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June 18, 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**
39 Maennerchor Avenue, Norwich, 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 associated equipment on the ground, near the base of the tower. The tower was approved by the Siting Council ("Council") in November of 2008 (Docket No. 365). Cellco's shared use of the tower was approved by the Council in November of 2013 (TS-VER-104-131021). A copy of the Council's Docket No. 365 Decision and Order and Cellco's shared use approval are included in Attachment 1.

Cellco now intends to modify its facility by removing nine (9) antennas and three (3) remote radio heads ("RRHs") and installing nine (9) new antennas and six (6) new RRHs on its existing antenna platform with new antenna mounts. A set of project plans showing Cellco's proposed facility modifications and the specifications for Cellco's new antennas and RRHs are included in Attachment 2.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Norwich'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 will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. Included in Attachment 3 is a Calculated Radio Frequency Emissions Report demonstrating that the proposed modified facility will comply with the FCC safety standards. The modified facility will be capable of providing Cellco's 5G wireless service.

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

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

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

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

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Peter A. Nystrom, Mayor
Deanna Rhodes, Director of Planning and Neighborhood Services
Maennerchor Club, Property Owner
Aleksey Tyurin

ATTACHMENT 1

DOCKET NO. 365 - Optasite Towers LLC and Omnipoint Communications, Inc. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 39 Maennerchor Avenue in the Taftville section of Norwich, Connecticut.	}	Connecticut
	}	Siting
	}	Council
		November 20, 2008

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Optasite Towers LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility at 39 Maennerchor Avenue, Norwich, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Omnipoint Communications, Inc. and other entities, both public and private, but such tower shall not exceed a height of 120 feet above ground level.

2. Should the certificate holder wish to extend the height of the tower at any time in the future, it shall submit a Petition for a Declaratory Ruling seeking permission of the Council to do so.

3. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the City of Norwich for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:

    a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and

b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

4. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

5. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

6. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

7. The Certificate Holder shall provide reasonable space on the tower for no compensation for any City of Norwich public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.

8. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.

9. Any request for extension of the time period referred to in Condition 8 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the City of Norwich. Any proposed modifications to this Decision and Order shall likewise be so served.

10. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

11. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.

12. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction and the commencement of site operation.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Norwich Bulletin.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

APPLICANT	**ITS REPRESENTATIVE**
Optasite Towers LLC One Research Drive, Suite 200C Westborough, MA 01581	Carrie L. Larson, Esq. Pullman and Comley, LLC 90 State House Square Hartford, CT 06103-3702
Omnipoint Communications, Inc. 100 Filley Street Bloomfield, CT 06002	Julie Kohler, Esq. Cohen and Wolf, P.C. 1115 Broad Street Bridgeport, CT 06604

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

November 15, 2013

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

RE: **TS-VER-104-131021** – Cellco Partnership d/b/a Verizon Wireless request for an order to approve the shared used of an existing telecommunications facility located at 39 Maennerchor Avenue, Norwich, Connecticut.

Dear Attorney Baldwin:

At a public meeting held November 14, 2013, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures with the following conditions:

- The proposed feed lines and accessory equipment shall be installed as specified in the Structural Analysis Report prepared by FDH Engineering dated September 25, 2013 and stamped by Christopher Murphy;
- Within 45 days following completion of the antenna installation, Verizon shall provide documentation certified by a professional engineer that its installation complied with the recommendations of the structural analysis;
- Any deviation from the proposed installation as specified in the original tower share request and supporting materials with the Council shall render this decision invalid;
- Any material changes to the proposed installation as specified in the original tower share request and supporting materials filed with the Council shall require an explicit request for modification to the Council pursuant to Connecticut General Statutes § 16-50aa, including 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;
- Not less than 45 days after completion of the proposed installation, the Council shall be notified in writing that the installation has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- 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.

This decision is under the exclusive jurisdiction of the Council. This facility has 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. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction. Please be advised that the validity of this action shall expire one year from the date of this letter.

CSC
CONNECTICUT SITING COUNCIL

The proposed shared use is to be implemented as specified in your letter dated October 18, 2013, including the placement of all necessary equipment and shelters within the tower compound.

Thank you for your attention and cooperation.

Very truly yours,

Robert Stein

Robert Stein
Chairman

RS/CDM/jb

c: The Honorable Peter A. Nystrom, Mayor, City of Norwich
Alan H. Bergren, City Manager, City of Norwich
Peter Davis, City Planner, City of Norwich
Sean Gormley, SBA

ATTACHMENT 2

ANTENNA MOUNT REINFORCEMENT NOTE:
PRIOR TO THE COMMENCEMENT OF THE UPGRADE WORK SHOWN ON THESE DRAWINGS, THE EXISTING VERIZON TRI-SECTOR ANTENNA MOUNTING FRAME LOCATED ON THE EXISTING MONOPOLE SHALL BE REINFORCED AS PER THE MOUNT MODIFICATION DRAWINGS PREPARED BY COLLIERS ENGINEERING & DESIGN (PROJECT #21777096).

SBA APPROVED
By Stephen Roth at 3:54:44 PM, 5/17/2024

verizon

20 ALEXANDER DRIVE, 2nd FLOOR
WALLINGFORD, CT 06492

NORWICH NE CT

39 MAENNERCHOR AVENUE
TAFTVILLE, CT 06380
NEW LONDON COUNTY

PROJECT TYPE: UPGRADE TO EXISTING WIRELESS TELECOMMUNICATIONS INSTALLATION ON EXISTING 119'± MONOPOLE

SUPPORTING DOCUMENTS

RADIO FREQUENCY (RF) DESIGN DATE: 09/09/24
ANTENNA MOUNT STRUCTURAL ANALYSIS DATE: 09/16/24 (BY COLLIERS ENGINEERING & DESIGN)
ANTENNA SUPPORT STRUCTURE (128'± MONOPOLE) STRUCTURAL ANALYSIS DATE: 04/15/24 (BY TOWER ENGINEERING SOLUTIONS)

SITE INFORMATION

VERIZON LOCATION CODE:	468278
VERIZON SITE NAME:	NORWICH NE CT
SBA SITE NUMBER:	CT13566-S
SBA SITE NAME:	NORWICH
SBA COLLO APP NUMBER:	156215, V4
MDG LOCATION ID:	5000244310
FUZE PROJECT ID:	16227625
SITE ADDRESS:	39 MAENNERCHOR AVENUE TAFTVILLE, CT 06380
PROPERTY OWNER:	MAENNERCHOR CLUB 39 MAENNERCHOR AVENUE TAFTVILLE, CT 06380
TOWER OWNER:	SBA TOWERS II, LLC 8051 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561 226 9520
COUNTY	NEW LONDON COUNTY, CT
ZONING DISTRICT:	(R-20) RESIDENTIAL
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	120'±
STRUCTURE HEIGHT W/APPURTENANCE:	133'±
GROUND ELEVATION:	154'±
TOTAL AMSL:	287'±
SITE CONTROL POINT:	CENTER OF EXISTING MONOPOLE N 41°33'30.5" (41.55847°) (NAD 83) W 72°04'14.8" (-72.07078°) (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. TAKE SHARP LEFT FOR I-91 NORTH TOWARD HARTFORD. MERGE ONTO I-91 NORTH. TAKE EXITS 25 26 TOWARD CT-3 NORTH/GLASTONBURY/OLD WETHERSFIELD. USE LEFT LANE TO TAKE EXIT 25 FOR CT-3 NORTH TOWARD GLASTONBURY. USE RIGHT LANE TO MERGE ONTO CT-2 EAST TOWARD NORWICH. USE RIGHT LANE TO CONTINUE STRAIGHT ONTO CT-163 NORTH/HARLAND ROAD. FOLLOW SIGNS FOR TAFTVILLE. TURN RIGHT ONTO HUNTERS ROAD. TURN LEFT ONTO MAENNERCHOR AVENUE. 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 POTABLE 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:
- (6) ANTENNAS
- (6) RADIOS
- (2) JUNCTION BOXES (6 OVP)

ROTATE:
- (1) ANTENNA (BETA SECTOR)

INSTALL:
- MOUNT REINFORCEMENTS
- (3) SIDE-BY-SIDE ANTENNA BRACKETS
- (6) ANTENNAS
- (6) RADIOS
- (1) JUNCTION BOX (12 OVP)

verizon
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492
(203) 741-7338

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

CHAPPELL ENGINEERING ASSOCIATES, LLC
R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED
PROFESSIONAL CIVIL ENGINEER
5/17/2024

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	05/14/24	ISSUED FOR CONSTRUCTION	CKC
0	04/29/24	ISSUED FOR REVIEW	CKC

PROJECT NAME & ADDRESS
NORWICH NE CT
39 MAENNERCHOR AVENUE
TAFTVILLE, CT 06380

VZW LOCATION CODE:	468278
MDG LOCATION ID:	5000244310
FUZE PROJECT ID:	16227625

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 23252-000-3PS-GET-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 OF 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. 25997 ★ LICENSED ★ PROFESSIONAL CIVIL ENGINEER
5/14/2024

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	05/14/24	ISSUED FOR CONSTRUCTION	CJC
0	04/25/24	ISSUED FOR REVIEW	CJC

PROJECT NAME & ADDRESS

NORWICH NE CT

39 MAENNERCHOR AVENUE
TAFTVILLE, CT 06380

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

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN01

SITE PLAN

SCALE: 1" = 50'-0"

0 50' 100' 150'

1 A01

TRUE NORTH MAGNETIC 15°±

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STATE OF CONNECTICUT ★ JAMES M. FITZGERALD No. 25987 LICENSED PROFESSIONAL CIVIL ENGINEER ★

5/14/2024

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	05/14/24	ISSUED FOR CONSTRUCTION	CMC
0	04/25/24	ISSUED FOR REVIEW	CMC

PROJECT NAME & ADDRESS

NORWICH NE CT

39 MAENNERCHOR AVENUE
TAFTVILLE, CT 06380

VZW LOCATION CODE: [illegible]

MDG LOCATION ID: [illegible]

FUZE PROJECT ID: [illegible]

SHEET TITLE

SITE PLAN

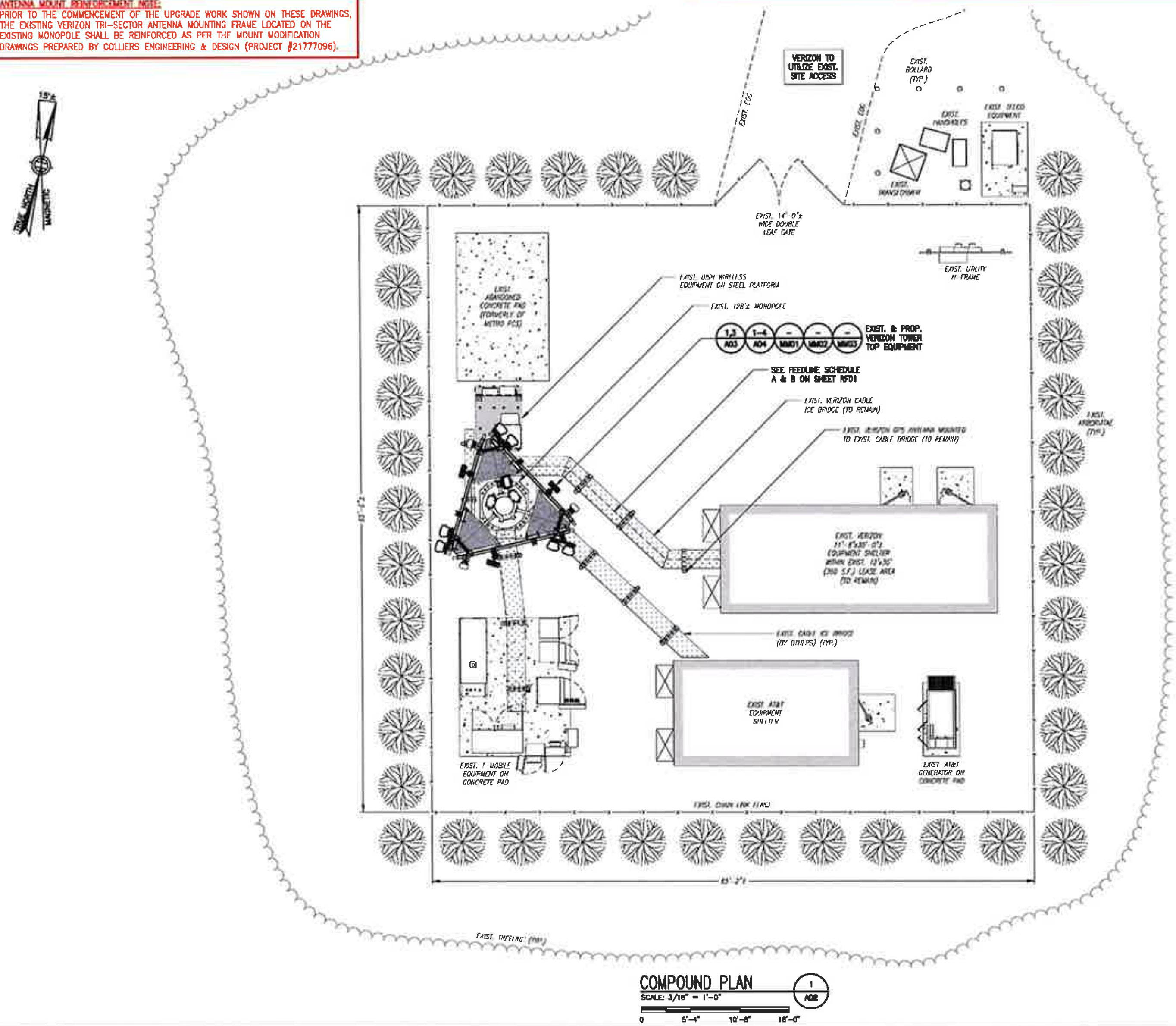
SHEET NUMBER

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).

ANTENNA MOUNT REINFORCEMENT NOTE:
PRIOR TO THE COMMENCEMENT OF THE UPGRADE WORK SHOWN ON THESE DRAWINGS, THE EXISTING VERIZON TRI-SECTOR ANTENNA MOUNTING FRAME LOCATED ON THE EXISTING MONOPOLE SHALL BE REINFORCED AS PER THE MOUNT MODIFICATION DRAWINGS PREPARED BY COLLIERS ENGINEERING & DESIGN (PROJECT #21777096).



COMPOUND PLAN (1 / A02)
SCALE: 3/16" = 1'-0"
0 5'-4" 10'-8" 16'-0"

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STATE OF CONNECTICUT ★ JAMES M. FITZGERALD No. 25987 LICENSED PROFESSIONAL CIVIL ENGINEER ★
5/14/2024

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	05/14/24	ISSUED FOR CONSTRUCTION	CNC
0	04/25/24	ISSUED FOR REVIEW	CNC

PROJECT NAME & ADDRESS
NORWICH NE CT
39 MAENNERCHOR AVENUE
TAFTVILLE, CT 06380

VZW LOCATION CODE:	468279
MDG LOCATION ID:	5000944310
FUZE PROJECT ID:	16227655

SHEET TITLE
COMPOUND PLAN

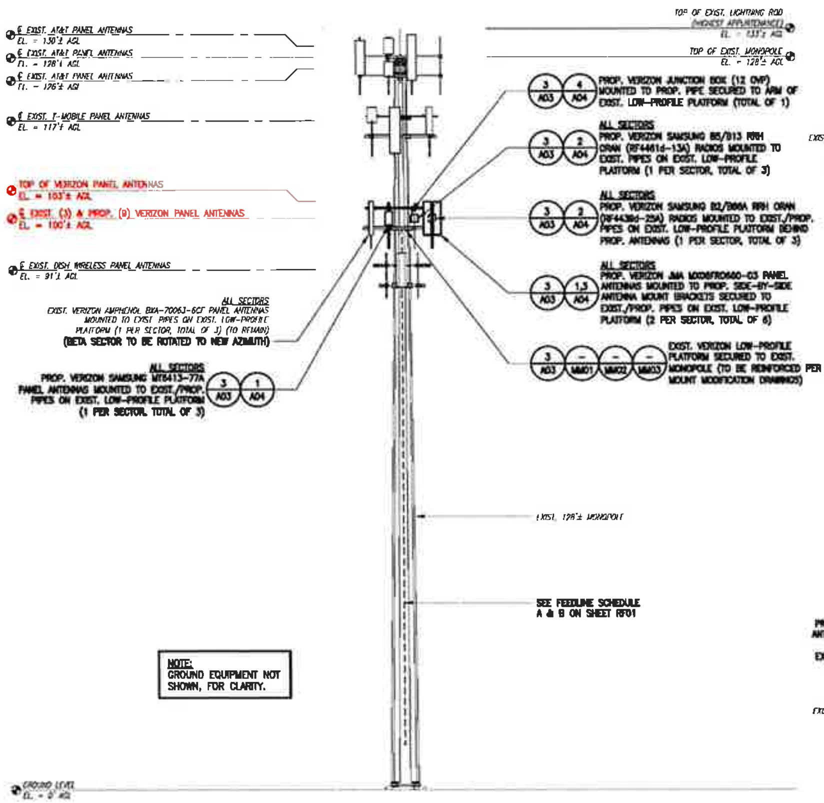
SHEET NUMBER
A02

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).

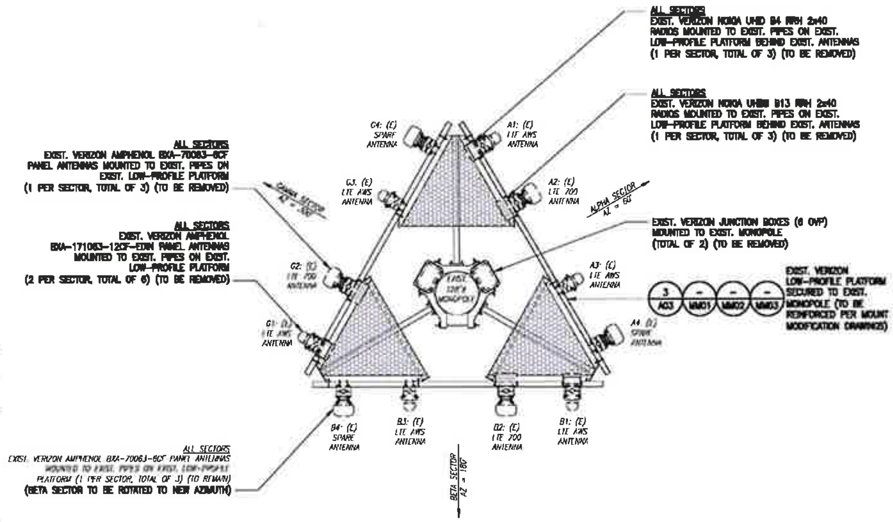
ANTENNA MOUNT REINFORCEMENT NOTE:
PRIOR TO THE COMMENCEMENT OF THE UPGRADE WORK SHOWN ON THESE DRAWINGS, THE EXISTING VERIZON TRI-SECTOR ANTENNA MOUNTING FRAME LOCATED ON THE EXISTING MONOPOLE SHALL BE REINFORCED AS PER THE MOUNT MODIFICATION DRAWINGS PREPARED BY COLLIERS ENGINEERING & DESIGN (PROJECT #21777096).

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.

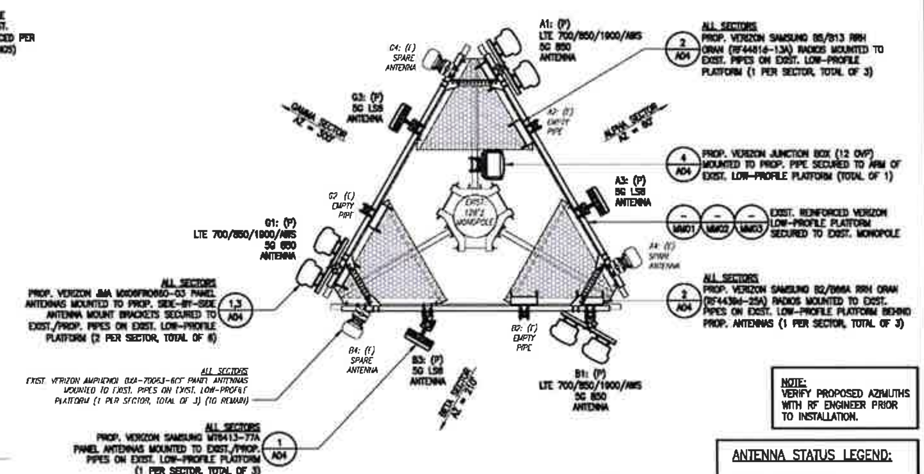


NOTE:
GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

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



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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5/14/2024

CHECKED BY: JMT
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SUBMITTALS

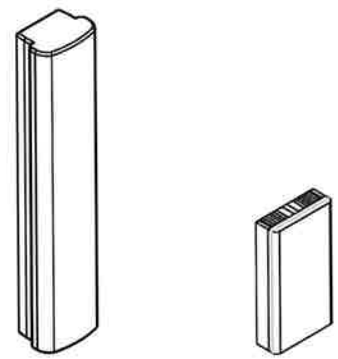
REV	DATE	DESCRIPTION	BY
1	05/14/24	ISSUED FOR CONSTRUCTION	CSC
0	04/25/24	ISSUED FOR REVIEW	CSC

PROJECT NAME & ADDRESS
NORWICH NE CT
30 MAENNERCHOR AVENUE
TAFTVILLE, CT 06380

VZW LOCATION CODE: 468278
MDG LOCATION ID: 5000844310
FUZE PROJECT ID: 16227489

SHEET TITLE
TOWER ELEVATION & ANTENNA PLANS

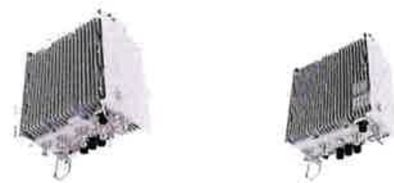
SHEET NUMBER
A03



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 15.6"W x 5.5"D
WEIGHT: 57.3 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA

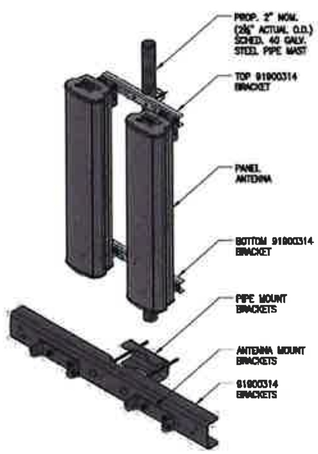
ANTENNA DETAILS (1/A04)
SCALE: N.T.S.



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 DETAILS (2/A04)
SCALE: N.T.S.

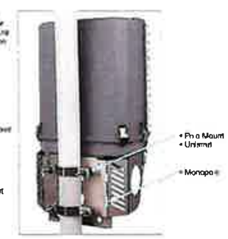


JMA 91900314 SIDE-BY-SIDE ANTENNA MOUNT BRACKET
WEIGHT: 28.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA
NOTE: MOUNT ANTENNA PER MANUFACTURER'S SPECIFICATIONS

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

Procedure
Mounting Procedures

4.1 [illegible]



4.2 *Option 1: Pole Mount*
[illegible]

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
[illegible]	M75	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	M75	D	190-0736	[illegible]	[illegible]

Included in kit shipped with unit

Qty	Connector Size	Insert P/N	Insert Hole	Cable Type	Purpose	Pos
2	M75	[illegible]	42mm	[illegible]	[illegible]	[illegible]
2	M75	[illegible]	[illegible]	[illegible] DC	[illegible] DC	[illegible]
1	M75	[illegible]	2x 10.5mm	[illegible]	[illegible]	[illegible]
1	M75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

FIBER JUNCTION BOX
DIMENSIONS: 29.58"H x 16.5"W x 12.6"D
WEIGHT: 32.0 lbs
QUANTITY: TOTAL OF 1

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

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STATE OF CONNECTICUT ★ JAMES M. FITZGERALD No. 25967 LICENSED PROFESSIONAL CIVIL ENGINEER
5/14/2024

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	05/14/24	ISSUED FOR CONSTRUCTION	CJC
0	04/25/24	ISSUED FOR REVIEW	CJC

PROJECT NAME & ADDRESS
NORWICH NE CT
39 MAENNERCHOR AVENUE
TAFTVILLE, CT 06380

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	POS	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	AMPHENOL BXA-171063-12CF-EDIN PANEL ANTENNA	1	1	60°	100'± AGL	LTE AWS	0°	2°	ETRE	72.5	6.1	4.1	12.8	EXIST. (2) 6x12 HYBRID CABLES
	AMPHENOL BXA-70063-6CF PANEL ANTENNA	1	2	60°	100'± AGL	LTE 700	0°	2°	ETRE	71.0	11.3	6.0	17.0	
	AMPHENOL BXA-171063-12CF-EDIN PANEL ANTENNA	1	3	60°	100'± AGL	LTE AWS	0°	2°	ETRE	72.5	6.1	4.1	12.8	
	AMPHENOL BXA-70063-6CF PANEL ANTENNA	1	4	60°	100'± AGL	SPARE	-	-	ETR	71.0	11.3	6.0	17.0	
BETA	AMPHENOL BXA-171063-12CF-EDIN PANEL ANTENNA	1	1	180°	100'± AGL	LTE AWS	0°	2°	ETRE	72.5	6.1	4.1	12.8	
	AMPHENOL BXA-70063-6CF PANEL ANTENNA	1	2	180°	100'± AGL	LTE 700	0°	2°	ETRE	71.0	11.3	6.0	17.0	
	AMPHENOL BXA-171063-12CF-EDIN PANEL ANTENNA	1	3	180°	100'± AGL	LTE AWS	0°	2°	ETRE	72.5	6.1	4.1	12.8	
	AMPHENOL BXA-70063-6CF PANEL ANTENNA	1	4	180°	100'± AGL	SPARE	-	-	ETR	71.0	11.3	6.0	17.0	
GAMMA	AMPHENOL BXA-171063-12CF-EDIN PANEL ANTENNA	1	1	300°	100'± AGL	LTE AWS	0°	2°	ETRE	72.5	6.1	4.1	12.8	
	AMPHENOL BXA-70063-6CF PANEL ANTENNA	1	2	300°	100'± AGL	LTE 700	0°	2°	ETRE	71.0	11.3	6.0	17.0	
	AMPHENOL BXA-171063-12CF-EDIN PANEL ANTENNA	1	3	300°	100'± AGL	LTE AWS	0°	2°	ETRE	72.5	6.1	4.1	12.8	
	AMPHENOL BXA-70063-6CF PANEL ANTENNA	1	4	300°	100'± AGL	SPARE	-	-	ETR	71.0	11.3	6.0	17.0	
ALL	NOKIA UHD B4 RRH 2x40 RADIOS	3	1	-	-	-	-	-	ETRE	24.4	10.6	6.7	44.0	
	NOKIA UHHF B13 RRH 2x40 RADIOS	3	2	-	-	-	-	-	ETRE	15.4	15.0	8.2	50.0	
	6 OVP	2	-	-	-	-	-	-	ETRE	29.6	15.5	12.6	32.0	

FINAL EQUIPMENT CONFIGURATION

SECTOR	EQUIPMENT MAKE & MODEL	QTY	POS	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	JMA MX06FRO660-03 PANEL ANTENNA	1	1L	60°	153'± AGL	LTE 700/850/AWS 5G 850	0°/0°/0° 0°	2°/2°/2° 2°	NEW	71.3	15.4	10.7	60.0	EXIST. (2) 6x12 HYBRID CABLES
	JMA MX06FRO660-03 PANEL ANTENNA	1	1R	60°	153'± AGL	LTE 700/850/1900 5G 850	0°/0°/0° 0°	2°/2°/2° 2°	NEW	71.3	15.4	10.7	60.0	
	SAMSUNG MT6413-77A PANEL ANTENNA	1	3	60°	153'± AGL	5G L58	0°	1°	NEW	28.9	15.8	5.5	57.3	
	AMPHENOL BXA-70063-6CF PANEL ANTENNA	1	4	60°	100'± AGL	SPARE	-	-	ETR	71.0	11.3	6.0	17.0	
BETA	JMA MX06FRO660-03 PANEL ANTENNA	1	1L	210°	153'± AGL	LTE 700/850/AWS 5G 850	0°/0°/0° 0°	7°/7°/2° 7°	NEW	71.3	15.4	10.7	60.0	
	JMA MX06FRO660-03 PANEL ANTENNA	1	1R	210°	153'± AGL	LTE 700/850/1900 5G 850	0°/0°/0° 0°	7°/7°/2° 7°	NEW	71.3	15.4	10.7	60.0	
	SAMSUNG MT6413-77A PANEL ANTENNA	1	3	210°	153'± AGL	5G L58	0°	1°	NEW	28.9	15.8	5.5	57.3	
	AMPHENOL BXA-70063-6CF PANEL ANTENNA	1	4	210°	100'± AGL	SPARE	-	-	ETR	71.0	11.3	6.0	17.0	
GAMMA	JMA MX06FRO660-03 PANEL ANTENNA	1	1L	300°	153'± AGL	LTE 700/850/AWS 5G 850	0°/0°/0° 0°	2°/2°/2° 2°	NEW	71.3	15.4	10.7	60.0	
	JMA MX06FRO660-03 PANEL ANTENNA	1	1R	300°	153'± AGL	LTE 700/850/1900 5G 850	0°/0°/0° 0°	2°/2°/2° 2°	NEW	71.3	15.4	10.7	60.0	
	SAMSUNG MT6413-77A PANEL ANTENNA	1	3	300°	153'± AGL	5G L58	0°	1°	NEW	28.9	15.8	5.5	57.3	
	AMPHENOL BXA-70063-6CF PANEL ANTENNA	1	4	300°	100'± AGL	SPARE	-	-	ETR	71.0	11.3	6.0	17.0	
ALL	SAMSUNG B5/B13 RF4461d-13A RADIOS	3	1	-	-	-	-	-	NEW	15.0	15.0	10.2	79.1	
	SAMSUNG B2/B66A RF4439d-25A RADIOS	3	2	-	-	-	-	-	NEW	15.0	15.0	10.0	74.7	
	8 OVP	1	-	-	-	-	-	-	NEW	29.5	16.5	12.6	32.0	

NOTES:
1. "ETR" DENOTES "EXISTING TO REMAIN".
2. "ETRE" DENOTES "EXISTING TO BE REMOVED".
3. "NEW" DENOTES "NEW TO BE INSTALLED".
3. WEIGHTS LISTED ARE WITHOUT MOUNTING BRACKETS.
4. INFORMATION IS BASED ON RFDS DATED 02/28/24.

FEEDLINE SCHEDULE

SCHEDULE	FEEDLINES		LOCATION
A	EXISTING TO REMAIN	(1) ½" COAXIAL CABLE FOR GPS ANTENNA (2) 6x12 HYBRID CABLES	ROUTED PER STRUCTURAL ANALYSIS
	EXISTING TO BE REMOVED	NONE	
B	PROPOSED:	NONE	

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
5/14/24

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV	DATE	DESCRIPTION	BY
1	05/14/24	ISSUED FOR CONSTRUCTION	CHC
0	04/25/24	ISSUED FOR REVIEW	CHC

PROJECT NAME & ADDRESS

NORWICH NE CT

39 MAENNERCHOR AVENUE
TAFTVILLE, CT 06380

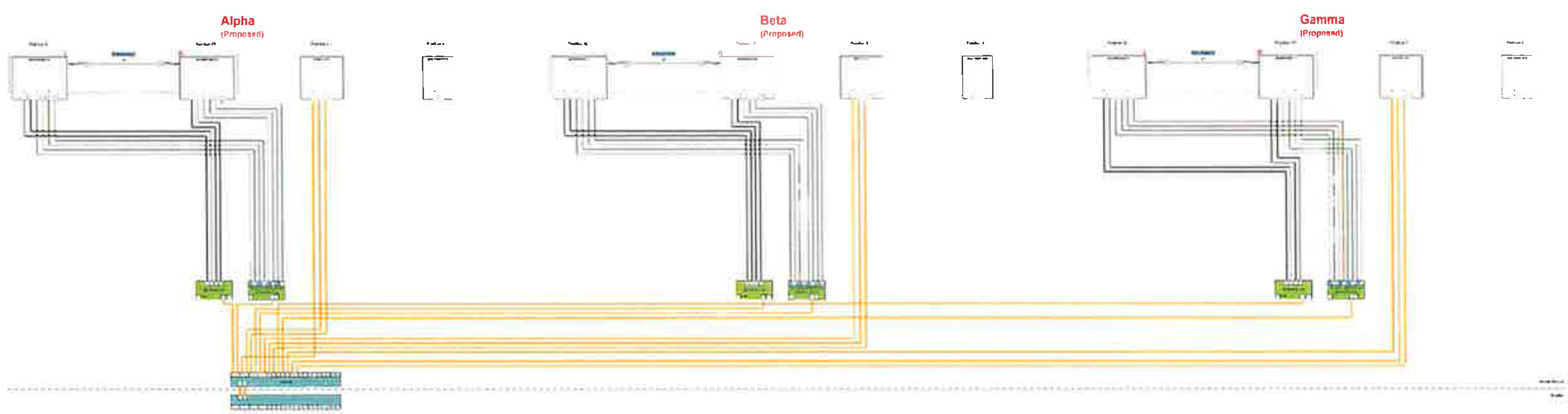
VZW LOCATION CODE: [illegible]
MDG LOCATION ID: [illegible]
FUZE PROJECT ID: [illegible]

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. 25987
LICENSED
PROFESSIONAL CIVIL ENGINEER
5/14/2024

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	[illegible]	ISSUED FOR CONSTRUCTION	CJC
0	04/[illegible]/24	ISSUED FOR REVIEW	CJC

PROJECT NAME & ADDRESS

NORWICH NE CT

39 MAENNERCHOR AVENUE
TAFTVILLE, CT 06380

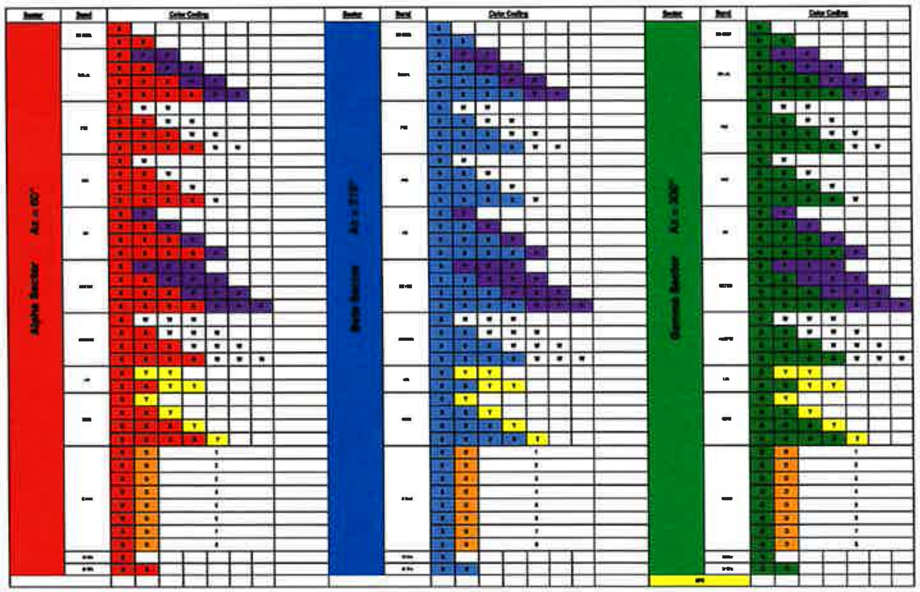
VZW LOCATION CODE:	[illegible]
MDG LOCATION ID:	[illegible]
FUZE PROJECT ID:	[illegible]

SHEET TITLE

RF PLUMBING DIAGRAM

SHEET NUMBER

RF02



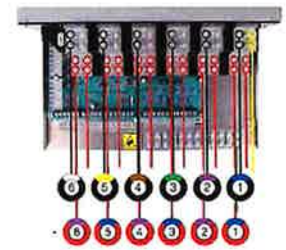
CABLE NOTE:
SEE FEEDLINE SCHEDULE A & B ON SHEET RF01 FOR EXISTING & PROPOSED CABLE QUANTITIES.

