Robinson+Cole

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January 8, 2024

Via Electronic Mail

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification**
71 Moxley Hill Road, Montville (Uncasville), Connecticut

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains an existing wireless telecommunications facility at the above-referenced property address (the "Property"). The facility consists of antennas on an existing tower and related equipment on the ground, near the base of the tower. The original tower was approved by the Town of Montville (the "Town") in January of 1998. Cellco's shared use of the tower was approved by the Siting Council in April of 2016 (EM-VER-086-160311). A copy of the Town's approval and Cellco's EM-VER-086-160311 approval are included in Attachment 1.

Cellco now intends to modify its facility by replacing nine (9) antennas and six (6) remote radio heads ("RRHs") with nine (9) new antennas and six (6) new RRHs on Cellco's existing antenna mounting structure. A set of project plans showing Cellco's proposed facility modifications and the new antenna and RRH specifications are included in Attachment 2.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Montville's Chief Elected Official and Land Use Officer. A copy of this letter is also being sent to the owner of the Property.

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

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

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The installation of Cellco's new antennas and RRHs will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. Included in Attachment 3 is a Calculated Radio Frequency Emissions Report demonstrating that the proposed modified facility will comply with the FCC safety standards. The modified facility will be capable of providing Cellco's 5G wireless service.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. According to the attached Structural Analysis Report ("SA")[1] and Antenna Mount Analysis Report ("MA"), the existing tower, tower foundation and antenna mounts can support Cellco's proposed modifications. Copies of the SA and MA are included in Attachment 4.

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

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

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Leonard Bunnell Sr., Mayor
Meredith Badalucca, Assistant Planner
Ernest and Walter Wainwright, Property Owner
Aleksey Tyurin

[1] In addition to the new antenna described above, the SA includes three (3) BXA-70063-6CF antennas in the final loading table. Theses antennas are "place holders" for leasing purposes and will not be installed as a part of th modification proposal. The MA does not include these place-holder antennas.

ATTACHMENT 1

TEL: 848-85[illegible]
FAX: 848-2354

TOWN OF MONTVILLE
PLANNING & ZONING COMMISSION

310 NORWICH-NEW LONDON TPKE.
UNCASVILLE, CONNECTICUT 06382-2599

FAXED

LEGAL NOTICE

The Montville Planning and Zoning Commission at its meeting held on January 13, 1998, took the following action:

APPROVED site plan for **Wireless Solutions, Ltd./Walter & Ernest Wainwright** to construct a 190' radio tower and antenna for wireless communication purposes with appropriate guide wires and chain link fence with four small utility sheds and driveway on property located at 71 Moxley Road, Montville, Ct. Shown on Assessor's Map 17, Lot 12.

Maps and documentation concerning the above applications are on file in the office of the Town Planner, Town Hall Annex, Montville, Ct.

Dated at Montville, Ct. this 14th day of January, 1998.

MONTVILLE PLANNING AND ZONING COMMISSION

Gregory Majewski, Chairman

PUBLISH IN THE NEW LONDON DAY.January 16, 1998

PLEASE REFERENCE PURCHASE ORDER 6100 G 1 ON INVOICE.

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TOWN OF MONTVILLE
PLANNING DEPARTMENT
STAFF REPORT

DATE: 01/13/98

APPLICANT: WIRELESS SOLUTIONS LLC.

OWNER: ERNEST &WALTER JR., WAINWRIGHT

ADDRESS: 71 MOXLEY ROAD MONTVILLE, CT..

ASSESSOR'S MAP # 17 LOT #2

TYPE: SITE PLAN

	REQUIRED	PROVIDED
LIGHT INDUSTRIAL ZONE	80,000 SF	623,000SF/LEASEHOLD AREA
FRONTAGE	200 FEET	558.64 FEET
SETBACKS FRONT/REAR	50 FT/50 FT	50 FT/50 FT
SETBACKS SIDE	30 FT	30 FT
WATER & SEWER		WELL & SEPTIC

COMMENTS
ASSISTANT PLANNER

APPLICATION IS TO CONSTRUCT A 190' RADIO TRANSMISSION AND RECEIVING TOWER IN A LIGHT INDUSTRIAL ZONE. USE IS PERMITTED UNDER SECTION 13.2.6 OF THE REGULATIONS. THE APPLICATION AND SITE PLAN MAP MEET THE REQUIREMENTS OF THE REGULATIONS.

THE TELECOMMUNICATIONS ACT OF 1996 HAS EMPOWERED THE LOCAL AUTHORITY TO DETERMINE THE LOCATION OF TOWERS PROVIDED THEY DO NOT RESTRICT COMPETITION OR INTERFERE WITH THE SEAMLESS WEB NEEDED TO PROVIDE SERVICE.

A NEW TOWER PERMIT HAS BEEN ISSUED TO WIRELESS COMMUNICATION ON PROPERTY AT 57 COOK DR. OWNED BY ROBERT KINGSBOROUGH. THIS LOCATION IS IN CLOSE PROXIMITY TO TWO OTHER TOWERS, OWNED BY SNET AND WICH. THE LOCATION NEXT TO THESE TOWERS WAS A CONSIDERATION IN GRANTING THE PERMIT. WIRELESS SOLUTIONS IS NOT A LICENSED PROVIDER. WIRELESS SOLUTIONS OWNS TOWERS AND LEASES SPACE ON THE TOWERS FOR EQUIPMENT. APPLICANT WILL SHOW HIS PROPOSED COVERAGE AREA AND HIS LEASE AGREEMENT. THIS WAS REQUESTED BY THE COMMISSION AT THE 12/9/97 MEETING.

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TWO PERMITS HAVE BEEN ISSUED BY THIS OFFICE IN THE PAST YEAR FOR EQUIPMENT TO BE INSTALLED ON EXISTING STRUCTURES. THE PERMITS TO TECHSTAR COMMUNICATIONS WERE ISSUED FOR PROPERTY LOCATED AT RICHARD BROWN DR. AND GAY HILL RD.. THE RICHARD BROWN DR. PROPERTY IS OWNED BY HE CITY OF NORWICH DEPARTMENT OF PUBLIC UTILITIES. THE EQUIPMENT IS MOUNTED ON TOP OF THE WATER TOWER. AT THE GAY HILL ROAD SITE THE EQUIPMENT IS MOUNTED ON AN EXISTING 190' TOWER OWNED BY HALL COMMUNICATIONS (WNLC). **SEE MAPS OF COVERAGE AREA AND LETTER ATTACHED.**

RECOMMENDATIONS:
THE MAP AND LETTER PROVIDED BY TECHSTAR INDICATES THAT THE COVERAGE AREA PROPOSED BY WIRELESS SOLUTIONS IS ALREADY PROVIDED BY THE PIE HILL SITE. HALL COMMUNICATIONS HAS INDICATED BY PROVIDING SPACE THAT THE TOWER IS AVAILABLE FOR OTHER PROVIDERS. THERE DOES NOT APPEAR TO BE ANY NEED AT PRESENT TO ERECT AN ADDITIONAL TOWER IN THIS AREA OF THE TOWN OF MONTVILLE.

UNDER THE TELECOMMUNICATIONS ACT OF 1996 THE TWO MOST IMPORTANT PARTS NOT TO RESTRICT COMPETITION OR INTERFERE WITH THE SEAMLESS WEB NEEDED TO PROVIDE SERVICE, ARE ALREADY PROVIDE FOR IN THIS AREA OF THE TOWN.

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STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

April 4, 2016

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597

RE: **EM-VER-086-160311 -** Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 71 Moxley Road, Montville, Connecticut.

Dear Attorney Baldwin:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

1. The proposed feed lines and diplexers shall be installed in accordance with the structural analysis report prepared by Velocitel, Inc. dated April 22, 2015 and stamped by Dennis D. Abel;

2. Reinforcements shall be made in accordance and consistent with the structural analysis report and modification drawings prepared by Velocitel, Inc. dated April 22, 2015 and stamped by Dennis D. Abel;

3. Within 45 days following completion of the equipment installation, Verizon shall provide documentation certified by a Professional Engineer that its installation complied with the recommendations of the structural analysis;

4. Any deviation from the proposed modification as specified in this notice and supporting materials with the Council shall render this acknowledgement invalid;

5. Any material changes to this modification as proposed shall require the filing of a new notice with the Council;

6. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;

7. Any nonfunctioning antenna and associated antenna mounting equipment on this facility owned and operated by Cellco shall be removed within 60 days of the date the antenna ceased to function;

8. The validity of this action shall expire one year from the date of this letter; and

9. The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration.

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated March 10, 2016. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site by any dimension, increase noise levels at the tower site boundary by six

decibels or more, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standards adopted by the Federal Communications Commission pursuant to Section 704 of the Telecommunications Act of 1996 and by the state Department of Energy and Environmental Protection pursuant to Connecticut General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below state and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,

Melanie A. Bachman
Acting Executive Director

MAB/CH/lm

c: The Honorable Ronald K. McDaniel, Mayor, Town of Montville
Marcia Vlaun, Town Planner, Town of Montville
SBA Communications Corporation
Ernest C. & Walter N. Wainwright, Property Owners

ATTACHMENT 2

verizon

WIRELESS COMMUNICATIONS FACILITY

UNCASVILLE CT

71 MOXLEY ROAD
UNCASVILLE, CT 06382
NEW LONDON COUNTY

PROJECT TYPE: UPGRADE TO EXISTING WIRELESS TELECOMMUNICATIONS INSTALLATION ON EXISTING 192'± GUYED TOWER

FUZE PROJECT NUMBER: 16272079
MDG LOCATION ID: 5000243394

SUPPORTING DOCUMENTS

RADIO FREQUENCY (RF) DESIGN DATE: 08/11/23

ANTENNA MOUNT STRUCTURAL ANALYSIS DATE: 11/27/23 (BY COLLIERS ENGINEERING & DESIGN)

ANTENNA SUPPORT STRUCTURE (GUYED TOWER) STRUCTURAL ANALYSIS DATE: 12/20/23 (BY GPD ENGINEERING AND ARCHITECTURE)

SITE INFORMATION

VERIZON MDG LOCATION ID:	5000243394
VERIZON SITE NAME:	UNCASVILLE CT
FUZE PROJECT ID:	16272079
SBA SITE NUMBER:	CT10016-A
SBA SITE NAME:	MONTVILLE 3, CT
SBA COLLO APP NUMBER:	241546, V1
SITE ADDRESS:	71 MOXLEY ROAD UNCASVILLE, CT 06382
PROPERTY OWNER:	ERNEST WAINWRIGHT & WALTER WAINWRIGHT, JR. 149 GREAT NECK ROAD WATERFORD, CT 06385
TOWER OWNER:	SBA TOWERS II, LLC 8051 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-228 9523
COUNTY:	NEW LONDON, CT
ZONING DISTRICT:	(R40) RESIDENTIAL
STRUCTURE TYPE:	GUYED TOWER
STRUCTURE HEIGHT:	192'±
STRUCTURE HEIGHT W/APPURTENANCE:	197'±
GROUND ELEVATION:	198'±
TOTAL AMSL:	395'±
SITE CONTROL POINT:	CENTER OF EXISTING GUYED TOWER N 41°-26-06.70" (41.4352°) (NAD '83) W 72°-07'-23.95" (-72.1233°) (NAD 83)
ARCHITECT/ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752

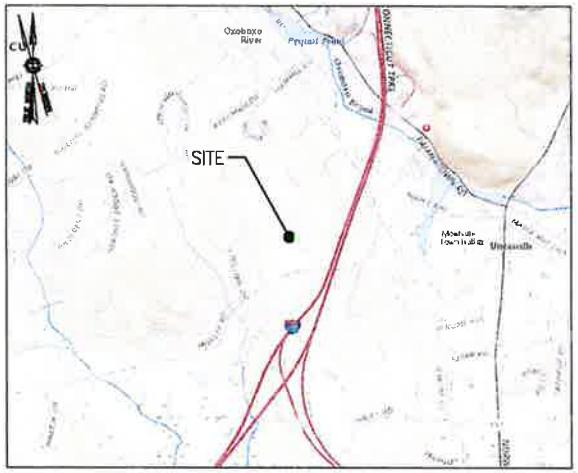
GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACES THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
2. NEW CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
   - BUILDING CODE: 2022 CONNECTICUT STATE BUILDING CODE
   - ELECTRICAL CODE: 2020 NATIONAL ELECTRICAL CODE
   - STRUCTURAL CODE: TIA/EIA-222-H STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS

AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811

VICINITY MAP

SCALE: 1"=1000'



DRIVING DIRECTIONS

FROM WALLINGFORD, TAKE CT-68 EAST, TURN LEFT ONTO MAIN STREET, TURN RIGHT ONTO RANDOLPH ROAD, TURN RIGHT ONTO THE CT-9 SOUTH RAMP TOWARD OLD SAYBROOK, MERGE ONTO CT-9 SOUTH. USE LEFT LANE TO MERGE ONTO I-95 NORTH/US-1 NORTH TOWARD NEW LONDON/PROVIDENCE. CONTINUE TO FOLLOW I-95 NORTH. KEEP LEFT AT FORK TO CONTINUE ONTO I-395 NORTH. FOLLOW SIGNS FOR I-395 NORTH/NORWICH/PLAINFIELD. TAKE EXIT 6 FOR CT-163 TOWARD UNCASVILLE/MONTVILLE. TURN LEFT ONTO CT-163 SOUTH. TURN RIGHT ONTO NORWICH NEW LONDON TURNPIKE. TURN RIGHT ONTO MAPLE AVENUE. TURN LEFT ONTO JEROME ROAD. TURN RIGHT ONTO MOXLEY ROAD. THE SITE IS LOCATED ON THE RIGHT HAND SIDE.

SHEET INDEX

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DO NOT SCALE DRAWINGS

ALL PLANS, EXISTING DIMENSIONS AND CONDITIONS AT THE PROPOSED PROJECT SITE SHALL BE VERIFIED IN THE FIELD DURING THE CONSTRUCTION PHASE. THE PROJECT OWNER'S REPRESENTATIVE SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES IMMEDIATELY PRIOR TO PROCEEDING WITH THE PROPOSED WORK AFFECTED BY SUCH DISCREPANCIES. IN THE EVENT OF LACK OF SUCH NOTIFICATION, SUCH DISCREPANCIES SHALL BECOME THE RESPONSIBILITY OF THE PREVAILING CONTRACTOR RESPONSIBLE FOR CONSTRUCTION.

PROJECT DESCRIPTION

1. THIS IS AN UNMANNED AND RESTRICTED ACCESS EQUIPMENT INSTALLATION AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC WIRELESS TELECOMMUNICATIONS SERVICE.
2. THIS FACILITY DOES NOT, NOR WILL IT CONSUME UNRECOVERABLE ENERGY.
3. NO PORTABLE WATER SUPPLY IS OR WILL BE PROVIDED AT THIS LOCATION.
4. NO WASTE WATER IS OR WILL BE GENERATED AT THIS LOCATION.
5. NO SOLID WASTE IS OR WILL BE GENERATED AT THIS LOCATION.

SCOPE OF WORK

REMOVE:
- 12 ANTENNAS
- 6 RADIOS
- 1 JUNCTION BOX (OVP)
- 1 COAXIAL CABLE

INSTALL:
- 9 ANTENNAS
- 6 RADIOS
- 1 JUNCTION BOX (OVP)
- 1 HYBRID CABLE

verizon
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492
(203) 74?-7338

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 25 -0720

CHAPPELL ENGINEERING ASSOCIATES, LLC
B.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 48 -7400

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25987
LICENSED
PROFESSIONAL CIVIL ENGINEER
12/20/23

CHECKED BY: JMF

APPROVED BY: JMF

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	12/20/23	ISSUED FOR CONSTRUCTION	CMC
0	12/08/23	ISSUED FOR REVIEW	CMC

PROJECT NAME & ADDRESS
UNCASVILLE CT
71 MOXLEY ROAD
UNCASVILLE, CT 06382

VZW LOCATION CODE:	488468
MDG LOCATION ID:	5000243394
FUZE PROJECT ID:	16272079

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T01

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – VERIZON WIRELESS
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – VERIZON WIRELESS
   OEM – ORIGINAL EQUIPMENT MANUFACTURER

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.

4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

5. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

14. SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC. 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACK FILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS & POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.

15. CONSTRUCTION SHALL COMPLY WITH VERIZON WIRELESS NETWORK STANDARD (NSTD123 TO THE MAXIMUM EXTENT FEASIBLE UNLESS PRECLUDED OR LIMITED BY DESIGN SHOWN ON THESE DRAWINGS.

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

17. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

18. SINCE THE CELL SITE IS 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 TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.

3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.

4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.

6. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

7. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

8. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.

9. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.

10. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

11. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE VERIZON WIRELESS SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.

2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS

3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE, WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.

4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST EARTH.......3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER ....2 IN.
   #5 AND SMALLER & WWF ....1½ IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER
   OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL ....¾ IN.
   BEAMS AND COLUMNS ....1½ IN.

5. A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.

7. CONCRETE CYLINDER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER:
   (A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
   (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
   FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.

8. AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.

9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND VERIZON WIRELESS SPECIFICATION 25252-000-3PS-0ET-00001 UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM-A-36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".

2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.

3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾"ø) AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.

4. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ⅝" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.

5. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.

6. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL.

7. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.

2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.

3. AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.

4. COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.

5. AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND-OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL-GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

1. HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, VERIZON WIRELESS ANTENNA PLATFORM LOCATION AND ANTENNAS TO BE REPLACED.

2. COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.

3. CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.

2. SUBCONTRACTOR SHALL MODIFY EXISTING CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.

3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.

4. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.

5. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA, AND MATCH EXISTING INSTALLATION REQUIREMENTS.

6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC & OSHA AND MATCH EXISTING INSTALLATION REQUIREMENTS.

7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANEL BOARD AND CIRCUIT ID'S).

8. PANEL BOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.

9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.

10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.

13. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.

14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).

15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.

16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE

20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.

21. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.

23. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.

24. CABINETS, BOXES, AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

25. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS

27. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON- CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

30. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

31. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.

32. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

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STATE OF CONNECTICUT ★ JAMES M. FITZGERALD ★ No. 25967 LICENSED PROFESSIONAL CIVIL ENGINEER
12/21/23

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	12/20/23	ISSUED FOR CONSTRUCTION	CMC
0	12/06/23	ISSUED FOR REVIEW	CMC

PROJECT NAME & ADDRESS

UNCASVILLE CT

71 MOXLEY ROAD
UNCASVILLE, CT 06382

VZW LOCATION CODE:	[illegible]
MDG LOCATION ID:	[illegible]
FUZE PROJECT ID:	[illegible]

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN01

SITE PLAN
SCALE: 1" = 60'-0"
1
A01
0 60' 120' 180'

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25987
LICENSED
PROFESSIONAL CIVIL ENGINEER
12/21/23

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS

REV	DATE	DESCRIPTION	BY
1	12/21/23	ISSUED FOR CONSTRUCTION	CMC
0	12/06/23	ISSUED FOR REVIEW	CMC

PROJECT NAME & ADDRESS
UNCASVILLE CT
71 MOXLEY ROAD
UNCASVILLE, CT 06382

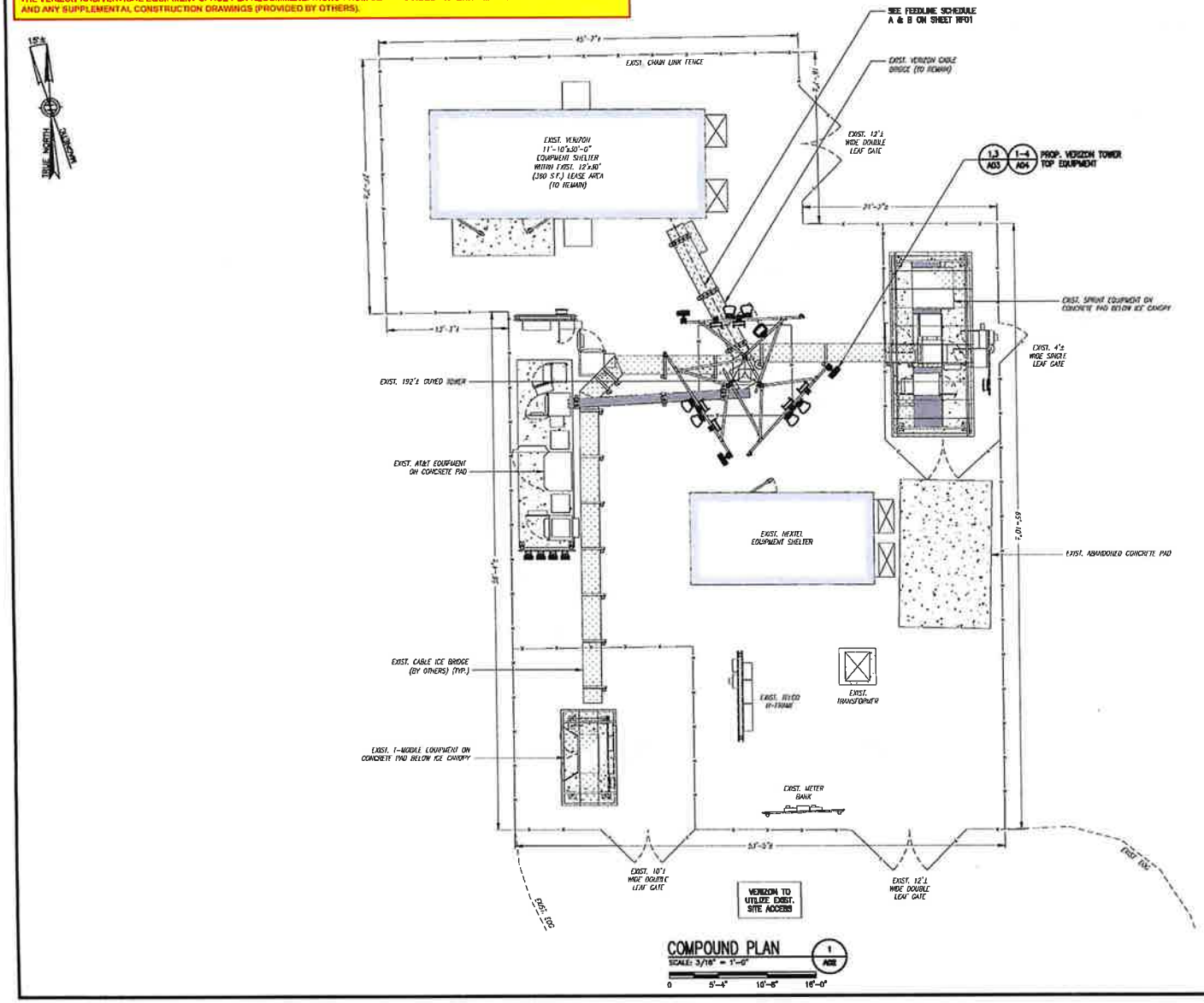
VZW LOCATION CODE: 488488
MDG LOCATION ID: [redacted]
FUZE PROJECT ID: [redacted]

SHEET TITLE
SITE PLAN

SHEET NUMBER
A01

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

SPECIAL CONSTRUCTION NOTE (SBA-PROVIDED ANTENNA MOUNT STRUCTURAL MOD SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE VERIZON RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).



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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25987
LICENSED
PROFESSIONAL CIVIL ENGINEER
12/21/23

CHECKED BY:	JMT
APPROVED BY:	JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	12/21/23	ISSUED FOR CONSTRUCTION	CLC
0	12/08/23	ISSUED FOR REVIEW	CLC

PROJECT NAME & ADDRESS
UNCASVILLE CT
71 MOXLEY ROAD
UNCASVILLE, CT 06382

VZW LOCATION CODE:	469488
MDG LOCATION ID:	16272879
FUZE PROJECT ID:	16272879

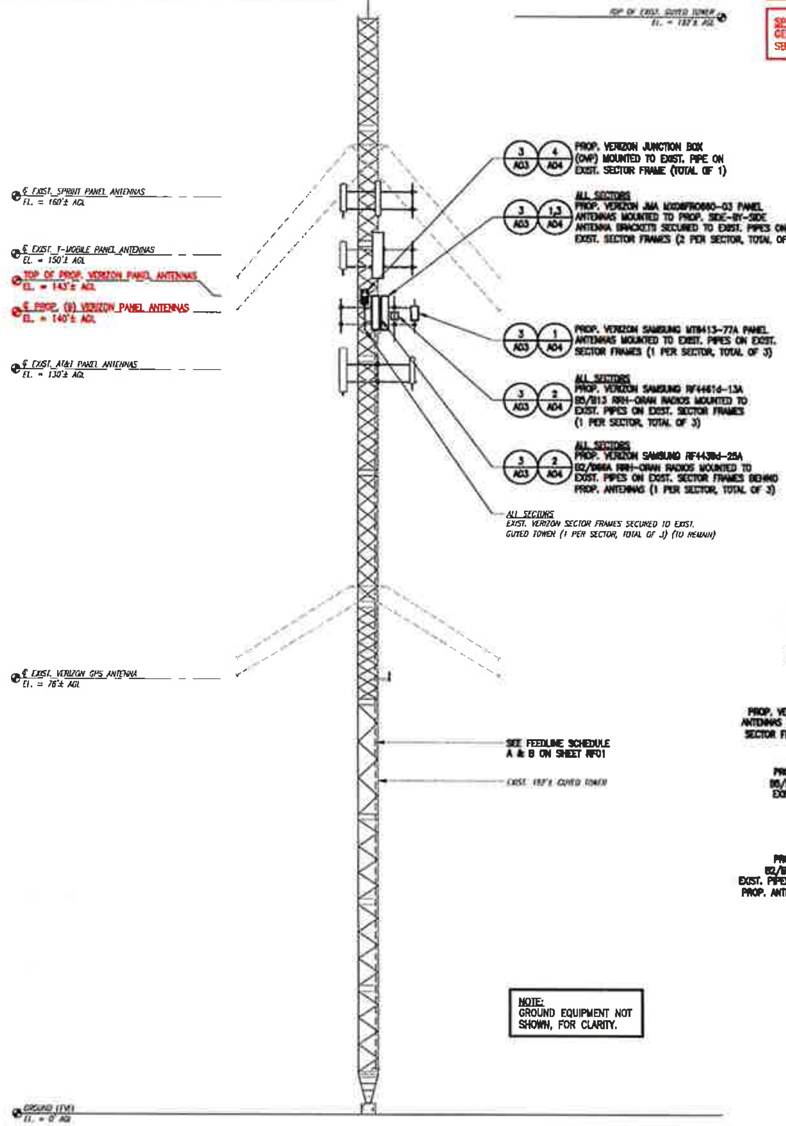
SHEET TITLE
COMPOUND PLAN

SHEET NUMBER
A02

RAD CENTER NOTE:
VERIZON ANTENNA AND MOUNT RAD CENTER SHOWN IN ELEVATION ARE ACCORDING TO STRUCTURAL ANALYSIS DONE BY OTHERS AND MAY DIFFER FROM RAD CENTER ON RFDS PROVIDED BY VERIZON.

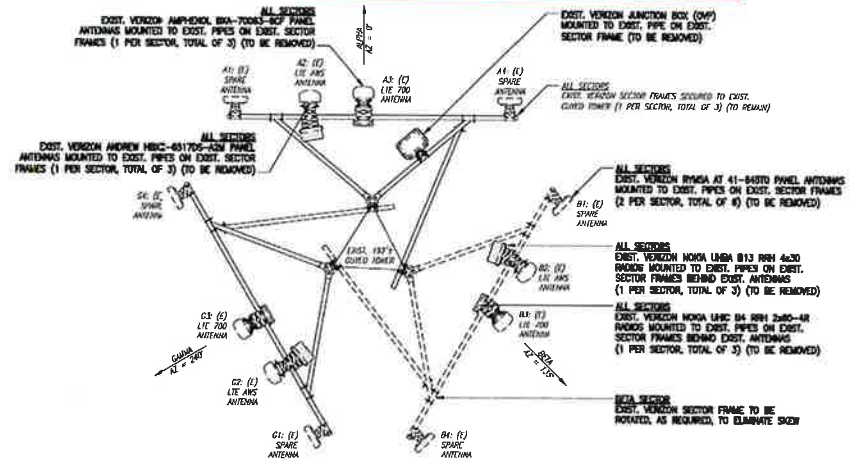
SPECIAL CONSTRUCTION NOTE (SBA-PROVIDED ANTENNA MOUNT STRUCTURAL MOD SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE VERIZON RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

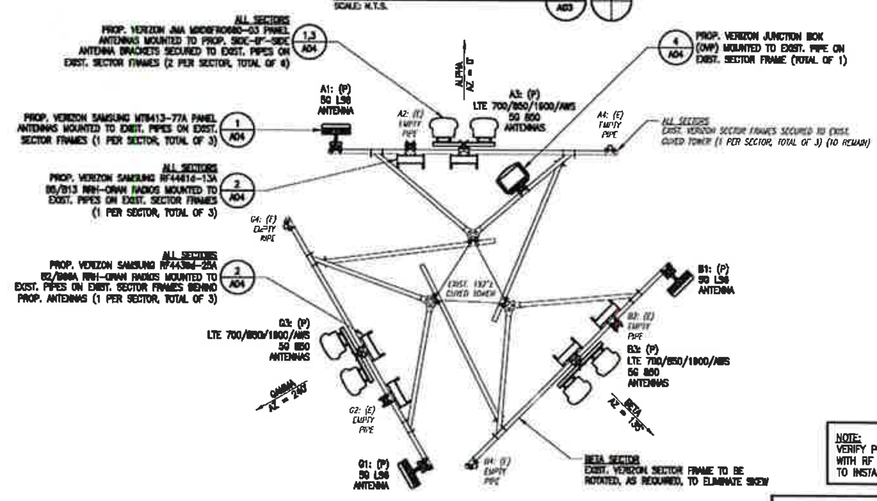


NOTE:
GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

TOWER ELEVATION (1/A03)
SCALE: 1" = 10'-0"
0 10' 20' 30'



EXISTING ANTENNA PLAN (2/A03)
SCALE: N.T.S.



PROPOSED ANTENNA PLAN (3/A03)
SCALE: N.T.S.

NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.

ANTENNA STATUS LEGEND:
EMPTY – EMPTY PIPE
(E) – EXISTING
(P) – INSTALL
(F) – FUTURE

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STATE OF CONNECTICUT · JAMES M. FITZGERALD · No. 25987 · LICENSED · PROFESSIONAL CIVIL ENGINEER
12/21/23

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS

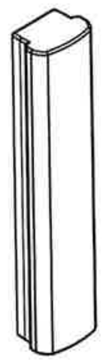
REV.	DATE	DESCRIPTION	BY
1	12/21/23	ISSUED FOR CONSTRUCTION	CAC
0	12/08/23	ISSUED FOR REVIEW	CAC

PROJECT NAME & ADDRESS
UNCASVILLE CT
71 MOXLEY ROAD
UNCASVILLE, CT 06382

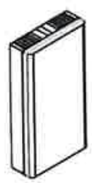
VZW LOCATION CODE:	469486
MDG LOCATION ID:	[illegible]
FUZE PROJECT ID:	16272079

SHEET TITLE
TOWER ELEVATION & ANTENNA PLANS

SHEET NUMBER
A03



JMA MX08FRO860-03 ANTENNA
DIMENSIONS: 71.3"H x 15.4"W x 10.7"D
WEIGHT: 60.0 lbs
QUANTITY: 2 PER SECTOR, TOTAL OF 6
SECTORS: ALPHA, BETA, GAMMA



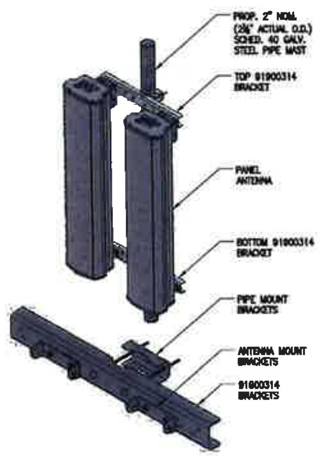
SAMSUNG MT6413-77A ANTENNA
DIMENSIONS: 28.9"H x 15.8"W x 5.5"D
WEIGHT: 57.3 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA

ANTENNA DETAILS (1/A04)
SCALE: N.T.S.

SAMSUNG RF4439d-25A B2/B66A RADIO
DIMENSIONS: 15.0"H x 15.0"W x 10.0"D
WEIGHT: 74.7 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA

SAMSUNG RF4461d-13A B5/B13 RADIO
DIMENSIONS: 15.0"H x 15.0"W x 10.2"D
WEIGHT: 70.1 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA

RADIO DETAIL (2/A04)
SCALE: N.T.S.



JMA 91900314 SIDE-BY-SIDE ANTENNA MOUNT BRACKET
WEIGHT: 28.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA
NOTE: MOUNT ANTENNA PER MANUFACTURER'S SPECIFICATIONS

TYPICAL SIDE-BY-SIDE ANTENNA MOUNT KIT (3/A04)
SCALE: N.T.S.

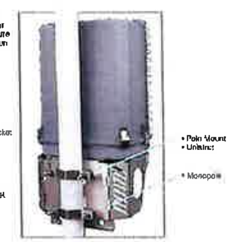
Procedure
Mounting Procedures

4.1 A mounting base is delivered with the unit. The base allows either wall/ladder or pole mounted installation. See picture to identify the holes for each installation method

4.2 *Option 1: Pole Mount*
Using supplied hardware, mount Bracket to 2" to 4" diameter pole

4.3 *Option 2: Unistrut*

4.4 *Option 3: Monopole*
Use 1" stainless steel bands (not supplied) through slots on bracket to mount to Monopole.



Gland/Insert Definitions

5.1 See picture to identify Base Gland Assembly Definitions.

Assembled in unit as shipped

Qty	Connector Size	Pos	Insert P/N	Insert Hole	Cable Type
2	M72	A	[illegible]	[illegible]	[illegible]
4	M75	B	[illegible]	[illegible]	[illegible]

Included in kit shipped with unit

Qty	Connector Size	Insert P/N	Insert Hole	Cable Type	Purpose	Pos
3	M75	[illegible]	[illegible]	6x12 Pi…	[illegible]	[illegible]
1	M75	[illegible]	[illegible]	2x12 DC	[illegible]	[illegible]
1	M75	[illegible]	[illegible]	2x12 Fiber	[illegible]	[illegible]
1	M75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

FIBER JUNCTION BOX
DIMENSIONS: 28.56"H x 16.5"W x 12.8"D
WEIGHT: 32.0 lbs
QUANTITY: TOTAL OF 1

TYPICAL FIBER JUNCTION BOX (OVP) DETAILS (4/A04)
SCALE: N.T.S.

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25967
LICENSED
PROFESSIONAL CIVIL ENGINEER
12/11/23

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	12/__/23	ISSUED FOR CONSTRUCTION	CMC
0	12/__/23	ISSUED FOR REVIEW	CMC

PROJECT NAME & ADDRESS
UNCASVILLE CT
71 MOXLEY ROAD
UNCASVILLE, CT 06382

VZW LOCATION CODE: [illegible]
MDG LOCATION ID: [illegible]
FUZE PROJECT ID: [illegible]

SHEET TITLE
SITE DETAILS

SHEET NUMBER
A04

EXISTING EQUIPMENT CONFIGURATION

SECTOR	EQUIPMENT MAKE & MODEL	QTY	AZIMUTH (TRUE NORTH)	ANTENNA RAD	BAND	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	EQUIPMENT STATUS	H (IN)	W (IN)	D (IN)	WEIGHT (LBS)	HYBRID CABLE SIZE & QTY
ALPHA	RYMSA AT 41-64510 ANTENNA	1	0°	140'± AGL	SPARE	-	-	ETRE	-	-	-	-	EXIST. (12) 1-5/8" COAXIAL CABLES EXIST. (1) 6x12 HYBRID CABLE
	ANDREW HBXX-6517DS-A2M ANTENNA	1	0°	140'± AGL	LTE AWS	0°	3°	ETRE	75.0	12.0	6.5	40.8	
	ANTEL BXA-70063-6CF ANTENNA	1	0°	140'± AGL	LTE 700	0°	2°	ETRE	71.0	11.3	6.0	17.0	
	ANDREW HBXX-6516DS-A2M ANTENNA	1	0°	140'± AGL	SPARE	-	-	ETRE	-	-	-	-	
BETA	RYMSA AT 41-64510 ANTENNA	1	135°	140'± AGL	SPARE	-	-	ETRE	-	-	-	-	
	ANDREW HBXX-6517DS-A2M ANTENNA	1	135°	140'± AGL	LTE AWS	0°	2°	ETRE	75.0	12.0	6.5	40.8	
	ANTEL BXA-70063-6CF ANTENNA	1	135°	140'± AGL	LTE 700	0°	2°	ETRE	71.0	11.3	6.0	17.0	
	ANDREW HBXX-6516DS-A2M ANTENNA	1	135°	140'± AGL	SPARE	-	-	ETRE	-	-	-	-	
GAMMA	RYMSA AT 41-64510 ANTENNA	1	240°	140'± AGL	SPARE	-	-	ETRE	-	-	-	-	
	ANDREW HBXX-6517DS-A2M ANTENNA	1	240°	140'± AGL	LTE AWS	0°	3°	ETRE	75.0	12.0	6.5	40.8	
	ANTEL BXA-70063-6CF ANTENNA	1	240°	140'± AGL	LTE 700	0°	2°	ETRE	71.0	11.3	6.0	17.0	
	ANDREW HBXX-6516DS-A2M ANTENNA	1	240°	140'± AGL	SPARE	-	-	ETRE	-	-	-	-	
ALL	NOKIA [illegible] B13 RRH 4x30 RADIOS	3	-	-	-	-	-	ETRE	21.4	12.0	7.2	51.0	
	NOKIA UHIC B4 RRH 2x60-4R RADIOS	3	-	-	-	-	-	ETRE	37.0	11.0	6.0	55.0	
	12-OVP	1	-	-	-	-	-	ETRE	29.6	16.5	12.6	32.0	

NOTES:
1. "ETR" DENOTES "EXISTING TO REMAIN".
2. "ETRE" DENOTES "EXISTING TO BE REMOVED".
3. WEIGHTS LISTED ARE WITHOUT MOUNTING BRACKETS.
4. INFORMATION IS BASED ON RFDS DATED 08/11/23.

FINAL EQUIPMENT CONFIGURATION

SECTOR	EQUIPMENT MAKE & MODEL	QTY	AZIMUTH (TRUE NORTH)	ANTENNA RAD	BAND	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	EQUIPMENT STATUS	H (IN)	W (IN)	D (IN)	WEIGHT (LBS)	HYBRID CABLE SIZE & QTY
ALPHA	SAMSUNG MT6413-77A ANTENNA	1	0°	140'± AGL	5G L58	0°	3°	NEW	28.9	15.8	5.5	57.3	EXIST. (11) 1-5/8" COAXIAL CABLES EXIST. (1) 6x12 HYBRID CABLE PROP. (1) 6x12 HYBRID CABLE
	JMA MX08FRO660-03 ANTENNAS	2	0°	140'± AGL	LTE 700/800/1900/AWS 5G 850	0°/0°/0°/0° 0°	2°/2°/2°/2 2°	NEW	71.3	16.4	10.7	80.0	
BETA	SAMSUNG MT6413-77A ANTENNA	1	135°	140'± AGL	5G L58	0°	3°	NEW	28.9	15.8	5.5	57.3	
	JMA MX08FRO660-03 ANTENNAS	2	135°	140'± AGL	LTE 700/800/1900/AWS 5G 850	0°/0°/0°/0° 0°	1°/6°/2°/2° 6°	NEW	71.3	16.4	10.7	80.0	
GAMMA	SAMSUNG MT6413-77A ANTENNA	1	240°	140'± AGL	5G L58	0°	3°	NEW	28.9	15.8	5.5	57.3	
	JMA MX08FRO660-03 ANTENNAS	2	240°	140'± AGL	LTE 700/800/1900/AWS 5G 850	0°/0°/0°/0° 0°	2°/2°/2°/2° 2°	NEW	71.3	16.4	10.7	80.0	
ALL	SAMSUNG B2/B66A RF4439d-25A RADIOS	3	-	-	-	-	-	NEW	15.0	15.0	10.0	74.7	
	SAMSUNG B5/B13 RF4461d-13A RADIOS	3	-	-	-	-	-	NEW	15.0	15.0	10.2	70.1	
	12-OVP	1	-	-	-	-	-	NEW	29.6	16.5	12.6	32.0	

NOTES:
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2. "ETRE" DENOTES "EXISTING TO BE REMOVED".
3. WEIGHTS LISTED ARE WITHOUT MOUNTING BRACKETS.
4. INFORMATION IS BASED ON RFDS DATED 08/11/23.

FEEDLINE SCHEDULE

SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: (1) 1/2" COAX CABLE FOR GPS ANTENNA (11) 1-5/8" COAXIAL CABLES (1) 6x12 HYBRID CABLE EXISTING TO BE REMOVED: (1) 1-5/8" COAXIAL CABLE	ROUTED PER STRUCTURAL ANALYSIS
B	PROPOSED: (1) 6x12 HYBRID CABLE	

NOTE:
EXISTING VERIZON EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

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STATE OF CONNECTICUT * JAMES M. FITZGERALD * No. 25997 * LICENSED * PROFESSIONAL CIVIL ENGINEER
12/21/23

CHECKED BY: AJT
APPROVED BY: AJT

SUBMITTALS

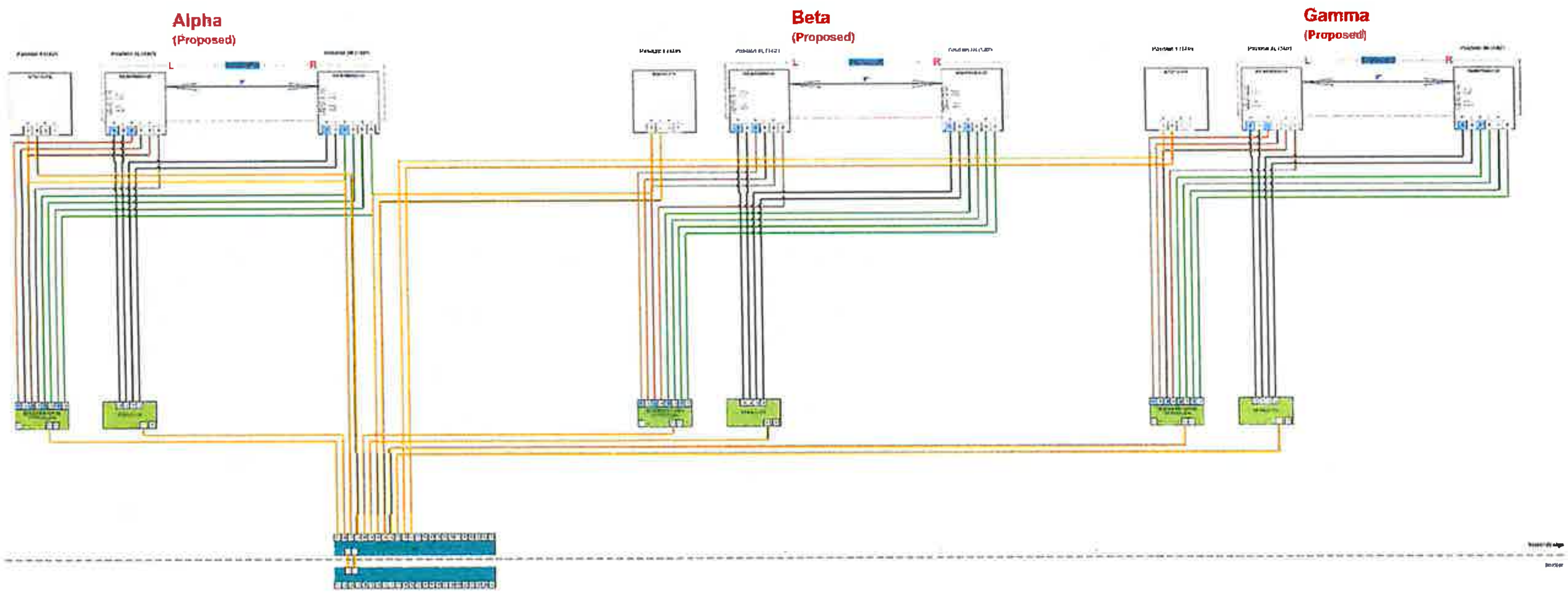
REV	DATE	DESCRIPTION	BY
1	12/21/23	ISSUED FOR CONSTRUCTION	CMC
0	12/08/23	ISSUED FOR REVIEW	CMC

PROJECT NAME & ADDRESS
UNCASVILLE CT
71 MOXLEY ROAD
UNCASVILLE, CT 06382

VZW LOCATION CODE: [illegible]
MDG LOCATION ID: [illegible]
FUZE PROJECT ID: [illegible]

SHEET TITLE
RF DATA

SHEET NUMBER
RF01



RF PLUMBING DIAGRAM
SCALE: N.T.S.

1
RF02

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25697
LICENSED
PROFESSIONAL CIVIL ENGINEER
12/21/23

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV	DATE	DESCRIPTION	BY
1	12/21/23	ISSUED FOR CONSTRUCTION	CJC
0	12/06/23	ISSUED FOR REVIEW	CJC

PROJECT NAME & ADDRESS

UNCASVILLE CT

71 MOXLEY ROAD
UNCASVILLE, CT 06382

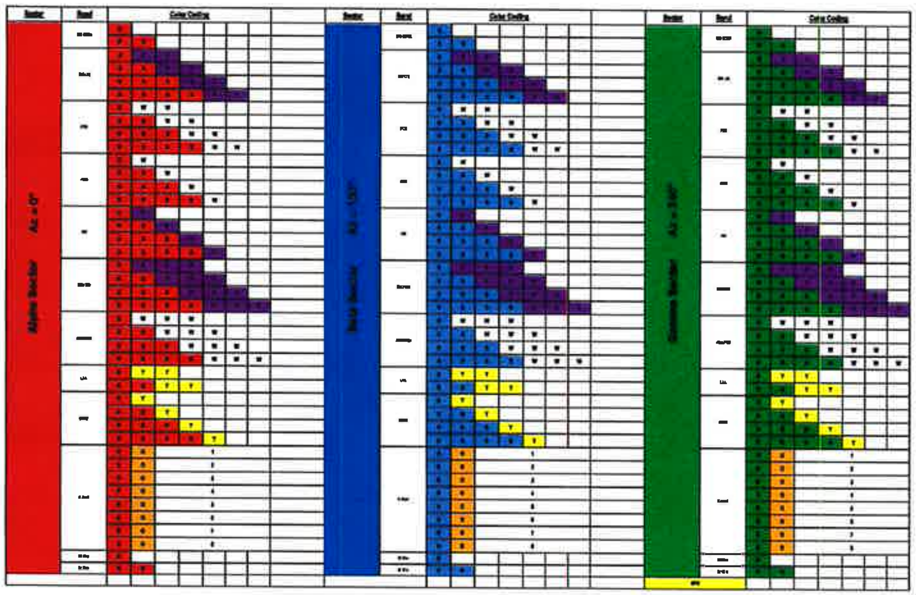
VZW LOCATION CODE: [illegible]
MDG LOCATION ID: [illegible]
FUZE PROJECT ID: [illegible]

SHEET TITLE

RF PLUMBING DIAGRAM

SHEET NUMBER

RF02



CABLE NOTE:
SEE FEEDLINE SCHEDULE A & B ON SHEET RF01 FOR EXISTING & PROPOSED CABLE QUANTITIES.

LINE COLOR CODE SPECIFICATIONS (1/RF03)
SCALE: N.T.S.

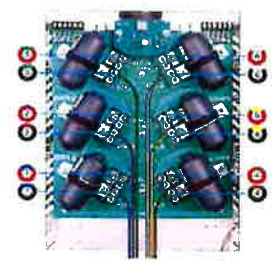
Hybrid Cable on Towers

Hybrid Cable 1

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

Hybrid Cable 2

Sector	Identification Color	-48V	RTN
700 Beta	Blue		
AWS Beta	Violet		
PCS Beta	Green		
850 Beta	Brown		
Spare	Yellow		
Spare	White		



HYBRID CABLE COLOR CODE SPECIFICATIONS (2/RF03)
SCALE: N.T.S.

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STATE OF CONNECTICUT * JAMES M. FITZGERALD No. 25997 LICENSED PROFESSIONAL CIVIL ENGINEER
12/21/23

CHECKED BY: AJT
APPROVED BY: AJT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	12/21/23	ISSUED FOR CONSTRUCTION	CMC
0	12/04/23	ISSUED FOR REVIEW	CMC

PROJECT NAME & ADDRESS
UNCASVILLE CT
71 MOXLEY ROAD
UNCASVILLE, CT 06382

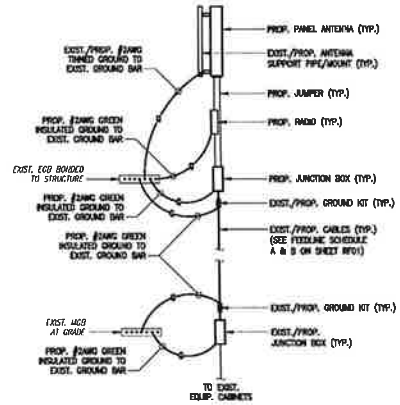
VZW LOCATION CODE: 468485
MDG LOCATION ID: [illegible]
FUZE PROJECT ID: [illegible]

SHEET TITLE
RF COLOR CODE SPECIFICATIONS

SHEET NUMBER
RF03

GROUNDING GENERAL NOTES

1. ALL EXTERIOR CONDUCTORS SHALL BE #2 AWG, SOLID, BARE, TINNED COPPER, UNLESS OTHERWISE NOTED. MINIMUM BEND RADIUS SHALL BE EIGHT (8) INCHES.
2. ALL WIRE-TO-WIRE CONNECTIONS SHALL BE THREE-CLAMP, C TAP COMPRESSION (T&B #54740 ORANGE OR EQUIVALENT). ALL GROUND BAR CONNECTIONS SHALL BE TWO-HOLE, LONG-BARREL TYPE COMPRESSION LUGS (T&B OR EQUIVALENT). ALL OTHER CONNECTIONS TO STEEL SURFACES SHALL USE LUG-TYPE CONNECTORS.
3. MECHANICALLY BOND ANTENNA MOUNTS WITH #2 AWG, BARE, STRANDED CONDUCTORS.
4. ALL GROUNDING WORK SHALL COMPLY WITH VERIZON WIRELESS STANDARDS.
5. CONNECT GROUND CONDUCTOR TO EXISTING GROUNDING SYSTEM. ATTACH TO WALLS, PARAPET, CABLE TRAY, ETC. WITH A CLAMPS AS NECESSARY. REMOVE PAINT, FIREPROOFING, MILL SCALE, ETC. TO ACHIEVE GOOD CAD WELD GROUND CONNECTION.
6. CONNECT TO HALO GROUND USING C-TAP (#54730).
7. CONNECT TO ENCLOSURES USING BLUE GROUND LUGS.
8. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC (CADWELD) CONNECTIONS.
9. ALL GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC (CADWELD).
10. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR & EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
11. ALL EXOTHERMIC CONNECTIONS TO THE GROUND RODS SHALL START AT THE TOP & HAVE A VERTICAL SEPARATION OF 6" FOR EVERY ADDITIONAL CONNECTION.
12. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
13. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
14. MAXIMUM RESISTANCE OF THE COMPLETED GROUND SYSTEM SHALL NOT EXCEED 5 OHMS. TESTING SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT SPECIFICATION FOR FACILITY GROUNDING, USING FALL OF POTENTIAL METHOD.
15. ANTENNA GROUND KITS SHALL BE FURNISHED BY VERIZON & INSTALLED BY CONTRACTOR.



TYP. ANTENNA GROUNDING RISER (1/E01)
SCALE: NOT TO SCALE

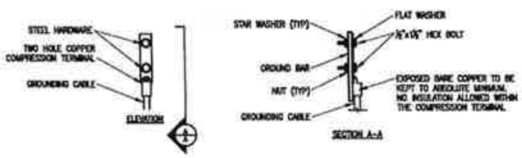
LEGEND

GROUNDING SYMBOLS

Symbol	Description
⊠	GROUND ROD/TEST (OBSERVATION) WELL
⊗	GROUND ROD
▲	CADWELD TYPE CONNECTION
●	COMPRESSION TYPE CONNECTION
----	GROUNDING WIRE
(1/E02)	REPRESENTS DETAIL NUMBER

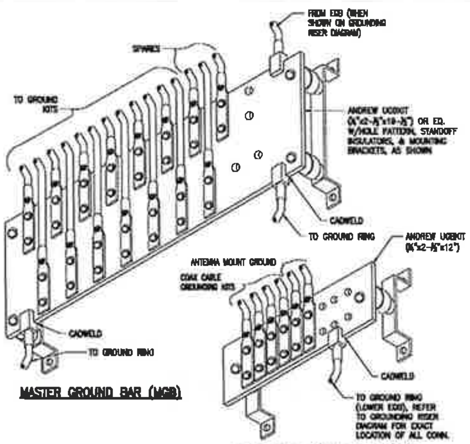
ABBREVIATIONS

AWG	AMERICAN WIRE GAUGE
BCW	BARE COPPER WIRE
GPS	GLOBAL POSITIONING SYSTEM
PCS	PERSONAL COMMUNICATION SYSTEM
RWY	RACEWAY
TYP.	TYPICAL
RGS	RIGID GALVANIZED STEEL
EMT	ELECTRICAL METALLIC TUBING
DWG	DRAWING
EMT	INTERIOR GROUND RING (HALO)
GEN	GENERATOR
GR	GROWTH
CGBE	COAX GROUND BAR EXTERNAL
CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
MGB	MASTER GROUND BAR
PVC	RIGID (SCH. 40) POLYVINYL CHLORIDE CONDUIT
EBH	ETHERNET BACK HAUL

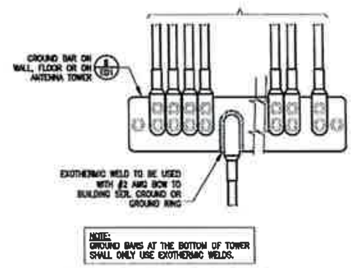


NOTE:
1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

TYP. GROUND BAR CONNECTION (2/E01)
SCALE: N.T.S.

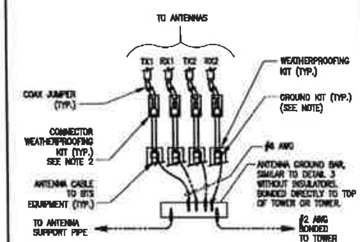


GROUND BAR DETAILS (6/E01)
SCALE: N.T.S.



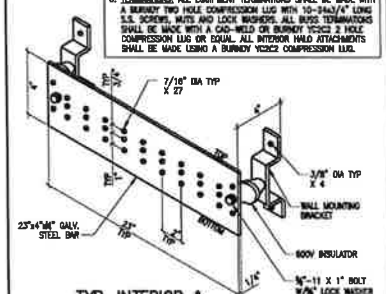
NOTE:
GROUND BARS AT THE BOTTOM OF TOWER SHALL ONLY USE EXOTHERMIC WELDS.

INSTALLATION OF GROUND WIRE TO GROUND BAR (3/E01)
SCALE: N.T.S.

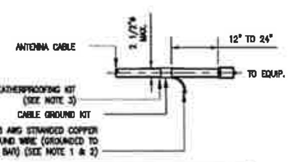


CONN. OF GROUND WIRE TO GROUND BAR (TOWER) (4/E01)
SCALE: N.T.S.

NOTES:
1. SURFACE PREPARATION: ALL CONNECTIONS MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE MADE BARE TO ENSURE PROPER CONTACT. NO WASHERS SHALL BE ALLOWED BETWEEN THE ITEMS BEING GROUNDED. ALL CONNECTIONS SHALL HAVE AN ANTI-OXIDANT AGENT APPLIED PRIOR TO INSTALLATION.
2. BUSS PREPARATION: ALL GALV. STEEL BUSSES SHALL BE CLEANED, POLISHED AND AN ANTI-OXIDANT APPLIED. NO FINGERPRINTS OR DISCOLORED STEEL WILL BE PERMITTED.
3. TERMINATIONS: ALL EQUIPMENT TERMINATIONS SHALL BE MADE WITH A BURNDY TWO HOLE COMPRESSION LUG WITH 10-24x3/4" LONG S.S. SCREWS, NUTS AND LOCK WASHERS. ALL BUSS TERMINATIONS SHALL BE MADE WITH A CAD-WELD OR BURNDY YC2C2 2 HOLE COMPRESSION LUG OR EQUAL. ALL INTERIOR HALO ATTACHMENTS SHALL BE MADE USING A BURNDY YC2C2 COMPRESSION LUG.

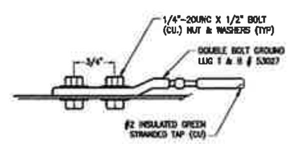


TYP. INTERIOR & EXTERIOR GROUND BAR (5/E01)
SCALE: N.T.S.

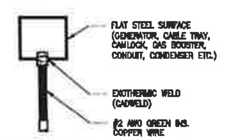


NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND & ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE & PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE SUPPLIED WITH KIT. COLD SHRINK SHALL NOT BE USED.

CONN. OF CABLE GROUND KIT TO ANTENNA CABLE (7/E01)
SCALE: N.T.S.



TYP. EQUIPMENT GROUND CONNECTION (8/E01)
SCALE: N.T.S.



TYP. CADWELD #2 GREEN TO FLAT STEEL SURFACE (9/E01)
SCALE: N.T.S.

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STATE OF CONNECTICUT ★ JAMES M. FITZGERALD No. 25987 LICENSED PROFESSIONAL CIVIL ENGINEER
12/21/23

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV	DATE	DESCRIPTION	BY
1	12/21/23	ISSUED FOR CONSTRUCTION	CAC
0	12/06/23	ISSUED FOR REVIEW	CAC

PROJECT NAME & ADDRESS

UNCASVILLE CT

71 MOXLEY ROAD
UNCASVILLE, CT 06382

VZW LOCATION CODE: 469485
MDG LOCATION ID: [illegible]
FUZE PROJECT ID: [illegible]

SHEET TITLE

GROUNDING NOTES & DETAILS

SHEET NUMBER

E01

C-band 64T64R

SAMSUNG

Gen 2

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

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

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

Item	Gen 2 64T64R (MT6413-77A)
Air Technology	NR n77/TDD
Frequency	3700 – 3980 MHz
IBW	200 MHz
OBW	200 MHz
Carrier Bandwidth	20(HW ready)/40/60/80/100 MHz
# of Carriers	2 carriers
Layer	DL : 16L, UL : 16RX (8L)
RF Chain	64T64R
Antenna Configuration	4V16H with 192 AE
EIRP	80.5 dBm @320W (55 dBm + 25.5 dBi)
Conductive Power	320W
Spectrum Analyzer	TX/RX support
RX Sensitivity	Typical -97.8dBm @(1Rx, 18.36MHz with 30kHz,51RBs)
Modulation	DL 256QAM support, (DL 1024QAM with 1~2dB power back-off)
Function Split	DL/UL option 7-2x
Input Power	-48 VDC (-38 VDC to -57 VDC)
Power Consumption	1,287W (100% load, room temp.)
Size (WHD)	**400 x 734 x 140 mm (15.75 x 28.90 x 5.51 inch)**
Volume	**41.1L**
Weight	**26kg (57.3 lb)**
Operating Temperature	-40°C - 55°C (w/o solar load)
Cooling	Natural convection
Unwanted Emission	3GPP 38.104 FCC 47 CFR 27.53 : < -13dBm/MHz < -40 dBm/MHz @ above 4 GHz <-50 dBm /MHz @ 4,040 ~ 4,050 MHz, <-60 dBm /MHz @ above 4,050 MHz
Optic Interface	15km, 4 ports (25Gbps x 4), SFP28, single mode, Bi-di (Option: Duplex)
Mounting Options	Pole, wall
NB-IoT	Not support
External Alarm	4RX
Fronthaul Interface	eCPRI

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SAMSUNG

AWS/PCS MACRO RADIO

DUAL-BAND AND HIGH POWER FOR MACRO COVERAGE

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

Model Code	RF4439d-25A

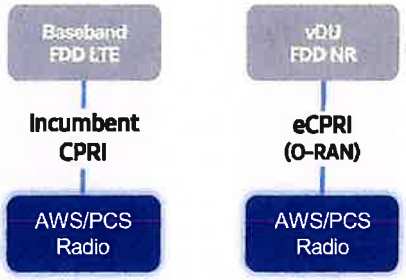
Homepage
samsungnetworks.com

Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

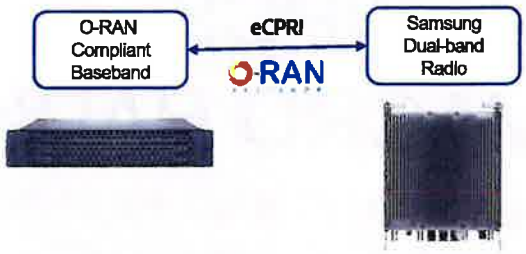
Samsung's AWS/PCS macro radio can support each incumbent CPRI interface as well as advanced eCPRI interfaces. This feature provides installable options for both legacy LTE networks and added NR networks.



