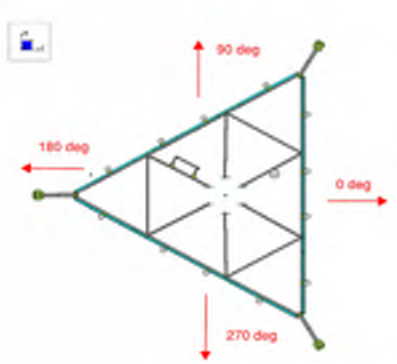
Client:	Verizon Wireless	Date:	2/2/2022
Site Name:	BRUCES CT		
PSLC #:	467320		
Fuze ID #:	10130917	Page:	1

Version 1.0

I. Mount-to-Tower Connection Check

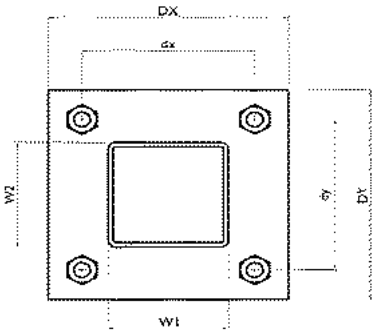
Custom Orientation Required	Yes

Nodes (labeled per Risa)	Orientation (per graphic of typical platform)
N8	0
N16	0



Tower Connection Bolt Checks	Yes
Bolt Orientation	Parallel

Bolt Quantity per Reaction:	4
d_x (in) *(Delta X of typ. bolt config. sketch)* :	4.5
d_y (in) *(Delta Y of typ. bolt config. sketch)* :	4
Bolt Type:	A307
Bolt Diameter (in):	0.5
Required Tensile Strength / bolt (kips):	0.9
Required Shear Strength / bolt (kips):	0.4
Tensile Capacity / bolt (kips):	6.6
Shear Capacity / bolt (kips):	4.0
Bolt Overall Utilization:	**14.1%**



Tower Connection Baseplate Checks	No
Tower Connection Weld Checks	No

Maser Consulting Connecticut

Subject	TIA-222-H Usage
Site Information	Site ID: 467320-VZW / BRUCES CT Site Name: BRUCES CT Carrier Name: Verizon Wireless Address: 1323 King St. Greenwich, Connecticut 06831 Fairfield County Latitude: 41.074261° Longitude: -73.697350°
Structure Information	Tower Type: 100-Ft Self Support Mount Type: 12.00-Ft T-Frame

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. 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 site to ensure the engineer is taking into account the most current engineering standard available.

Sincerely,

Derek Hartzell, PE
Technical Specialist

MOUNT MODIFICATION DRAWINGS
EXISTING 12.00' T-FRAME

TOWER OWNER: BRUCE GOLF COURSE
TOWER OWNER SITE NUMBER: N/A
CARRIER SITE NAME: BRUCES CT
CARRIER SITE NUMBER: 467320
FUZE ID: 2155969

1323 KING ST.
GREENWICH, CT 06831
FAIRFIELD COUNTY

LATITUDE: 41.074261° N
LONGITUDE: 73.69735° W

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), V = 115 MPH
EXPOSURE CATEGORY C
TOPOGRAPHIC CATEGORY 1
MEAN BASE ELEVATION (AMSL) = 419.77'

ICE LOADS

ICE WIND SPEED (3 SECOND GUST), V = 50 MPH
ICE THICKNESS = 1.00 IN

SEISMIC LOADS

SEISMIC DESIGN CATEGORY b
SHORT TERM MCER GROUND MOTION, S_S = .284
LONG TERM MCER GROUND MOTION, S_1 = .060

PROJECT INFORMATION

APPLICANT/LESSEE

COMPANY: VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY: VERIZON WIRELESS

PROJECT MANAGER

COMPANY: COLLIERS ENGINEERING & DESIGN CT
CONTACT: PETER ALBANO
PHONE: 856.797.0412
E-MAIL: PETER.ALBANO@COLLIERSENGINEERING.COM

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #: 10130917
VZW LOCATION CODE (PSLC): 467320
ANALYSIS DATE: 02/02/2022

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE: AS SHOWN | JOB NUMBER: 21777810A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	02/02/22	ISSUED FOR CONSTRUCTION	AE	JL

STATE OF CONNECTICUT
DEREK R. HARTZELL
32710
LICENSED PROFESSIONAL ENGINEER

Digitally signed by Derek R. Hartzell
Date: 2022.02.02 15:17:18-04'00'

SITE NAME:

BRUCES CT
467320

1323 KING ST.
GREENWICH, CT 06831
FAIRFIELD COUNTY

Colliers Engineering & Design
MADISON
135 New Road
Madison, CT 06443
Phone: 860.395.0055
COLLIERS ENGINEERING & DESIGN CT, P.C.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE: TITLE SHEET

SHEET NUMBER: ST-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
12	VZWSMART	VZWSMART-MSK1	CROSSOVER PLATE		14	196
4		VZWSMART-SFK3	V-BRACING KIT		122	488
		VZWSMART-SFK3	V-BRACING KIT		122	

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
2	SITE PRO 1	SPTB278-NP	SLIDING PIPE TIEBACK ASSEMBLY		48	96
2	-	-	144" LONG, P2 1/2 XSTR	GALVANIZED	70	140
2	-	-	84" LONG, P2 1/2 STD	GALVANIZED	41	82
2	-	-	150" LONG, P2 1/2 STD	GALVANIZED	73	146
					TOTAL:	1148

NOTES:

1. THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KITS. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZW APPROVAL PROCESS AND THEY ARE IN TURN APPROVED TO SELL. PLEASE NOTE THAT THE MATERIAL UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVIEWED AS A PART OF THE DESKTOP PMI COMPLETED BY THE SMART TOOL VENDOR. IT WILL BE REQUIRED THAT THE VZW KITS SPECIFIED ARE UTILIZED IN THE MODIFICATIONS.
2. 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