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

Hybrid Cable on Towers

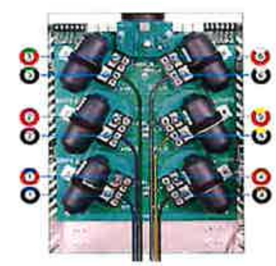
Hybrid Cable 1

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. 25987 LICENSED ★ PROFESSIONAL CIVIL ENGINEER
5/14/2024

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	05/14/24	ISSUED FOR CONSTRUCTION	CMC
0	04/25/24	ISSUED FOR REVIEW	CMC

PROJECT NAME & ADDRESS
NORWICH NE CT
39 MAENNERCHOR AVENUE
TAFTVILLE, CT 06380

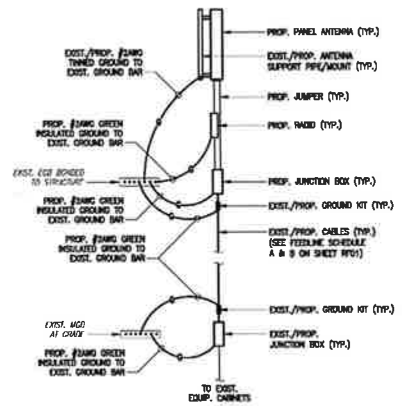
VZW LOCATION CODE: [illegible]
MDG LOCATION ID: [illegible]
FUZE PROJECT ID: [illegible]

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: N.T.S.

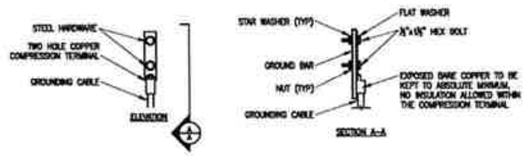
LEGEND

GROUNDING SYMBOLS

Symbol	Description
⊠	GROUND ROD/TEST (OBSERVATION) WELL
⊗	GROUND ROD
▲	CADWELD TYPE CONNECTION
●	COMPRESSION TYPE CONNECTION
----	GROUNDING WIRE
(1/E01)	REPRESENTS DETAIL NUMBER

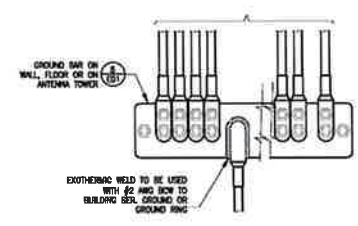
ABBREVIATIONS

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
IGR	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



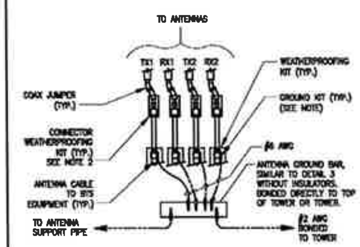
NOTE:
1. "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

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



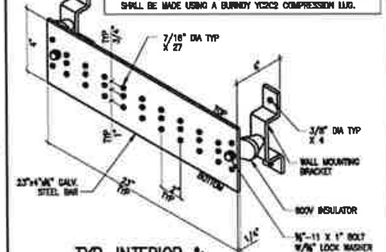
NOTE:
GROUND BARS AT THE BOTTOM OF TOWER SHALL ONLY USE EXOTHERMIC WELDS.

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

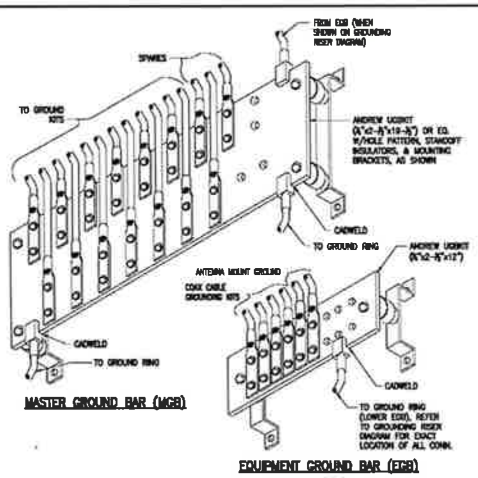


CONN. OF GROUND WIRE TO GROUND BAR (TOWER) (4/E01)
SCALE: N.T.S.

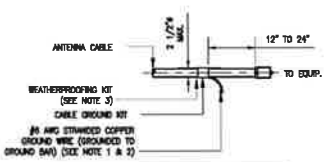
NOTES:
1. SURFACE PREPARATION: ALL CONNECTIONS MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE MADE BARE TO ENSURE PROPER CONTACT. NO WASHERS SHALL BE ALLOWED BETWEEN THE ITEMS BEING GROUNDED. ALL CONNECTIONS SHALL HAVE AN ANTI-OXIDANT AGENT APPLIED PRIOR TO INSTALLATION.
2. BUSS PREPARATION: ALL GALV. 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.

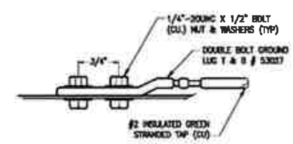


GROUND BAR DETAILS (6/E01)
SCALE: N.T.S.

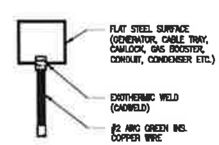


NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND & ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE & PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE SUPPLIED WITH KIT. COLD SHRINK SHALL NOT BE USED.

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. 25997
LICENSED
PROFESSIONAL CIVIL ENGINEER
5/14/2024

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	05/14/24	ISSUED FOR CONSTRUCTION	CMC
0	04/25/24	ISSUED FOR REVIEW	CMC

PROJECT NAME & ADDRESS

NORWICH NE CT

38 MAENNENCHOR AVENUE
TAFTVILLE, CT 06380

VZW LOCATION CODE:	468278
MDG LOCATION ID:	5000044310
FUZE PROJECT ID:	16227699

SHEET TITLE

GROUNDING NOTES & DETAILS

SHEET NUMBER

E01

verizon

MOUNT MODIFICATION DRAWINGS
EXISTING 13.50' PLATFORM

TOWER OWNER: SBA COMMUNICATIONS CORPORATION
TOWER OWNER SITE NUMBER: CT13556

CARRIER SITE NAME: NORWICH NE CT
CARRIER SITE NUMBER: 5000244310
FUZE ID: 16227625

39 MAENNERCHOR AVE
TAFTVILLE, CT 06380
NEW LONDON COUNTY

LATTITUDE: 41.558472° N
LONGITUDE: 72.051278° W

DESIGN CRITERIA

PROJECT INFORMATION

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BILL OF MATERIALS

VZWSMART KITS: APPROVED VENDORS

GENERAL NOTES

STRUCTURAL NOTES

ANT. BOLT ARRANGEMENT

CLIMBING FACILITY LOCATION

CLIMBING FACILITY PHOTO

verizon
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492
(203) 741-7338

SBA
SBA COMMUNICATIONS CORP.
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MARLBOROUGH, MA 01752
(508) 481-7400
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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 29907
LICENSED
PROFESSIONAL CIVIL ENGINEER
5/14/2024

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	05/14/24	ISSUED FOR CONSTRUCTION	CHC
0	04/25/24	ISSUED FOR REVIEW	CHC

PROJECT NAME & ADDRESS

NORWICH NE CT

39 MAENNERCHOR AVENUE
TAFTVILLE, CT 06380

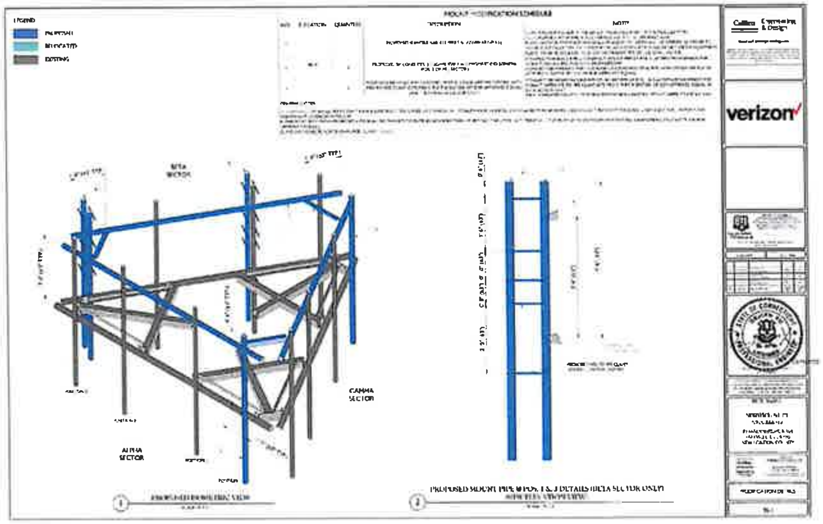
VZW LOCATION CODE:	468879
MDG LOCATION ID:	5000244310
FUZE PROJECT ID:	16227625

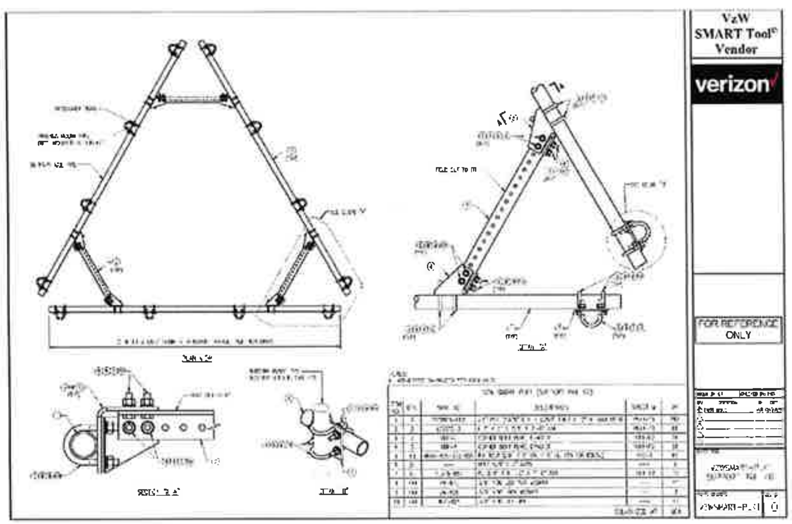
SHEET TITLE

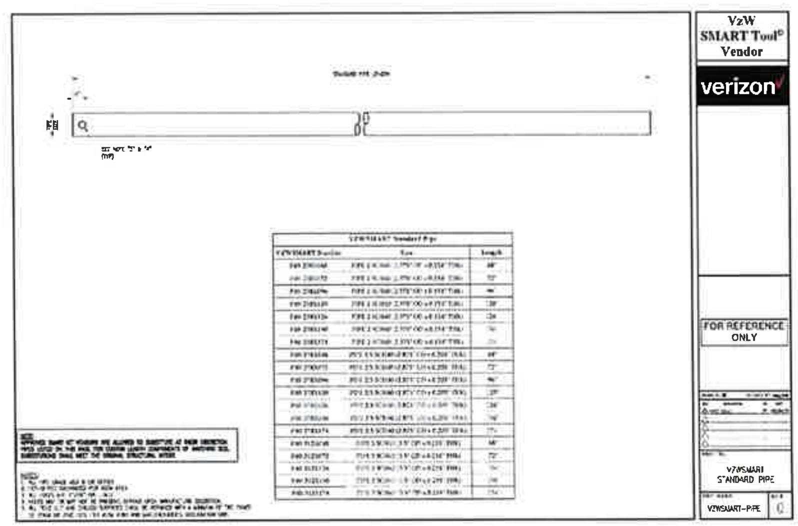
MOUNT MODIFICATION DRAWINGS I

SHEET NUMBER

MM01







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5/14/2024

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	05/14/24	ISSUED FOR CONSTRUCTION	CJC
0	04/25/24	ISSUED FOR REVIEW	CJC

PROJECT NAME & ADDRESS

NORWICH NE CT

39 MAENNERCHOR AVENUE
TAFTVILLE, CT 06380

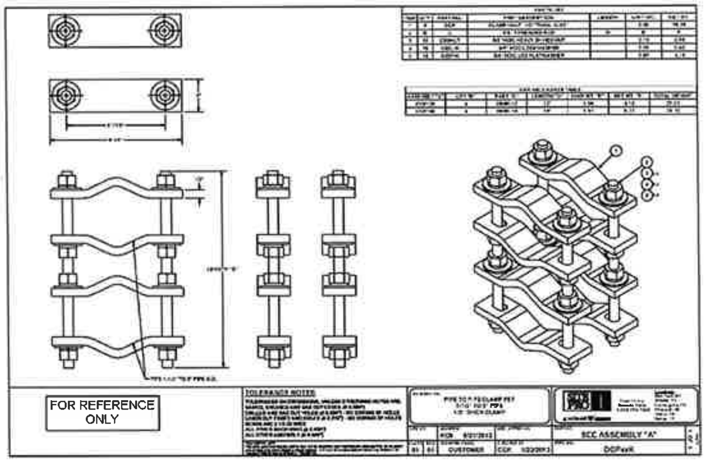
VZW LOCATION CODE:	[illegible]
MDG LOCATION ID:	[illegible]
FUZE PROJECT ID:	[illegible]

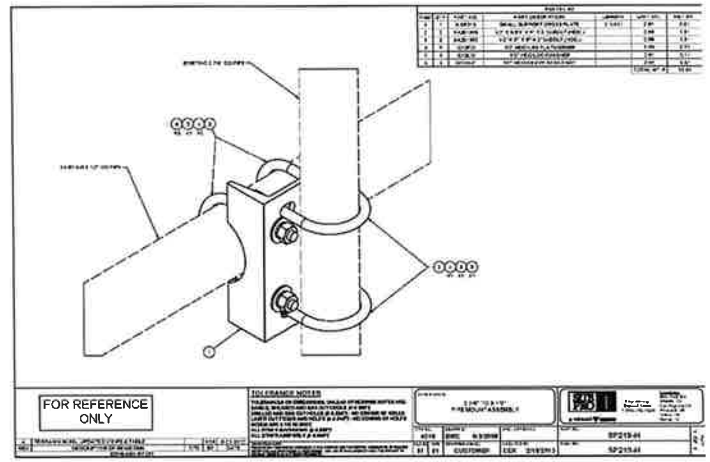
SHEET TITLE

MOUNT MODIFICATION DRAWINGS II

SHEET NUMBER

MM02





verizon

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25987
LICENSED
PROFESSIONAL CIVIL ENGINEER
5/14/2024

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	05/14/24	ISSUED FOR CONSTRUCTION	CMC
0	04/25/24	ISSUED FOR REVIEW	CMC

PROJECT NAME & ADDRESS

NORWICH NE CT

39 MAENNERCHOR AVENUE
TAFTVILLE, CT 06380

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

SHEET TITLE

MOUNT MODIFICATION DRAWINGS III

SHEET NUMBER

MM03

JMA WIRELESS

MX06FRO660-03

NWAV™ X-Pol Hex-Port Antenna

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

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

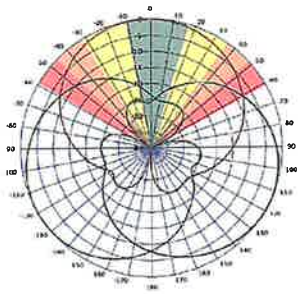
- Fast Roll Off (FRO™) azimuth beam pattern improves Intra- and Inter-cell SINR
- Compatible with dual band 700/850 MHz radios with independent low band EDT without external diplexers
- Fully integrated (iRETs) with independent RET control for low and high bands for ease of network optimization
- SON-Ready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

nWAV

Fast Roll-Off antennas increase data throughput without compromising coverage

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

Non-FRO antenna



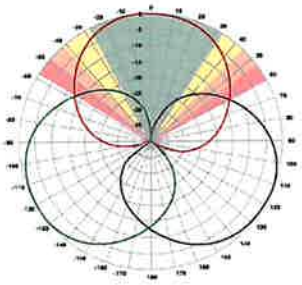
Large traditional antenna pattern overlap creates harmful interference.

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

LTE throughput	SINR	Speed (bps/Hz)	Speed increase	CQI
Excellent	>18	>4.5	333+%	8-10
Good	15-18	3.3-4.5	277%	6-7
Fair	10-15	2.3-3	160%	4-6
Poor	<10	<2	0%	1-3

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

JMA FRO antenna



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

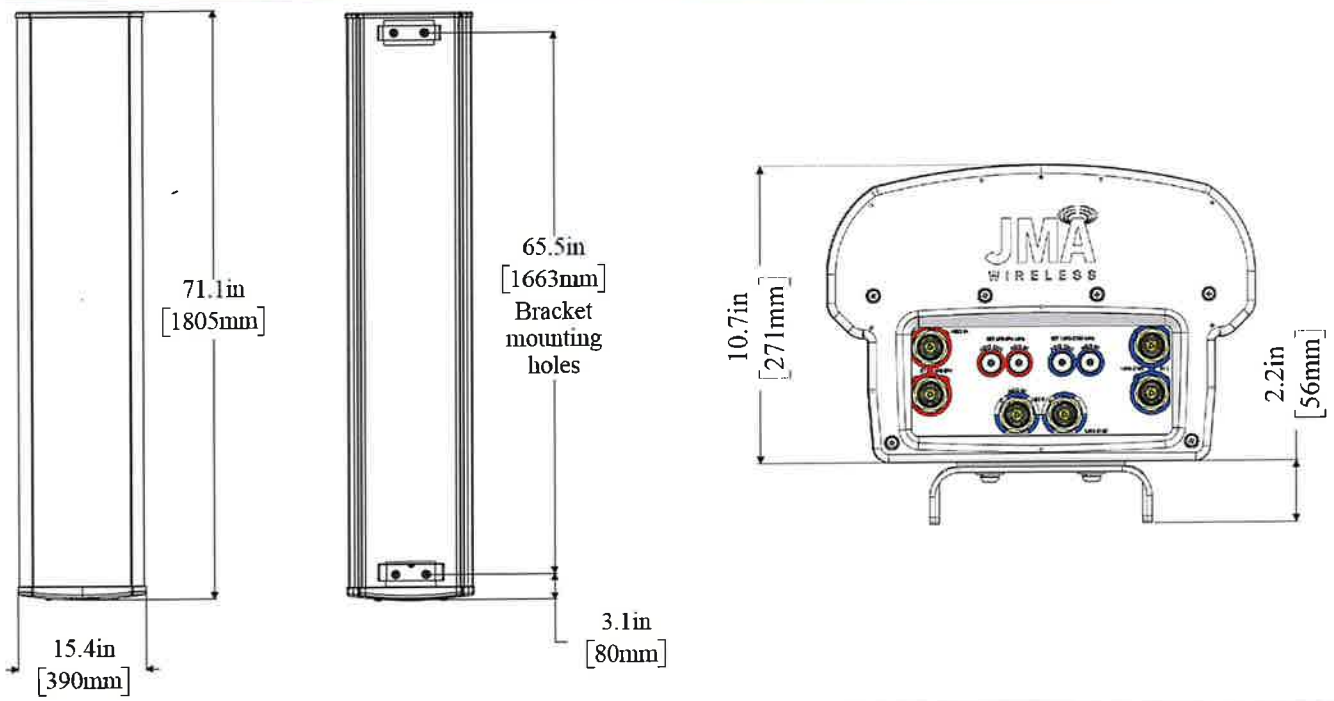
[1] Typical value over frequency and tilt

MX06FRO660-03

NWAV™ X-Pol Hex-Port Antenna

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

Front view | Back view | Bottom view



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

MX06FRO660-03

NWAV™ X-Pol Hex-Port Antenna

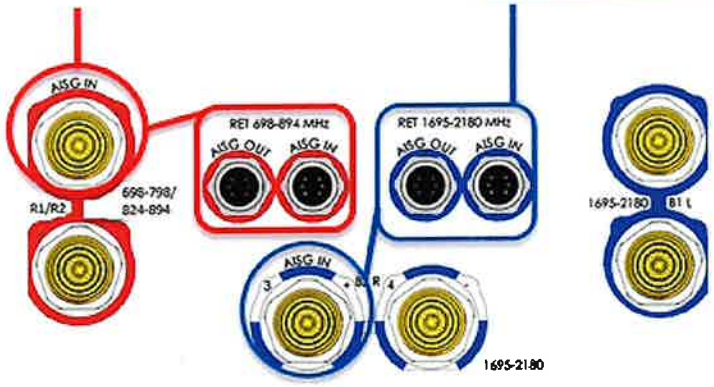
Remote electrical tilt (RET 1000) information	
RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9
RET connector torque	Min 0.5 N·m to max 1.0 N·m (hand pressure & finger tight)
RET interface connector quantity	2 pairs of AISG male/female connectors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

RET and RF connector topology

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

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

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

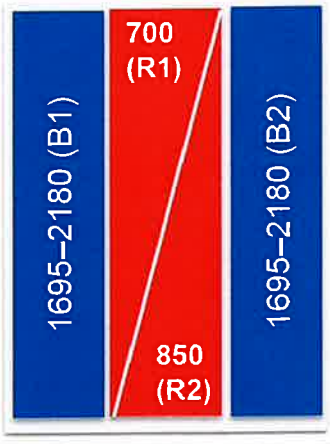


Array topology

3 sets of radiating arrays

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

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

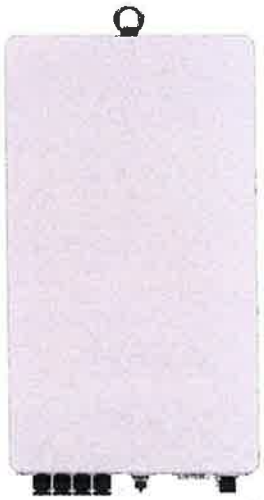


C-band 64T64R

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, 8i-di (Option: Duplex)
Mounting Options	Pole, wall
NB-IoT	Not support
External Alarm	4RX
Fronthaul Interface	eCPRI

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

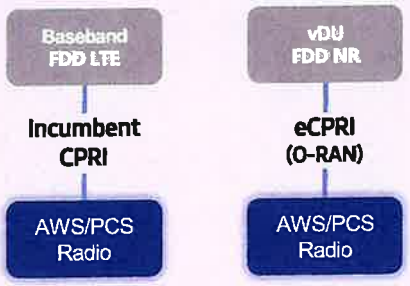
Homepage
samsungnetworks.com

Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

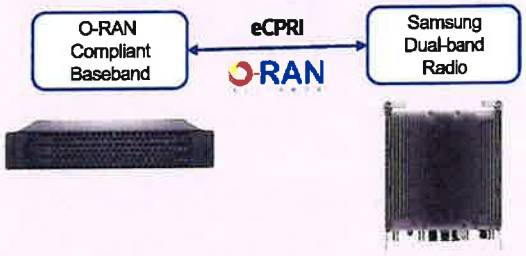
Samsung's AWS/PCS macro radio can support each incumbent CPRI interface as well as advanced eCPRI interfaces. This feature provides installable options for both legacy LTE networks and added NR networks.



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.

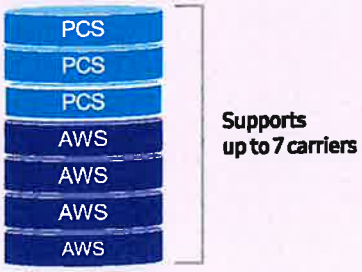
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



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℃ (-40°F) ~ 55℃ (131°F) (Without solar load)	
Cooling	Natural convection	
Unwanted Emission	3GPP 36.104 FCC 47 CFR 27.53 c), f)	3GPP 36.104 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

ATTACHMENT 3

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65 Dartmouth Drive
Auburn, NH 03032
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support@csquaredsystems.com

Calculated Radio Frequency Emissions Report

verizon

Norwich NE

39 Maennerchor Avenue, Taftville, CT

June 14, 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 mounted at 100' on an existing monopole tower located at 39 Maennerchor Avenue in Taftville, CT. The coordinates of the tower are 41° 33' 30.5" N, 72° 03' 4.6" W.

Verizon is proposing the following:

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

This report considers the planned antenna configuration for Verizon[1] as well as existing antenna configuration for AT&T[2], DISH[3], and T-Mobile[4] 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.

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[1] As referenced to Verizon's Radio Frequency Design Sheet updated 02/26/2024.

[2] As referenced to AT&T's Connecticut Siting Council Notice of Exempt Modification – 39 Maennerchor Avenue, Taftville, Connecticut, dated 7/8/2022.

[3] As referenced to DISH's Connecticut Siting Council Tower Share Application – 39 Maennerchor Avenue, Norwich, Connecticut, dated 5/10/2022.

[4] As referenced to T-Mobile's Connecticut Siting Council Notice of Exempt Modification – 39 Maennerchor Avenue, Taftville, Connecticut, dated 12/18/2022.

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 / Azimuth	TX Freq (MHz)	Power at Antenna (Watts)	Ant Gain (dBi)	Power EIRP (Watts)	Antenna Model	Beam Width	Mech. Tilt	Length (ft)	Antenna Centerline Height (ft)
Verizon	Alpha / 60°	700	160	14.4	4407	MX06FRO660-03	60.5	0	6	100
		850	160	14	4019		53			
		1900	160	18	10095		55			
		2100	240	18.2	15857		55.5			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	100
	Beta / 210°	700	160	14.4	4407	MX06FRO660-03	60.5	0	6	100
		850	160	14	4019		53			
		1900	160	18	10095		55			
		2100	240	18.2	15857		55.5			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	100
	Gamma / 300°	700	160	14.4	4407	MX06FRO660-03	60.5	0	6	100
		850	160	14	4019		53			
		1900	160	18	10095		55			
		2100	240	18.2	15857		55.5			
		3700	320	25.5	113540	MT6413-77A	-	0	2.46	100

Table 1: Proposed Antenna Inventory[5,6]

[5] Antenna heights are in referenced to Verizon's Radio Frequency Design Sheet updated 02/26/2024.

[6] 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.

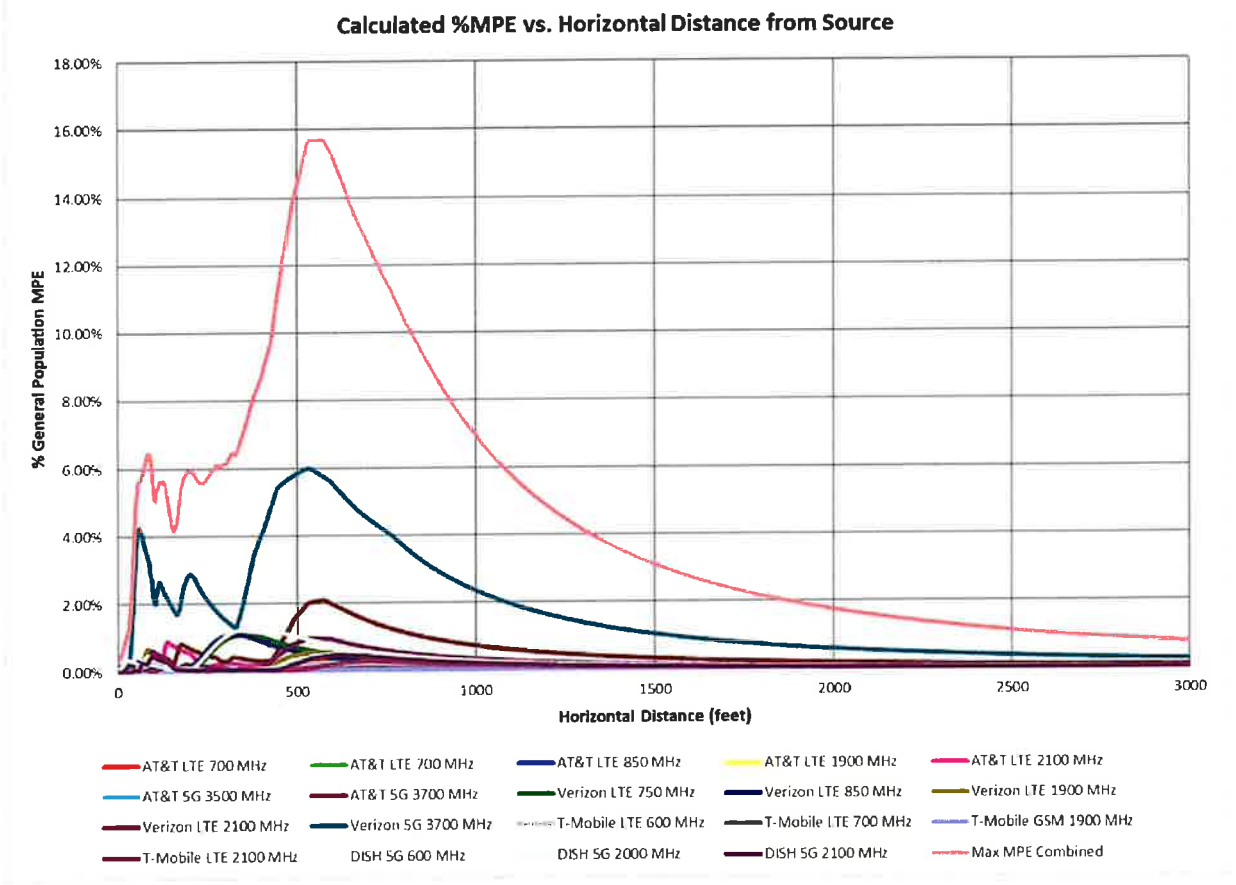


Figure 1: Graph of General Population % MPE vs. Distance

The highest percent of MPE (15.68% of the General Population limit) is calculated to occur at a horizontal distance of 571 feet from antennas. Please note that the percent of MPE calculations close to the site take into account off beam loss, which is determined from the vertical pattern of the antennas used. Therefore, RF power density levels may increase as the distance from the site increases. At distances of approximately 1500 feet and beyond, one would now be in the main beam of the antenna pattern and off beam loss is no longer considered. Beyond this point, RF levels become calculated solely on distance from the site and the percent of MPE decreases significantly as distance from the site increases.

Table 2 below lists percent of MPE values as well as the associated parameters that were included in the calculations. The highest percent of MPE value was calculated to occur at a horizontal distance of 571 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 5G 3500 MHz	1	108.0	128.0	571	0.021102	1.000	2.11%
AT&T 5G 3700 MHz	1	108.0	128.0	571	0.021102	1.000	2.11%
AT&T LTE 1900 MHz	1	160.0	128.0	571	0.000273	1.000	0.03%
AT&T LTE 2100 MHz	1	240.0	128.0	571	0.000880	1.000	0.09%
AT&T LTE 700 MHz	1	160.0	128.0	571	0.001418	0.467	0.30%
AT&T LTE 700 MHz	1	160.0	128.0	571	0.001176	0.467	0.25%
AT&T LTE 850 MHz	1	160.0	128.0	571	0.001093	0.567	0.19%
DISH 5G 2000 MHz	1	160.0	91.0	571	0.004850	1.000	0.49%
DISH 5G 2100 MHz	1	160.0	91.0	571	0.004347	1.000	0.43%
DISH 5G 600 MHz	1	246.0	91.0	571	0.003386	0.400	0.85%
T-Mobile GSM 1900 MHz	1	15.0	117.0	571	0.000242	1.000	0.02%
T-Mobile LTE 2100 MHz	1	120.0	117.0	571	0.001612	1.000	0.16%
T-Mobile LTE 600 MHz	1	80.0	117.0	571	0.000992	0.400	0.25%
T-Mobile LTE 700 MHz	1	40.0	117.0	571	0.000432	0.467	0.09%
Verizon 5G 3700 MHz	1	320.0	100.0	571	0.057592	1.000	5.76%
Verizon LTE 1900 MHz	1	160.0	100.0	571	0.005654	1.000	0.57%
Verizon LTE 2100 MHz	1	240.0	100.0	571	0.009738	1.000	0.97%
Verizon LTE 750 MHz	1	160.0	100.0	571	0.002756	0.500	0.55%
Verizon LTE 850 MHz	1	160.0	100.0	571	0.002572	0.567	0.45%
						Total	**15.68%**

Table 2: Maximum Percent of General Population Exposure Values[7,8]

[7] Frequencies listed are representative of the operating band and are not the specific operating frequency.

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

6. 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 **15.68%** of the FCC limit (General Population/Uncontrolled). This maximum cumulative percent of MPE value is calculated to occur 571 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

June 13, 2024
Date

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

June 14, 2024
Date

Attachment A: References

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

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

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

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

(A) Limits for Occupational/Controlled Exposure[9]

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[10]

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

[9] 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.

[10] 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.