O-RAN Compliant

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

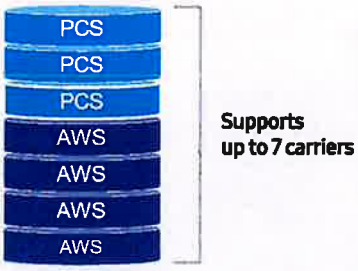
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



Optimum Spectrum Utilization

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

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



Brand New Features in a Compact Size

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

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

Same as an incumbent radio volume

Technical Specifications

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

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

SAMSUNG

Specifications

Item	Specification	
Air Interface	LTE, NR(HW resource ready)	
Band	Band13 (700MHz)	Band5 (850MHz)
Frequency	DL: 746~756MHz UL: 777~787MHz	DL: 869~894MHz UL: 824~849MHz
IBW	10MHz	25MHz
OBW	10MHz	25MHz
Carrier Bandwidth	LTE/NR 5*/10MHz	LTE 5/10MHz NR 5/10/15/20MHz
# of carriers	2C*	3C
Total # of carriers	4C + B13 (SDL) 1C	
RF Chain	4T4R/2T4R/2T2R/1T2R 2T2R+2T2R bi-sector	
RF Output Power	Total : 320W	
	4 x 40W or 2 x 60W	4 x 40W or 2 x 60W
Spectrum Analyzer	TX/RX Support	
RX Sensitivity	Typ. -104.5dBm @1Rx (25RBs 5MHz)	
Modulation	256QAM support, (1024QAM with 1~2dB power back-off)	
Input Power	-48VDC (-38VDC to -57VDC)	
Power Consumption	1,165 Watt @ 100% RF load, room temperature	
Size (WHD)	380 x 380 x 260 mm (14.96 x 14.96 x 10.23 inch)	
Volume	37.5 L	
Weight (W/o Solar Shield & finger guard)	35.9 kg (79.1 lb)	
Operating Temperature	-40°C (-40°F) ~ 55°C (131°F) (Without solar load)	
Cooling	Natural convection	
Unwanted Emission	3GPP 36.104	3GPP 36.104
	FCC 47 CFR 27.53 c), f)	FCC 47 CFR 22.917
	-	-69 dBm/100 kHz per path @ 896 ~901MHz
CPRI Cascade	Not supported	
Optic Interface	20km, 2 ports (9.8Gbps x 2), SFP+, single mode, Duplex (Option: Bi-di)	
RET & TMA Interface	AISG 3.0	
Bias-T	4 ports (2 ports per band)	
Mounting Options	Pole, wall	
NB-IoT	2GB+2IB or 4IB	2SA+2GB or 2GB+2IB or 4GB
PIM Cancellation	Support	
# of antenna port	4	
External Alarm	4	
Fronthaul Interface	Opt. 8 CPRI / Opt. 7-2x selectable (not simultaneous support)	
CPRI compression	Not Support	

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

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ATTACHMENT 3

C Squared Systems, LLC
65 Dartmouth Drive
Auburn, NH 03032
(603) 644-2800
support@csquaredsystems.com

Calculated Radio Frequency Emissions Report

verizon

Uncasville CT

71 Moxley Hill Road, Montville, CT 06382

January 4, 2024

Table of Contents

List of Figures

List of Tables

1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modification of Verizon's antenna arrays to be mounted at 140' on an existing guyed lattice tower located at 71 Moxley Hill Road in Montville, CT. The coordinates of the tower are 41° 26' 6.61" N, 72° 7' 23.9" W.

Verizon is proposing the following:

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

This report considers the planned antenna configuration for Verizon[1] as well as existing[2] antenna configuration for AT&T, and T-Mobile to derive the resulting % MPE of its proposed modification.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

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

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

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment C of this report.

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

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

[1] As referenced to Verizon's Radio Frequency Design Sheet updated 08/11/2023.

[2] As referenced to T-Mobile's Connecticut Siting Council Notice of Exempt Modification – 71 Moxley Hill Road, Montville, Connecticut, dated 3/07/2019

3. RF Exposure Prediction Methods

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

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

Where:

EIRP = Effective Isotropic Radiated Power

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

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Off Beam Loss is determined by the selected antenna patterns

Ground reflection factor (GRF) of 1.6

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

4. Antenna Inventory

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

Operator	Sector / Call Sign	TX Freq (MHz)	Power at Antenna (Watts)	Ant Gain (dBi)	Power EIRP (Watts)	Antenna Model	Beam Width	Mech. Tilt	Length (ft)	Antenna Centerline Height (ft)
Verizon	Alpha / 0°	700	160	14.4	4407	MX06FRO660-03	60.5	0	5.94	140
		850	160	14.0	4019		53.0			
		1900	160	18.0	10095		55.0			
		2100	240	18.2	15857		55.5			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	140
	Beta / 135°	700	160	14.4	4407	MX06FRO660-03	62.5	0	5.94	140
		850	160	14.0	4019		53.5			
		1900	160	18.0	10095		55			
		2100	240	18.2	15857		55			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	140
	Gamma / 240°	700	160	14.4	4407	MX06FRO660-03	62.5	0	5.94	140
		850	160	14.0	4019		53.5			
		1900	160	18.0	10095		55			
		2100	240	18.2	15857		55			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	140

Table 1: Proposed Antenna Inventory[3][4]

[3] Antenna heights are in reference to Verizon's Radio Frequency Design Sheet updated 08/11/2023.

[4] Transmit power assumes 0 dB of cable loss.

5. Calculation Results

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

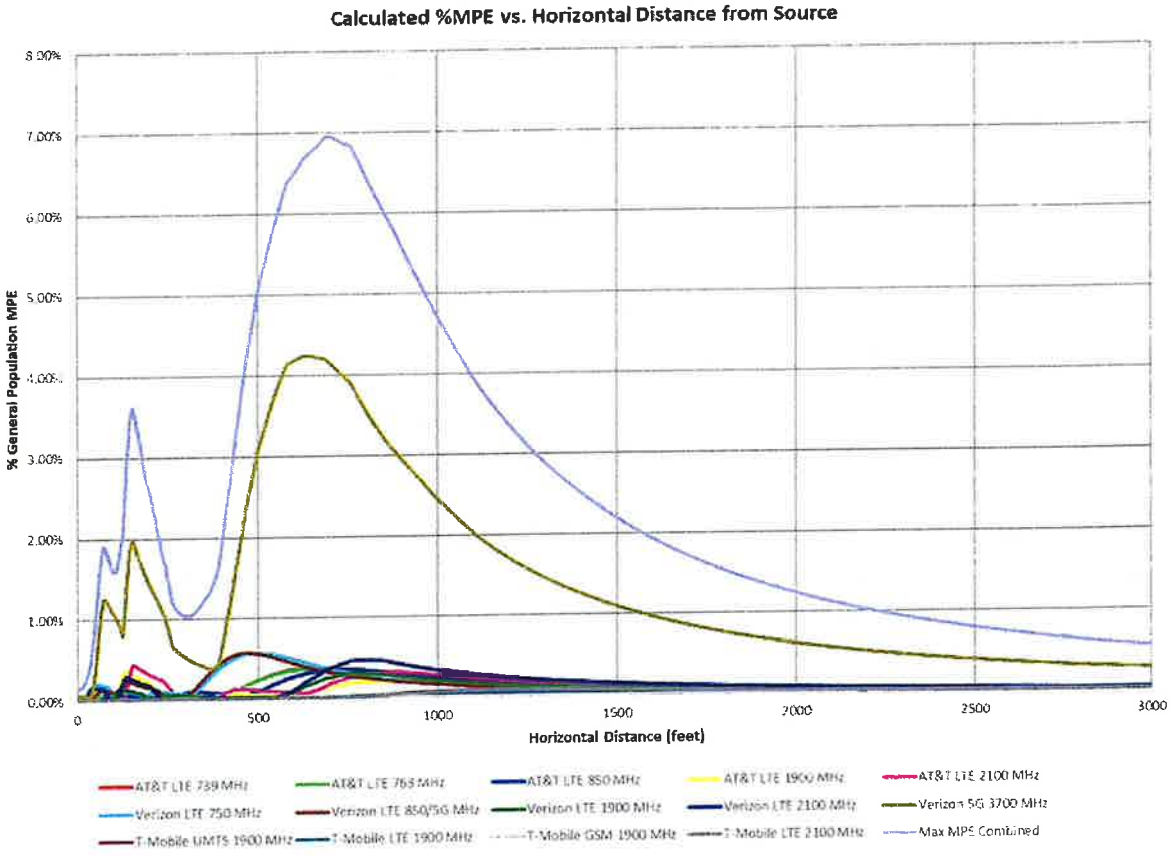


Figure 1: Graph of General Population % MPE vs. Distance

The highest percent of MPE (6.96% of the General Population limit) is calculated to occur at a horizontal distance of 703 feet from antennas. Please note that the percent of MPE calculations close to the site take into account off beam loss, which is determined from the vertical pattern of the antennas used. Therefore, RF power density levels may increase as the distance from the site increases. At distances of approximately 1000 feet and beyond, one would now be in the main beam of the antenna pattern and off beam loss is no longer considered. Beyond this point, RF levels become calculated solely on distance from the site and the percent of MPE decreases significantly as distance from the site increases.

Table 2 below lists percent of MPE values as well as the associated parameters that were included in the calculations. The highest percent of MPE value was calculated to occur at a horizontal distance of 703 feet from the site (reference Figure 1).

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

Carrier	Number of Transmitters	Power out of Base Station Per Transmitter (Watts)	Antenna Height (Feet)	Distance to the Base of Antennas (Feet)	Power Density (mW/cm^2)	Limit (mW/cm^2)	% MPE
AT&T LTE 1900 MHz	1	160.0	130.0	703	0.001478	1.000	0.15%
AT&T LTE 2100 MHz	1	240.0	130.0	703	0.001916	1.000	0.19%
AT&T LTE 739 MHz	1	160.0	130.0	703	0.001869	0.493	0.38%
AT&T LTE 763 MHz	1	160.0	130.0	703	0.001869	0.509	0.37%
AT&T LTE 850 MHz	1	160.0	130.0	703	0.002021	0.567	0.36%
T-Mobile GSM 1900 MHz	1	15.0	150.0	703	0.000031	1.000	0.00%
T-Mobile LTE 1900 MHz	2	40.0	150.0	703	0.000163	1.000	0.02%
T-Mobile LTE 2100 MHz	2	60.0	150.0	703	0.000091	1.000	0.01%
T-Mobile UMTS 1900 MHz	1	40.0	150.0	703	0.000082	1.000	0.01%
Verizon 5G 3700 MHz	1	320.0	140.0	703	0.041414	1.000	4.14%
Verizon LTE 1900 MHz	1	160.0	140.0	703	0.002637	1.000	0.26%
Verizon LTE 2100 MHz	1	240.0	140.0	703	0.003788	1.000	0.38%
Verizon LTE 750 MHz	1	160.0	140.0	703	0.001844	0.500	0.37%
Verizon LTE 850/5G MHz	1	160.0	140.0	703	0.001844	0.567	0.33%
						Total	**6.96%**

Table 2: Maximum Percent of General Population Exposure Values[5]

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

6. Conclusion

The above analysis verifies that RF exposure levels from the site with Verizon's proposed antenna configuration will be well below the maximum permissible levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using the conservative calculation methods and parameters detailed above, the maximum cumulative percent of MPE in consideration of all transmitters is calculated to be **6.96%** of the FCC limit (General Population/Uncontrolled). This maximum cumulative percent of MPE value is calculated to occur 703 feet away from the site.

7. Statement of Certification

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

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

January 3, 2024
Date

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

January 4, 2024
Date

Attachment A: References

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

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

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

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

(A) Limits for Occupational/Controlled Exposure[6]

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

(B) Limits for General Population/Uncontrolled Exposure[7]

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

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

Table 3: FCC Limits for Maximum Permissible Exposure

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

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

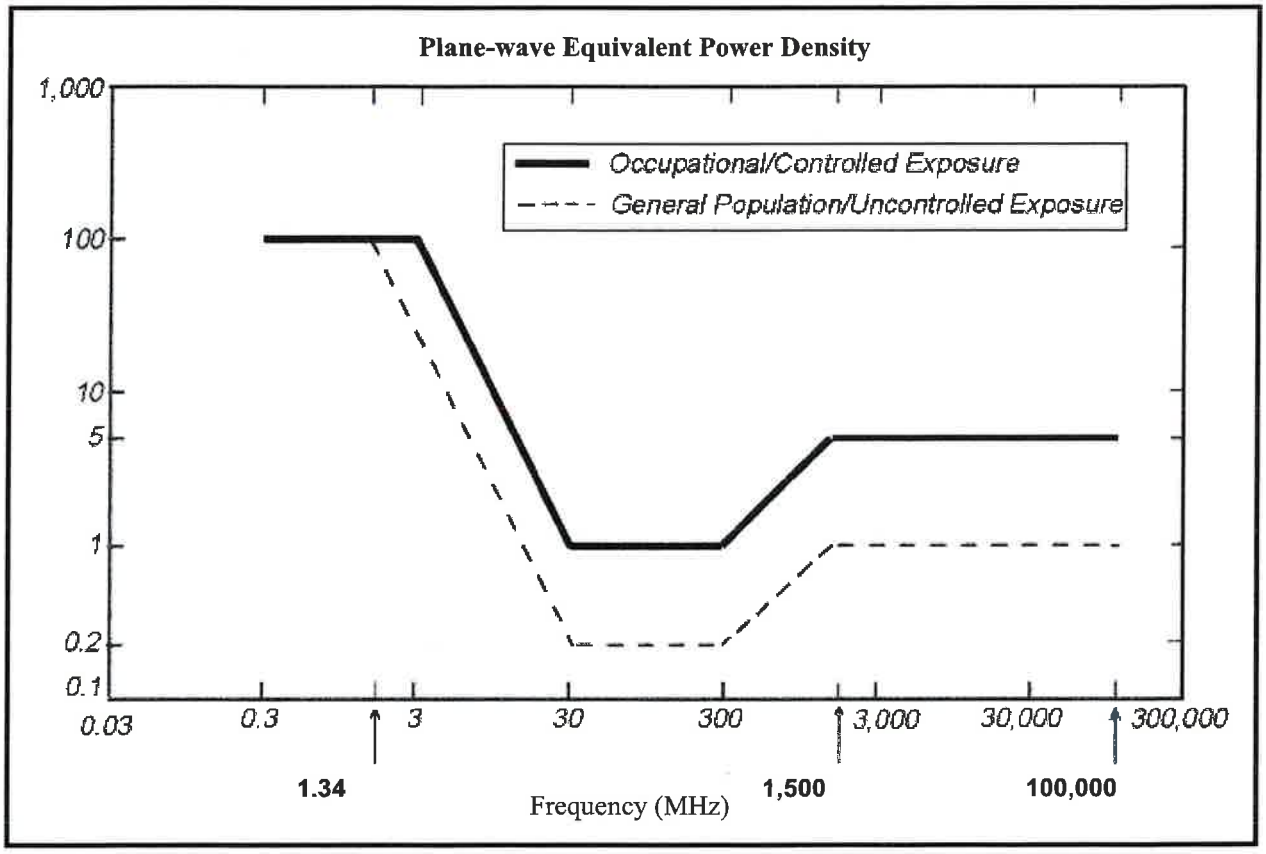
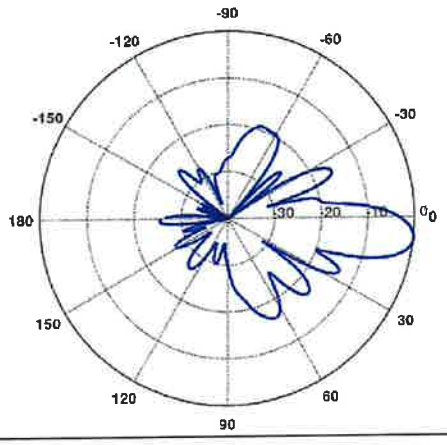


Figure 2: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: Verizon Antenna Model Data Sheets and Electrical Patterns

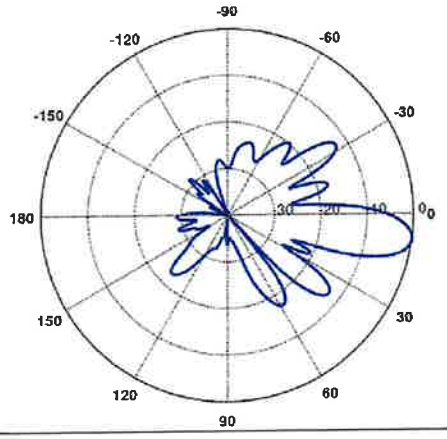
750 MHz

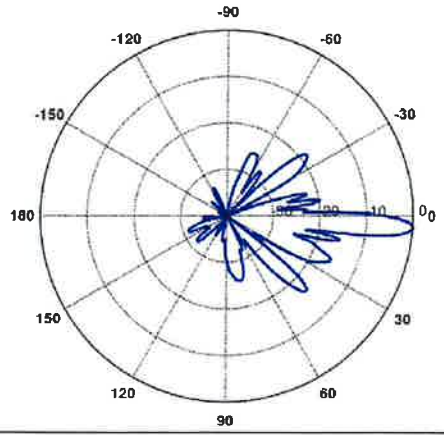
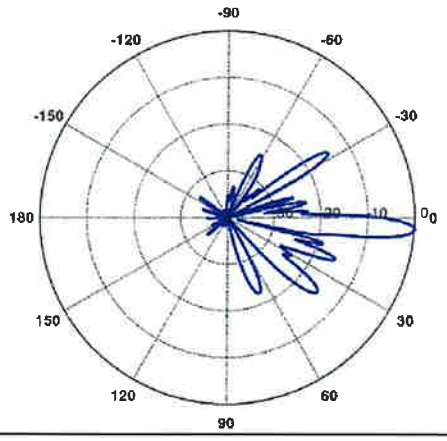
Manufacturer:	JMA
Model #:	MX06FRO660-03
Frequency Band:	698-798 MHz
Gain:	14.4 dBi
Vertical Beamwidth:	13.1°
Horizontal Beamwidth:	60.5°
Polarization:	±45°
Dimensions (L x W x D):	71.3" x 15.4" x 10.7"



885 MHz

Manufacturer:	JMA
Model #:	MX06FRO660-03
Frequency Band:	824-894 MHz
Gain:	14.0 dBi
Vertical Beamwidth:	11.8°
Horizontal Beamwidth:	53.0°
Polarization:	±45°
Dimensions (L x W x D):	71.3" x 15.4" x 10.7"



1900 MHz Manufacturer: JMA Model #: MX06FRO660-03 Frequency Band: 1850-1990 MHz Gain: 18.0 dBi Vertical Beamwidth: 5.5° Horizontal Beamwidth: 55.0° Polarization: ±45° Dimensions (L x W x D): 71.3" x 15.4" x 10.7"	
2100 MHz Manufacturer: JMA Model #: MX06FRO660-03 Frequency Band: 1920-2200 MHz Gain: 18.2 dBi Vertical Beamwidth: 5.5° Horizontal Beamwidth: 55.5° Polarization: ±45° Dimensions (L x W x D): 71.3" x 15.4" x 10.7"	

ATTACHMENT 4

GPD Engineering and Architecture
Professional Corporation

STRUCTURAL ANALYSIS REPORT

190' Modified Guyed Tower

71 Moxley Road
Ucansville, CT 06382
41.4352 N, 72.1233 W

SBA Site Name: CT10016-A
SBA Site ID: Montville 3 CT

Verizon Site Name: Uncasville CT
Verizon Site ID: 5000243394
Application ID: 241546, v1

GPD Project Number: 2024778.10016.03

Analysis Results

Tower Components	66.9%	Sufficient
Foundation	70.9%	Sufficient
Net Change in Tower Stress Ratio	+ 5.0%	As compared to the Previous Structural Analysis detailed on Page 3

Verizon Mount Replacement/Reinforcement

Net Change in Tower Stress Ratio due to Mount Replacement/Reinforcement	N/A

December 20, 2023

Respectfully submitted by:

12/20/2023
Christopher J. Scheks, P.E.
Connecticut P.E. #: 0030026

Analysis Criteria

The purpose of this analysis is to verify the existing modified guyed tower is structurally capable of carrying the proposed antenna and feedline loads as specified by Verizon to SBA. This report was commissioned by Sheba Samuel of SBA.

The existing modified structure and its foundations have been analyzed per the following requirements:

Governing Code(s)	TIA-222-H & 2022 Connecticut State Building Code
Wind Speed	126 MPH 3-Second Gust
Wind Speed w/ Ice	50 MPH 3-Second Gust
Radial Ice Thickness	1.00"
Risk Category	II
Exposure Category	B
Topographic Category	1

Analysis Method

tnxTower (Version 8.2.2.0), a commercially available software program, was used to create a three-dimensional model of the tower and calculate member stresses for various dead, live, wind and ice load cases. Selected output from the analysis is included in the appendices of this report.

Tower Description

The existing 190' modified self-support tower is located in Uncasville, CT. The tower was originally designed for SBA Network Services, Inc. by ROHN in April 1998. The tower was originally designed in accordance with TIA-222-F for a 90-mph 3-second gust wind speed with 1/2" of radial ice (w/ a 25% wind load reduction) in accordance with EIA/TIA-222-F.

Documents Provided

Document Type	Remarks	Source
Original Tower & Foundation Drawings	ROHN Eng. File #: 37183AE001 Dated: 4/21/1998	SBA
Geotechnical Report	FDH Project #: 1102193EG1 Dated: 8/10/2011	SBA
Modification Drawings	FDH: Project #: 1465RU1400 Dated, 5/29/2014	SBA
Modification Drawings	FDH: Project #: 15BJIT1400 Dated 4/22/2015	SBA
AT&T Mount Analysis	TEP Project #: 323466.754398 Rev.2 Dated: 5/8/2023	SBA
Previous Structural Analysis	GPD Project #: 2023778.10016.02 Dated: 8/31/2023	SBA
Verizon Mount Analysis	Colliers Project #: 21777086 (Rev 2) Dated 11/27/2023	SBA
Collocation Application	SBA Application #: 241546, v1 Dated: 12/4/2023	SBA

Tower Modification Summary

Modification Type	Description	Designer
Diagonals	Replace existing pipe diagonals from 87.6' to 90' with L2x2x1/4 members.	FDH (5/29/2014)
Legs	Bolt on split P3 STD members to existing legs from 130' to 150'	FDH (5/29/2014)
Legs	Bolt on split P3 STD members to existing legs from 110' to 130'	FDH (4/22/2015)

Tower Materials

Structural Components	Material Strength
Legs	ASTM A572 (50 KSI Yield Strength)
Bracing Members	ASTM A500-42 (42 KSI Yield Strength)
Member Bolts	A325X
Guy Wires	EHS

Tower Loading

The following data shows the major loading that the modified tower supports. All existing, leased, and proposed loading information was provided by SBA, or taken from the previous structural analysis.

Existing/Leased Loading

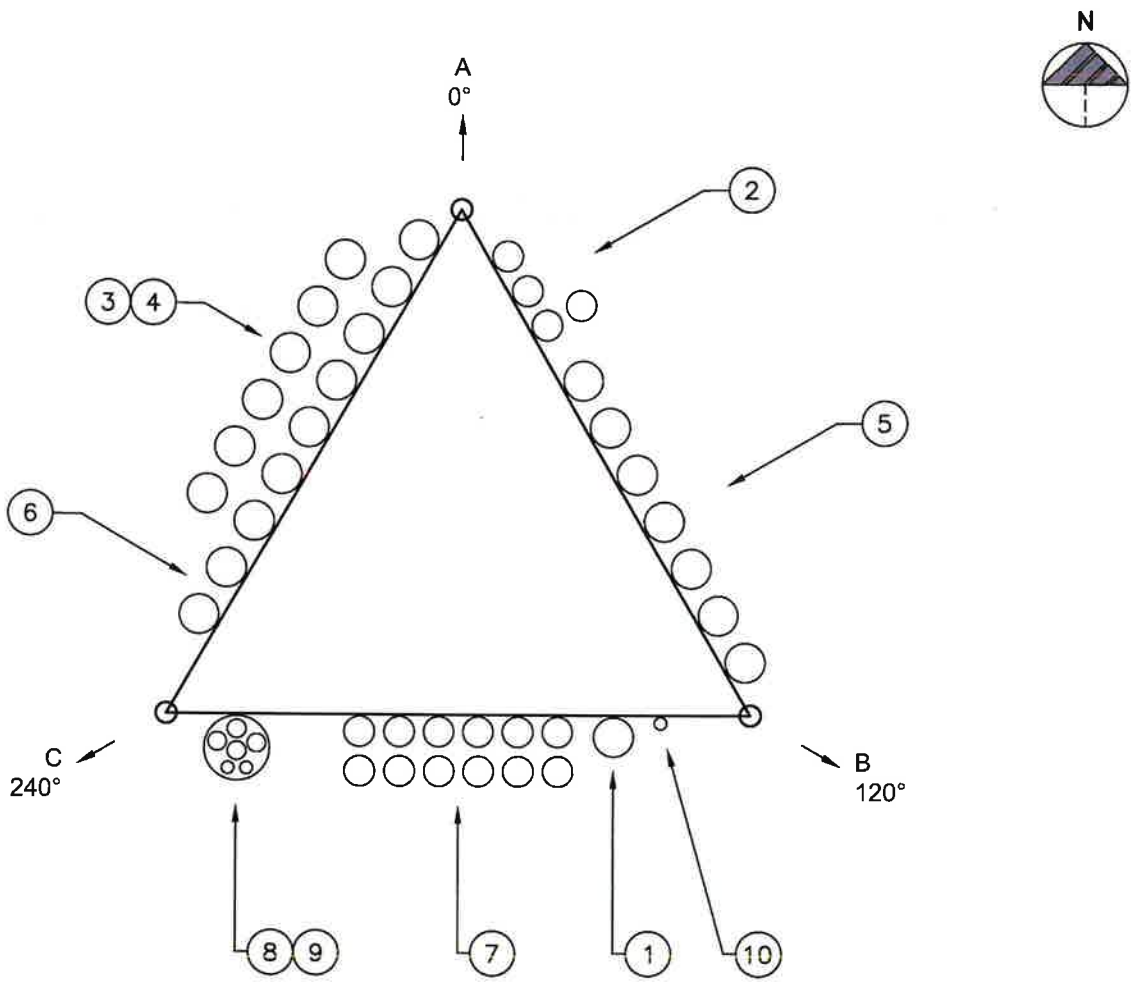
Carrier	Mounting Level (ft)	Center Line Elevation (ft)	# of Antennas	Antenna Manufacturer	Antenna/Mount Model	# of Coax	Coax Size (in)	Note
Dish Wireless	180.0	180.0	3	Commscope	FFVV-65B-R2	1	1-3/4 Hybrid	
			3	Samsung	RF4450t-71A			
			3	Samsung	RF4451d-70A			
			1	Raycap	RDIDC-9181-PF-48			
			3	Commscope	MTC3975083 Sector Mount			
Sprint Nextel	160.0	160.0	3	RFS	APXVSPP18-C-A20	4	1-1/4 Hybrid	
			3	RFS	APXVTM14-C-I20			
			4	RFS	ACU-A20-N RET			
			3	Alcatel Lucent	1900 MHz RRH			
			3	Alcatel Lucent	800 MHz RRH			
			3	Alcatel Lucent	TD-RRH8x20-25			
			3	Alcatel Lucent	800 MHz Filter			
			3		Sector Mount			
T-Mobile	150.0	150.0	3	Andrew	RR65-18-VDPL2	10 3	1-5/8 1-5/8 Hybrid	
			3	RFS	APXVAARR24_43-U-NA20			
			3	Ericsson	Air32 KRD901146-1_B66A_B2A			
			6	Ericsson	KRY 112 144/1			
			3	Ericsson	4449 B71+B12			
			3	Unknown	Sector Mount			
Verizon	139.5	141.0	6	Commscope	HBXX-6517DS-A2M	12 1	1-5/8 1-5/8 Hybrid	
			3	Commscope	LNX-8513DS-VTM			
			3	Antel	BXA-70063-6CF-EDIN-6			
			6	RFS	FD9R6004/2CL-3CL			
			3	Alcatel Lucent	RH_2x60-AWS			
			1	RFS	DB-T1-6Z-8AB-0Z			
		139.5	3		Sector Mount			
AT&T	130.0	132.0	3	Ericsson	Air 6419 B77G	12 2 4	1-1/4 1/2 Fiber 3/4 DC	
		130.0	1	CCI	TPA65R-BU8DA-K			
			1	CCI	DMP65R-BU8DA			
			1	CCI	TPA65R-BU6DA-K			
			1	CCI	OPA65R-BU8DA			
			1	CCI	TPA65R-BU4D			
			1	CCI	OPA65R-BU4DA			
			3	Ericsson	4449 B5/B12			
			3	Ericsson	8843 B2/B66A			
			1	Raycap	DC6-48-60-18-8F			
			1	Raycap	DC9-48-60-24-8C-EV			
			3		Sector Mount			
		128.0	3	Ericsson	Air 6449 B77D			
Verizon	76.0	76.0	1		GPD	1	1/2	
			1		Standoff			

Final Proposed Loading Configuration

Carrier	Mounting Level (ft)	Center Line Elevation (ft)	# of Antennas	Antenna Manufacturer	Antenna/Mount Model	# of Coax	Coax Size (in)	Note
Verizon	139.5	141.0	3	Antel	BXA-70063-6CF-EDIN-6	7 2	1-5/8 1-5/8 Hybrid	1
			6	RFS	FD9R6004/2CL-3CL			
		140.0	6	JMA	MX06FRO660-03			
			3	Samsung	MT6413 77A			
			3	Samsung	B2/B66A RRH ORAN (RF4439d-25A)			
			3	Samsung	B5/B13 RRH ORAN (RF4461d-13A)			
			1	Raycap	RVZDC-6627-PF-48			
		139.5	3	JMA	91900314			
			3		Sector Mount			
	76.0	76.0	1		GPS	1	1/2	
			1		Standoff			

Notes:
1) This loading represents Verizon's final configuration on the tower. See the next page for the proposed feedline layout.

Proposed Feedline Configuration



#	CARRIER	SIZE	QTY.	ELEVATION	NOTES
1	Dish Wireless	1-3/4"	1	180'	Hybrid
2	Sprint	1-1/4"	4	160'	Hybrid
3	T-Mobile	1-5/8"	10	150'	
4	T-Mobile	1-5/8"	3	150'	Hybrid
5	Verizon	1-5/8"	7	139.5'	
6	Verizon	1-5/8"	2	139.5'	Hybrid ((1) Proposed)
7	AT&T	1-1/4"	12	130'	
8	AT&T	1/2"	2	130'	Fiber. Within Conduit
9	AT&T	3/4"	4	130'	DC Power. Within Conduit
10	Verizon	1/2"	1	76'	

Tower Section Results

Capacity Summary of Structural Components

Notes	Component	% Capacity	Pass / Fail
	Legs	64.2	Pass
	Diagonals	66.9	Pass
	Horizontals	25.4	Pass
	Member Bolts	66.9	Pass
	Guy Wires	53.6	Pass
	Torque Arms	35.6	Pass
	Tower Base Foundation	22.6	Pass
	Guy Anchor Foundation	70.9	Pass

Conclusions & Recommendations

The designs of the modified tower and its foundations are sufficient to support the proposed loading configuration and will not require further modification.

Assumptions

This structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the tower. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. GPD has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in the Existing/Reserved Loading and Proposed Loading Tables, and the specified documents.
4) All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
5) Mount sizes, weights, and manufacturers are best estimates based on photos provided and determined without the benefit of a site visit by GPD.
6) All member connections and foundation steel reinforcing are assumed designed to meet or exceed the load carrying capacity of the connected member and surrounding soils respectively unless otherwise specified in this report.
7) Tower leg azimuths have been estimated based on the use of satellite imagery software.
8) The existing feedline layout has been modeled based on the previous structural analysis and site photos.
9) The proposed feedlines shall be installed as illustrated in order for the results of this analysis to be valid.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and GPD should be allowed to review any new information to determine its effect on the structural integrity of the tower.

Disclaimer of Warranties

GPD has not performed a site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by GPD in connection with this Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

This analysis is limited to the designated maximum wind and seismic conditions per the governing tower standards and code. Wind forces resulting in tower vibrations near the structure's resonant frequencies were not considered in this analysis and are outside the scope of this analysis. Lateral loading from any dynamic response was not evaluated under a time-domain based fatigue analysis.

GPD does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the capability of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice accumulation in excess of the code specified amount, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD, but are beyond the scope of this report.

Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

Towers are designed to carry gravity, wind, and ice loads. All members, legs, diagonals, struts, and redundant members provide structural stability to the tower with little redundancy. Absence or removal of a member can trigger catastrophic failure unless a substitute is provided before any removal. Legs carry axial loads and derive their strength from shorter unbraced lengths by the presence of redundant members and their connection to the diagonals with bolts or welds. If the bolts or welds are removed without providing any substitute to the frame, the leg is subjected to a higher unbraced length that immediately reduces its load carrying capacity. If a diagonal is also removed in addition to the connection, the unbraced length of the leg is greatly increased, jeopardizing its load carrying capacity. Failure of one leg can result in a tower collapse because there is no redundancy. Redundant members and diagonals are critical to the stability of the tower.

GPD makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD pursuant to this report will be limited to the total fee received for preparation for this report.

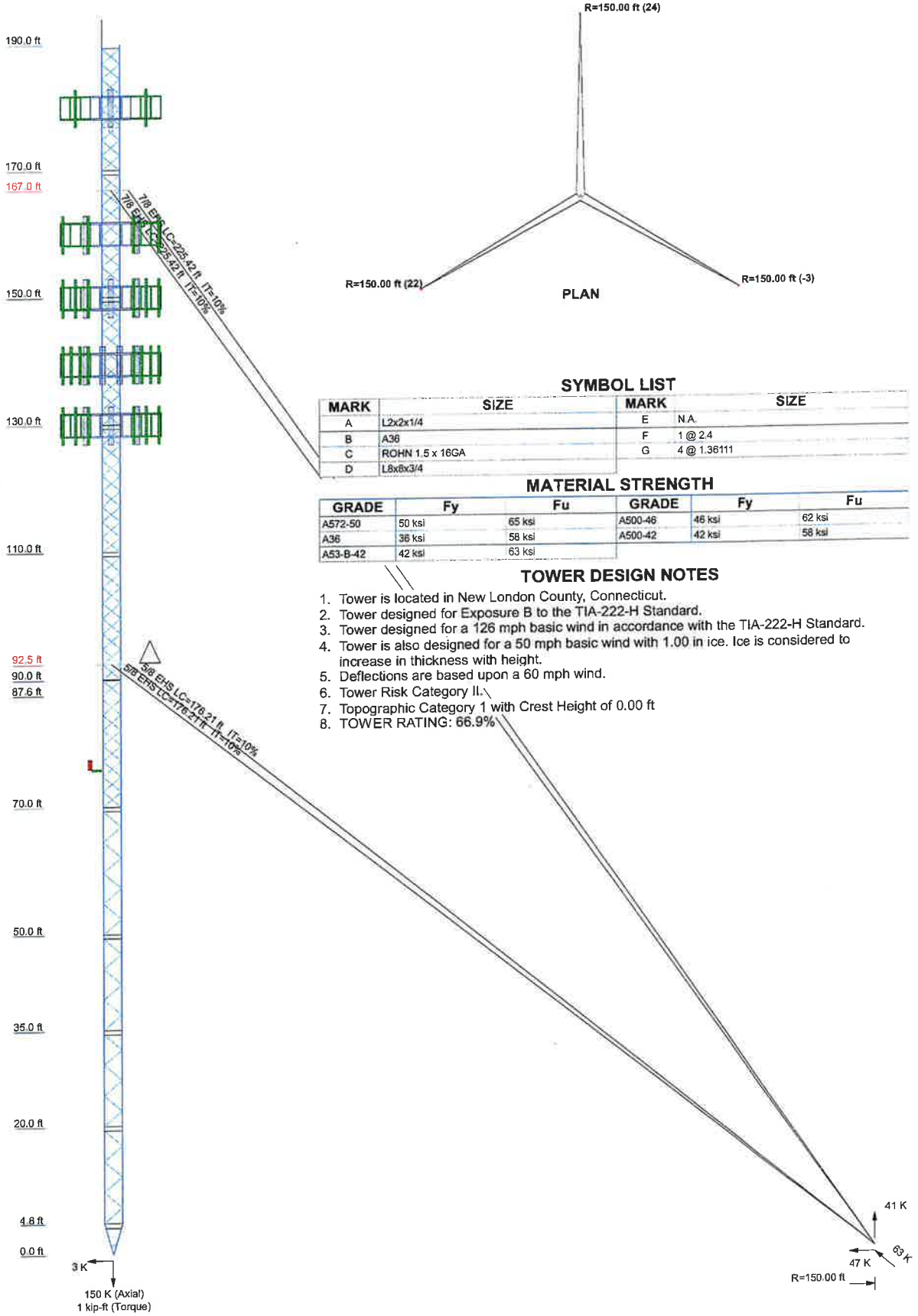
SBA Site ID: CT10016-A
December 20, 2023

TNX TOWER OUTPUT

GPD

Section		1	2	3	4	5	6	7	8	9	10	11	12
Legs		ROHN 3 EH			P 2-1/2 X-STR w/ Split P 3 STD (GPD)			ROHN 3 EH					
Leg Grade		A572-50			A500-46			A572-50					
Diagonals	N.A.	L2x2x1/4	ROHN 1.5 x 16GA	ROHN 1.5 x 11GA		N.A.	ROHN 1.5 x 16GA	ROHN 1.5 x 11GA	8 @ 2.40885	ROHN 1.5 x 16GA	12 @ 2.37847	6 @ 2.40972	ROHN 1.5 x 11GA
Diagonal Grade	N.A.	A36	A53-B-42	A500-42		N.A.	A53-B-42	A500-42		A53-B-42			A500-42
Top Girts	D	L2x2x1/4	ROHN 1.5 x 16GA	ROHN 1.5 x 11GA		N.A.	ROHN 1.5 x 16GA	ROHN 1.5 x 11GA		ROHN 1.5 x 16GA			ROHN 1.5 x 11GA
Bottom Girts	N.A.	L2x2x1/4	ROHN 1.5 x 16GA	ROHN 1.5 x 11GA		N.A.	ROHN 1.5 x 16GA	ROHN 1.5 x 11GA		ROHN 1.5 x 16GA			ROHN 1.5 x 11GA
Horizontals	D					2L2x2x1/4							
Top Guy Pull-Offs			2L2x2x1/4			N.A.				N.A.			
Face Width (ft)			N.A.										
# Panels @ (ft)	G				40 @ 2.40885			7 @ 2.41012					
Weight (K)	11.3		3.41667										

	A	B	C	D	E	F	G
	1	2	3	4	5	6	7
	1.5	2.3	0.9	1.1	1.5	0.2	0.9
	13	23	9	11	15	2	9



SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L2x2x1/4	E	N.A.
B	A36	F	1 @ 2.4
C	ROHN 1.5 x 16GA	G	4 @ 1.36111
D	L8x8x3/4		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A500-46	46 ksi	62 ksi
A36	36 ksi	58 ksi	A500-42	42 ksi	58 ksi
A53-B-42	42 ksi	63 ksi			

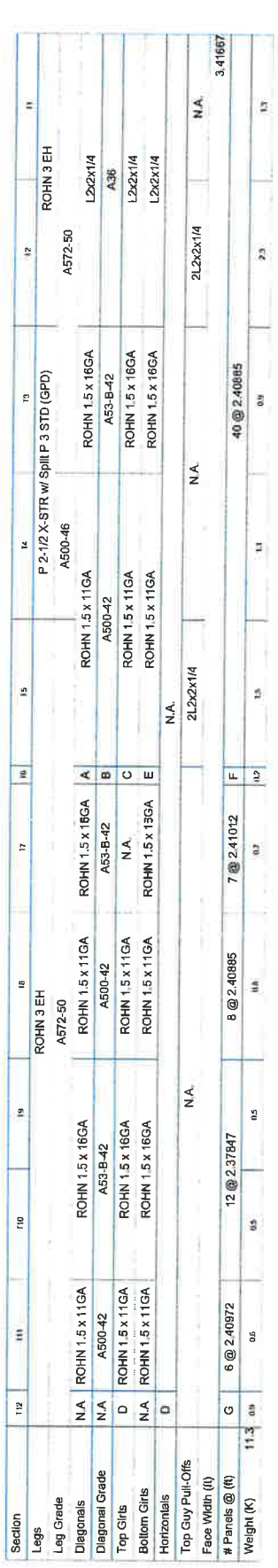
TOWER DESIGN NOTES

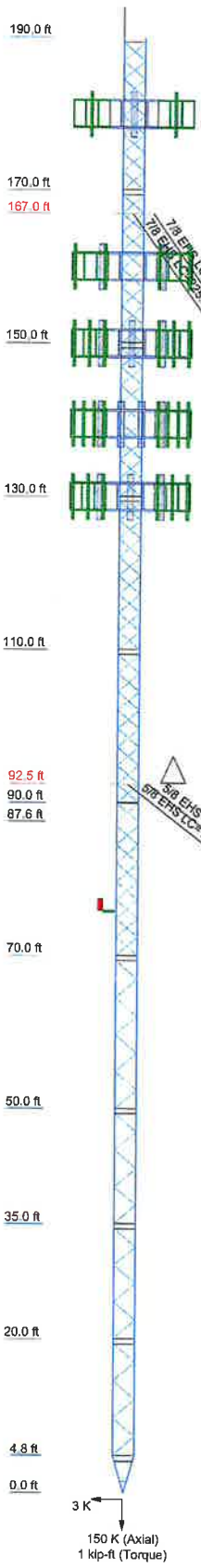
1. Tower is located in New London County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 126 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 66.9%

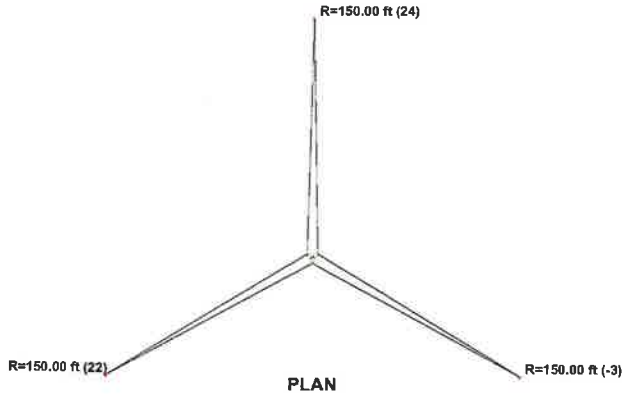
ALL REACTIONS ARE FACTORED

GPD
520 South Main Street Suite 2531
Akron, Ohio 44311
Phone: (330) 572-2100
FAX: (330) 572-2101

Job: CT10016-A Montville 3 CT			
Project: 2024778.10016.03			
Client: SBA	Drawn by: bfranczkowski	App'd:	
Code: TIA-222-H	Date: 12/20/23	Scale: NTS	
Path:		Dwg No. E-1	







DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod 4'x5/8"	190	AIR 32 KRD901146-1 B66A/B2A w/ Mount Pipe	150
MTC3975083 Sector Mount (3)	180	(2) KRY 112 144/1	150
(2) Pipe Mount 8'x2.875"	180	(2) KRY 112 144/1	150
(2) Pipe Mount 8'x2.875"	180	(2) KRY 112 144/1	150
(2) Pipe Mount 8'x2.875"	180	4449 B71 + B12	150
FFVV-65B-R2 w/ Mount Pipe	180	4449 B71 + B12	150
FFVV-65B-R2 w/ Mount Pipe	180	4449 B71 + B12	150
FFVV-65B-R2 w/ Mount Pipe	180	Sector Mount (3)	139.5
RF4450t-71A	180	BXA-70063/6CF-EDIN w/ Mount Pipe	139.5
RF4450t-71A	180	BXA-70063/6CF-EDIN w/ Mount Pipe	139.5
RF4450t-71A	180	BXA-70063/6CF-EDIN w/ Mount Pipe	139.5
RF4451d-70A	180	(2) FD9R6004/2C-3L	139.5
RF4451d-70A	180	(2) FD9R6004/2C-3L	139.5
RDIDC-9181-PF-48	180	(2) FD9R6004/2C-3L	139.5
Sector Mount (3)	160	MX06FRO660-03 w/ Mount Pipe	139.5
(2) Pipe Mount 5'x2.375"	160	MX06FRO660-03 w/ Mount Pipe	139.5
(2) Pipe Mount 5'x2.375"	160	MX06FRO660-03 w/ Mount Pipe	139.5
(2) Pipe Mount 5'x2.375"	160	MX06FRO660-03 w/ 91900314	139.5
Pipe Mount 6'x2.375"	160	MX06FRO660-03 w/ 91900314	139.5
Pipe Mount 6'x2.375"	160	MX06FRO660-03 w/ 91900314	139.5
Pipe Mount 6'x2.375"	160	MT6413 77A w/ Mount Pipe	139.5
APXVSPP18-C-A20 w/ Mount Pipe	160	MT6413 77A w/ Mount Pipe	139.5
APXVSPP18-C-A20 w/ Mount Pipe	160	MT6413 77A w/ Mount Pipe	139.5
APXVSPP18-C-A20 w/ Mount Pipe	160	B2/B66A RRH ORAN (RF4439d-25A)	139.5
APXVTM14-C-120 w/ Mount Pipe	160	B2/B66A RRH ORAN (RF4439d-25A)	139.5
APXVTM14-C-120 w/ Mount Pipe	160	B2/B66A RRH ORAN (RF4439d-25A)	139.5
APXVTM14-C-120 w/ Mount Pipe	160	B5/B13 RRH ORAN (RF4461d-13A)	139.5
(2) ACU-A20-N RET	160	B5/B13 RRH ORAN (RF4461d-13A)	139.5
ACU-A20-N RET	160	B5/B13 RRH ORAN (RF4461d-13A)	139.5
ACU-A20-N RET	160	RVZDC-6627-PF-48	139.5
1900 MHz RRH	160	Sector Mount (3)	130
1900 MHz RRH	160	AIR 6419 B77G w/ Mount Pipe	130
1900 MHz RRH	160	AIR 6419 B77G w/ Mount Pipe	130
800 MHz RRH	160	AIR 6419 B77G w/ Mount Pipe	130
800 MHz RRH	160	AIR 6449 B77D	130
800 MHz RRH	160	AIR 6449 B77D	130
TD-RRH8x20-25	160	AIR 6449 B77D	130
TD-RRH8x20-25	160	TPA65R-BU8DA-K w/ Mount pipe	130
TD-RRH8x20-25	160	DMP65R-BU8DA w/ Mount Pipe	130
800 MHz External Notch Filters	160	TPA65R-BU6DA-K w/ Mount Pipe	130
800 MHz External Notch Filters	160	OPA65R-BU8DA w/ Mount Pipe	130
800 MHz External Notch Filters	160	TPA65R-BU4D w/ Mount Pipe	130
Sector Mount (3)	150	OPA65R-BU4DA w/ Mount Pipe	130
RR65-18-VDPL2 w/ Mount Pipe	150	4449 B5/B12	130
RR65-18-VDPL2 w/ Mount Pipe	150	4449 B5/B12	130
RR65-18-VDPL2 w/ Mount Pipe	150	4449 B5/B12	130
APXVAARR24_43-U-NA20 w/ 96" Mount Pipe	150	8843 B2/B66A	130
APXVAARR24_43-U-NA20 w/ 96" Mount Pipe	150	8843 B2/B66A	130
APXVAARR24_43-U-NA20 w/ 96" Mount Pipe	150	8843 B2/B66A	130
AIR 32 KRD901146-1 B66A/B2A w/ Mount Pipe	150	DC6-48-60-18-8F	130
AIR 32 KRD901146-1 B66A/B2A w/ Mount Pipe	150	DC9-48-60-24-8C-EV	130
		Side Arm Mount [SO 701-1]	76
		GPS	76

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L2x2x1/4	E	N.A.
B	A36	F	1 @ 2.4
C	ROHN 1.5 x 16GA	G	4 @ 1.36111
D	L8x8x3/4		

MATERIAL STRENGTH

GPD
520 South Main Street Suite 2531
Akron, Ohio 44311
Phone: (330) 572-2100
FAX: (330) 572-2101

Project: 2024778.10016.03
Client: SBA | Drawn by: bfranczkowski | App'd:
Code: TIA-222-H | Date: 12/20/23 | Scale: NTS
Path: | Dwg No. E-1

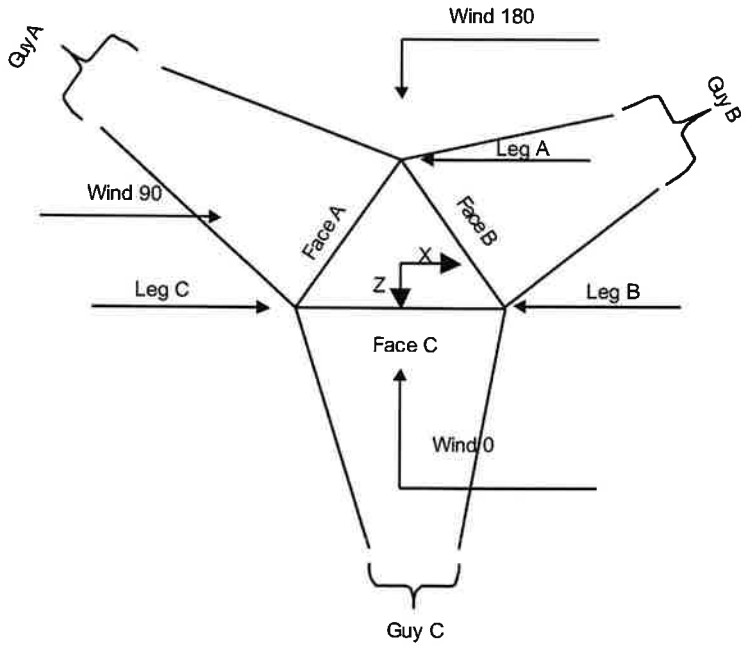
Tower Input Data

The main tower is a 3x guyed tower with an overall height of 190.00 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 3.42 ft at the top and tapered at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower is located in New London County, Connecticut.
Tower base elevation above sea level: 196.00 ft.
Basic wind speed of 126 mph.
Risk Category II.
Exposure Category B.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.00 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Safety factor used in guy design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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



Face Guyed

Tower Section Geometry

Tower Section	*Tower Elevation*	*Assembly Database*	*Description*	*Section Width*	*Number of Sections*	*Section Length*
	ft			*ft*		*ft*
T1	190.00-170.00			3.42	1	20.00
T2	170.00-150.00			3.42	1	20.00
T3	150.00-130.00			3.42	1	20.00
T4	130.00-110.00			3.42	1	20.00
T5	110.00-90.00			3.42	1	20.00
T6	90.00-87.60			3.42	1	2.40
T7	87.60-70.00			3.42	1	17.60
T8	70.00-50.00			3.42	1	20.00
T9	50.00-35.00			3.42	1	15.00
T10	35.00-20.00			3.42	1	15.00
T11	20.00-4.81			3.42	1	15.19
T12	4.81-0.00			3.42	1	4.81

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	190.00-170.00	2.41	CX Brace	No	Yes	7.3750	1.3750
T2	170.00-150.00	2.41	CX Brace	No	Yes	7.3750	1.3750
T3	150.00-130.00	2.41	CX Brace	No	Yes	7.3750	1.3750
T4	130.00-110.00	2.41	CX Brace	No	Yes	7.3750	1.3750
T5	110.00-90.00	2.41	CX Brace	No	Yes	7.3750	1.3750
T6	90.00-87.60	2.40	CX Brace	No	Yes	0.0000	0.0000
T7	87.60-70.00	2.41	CX Brace	No	Yes	7.3750	1.3750
T8	70.00-50.00	2.41	K Brace Left	No	Yes	7.3750	1.3750
T9	50.00-35.00	2.38	K Brace Left	No	Yes	7.3750	1.3750
T10	35.00-20.00	2.38	K Brace Left	No	Yes	7.3750	1.3750
T11	20.00-4.81	2.41	K Brace Left	No	Yes	7.3750	1.3750
T12	4.81-0.00	1.36	K Brace Left	No	Yes	7.3750	1.3750

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 190.00-170.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T2 170.00-150.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T3 150.00-130.00	Arbitrary Shape	P 2-1/2 X-STR w/ Split P 3 STD (GPD)	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T4 130.00-110.00	Arbitrary Shape	P 2-1/2 X-STR w/ Split P 3 STD (GPD)	A500-46 (46 ksi)	Pipe	ROHN 1.5 x 11GA	A500-42 (42 ksi)
T5 110.00-90.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 11GA	A500-42 (42 ksi)
T6 90.00-87.60	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T7 87.60-70.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T8 70.00-50.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 11GA	A500-42 (42 ksi)
T9 50.00-35.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T10 35.00-20.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T11 20.00-4.81	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Pipe	ROHN 1.5 x 11GA	A500-42 (42 ksi)
T12 4.81-0.00	Pipe	ROHN 3 EH	A572-50 (50 ksi)	Equal Angle		A36 (36 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 190.00-170.00	Equal Angle	L2x2x1/4	A36 (36 ksi)	Equal Angle	L2x2x1/4	A36 (36 ksi)
T2 170.00-150.00	Single Angle	L2x2x1/4	A36 (36 ksi)	Equal Angle	L2x2x1/4	A53-B-42 (42 ksi)
T3 150.00-130.00	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T4 130.00-110.00	Pipe	ROHN 1.5 x 11GA	A500-42 (42 ksi)	Pipe	ROHN 1.5 x 11GA	A500-42 (42 ksi)
T5 110.00-90.00	Pipe	ROHN 1.5 x 11GA	A500-42 (42 ksi)	Pipe	ROHN 1.5 x 11GA	A500-42 (42 ksi)
T6 90.00-87.60	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe		A36 (36 ksi)
T7 87.60-70.00	Pipe		A36 (36 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T8 70.00-50.00	Pipe	ROHN 1.5 x 11GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 11GA	A53-B-42 (42 ksi)
T9 50.00-35.00	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T10 35.00-20.00	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)	Pipe	ROHN 1.5 x 16GA	A53-B-42 (42 ksi)
T11 20.00-4.81	Pipe	ROHN 1.5 x 11GA	A500-42 (42 ksi)	Pipe	ROHN 1.5 x 11GA	A500-42 (42 ksi)
T12 4.81-0.00	Equal Angle	L8x8x3/4	A36 (36 ksi)	Equal Angle	L8x8x3/4	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
T12 4.81-0.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L8x8x3/4	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 190.00-170.00	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T2 170.00-150.00	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T3 150.00-130.00	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T4	0.00	0.1757	A36	1	1	1	36.0000	36.0000	36.0000

Tower Elevation ft	Gusset Area (per face) ft²	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
130.00-110.00 T5	0.00	0.3750	(36 ksi) A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
110.00-90.00 T6	90.00-87.60	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T7	87.60-70.00	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T8	70.00-50.00	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T9	50.00-35.00	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T10	35.00-20.00	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T11	20.00-4.81	0.00	0.3750	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T12	4.81-0.00	0.00	0.3750	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	X Brace Diags Y	K Single Diags X	K Single Diags Y	Girts X	Girts Y	Horiz. X	Horiz. Y	Sec. Horiz. X	Sec. Horiz. Y	Inner Brace X	Inner Brace Y
T1 190.00-170.00	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T2 170.00-150.00	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T3 150.00-130.00	Yes	No	1.1819	1	1	1	1	1	1	1	1	1	1	1	1
T4 130.00-110.00	Yes	No	1.1819	1	1	1	1	1	1	1	1	1	1	1	1
T5 110.00-90.00	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T6 90.00-87.60	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T7 87.60-70.00	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T8 70.00-50.00	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T9 50.00-35.00	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T10 35.00-20.00	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T11 20.00-4.81	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
T12 4.81-0.00	Yes	No	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 190.00-170.00	0.0000	1	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 170.00-150.00	0.0000	1	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 150.00-130.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 130.00-110.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 110.00-90.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 90.00-87.60	0.0000	1	0.0000	0.75	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 87.60-70.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 70.00-50.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 50.00-35.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 35.00-20.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 20.00-4.81	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 4.81-0.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	0.75	0.0000	1	0.0000	0.75

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 190.00-170.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T2 170.00-150.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T3 150.00-130.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T4 130.00-110.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (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
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T5 110.00-90.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T6 90.00-87.60	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T7 87.60-70.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T8 70.00-50.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T9 50.00-35.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T10 35.00-20.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T11 20.00-4.81	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (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
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T12 4.81-0.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)

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 190.00-170.00	Flange	0.7500 A325X	4	0.6250 A325X	1	0.6250 A325X	1	0.6250 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 170.00-150.00	Flange	0.7500 A325X	4	0.6250 A325X	1	0.6250 A325X	1	0.6250 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T3 150.00-130.00	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T4 130.00-110.00	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T5 110.00-90.00	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T6 90.00-87.60	Flange	0.7500 A325X	0	0.6250 A325X	1	0.5000 A325X	1	0.5000 A325X	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T7 87.60-70.00	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	0	0.6250 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T8 70.00-50.00	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T9 50.00-35.00	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T10 35.00-20.00	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T11 20.00-4.81	Flange	0.7500 A325X	4	0.5000 A325X	1	0.5000 A325X	1	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

Tower Elevation ft	Leg Connection Type	Leg Bolt Size in	Leg No.	Diagonal Bolt Size in	Diagonal No.	Top Girt Bolt Size in	Top Girt No.	Bottom Girt Bolt Size in	Bottom Girt No.	Mid Girt Bolt Size in	Mid Girt No.	Long Horizontal Bolt Size in	Long Horizontal No.	Short Horizontal Bolt Size in	Short Horizontal No.
T12 4.81-0.00	Flange	0.7500 A325X	0	0.5000 A325X	1	0.6250 A325X	0	0.5000 A325X	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

Guy Data

Guy Elevation ft	Guy Grade		Guy Size	Initial Tension K	%	Guy Modulus ksi	Guy Weight plf	L_u ft	Anchor Radius ft	Anchor Azimuth Adj. °	Anchor Elevation ft	End Fitting Efficiency %
166.977	EHS	A	7/8	7.97	10%	24000	1.581	205.69	150.00	0.0000	24.00	100%
		B	7/8	7.97	10%	24000	1.581	225.27	150.00	0.0000	-3.00	100%
		C	7/8	7.97	10%	24000	1.581	207.08	150.00	0.0000	22.00	100%
92.5234	EHS	A	5/8	4.24	10%	23000	0.813	163.03	150.00	0.0000	24.00	100%
		B	5/8	4.24	10%	23000	0.813	176.07	150.00	0.0000	-3.00	100%
		C	5/8	4.24	10%	23000	0.813	163.88	150.00	0.0000	22.00	100%

Guy Data *(cont'd)*

Guy Elevation ft	Mount Type	Torque-Arm Spread ft	Torque-Arm Leg Angle °	Torque-Arm Style	Torque-Arm Grade	Torque-Arm Type	Torque-Arm Size
166.977	Torque Arm	6.83	0.0000	Channel	A36 (36 ksi)	Channel	MC18x42.7
92.5234	Torque Arm	6.83	0.0000	Channel	A36 (36 ksi)	Channel	C12x20.7

Guy Data *(cont'd)*

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
166.98	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Equal Angle	2L2x2x1/4
92.52	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Equal Angle	2L2x2x1/4

Guy Data (cont'd)

Guy Elevation ft	Cable Weight A K	Cable Weight B K	Cable Weight C K	Cable Weight D K	Tower Intercept A ft	Tower Intercept B ft	Tower Intercept C ft	Tower Intercept D ft
166.977	0.33	0.36	0.33		4.14 3.5 sec/pulse	4.95 3.8 sec/pulse	4.20 3.5 sec/pulse	
92.5234	0.13	0.14	0.13		2.53 2.7 sec/pulse	2.95 3.0 sec/pulse	2.56 2.8 sec/pulse	

Guy Data (cont'd)

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm K_x	Torque Arm K_y	Pull Off K_x	Pull Off K_y	Diagonal K_x	Diagonal K_y
166.977	No	No	1	1	1	1	1	1
92.5234	No	No	1	1	1	1	1	1

Guy Data (cont'd)

Guy Elevation ft	Torque-Arm Bolt Size in	Torque-Arm Number	Torque-Arm Net Width Deduct in	Torque-Arm U	Pull Off Bolt Size in	Pull Off Number	Pull Off Net Width Deduct in	Pull Off U	Diagonal Bolt Size in	Diagonal Number	Diagonal Net Width Deduct in	Diagonal U
166.977	0.8750 A325N	2	0.0000	0.75	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75
92.5234	0.8750 A325N	2	0.0000	0.75	0.6250 A325N	0	0.0000	0.75	0.6250 A325N	0	0.0000	0.75

Guy Pressures

Guy Elevation ft	Guy Location	z ft	q_z psf	q_z Ice psf	Ice Thickness in
166.977	A	95.49	33	5	1.1121
	B	81.99	32	5	1.0953
	C	94.49	33	5	1.1109
92.5234	A	58.26	29	5	1.0585
	B	44.76	27	4	1.0310
	C	57.26	29	5	1.0567