VZWSMART KITS - APPROVED VENDORS

NEWAVE	
CONTACT	NEWAVE SALES TEAM
PHONE	(971) 239-4762
EMAIL	SALES@NEWAVETC.COM
WEBSITE	WWW.NEWAVETC.COM
BETTER METAL, LLC	
CONTACT	DAVID STANSBERRY
PHONE	(615) 535-0990 (O), (615) 631-2520 (M)
EMAIL	DLS@BETTERMETAL.COM
WEBSITE	WWW.BETTERMETAL.COM

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STATE OF CONNECTICUT · DEREK R. HARTZELL · 32710 · LICENSED PROFESSIONAL ENGINEER

Digitally signed by Derek R. Hartzell
Date: 2022.02.02 15:17:37-04'00'

SITE NAME:

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467320

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FAIRFIELD COUNTY

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MADISON
135 New Road
Madison, CT 06443
Phone: 860.395.0055
COLLIERS ENGINEERING & DESIGN CT, P.C.
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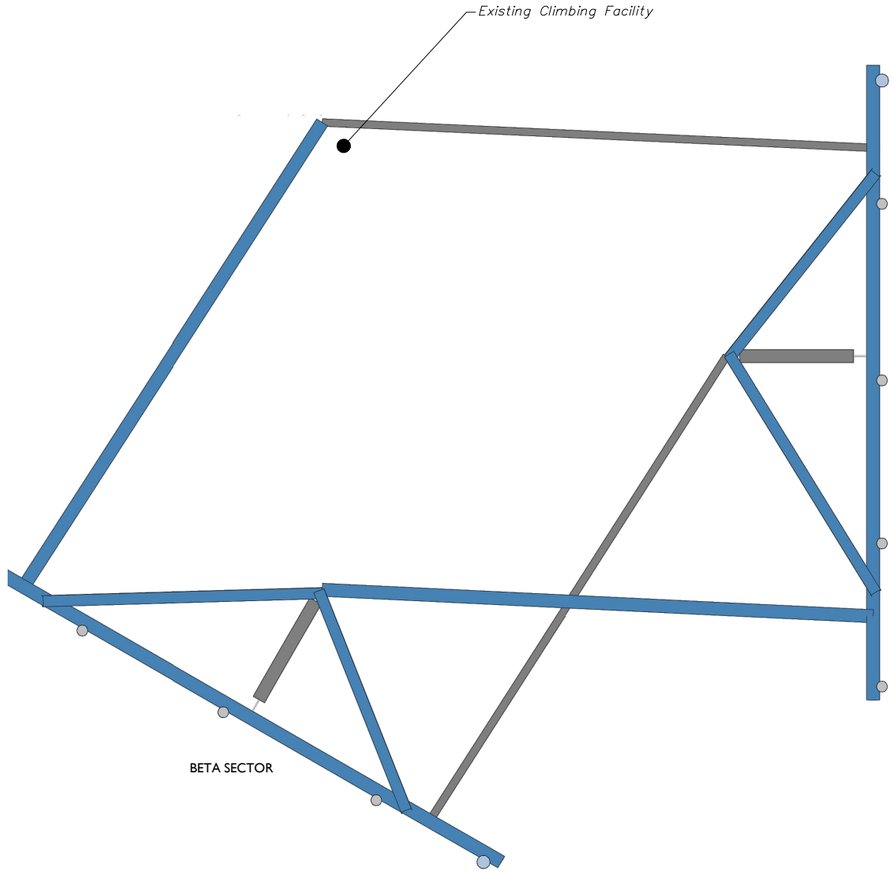
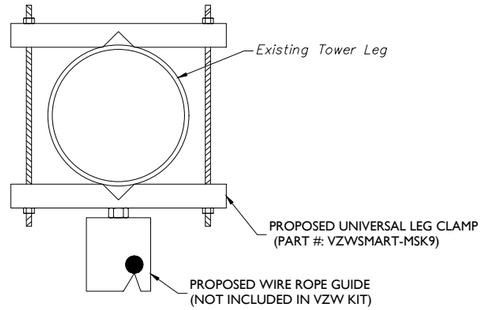
SHEET TITLE : BILL OF MATERIALS

SHEET NUMBER : SBOM-1



1 CLIMBING FACILITY LOCATION

SCALE : N.T.S.



2 PROPOSED WIRE ROPE GUIDE ATTACHMENT - PLAN VIEW

SCALE : N.T.S.

CLIMBING FACILITY PHOTO

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY STRUCTURAL COMPONENTS ON 10/7/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (96'-9") ARE IN GOOD CONDITION. MASER DOES NOT WARRANT THIS INFORMATION.

2. 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.

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Madison, CT 06443
Phone: 860.395.0055
COLLIERS ENGINEERING & DESIGN CT, P.C.
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SHEET TITLE : CLIMBING FACILITY DETAIL

SHEET NUMBER : SCF-1

PROJECT NOTES

1. SEE MODIFICATION NOTES

2. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITY COMPANIES OR OTHER PUBLIC/GOVERNING AUTHORITIES.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.

4. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE AS A RESULT OF CONSTRUCTION OF THIS FACILITY AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.

6. THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

7. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING THE BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND CONSTRUCTION DRAWINGS.

8. THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THESE DRAWINGS MUST BE VERIFIED. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

9. SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY POTENTIALLY DANGEROUS EXPOSURE LEVELS.

10. NO NOISE, SMOKE, DUST OR ODOR WILL RESULT FROM THIS FACILITY AS TO CAUSE A NUISANCE.

11. THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS IS REQUIRED).

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.

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

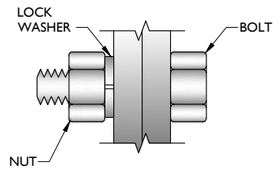
3. ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND 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
      PETER.ALBANO@COLLIERSENGINEERING.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. CONTRACTOR SHALL PROTECT CUT ENDS OF ALL FIELD-CUT STEEL WITH TWO (2) COATS OF COLD GALVANIZATION (ZINGA OR ZINC COTE).
9. 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.
10. 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.
11. FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
12. 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.
13. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
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.