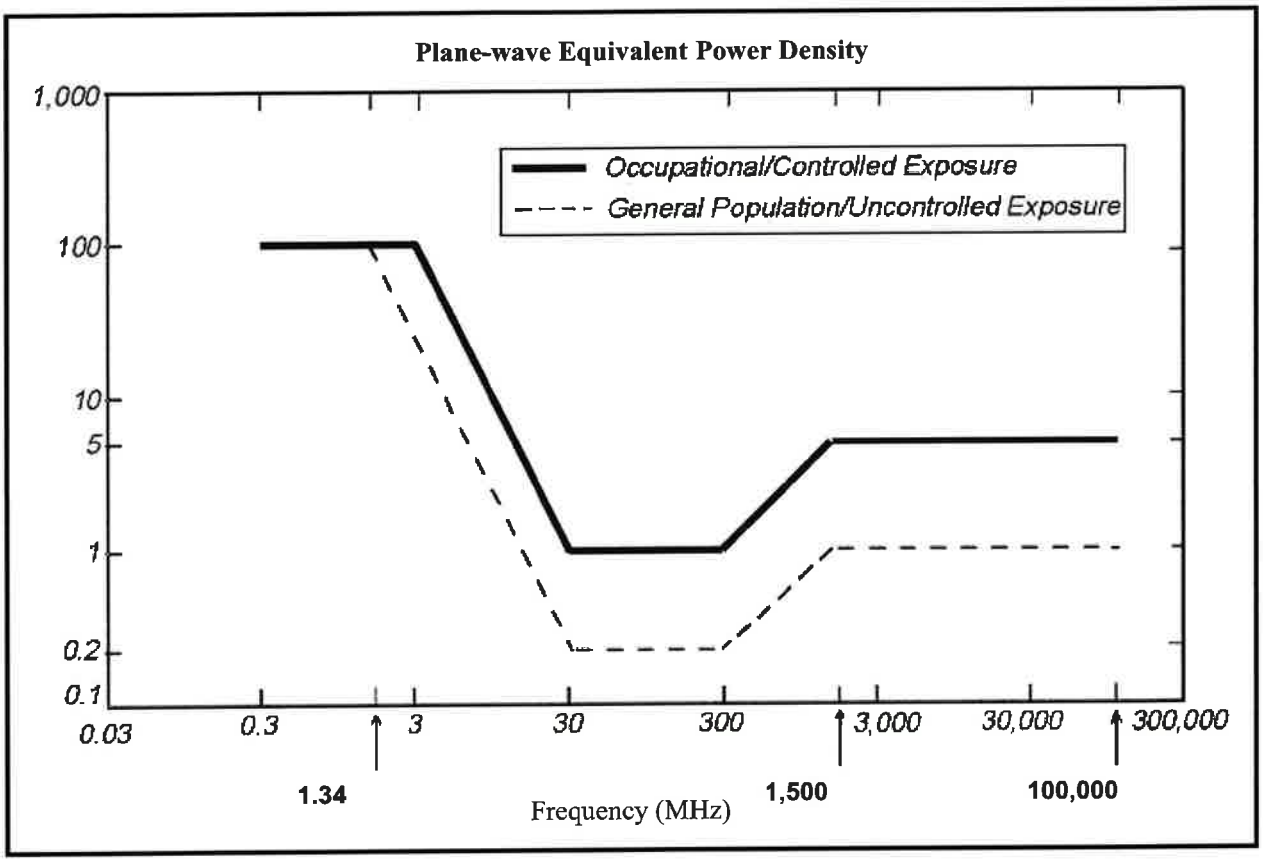
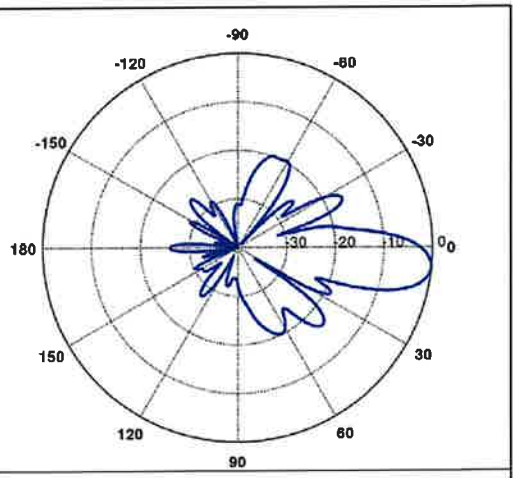


Figure 2: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: Verizon Antenna Model Data Sheets and Electrical Patterns

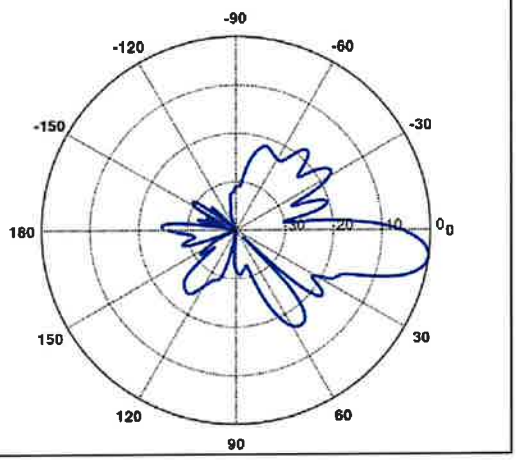
750 MHz

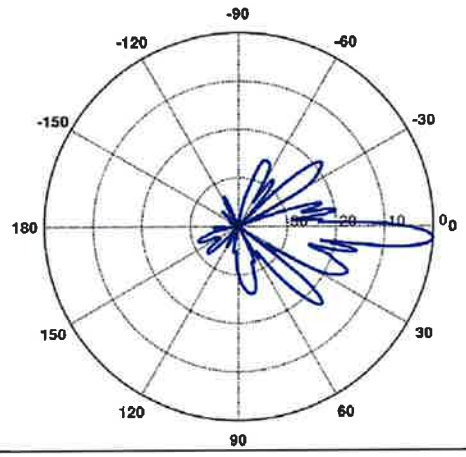
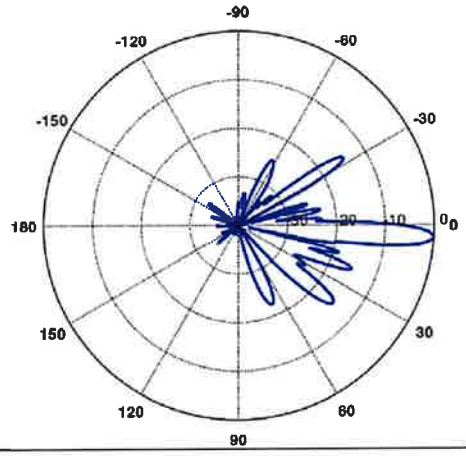
Manufacturer:	JMA
Model #:	MX06FRO660-03
Frequency Band:	698-798 MHz
Gain:	14.4 dBi
Vertical Beamwidth:	13.1°
Horizontal Beamwidth:	60.5°
Polarization:	±45°
Dimensions (L x W x D):	71.3" x 15.4" x 10.7"



850 MHz

Manufacturer:	JMA
Model #:	MX06FRO660-03
Frequency Band:	824-894 MHz
Gain:	14.0 dBi
Vertical Beamwidth:	11.8°
Horizontal Beamwidth:	53°
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

TES
A CONGRUEX® COMPANY

Tower Engineering Solutions, LLC
1320 Greenway Drive, Suite 600, Irving, Texas 75038
Phone: (972) 483-0607, Fax: (972) 975-9615

Structural Analysis Report

Structure Information	*Tower Type*	*Existing 128 ft SABRE Monopole*
Customer Information	*Name*	SBA Communications Corp
	Site Number	CT13556-S
	Site Name	Norwich
Carrier Information	*Name*	*Verizon*
	Site ID / Name	*5000244310 / NORWICH_NE_CT*
	App #	*156215-4*
Site Information	*Address:*	*39 Maennerchor Avenue* *Taftville, Connecticut , New London County*
	Latitude:	*41.558472°*
	Longitude:	*-72.051278°*

Analysis Result:

Max Structural Usage: **56.6% [Pass]**

Max Foundation Usage**: 68.0% [Pass]**

Additional Usage Caused by New Mount/Mount Modification: +1.0%

Report Prepared By: Changzhi Zang

A CONGRUEX® COMPANY

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

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Site Information	*Address:*	*39 Maennerchor Avenue* *Taftville, Connecticut , New London County*
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Max Structural Usage: **56.6% [Pass]**

Max Foundation Usage: **68.0% [Pass]**

Additional Usage Caused by New Mount/Mount Modification: +1.0%

Report Prepared By: Changzhi Zang

Introduction

The purpose of this report is to summarize the analysis results on the 128 ft SABRE Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Document Type	Remarks
Tower Drawings	Sabre Job #09-01086, dated 01/05/09
Foundation Drawing	Sabre Job #09-01086, dated 01/05/09
Geotechnical Report	TEP Project #083184.01, dated 12/08/08
Modification Drawings	FDH Project #12-05460E S4, dated 02/25/13
Mount Analysis	Colliers Engineering & Design Project #: 21777096A (Rev. 3), dated 02/16/2014

Analysis Criteria

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

Codes and Standards	ANSI/TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code	
Wind Parameters	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT}:	125.0 mph
	Ice Wind Speed (3-sec. Gust):	50 mph
	Design Ice Thickness:	1.00"
	Service Load Wind Speed:	60 mph + 0" Radial ice
	Exposure Category:	B
	Risk Category:	II
	Ground Elevation Factor (K_e):	0.994
Topographic Parameters	Method:	Method 1
	Feature Type:	
	Crest Height (H):	0 ft
	Length of Feature (L):	0.0 ft
	Distance to crest (x):	0.0 ft
Seismic Parameters:	S_S	0.192 g
	S_1	0.054 g

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	130.0	3	Ericsson AIR 6419 B77G - Panel	(Sector Frames) (3) SitePro1 VFA14-H10-2120 w/ (6) SitePro1 MM01 (Standoff Mount), (2) SitePro1 LWRM (Ring Mount), & (2) Pipe Mounts	(1) 3" Innerduct* (3) 3/8" Fiber (6) 5/8" DC	AT&T
2	128.0	2	CCI OPA65R-BU8DA - Panel			
3		1	CCI OPA65R-BU6DA - Panel			
4		1	CCI DMP65R-BU6DA - Panel			
5		2	CCI DMP65R-BU8DA - Panel			
6		3	Ericsson RRUS-11 - RRU			
7		3	Ericsson RRUS 8843 B2 B66A			
8		3	Ericsson 4449 B5/B12 - RRU			
9		3	Ericsson RRUS 4478 B14			
10		3	Raycap DC6-48-60-18-8F			
11	126.0	3	Ericsson AIR 6449 B77D - Panel			
12	117.0	3	Ericsson AIR32 KRD901146-1_B66A_B2A (Octo)- Panel	Modified Low Profile Platform W/ (1) Metrosite Heavy Collar Mount Assembly (MS-H1436) (1) Metrosite T-arm kit (MS-P-TARM) (9) 8ft pipe	(15) 1-5/8" (3) 1 5/8" Fiber	T-Mobile
13		3	Ericsson AIR6449 B41- Panel			
14		3	RFS APXVAALL24-43-U-NA20- Panel			
15		6	Allen Telecom FE15501P77/75- TMAs			
16		3	Ericsson 4449 B71 + B85- RRUs			
17		3	Ericsson 4415 B25- RRUs			
18		3	Kathrein 782 11056- Bias-Ts			
-	100.0	6	Antel - BXA 70063 6CF 2	Low Profile Platform	(12) 1/2" (2) 1 5/8" Fiber	Verizon
-		6	Antel - BXA 171063 12CF 2			
-		3	ALU - RRH 2X40 AWS - RRH			
-		3	ALU - RRH 2x40 07-U - RRH			
-		1	RFS - DB-T1-6Z-8AB-0Z			
25	91.0	3	JMA Wireless MX08FRO665-21	Platform w/HRK Commscope MC-PK8-DSH	(1) 1.6" Hybrid	Dish Wireless
26		3	Fujitsu TA08025-B605			
27		3	Fujitsu TA08025-B604			
28		1	Raycap RDIDC-9181-PF-48			

* Housing (3) 3/8" RET cables

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

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

Items	Elevation (ft)	Qty	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
19	100.0	3	Amphenol BXA-70063-6CF-2 - Panel	Platform w/Rails w/Modifications (3) JMA 91900314	(2) 1-1/4" Hybrid (12) 1/2"	Verizon
20		6	JMA Wireless MX06FR0660-03 - Panel			
21		3	Samsung MT6413-77A - Panel			
22		3	Samsung B2/B66A RRH ORAN (RF4439d-25A) - RRU			
23		3	Samsung RF4461d-13A - RRU			
24		1	Raycap RVZDC-6627-PF-48 - OVP			

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

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

Tower Component	Utilization %	Pass / Fail
Pole Shaft	56.6%	Pass
Anchor Bolt	53.5%	Pass
Base Plate	44.1%	Pass
Flange Connections	55.6%	Pass
Structure Rating – *(Controlling Utilization of all Components)*	**56.6%**	

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	2860.3	29.5	44.9

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

Service Load Condition (Rigidity)

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.758 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.

3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a comprehensive structural analysis.

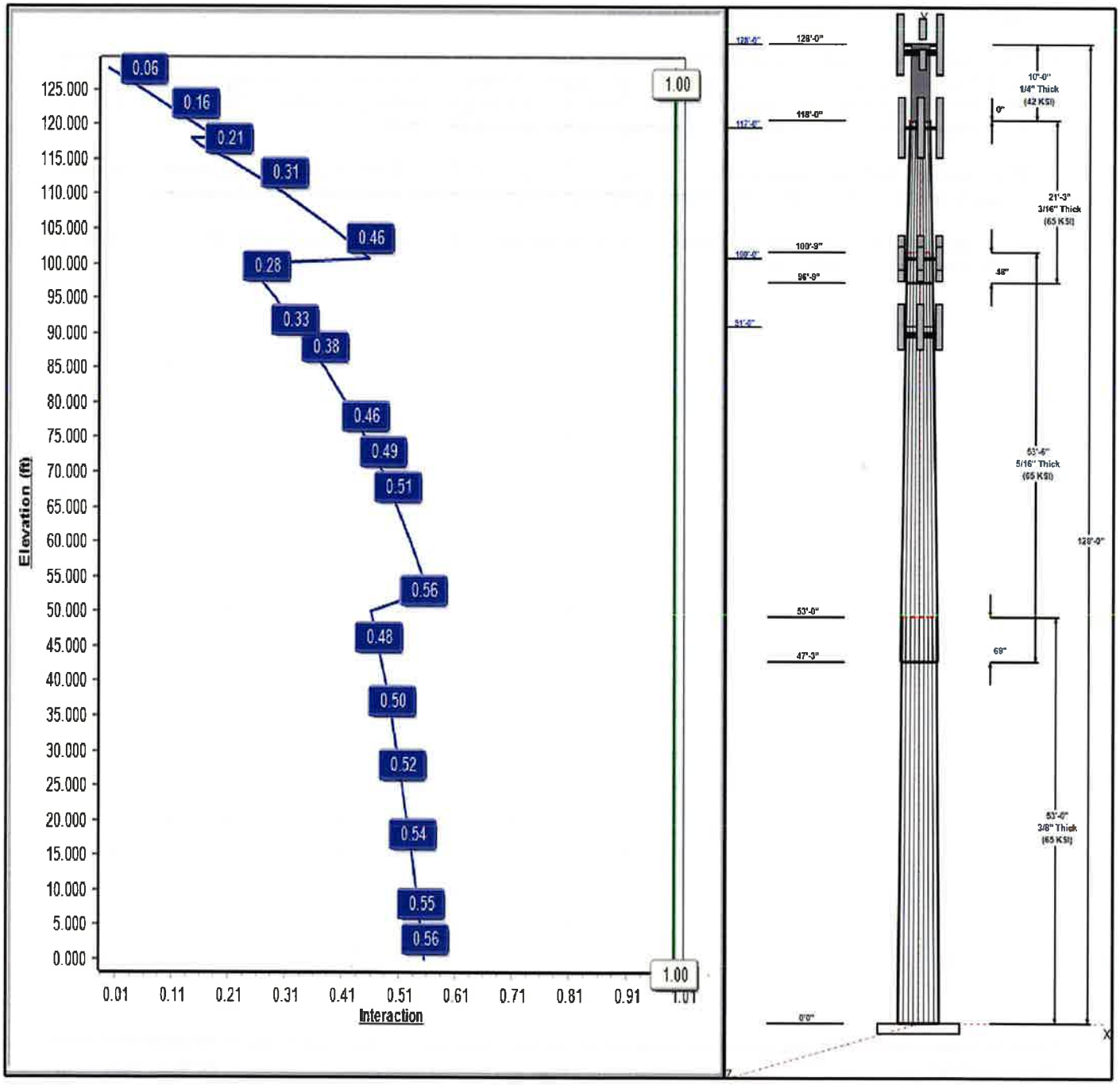
Usage Diagram - Max Ratio 56.66% at 53.0ft

Structure:	CT13556-S-SBA	**Code:**	EIA/TIA-222-H	6/11/2024
Site Name:	Norwich	**Exposure:**	B	
Height:	128.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

Tower Engineering Solutions

Dead Load Factor:	1.20	**Iterations:**	22
Wind Load Factor:	1.00		

Load Case : 1.2D + 1.0W 125 mph Wind at 60°



Structure: CT13556-S-SBA

Type: Custom
Site Name: Norwich
Height: 128.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.28797

6/11/2024

Tower Engineering Solutions

Shaft Properties

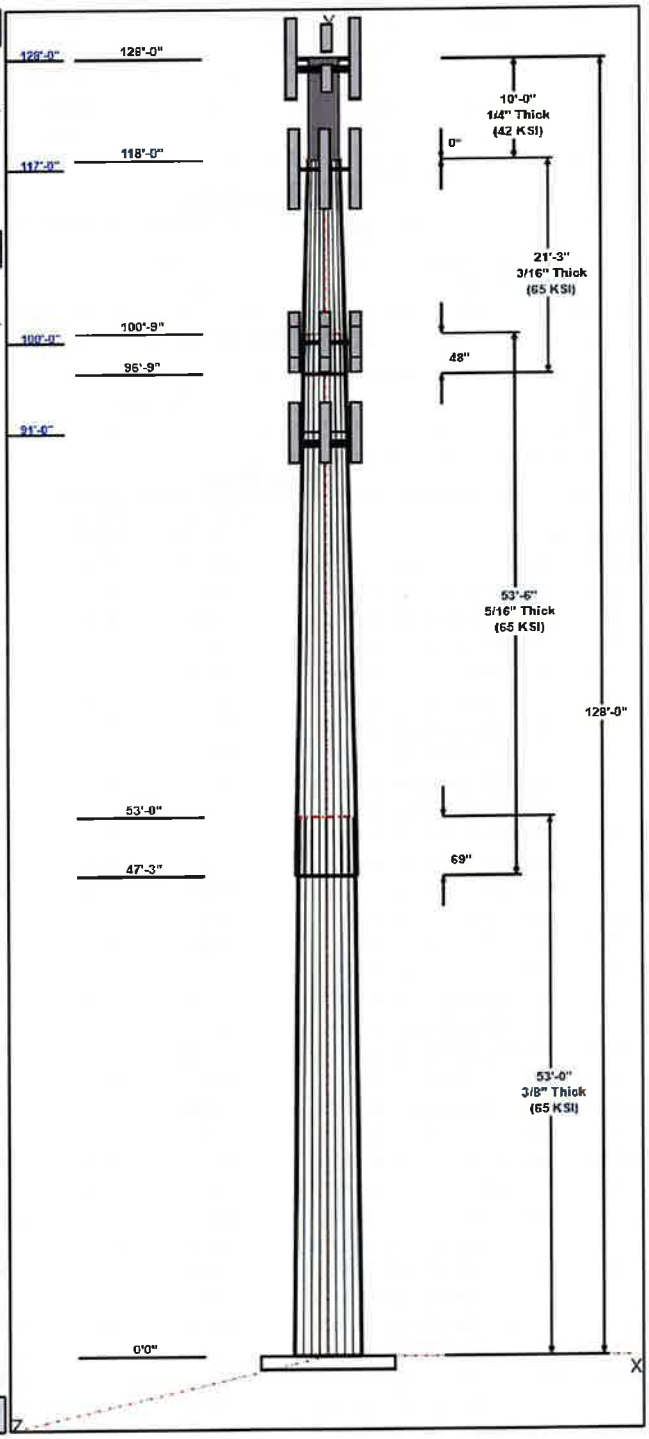
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.00	42.65	57.91	0.375		0.28797	65
2	53.50	29.52	44.93	0.313	Slip	0.28797	65
3	21.25	24.93	31.05	0.188	Slip	0.28797	65
4	10.00	24.00	24.00	0.250	Butt	0.00000	42

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
128.00	128.00	1	DMP65R-BU6DA	AT&T
128.00	128.00	2	DMP65R-BU8DA	AT&T
128.00	128.00	3	4449 B5/B12	AT&T
128.00	128.00	3	RRUS 4478 B14	AT&T
128.00	130.00	3	AIR 6419 B77G	AT&T
128.00	128.00	2	OPA65R-BU8DA	AT&T
128.00	128.00	1	OPA65R-BU6DA	AT&T
128.00	126.00	3	AIR 6449 B77D	AT&T
128.00	128.00	3	RRUS 8843 B2 B66A	AT&T
128.00	128.00	3	VFA14-H10-2120 (Sector	AT&T
128.00	128.00	6	MM01 (Standoff Wall	AT&T
128.00	128.00	3	RRUS-11	AT&T
128.00	128.00	3	DC6-48-60-18-8F	AT&T
128.00	128.00	2	LWRM (Ring Mount)	AT&T
128.00	128.00	2	2.88" Pipe Mount	AT&T
117.00	117.00	1	Low Profile Platform	T-Mobile
117.00	120.75	6	FE15501P77/75	T-Mobile
117.00	120.75	3	782 11056	T-Mobile
117.00	117.00	3	AIR6449 B41	T-Mobile
117.00	117.00	3	APXVAALL24-43-U-NA20	T-Mobile
117.00	117.00	3	4449 B71 + B85	T-Mobile
117.00	117.00	3	4415 B25	T-Mobile
117.00	117.00	3	AIR32	T-Mobile
117.00	117.00	1	pipes	T-Mobile
117.00	117.00	1	(3) T-Arm Kit	T-Mobile
117.00	117.00	1	MS-H1436 (Heavy Collar	T-Mobile
100.00	100.00	3	BXA 70063 6CF 2	Verizon
100.00	100.00	1	RVZDC-6627-PF-48	Verizon
100.00	100.00	3	MT641377A	Verizon
100.00	100.00	1	Platform w/Rails	Verizon
100.00	100.00	6	JMA Wireless	Verizon
100.00	100.00	3	Samsung B2/B66A RRH	Verizon
100.00	100.00	3	RF4461d-13A	Verizon
100.00	100.00	1	Mount mod	Verizon
91.00	91.00	3	MX08FRO665-21	Dish Wireless
91.00	91.00	3	TA08025-B604	Dish Wireless
91.00	91.00	3	TA08025-B605	Dish Wireless
91.00	91.00	1	RDIDC-9181-OF-48	Dish Wireless
91.00	91.00	1	MC-PK8-DSH	Dish Wireless

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	128.00	Inside	3" Innerduct	AT&T
0.00	128.00	Inside	3/8" Fiber	AT&T
0.00	128.00	Inside	3/8" RET	AT&T



0.00	128.00	Inside	5/8" DC	AT&T
0.00	117.00	Inside	1 5/8"	T-Mobile
0.00	117.00	Inside	1 5/8" Fiber	T-Mobile
0.00	100.00	Inside	1-1/4" Hybrid	Verizon
0.00	100.00	Inside	1/2"	Verizon
0.00	91.00	Inside	1.6" Hybrid	Dish Wireless

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
16	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.2500	62.5	50.0	Clipped

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 125 mph Wind	2861.5	29.5	45.2
1.2D + 1.0W 125 mph Wind at 30°	2478.2	25.5	45.2
1.2D + 1.0W 125 mph Wind at 60°	1430.8	14.7	45.2
1.2D + 1.0W 125 mph Wind at 90°	0.0	0.0	45.2
1.2D + 1.0W 125 mph Wind at 120°	1430.8	14.7	45.2
1.2D + 1.0W 125 mph Wind at 150°	2478.2	25.5	45.2
1.2D + 1.0W 125 mph Wind at 180°	2861.5	29.5	45.2
1.2D + 1.0W 125 mph Wind at 210°	2478.2	25.5	45.2
1.2D + 1.0W 125 mph Wind at 240°	1430.8	14.7	45.2
1.2D + 1.0W 125 mph Wind at 270°	0.0	0.0	45.2
1.2D + 1.0W 125 mph Wind at 300°	1430.8	14.7	45.2
1.2D + 1.0W 125 mph Wind at 330°	2478.2	25.5	45.2
0.9D + 1.0W 125 mph Wind	2837.3	29.5	33.9
0.9D + 1.0W 125 mph Wind at 30°	2457.2	25.5	33.9
0.9D + 1.0W 125 mph Wind at 60°	1418.6	14.7	33.9
0.9D + 1.0W 125 mph Wind at 90°	0.0	0.0	33.9
0.9D + 1.0W 125 mph Wind at 120°	1418.6	14.7	33.9
0.9D + 1.0W 125 mph Wind at 150°	2457.2	25.5	33.9
0.9D + 1.0W 125 mph Wind at 180°	2837.3	29.5	33.9
0.9D + 1.0W 125 mph Wind at 210°	2457.2	25.5	33.9
0.9D + 1.0W 125 mph Wind at 240°	1418.6	14.7	33.9
0.9D + 1.0W 125 mph Wind at 270°	0.0	0.0	33.9
0.9D + 1.0W 125 mph Wind at 300°	1418.6	14.7	33.9
0.9D + 1.0W 125 mph Wind at 330°	2457.2	25.5	33.9
1.2D + 1.0Di + 1.0Wi 50 mph Wind	680.7	7.1	63.5
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	589.5	6.1	63.5
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	340.4	3.5	63.5
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	0.0	0.0	63.5
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	340.4	3.5	63.5
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	589.5	6.1	63.5
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	680.7	7.1	63.5
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	589.5	6.1	63.5
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	340.4	3.5	63.5
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	0.0	0.0	63.5
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	340.4	3.5	63.5
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	589.5	6.1	63.5
1.0D + 1.0W 60 mph Wind	655.9	6.8	37.7

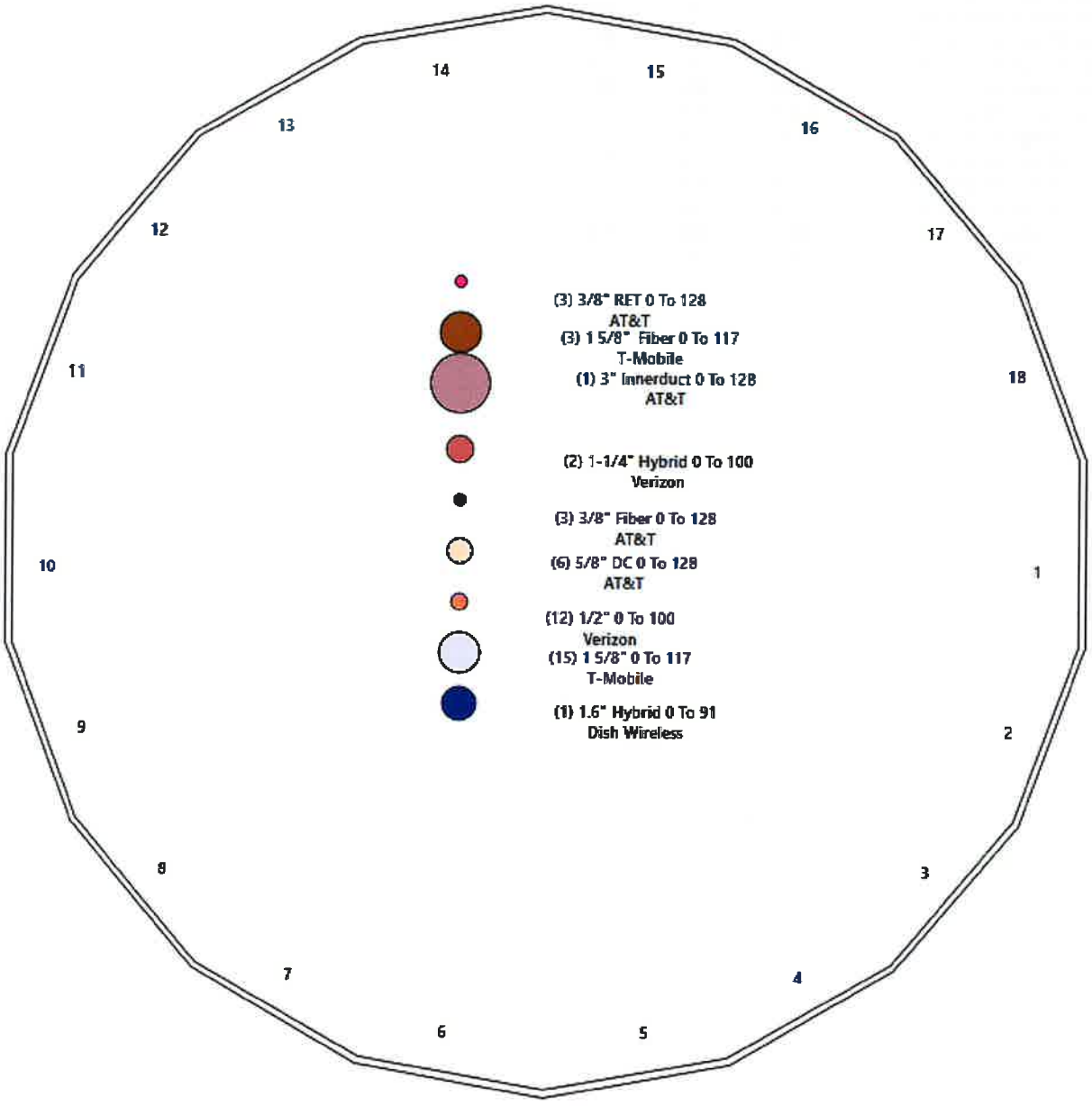
1.0D + 1.0W 60 mph Wind at 30°	568.0	5.9	37.7
1.0D + 1.0W 60 mph Wind at 60°	328.0	3.4	37.7
1.0D + 1.0W 60 mph Wind at 90°	0.0	0.0	37.7
1.0D + 1.0W 60 mph Wind at 120°	328.0	3.4	37.7
1.0D + 1.0W 60 mph Wind at 150°	568.0	5.9	37.7
1.0D + 1.0W 60 mph Wind at 180°	655.9	6.8	37.7
1.0D + 1.0W 60 mph Wind at 210°	568.0	5.9	37.7
1.0D + 1.0W 60 mph Wind at 240°	328.0	3.4	37.7
1.0D + 1.0W 60 mph Wind at 270°	0.0	0.0	37.7
1.0D + 1.0W 60 mph Wind at 300°	328.0	3.4	37.7
1.0D + 1.0W 60 mph Wind at 330°	568.0	5.9	37.7
1.2D + 1.0Ev + 1.0Eh	96.2	0.8	1.4
0.9D + 1.0Ev + 1.0Eh	96.2	0.8	1.4

Structure: CT13556-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Norwich
Height: 128.00 (ft)

6/11/2024

TES Tower Engineering Solutions



Shaft Properties

Structure:	CT13556-S-SBA	**Code:**	TIA-222-H	6/11/2024	
Site Name:	Norwich	**Exposure:**	B		
Height:	128.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 6

Tower Engineering Solutions

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	53.000	0.3750	65		0.00	10,712
2	18	53.500	0.3125	65	Slip	69.00	6,665
3	18	21.250	0.1875	65	Slip	48.00	1,196
4	R	10.000	0.2500	42	Flange	0.00	635
					Total Shaft Weight:		**19,208**

	Bottom						Top						
Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	57.91	0.00	68.48	28639.93	25.82	154.43	42.65	53.00	50.31	11359.4	18.64	113.7	0.287966
2	44.93	47.25	44.25	11129.34	23.94	143.77	29.52	100.75	28.97	3123.10	15.25	94.47	0.287966
3	31.05	96.75	18.37	2210.08	27.79	165.60	24.93	118.00	14.72	1138.88	22.03	132.9	0.287966
4	24.00	118.0	18.65	1316.20	0.00	96.00	24.00	128.00	18.65	1316.20	0.00	96.00	0.000000

Load Summary

Structure:	CT13556-S-SBA	**Code:**	EIA_H	6/11/2024	
Site Name:	Norwich	**Exposure:**	B		
Height:	128.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 7	

Tower Engineering Solutions

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	128.00	DMP65R-BU6DA	1	79.40	12.71	0.72	272.67	13.671	0.72	0.00	0.00
2	128.00	DMP65R-BU8DA	2	82.50	17.87	0.72	342.73	19.049	0.72	0.00	0.00
3	128.00	4449 B5/B12	3	71.00	1.97	0.67	106.03	2.329	0.67	0.00	0.00
4	128.00	RRUS 4478 B14	3	59.40	1.65	0.67	86.61	1.990	0.67	0.00	0.00
5	128.00	AIR 6419 B77G	3	66.10	3.80	0.76	129.23	4.322	0.76	0.00	2.00
6	128.00	OPA65R-BU8DA	2	76.50	11.22	0.89	246.98	12.312	0.89	0.00	0.00
7	128.00	OPA65R-BU6DA	1	60.20	12.71	0.73	239.44	13.671	0.73	0.00	0.00
8	128.00	AIR 6449 B77D	3	82.00	4.13	0.85	166.60	4.680	0.85	0.00	-2.00
9	128.00	RRUS 8843 B2 B66A	3	72.00	1.64	0.67	103.03	1.979	0.67	0.00	0.00
10	128.00	VFA14-H10-2120 (Sector Frames)	3	774.00	18.90	1.00	1270.36	34.483	1.00	0.00	0.00
11	128.00	MM01 (Standoff Wall Mount)	6	26.10	0.90	1.00	42.84	1.642	1.00	0.00	0.00
12	128.00	RRUS-11	3	51.00	2.52	0.67	98.42	2.936	0.67	0.00	0.00
13	128.00	DC6-48-60-18-8F	3	31.80	0.92	1.00	72.37	1.207	1.00	0.00	0.00
14	128.00	LWRM (Ring Mount)	2	220.00	2.50	1.00	421.55	4.218	1.00	0.00	0.00
15	128.00	2.88" Pipe Mount	2	29.20	1.90	1.00	69.19	3.519	1.00	0.00	0.00
16	117.00	Low Profile Platform	1	1500.00	22.00	1.00	2351.19	33.485	1.00	0.00	0.00
17	117.00	FE15501P77/75	6	70.00	1.75	0.77	133.56	2.147	0.77	0.00	3.75
18	117.00	782 11056	3	1.80	0.28	0.65	4.74	0.541	0.65	0.00	3.75
19	117.00	AIR6449 B41	3	103.00	5.65	0.71	192.17	6.268	0.71	0.00	0.00
20	117.00	APXVAALL24-43-U-NA20	3	128.00	20.24	0.73	394.09	21.460	0.73	0.00	0.00
21	117.00	4449 B71 + B85	3	73.20	1.97	0.67	110.75	2.340	0.67	0.00	0.00
22	117.00	4415 B25	3	46.30	1.86	0.67	82.08	2.212	0.67	0.00	0.00
23	117.00	AIR32 KRD901146-1_B66A_B2A	3	132.20	6.51	0.87	243.82	7.222	0.87	0.00	0.00
24	117.00	pipes	1	430.00	8.75	1.00	761.85	14.311	1.00	0.00	0.00
25	117.00	(3) T-Arm Kit	1	500.00	16.50	1.00	885.87	26.987	1.00	0.00	0.00
26	117.00	MS-H1436 (Heavy Collar Mount)	1	136.70	2.25	1.00	260.82	3.782	1.00	0.00	0.00
27	100.00	BXA 70063 6CF 2	3	17.00	7.57	0.75	107.72	9.339	0.78	0.00	0.00
28	100.00	RVZDC-6627-PF-48	1	32.00	4.06	1.00	104.93	4.586	1.00	0.00	0.00
29	100.00	MT641377A	3	57.30	3.79	0.70	128.15	5.290	0.75	0.00	0.00
30	100.00	Platform w/Rails w/Modifications	1	2200.00	25.00	1.00	3428.97	37.848	1.00	0.00	0.00
31	100.00	JMA Wireless MX06FR0660-03	6	60.00	9.87	0.87	222.81	10.733	0.87	0.00	0.00
32	100.00	Samsung B2/B66A RRH ORAN	3	74.70	1.87	0.67	119.64	2.225	0.67	0.00	0.00
33	100.00	RF4461d-13A	3	79.10	1.87	0.67	124.51	2.225	0.67	0.00	0.00
34	100.00	Mount mod	1	514.00	12.25	1.00	904.50	19.914	1.00	0.00	0.00
35	91.00	MX08FRO665-21	3	64.50	12.49	0.74	248.96	13.419	0.74	0.00	0.00
36	91.00	TA08025-B604	3	63.90	1.96	0.67	96.01	2.316	0.67	0.00	0.00
37	91.00	TA08025-B605	3	75.00	1.96	0.67	108.17	2.316	0.67	0.00	0.00
38	91.00	RDIDC-9181-OF-48	1	21.90	2.01	0.67	55.67	2.370	0.67	0.00	0.00
39	91.00	MC-PK8-DSH	1	1727.00	37.59	1.00	2797.37	67.544	1.00	0.00	0.00
		Totals:	**100**	**15,324.10**			**28,599.83**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	128.00	(1) 3" Innerduct	0.00	Inside
0.00	128.00	(3) 3/8" Fiber	0.00	Inside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
0.00	128.00	(3) 3/8" RET			0.00	Inside					
0.00	128.00	(6) 5/8" DC			0.00	Inside					
0.00	117.00	(15) 1 5/8"			0.00	Inside					
0.00	117.00	(3) 1 5/8" Fiber			0.00	Inside					
0.00	100.00	(2) 1-1/4" Hybrid			0.00	Inside					
0.00	100.00	(12) 1/2"			0.00	Inside					
0.00	91.00	(1) 1.6" Hybrid			0.00	Inside					