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
Climbing Pegs	A	No	No	Ar (CaAa)	190.00 - 8.00	0.0000	0.5	1	1	0.2500	0.1500		0.31
Safety Line (3/8")	A	No	No	Ar (CaAa)	190.00 - 8.00	0.0000	0.5	1	1	0.3750	0.3750		0.22
***													
Guyed Tower Coax Bracket	A	No	No	Af (CaAa)	190.00 - 8.00	0.0000	0	1	1	1.7599	1.7599		0.75
Guyed Tower Coax Bracket	B	No	No	Af (CaAa)	190.00 - 8.00	0.0000	0	1	1	1.7599	1.7599		0.75
Guyed Tower Coax Bracket	C	No	No	Af (CaAa)	190.00 - 8.00	0.0000	0	1	1	1.7599	1.7599		0.75
***													
LDF7-50A (1-5/8 FOAM)	A	No	No	Ar (CaAa)	150.00 - 8.00	0.0000	0.1	13	7	0.6250	1.9800		0.82
***													
1-5/8" Hybrid	A	No	No	Ar (CaAa)	139.50 - 8.00	0.0000	-0.25	2	2	0.6250	1.9800		0.82
***													
2" Flex Conduit	C	No	No	Ar (CaAa)	130.00 - 8.00	0.0000	0.4	1	1	1.0000	2.0000		0.32
1/2" Fiber Cable	C	No	No	Ar (CaAa)	130.00 - 8.00	0.0000	0.4	2	2	0.0000	0.6300		0.15
3/4" DC Power Line	C	No	No	Ar (CaAa)	130.00 - 8.00	0.0000	0.4	4	4	0.0000	0.7500		0.33
LDF6-50A (1-1/4 FOAM)	C	No	No	Ar (CaAa)	130.00 - 8.00	0.0000	0	12	6	1.0000	1.5500		0.66
***													
1-3/4" Hybrid	C	No	No	Ar (CaAa)	180.00 - 8.00	0.0000	-0.25	1	1	1.0000	1.7500		1.00
***													
LDF4P-50A (1/2 FOAM)	C	No	No	Ar (CaAa)	76.00 - 8.00	0.0000	-0.3	1	1	1.0000	0.6300		0.15
***													
LDF7-50A (1-5/8 FOAM)	B	No	No	Ar (CaAa)	139.50 - 8.00	0.0000	0.1	7	7	0.6250	1.9800		0.82
***													
1-1/4" Hybrid Cable	B	No	No	Ar (CaAa)	160.00 - 8.00	0.0000	-0.25	4	3	1.0000	1.2500		1.00
***													

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	190.00-170.00	A	0.000	0.000	6.916	0.000	0.03
		B	0.000	0.000	5.866	0.000	0.01
		C	0.000	0.000	7.616	0.000	0.02
T2	170.00-150.00	A	0.000	0.000	6.916	0.000	0.03
		B	0.000	0.000	10.866	0.000	0.05
		C	0.000	0.000	9.366	0.000	0.03
T3	150.00-130.00	A	0.000	0.000	62.158	0.000	0.25
		B	0.000	0.000	29.033	0.000	0.15
		C	0.000	0.000	9.366	0.000	0.03

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
T4	130.00-110.00	A	0.000	0.000	66.316	0.000	0.27
		B	0.000	0.000	43.586	0.000	0.21
		C	0.000	0.000	59.086	0.000	0.23
T5	110.00-90.00	A	0.000	0.000	66.316	0.000	0.27
		B	0.000	0.000	43.586	0.000	0.21
		C	0.000	0.000	59.086	0.000	0.23
T6	90.00-87.60	A	0.000	0.000	7.958	0.000	0.03
		B	0.000	0.000	5.230	0.000	0.03
		C	0.000	0.000	7.090	0.000	0.03
T7	87.60-70.00	A	0.000	0.000	58.358	0.000	0.24
		B	0.000	0.000	38.356	0.000	0.18
		C	0.000	0.000	52.374	0.000	0.21
T8	70.00-50.00	A	0.000	0.000	66.316	0.000	0.27
		B	0.000	0.000	43.586	0.000	0.21
		C	0.000	0.000	60.346	0.000	0.24
T9	50.00-35.00	A	0.000	0.000	49.737	0.000	0.20
		B	0.000	0.000	32.690	0.000	0.16
		C	0.000	0.000	45.260	0.000	0.18
T10	35.00-20.00	A	0.000	0.000	49.737	0.000	0.20
		B	0.000	0.000	32.690	0.000	0.16
		C	0.000	0.000	45.260	0.000	0.18
T11	20.00-4.81	A	0.000	0.000	39.790	0.000	0.16
		B	0.000	0.000	26.152	0.000	0.13
		C	0.000	0.000	36.208	0.000	0.14
T12	4.81-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	190.00-170.00	A	1.185	0.000	0.000	21.135	0.000	0.19
		B		0.000	0.000	10.606	0.000	0.09
		C		0.000	0.000	14.726	0.000	0.15
T2	170.00-150.00	A	1.171	0.000	0.000	20.968	0.000	0.19
		B		0.000	0.000	23.026	0.000	0.24
		C		0.000	0.000	18.734	0.000	0.20
T3	150.00-130.00	A	1.155	0.000	0.000	83.129	0.000	1.15
		B		0.000	0.000	59.530	0.000	0.67
		C		0.000	0.000	18.610	0.000	0.19
T4	130.00-110.00	A	1.138	0.000	0.000	93.343	0.000	1.23
		B		0.000	0.000	85.977	0.000	0.96
		C		0.000	0.000	98.064	0.000	1.25
T5	110.00-90.00	A	1.117	0.000	0.000	92.824	0.000	1.22
		B		0.000	0.000	85.629	0.000	0.95
		C		0.000	0.000	97.399	0.000	1.23
T6	90.00-87.60	A	1.104	0.000	0.000	11.099	0.000	0.14
		B		0.000	0.000	10.249	0.000	0.11
		C		0.000	0.000	11.637	0.000	0.15
T7	87.60-70.00	A	1.091	0.000	0.000	81.101	0.000	1.05
		B		0.000	0.000	74.962	0.000	0.82
		C		0.000	0.000	86.651	0.000	1.08
T8	70.00-50.00	A	1.062	0.000	0.000	91.420	0.000	1.18
		B		0.000	0.000	84.689	0.000	0.91
		C		0.000	0.000	101.108	0.000	1.24
T9	50.00-35.00	A	1.026	0.000	0.000	67.885	0.000	0.86

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
		B		0.000	0.000	63.061	0.000	0.67
		C		0.000	0.000	74.852	0.000	0.90
T10	35.00-20.00	A	0.982	0.000	0.000	67.059	0.000	0.84
		B		0.000	0.000	62.508	0.000	0.65
		C		0.000	0.000	73.664	0.000	0.88
T11	20.00-4.81	A	0.907	0.000	0.000	52.512	0.000	0.64
		B		0.000	0.000	49.247	0.000	0.49
		C		0.000	0.000	57.298	0.000	0.66
T12	4.81-0.00	A	0.770	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	190.00-170.00	0.1988	-0.0324	0.2119	-1.0596
T2	170.00-150.00	0.7047	-0.6448	0.6379	-1.4061
T3	150.00-130.00	-0.5176	-4.1470	-0.1712	-3.6418
T4	130.00-110.00	-0.4777	-2.3322	-0.4971	-2.0453
T5	110.00-90.00	-0.4718	-2.3088	-0.4899	-2.0254
T6	90.00-87.60	-0.4126	-2.0867	-0.3796	-1.6231
T7	87.60-70.00	-0.4449	-2.3020	-0.4235	-2.0291
T8	70.00-50.00	-0.3951	-2.3217	-0.2899	-2.0983
T9	50.00-35.00	-0.3938	-2.3148	-0.2907	-2.0989
T10	35.00-20.00	-0.3938	-2.3148	-0.2934	-2.1111
T11	20.00-4.81	-0.3686	-2.1708	-0.2782	-1.9985
T12	4.81-0.00	0.0000	0.0000	0.0000	0.0000

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	1	Climbing Pegs	170.00 - 190.00	0.6000	0.4352
T1	2	Safety Line (3/8")	170.00 - 190.00	0.6000	0.4352
T1	4	Guyed Tower Coax Bracket	170.00 - 190.00	0.6000	0.4352
T1	5	Guyed Tower Coax Bracket	170.00 - 190.00	0.6000	0.4352
T1	6	Guyed Tower Coax Bracket	170.00 - 190.00	0.6000	0.4352
T1	17	1-3/4" Hybrid	170.00 - 180.00	0.6000	0.4352
T2	1	Climbing Pegs	150.00 - 170.00	0.6000	0.4236
T2	2	Safety Line (3/8")	150.00 - 170.00	0.6000	0.4236
T2	4	Guyed Tower Coax Bracket	150.00 -	0.6000	0.4236

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T2	5	Guyed Tower Coax Bracket	150.00 - 170.00	0.6000	0.4236
T2	6	Guyed Tower Coax Bracket	150.00 - 170.00	0.6000	0.4236
T2	17	1-3/4" Hybrid	150.00 - 170.00	0.6000	0.4236
T2	23	1-1/4" Hybrid Cable	150.00 - 170.00	0.6000	0.4236
T3	1	Climbing Pegs	130.00 - 160.00	0.6000	0.4679
T3	2	Safety Line (3/8")	130.00 - 150.00	0.6000	0.4679
T3	4	Guyed Tower Coax Bracket	130.00 - 150.00	0.6000	0.4679
T3	5	Guyed Tower Coax Bracket	130.00 - 150.00	0.6000	0.4679
T3	6	Guyed Tower Coax Bracket	130.00 - 150.00	0.6000	0.4679
T3	8	LDF7-50A (1-5/8 FOAM)	130.00 - 150.00	0.6000	0.4679
T3	10	1-5/8" Hybrid	130.00 - 139.50	0.6000	0.4679
T3	17	1-3/4" Hybrid	130.00 - 150.00	0.6000	0.4679
T3	21	LDF7-50A (1-5/8 FOAM)	130.00 - 139.50	0.6000	0.4679
T3	23	1-1/4" Hybrid Cable	130.00 - 150.00	0.6000	0.4679
T4	1	Climbing Pegs	110.00 - 130.00	0.6000	0.4716
T4	2	Safety Line (3/8")	110.00 - 130.00	0.6000	0.4716
T4	4	Guyed Tower Coax Bracket	110.00 - 130.00	0.6000	0.4716
T4	5	Guyed Tower Coax Bracket	110.00 - 130.00	0.6000	0.4716
T4	6	Guyed Tower Coax Bracket	110.00 - 130.00	0.6000	0.4716
T4	8	LDF7-50A (1-5/8 FOAM)	110.00 - 130.00	0.6000	0.4716
T4	10	1-5/8" Hybrid	110.00 - 130.00	0.6000	0.4716
T4	12	2" Flex Conduit	110.00 - 130.00	0.6000	0.4716
T4	13	1/2" Fiber Cable	110.00 - 130.00	0.0000	0.0000
T4	14	3/4" DC Power Line	110.00 - 130.00	0.0000	0.0000
T4	15	LDF6-50A (1-1/4 FOAM)	110.00 - 130.00	0.6000	0.4716
T4	17	1-3/4" Hybrid	110.00 - 130.00	0.6000	0.4716
T4	21	LDF7-50A (1-5/8 FOAM)	110.00 - 130.00	0.6000	0.4716
T4	23	1-1/4" Hybrid Cable	110.00 - 130.00	0.6000	0.4716
T5	1	Climbing Pegs	90.00 - 110.00	0.6000	0.4710
T5	2	Safety Line (3/8")	90.00 - 110.00	0.6000	0.4710
T5	4	Guyed Tower Coax Bracket	90.00 - 110.00	0.6000	0.4710
T5	5	Guyed Tower Coax Bracket	90.00 - 110.00	0.6000	0.4710
T5	6	Guyed Tower Coax Bracket	90.00 - 110.00	0.6000	0.4710

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T5	8	LDF7-50A (1-5/8 FOAM)	90.00 - 110.00	0.6000	0.4710
T5	10	1-5/8" Hybrid	90.00 - 110.00	0.6000	0.4710
T5	12	2" Flex Conduit	90.00 - 110.00	0.6000	0.4710
T5	13	1/2" Fiber Cable	90.00 - 110.00	0.0000	0.0000
T5	14	3/4" DC Power Line	90.00 - 110.00	0.0000	0.0000
T5	15	LDF6-50A (1-1/4 FOAM)	90.00 - 110.00	0.6000	0.4710
T5	17	1-3/4" Hybrid	90.00 - 110.00	0.6000	0.4710
T5	21	LDF7-50A (1-5/8 FOAM)	90.00 - 110.00	0.6000	0.4710
T5	23	1-1/4" Hybrid Cable	90.00 - 110.00	0.6000	0.4710
T6	1	Climbing Pegs	87.60 - 90.00	0.6000	0.3655
T6	2	Safety Line (3/8")	87.60 - 90.00	0.6000	0.3655
T6	4	Guyed Tower Coax Bracket	87.60 - 90.00	0.6000	0.3655
T6	5	Guyed Tower Coax Bracket	87.60 - 90.00	0.6000	0.3655
T6	6	Guyed Tower Coax Bracket	87.60 - 90.00	0.6000	0.3655
T6	8	LDF7-50A (1-5/8 FOAM)	87.60 - 90.00	0.6000	0.3655
T6	10	1-5/8" Hybrid	87.60 - 90.00	0.6000	0.3655
T6	12	2" Flex Conduit	87.60 - 90.00	0.6000	0.3655
T6	13	1/2" Fiber Cable	87.60 - 90.00	0.0000	0.0000
T6	14	3/4" DC Power Line	87.60 - 90.00	0.0000	0.0000
T6	15	LDF6-50A (1-1/4 FOAM)	87.60 - 90.00	0.6000	0.3655
T6	17	1-3/4" Hybrid	87.60 - 90.00	0.6000	0.3655
T6	21	LDF7-50A (1-5/8 FOAM)	87.60 - 90.00	0.6000	0.3655
T6	23	1-1/4" Hybrid Cable	87.60 - 90.00	0.6000	0.3655
T7	1	Climbing Pegs	70.00 - 87.60	0.6000	0.5026
T7	2	Safety Line (3/8")	70.00 - 87.60	0.6000	0.5026
T7	4	Guyed Tower Coax Bracket	70.00 - 87.60	0.6000	0.5026
T7	5	Guyed Tower Coax Bracket	70.00 - 87.60	0.6000	0.5026
T7	6	Guyed Tower Coax Bracket	70.00 - 87.60	0.6000	0.5026
T7	8	LDF7-50A (1-5/8 FOAM)	70.00 - 87.60	0.6000	0.5026
T7	10	1-5/8" Hybrid	70.00 - 87.60	0.6000	0.5026
T7	12	2" Flex Conduit	70.00 - 87.60	0.6000	0.5026
T7	13	1/2" Fiber Cable	70.00 - 87.60	0.0000	0.0000
T7	14	3/4" DC Power Line	70.00 - 87.60	0.0000	0.0000
T7	15	LDF6-50A (1-1/4 FOAM)	70.00 - 87.60	0.6000	0.5026
T7	17	1-3/4" Hybrid	70.00 - 87.60	0.6000	0.5026
T7	19	LDF4P-50A (1/2 FOAM)	70.00 - 76.00	0.6000	0.5026
T7	21	LDF7-50A (1-5/8 FOAM)	70.00 - 87.60	0.6000	0.5026
T7	23	1-1/4" Hybrid Cable	70.00 - 87.60	0.6000	0.5026
T8	1	Climbing Pegs	50.00 - 70.00	0.6000	0.6000
T8	2	Safety Line (3/8")	50.00 - 70.00	0.6000	0.6000
T8	4	Guyed Tower Coax Bracket	50.00 - 70.00	0.6000	0.6000
T8	5	Guyed Tower Coax Bracket	50.00 - 70.00	0.6000	0.6000
T8	6	Guyed Tower Coax Bracket	50.00 - 70.00	0.6000	0.6000
T8	8	LDF7-50A (1-5/8 FOAM)	50.00 - 70.00	0.6000	0.6000
T8	10	1-5/8" Hybrid	50.00 - 70.00	0.6000	0.6000
T8	12	2" Flex Conduit	50.00 - 70.00	0.6000	0.6000
T8	13	1/2" Fiber Cable	50.00 - 70.00	0.0000	0.0000
T8	14	3/4" DC Power Line	50.00 - 70.00	0.0000	0.0000
T8	15	LDF6-50A (1-1/4 FOAM)	50.00 - 70.00	0.6000	0.6000
T8	17	1-3/4" Hybrid	50.00 - 70.00	0.6000	0.6000
T8	19	LDF4P-50A (1/2 FOAM)	50.00 - 70.00	0.6000	0.6000
T8	21	LDF7-50A (1-5/8 FOAM)	50.00 - 70.00	0.6000	0.6000
T8	23	1-1/4" Hybrid Cable	50.00 - 70.00	0.6000	0.6000
T9	1	Climbing Pegs	35.00 - 50.00	0.6000	0.6000
T9	2	Safety Line (3/8")	35.00 - 50.00	0.6000	0.6000
T9	4	Guyed Tower Coax Bracket	35.00 - 50.00	0.6000	0.6000
T9	5	Guyed Tower Coax Bracket	35.00 - 50.00	0.6000	0.6000
T9	6	Guyed Tower Coax Bracket	35.00 - 50.00	0.6000	0.6000
T9	8	LDF7-50A (1-5/8 FOAM)	35.00 - 50.00	0.6000	0.6000
T9	10	1-5/8" Hybrid	35.00 - 50.00	0.6000	0.6000
T9	12	2" Flex Conduit	35.00 - 50.00	0.6000	0.6000
T9	13	1/2" Fiber Cable	35.00 - 50.00	0.0000	0.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T9	14	3/4" DC Power Line	35.00 - 50.00	0.0000	0.0000
T9	15	LDF6-50A (1-1/4 FOAM)	35.00 - 50.00	0.6000	0.6000
T9	17	1-3/4" Hybrid	35.00 - 50.00	0.6000	0.6000
T9	19	LDF4P-50A (1/2 FOAM)	35.00 - 50.00	0.6000	0.6000
T9	21	LDF7-50A (1-5/8 FOAM)	35.00 - 50.00	0.6000	0.6000
T9	23	1-1/4" Hybrid Cable	35.00 - 50.00	0.6000	0.6000
T10	1	Climbing Pegs	20.00 - 35.00	0.6000	0.6000
T10	2	Safety Line (3/8")	20.00 - 35.00	0.6000	0.6000
T10	4	Guyed Tower Coax Bracket	20.00 - 35.00	0.6000	0.6000
T10	5	Guyed Tower Coax Bracket	20.00 - 35.00	0.6000	0.6000
T10	6	Guyed Tower Coax Bracket	20.00 - 35.00	0.6000	0.6000
T10	8	LDF7-50A (1-5/8 FOAM)	20.00 - 35.00	0.6000	0.6000
T10	10	1-5/8" Hybrid	20.00 - 35.00	0.6000	0.6000
T10	12	2" Flex Conduit	20.00 - 35.00	0.6000	0.6000
T10	13	1/2" Fiber Cable	20.00 - 35.00	0.0000	0.0000
T10	14	3/4" DC Power Line	20.00 - 35.00	0.0000	0.0000
T10	15	LDF6-50A (1-1/4 FOAM)	20.00 - 35.00	0.6000	0.6000
T10	17	1-3/4" Hybrid	20.00 - 35.00	0.6000	0.6000
T10	19	LDF4P-50A (1/2 FOAM)	20.00 - 35.00	0.6000	0.6000
T10	21	LDF7-50A (1-5/8 FOAM)	20.00 - 35.00	0.6000	0.6000
T10	23	1-1/4" Hybrid Cable	20.00 - 35.00	0.6000	0.6000
T11	1	Climbing Pegs	8.00 - 20.00	0.6000	0.6000
T11	2	Safety Line (3/8")	8.00 - 20.00	0.6000	0.6000
T11	4	Guyed Tower Coax Bracket	8.00 - 20.00	0.6000	0.6000
T11	5	Guyed Tower Coax Bracket	8.00 - 20.00	0.6000	0.6000
T11	6	Guyed Tower Coax Bracket	8.00 - 20.00	0.6000	0.6000
T11	8	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T11	10	1-5/8" Hybrid	8.00 - 20.00	0.6000	0.6000
T11	12	2" Flex Conduit	8.00 - 20.00	0.6000	0.6000
T11	13	1/2" Fiber Cable	8.00 - 20.00	0.0000	0.0000
T11	14	3/4" DC Power Line	8.00 - 20.00	0.0000	0.0000
T11	15	LDF6-50A (1-1/4 FOAM)	8.00 - 20.00	0.6000	0.6000
T11	17	1-3/4" Hybrid	8.00 - 20.00	0.6000	0.6000
T11	19	LDF4P-50A (1/2 FOAM)	8.00 - 20.00	0.6000	0.6000
T11	21	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T11	23	1-1/4" Hybrid Cable	8.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

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
Lightning Rod 4'x5/8"	C	From Leg	0.00 0.00 2.00	0.0000	190.00	No Ice 1/2" Ice 1" Ice	0.25 0.66 0.97	0.25 0.66 0.97	0.00 0.01 0.01
***									
MTC3975083 Sector Mount (3)	A	None		0.0000	180.00	No Ice 1/2" Ice 1" Ice	20.14 30.60 41.06	20.14 30.60 41.06	1.59 1.87 2.15

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(2) Pipe Mount 8'x2.875"	A	From Leg	4.00	0.00	0.0000	180.00	No Ice	2.30	2.30	0.05
							1/2" Ice	3.13	3.13	0.06
							1" Ice	3.62	3.62	0.09
(2) Pipe Mount 8'x2.875"	B	From Leg	4.00	0.00	0.0000	180.00	No Ice	2.30	2.30	0.05
							1/2" Ice	3.13	3.13	0.06
							1" Ice	3.62	3.62	0.09
(2) Pipe Mount 8'x2.875"	C	From Leg	4.00	0.00	0.0000	180.00	No Ice	2.30	2.30	0.05
							1/2" Ice	3.13	3.13	0.06
							1" Ice	3.62	3.62	0.09
FFVV-65B-R2 w/ Mount Pipe	C	From Leg	4.00	0.00	0.0000	180.00	No Ice	12.51	7.41	0.10
							1/2" Ice	13.11	8.60	0.19
							1" Ice	13.67	9.50	0.29
FFVV-65B-R2 w/ Mount Pipe	B	From Leg	4.00	0.00	0.0000	180.00	No Ice	12.51	7.41	0.10
							1/2" Ice	13.11	8.60	0.19
							1" Ice	13.67	9.50	0.29
FFVV-65B-R2 w/ Mount Pipe	A	From Leg	4.00	0.00	0.0000	180.00	No Ice	12.51	7.41	0.10
							1/2" Ice	13.11	8.60	0.19
							1" Ice	13.67	9.50	0.29
RF4450t-71A	C	From Leg	2.00	0.00	0.0000	180.00	No Ice	2.06	1.38	0.09
							1/2" Ice	2.24	1.53	0.12
							1" Ice	2.43	1.68	0.14
RF4450t-71A	B	From Leg	2.00	0.00	0.0000	180.00	No Ice	2.06	1.38	0.09
							1/2" Ice	2.24	1.53	0.12
							1" Ice	2.43	1.68	0.14
RF4450t-71A	A	From Leg	2.00	0.00	0.0000	180.00	No Ice	2.06	1.38	0.09
							1/2" Ice	2.24	1.53	0.12
							1" Ice	2.43	1.68	0.14
RF4451d-70A	C	From Leg	2.00	0.00	0.0000	180.00	No Ice	1.88	1.11	0.06
							1/2" Ice	2.05	1.25	0.08
							1" Ice	2.22	1.39	0.10
RF4451d-70A	B	From Leg	2.00	0.00	0.0000	180.00	No Ice	1.88	1.11	0.06
							1/2" Ice	2.05	1.25	0.08
							1" Ice	2.22	1.39	0.10
RF4451d-70A	A	From Leg	2.00	0.00	0.0000	180.00	No Ice	1.88	1.11	0.06
							1/2" Ice	2.05	1.25	0.08
							1" Ice	2.22	1.39	0.10
RDIDC-9181-PF-48	A	From Leg	2.00	0.00	0.0000	180.00	No Ice	2.56	1.34	0.02
							1/2" Ice	2.76	1.49	0.04
							1" Ice	2.97	1.66	0.07
***										
Sector Mount (3)	A	None			0.0000	160.00	No Ice	30.43	30.43	1.69
							1/2" Ice	43.02	43.02	2.30
							1" Ice	55.43	55.43	3.10
(2) Pipe Mount 5'x2.375"	A	From Leg	2.00	0.00	0.0000	160.00	No Ice	1.19	1.19	0.02
							1/2" Ice	1.50	1.50	0.03
							1" Ice	1.81	1.81	0.04
(2) Pipe Mount 5'x2.375"	B	From Leg	2.00	0.00	0.0000	160.00	No Ice	1.19	1.19	0.02
							1/2" Ice	1.50	1.50	0.03
							1" Ice	1.81	1.81	0.04
(2) Pipe Mount 5'x2.375"	C	From Leg	2.00	0.00	0.0000	160.00	No Ice	1.19	1.19	0.02
							1/2" Ice	1.50	1.50	0.03
							1" Ice	1.81	1.81	0.04
Pipe Mount 6'x2.375"	A	From Leg	4.00	0.00	0.0000	160.00	No Ice	1.43	1.43	0.03
							1/2" Ice	1.92	1.92	0.04
							1" Ice	2.29	2.29	0.05
Pipe Mount 6'x2.375"	B	From Leg	4.00	0.00	0.0000	160.00	No Ice	1.43	1.43	0.03
							1/2" Ice	1.92	1.92	0.04

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
Pipe Mount 6'x2.375"	C	From Leg	0.00 4.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	2.29 1.43 1.92	2.29 1.43 1.92	0.05 0.03 0.04
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	0.00 4.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	2.29 8.02 8.48	2.29 6.71 7.66	0.05 0.08 0.14
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	0.00 4.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	8.94 8.02 8.48	8.49 6.71 7.66	0.22 0.08 0.14
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	0.00 4.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	8.94 8.02 8.48	8.49 6.71 7.66	0.22 0.08 0.14
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	0.00 4.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	8.94 6.58 7.03	8.49 4.96 5.75	0.22 0.08 0.13
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	0.00 4.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	7.47 6.58 7.03	6.47 4.96 5.75	0.19 0.08 0.13
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	0.00 4.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	7.47 6.58 7.03	6.47 4.96 5.75	0.19 0.08 0.13
(2) ACU-A20-N RET	A	From Leg	0.00 2.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	7.47 0.07 0.10	6.47 0.12 0.16	0.19 0.00 0.00
ACU-A20-N RET	B	From Leg	0.00 2.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	0.15 0.07 0.10	0.21 0.12 0.16	0.00 0.00 0.00
ACU-A20-N RET	C	From Leg	0.00 2.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	0.15 0.07 0.10	0.21 0.12 0.16	0.00 0.00 0.00
1900 MHz RRH	A	From Leg	0.00 2.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	0.15 2.59 2.81	0.21 2.55 2.76	0.00 0.06 0.09
1900 MHz RRH	B	From Leg	0.00 2.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	3.03 2.59 2.81	2.98 2.55 2.76	0.12 0.06 0.09
1900 MHz RRH	C	From Leg	0.00 2.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	3.03 2.59 2.81	2.98 2.55 2.76	0.12 0.06 0.09
800 MHz RRH	A	From Leg	0.00 2.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	3.03 1.70 1.86	2.98 1.28 1.43	0.12 0.05 0.07
800 MHz RRH	B	From Leg	0.00 2.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	2.03 1.70 1.86	1.58 1.28 1.43	0.09 0.05 0.07
800 MHz RRH	C	From Leg	0.00 2.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	2.03 1.70 1.86	1.58 1.28 1.43	0.09 0.05 0.07
TD-RRH8x20-25	A	From Leg	0.00 2.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	2.03 3.70 3.95	1.58 1.29 1.46	0.09 0.07 0.09
TD-RRH8x20-25	B	From Leg	0.00 2.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	4.20 3.70 3.95	1.64 1.29 1.46	0.12 0.07 0.09
TD-RRH8x20-25	C	From Leg	0.00 2.00 0.00	0.0000	160.00	1" Ice No Ice 1/2" Ice	4.20 3.70 3.95	1.64 1.29 1.46	0.12 0.07 0.09

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Offsets: ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
					0.00			1" Ice	4.20	1.64	0.12
800 MHz External Notch Filters	A	From Leg		2.00	0.00	0.0000	160.00	No Ice	0.66	0.29	0.01
					0.00			1/2" Ice	0.76	0.36	0.02
								1" Ice	0.87	0.45	0.02
800 MHz External Notch Filters	B	From Leg		2.00	0.00	0.0000	160.00	No Ice	0.66	0.29	0.01
					0.00			1/2" Ice	0.76	0.36	0.02
								1" Ice	0.87	0.45	0.02
800 MHz External Notch Filters	C	From Leg		2.00	0.00	0.0000	160.00	No Ice	0.66	0.29	0.01
					0.00			1/2" Ice	0.76	0.36	0.02
								1" Ice	0.87	0.45	0.02
***											
Sector Mount (3)	A	None				0.0000	150.00	No Ice	30.43	30.43	1.69
								1/2" Ice	43.02	43.02	2.30
								1" Ice	55.43	55.43	3.10
RR65-18-VDPL2 w/ Mount Pipe	A	From Leg		4.00	0.00	0.0000	150.00	No Ice	4.91	3.66	0.04
					0.00			1/2" Ice	5.50	4.73	0.08
								1" Ice	6.00	5.51	0.13
RR65-18-VDPL2 w/ Mount Pipe	B	From Leg		4.00	0.00	0.0000	150.00	No Ice	4.91	3.66	0.04
					0.00			1/2" Ice	5.50	4.73	0.08
								1" Ice	6.00	5.51	0.13
RR65-18-VDPL2 w/ Mount Pipe	C	From Leg		4.00	0.00	0.0000	150.00	No Ice	4.91	3.66	0.04
					0.00			1/2" Ice	5.50	4.73	0.08
								1" Ice	6.00	5.51	0.13
APXVAARR24_43-U-NA20 w/ 96" Mount Pipe	A	From Leg		4.00	0.00	0.0000	150.00	No Ice	20.24	10.79	0.16
					0.00			1/2" Ice	20.89	12.21	0.29
								1" Ice	21.55	13.49	0.44
APXVAARR24_43-U-NA20 w/ 96" Mount Pipe	B	From Leg		4.00	0.00	0.0000	150.00	No Ice	20.24	10.79	0.16
					0.00			1/2" Ice	20.89	12.21	0.29
								1" Ice	21.55	13.49	0.44
APXVAARR24_43-U-NA20 w/ 96" Mount Pipe	C	From Leg		4.00	0.00	0.0000	150.00	No Ice	20.24	10.79	0.16
					0.00			1/2" Ice	20.89	12.21	0.29
								1" Ice	21.55	13.49	0.44
AIR 32 KRD901146-1 B66A/B2A w/ Mount Pipe	A	From Leg		4.00	0.00	0.0000	150.00	No Ice	6.58	5.90	0.15
					0.00			1/2" Ice	6.97	6.56	0.21
								1" Ice	7.37	7.24	0.28
AIR 32 KRD901146-1 B66A/B2A w/ Mount Pipe	B	From Leg		4.00	0.00	0.0000	150.00	No Ice	6.58	5.90	0.15
					0.00			1/2" Ice	6.97	6.56	0.21
								1" Ice	7.37	7.24	0.28
AIR 32 KRD901146-1 B66A/B2A w/ Mount Pipe	C	From Leg		4.00	0.00	0.0000	150.00	No Ice	6.58	5.90	0.15
					0.00			1/2" Ice	6.97	6.56	0.21
								1" Ice	7.37	7.24	0.28
(2) KRY 112 144/1	A	From Leg		2.00	0.00	0.0000	150.00	No Ice	0.35	0.17	0.01
					0.00			1/2" Ice	0.43	0.23	0.01
								1" Ice	0.51	0.30	0.02
(2) KRY 112 144/1	B	From Leg		2.00	0.00	0.0000	150.00	No Ice	0.35	0.17	0.01
					0.00			1/2" Ice	0.43	0.23	0.01
								1" Ice	0.51	0.30	0.02
(2) KRY 112 144/1	C	From Leg		2.00	0.00	0.0000	150.00	No Ice	0.35	0.17	0.01
					0.00			1/2" Ice	0.43	0.23	0.01
								1" Ice	0.51	0.30	0.02
4449 B71 + B12	A	From Leg		2.00	0.00	0.0000	150.00	No Ice	1.63	1.00	0.07
					0.00			1/2" Ice	1.79	1.13	0.09
								1" Ice	1.95	1.27	0.11
4449 B71 + B12	B	From Leg		2.00	0.00	0.0000	150.00	No Ice	1.63	1.00	0.07
					0.00			1/2" Ice	1.79	1.13	0.09
								1" Ice	1.95	1.27	0.11
4449 B71 + B12	C	From Leg		2.00	0.00	0.0000	150.00	No Ice	1.63	1.00	0.07

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			1/2" Ice	1.79	1.13	0.09
			0.00			1" Ice	1.95	1.27	0.11
***									
Sector Mount (3)	A	None		0.0000	139.50	No Ice	30.43	30.43	1.69
						1/2" Ice	43.02	43.02	2.30
						1" Ice	55.43	55.43	3.10
BXA-70063/6CF-EDIN-6 w/ Mount Pipe	A	From Leg	4.00	0.0000	139.50	No Ice	8.07	5.66	0.05
			0.00			1/2" Ice	8.74	6.92	0.11
			1.50			1" Ice	9.37	8.04	0.18
BXA-70063/6CF-EDIN-6 w/ Mount Pipe	B	From Leg	4.00	0.0000	139.50	No Ice	8.07	5.66	0.05
			0.00			1/2" Ice	8.74	6.92	0.11
			1.50			1" Ice	9.37	8.04	0.18
BXA-70063/6CF-EDIN-6 w/ Mount Pipe	C	From Leg	4.00	0.0000	139.50	No Ice	8.07	5.66	0.05
			0.00			1/2" Ice	8.74	6.92	0.11
			1.50			1" Ice	9.37	8.04	0.18
(2) FD9R6004/2C-3L	A	From Leg	4.00	0.0000	139.50	No Ice	0.31	0.08	0.00
			0.00			1/2" Ice	0.39	0.12	0.01
			1.50			1" Ice	0.47	0.17	0.01
(2) FD9R6004/2C-3L	B	From Leg	4.00	0.0000	139.50	No Ice	0.31	0.08	0.00
			0.00			1/2" Ice	0.39	0.12	0.01
			1.50			1" Ice	0.47	0.17	0.01
(2) FD9R6004/2C-3L	C	From Leg	4.00	0.0000	139.50	No Ice	0.31	0.08	0.00
			0.00			1/2" Ice	0.39	0.12	0.01
			1.50			1" Ice	0.47	0.17	0.01
MX06FRO660-03 w/ Mount Pipe	A	From Leg	4.00	0.0000	139.50	No Ice	10.11	8.99	0.09
			0.00			1/2" Ice	10.68	10.15	0.17
			0.50			1" Ice	11.22	11.03	0.27
MX06FRO660-03 w/ Mount Pipe	B	From Leg	4.00	0.0000	139.50	No Ice	10.11	8.99	0.09
			0.00			1/2" Ice	10.68	10.15	0.17
			0.50			1" Ice	11.22	11.03	0.27
MX06FRO660-03 w/ Mount Pipe	C	From Leg	4.00	0.0000	139.50	No Ice	10.11	8.99	0.09
			0.00			1/2" Ice	10.68	10.15	0.17
			0.50			1" Ice	11.22	11.03	0.27
MX06FRO660-03 w/ 91900314	A	From Leg	4.00	0.0000	139.50	No Ice	9.87	7.34	0.06
			0.00			1/2" Ice	10.34	7.78	0.13
			0.50			1" Ice	10.82	8.24	0.20
MX06FRO660-03 w/ 91900314	B	From Leg	4.00	0.0000	139.50	No Ice	9.87	7.34	0.06
			0.00			1/2" Ice	10.34	7.78	0.13
			0.50			1" Ice	10.82	8.24	0.20
MX06FRO660-03 w/ 91900314	C	From Leg	4.00	0.0000	139.50	No Ice	9.87	7.34	0.06
			0.00			1/2" Ice	10.34	7.78	0.13
			0.50			1" Ice	10.82	8.24	0.20
MT6413 77A w/ Mount Pipe	A	From Leg	4.00	0.0000	139.50	No Ice	4.65	2.89	0.08
			0.00			1/2" Ice	5.20	3.58	0.12
			0.50			1" Ice	5.68	4.14	0.16
MT6413 77A w/ Mount Pipe	B	From Leg	4.00	0.0000	139.50	No Ice	4.65	2.89	0.08
			0.00			1/2" Ice	5.20	3.58	0.12
			0.50			1" Ice	5.68	4.14	0.16
MT6413 77A w/ Mount Pipe	C	From Leg	4.00	0.0000	139.50	No Ice	4.65	2.89	0.08
			0.00			1/2" Ice	5.20	3.58	0.12
			0.50			1" Ice	5.68	4.14	0.16
B2/B66A RRH ORAN (RF4439d-25A)	A	From Leg	4.00	0.0000	139.50	No Ice	1.87	1.25	0.07
			0.00			1/2" Ice	2.03	1.39	0.09
			0.50			1" Ice	2.21	1.54	0.11
B2/B66A RRH ORAN (RF4439d-25A)	B	From Leg	4.00	0.0000	139.50	No Ice	1.87	1.25	0.07
			0.00			1/2" Ice	2.03	1.39	0.09
			0.50			1" Ice	2.21	1.54	0.11

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
B2/B66A RRH ORAN (RF4439d-25A)	C	From Leg	4.00 0.00 0.50	0.0000	139.50	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.25 1.39 1.54	0.07 0.09 0.11
B5/B13 RRH ORAN (RF4461d-13A)	A	From Leg	4.00 0.00 0.50	0.0000	139.50	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.28 1.42 1.57	0.08 0.10 0.12
B5/B13 RRH ORAN (RF4461d-13A)	B	From Leg	4.00 0.00 0.50	0.0000	139.50	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.28 1.42 1.57	0.08 0.10 0.12
B5/B13 RRH ORAN (RF4461d-13A)	C	From Leg	4.00 0.00 0.50	0.0000	139.50	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.28 1.42 1.57	0.08 0.10 0.12
RVZDC-6627-PF-48	A	From Leg	4.00 0.00 0.50	0.0000	139.50	No Ice 1/2" Ice 1" Ice	3.79 4.04 4.30	2.51 2.73 2.95	0.03 0.06 0.10
*** Sector Mount (3)	A	None		0.0000	130.00	No Ice 1/2" Ice 1" Ice	30.43 43.02 55.43	30.43 43.02 55.43	1.69 2.30 3.10
AIR 6419 B77G w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	3.87 4.18 4.50	2.32 2.72 3.13	0.08 0.11 0.15
AIR 6419 B77G w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	3.87 4.18 4.50	2.32 2.72 3.13	0.08 0.11 0.15
AIR 6419 B77G w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	3.87 4.18 4.50	2.32 2.72 3.13	0.08 0.11 0.15
AIR 6449 B77D	A	From Leg	4.00 0.00 -2.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	4.02 4.28 4.55	2.14 2.35 2.57	0.08 0.11 0.14
AIR 6449 B77D	B	From Leg	4.00 0.00 -2.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	4.02 4.28 4.55	2.14 2.35 2.57	0.08 0.11 0.14
AIR 6449 B77D	C	From Leg	4.00 0.00 -2.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	4.02 4.28 4.55	2.14 2.35 2.57	0.08 0.11 0.14
TPA65R-BU8DA-K w/ Mount pipe	A	From Leg	4.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	17.87 18.50 19.14	10.42 11.85 12.94	0.13 0.26 0.39
DMP65R-BU8DA w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	17.87 18.50 19.14	10.02 11.44 12.72	0.03 0.15 0.28
TPA65R-BU6DA-K w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	12.95 13.55 14.11	7.26 8.43 9.31	0.09 0.19 0.29
OPA65R-BU8DA w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	18.09 18.72 19.36	10.10 11.52 12.80	0.03 0.15 0.28
TPA65R-BU4D w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	8.76 9.31 9.82	4.93 5.73 6.41	0.07 0.14 0.22
OPA65R-BU4DA w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	8.91 9.46 9.98	4.98 5.79 6.47	0.07 0.14 0.22
4449 B5/B12	A	From Leg	2.00 0.00	0.0000	130.00	No Ice 1/2" Ice	1.97 2.14	1.41 1.56	0.07 0.09

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	2.33	1.73	0.11
4449 B5/B12	B	From Leg	2.00	0.0000	130.00	No Ice	1.97	1.41	0.07
			0.00			1/2" Ice	2.14	1.56	0.09
			0.00			1" Ice	2.33	1.73	0.11
4449 B5/B12	C	From Leg	2.00	0.0000	130.00	No Ice	1.97	1.41	0.07
			0.00			1/2" Ice	2.14	1.56	0.09
			0.00			1" Ice	2.33	1.73	0.11
8843 B2/B66A	A	From Leg	2.00	0.0000	130.00	No Ice	1.98	1.70	0.08
			0.00			1/2" Ice	2.16	1.86	0.10
			0.00			1" Ice	2.34	2.04	0.12
8843 B2/B66A	B	From Leg	2.00	0.0000	130.00	No Ice	1.98	1.70	0.08
			0.00			1/2" Ice	2.16	1.86	0.10
			0.00			1" Ice	2.34	2.04	0.12
8843 B2/B66A	C	From Leg	2.00	0.0000	130.00	No Ice	1.98	1.70	0.08
			0.00			1/2" Ice	2.16	1.86	0.10
			0.00			1" Ice	2.34	2.04	0.12
DC6-48-60-18-8F	A	From Leg	2.00	0.0000	130.00	No Ice	2.20	2.20	0.02
			0.00			1/2" Ice	2.40	2.40	0.04
			0.00			1" Ice	2.60	2.60	0.07
DC9-48-60-24-8C-EV	B	From Leg	2.00	0.0000	130.00	No Ice	2.74	4.78	0.03
			0.00			1/2" Ice	2.96	5.06	0.06
			0.00			1" Ice	3.20	5.35	0.10
***									
Side Arm Mount [SO 701-1]	C	From Leg	1.50	0.0000	76.00	No Ice	0.85	1.67	0.07
			0.00			1/2" Ice	1.14	2.34	0.08
			0.00			1" Ice	1.43	3.01	0.09
GPS	C	From Leg	3.00	0.0000	76.00	No Ice	0.12	0.12	0.00
			0.00			1/2" Ice	0.21	0.21	0.00
			0.00			1" Ice	0.28	0.28	0.01
***									

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice+1.0 Guy
3	1.2D+1.0W (pattern 1) 0 deg - No Ice+1.0 Guy
4	1.2D+1.0W (pattern 2) 0 deg - No Ice+1.0 Guy
5	1.2D+1.0W (pattern 3) 0 deg - No Ice+1.0 Guy
6	1.2 Dead+1.0 Wind 30 deg - No Ice+1.0 Guy
7	1.2D+1.0W (pattern 1) 30 deg - No Ice+1.0 Guy
8	1.2D+1.0W (pattern 2) 30 deg - No Ice+1.0 Guy
9	1.2D+1.0W (pattern 3) 30 deg - No Ice+1.0 Guy
10	1.2 Dead+1.0 Wind 60 deg - No Ice+1.0 Guy
11	1.2D+1.0W (pattern 1) 60 deg - No Ice+1.0 Guy
12	1.2D+1.0W (pattern 2) 60 deg - No Ice+1.0 Guy
13	1.2D+1.0W (pattern 3) 60 deg - No Ice+1.0 Guy
14	1.2 Dead+1.0 Wind 90 deg - No Ice+1.0 Guy
15	1.2D+1.0W (pattern 1) 90 deg - No Ice+1.0 Guy
16	1.2D+1.0W (pattern 2) 90 deg - No Ice+1.0 Guy

Comb. No.	Description
17	1.2D+1.0W (pattern 3) 90 deg - No Ice+1.0 Guy
18	1.2 Dead+1.0 Wind 120 deg - No Ice+1.0 Guy
19	1.2D+1.0W (pattern 1) 120 deg - No Ice+1.0 Guy
20	1.2D+1.0W (pattern 2) 120 deg - No Ice+1.0 Guy
21	1.2D+1.0W (pattern 3) 120 deg - No Ice+1.0 Guy
22	1.2 Dead+1.0 Wind 150 deg - No Ice+1.0 Guy
23	1.2D+1.0W (pattern 1) 150 deg - No Ice+1.0 Guy
24	1.2D+1.0W (pattern 2) 150 deg - No Ice+1.0 Guy
25	1.2D+1.0W (pattern 3) 150 deg - No Ice+1.0 Guy
26	1.2 Dead+1.0 Wind 180 deg - No Ice+1.0 Guy
27	1.2D+1.0W (pattern 1) 180 deg - No Ice+1.0 Guy
28	1.2D+1.0W (pattern 2) 180 deg - No Ice+1.0 Guy
29	1.2D+1.0W (pattern 3) 180 deg - No Ice+1.0 Guy
30	1.2 Dead+1.0 Wind 210 deg - No Ice+1.0 Guy
31	1.2D+1.0W (pattern 1) 210 deg - No Ice+1.0 Guy
32	1.2D+1.0W (pattern 2) 210 deg - No Ice+1.0 Guy
33	1.2D+1.0W (pattern 3) 210 deg - No Ice+1.0 Guy
34	1.2 Dead+1.0 Wind 240 deg - No Ice+1.0 Guy
35	1.2D+1.0W (pattern 1) 240 deg - No Ice+1.0 Guy
36	1.2D+1.0W (pattern 2) 240 deg - No Ice+1.0 Guy
37	1.2D+1.0W (pattern 3) 240 deg - No Ice+1.0 Guy
38	1.2 Dead+1.0 Wind 270 deg - No Ice+1.0 Guy
39	1.2D+1.0W (pattern 1) 270 deg - No Ice+1.0 Guy
40	1.2D+1.0W (pattern 2) 270 deg - No Ice+1.0 Guy
41	1.2D+1.0W (pattern 3) 270 deg - No Ice+1.0 Guy
42	1.2 Dead+1.0 Wind 300 deg - No Ice+1.0 Guy
43	1.2D+1.0W (pattern 1) 300 deg - No Ice+1.0 Guy
44	1.2D+1.0W (pattern 2) 300 deg - No Ice+1.0 Guy
45	1.2D+1.0W (pattern 3) 300 deg - No Ice+1.0 Guy
46	1.2 Dead+1.0 Wind 330 deg - No Ice+1.0 Guy
47	1.2D+1.0W (pattern 1) 330 deg - No Ice+1.0 Guy
48	1.2D+1.0W (pattern 2) 330 deg - No Ice+1.0 Guy
49	1.2D+1.0W (pattern 3) 330 deg - No Ice+1.0 Guy
50	1.2 Dead+1.0 Ice+1.0 Temp+Guy
51	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy
52	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy
53	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy
54	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy
55	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy
56	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy
57	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy
58	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy
59	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy
60	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy
61	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy
62	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy
63	Dead+Wind 0 deg - Service+Guy
64	Dead+Wind 30 deg - Service+Guy
65	Dead+Wind 60 deg - Service+Guy
66	Dead+Wind 90 deg - Service+Guy
67	Dead+Wind 120 deg - Service+Guy
68	Dead+Wind 150 deg - Service+Guy
69	Dead+Wind 180 deg - Service+Guy
70	Dead+Wind 210 deg - Service+Guy
71	Dead+Wind 240 deg - Service+Guy
72	Dead+Wind 270 deg - Service+Guy
73	Dead+Wind 300 deg - Service+Guy
74	Dead+Wind 330 deg - Service+Guy

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	190 - 170	0.465	73	0.0912	0.0435
T2	170 - 150	0.848	73	0.0967	0.0416
T3	150 - 130	1.234	73	0.0683	0.0543
T4	130 - 110	1.344	73	0.0167	0.0750
T5	110 - 90	1.125	73	0.0646	0.0424
T6	90 - 87.6	0.866	73	0.0318	0.0204
T7	87.6 - 70	0.853	73	0.0263	0.0206
T8	70 - 50	0.828	73	0.0108	0.0249
T9	50 - 35	0.771	73	0.0309	0.0315
T10	35 - 20	0.640	73	0.0577	0.0348
T11	20 - 4.8125	0.406	73	0.0830	0.0295
T12	4.8125 - 0	0.101	73	0.0977	0.0086

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
190.00	Lightning Rod 4'x5/8"	73	0.465	0.0912	0.0435	164872
180.00	MTC3975083 Sector Mount (3)	73	0.651	0.0966	0.0417	82436
166.98	Guy	73	0.911	0.0950	0.0422	85984
160.00	Sector Mount (3)	73	1.057	0.0869	0.0451	38419
150.00	Sector Mount (3)	73	1.234	0.0683	0.0543	14874
139.50	Sector Mount (3)	73	1.337	0.0301	0.0690	13104
130.00	Sector Mount (3)	73	1.344	0.0167	0.0750	12768
92.52	Guy	73	0.885	0.0383	0.0208	13812
76.00	Side Arm Mount [SO 701-1]	73	0.830	0.0117	0.0216	84507

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	190 - 170	2.588	47	0.6664	0.3164
T2	170 - 150	4.261	47	0.6804	0.3079
T3	150 - 130	6.163	38	0.5242	0.3565
T4	130 - 110	7.000	38	0.1389	0.4166
T5	110 - 90	6.460	2	0.3557	0.2557
T6	90 - 87.6	5.616	5	0.2688	0.1524
T7	87.6 - 70	5.580	5	0.2491	0.1521
T8	70 - 50	5.462	5	0.1664	0.1441
T9	50 - 35	4.922	5	0.2317	0.1472
T10	35 - 20	3.965	5	0.3838	0.1380
T11	20 - 4.8125	2.467	5	0.5175	0.0935
T12	4.8125 - 0	0.609	5	0.5922	0.0382

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
190.00	Lightning Rod 4'x5/8"	47	2.588	0.6664	0.3164	9813
180.00	MTC3975083 Sector Mount (3)	47	3.398	0.6815	0.3082	4906
166.98	Guy	47	4.539	0.6742	0.3105	3550
160.00	Sector Mount (3)	46	5.226	0.6416	0.3225	7357
150.00	Sector Mount (3)	38	6.163	0.5242	0.3565	2707
139.50	Sector Mount (3)	38	6.802	0.3050	0.4052	2564
130.00	Sector Mount (3)	38	7.000	0.1389	0.4166	2622
92.52	Guy	5	5.673	0.2923	0.1548	3235
76.00	Side Arm Mount [SO 701-1]	5	5.503	0.1835	0.1474	11559

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	190	Leg	A325X	0.7500	4	2.92	30.10	0.097	1	Bolt Tension
		Diagonal	A325X	0.6250	1	2.08	9.11	0.228	1	Member Block Shear
		Top Girt	A325X	0.6250	1	0.01	9.11	0.001	1	Member Block Shear
		Bottom Girt	A325X	0.6250	1	0.58	9.11	0.063	1	Member Block Shear
T2	170	Leg	A325X	0.7500	4	9.84	30.10	0.327	1	Bolt Tension
		Diagonal	A325X	0.6250	1	6.09	9.11	0.669	1	Member Block Shear
		Top Girt	A325X	0.6250	1	1.27	9.11	0.139	1	Member Block Shear
		Bottom Girt	A325X	0.6250	1	2.05	9.89	0.208	1	Member Block Shear
		Torque Arm Top@166.977	A325N	0.8750	2	6.94	27.06	0.256	1	Bolt Shear
T3	150	Leg	A325X	0.7500	4	11.74	30.10	0.390	1	Bolt Tension
		Diagonal	A325X	0.5000	1	2.41	5.92	0.408	1	Member Bearing
		Top Girt	A325X	0.5000	1	1.51	5.92	0.254	1	Member Bearing
		Bottom Girt	A325X	0.5000	1	1.51	5.92	0.254	1	Member Bearing
T4	130	Leg	A325X	0.7500	4	3.25	30.10	0.108	1	Bolt Tension
		Diagonal	A325X	0.5000	1	5.14	9.78	0.526	1	Gusset Bearing
		Top Girt	A325X	0.5000	1	1.47	9.78	0.150	1	Gusset Bearing
		Bottom Girt	A325X	0.5000	1	1.47	9.78	0.150	1	Gusset Bearing
T5	110	Leg	A325X	0.7500	4	4.78	30.10	0.159	1	Bolt Tension
		Diagonal	A325X	0.5000	1	5.46	11.04	0.494	1	Bolt Shear
		Top Girt	A325X	0.5000	1	1.21	11.04	0.109	1	Bolt Shear
		Bottom Girt	A325X	0.5000	1	1.24	11.04	0.112	1	Bolt Shear
		Torque Arm Top@92.5234	A325N	0.8750	2	6.40	22.08	0.290	1	Member Bearing
T6	90	Diagonal	A325X	0.6250	1	2.99	9.11	0.329	1	Member Block Shear
		Top Girt	A325X	0.5000	1	1.01	5.92	0.171	1	Member Bearing
T7	87.6	Leg	A325X	0.7500	4	3.87	30.10	0.128	1	Bolt Tension
		Diagonal	A325X	0.5000	1	2.61	5.92	0.441	1	Member Bearing
		Bottom Girt	A325X	0.6250	1	0.89	5.26	0.170	1	Member Bearing
T8	70	Leg	A325X	0.7500	4	4.86	30.10	0.161	1	Bolt Tension

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
		Diagonal	A325X	0.5000	1	3.31	11.04	0.300	1	Bolt Shear
		Top Girt	A325X	0.5000	1	1.34	11.04	0.121	1	Bolt Shear
		Bottom Girt	A325X	0.5000	1	1.01	11.04	0.091	1	Bolt Shear
T9	50	Leg	A325X	0.7500	4	4.98	30.10	0.166	1	Bolt Tension
		Diagonal	A325X	0.5000	1	1.31	7.02	0.186	1	Member Bearing
		Top Girt	A325X	0.5000	1	1.05	5.92	0.177	1	Member Bearing
		Bottom Girt	A325X	0.5000	1	1.05	5.92	0.177	1	Member Bearing
T10	35	Leg	A325X	0.7500	4	4.49	30.10	0.149	1	Bolt Tension
		Diagonal	A325X	0.5000	1	1.69	5.92	0.286	1	Member Bearing
		Top Girt	A325X	0.5000	1	1.04	5.92	0.175	1	Member Bearing
		Bottom Girt	A325X	0.5000	1	1.04	5.92	0.175	1	Member Bearing
T11	20	Leg	A325X	0.7500	4	4.26	30.10	0.141	1	Bolt Tension
		Diagonal	A325X	0.5000	1	2.84	11.04	0.257	1	Bolt Shear
		Top Girt	A325X	0.5000	1	0.93	11.04	0.084	1	Bolt Shear
		Bottom Girt	A325X	0.5000	1	5.81	11.04	0.526	1	Bolt Shear

Guy Design Data

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T_u K	Allowable ϕT_n K	Required S.F.	Actual S.F.
T2	166.98 (A) (483)	7/8 EHS	7.97	79.70	18.18	47.82	1.000	2.630
	166.98 (A) (484)	7/8 EHS	7.97	79.70	17.76	47.82	1.000	2.692
	166.98 (B) (479)	7/8 EHS	7.97	79.70	18.71	47.82	1.000	2.556
	166.98 (B) (480)	7/8 EHS	7.97	79.70	19.10	47.82	1.000	2.504
	166.98 (C) (472)	7/8 EHS	7.97	79.70	18.00	47.82	1.000	2.657
	166.98 (C) (473)	7/8 EHS	7.97	79.70	17.92	47.82	1.000	2.669
T5	92.52 (A) (498)	5/8 EHS	4.24	42.40	12.59	25.44	1.000	2.020
	92.52 (A) (499)	5/8 EHS	4.24	42.40	12.29	25.44	1.000	2.069
	92.52 (B) (494)	5/8 EHS	4.24	42.40	13.43	25.44	1.000	1.894
	92.52 (B) (495)	5/8 EHS	4.24	42.40	13.63	25.44	1.000	1.866
	92.52 (C) (487)	5/8 EHS	4.24	42.40	12.53	25.44	1.000	2.031
	92.52 (C) (488)	5/8 EHS	4.24	42.40	12.52	25.44	1.000	2.033

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	190 - 170	ROHN 3 EH	20.00	0.11	1.2 K=1.00	3.0159	-15.56	135.70	0.115 [1]
T2	170 - 150	ROHN 3 EH	20.00	0.11	1.2 K=1.00	3.0159	-73.22	135.70	0.540 [1]
T3	150 - 130	P 2-1/2 X-STR w/ Split P 3 STD (GPD)	20.00	2.41	36.9 K=1.18	3.3678	-86.97	137.18	0.634 [1]
T4	130 - 110	P 2-1/2 X-STR w/ Split P 3 STD (GPD)	20.00	2.41	36.9 K=1.18	3.3678	-81.69	127.22	0.642 [1]
T5	110 - 90	ROHN 3 EH	20.00	2.41	25.4 K=1.00	3.0159	-58.44	129.44	0.451 [1]
T6	90 - 87.6	ROHN 3 EH	2.40	2.40	25.3 K=1.00	3.0159	-53.49	129.49	0.413 [1]
T7	87.6 - 70	ROHN 3 EH	17.60	2.41	25.5 K=1.00	3.0159	-50.34	129.44	0.389 [1]
T8	70 - 50	ROHN 3 EH	20.00	2.41	50.9 K=2.00	3.0159	-57.53	112.32	0.512 [1]
T9	50 - 35	ROHN 3 EH	15.00	2.38	50.2 K=2.00	3.0159	-60.41	112.85	0.535 [1]
T10	35 - 20	ROHN 3 EH	15.00	2.38	50.2 K=2.00	3.0159	-59.29	112.85	0.525 [1]
T11	20 - 4.8125	ROHN 3 EH	15.19	2.41	50.9 K=2.00	3.0159	-53.50	112.30	0.476 [1]
T12	4.8125 - 0	ROHN 3 EH	5.20	1.59	16.8 K=1.00	3.0159	-55.08	132.93	0.414 [1]

[1] $P_u / \phi P_n$ 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	190 - 170	L2x2x1/4	4.18	3.58	115.0 K=1.05	0.9375	-2.13	19.72	0.108 [1]
T2	170 - 150	L2x2x1/4	4.18	3.58	115.0 K=1.05	0.9375	-5.90	19.72	0.299 [1]
T3	150 - 130	ROHN 1.5 x 16GA	4.18	3.82	89.9 K=1.00	0.2627	-2.71	6.04	0.449 [1]
T4	130 - 110	ROHN 1.5 x 11GA	4.18	3.82	93.7 K=1.00	0.5202	-5.14	11.47	0.449 [1]
T5	110 - 90	ROHN 1.5 x 11GA	4.18	3.82	93.7 K=1.00	0.5202	-5.46	11.47	0.476 [1]
T6	90 - 87.6	L2x2x1/4	4.18	3.58	114.9 K=1.05	0.9375	-3.40	19.74	0.172 [1]
T7	87.6 - 70	ROHN 1.5 x 16GA	4.18	3.82	89.9 K=1.00	0.2627	-2.41	6.04	0.399 [1]
T8	70 - 50	ROHN 1.5 x 11GA	4.18	3.82	93.7 K=1.00	0.5202	-3.31	11.47	0.288 [1]
T9	50 - 35	ROHN 1.5 x 16GA	4.16	3.81	89.6	0.2627	-1.31	6.07	0.215 [1]

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T10	35 - 20	ROHN 1.5 x 16GA	4.16	3.81	K=1.00 89.6	0.2627	-1.97	6.07	0.325 [1]
T11	20 - 4.8125	ROHN 1.5 x 11GA	4.18	3.82	K=1.00 93.7 K=1.00	0.5202	-2.53	11.47	0.221 [1]

[1] P_u / ϕP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T12	4.8125 - 0	L8x8x3/4	1.05	0.76	62.9 K=10.92	11.4375	-1.36	360.56	0.004 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	190 - 170	L2x2x1/4	3.42	2.89	104.3 K=1.18	0.9375	-0.00	22.21	0.000 [1]
T2	170 - 150	L2x2x1/4	3.42	2.89	104.3 K=1.18	0.9375	-1.27	22.21	0.057 [1]
T3	150 - 130	ROHN 1.5 x 16GA	3.42	3.13	73.5 K=1.00	0.2627	-1.51	7.13	0.211 [1]
T4	130 - 110	ROHN 1.5 x 11GA	3.42	3.13	76.6 K=1.00	0.5202	-1.47	13.72	0.107 [1]
T5	110 - 90	ROHN 1.5 x 11GA	3.42	3.13	76.6 K=1.00	0.5202	-1.01	13.72	0.074 [1]
T6	90 - 87.6	ROHN 1.5 x 16GA	3.42	3.13	73.5 K=1.00	0.2627	-1.01	7.13	0.142 [1]
T8	70 - 50	ROHN 1.5 x 11GA	3.42	3.13	76.6 K=1.00	0.5202	-1.12	13.72	0.082 [1]
T9	50 - 35	ROHN 1.5 x 16GA	3.42	3.13	73.5 K=1.00	0.2627	-1.05	7.13	0.147 [1]
T10	35 - 20	ROHN 1.5 x 16GA	3.42	3.13	73.5 K=1.00	0.2627	-1.04	7.13	0.145 [1]
T11	20 - 4.8125	ROHN 1.5 x 11GA	3.42	3.13	76.6 K=1.00	0.5202	-0.93	13.72	0.068 [1]
T12	4.8125 - 0	L8x8x3/4	2.98	2.69	70.2 K=3.43	11.4375	-1.01	347.87	0.003 [1]