WELDING NOTES

1. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH AWS D1.0 (LATEST EDITION). THIS SHALL INCLUDE A CERTIFIED WELD INSPECTION (CWI) FOR ACCEPTANCE OR REJECTION OF ALL WELDING OPERATIONS, PRE, DURING, AND POST INSTALLATION, USING THE ACCEPTANCE CRITERIA OF AWS D1.1.
2. CONTRACTOR IS RESPONSIBLE FOR COMMISSIONING A THIRD PARTY CERTIFIED WELD INSPECTOR (CWI) THROUGHOUT THE ENTIRETY OF THE PROJECT. A PASSING CWI REPORT SHALL BE PROVIDED TO THE ENGINEER UPON COMPLETION OF THE PROJECT.
3. THE CERTIFIED WELD INSPECTOR SHALL INDICATE, IN A WRITTEN CWI REPORT, THAT ALL WELDING OPERATIONS PRE, DURING, AND POST INSTALLATION WERE CONDUCTED IN ACCORDANCE WITH AWS D1.1 WITH PHOTOGRAPHS AND DOCUMENTATION SUPPORTING THE ACCEPTANCE OR REJECTION OF ALL WELDING. ALL CWI WELD INSPECTION DOCUMENTATION AND PHOTOS SHALL BE SUBMITTED DURING THE PMI.
4. IN CASES WHERE A WELD IS SPECIFIED BETWEEN TWO MEMBERS IN WHICH THERE IS A GAP IN BETWEEN, THE WELD IS TO BE BUILT-UP SUCH THAT THE SIZE OF WELD ON THE MEMBER IS EQUAL TO THAT SHOWN IN THE DRAWINGS.
5. OXY FUEL GAS WELDING OR BRAZING IS STRICTLY PROHIBITED. SPECIFICALLY, NO TORCH CUTTING IS PERMITTED ON SITE. ALL HOLES SHALL BE CUT WITH A GRINDER.
6. CONTRACTOR SHALL EXERCISE CAUTION WHEN WELDING A GALVANIZED SURFACE.
7. CONTRACTOR SHALL HAVE A FIRE PROTECTION PLAN IN PLACE THAT CONFORMS WITH ALL OSHA, ANSI/ASSP A10.48, ANSI Z49.1, AND LOCAL JURISDICTIONAL REQUIREMENTS.

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

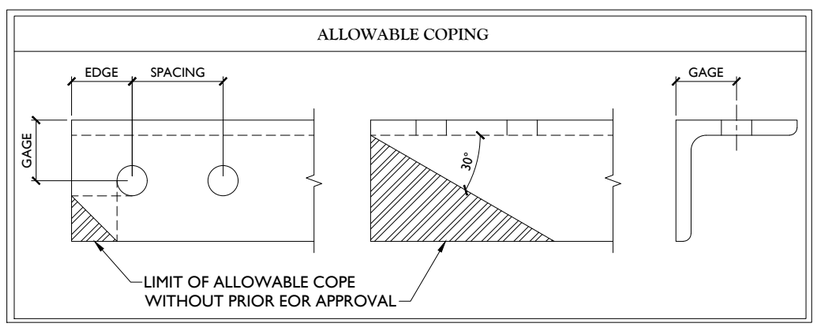
WORKABLE GAGES (IN.)	
LEG	**GAGE**
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



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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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE: AS SHOWN | JOB NUMBER: 21777810A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	02/02/22	ISSUED FOR CONSTRUCTION	AE	JL

STATE OF CONNECTICUT · DEREK R. HARTZELL · 32710 · LICENSED PROFESSIONAL ENGINEER

Digitally signed by Derek R. Hartzell
Date: 2022.02.02 15:17:37-04'00'

SITE NAME:

BRUCES CT
467320

1323 KING ST.
GREENWICH, CT 06831
FAIRFIELD COUNTY

Colliers Engineering & Design
MADISON
135 New Road
Madison, CT 06443
Phone: 860.395.0055
COLLIERS ENGINEERING & DESIGN CT, P.C.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE: MODIFICATION NOTES

SHEET NUMBER: SGN-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

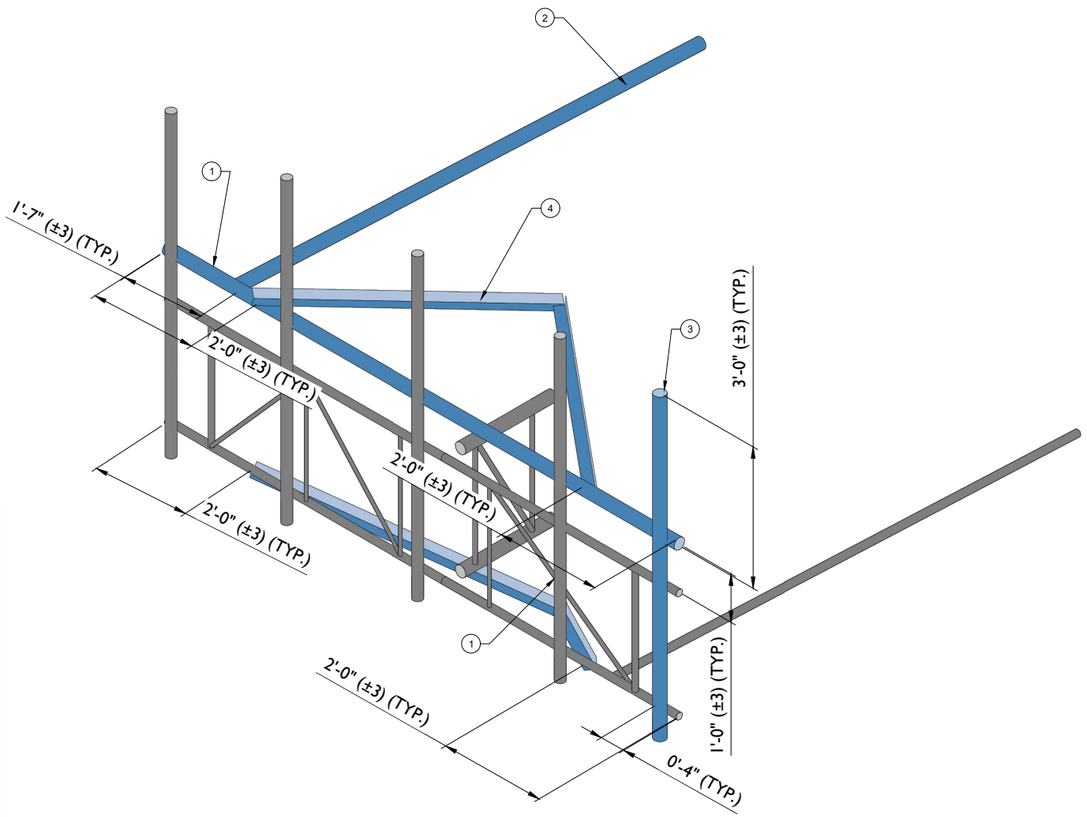
LEGEND:

- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE				
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	96'-9"	2	PROPOSED 150" LONG, P2 1/2 STD FACE HORIZONTAL	CONNECT NEW HORIZONTAL TO ALL EXISTING VERTICAL EXISTING AND PROPOSED MOUNT PIPES WITH CROSSOVER PLATES (PART #: VZWSMART-MSK1).
2		0	PROPOSED 144" LONG, P2 1/2 XSTR TIEBACK	TIEBACK ASSEMBLY WILL UTILIZE 144" LONG P2 1/2 X-STR PIPE. CONNECT OTHER END TO ADJACENT TOWER LEG. PROPOSED TIE-BACK SHALL EXTEND NO MORE THAN 12" BEYOND THE TOWER LEG. CONTRACTOR SHALL TRIM AS REQUIRED AND PROTECT CUT END WITH TWO COATS OF ZINGA OR ZINC COTE. USE SITEPRO1 SPTB278-NP TO CONNECT AT BOTH ENDS.
3		2	PROPOSED 84" LONG, P2 1/2 STD MOUNT PIPE	CONNECT NEW MOUNT PIPE TO EXISTING HORIZONTAL WITH CROSSOVER PLATES (PART #: VZWSMART-MSK1).
4		4	V-BRACING KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.

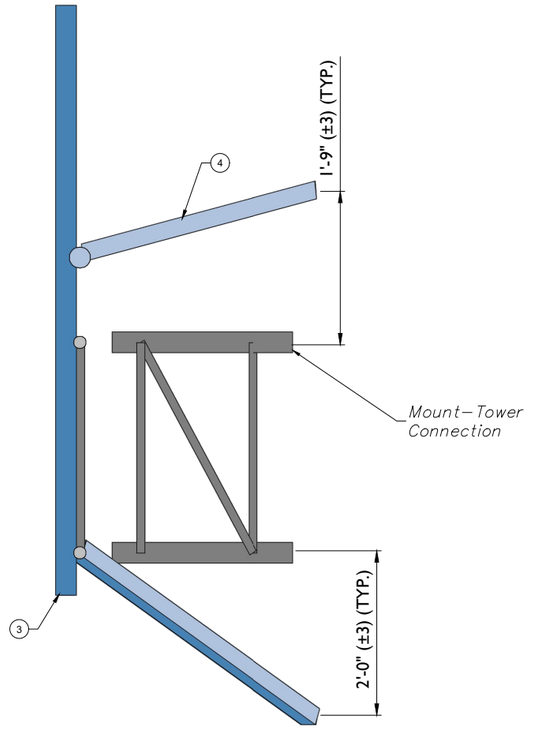
NOTES.

MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.



1 PROPOSED ISOMETRIC VIEW (ALPHA AND BETA SECTOR ONLY)

SCALE : N.T.S.



2 PROPOSED SIDE ELEVATION VIEW (ALPHA AND BETA SECTOR ONLY)

SCALE : N.T.S.

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SCALE :	JOB NUMBER :
AS SHOWN	21777810A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	02/02/22	ISSUED FOR CONSTRUCTION	AE	JL

STATE OF CONNECTICUT · DEREK R. HARTZELL · 32710 · LICENSED PROFESSIONAL ENGINEER

Digitally signed by Derek R. Hartzell
Date: 2022.02.02 15:17:38-04'00'

SITE NAME:

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Phone: 860.395.0055
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SHEET TITLE :

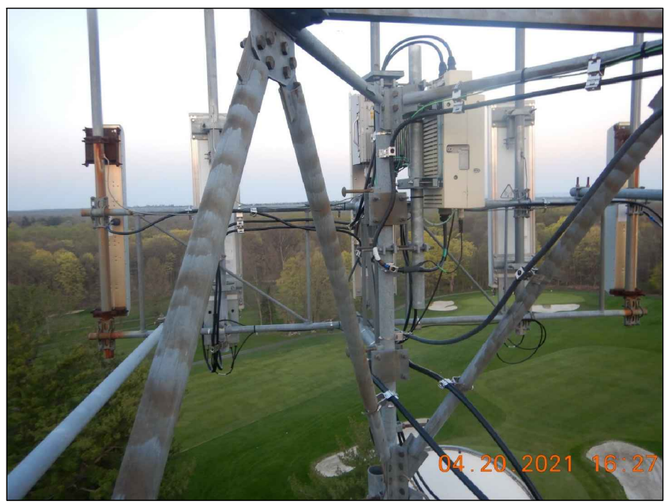
MODIFICATION DETAILS

SHEET NUMBER :

SS-1

MOUNT PHOTO 1

MOUNT PHOTO 2



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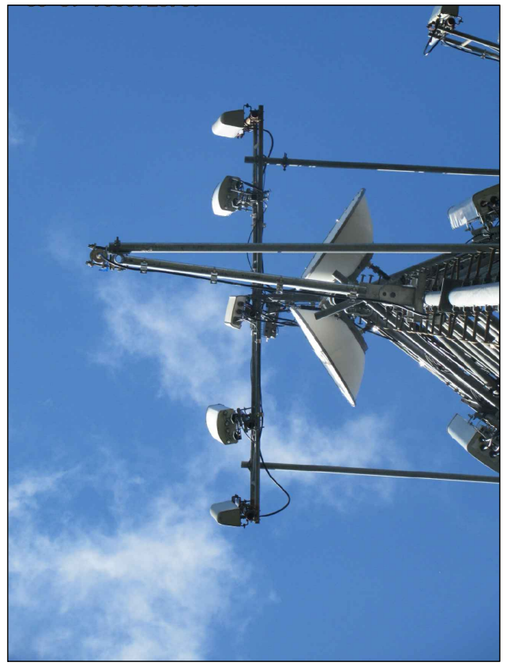