Shaft Section Properties

Structure:	CT13556-S-SBA	**Code:**	TIA-222-H	6/11/2024	
Site Name:	Norwich	**Exposure:**	B		
Height:	128.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

TES Tower Engineering Solutions

Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.3750	57.910	68.479	28639.9	25.82	154.43	71.0	974.1	0.0
5.00		0.3750	56.470	66.765	26543.1	25.14	150.59	71.8	925.8	1150.5
10.00		0.3750	55.030	65.051	24551.2	24.46	146.75	72.6	878.7	1121.4
15.00		0.3750	53.591	63.337	22661.6	23.79	142.91	73.4	832.9	1092.2
20.00		0.3750	52.151	61.624	20871.5	23.11	139.07	74.2	788.3	1063.0
25.00		0.3750	50.711	59.910	19178.2	22.43	135.23	75.0	744.9	1033.9
30.00		0.3750	49.271	58.196	17579.1	21.76	131.39	75.8	702.7	1004.7
35.00		0.3750	47.831	56.483	16071.4	21.08	127.55	76.6	661.8	975.6
40.00		0.3750	46.391	54.769	14652.5	20.40	123.71	77.4	622.1	946.4
45.00		0.3750	44.952	53.055	13319.7	19.73	119.87	78.2	583.6	917.3
47.25	Bot - Section 2	0.3750	44.304	52.284	12747.3	19.42	118.14	78.6	566.7	403.3
50.00		0.3750	43.512	51.342	12070.2	19.05	116.03	79.0	546.4	895.3
53.00	Top - Section 1	0.3125	43.273	42.610	9935.6	23.01	138.47	0.0	0.0	958.2
55.00		0.3125	42.697	42.038	9541.4	22.68	136.63	74.7	440.1	288.0
60.00		0.3125	41.257	40.610	8601.7	21.87	132.02	75.7	410.6	703.1
65.00		0.3125	39.817	39.182	7725.8	21.06	127.42	76.6	382.2	678.8
70.00		0.3125	38.377	37.754	6911.4	20.24	122.81	77.6	354.7	654.5
75.00		0.3125	36.938	36.326	6156.4	19.43	118.20	78.5	328.3	630.2
80.00		0.3125	35.498	34.898	5458.5	18.62	113.59	79.5	302.9	605.9
85.00		0.3125	34.058	33.470	4815.5	17.81	108.99	80.5	278.5	581.6
90.00		0.3125	32.618	32.042	4225.0	16.99	104.38	81.4	255.1	557.3
91.00		0.3125	32.330	31.756	4113.0	16.83	103.46	81.6	250.6	108.5
95.00		0.3125	31.178	30.614	3684.9	16.18	99.77	82.4	232.8	424.5
96.75	Bot - Section 3	0.3125	30.674	30.114	3507.3	15.90	98.16	82.5	225.2	180.8
100.00		0.3125	29.738	29.186	3192.9	15.37	95.16	82.5	211.5	527.9
100.75	Top - Section 2	0.1875	29.897	17.680	1971.7	26.71	159.45	0.0	0.0	119.5
105.00		0.1875	28.674	16.952	1738.0	25.55	152.93	71.3	119.4	250.4
110.00		0.1875	27.234	16.095	1487.5	24.20	145.25	72.9	107.6	281.1
115.00		0.1875	25.794	15.238	1262.4	22.85	137.57	74.5	96.4	266.6
117.00		0.1875	25.218	14.896	1179.1	22.30	134.50	75.2	92.1	102.5
118.00	Top - Section 3	0.1875	24.930	14.724	1138.9	22.03	132.96	75.5	90.0	50.4
118.00	Bot - Section 4	0.2500	24.000	18.653	1316.2	16.53	99.72	39.4	109.7	
120.00		0.2500	24.000	18.653	1316.2	0.00	96.00	39.4	109.7	126.9
125.00		0.2500	24.000	18.653	1316.2	0.00	96.00	39.4	109.7	317.4
128.00		0.2500	24.000	18.653	1316.2	0.00	96.00	39.4	109.7	190.4
										19208.1

Wind Loading - Shaft

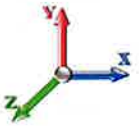
Structure:	CT13556-S-SBA	**Code:**	TIA-222-H	6/11/2024	
Site Name:	Norwich	**Exposure:**	B		
Height:	128.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 125 mph Wind at 60° - Controlling Direction

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	26.449	29.09	511.03	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	26.449	29.09	498.32	0.730	0.000	5.00	24.197	17.66	513.9	0.0	1380.6
10.00		1.00	0.70	26.449	29.09	485.62	0.730	0.000	5.00	23.588	17.22	501.0	0.0	1345.6
15.00		1.00	0.70	26.449	29.09	472.91	0.730	0.000	5.00	22.978	16.77	488.0	0.0	1310.6
20.00		1.00	0.70	26.449	29.09	460.21	0.730	0.000	5.00	22.369	16.33	475.1	0.0	1275.6
25.00		1.00	0.70	26.449	29.09	447.50	0.730	0.000	5.00	21.760	15.88	462.2	0.0	1240.7
30.00		1.00	0.70	26.472	29.12	434.98	0.730	0.000	5.00	21.151	15.44	449.6	0.0	1205.7
35.00		1.00	0.73	27.664	30.43	431.67	0.730	0.000	5.00	20.542	15.00	456.3	0.0	1170.7
40.00		1.00	0.76	28.739	31.61	426.74	0.730	0.000	5.00	19.933	14.55	460.0	0.0	1135.7
45.00		1.00	0.79	29.723	32.70	420.51	0.730	0.000	5.00	19.323	14.11	461.2	0.0	1100.7
47.25	Bot - Section 2	1.00	0.80	30.140	33.15	417.35	0.730	0.000	2.25	8.497	6.20	205.6	0.0	483.9
50.00		1.00	0.81	30.631	33.69	413.21	0.730	0.000	2.75	10.363	7.56	254.9	0.0	1074.3
53.00	Top - Section 1	1.00	0.82	31.146	34.26	408.39	0.730	0.000	3.00	11.095	8.10	277.5	0.0	1149.9
55.00		1.00	0.83	31.477	34.62	411.03	0.730	0.000	2.00	7.275	5.31	183.9	0.0	345.6
60.00		1.00	0.85	32.269	35.50	402.14	0.730	0.000	5.00	17.760	12.96	460.2	0.0	843.7
65.00		1.00	0.87	33.016	36.32	392.57	0.730	0.000	5.00	17.151	12.52	454.7	0.0	814.6
70.00		1.00	0.89	33.722	37.09	382.40	0.730	0.000	5.00	16.542	12.08	447.9	0.0	785.4
75.00		1.00	0.91	34.394	37.83	371.70	0.730	0.000	5.00	15.933	11.63	440.0	0.0	756.2
80.00		1.00	0.93	35.034	38.54	360.52	0.730	0.000	5.00	15.323	11.19	431.1	0.0	727.1
85.00		1.00	0.94	35.646	39.21	348.91	0.730	0.000	5.00	14.714	10.74	421.2	0.0	697.9
90.00		1.00	0.96	36.233	39.86	336.89	0.730	0.000	5.00	14.105	10.30	410.4	0.0	668.8
91.00	Appurtenance(s)	1.00	0.96	36.347	39.98	334.45	0.730	0.000	1.00	2.748	2.01	80.2	0.0	130.3
95.00		1.00	0.97	36.797	40.48	324.52	0.730	0.000	4.00	10.748	7.85	317.6	0.0	509.4
96.75	Bot - Section 3	1.00	0.98	36.989	40.69	320.11	0.730	0.000	1.75	4.580	3.34	136.0	0.0	217.0
100.00	Appurtenance(s)	1.00	0.99	37.340	41.07	311.81	0.730	0.000	3.25	8.410	6.14	252.2	0.0	633.5
100.75	Top - Section 2	1.00	0.99	37.420	41.16	309.88	0.730	0.000	0.75	1.904	1.39	57.2	0.0	143.4
105.00		1.00	1.00	37.864	41.65	302.75	0.730	0.000	4.25	10.532	7.69	320.2	0.0	300.5
110.00		1.00	1.02	38.371	42.21	289.46	0.730	0.000	5.00	11.827	8.63	364.4	0.0	337.4
115.00		1.00	1.03	38.861	42.75	275.91	0.730	0.000	5.00	11.218	8.19	350.1	0.0	319.9
117.00	Appurtenance(s)	1.00	1.03	39.053	42.96	270.41	0.730	0.000	2.00	4.317	3.15	135.4	0.0	123.0
118.00	Top - Section 3	1.00	1.04	39.148	43.06	267.65	0.730	0.000	1.00	2.122	1.55	66.7	0.0	60.5
120.00		1.00	1.04	39.337	43.27	254.36	0.600	0.000	2.00	4.000	2.40	103.8	0.0	152.3
125.00		1.00	1.05	39.798	43.78	255.85	0.600	0.000	5.00	10.000	6.00	262.7	0.0	380.8
128.00	Appurtenance(s)	1.00	1.06	40.069	44.08	256.71	0.600	0.000	3.00	6.000	3.60	158.7	0.0	228.5
								Totals:	**128.00**			**10,859.8**		**23,049.7**

Discrete Appurtenance Forces

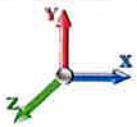
Structure:	CT13556-S-SBA	**Code:**	TIA-222-H	6/11/2024	
Site Name:	Norwich	**Exposure:**	B		
Height:	128.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 11	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 125 mph Wind at 60° - Controlling Direction

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 22

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	128.00	OPA65R-BU6DA	1	40.069	44.076	0.66	0.90	8.35	72.24	0.000	0.000	-184.03	0.00	0.00
2	128.00	DMP65R-BU6DA	1	40.069	44.076	0.65	0.90	8.24	95.28	0.000	0.000	-181.51	0.00	0.00
3	128.00	DMP65R-BU8DA	2	40.069	44.076	0.65	0.90	23.16	198.00	0.000	0.000	-510.38	0.00	0.00
4	128.00	4449 B5/B12	3	40.069	44.076	0.60	0.90	3.56	255.60	0.000	0.000	-78.54	0.00	0.00
5	128.00	RRUS 4478 B14	3	40.069	44.076	0.60	0.90	2.98	213.84	0.000	0.000	-65.78	0.00	0.00
6	128.00	AIR 6419 B77G	3	40.247	44.271	0.68	0.90	7.80	237.96	0.000	2.000	-172.60	0.00	-345.21
7	128.00	OPA65R-BU8DA	2	40.069	44.076	0.80	0.90	17.97	183.60	0.000	0.000	-396.12	0.00	0.00
8	128.00	2.88" Pipe Mount	2	40.069	44.076	0.75	0.75	2.85	70.08	0.000	0.000	-62.81	0.00	0.00
9	128.00	RRUS-11	3	40.069	44.076	0.60	0.90	4.56	183.60	0.000	0.000	-100.46	0.00	0.00
10	128.00	LWRM (Ring Mount)	2	40.069	44.076	1.00	1.00	5.00	528.00	0.000	0.000	-110.19	0.00	0.00
11	128.00	DC6-48-60-18-8F	3	40.069	44.076	0.90	0.90	2.48	114.48	0.000	0.000	-54.74	0.00	0.00
12	128.00	AIR 6449 B77D	3	39.889	43.878	0.77	0.90	9.48	295.20	0.000	-2.000	-207.94	0.00	415.89
13	128.00	MM01 (Standoff Wall	6	40.069	44.076	1.00	1.00	5.40	187.92	0.000	0.000	-119.00	0.00	0.00
14	128.00	VFA14-H10-2120 (Sector	3	40.069	44.076	0.75	0.75	42.52	2786.40	0.000	0.000	-937.16	0.00	0.00
15	128.00	RRUS 8843 B2 B66A	3	40.069	44.076	0.60	0.90	2.97	259.20	0.000	0.000	-65.38	0.00	0.00
16	117.00	MS-H1436 (Heavy Collar	1	39.053	42.958	1.00	1.00	2.25	164.04	0.000	0.000	-48.33	0.00	0.00
17	117.00	(3) T-Arm Kit	1	39.053	42.958	1.00	1.00	16.50	600.00	0.000	0.000	-354.41	0.00	0.00
18	117.00	pipes	1	39.053	42.958	1.00	1.00	8.75	516.00	0.000	0.000	-187.94	0.00	0.00
19	117.00	AIR32	3	39.053	42.958	0.70	0.80	13.59	475.92	0.000	0.000	-291.96	0.00	0.00
20	117.00	4415 B25	3	39.053	42.958	0.54	0.80	2.99	166.68	0.000	0.000	-64.24	0.00	0.00
21	117.00	APXVAALL24-43-U-NA20	3	39.053	42.958	0.58	0.80	35.46	460.80	0.000	0.000	-761.66	0.00	0.00
22	117.00	AIR6449 B41	3	39.053	42.958	0.57	0.80	9.63	370.80	0.000	0.000	-206.79	0.00	0.00
23	117.00	782 11056	3	39.407	43.347	0.52	0.80	0.44	6.48	0.000	3.750	-9.47	0.00	-35.50
24	117.00	FE15501P77/75	6	39.407	43.347	0.62	0.80	6.47	504.00	0.000	3.750	-140.19	0.00	-525.70
25	117.00	Low Profile Platform	1	39.053	42.958	1.00	1.00	22.00	1800.00	0.000	0.000	-472.54	0.00	0.00
26	117.00	4449 B71 + B85	3	39.053	42.958	0.54	0.80	3.17	263.52	0.000	0.000	-68.04	0.00	0.00
27	100.00	Platform w/Rails	1	37.340	41.074	1.00	1.00	25.00	2640.00	0.000	0.000	-513.42	0.00	0.00
28	100.00	BXA 70063 6CF 2	3	37.340	41.074	0.56	0.75	12.77	61.20	0.000	0.000	-262.35	0.00	0.00
29	100.00	RVZDC-6627-PF-48	1	37.340	41.074	0.75	0.75	3.04	38.40	0.000	0.000	-62.54	0.00	0.00
30	100.00	MT641377A	3	37.340	41.074	0.52	0.75	5.97	206.28	0.000	0.000	-122.59	0.00	0.00
31	100.00	JMA Wireless	6	37.340	41.074	0.65	0.75	38.64	432.00	0.000	0.000	-793.57	0.00	0.00
32	100.00	Samsung B2/B66A RRH	3	37.340	41.074	0.50	0.75	2.82	268.92	0.000	0.000	-57.89	0.00	0.00
33	100.00	RF4461d-13A	3	37.340	41.074	0.50	0.75	2.82	284.76	0.000	0.000	-57.89	0.00	0.00
34	100.00	Mount mod	1	37.340	41.074	1.00	1.00	12.25	616.80	0.000	0.000	-251.58	0.00	0.00
35	91.00	MC-PK8-DSH	1	36.347	39.982	1.00	1.00	37.59	2072.40	0.000	0.000	-751.46	0.00	0.00
36	91.00	RDIDC-9181-OF-48	1	36.347	39.982	0.50	0.75	1.01	26.28	0.000	0.000	-20.19	0.00	0.00
37	91.00	TA08025-B605	3	36.347	39.982	0.50	0.75	2.95	270.00	0.000	0.000	-59.07	0.00	0.00
38	91.00	TA08025-B604	3	36.347	39.982	0.50	0.75	2.95	230.04	0.000	0.000	-59.07	0.00	0.00
39	91.00	MX08FRO665-21	3	36.347	39.982	0.55	0.75	20.80	232.20	0.000	0.000	-415.73	0.00	0.00
							Totals:		**18,388.92**			**-9,279.57**		

Total Applied Force Summary

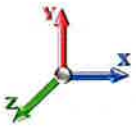
Structure:	CT13556-S-SBA	**Code:**	TIA-222-H	6/11/2024	
Site Name:	Norwich	**Exposure:**	B		
Height:	128.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 125 mph Wind at 60° - Controlling Direction

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		-256.96	-1544.28	0.00	0.00
10.00		-250.49	-1509.29	0.00	0.00
15.00		-244.02	-1474.30	0.00	0.00
20.00		-237.55	-1439.31	0.00	0.00
25.00		-231.08	-1404.33	0.00	0.00
30.00		-224.80	-1369.34	0.00	0.00
35.00		-228.15	-1334.35	0.00	0.00
40.00		-230.00	-1299.36	0.00	0.00
45.00		-230.60	-1264.37	0.00	0.00
47.25		-102.82	-557.55	0.00	0.00
50.00		-127.45	-1164.34	0.00	0.00
53.00		-138.74	-1248.05	0.00	0.00
55.00		-91.94	-411.11	0.00	0.00
60.00		-230.10	-1007.38	0.00	0.00
65.00		-227.35	-978.22	0.00	0.00
70.00		-223.97	-949.06	0.00	0.00
75.00		-220.01	-919.91	0.00	0.00
80.00		-215.54	-890.75	0.00	0.00
85.00		-210.59	-861.59	0.00	0.00
90.00		-205.19	-832.44	0.00	0.00
91.00	(11) attachments	-1345.62	-2993.91	0.00	0.00
95.00		-158.79	-635.49	0.00	0.00
96.75		-68.01	-272.16	0.00	0.00
100.00	(21) attachments	-2247.92	-5284.36	0.00	0.00
100.75		-28.61	-163.60	0.00	0.00
105.00		-160.11	-415.01	0.00	0.00
110.00		-182.21	-472.06	0.00	0.00
115.00		-175.03	-454.57	0.00	0.00
117.00	(28) attachments	-2673.26	-5505.17	0.00	-561.20
118.00		-33.35	-64.95	0.00	0.00
120.00		-51.92	-161.29	0.00	0.00
125.00		-131.33	-403.22	0.00	0.00
128.00	(40) attachments	-3325.98	-5923.33	0.00	70.68
	Totals:	**-14,709.49**	**-45,208.43**	**0.00**	**-490.52**

Calculated Forces

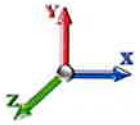
Structure:	CT13556-S-SBA	**Code:**	TIA-222-H	6/11/2024	
Site Name:	Norwich	**Exposure:**	B		
Height:	128.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 125 mph Wind at 60° - Controlling Direction

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 22

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-45.17	-14.74	-0.01	-1430.7	-2478.1	2861.55	4377.82	1201.80	5736.92	5189.46	0.00	0.000	0.000	0.562
5.00	-43.56	-14.53	-0.01	-1357.1	-2350.5	2714.17	4316.11	1171.72	5453.37	4987.44	0.07	0.138	0.000	0.555
10.00	-41.98	-14.33	-0.01	-1284.4	-2224.6	2568.85	4251.94	1141.65	5177.01	4786.34	0.30	0.280	0.000	0.547
15.00	-40.43	-14.14	-0.01	-1212.8	-2100.5	2425.53	4185.32	1111.57	4907.84	4586.39	0.67	0.425	0.000	0.539
20.00	-38.93	-13.94	-0.01	-1142.1	-1978.1	2284.18	4116.24	1081.50	4645.86	4387.79	1.19	0.573	0.000	0.531
25.00	-37.46	-13.75	-0.01	-1072.4	-1857.3	2144.76	4044.71	1051.42	4391.06	4190.78	1.87	0.723	0.000	0.522
30.00	-36.02	-13.57	-0.01	-1003.7	-1738.2	2007.23	3970.72	1021.35	4143.44	3995.56	2.72	0.877	0.000	0.512
35.00	-34.62	-13.38	-0.01	-935.92	-1620.7	1871.55	3894.27	991.27	3903.01	3802.37	3.72	1.034	0.000	0.502
40.00	-33.25	-13.18	-0.01	-869.06	-1504.8	1737.79	3815.37	961.20	3669.77	3611.41	4.89	1.194	0.000	0.491
45.00	-31.95	-12.97	-0.01	-803.18	-1390.7	1605.99	3734.01	931.12	3443.71	3422.92	6.23	1.356	0.000	0.479
47.25	-31.36	-12.89	-0.01	-774.01	-1340.1	1547.63	3696.60	917.59	3344.33	3338.96	6.89	1.432	0.000	0.473
50.00	-30.16	-12.77	-0.01	-738.60	-1278.8	1476.78	3650.19	901.05	3224.84	3237.11	7.74	1.525	0.000	0.465
53.00	-28.88	-12.64	-0.01	-700.32	-1212.4	1400.18	2850.91	747.80	2665.43	2521.48	8.73	1.627	0.000	0.567
55.00	-28.41	-12.57	0.00	-675.08	-1168.6	1349.66	2827.15	737.78	2594.44	2466.71	9.43	1.696	0.000	0.558
60.00	-27.34	-12.37	0.00	-612.28	-1059.8	1224.00	2766.03	712.71	2421.17	2330.80	11.31	1.887	0.000	0.536
65.00	-26.30	-12.17	0.00	-550.47	-952.75	1100.34	2702.46	687.65	2253.88	2196.54	13.39	2.080	0.000	0.512
70.00	-25.29	-11.97	0.00	-489.66	-847.38	978.68	2636.43	662.59	2092.58	2064.16	15.67	2.271	0.000	0.485
75.00	-24.31	-11.78	0.00	-429.83	-743.74	859.02	2567.95	637.52	1937.27	1933.87	18.15	2.460	0.000	0.455
80.00	-23.36	-11.58	0.00	-370.99	-641.84	741.34	2497.00	612.46	1787.94	1805.90	20.83	2.645	0.000	0.421
85.00	-22.45	-11.38	0.00	-313.13	-541.65	625.65	2423.61	587.40	1644.61	1680.45	23.70	2.823	0.000	0.383
90.00	-21.61	-11.18	0.00	-256.23	-443.19	511.93	2347.75	562.34	1507.26	1557.76	26.75	2.991	0.000	0.339
91.00	-18.73	-9.77	0.00	-245.07	-423.85	489.60	2332.29	557.32	1480.51	1533.58	27.38	3.025	0.000	0.329
95.00	-18.08	-9.61	0.00	-206.02	-356.28	411.55	2269.44	537.27	1375.90	1438.05	29.97	3.150	0.000	0.295
96.75	-17.79	-9.54	0.00	-189.22	-327.20	377.97	2237.32	528.50	1331.34	1394.32	31.13	3.203	0.000	0.280
100.00	-12.76	-7.15	0.00	-158.22	-273.58	316.03	2168.36	512.21	1250.52	1309.26	33.34	3.294	0.000	0.248
100.75	-12.58	-7.12	0.00	-152.86	-264.30	305.32	1113.72	310.29	764.87	681.87	33.86	3.315	0.000	0.461
105.00	-12.15	-6.97	0.00	-122.59	-211.93	244.84	1088.50	297.51	703.15	638.80	36.86	3.422	0.000	0.397
110.00	-11.67	-6.79	0.00	-87.76	-151.69	175.25	1056.55	282.47	633.87	588.50	40.54	3.594	0.000	0.311
115.00	-11.22	-6.61	0.00	-53.82	-93.02	107.47	1022.14	267.43	568.17	538.82	44.38	3.729	0.000	0.213
117.00	-6.07	-3.76	0.00	-40.04	-69.21	79.96	1007.69	261.42	542.90	519.17	45.96	3.771	0.000	0.161
118.00	-6.01	-3.72	0.00	-36.29	-62.71	72.45	1000.32	258.41	530.48	509.40	46.75	3.790	0.000	0.149
118.00	-6.01	-3.72	0.00	-36.29	-62.71	72.45	662.26	211.53	26175.5	396.94	46.75	-1.895	0.000	0.193
120.00	-5.85	-3.67	0.00	-28.84	-49.84	57.59	662.26	211.53	26175.5	396.94	48.34	3.822	0.000	0.155
125.00	-5.46	-3.52	0.00	-10.50	-18.15	20.97	662.26	211.53	26175.5	396.94	52.37	3.865	0.000	0.062
128.00	0.00	-3.33	0.00	0.07	0.12	0.14	662.26	211.53	26175.5	396.94	54.80	3.871	0.000	0.001

Wind Loading - Shaft

Structure:	CT13556-S-SBA	**Code:**	TIA-222-H	6/11/2024	
Site Name:	Norwich	**Exposure:**	B		
Height:	128.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° - Controlling Direction

Iterations 20

Dead Load Factor 1.20

Wind Load Factor 1.00

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	4.232	4.66	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	4.232	4.66	0.00	1.200	0.828	5.00	24.887	29.86	139.0	294.2	1674.8
10.00		1.00	0.70	4.232	4.66	0.00	1.200	0.887	5.00	24.327	29.19	135.9	307.7	1653.4
15.00		1.00	0.70	4.232	4.66	0.00	1.200	0.924	5.00	23.749	28.50	132.7	312.4	1623.1
20.00		1.00	0.70	4.232	4.66	0.00	1.200	0.951	5.00	23.162	27.79	129.4	313.2	1588.9
25.00		1.00	0.70	4.232	4.66	0.00	1.200	0.973	5.00	22.571	27.08	126.1	311.7	1552.4
30.00		1.00	0.70	4.235	4.66	0.00	1.200	0.991	5.00	21.976	26.37	122.9	308.7	1514.4
35.00		1.00	0.73	4.426	4.87	0.00	1.200	1.006	5.00	21.380	25.66	124.9	304.6	1475.3
40.00		1.00	0.76	4.598	5.06	0.00	1.200	1.019	5.00	20.782	24.94	126.1	299.7	1435.4
45.00		1.00	0.79	4.756	5.23	0.00	1.200	1.032	5.00	20.183	24.22	126.7	294.1	1394.8
47.25	Bot - Section 2	1.00	0.80	4.822	5.30	0.00	1.200	1.037	2.25	8.885	10.66	56.6	131.1	615.0
50.00		1.00	0.81	4.901	5.39	0.00	1.200	1.042	2.75	10.841	13.01	70.1	160.6	1234.9
53.00	Top - Section 1	1.00	0.82	4.983	5.48	0.00	1.200	1.049	3.00	11.619	13.94	76.4	172.9	1322.7
55.00		1.00	0.83	5.036	5.54	0.00	1.200	1.052	2.00	7.625	9.15	50.7	114.2	459.8
60.00		1.00	0.85	5.163	5.68	0.00	1.200	1.062	5.00	18.645	22.37	127.1	278.6	1122.3
65.00		1.00	0.87	5.283	5.81	0.00	1.200	1.070	5.00	18.043	21.65	125.8	271.3	1085.9
70.00		1.00	0.89	5.396	5.94	0.00	1.200	1.078	5.00	17.440	20.93	124.2	263.7	1049.1
75.00		1.00	0.91	5.503	6.05	0.00	1.200	1.086	5.00	16.837	20.20	122.3	255.9	1012.2
80.00		1.00	0.93	5.605	6.17	0.00	1.200	1.093	5.00	16.234	19.48	120.1	247.9	974.9
85.00		1.00	0.94	5.703	6.27	0.00	1.200	1.099	5.00	15.630	18.76	117.7	239.6	937.5
90.00		1.00	0.96	5.797	6.38	0.00	1.200	1.106	5.00	15.026	18.03	115.0	231.1	899.9
91.00	Appurtenance(s)	1.00	0.96	5.816	6.40	0.00	1.200	1.107	1.00	2.932	3.52	22.5	45.9	176.1
95.00		1.00	0.97	5.887	6.48	0.00	1.200	1.112	4.00	11.489	13.79	89.3	178.0	687.4
96.75	Bot - Section 3	1.00	0.98	5.918	6.51	0.00	1.200	1.114	1.75	4.904	5.89	38.3	76.8	293.8
100.00	Appurtenance(s)	1.00	0.99	5.974	6.57	0.00	1.200	1.117	3.25	9.015	10.82	71.1	140.6	774.1
100.75	Top - Section 2	1.00	0.99	5.987	6.59	0.00	1.200	1.118	0.75	2.044	2.45	16.2	32.2	175.6
105.00		1.00	1.00	6.058	6.66	0.00	1.200	1.123	4.25	11.327	13.59	90.6	176.3	476.8
110.00		1.00	1.02	6.139	6.75	0.00	1.200	1.128	5.00	12.767	15.32	103.5	198.3	535.7
115.00		1.00	1.03	6.218	6.84	0.00	1.200	1.133	5.00	12.162	14.59	99.8	189.1	509.0
117.00	Appurtenance(s)	1.00	1.03	6.249	6.87	0.00	1.200	1.135	2.00	4.695	5.63	38.7	74.2	197.2
118.00	Top - Section 3	1.00	1.04	6.264	6.89	0.00	1.200	1.136	1.00	2.311	2.77	19.1	36.7	97.2
120.00		1.00	1.04	6.294	6.92	0.00	1.200	1.138	2.00	4.379	5.26	36.4	69.9	222.2
125.00		1.00	1.05	6.368	7.00	0.00	1.200	1.142	5.00	10.952	13.14	92.1	175.5	556.3
128.00	Appurtenance(s)	1.00	1.06	6.411	7.05	0.00	1.200	1.145	3.00	6.573	7.89	55.6	105.5	334.0
								Totals:	**128.00**			**3,042.8**		**29,662.2**

Discrete Appurtenance Forces

Structure:	CT13556-S-SBA	**Code:**	TIA-222-H	6/11/2024	
Site Name:	Norwich	**Exposure:**	B		
Height:	128.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

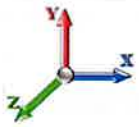
Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° - Controlling Direction

Iterations 20

Dead Load Factor 1.20

Wind Load Factor 1.00



No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	128.00	OPA65R-BU6DA	1	6.411	7.052	0.66	0.90	8.98	251.48	0.000	0.000	-31.67	0.00	0.00
2	128.00	DMP65R-BU6DA	1	6.411	7.052	0.65	0.90	8.86	221.25	0.000	0.000	-31.24	0.00	0.00
3	128.00	DMP65R-BU8DA	2	6.411	7.052	0.65	0.90	24.69	536.85	0.000	0.000	-87.05	0.00	0.00
4	128.00	4449 B5/B12	3	6.411	7.052	0.60	0.90	4.21	319.88	0.000	0.000	-14.86	0.00	0.00
5	128.00	RRUS 4478 B14	3	6.411	7.052	0.60	0.90	3.60	267.27	0.000	0.000	-12.69	0.00	0.00
6	128.00	AIR 6419 B77G	3	6.439	7.083	0.68	0.90	8.87	359.25	0.000	2.000	-31.41	0.00	-62.82
7	128.00	OPA65R-BU8DA	2	6.411	7.052	0.80	0.90	19.72	524.55	0.000	0.000	-69.55	0.00	0.00
8	128.00	2.88" Pipe Mount	2	6.411	7.052	0.75	0.75	5.28	121.87	0.000	0.000	-18.61	0.00	0.00
9	128.00	RRUS-11	3	6.411	7.052	0.60	0.90	5.31	277.87	0.000	0.000	-18.72	0.00	0.00
10	128.00	LWRM (Ring Mount)	2	6.411	7.052	1.00	1.00	8.44	737.10	0.000	0.000	-29.74	0.00	0.00
11	128.00	DC6-48-60-18-8F	3	6.411	7.052	0.90	0.90	3.26	183.08	0.000	0.000	-11.49	0.00	0.00
12	128.00	AIR 6449 B77D	3	6.382	7.020	0.77	0.90	10.74	549.00	0.000	-2.000	-37.70	0.00	75.40
13	128.00	MM01 (Standoff Wall	6	6.411	7.052	1.00	1.00	9.85	114.95	0.000	0.000	-34.74	0.00	0.00
14	128.00	VFA14-H10-2120 (Sector	3	6.411	7.052	0.75	0.75	77.59	3897.49	0.000	0.000	-273.58	0.00	0.00
15	128.00	RRUS 8843 B2 B66A	3	6.411	7.052	0.60	0.90	3.58	324.40	0.000	0.000	-12.62	0.00	0.00
16	117.00	MS-H1436 (Heavy Collar	1	6.249	6.873	1.00	1.00	3.78	228.06	0.000	0.000	-13.00	0.00	0.00
17	117.00	(3) T-Arm Kit	1	6.249	6.873	1.00	1.00	26.99	835.87	0.000	0.000	-92.74	0.00	0.00
18	117.00	pipes	1	6.249	6.873	1.00	1.00	14.31	1277.85	0.000	0.000	-49.18	0.00	0.00
19	117.00	AIR32	3	6.249	6.873	0.70	0.80	15.08	810.79	0.000	0.000	-51.83	0.00	0.00
20	117.00	4415 B25	3	6.249	6.873	0.54	0.80	3.56	274.02	0.000	0.000	-12.23	0.00	0.00
21	117.00	APXVAALL24-43-U-NA20	3	6.249	6.873	0.58	0.80	37.60	1259.08	0.000	0.000	-129.21	0.00	0.00
22	117.00	AIR6449 B41	3	6.249	6.873	0.57	0.80	10.68	543.21	0.000	0.000	-36.71	0.00	0.00
23	117.00	782 11056	3	6.305	6.936	0.52	0.80	0.84	7.20	0.000	3.750	-2.93	0.00	-10.97
24	117.00	FE15501P77/75	6	6.305	6.936	0.62	0.80	7.94	820.53	0.000	3.750	-27.52	0.00	-103.20
25	117.00	Low Profile Platform	1	6.249	6.873	1.00	1.00	33.49	2351.19	0.000	0.000	-115.08	0.00	0.00
26	117.00	4449 B71 + B85	3	6.249	6.873	0.54	0.80	3.76	200.97	0.000	0.000	-12.93	0.00	0.00
27	100.00	Platform w/Rails	1	5.974	6.572	1.00	1.00	37.85	4268.97	0.000	0.000	-124.37	0.00	0.00
28	100.00	BXA 70063 6CF 2	3	5.974	6.572	0.58	0.75	16.39	211.56	0.000	0.000	-53.86	0.00	0.00
29	100.00	RVZDC-6627-PF-48	1	5.974	6.572	0.75	0.75	3.44	86.13	0.000	0.000	-11.30	0.00	0.00
30	100.00	MT641377A	3	5.974	6.572	0.56	0.75	8.93	418.83	0.000	0.000	-29.33	0.00	0.00
31	100.00	JMA Wireless	6	5.974	6.572	0.65	0.75	42.02	1408.87	0.000	0.000	-138.08	0.00	0.00
32	100.00	Samsung B2/B66A RRH	3	5.974	6.572	0.50	0.75	3.35	403.75	0.000	0.000	-11.02	0.00	0.00
33	100.00	RF4461d-13A	3	5.974	6.572	0.50	0.75	3.35	420.99	0.000	0.000	-11.02	0.00	0.00
34	100.00	Mount mod	1	5.974	6.572	1.00	1.00	19.91	1521.30	0.000	0.000	-65.44	0.00	0.00
35	91.00	MC-PK8-DSH	1	5.816	6.397	1.00	1.00	67.54	2769.77	0.000	0.000	-216.04	0.00	0.00
36	91.00	RDIDC-9181-OF-48	1	5.816	6.397	0.50	0.75	1.19	47.35	0.000	0.000	-3.81	0.00	0.00
37	91.00	TA08025-B605	3	5.816	6.397	0.50	0.75	3.49	331.71	0.000	0.000	-11.17	0.00	0.00
38	91.00	TA08025-B604	3	5.816	6.397	0.50	0.75	3.49	290.06	0.000	0.000	-11.17	0.00	0.00
39	91.00	MX08FRO665-21	3	5.816	6.397	0.55	0.75	22.34	583.98	0.000	0.000	-71.46	0.00	0.00
							Totals:		**30,058.35**			**-2,017.10**		