[1] P_u / ϕP_n controls

Bottom 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	190 - 170	L2x2x1/4	3.42	2.89	104.3 K=1.18	0.9375	-0.49	22.21	0.022 [1]
T2	170 - 150	L2x2x1/4	3.42	2.89	104.3 K=1.18	0.9375	-1.33	23.67	0.056 [1]
T3	150 - 130	ROHN 1.5 x 16GA	3.42	3.13	73.5 K=1.00	0.2627	-1.51	7.13	0.211 [1]
T4	130 - 110	ROHN 1.5 x 11GA	3.42	3.13	76.6 K=1.00	0.5202	-1.47	13.72	0.107 [1]
T5	110 - 90	ROHN 1.5 x 11GA	3.42	3.13	76.6 K=1.00	0.5202	-1.01	13.72	0.074 [1]
T7	87.6 - 70	ROHN 1.5 x 16GA	3.42	3.13	73.5 K=1.00	0.2627	-0.89	7.13	0.126 [1]
T8	70 - 50	ROHN 1.5 x 11GA	3.42	3.13	76.6 K=1.00	0.5202	-1.01	13.72	0.074 [1]
T9	50 - 35	ROHN 1.5 x 16GA	3.42	3.13	73.5 K=1.00	0.2627	-1.05	7.13	0.147 [1]
T10	35 - 20	ROHN 1.5 x 16GA	3.42	3.13	73.5 K=1.00	0.2627	-1.04	7.13	0.145 [1]
T11	20 - 4.8125	ROHN 1.5 x 11GA	3.42	3.13	76.6 K=1.00	0.5202	-0.93	13.72	0.068 [1]

[1] $P_u / \phi P_n$ controls

Top Guy Pull-Off 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 $\frac{P_u}{\phi P_n}$
T2	170 - 150	2L2x2x1/4	3.42	3.13	61.6 K=1.00	1.8800	-8.07	59.61	0.135 [1]
T5	110 - 90	2L2x2x1/4	3.42	3.13	61.6 K=1.00	1.8800	-8.07	59.61	0.135 [1]

[1] $P_u / \phi P_n$ controls

Top Guy Pull-Off Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T2	170 - 150	2L2x2x1/4	0.00	2.00	0.000	0.00	2.73	0.000
T5	110 - 90	2L2x2x1/4	0.00	2.00	0.000	0.00	2.73	0.000

Top Guy Pull-Off Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T2	170 - 150	2L2x2x1/4	0.135	0.000	0.000	0.135 [1]	1.000	
T5	110 - 90	2L2x2x1/4	0.135	0.000	0.000	0.135 [1]	1.000	

[1] P_u / ϕP_n controls

Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in²	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	170 - 150 (474)	MC18x42.7	3.42	3.27	36.7 K=1.00	12.6000	-3.64	380.32	0.010
T2	170 - 150 (475)	MC18x42.7	3.42	3.27	36.7 K=1.00	12.6000	-3.45	380.32	0.009
T2	170 - 150 (481)	MC18x42.7	3.42	3.27	36.7 K=1.00	12.6000	-3.58	380.32	0.009
T2	170 - 150 (482)	MC18x42.7	3.42	3.27	36.7 K=1.00	12.6000	-3.42	380.32	0.009
T2	170 - 150 (485)	MC18x42.7	3.42	3.27	36.7 K=1.00	12.6000	-4.05	380.32	0.011
T2	170 - 150 (486)	MC18x42.7	3.42	3.27	36.7 K=1.00	12.6000	-3.65	380.32	0.010
T5	110 - 90 (489)	C12x20.7	3.42	3.27	49.1 K=1.00	6.0900	-4.46	173.78	0.026
T5	110 - 90 (490)	C12x20.7	3.42	3.27	49.1 K=1.00	6.0900	-4.50	173.78	0.026
T5	110 - 90 (496)	C12x20.7	3.42	3.27	49.1 K=1.00	6.0900	-4.75	173.78	0.027
T5	110 - 90 (497)	C12x20.7	3.42	3.27	49.1 K=1.00	6.0900	-6.13	173.78	0.035
T5	110 - 90 (500)	C12x20.7	3.42	3.27	49.1 K=1.00	6.0900	-5.14	173.78	0.030
T5	110 - 90 (501)	C12x20.7	3.42	3.27	49.1 K=1.00	6.0900	-6.24	173.78	0.036

Torque-Arm Top Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T2	170 - 150 (474)	MC18x42.7	-40.52	200.88	0.202	0.00	18.99	0.000
T2	170 - 150 (475)	MC18x42.7	-40.07	200.88	0.199	0.00	18.99	0.000
T2	170 - 150 (481)	MC18x42.7	-46.45	200.88	0.231	0.00	18.99	0.000
T2	170 - 150 (482)	MC18x42.7	-40.53	200.88	0.202	-0.00	18.99	0.000
T2	170 - 150 (485)	MC18x42.7	-46.54	200.88	0.232	0.00	18.99	0.000
T2	170 - 150 (486)	MC18x42.7	-40.14	200.88	0.200	-0.00	18.99	0.000
T5	110 - 90 (489)	C12x20.7	-17.02	68.58	0.248	0.00	7.01	0.000
T5	110 - 90 (490)	C12x20.7	-16.98	68.58	0.248	-0.00	7.01	0.000
T5	110 - 90 (496)	C12x20.7	-23.51	68.58	0.343	0.00	7.01	0.000

Section No.	Elevation	Size	M_{ux}	ϕM_{nx}	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy}	ϕM_{ny}	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	ft		kip-ft	kip-ft		kip-ft	kip-ft	
T5	110 - 90 (497)	C12x20.7	-17.17	68.58	0.250	-0.00	7.01	0.000
T5	110 - 90 (500)	C12x20.7	-23.43	68.58	0.342	0.00	7.01	0.000
T5	110 - 90 (501)	C12x20.7	-16.74	68.58	0.244	-0.00	7.01	0.000

Torque-Arm Top Interaction Design Data

Section No.	Elevation	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	ft							
T2	170 - 150 (474)	MC18x42.7	0.010	0.202	0.000	0.207	1.000	
T2	170 - 150 (475)	MC18x42.7	0.009	0.199	0.000	0.204	1.000	
T2	170 - 150 (481)	MC18x42.7	0.009	0.231	0.000	0.236	1.000	
T2	170 - 150 (482)	MC18x42.7	0.009	0.202	0.000	0.206	1.000	
T2	170 - 150 (485)	MC18x42.7	0.011	0.232	0.000	0.237	1.000	
T2	170 - 150 (486)	MC18x42.7	0.010	0.200	0.000	0.205	1.000	
T5	110 - 90 (489)	C12x20.7	0.026	0.248	0.000	0.261	1.000	
T5	110 - 90 (490)	C12x20.7	0.026	0.248	0.000	0.261	1.000	
T5	110 - 90 (496)	C12x20.7	0.027	0.343	0.000	0.356	1.000	
T5	110 - 90 (497)	C12x20.7	0.035	0.250	0.000	0.268	1.000	
T5	110 - 90 (500)	C12x20.7	0.030	0.342	0.000	0.356	1.000	
T5	110 - 90 (501)	C12x20.7	0.036	0.244	0.000	0.262	1.000	

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	190 - 170	ROHN 3 EH	20.00	0.11	1.2	3.0159	11.68	135.72	0.086 [1]
T2	170 - 150	ROHN 3 EH	20.00	0.11	1.2	3.0159	39.34	135.72	0.290 [1]
T3	150 - 130	P 2-1/2 X-STR w/ Split P 3 STD (GPD)	20.00	2.41	31.2	3.3678	51.73	151.55	0.341 [1]
T4	130 - 110	P 2-1/2 X-STR w/ Split P 3 STD (GPD)	20.00	0.61	8.0	3.3678	46.94	139.43	0.337 [1]
T5	110 - 90	ROHN 3 EH	20.00	2.41	25.4	3.0159	20.47	135.72	0.151 [1]
T6	90 - 87.6	ROHN 3 EH	2.40	2.40	25.3	3.0159	3.82	135.72	0.028 [1]
T7	87.6 - 70	ROHN 3 EH	17.60	0.61	6.5	3.0159	0.56	135.72	0.004 [1]
T8	70 - 50	ROHN 3 EH	20.00	0.11	1.2	3.0159	2.07	135.72	0.015 [1]
T9	50 - 35	ROHN 3 EH	15.00	2.38	25.1	3.0159	3.25	135.72	0.024 [1]
T10	35 - 20	ROHN 3 EH	15.00	0.61	6.5	3.0159	2.22	135.72	0.016 [1]

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	190 - 170	L2x2x1/4	4.18	3.58	75.4	0.5625	2.08	24.47	0.085 [1]
T2	170 - 150	L2x2x1/4	4.18	3.58	75.4	0.5625	6.09	24.47	0.249 [1]
T3	150 - 130	ROHN 1.5 x 16GA	4.18	3.82	89.9	0.1902	2.41	8.99	0.269 [1]
T4	130 - 110	ROHN 1.5 x 11GA	4.18	3.82	93.7	0.3702	4.71	16.11	0.292 [1]
T5	110 - 90	ROHN 1.5 x 11GA	4.18	3.82	93.7	0.3702	5.20	16.11	0.323 [1]
T6	90 - 87.6	L2x2x1/4	4.18	3.58	75.3	0.5625	2.99	24.47	0.122 [1]
T7	87.6 - 70	ROHN 1.5 x 16GA	4.18	3.82	89.9	0.1902	2.61	8.99	0.290 [1]
T8	70 - 50	ROHN 1.5 x 11GA	4.18	3.82	93.7	0.3702	3.09	16.11	0.192 [1]
T9	50 - 35	ROHN 1.5 x 16GA	4.16	3.81	89.6	0.1902	0.93	8.99	0.104 [1]
T10	35 - 20	ROHN 1.5 x 16GA	4.16	3.81	89.6	0.1902	1.69	8.99	0.188 [1]
T11	20 - 4.8125	ROHN 1.5 x 11GA	4.18	3.82	93.7	0.3702	2.84	16.11	0.176 [1]

[1] P_u / ϕP_n controls

Horizontal Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T12	4.8125 - 0	L8x8x3/4	1.05	0.76	3.7	11.4375	1.50	370.57	0.004 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	190 - 170	L2x2x1/4	3.42	2.89	61.6	0.5625	0.01	24.47	0.000 [1]
T2	170 - 150	L2x2x1/4	3.42	2.89	61.6	0.5625	1.27	24.47	0.052 [1]
T3	150 - 130	ROHN 1.5 x 16GA	3.42	3.13	73.5	0.1902	1.51	8.99	0.168 [1]
T4	130 - 110	ROHN 1.5 x 11GA	3.42	3.13	76.6	0.3702	1.47	16.11	0.091 [1]
T5	110 - 90	ROHN 1.5 x 11GA	3.42	3.13	76.6	0.3702	1.21	16.11	0.075 [1]
T6	90 - 87.6	ROHN 1.5 x 16GA	3.42	3.13	73.5	0.1902	1.01	8.99	0.113 [1]
T8	70 - 50	ROHN 1.5 x 11GA	3.42	3.13	76.6	0.3702	1.34	17.49	0.077 [1]
T9	50 - 35	ROHN 1.5 x 16GA	3.42	3.13	73.5	0.1902	1.05	8.99	0.116 [1]
T10	35 - 20	ROHN 1.5 x 16GA	3.42	3.13	73.5	0.1902	1.04	8.99	0.115 [1]
T11	20 - 4.8125	ROHN 1.5 x 11GA	3.42	3.13	76.6	0.3702	0.93	16.11	0.058 [1]
T12	4.8125 - 0	L8x8x3/4	2.98	2.69	13.1	11.4375	5.73	370.57	0.015 [1]

[1] P_u / ϕP_n controls

Bottom 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	190 - 170	L2x2x1/4	3.42	2.89	61.6	0.5625	0.58	24.47	0.024 [1]
T2	170 - 150	L2x2x1/4	3.42	2.89	61.6	0.5625	2.05	26.58	0.077 [1]
T3	150 - 130	ROHN 1.5 x 16GA	3.42	3.13	73.5	0.1902	1.51	8.99	0.168 [1]
T4	130 - 110	ROHN 1.5 x 11GA	3.42	3.13	76.6	0.3702	1.47	16.11	0.091 [1]
T5	110 - 90	ROHN 1.5 x 11GA	3.42	3.13	76.6	0.3702	1.24	16.11	0.077 [1]
T7	87.6 - 70	ROHN 1.5 x 16GA	3.42	3.13	73.5	0.1318	0.89	6.23	0.144 [1]
T8	70 - 50	ROHN 1.5 x 11GA	3.42	3.13	76.6	0.3702	1.01	17.49	0.058 [1]
T9	50 - 35	ROHN 1.5 x 16GA	3.42	3.13	73.5	0.1902	1.05	8.99	0.116 [1]
T10	35 - 20	ROHN 1.5 x 16GA	3.42	3.13	73.5	0.1902	1.04	8.99	0.115 [1]
T11	20 - 4.8125	ROHN 1.5 x 11GA	3.42	3.13	76.6	0.3702	5.81	16.11	0.361 [1]

[1] $P_u / \phi P_n$ controls

Top Guy Pull-Off 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 $\frac{P_u}{\phi P_n}$
T2	170 - 150	2L2x2x1/4	3.42	3.13	61.6	1.8800	8.49	60.91	0.139 [1]
T5	110 - 90	2L2x2x1/4	3.42	3.13	61.6	1.8800	11.08	60.91	0.182 [1]

[1] $P_u / \phi P_n$ controls

Top Guy Pull-Off Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T2	170 - 150	2L2x2x1/4	0.00	2.00	0.000	0.00	2.73	0.000
T5	110 - 90	2L2x2x1/4	0.00	2.00	0.000	0.00	2.73	0.000

Top Guy Pull-Off Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T2	170 - 150	2L2x2x1/4	0.139	0.000	0.000	0.139 [1]	1.000	
T5	110 - 90	2L2x2x1/4	0.182	0.000	0.000	0.182 [1]	1.000	

[1] $P_u / \phi P_n$ controls

Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in²	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	170 - 150 (474)	MC18x42.7	3.42	3.27	36.7	9.1125	0.37	396.39	0.001
T2	170 - 150 (475)	MC18x42.7	3.42	3.27	36.7	9.1125	0.85	396.39	0.002
T2	170 - 150 (481)	MC18x42.7	3.42	3.27	36.7	9.1125	0.69	396.39	0.002
T2	170 - 150 (482)	MC18x42.7	3.42	3.27	36.7	9.1125	0.48	396.39	0.001
T2	170 - 150 (485)	MC18x42.7	3.42	3.27	36.7	9.1125	0.21	396.39	0.001
T2	170 - 150 (486)	MC18x42.7	3.42	3.27	36.7	9.1125	0.49	396.39	0.001
T5	110 - 90 (489)	C12x20.7	3.42	3.27	49.1	4.3560	4.81	189.49	0.025
T5	110 - 90 (490)	C12x20.7	3.42	3.27	49.1	4.3560	0.02	189.49	0.000
T5	110 - 90 (496)	C12x20.7	3.42	3.27	49.1	4.3560	5.01	189.49	0.026
T5	110 - 90 (497)	C12x20.7	3.42	3.27	49.1	4.3560	4.89	189.49	0.026
T5	110 - 90 (500)	C12x20.7	3.42	3.27	49.1	4.3560	4.67	189.49	0.025
T5	110 - 90 (501)	C12x20.7	3.42	3.27	49.1	4.3560	4.96	189.49	0.026

Torque-Arm Top Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
T2	170 - 150 (474)	MC18x42.7	-38.79	200.88	0.193	0.00	18.99	0.000
T2	170 - 150 (475)	MC18x42.7	-38.65	200.88	0.192	-0.00	18.99	0.000
T2	170 - 150 (481)	MC18x42.7	-44.59	200.88	0.222	0.00	18.99	0.000
T2	170 - 150 (482)	MC18x42.7	-37.88	200.88	0.189	-0.00	18.99	0.000
T2	170 - 150 (485)	MC18x42.7	-44.03	200.88	0.219	-0.00	18.99	0.000
T2	170 - 150 (486)	MC18x42.7	-37.36	200.88	0.186	0.00	18.99	0.000
T5	110 - 90 (489)	C12x20.7	-15.36	68.58	0.224	0.00	7.01	0.000
T5	110 - 90 (490)	C12x20.7	-17.56	68.58	0.256	0.00	7.01	0.000
T5	110 - 90 (496)	C12x20.7	-20.30	68.58	0.296	0.00	7.01	0.000
T5	110 - 90 (497)	C12x20.7	-15.37	68.58	0.224	0.00	7.01	0.000
T5	110 - 90 (500)	C12x20.7	-19.52	68.58	0.285	0.00	7.01	0.000
T5	110 - 90 (501)	C12x20.7	-14.89	68.58	0.217	0.00	7.01	0.000

Torque-Arm Top Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T2	170 - 150 (474)	MC18x42.7	0.001	0.193	0.000	0.194	1.000	
T2	170 - 150 (475)	MC18x42.7	0.002	0.192	0.000	0.193	1.000	
T2	170 - 150 (481)	MC18x42.7	0.002	0.222	0.000	0.223	1.000	
T2	170 - 150 (482)	MC18x42.7	0.001	0.189	0.000	0.189	1.000	
T2	170 - 150 (485)	MC18x42.7	0.001	0.219	0.000	0.219	1.000	
T2	170 - 150 (486)	MC18x42.7	0.001	0.186	0.000	0.187	1.000	
T5	110 - 90 (489)	C12x20.7	0.025	0.224	0.000	0.237	1.000	
T5	110 - 90 (490)	C12x20.7	0.000	0.256	0.000	0.256	1.000	
T5	110 - 90 (496)	C12x20.7	0.026	0.296	0.000	0.309	1.000	
T5	110 - 90 (497)	C12x20.7	0.026	0.224	0.000	0.237	1.000	
T5	110 - 90 (500)	C12x20.7	0.025	0.285	0.000	0.297	1.000	
T5	110 - 90 (501)	C12x20.7	0.026	0.217	0.000	0.230	1.000	

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	190 - 170	Leg	ROHN 3 EH	3	-15.56	135.70	11.5	Pass
T2	170 - 150	Leg	ROHN 3 EH	59	-73.22	135.70	54.0	Pass
T3	150 - 130	Leg	P 2-1/2 X-STR w/ Split P 3 STD (GPD)	116	-86.97	137.18	63.4	Pass
T4	130 - 110	Leg	P 2-1/2 X-STR w/ Split P 3 STD (GPD)	173	-81.69	127.22	64.2	Pass
T5	110 - 90	Leg	ROHN 3 EH	230	-58.44	129.44	45.1	Pass
T6	90 - 87.6	Leg	ROHN 3 EH	287	-53.49	129.49	41.3	Pass
T7	87.6 - 70	Leg	ROHN 3 EH	299	-50.34	129.44	38.9	Pass
T8	70 - 50	Leg	ROHN 3 EH	347	-57.53	112.32	51.2	Pass
T9	50 - 35	Leg	ROHN 3 EH	380	-60.41	112.85	53.5	Pass
T10	35 - 20	Leg	ROHN 3 EH	407	-59.29	112.85	52.5	Pass
T11	20 - 4.8125	Leg	ROHN 3 EH	434	-53.50	112.30	47.6	Pass
T12	4.8125 - 0	Leg	ROHN 3 EH	461	-55.08	132.93	41.4	Pass
T1	190 - 170	Diagonal	L2x2x1/4	13	-2.13	19.72	10.8 22.8 (b)	Pass
T2	170 - 150	Diagonal	L2x2x1/4	106	-5.90	19.72	29.9 66.9 (b)	Pass
T3	150 - 130	Diagonal	ROHN 1.5 x 16GA	169	-2.71	6.04	44.9	Pass
T4	130 - 110	Diagonal	ROHN 1.5 x 11GA	184	-5.14	11.47	44.9 52.6 (b)	Pass
T5	110 - 90	Diagonal	ROHN 1.5 x 11GA	283	-5.46	11.47	47.6 49.4 (b)	Pass
T6	90 - 87.6	Diagonal	L2x2x1/4	295	-3.40	19.74	17.2 32.9 (b)	Pass
T7	87.6 - 70	Diagonal	ROHN 1.5 x 16GA	340	-2.41	6.04	39.9 44.1 (b)	Pass
T8	70 - 50	Diagonal	ROHN 1.5 x 11GA	376	-3.31	11.47	28.8 30.0 (b)	Pass
T9	50 - 35	Diagonal	ROHN 1.5 x 16GA	403	-1.31	6.07	21.5	Pass
T10	35 - 20	Diagonal	ROHN 1.5 x 16GA	416	-1.97	6.07	32.5	Pass
T11	20 - 4.8125	Diagonal	ROHN 1.5 x 11GA	446	-2.53	11.47	22.1 25.7 (b)	Pass
T12	4.8125 - 0	Horizontal	L8x8x3/4	468	1.29	370.57	1.2	Pass
T1	190 - 170	Top Girt	L2x2x1/4	4	0.01	24.47	0.2	Pass
T2	170 - 150	Top Girt	L2x2x1/4	61	-1.27	22.21	5.7 13.9 (b)	Pass
T3	150 - 130	Top Girt	ROHN 1.5 x 16GA	118	-1.51	7.13	21.1 25.4 (b)	Pass
T4	130 - 110	Top Girt	ROHN 1.5 x 11GA	175	-1.47	13.72	10.7 15.0 (b)	Pass
T5	110 - 90	Top Girt	ROHN 1.5 x 11GA	234	1.21	16.11	7.5 10.9 (b)	Pass
T6	90 - 87.6	Top Girt	ROHN 1.5 x 16GA	290	-1.01	7.13	14.2 17.1 (b)	Pass
T8	70 - 50	Top Girt	ROHN 1.5 x 11GA	351	-1.12	13.72	8.2 12.1 (b)	Pass
T9	50 - 35	Top Girt	ROHN 1.5 x 16GA	382	-1.05	7.13	14.7 17.7 (b)	Pass
T10	35 - 20	Top Girt	ROHN 1.5 x 16GA	409	-1.04	7.13	14.5 17.5 (b)	Pass
T11	20 - 4.8125	Top Girt	ROHN 1.5 x 11GA	436	-0.93	13.72	6.8 8.4 (b)	Pass
T12	4.8125 - 0	Top Girt	L8x8x3/4	463	5.73	370.57	1.5	Pass
T1	190 - 170	Bottom Girt	L2x2x1/4	7	0.58	24.47	2.4 6.3 (b)	Pass
T2	170 - 150	Bottom Girt	L2x2x1/4	66	2.05	26.58	7.7	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T3	150 - 130	Bottom Girt	ROHN 1.5 x 16GA	121	-1.51	7.13	20.8 (b) 21.1	Pass
T4	130 - 110	Bottom Girt	ROHN 1.5 x 11GA	178	-1.47	13.72	25.4 (b) 10.7	Pass
T5	110 - 90	Bottom Girt	ROHN 1.5 x 11GA	236	1.24	16.11	15.0 (b) 7.7	Pass
T7	87.6 - 70	Bottom Girt	ROHN 1.5 x 16GA	301	0.89	6.23	11.2 (b) 14.4	Pass
T8	70 - 50	Bottom Girt	ROHN 1.5 x 11GA	352	-1.01	13.72	17.0 (b) 7.4	Pass
T9	50 - 35	Bottom Girt	ROHN 1.5 x 16GA	385	-1.05	7.13	9.1 (b) 14.7	Pass
T10	35 - 20	Bottom Girt	ROHN 1.5 x 16GA	412	-1.04	7.13	17.7 (b) 14.5	Pass
T11	20 - 4.8125	Bottom Girt	ROHN 1.5 x 11GA	439	5.81	16.11	17.5 (b) 36.1	Pass
T2	170 - 150	Guy A@166.977	7/8	483	18.18	47.82	52.6 (b) 38.0	Pass
T5	110 - 90	Guy A@92.5234	5/8	498	12.59	25.44	49.5	Pass
T2	170 - 150	Guy B@166.977	7/8	480	19.10	47.82	39.9	Pass
T5	110 - 90	Guy B@92.5234	5/8	495	13.63	25.44	53.6	Pass
T2	170 - 150	Guy C@166.977	7/8	472	18.00	47.82	37.6	Pass
T5	110 - 90	Guy C@92.5234	5/8	487	12.53	25.44	49.2	Pass
T2	170 - 150	Top Guy Pull-Off@166.977	2L2x2x1/4	476	8.49	60.91	13.9	Pass
T5	110 - 90	Top Guy Pull-Off@92.5234	2L2x2x1/4	493	11.08	60.91	18.2	Pass
T2	170 - 150	Torque Arm Top@166.977	MC18x42.7	485	-4.05	380.32	23.7	Pass
T5	110 - 90	Torque Arm Top@92.5234	C12x20.7	500	-5.14	173.78	25.6 (b) 35.6	Pass

	Summary	
Leg (T4)	64.2	Pass
Diagonal (T2)	66.9	Pass
Horizontal (T12)	1.2	Pass
Top Girt (T3)	25.4	Pass
Bottom Girt (T11)	52.6	Pass
Guy A (T5)	49.5	Pass
Guy B (T5)	53.6	Pass
Guy C (T5)	49.2	Pass
Top Guy Pull-Off (T5)	18.2	Pass
Torque Arm Top (T5)	35.6	Pass
Bolt Checks	66.9	Pass
RATING =	**66.9**	**Pass**

ADDITIONAL CALCULATIONS

BUILT-UP MEMBER ANALYSIS

CT10016 A Montville 1 CT

[illegible]

[illegible]	AISC [illegible]
Analysis Method	[illegible]
[illegible]	1
Max Capacity	[illegible]
Number of Sections	2

X-X Axis

Existing Member							Reinforcement Member					
Elevation	Pipe	F_y (ksi)	Area (in²)	I (in⁴)	r (in)	KL/r	Shape	F_y (ksi)	Area (in²)	I (in⁴)	r (in)	KL/r
[illegible]	[illegible]	50	2.25	1.92	0.924	[illegible]	P 2 STD	50	1.11	0.29	0.508	[illegible]
[illegible]	[illegible]	50	2.25	1.92	0.924	[illegible]	P 2 STD	46	1.11	0.29	0.508	[illegible]

Built-Up Member														Member Analysis					Shell Input	
Connection	n	I_x (in⁴)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	K	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Compression?	[illegible]	[illegible]	F_y (ksi)
[illegible]	1	[illegible]	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Yes	[illegible]	[illegible]	50
[illegible]	1	[illegible]	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Yes	[illegible]	[illegible]	46

Y-Y Axis

Existing Member							Reinforcement Member					
Elevation	Pipe	F_y (ksi)	Area (in²)	I (in⁴)	r (in)	KL/r	Shape	F_y (ksi)	Area (in²)	I (in⁴)	r (in)	KL/r
[illegible]	[illegible]	50	2.25	1.92	0.924	[illegible]	P 2 STD	50	1.11	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	50	2.25	1.92	0.924	[illegible]	P 2 STD	46	[illegible]	[illegible]	[illegible]	[illegible]

Built-Up Member														Member Analysis					Shell Input	
Connection	n	I_y (in⁴)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	K	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Compression?	[illegible]	[illegible]	F_y (ksi)
[illegible]	1	[illegible]	18	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Yes	[illegible]	[illegible]	50
[illegible]	1	[illegible]	18	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Yes	[illegible]	[illegible]	46

Summary

Elevation	Modified Member	[illegible]	K	F_y (ksi)	[illegible]
[illegible]	[illegible]	No	[illegible]	50	[illegible]
[illegible]	[illegible]	No	[illegible]	46	[illegible]

Version 1.3

[illegible]

[illegible]	Weld Type	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	12	0
[illegible]	[illegible]	[illegible]	[illegible]	12	0

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Controlling	Rating
[illegible]	[illegible]	[illegible]	N/A	N/A	Buckling	[illegible]
[illegible]	[illegible]	[illegible]	N/A	N/A	Buckling	[illegible]
[illegible]				No		

Mat Foundation Analysis
CT10016-A Montville 3 CT
2024778.10016.03

General Info	
Foundation Criteria	GPD
TIA Code	TIA-222-H
Apply TIA-222-H Section 15.5?	No
Soil Code	AASHTO 2012
Concrete Code	ACI 318-14
Seismic Design Category	B
Tower Height	190 ft
Bearing On	Soil
Foundation Type	Guyed Pad
Pier Type	Square
Reinforcing Known	Yes
Max Bearing Capacity	105%
Max Overturning Capacity	105%

Tower Reactions	
Moment, M	
Axial, P	150 k
Shear, V	3 k

Pad & Pier Geometry	
Pier Width, ø	2.5 ft
Pad Length, L [y]	7 ft
Pad Width, W [x]	7 ft
Pad Thickness, t	1.75 ft
Depth, D	5 ft
Height Above Grade, HG	0.5 ft
Tower Centroid, X	3.5 ft
Tower Centroid, Y	3.5 ft
Tower Eccentricity	0.0000 ft

Pad & Pier Reinforcing	
Rebar Fy	60 ksi
Concrete F'c	3 ksi
Pier Reinforcing Clear Cover	3 in
Shear Rebar Type	Tie
Shear Rebar Size	# 3
Pad Reinforcing Clear Cover	3 in
Reinforced Top & Bottom?	No
Pad Reinforcing Size	# 6
Pad Quantity Per Layer	8
Pier Rebar Size	# 7
Pier Quantity of Rebar	8

Soil Properties	
Soil Type	Granular
Soil Unit Weight	125 pcf
Angle of Friction, ø	43
Base Friction Coeff. Provided in Geo?	Yes
Base Friction Coefficient, μ	0.4
Bearing Type	Net
Ultimate Bearing	30 ksf
Water Table Depth	4 ft
Neglected Depth	4 ft

Bearing Summary

Case	Demand/Limits	Capacity/Availability	Check	Eccentricity	Load Case
Qxmax	3.99 ksf	18.34 ksf	OK, <= 105%	L/87.0	1.2D+1.0W
Qymax	3.99 ksf	18.34 ksf	OK, <= 105%	W/87.0	1.2D+1.0W
Qmax @ 45°	3.81 ksf	18.34 ksf	OK, <= 105%	W/35000.0	1.2D+1.0W
Controlling Capacity		21.7%	Pass		

Overturning Summary

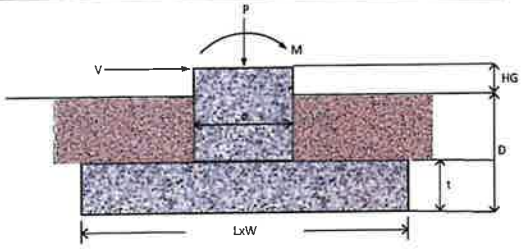
Case	Demand/Limits	Capacity/Availability	Check		Load Case
Ovtx	15.0 k-ft	653.9 k-ft	3.1%	OK	0.9D+1.0W
Ovty	15.0 k-ft	653.9 k-ft	3.1%	OK	0.9D+1.0W
Ovtxy	0.0 k-ft	653.9 k-ft	0.0%	OK	0.9D+1.0W
Controlling Capacity		3.1%	Pass		

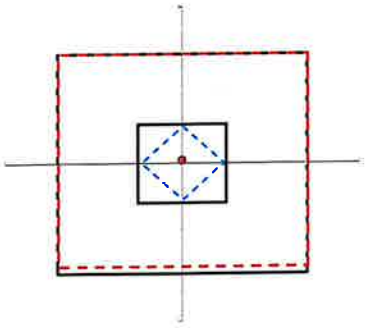
Sliding Summary

Case	Demand/Limits	Capacity/Availability	Check		Load Case
Slidingx	3.0 k	56.8 k	5.3%	OK	0.9D+1.0W
Slidingy	3.0 k	56.8 k	5.3%	OK	0.9D+1.0W
Controlling Capacity		5.3%	Pass		

Reinforcement Summary

Component	Demand/Limits	Capacity/Availability	Check		Load Case
Pad Flexural Bending	58.3 k-ft	259.5 k-ft	22.5%	OK	1.2D+1.0W
One-Way Shear in Pad	19.6 k	116.5 k	16.8%	OK	1.2D+1.0W
Two-Way Shear in Pad	117.6 k	519.9 k	22.6%	OK	0.9D+1.0W
Compression on Pier	154.2 k	2983.5 k	5.2%	OK	1.2D+1.0W
Moment on Pier	11.3 k-ft	341.4 k-ft	3.3%	OK	1.2D+1.0W
Pad Flexural 2-Way	6.8 k-ft	247.3 k-ft	2.7%	OK	1.2D+1.0W
As Min Pad Met?	0.50 sq. in.	0.22 sq. in.	Yes		
As Min Pier Met?	4.80 sq. in.	4.50 sq. in.	Yes		
Controlling Capacity		22.6%	Pass		





Guyed Tower Anchor Foundation
CT10016-A Montville 3 CT
2024778.10016.03

Guy Anchor Location	
Azimuth/Leg	A
Radius (ft)	150
Tower Height (ft)	190

Tower Reactions	
Vertical	41 k
Horizontal	47 k

Capacity Summary		
Soil Capacity=	70.9%	OK
Reinforcing Capacity=	24.7%	OK
Controlling Capacity=	70.9%	OK

Anchor Block Geometry	
Width	3 ft
Height	3 ft
Length	10 ft
Depth	12 ft

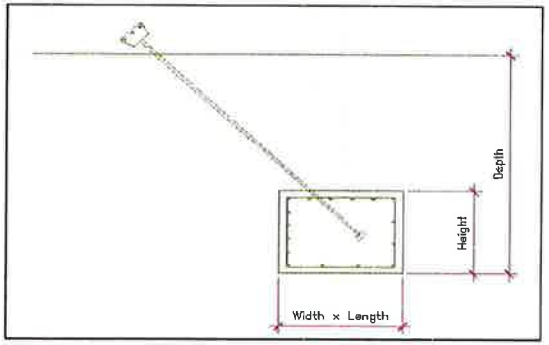
General Info	
Foundation Criteria	GPD
TIA Code	TIA-222-H
Soil	105%
Reinforcement/Steel	105%
Apply TIA-222-H Section 15.5?	No

Soil Properties

Layer	C_u, psf	ϕ, degrees	γ_{soil}, pcf	$\gamma_{concrete}$, pcf	Thickness, ft	$P_{p,top}$, psf	$P_{p,bot}$, psf	f_s, psf
1			110	150	2			
2		40	120	150	2	1000	2200	
3		40	120	150	2	2200	2650	
4		34	115	150	5.5	2100	2750	
5		43	125	150	0.5			
6								

Ignored Depth	4 ft	Consider soil for uplift	User Input Angle (°)
Water Table	4 ft	Granular	Angle for Uplift (°) 29.11111

Soil Capacity Calculations		
W_s	109.71 k	
W_c	7.88 k	
Uplift Resistance	92.68 k	
Horizontal Resistance	66.25 k	
Uplift Capacity=	44.2%	OK
Horizontal Capacity=	70.9%	OK



Anchor Block Reinforcement		
Is Reinforcement Known?	yes	
fc'	3	ksi
Fy	60	ksi
ϕ (shear)	0.75	
Clear Cover	3	in
Top Bar Size	# 7	
Top Bar Quantity	4	
Front Bar Size	# 7	
Front Bar Quantity	3	
Back & Bottom Bar Size		
Back & Bottom Bar Quantity		
Tie Size	# 3	

Block Moment and Shear Calculations

Moment Check					
M_{ux}=	51.25 k-ft		M_{uy}=	58.75 k-ft	
ϕM_{nx}=	339.15 k-ft		ϕM_{ny}=	255.95 k-ft	
Capacity	15.1%	OK	Capacity	23.0%	OK
Shear Check					
V_{ux}=	20.50 k		V_{uy}=	23.50 k	
ϕV_{nx}=	95.20 k		ϕV_{ny}=	95.20 k	
Capacity	21.5%	OK	Capacity	24.7%	OK

Guy Anchor Shaft Calculations	
Shape of Anchor Shaft	Unknown

Guyed Tower Anchor Foundation
CT10016-A Montville 3 CT
2024778.10016.03

Guy Anchor Location	
Azimuth/Leg	B
Radius (ft)	150
Tower Height (ft)	190

Tower Reactions	
Vertical	41 k
Horizontal	47 k

Capacity Summary		
Soil Capacity=	51.9%	OK
Reinforcing Capacity=	24.7%	OK
Controlling Capacity=	51.9%	OK

Anchor Block Geometry	
Width	3 ft
Height	3 ft
Length	10 ft
Depth	12 ft

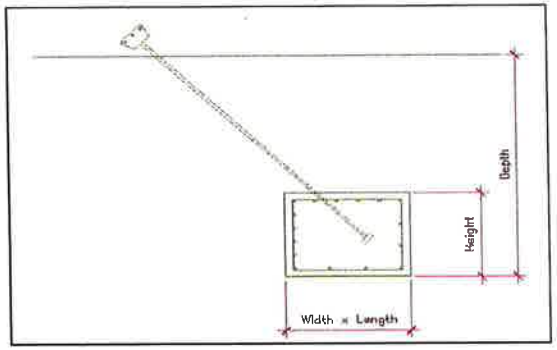
General Info	
Foundation Criteria	GPD
TIA Code	TIA-222-H
Soil	105%
Reinforcement/Steel	105%
Apply TIA-222-H Section 15.5?	No

Soil Properties

Layer	C_u, psf	ϕ, degrees	γ_{soil}, pcf	$\gamma_{concrete}$, pcf	Thickness, ft	$P_{p,top}$, psf	$P_{p,bot}$, psf	$f_p$psf
1			110	150	2			
2		31	115	150	2	600	1400	
3		43	125	150	8	2400	4400	
4								
5								
6								

Ignored Depth	4 ft	Consider soil for uplift	User Input Angle (°)	
Water Table	4 ft	Granular	Angle for Uplift (°)	30.77778

Soil Capacity Calculations		
W_s	119.27 k	
W_c	7.88 k	
Uplift Resistance	99.98 k	
Horizontal Resistance	90.56 k	
Uplift Capacity=	41.0%	OK
Horizontal Capacity=	51.9%	OK



Anchor Block Reinforcement		
Is Reinforcement Known?	yes	
fc'	3	ksi
Fy	60	ksi
ϕ (shear)	0.75	
Clear Cover	3	in
Top Bar Size	# 7	
Top Bar Quantity	4	
Front Bar Size	# 7	
Front Bar Quantity	3	
Back & Bottom Bar Size		
Back & Bottom Bar Quantity		
Tie Size	# 3	

Block Moment and Shear Calculations

Moment Check					
M_{ux}=	51.25 k-ft		M_{uy}=	58.75 k-ft	
ϕM_{nx}=	339.15 k-ft		ϕM_{ny}=	255.95 k-ft	
Capacity	15.1%	OK	Capacity	23.0%	OK
Shear Check					
V_{ux}=	20.50 k		V_{uy}=	23.50 k	
ϕV_{nx}=	95.20 k		ϕV_{ny}=	95.20 k	
Capacity	21.5%	OK	Capacity	24.7%	OK

Guy Anchor Shaft Calculations	
Shape of Anchor Shaft	Unknown

Guyed Tower Anchor Foundation
CT10016-A Montville 3 CT
2024778.10016.03

Guy Anchor Location	
Azimuth/Leg	C
Radius (ft)	150
Tower Height (ft)	190

Tower Reactions	
Vertical	41 k
Horizontal	47 k

Capacity Summary		
Soil Capacity=	66.7%	OK
Reinforcing Capacity=	24.7%	OK
Controlling Capacity=	66.7%	OK

Anchor Block Geometry	
Width	3 ft
Height	3 ft
Length	10 ft
Depth	12 ft

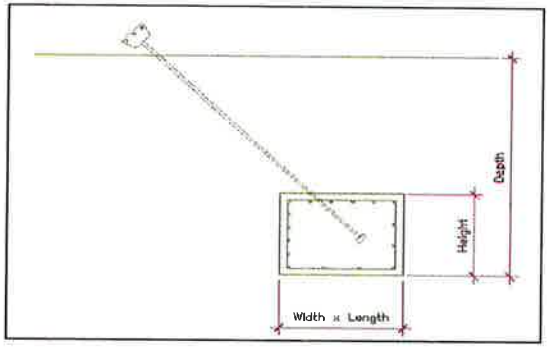
General Info	
Foundation Criteria	GPD
TIA Code	TIA-222-H
Soil	105%
Reinforcement/Steel	105%
Apply TIA-222-H Section 15.5?	No

Soil Properties

Layer	C_u, psf	ϕ, degrees	γ_{soil}, pcf	$\gamma_{concrete}$, pcf	Thickness, ft	$P_{p,top}$, psf	$P_{p,bot}$, psf	f_s,psf
1			110	150	2			
2		35	115	150	1.5	700	1250	
3		41	120	150	0.5	1250	2250	
4		41	120	150	2	2250	2750	
5		34	115	150	2	2000	2850	
6		38	120	150	4	2850	3300	

Ignored Depth	4 ft	Consider soil for uplift		User Input Angle (°)	
Water Table	4 ft	Granular		Angle for Uplift (°)	29

Soil Capacity Calculations		
W_s	108.09 k	
W_c	7.88 k	
Uplift Resistance	91.45 k	
Horizontal Resistance	70.45 k	
Uplift Capacity=	44.8%	OK
Horizontal Capacity=	66.7%	OK



Anchor Block Reinforcement		
Is Reinforcement Known?	yes	
fc'	3	ksi
Fy	60	ksi
ϕ (shear)	0.75	
Clear Cover	3	in
Top Bar Size	# 7	
Top Bar Quantity	4	
Front Bar Size	# 7	
Front Bar Quantity	3	
Back & Bottom Bar Size		
Back & Bottom Bar Quantity		
Tie Size	# 3	

Block Moment and Shear Calculations

Moment Check					
M_{ux}=	51.25 k-ft		M_{uy}=	58.75 k-ft	
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ϕV_{nx}=	95.20 k		ϕV_{ny}=	95.20 k	
Capacity	21.5%	OK	Capacity	24.7%	OK

Guy Anchor Shaft Calculations	
Shape of Anchor Shaft	Unknown

Colliers Engineering & Design,
Architecture, Landscape Architecture,
Surveying, CT P.C.
1055 Washington Boulevard
Stamford, CT 06901
203.324.0800
peter.albano@collierseng.com

Antenna Mount Analysis Report and PMI Requirements

Mount ReAnalysis-VZW

SMART Tool Project #: 10214212
Colliers Engineering & Design Project #: 21777086 (Rev 2)

November 27, 2023

Site Information	*Site ID:*	*5000243394-VZW / UNCASVILLE CT*
	Site Name:	*UNCASVILLE CT*
	Carrier Name:	*Verizon Wireless*
	Address:	*71 Moxley Hill Rd* *Uncasville, Connecticut 06382* *New London County*
	Latitude:	*41.43517°*
	Longitude:	*-72.12331°*
Structure Information	*Tower Type:*	*180-Ft Guyed*
	Mount Type:	*13.33-Ft Sector Frame*

FUZE ID # 16272079

Analysis Results

Sector Frame: **89.7% Pass**

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

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

Report Prepared By: Vincent DiGirolamo

STATE OF CONNECTICUT
DEJIAN XU
No. 33733
LICENSED PROFESSIONAL ENGINEER

11/27/2023

Executive Summary:

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

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

Sources of Information:

Document Type	Remarks
Radio Frequency Data Sheet (RFDS)	*Verizon RFDS Site ID: 675074* *Dated August 11, 2023*
Mount Mapping Report	*Hudson Design Group, LLC Site ID: 468485* *Dated February 9, 2021*

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H 2022 Connecticut State Building Code Effective October 1, 2022	
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT}:	125 mph
	Ice Wind Speed (3-sec. Gust):	50 mph
	Design Ice Thickness:	1.00 in
	Risk Category:	II
	Exposure Category:	B
	Topographic Category:	1
	Topographic Feature Considered:	N/A
	Topographic Method:	N/A
	Ground Elevation Factor, K_e:	0.993
Seismic Parameters:	S_S:	0.198 g
	S_1:	0.054 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
139.50	140.00	6	JMA Wireless	MX06FRO660-03	Added
		3	Samsung	MT6413-77A	
		1	Raycap	RVZDC-6627-PF-48	
		3	Samsung	RF4439d-25A	
		3	Samsung	RF4461d-13A	

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

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

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

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to Colliers Engineering & Design and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Colliers Engineering & Design to verify deviation will not adversely impact the analysis.

2. Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

   Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping and reported in the Mount Mapping Report are assumed to be corrected and documented as part of the PMI process and are not considered in the mount analysis.

   The mount analysis and the mount mapping are not a condition assessment of the mount. Proper maintenance and condition assessments are still required post analysis.

3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped in accordance with the NSTD-446 Standard, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

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

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

6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Colliers Engineering & Design is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.

7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
   - 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

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

Analysis Results:

Component	Utilization %	Pass/Fail
Mount Pipe	*25.7*	*Pass*
Standoff Horizontal	*16.5*	*Pass*
Standoff Vertical	*58.8*	*Pass*
Standoff Diagonal	*38.4*	*Pass*
Face Horizontal	*13.3*	*Pass*
Tie Back	*3.7*	*Pass*
Back Standoff Bar	*54.5*	*Pass*
Standoff Bar	*89.7*	*Pass*
Mount Connection	*31.9*	*Pass*

Structure Rating – *(Controlling Utilization of all Components)*	**89.7%**

BASELINE mount weight per SBA agreement: 454.00 lbs

Increase in mount weight due to Verizon loading change per SBA agreement: No Change

The weights listed above include 1 sector.

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	24.0	16.3	31.9	24.2
0.5	34.8	24.2	45.8	35.2
1	44.9	31.5	59.0	45.6

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

Requirements:

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

Contractor shall inspect climbing facilities and safety climb and ensure they are in good condition. Contractor shall install safety climb wire rope guides in locations where wire rope is contacting the mount or mount-to-tower connection steel. Wire brush clean any observed corrosion and protect with two (2) coats of cold galvanization (Zinga or Zinc Kote). Contractor shall provide photos of wire rope guide installation as part of PMI documents. Contact EOR if additional guidance is required.

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

Attachments:

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

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Passing Mount Analysis

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

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

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

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MDG #: 5000243394 SMART Project #: 10214212 Fuze Project ID: 16272079

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

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

Base Requirements:

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

Photo Requirements:

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

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

Antenna & equipment placement and Geometry Confirmation:

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

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

OR

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

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

Issue:

Contractor shall inspect climbing facilities and safety climb and ensure they are in good condition. Contractor shall install safety climb wire rope guides in locations where wire rope is contacting the mount or mount-to-tower connection steel. Wire brush clean any observed corrosion and protect with two (2) coats of cold galvanization (Zinga or Zinc Kote). Contractor shall provide photos of wire rope guide installation as part of PMI documents. Contact EOR if additional guidance is required.

Response:

Special Instruction Confirmation:

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

☐ All hardware listed in the Special Instructions above (if applicable) has been properly installed, and the existing hardware was inspected.

☐ The material utilized was as specified in the SMART Tool engineering vendor Special Instructions above (if applicable) and included in the material certification folder is a packing list or invoice for these materials.

OR

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

Comments:

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

☐ Yes ☐ No

Contractor certifies no new damage created during the current installation:

☐ Yes ☐ No

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

☐ Safety Climb in Good Condition ☐ Safety Climb Damaged

Certifying Individual:

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

Structure: 500024 94-VZW - UNCASVILLE CT

Sector: A

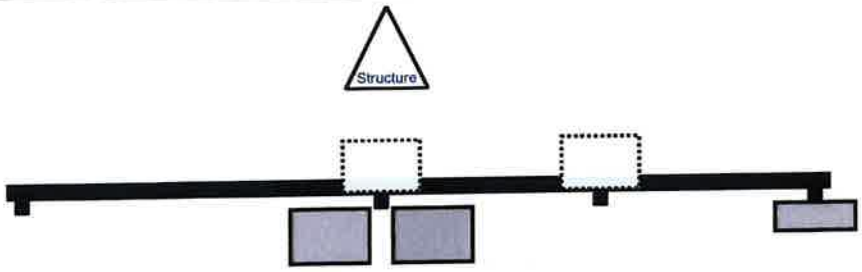
Structure Type: Guyed

Mount Elev: 139.50

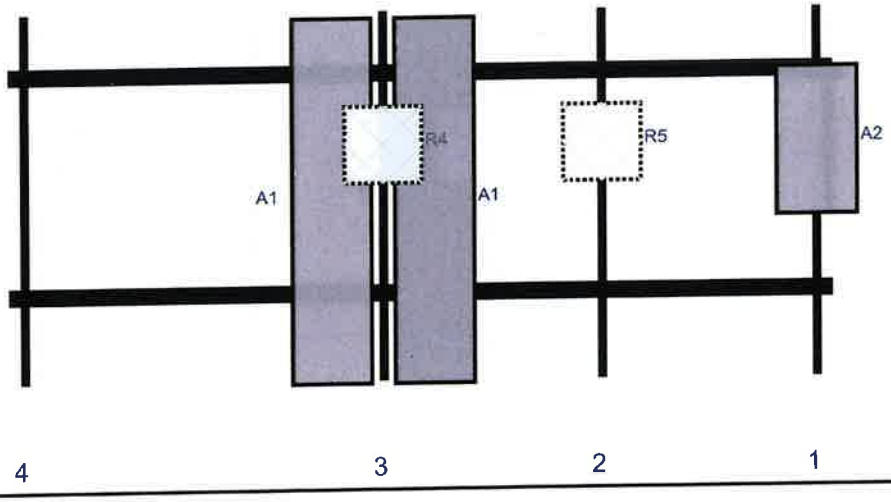
10214212

11/27/2023

Plan View



Front View - Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A2	MT6413-77A	28.9	15.8	157	1	a	Front	26.04	0	Added	
R5	RF4461d-13A	15	15	115	2	a	Behind	26.04	0	Added	
A1	MX06FRO660-03	71.3	15.4	72.5	3	a	Front	36.96	10	Added	
A1	MX06FRO660-03	71.3	15.4	72.5	3	b	Front	36.96	-10	Added	
R4	RF4439d-25A	15	15	72.5	3	a	Behind	26.04	0	Added	
M50	RVZDC-6627-PF-48	28.9	15.7		Member					Added	

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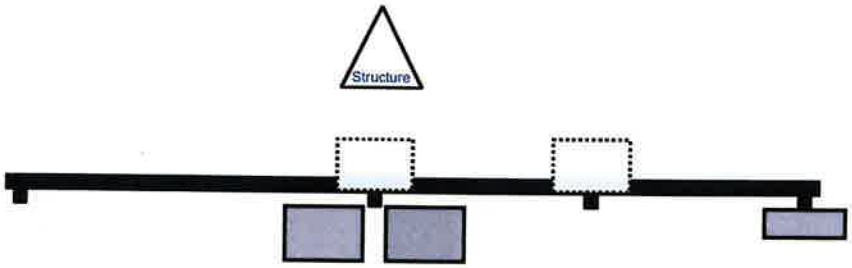
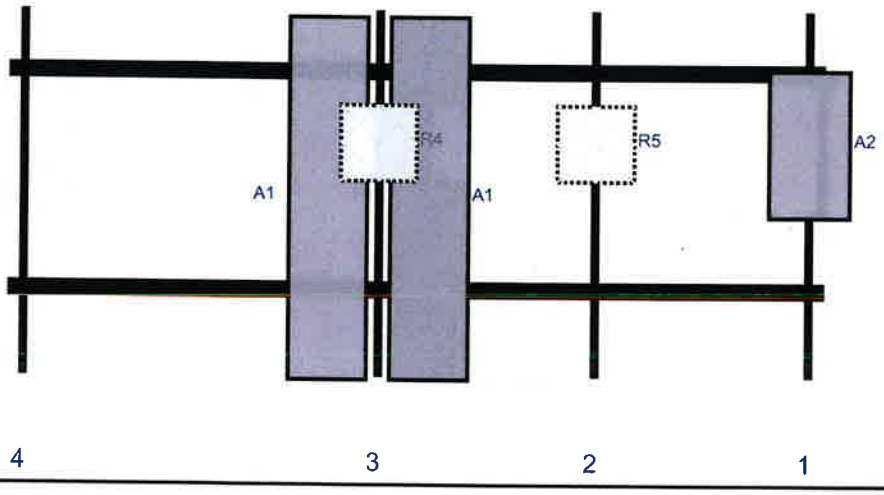
Plan View



Front View - Looking at Structure



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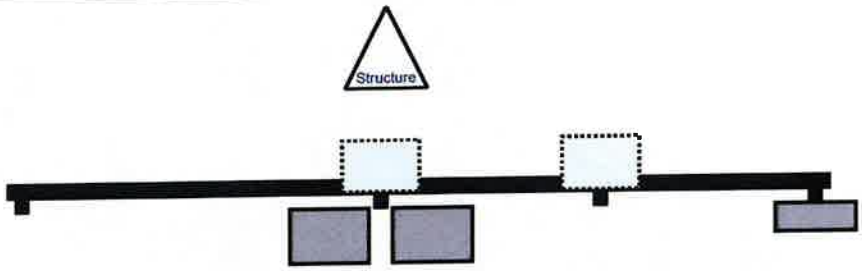
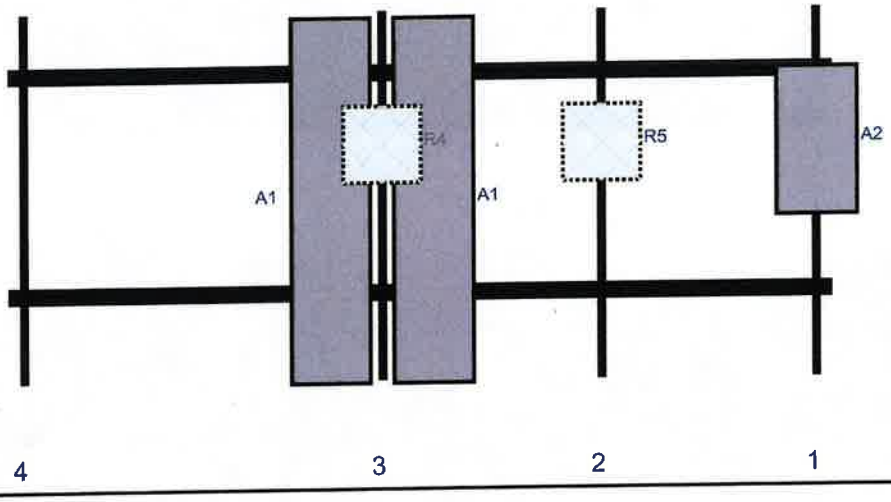
Plan View



Front View - Looking at Structure



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R4	RF4439d-25A	15	15	72.5	3	a	Behind	26.04	0	Added	

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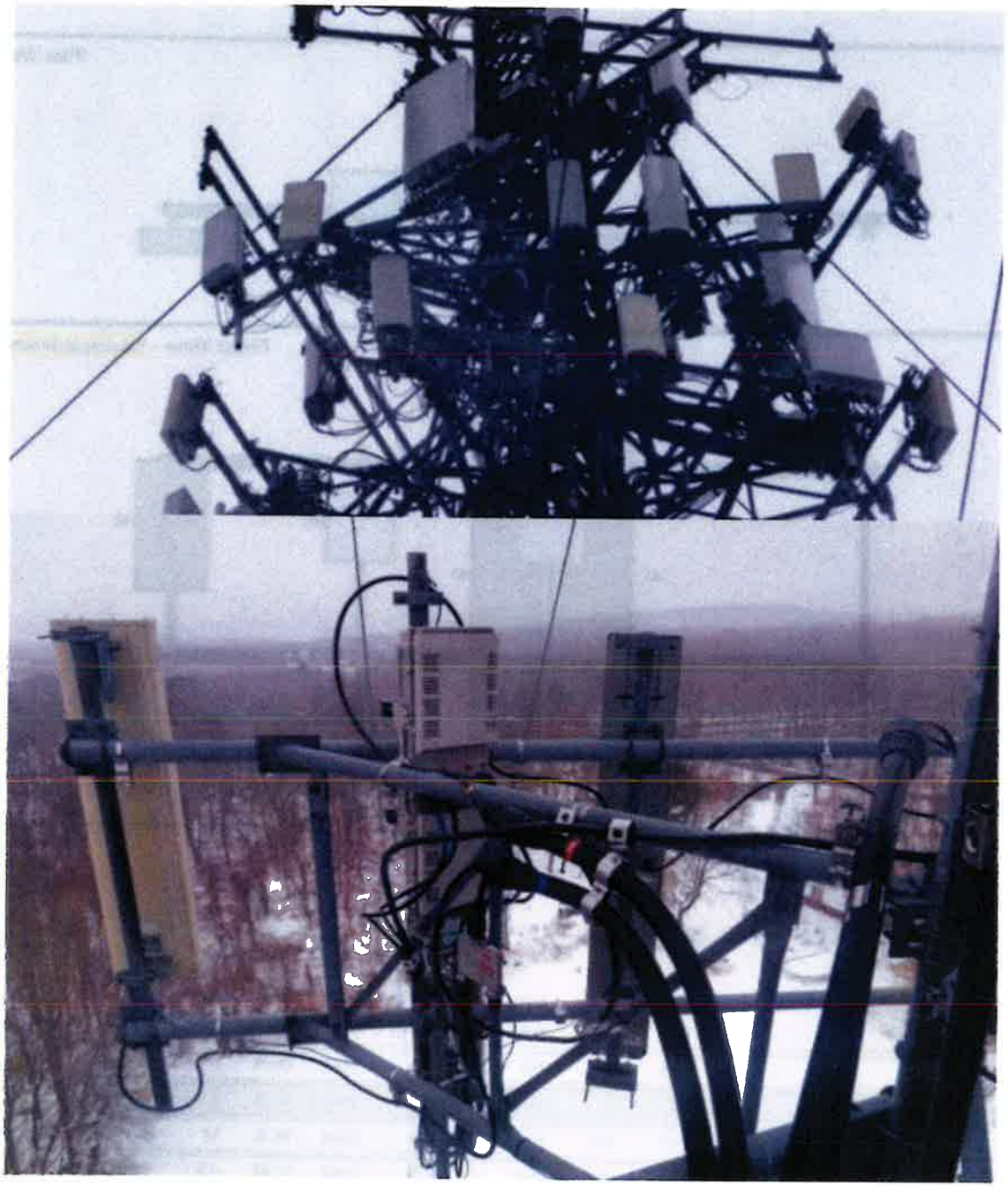


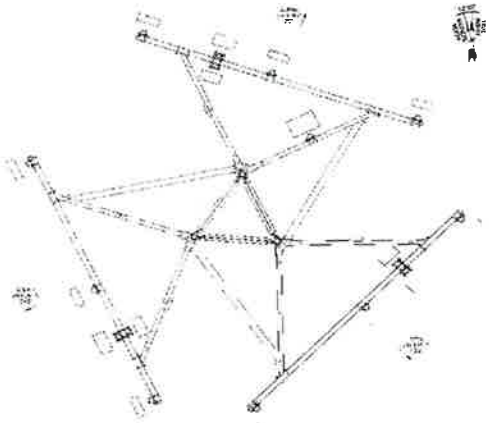
V3.0 Updated on 8-31-2020

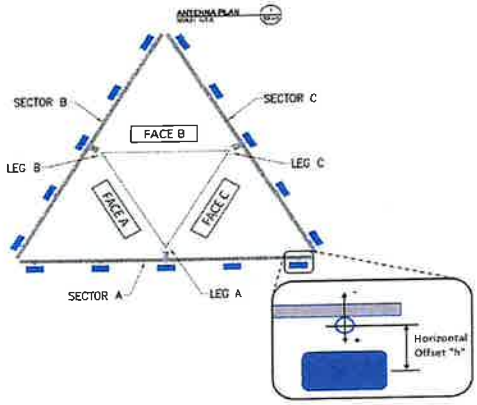
Antenna Mount Mapping Form (PATENT PENDING)

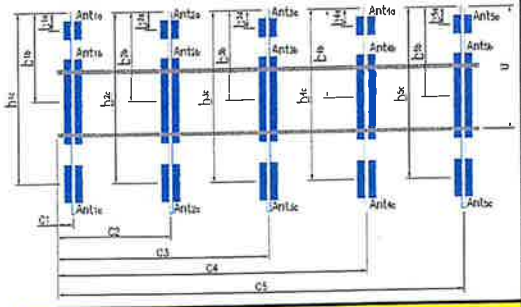
FCC #: 1213901

Tower Owner:	SBA TOWERS	Mapping Date:	02.09.2021
Site Name:	UNCASVILLE CT	Tower Type:	Guyed Tower
Site Number or ID:	468485	Tower Height (Ft.):	180
Mapping Contractor:	HUDSON DESIGN GROUP, LLC.	Mount Elevation (Ft.):	141.5

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







Antenna Layout (Looking Out From Tower)

Mount Pipe Configuration and Geometries [Unit = Inches]

Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "b"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "b"	Horizontal Offset "C1, C2, C3, etc."
A1	2" STD. x 72" LONG	55.00	3.00	C1	2" STD. x 72" LONG	55.00	3.00
A2	2" STD. x 96" LONG	66.00	45.00	C2	2" STD. x 96" LONG	66.00	45.00
A3	2" STD. x 72" LONG	55.00	75.00	C3	2" STD. x 72" LONG	55.00	75.00
A4	2" STD. x 72" LONG	55.00	157.00	C4	2" STD. x 72" LONG	55.00	157.00
A5				C5			
A6				C6			
B1	2" STD. x 72" LONG	55.00	3.00	D1			
B2	2" STD. x 96" LONG	66.00	45.00	D2			
B3	2" STD. x 72" LONG	55.00	75.00	D3			
B4	2" STD. x 72" LONG	55.00	157.00	D4			
B5				D5			
B6				D6			

Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :	20.00
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :	5.3
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :	6

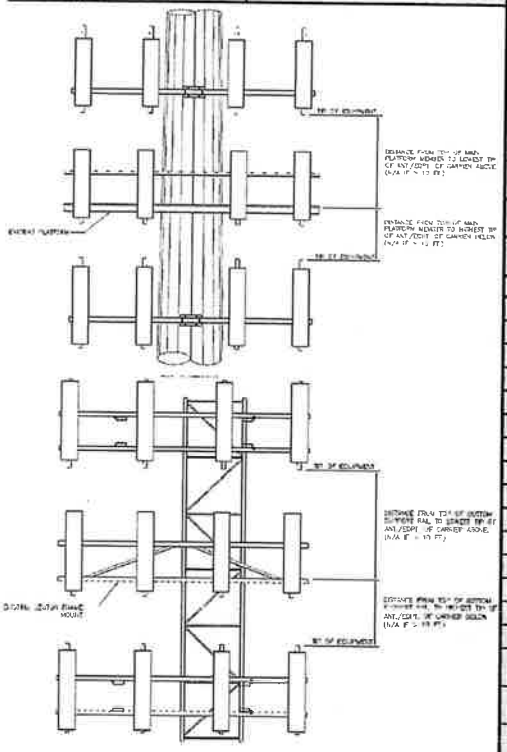
Please enter additional infomation or comments below.