MOUNT PHOTO 4

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SCALE :	JOB NUMBER :
AS SHOWN	21777810A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	02/02/22	ISSUED FOR CONSTRUCTION	AE	JL

STATE OF CONNECTICUT · DEREK R. HARTZELL · 32710 · LICENSED PROFESSIONAL ENGINEER

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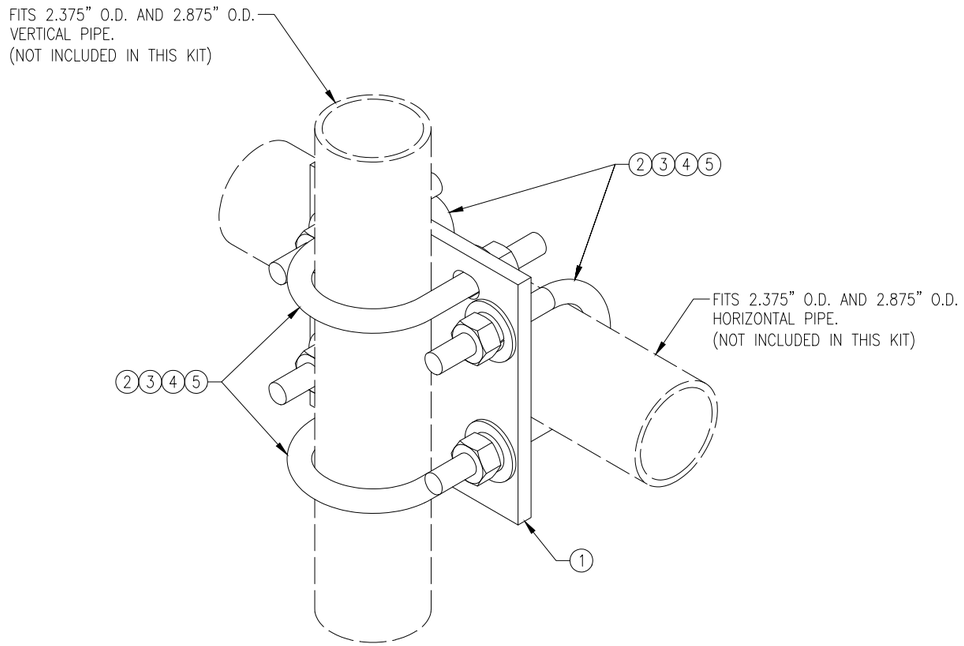
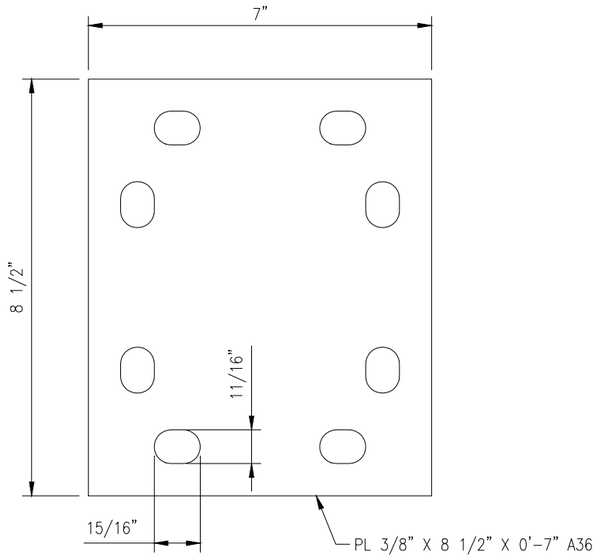
SHEET TITLE :

MOUNT PHOTOS

SHEET NUMBER :

SS-2





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

VzW SMART Tool© Vendor

verizon

DRAWN BY: H.R	CHECKED BY: HMA

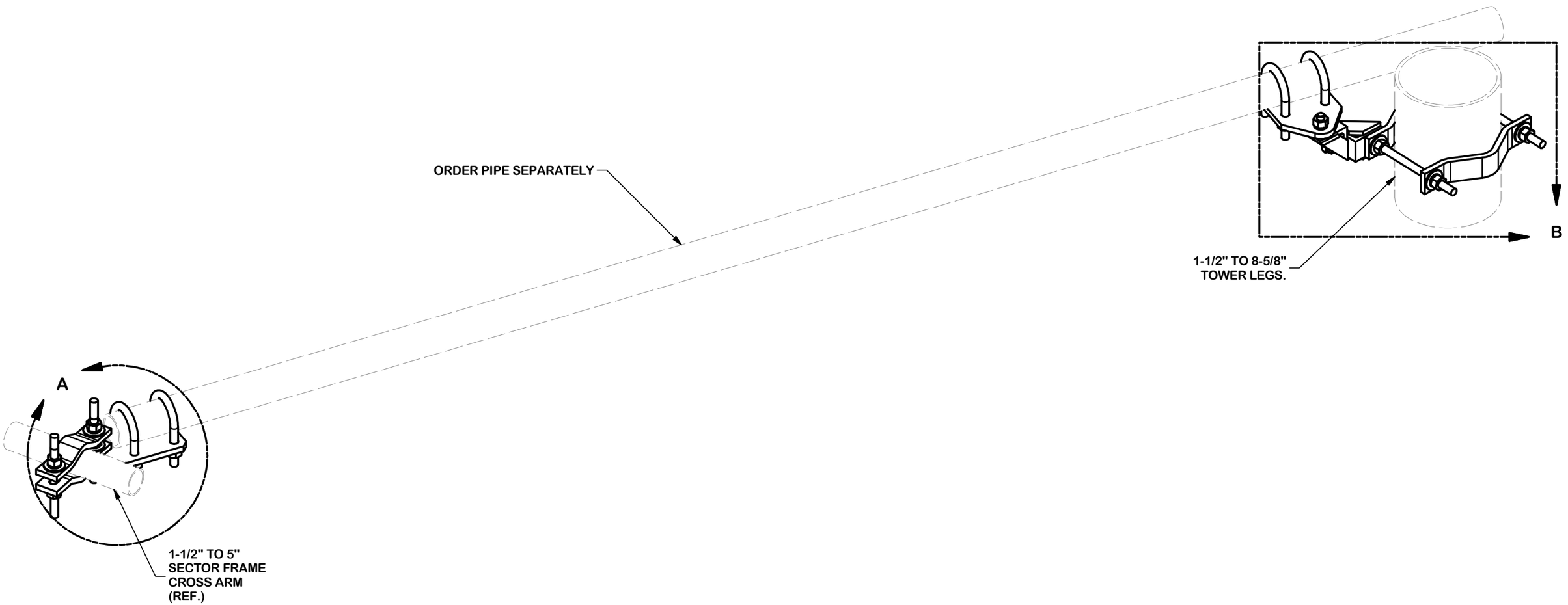
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	H.R	05/08/20