Total Applied Force Summary

Structure:	CT13556-S-SBA	**Code:**	TIA-222-H	6/11/2024	
Site Name:	Norwich	**Exposure:**	B		
Height:	128.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

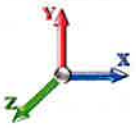
Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° - Controlling Direction

Iterations 20

Dead Load Factor 1.20

Wind Load Factor 1.00



Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		-69.51	-1838.51	0.00	0.00
10.00		-67.95	-1817.03	0.00	0.00
15.00		-66.33	-1786.73	0.00	0.00
20.00		-64.69	-1752.53	0.00	0.00
25.00		-63.04	-1716.05	0.00	0.00
30.00		-61.43	-1678.06	0.00	0.00
35.00		-62.46	-1638.97	0.00	0.00
40.00		-63.07	-1599.06	0.00	0.00
45.00		-63.35	-1558.49	0.00	0.00
47.25		-28.28	-688.69	0.00	0.00
50.00		-35.07	-1324.95	0.00	0.00
53.00		-38.21	-1420.95	0.00	0.00
55.00		-25.35	-525.31	0.00	0.00
60.00		-63.53	-1285.94	0.00	0.00
65.00		-62.91	-1249.52	0.00	0.00
70.00		-62.11	-1212.80	0.00	0.00
75.00		-61.15	-1175.83	0.00	0.00
80.00		-60.06	-1138.62	0.00	0.00
85.00		-58.84	-1101.19	0.00	0.00
90.00		-57.49	-1063.58	0.00	0.00
91.00	(11) attachments	-324.91	-4231.75	0.00	0.00
95.00		-44.64	-813.50	0.00	0.00
96.75		-19.16	-348.97	0.00	0.00
100.00	(21) attachments	-479.97	-9617.01	0.00	0.00
100.75		-8.08	-195.85	0.00	0.00
105.00		-45.29	-591.28	0.00	0.00
110.00		-51.73	-670.37	0.00	0.00
115.00		-49.91	-643.68	0.00	0.00
117.00	(28) attachments	-562.71	-8859.86	0.00	-114.18
118.00		-9.55	-101.66	0.00	0.00
120.00		-18.19	-231.17	0.00	0.00
125.00		-46.03	-578.68	0.00	0.00
128.00	(40) attachments	-743.49	-9033.77	0.00	12.58
	Totals:	**-3,538.48**	**-63,490.35**	**0.00**	**-101.60**

Calculated Forces

Structure:	CT13556-S-SBA	**Code:**	TIA-222-H	6/11/2024	
Site Name:	Norwich	**Exposure:**	B		
Height:	128.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

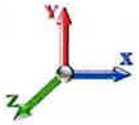
Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° - Controlling Direction

Iterations 20

Dead Load Factor 1.20

Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-63.49	-3.55	0.00	-340.37	-589.54	680.74	4377.82	1201.80	5736.92	5189.46	0.00	0.000	0.000	0.146
5.00	-61.65	-3.50	0.00	-322.63	-558.82	645.27	4316.11	1171.72	5453.37	4987.44	0.02	0.033	0.000	0.144
10.00	-59.82	-3.44	0.00	-305.16	-528.54	610.31	4251.94	1141.65	5177.01	4786.34	0.07	0.067	0.000	0.142
15.00	-58.03	-3.39	0.00	-287.93	-498.71	575.86	4185.32	1111.57	4907.84	4586.39	0.16	0.101	0.000	0.139
20.00	-56.28	-3.35	0.00	-270.96	-469.31	541.92	4116.24	1081.50	4645.86	4387.79	0.28	0.136	0.000	0.137
25.00	-54.56	-3.30	0.00	-254.23	-440.34	508.46	4044.71	1051.42	4391.06	4190.78	0.45	0.172	0.000	0.135
30.00	-52.88	-3.25	0.00	-237.74	-411.78	475.49	3970.72	1021.35	4143.44	3995.56	0.65	0.208	0.000	0.132
35.00	-51.23	-3.20	0.00	-221.49	-383.63	442.98	3894.27	991.27	3903.01	3802.37	0.88	0.245	0.000	0.130
40.00	-49.63	-3.15	0.00	-205.49	-355.91	410.97	3815.37	961.20	3669.77	3611.41	1.16	0.283	0.000	0.127
45.00	-48.07	-3.10	0.00	-189.73	-328.62	379.46	3734.01	931.12	3443.71	3422.92	1.48	0.322	0.000	0.124
47.25	-47.38	-3.07	0.00	-182.77	-316.56	365.53	3696.60	917.59	3344.33	3338.96	1.63	0.340	0.000	0.122
50.00	-46.05	-3.04	0.00	-174.32	-301.92	348.63	3650.19	901.05	3224.84	3237.11	1.84	0.361	0.000	0.120
53.00	-44.63	-3.01	0.00	-165.19	-286.10	330.37	2850.91	747.80	2665.43	2521.48	2.07	0.385	0.000	0.147
55.00	-44.10	-2.99	0.00	-159.17	-275.68	318.33	2827.15	737.78	2594.44	2466.71	2.24	0.402	0.000	0.145
60.00	-42.81	-2.94	0.00	-144.20	-249.76	288.40	2766.03	712.71	2421.17	2330.80	2.68	0.447	0.000	0.139
65.00	-41.56	-2.89	0.00	-129.50	-224.28	258.98	2702.46	687.65	2253.88	2196.54	3.17	0.492	0.000	0.133
70.00	-40.34	-2.84	0.00	-115.04	-199.25	230.08	2636.43	662.59	2092.58	2064.16	3.71	0.537	0.000	0.127
75.00	-39.16	-2.79	0.00	-100.85	-174.67	201.70	2567.95	637.52	1937.27	1933.87	4.30	0.582	0.000	0.120
80.00	-38.02	-2.73	0.00	-86.92	-150.54	173.83	2497.00	612.46	1787.94	1805.90	4.93	0.625	0.000	0.112
85.00	-36.92	-2.68	0.00	-73.25	-126.86	146.49	2423.61	587.40	1644.61	1680.45	5.61	0.667	0.000	0.102
90.00	-35.86	-2.63	0.00	-59.83	-103.63	119.66	2347.75	562.34	1507.26	1557.76	6.33	0.706	0.000	0.092
91.00	-31.63	-2.28	0.00	-57.21	-99.08	114.41	2332.29	557.32	1480.51	1533.58	6.48	0.714	0.000	0.088
95.00	-30.82	-2.24	0.00	-48.09	-83.28	96.17	2269.44	537.27	1375.90	1438.05	7.09	0.743	0.000	0.081
96.75	-30.47	-2.22	0.00	-44.17	-76.51	88.34	2237.32	528.50	1331.34	1394.32	7.37	0.756	0.000	0.077
100.00	-20.86	-1.68	0.00	-36.96	-64.02	73.92	2168.36	512.21	1250.52	1309.26	7.89	0.777	0.000	0.066
100.75	-20.67	-1.67	0.00	-35.70	-61.84	71.40	1113.72	310.29	764.87	681.87	8.01	0.782	0.000	0.123
105.00	-20.07	-1.63	0.00	-28.61	-49.54	57.21	1088.50	297.51	703.15	638.80	8.72	0.807	0.000	0.108
110.00	-19.40	-1.58	0.00	-20.47	-35.45	40.94	1056.55	282.47	633.87	588.50	9.59	0.847	0.000	0.088
115.00	-18.76	-1.53	0.00	-12.59	-21.80	25.18	1022.14	267.43	568.17	538.82	10.49	0.878	0.000	0.065
117.00	-9.92	-0.89	0.00	-9.42	-16.32	18.85	1007.69	261.42	542.90	519.17	10.86	0.888	0.000	0.046
118.00	-9.82	-0.88	0.00	-8.53	-14.77	17.06	1000.32	258.41	530.48	509.40	11.05	0.893	0.000	0.043
118.00	-9.82	-0.88	0.00	-8.53	-14.77	17.06	662.26	211.53	26175.5	396.94	11.05	-0.446	0.000	0.058
120.00	-9.59	-0.87	0.00	-6.76	-11.71	13.52	662.26	211.53	26175.5	396.94	11.43	0.900	0.000	0.049
125.00	-9.01	-0.82	0.00	-2.43	-4.21	4.87	662.26	211.53	26175.5	396.94	12.38	0.910	0.000	0.026
128.00	0.00	-0.74	0.00	0.01	0.02	0.03	662.26	211.53	26175.5	396.94	12.95	0.912	0.000	0.000

Wind Loading - Shaft

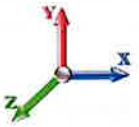
Structure:	CT13556-S-SBA	**Code:**	TIA-222-H	6/11/2024	
Site Name:	Norwich	**Exposure:**	B		
Height:	128.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind at 60° - Controlling Direction

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 20

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	6.094	6.70	245.29	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.094	6.70	239.20	0.730	0.000	5.00	24.197	17.66	118.4	0.0	1150.5
10.00		1.00	0.70	6.094	6.70	233.10	0.730	0.000	5.00	23.588	17.22	115.4	0.0	1121.4
15.00		1.00	0.70	6.094	6.70	227.00	0.730	0.000	5.00	22.978	16.77	112.4	0.0	1092.2
20.00		1.00	0.70	6.094	6.70	220.90	0.730	0.000	5.00	22.369	16.33	109.5	0.0	1063.0
25.00		1.00	0.70	6.094	6.70	214.80	0.730	0.000	5.00	21.760	15.88	106.5	0.0	1033.9
30.00		1.00	0.70	6.099	6.71	208.79	0.730	0.000	5.00	21.151	15.44	103.6	0.0	1004.7
35.00		1.00	0.73	6.374	7.01	207.20	0.730	0.000	5.00	20.542	15.00	105.1	0.0	975.6
40.00		1.00	0.76	6.622	7.28	204.83	0.730	0.000	5.00	19.933	14.55	106.0	0.0	946.4
45.00		1.00	0.79	6.848	7.53	201.84	0.730	0.000	5.00	19.323	14.11	106.3	0.0	917.3
47.25	Bot - Section 2	1.00	0.80	6.944	7.64	200.33	0.730	0.000	2.25	8.497	6.20	47.4	0.0	403.3
50.00		1.00	0.81	7.057	7.76	198.34	0.730	0.000	2.75	10.363	7.56	58.7	0.0	895.3
53.00	Top - Section 1	1.00	0.82	7.176	7.89	196.03	0.730	0.000	3.00	11.095	8.10	63.9	0.0	958.2
55.00		1.00	0.83	7.252	7.98	197.30	0.730	0.000	2.00	7.275	5.31	42.4	0.0	288.0
60.00		1.00	0.85	7.435	8.18	193.03	0.730	0.000	5.00	17.760	12.96	106.0	0.0	703.1
65.00		1.00	0.87	7.607	8.37	188.43	0.730	0.000	5.00	17.151	12.52	104.8	0.0	678.8
70.00		1.00	0.89	7.770	8.55	183.55	0.730	0.000	5.00	16.542	12.08	103.2	0.0	654.5
75.00		1.00	0.91	7.924	8.72	178.42	0.730	0.000	5.00	15.933	11.63	101.4	0.0	630.2
80.00		1.00	0.93	8.072	8.88	173.05	0.730	0.000	5.00	15.323	11.19	99.3	0.0	605.9
85.00		1.00	0.94	8.213	9.03	167.47	0.730	0.000	5.00	14.714	10.74	97.0	0.0	581.6
90.00		1.00	0.96	8.348	9.18	161.71	0.730	0.000	5.00	14.105	10.30	94.6	0.0	557.3
91.00	Appurtenance(s)	1.00	0.96	8.374	9.21	160.53	0.730	0.000	1.00	2.748	2.01	18.5	0.0	108.5
95.00		1.00	0.97	8.478	9.33	155.77	0.730	0.000	4.00	10.748	7.85	73.2	0.0	424.5
96.75	Bot - Section 3	1.00	0.98	8.522	9.37	153.65	0.730	0.000	1.75	4.580	3.34	31.3	0.0	180.8
100.00	Appurtenance(s)	1.00	0.99	8.603	9.46	149.67	0.730	0.000	3.25	8.410	6.14	58.1	0.0	527.9
100.75	Top - Section 2	1.00	0.99	8.622	9.48	148.74	0.730	0.000	0.75	1.904	1.39	13.2	0.0	119.5
105.00		1.00	1.00	8.724	9.60	145.32	0.730	0.000	4.25	10.532	7.69	73.8	0.0	250.4
110.00		1.00	1.02	8.841	9.72	138.94	0.730	0.000	5.00	11.827	8.63	84.0	0.0	281.1
115.00		1.00	1.03	8.954	9.85	132.43	0.730	0.000	5.00	11.218	8.19	80.7	0.0	266.6
117.00	Appurtenance(s)	1.00	1.03	8.998	9.90	129.80	0.730	0.000	2.00	4.317	3.15	31.2	0.0	102.5
118.00	Top - Section 3	1.00	1.04	9.020	9.92	128.47	0.730	0.000	1.00	2.122	1.55	15.4	0.0	50.4
120.00		1.00	1.04	9.063	9.97	122.09	0.600	0.000	2.00	4.000	2.40	23.9	0.0	126.9
125.00		1.00	1.05	9.169	10.09	122.81	0.600	0.000	5.00	10.000	6.00	60.5	0.0	317.4
128.00	Appurtenance(s)	1.00	1.06	9.232	10.16	123.22	0.600	0.000	3.00	6.000	3.60	36.6	0.0	190.4
								Totals:	**128.00**			**2,502.1**		**19,208.1**

Discrete Appurtenance Forces

Structure:	CT13556-S-SBA	**Code:**	TIA-222-H	6/11/2024	
Site Name:	Norwich	**Exposure:**	B		
Height:	128.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind at 60° - Controlling Direction

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations 20

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	128.00	OPA65R-BU6DA	1	9.232	10.155	0.66	0.90	8.35	60.20	0.000	0.000	-42.40	0.00	0.00
2	128.00	DMP65R-BU6DA	1	9.232	10.155	0.65	0.90	8.24	79.40	0.000	0.000	-41.82	0.00	0.00
3	128.00	DMP65R-BU8DA	2	9.232	10.155	0.65	0.90	23.16	165.00	0.000	0.000	-117.59	0.00	0.00
4	128.00	4449 B5/B12	3	9.232	10.155	0.60	0.90	3.56	213.00	0.000	0.000	-18.09	0.00	0.00
5	128.00	RRUS 4478 B14	3	9.232	10.155	0.60	0.90	2.98	178.20	0.000	0.000	-15.16	0.00	0.00
6	128.00	AIR 6419 B77G	3	9.273	10.200	0.68	0.90	7.80	198.30	0.000	2.000	-39.77	0.00	-79.54
7	128.00	OPA65R-BU8DA	2	9.232	10.155	0.80	0.90	17.97	153.00	0.000	0.000	-91.27	0.00	0.00
8	128.00	2.88" Pipe Mount	2	9.232	10.155	0.75	0.75	2.85	58.40	0.000	0.000	-14.47	0.00	0.00
9	128.00	RRUS-11	3	9.232	10.155	0.60	0.90	4.56	153.00	0.000	0.000	-23.15	0.00	0.00
10	128.00	LWRM (Ring Mount)	2	9.232	10.155	1.00	1.00	5.00	440.00	0.000	0.000	-25.39	0.00	0.00
11	128.00	DC6-48-60-18-8F	3	9.232	10.155	0.90	0.90	2.48	95.40	0.000	0.000	-12.61	0.00	0.00
12	128.00	AIR 6449 B77D	3	9.190	10.109	0.77	0.90	9.48	246.00	0.000	-2.000	-47.91	0.00	95.82
13	128.00	MM01 (Standoff Wall	6	9.232	10.155	1.00	1.00	5.40	156.60	0.000	0.000	-27.42	0.00	0.00
14	128.00	VFA14-H10-2120 (Sector	3	9.232	10.155	0.75	0.75	42.52	2322.00	0.000	0.000	-215.92	0.00	0.00
15	128.00	RRUS 8843 B2 B66A	3	9.232	10.155	0.60	0.90	2.97	216.00	0.000	0.000	-15.06	0.00	0.00
16	117.00	MS-H1436 (Heavy Collar	1	8.998	9.898	1.00	1.00	2.25	136.70	0.000	0.000	-11.13	0.00	0.00
17	117.00	(3) T-Arm Kit	1	8.998	9.898	1.00	1.00	16.50	500.00	0.000	0.000	-81.66	0.00	0.00
18	117.00	pipes	1	8.998	9.898	1.00	1.00	8.75	430.00	0.000	0.000	-43.30	0.00	0.00
19	117.00	AIR32	3	8.998	9.898	0.70	0.80	13.59	396.60	0.000	0.000	-67.27	0.00	0.00
20	117.00	4415 B25	3	8.998	9.898	0.54	0.80	2.99	138.90	0.000	0.000	-14.80	0.00	0.00
21	117.00	APXVAALL24-43-U-NA20	3	8.998	9.898	0.58	0.80	35.46	384.00	0.000	0.000	-175.49	0.00	0.00
22	117.00	AIR6449 B41	3	8.998	9.898	0.57	0.80	9.63	309.00	0.000	0.000	-47.65	0.00	0.00
23	117.00	782 11056	3	9.079	9.987	0.52	0.80	0.44	5.40	0.000	3.750	-2.18	0.00	-8.18
24	117.00	FE15501P77/75	6	9.079	9.987	0.62	0.80	6.47	420.00	0.000	3.750	-32.30	0.00	-121.12
25	117.00	Low Profile Platform	1	8.998	9.898	1.00	1.00	22.00	1500.00	0.000	0.000	-108.87	0.00	0.00
26	117.00	4449 B71 + B85	3	8.998	9.898	0.54	0.80	3.17	219.60	0.000	0.000	-15.68	0.00	0.00
27	100.00	Platform w/Rails	1	8.603	9.463	1.00	1.00	25.00	2200.00	0.000	0.000	-118.29	0.00	0.00
28	100.00	BXA 70063 6CF 2	3	8.603	9.463	0.56	0.75	12.77	51.00	0.000	0.000	-60.44	0.00	0.00
29	100.00	RVZDC-6627-PF-48	1	8.603	9.463	0.75	0.75	3.04	32.00	0.000	0.000	-14.41	0.00	0.00
30	100.00	MT641377A	3	8.603	9.463	0.52	0.75	5.97	171.90	0.000	0.000	-28.24	0.00	0.00
31	100.00	JMA Wireless	6	8.603	9.463	0.65	0.75	38.64	360.00	0.000	0.000	-182.84	0.00	0.00
32	100.00	Samsung B2/B66A RRH	3	8.603	9.463	0.50	0.75	2.82	224.10	0.000	0.000	-13.34	0.00	0.00
33	100.00	RF4461d-13A	3	8.603	9.463	0.50	0.75	2.82	237.30	0.000	0.000	-13.34	0.00	0.00
34	100.00	Mount mod	1	8.603	9.463	1.00	1.00	12.25	514.00	0.000	0.000	-57.96	0.00	0.00
35	91.00	MC-PK8-DSH	1	8.374	9.212	1.00	1.00	37.59	1727.00	0.000	0.000	-173.14	0.00	0.00
36	91.00	RDIDC-9181-OF-48	1	8.374	9.212	0.50	0.75	1.01	21.90	0.000	0.000	-4.65	0.00	0.00
37	91.00	TA08025-B605	3	8.374	9.212	0.50	0.75	2.95	225.00	0.000	0.000	-13.61	0.00	0.00
38	91.00	TA08025-B604	3	8.374	9.212	0.50	0.75	2.95	191.70	0.000	0.000	-13.61	0.00	0.00
39	91.00	MX08FRO665-21	3	8.374	9.212	0.55	0.75	20.80	193.50	0.000	0.000	-95.78	0.00	0.00
							Totals:		**15,324.10**			**-2,138.01**		

Total Applied Force Summary

Structure:	CT13556-S-SBA		**Code:**	TIA-222-H	6/11/2024
Site Name:	Norwich		**Exposure:**	B	
Height:	128.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 20

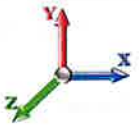
Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind at 60° - Controlling Direction

Iterations 20

Dead Load Factor 1.00

Wind Load Factor 1.00



Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		-59.20	-1286.90	0.00	0.00
10.00		-57.71	-1257.74	0.00	0.00
15.00		-56.22	-1228.59	0.00	0.00
20.00		-54.73	-1199.43	0.00	0.00
25.00		-53.24	-1170.27	0.00	0.00
30.00		-51.79	-1141.12	0.00	0.00
35.00		-52.57	-1111.96	0.00	0.00
40.00		-52.99	-1082.80	0.00	0.00
45.00		-53.13	-1053.65	0.00	0.00
47.25		-23.69	-464.63	0.00	0.00
50.00		-29.36	-970.28	0.00	0.00
53.00		-31.97	-1040.05	0.00	0.00
55.00		-21.18	-342.59	0.00	0.00
60.00		-53.02	-839.48	0.00	0.00
65.00		-52.38	-815.18	0.00	0.00
70.00		-51.60	-790.88	0.00	0.00
75.00		-50.69	-766.59	0.00	0.00
80.00		-49.66	-742.29	0.00	0.00
85.00		-48.52	-717.99	0.00	0.00
90.00		-47.28	-693.70	0.00	0.00
91.00	(11) attachments	-310.03	-2494.92	0.00	0.00
95.00		-36.59	-529.58	0.00	0.00
96.75		-15.67	-226.80	0.00	0.00
100.00	(21) attachments	-517.92	-4403.63	0.00	0.00
100.75		-6.59	-136.33	0.00	0.00
105.00		-36.89	-345.84	0.00	0.00
110.00		-41.98	-393.38	0.00	0.00
115.00		-40.33	-378.80	0.00	0.00
117.00	(28) attachments	-615.92	-4587.64	0.00	-129.30
118.00		-7.68	-54.13	0.00	0.00
120.00		-11.96	-134.41	0.00	0.00
125.00		-30.26	-336.01	0.00	0.00
128.00	(40) attachments	-766.31	-4936.11	0.00	16.28
	Totals:	**-3,389.07**	**-37,673.69**	**0.00**	**-113.02**

Calculated Forces

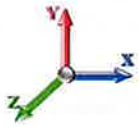
Structure:	CT13556-S-SBA	**Code:**	TIA-222-H	6/11/2024	
Site Name:	Norwich	**Exposure:**	B		
Height:	128.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind at 60° - Controlling Direction

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 20

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-37.67	-3.39	0.00	-327.96	-568.05	655.92	4377.82	1201.80	5736.92	5189.46	0.00	0.000	0.000	0.135
5.00	-36.38	-3.35	0.00	-310.99	-538.65	621.98	4316.11	1171.72	5453.37	4987.44	0.02	0.032	0.000	0.133
10.00	-35.12	-3.30	0.00	-294.27	-509.68	588.53	4251.94	1141.65	5177.01	4786.34	0.07	0.064	0.000	0.131
15.00	-33.89	-3.25	0.00	-277.78	-481.13	555.56	4185.32	1111.57	4907.84	4586.39	0.15	0.097	0.000	0.129
20.00	-32.68	-3.20	0.00	-261.53	-452.99	523.07	4116.24	1081.50	4645.86	4387.79	0.27	0.131	0.000	0.127
25.00	-31.51	-3.16	0.00	-245.52	-425.25	491.03	4044.71	1051.42	4391.06	4190.78	0.43	0.166	0.000	0.125
30.00	-30.37	-3.11	0.00	-229.73	-397.89	459.45	3970.72	1021.35	4143.44	3995.56	0.62	0.201	0.000	0.123
35.00	-29.25	-3.07	0.00	-214.16	-370.92	428.31	3894.27	991.27	3903.01	3802.37	0.85	0.237	0.000	0.120
40.00	-28.16	-3.02	0.00	-198.81	-344.35	397.62	3815.37	961.20	3669.77	3611.41	1.12	0.273	0.000	0.118
45.00	-27.11	-2.97	0.00	-183.70	-318.17	367.40	3734.01	931.12	3443.71	3422.92	1.43	0.311	0.000	0.115
47.25	-26.64	-2.95	0.00	-177.01	-306.59	354.02	3696.60	917.59	3344.33	3338.96	1.58	0.328	0.000	0.113
50.00	-25.67	-2.93	0.00	-168.89	-292.52	337.78	3650.19	901.05	3224.84	3237.11	1.77	0.349	0.000	0.111
53.00	-24.63	-2.89	0.00	-160.12	-277.32	320.23	2850.91	747.80	2665.43	2521.48	2.00	0.372	0.000	0.136
55.00	-24.28	-2.88	0.00	-154.33	-267.30	308.65	2827.15	737.78	2594.44	2466.71	2.16	0.388	0.000	0.134
60.00	-23.44	-2.83	0.00	-139.94	-242.37	279.87	2766.03	712.71	2421.17	2330.80	2.59	0.432	0.000	0.129
65.00	-22.62	-2.78	0.00	-125.78	-217.85	251.56	2702.46	687.65	2253.88	2196.54	3.07	0.476	0.000	0.123
70.00	-21.83	-2.74	0.00	-111.86	-193.74	223.71	2636.43	662.59	2092.58	2064.16	3.59	0.520	0.000	0.117
75.00	-21.06	-2.69	0.00	-98.17	-170.03	196.34	2567.95	637.52	1937.27	1933.87	4.16	0.563	0.000	0.110
80.00	-20.31	-2.65	0.00	-84.72	-146.73	169.43	2497.00	612.46	1787.94	1805.90	4.77	0.605	0.000	0.102
85.00	-19.59	-2.60	0.00	-71.49	-123.82	142.98	2423.61	587.40	1644.61	1680.45	5.43	0.646	0.000	0.093
90.00	-18.90	-2.55	0.00	-58.50	-101.31	116.99	2347.75	562.34	1507.26	1557.76	6.12	0.684	0.000	0.083
91.00	-16.41	-2.23	0.00	-55.94	-96.89	111.88	2332.29	557.32	1480.51	1533.58	6.27	0.692	0.000	0.080
95.00	-15.88	-2.19	0.00	-47.03	-81.45	94.05	2269.44	537.27	1375.90	1438.05	6.86	0.721	0.000	0.072
96.75	-15.65	-2.18	0.00	-43.19	-74.80	86.37	2237.32	528.50	1331.34	1394.32	7.13	0.733	0.000	0.069
100.00	-11.26	-1.63	0.00	-36.11	-62.54	72.22	2168.36	512.21	1250.52	1309.26	7.63	0.754	0.000	0.060
100.75	-11.12	-1.63	0.00	-34.89	-60.42	69.77	1113.72	310.29	764.87	681.87	7.75	0.758	0.000	0.112
105.00	-10.78	-1.59	0.00	-27.98	-48.45	55.95	1088.50	297.51	703.15	638.80	8.44	0.783	0.000	0.098
110.00	-10.38	-1.55	0.00	-20.03	-34.68	40.05	1056.55	282.47	633.87	588.50	9.28	0.822	0.000	0.078
115.00	-10.00	-1.51	0.00	-12.28	-21.27	24.56	1022.14	267.43	568.17	538.82	10.16	0.853	0.000	0.056
117.00	-5.44	-0.86	0.00	-9.14	-15.83	18.28	1007.69	261.42	542.90	519.17	10.52	0.863	0.000	0.041
118.00	-5.38	-0.85	0.00	-8.28	-14.34	16.56	1000.32	258.41	530.48	509.40	10.70	0.867	0.000	0.038
118.00	-5.38	-0.85	0.00	-8.28	-14.34	16.56	662.26	211.53	26175.5	396.94	10.70	-0.433	0.000	0.050
120.00	-5.25	-0.84	0.00	-6.58	-11.40	13.16	662.26	211.53	26175.5	396.94	11.07	0.874	0.000	0.041
125.00	-4.91	-0.80	0.00	-2.40	-4.15	4.79	662.26	211.53	26175.5	396.94	11.99	0.884	0.000	0.020
128.00	0.00	-0.77	0.00	0.02	0.03	0.03	662.26	211.53	26175.5	396.94	12.54	0.885	0.000	0.000

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.0W 125 mph Wind	29.5	0.00	45.17	0.00	0.00	2861.51
1.2D + 1.0W 125 mph Wind at 30°	25.5	14.74	45.17	1430.78	0.01	2478.17
1.2D + 1.0W 125 mph Wind at 60°	14.7	25.53	45.17	2478.17	0.01	1430.78
1.2D + 1.0W 125 mph Wind at 90°	0.0	29.48	45.17	2861.51	0.00	0.00
1.2D + 1.0W 125 mph Wind at 120°	14.7	25.53	45.17	2478.17	0.01	1430.78
1.2D + 1.0W 125 mph Wind at 150°	25.5	14.74	45.17	1430.78	0.01	2478.17
1.2D + 1.0W 125 mph Wind at 180°	29.5	0.00	45.17	0.00	0.00	2861.51
1.2D + 1.0W 125 mph Wind at 210°	25.5	14.74	45.17	1430.78	0.01	2478.17
1.2D + 1.0W 125 mph Wind at 240°	14.7	25.53	45.17	2478.17	0.01	1430.78
1.2D + 1.0W 125 mph Wind at 270°	0.0	29.48	45.17	2861.51	0.00	0.00
1.2D + 1.0W 125 mph Wind at 300°	14.7	25.53	45.17	2478.17	0.01	1430.78
1.2D + 1.0W 125 mph Wind at 330°	25.5	14.74	45.17	1430.78	0.01	2478.17
0.9D + 1.0W 125 mph Wind	29.5	0.00	33.87	0.00	0.00	2837.25
0.9D + 1.0W 125 mph Wind at 30°	25.5	14.73	33.87	1418.65	0.01	2457.16
0.9D + 1.0W 125 mph Wind at 60°	14.7	25.51	33.87	2457.16	0.01	1418.65
0.9D + 1.0W 125 mph Wind at 90°	0.0	29.46	33.87	2837.25	0.00	0.00
0.9D + 1.0W 125 mph Wind at 120°	14.7	25.51	33.87	2457.16	0.01	1418.65
0.9D + 1.0W 125 mph Wind at 150°	25.5	14.73	33.87	1418.65	0.01	2457.16
0.9D + 1.0W 125 mph Wind at 180°	29.5	0.00	33.87	0.00	0.00	2837.25
0.9D + 1.0W 125 mph Wind at 210°	25.5	14.73	33.87	1418.65	0.01	2457.16
0.9D + 1.0W 125 mph Wind at 240°	14.7	25.51	33.87	2457.16	0.01	1418.65
0.9D + 1.0W 125 mph Wind at 270°	0.0	29.46	33.87	2837.25	0.00	0.00
0.9D + 1.0W 125 mph Wind at 300°	14.7	25.51	33.87	2457.16	0.01	1418.65
0.9D + 1.0W 125 mph Wind at 330°	25.5	14.73	33.87	1418.65	0.01	2457.16
1.2D + 1.0Di + 1.0Wi 50 mph Wind	7.1	0.00	63.49	0.00	0.00	680.74
1.2D + 1.0Di + 1.0Wi 50 mph Wind	6.1	3.55	63.49	340.37	0.00	589.54
1.2D + 1.0Di + 1.0Wi 50 mph Wind	3.5	6.14	63.49	589.54	0.00	340.37
1.2D + 1.0Di + 1.0Wi 50 mph Wind	0.0	7.10	63.49	680.74	0.00	0.00
1.2D + 1.0Di + 1.0Wi 50 mph Wind	3.5	6.14	63.49	589.54	0.00	340.37
1.2D + 1.0Di + 1.0Wi 50 mph Wind	6.1	3.55	63.49	340.37	0.00	589.54
1.2D + 1.0Di + 1.0Wi 50 mph Wind	7.1	0.00	63.49	0.00	0.00	680.74
1.2D + 1.0Di + 1.0Wi 50 mph Wind	6.1	3.55	63.49	340.37	0.00	589.54
1.2D + 1.0Di + 1.0Wi 50 mph Wind	3.5	6.14	63.49	589.54	0.00	340.37
1.2D + 1.0Di + 1.0Wi 50 mph Wind	0.0	7.10	63.49	680.74	0.00	0.00
1.2D + 1.0Di + 1.0Wi 50 mph Wind	3.5	6.14	63.49	589.54	0.00	340.37
1.2D + 1.0Di + 1.0Wi 50 mph Wind	6.1	3.55	63.49	340.37	0.00	589.54
1.0D + 1.0W 60 mph Wind	6.8	0.00	37.67	0.00	0.00	655.92
1.0D + 1.0W 60 mph Wind at 30°	5.9	3.39	37.67	327.96	0.00	568.05
1.0D + 1.0W 60 mph Wind at 60°	3.4	5.88	37.67	568.05	0.00	327.96
1.0D + 1.0W 60 mph Wind at 90°	0.0	6.79	37.67	655.92	0.00	0.00
1.0D + 1.0W 60 mph Wind at 120°	3.4	5.88	37.67	568.05	0.00	327.96
1.0D + 1.0W 60 mph Wind at 150°	5.9	3.39	37.67	327.96	0.00	568.05
1.0D + 1.0W 60 mph Wind at 180°	6.8	0.00	37.67	0.00	0.00	655.92
1.0D + 1.0W 60 mph Wind at 210°	5.9	3.39	37.67	327.96	0.00	568.05
1.0D + 1.0W 60 mph Wind at 240°	3.4	5.88	37.67	568.05	0.00	327.96
1.0D + 1.0W 60 mph Wind at 270°	0.0	6.79	37.67	655.92	0.00	0.00
1.0D + 1.0W 60 mph Wind at 300°	3.4	5.88	37.67	568.05	0.00	327.96