Tower Face Width at Mount Elev. (ft.):	44	Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):	2.5

	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}	AT41-645TO	12.00	4.00	53.00		140.583	46.00	8.00	20.00	4
Ant_{1c}										
Ant_{2a}	B4 RRH 2x60-4R	11.00	5.50	36.00		143.333	24.00	-7.00		4
Ant_{2b}	HBXX-6517DS-A2M	12.00	6.50	75.00		141.167	50.00	9.00	20.00	4
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	BXA-70063-6CF	11.00	4.00	71.00		141.417	36.00	10.00	20.00	4
Ant_{3c}										
Ant_{4a}	TMA	6.00	1.50	7.00		140.417	48.00	-3.00		7
Ant_{4b}	AT41-645TO	12.00	4.00	53.00		140.583	46.00	8.00	20.00	7
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff	OVP BOX	15.00	10.00	28.00			17.00			14
Ant on Standoff	TMA	6.00	1.50	7.00				-3.00		4
Ant on Tower										
Ant on Tower										

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector	
Sector A:	20.00	Deg	Leg A:	5.00	Deg
Sector B:	135.00	Deg	Leg B:	125.00	Deg
Sector C:	245.00	Deg	Leg C:	245.00	Deg
Sector D:		Deg	Leg D:		Deg

Climbing Facility Information		
Location:	5.00 Deg	Sector A
Climbing Facility	Corrosion Type:	N/A
	Access:	Climbing path was unobstructed.
	Condition:	Good condition.



Sector B										
Ant_{1a}										
Ant_{1b}	AT41-645TO	12.00	4.00	53.00		140.583	46.00	8.00	135.00	16
Ant_{1c}										
Ant_{2a}	B4 RRH 2x60-4R	11.00	5.50	36.00		143.333	24.00	-7.00		16
Ant_{2b}	HBXX-6517DS-A2M	12.00	6.50	75.00		141.167	50.00	9.00	135.00	16
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	BXA-70063-6CF	11.00	4.00	71.00		141.417	36.00	10.00	135.00	16
Ant_{3c}										
Ant_{4a}	TMA	6.00	1.50	7.00		140.417	48.00	-3.00		17
Ant_{4b}	AT41-645TO	12.00	4.00	53.00		140.583	46.00	8.00	135.00	17
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff	TMA	6.00	2.50	7.00						16
Ant on Standoff										
Ant on Tower										
Ant on Tower										
Sector C										
Ant_{1a}										
Ant_{1b}	AT41-645TO	12.00	4.00	53.00		140.583	46.00	8.00	245.00	19
Ant_{1c}										
Ant_{2a}	B4 RRH 2x60-4R	11.00	5.50	36.00		143.333	24.00	-7.00		19
Ant_{2b}	HBXX-6517DS-A2M	12.00	6.50	75.00		141.167	50.00	9.00	245.00	19
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	BXA-70063-6CF	11.00	4.00	71.00		141.417	36.00	10.00	245.00	19
Ant_{3c}										
Ant_{4a}	TMA	6.00	1.50	7.00		140.417	48.00	-3.00		20
Ant_{4b}	AT41-645TO	12.00	4.00	53.00		140.583	46.00	8.00	245.00	20
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff	TMA	6.00	1.50	7.00						19
Ant on Standoff										
Ant on Tower										
Ant on Tower										
Sector D										
Ant_{1a}										
Ant_{1b}										
Ant_{1c}										
Ant_{2a}										
Ant_{2b}										
Ant_{2c}										
Ant_{3a}										
Ant_{3b}										
Ant_{3c}										
Ant_{4a}										
Ant_{4b}										
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										

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

1		
2	(12) 1-5/8" COAX CABLES & (1) 1-1/4" HYBID CABLE	124
3		
4		
5		
6		
7		
8		

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

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

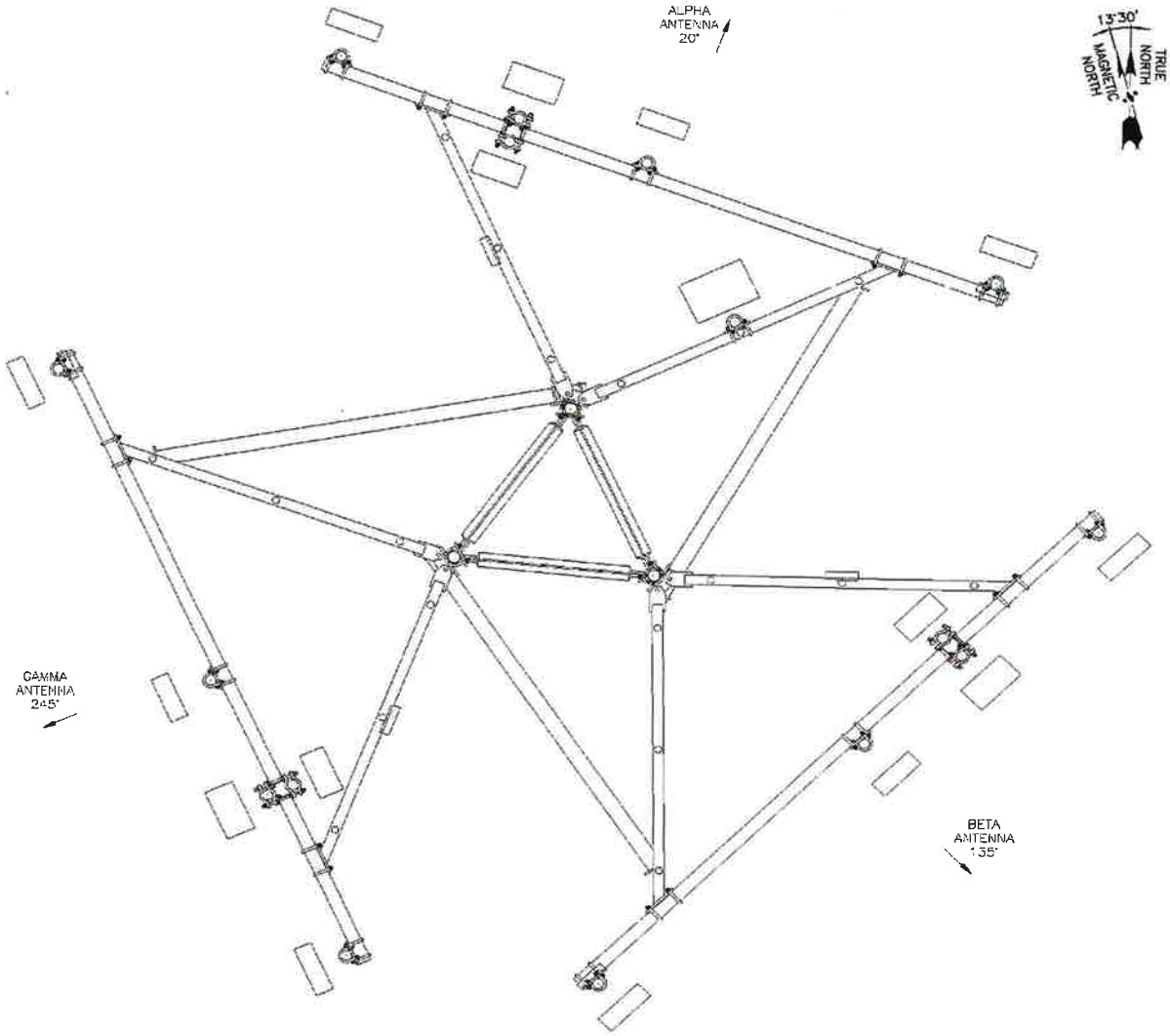
V3.0 Updated on 8-31-2020

Antenna Mount Mapping Form (PATENT PENDING)

				FCC #
				1213901
Tower Owner:	SBA TOWERS	Mapping Date:	02.09.2021	
Site Name:	UNCASVILLE CT	Tower Type:	Guyed Tower	
Site Number or ID:	468485	Tower Height (FL):	180	
Mapping Contractor:	HUDSON DESIGN GROUP, LLC.	Mount Elevation (FL):	141.5	

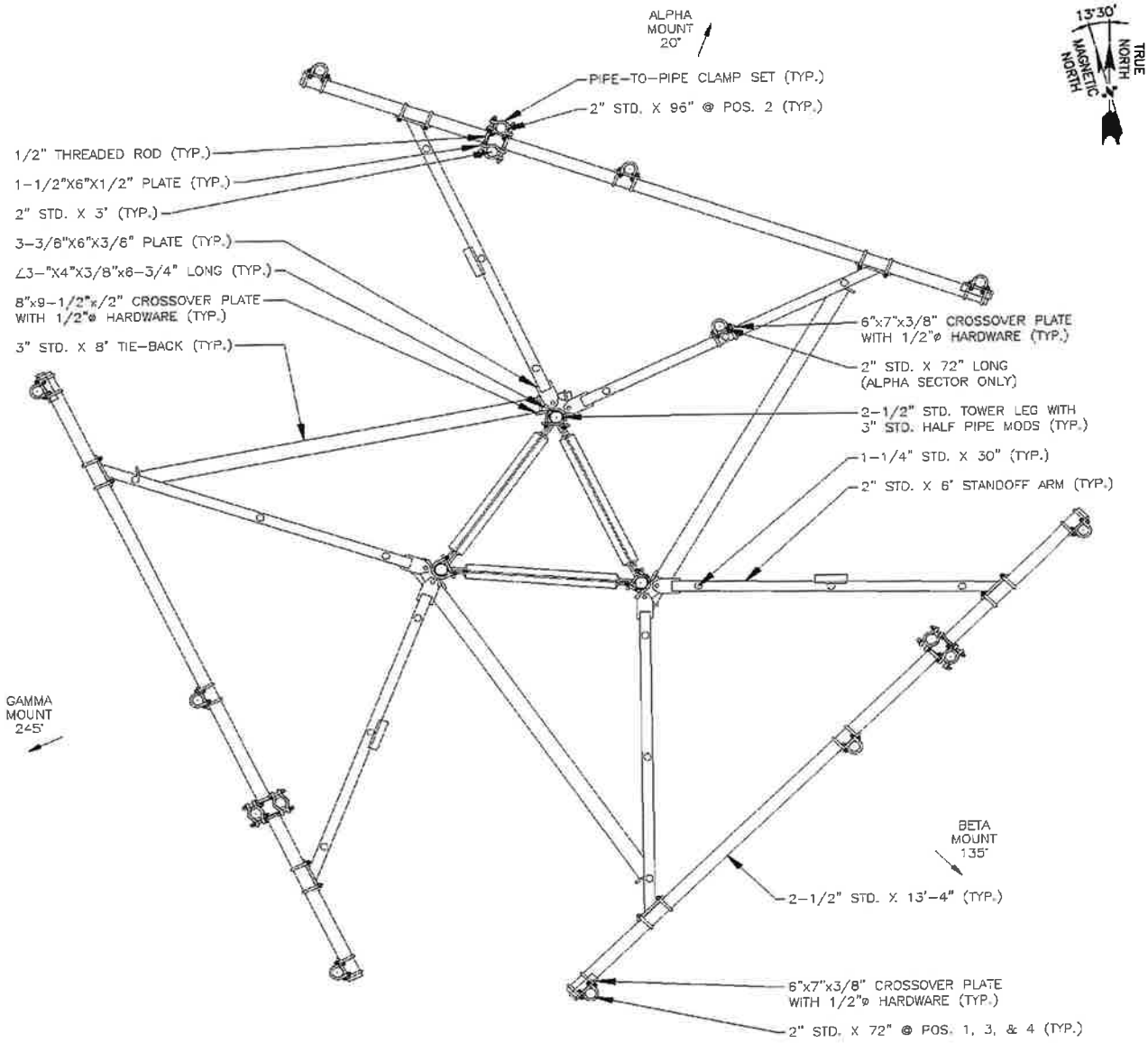
This antenna mapping form is the property of TES and under PATENT PENDING. The formation contained herein is considered confidential in nature and is to be used only for the specific customer it was intended for. Reproduction, transmission, publication, modification or disclosure by any method is prohibited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

Please Insert Sketches of the Antenna Mount



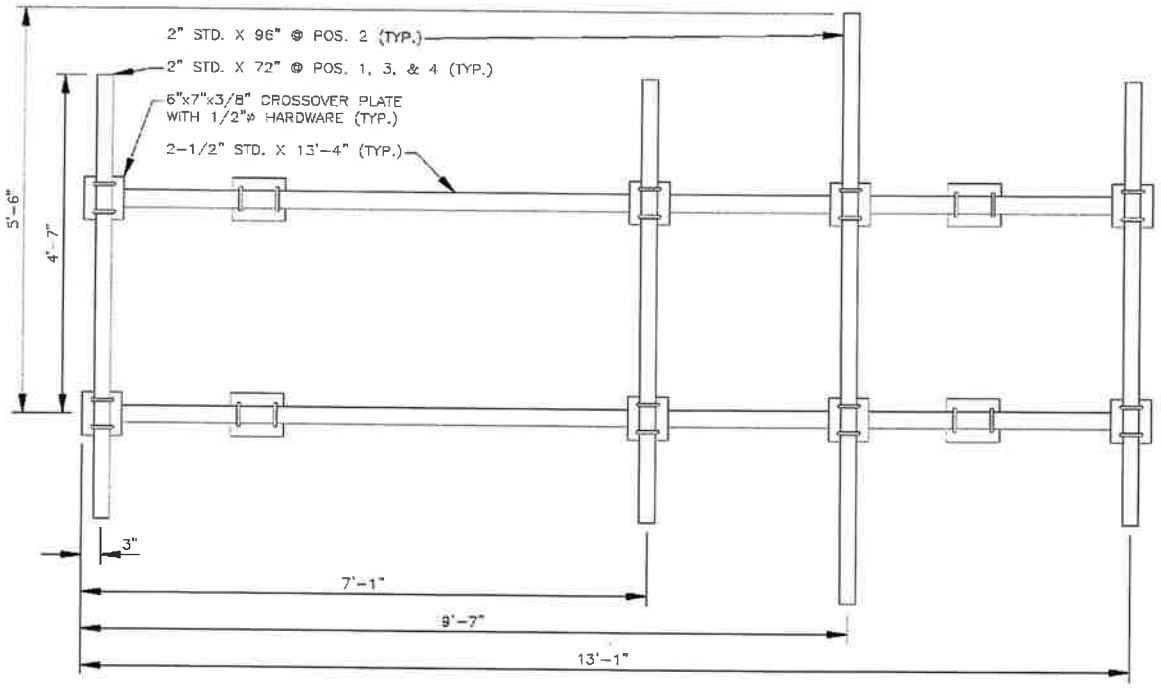
ANTENNA PLAN (1 / SK-1)
SCALE: N.T.S

Please Insert Sketches of the Antenna Mount, cont'd

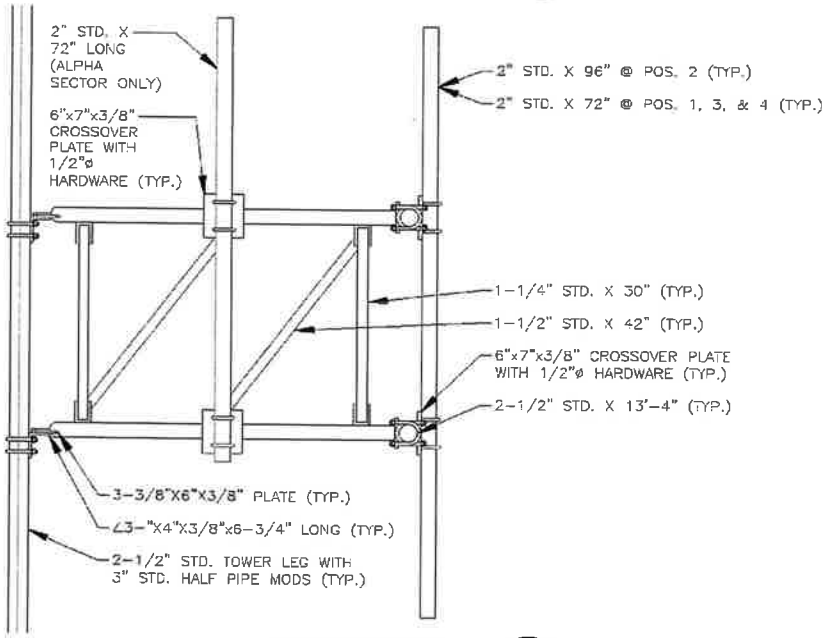


MOUNT PLAN (1 / SK-2)
SCALE: N.T.S

Please Insert Sketches of the Antenna Mount, cont'd

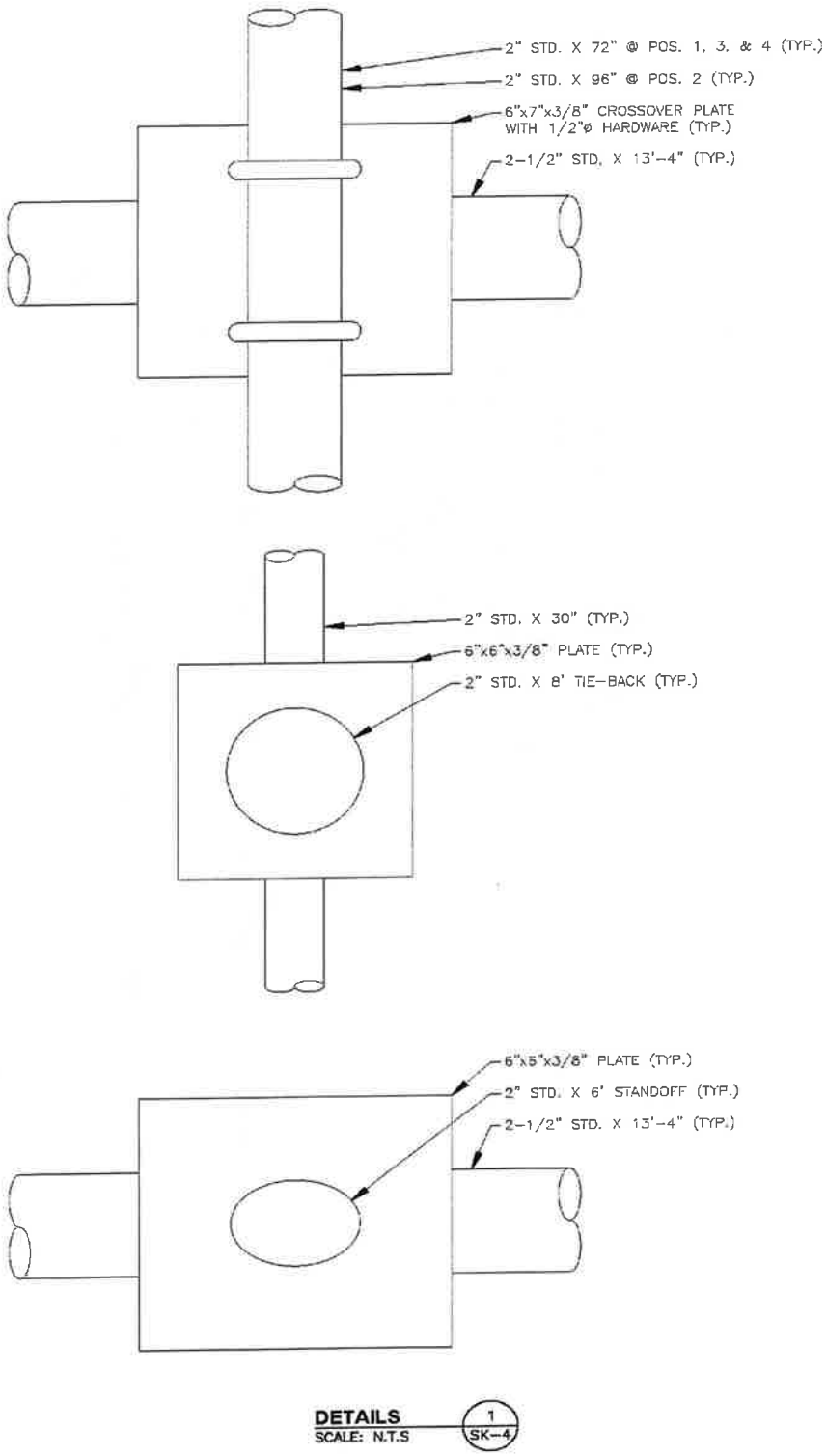


FRONT ELEVATION (1 / SK-3)
SCALE: N.T.S

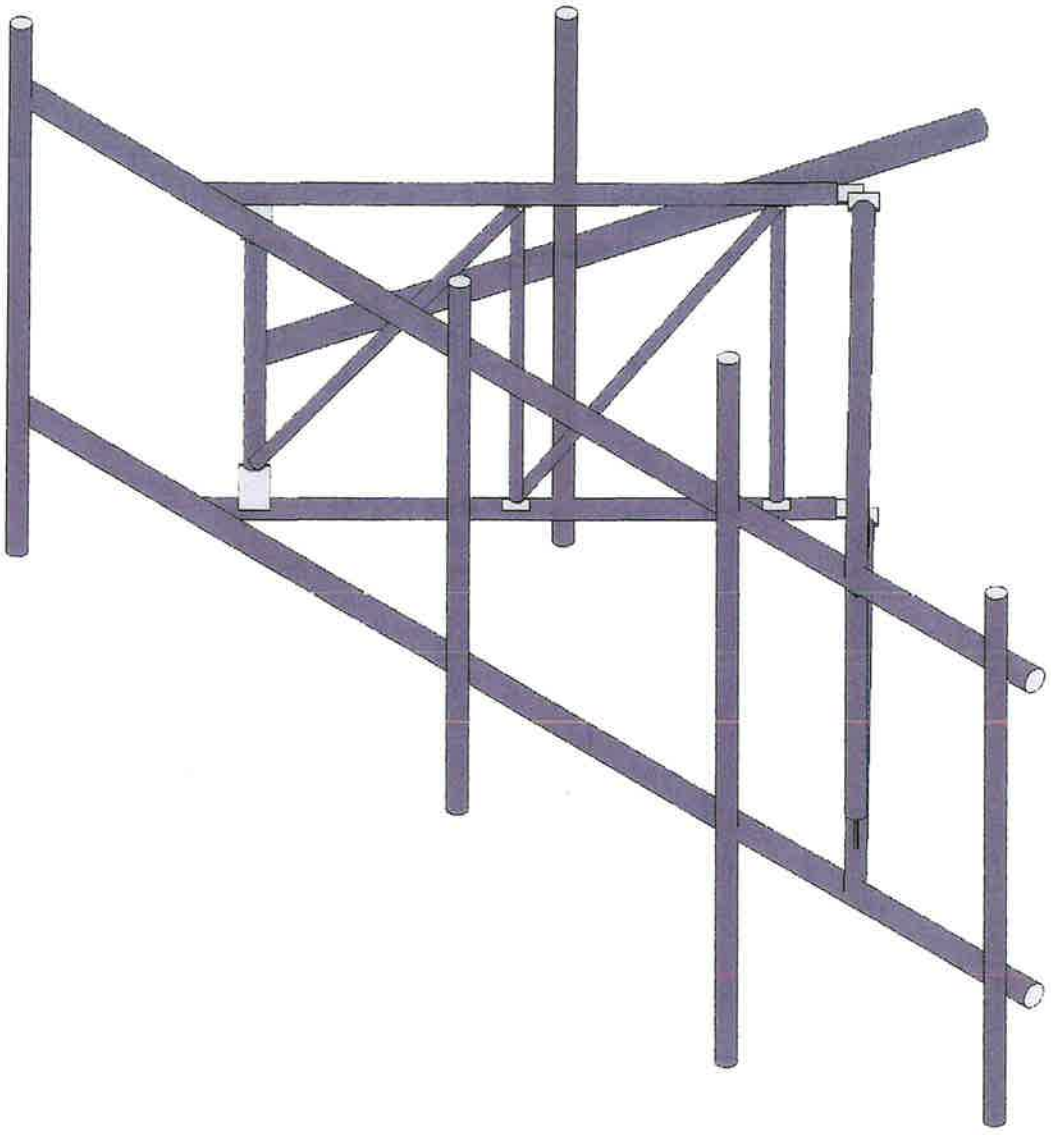


SIDE ELEVATION (2 / SK-3)
SCALE: N.T.S

Please Insert Sketches of the Antenna Mount, cont'd

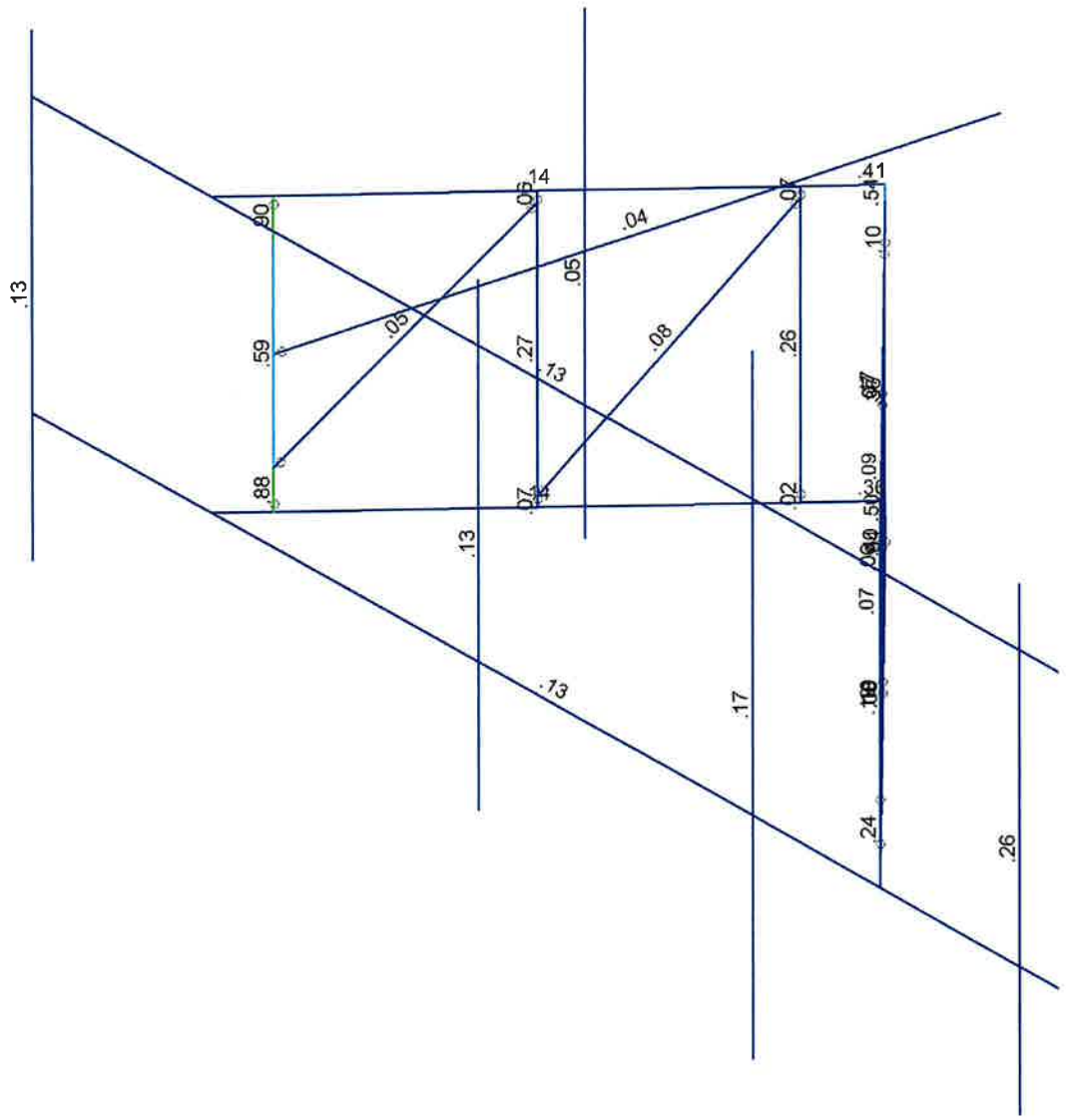


DETAILS (1 / SK-4)
SCALE: N.T.S



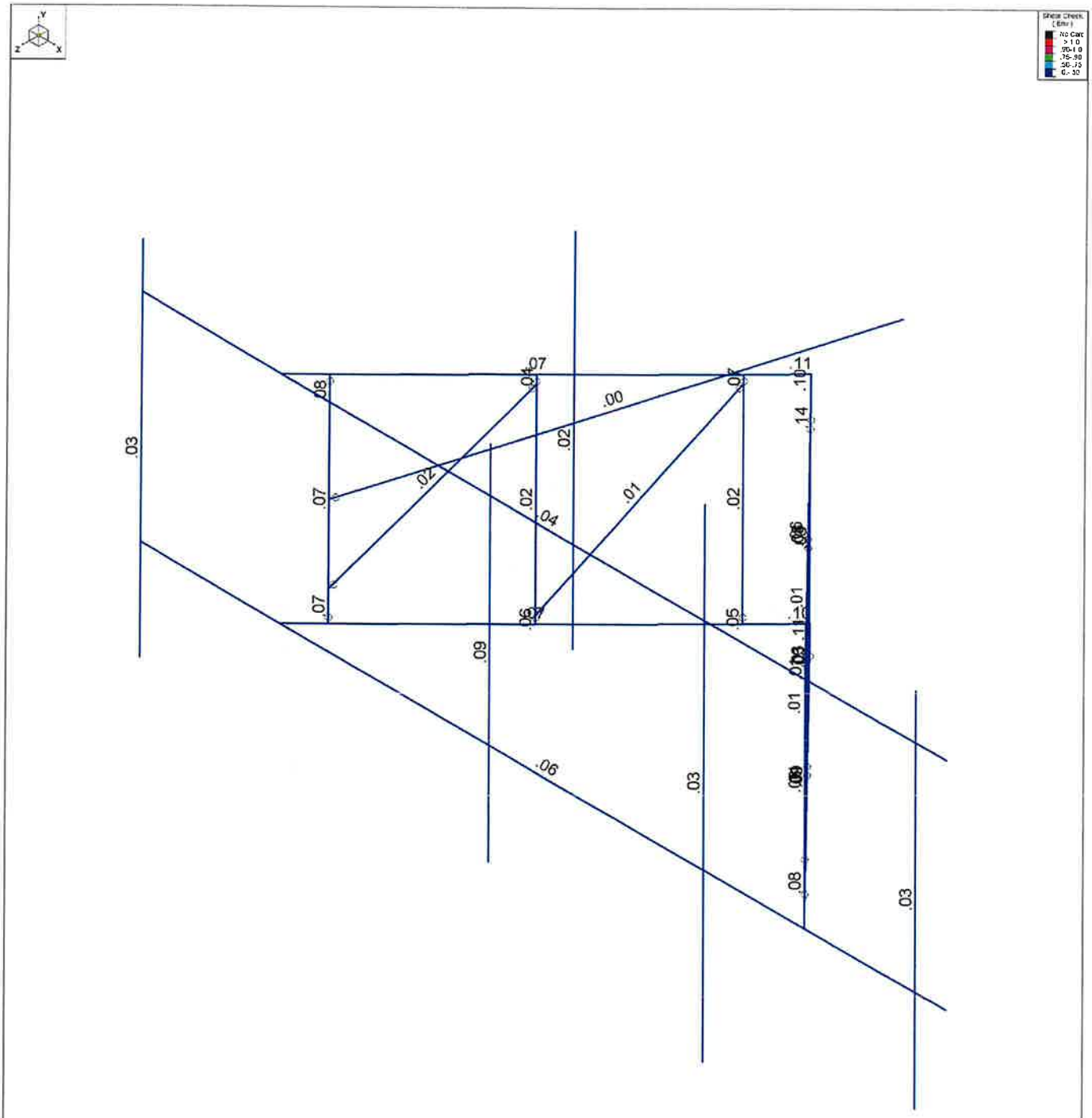
Envelope Only Solution

		SK - 1
		Nov 27, 2023 at 12:34 PM
	Rendered Model	5000243394-VZW_MT_LOT_A_H.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

	Bending Check	SK - 2
		Nov 27, 2023 at 12:34 PM
		5000243394-VZW_MT_LOT_A_H.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

		SK - 3
		Nov 27, 2023 at 12:35 PM
	Shear Check	5000243394-VZW_MT_LOT_A_H.r3d

Basic Load Cases

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

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
62	Structure Wi (270 De..	None						76		
63	Structure Wi (300 De..	None						76		
64	Structure Wi (330 De..	None						76		
65	Structure Wm (0 Deg)	None						76		
66	Structure Wm (30 De..	None						76		
67	Structure Wm (60 De..	None						76		
68	Structure Wm (90 De..	None						76		
69	Structure Wm (120 D..	None						76		
70	Structure Wm (150 D..	None						76		
71	Structure Wm (180 D..	None						76		
72	Structure Wm (210 D..	None						76		
73	Structure Wm (240 D..	None						76		
74	Structure Wm (270 D..	None						76		
75	Structure Wm (300 D..	None						76		
76	Structure Wm (330 D..	None						76		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					27			
82	Antenna Eh (0 Deg)	None					18			
83	Antenna Eh (90 Deg)	None					18			
84	Structure Ev	ELY		-.042						
85	Structure Eh (0 Deg)	ELZ			-.106					
86	Structure Eh (90 Deg)	ELX	.106							

Load Combinations

	Description	S...	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 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1										
15	1.2D + 1.0Di + 1.0Wi (60 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1										
16	1.2D + 1.0Di + 1.0Wi (90 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1										
17	1.2D + 1.0Di + 1.0Wi (120 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1										
18	1.2D + 1.0Di + 1.0Wi (150 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1										
19	1.2D + 1.0Di + 1.0Wi (180 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1										
20	1.2D + 1.0Di + 1.0Wi (210 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1										
21	1.2D + 1.0Di + 1.0Wi (240 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1										
22	1.2D + 1.0Di + 1.0Wi (270 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1										
23	1.2D + 1.0Di + 1.0Wi (300 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1										
24	1.2D + 1.0Di + 1.0Wi (330 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1										
25	1.2D + 1.5Lm1 + 1.0Wm (0 Deg)	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1												
26	1.2D + 1.5Lm1 + 1.0Wm (30 Deg)	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1												
27	1.2D + 1.5Lm1 + 1.0Wm (60 Deg)	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1												
28	1.2D + 1.5Lm1 + 1.0Wm (90 Deg)	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1												
29	1.2D + 1.5Lm1 + 1.0Wm (120 Deg)	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1												

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
30	1.2D + 1.5Lm1 + 1.0Wm (150 Deg)	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1										
31	1.2D + 1.5Lm1 + 1.0Wm (180 Deg)	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1										
32	1.2D + 1.5Lm1 + 1.0Wm (210 Deg)	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1										
33	1.2D + 1.5Lm1 + 1.0Wm (240 Deg)	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1										
34	1.2D + 1.5Lm1 + 1.0Wm (270 Deg)	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1										
35	1.2D + 1.5Lm1 + 1.0Wm (300 Deg)	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1										
36	1.2D + 1.5Lm1 + 1.0Wm (330 Deg)	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1										
37	1.2D + 1.5Lm2 + 1.0Wm (0 Deg)	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1										
38	1.2D + 1.5Lm2 + 1.0Wm (30 Deg)	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1										
39	1.2D + 1.5Lm2 + 1.0Wm (60 Deg)	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1										
40	1.2D + 1.5Lm2 + 1.0Wm (90 Deg)	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1										
41	1.2D + 1.5Lm2 + 1.0Wm (120 Deg)	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1										
42	1.2D + 1.5Lm2 + 1.0Wm (150 Deg)	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1										
43	1.2D + 1.5Lm2 + 1.0Wm (180 Deg)	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1										
44	1.2D + 1.5Lm2 + 1.0Wm (210 Deg)	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1										
45	1.2D + 1.5Lm2 + 1.0Wm (240 Deg)	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1										
46	1.2D + 1.5Lm2 + 1.0Wm (270 Deg)	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1										
47	1.2D + 1.5Lm2 + 1.0Wm (300 Deg)	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1										
48	1.2D + 1.5Lm2 + 1.0Wm (330 Deg)	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 Deg)	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 Deg)	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 Deg)	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 Deg)	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 Deg)	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 Deg)	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 Deg)	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 Deg)	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 Deg)	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 Deg)	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 Deg)	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 Deg)	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 Deg)	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 Deg)	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	1	E...		E...	1				
68	0.9D - 1.0Ev + 1.0Eh (120 Deg)	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 Deg)	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 Deg)	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-1	83		E...	-1	E...					
71	0.9D - 1.0Ev + 1.0Eh (210 Deg)	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 Deg)	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 Deg)	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	-1	E...		E...	-1				
74	0.9D - 1.0Ev + 1.0Eh (300 Deg)	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 Deg)	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	-0.166667	0.166667	0.166667	0	
2	N4	-0.166667	0.166667	0	0	
3	N5	-0.166667	-3.416667	0.166667	0	
4	N10	-4.5	0.166667	4.583333	0	
5	N11	4.166667	0.166667	4.583333	0	
6	N11A	-6.833333	0.166667	4.583333	0	
7	N12	6.5	0.166667	4.583333	0	
8	N14	-4.5	-3.416667	4.583333	0	
9	N15	4.166667	-3.416667	4.583333	0	
10	N16	-6.833333	-3.416667	4.583333	0	
11	N17	6.5	-3.416667	4.583333	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
12	N17A	-0.341752	0.166667	0.345119	0	
13	N18	0.008419	0.166667	0.345119	0	
14	N19	-0.341752	-3.416667	0.345119	0	
15	N20	0.008419	-3.416667	0.345119	0	
16	N21	0.38777	0.166667	0.731765	0	
17	N22	0.38777	-3.416667	0.731765	0	
18	N23	2.08026	0.166667	2.456803	0	
19	N24	2.08026	-3.416667	2.456803	0	
20	N25	3.77275	0.166667	4.181841	0	
21	N26	3.77275	-3.416667	4.181841	0	
22	N27	0.38777	-3.291667	0.731765	0	
23	N28	2.08026	-3.291667	2.456803	0	
24	N29	0.38777	0.041667	0.731765	0	
25	N30	2.08026	0.041667	2.456803	0	
26	N31	3.77275	-2.916667	4.181841	0	
27	N32	3.77275	-0.333333	4.181841	0	
28	N33	-0.721103	0.166667	0.731765	0	
29	N34	-0.721103	-3.416667	0.731765	0	
30	N35	-2.413593	0.166667	2.456803	0	
31	N36	-2.413593	-3.416667	2.456803	0	
32	N37	-4.106083	0.166667	4.181841	0	
33	N38	-4.106083	-3.416667	4.181841	0	
34	N39	-0.721103	-3.291667	0.731765	0	
35	N40	-2.413593	-3.291667	2.456803	0	
36	N41	-0.721103	0.041667	0.731765	0	
37	N42	-2.413593	0.041667	2.456803	0	
38	N43	-4.106083	-2.916667	4.181841	0	
39	N44	-4.106083	-0.333333	4.181841	0	
40	N45	-6.583333	0.166667	4.583333	0	
41	N46	-6.583333	-3.416667	4.583333	0	
42	N47	-6.583333	0.166667	4.833333	0	
43	N48	-6.583333	-3.416667	4.833333	0	
44	N49	-6.583333	1.166667	4.833333	0	
45	N50	-6.583333	-4.833333	4.833333	0	
46	N51	-0.791667	0.166667	4.583333	0	
47	N52	-0.791667	-3.416667	4.583333	0	
48	N53	-0.791667	0.166667	4.833333	0	
49	N54	-0.791667	-3.416667	4.833333	0	
50	N55	-0.791667	1.166667	4.833333	0	
51	N56	-0.791667	-4.833333	4.833333	0	
52	N57	6.25	0.166667	4.583333	0	
53	N58	6.25	-3.416667	4.583333	0	
54	N59	6.25	0.166667	4.833333	0	
55	N60	6.25	-3.416667	4.833333	0	
56	N61	6.25	1.166667	4.833333	0	
57	N62	6.25	-4.833333	4.833333	0	
58	N65	-0.166667	-3.416667	0	0	
59	N80	6.25	-1	4.833333	0	
60	N66A	-4.106083	-1.625	4.181841	0	
61	N62A	2.75	0.166667	4.583333	0	
62	N63A	2.75	-3.416667	4.583333	0	
63	N64	2.75	0.166667	4.833333	0	
64	N65A	2.75	-3.416667	4.833333	0	
65	N66	2.75	2.083333	4.833333	0	
66	N67	2.75	-5.916667	4.833333	0	
67	N68	2.75	-1	4.833333	0	
68	N69	-2.092604	0.166667	2.129641	0	
69	N70	-2.245812	0.166667	2.001083	0	
70	N71	-2.092604	-3.416667	2.129641	0	
71	N72	-2.245812	-3.416667	2.001083	0	
72	N73	-2.245812	-3.916667	2.001083	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
73	N74	-2.245812	2.083333	2.001083	0	
74	N75	-2	-1.625	-3.175426	0	
75	N76A	6.25	1	4.833333	0	
76	N77	6.25	-3	4.833333	0	
77	N78	-6.583333	-1.625	4.833333	0	
78	N79	1.941667	-3.416667	4.583333	0	
79	N80A	1.3	-3.416667	4.583333	0	
80	N81	-0.033333	-3.416667	4.583333	0	
81	N83	6.25	0	4.833333	0	
82	N84	6.25	-2	4.833333	0	
83	N84A	2.75	.75	4.833333	0	
84	N85	2.75	-2.75	4.833333	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Antenna Pipe	PIPE_2.0	Column	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
2	Standoff Horizontal	PIPE_2.0	Beam	Pipe	A500 Gr. C 50	Typical	1.02	.627	.627	1.25
3	Standoff Vertical	PIPE_2.0	Beam	Pipe	A500 Gr. C 50	Typical	1.02	.627	.627	1.25
4	Standoff Diagonal	HSS1.500x.06	Beam	Pipe	A500 Gr. C 50	Typical	.282	.073	.073	.146
5	Face Horizontal	PIPE_2.5	Beam	Pipe	A500 Gr. C 50	Typical	1.61	1.45	1.45	2.89
6	Tie Back	PIPE_3.0	Beam	Pipe	A53 Gr. B	Typical	2.07	2.85	2.85	5.69
7	Back Standoff Bar	PL3/8X3.375	Beam	RECT	A36 Gr.36	Typical	1.266	.015	1.201	.055
8	TES BSB	PL1/2X4	Beam	RECT	A36 Gr.36	Typical	2	.042	2.667	.154
9	Standoff Bar	PL3/8X3	Beam	RECT	A36 Gr.36	Typical	1.125	.013	.844	.049
10	Mount Angle	L4X3X6	Beam	Single Angle	A36 Gr.36	Typical	2.49	1.89	3.94	.123
11	Kickers	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical	.901	.535	.535	.011
12	Standoff Bar 2	PL3/8x3.5	Beam	BAR	A36 Gr.36	Typical	.963	.006	.983	.023

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A53 Gr. B	29000	11154	.3	.65	.49	35	1.5	60	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
5	A500 Gr. B 42.	29000	11154	.3	.65	.49	42	1.4	58	1.3
6	A500 Gr. B 46	29000	11154	.3	.65	.49	46	1.4	58	1.3
7	A500 Gr. C 50	29000	11154	.3	.65	.49	50	1.5	62	1.2

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M2	N1	N4			RIGID	None	None	RIGID	Typical
2	M5	N1	N17A		90	Back Standoff ..	Beam	RECT	A36 Gr.36	Typical
3	M6	N1	N18		90	Back Standoff ..	Beam	RECT	A36 Gr.36	Typical
4	M7	N11A	N12			Face Horizontal	Beam	Pipe	A500 Gr. ...	Typical
5	M8	N5	N19		90	Back Standoff ..	Beam	RECT	A36 Gr.36	Typical
6	M9	N5	N20		90	Back Standoff ..	Beam	RECT	A36 Gr.36	Typical
7	M10	N16	N17			Face Horizontal	Beam	Pipe	A500 Gr. ...	Typical
8	M11	N17A	N10			Standoff Horiz...	Beam	Pipe	A500 Gr. ...	Typical
9	M12	N18	N11			Standoff Horiz...	Beam	Pipe	A500 Gr. ...	Typical
10	M13	N19	N14			Standoff Horiz...	Beam	Pipe	A500 Gr. ...	Typical
11	M14	N20	N15			Standoff Horiz...	Beam	Pipe	A500 Gr. ...	Typical
12	M15	N21	N29	N1		Standoff Bar	Beam	RECT	A36 Gr.36	Typical
13	M16	N29	N28		90	Standoff Diago..	Beam	Pipe	A500 Gr. ...	Typical
14	M17	N23	N30	N1		Standoff Bar	Beam	RECT	A36 Gr.36	Typical
15	M18	N30	N31		90	Standoff Diago..	Beam	Pipe	A500 Gr. ...	Typical
16	M19	N26	N31	N1		Standoff Bar 2	Beam	BAR	A36 Gr.36	Typical
17	M20	N27	N22	N1		Standoff Bar	Beam	RECT	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
18	M21	N28	N24	N1		Standoff Bar	Beam	RECT	A36 Gr.36	Typical
19	M22	N29	N27	N1		Standoff Diago..	Beam	Pipe	A500 Gr. ...	Typical
20	M23	N30	N28	N1		Standoff Diago..	Beam	Pipe	A500 Gr. ...	Typical
21	M24	N31	N32	N1		Standoff Vertical	Beam	Pipe	A500 Gr. ...	Typical
22	M25	N32	N25	N1		Standoff Bar 2	Beam	BAR	A36 Gr.36	Typical
23	M26	N33	N41	N1		Standoff Bar	Beam	RECT	A36 Gr.36	Typical
24	M27	N41	N40		90	Standoff Diago..	Beam	Pipe	A500 Gr. ...	Typical
25	M28	N35	N42	N1		Standoff Bar	Beam	RECT	A36 Gr.36	Typical
26	M29	N42	N43		90	Standoff Diago..	Beam	Pipe	A500 Gr. ...	Typical
27	M30	N38	N43	N1		Standoff Bar 2	Beam	BAR	A36 Gr.36	Typical
28	M31	N39	N34	N1		Standoff Bar	Beam	RECT	A36 Gr.36	Typical
29	M32	N40	N36	N1		Standoff Bar	Beam	RECT	A36 Gr.36	Typical
30	M33	N41	N39	N1		Standoff Diago..	Beam	Pipe	A500 Gr. ...	Typical
31	M34	N42	N40	N1		Standoff Diago..	Beam	Pipe	A500 Gr. ...	Typical
32	M35	N43	N44	N1		Standoff Vertical	Beam	Pipe	A500 Gr. ...	Typical
33	M36	N44	N37	N1		Standoff Bar 2	Beam	BAR	A36 Gr.36	Typical
34	M37	N45	N47			RIGID	None	None	RIGID	Typical
35	M38	N46	N48			RIGID	None	None	RIGID	Typical
36	MP4A	N49	N50			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
37	M40	N51	N53			RIGID	None	None	RIGID	Typical
38	M41	N52	N54			RIGID	None	None	RIGID	Typical
39	MP3A	N55	N56			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
40	M43	N57	N59			RIGID	None	None	RIGID	Typical
41	M44	N58	N60			RIGID	None	None	RIGID	Typical
42	MP1A	N61	N62			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
43	M46	N66A	N75			Tie Back	Beam	Pipe	A53 Gr. B	Typical
44	M46A	N5	N65			RIGID	None	None	RIGID	Typical
45	M45	N62A	N64			RIGID	None	None	RIGID	Typical
46	M46B	N63A	N65A			RIGID	None	None	RIGID	Typical
47	MP2A	N66	N67			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
48	M48	N69	N70			RIGID	None	None	RIGID	Typical
49	M49	N71	N72			RIGID	None	None	RIGID	Typical
50	M50	N74	N73			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M2						Yes	** NA **			None
2	M5						Yes	Default			None
3	M6						Yes	Default			None
4	M7						Yes				None
5	M8						Yes	Default			None
6	M9						Yes	Default			None
7	M10						Yes				None
8	M11						Yes				None
9	M12						Yes				None
10	M13						Yes				None
11	M14						Yes				None
12	M15	OOOOOX					Yes				None
13	M16	BenPIN	BenPIN				Yes	Default			None
14	M17	OOOOOX					Yes				None
15	M18	BenPIN	BenPIN				Yes	Default			None
16	M19	OOOOOX					Yes				None
17	M20		OOOOOO				Yes				None
18	M21		OOOOOO				Yes				None
19	M22						Yes				None
20	M23						Yes				None
21	M24						Yes				None
22	M25		OOOOOO				Yes	Default			None
23	M26	OOOOOX					Yes				None
24	M27	BenPIN	BenPIN				Yes				None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
25	M28	OOOOOX					Yes				None
26	M29	BenPIN	BenPIN				Yes				None
27	M30	OOOOOX					Yes				None
28	M31		OOOOOO				Yes				None
29	M32		OOOOOO				Yes				None
30	M33						Yes				None
31	M34						Yes				None
32	M35						Yes				None
33	M36		OOOOOO				Yes				None
34	M37						Yes	** NA **			None
35	M38						Yes	** NA **			None
36	MP4A						Yes	** NA **			None
37	M40						Yes	** NA **			None
38	M41						Yes	** NA **			None
39	MP3A						Yes	** NA **			None
40	M43						Yes	** NA **			None
41	M44						Yes	** NA **			None
42	MP1A						Yes	** NA **			None
43	M46	BenPIN					Yes	Default			None
44	M46A						Yes	** NA **			None
45	M45						Yes	** NA **			None
46	M46B						Yes	** NA **			None
47	MP2A						Yes	** NA **			None
48	M48						Yes	** NA **			None
49	M49						Yes	** NA **			None
50	M50						Yes	** NA **			None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	Y	-23	1.33
2	MP3A	My	-.021	1.33
3	MP3A	Mz	.019	1.33
4	MP3A	Y	-23	4.83
5	MP3A	My	-.021	4.83
6	MP3A	Mz	.019	4.83
7	MP3A	Y	-23	1.33
8	MP3A	My	-.021	1.33
9	MP3A	Mz	-.019	1.33
10	MP3A	Y	-23	4.83
11	MP3A	My	-.021	4.83
12	MP3A	Mz	-.019	4.83
13	MP1A	Y	-28.65	1.17
14	MP1A	My	-.014	1.17
15	MP1A	Mz	0	1.17
16	MP1A	Y	-28.65	3.17
17	MP1A	My	-.014	3.17
18	MP1A	Mz	0	3.17
19	M50	Y	-32	1.5
20	M50	My	0	1.5
21	M50	Mz	0	1.5
22	MP3A	Y	-74.7	2.17
23	MP3A	My	.037	2.17
24	MP3A	Mz	0	2.17
25	MP2A	Y	-79.1	2.17
26	MP2A	My	.04	2.17
27	MP2A	Mz	0	2.17

Member Point Loads (BLC 2 : Antenna Di)