SHEET TITLE:

VZWSMART-MSK1
CROSSOVER PLATE

SHEET NUMBER:	REV #:
VZWSMART-MSK1	0

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-SPTB278	SLIDING PIPE TIE BACK PLATE	5 1/2 in	5.70	11.40
2	2	X-TBCA	TIE BACK CLIP ANGLE		2.01	4.01
3	2	MCP	CLAMP HALF 1/2" THICK, 11-5/8" LONG	12 1/16 in	3.59	7.19
4	4	DCP	1/2" THICK, 5-3/4" CNTER TO CENTER CLAMP HALF	8 1/8 in	2.36	9.45
5	2	G58R-12	5/8" x 12" THREADED ROD (HDG.)		1.05	2.09
6	4	G58R-8	5/8" x 8" THREADED ROD (HDG.)		0.70	2.79
7	4	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
8	4	G5804	5/8" x 4" HDG HEX BOLT GR5		0.44	1.78
9	2	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	0.54
10	10	G58FW	5/8" HDG USS FLATWASHER	1/8 in	0.07	0.70
11	18	G58LW	5/8" HDG LOCKWASHER		0.03	0.47
12	20	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	2.60
					TOTAL WT. #	47.61



TOLERANCE NOTES

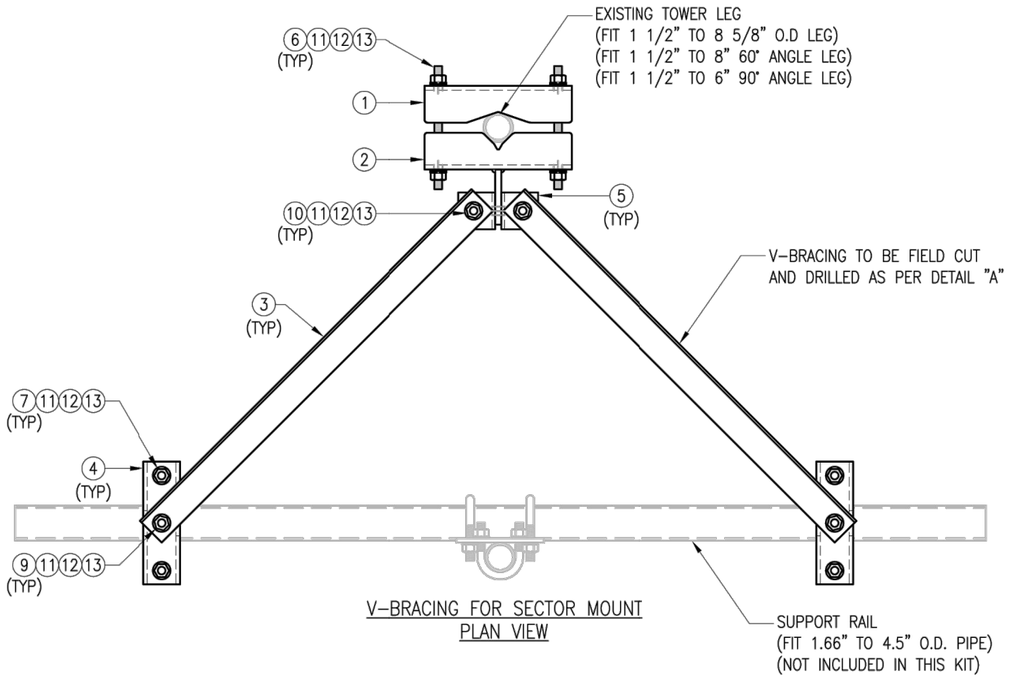
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES (± 0.030")
DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES
LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING (± 0.030")
ALL OTHER ASSEMBLY (± 0.060")

DESCRIPTION
SLIDING PIPE
TIE BACK ASSEMBLY
(NO PIPE)

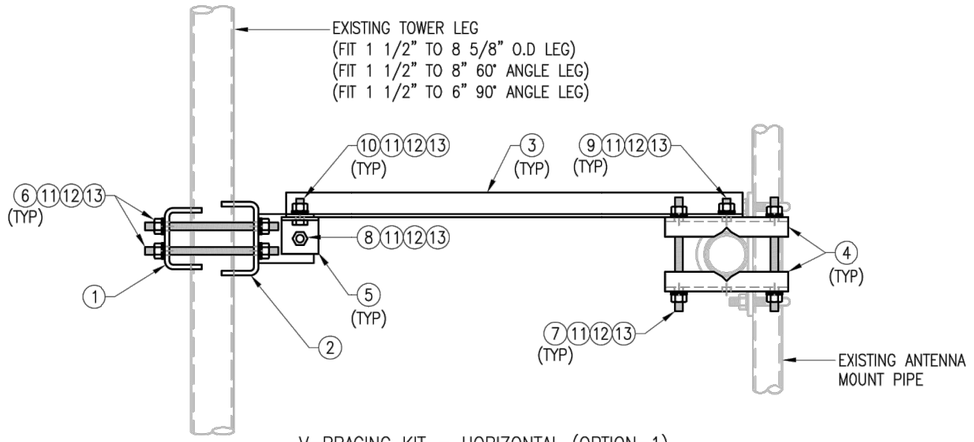
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
	CSL 1/7/2020		SPTB278-NP