Final Analysis Summary

Structure:	CT13556-S-SBA	**Code:**	TIA-222-H	6/11/2024	
Site Name:	Norwich	**Exposure:**	B		
Height:	128.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Tower Engineering Solutions

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.0D + 1.0W 60 mph Wind at 330°	5.9	3.39	37.67	327.96	0.00	568.05
1.2D + 1.0Ev + 1.0Eh	0.8	0.00	1.41	0.00	0.00	96.25
0.9D + 1.0Ev + 1.0Eh	0.8	0.00	1.41	0.00	0.00	96.25

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.0W 125 mph Wind	-28.88	-25.26	0.00	-1400.1	0.00	1400.1	2850.91	747.80	2665.43	2521.48	53.00	0.567
1.2D + 1.0W 125 mph Wind at 30°	-28.88	-21.88	0.01	-1212.7	-699.88	1400.1	2850.91	747.80	2665.43	2521.48	53.00	0.567
1.2D + 1.0W 125 mph Wind at 60°	-28.88	-12.64	-0.01	-700.32	-1212.4	1400.1	2850.91	747.80	2665.43	2521.48	53.00	0.567
1.2D + 1.0W 125 mph Wind at 90°	-28.88	0.00	0.00	0.00	-1400.1	1400.1	2850.91	747.80	2665.43	2521.48	53.00	0.567
1.2D + 1.0W 125 mph Wind at 120°	-28.88	12.64	0.01	700.32	-1212.4	1400.1	2850.91	747.80	2665.43	2521.48	53.00	0.567
1.2D + 1.0W 125 mph Wind at 150°	-28.88	21.88	-0.01	1212.72	-699.88	1400.1	2850.91	747.80	2665.43	2521.48	53.00	0.567
1.2D + 1.0W 125 mph Wind at 180°	-28.88	25.26	0.00	1400.16	0.00	1400.1	2850.91	747.80	2665.43	2521.48	53.00	0.567
1.2D + 1.0W 125 mph Wind at 210°	-28.88	21.88	0.01	1212.72	699.88	1400.1	2850.91	747.80	2665.43	2521.48	53.00	0.567
1.2D + 1.0W 125 mph Wind at 240°	-28.88	12.64	-0.01	700.32	1212.4	1400.1	2850.91	747.80	2665.43	2521.48	53.00	0.567
1.2D + 1.0W 125 mph Wind at 270°	-28.88	0.00	0.00	0.00	1400.1	1400.1	2850.91	747.80	2665.43	2521.48	53.00	0.567
1.2D + 1.0W 125 mph Wind at 300°	-28.88	-12.64	0.01	-700.32	1212.4	1400.1	2850.91	747.80	2665.43	2521.48	53.00	0.567
1.2D + 1.0W 125 mph Wind at 330°	-28.88	-21.88	-0.01	-1212.7	699.88	1400.1	2850.91	747.80	2665.43	2521.48	53.00	0.567
0.9D + 1.0W 125 mph Wind	-21.49	-25.04	0.00	-1382.5	0.00	1382.5	2850.91	747.80	2665.43	2521.48	53.00	0.557
0.9D + 1.0W 125 mph Wind at 30°	-21.49	-21.69	0.00	-1197.4	-691.08	1382.5	2850.91	747.80	2665.43	2521.48	53.00	0.557
0.9D + 1.0W 125 mph Wind at 60°	-21.49	-12.52	0.00	-691.51	-1197.2	1382.5	2850.91	747.80	2665.43	2521.48	53.00	0.557
0.9D + 1.0W 125 mph Wind at 90°	-21.49	0.00	0.00	0.00	-1382.5	1382.5	2850.91	747.80	2665.43	2521.48	53.00	0.557
0.9D + 1.0W 125 mph Wind at 120°	-21.49	12.52	0.00	691.51	-1197.2	1382.5	2850.91	747.80	2665.43	2521.48	53.00	0.557
0.9D + 1.0W 125 mph Wind at 150°	-21.49	21.69	0.00	1197.47	-691.08	1382.5	2850.91	747.80	2665.43	2521.48	53.00	0.557
0.9D + 1.0W 125 mph Wind at 180°	-21.49	25.04	0.00	1382.56	0.00	1382.5	2850.91	747.80	2665.43	2521.48	53.00	0.557
0.9D + 1.0W 125 mph Wind at 210°	-21.49	21.69	0.00	1197.47	691.08	1382.5	2850.91	747.80	2665.43	2521.48	53.00	0.557
0.9D + 1.0W 125 mph Wind at 240°	-21.49	12.52	0.00	691.51	1197.2	1382.5	2850.91	747.80	2665.43	2521.48	53.00	0.557
0.9D + 1.0W 125 mph Wind at 270°	-21.49	0.00	0.00	0.00	1382.5	1382.5	2850.91	747.80	2665.43	2521.48	53.00	0.557
0.9D + 1.0W 125 mph Wind at 300°	-21.49	-12.52	0.00	-691.51	1197.2	1382.5	2850.91	747.80	2665.43	2521.48	53.00	0.557
0.9D + 1.0W 125 mph Wind at 330°	-21.49	-21.69	0.00	-1197.4	691.08	1382.5	2850.91	747.80	2665.43	2521.48	53.00	0.557
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-44.63	-6.02	0.00	-330.37	0.00	330.37	2850.91	747.80	2665.43	2521.48	53.00	0.147
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-44.63	-5.21	0.00	-286.11	-165.18	330.37	2850.91	747.80	2665.43	2521.48	53.00	0.147
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-44.63	-3.01	0.00	-165.19	-286.10	330.37	2850.91	747.80	2665.43	2521.48	53.00	0.147
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-44.63	0.00	0.00	0.00	-330.37	330.37	2850.91	747.80	2665.43	2521.48	53.00	0.147
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-44.63	3.01	0.00	165.19	-286.10	330.37	2850.91	747.80	2665.43	2521.48	53.00	0.147
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-44.63	5.21	0.00	286.11	-165.18	330.37	2850.91	747.80	2665.43	2521.48	53.00	0.147
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-44.63	6.02	0.00	330.37	0.00	330.37	2850.91	747.80	2665.43	2521.48	53.00	0.147
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-44.63	5.21	0.00	286.11	165.18	330.37	2850.91	747.80	2665.43	2521.48	53.00	0.147
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-44.63	3.01	0.00	165.19	286.10	330.37	2850.91	747.80	2665.43	2521.48	53.00	0.147
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-44.63	0.00	0.00	0.00	330.37	330.37	2850.91	747.80	2665.43	2521.48	53.00	0.147
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-44.63	-3.01	0.00	-165.19	286.10	330.37	2850.91	747.80	2665.43	2521.48	53.00	0.147
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-44.63	-5.21	0.00	-286.11	165.18	330.37	2850.91	747.80	2665.43	2521.48	53.00	0.147
1.0D + 1.0W 60 mph Wind	-24.63	-5.79	0.00	-320.23	0.00	320.23	2850.91	747.80	2665.43	2521.48	53.00	0.136
1.0D + 1.0W 60 mph Wind at 30°	-24.63	-5.01	0.00	-277.33	-160.11	320.23	2850.91	747.80	2665.43	2521.48	53.00	0.136

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)						
1.0D + 1.0W 60 mph Wind at 60°	-24.63	-2.89	0.00	-160.12	-277.32	320.23	2850.91	747.80	2665.43	2521.48	53.00	0.136
1.0D + 1.0W 60 mph Wind at 90°	-24.63	0.00	0.00	0.00	-320.23	320.23	2850.91	747.80	2665.43	2521.48	53.00	0.136
1.0D + 1.0W 60 mph Wind at 120°	-24.63	2.89	0.00	160.12	-277.32	320.23	2850.91	747.80	2665.43	2521.48	53.00	0.136
1.0D + 1.0W 60 mph Wind at 150°	-24.63	5.01	0.00	277.33	-160.11	320.23	2850.91	747.80	2665.43	2521.48	53.00	0.136
1.0D + 1.0W 60 mph Wind at 180°	-24.63	5.79	0.00	320.23	0.00	320.23	2850.91	747.80	2665.43	2521.48	53.00	0.136
1.0D + 1.0W 60 mph Wind at 210°	-24.63	5.01	0.00	277.33	160.11	320.23	2850.91	747.80	2665.43	2521.48	53.00	0.136
1.0D + 1.0W 60 mph Wind at 240°	-24.63	2.89	0.00	160.12	277.32	320.23	2850.91	747.80	2665.43	2521.48	53.00	0.136
1.0D + 1.0W 60 mph Wind at 270°	-24.63	0.00	0.00	0.00	320.23	320.23	2850.91	747.80	2665.43	2521.48	53.00	0.136
1.0D + 1.0W 60 mph Wind at 300°	-24.63	-2.89	0.00	-160.12	277.32	320.23	2850.91	747.80	2665.43	2521.48	53.00	0.136
1.0D + 1.0W 60 mph Wind at 330°	-24.63	-5.01	0.00	-277.33	160.11	320.23	2850.91	747.80	2665.43	2521.48	53.00	0.136
1.2D + 1.0Ev + 1.0Eh	-0.94	0.83	0.00	52.01	0.00	52.01	2850.91	747.80	2665.43	2521.48	53.00	0.021
0.9D + 1.0Ev + 1.0Eh	-0.94	0.83	0.00	52.01	0.00	52.01	2850.91	747.80	2665.43	2521.48	53.00	0.021

Base Plate Summary

Structure:	CT13556-S-SB	**Code:**	TIA-222-H	6/11/2024	
Site Name:	Norwich	**Exposure:**	B		
Height:	128.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Tower Engineering Solutions

Reactions		Base Plate		Anchor Bolts	
Original Design		**Yield (ksi):**	50.00	**Bolt Circle:**	64.50
Moment (kip-ft):	4570.83	**Width (in):**	62.50	**Number Bolts:**	16.00
Axial (kip):	48.75	**Style:**	Clipped	**Bolt Type:**	2.25" 18J
Shear (kip):	48.83	**Polygon Sides:**	0.00	**Bolt Diameter (in):**	2.25
Analysis (1.2D + 1.0W 60° Wind)		**Clip Length (in):**	12.00	**Yield (ksi):**	75.00
Moment (kip-ft):	2861.55	**Effective Len (in):**	8.55	**Ultimate (ksi):**	100.00
Axial (kip):	45.17	**Moment (kip-in):**	447.85	**Arrangement:**	Clustered
Shear (kip):	29.48	**Allow Stress (ksi):**	67.50	**Cluster Dist (in):**	6.00
		Applied Stress (ksi):	29.70	**Start Angle (deg):**	45.00
		Stress Ratio:	0.44	Compression	
				Force (kip):	135.92
				Allowable (kip):	268.39
				Ratio:	0.51
				Tension	
				Force (kip):	130.27
				Allowable (kip):	243.75
				Ratio:	0.53

Monopole Mat Foundation Design

			Date: 6/11/2024
Customer Name:	Verizon	TIA Standard:	TIA-222-H
Site Name:		Structure Height (Ft.):	128
Site Number:	CT13556-S-SBA	Engineer Name:	C. Zang
Engr. Number:	147339	Engineer Login ID:	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

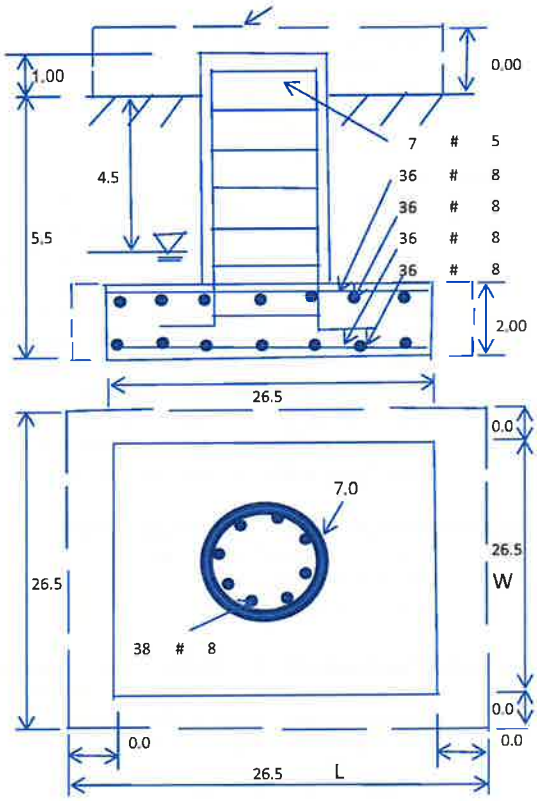
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	44.9	Shear Force (Kips):	29.5
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2860.3

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	5.5
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	2.00
Length of Pad (ft.):	26.5	Width of Pad (ft.):	26.5
Final Length of pad (ft)	26.5	Final width of pad (ft):	26.5



Material Properties and Reabr Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	38	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	36	Qty. of Rebar in Pad (W):	36	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	36	Qty. of Rebar in Pad (W):	36	

Soil Design Parameters:

Soil Unit Weight (pcf):	135.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	4.5	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	20000	Ultimate Skin Friction:	400	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:			1.00	

Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 — Compression Strength Reduction Factor: 0.75

Total Dry Soil Volume (cu. Ft.):	2323.18	Total Dry Soil Weight (Kips):	313.63
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	313.63	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	875.43	Total Dry Concrete Weight (Kips):	131.31
Total Buoyant Concrete Volume (cu. Ft.):	702.25	Total Buoyant Concrete Weight (Kips):	61.52
Total Effective Concrete Weight (Kips):	192.83	Total Vertical Load on Base (Kips):	551.36

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	2051	<	Allowable Factored Soil Bearing (psf):	15000	0.14	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	6634.5	>	Design Factored Momont (kips-ft):	2951	0.44	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.25	OK!				

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90		Strength reduction factor (Shear):	0.75			
Strength reduction factor (Axial compresion):	0.65		Wind Load Factor on Concrete Design:	1.00			
					Load/ Capacity Ratio		
(1) Concrete Pier:							
Vertical Steel Rebar Area (sq. in./each):	0.79		Tie / Stirrup Area (sq. in./each):	0.31			
Calculated Moment Capacity (Mn,Kips-Ft):	5163.1	>	Design Factored Moment (Mu, Kips-F	2993.1	0.58	OK!	
Calculated Shear Capacity (Kips):	734.1	>	Design Factored Shear (Kips):	29.5	0.04	OK!	
Calculated Tension Capacity (Tn, Kips):	1621.1	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!	
Calculated Compression Capacity (Pn, Kips):	9744.8	>	Design Factored Axial Load (Pu Kips):	44.9	0.00	OK!	
Moment & Axial Strength Combination:	0.58	OK!	Check Tie Spacing (Design/Required):		1	OK!	
Pier Reinforcement Ratio:	0.005		Reinforcement Ratio is satisfied per ACI				
(2).Concrete Pad:							
One-Way Design Shear Capacity (L-Direction, Kips):	618.4	>	One-Way Factored Shear (L-D. Kips):	264.8	0.43	OK!	
One-Way Design Shear Capacity (W-Direction, Kips):	618.4	>	One-Way Factored Shear (W-D., Kips)	264.8	0.43	OK!	
One-Way Design Shear Capacity (Corner-Corner. Kips):	631.5	>	One-Way Factored Shear (C-C, Kips):	256.5	0.41	OK!	
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0044	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0044			
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	2522.6	>	Moment at Bottom (L-Dir. K-Ft):	1463.4	0.58	OK!	
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	2522.6	>	Moment at Bottom (W-Dir. K-Ft):	1463.4	0.58	OK!	
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	3534.7	>	Moment at Bottom (C-C Dir. K-Ft):	2069.6	0.59	OK!	
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0044	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0044			
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	2522.6	>	Moment at the top (L-Dir K-Ft):	452.2	0.18	OK!	
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	2522.6	>	Moment at the top (W-Dir K-Ft):	452.2	0.18	OK!	
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	3534.7	>	Moment at the top (C-C Dir. K-Ft):	423.4	0.12	OK!	
(3).Check Punching Shear Capacity due to Moment in the Pier:							
Moment transferred by punching shear:	1144.1	k-ft.	Max. factored shear stress v_{u_CD}:		2.2	Psi	
Max. factored shear stress v_{u_AB}:	13.4	Psi	Factored shear Strength ϕv_n:		189.7	Psi	
Max. factored shear stress v_u:	13.4	Psi	Check Usage of Punching Shear Capacity:		0.07	OK!	
(4).Check Bending Capacity of the Pad Within the Effective Slab Width:							
Overturning moment to be transferred by flexure:	858.1	k-ft.	Effective Width for resisting OT moment:		13.0	ft.	
Calculated number of Rebar in Effective width:	18		Actual number of Rebar in Effective width:		18		
Steel Pad Moment Capacity (L-Direc. Kips-ft):	1260.3	k-ft.	Check Usage of the Flexure Capacity:		0.68	OK!	

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Post-Modification Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10222605
Colliers Engineering & Design Project #: 21777096A (Rev. 3)

February 16, 2024

Site Information	*Site ID:*	*5000244310-VZW / NORWICH NE CT*
	Site Name:	*NORWICH NE CT*
	Carrier Name:	*Verizon Wireless*
	Address:	*39 Maennerchor Avenue* *Taftville, Connecticut 06380* *New London County*
	Latitude:	*41.55847222°*
	Longitude:	*-72.05127778°*
Structure Information	*Tower Type:*	*150-Ft Monopole*
	Mount Type:	*13.50-Ft Platform*

FUZE ID # 16227625

Analysis Results

Platform: **80.4% Pass w/ Modifications ***

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

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

Report Prepared By: David Anuka

Executive Summary:

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

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

Sources of Information:

Document Type	Remarks
Radio Frequency Data Sheet (RFDS)	*Verizon RFDS, Site ID: 1681782, dated January 10, 2024*
Mount Mapping Report	*Hudson Design Group, LLC, Site ID: 486278, dated February 10, 2021*
Previous Mount Analysis	*Colliers Engineering & Design, Project #: 21777096 (Rev. 1), dated January 31, 2024*
Mount Modification Drawings	*Colliers Engineering & Design, Project #: 21777096 (Rev. 2), dated December 14, 2023*

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H 2022 Connecticut State Building Code (CSBC), Effective October 1, 2022	
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT}:	130 mph
	Ice Wind Speed (3-sec. Gust):	50 mph
	Design Ice Thickness:	1.00 in
	Risk Category:	II
	Exposure Category:	C
	Topographic Category:	1
	Topographic Feature Considered:	N/A
	Topographic Method:	N/A
	Ground Elevation Factor, K_e:	0.994
Seismic Parameters:	S_S:	0.191 g
	S_1:	0.053 g
Maintenance Parameters:	Wind Speed (3-sec. Gust):	30 mph
	Maintenance Load, Lv:	250 lbs.
	Maintenance Load, Lm:	500 lbs.
Analysis Software:	RISA-3D (V17)	

Final Loading Configuration:

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

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
98.50	100.00	3	Amphenol Antel	BXA-70063-6CF	Retained
		2	Raycap	RRFDC-3315-PF-48*	
		6	JMA Wireless	MX06FRO660-03	Added
		3	Samsung	MT6413-77A	
		3	Samsung	RF4439d-25A	
		3	Samsung	RF4461d-13A	

* Equipment is flush mounted directly to the Monopole. They are not mounted on the platform mount and are not included in this mount analysis.

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

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

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

Analysis Results:

Component	Utilization %	Pass/Fail
Face Horizontal	15.5 %	Pass
Standoff Horizontal	37.7 %	Pass
Platform Crossmember	19.2 %	Pass
Mod Mount Pipe	29.1 %	Pass
Corner Plate	23.7 %	Pass
Grating Support	19.6 %	Pass
Cross Arm Plate	38.0 %	Pass
Mount Pipe	42.9 %	Pass
Mod Support Rail	21.5 %	Pass
Mod Support Rail Corner	34.9 %	Pass
Mod Threaded Rod	80.4 %	Pass
Connection Check	52.7 %	Pass

Structure Rating – *(Controlling Utilization of all Components)*	**80.4%**

Mount Connection Envelope Reactions:

Connection Description	Elev. AGL (Ft)	Node Label	Envelope Wind Reactions				Envelope Wind + Ice Reactions			
			Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)	Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)
Sector C Standoff	98.5	N3	1943	2845	5.017	1.816	2606	887	5.753	0.575
Sector B Standoff	98.5	N87D	1919	2733	4.948	2.151	2638	911	5.862	0.625
Sector A Standoff	98.5	N115	1713	2627	4.360	1.342	2220	950	4.661	0.401

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

BASELINE mount weight per SBA agreement: 1540.00 lbs

Increase in mount weight due to Verizon loading change per SBA agreement: 919.33 lbs

The weights listed above includes three sectors.

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

Ice Thickness (In)	Mount Pipes Excluded		Mount Pipes Included	
	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	25.3	24.2	48.2	47.1
0.5	33.9	32.6	66.4	63.8
1	41.4	39.6	83.1	79.4

Notes:
- (EPA)a values listed above may be used in the absence of more precise information
- (EPA)a values in the table above include 4 sector(s).
- Ka factors included in (EPA)a calculations

Requirements:

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

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

Attachments:

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

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Mount Modification

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

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MDG #: 5000244310 SMART Project #: 10222605 Fuze Project ID: 16227625

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

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

Base Requirements:

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

Photo Requirements:

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

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

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

Material Certification:

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

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

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

OR

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

Antenna & Equipment Placement and Geometry Confirmation:

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

OR

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

Comments:

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

☐ Yes ☐ No

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

Issue:

N/A

Response:

Special Instruction Confirmation:

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

Comments:

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

☐ Yes ☐ No

Contractor certifies no new damage created during the current installation:

☐ Yes ☐ No

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

☐ Safety Climb in Good Condition ☐ Safety Climb Damaged

Comments:

Certifying Individual:

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

Structure: 5000244310-VZW - NORWICH NE CT

Sector: **A**

Structure Type: Self Support

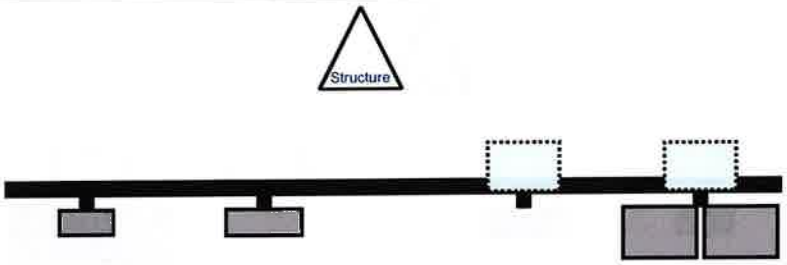
Mount Elev: 98.50

10222605

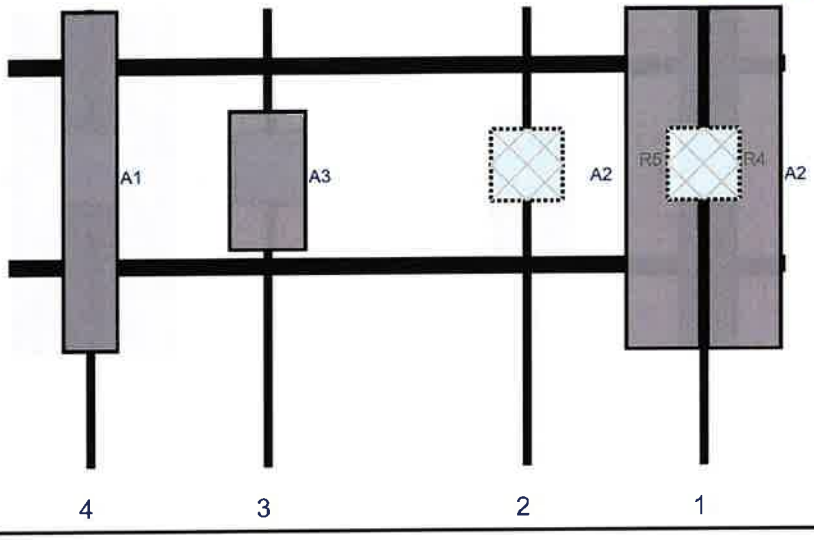
2/16/2024

Colliers Engineering & Design

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	MX06FRO660-03	71.3	15.4	145	1	a	Front	36	8.5	Added	
A2	MX06FRO660-03	71.3	15.4	145	1	b	Front	36	-8.5	Added	
R4	RF4439d-25A	15	15	145	1	a	Behind	33	0	Added	
R5	RF4461d-13A	15	15	108	2	a	Behind	33	0	Added	
A3	MT6413-77A	28.9	15.8	54	3	a	Front	36	0	Added	
A1	BXA-70063-6CF	71	11.2	17	4	a	Front	36	0	Retained	02/10/2021

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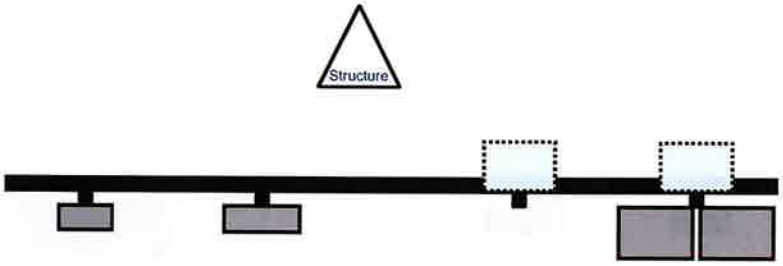
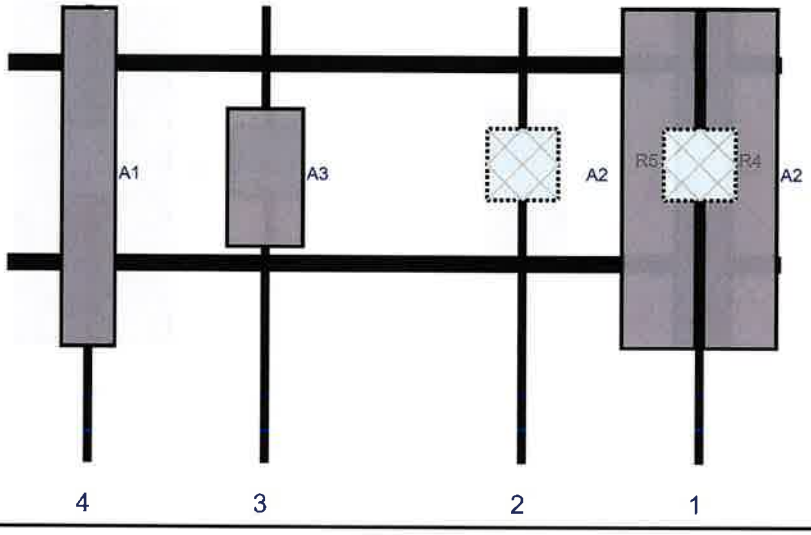
Plan View



Front View - Looking at Structure



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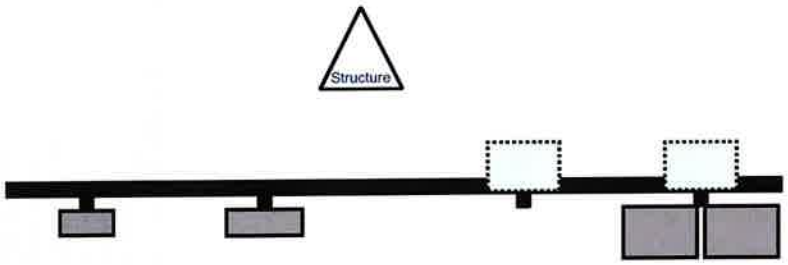
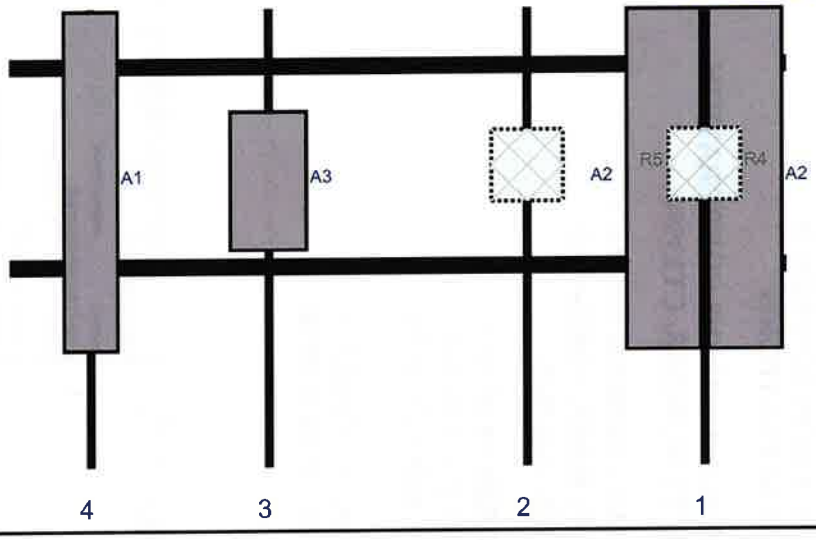
A1	BXA-70063-6CF	71	11.2	17	4	a	Front	36	0	Retained	02/10/2021

Colliers Engineering & Design

Plan View



Front View - Looking at Structure



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R5	RF4461d-13A	15	15	108	2	a	Behind	33	0	Added	
A3	MT6413-77A	28.9	15.8	54	3	a	Front	36	0	Added	
A1	BXA-70063-6CF	71	11.2	17	4	a	Front	36	0	Retained	02/10/2021

MOUNT MODIFICATION DRAWINGS
EXISTING 13.50' PLATFORM

TOWER OWNER: SBA COMMUNICATIONS CORPORATION
TOWER OWNER SITE NUMBER: CT13556

CARRIER SITE NAME: NORWICH NE CT
CARRIER SITE NUMBER: 5000244310
FUZE ID: 16227625

39 MAENNERCHOR AVE
TAFTVILLE, CT 06380
NEW LONDON COUNTY

LATITUDE: 41.558472° N
LONGITUDE: 72.051278° W

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), V = 125 MPH
EXPOSURE CATEGORY C
TOPOGRAPHIC CATEGORY: 1
TOPOGRAPHIC CONSIDERED: N/A
TOPOGRAPHIC METHOD: N/A
MEAN BASE ELEVATION (AMSL) = 156.72'

ICE LOADS

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

SEISMIC LOADS

SEISMIC DESIGN CATEGORY B
SHORT TERM MCER GROUND MOTION, S_s = .194
LONG TERM MCER GROUND MOTION, S_1 = .054

PROJECT INFORMATION

APPLICANT/LESSEE

COMPANY: VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY: VERIZON WIRELESS

PROJECT MANAGER

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

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #: 10215319
VZW MDG #: 5000244310
ANALYSIS DATE: 12/14/2023

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

SHEET	DESCRIPTION
ST-1	TITLE SHEET
SBOM-1	BILL OF MATERIALS
SGN-1	GENERAL NOTES
SCF-1	CLIMBING FACILITY DETAIL
SS-1	MODIFICATION DETAILS
SS-2	MOUNT PHOTOS
	SPECIFICATION SHEETS

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REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
2		ISSUED FOR CONSTRUCTION		
1		ISSUED FOR CONSTRUCTION		
0		ISSUED FOR CONSTRUCTION		

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5000244310

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TAFTVILLE, CT 06380
NEW LONDON COUNTY

STAMFORD

TITLE SHEET

ST-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	VZWSMART	VZWSMART-PLK1	SUPPORT RAIL KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	504	504
5	VZWSMART	VZWSMART-P40-278X096	96" LONG, PIPE 2.5 SCH40 (2.875"OD X 0.203" THK)		46	232

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	SITE PRO 1	SP219-H	CROSSOVER PLATE	OR EOR APPROVED EQUAL. CONTACT COLLIERS ENGINEERING & DESIGN FOR APPROVAL OF SUBSTITUTION.	13	38
5	SITE PRO 1	DCP18K	PIPE TO PIPE CLAMP	OR EOR APPROVED EQUAL. CONTACT COLLIERS ENGINEERING & DESIGN FOR APPROVAL OF SUBSTITUTION.	29	146

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	PERFECT VISON	PV-SCRB-RM-U	ROUTING BRACKET	OR EOR APPROVED EQUIVALENT	-	-
1	PERFECT VISION	PV-CMX-CG-BO	WIRE ROPE GUIDE	OR EOR APPROVED EQUIVALENT	-	-
					TOTAL:	920*

*FOR ACTUAL INSTALL WEIGHT PLEASE CHECK THE MA REPORT

NOTES:

1. THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KITS. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZW APPROVAL PROCESS AND THEY ARE IN TURN APPROVED TO SELL. PLEASE NOTE THAT THE MATERIAL UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVIEWED AS A PART OF THE DESKTOP PMI COMPLETED BY THE SMART TOOL VENDOR. IT WILL BE REQUIRED THAT THE VZW KITS SPECIFIED ARE UTILIZED IN THE MODIFICATIONS.
2. ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.

VZWSMART KITS - APPROVED VENDORS

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM

METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM

PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM

SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM

SITE PRO 1	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM

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5000244310
39 MAENNERCHOR AVE
TAFTVILLE, CT 06380
NEW LONDON COUNTY

STAMFORD
1055 Washington Boulevard
Stamford, CT 06901

BILL OF MATERIALS

SBOM-1

GENERAL NOTES

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

STRUCTURAL STEEL

1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
   a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
   b. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
   c. AISC CODE OF STANDARD PRACTICE
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:

CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE

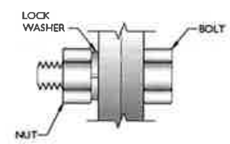
3. ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
4. PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
   a. SUBMIT SHOP DRAWINGS TO
      PETER.ALBANO@COLLIERSENG.COM
   b. PROVIDE COLLIERS ENGINEERING & DESIGN PROJECT # AND COLLIERS ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
5. DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
6. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
7. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
8. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
9. WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
10. FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
11. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
12. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
13. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
14. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINC COTE, OR EOR APPROVED EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
15. ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

BOLT SCHEDULE (IN.)

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

WORKABLE GAGES (IN.)

LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8

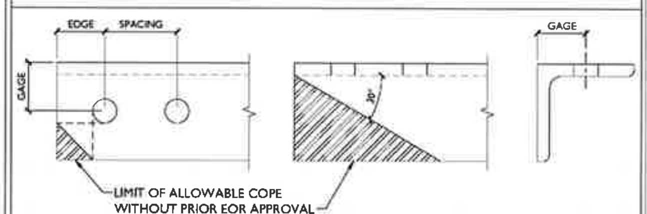


TYP. BOLT ASSEMBLY

NOTES:

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

ALLOWABLE COPING



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NEW LONDON COUNTY

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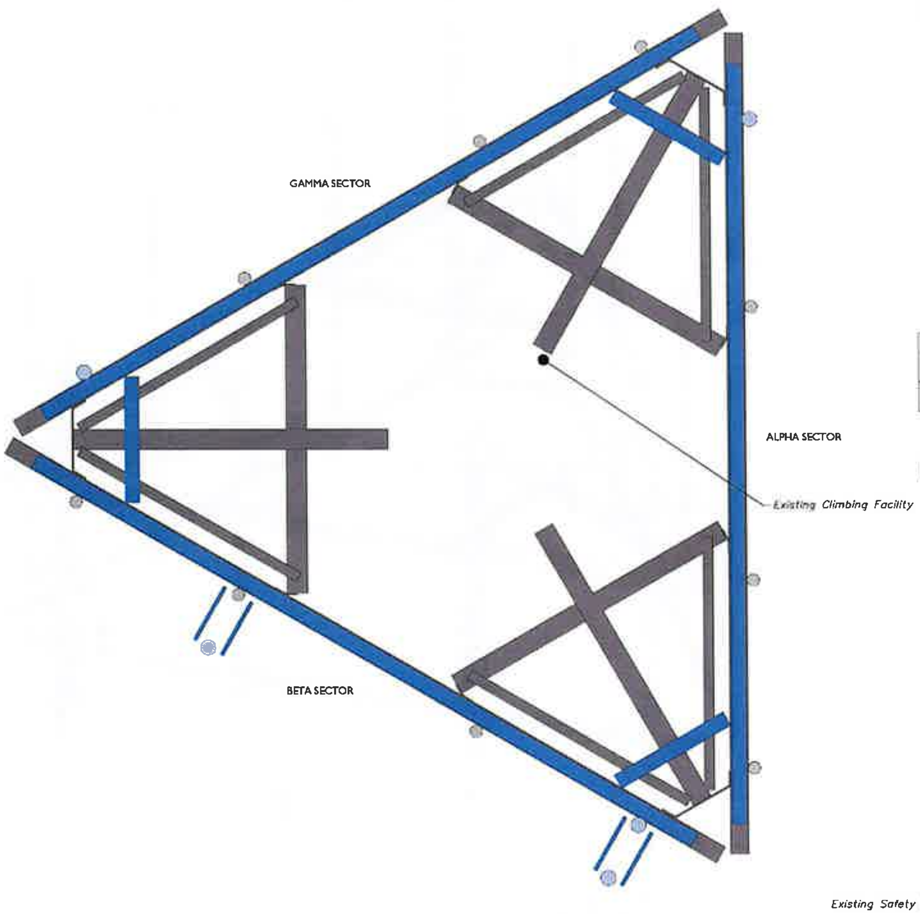
GENERAL NOTES

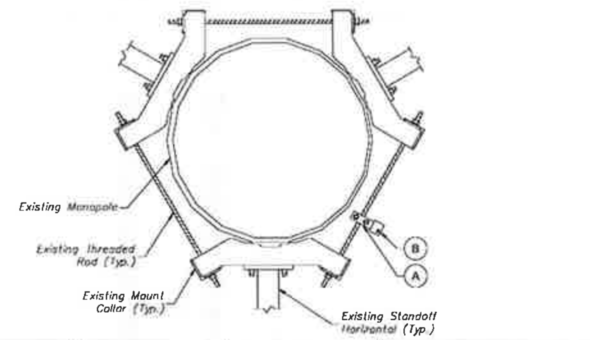
SGN-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



1 CLIMBING FACILITY LOCATION

SCALE : N.T.S.



ITEM #	QTY	PART NUMBER	DESCRIPTIONS
A	1	PV-SCRB-RM-U	ROUTING BRACKET (PERFECT VISION OR EOR APPROVED EQ.)
B	1	PV-CMX-CG-BO	WIRE ROPE GUIDE (PERFECT VISION OR EOR APPROVED EQ.)

2 PROPOSED WIRE ROPE GUIDE ATTACHMENT - PLAN VIEW

SCALE : N.T.S.

NOTE: CONTRACTOR SHALL ENSURE THAT WIRE ROPE GUIDE DOES NOT PUSH THE WIRE ROPE OUTSIDE OF THE VERTICAL PLANE OF THE SAFETY CLIMB. CONTRACT EOR WITH PHOTOS OF SAFETY CLIMB AND COLLAR FOR FURTHER DIRECTION IF NEEDED.

Existing Safety Climb

Existing Climbing Facility

CLIMBING FACILITY PHOTO

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY HUDSON DESIGN GROUP, LLC ON 2/10/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (98'-6") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
2. INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.

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Colliers Engineering & Design

STAMFORD

Stamford, CT 06901

CLIMBING FACILITY DETAIL

SCF-1

LEGEND:

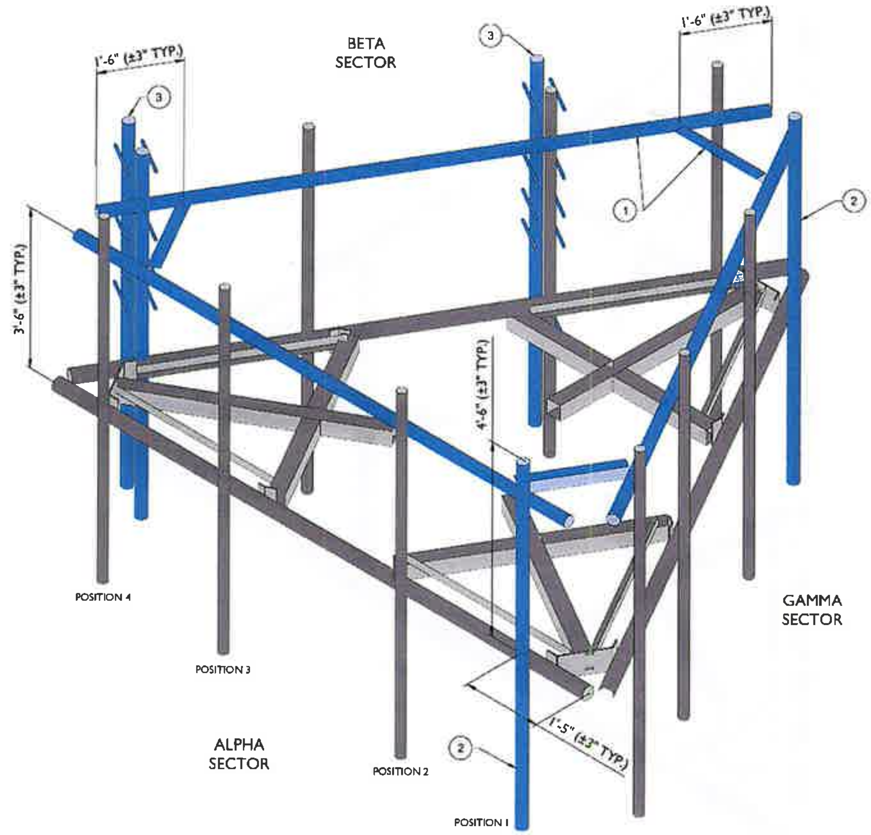
- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE

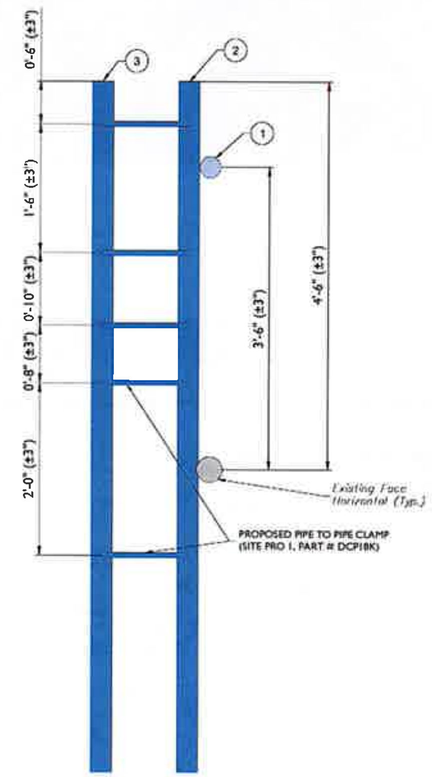
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	98'-6"	1	PROPOSED SUPPORT RAIL KIT (PART #: VZWSMART-PLK1)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. RADIO AND/OR THE POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE. SEE GENERAL NOTE B.
2		3	PROPOSED 96" LONG, PIPE 2.5 SCH40 (PART #: VZWSMART-P40-278X096) (POS. 1 OF ALL SECTOR)	CONTRACTOR SHALL REPLACE EXISTING MOUNT PIPE AT POS. 1 (AS SEEN FROM BEHIND THE MOUNT) ON ALL SECLTOR WITH PROPOSED PIPE. CONNECT NEW MOUNT PIPE TO EXISTING FACE HORIZONTAL PIPE WITH CROSSOVER PLATES (SITE PRO 1, PART # SP219-H OR EOR APPROVED EQUAL).
3		2	PROPOSED 96" LONG, PIPE 2.5 SCH40 (PART #: VZWSMART-P40-278X096) WITH PIPE TO PIPE CLAMP (SITE PRO 1, PART #: DCP18K OR EOR APPROVED EQUAL) (POS. 1 & 3 OF BETA SECTOR ONLY)	CONNECT PROPOSED MOUNT PIPE TO MOUNT PIPE AT POS. 1 & 3 (AS SEEN FROM BEHIND THE MOUNT) WITH PIPE TO PIPE CLAMP (SITE PRO 1, PART #: DCP18K OR EOR APPROVED EQUAL) IN BETA SECTOR ONLY. MAX. UNBRACED LENGTH OF THREADED ROD SHALL NOT EXCEED 12". REFER TO DETAIL 2/SS-1.

GENERAL NOTES:

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



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



(2) PROPOSED MOUNT PIPE @ POS. 1 & 3 DETAILS (BETA SECTOR ONLY) (SIDE ELEVATION VIEW)
SCALE: N.T.S.

Colliers Engineering & Design
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COLLIERS ENGINEERING & DESIGN CT, P.C.

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

SITE NAME:

NORWICH NE CT
5000244310
39 MAENNERCHOR AVE
TAFTVILLE, CT 06380
NEW LONDON COUNTY

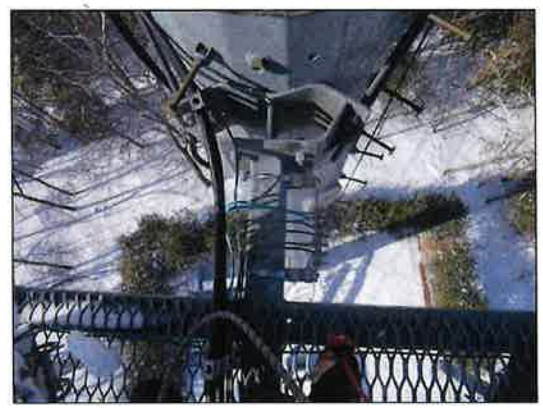
MODIFICATION DETAILS

SS-1

MOUNT PHOTO 1

MOUNT PHOTO 2

MOUNT PHOTO 3



MOUNT PHOTO 4

Colliers Engineering & Design

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AS SHOWN

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY

COLLIERS ENGINEERING & DESIGN CT, P.C.

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

SITE NAME:

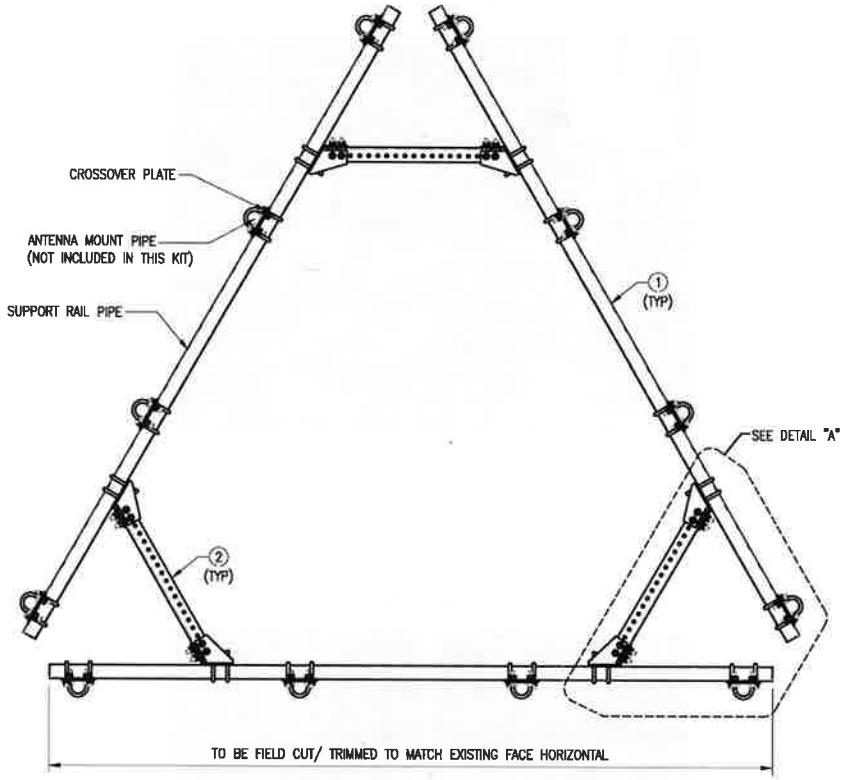
NORWICH NE CT
5000244310

39 MAENNERCHOR AVE
TAFTVILLE, CT 06380
NEW LONDON COUNTY

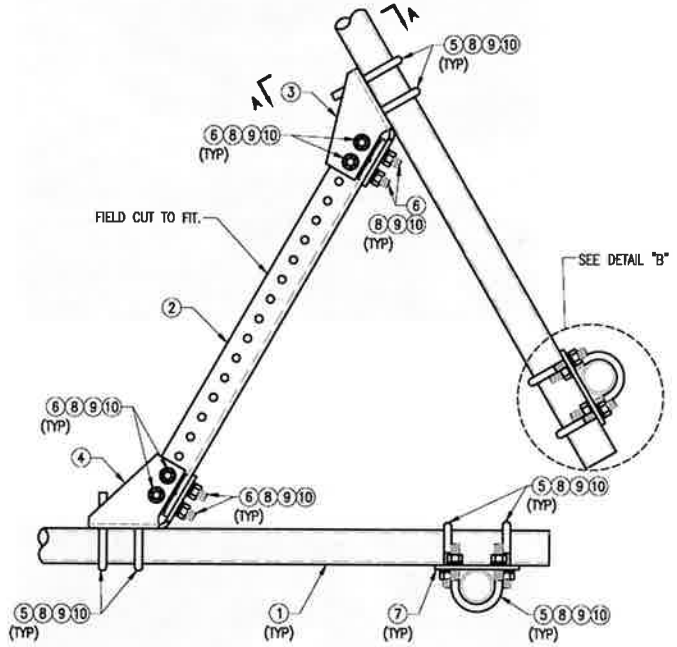
STAMFORD
1055 Washington Boulevard
Stamford, CT 06901

MOUNT PHOTOS

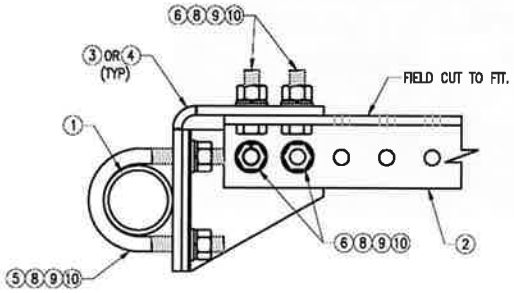
SS-2



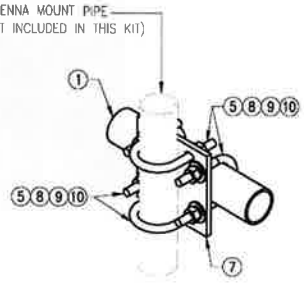
PLAN VIEW



DETAIL "A"



SECTION "A-A"



DETAIL "B"

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

VZW SMART-PLK1 (SUPPORT RAIL KIT)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	PST2875-12.5	2.5" PST (2.875" O.D. X 0.203" THK.) X 12'-6" A53 GR-B	PLK1-F1	292
2	3	L33375-3	L 3" X 3" X 3/8" X 3'-0" A36	PLK1-F1	66
3	3	CBP-L	CORNER BENT PLATE BRACKET	PLK1-F2	28
4	3	CBP-R	CORNER BENT PLATE BRACKET	PLK1-F2	28
5	60	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	82
6	24	---	BOLT 5/8" X 2" A325	---	9
7	12	PL375-857	PL 3/8" X 8 1/2" X 7'-0" A36	PLK1-F3	77
8	144	FW-625	5/8" HDG USS FLAT WASHER	---	12
9	144	LW-625	5/8" HDG LOCK WASHER	---	3
10	144	NUT-625	5/8" HDG HEX NUT	---	17
			GALVANIZED WT		504

VzW SMART Tool© Vendor

verizon

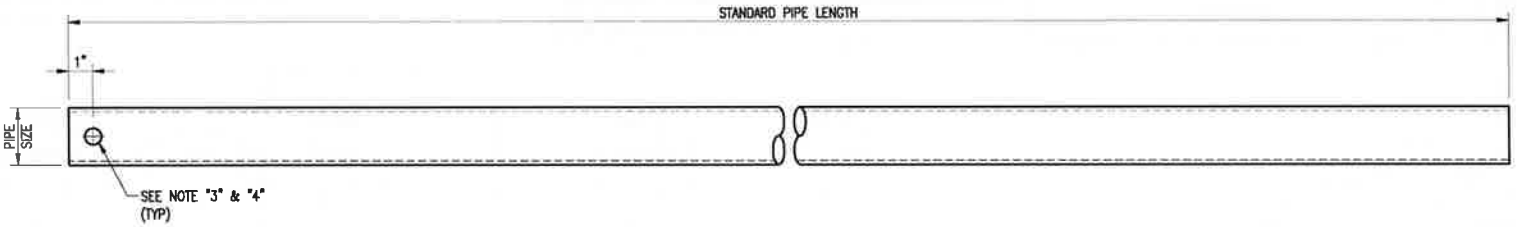
FOR REFERENCE ONLY

DRAWN BY: H.R | CHECKED BY: HMA

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

SHEET TITLE:
VZWSMART-PLK1
SUPPORT RAIL KIT

SHEET NUMBER: VZWSMART-PLK1 | REV #: 0



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

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

NOTES:
1. ALL PIPE GRADE A53-B OR BETTER.
2. HOT-DIPPED GALVANIZED PER ASTM A123.
3. ALL HOLES ARE 11/16" DIA. U.N.O
4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

VzW SMART Tool© Vendor

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FOR REFERENCE ONLY

DRAWN BY: BT | CHECKED BY: HMA/KW

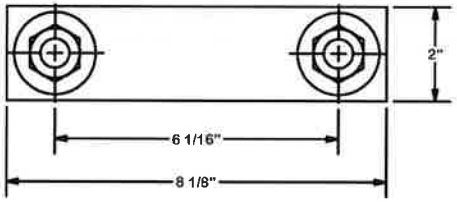
REV	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	06/04/21

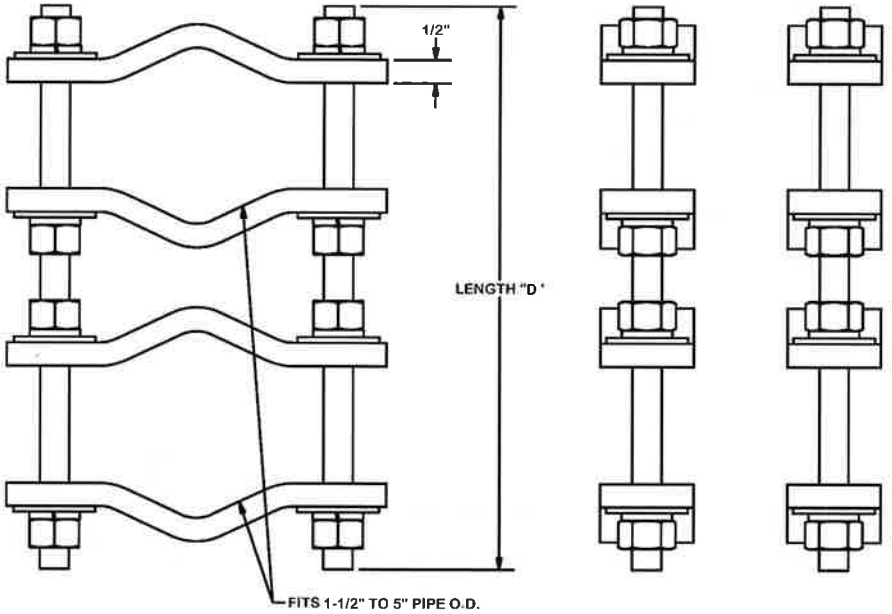
SHEET TITLE:

VZWSMART STANDARD PIPE

SHEET NUMBER: VZWSMART-PIPE

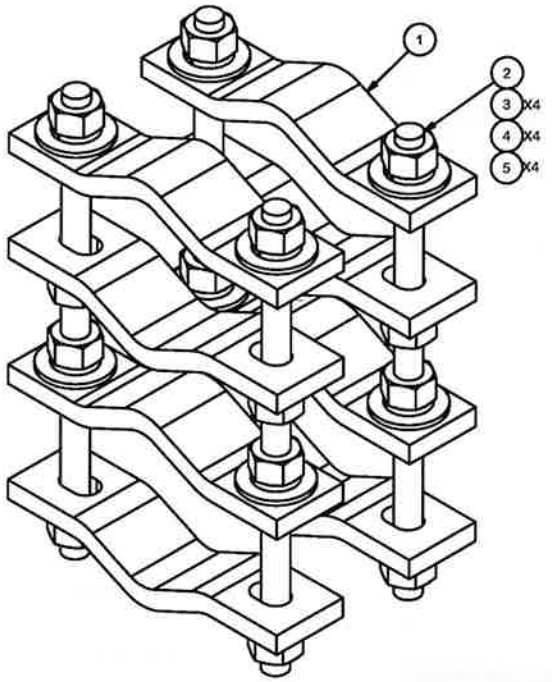
REV #: 0





PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	8	DCP	CLAMP HALF, 1/2" THICK, 8-3/8"		2.42	19.36
2	B	C	5/8" THREADED ROD	D	E	F
3	16	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	2.08
4	16	G58LW	5/8" HDG LOCKWASHER		0.03	0.42
5	16	G58FW	5/8" HDG USS FLATWASHER		0.07	1.13

VARIABLE PARTS TABLE						
ASSEMBLY "A"	QTY "B"	PART "C"	LENGTH "D"	UNIT WT. "E"	NET WT. "F"	TOTAL WEIGHT
DCP12K	4	G58R-12	12"	1.05	4.18	27.01
DCP18K	4	G58R-18	18"	1.57	6.27	29.10



FOR REFERENCE ONLY

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES ***(± 0.030")***
DRILLED AND GAS CUT HOLES ***(± 0.030")*** **- NO CONING OF HOLES**
LASER CUT EDGES AND HOLES ***(± 0.010")*** **- NO CONING OF HOLES**
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING ***(± 0.090")***
ALL OTHER ASSEMBLY ***(± 0.060")***

DESCRIPTION
PIPE TO PIPE CLAMP SET
1-1/2" TO 5" PIPE
1/2" THICK CLAMP

SITE PRO 1
A valmont COMPANY

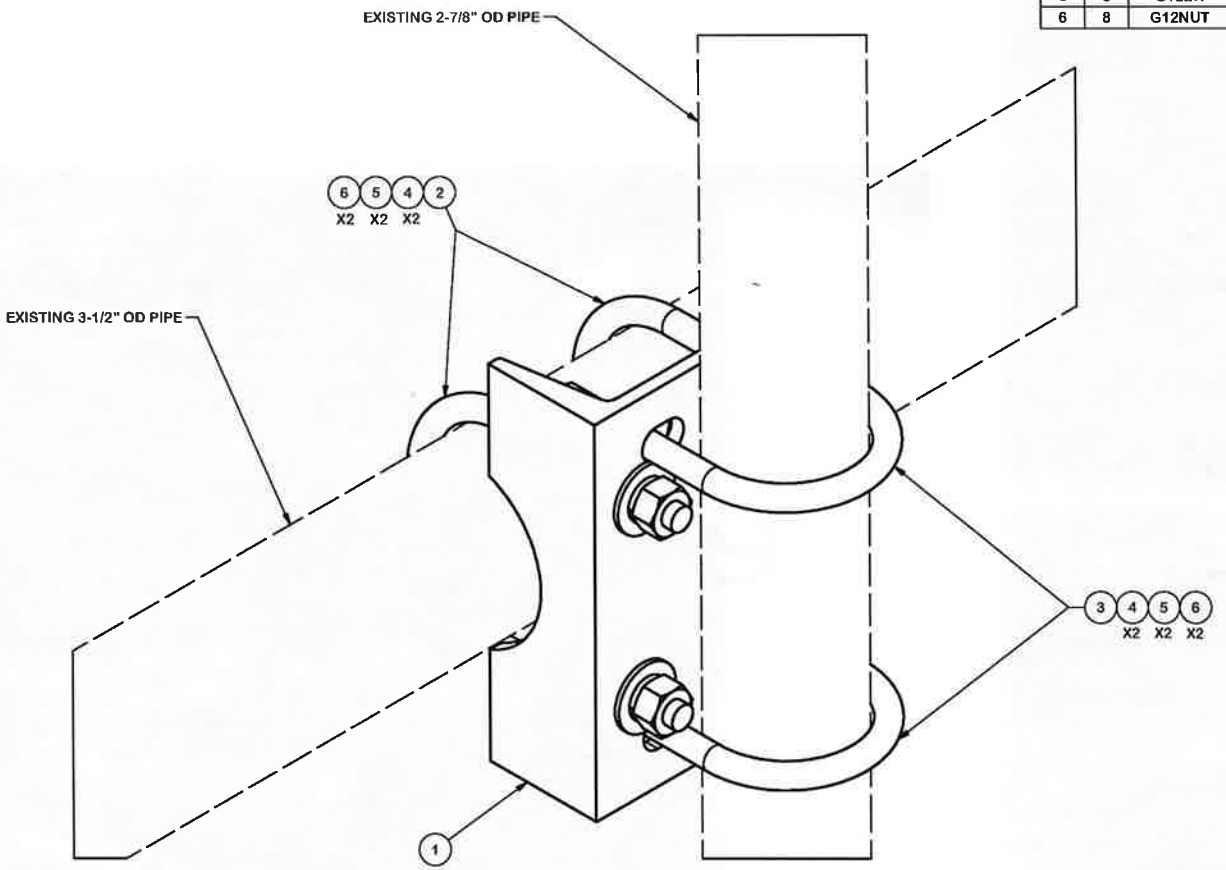
Engineering Support Team: 1-888-753-7446

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

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
	KC8 8/21/2012		SEE ASSEMBLY "A"

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	01	CUSTOMER	CEK 1/22/2013	DCPxxK

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	X-SP219	SMALL SUPPORT CROSS PLATE	8 1/4 in	8.61	8.61
2	2	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.66	1.31
3	2	X-UB1300	1/2" X 3" X 5" X 2" U-BOLT (HDG.)		0.66	1.31
4	8	G12FW	1/2" HDG USS FLATWASHER		0.03	0.27
5	8	G12LW	1/2" HDG LOCKWASHER		0.01	0.11
6	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
					TOTAL WT. #	12.61



FOR REFERENCE ONLY

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	REDRAWN IN INV. UPDATED VIEWS & TABLE		KCB	8-21-2012

REVISION HISTORY

TOLERANCE NOTES

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

DESCRIPTION
2-7/8" TO 3-1/2"
PIPE MOUNT ASSEMBLY

SITE PRO 1 — A valmont COMPANY

Engineering Support Team: 1-866-753-7446

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

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
4518	BMC 6/3/2009		SP219-H

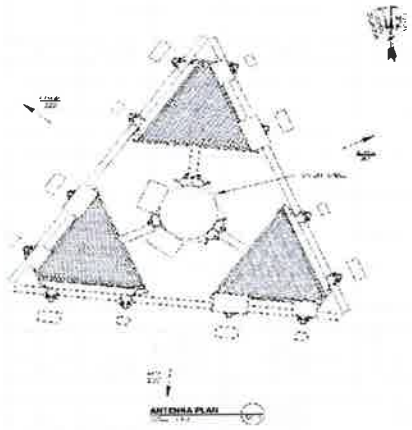
CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	01	CUSTOMER	CEK 2/18/2013	SP219-H

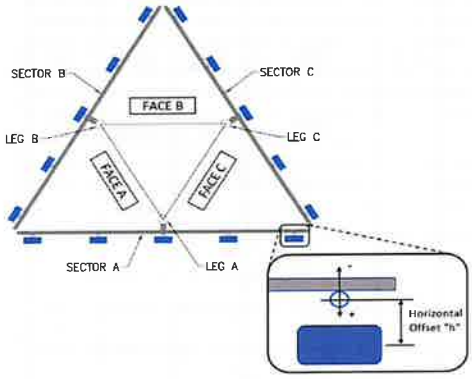
V2.0 Updated on 6-31-2020

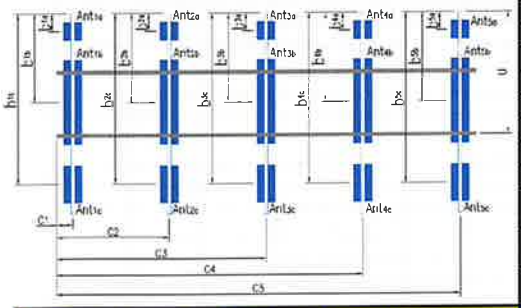
Antenna Mount Mapping Form (PATENT PENDING)

FCC # 1267553

Tower Owner:	SBA TOWERS	Mapping Date:	02.10.21
Site Name:	NORWICH NE CT	Tower Type:	Monopole
Site Number or ID:	486278	Tower Height (Ft.):	150
Mapping Contractor:	HUDSON DESIGN GROUP, LLC	Mount Elevation (Ft.):	100.16







Antenna Layout (Looking Out From Tower)

Mount Pipe Configuration and Geometries [Unit = Inches]

Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "d"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "d"	Horizontal Offset "C1, C2, C3, etc."
A1	PIPE 2" STD. x 96" LONG	54.00	17.00	C1	PIPE 2" STD. x 96" LONG	54.00	17.00
A2	PIPE 2" STD. x 96" LONG	54.00	54.00	C2	PIPE 2" STD. x 96" LONG	54.00	54.00
A3	PIPE 2" STD. x 96" LONG	54.00	108.00	C3	PIPE 2" STD. x 96" LONG	54.00	108.00
A4	PIPE 2" STD. x 96" LONG	54.00	145.00	C4	PIPE 2" STD. x 96" LONG	54.00	145.00
A5				C5			
A6				C6			
B1	PIPE 2" STD. x 96" LONG	54.00	17.00	D1			
B2	PIPE 2" STD. x 96" LONG	54.00	54.00	D2			
B3	PIPE 2" STD. x 96" LONG	54.00	108.00	D3			
B4	PIPE 2" STD. x 96" LONG	54.00	145.00	D4			
B5				D5			
B6				D6			

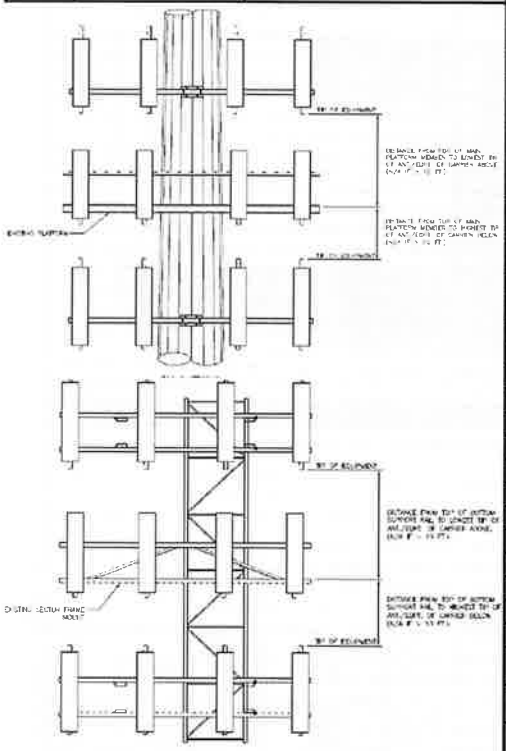
Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :	0.00
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :	
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :	
Please enter additional infomation or comments below.	

Tower Face Width at Mount Elev. (ft.):		Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):	29

	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}	9442	12.00	8.00	25.00		103.452	14.50	-7.00		8
Ant_{1b}	BXA-17106312CF	6.00	4.00	72.00		101.41	39.00	8.00	80.00	8
Ant_{1c}										
Ant_{2a}	700 RRH	17.00	10.00	16.00		102.743	23.00	-6.25		9
Ant_{2b}	BXA-70063-6CF	11.00	5.50	72.00		101.493	38.00	9.50	80.00	9
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	BXA-17106312CF	6.00	4.00	72.00		101.41	39.00	8.00	80.00	10
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	BXA-70063-6CF	11.00	5.50	72.00		101.493	38.00	9.50	80.00	10
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector	
Sector A:	80.00	Deg	Leg A:		Deg
Sector B:	200.00	Deg	Leg B:		Deg
Sector C:	320.00	Deg	Leg C:		Deg
Sector D:		Deg	Leg D:		Deg

Climbing Facility Information		
Location:	53.00	Deg
Climbing Facilty	Corrosion Type:	N/A
	Access:	Climbing path was unobstructed.
	Condition:	Good condition.



Sector B										
Ant_{1a}	9442	12.00	8.00	25.00		103.452	14.50	-7.00		11
Ant_{1b}	BXA-17106312CF	6.00	4.00	72.00		101.41	39.00	8.00	200.00	11
Ant_{1c}										
Ant_{2a}	700 RRH	17.00	10.00	16.00		102.743	23.00	-6.25		12
Ant_{2b}	BXA-70063-6CF	11.00	5.50	72.00		101.493	38.00	9.50	200.00	12
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	BXA-17106312CF	6.00	4.00	72.00		101.41	39.00	8.00	200.00	13
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	BXA-70063-6CF	11.00	5.50	72.00		101.493	38.00	9.50	200.00	13
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower	OVP BOX	15.00	10.00	28.00			40.00			15
Ant on Tower										
Sector C										
Ant_{1a}	9442	12.00	8.00	25.00		103.452	14.50	-7.00		14
Ant_{1b}	BXA-17106312CF	6.00	4.00	72.00		101.41	39.00	8.00	320.00	14
Ant_{1c}										
Ant_{2a}	700 RRH	17.00	10.00	16.00		102.743	23.00	-6.25		14
Ant_{2b}	BXA-70063-6CF	11.00	5.50	72.00		101.493	38.00	9.50	320.00	14
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	BXA-17106312CF	6.00	4.00	72.00		101.41	39.00	8.00	320.00	117
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	BXA-70063-6CF	11.00	5.50	72.00		101.493	38.00	9.50	320.00	117
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower	OVP BOX	15.00	10.00	28.00			40.00			16
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	(2) 1-1/4" HYBRID CABLES.	7 (GRD)
3	TOWER TAG. #09-01086, HIEGHT: 119/150FT MONO. NAME: NOWRICH, CT	2
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.