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	Y	-82.547	1.33
2	MP3A	My	-.076	1.33
3	MP3A	Mz	.069	1.33
4	MP3A	Y	-82.547	4.83
5	MP3A	My	-.076	4.83
6	MP3A	Mz	.069	4.83
7	MP3A	Y	-82.547	1.33
8	MP3A	My	-.076	1.33
9	MP3A	Mz	-.069	1.33
10	MP3A	Y	-82.547	4.83
11	MP3A	My	-.076	4.83
12	MP3A	Mz	-.069	4.83
13	MP1A	Y	-29.809	1.17
14	MP1A	My	-.015	1.17
15	MP1A	Mz	0	1.17
16	MP1A	Y	-29.809	3.17
17	MP1A	My	-.015	3.17
18	MP1A	Mz	0	3.17
19	M50	Y	-76.027	1.5
20	M50	My	0	1.5
21	M50	Mz	0	1.5
22	MP3A	Y	-44.947	2.17
23	MP3A	My	.022	2.17
24	MP3A	Mz	0	2.17
25	MP2A	Y	-45.423	2.17
26	MP2A	My	.023	2.17
27	MP2A	Mz	0	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	0	1.33
2	MP3A	Z	-87.281	1.33
3	MP3A	Mx	-.073	1.33
4	MP3A	X	0	4.83
5	MP3A	Z	-87.281	4.83
6	MP3A	Mx	-.073	4.83
7	MP3A	X	0	1.33
8	MP3A	Z	-87.281	1.33
9	MP3A	Mx	.073	1.33
10	MP3A	X	0	4.83
11	MP3A	Z	-87.281	4.83
12	MP3A	Mx	.073	4.83
13	MP1A	X	0	1.17
14	MP1A	Z	-69.936	1.17
15	MP1A	Mx	0	1.17
16	MP1A	X	0	3.17
17	MP1A	Z	-69.936	3.17
18	MP1A	Mx	0	3.17
19	M50	X	0	1.5
20	M50	Z	-116.99	1.5
21	M50	Mx	0	1.5
22	MP3A	X	0	2.17
23	MP3A	Z	-57.203	2.17
24	MP3A	Mx	0	2.17
25	MP2A	X	0	2.17
26	MP2A	Z	-69.013	2.17
27	MP2A	Mx	0	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	40.896	1.33
2	MP3A	Z	-70.833	1.33
3	MP3A	Mx	-.097	1.33
4	MP3A	X	40.896	4.83
5	MP3A	Z	-70.833	4.83
6	MP3A	Mx	-.097	4.83
7	MP3A	X	40.896	1.33
8	MP3A	Z	-70.833	1.33
9	MP3A	Mx	.022	1.33
10	MP3A	X	40.896	4.83
11	MP3A	Z	-70.833	4.83
12	MP3A	Mx	.022	4.83
13	MP1A	X	29.593	1.17
14	MP1A	Z	-51.256	1.17
15	MP1A	Mx	-.015	1.17
16	MP1A	X	29.593	3.17
17	MP1A	Z	-51.256	3.17
18	MP1A	Mx	-.015	3.17
19	M50	X	54.989	1.5
20	M50	Z	-95.244	1.5
21	M50	Mx	0	1.5
22	MP3A	X	26.249	2.17
23	MP3A	Z	-45.464	2.17
24	MP3A	Mx	.013	2.17
25	MP2A	X	31.762	2.17
26	MP2A	Z	-55.013	2.17
27	MP2A	Mx	.016	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	61.325	1.33
2	MP3A	Z	-35.406	1.33
3	MP3A	Mx	-.086	1.33
4	MP3A	X	61.325	4.83
5	MP3A	Z	-35.406	4.83
6	MP3A	Mx	-.086	4.83
7	MP3A	X	61.325	1.33
8	MP3A	Z	-35.406	1.33
9	MP3A	Mx	-.027	1.33
10	MP3A	X	61.325	4.83
11	MP3A	Z	-35.406	4.83
12	MP3A	Mx	-.027	4.83
13	MP1A	X	32.637	1.17
14	MP1A	Z	-18.843	1.17
15	MP1A	Mx	-.016	1.17
16	MP1A	X	32.637	3.17
17	MP1A	Z	-18.843	3.17
18	MP1A	Mx	-.016	3.17
19	M50	X	83.098	1.5
20	M50	Z	-47.977	1.5
21	M50	Mx	0	1.5
22	MP3A	X	37.314	2.17
23	MP3A	Z	-21.543	2.17
24	MP3A	Mx	.019	2.17
25	MP2A	X	45.504	2.17
26	MP2A	Z	-26.272	2.17
27	MP2A	Mx	.023	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	65.322	1.33
2	MP3A	Z	0	1.33
3	MP3A	Mx	-.06	1.33
4	MP3A	X	65.322	4.83
5	MP3A	Z	0	4.83
6	MP3A	Mx	-.06	4.83
7	MP3A	X	65.322	1.33
8	MP3A	Z	0	1.33
9	MP3A	Mx	-.06	1.33
10	MP3A	X	65.322	4.83
11	MP3A	Z	0	4.83
12	MP3A	Mx	-.06	4.83
13	MP1A	X	26.936	1.17
14	MP1A	Z	0	1.17
15	MP1A	Mx	-.013	1.17
16	MP1A	X	26.936	3.17
17	MP1A	Z	0	3.17
18	MP1A	Mx	-.013	3.17
19	M50	X	88.942	1.5
20	M50	Z	0	1.5
21	M50	Mx	0	1.5
22	MP3A	X	38.381	2.17
23	MP3A	Z	0	2.17
24	MP3A	Mx	.019	2.17
25	MP2A	X	47.054	2.17
26	MP2A	Z	0	2.17
27	MP2A	Mx	.024	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	61.325	1.33
2	MP3A	Z	35.406	1.33
3	MP3A	Mx	-.027	1.33
4	MP3A	X	61.325	4.83
5	MP3A	Z	35.406	4.83
6	MP3A	Mx	-.027	4.83
7	MP3A	X	61.325	1.33
8	MP3A	Z	35.406	1.33
9	MP3A	Mx	-.086	1.33
10	MP3A	X	61.325	4.83
11	MP3A	Z	35.406	4.83
12	MP3A	Mx	-.086	4.83
13	MP1A	X	32.637	1.17
14	MP1A	Z	18.843	1.17
15	MP1A	Mx	-.016	1.17
16	MP1A	X	32.637	3.17
17	MP1A	Z	18.843	3.17
18	MP1A	Mx	-.016	3.17
19	M50	X	83.098	1.5
20	M50	Z	47.977	1.5
21	M50	Mx	0	1.5
22	MP3A	X	37.314	2.17
23	MP3A	Z	21.543	2.17
24	MP3A	Mx	.019	2.17
25	MP2A	X	45.504	2.17
26	MP2A	Z	26.272	2.17
27	MP2A	Mx	.023	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	40.896	1.33
2	MP3A	Z	70.833	1.33
3	MP3A	Mx	.022	1.33
4	MP3A	X	40.896	4.83
5	MP3A	Z	70.833	4.83
6	MP3A	Mx	.022	4.83
7	MP3A	X	40.896	1.33
8	MP3A	Z	70.833	1.33
9	MP3A	Mx	-.097	1.33
10	MP3A	X	40.896	4.83
11	MP3A	Z	70.833	4.83
12	MP3A	Mx	-.097	4.83
13	MP1A	X	29.593	1.17
14	MP1A	Z	51.256	1.17
15	MP1A	Mx	-.015	1.17
16	MP1A	X	29.593	3.17
17	MP1A	Z	51.256	3.17
18	MP1A	Mx	-.015	3.17
19	M50	X	54.989	1.5
20	M50	Z	95.244	1.5
21	M50	Mx	0	1.5
22	MP3A	X	26.249	2.17
23	MP3A	Z	45.464	2.17
24	MP3A	Mx	.013	2.17
25	MP2A	X	31.762	2.17
26	MP2A	Z	55.013	2.17
27	MP2A	Mx	.016	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	0	1.33
2	MP3A	Z	87.281	1.33
3	MP3A	Mx	.073	1.33
4	MP3A	X	0	4.83
5	MP3A	Z	87.281	4.83
6	MP3A	Mx	.073	4.83
7	MP3A	X	0	1.33
8	MP3A	Z	87.281	1.33
9	MP3A	Mx	-.073	1.33
10	MP3A	X	0	4.83
11	MP3A	Z	87.281	4.83
12	MP3A	Mx	-.073	4.83
13	MP1A	X	0	1.17
14	MP1A	Z	69.936	1.17
15	MP1A	Mx	0	1.17
16	MP1A	X	0	3.17
17	MP1A	Z	69.936	3.17
18	MP1A	Mx	0	3.17
19	M50	X	0	1.5
20	M50	Z	116.99	1.5
21	M50	Mx	0	1.5
22	MP3A	X	0	2.17
23	MP3A	Z	57.203	2.17
24	MP3A	Mx	0	2.17
25	MP2A	X	0	2.17
26	MP2A	Z	69.013	2.17
27	MP2A	Mx	0	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-40.896	1.33
2	MP3A	Z	70.833	1.33
3	MP3A	Mx	.097	1.33
4	MP3A	X	-40.896	4.83
5	MP3A	Z	70.833	4.83
6	MP3A	Mx	.097	4.83
7	MP3A	X	-40.896	1.33
8	MP3A	Z	70.833	1.33
9	MP3A	Mx	-.022	1.33
10	MP3A	X	-40.896	4.83
11	MP3A	Z	70.833	4.83
12	MP3A	Mx	-.022	4.83
13	MP1A	X	-29.593	1.17
14	MP1A	Z	51.256	1.17
15	MP1A	Mx	.015	1.17
16	MP1A	X	-29.593	3.17
17	MP1A	Z	51.256	3.17
18	MP1A	Mx	.015	3.17
19	M50	X	-54.989	1.5
20	M50	Z	95.244	1.5
21	M50	Mx	0	1.5
22	MP3A	X	-26.249	2.17
23	MP3A	Z	45.464	2.17
24	MP3A	Mx	-.013	2.17
25	MP2A	X	-31.762	2.17
26	MP2A	Z	55.013	2.17
27	MP2A	Mx	-.016	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-61.325	1.33
2	MP3A	Z	35.406	1.33
3	MP3A	Mx	.086	1.33
4	MP3A	X	-61.325	4.83
5	MP3A	Z	35.406	4.83
6	MP3A	Mx	.086	4.83
7	MP3A	X	-61.325	1.33
8	MP3A	Z	35.406	1.33
9	MP3A	Mx	.027	1.33
10	MP3A	X	-61.325	4.83
11	MP3A	Z	35.406	4.83
12	MP3A	Mx	.027	4.83
13	MP1A	X	-32.637	1.17
14	MP1A	Z	18.843	1.17
15	MP1A	Mx	.016	1.17
16	MP1A	X	-32.637	3.17
17	MP1A	Z	18.843	3.17
18	MP1A	Mx	.016	3.17
19	M50	X	-83.098	1.5
20	M50	Z	47.977	1.5
21	M50	Mx	0	1.5
22	MP3A	X	-37.314	2.17
23	MP3A	Z	21.543	2.17
24	MP3A	Mx	-.019	2.17
25	MP2A	X	-45.504	2.17
26	MP2A	Z	26.272	2.17
27	MP2A	Mx	-.023	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-65.322	1.33
2	MP3A	Z	0	1.33
3	MP3A	Mx	.06	1.33
4	MP3A	X	-65.322	4.83
5	MP3A	Z	0	4.83
6	MP3A	Mx	.06	4.83
7	MP3A	X	-65.322	1.33
8	MP3A	Z	0	1.33
9	MP3A	Mx	.06	1.33
10	MP3A	X	-65.322	4.83
11	MP3A	Z	0	4.83
12	MP3A	Mx	.06	4.83
13	MP1A	X	-26.936	1.17
14	MP1A	Z	0	1.17
15	MP1A	Mx	.013	1.17
16	MP1A	X	-26.936	3.17
17	MP1A	Z	0	3.17
18	MP1A	Mx	.013	3.17
19	M50	X	-88.942	1.5
20	M50	Z	0	1.5
21	M50	Mx	0	1.5
22	MP3A	X	-38.381	2.17
23	MP3A	Z	0	2.17
24	MP3A	Mx	-.019	2.17
25	MP2A	X	-47.054	2.17
26	MP2A	Z	0	2.17
27	MP2A	Mx	-.024	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-61.325	1.33
2	MP3A	Z	-35.406	1.33
3	MP3A	Mx	.027	1.33
4	MP3A	X	-61.325	4.83
5	MP3A	Z	-35.406	4.83
6	MP3A	Mx	.027	4.83
7	MP3A	X	-61.325	1.33
8	MP3A	Z	-35.406	1.33
9	MP3A	Mx	.086	1.33
10	MP3A	X	-61.325	4.83
11	MP3A	Z	-35.406	4.83
12	MP3A	Mx	.086	4.83
13	MP1A	X	-32.637	1.17
14	MP1A	Z	-18.843	1.17
15	MP1A	Mx	.016	1.17
16	MP1A	X	-32.637	3.17
17	MP1A	Z	-18.843	3.17
18	MP1A	Mx	.016	3.17
19	M50	X	-83.098	1.5
20	M50	Z	-47.977	1.5
21	M50	Mx	0	1.5
22	MP3A	X	-37.314	2.17
23	MP3A	Z	-21.543	2.17
24	MP3A	Mx	-.019	2.17
25	MP2A	X	-45.504	2.17
26	MP2A	Z	-26.272	2.17
27	MP2A	Mx	-.023	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-40.896	1.33
2	MP3A	Z	-70.833	1.33
3	MP3A	Mx	-.022	1.33
4	MP3A	X	-40.896	4.83
5	MP3A	Z	-70.833	4.83
6	MP3A	Mx	-.022	4.83
7	MP3A	X	-40.896	1.33
8	MP3A	Z	-70.833	1.33
9	MP3A	Mx	.097	1.33
10	MP3A	X	-40.896	4.83
11	MP3A	Z	-70.833	4.83
12	MP3A	Mx	.097	4.83
13	MP1A	X	-29.593	1.17
14	MP1A	Z	-51.256	1.17
15	MP1A	Mx	.015	1.17
16	MP1A	X	-29.593	3.17
17	MP1A	Z	-51.256	3.17
18	MP1A	Mx	.015	3.17
19	M50	X	-54.989	1.5
20	M50	Z	-95.244	1.5
21	M50	Mx	0	1.5
22	MP3A	X	-26.249	2.17
23	MP3A	Z	-45.464	2.17
24	MP3A	Mx	-.013	2.17
25	MP2A	X	-31.762	2.17
26	MP2A	Z	-55.013	2.17
27	MP2A	Mx	-.016	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	0	1.33
2	MP3A	Z	-31.779	1.33
3	MP3A	Mx	-.026	1.33
4	MP3A	X	0	4.83
5	MP3A	Z	-31.779	4.83
6	MP3A	Mx	-.026	4.83
7	MP3A	X	0	1.33
8	MP3A	Z	-31.779	1.33
9	MP3A	Mx	.026	1.33
10	MP3A	X	0	4.83
11	MP3A	Z	-31.779	4.83
12	MP3A	Mx	.026	4.83
13	MP1A	X	0	1.17
14	MP1A	Z	-12.793	1.17
15	MP1A	Mx	0	1.17
16	MP1A	X	0	3.17
17	MP1A	Z	-12.793	3.17
18	MP1A	Mx	0	3.17
19	M50	X	0	1.5
20	M50	Z	-25.437	1.5
21	M50	Mx	0	1.5
22	MP3A	X	0	2.17
23	MP3A	Z	-13.214	2.17
24	MP3A	Mx	0	2.17
25	MP2A	X	0	2.17
26	MP2A	Z	-13.214	2.17
27	MP2A	Mx	0	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	14.922	1.33
2	MP3A	Z	-25.846	1.33
3	MP3A	Mx	-.035	1.33
4	MP3A	X	14.922	4.83
5	MP3A	Z	-25.846	4.83
6	MP3A	Mx	-.035	4.83
7	MP3A	X	14.922	1.33
8	MP3A	Z	-25.846	1.33
9	MP3A	Mx	.008	1.33
10	MP3A	X	14.922	4.83
11	MP3A	Z	-25.846	4.83
12	MP3A	Mx	.008	4.83
13	MP1A	X	5.473	1.17
14	MP1A	Z	-9.479	1.17
15	MP1A	Mx	-.003	1.17
16	MP1A	X	5.473	3.17
17	MP1A	Z	-9.479	3.17
18	MP1A	Mx	-.003	3.17
19	M50	X	11.714	1.5
20	M50	Z	-20.289	1.5
21	M50	Mx	0	1.5
22	MP3A	X	6.104	2.17
23	MP3A	Z	-10.573	2.17
24	MP3A	Mx	.003	2.17
25	MP2A	X	6.124	2.17
26	MP2A	Z	-10.608	2.17
27	MP2A	Mx	.003	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	22.496	1.33
2	MP3A	Z	-12.988	1.33
3	MP3A	Mx	-.031	1.33
4	MP3A	X	22.496	4.83
5	MP3A	Z	-12.988	4.83
6	MP3A	Mx	-.031	4.83
7	MP3A	X	22.496	1.33
8	MP3A	Z	-12.988	1.33
9	MP3A	Mx	-.01	1.33
10	MP3A	X	22.496	4.83
11	MP3A	Z	-12.988	4.83
12	MP3A	Mx	-.01	4.83
13	MP1A	X	6.279	1.17
14	MP1A	Z	-3.625	1.17
15	MP1A	Mx	-.003	1.17
16	MP1A	X	6.279	3.17
17	MP1A	Z	-3.625	3.17
18	MP1A	Mx	-.003	3.17
19	M50	X	16.809	1.5
20	M50	Z	-9.705	1.5
21	M50	Mx	0	1.5
22	MP3A	X	8.831	2.17
23	MP3A	Z	-5.099	2.17
24	MP3A	Mx	.004	2.17
25	MP2A	X	8.936	2.17
26	MP2A	Z	-5.159	2.17
27	MP2A	Mx	.004	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	24.041	1.33
2	MP3A	Z	0	1.33
3	MP3A	Mx	-.022	1.33
4	MP3A	X	24.041	4.83
5	MP3A	Z	0	4.83
6	MP3A	Mx	-.022	4.83
7	MP3A	X	24.041	1.33
8	MP3A	Z	0	1.33
9	MP3A	Mx	-.022	1.33
10	MP3A	X	24.041	4.83
11	MP3A	Z	0	4.83
12	MP3A	Mx	-.022	4.83
13	MP1A	X	5.402	1.17
14	MP1A	Z	0	1.17
15	MP1A	Mx	-.003	1.17
16	MP1A	X	5.402	3.17
17	MP1A	Z	0	3.17
18	MP1A	Mx	-.003	3.17
19	M50	X	17.4	1.5
20	M50	Z	0	1.5
21	M50	Mx	0	1.5
22	MP3A	X	9.192	2.17
23	MP3A	Z	0	2.17
24	MP3A	Mx	.005	2.17
25	MP2A	X	9.353	2.17
26	MP2A	Z	0	2.17
27	MP2A	Mx	.005	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	22.496	1.33
2	MP3A	Z	12.988	1.33
3	MP3A	Mx	-.01	1.33
4	MP3A	X	22.496	4.83
5	MP3A	Z	12.988	4.83
6	MP3A	Mx	-.01	4.83
7	MP3A	X	22.496	1.33
8	MP3A	Z	12.988	1.33
9	MP3A	Mx	-.031	1.33
10	MP3A	X	22.496	4.83
11	MP3A	Z	12.988	4.83
12	MP3A	Mx	-.031	4.83
13	MP1A	X	6.279	1.17
14	MP1A	Z	3.625	1.17
15	MP1A	Mx	-.003	1.17
16	MP1A	X	6.279	3.17
17	MP1A	Z	3.625	3.17
18	MP1A	Mx	-.003	3.17
19	M50	X	16.809	1.5
20	M50	Z	9.705	1.5
21	M50	Mx	0	1.5
22	MP3A	X	8.831	2.17
23	MP3A	Z	5.099	2.17
24	MP3A	Mx	.004	2.17
25	MP2A	X	8.936	2.17
26	MP2A	Z	5.159	2.17
27	MP2A	Mx	.004	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	14.922	1.33
2	MP3A	Z	25.846	1.33
3	MP3A	Mx	.008	1.33
4	MP3A	X	14.922	4.83
5	MP3A	Z	25.846	4.83
6	MP3A	Mx	.008	4.83
7	MP3A	X	14.922	1.33
8	MP3A	Z	25.846	1.33
9	MP3A	Mx	-.035	1.33
10	MP3A	X	14.922	4.83
11	MP3A	Z	25.846	4.83
12	MP3A	Mx	-.035	4.83
13	MP1A	X	5.473	1.17
14	MP1A	Z	9.479	1.17
15	MP1A	Mx	-.003	1.17
16	MP1A	X	5.473	3.17
17	MP1A	Z	9.479	3.17
18	MP1A	Mx	-.003	3.17
19	M50	X	11.714	1.5
20	M50	Z	20.289	1.5
21	M50	Mx	0	1.5
22	MP3A	X	6.104	2.17
23	MP3A	Z	10.573	2.17
24	MP3A	Mx	.003	2.17
25	MP2A	X	6.124	2.17
26	MP2A	Z	10.608	2.17
27	MP2A	Mx	.003	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	0	1.33
2	MP3A	Z	31.779	1.33
3	MP3A	Mx	.026	1.33
4	MP3A	X	0	4.83
5	MP3A	Z	31.779	4.83
6	MP3A	Mx	.026	4.83
7	MP3A	X	0	1.33
8	MP3A	Z	31.779	1.33
9	MP3A	Mx	-.026	1.33
10	MP3A	X	0	4.83
11	MP3A	Z	31.779	4.83
12	MP3A	Mx	-.026	4.83
13	MP1A	X	0	1.17
14	MP1A	Z	12.793	1.17
15	MP1A	Mx	0	1.17
16	MP1A	X	0	3.17
17	MP1A	Z	12.793	3.17
18	MP1A	Mx	0	3.17
19	M50	X	0	1.5
20	M50	Z	25.437	1.5
21	M50	Mx	0	1.5
22	MP3A	X	0	2.17
23	MP3A	Z	13.214	2.17
24	MP3A	Mx	0	2.17
25	MP2A	X	0	2.17
26	MP2A	Z	13.214	2.17
27	MP2A	Mx	0	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-14.922	1.33
2	MP3A	Z	25.846	1.33
3	MP3A	Mx	.035	1.33
4	MP3A	X	-14.922	4.83
5	MP3A	Z	25.846	4.83
6	MP3A	Mx	.035	4.83
7	MP3A	X	-14.922	1.33
8	MP3A	Z	25.846	1.33
9	MP3A	Mx	-.008	1.33
10	MP3A	X	-14.922	4.83
11	MP3A	Z	25.846	4.83
12	MP3A	Mx	-.008	4.83
13	MP1A	X	-5.473	1.17
14	MP1A	Z	9.479	1.17
15	MP1A	Mx	.003	1.17
16	MP1A	X	-5.473	3.17
17	MP1A	Z	9.479	3.17
18	MP1A	Mx	.003	3.17
19	M50	X	-11.714	1.5
20	M50	Z	20.289	1.5
21	M50	Mx	0	1.5
22	MP3A	X	-6.104	2.17
23	MP3A	Z	10.573	2.17
24	MP3A	Mx	-.003	2.17
25	MP2A	X	-6.124	2.17
26	MP2A	Z	10.608	2.17
27	MP2A	Mx	-.003	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-22.496	1.33
2	MP3A	Z	12.988	1.33
3	MP3A	Mx	.031	1.33
4	MP3A	X	-22.496	4.83
5	MP3A	Z	12.988	4.83
6	MP3A	Mx	.031	4.83
7	MP3A	X	-22.496	1.33
8	MP3A	Z	12.988	1.33
9	MP3A	Mx	.01	1.33
10	MP3A	X	-22.496	4.83
11	MP3A	Z	12.988	4.83
12	MP3A	Mx	.01	4.83
13	MP1A	X	-6.279	1.17
14	MP1A	Z	3.625	1.17
15	MP1A	Mx	.003	1.17
16	MP1A	X	-6.279	3.17
17	MP1A	Z	3.625	3.17
18	MP1A	Mx	.003	3.17
19	M50	X	-16.809	1.5
20	M50	Z	9.705	1.5
21	M50	Mx	0	1.5
22	MP3A	X	-8.831	2.17
23	MP3A	Z	5.099	2.17
24	MP3A	Mx	-.004	2.17
25	MP2A	X	-8.936	2.17
26	MP2A	Z	5.159	2.17
27	MP2A	Mx	-.004	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-24.041	1.33
2	MP3A	Z	0	1.33
3	MP3A	Mx	.022	1.33
4	MP3A	X	-24.041	4.83
5	MP3A	Z	0	4.83
6	MP3A	Mx	.022	4.83
7	MP3A	X	-24.041	1.33
8	MP3A	Z	0	1.33
9	MP3A	Mx	.022	1.33
10	MP3A	X	-24.041	4.83
11	MP3A	Z	0	4.83
12	MP3A	Mx	.022	4.83
13	MP1A	X	-5.402	1.17
14	MP1A	Z	0	1.17
15	MP1A	Mx	.003	1.17
16	MP1A	X	-5.402	3.17
17	MP1A	Z	0	3.17
18	MP1A	Mx	.003	3.17
19	M50	X	-17.4	1.5
20	M50	Z	0	1.5
21	M50	Mx	0	1.5
22	MP3A	X	-9.192	2.17
23	MP3A	Z	0	2.17
24	MP3A	Mx	-.005	2.17
25	MP2A	X	-9.353	2.17
26	MP2A	Z	0	2.17
27	MP2A	Mx	-.005	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-22.496	1.33
2	MP3A	Z	-12.988	1.33
3	MP3A	Mx	.01	1.33
4	MP3A	X	-22.496	4.83
5	MP3A	Z	-12.988	4.83
6	MP3A	Mx	.01	4.83
7	MP3A	X	-22.496	1.33
8	MP3A	Z	-12.988	1.33
9	MP3A	Mx	.031	1.33
10	MP3A	X	-22.496	4.83
11	MP3A	Z	-12.988	4.83
12	MP3A	Mx	.031	4.83
13	MP1A	X	-6.279	1.17
14	MP1A	Z	-3.625	1.17
15	MP1A	Mx	.003	1.17
16	MP1A	X	-6.279	3.17
17	MP1A	Z	-3.625	3.17
18	MP1A	Mx	.003	3.17
19	M50	X	-16.809	1.5
20	M50	Z	-9.705	1.5
21	M50	Mx	0	1.5
22	MP3A	X	-8.831	2.17
23	MP3A	Z	-5.099	2.17
24	MP3A	Mx	-.004	2.17
25	MP2A	X	-8.936	2.17
26	MP2A	Z	-5.159	2.17
27	MP2A	Mx	-.004	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-14.922	1.33
2	MP3A	Z	-25.846	1.33
3	MP3A	Mx	-.008	1.33
4	MP3A	X	-14.922	4.83
5	MP3A	Z	-25.846	4.83
6	MP3A	Mx	-.008	4.83
7	MP3A	X	-14.922	1.33
8	MP3A	Z	-25.846	1.33
9	MP3A	Mx	.035	1.33
10	MP3A	X	-14.922	4.83
11	MP3A	Z	-25.846	4.83
12	MP3A	Mx	.035	4.83
13	MP1A	X	-5.473	1.17
14	MP1A	Z	-9.479	1.17
15	MP1A	Mx	.003	1.17
16	MP1A	X	-5.473	3.17
17	MP1A	Z	-9.479	3.17
18	MP1A	Mx	.003	3.17
19	M50	X	-11.714	1.5
20	M50	Z	-20.289	1.5
21	M50	Mx	0	1.5
22	MP3A	X	-6.104	2.17
23	MP3A	Z	-10.573	2.17
24	MP3A	Mx	-.003	2.17
25	MP2A	X	-6.124	2.17
26	MP2A	Z	-10.608	2.17
27	MP2A	Mx	-.003	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	0	1.33
2	MP3A	Z	-5.027	1.33
3	MP3A	Mx	-.004	1.33
4	MP3A	X	0	4.83
5	MP3A	Z	-5.027	4.83
6	MP3A	Mx	-.004	4.83
7	MP3A	X	0	1.33
8	MP3A	Z	-5.027	1.33
9	MP3A	Mx	.004	1.33
10	MP3A	X	0	4.83
11	MP3A	Z	-5.027	4.83
12	MP3A	Mx	.004	4.83
13	MP1A	X	0	1.17
14	MP1A	Z	-4.028	1.17
15	MP1A	Mx	0	1.17
16	MP1A	X	0	3.17
17	MP1A	Z	-4.028	3.17
18	MP1A	Mx	0	3.17
19	M50	X	0	1.5
20	M50	Z	-6.739	1.5
21	M50	Mx	0	1.5
22	MP3A	X	0	2.17
23	MP3A	Z	-3.295	2.17
24	MP3A	Mx	0	2.17
25	MP2A	X	0	2.17
26	MP2A	Z	-3.975	2.17
27	MP2A	Mx	0	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	2.356	1.33
2	MP3A	Z	-4.08	1.33
3	MP3A	Mx	-.006	1.33
4	MP3A	X	2.356	4.83
5	MP3A	Z	-4.08	4.83
6	MP3A	Mx	-.006	4.83
7	MP3A	X	2.356	1.33
8	MP3A	Z	-4.08	1.33
9	MP3A	Mx	.001	1.33
10	MP3A	X	2.356	4.83
11	MP3A	Z	-4.08	4.83
12	MP3A	Mx	.001	4.83
13	MP1A	X	1.705	1.17
14	MP1A	Z	-2.952	1.17
15	MP1A	Mx	-.000853	1.17
16	MP1A	X	1.705	3.17
17	MP1A	Z	-2.952	3.17
18	MP1A	Mx	-.000853	3.17
19	M50	X	3.167	1.5
20	M50	Z	-5.486	1.5
21	M50	Mx	0	1.5
22	MP3A	X	1.512	2.17
23	MP3A	Z	-2.619	2.17
24	MP3A	Mx	.000756	2.17
25	MP2A	X	1.829	2.17
26	MP2A	Z	-3.169	2.17
27	MP2A	Mx	.000914	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	3.532	1.33
2	MP3A	Z	-2.039	1.33
3	MP3A	Mx	-.005	1.33
4	MP3A	X	3.532	4.83
5	MP3A	Z	-2.039	4.83
6	MP3A	Mx	-.005	4.83
7	MP3A	X	3.532	1.33
8	MP3A	Z	-2.039	1.33
9	MP3A	Mx	-.002	1.33
10	MP3A	X	3.532	4.83
11	MP3A	Z	-2.039	4.83
12	MP3A	Mx	-.002	4.83
13	MP1A	X	1.88	1.17
14	MP1A	Z	-1.085	1.17
15	MP1A	Mx	-.00094	1.17
16	MP1A	X	1.88	3.17
17	MP1A	Z	-1.085	3.17
18	MP1A	Mx	-.00094	3.17
19	M50	X	4.786	1.5
20	M50	Z	-2.763	1.5
21	M50	Mx	0	1.5
22	MP3A	X	2.149	2.17
23	MP3A	Z	-1.241	2.17
24	MP3A	Mx	.001	2.17
25	MP2A	X	2.621	2.17
26	MP2A	Z	-1.513	2.17
27	MP2A	Mx	.001	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	3.763	1.33
2	MP3A	Z	0	1.33
3	MP3A	Mx	-.003	1.33
4	MP3A	X	3.763	4.83
5	MP3A	Z	0	4.83
6	MP3A	Mx	-.003	4.83
7	MP3A	X	3.763	1.33
8	MP3A	Z	0	1.33
9	MP3A	Mx	-.003	1.33
10	MP3A	X	3.763	4.83
11	MP3A	Z	0	4.83
12	MP3A	Mx	-.003	4.83
13	MP1A	X	1.551	1.17
14	MP1A	Z	0	1.17
15	MP1A	Mx	-.000775	1.17
16	MP1A	X	1.551	3.17
17	MP1A	Z	0	3.17
18	MP1A	Mx	-.000775	3.17
19	M50	X	5.123	1.5
20	M50	Z	0	1.5
21	M50	Mx	0	1.5
22	MP3A	X	2.211	2.17
23	MP3A	Z	0	2.17
24	MP3A	Mx	.001	2.17
25	MP2A	X	2.71	2.17
26	MP2A	Z	0	2.17
27	MP2A	Mx	.001	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	3.532	1.33
2	MP3A	Z	2.039	1.33
3	MP3A	Mx	-.002	1.33
4	MP3A	X	3.532	4.83
5	MP3A	Z	2.039	4.83
6	MP3A	Mx	-.002	4.83
7	MP3A	X	3.532	1.33
8	MP3A	Z	2.039	1.33
9	MP3A	Mx	-.005	1.33
10	MP3A	X	3.532	4.83
11	MP3A	Z	2.039	4.83
12	MP3A	Mx	-.005	4.83
13	MP1A	X	1.88	1.17
14	MP1A	Z	1.085	1.17
15	MP1A	Mx	-.00094	1.17
16	MP1A	X	1.88	3.17
17	MP1A	Z	1.085	3.17
18	MP1A	Mx	-.00094	3.17
19	M50	X	4.786	1.5
20	M50	Z	2.763	1.5
21	M50	Mx	0	1.5
22	MP3A	X	2.149	2.17
23	MP3A	Z	1.241	2.17
24	MP3A	Mx	.001	2.17
25	MP2A	X	2.621	2.17
26	MP2A	Z	1.513	2.17
27	MP2A	Mx	.001	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	2.356	1.33
2	MP3A	Z	4.08	1.33
3	MP3A	Mx	.001	1.33
4	MP3A	X	2.356	4.83
5	MP3A	Z	4.08	4.83
6	MP3A	Mx	.001	4.83
7	MP3A	X	2.356	1.33
8	MP3A	Z	4.08	1.33
9	MP3A	Mx	-.006	1.33
10	MP3A	X	2.356	4.83
11	MP3A	Z	4.08	4.83
12	MP3A	Mx	-.006	4.83
13	MP1A	X	1.705	1.17
14	MP1A	Z	2.952	1.17
15	MP1A	Mx	-.000853	1.17
16	MP1A	X	1.705	3.17
17	MP1A	Z	2.952	3.17
18	MP1A	Mx	-.000853	3.17
19	M50	X	3.167	1.5
20	M50	Z	5.486	1.5
21	M50	Mx	0	1.5
22	MP3A	X	1.512	2.17
23	MP3A	Z	2.619	2.17
24	MP3A	Mx	.000756	2.17
25	MP2A	X	1.829	2.17
26	MP2A	Z	3.169	2.17
27	MP2A	Mx	.000914	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	0	1.33
2	MP3A	Z	5.027	1.33
3	MP3A	Mx	.004	1.33
4	MP3A	X	0	4.83
5	MP3A	Z	5.027	4.83
6	MP3A	Mx	.004	4.83
7	MP3A	X	0	1.33
8	MP3A	Z	5.027	1.33
9	MP3A	Mx	-.004	1.33
10	MP3A	X	0	4.83
11	MP3A	Z	5.027	4.83
12	MP3A	Mx	-.004	4.83
13	MP1A	X	0	1.17
14	MP1A	Z	4.028	1.17
15	MP1A	Mx	0	1.17
16	MP1A	X	0	3.17
17	MP1A	Z	4.028	3.17
18	MP1A	Mx	0	3.17
19	M50	X	0	1.5
20	M50	Z	6.739	1.5
21	M50	Mx	0	1.5
22	MP3A	X	0	2.17
23	MP3A	Z	3.295	2.17
24	MP3A	Mx	0	2.17
25	MP2A	X	0	2.17
26	MP2A	Z	3.975	2.17
27	MP2A	Mx	0	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-2.356	1.33
2	MP3A	Z	4.08	1.33
3	MP3A	Mx	.006	1.33
4	MP3A	X	-2.356	4.83
5	MP3A	Z	4.08	4.83
6	MP3A	Mx	.006	4.83
7	MP3A	X	-2.356	1.33
8	MP3A	Z	4.08	1.33
9	MP3A	Mx	-.001	1.33
10	MP3A	X	-2.356	4.83
11	MP3A	Z	4.08	4.83
12	MP3A	Mx	-.001	4.83
13	MP1A	X	-1.705	1.17
14	MP1A	Z	2.952	1.17
15	MP1A	Mx	.000853	1.17
16	MP1A	X	-1.705	3.17
17	MP1A	Z	2.952	3.17
18	MP1A	Mx	.000853	3.17
19	M50	X	-3.167	1.5
20	M50	Z	5.486	1.5
21	M50	Mx	0	1.5
22	MP3A	X	-1.512	2.17
23	MP3A	Z	2.619	2.17
24	MP3A	Mx	-.000756	2.17
25	MP2A	X	-1.829	2.17
26	MP2A	Z	3.169	2.17
27	MP2A	Mx	-.000914	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-3.532	1.33
2	MP3A	Z	2.039	1.33
3	MP3A	Mx	.005	1.33
4	MP3A	X	-3.532	4.83
5	MP3A	Z	2.039	4.83
6	MP3A	Mx	.005	4.83
7	MP3A	X	-3.532	1.33
8	MP3A	Z	2.039	1.33
9	MP3A	Mx	.002	1.33
10	MP3A	X	-3.532	4.83
11	MP3A	Z	2.039	4.83
12	MP3A	Mx	.002	4.83
13	MP1A	X	-1.88	1.17
14	MP1A	Z	1.085	1.17
15	MP1A	Mx	.00094	1.17
16	MP1A	X	-1.88	3.17
17	MP1A	Z	1.085	3.17
18	MP1A	Mx	.00094	3.17
19	M50	X	-4.786	1.5
20	M50	Z	2.763	1.5
21	M50	Mx	0	1.5
22	MP3A	X	-2.149	2.17
23	MP3A	Z	1.241	2.17
24	MP3A	Mx	-.001	2.17
25	MP2A	X	-2.621	2.17
26	MP2A	Z	1.513	2.17
27	MP2A	Mx	-.001	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-3.763	1.33
2	MP3A	Z	0	1.33
3	MP3A	Mx	.003	1.33
4	MP3A	X	-3.763	4.83
5	MP3A	Z	0	4.83
6	MP3A	Mx	.003	4.83
7	MP3A	X	-3.763	1.33
8	MP3A	Z	0	1.33
9	MP3A	Mx	.003	1.33
10	MP3A	X	-3.763	4.83
11	MP3A	Z	0	4.83
12	MP3A	Mx	.003	4.83
13	MP1A	X	-1.551	1.17
14	MP1A	Z	0	1.17
15	MP1A	Mx	.000775	1.17
16	MP1A	X	-1.551	3.17
17	MP1A	Z	0	3.17
18	MP1A	Mx	.000775	3.17
19	M50	X	-5.123	1.5
20	M50	Z	0	1.5
21	M50	Mx	0	1.5
22	MP3A	X	-2.211	2.17
23	MP3A	Z	0	2.17
24	MP3A	Mx	-.001	2.17
25	MP2A	X	-2.71	2.17
26	MP2A	Z	0	2.17
27	MP2A	Mx	-.001	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-3.532	1.33
2	MP3A	Z	-2.039	1.33
3	MP3A	Mx	.002	1.33
4	MP3A	X	-3.532	4.83
5	MP3A	Z	-2.039	4.83
6	MP3A	Mx	.002	4.83
7	MP3A	X	-3.532	1.33
8	MP3A	Z	-2.039	1.33
9	MP3A	Mx	.005	1.33
10	MP3A	X	-3.532	4.83
11	MP3A	Z	-2.039	4.83
12	MP3A	Mx	.005	4.83
13	MP1A	X	-1.88	1.17
14	MP1A	Z	-1.085	1.17
15	MP1A	Mx	.00094	1.17
16	MP1A	X	-1.88	3.17
17	MP1A	Z	-1.085	3.17
18	MP1A	Mx	.00094	3.17
19	M50	X	-4.786	1.5
20	M50	Z	-2.763	1.5
21	M50	Mx	0	1.5
22	MP3A	X	-2.149	2.17
23	MP3A	Z	-1.241	2.17
24	MP3A	Mx	-.001	2.17
25	MP2A	X	-2.621	2.17
26	MP2A	Z	-1.513	2.17
27	MP2A	Mx	-.001	2.17

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

Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-2.356	1.33
2	MP3A	Z	-4.08	1.33
3	MP3A	Mx	-.001	1.33
4	MP3A	X	-2.356	4.83
5	MP3A	Z	-4.08	4.83
6	MP3A	Mx	-.001	4.83
7	MP3A	X	-2.356	1.33
8	MP3A	Z	-4.08	1.33
9	MP3A	Mx	.006	1.33
10	MP3A	X	-2.356	4.83
11	MP3A	Z	-4.08	4.83
12	MP3A	Mx	.006	4.83
13	MP1A	X	-1.705	1.17
14	MP1A	Z	-2.952	1.17
15	MP1A	Mx	.000853	1.17
16	MP1A	X	-1.705	3.17
17	MP1A	Z	-2.952	3.17
18	MP1A	Mx	.000853	3.17
19	M50	X	-3.167	1.5
20	M50	Z	-5.486	1.5
21	M50	Mx	0	1.5
22	MP3A	X	-1.512	2.17
23	MP3A	Z	-2.619	2.17
24	MP3A	Mx	-.000756	2.17
25	MP2A	X	-1.829	2.17
26	MP2A	Z	-3.169	2.17
27	MP2A	Mx	-.000914	2.17

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M10	Y	-500	%98.13

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M10	Y	-500	%45

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M10	Y	-250	%50

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M10	Y	-250	0

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	Y	-.972	1.33
2	MP3A	My	-.000891	1.33
3	MP3A	Mz	.00081	1.33
4	MP3A	Y	-.972	4.83
5	MP3A	My	-.000891	4.83
6	MP3A	Mz	.00081	4.83
7	MP3A	Y	-.972	1.33
8	MP3A	My	-.000891	1.33
9	MP3A	Mz	-.00081	1.33
10	MP3A	Y	-.972	4.83
11	MP3A	My	-.000891	4.83
12	MP3A	Mz	-.00081	4.83
13	MP1A	Y	-1.21	1.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
14	MP1A	My	-.000605	1.17
15	MP1A	Mz	0	1.17
16	MP1A	Y	-1.21	3.17
17	MP1A	My	-.000605	3.17
18	MP1A	Mz	0	3.17
19	M50	Y	-1.352	1.5
20	M50	My	0	1.5
21	M50	Mz	0	1.5
22	MP3A	Y	-3.155	2.17
23	MP3A	My	.002	2.17
24	MP3A	Mz	0	2.17
25	MP2A	Y	-3.341	2.17
26	MP2A	My	.002	2.17
27	MP2A	Mz	0	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	Z	-2.429	1.33
2	MP3A	Mx	-.002	1.33
3	MP3A	Z	-2.429	4.83
4	MP3A	Mx	-.002	4.83
5	MP3A	Z	-2.429	1.33
6	MP3A	Mx	.002	1.33
7	MP3A	Z	-2.429	4.83
8	MP3A	Mx	.002	4.83
9	MP1A	Z	-3.025	1.17
10	MP1A	Mx	0	1.17
11	MP1A	Z	-3.025	3.17
12	MP1A	Mx	0	3.17
13	M50	Z	-3.379	1.5
14	M50	Mx	0	1.5
15	MP3A	Z	-7.888	2.17
16	MP3A	Mx	0	2.17
17	MP2A	Z	-8.353	2.17
18	MP2A	Mx	0	2.17

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	2.429	1.33
2	MP3A	Mx	-.002	1.33
3	MP3A	X	2.429	4.83
4	MP3A	Mx	-.002	4.83
5	MP3A	X	2.429	1.33
6	MP3A	Mx	-.002	1.33
7	MP3A	X	2.429	4.83
8	MP3A	Mx	-.002	4.83
9	MP1A	X	3.025	1.17
10	MP1A	Mx	-.002	1.17
11	MP1A	X	3.025	3.17
12	MP1A	Mx	-.002	3.17
13	M50	X	3.379	1.5
14	M50	Mx	0	1.5
15	MP3A	X	7.888	2.17
16	MP3A	Mx	.004	2.17
17	MP2A	X	8.353	2.17
18	MP2A	Mx	.004	2.17

Joint Loads and Enforced Displacements

Joint Label	L,D,M	Direction	Magnitude[(lb,k-ft), (in,rad), (lb*s^2/ft, lb*s^2*ft)]
No Data to Print ...			

Member Distributed Loads (BLC 40 : Structure Di)