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
87	02	CUSTOMER	BMC 2/19/2019	SPTB278-NP

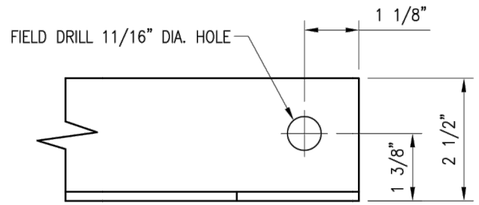
SITE PRO 1
A valmont COMPANY
Engineering
Support Team:
1-888-753-7446
Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Salem, OR
Dallas, TX



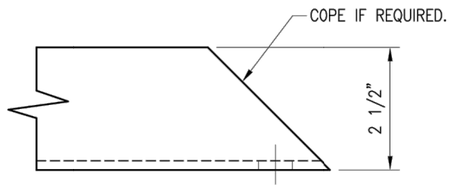
V-BRACING FOR SECTOR MOUNT
PLAN VIEW



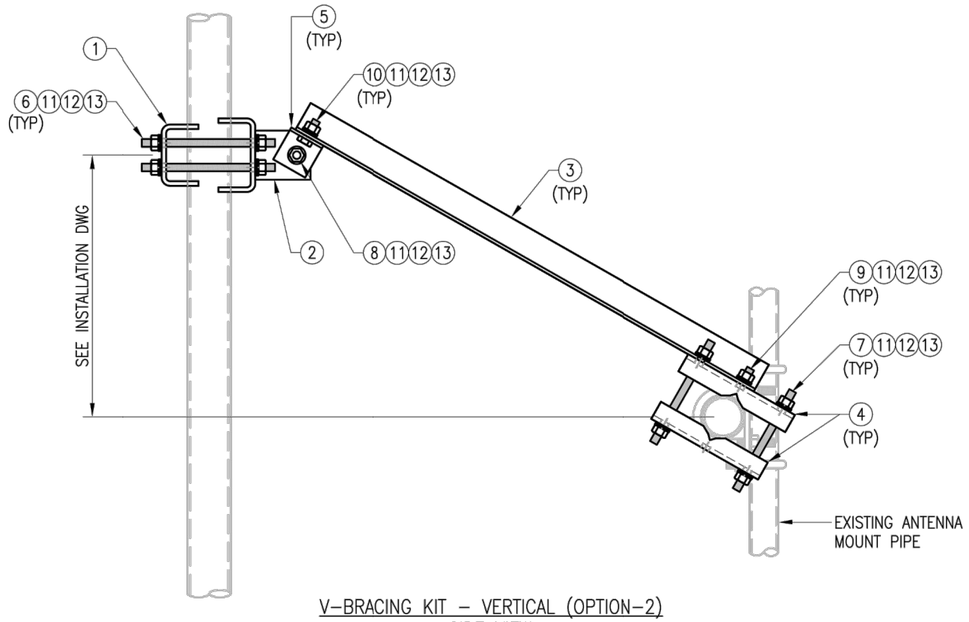
V-BRACING KIT – HORIZONTAL (OPTION-1)
SIDE VIEW



PLAN VIEW



FRONT VIEW
DETAIL "A"



V-BRACING KIT – VERTICAL (OPTION-2)
SIDE VIEW

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

VZWSMART-SFK3 (V-BRACING KIT)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	BP9625-12	PL 3/8" X 9 5/8" X 1'-0" A36 BENT PLATE	VBSM-F1	12
2	1	BRKW-VBSM	WELDMENT BRACKET	VBSM-F3	16
3	2	L252525-8	L 2 1/2" X 2 1/2" X 1/4" X 8'-0" A36	VBSM-F5	67
4	4	BP6875-10	PL 3/8" X 6 7/8" X 10" A36 BENT PLATE	VBSM-F2	20
5	2	AL-333	L 3" X 3" X 1/4" X 3" A36	VBSM-F2	3
6	4	---	THREADED ROD 5/8" DIA. X 1'-6" F1554-36 HDG	---	--
7	4	---	THREADED ROD 5/8" DIA. X 10" F1554-36 HDG	---	--
8	1	---	BOLT 5/8" X 2 1/4" A325	---	--
9	2	---	BOLT 5/8" X 2" A325	---	--
10	2	---	BOLT 5/8" X 1 3/4" A325	---	--
11	21	FW-625	5/8" HDG USS FLAT WASHER	---	2
12	21	LW-625	5/8" HDG LOCK WASHER	---	0
13	21	NUT-625	5/8" HDG HEX NUT	---	2
				GALVANIZED WT	122