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	Y	-7.319	-7.319	0	%100
2	M6	Y	-7.319	-7.319	0	%100
3	M7	Y	-5.687	-5.687	0	%100
4	M8	Y	-7.319	-7.319	0	%100
5	M9	Y	-7.319	-7.319	0	%100
6	M10	Y	-5.687	-5.687	0	%100
7	M11	Y	-4.982	-4.982	0	%100
8	M12	Y	-4.982	-4.982	0	%100
9	M13	Y	-4.982	-4.982	0	%100
10	M14	Y	-4.982	-4.982	0	%100
11	M15	Y	-5.896	-5.896	0	%100
12	M16	Y	-4.311	-4.311	0	%100
13	M17	Y	-5.896	-5.896	0	%100
14	M18	Y	-4.311	-4.311	0	%100
15	M19	Y	-5.896	-5.896	0	%100
16	M20	Y	-5.896	-5.896	0	%100
17	M21	Y	-5.896	-5.896	0	%100
18	M22	Y	-4.311	-4.311	0	%100
19	M23	Y	-4.311	-4.311	0	%100
20	M24	Y	-3.973	-3.973	0	%100
21	M25	Y	-5.896	-5.896	0	%100
22	M26	Y	-5.896	-5.896	0	%100
23	M27	Y	-4.311	-4.311	0	%100
24	M28	Y	-5.896	-5.896	0	%100
25	M29	Y	-4.311	-4.311	0	%100
26	M30	Y	-5.896	-5.896	0	%100
27	M31	Y	-5.896	-5.896	0	%100
28	M32	Y	-5.896	-5.896	0	%100
29	M33	Y	-4.311	-4.311	0	%100
30	M34	Y	-4.311	-4.311	0	%100
31	M35	Y	-3.973	-3.973	0	%100
32	M36	Y	-5.896	-5.896	0	%100
33	MP4A	Y	-4.982	-4.982	0	%100
34	MP3A	Y	-4.982	-4.982	0	%100
35	MP1A	Y	-4.982	-4.982	0	%100
36	M46	Y	-6.569	-6.569	0	%100
37	MP2A	Y	-4.982	-4.982	0	%100
38	M50	Y	-4.982	-4.982	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	0	0	0	%100
2	M5	Z	-.905	-.905	0	%100
3	M6	X	0	0	0	%100
4	M6	Z	-.905	-.905	0	%100
5	M7	X	0	0	0	%100
6	M7	Z	-10.61	-10.61	0	%100
7	M8	X	0	0	0	%100
8	M8	Z	-.905	-.905	0	%100
9	M9	X	0	0	0	%100
10	M9	Z	-.905	-.905	0	%100
11	M10	X	0	0	0	%100
12	M10	Z	-10.61	-10.61	0	%100
13	M11	X	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
14	M11	Z	-4.299	-4.299	0	%100
15	M12	X	0	0	0	%100
16	M12	Z	-4.299	-4.299	0	%100
17	M13	X	0	0	0	%100
18	M13	Z	-4.299	-4.299	0	%100
19	M14	X	0	0	0	%100
20	M14	Z	-4.299	-4.299	0	%100
21	M15	X	0	0	0	%100
22	M15	Z	-1.461	-1.461	0	%100
23	M16	X	0	0	0	%100
24	M16	Z	-5.781	-5.781	0	%100
25	M17	X	0	0	0	%100
26	M17	Z	-1.461	-1.461	0	%100
27	M18	X	0	0	0	%100
28	M18	Z	-5.492	-5.492	0	%100
29	M19	X	0	0	0	%100
30	M19	Z	-1.961	-1.961	0	%100
31	M20	X	0	0	0	%100
32	M20	Z	-1.461	-1.461	0	%100
33	M21	X	0	0	0	%100
34	M21	Z	-1.461	-1.461	0	%100
35	M22	X	0	0	0	%100
36	M22	Z	-6.499	-6.499	0	%100
37	M23	X	0	0	0	%100
38	M23	Z	-6.499	-6.499	0	%100
39	M24	X	0	0	0	%100
40	M24	Z	-5.409	-5.409	0	%100
41	M25	X	0	0	0	%100
42	M25	Z	-1.961	-1.961	0	%100
43	M26	X	0	0	0	%100
44	M26	Z	-1.461	-1.461	0	%100
45	M27	X	0	0	0	%100
46	M27	Z	-5.781	-5.781	0	%100
47	M28	X	0	0	0	%100
48	M28	Z	-1.461	-1.461	0	%100
49	M29	X	0	0	0	%100
50	M29	Z	-5.492	-5.492	0	%100
51	M30	X	0	0	0	%100
52	M30	Z	-1.961	-1.961	0	%100
53	M31	X	0	0	0	%100
54	M31	Z	-1.461	-1.461	0	%100
55	M32	X	0	0	0	%100
56	M32	Z	-1.461	-1.461	0	%100
57	M33	X	0	0	0	%100
58	M33	Z	-6.499	-6.499	0	%100
59	M34	X	0	0	0	%100
60	M34	Z	-6.499	-6.499	0	%100
61	M35	X	0	0	0	%100
62	M35	Z	-5.409	-5.409	0	%100
63	M36	X	0	0	0	%100
64	M36	Z	-1.961	-1.961	0	%100
65	MP4A	X	0	0	0	%100
66	MP4A	Z	-8.765	-8.765	0	%100
67	MP3A	X	0	0	0	%100
68	MP3A	Z	-8.765	-8.765	0	%100
69	MP1A	X	0	0	0	%100
70	MP1A	Z	-8.765	-8.765	0	%100
71	M46	X	0	0	0	%100
72	M46	Z	-.978	-.978	0	%100
73	MP2A	X	0	0	0	%100
74	MP2A	Z	-8.765	-8.765	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
75	M50	X	0	0	0	%100
76	M50	Z	-8.765	-8.765	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	.057	.057	0	%100
2	M5	Z	-.1	-.1	0	%100
3	M6	X	.856	.856	0	%100
4	M6	Z	-1.483	-1.483	0	%100
5	M7	X	3.979	3.979	0	%100
6	M7	Z	-6.892	-6.892	0	%100
7	M8	X	.057	.057	0	%100
8	M8	Z	-.1	-.1	0	%100
9	M9	X	.856	.856	0	%100
10	M9	Z	-1.483	-1.483	0	%100
11	M10	X	3.979	3.979	0	%100
12	M10	Z	-6.892	-6.892	0	%100
13	M11	X	.273	.273	0	%100
14	M11	Z	-.473	-.473	0	%100
15	M12	X	4.068	4.068	0	%100
16	M12	Z	-7.045	-7.045	0	%100
17	M13	X	.273	.273	0	%100
18	M13	Z	-.473	-.473	0	%100
19	M14	X	4.068	4.068	0	%100
20	M14	Z	-7.045	-7.045	0	%100
21	M15	X	1.932	1.932	0	%100
22	M15	Z	-3.346	-3.346	0	%100
23	M16	X	3.419	3.419	0	%100
24	M16	Z	-5.922	-5.922	0	%100
25	M17	X	1.932	1.932	0	%100
26	M17	Z	-3.346	-3.346	0	%100
27	M18	X	3.35	3.35	0	%100
28	M18	Z	-5.803	-5.803	0	%100
29	M19	X	2.119	2.119	0	%100
30	M19	Z	-3.671	-3.671	0	%100
31	M20	X	1.932	1.932	0	%100
32	M20	Z	-3.346	-3.346	0	%100
33	M21	X	1.932	1.932	0	%100
34	M21	Z	-3.346	-3.346	0	%100
35	M22	X	3.25	3.25	0	%100
36	M22	Z	-5.629	-5.629	0	%100
37	M23	X	3.25	3.25	0	%100
38	M23	Z	-5.629	-5.629	0	%100
39	M24	X	2.704	2.704	0	%100
40	M24	Z	-4.684	-4.684	0	%100
41	M25	X	2.119	2.119	0	%100
42	M25	Z	-3.671	-3.671	0	%100
43	M26	X	1.932	1.932	0	%100
44	M26	Z	-3.346	-3.346	0	%100
45	M27	X	2.373	2.373	0	%100
46	M27	Z	-4.111	-4.111	0	%100
47	M28	X	1.932	1.932	0	%100
48	M28	Z	-3.346	-3.346	0	%100
49	M29	X	2.155	2.155	0	%100
50	M29	Z	-3.732	-3.732	0	%100
51	M30	X	2.119	2.119	0	%100
52	M30	Z	-3.671	-3.671	0	%100
53	M31	X	1.932	1.932	0	%100
54	M31	Z	-3.346	-3.346	0	%100
55	M32	X	1.932	1.932	0	%100
56	M32	Z	-3.346	-3.346	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
57	M33	X	3.25	3.25	0	%100
58	M33	Z	-5.629	-5.629	0	%100
59	M34	X	3.25	3.25	0	%100
60	M34	Z	-5.629	-5.629	0	%100
61	M35	X	2.704	2.704	0	%100
62	M35	Z	-4.684	-4.684	0	%100
63	M36	X	2.119	2.119	0	%100
64	M36	Z	-3.671	-3.671	0	%100
65	MP4A	X	4.383	4.383	0	%100
66	MP4A	Z	-7.591	-7.591	0	%100
67	MP3A	X	4.383	4.383	0	%100
68	MP3A	Z	-7.591	-7.591	0	%100
69	MP1A	X	4.383	4.383	0	%100
70	MP1A	Z	-7.591	-7.591	0	%100
71	M46	X	.379	.379	0	%100
72	M46	Z	-.657	-.657	0	%100
73	MP2A	X	4.383	4.383	0	%100
74	MP2A	Z	-7.591	-7.591	0	%100
75	M50	X	4.383	4.383	0	%100
76	M50	Z	-7.591	-7.591	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	.115	.115	0	%100
2	M5	Z	-.066	-.066	0	%100
3	M6	X	1.498	1.498	0	%100
4	M6	Z	-.865	-.865	0	%100
5	M7	X	2.297	2.297	0	%100
6	M7	Z	-1.326	-1.326	0	%100
7	M8	X	.115	.115	0	%100
8	M8	Z	-.066	-.066	0	%100
9	M9	X	1.498	1.498	0	%100
10	M9	Z	-.865	-.865	0	%100
11	M10	X	2.297	2.297	0	%100
12	M10	Z	-1.326	-1.326	0	%100
13	M11	X	.545	.545	0	%100
14	M11	Z	-.315	-.315	0	%100
15	M12	X	7.118	7.118	0	%100
16	M12	Z	-4.109	-4.109	0	%100
17	M13	X	.545	.545	0	%100
18	M13	Z	-.315	-.315	0	%100
19	M14	X	7.118	7.118	0	%100
20	M14	Z	-4.109	-4.109	0	%100
21	M15	X	7.507	7.507	0	%100
22	M15	Z	-4.334	-4.334	0	%100
23	M16	X	5.942	5.942	0	%100
24	M16	Z	-3.431	-3.431	0	%100
25	M17	X	7.507	7.507	0	%100
26	M17	Z	-4.334	-4.334	0	%100
27	M18	X	5.825	5.825	0	%100
28	M18	Z	-3.363	-3.363	0	%100
29	M19	X	7.616	7.616	0	%100
30	M19	Z	-4.397	-4.397	0	%100
31	M20	X	7.507	7.507	0	%100
32	M20	Z	-4.334	-4.334	0	%100
33	M21	X	7.507	7.507	0	%100
34	M21	Z	-4.334	-4.334	0	%100
35	M22	X	5.629	5.629	0	%100
36	M22	Z	-3.25	-3.25	0	%100
37	M23	X	5.629	5.629	0	%100
38	M23	Z	-3.25	-3.25	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
39	M24	X	4.684	4.684	0	%100
40	M24	Z	-2.704	-2.704	0	%100
41	M25	X	7.616	7.616	0	%100
42	M25	Z	-4.397	-4.397	0	%100
43	M26	X	7.507	7.507	0	%100
44	M26	Z	-4.334	-4.334	0	%100
45	M27	X	4.131	4.131	0	%100
46	M27	Z	-2.385	-2.385	0	%100
47	M28	X	7.507	7.507	0	%100
48	M28	Z	-4.334	-4.334	0	%100
49	M29	X	3.755	3.755	0	%100
50	M29	Z	-2.168	-2.168	0	%100
51	M30	X	7.616	7.616	0	%100
52	M30	Z	-4.397	-4.397	0	%100
53	M31	X	7.507	7.507	0	%100
54	M31	Z	-4.334	-4.334	0	%100
55	M32	X	7.507	7.507	0	%100
56	M32	Z	-4.334	-4.334	0	%100
57	M33	X	5.629	5.629	0	%100
58	M33	Z	-3.25	-3.25	0	%100
59	M34	X	5.629	5.629	0	%100
60	M34	Z	-3.25	-3.25	0	%100
61	M35	X	4.684	4.684	0	%100
62	M35	Z	-2.704	-2.704	0	%100
63	M36	X	7.616	7.616	0	%100
64	M36	Z	-4.397	-4.397	0	%100
65	MP4A	X	7.591	7.591	0	%100
66	MP4A	Z	-4.383	-4.383	0	%100
67	MP3A	X	7.591	7.591	0	%100
68	MP3A	Z	-4.383	-4.383	0	%100
69	MP1A	X	7.591	7.591	0	%100
70	MP1A	Z	-4.383	-4.383	0	%100
71	M46	X	5.403	5.403	0	%100
72	M46	Z	-3.119	-3.119	0	%100
73	MP2A	X	7.591	7.591	0	%100
74	MP2A	Z	-4.383	-4.383	0	%100
75	M50	X	7.591	7.591	0	%100
76	M50	Z	-4.383	-4.383	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	.94	.94	0	%100
2	M5	Z	0	0	0	%100
3	M6	X	.94	.94	0	%100
4	M6	Z	0	0	0	%100
5	M7	X	0	0	0	%100
6	M7	Z	0	0	0	%100
7	M8	X	.94	.94	0	%100
8	M8	Z	0	0	0	%100
9	M9	X	.94	.94	0	%100
10	M9	Z	0	0	0	%100
11	M10	X	0	0	0	%100
12	M10	Z	0	0	0	%100
13	M11	X	4.466	4.466	0	%100
14	M11	Z	0	0	0	%100
15	M12	X	4.466	4.466	0	%100
16	M12	Z	0	0	0	%100
17	M13	X	4.466	4.466	0	%100
18	M13	Z	0	0	0	%100
19	M14	X	4.466	4.466	0	%100
20	M14	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
21	M15	X	11.072	11.072	0	%100
22	M15	Z	0	0	0	%100
23	M16	X	5.827	5.827	0	%100
24	M16	Z	0	0	0	%100
25	M17	X	11.072	11.072	0	%100
26	M17	Z	0	0	0	%100
27	M18	X	5.544	5.544	0	%100
28	M18	Z	0	0	0	%100
29	M19	X	11.072	11.072	0	%100
30	M19	Z	0	0	0	%100
31	M20	X	11.072	11.072	0	%100
32	M20	Z	0	0	0	%100
33	M21	X	11.072	11.072	0	%100
34	M21	Z	0	0	0	%100
35	M22	X	6.499	6.499	0	%100
36	M22	Z	0	0	0	%100
37	M23	X	6.499	6.499	0	%100
38	M23	Z	0	0	0	%100
39	M24	X	5.409	5.409	0	%100
40	M24	Z	0	0	0	%100
41	M25	X	11.072	11.072	0	%100
42	M25	Z	0	0	0	%100
43	M26	X	11.072	11.072	0	%100
44	M26	Z	0	0	0	%100
45	M27	X	5.827	5.827	0	%100
46	M27	Z	0	0	0	%100
47	M28	X	11.072	11.072	0	%100
48	M28	Z	0	0	0	%100
49	M29	X	5.544	5.544	0	%100
50	M29	Z	0	0	0	%100
51	M30	X	11.072	11.072	0	%100
52	M30	Z	0	0	0	%100
53	M31	X	11.072	11.072	0	%100
54	M31	Z	0	0	0	%100
55	M32	X	11.072	11.072	0	%100
56	M32	Z	0	0	0	%100
57	M33	X	6.499	6.499	0	%100
58	M33	Z	0	0	0	%100
59	M34	X	6.499	6.499	0	%100
60	M34	Z	0	0	0	%100
61	M35	X	5.409	5.409	0	%100
62	M35	Z	0	0	0	%100
63	M36	X	11.072	11.072	0	%100
64	M36	Z	0	0	0	%100
65	MP4A	X	8.765	8.765	0	%100
66	MP4A	Z	0	0	0	%100
67	MP3A	X	8.765	8.765	0	%100
68	MP3A	Z	0	0	0	%100
69	MP1A	X	8.765	8.765	0	%100
70	MP1A	Z	0	0	0	%100
71	M46	X	11.939	11.939	0	%100
72	M46	Z	0	0	0	%100
73	MP2A	X	8.765	8.765	0	%100
74	MP2A	Z	0	0	0	%100
75	M50	X	8.765	8.765	0	%100
76	M50	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	1.498	1.498	0	%100
2	M5	Z	.865	.865	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
3	M6	X	.115	.115	0	%100
4	M6	Z	.066	.066	0	%100
5	M7	X	2.297	2.297	0	%100
6	M7	Z	1.326	1.326	0	%100
7	M8	X	1.498	1.498	0	%100
8	M8	Z	.865	.865	0	%100
9	M9	X	.115	.115	0	%100
10	M9	Z	.066	.066	0	%100
11	M10	X	2.297	2.297	0	%100
12	M10	Z	1.326	1.326	0	%100
13	M11	X	7.118	7.118	0	%100
14	M11	Z	4.109	4.109	0	%100
15	M12	X	.545	.545	0	%100
16	M12	Z	.315	.315	0	%100
17	M13	X	7.118	7.118	0	%100
18	M13	Z	4.109	4.109	0	%100
19	M14	X	.545	.545	0	%100
20	M14	Z	.315	.315	0	%100
21	M15	X	7.507	7.507	0	%100
22	M15	Z	4.334	4.334	0	%100
23	M16	X	4.131	4.131	0	%100
24	M16	Z	2.385	2.385	0	%100
25	M17	X	7.507	7.507	0	%100
26	M17	Z	4.334	4.334	0	%100
27	M18	X	3.755	3.755	0	%100
28	M18	Z	2.168	2.168	0	%100
29	M19	X	7.616	7.616	0	%100
30	M19	Z	4.397	4.397	0	%100
31	M20	X	7.507	7.507	0	%100
32	M20	Z	4.334	4.334	0	%100
33	M21	X	7.507	7.507	0	%100
34	M21	Z	4.334	4.334	0	%100
35	M22	X	5.629	5.629	0	%100
36	M22	Z	3.25	3.25	0	%100
37	M23	X	5.629	5.629	0	%100
38	M23	Z	3.25	3.25	0	%100
39	M24	X	4.684	4.684	0	%100
40	M24	Z	2.704	2.704	0	%100
41	M25	X	7.616	7.616	0	%100
42	M25	Z	4.397	4.397	0	%100
43	M26	X	7.507	7.507	0	%100
44	M26	Z	4.334	4.334	0	%100
45	M27	X	5.942	5.942	0	%100
46	M27	Z	3.431	3.431	0	%100
47	M28	X	7.507	7.507	0	%100
48	M28	Z	4.334	4.334	0	%100
49	M29	X	5.825	5.825	0	%100
50	M29	Z	3.363	3.363	0	%100
51	M30	X	7.616	7.616	0	%100
52	M30	Z	4.397	4.397	0	%100
53	M31	X	7.507	7.507	0	%100
54	M31	Z	4.334	4.334	0	%100
55	M32	X	7.507	7.507	0	%100
56	M32	Z	4.334	4.334	0	%100
57	M33	X	5.629	5.629	0	%100
58	M33	Z	3.25	3.25	0	%100
59	M34	X	5.629	5.629	0	%100
60	M34	Z	3.25	3.25	0	%100
61	M35	X	4.684	4.684	0	%100
62	M35	Z	2.704	2.704	0	%100
63	M36	X	7.616	7.616	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
64	M36	Z	4.397	4.397	0	%100
65	MP4A	X	7.591	7.591	0	%100
66	MP4A	Z	4.383	4.383	0	%100
67	MP3A	X	7.591	7.591	0	%100
68	MP3A	Z	4.383	4.383	0	%100
69	MP1A	X	7.591	7.591	0	%100
70	MP1A	Z	4.383	4.383	0	%100
71	M46	X	10.529	10.529	0	%100
72	M46	Z	6.079	6.079	0	%100
73	MP2A	X	7.591	7.591	0	%100
74	MP2A	Z	4.383	4.383	0	%100
75	M50	X	7.591	7.591	0	%100
76	M50	Z	4.383	4.383	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	.856	.856	0	%100
2	M5	Z	1.483	1.483	0	%100
3	M6	X	.057	.057	0	%100
4	M6	Z	.1	.1	0	%100
5	M7	X	3.979	3.979	0	%100
6	M7	Z	6.892	6.892	0	%100
7	M8	X	.856	.856	0	%100
8	M8	Z	1.483	1.483	0	%100
9	M9	X	.057	.057	0	%100
10	M9	Z	.1	.1	0	%100
11	M10	X	3.979	3.979	0	%100
12	M10	Z	6.892	6.892	0	%100
13	M11	X	4.068	4.068	0	%100
14	M11	Z	7.045	7.045	0	%100
15	M12	X	.273	.273	0	%100
16	M12	Z	.473	.473	0	%100
17	M13	X	4.068	4.068	0	%100
18	M13	Z	7.045	7.045	0	%100
19	M14	X	.273	.273	0	%100
20	M14	Z	.473	.473	0	%100
21	M15	X	1.932	1.932	0	%100
22	M15	Z	3.346	3.346	0	%100
23	M16	X	2.373	2.373	0	%100
24	M16	Z	4.111	4.111	0	%100
25	M17	X	1.932	1.932	0	%100
26	M17	Z	3.346	3.346	0	%100
27	M18	X	2.155	2.155	0	%100
28	M18	Z	3.732	3.732	0	%100
29	M19	X	2.119	2.119	0	%100
30	M19	Z	3.671	3.671	0	%100
31	M20	X	1.932	1.932	0	%100
32	M20	Z	3.346	3.346	0	%100
33	M21	X	1.932	1.932	0	%100
34	M21	Z	3.346	3.346	0	%100
35	M22	X	3.25	3.25	0	%100
36	M22	Z	5.629	5.629	0	%100
37	M23	X	3.25	3.25	0	%100
38	M23	Z	5.629	5.629	0	%100
39	M24	X	2.704	2.704	0	%100
40	M24	Z	4.684	4.684	0	%100
41	M25	X	2.119	2.119	0	%100
42	M25	Z	3.671	3.671	0	%100
43	M26	X	1.932	1.932	0	%100
44	M26	Z	3.346	3.346	0	%100
45	M27	X	3.419	3.419	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
46	M27	Z	5.922	5.922	0	%100
47	M28	X	1.932	1.932	0	%100
48	M28	Z	3.346	3.346	0	%100
49	M29	X	3.35	3.35	0	%100
50	M29	Z	5.803	5.803	0	%100
51	M30	X	2.119	2.119	0	%100
52	M30	Z	3.671	3.671	0	%100
53	M31	X	1.932	1.932	0	%100
54	M31	Z	3.346	3.346	0	%100
55	M32	X	1.932	1.932	0	%100
56	M32	Z	3.346	3.346	0	%100
57	M33	X	3.25	3.25	0	%100
58	M33	Z	5.629	5.629	0	%100
59	M34	X	3.25	3.25	0	%100
60	M34	Z	5.629	5.629	0	%100
61	M35	X	2.704	2.704	0	%100
62	M35	Z	4.684	4.684	0	%100
63	M36	X	2.119	2.119	0	%100
64	M36	Z	3.671	3.671	0	%100
65	MP4A	X	4.383	4.383	0	%100
66	MP4A	Z	7.591	7.591	0	%100
67	MP3A	X	4.383	4.383	0	%100
68	MP3A	Z	7.591	7.591	0	%100
69	MP1A	X	4.383	4.383	0	%100
70	MP1A	Z	7.591	7.591	0	%100
71	M46	X	3.339	3.339	0	%100
72	M46	Z	5.783	5.783	0	%100
73	MP2A	X	4.383	4.383	0	%100
74	MP2A	Z	7.591	7.591	0	%100
75	M50	X	4.383	4.383	0	%100
76	M50	Z	7.591	7.591	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	0	0	0	%100
2	M5	Z	.905	.905	0	%100
3	M6	X	0	0	0	%100
4	M6	Z	.905	.905	0	%100
5	M7	X	0	0	0	%100
6	M7	Z	10.61	10.61	0	%100
7	M8	X	0	0	0	%100
8	M8	Z	.905	.905	0	%100
9	M9	X	0	0	0	%100
10	M9	Z	.905	.905	0	%100
11	M10	X	0	0	0	%100
12	M10	Z	10.61	10.61	0	%100
13	M11	X	0	0	0	%100
14	M11	Z	4.299	4.299	0	%100
15	M12	X	0	0	0	%100
16	M12	Z	4.299	4.299	0	%100
17	M13	X	0	0	0	%100
18	M13	Z	4.299	4.299	0	%100
19	M14	X	0	0	0	%100
20	M14	Z	4.299	4.299	0	%100
21	M15	X	0	0	0	%100
22	M15	Z	1.461	1.461	0	%100
23	M16	X	0	0	0	%100
24	M16	Z	5.781	5.781	0	%100
25	M17	X	0	0	0	%100
26	M17	Z	1.461	1.461	0	%100
27	M18	X	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
28	M18	Z	5.492	5.492	0	%100
29	M19	X	0	0	0	%100
30	M19	Z	1.961	1.961	0	%100
31	M20	X	0	0	0	%100
32	M20	Z	1.461	1.461	0	%100
33	M21	X	0	0	0	%100
34	M21	Z	1.461	1.461	0	%100
35	M22	X	0	0	0	%100
36	M22	Z	6.499	6.499	0	%100
37	M23	X	0	0	0	%100
38	M23	Z	6.499	6.499	0	%100
39	M24	X	0	0	0	%100
40	M24	Z	5.409	5.409	0	%100
41	M25	X	0	0	0	%100
42	M25	Z	1.961	1.961	0	%100
43	M26	X	0	0	0	%100
44	M26	Z	1.461	1.461	0	%100
45	M27	X	0	0	0	%100
46	M27	Z	5.781	5.781	0	%100
47	M28	X	0	0	0	%100
48	M28	Z	1.461	1.461	0	%100
49	M29	X	0	0	0	%100
50	M29	Z	5.492	5.492	0	%100
51	M30	X	0	0	0	%100
52	M30	Z	1.961	1.961	0	%100
53	M31	X	0	0	0	%100
54	M31	Z	1.461	1.461	0	%100
55	M32	X	0	0	0	%100
56	M32	Z	1.461	1.461	0	%100
57	M33	X	0	0	0	%100
58	M33	Z	6.499	6.499	0	%100
59	M34	X	0	0	0	%100
60	M34	Z	6.499	6.499	0	%100
61	M35	X	0	0	0	%100
62	M35	Z	5.409	5.409	0	%100
63	M36	X	0	0	0	%100
64	M36	Z	1.961	1.961	0	%100
65	MP4A	X	0	0	0	%100
66	MP4A	Z	8.765	8.765	0	%100
67	MP3A	X	0	0	0	%100
68	MP3A	Z	8.765	8.765	0	%100
69	MP1A	X	0	0	0	%100
70	MP1A	Z	8.765	8.765	0	%100
71	M46	X	0	0	0	%100
72	M46	Z	.978	.978	0	%100
73	MP2A	X	0	0	0	%100
74	MP2A	Z	8.765	8.765	0	%100
75	M50	X	0	0	0	%100
76	M50	Z	8.765	8.765	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f	End Location[ft
1	M5	X	-.057	-.057	0	%100
2	M5	Z	.1	.1	0	%100
3	M6	X	-.856	-.856	0	%100
4	M6	Z	1.483	1.483	0	%100
5	M7	X	-3.979	-3.979	0	%100
6	M7	Z	6.892	6.892	0	%100
7	M8	X	-.057	-.057	0	%100
8	M8	Z	.1	.1	0	%100
9	M9	X	-.856	-.856	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
10	M9	Z	1.483	1.483	0	%100
11	M10	X	-3.979	-3.979	0	%100
12	M10	Z	6.892	6.892	0	%100
13	M11	X	-.273	-.273	0	%100
14	M11	Z	.473	.473	0	%100
15	M12	X	-4.068	-4.068	0	%100
16	M12	Z	7.045	7.045	0	%100
17	M13	X	-.273	-.273	0	%100
18	M13	Z	.473	.473	0	%100
19	M14	X	-4.068	-4.068	0	%100
20	M14	Z	7.045	7.045	0	%100
21	M15	X	-1.932	-1.932	0	%100
22	M15	Z	3.346	3.346	0	%100
23	M16	X	-3.419	-3.419	0	%100
24	M16	Z	5.922	5.922	0	%100
25	M17	X	-1.932	-1.932	0	%100
26	M17	Z	3.346	3.346	0	%100
27	M18	X	-3.35	-3.35	0	%100
28	M18	Z	5.803	5.803	0	%100
29	M19	X	-2.119	-2.119	0	%100
30	M19	Z	3.671	3.671	0	%100
31	M20	X	-1.932	-1.932	0	%100
32	M20	Z	3.346	3.346	0	%100
33	M21	X	-1.932	-1.932	0	%100
34	M21	Z	3.346	3.346	0	%100
35	M22	X	-3.25	-3.25	0	%100
36	M22	Z	5.629	5.629	0	%100
37	M23	X	-3.25	-3.25	0	%100
38	M23	Z	5.629	5.629	0	%100
39	M24	X	-2.704	-2.704	0	%100
40	M24	Z	4.684	4.684	0	%100
41	M25	X	-2.119	-2.119	0	%100
42	M25	Z	3.671	3.671	0	%100
43	M26	X	-1.932	-1.932	0	%100
44	M26	Z	3.346	3.346	0	%100
45	M27	X	-2.373	-2.373	0	%100
46	M27	Z	4.111	4.111	0	%100
47	M28	X	-1.932	-1.932	0	%100
48	M28	Z	3.346	3.346	0	%100
49	M29	X	-2.155	-2.155	0	%100
50	M29	Z	3.732	3.732	0	%100
51	M30	X	-2.119	-2.119	0	%100
52	M30	Z	3.671	3.671	0	%100
53	M31	X	-1.932	-1.932	0	%100
54	M31	Z	3.346	3.346	0	%100
55	M32	X	-1.932	-1.932	0	%100
56	M32	Z	3.346	3.346	0	%100
57	M33	X	-3.25	-3.25	0	%100
58	M33	Z	5.629	5.629	0	%100
59	M34	X	-3.25	-3.25	0	%100
60	M34	Z	5.629	5.629	0	%100
61	M35	X	-2.704	-2.704	0	%100
62	M35	Z	4.684	4.684	0	%100
63	M36	X	-2.119	-2.119	0	%100
64	M36	Z	3.671	3.671	0	%100
65	MP4A	X	-4.383	-4.383	0	%100
66	MP4A	Z	7.591	7.591	0	%100
67	MP3A	X	-4.383	-4.383	0	%100
68	MP3A	Z	7.591	7.591	0	%100
69	MP1A	X	-4.383	-4.383	0	%100
70	MP1A	Z	7.591	7.591	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
71	M46	X	-.379	-.379	0	%100
72	M46	Z	.657	.657	0	%100
73	MP2A	X	-4.383	-4.383	0	%100
74	MP2A	Z	7.591	7.591	0	%100
75	M50	X	-4.383	-4.383	0	%100
76	M50	Z	7.591	7.591	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	-.115	-.115	0	%100
2	M5	Z	.066	.066	0	%100
3	M6	X	-1.498	-1.498	0	%100
4	M6	Z	.865	.865	0	%100
5	M7	X	-2.297	-2.297	0	%100
6	M7	Z	1.326	1.326	0	%100
7	M8	X	-.115	-.115	0	%100
8	M8	Z	.066	.066	0	%100
9	M9	X	-1.498	-1.498	0	%100
10	M9	Z	.865	.865	0	%100
11	M10	X	-2.297	-2.297	0	%100
12	M10	Z	1.326	1.326	0	%100
13	M11	X	-.545	-.545	0	%100
14	M11	Z	.315	.315	0	%100
15	M12	X	-7.118	-7.118	0	%100
16	M12	Z	4.109	4.109	0	%100
17	M13	X	-.545	-.545	0	%100
18	M13	Z	.315	.315	0	%100
19	M14	X	-7.118	-7.118	0	%100
20	M14	Z	4.109	4.109	0	%100
21	M15	X	-7.507	-7.507	0	%100
22	M15	Z	4.334	4.334	0	%100
23	M16	X	-5.942	-5.942	0	%100
24	M16	Z	3.431	3.431	0	%100
25	M17	X	-7.507	-7.507	0	%100
26	M17	Z	4.334	4.334	0	%100
27	M18	X	-5.825	-5.825	0	%100
28	M18	Z	3.363	3.363	0	%100
29	M19	X	-7.616	-7.616	0	%100
30	M19	Z	4.397	4.397	0	%100
31	M20	X	-7.507	-7.507	0	%100
32	M20	Z	4.334	4.334	0	%100
33	M21	X	-7.507	-7.507	0	%100
34	M21	Z	4.334	4.334	0	%100
35	M22	X	-5.629	-5.629	0	%100
36	M22	Z	3.25	3.25	0	%100
37	M23	X	-5.629	-5.629	0	%100
38	M23	Z	3.25	3.25	0	%100
39	M24	X	-4.684	-4.684	0	%100
40	M24	Z	2.704	2.704	0	%100
41	M25	X	-7.616	-7.616	0	%100
42	M25	Z	4.397	4.397	0	%100
43	M26	X	-7.507	-7.507	0	%100
44	M26	Z	4.334	4.334	0	%100
45	M27	X	-4.131	-4.131	0	%100
46	M27	Z	2.385	2.385	0	%100
47	M28	X	-7.507	-7.507	0	%100
48	M28	Z	4.334	4.334	0	%100
49	M29	X	-3.755	-3.755	0	%100
50	M29	Z	2.168	2.168	0	%100
51	M30	X	-7.616	-7.616	0	%100
52	M30	Z	4.397	4.397	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
53	M31	X	-7.507	-7.507	0	%100
54	M31	Z	4.334	4.334	0	%100
55	M32	X	-7.507	-7.507	0	%100
56	M32	Z	4.334	4.334	0	%100
57	M33	X	-5.629	-5.629	0	%100
58	M33	Z	3.25	3.25	0	%100
59	M34	X	-5.629	-5.629	0	%100
60	M34	Z	3.25	3.25	0	%100
61	M35	X	-4.684	-4.684	0	%100
62	M35	Z	2.704	2.704	0	%100
63	M36	X	-7.616	-7.616	0	%100
64	M36	Z	4.397	4.397	0	%100
65	MP4A	X	-7.591	-7.591	0	%100
66	MP4A	Z	4.383	4.383	0	%100
67	MP3A	X	-7.591	-7.591	0	%100
68	MP3A	Z	4.383	4.383	0	%100
69	MP1A	X	-7.591	-7.591	0	%100
70	MP1A	Z	4.383	4.383	0	%100
71	M46	X	-5.403	-5.403	0	%100
72	M46	Z	3.119	3.119	0	%100
73	MP2A	X	-7.591	-7.591	0	%100
74	MP2A	Z	4.383	4.383	0	%100
75	M50	X	-7.591	-7.591	0	%100
76	M50	Z	4.383	4.383	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	-.94	-.94	0	%100
2	M5	Z	0	0	0	%100
3	M6	X	-.94	-.94	0	%100
4	M6	Z	0	0	0	%100
5	M7	X	0	0	0	%100
6	M7	Z	0	0	0	%100
7	M8	X	-.94	-.94	0	%100
8	M8	Z	0	0	0	%100
9	M9	X	-.94	-.94	0	%100
10	M9	Z	0	0	0	%100
11	M10	X	0	0	0	%100
12	M10	Z	0	0	0	%100
13	M11	X	-4.466	-4.466	0	%100
14	M11	Z	0	0	0	%100
15	M12	X	-4.466	-4.466	0	%100
16	M12	Z	0	0	0	%100
17	M13	X	-4.466	-4.466	0	%100
18	M13	Z	0	0	0	%100
19	M14	X	-4.466	-4.466	0	%100
20	M14	Z	0	0	0	%100
21	M15	X	-11.072	-11.072	0	%100
22	M15	Z	0	0	0	%100
23	M16	X	-5.827	-5.827	0	%100
24	M16	Z	0	0	0	%100
25	M17	X	-11.072	-11.072	0	%100
26	M17	Z	0	0	0	%100
27	M18	X	-5.544	-5.544	0	%100
28	M18	Z	0	0	0	%100
29	M19	X	-11.072	-11.072	0	%100
30	M19	Z	0	0	0	%100
31	M20	X	-11.072	-11.072	0	%100
32	M20	Z	0	0	0	%100
33	M21	X	-11.072	-11.072	0	%100
34	M21	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
35	M22	X	-6.499	-6.499	0	%100
36	M22	Z	0	0	0	%100
37	M23	X	-6.499	-6.499	0	%100
38	M23	Z	0	0	0	%100
39	M24	X	-5.409	-5.409	0	%100
40	M24	Z	0	0	0	%100
41	M25	X	-11.072	-11.072	0	%100
42	M25	Z	0	0	0	%100
43	M26	X	-11.072	-11.072	0	%100
44	M26	Z	0	0	0	%100
45	M27	X	-5.827	-5.827	0	%100
46	M27	Z	0	0	0	%100
47	M28	X	-11.072	-11.072	0	%100
48	M28	Z	0	0	0	%100
49	M29	X	-5.544	-5.544	0	%100
50	M29	Z	0	0	0	%100
51	M30	X	-11.072	-11.072	0	%100
52	M30	Z	0	0	0	%100
53	M31	X	-11.072	-11.072	0	%100
54	M31	Z	0	0	0	%100
55	M32	X	-11.072	-11.072	0	%100
56	M32	Z	0	0	0	%100
57	M33	X	-6.499	-6.499	0	%100
58	M33	Z	0	0	0	%100
59	M34	X	-6.499	-6.499	0	%100
60	M34	Z	0	0	0	%100
61	M35	X	-5.409	-5.409	0	%100
62	M35	Z	0	0	0	%100
63	M36	X	-11.072	-11.072	0	%100
64	M36	Z	0	0	0	%100
65	MP4A	X	-8.765	-8.765	0	%100
66	MP4A	Z	0	0	0	%100
67	MP3A	X	-8.765	-8.765	0	%100
68	MP3A	Z	0	0	0	%100
69	MP1A	X	-8.765	-8.765	0	%100
70	MP1A	Z	0	0	0	%100
71	M46	X	-11.939	-11.939	0	%100
72	M46	Z	0	0	0	%100
73	MP2A	X	-8.765	-8.765	0	%100
74	MP2A	Z	0	0	0	%100
75	M50	X	-8.765	-8.765	0	%100
76	M50	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	-1.498	-1.498	0	%100
2	M5	Z	-.865	-.865	0	%100
3	M6	X	-.115	-.115	0	%100
4	M6	Z	-.066	-.066	0	%100
5	M7	X	-2.297	-2.297	0	%100
6	M7	Z	-1.326	-1.326	0	%100
7	M8	X	-1.498	-1.498	0	%100
8	M8	Z	-.865	-.865	0	%100
9	M9	X	-.115	-.115	0	%100
10	M9	Z	-.066	-.066	0	%100
11	M10	X	-2.297	-2.297	0	%100
12	M10	Z	-1.326	-1.326	0	%100
13	M11	X	-7.118	-7.118	0	%100
14	M11	Z	-4.109	-4.109	0	%100
15	M12	X	-.545	-.545	0	%100
16	M12	Z	-.315	-.315	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
17	M13	X	-7.118	-7.118	0	%100
18	M13	Z	-4.109	-4.109	0	%100
19	M14	X	-.545	-.545	0	%100
20	M14	Z	-.315	-.315	0	%100
21	M15	X	-7.507	-7.507	0	%100
22	M15	Z	-4.334	-4.334	0	%100
23	M16	X	-4.131	-4.131	0	%100
24	M16	Z	-2.385	-2.385	0	%100
25	M17	X	-7.507	-7.507	0	%100
26	M17	Z	-4.334	-4.334	0	%100
27	M18	X	-3.755	-3.755	0	%100
28	M18	Z	-2.168	-2.168	0	%100
29	M19	X	-7.616	-7.616	0	%100
30	M19	Z	-4.397	-4.397	0	%100
31	M20	X	-7.507	-7.507	0	%100
32	M20	Z	-4.334	-4.334	0	%100
33	M21	X	-7.507	-7.507	0	%100
34	M21	Z	-4.334	-4.334	0	%100
35	M22	X	-5.629	-5.629	0	%100
36	M22	Z	-3.25	-3.25	0	%100
37	M23	X	-5.629	-5.629	0	%100
38	M23	Z	-3.25	-3.25	0	%100
39	M24	X	-4.684	-4.684	0	%100
40	M24	Z	-2.704	-2.704	0	%100
41	M25	X	-7.616	-7.616	0	%100
42	M25	Z	-4.397	-4.397	0	%100
43	M26	X	-7.507	-7.507	0	%100
44	M26	Z	-4.334	-4.334	0	%100
45	M27	X	-5.942	-5.942	0	%100
46	M27	Z	-3.431	-3.431	0	%100
47	M28	X	-7.507	-7.507	0	%100
48	M28	Z	-4.334	-4.334	0	%100
49	M29	X	-5.825	-5.825	0	%100
50	M29	Z	-3.363	-3.363	0	%100
51	M30	X	-7.616	-7.616	0	%100
52	M30	Z	-4.397	-4.397	0	%100
53	M31	X	-7.507	-7.507	0	%100
54	M31	Z	-4.334	-4.334	0	%100
55	M32	X	-7.507	-7.507	0	%100
56	M32	Z	-4.334	-4.334	0	%100
57	M33	X	-5.629	-5.629	0	%100
58	M33	Z	-3.25	-3.25	0	%100
59	M34	X	-5.629	-5.629	0	%100
60	M34	Z	-3.25	-3.25	0	%100
61	M35	X	-4.684	-4.684	0	%100
62	M35	Z	-2.704	-2.704	0	%100
63	M36	X	-7.616	-7.616	0	%100
64	M36	Z	-4.397	-4.397	0	%100
65	MP4A	X	-7.591	-7.591	0	%100
66	MP4A	Z	-4.383	-4.383	0	%100
67	MP3A	X	-7.591	-7.591	0	%100
68	MP3A	Z	-4.383	-4.383	0	%100
69	MP1A	X	-7.591	-7.591	0	%100
70	MP1A	Z	-4.383	-4.383	0	%100
71	M46	X	-10.529	-10.529	0	%100
72	M46	Z	-6.079	-6.079	0	%100
73	MP2A	X	-7.591	-7.591	0	%100
74	MP2A	Z	-4.383	-4.383	0	%100
75	M50	X	-7.591	-7.591	0	%100
76	M50	Z	-4.383	-4.383	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	-.856	-.856	0	%100
2	M5	Z	-1.483	-1.483	0	%100
3	M6	X	-.057	-.057	0	%100
4	M6	Z	-.1	-.1	0	%100
5	M7	X	-3.979	-3.979	0	%100
6	M7	Z	-6.892	-6.892	0	%100
7	M8	X	-.856	-.856	0	%100
8	M8	Z	-1.483	-1.483	0	%100
9	M9	X	-.057	-.057	0	%100
10	M9	Z	-.1	-.1	0	%100
11	M10	X	-3.979	-3.979	0	%100
12	M10	Z	-6.892	-6.892	0	%100
13	M11	X	-4.068	-4.068	0	%100
14	M11	Z	-7.045	-7.045	0	%100
15	M12	X	-.273	-.273	0	%100
16	M12	Z	-.473	-.473	0	%100
17	M13	X	-4.068	-4.068	0	%100
18	M13	Z	-7.045	-7.045	0	%100
19	M14	X	-.273	-.273	0	%100
20	M14	Z	-.473	-.473	0	%100
21	M15	X	-1.932	-1.932	0	%100
22	M15	Z	-3.346	-3.346	0	%100
23	M16	X	-2.373	-2.373	0	%100
24	M16	Z	-4.111	-4.111	0	%100
25	M17	X	-1.932	-1.932	0	%100
26	M17	Z	-3.346	-3.346	0	%100
27	M18	X	-2.155	-2.155	0	%100
28	M18	Z	-3.732	-3.732	0	%100
29	M19	X	-2.119	-2.119	0	%100
30	M19	Z	-3.671	-3.671	0	%100
31	M20	X	-1.932	-1.932	0	%100
32	M20	Z	-3.346	-3.346	0	%100
33	M21	X	-1.932	-1.932	0	%100
34	M21	Z	-3.346	-3.346	0	%100
35	M22	X	-3.25	-3.25	0	%100
36	M22	Z	-5.629	-5.629	0	%100
37	M23	X	-3.25	-3.25	0	%100
38	M23	Z	-5.629	-5.629	0	%100
39	M24	X	-2.704	-2.704	0	%100
40	M24	Z	-4.684	-4.684	0	%100
41	M25	X	-2.119	-2.119	0	%100
42	M25	Z	-3.671	-3.671	0	%100
43	M26	X	-1.932	-1.932	0	%100
44	M26	Z	-3.346	-3.346	0	%100
45	M27	X	-3.419	-3.419	0	%100
46	M27	Z	-5.922	-5.922	0	%100
47	M28	X	-1.932	-1.932	0	%100
48	M28	Z	-3.346	-3.346	0	%100
49	M29	X	-3.35	-3.35	0	%100
50	M29	Z	-5.803	-5.803	0	%100
51	M30	X	-2.119	-2.119	0	%100
52	M30	Z	-3.671	-3.671	0	%100
53	M31	X	-1.932	-1.932	0	%100
54	M31	Z	-3.346	-3.346	0	%100
55	M32	X	-1.932	-1.932	0	%100
56	M32	Z	-3.346	-3.346	0	%100
57	M33	X	-3.25	-3.25	0	%100
58	M33	Z	-5.629	-5.629	0	%100
59	M34	X	-3.25	-3.25	0	%100
60	M34	Z	-5.629	-5.629	0	%100
61	M35	X	-2.704	-2.704	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
62	M35	Z	-4.684	-4.684	0	%100
63	M36	X	-2.119	-2.119	0	%100
64	M36	Z	-3.671	-3.671	0	%100
65	MP4A	X	-4.383	-4.383	0	%100
66	MP4A	Z	-7.591	-7.591	0	%100
67	MP3A	X	-4.383	-4.383	0	%100
68	MP3A	Z	-7.591	-7.591	0	%100
69	MP1A	X	-4.383	-4.383	0	%100
70	MP1A	Z	-7.591	-7.591	0	%100
71	M46	X	-3.339	-3.339	0	%100
72	M46	Z	-5.783	-5.783	0	%100
73	MP2A	X	-4.383	-4.383	0	%100
74	MP2A	Z	-7.591	-7.591	0	%100
75	M50	X	-4.383	-4.383	0	%100
76	M50	Z	-7.591	-7.591	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	0	0	0	%100
2	M5	Z	-.535	-.535	0	%100
3	M6	X	0	0	0	%100
4	M6	Z	-.535	-.535	0	%100
5	M7	X	0	0	0	%100
6	M7	Z	-3.062	-3.062	0	%100
7	M8	X	0	0	0	%100
8	M8	Z	-.535	-.535	0	%100
9	M9	X	0	0	0	%100
10	M9	Z	-.535	-.535	0	%100
11	M10	X	0	0	0	%100
12	M10	Z	-3.062	-3.062	0	%100
13	M11	X	0	0	0	%100
14	M11	Z	-1.357	-1.357	0	%100
15	M12	X	0	0	0	%100
16	M12	Z	-1.357	-1.357	0	%100
17	M13	X	0	0	0	%100
18	M13	Z	-1.357	-1.357	0	%100
19	M14	X	0	0	0	%100
20	M14	Z	-1.357	-1.357	0	%100
21	M15	X	0	0	0	%100
22	M15	Z	-1.029	-1.029	0	%100
23	M16	X	0	0	0	%100
24	M16	Z	-1.974	-1.974	0	%100
25	M17	X	0	0	0	%100
26	M17	Z	-1.029	-1.029	0	%100
27	M18	X	0	0	0	%100
28	M18	Z	-1.861	-1.861	0	%100
29	M19	X	0	0	0	%100
30	M19	Z	-1.112	-1.112	0	%100
31	M20	X	0	0	0	%100
32	M20	Z	-1.029	-1.029	0	%100
33	M21	X	0	0	0	%100
34	M21	Z	-1.029	-1.029	0	%100
35	M22	X	0	0	0	%100
36	M22	Z	-2.21	-2.21	0	%100
37	M23	X	0	0	0	%100
38	M23	Z	-2.21	-2.21	0	%100
39	M24	X	0	0	0	%100
40	M24	Z	-1.937	-1.937	0	%100
41	M25	X	0	0	0	%100
42	M25	Z	-1.112	-1.112	0	%100
43	M26	X	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
44	M26	Z	-1.029	-1.029	0	%100
45	M27	X	0	0	0	%100
46	M27	Z	-1.974	-1.974	0	%100
47	M28	X	0	0	0	%100
48	M28	Z	-1.029	-1.029	0	%100
49	M29	X	0	0	0	%100
50	M29	Z	-1.861	-1.861	0	%100
51	M30	X	0	0	0	%100
52	M30	Z	-1.112	-1.112	0	%100
53	M31	X	0	0	0	%100
54	M31	Z	-1.029	-1.029	0	%100
55	M32	X	0	0	0	%100
56	M32	Z	-1.029	-1.029	0	%100
57	M33	X	0	0	0	%100
58	M33	Z	-2.21	-2.21	0	%100
59	M34	X	0	0	0	%100
60	M34	Z	-2.21	-2.21	0	%100
61	M35	X	0	0	0	%100
62	M35	Z	-1.937	-1.937	0	%100
63	M36	X	0	0	0	%100
64	M36	Z	-1.112	-1.112	0	%100
65	MP4A	X	0	0	0	%100
66	MP4A	Z	-2.766	-2.766	0	%100
67	MP3A	X	0	0	0	%100
68	MP3A	Z	-2.766	-2.766	0	%100
69	MP1A	X	0	0	0	%100
70	MP1A	Z	-2.766	-2.766	0	%100
71	M46	X	0	0	0	%100
72	M46	Z	-.26	-.26	0	%100
73	MP2A	X	0	0	0	%100
74	MP2A	Z	-2.766	-2.766	0	%100
75	M50	X	0	0	0	%100
76	M50	Z	-2.766	-2.766	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	.034	.034	0	%100
2	M5	Z	-.059	-.059	0	%100
3	M6	X	.506	.506	0	%100
4	M6	Z	-.877	-.877	0	%100
5	M7	X	1.148	1.148	0	%100
6	M7	Z	-1.989	-1.989	0	%100
7	M8	X	.034	.034	0	%100
8	M8	Z	-.059	-.059	0	%100
9	M9	X	.506	.506	0	%100
10	M9	Z	-.877	-.877	0	%100
11	M10	X	1.148	1.148	0	%100
12	M10	Z	-1.989	-1.989	0	%100
13	M11	X	.086	.086	0	%100
14	M11	Z	-.149	-.149	0	%100
15	M12	X	1.284	1.284	0	%100
16	M12	Z	-2.224	-2.224	0	%100
17	M13	X	.086	.086	0	%100
18	M13	Z	-.149	-.149	0	%100
19	M14	X	1.284	1.284	0	%100
20	M14	Z	-2.224	-2.224	0	%100
21	M15	X	.707	.707	0	%100
22	M15	Z	-1.224	-1.224	0	%100
23	M16	X	1.168	1.168	0	%100
24	M16	Z	-2.023	-2.023	0	%100
25	M17	X	.707	.707	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
26	M17	Z	-1.224	-1.224	0	%100
27	M18	X	1.135	1.135	0	%100
28	M18	Z	-1.966	-1.966	0	%100
29	M19	X	.738	.738	0	%100
30	M19	Z	-1.279	-1.279	0	%100
31	M20	X	.707	.707	0	%100
32	M20	Z	-1.224	-1.224	0	%100
33	M21	X	.707	.707	0	%100
34	M21	Z	-1.224	-1.224	0	%100
35	M22	X	1.105	1.105	0	%100
36	M22	Z	-1.914	-1.914	0	%100
37	M23	X	1.105	1.105	0	%100
38	M23	Z	-1.914	-1.914	0	%100
39	M24	X	.968	.968	0	%100
40	M24	Z	-1.677	-1.677	0	%100
41	M25	X	.738	.738	0	%100
42	M25	Z	-1.279	-1.279	0	%100
43	M26	X	.707	.707	0	%100
44	M26	Z	-1.224	-1.224	0	%100
45	M27	X	.811	.811	0	%100
46	M27	Z	-1.404	-1.404	0	%100
47	M28	X	.707	.707	0	%100
48	M28	Z	-1.224	-1.224	0	%100
49	M29	X	.73	.73	0	%100
50	M29	Z	-1.265	-1.265	0	%100
51	M30	X	.738	.738	0	%100
52	M30	Z	-1.279	-1.279	0	%100
53	M31	X	.707	.707	0	%100
54	M31	Z	-1.224	-1.224	0	%100
55	M32	X	.707	.707	0	%100
56	M32	Z	-1.224	-1.224	0	%100
57	M33	X	1.105	1.105	0	%100
58	M33	Z	-1.914	-1.914	0	%100
59	M34	X	1.105	1.105	0	%100
60	M34	Z	-1.914	-1.914	0	%100
61	M35	X	.968	.968	0	%100
62	M35	Z	-1.677	-1.677	0	%100
63	M36	X	.738	.738	0	%100
64	M36	Z	-1.279	-1.279	0	%100
65	MP4A	X	1.383	1.383	0	%100
66	MP4A	Z	-2.396	-2.396	0	%100
67	MP3A	X	1.383	1.383	0	%100
68	MP3A	Z	-2.396	-2.396	0	%100
69	MP1A	X	1.383	1.383	0	%100
70	MP1A	Z	-2.396	-2.396	0	%100
71	M46	X	.101	.101	0	%100
72	M46	Z	-.175	-.175	0	%100
73	MP2A	X	1.383	1.383	0	%100
74	MP2A	Z	-2.396	-2.396	0	%100
75	M50	X	1.383	1.383	0	%100
76	M50	Z	-2.396	-2.396	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	.068	.068	0	%100
2	M5	Z	-.039	-.039	0	%100
3	M6	X	.886	.886	0	%100
4	M6	Z	-.511	-.511	0	%100
5	M7	X	.663	.663	0	%100
6	M7	Z	-.383	-.383	0	%100
7	M8	X	.068	.068	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
8	M8	Z	-.039	-.039	0	%100
9	M9	X	.886	.886	0	%100
10	M9	Z	-.511	-.511	0	%100
11	M10	X	.663	.663	0	%100
12	M10	Z	-.383	-.383	0	%100
13	M11	X	.172	.172	0	%100
14	M11	Z	-.099	-.099	0	%100
15	M12	X	2.247	2.247	0	%100
16	M12	Z	-1.297	-1.297	0	%100
17	M13	X	.172	.172	0	%100
18	M13	Z	-.099	-.099	0	%100
19	M14	X	2.247	2.247	0	%100
20	M14	Z	-1.297	-1.297	0	%100
21	M15	X	1.89	1.89	0	%100
22	M15	Z	-1.091	-1.091	0	%100
23	M16	X	2.029	2.029	0	%100
24	M16	Z	-1.172	-1.172	0	%100
25	M17	X	1.89	1.89	0	%100
26	M17	Z	-1.091	-1.091	0	%100
27	M18	X	1.974	1.974	0	%100
28	M18	Z	-1.14	-1.14	0	%100
29	M19	X	1.91	1.91	0	%100
30	M19	Z	-1.103	-1.103	0	%100
31	M20	X	1.89	1.89	0	%100
32	M20	Z	-1.091	-1.091	0	%100
33	M21	X	1.89	1.89	0	%100
34	M21	Z	-1.091	-1.091	0	%100
35	M22	X	1.914	1.914	0	%100
36	M22	Z	-1.105	-1.105	0	%100
37	M23	X	1.914	1.914	0	%100
38	M23	Z	-1.105	-1.105	0	%100
39	M24	X	1.677	1.677	0	%100
40	M24	Z	-.968	-.968	0	%100
41	M25	X	1.91	1.91	0	%100
42	M25	Z	-1.103	-1.103	0	%100
43	M26	X	1.89	1.89	0	%100
44	M26	Z	-1.091	-1.091	0	%100
45	M27	X	1.411	1.411	0	%100
46	M27	Z	-.814	-.814	0	%100
47	M28	X	1.89	1.89	0	%100
48	M28	Z	-1.091	-1.091	0	%100
49	M29	X	1.272	1.272	0	%100
50	M29	Z	-.735	-.735	0	%100
51	M30	X	1.91	1.91	0	%100
52	M30	Z	-1.103	-1.103	0	%100
53	M31	X	1.89	1.89	0	%100
54	M31	Z	-1.091	-1.091	0	%100
55	M32	X	1.89	1.89	0	%100
56	M32	Z	-1.091	-1.091	0	%100
57	M33	X	1.914	1.914	0	%100
58	M33	Z	-1.105	-1.105	0	%100
59	M34	X	1.914	1.914	0	%100
60	M34	Z	-1.105	-1.105	0	%100
61	M35	X	1.677	1.677	0	%100
62	M35	Z	-.968	-.968	0	%100
63	M36	X	1.91	1.91	0	%100
64	M36	Z	-1.103	-1.103	0	%100
65	MP4A	X	2.396	2.396	0	%100
66	MP4A	Z	-1.383	-1.383	0	%100
67	MP3A	X	2.396	2.396	0	%100
68	MP3A	Z	-1.383	-1.383	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
69	MP1A	X	2.396	2.396	0	%100
70	MP1A	Z	-1.383	-1.383	0	%100
71	M46	X	1.435	1.435	0	%100
72	M46	Z	-.829	-.829	0	%100
73	MP2A	X	2.396	2.396	0	%100
74	MP2A	Z	-1.383	-1.383	0	%100
75	M50	X	2.396	2.396	0	%100
76	M50	Z	-1.383	-1.383	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	.556	.556	0	%100
2	M5	Z	0	0	0	%100
3	M6	X	.556	.556	0	%100
4	M6	Z	0	0	0	%100
5	M7	X	0	0	0	%100
6	M7	Z	0	0	0	%100
7	M8	X	.556	.556	0	%100
8	M8	Z	0	0	0	%100
9	M9	X	.556	.556	0	%100
10	M9	Z	0	0	0	%100
11	M10	X	0	0	0	%100
12	M10	Z	0	0	0	%100
13	M11	X	1.41	1.41	0	%100
14	M11	Z	0	0	0	%100
15	M12	X	1.41	1.41	0	%100
16	M12	Z	0	0	0	%100
17	M13	X	1.41	1.41	0	%100
18	M13	Z	0	0	0	%100
19	M14	X	1.41	1.41	0	%100
20	M14	Z	0	0	0	%100
21	M15	X	2.567	2.567	0	%100
22	M15	Z	0	0	0	%100
23	M16	X	1.99	1.99	0	%100
24	M16	Z	0	0	0	%100
25	M17	X	2.567	2.567	0	%100
26	M17	Z	0	0	0	%100
27	M18	X	1.879	1.879	0	%100
28	M18	Z	0	0	0	%100
29	M19	X	2.57	2.57	0	%100
30	M19	Z	0	0	0	%100
31	M20	X	2.567	2.567	0	%100
32	M20	Z	0	0	0	%100
33	M21	X	2.567	2.567	0	%100
34	M21	Z	0	0	0	%100
35	M22	X	2.21	2.21	0	%100
36	M22	Z	0	0	0	%100
37	M23	X	2.21	2.21	0	%100
38	M23	Z	0	0	0	%100
39	M24	X	1.937	1.937	0	%100
40	M24	Z	0	0	0	%100
41	M25	X	2.57	2.57	0	%100
42	M25	Z	0	0	0	%100
43	M26	X	2.567	2.567	0	%100
44	M26	Z	0	0	0	%100
45	M27	X	1.99	1.99	0	%100
46	M27	Z	0	0	0	%100
47	M28	X	2.567	2.567	0	%100
48	M28	Z	0	0	0	%100
49	M29	X	1.879	1.879	0	%100
50	M29	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
51	M30	X	2.57	2.57	0	%100
52	M30	Z	0	0	0	%100
53	M31	X	2.567	2.567	0	%100
54	M31	Z	0	0	0	%100
55	M32	X	2.567	2.567	0	%100
56	M32	Z	0	0	0	%100
57	M33	X	2.21	2.21	0	%100
58	M33	Z	0	0	0	%100
59	M34	X	2.21	2.21	0	%100
60	M34	Z	0	0	0	%100
61	M35	X	1.937	1.937	0	%100
62	M35	Z	0	0	0	%100
63	M36	X	2.57	2.57	0	%100
64	M36	Z	0	0	0	%100
65	MP4A	X	2.766	2.766	0	%100
66	MP4A	Z	0	0	0	%100
67	MP3A	X	2.766	2.766	0	%100
68	MP3A	Z	0	0	0	%100
69	MP1A	X	2.766	2.766	0	%100
70	MP1A	Z	0	0	0	%100
71	M46	X	3.171	3.171	0	%100
72	M46	Z	0	0	0	%100
73	MP2A	X	2.766	2.766	0	%100
74	MP2A	Z	0	0	0	%100
75	M50	X	2.766	2.766	0	%100
76	M50	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	.886	.886	0	%100
2	M5	Z	.511	.511	0	%100
3	M6	X	.068	.068	0	%100
4	M6	Z	.039	.039	0	%100
5	M7	X	.663	.663	0	%100
6	M7	Z	.383	.383	0	%100
7	M8	X	.886	.886	0	%100
8	M8	Z	.511	.511	0	%100
9	M9	X	.068	.068	0	%100
10	M9	Z	.039	.039	0	%100
11	M10	X	.663	.663	0	%100
12	M10	Z	.383	.383	0	%100
13	M11	X	2.247	2.247	0	%100
14	M11	Z	1.297	1.297	0	%100
15	M12	X	.172	.172	0	%100
16	M12	Z	.099	.099	0	%100
17	M13	X	2.247	2.247	0	%100
18	M13	Z	1.297	1.297	0	%100
19	M14	X	.172	.172	0	%100
20	M14	Z	.099	.099	0	%100
21	M15	X	1.89	1.89	0	%100
22	M15	Z	1.091	1.091	0	%100
23	M16	X	1.411	1.411	0	%100
24	M16	Z	.814	.814	0	%100
25	M17	X	1.89	1.89	0	%100
26	M17	Z	1.091	1.091	0	%100
27	M18	X	1.272	1.272	0	%100
28	M18	Z	.735	.735	0	%100
29	M19	X	1.91	1.91	0	%100
30	M19	Z	1.103	1.103	0	%100
31	M20	X	1.89	1.89	0	%100
32	M20	Z	1.091	1.091	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
33	M21	X	1.89	1.89	0	%100
34	M21	Z	1.091	1.091	0	%100
35	M22	X	1.914	1.914	0	%100
36	M22	Z	1.105	1.105	0	%100
37	M23	X	1.914	1.914	0	%100
38	M23	Z	1.105	1.105	0	%100
39	M24	X	1.677	1.677	0	%100
40	M24	Z	.968	.968	0	%100
41	M25	X	1.91	1.91	0	%100
42	M25	Z	1.103	1.103	0	%100
43	M26	X	1.89	1.89	0	%100
44	M26	Z	1.091	1.091	0	%100
45	M27	X	2.029	2.029	0	%100
46	M27	Z	1.172	1.172	0	%100
47	M28	X	1.89	1.89	0	%100
48	M28	Z	1.091	1.091	0	%100
49	M29	X	1.974	1.974	0	%100
50	M29	Z	1.14	1.14	0	%100
51	M30	X	1.91	1.91	0	%100
52	M30	Z	1.103	1.103	0	%100
53	M31	X	1.89	1.89	0	%100
54	M31	Z	1.091	1.091	0	%100
55	M32	X	1.89	1.89	0	%100
56	M32	Z	1.091	1.091	0	%100
57	M33	X	1.914	1.914	0	%100
58	M33	Z	1.105	1.105	0	%100
59	M34	X	1.914	1.914	0	%100
60	M34	Z	1.105	1.105	0	%100
61	M35	X	1.677	1.677	0	%100
62	M35	Z	.968	.968	0	%100
63	M36	X	1.91	1.91	0	%100
64	M36	Z	1.103	1.103	0	%100
65	MP4A	X	2.396	2.396	0	%100
66	MP4A	Z	1.383	1.383	0	%100
67	MP3A	X	2.396	2.396	0	%100
68	MP3A	Z	1.383	1.383	0	%100
69	MP1A	X	2.396	2.396	0	%100
70	MP1A	Z	1.383	1.383	0	%100
71	M46	X	2.797	2.797	0	%100
72	M46	Z	1.615	1.615	0	%100
73	MP2A	X	2.396	2.396	0	%100
74	MP2A	Z	1.383	1.383	0	%100
75	M50	X	2.396	2.396	0	%100
76	M50	Z	1.383	1.383	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	.506	.506	0	%100
2	M5	Z	.877	.877	0	%100
3	M6	X	.034	.034	0	%100
4	M6	Z	.059	.059	0	%100
5	M7	X	1.148	1.148	0	%100
6	M7	Z	1.989	1.989	0	%100
7	M8	X	.506	.506	0	%100
8	M8	Z	.877	.877	0	%100
9	M9	X	.034	.034	0	%100
10	M9	Z	.059	.059	0	%100
11	M10	X	1.148	1.148	0	%100
12	M10	Z	1.989	1.989	0	%100
13	M11	X	1.284	1.284	0	%100
14	M11	Z	2.224	2.224	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
15	M12	X	.086	.086	0	%100
16	M12	Z	.149	.149	0	%100
17	M13	X	1.284	1.284	0	%100
18	M13	Z	2.224	2.224	0	%100
19	M14	X	.086	.086	0	%100
20	M14	Z	.149	.149	0	%100
21	M15	X	.707	.707	0	%100
22	M15	Z	1.224	1.224	0	%100
23	M16	X	.811	.811	0	%100
24	M16	Z	1.404	1.404	0	%100
25	M17	X	.707	.707	0	%100
26	M17	Z	1.224	1.224	0	%100
27	M18	X	.73	.73	0	%100
28	M18	Z	1.265	1.265	0	%100
29	M19	X	.738	.738	0	%100
30	M19	Z	1.279	1.279	0	%100
31	M20	X	.707	.707	0	%100
32	M20	Z	1.224	1.224	0	%100
33	M21	X	.707	.707	0	%100
34	M21	Z	1.224	1.224	0	%100
35	M22	X	1.105	1.105	0	%100
36	M22	Z	1.914	1.914	0	%100
37	M23	X	1.105	1.105	0	%100
38	M23	Z	1.914	1.914	0	%100
39	M24	X	.968	.968	0	%100
40	M24	Z	1.677	1.677	0	%100
41	M25	X	.738	.738	0	%100
42	M25	Z	1.279	1.279	0	%100
43	M26	X	.707	.707	0	%100
44	M26	Z	1.224	1.224	0	%100
45	M27	X	1.168	1.168	0	%100
46	M27	Z	2.023	2.023	0	%100
47	M28	X	.707	.707	0	%100
48	M28	Z	1.224	1.224	0	%100
49	M29	X	1.135	1.135	0	%100
50	M29	Z	1.966	1.966	0	%100
51	M30	X	.738	.738	0	%100
52	M30	Z	1.279	1.279	0	%100
53	M31	X	.707	.707	0	%100
54	M31	Z	1.224	1.224	0	%100
55	M32	X	.707	.707	0	%100
56	M32	Z	1.224	1.224	0	%100
57	M33	X	1.105	1.105	0	%100
58	M33	Z	1.914	1.914	0	%100
59	M34	X	1.105	1.105	0	%100
60	M34	Z	1.914	1.914	0	%100
61	M35	X	.968	.968	0	%100
62	M35	Z	1.677	1.677	0	%100
63	M36	X	.738	.738	0	%100
64	M36	Z	1.279	1.279	0	%100
65	MP4A	X	1.383	1.383	0	%100
66	MP4A	Z	2.396	2.396	0	%100
67	MP3A	X	1.383	1.383	0	%100
68	MP3A	Z	2.396	2.396	0	%100
69	MP1A	X	1.383	1.383	0	%100
70	MP1A	Z	2.396	2.396	0	%100
71	M46	X	.887	.887	0	%100
72	M46	Z	1.536	1.536	0	%100
73	MP2A	X	1.383	1.383	0	%100
74	MP2A	Z	2.396	2.396	0	%100
75	M50	X	1.383	1.383	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
76	M50	Z	2.396	2.396	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	0	0	0	%100
2	M5	Z	.535	.535	0	%100
3	M6	X	0	0	0	%100
4	M6	Z	.535	.535	0	%100
5	M7	X	0	0	0	%100
6	M7	Z	3.062	3.062	0	%100
7	M8	X	0	0	0	%100
8	M8	Z	.535	.535	0	%100
9	M9	X	0	0	0	%100
10	M9	Z	.535	.535	0	%100
11	M10	X	0	0	0	%100
12	M10	Z	3.062	3.062	0	%100
13	M11	X	0	0	0	%100
14	M11	Z	1.357	1.357	0	%100
15	M12	X	0	0	0	%100
16	M12	Z	1.357	1.357	0	%100
17	M13	X	0	0	0	%100
18	M13	Z	1.357	1.357	0	%100
19	M14	X	0	0	0	%100
20	M14	Z	1.357	1.357	0	%100
21	M15	X	0	0	0	%100
22	M15	Z	1.029	1.029	0	%100
23	M16	X	0	0	0	%100
24	M16	Z	1.974	1.974	0	%100
25	M17	X	0	0	0	%100
26	M17	Z	1.029	1.029	0	%100
27	M18	X	0	0	0	%100
28	M18	Z	1.861	1.861	0	%100
29	M19	X	0	0	0	%100
30	M19	Z	1.112	1.112	0	%100
31	M20	X	0	0	0	%100
32	M20	Z	1.029	1.029	0	%100
33	M21	X	0	0	0	%100
34	M21	Z	1.029	1.029	0	%100
35	M22	X	0	0	0	%100
36	M22	Z	2.21	2.21	0	%100
37	M23	X	0	0	0	%100
38	M23	Z	2.21	2.21	0	%100
39	M24	X	0	0	0	%100
40	M24	Z	1.937	1.937	0	%100
41	M25	X	0	0	0	%100
42	M25	Z	1.112	1.112	0	%100
43	M26	X	0	0	0	%100
44	M26	Z	1.029	1.029	0	%100
45	M27	X	0	0	0	%100
46	M27	Z	1.974	1.974	0	%100
47	M28	X	0	0	0	%100
48	M28	Z	1.029	1.029	0	%100
49	M29	X	0	0	0	%100
50	M29	Z	1.861	1.861	0	%100
51	M30	X	0	0	0	%100
52	M30	Z	1.112	1.112	0	%100
53	M31	X	0	0	0	%100
54	M31	Z	1.029	1.029	0	%100
55	M32	X	0	0	0	%100
56	M32	Z	1.029	1.029	0	%100
57	M33	X	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
58	M33	Z	2.21	2.21	0	%100
59	M34	X	0	0	0	%100
60	M34	Z	2.21	2.21	0	%100
61	M35	X	0	0	0	%100
62	M35	Z	1.937	1.937	0	%100
63	M36	X	0	0	0	%100
64	M36	Z	1.112	1.112	0	%100
65	MP4A	X	0	0	0	%100
66	MP4A	Z	2.766	2.766	0	%100
67	MP3A	X	0	0	0	%100
68	MP3A	Z	2.766	2.766	0	%100
69	MP1A	X	0	0	0	%100
70	MP1A	Z	2.766	2.766	0	%100
71	M46	X	0	0	0	%100
72	M46	Z	.26	.26	0	%100
73	MP2A	X	0	0	0	%100
74	MP2A	Z	2.766	2.766	0	%100
75	M50	X	0	0	0	%100
76	M50	Z	2.766	2.766	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	-.034	-.034	0	%100
2	M5	Z	.059	.059	0	%100
3	M6	X	-.506	-.506	0	%100
4	M6	Z	.877	.877	0	%100
5	M7	X	-1.148	-1.148	0	%100
6	M7	Z	1.989	1.989	0	%100
7	M8	X	-.034	-.034	0	%100
8	M8	Z	.059	.059	0	%100
9	M9	X	-.506	-.506	0	%100
10	M9	Z	.877	.877	0	%100
11	M10	X	-1.148	-1.148	0	%100
12	M10	Z	1.989	1.989	0	%100
13	M11	X	-.086	-.086	0	%100
14	M11	Z	.149	.149	0	%100
15	M12	X	-1.284	-1.284	0	%100
16	M12	Z	2.224	2.224	0	%100
17	M13	X	-.086	-.086	0	%100
18	M13	Z	.149	.149	0	%100
19	M14	X	-1.284	-1.284	0	%100
20	M14	Z	2.224	2.224	0	%100
21	M15	X	-.707	-.707	0	%100
22	M15	Z	1.224	1.224	0	%100
23	M16	X	-1.168	-1.168	0	%100
24	M16	Z	2.023	2.023	0	%100
25	M17	X	-.707	-.707	0	%100
26	M17	Z	1.224	1.224	0	%100
27	M18	X	-1.135	-1.135	0	%100
28	M18	Z	1.966	1.966	0	%100
29	M19	X	-.738	-.738	0	%100
30	M19	Z	1.279	1.279	0	%100
31	M20	X	-.707	-.707	0	%100
32	M20	Z	1.224	1.224	0	%100
33	M21	X	-.707	-.707	0	%100
34	M21	Z	1.224	1.224	0	%100
35	M22	X	-1.105	-1.105	0	%100
36	M22	Z	1.914	1.914	0	%100
37	M23	X	-1.105	-1.105	0	%100
38	M23	Z	1.914	1.914	0	%100
39	M24	X	-.968	-.968	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
40	M24	Z	1.677	1.677	0	%100
41	M25	X	-.738	-.738	0	%100
42	M25	Z	1.279	1.279	0	%100
43	M26	X	-.707	-.707	0	%100
44	M26	Z	1.224	1.224	0	%100
45	M27	X	-.811	-.811	0	%100
46	M27	Z	1.404	1.404	0	%100
47	M28	X	-.707	-.707	0	%100
48	M28	Z	1.224	1.224	0	%100
49	M29	X	-.73	-.73	0	%100
50	M29	Z	1.265	1.265	0	%100
51	M30	X	-.738	-.738	0	%100
52	M30	Z	1.279	1.279	0	%100
53	M31	X	-.707	-.707	0	%100
54	M31	Z	1.224	1.224	0	%100
55	M32	X	-.707	-.707	0	%100
56	M32	Z	1.224	1.224	0	%100
57	M33	X	-1.105	-1.105	0	%100
58	M33	Z	1.914	1.914	0	%100
59	M34	X	-1.105	-1.105	0	%100
60	M34	Z	1.914	1.914	0	%100
61	M35	X	-.968	-.968	0	%100
62	M35	Z	1.677	1.677	0	%100
63	M36	X	-.738	-.738	0	%100
64	M36	Z	1.279	1.279	0	%100
65	MP4A	X	-1.383	-1.383	0	%100
66	MP4A	Z	2.396	2.396	0	%100
67	MP3A	X	-1.383	-1.383	0	%100
68	MP3A	Z	2.396	2.396	0	%100
69	MP1A	X	-1.383	-1.383	0	%100
70	MP1A	Z	2.396	2.396	0	%100
71	M46	X	-.101	-.101	0	%100
72	M46	Z	.175	.175	0	%100
73	MP2A	X	-1.383	-1.383	0	%100
74	MP2A	Z	2.396	2.396	0	%100
75	M50	X	-1.383	-1.383	0	%100
76	M50	Z	2.396	2.396	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	-.068	-.068	0	%100
2	M5	Z	.039	.039	0	%100
3	M6	X	-.886	-.886	0	%100
4	M6	Z	.511	.511	0	%100
5	M7	X	-.663	-.663	0	%100
6	M7	Z	.383	.383	0	%100
7	M8	X	-.068	-.068	0	%100
8	M8	Z	.039	.039	0	%100
9	M9	X	-.886	-.886	0	%100
10	M9	Z	.511	.511	0	%100
11	M10	X	-.663	-.663	0	%100
12	M10	Z	.383	.383	0	%100
13	M11	X	-.172	-.172	0	%100
14	M11	Z	.099	.099	0	%100
15	M12	X	-2.247	-2.247	0	%100
16	M12	Z	1.297	1.297	0	%100
17	M13	X	-.172	-.172	0	%100
18	M13	Z	.099	.099	0	%100
19	M14	X	-2.247	-2.247	0	%100
20	M14	Z	1.297	1.297	0	%100
21	M15	X	-1.89	-1.89	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
22	M15	Z	1.091	1.091	0	%100
23	M16	X	-2.029	-2.029	0	%100
24	M16	Z	1.172	1.172	0	%100
25	M17	X	-1.89	-1.89	0	%100
26	M17	Z	1.091	1.091	0	%100
27	M18	X	-1.974	-1.974	0	%100
28	M18	Z	1.14	1.14	0	%100
29	M19	X	-1.91	-1.91	0	%100
30	M19	Z	1.103	1.103	0	%100
31	M20	X	-1.89	-1.89	0	%100
32	M20	Z	1.091	1.091	0	%100
33	M21	X	-1.89	-1.89	0	%100
34	M21	Z	1.091	1.091	0	%100
35	M22	X	-1.914	-1.914	0	%100
36	M22	Z	1.105	1.105	0	%100
37	M23	X	-1.914	-1.914	0	%100
38	M23	Z	1.105	1.105	0	%100
39	M24	X	-1.677	-1.677	0	%100
40	M24	Z	.968	.968	0	%100
41	M25	X	-1.91	-1.91	0	%100
42	M25	Z	1.103	1.103	0	%100
43	M26	X	-1.89	-1.89	0	%100
44	M26	Z	1.091	1.091	0	%100
45	M27	X	-1.411	-1.411	0	%100
46	M27	Z	.814	.814	0	%100
47	M28	X	-1.89	-1.89	0	%100
48	M28	Z	1.091	1.091	0	%100
49	M29	X	-1.272	-1.272	0	%100
50	M29	Z	.735	.735	0	%100
51	M30	X	-1.91	-1.91	0	%100
52	M30	Z	1.103	1.103	0	%100
53	M31	X	-1.89	-1.89	0	%100
54	M31	Z	1.091	1.091	0	%100
55	M32	X	-1.89	-1.89	0	%100
56	M32	Z	1.091	1.091	0	%100
57	M33	X	-1.914	-1.914	0	%100
58	M33	Z	1.105	1.105	0	%100
59	M34	X	-1.914	-1.914	0	%100
60	M34	Z	1.105	1.105	0	%100
61	M35	X	-1.677	-1.677	0	%100
62	M35	Z	.968	.968	0	%100
63	M36	X	-1.91	-1.91	0	%100
64	M36	Z	1.103	1.103	0	%100
65	MP4A	X	-2.396	-2.396	0	%100
66	MP4A	Z	1.383	1.383	0	%100
67	MP3A	X	-2.396	-2.396	0	%100
68	MP3A	Z	1.383	1.383	0	%100
69	MP1A	X	-2.396	-2.396	0	%100
70	MP1A	Z	1.383	1.383	0	%100
71	M46	X	-1.435	-1.435	0	%100
72	M46	Z	.829	.829	0	%100
73	MP2A	X	-2.396	-2.396	0	%100
74	MP2A	Z	1.383	1.383	0	%100
75	M50	X	-2.396	-2.396	0	%100
76	M50	Z	1.383	1.383	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	-.556	-.556	0	%100
2	M5	Z	0	0	0	%100
3	M6	X	-.556	-.556	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
4	M6	Z	0	0	0	%100
5	M7	X	0	0	0	%100
6	M7	Z	0	0	0	%100
7	M8	X	-.556	-.556	0	%100
8	M8	Z	0	0	0	%100
9	M9	X	-.556	-.556	0	%100
10	M9	Z	0	0	0	%100
11	M10	X	0	0	0	%100
12	M10	Z	0	0	0	%100
13	M11	X	-1.41	-1.41	0	%100
14	M11	Z	0	0	0	%100
15	M12	X	-1.41	-1.41	0	%100
16	M12	Z	0	0	0	%100
17	M13	X	-1.41	-1.41	0	%100
18	M13	Z	0	0	0	%100
19	M14	X	-1.41	-1.41	0	%100
20	M14	Z	0	0	0	%100
21	M15	X	-2.567	-2.567	0	%100
22	M15	Z	0	0	0	%100
23	M16	X	-1.99	-1.99	0	%100
24	M16	Z	0	0	0	%100
25	M17	X	-2.567	-2.567	0	%100
26	M17	Z	0	0	0	%100
27	M18	X	-1.879	-1.879	0	%100
28	M18	Z	0	0	0	%100
29	M19	X	-2.57	-2.57	0	%100
30	M19	Z	0	0	0	%100
31	M20	X	-2.567	-2.567	0	%100
32	M20	Z	0	0	0	%100
33	M21	X	-2.567	-2.567	0	%100
34	M21	Z	0	0	0	%100
35	M22	X	-2.21	-2.21	0	%100
36	M22	Z	0	0	0	%100
37	M23	X	-2.21	-2.21	0	%100
38	M23	Z	0	0	0	%100
39	M24	X	-1.937	-1.937	0	%100
40	M24	Z	0	0	0	%100
41	M25	X	-2.57	-2.57	0	%100
42	M25	Z	0	0	0	%100
43	M26	X	-2.567	-2.567	0	%100
44	M26	Z	0	0	0	%100
45	M27	X	-1.99	-1.99	0	%100
46	M27	Z	0	0	0	%100
47	M28	X	-2.567	-2.567	0	%100
48	M28	Z	0	0	0	%100
49	M29	X	-1.879	-1.879	0	%100
50	M29	Z	0	0	0	%100
51	M30	X	-2.57	-2.57	0	%100
52	M30	Z	0	0	0	%100
53	M31	X	-2.567	-2.567	0	%100
54	M31	Z	0	0	0	%100
55	M32	X	-2.567	-2.567	0	%100
56	M32	Z	0	0	0	%100
57	M33	X	-2.21	-2.21	0	%100
58	M33	Z	0	0	0	%100
59	M34	X	-2.21	-2.21	0	%100
60	M34	Z	0	0	0	%100
61	M35	X	-1.937	-1.937	0	%100
62	M35	Z	0	0	0	%100
63	M36	X	-2.57	-2.57	0	%100
64	M36	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
65	MP4A	X	-2.766	-2.766	0	%100
66	MP4A	Z	0	0	0	%100
67	MP3A	X	-2.766	-2.766	0	%100
68	MP3A	Z	0	0	0	%100
69	MP1A	X	-2.766	-2.766	0	%100
70	MP1A	Z	0	0	0	%100
71	M46	X	-3.171	-3.171	0	%100
72	M46	Z	0	0	0	%100
73	MP2A	X	-2.766	-2.766	0	%100
74	MP2A	Z	0	0	0	%100
75	M50	X	-2.766	-2.766	0	%100
76	M50	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	-.886	-.886	0	%100
2	M5	Z	-.511	-.511	0	%100
3	M6	X	-.068	-.068	0	%100
4	M6	Z	-.039	-.039	0	%100
5	M7	X	-.663	-.663	0	%100
6	M7	Z	-.383	-.383	0	%100
7	M8	X	-.886	-.886	0	%100
8	M8	Z	-.511	-.511	0	%100
9	M9	X	-.068	-.068	0	%100
10	M9	Z	-.039	-.039	0	%100
11	M10	X	-.663	-.663	0	%100
12	M10	Z	-.383	-.383	0	%100
13	M11	X	-2.247	-2.247	0	%100
14	M11	Z	-1.297	-1.297	0	%100
15	M12	X	-.172	-.172	0	%100
16	M12	Z	-.099	-.099	0	%100
17	M13	X	-2.247	-2.247	0	%100
18	M13	Z	-1.297	-1.297	0	%100
19	M14	X	-.172	-.172	0	%100
20	M14	Z	-.099	-.099	0	%100
21	M15	X	-1.89	-1.89	0	%100
22	M15	Z	-1.091	-1.091	0	%100
23	M16	X	-1.411	-1.411	0	%100
24	M16	Z	-.814	-.814	0	%100
25	M17	X	-1.89	-1.89	0	%100
26	M17	Z	-1.091	-1.091	0	%100
27	M18	X	-1.272	-1.272	0	%100
28	M18	Z	-.735	-.735	0	%100
29	M19	X	-1.91	-1.91	0	%100
30	M19	Z	-1.103	-1.103	0	%100
31	M20	X	-1.89	-1.89	0	%100
32	M20	Z	-1.091	-1.091	0	%100
33	M21	X	-1.89	-1.89	0	%100
34	M21	Z	-1.091	-1.091	0	%100
35	M22	X	-1.914	-1.914	0	%100
36	M22	Z	-1.105	-1.105	0	%100
37	M23	X	-1.914	-1.914	0	%100
38	M23	Z	-1.105	-1.105	0	%100
39	M24	X	-1.677	-1.677	0	%100
40	M24	Z	-.968	-.968	0	%100
41	M25	X	-1.91	-1.91	0	%100
42	M25	Z	-1.103	-1.103	0	%100
43	M26	X	-1.89	-1.89	0	%100
44	M26	Z	-1.091	-1.091	0	%100
45	M27	X	-2.029	-2.029	0	%100
46	M27	Z	-1.172	-1.172	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
47	M28	X	-1.89	-1.89	0	%100
48	M28	Z	-1.091	-1.091	0	%100
49	M29	X	-1.974	-1.974	0	%100
50	M29	Z	-1.14	-1.14	0	%100
51	M30	X	-1.91	-1.91	0	%100
52	M30	Z	-1.103	-1.103	0	%100
53	M31	X	-1.89	-1.89	0	%100
54	M31	Z	-1.091	-1.091	0	%100
55	M32	X	-1.89	-1.89	0	%100
56	M32	Z	-1.091	-1.091	0	%100
57	M33	X	-1.914	-1.914	0	%100
58	M33	Z	-1.105	-1.105	0	%100
59	M34	X	-1.914	-1.914	0	%100
60	M34	Z	-1.105	-1.105	0	%100
61	M35	X	-1.677	-1.677	0	%100
62	M35	Z	-.968	-.968	0	%100
63	M36	X	-1.91	-1.91	0	%100
64	M36	Z	-1.103	-1.103	0	%100
65	MP4A	X	-2.396	-2.396	0	%100
66	MP4A	Z	-1.383	-1.383	0	%100
67	MP3A	X	-2.396	-2.396	0	%100
68	MP3A	Z	-1.383	-1.383	0	%100
69	MP1A	X	-2.396	-2.396	0	%100
70	MP1A	Z	-1.383	-1.383	0	%100
71	M46	X	-2.797	-2.797	0	%100
72	M46	Z	-1.615	-1.615	0	%100
73	MP2A	X	-2.396	-2.396	0	%100
74	MP2A	Z	-1.383	-1.383	0	%100
75	M50	X	-2.396	-2.396	0	%100
76	M50	Z	-1.383	-1.383	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	-.506	-.506	0	%100
2	M5	Z	-.877	-.877	0	%100
3	M6	X	-.034	-.034	0	%100
4	M6	Z	-.059	-.059	0	%100
5	M7	X	-1.148	-1.148	0	%100
6	M7	Z	-1.989	-1.989	0	%100
7	M8	X	-.506	-.506	0	%100
8	M8	Z	-.877	-.877	0	%100
9	M9	X	-.034	-.034	0	%100
10	M9	Z	-.059	-.059	0	%100
11	M10	X	-1.148	-1.148	0	%100
12	M10	Z	-1.989	-1.989	0	%100
13	M11	X	-1.284	-1.284	0	%100
14	M11	Z	-2.224	-2.224	0	%100
15	M12	X	-.086	-.086	0	%100
16	M12	Z	-.149	-.149	0	%100
17	M13	X	-1.284	-1.284	0	%100
18	M13	Z	-2.224	-2.224	0	%100
19	M14	X	-.086	-.086	0	%100
20	M14	Z	-.149	-.149	0	%100
21	M15	X	-.707	-.707	0	%100
22	M15	Z	-1.224	-1.224	0	%100
23	M16	X	-.811	-.811	0	%100
24	M16	Z	-1.404	-1.404	0	%100
25	M17	X	-.707	-.707	0	%100
26	M17	Z	-1.224	-1.224	0	%100
27	M18	X	-.73	-.73	0	%100
28	M18	Z	-1.265	-1.265	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
29	M19	X	-.738	-.738	0	%100
30	M19	Z	-1.279	-1.279	0	%100
31	M20	X	-.707	-.707	0	%100
32	M20	Z	-1.224	-1.224	0	%100
33	M21	X	-.707	-.707	0	%100
34	M21	Z	-1.224	-1.224	0	%100
35	M22	X	-1.105	-1.105	0	%100
36	M22	Z	-1.914	-1.914	0	%100
37	M23	X	-1.105	-1.105	0	%100
38	M23	Z	-1.914	-1.914	0	%100
39	M24	X	-.968	-.968	0	%100
40	M24	Z	-1.677	-1.677	0	%100
41	M25	X	-.738	-.738	0	%100
42	M25	Z	-1.279	-1.279	0	%100
43	M26	X	-.707	-.707	0	%100
44	M26	Z	-1.224	-1.224	0	%100
45	M27	X	-1.168	-1.168	0	%100
46	M27	Z	-2.023	-2.023	0	%100
47	M28	X	-.707	-.707	0	%100
48	M28	Z	-1.224	-1.224	0	%100
49	M29	X	-1.135	-1.135	0	%100
50	M29	Z	-1.966	-1.966	0	%100
51	M30	X	-.738	-.738	0	%100
52	M30	Z	-1.279	-1.279	0	%100
53	M31	X	-.707	-.707	0	%100
54	M31	Z	-1.224	-1.224	0	%100
55	M32	X	-.707	-.707	0	%100
56	M32	Z	-1.224	-1.224	0	%100
57	M33	X	-1.105	-1.105	0	%100
58	M33	Z	-1.914	-1.914	0	%100
59	M34	X	-1.105	-1.105	0	%100
60	M34	Z	-1.914	-1.914	0	%100
61	M35	X	-.968	-.968	0	%100
62	M35	Z	-1.677	-1.677	0	%100
63	M36	X	-.738	-.738	0	%100
64	M36	Z	-1.279	-1.279	0	%100
65	MP4A	X	-1.383	-1.383	0	%100
66	MP4A	Z	-2.396	-2.396	0	%100
67	MP3A	X	-1.383	-1.383	0	%100
68	MP3A	Z	-2.396	-2.396	0	%100
69	MP1A	X	-1.383	-1.383	0	%100
70	MP1A	Z	-2.396	-2.396	0	%100
71	M46	X	-.887	-.887	0	%100
72	M46	Z	-1.536	-1.536	0	%100
73	MP2A	X	-1.383	-1.383	0	%100
74	MP2A	Z	-2.396	-2.396	0	%100
75	M50	X	-1.383	-1.383	0	%100
76	M50	Z	-2.396	-2.396	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	0	0	0	%100
2	M5	Z	-.052	-.052	0	%100
3	M6	X	0	0	0	%100
4	M6	Z	-.052	-.052	0	%100
5	M7	X	0	0	0	%100
6	M7	Z	-.611	-.611	0	%100
7	M8	X	0	0	0	%100
8	M8	Z	-.052	-.052	0	%100
9	M9	X	0	0	0	%100
10	M9	Z	-.052	-.052	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
11	M10	X	0	0	0	%100
12	M10	Z	-.611	-.611	0	%100
13	M11	X	0	0	0	%100
14	M11	Z	-.248	-.248	0	%100
15	M12	X	0	0	0	%100
16	M12	Z	-.248	-.248	0	%100
17	M13	X	0	0	0	%100
18	M13	Z	-.248	-.248	0	%100
19	M14	X	0	0	0	%100
20	M14	Z	-.248	-.248	0	%100
21	M15	X	0	0	0	%100
22	M15	Z	-.084	-.084	0	%100
23	M16	X	0	0	0	%100
24	M16	Z	-.333	-.333	0	%100
25	M17	X	0	0	0	%100
26	M17	Z	-.084	-.084	0	%100
27	M18	X	0	0	0	%100
28	M18	Z	-.316	-.316	0	%100
29	M19	X	0	0	0	%100
30	M19	Z	-.113	-.113	0	%100
31	M20	X	0	0	0	%100
32	M20	Z	-.084	-.084	0	%100
33	M21	X	0	0	0	%100
34	M21	Z	-.084	-.084	0	%100
35	M22	X	0	0	0	%100
36	M22	Z	-.374	-.374	0	%100
37	M23	X	0	0	0	%100
38	M23	Z	-.374	-.374	0	%100
39	M24	X	0	0	0	%100
40	M24	Z	-.312	-.312	0	%100
41	M25	X	0	0	0	%100
42	M25	Z	-.113	-.113	0	%100
43	M26	X	0	0	0	%100
44	M26	Z	-.084	-.084	0	%100
45	M27	X	0	0	0	%100
46	M27	Z	-.333	-.333	0	%100
47	M28	X	0	0	0	%100
48	M28	Z	-.084	-.084	0	%100
49	M29	X	0	0	0	%100
50	M29	Z	-.316	-.316	0	%100
51	M30	X	0	0	0	%100
52	M30	Z	-.113	-.113	0	%100
53	M31	X	0	0	0	%100
54	M31	Z	-.084	-.084	0	%100
55	M32	X	0	0	0	%100
56	M32	Z	-.084	-.084	0	%100
57	M33	X	0	0	0	%100
58	M33	Z	-.374	-.374	0	%100
59	M34	X	0	0	0	%100
60	M34	Z	-.374	-.374	0	%100
61	M35	X	0	0	0	%100
62	M35	Z	-.312	-.312	0	%100
63	M36	X	0	0	0	%100
64	M36	Z	-.113	-.113	0	%100
65	MP4A	X	0	0	0	%100
66	MP4A	Z	-.505	-.505	0	%100
67	MP3A	X	0	0	0	%100
68	MP3A	Z	-.505	-.505	0	%100
69	MP1A	X	0	0	0	%100
70	MP1A	Z	-.505	-.505	0	%100
71	M46	X	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
72	M46	Z	-.056	-.056	0	%100
73	MP2A	X	0	0	0	%100
74	MP2A	Z	-.505	-.505	0	%100
75	M50	X	0	0	0	%100
76	M50	Z	-.505	-.505	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	.003	.003	0	%100
2	M5	Z	-.006	-.006	0	%100
3	M6	X	.049	.049	0	%100
4	M6	Z	-.085	-.085	0	%100
5	M7	X	.229	.229	0	%100
6	M7	Z	-.397	-.397	0	%100
7	M8	X	.003	.003	0	%100
8	M8	Z	-.006	-.006	0	%100
9	M9	X	.049	.049	0	%100
10	M9	Z	-.085	-.085	0	%100
11	M10	X	.229	.229	0	%100
12	M10	Z	-.397	-.397	0	%100
13	M11	X	.016	.016	0	%100
14	M11	Z	-.027	-.027	0	%100
15	M12	X	.234	.234	0	%100
16	M12	Z	-.406	-.406	0	%100
17	M13	X	.016	.016	0	%100
18	M13	Z	-.027	-.027	0	%100
19	M14	X	.234	.234	0	%100
20	M14	Z	-.406	-.406	0	%100
21	M15	X	.111	.111	0	%100
22	M15	Z	-.193	-.193	0	%100
23	M16	X	.197	.197	0	%100
24	M16	Z	-.341	-.341	0	%100
25	M17	X	.111	.111	0	%100
26	M17	Z	-.193	-.193	0	%100
27	M18	X	.193	.193	0	%100
28	M18	Z	-.334	-.334	0	%100
29	M19	X	.122	.122	0	%100
30	M19	Z	-.211	-.211	0	%100
31	M20	X	.111	.111	0	%100
32	M20	Z	-.193	-.193	0	%100
33	M21	X	.111	.111	0	%100
34	M21	Z	-.193	-.193	0	%100
35	M22	X	.187	.187	0	%100
36	M22	Z	-.324	-.324	0	%100
37	M23	X	.187	.187	0	%100
38	M23	Z	-.324	-.324	0	%100
39	M24	X	.156	.156	0	%100
40	M24	Z	-.27	-.27	0	%100
41	M25	X	.122	.122	0	%100
42	M25	Z	-.211	-.211	0	%100
43	M26	X	.111	.111	0	%100
44	M26	Z	-.193	-.193	0	%100
45	M27	X	.137	.137	0	%100
46	M27	Z	-.237	-.237	0	%100
47	M28	X	.111	.111	0	%100
48	M28	Z	-.193	-.193	0	%100
49	M29	X	.124	.124	0	%100
50	M29	Z	-.215	-.215	0	%100
51	M30	X	.122	.122	0	%100
52	M30	Z	-.211	-.211	0	%100
53	M31	X	.111	.111	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
54	M31	Z	-.193	-.193	0	%100
55	M32	X	.111	.111	0	%100
56	M32	Z	-.193	-.193	0	%100
57	M33	X	.187	.187	0	%100
58	M33	Z	-.324	-.324	0	%100
59	M34	X	.187	.187	0	%100
60	M34	Z	-.324	-.324	0	%100
61	M35	X	.156	.156	0	%100
62	M35	Z	-.27	-.27	0	%100
63	M36	X	.122	.122	0	%100
64	M36	Z	-.211	-.211	0	%100
65	MP4A	X	.252	.252	0	%100
66	MP4A	Z	-.437	-.437	0	%100
67	MP3A	X	.252	.252	0	%100
68	MP3A	Z	-.437	-.437	0	%100
69	MP1A	X	.252	.252	0	%100
70	MP1A	Z	-.437	-.437	0	%100
71	M46	X	.022	.022	0	%100
72	M46	Z	-.038	-.038	0	%100
73	MP2A	X	.252	.252	0	%100
74	MP2A	Z	-.437	-.437	0	%100
75	M50	X	.252	.252	0	%100
76	M50	Z	-.437	-.437	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	.007	.007	0	%100
2	M5	Z	-.004	-.004	0	%100
3	M6	X	.086	.086	0	%100
4	M6	Z	-.05	-.05	0	%100
5	M7	X	.132	.132	0	%100
6	M7	Z	-.076	-.076	0	%100
7	M8	X	.007	.007	0	%100
8	M8	Z	-.004	-.004	0	%100
9	M9	X	.086	.086	0	%100
10	M9	Z	-.05	-.05	0	%100
11	M10	X	.132	.132	0	%100
12	M10	Z	-.076	-.076	0	%100
13	M11	X	.031	.031	0	%100
14	M11	Z	-.018	-.018	0	%100
15	M12	X	.41	.41	0	%100
16	M12	Z	-.237	-.237	0	%100
17	M13	X	.031	.031	0	%100
18	M13	Z	-.018	-.018	0	%100
19	M14	X	.41	.41	0	%100
20	M14	Z	-.237	-.237	0	%100
21	M15	X	.432	.432	0	%100
22	M15	Z	-.25	-.25	0	%100
23	M16	X	.342	.342	0	%100
24	M16	Z	-.198	-.198	0	%100
25	M17	X	.432	.432	0	%100
26	M17	Z	-.25	-.25	0	%100
27	M18	X	.336	.336	0	%100
28	M18	Z	-.194	-.194	0	%100
29	M19	X	.439	.439	0	%100
30	M19	Z	-.253	-.253	0	%100
31	M20	X	.432	.432	0	%100
32	M20	Z	-.25	-.25	0	%100
33	M21	X	.432	.432	0	%100
34	M21	Z	-.25	-.25	0	%100
35	M22	X	.324	.324	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
36	M22	Z	-.187	-.187	0	%100
37	M23	X	.324	.324	0	%100
38	M23	Z	-.187	-.187	0	%100
39	M24	X	.27	.27	0	%100
40	M24	Z	-.156	-.156	0	%100
41	M25	X	.439	.439	0	%100
42	M25	Z	-.253	-.253	0	%100
43	M26	X	.432	.432	0	%100
44	M26	Z	-.25	-.25	0	%100
45	M27	X	.238	.238	0	%100
46	M27	Z	-.137	-.137	0	%100
47	M28	X	.432	.432	0	%100
48	M28	Z	-.25	-.25	0	%100
49	M29	X	.216	.216	0	%100
50	M29	Z	-.125	-.125	0	%100
51	M30	X	.439	.439	0	%100
52	M30	Z	-.253	-.253	0	%100
53	M31	X	.432	.432	0	%100
54	M31	Z	-.25	-.25	0	%100
55	M32	X	.432	.432	0	%100
56	M32	Z	-.25	-.25	0	%100
57	M33	X	.324	.324	0	%100
58	M33	Z	-.187	-.187	0	%100
59	M34	X	.324	.324	0	%100
60	M34	Z	-.187	-.187	0	%100
61	M35	X	.27	.27	0	%100
62	M35	Z	-.156	-.156	0	%100
63	M36	X	.439	.439	0	%100
64	M36	Z	-.253	-.253	0	%100
65	MP4A	X	.437	.437	0	%100
66	MP4A	Z	-.252	-.252	0	%100
67	MP3A	X	.437	.437	0	%100
68	MP3A	Z	-.252	-.252	0	%100
69	MP1A	X	.437	.437	0	%100
70	MP1A	Z	-.252	-.252	0	%100
71	M46	X	.311	.311	0	%100
72	M46	Z	-.18	-.18	0	%100
73	MP2A	X	.437	.437	0	%100
74	MP2A	Z	-.252	-.252	0	%100
75	M50	X	.437	.437	0	%100
76	M50	Z	-.252	-.252	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	.054	.054	0	%100
2	M5	Z	0	0	0	%100
3	M6	X	.054	.054	0	%100
4	M6	Z	0	0	0	%100
5	M7	X	0	0	0	%100
6	M7	Z	0	0	0	%100
7	M8	X	.054	.054	0	%100
8	M8	Z	0	0	0	%100
9	M9	X	.054	.054	0	%100
10	M9	Z	0	0	0	%100
11	M10	X	0	0	0	%100
12	M10	Z	0	0	0	%100
13	M11	X	.257	.257	0	%100
14	M11	Z	0	0	0	%100
15	M12	X	.257	.257	0	%100
16	M12	Z	0	0	0	%100
17	M13	X	.257	.257	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
18	M13	Z	0	0	0	%100
19	M14	X	.257	.257	0	%100
20	M14	Z	0	0	0	%100
21	M15	X	.638	.638	0	%100
22	M15	Z	0	0	0	%100
23	M16	X	.336	.336	0	%100
24	M16	Z	0	0	0	%100
25	M17	X	.638	.638	0	%100
26	M17	Z	0	0	0	%100
27	M18	X	.319	.319	0	%100
28	M18	Z	0	0	0	%100
29	M19	X	.638	.638	0	%100
30	M19	Z	0	0	0	%100
31	M20	X	.638	.638	0	%100
32	M20	Z	0	0	0	%100
33	M21	X	.638	.638	0	%100
34	M21	Z	0	0	0	%100
35	M22	X	.374	.374	0	%100
36	M22	Z	0	0	0	%100
37	M23	X	.374	.374	0	%100
38	M23	Z	0	0	0	%100
39	M24	X	.312	.312	0	%100
40	M24	Z	0	0	0	%100
41	M25	X	.638	.638	0	%100
42	M25	Z	0	0	0	%100
43	M26	X	.638	.638	0	%100
44	M26	Z	0	0	0	%100
45	M27	X	.336	.336	0	%100
46	M27	Z	0	0	0	%100
47	M28	X	.638	.638	0	%100
48	M28	Z	0	0	0	%100
49	M29	X	.319	.319	0	%100
50	M29	Z	0	0	0	%100
51	M30	X	.638	.638	0	%100
52	M30	Z	0	0	0	%100
53	M31	X	.638	.638	0	%100
54	M31	Z	0	0	0	%100
55	M32	X	.638	.638	0	%100
56	M32	Z	0	0	0	%100
57	M33	X	.374	.374	0	%100
58	M33	Z	0	0	0	%100
59	M34	X	.374	.374	0	%100
60	M34	Z	0	0	0	%100
61	M35	X	.312	.312	0	%100
62	M35	Z	0	0	0	%100
63	M36	X	.638	.638	0	%100
64	M36	Z	0	0	0	%100
65	MP4A	X	.505	.505	0	%100
66	MP4A	Z	0	0	0	%100
67	MP3A	X	.505	.505	0	%100
68	MP3A	Z	0	0	0	%100
69	MP1A	X	.505	.505	0	%100
70	MP1A	Z	0	0	0	%100
71	M46	X	.688	.688	0	%100
72	M46	Z	0	0	0	%100
73	MP2A	X	.505	.505	0	%100
74	MP2A	Z	0	0	0	%100
75	M50	X	.505	.505	0	%100
76	M50	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	.086	.086	0	%100
2	M5	Z	.05	.05	0	%100
3	M6	X	.007	.007	0	%100
4	M6	Z	.004	.004	0	%100
5	M7	X	.132	.132	0	%100
6	M7	Z	.076	.076	0	%100
7	M8	X	.086	.086	0	%100
8	M8	Z	.05	.05	0	%100
9	M9	X	.007	.007	0	%100
10	M9	Z	.004	.004	0	%100
11	M10	X	.132	.132	0	%100
12	M10	Z	.076	.076	0	%100
13	M11	X	.41	.41	0	%100
14	M11	Z	.237	.237	0	%100
15	M12	X	.031	.031	0	%100
16	M12	Z	.018	.018	0	%100
17	M13	X	.41	.41	0	%100
18	M13	Z	.237	.237	0	%100
19	M14	X	.031	.031	0	%100
20	M14	Z	.018	.018	0	%100
21	M15	X	.432	.432	0	%100
22	M15	Z	.25	.25	0	%100
23	M16	X	.238	.238	0	%100
24	M16	Z	.137	.137	0	%100
25	M17	X	.432	.432	0	%100
26	M17	Z	.25	.25	0	%100
27	M18	X	.216	.216	0	%100
28	M18	Z	.125	.125	0	%100
29	M19	X	.439	.439	0	%100
30	M19	Z	.253	.253	0	%100
31	M20	X	.432	.432	0	%100
32	M20	Z	.25	.25	0	%100
33	M21	X	.432	.432	0	%100
34	M21	Z	.25	.25	0	%100
35	M22	X	.324	.324	0	%100
36	M22	Z	.187	.187	0	%100
37	M23	X	.324	.324	0	%100
38	M23	Z	.187	.187	0	%100
39	M24	X	.27	.27	0	%100
40	M24	Z	.156	.156	0	%100
41	M25	X	.439	.439	0	%100
42	M25	Z	.253	.253	0	%100
43	M26	X	.432	.432	0	%100
44	M26	Z	.25	.25	0	%100
45	M27	X	.342	.342	0	%100
46	M27	Z	.198	.198	0	%100
47	M28	X	.432	.432	0	%100
48	M28	Z	.25	.25	0	%100
49	M29	X	.336	.336	0	%100
50	M29	Z	.194	.194	0	%100
51	M30	X	.439	.439	0	%100
52	M30	Z	.253	.253	0	%100
53	M31	X	.432	.432	0	%100
54	M31	Z	.25	.25	0	%100
55	M32	X	.432	.432	0	%100
56	M32	Z	.25	.25	0	%100
57	M33	X	.324	.324	0	%100
58	M33	Z	.187	.187	0	%100
59	M34	X	.324	.324	0	%100
60	M34	Z	.187	.187	0	%100
61	M35	X	.27	.27	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
62	M35	Z	.156	.156	0	%100
63	M36	X	.439	.439	0	%100
64	M36	Z	.253	.253	0	%100
65	MP4A	X	.437	.437	0	%100
66	MP4A	Z	.252	.252	0	%100
67	MP3A	X	.437	.437	0	%100
68	MP3A	Z	.252	.252	0	%100
69	MP1A	X	.437	.437	0	%100
70	MP1A	Z	.252	.252	0	%100
71	M46	X	.606	.606	0	%100
72	M46	Z	.35	.35	0	%100
73	MP2A	X	.437	.437	0	%100
74	MP2A	Z	.252	.252	0	%100
75	M50	X	.437	.437	0	%100
76	M50	Z	.252	.252	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	.049	.049	0	%100
2	M5	Z	.085	.085	0	%100
3	M6	X	.003	.003	0	%100
4	M6	Z	.006	.006	0	%100
5	M7	X	.229	.229	0	%100
6	M7	Z	.397	.397	0	%100
7	M8	X	.049	.049	0	%100
8	M8	Z	.085	.085	0	%100
9	M9	X	.003	.003	0	%100
10	M9	Z	.006	.006	0	%100
11	M10	X	.229	.229	0	%100
12	M10	Z	.397	.397	0	%100
13	M11	X	.234	.234	0	%100
14	M11	Z	.406	.406	0	%100
15	M12	X	.016	.016	0	%100
16	M12	Z	.027	.027	0	%100
17	M13	X	.234	.234	0	%100
18	M13	Z	.406	.406	0	%100
19	M14	X	.016	.016	0	%100
20	M14	Z	.027	.027	0	%100
21	M15	X	.111	.111	0	%100
22	M15	Z	.193	.193	0	%100
23	M16	X	.137	.137	0	%100
24	M16	Z	.237	.237	0	%100
25	M17	X	.111	.111	0	%100
26	M17	Z	.193	.193	0	%100
27	M18	X	.124	.124	0	%100
28	M18	Z	.215	.215	0	%100
29	M19	X	.122	.122	0	%100
30	M19	Z	.211	.211	0	%100
31	M20	X	.111	.111	0	%100
32	M20	Z	.193	.193	0	%100
33	M21	X	.111	.111	0	%100
34	M21	Z	.193	.193	0	%100
35	M22	X	.187	.187	0	%100
36	M22	Z	.324	.324	0	%100
37	M23	X	.187	.187	0	%100
38	M23	Z	.324	.324	0	%100
39	M24	X	.156	.156	0	%100
40	M24	Z	.27	.27	0	%100
41	M25	X	.122	.122	0	%100
42	M25	Z	.211	.211	0	%100
43	M26	X	.111	.111	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
44	M26	Z	.193	.193	0	%100
45	M27	X	.197	.197	0	%100
46	M27	Z	.341	.341	0	%100
47	M28	X	.111	.111	0	%100
48	M28	Z	.193	.193	0	%100
49	M29	X	.193	.193	0	%100
50	M29	Z	.334	.334	0	%100
51	M30	X	.122	.122	0	%100
52	M30	Z	.211	.211	0	%100
53	M31	X	.111	.111	0	%100
54	M31	Z	.193	.193	0	%100
55	M32	X	.111	.111	0	%100
56	M32	Z	.193	.193	0	%100
57	M33	X	.187	.187	0	%100
58	M33	Z	.324	.324	0	%100
59	M34	X	.187	.187	0	%100
60	M34	Z	.324	.324	0	%100
61	M35	X	.156	.156	0	%100
62	M35	Z	.27	.27	0	%100
63	M36	X	.122	.122	0	%100
64	M36	Z	.211	.211	0	%100
65	MP4A	X	.252	.252	0	%100
66	MP4A	Z	.437	.437	0	%100
67	MP3A	X	.252	.252	0	%100
68	MP3A	Z	.437	.437	0	%100
69	MP1A	X	.252	.252	0	%100
70	MP1A	Z	.437	.437	0	%100
71	M46	X	.192	.192	0	%100
72	M46	Z	.333	.333	0	%100
73	MP2A	X	.252	.252	0	%100
74	MP2A	Z	.437	.437	0	%100
75	M50	X	.252	.252	0	%100
76	M50	Z	.437	.437	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	0	0	0	%100
2	M5	Z	.052	.052	0	%100
3	M6	X	0	0	0	%100
4	M6	Z	.052	.052	0	%100
5	M7	X	0	0	0	%100
6	M7	Z	.611	.611	0	%100
7	M8	X	0	0	0	%100
8	M8	Z	.052	.052	0	%100
9	M9	X	0	0	0	%100
10	M9	Z	.052	.052	0	%100
11	M10	X	0	0	0	%100
12	M10	Z	.611	.611	0	%100
13	M11	X	0	0	0	%100
14	M11	Z	.248	.248	0	%100
15	M12	X	0	0	0	%100
16	M12	Z	.248	.248	0	%100
17	M13	X	0	0	0	%100
18	M13	Z	.248	.248	0	%100
19	M14	X	0	0	0	%100
20	M14	Z	.248	.248	0	%100
21	M15	X	0	0	0	%100
22	M15	Z	.084	.084	0	%100
23	M16	X	0	0	0	%100
24	M16	Z	.333	.333	0	%100
25	M17	X	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
26	M17	Z	.084	.084	0	%100
27	M18	X	0	0	0	%100
28	M18	Z	.316	.316	0	%100
29	M19	X	0	0	0	%100
30	M19	Z	.113	.113	0	%100
31	M20	X	0	0	0	%100
32	M20	Z	.084	.084	0	%100
33	M21	X	0	0	0	%100
34	M21	Z	.084	.084	0	%100
35	M22	X	0	0	0	%100
36	M22	Z	.374	.374	0	%100
37	M23	X	0	0	0	%100
38	M23	Z	.374	.374	0	%100
39	M24	X	0	0	0	%100
40	M24	Z	.312	.312	0	%100
41	M25	X	0	0	0	%100
42	M25	Z	.113	.113	0	%100
43	M26	X	0	0	0	%100
44	M26	Z	.084	.084	0	%100
45	M27	X	0	0	0	%100
46	M27	Z	.333	.333	0	%100
47	M28	X	0	0	0	%100
48	M28	Z	.084	.084	0	%100
49	M29	X	0	0	0	%100
50	M29	Z	.316	.316	0	%100
51	M30	X	0	0	0	%100
52	M30	Z	.113	.113	0	%100
53	M31	X	0	0	0	%100
54	M31	Z	.084	.084	0	%100
55	M32	X	0	0	0	%100
56	M32	Z	.084	.084	0	%100
57	M33	X	0	0	0	%100
58	M33	Z	.374	.374	0	%100
59	M34	X	0	0	0	%100
60	M34	Z	.374	.374	0	%100
61	M35	X	0	0	0	%100
62	M35	Z	.312	.312	0	%100
63	M36	X	0	0	0	%100
64	M36	Z	.113	.113	0	%100
65	MP4A	X	0	0	0	%100
66	MP4A	Z	.505	.505	0	%100
67	MP3A	X	0	0	0	%100
68	MP3A	Z	.505	.505	0	%100
69	MP1A	X	0	0	0	%100
70	MP1A	Z	.505	.505	0	%100
71	M46	X	0	0	0	%100
72	M46	Z	.056	.056	0	%100
73	MP2A	X	0	0	0	%100
74	MP2A	Z	.505	.505	0	%100
75	M50	X	0	0	0	%100
76	M50	Z	.505	.505	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	-.003	-.003	0	%100
2	M5	Z	.006	.006	0	%100
3	M6	X	-.049	-.049	0	%100
4	M6	Z	.085	.085	0	%100
5	M7	X	-.229	-.229	0	%100
6	M7	Z	.397	.397	0	%100
7	M8	X	-.003	-.003	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
8	M8	Z	.006	.006	0	%100
9	M9	X	-.049	-.049	0	%100
10	M9	Z	.085	.085	0	%100
11	M10	X	-.229	-.229	0	%100
12	M10	Z	.397	.397	0	%100
13	M11	X	-.016	-.016	0	%100
14	M11	Z	.027	.027	0	%100
15	M12	X	-.234	-.234	0	%100
16	M12	Z	.406	.406	0	%100
17	M13	X	-.016	-.016	0	%100
18	M13	Z	.027	.027	0	%100
19	M14	X	-.234	-.234	0	%100
20	M14	Z	.406	.406	0	%100
21	M15	X	-.111	-.111	0	%100
22	M15	Z	.193	.193	0	%100
23	M16	X	-.197	-.197	0	%100
24	M16	Z	.341	.341	0	%100
25	M17	X	-.111	-.111	0	%100
26	M17	Z	.193	.193	0	%100
27	M18	X	-.193	-.193	0	%100
28	M18	Z	.334	.334	0	%100
29	M19	X	-.122	-.122	0	%100
30	M19	Z	.211	.211	0	%100
31	M20	X	-.111	-.111	0	%100
32	M20	Z	.193	.193	0	%100
33	M21	X	-.111	-.111	0	%100
34	M21	Z	.193	.193	0	%100
35	M22	X	-.187	-.187	0	%100
36	M22	Z	.324	.324	0	%100
37	M23	X	-.187	-.187	0	%100
38	M23	Z	.324	.324	0	%100
39	M24	X	-.156	-.156	0	%100
40	M24	Z	.27	.27	0	%100
41	M25	X	-.122	-.122	0	%100
42	M25	Z	.211	.211	0	%100
43	M26	X	-.111	-.111	0	%100
44	M26	Z	.193	.193	0	%100
45	M27	X	-.137	-.137	0	%100
46	M27	Z	.237	.237	0	%100
47	M28	X	-.111	-.111	0	%100
48	M28	Z	.193	.193	0	%100
49	M29	X	-.124	-.124	0	%100
50	M29	Z	.215	.215	0	%100
51	M30	X	-.122	-.122	0	%100
52	M30	Z	.211	.211	0	%100
53	M31	X	-.111	-.111	0	%100
54	M31	Z	.193	.193	0	%100
55	M32	X	-.111	-.111	0	%100
56	M32	Z	.193	.193	0	%100
57	M33	X	-.187	-.187	0	%100
58	M33	Z	.324	.324	0	%100
59	M34	X	-.187	-.187	0	%100
60	M34	Z	.324	.324	0	%100
61	M35	X	-.156	-.156	0	%100
62	M35	Z	.27	.27	0	%100
63	M36	X	-.122	-.122	0	%100
64	M36	Z	.211	.211	0	%100
65	MP4A	X	-.252	-.252	0	%100
66	MP4A	Z	.437	.437	0	%100
67	MP3A	X	-.252	-.252	0	%100
68	MP3A	Z	.437	.437	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
69	MP1A	X	-.252	-.252	0	%100
70	MP1A	Z	.437	.437	0	%100
71	M46	X	-.022	-.022	0	%100
72	M46	Z	.038	.038	0	%100
73	MP2A	X	-.252	-.252	0	%100
74	MP2A	Z	.437	.437	0	%100
75	M50	X	-.252	-.252	0	%100
76	M50	Z	.437	.437	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	-.007	-.007	0	%100
2	M5	Z	.004	.004	0	%100
3	M6	X	-.086	-.086	0	%100
4	M6	Z	.05	.05	0	%100
5	M7	X	-.132	-.132	0	%100
6	M7	Z	.076	.076	0	%100
7	M8	X	-.007	-.007	0	%100
8	M8	Z	.004	.004	0	%100
9	M9	X	-.086	-.086	0	%100
10	M9	Z	.05	.05	0	%100
11	M10	X	-.132	-.132	0	%100
12	M10	Z	.076	.076	0	%100
13	M11	X	-.031	-.031	0	%100
14	M11	Z	.018	.018	0	%100
15	M12	X	-.41	-.41	0	%100
16	M12	Z	.237	.237	0	%100
17	M13	X	-.031	-.031	0	%100
18	M13	Z	.018	.018	0	%100
19	M14	X	-.41	-.41	0	%100
20	M14	Z	.237	.237	0	%100
21	M15	X	-.432	-.432	0	%100
22	M15	Z	.25	.25	0	%100
23	M16	X	-.342	-.342	0	%100
24	M16	Z	.198	.198	0	%100
25	M17	X	-.432	-.432	0	%100
26	M17	Z	.25	.25	0	%100
27	M18	X	-.336	-.336	0	%100
28	M18	Z	.194	.194	0	%100
29	M19	X	-.439	-.439	0	%100
30	M19	Z	.253	.253	0	%100
31	M20	X	-.432	-.432	0	%100
32	M20	Z	.25	.25	0	%100
33	M21	X	-.432	-.432	0	%100
34	M21	Z	.25	.25	0	%100
35	M22	X	-.324	-.324	0	%100
36	M22	Z	.187	.187	0	%100
37	M23	X	-.324	-.324	0	%100
38	M23	Z	.187	.187	0	%100
39	M24	X	-.27	-.27	0	%100
40	M24	Z	.156	.156	0	%100
41	M25	X	-.439	-.439	0	%100
42	M25	Z	.253	.253	0	%100
43	M26	X	-.432	-.432	0	%100
44	M26	Z	.25	.25	0	%100
45	M27	X	-.238	-.238	0	%100
46	M27	Z	.137	.137	0	%100
47	M28	X	-.432	-.432	0	%100
48	M28	Z	.25	.25	0	%100
49	M29	X	-.216	-.216	0	%100
50	M29	Z	.125	.125	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
51	M30	X	-.439	-.439	0	%100
52	M30	Z	.253	.253	0	%100
53	M31	X	-.432	-.432	0	%100
54	M31	Z	.25	.25	0	%100
55	M32	X	-.432	-.432	0	%100
56	M32	Z	.25	.25	0	%100
57	M33	X	-.324	-.324	0	%100
58	M33	Z	.187	.187	0	%100
59	M34	X	-.324	-.324	0	%100
60	M34	Z	.187	.187	0	%100
61	M35	X	-.27	-.27	0	%100
62	M35	Z	.156	.156	0	%100
63	M36	X	-.439	-.439	0	%100
64	M36	Z	.253	.253	0	%100
65	MP4A	X	-.437	-.437	0	%100
66	MP4A	Z	.252	.252	0	%100
67	MP3A	X	-.437	-.437	0	%100
68	MP3A	Z	.252	.252	0	%100
69	MP1A	X	-.437	-.437	0	%100
70	MP1A	Z	.252	.252	0	%100
71	M46	X	-.311	-.311	0	%100
72	M46	Z	.18	.18	0	%100
73	MP2A	X	-.437	-.437	0	%100
74	MP2A	Z	.252	.252	0	%100
75	M50	X	-.437	-.437	0	%100
76	M50	Z	.252	.252	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	-.054	-.054	0	%100
2	M5	Z	0	0	0	%100
3	M6	X	-.054	-.054	0	%100
4	M6	Z	0	0	0	%100
5	M7	X	0	0	0	%100
6	M7	Z	0	0	0	%100
7	M8	X	-.054	-.054	0	%100
8	M8	Z	0	0	0	%100
9	M9	X	-.054	-.054	0	%100
10	M9	Z	0	0	0	%100
11	M10	X	0	0	0	%100
12	M10	Z	0	0	0	%100
13	M11	X	-.257	-.257	0	%100
14	M11	Z	0	0	0	%100
15	M12	X	-.257	-.257	0	%100
16	M12	Z	0	0	0	%100
17	M13	X	-.257	-.257	0	%100
18	M13	Z	0	0	0	%100
19	M14	X	-.257	-.257	0	%100
20	M14	Z	0	0	0	%100
21	M15	X	-.638	-.638	0	%100
22	M15	Z	0	0	0	%100
23	M16	X	-.336	-.336	0	%100
24	M16	Z	0	0	0	%100
25	M17	X	-.638	-.638	0	%100
26	M17	Z	0	0	0	%100
27	M18	X	-.319	-.319	0	%100
28	M18	Z	0	0	0	%100
29	M19	X	-.638	-.638	0	%100
30	M19	Z	0	0	0	%100
31	M20	X	-.638	-.638	0	%100
32	M20	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
33	M21	X	-.638	-.638	0	%100
34	M21	Z	0	0	0	%100
35	M22	X	-.374	-.374	0	%100
36	M22	Z	0	0	0	%100
37	M23	X	-.374	-.374	0	%100
38	M23	Z	0	0	0	%100
39	M24	X	-.312	-.312	0	%100
40	M24	Z	0	0	0	%100
41	M25	X	-.638	-.638	0	%100
42	M25	Z	0	0	0	%100
43	M26	X	-.638	-.638	0	%100
44	M26	Z	0	0	0	%100
45	M27	X	-.336	-.336	0	%100
46	M27	Z	0	0	0	%100
47	M28	X	-.638	-.638	0	%100
48	M28	Z	0	0	0	%100
49	M29	X	-.319	-.319	0	%100
50	M29	Z	0	0	0	%100
51	M30	X	-.638	-.638	0	%100
52	M30	Z	0	0	0	%100
53	M31	X	-.638	-.638	0	%100
54	M31	Z	0	0	0	%100
55	M32	X	-.638	-.638	0	%100
56	M32	Z	0	0	0	%100
57	M33	X	-.374	-.374	0	%100
58	M33	Z	0	0	0	%100
59	M34	X	-.374	-.374	0	%100
60	M34	Z	0	0	0	%100
61	M35	X	-.312	-.312	0	%100
62	M35	Z	0	0	0	%100
63	M36	X	-.638	-.638	0	%100
64	M36	Z	0	0	0	%100
65	MP4A	X	-.505	-.505	0	%100
66	MP4A	Z	0	0	0	%100
67	MP3A	X	-.505	-.505	0	%100
68	MP3A	Z	0	0	0	%100
69	MP1A	X	-.505	-.505	0	%100
70	MP1A	Z	0	0	0	%100
71	M46	X	-.688	-.688	0	%100
72	M46	Z	0	0	0	%100
73	MP2A	X	-.505	-.505	0	%100
74	MP2A	Z	0	0	0	%100
75	M50	X	-.505	-.505	0	%100
76	M50	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	-.086	-.086	0	%100
2	M5	Z	-.05	-.05	0	%100
3	M6	X	-.007	-.007	0	%100
4	M6	Z	-.004	-.004	0	%100
5	M7	X	-.132	-.132	0	%100
6	M7	Z	-.076	-.076	0	%100
7	M8	X	-.086	-.086	0	%100
8	M8	Z	-.05	-.05	0	%100
9	M9	X	-.007	-.007	0	%100
10	M9	Z	-.004	-.004	0	%100
11	M10	X	-.132	-.132	0	%100
12	M10	Z	-.076	-.076	0	%100
13	M11	X	-.41	-.41	0	%100
14	M11	Z	-.237	-.237	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
15	M12	X	-.031	-.031	0	%100
16	M12	Z	-.018	-.018	0	%100
17	M13	X	-.41	-.41	0	%100
18	M13	Z	-.237	-.237	0	%100
19	M14	X	-.031	-.031	0	%100
20	M14	Z	-.018	-.018	0	%100
21	M15	X	-.432	-.432	0	%100
22	M15	Z	-.25	-.25	0	%100
23	M16	X	-.238	-.238	0	%100
24	M16	Z	-.137	-.137	0	%100
25	M17	X	-.432	-.432	0	%100
26	M17	Z	-.25	-.25	0	%100
27	M18	X	-.216	-.216	0	%100
28	M18	Z	-.125	-.125	0	%100
29	M19	X	-.439	-.439	0	%100
30	M19	Z	-.253	-.253	0	%100
31	M20	X	-.432	-.432	0	%100
32	M20	Z	-.25	-.25	0	%100
33	M21	X	-.432	-.432	0	%100
34	M21	Z	-.25	-.25	0	%100
35	M22	X	-.324	-.324	0	%100
36	M22	Z	-.187	-.187	0	%100
37	M23	X	-.324	-.324	0	%100
38	M23	Z	-.187	-.187	0	%100
39	M24	X	-.27	-.27	0	%100
40	M24	Z	-.156	-.156	0	%100
41	M25	X	-.439	-.439	0	%100
42	M25	Z	-.253	-.253	0	%100
43	M26	X	-.432	-.432	0	%100
44	M26	Z	-.25	-.25	0	%100
45	M27	X	-.342	-.342	0	%100
46	M27	Z	-.198	-.198	0	%100
47	M28	X	-.432	-.432	0	%100
48	M28	Z	-.25	-.25	0	%100
49	M29	X	-.336	-.336	0	%100
50	M29	Z	-.194	-.194	0	%100
51	M30	X	-.439	-.439	0	%100
52	M30	Z	-.253	-.253	0	%100
53	M31	X	-.432	-.432	0	%100
54	M31	Z	-.25	-.25	0	%100
55	M32	X	-.432	-.432	0	%100
56	M32	Z	-.25	-.25	0	%100
57	M33	X	-.324	-.324	0	%100
58	M33	Z	-.187	-.187	0	%100
59	M34	X	-.324	-.324	0	%100
60	M34	Z	-.187	-.187	0	%100
61	M35	X	-.27	-.27	0	%100
62	M35	Z	-.156	-.156	0	%100
63	M36	X	-.439	-.439	0	%100
64	M36	Z	-.253	-.253	0	%100
65	MP4A	X	-.437	-.437	0	%100
66	MP4A	Z	-.252	-.252	0	%100
67	MP3A	X	-.437	-.437	0	%100
68	MP3A	Z	-.252	-.252	0	%100
69	MP1A	X	-.437	-.437	0	%100
70	MP1A	Z	-.252	-.252	0	%100
71	M46	X	-.606	-.606	0	%100
72	M46	Z	-.35	-.35	0	%100
73	MP2A	X	-.437	-.437	0	%100
74	MP2A	Z	-.252	-.252	0	%100
75	M50	X	-.437	-.437	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
76	M50	Z	-.252	-.252	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
1	M5	X	-.049	-.049	0	%100
2	M5	Z	-.085	-.085	0	%100
3	M6	X	-.003	-.003	0	%100
4	M6	Z	-.006	-.006	0	%100
5	M7	X	-.229	-.229	0	%100
6	M7	Z	-.397	-.397	0	%100
7	M8	X	-.049	-.049	0	%100
8	M8	Z	-.085	-.085	0	%100
9	M9	X	-.003	-.003	0	%100
10	M9	Z	-.006	-.006	0	%100
11	M10	X	-.229	-.229	0	%100
12	M10	Z	-.397	-.397	0	%100
13	M11	X	-.234	-.234	0	%100
14	M11	Z	-.406	-.406	0	%100
15	M12	X	-.016	-.016	0	%100
16	M12	Z	-.027	-.027	0	%100
17	M13	X	-.234	-.234	0	%100
18	M13	Z	-.406	-.406	0	%100
19	M14	X	-.016	-.016	0	%100
20	M14	Z	-.027	-.027	0	%100
21	M15	X	-.111	-.111	0	%100
22	M15	Z	-.193	-.193	0	%100
23	M16	X	-.137	-.137	0	%100
24	M16	Z	-.237	-.237	0	%100
25	M17	X	-.111	-.111	0	%100
26	M17	Z	-.193	-.193	0	%100
27	M18	X	-.124	-.124	0	%100
28	M18	Z	-.215	-.215	0	%100
29	M19	X	-.122	-.122	0	%100
30	M19	Z	-.211	-.211	0	%100
31	M20	X	-.111	-.111	0	%100
32	M20	Z	-.193	-.193	0	%100
33	M21	X	-.111	-.111	0	%100
34	M21	Z	-.193	-.193	0	%100
35	M22	X	-.187	-.187	0	%100
36	M22	Z	-.324	-.324	0	%100
37	M23	X	-.187	-.187	0	%100
38	M23	Z	-.324	-.324	0	%100
39	M24	X	-.156	-.156	0	%100
40	M24	Z	-.27	-.27	0	%100
41	M25	X	-.122	-.122	0	%100
42	M25	Z	-.211	-.211	0	%100
43	M26	X	-.111	-.111	0	%100
44	M26	Z	-.193	-.193	0	%100
45	M27	X	-.197	-.197	0	%100
46	M27	Z	-.341	-.341	0	%100
47	M28	X	-.111	-.111	0	%100
48	M28	Z	-.193	-.193	0	%100
49	M29	X	-.193	-.193	0	%100
50	M29	Z	-.334	-.334	0	%100
51	M30	X	-.122	-.122	0	%100
52	M30	Z	-.211	-.211	0	%100
53	M31	X	-.111	-.111	0	%100
54	M31	Z	-.193	-.193	0	%100
55	M32	X	-.111	-.111	0	%100
56	M32	Z	-.193	-.193	0	%100
57	M33	X	-.187	-.187	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,ksf]	End Magnitude[lb/ft,F,ksf]	Start Location[f...	End Location[ft...
58	M33	Z	-.324	-.324	0	%100
59	M34	X	-.187	-.187	0	%100
60	M34	Z	-.324	-.324	0	%100
61	M35	X	-.156	-.156	0	%100
62	M35	Z	-.27	-.27	0	%100
63	M36	X	-.122	-.122	0	%100
64	M36	Z	-.211	-.211	0	%100
65	MP4A	X	-.252	-.252	0	%100
66	MP4A	Z	-.437	-.437	0	%100
67	MP3A	X	-.252	-.252	0	%100
68	MP3A	Z	-.437	-.437	0	%100
69	MP1A	X	-.252	-.252	0	%100
70	MP1A	Z	-.437	-.437	0	%100
71	M46	X	-.192	-.192	0	%100
72	M46	Z	-.333	-.333	0	%100
73	MP2A	X	-.252	-.252	0	%100
74	MP2A	Z	-.437	-.437	0	%100
75	M50	X	-.252	-.252	0	%100
76	M50	Z	-.437	-.437	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	N4	max	778.487	10	1139.91	21	433.512	2	-.113	74	0	75	.119	30
2		min	-1445.34	28	350.902	66	-2658.607	20	-.368	15	0	1	-.053	50
3	N65	max	1436.997	34	962.191	15	2634.76	14	-.098	75	0	75	.113	29
4		min	-632.022	4	301.68	72	-253.487	8	-.313	19	0	1	-.052	50
5	N75	max	458.309	3	58.179	16	1680.002	11	0	75	0	75	0	75
6		min	-465.995	9	23.081	73	-1691.295	3	0	1	0	1	0	1
7	Totals:	max	1206.522	10	2154.43	22	1615.636	1						
8		min	-1206.52	4	677.002	67	-1615.644	7						

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

	Member	Shape	Code Check	L...	LC	Shear Check	Loc[..	Dir	LC	phi*Pn...	phi*Pnt...	phi*Mn...	phi*Mn...	Cb	Eqn
1	M5	PL3/8X3.3...	.414	0	20	.106	.25	y	30	39381....	41006....	.32	2.883	1..	H1-1b
2	M6	PL3/8X3.3...	.544	0	30	.105	0	y	32	39381....	41006....	.32	2.883	1..	H1-1b
3	M7	PIPE_2.5	.133	5..	44	.037	10.9...		19	12795....	72450	5.138	5.138	2..	H1-1b
4	M8	PL3/8X3.3...	.361	0	14	.098	0	y	31	39381....	41006....	.32	2.883	1..	H1-1b
5	M9	PL3/8X3.3...	.502	0	25	.113	0	y	26	39381....	41006....	.32	2.883	1..	H1-1b
6	M10	PIPE_2.5	.134	5..	37	.059	11.1...		25	12795....	72450	5.138	5.138	2..	H1-1b
7	M11	PIPE_2.0	.137	....	21	.071	5.381		9	25094....	45900	2.674	2.674	2..	H1-1b
8	M12	PIPE_2.0	.173	....	30	.062	0		33	25094....	45900	2.674	2.674	2..	H1-1b
9	M13	PIPE_2.0	.140	....	15	.072	5.381		3	25094....	45900	2.674	2.674	1..	H1-1b
10	M14	PIPE_2.0	.194	....	25	.065	5.381		33	25094....	45900	2.674	2.674	2..	H1-1b
11	M15	PL3/8X3	.096	....	25	.135	0	y	30	36078....	36450	.284	2.279	1..	H1-1b
12	M16	HSS1.500..	.088	2..	25	.009	4.117		12	6372.8...	12701....	.485	.485	1..	H1-1b
13	M17	PL3/8X3	.067	....	19	.081	.125	y	36	36078....	36450	.284	2.279	1..	H1-1b
14	M18	HSS1.500..	.074	1..	25	.008	0		8	7014.8...	12701....	.485	.485	1..	H1-1b
15	M19	PL3/8x3.5	.237	.5	26	.081	0	y	25	23018....	31201.2	.138	2.273	1..	H1-1b
16	M20	PL3/8X3	.038	....	15	.050	.125	y	31	36078....	36450	.284	2.279	1..	H1-1b
17	M21	PL3/8X3	.080	0	15	.094	0	y	30	36078....	36450	.284	2.279	1..	H1-1b
18	M22	HSS1.500..	.362	0	29	.034	3.333		30	8082.0...	12701....	.485	.485	1..	H1-1b
19	M23	HSS1.500..	.399	3..	25	.026	0		35	8082.0...	12701....	.485	.485	2..	H1-1b
20	M24	PIPE_2.0	.191	0	25	.012	2.583		35	40942....	45900	2.674	2.674	1..	H1-1b

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

	Member	Shape	Code Check	L...	LC	Shear Check	Loc[	Dir	LC	phi*Pn...	phi*Pnt...	phi*Mn...	phi*Mn...	Cb	Eqn
21	M25	PL3/8x3.5	.058	0	33	.015	.5	y	33	23018....	31201.2	.138	2.273	1..	H1-1b
22	M26	PL3/8X3	.074	....	18	.072	0	y	50	36078....	36450	.284	2.279	1..	H1-1b
23	M27	HSS1.500..	.081	2..	16	.013	0		5	6372.8...	12701....	.485	.485	1..	H1-1b
24	M28	PL3/8X3	.056	....	42	.043	0	y	50	36078....	36450	.284	2.279	1..	H1-1b
25	M29	HSS1.500..	.052	1..	24	.019	0		5	7014.8...	12701....	.485	.485	1..	H1-1b
26	M30	PL3/8x3.5	.883	.5	3	.073	0	y	4	23018....	31201.2	.138	2.273	1..	H1-1b
27	M31	PL3/8X3	.020	0	50	.047	.125	y	30	36078....	36450	.284	2.279	1..	H1-1b
28	M32	PL3/8X3	.066	0	24	.059	.125	y	15	36078....	36450	.284	2.279	1..	H1-1b
29	M33	HSS1.500..	.256	0	17	.025	3.333		31	8082.0...	12701....	.485	.485	1..	H1-1b
30	M34	HSS1.500..	.268	3..	15	.016	0		16	8082.0...	12701....	.485	.485	2..	H1-1b
31	M35	PIPE_2.0	.589	1..	3	.068	0		9	40942....	45900	2.674	2.674	1..	H1-1b
32	M36	PL3/8x3.5	.897	0	3	.078	.5	y	5	23018....	31201.2	.138	2.273	1..	H1-1b
33	MP4A	PIPE_2.0	.134	1	50	.026	4.563		38	20866....	32130	1.872	1.872	1..	H1-1b
34	MP3A	PIPE_2.0	.128	4..	24	.087	4.625		4	20866....	32130	1.872	1.872	1..	H1-1b
35	MP1A	PIPE_2.0	.258	1	30	.034	1		6	20866....	32130	1.872	1.872	1..	H1-1b
36	M46	PIPE_3.0	.037	0	9	.003	7.653		23	47657....	65205	5.749	5.749	1..	H1-1b*
37	MP2A	PIPE_2.0	.174	1..	42	.033	1.917		29	14916....	32130	1.872	1.872	2..	H1-1b
38	M50	PIPE_2.0	.053	1..	41	.016	5.5		32	20866....	32130	1.872	1.872	1..	H1-1b

VzW SMART Tool© Vendor

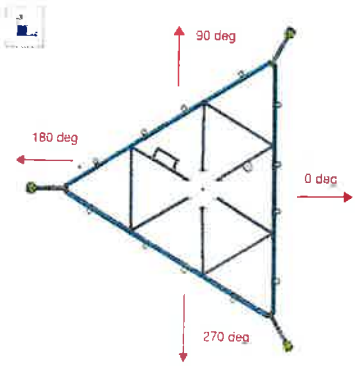
Client:	Verizon Wireless	Date:	11/27/2023
Site Name:	Uncasville CT		
MDG #:	5000243394		
Fuze ID #:	16272079	Page:	1

Version 1.01

I. Mount-to-Tower Connection Check

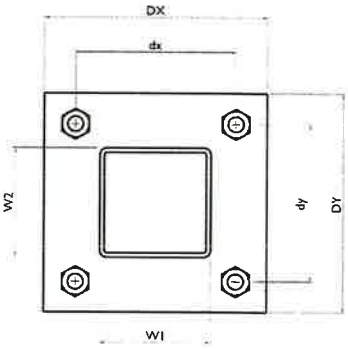
Custom Orientation Required	Yes

Nodes (labeled per Risa)	Orientation (per graphic of typical platform)
N4	0
N65	0



Tower Connection Bolt Checks	Yes
Bolt Orientation	Parallel

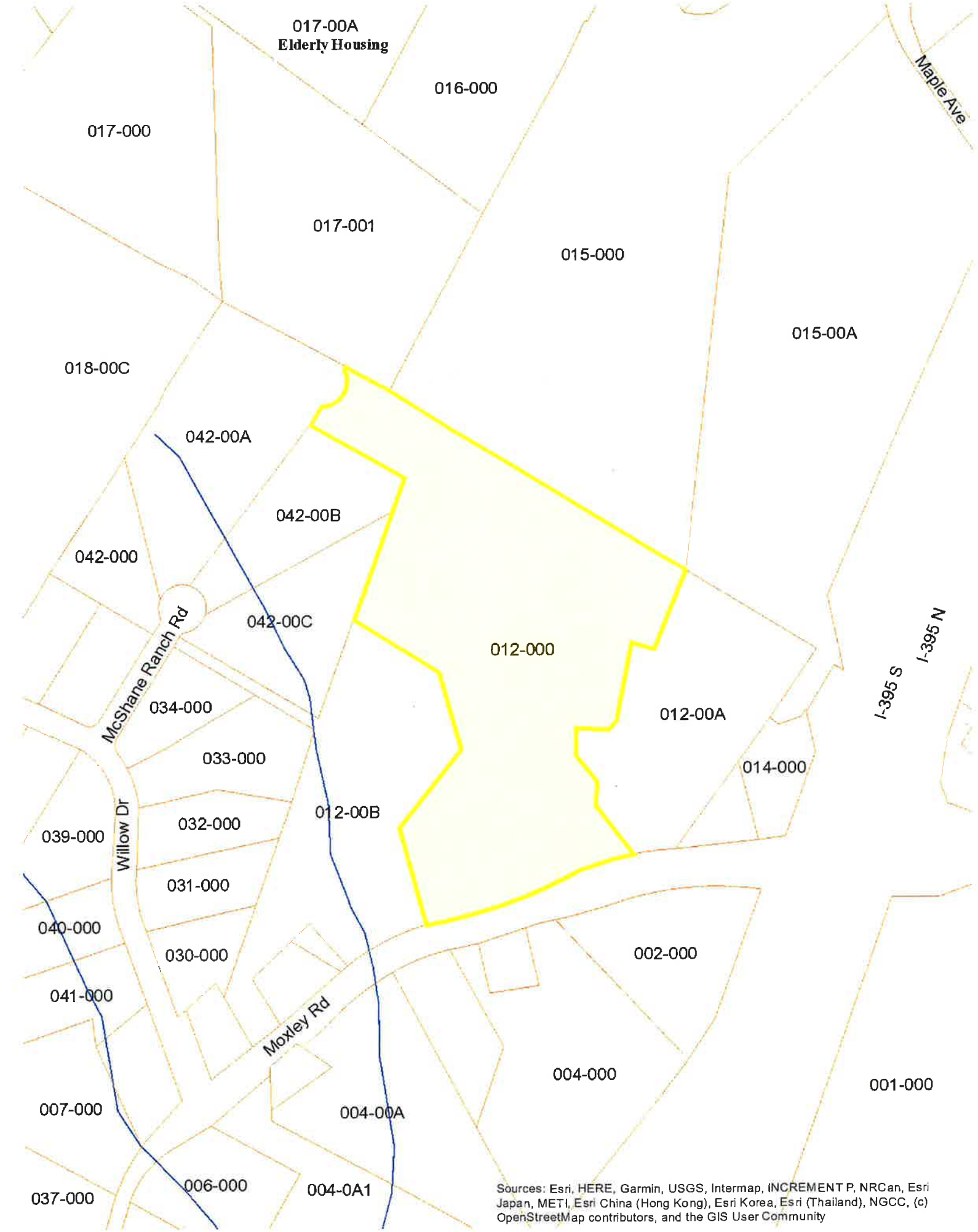
Bolt Quantity per Reaction:	4
d_x (in) *(Delta X of typ. bolt config. sketch)* :	3
d_y (in) *(Delta Y of typ. bolt config. sketch)* :	2
Bolt Type:	A36
Bolt Diameter (in):	0.5
Required Tensile Strength / bolt (kips):	2.0
Required Shear Strength / bolt (kips):	0.3
Tensile Capacity / bolt (kips):	6.4
Shear Capacity / bolt (kips):	3.8
Bolt Overall Utilization:	31.9%



Tower Connection Baseplate Checks	No

Tower Connection Weld Checks	No

ATTACHMENT 5


017-00A
Elderly Housing
016-000
Maple Ave
017-000
017-001
015-000
015-00A
018-00C
042-00A
042-00B
042-000
042-00C
McShane Ranch Rd
012-000
I-395 S
I-395 N
034-000
012-00A
033-000
014-000
012-00B
Willow Dr
039-000
032-000
031-000
040-000
030-000
002-000
041-000
Moxley Rd
004-000
001-000
007-000
004-00A
006-000
004-0A1
037-000
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Property Card: **71 MOXLEY RD**

Town of Montville, CT

Parcel Information

Location:	71 MOXLEY RD	Property Use:	Use Assessment	Primary Use:	Residential
Unique ID:	W0061700	Map Block Lot:	017-012-000	Acres:	14.34
		Zone:	R40	Volume / Page:	0151/1005
		Sale Date:	03/23/1983	Sale Price:	$0

Value Information

	Appraised Value	Assessed Value
Land	35850	6730
Buildings	0	0
Detached Outbuildings	207290	145100
Total	243140	151830

Owner's Information

Owner's Data
WAINWRIGHT ERNEST C & WALTER N JR 149 GREAT NECK RD WATERFORD, CT 06385

Data shown on this report is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this report.

ATTACHMENT 6

Verizon/Uncasville

UNITED STATES POSTAL SERVICE®

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.*
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	3	3	neopost 01/08/2024 US POSTAGE $003.19⁰ ZIP 06103 041L12203987 OLD STATE HOUSE ST… 06103 JAN - 8 2024 USPS
	Postmaster, per *(name of receiving employee)*		

USPS® Tracking Number / Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Leonard Bunnell Sr., Mayor Town of Montville 310 Norwich – New London Turnpike Uncasville, CT 06382				
2.	Meredith Badalucca, Assistant Planner Town of Montville 310 Norwich – New London Turnpike Uncasville, CT 06382				
3.	Ernest and Walter Wainwright 149 Great Neck Road Waterford, CT 06385				
4.					
5.					
6.					

See Reverse for Instructions