VzW
SMART Tool©
Vendor

verizon

DRAWN BY: H.R. | CHECKED BY: HMA

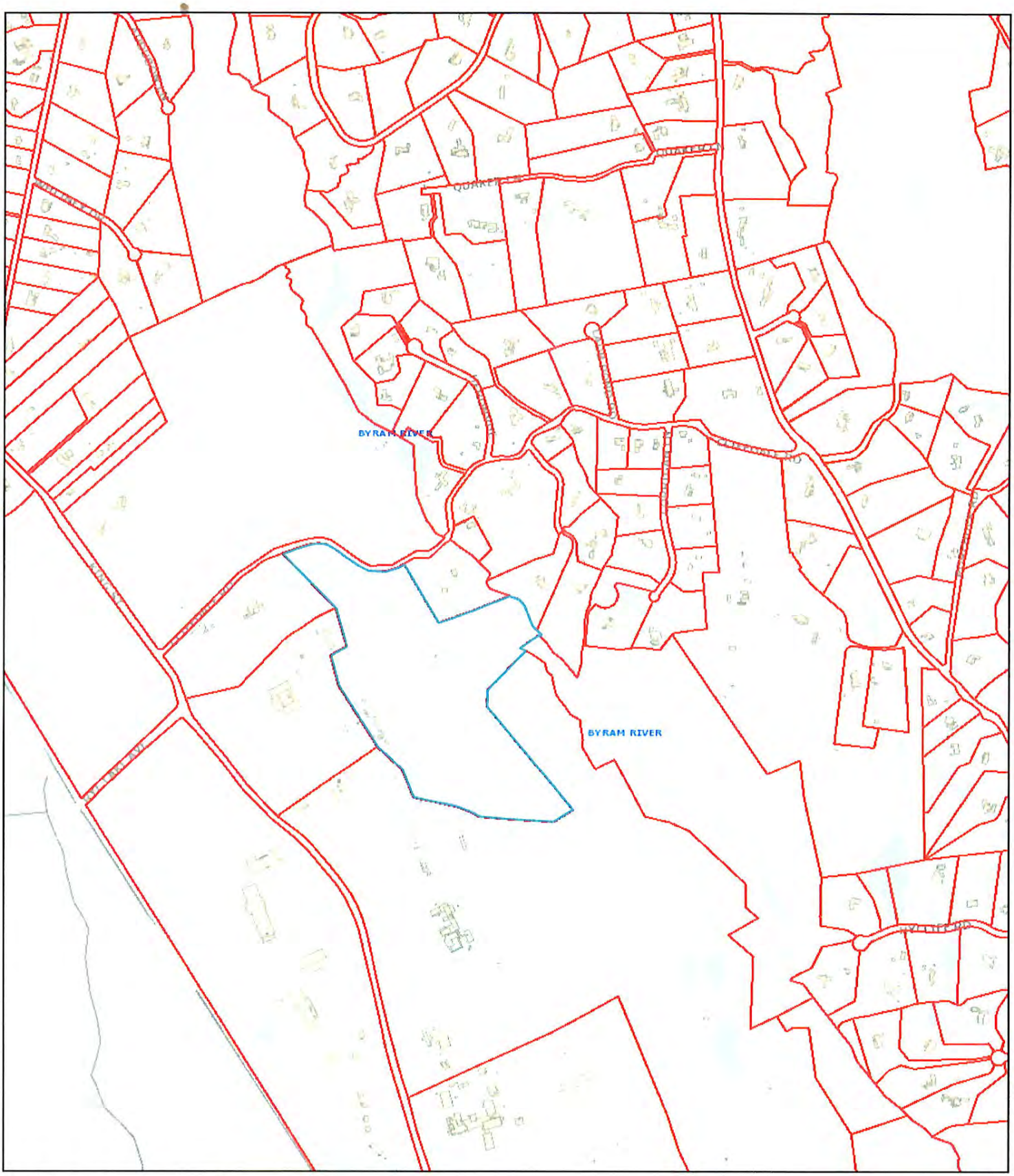
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	H.R.	05/08/20

SHEET TITLE:
VZWSMART-SFK3
V-BRACING KIT

SHEET NUMBER: VZWSMART-SFK3

REV #: 0

ATTACHMENT 5



This map was produced from the Town of Greenwich GIS. The Town expressly disclaims any liability that may result from the use of this map. Basemap: 4/2/08. Parcels: 10/1/12.

1323 King Street

N

1:12000
1"=1000'

9/23/2019 8:11:25 AM

ADMINISTRATIVE INFORMATION

PARCEL NUMBER
10-4506

Parent Parcel Number

Property Address
KING STREET 1323

Neighborhood
182100 BEDFORD RD. [3]

Property Class
299 Exempt Commercial

TAXING DISTRICT INFORMATION

Jurisdiction	57	Greenwich, CT
Area	001	
Corporation	057	
District	10	
Section & Plat	054	
Routing Number	4378E0070	

Site Description

Topography:

Public Utilities:
Electric

Street or Road:

Neighborhood:

Zoning:
RA-4 Single Family 4 acre

Legal Acres:
154.2700

OWNERSHIP

TOWN OF GREENWICH
TOWN HALL
GREENWICH, CT 06830

LOTS 27A 28C 29A 30 KING ST CLIFFDALE RD E70&

Tax ID 028/002 Printed 09/20/2019 Card No. 1 of 3

TRANSFER OF OWNERSHIP

Date			
10/31/1962	NA		$0
		Bk/Pg: 678, 103	

EXEMPT

VALUATION RECORD

Assessment Year		10/01/2008	10/01/2010	10/01/2015	10/01/2015	10/01/2016	10/01/2017	10/01/2018
Reason for Change		2008 List	2010 Reval	2015 Prelim	2015 Final	2016 List	2017 List	2018 List
VALUATION	L	30854000	16506900	13441000	13486100	13486100	13486100	13486100
Market	B	6175100	6299500	9637900	13025300	13025300	13025300	13025300
	T	37029100	22806400	23078900	26511400	26511400	26511400	26511400
VALUATION	L	21597800	11554830	9408700	9440270	9440270	9440270	9440270
70% Assessed	B	4322570	4409650	6746530	9117710	9117710	9117710	9117710
	T	25920370	15964480	16155230	18557980	18557980	18557980	18557980

LAND DATA AND CALCULATIONS

Land Type	Rating Soil ID -or- Actual Frontage	Measured Acreage -or- Effective Frontage	Table Effective Depth	Prod. Factor -or- Depth Factor -or- Square Feet	Base Rate	Adjusted Rate	Extended Value	Influence Factor	Value
1 Active Recreation		154.2700		1.00	107000.00	107000.00	16506900 F	-5% T -14%	13486100

BP16: 16-1573: $86,300 int alt
BP18: 15-0801; Replace Antenna $15,000.
DBA: Griffith E. Harris Golf Course; Ristorante Fiore
C01 = Voided '10; C02 = Clubhouse; C03 = Maint garage;
C04 = 2010 Pro Shop/Admin/Lav
GEN: 1 putting green, 1 driving range, 1 chipping green
P: 85 spcs
VC:

Permit Number / Type	FilingDate	Est. Cost / Est. SqFt	Field Visit

Supplemental Cards

TRUE TAX VALUE 13486100

Supplemental Cards
TOTAL LAND VALUE 13486100

ATTACHMENT 6

UNITED STATES POSTAL SERVICE®

BRUCES

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here *Postmark with Date of Receipt.*
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