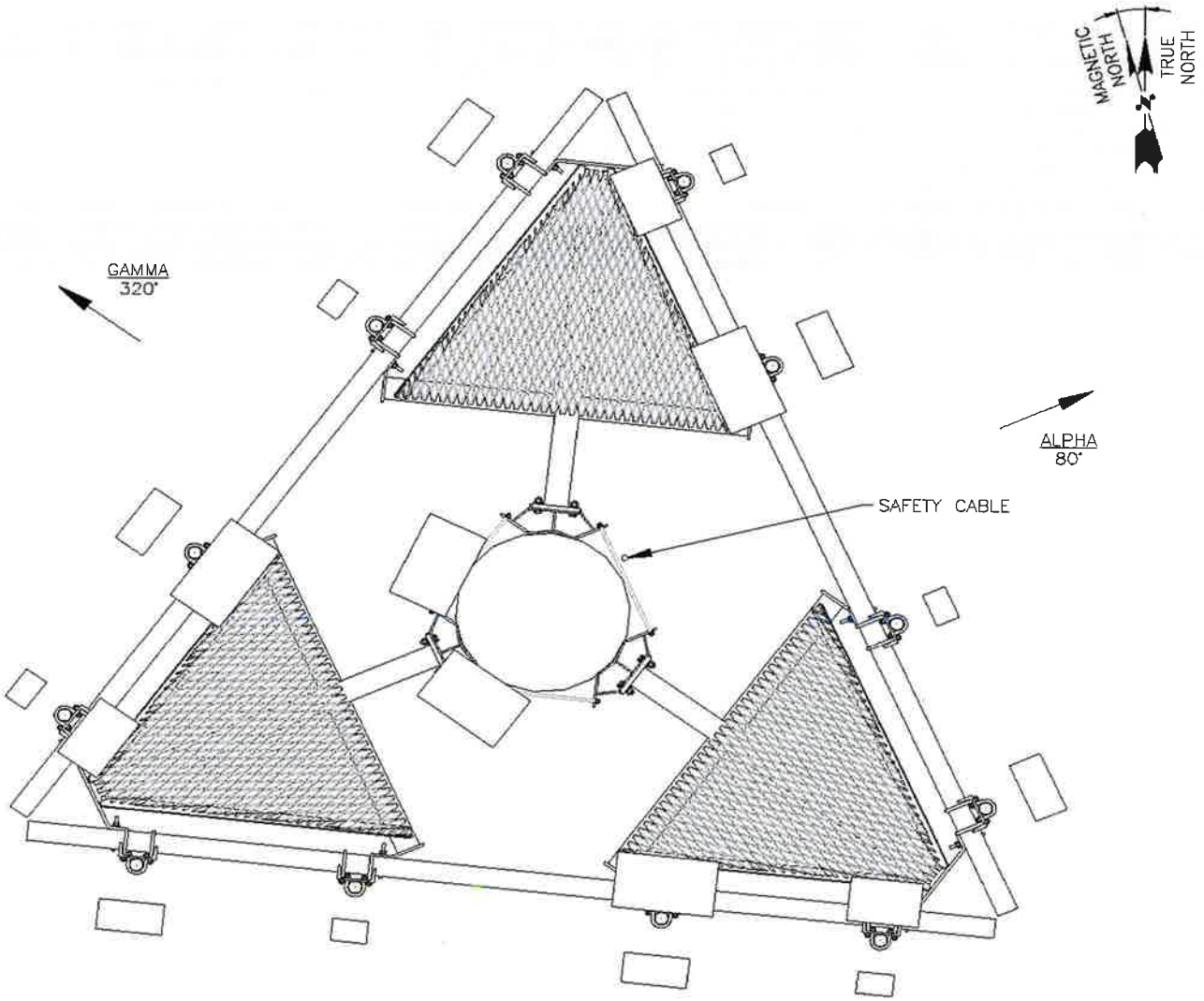
Standard Conditions
1. Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping are to be reported in this mapping. However, this mount mapping is not a condition assessment of the mount.

V3.0 Updated on 6-31-2020

Antenna Mount Mapping Form (PATENT PENDING)

FCC #	1267553		
Tower Owner:	SBA TOWERS	Mapping Date:	02.10.21
Site Name:	NORWICH NE CT	Tower Type:	Monopole
Site Number or ID:	486278	Tower Height (Ft.):	150
Mapping Contractor:	HUDSON DESIGN GROUP, LLC.	Mount Elevation (Ft.):	100.16

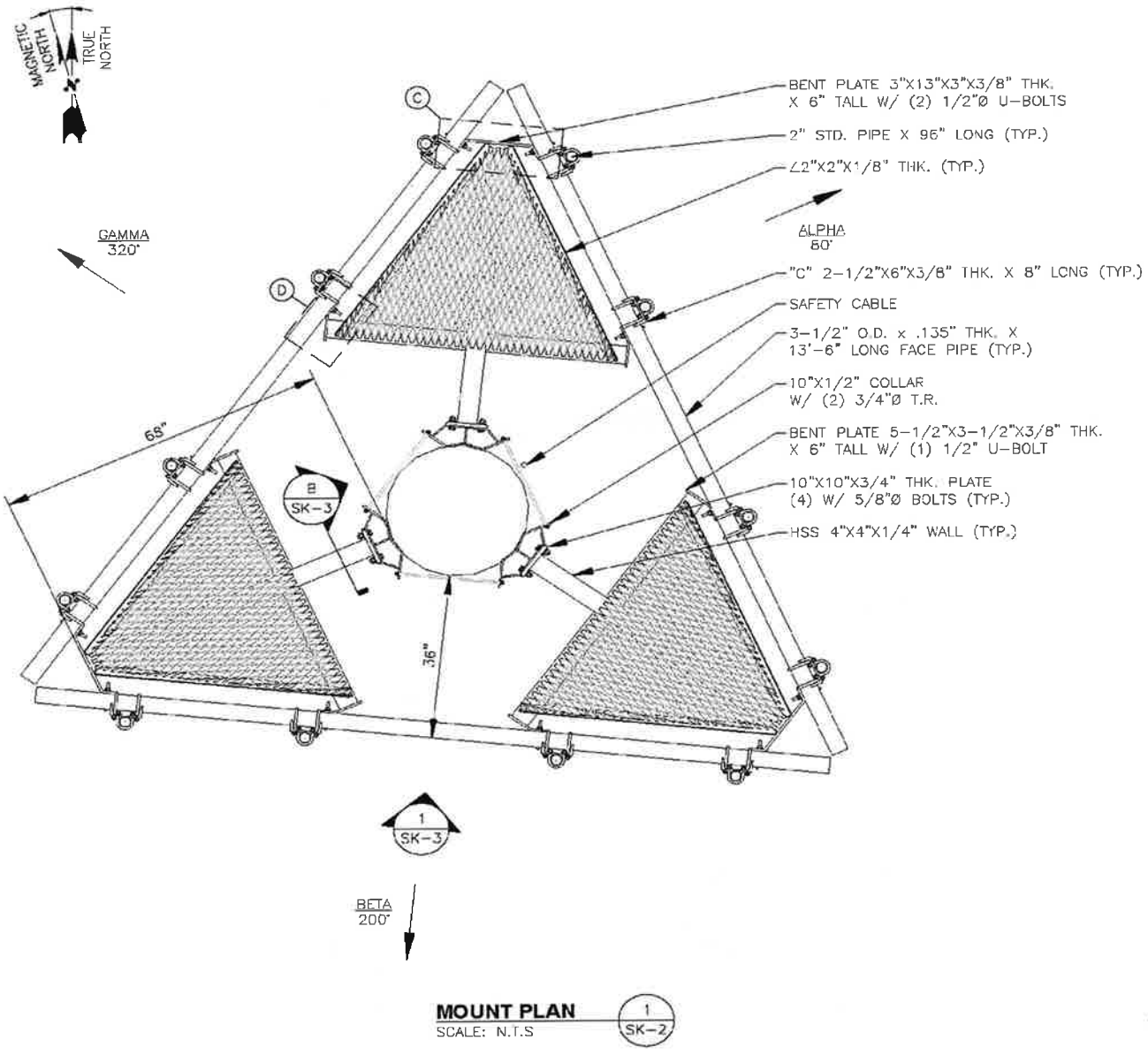
Please Insert Sketches of the Antenna Mount



ANTENNA PLAN (1 / SK−1)

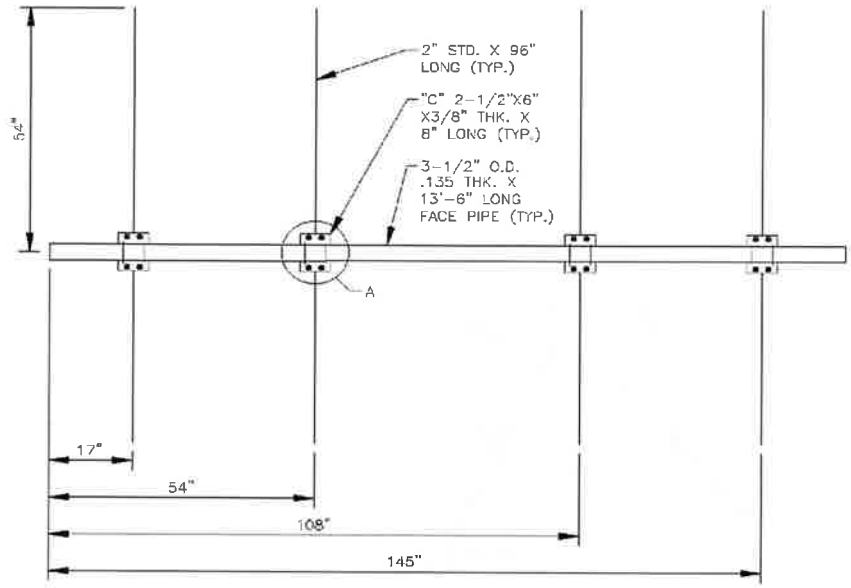
SCALE: N.T.S

Please Insert Sketches of the Antenna Mount, cont'd

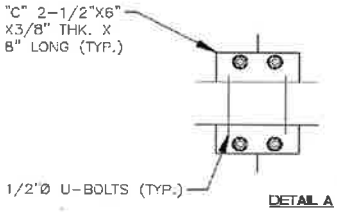


MOUNT PLAN 1 SK-2
SCALE: N.T.S

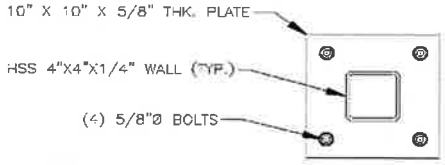
Please Insert Sketches of the Antenna Mount, cont'd



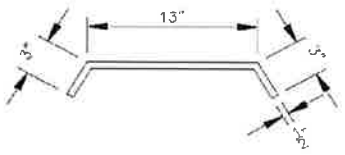
FACE ELEVATION (1 / SK-3)
SCALE: N.T.S



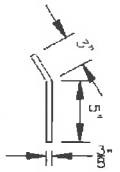
DETAIL A



DETAIL B

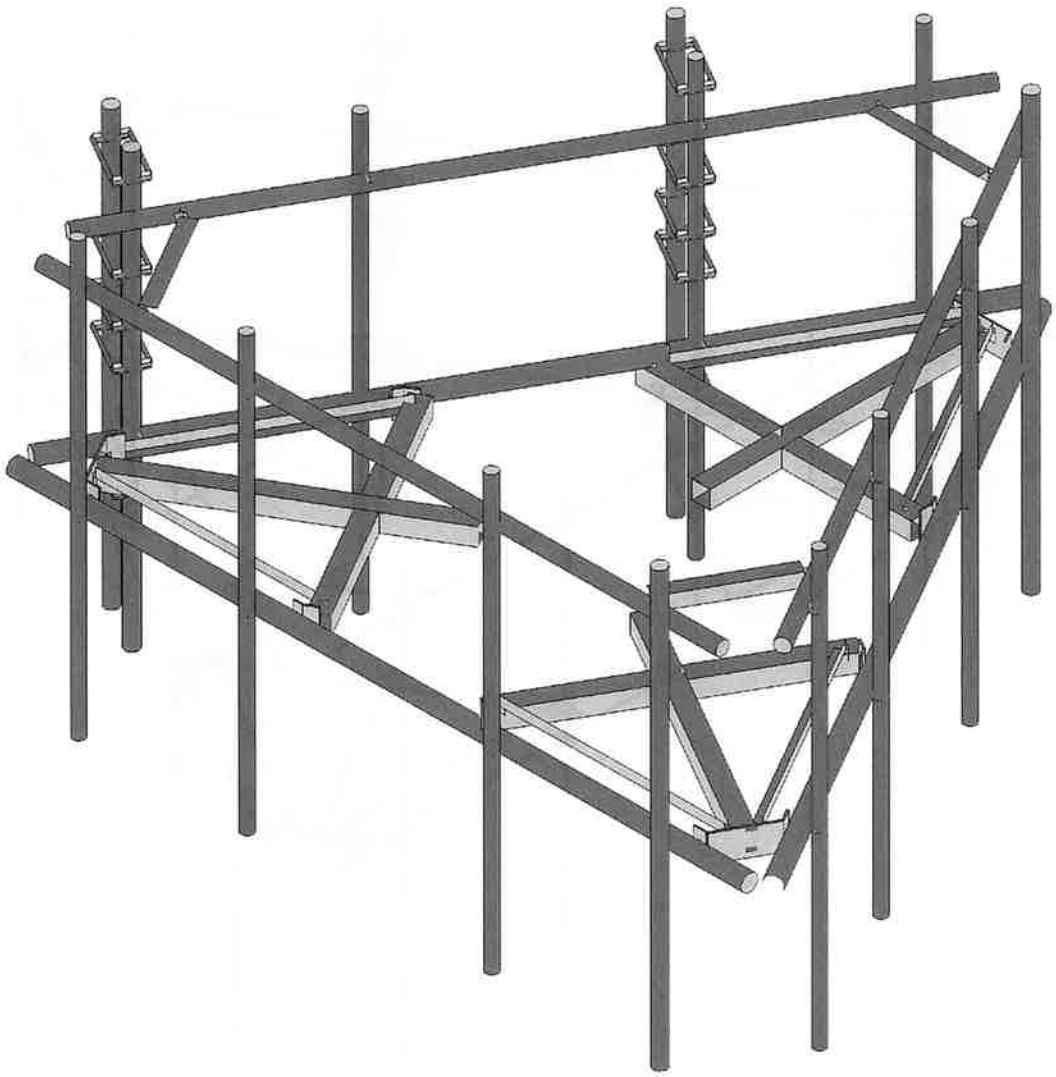


DETAIL C

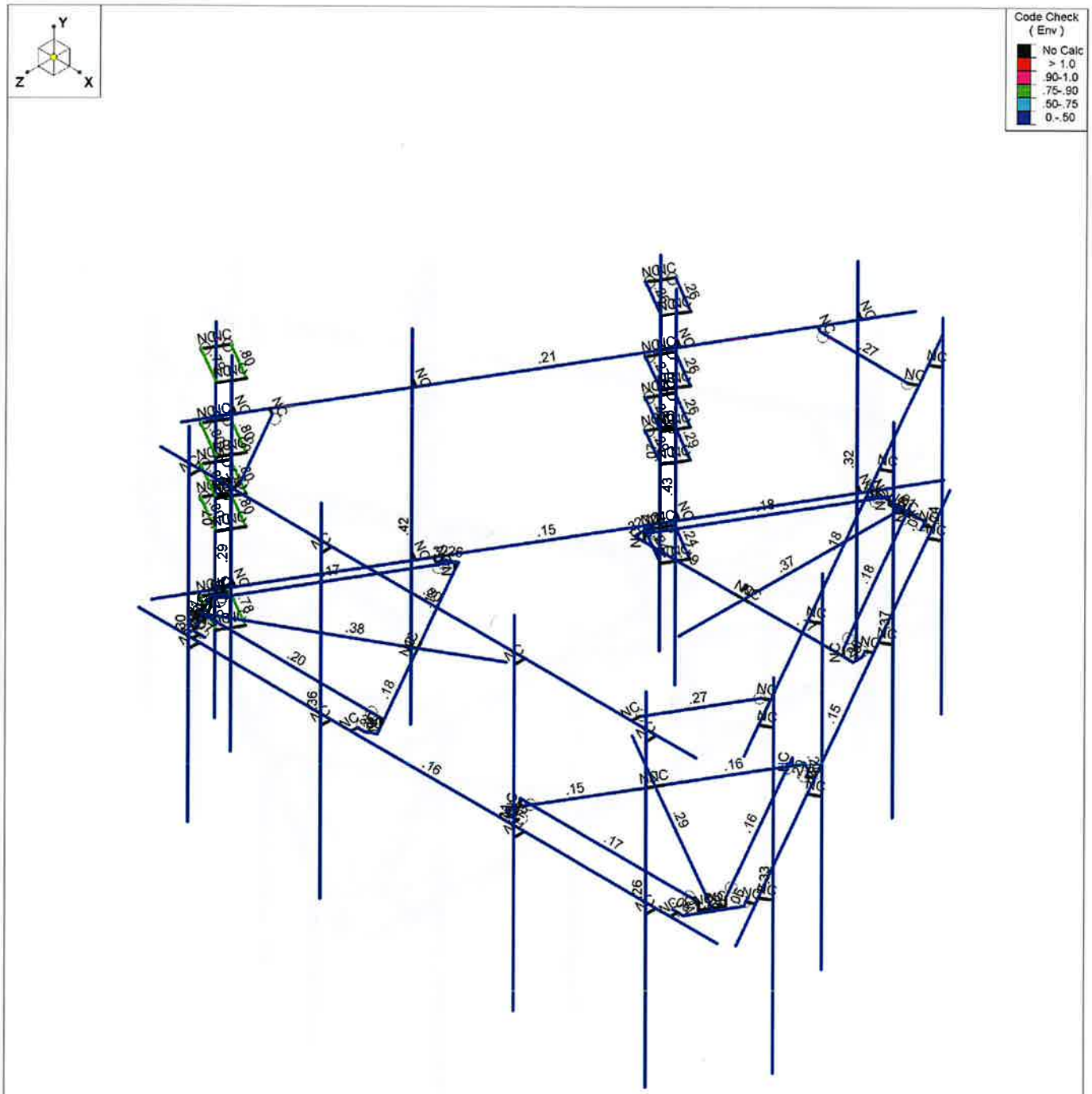


DETAIL D

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

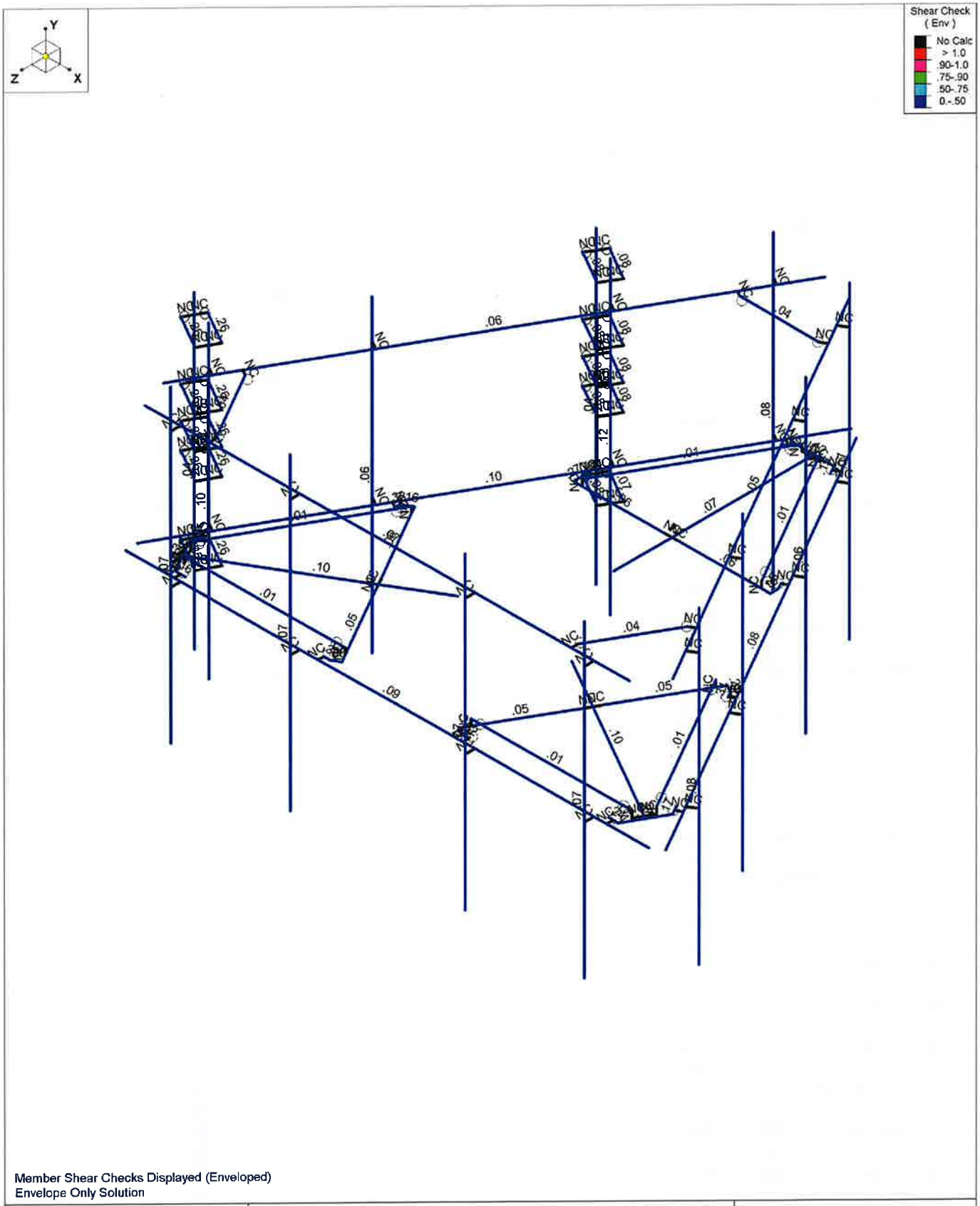


Colliers Engineering & Des...	5000244310-VZW_MT_LO_H	SK - 1
		Feb 16, 2024 at 2:39 PM
		5000244310-VZW_MT_LO_H.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & Des..	5000244310-VZW_MT_LO_H	SK - 2
		Feb 16, 2024 at 2:40 PM
		5000244310-VZW_MT_LO_H.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & Des...	5000244310-VZW_MT_LO_H	SK - 3
		Feb 16, 2024 at 2:40 PM
		5000244310-VZW_MT_LO_H.r3d

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Antenna D	None					90			
2	Antenna Di	None					90			
3	Antenna Wo (0 Deg)	None					90			
4	Antenna Wo (30 Deg)	None					90			
5	Antenna Wo (60 Deg)	None					90			
6	Antenna Wo (90 Deg)	None					90			
7	Antenna Wo (120 Deg)	None					90			
8	Antenna Wo (150 Deg)	None					90			
9	Antenna Wo (180 Deg)	None					90			
10	Antenna Wo (210 Deg)	None					90			
11	Antenna Wo (240 Deg)	None					90			
12	Antenna Wo (270 Deg)	None					90			
13	Antenna Wo (300 Deg)	None					90			
14	Antenna Wo (330 Deg)	None					90			
15	Antenna Wi (0 Deg)	None					90			
16	Antenna Wi (30 Deg)	None					90			
17	Antenna Wi (60 Deg)	None					90			
18	Antenna Wi (90 Deg)	None					90			
19	Antenna Wi (120 Deg)	None					90			
20	Antenna Wi (150 Deg)	None					90			
21	Antenna Wi (180 Deg)	None					90			
22	Antenna Wi (210 Deg)	None					90			
23	Antenna Wi (240 Deg)	None					90			
24	Antenna Wi (270 Deg)	None					90			
25	Antenna Wi (300 Deg)	None					90			
26	Antenna Wi (330 Deg)	None					90			
27	Antenna Wm (0 Deg)	None					90			
28	Antenna Wm (30 Deg)	None					90			
29	Antenna Wm (60 Deg)	None					90			
30	Antenna Wm (90 Deg)	None					90			
31	Antenna Wm (120 De...	None					90			
32	Antenna Wm (150 De...	None					90			
33	Antenna Wm (180 De...	None					90			
34	Antenna Wm (210 De...	None					90			
35	Antenna Wm (240 De...	None					90			
36	Antenna Wm (270 De...	None					90			
37	Antenna Wm (300 De...	None					90			
38	Antenna Wm (330 De...	None					90			
39	Structure D	None		-1					3	
40	Structure Di	None						79	3	
41	Structure Wo (0 Deg)	None						158		
42	Structure Wo (30 Deg)	None						158		
43	Structure Wo (60 Deg)	None						158		
44	Structure Wo (90 Deg)	None						158		
45	Structure Wo (120 D...	None						158		
46	Structure Wo (150 D...	None						158		
47	Structure Wo (180 D...	None						158		
48	Structure Wo (210 D...	None						158		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
49	Structure Wo (240 D...	None						158		
50	Structure Wo (270 D...	None						158		
51	Structure Wo (300 D...	None						158		
52	Structure Wo (330 D...	None						158		
53	Structure Wi (0 Deg)	None						158		
54	Structure Wi (30 Deg)	None						158		
55	Structure Wi (60 Deg)	None						158		
56	Structure Wi (90 Deg)	None						158		
57	Structure Wi (120 De...	None						158		
58	Structure Wi (150 De...	None						158		
59	Structure Wi (180 De...	None						158		
60	Structure Wi (210 De...	None						158		
61	Structure Wi (240 De...	None						158		
62	Structure Wi (270 De...	None						158		
63	Structure Wi (300 De...	None						158		
64	Structure Wi (330 De...	None						158		
65	Structure Wm (0 Deg)	None						158		
66	Structure Wm (30 D...	None						158		
67	Structure Wm (60 D...	None						158		
68	Structure Wm (90 D...	None						158		
69	Structure Wm (120 ...	None						158		
70	Structure Wm (150 ...	None						158		
71	Structure Wm (180 ...	None						158		
72	Structure Wm (210 ...	None						158		
73	Structure Wm (240 ...	None						158		
74	Structure Wm (270 ...	None						158		
75	Structure Wm (300 ...	None						158		
76	Structure Wm (330 ...	None						158		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					90			
82	Antenna Eh (0 Deg)	None					60			
83	Antenna Eh (90 Deg)	None					60			
84	Structure Ev	ELY		-.041					3	
85	Structure Eh (0 Deg)	ELZ			-.103				3	
86	Structure Eh (90 Deg)	ELX	.103						3	
87	BLC 39 Transient Are...	None						30		
88	BLC 40 Transient Are...	None						30		
89	BLC 84 Transient Are...	None						30		
90	BLC 85 Transient Are...	None						30		
91	BLC 86 Transient Are...	None						30		

Load Combinations

	Description	So...	PDelta	S...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
1	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	3	1	41	1												
2	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	4	1	42	1												
3	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	5	1	43	1												
4	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	6	1	44	1												

Load Combinations (Continued)

	Description	So...	PDelta	S...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
5	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	7	1	45	1												
6	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	8	1	46	1												
7	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	9	1	47	1												
8	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	10	1	48	1												
9	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	11	1	49	1												
10	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	12	1	50	1												
11	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	13	1	51	1												
12	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	14	1	52	1												
13	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1	53	1								
14	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1								
15	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1								
16	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1								
17	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1								
18	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1								
19	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1								
20	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1								
21	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1								
22	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1								
23	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1								
24	1.2D + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1								
25	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1										
26	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1										
27	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1										
28	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1										
29	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1										
30	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1										
31	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1										
32	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1										
33	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1										
34	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1										
35	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1										
36	1.2D + 1....	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1										
37	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1										
38	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1										
39	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1										
40	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1										
41	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1										
42	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1										
43	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1										
44	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1										
45	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1										
46	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1										
47	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1										
48	1.2D + 1....	Yes	Y		1	1.2	39	1.2	78	1.5	38	1	76	1										
49	1.2D + 1....	Yes	Y		1	1.2	39	1.2	79	1.5														
50	1.2D + 1....	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....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	1	83		ELZ	1	ELX					
53	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.866	83	.5	ELZ	.866	ELX	.5				
54	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.5	83	.866	ELZ	.5	ELX	.866				
55	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82		83	1	ELZ		ELX	1				
56	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.5	83	.866	ELZ	-.5	ELX	.866				

Load Combinations (Continued)

	Description	So...	PDelta	S...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
57	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.866	83	.5	ELZ	-.866	ELX	.5				
58	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-1	83		ELZ	-1	ELX					
59	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.866	83	-.5	ELZ	-.866	ELX	-.5				
60	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.5	83	-.866	ELZ	-.5	ELX	-.866				
61	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82		83	-1	ELZ		ELX	-1				
62	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.5	83	-.866	ELZ	.5	ELX	-.866				
63	1.2D + 1....	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.866	83	-.5	ELZ	.866	ELX	-.5				
64	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	1	83		ELZ	1	ELX					
65	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	.5	ELZ	.866	ELX	.5				
66	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	.866	ELZ	.5	ELX	.866				
67	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	1	ELZ		ELX	1				
68	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	.866	ELZ	-.5	ELX	.866				
69	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.866	83	.5	ELZ	-.866	ELX	.5				
70	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-1	83		ELZ	-1	ELX					
71	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.866	83	-.5	ELZ	-.866	ELX	-.5				
72	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	-.866	ELZ	-.5	ELX	-.866				
73	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	-1	ELZ		ELX	-1				
74	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	-.866	ELZ	.5	ELX	-.866				
75	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	-.5	ELZ	.866	ELX	-.5				

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Face Horizo...	PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	Standoff Hor...	HSS4X4X4	Beam	SquareTube	A500 Gr.B ...	Typical	3.37	7.8	7.8	12.8
3	Corner Plate	PL3/8X6	Beam	BAR	A36 Gr.36	Typical	2.25	.026	6.75	.101
4	Platform Cro...	HSS4X4X4	Beam	SquareTube	A500 Gr.B ...	Typical	3.37	7.8	7.8	12.8
5	Grating Sup...	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical	.722	.271	.271	.009
6	Mount Pipe	PIPE_2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
7	Cross Arm ...	PL3/8X6	Beam	RECT	A36 Gr.36	Typical	2.25	.026	6.75	.101
8	Mod Suppor...	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
9	Mod Mount ...	PIPE_2.5	Column	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
10	Mod Thread...	SR_0.625_...	Beam	Pipe	A36 Gr.36	Typical	.307	.007	.007	.015
11	Mod Suppor...	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3
8	Q235	29000	11154	.3	.65	.49	35	1.5	58	1.2

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
2	M4	N3	N27			Standoff Horiz...	Beam	SquareTube	A500 Gr.B...	Typical
3	M10	N101	N103A			Platform Cross...	Beam	SquareTube	A500 Gr.B...	Typical
4	M19	N8	N9			RIGID	None	None	RIGID	Typical
5	MP1A	N23	N22			Mod Mount Pipe	Column	Pipe	A53 Gr.B	Typical
6	M43	N102	N5			Platform Cross...	Beam	SquareTube	A500 Gr.B...	Typical
7	M46	N86C	N87A			Corner Plate	Beam	BAR	A36 Gr.36	Typical
8	M35A	N7	N30			RIGID	None	None	RIGID	Typical
9	M36A	N6	N29			RIGID	None	None	RIGID	Typical
10	M51B	N87C	N6			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
11	M52B	N7	N87B			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
12	M52	N87B	N88C			RIGID	None	None	RIGID	Typical
13	M58	N102	N24			RIGID	None	None	RIGID	Typical
14	M59	N24	N103A			RIGID	None	None	RIGID	Typical
15	M76	N101	N105			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
16	M77	N105	N131			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
17	M79	N131	N86A			RIGID	None	None	RIGID	Typical
18	M84	N5	N104A			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
19	M85	N104A	N144			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
20	M88	N144	N86B			RIGID	None	None	RIGID	Typical
21	M50	N88C	N88A			RIGID	None	None	RIGID	Typical
22	M51	N88A	N86G			RIGID	None	None	RIGID	Typical
23	M51A	N87C	N86G			RIGID	None	None	RIGID	Typical
24	M52A	N87D	N92			Standoff Horiz...	Beam	SquareTube	A500 Gr.B...	Typical
25	M53	N95	N97			Platform Cross...	Beam	SquareTube	A500 Gr.B...	Typical
26	M54	N96	N88B			Platform Cross...	Beam	SquareTube	A500 Gr.B...	Typical
27	M55	N106	N107			Corner Plate	Beam	BAR	A36 Gr.36	Typical
28	M56	N90	N94			RIGID	None	None	RIGID	Typical
29	M57	N89	N93			RIGID	None	None	RIGID	Typical
30	M58A	N111	N89			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
31	M59A	N90	N113			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
32	M60	N113	N114			RIGID	None	None	RIGID	Typical
33	M61	N96	N91			RIGID	None	None	RIGID	Typical
34	M62	N91	N97			RIGID	None	None	RIGID	Typical
35	M63	N95	N99			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
36	M64	N99	N100			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
37	M65	N100	N104			RIGID	None	None	RIGID	Typical
38	M68	N88B	N98			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
39	M69	N98	N102A			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
40	M70	N102A	N105A			RIGID	None	None	RIGID	Typical
41	M73	N114	N110			RIGID	None	None	RIGID	Typical
42	M74	N110	N112			RIGID	None	None	RIGID	Typical
43	M75	N111	N112			RIGID	None	None	RIGID	Typical
44	M76A	N115	N120			Standoff Horiz...	Beam	SquareTube	A500 Gr.B...	Typical
45	M77A	N123	N125			Platform Cross...	Beam	SquareTube	A500 Gr.B...	Typical
46	M78	N124	N116			Platform Cross...	Beam	SquareTube	A500 Gr.B...	Typical
47	M79A	N134	N135A			Corner Plate	Beam	BAR	A36 Gr.36	Typical
48	M80A	N118	N122			RIGID	None	None	RIGID	Typical
49	M81	N117	N121			RIGID	None	None	RIGID	Typical
50	M82	N139	N117			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
51	M83A	N118	N141			Grating Support	Beam	Single Angle	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
52	M84A	N141	N142			RIGID	None	None	RIGID	Typical
53	M85A	N124	N119			RIGID	None	None	RIGID	Typical
54	M86	N119	N125			RIGID	None	None	RIGID	Typical
55	M87	N123	N127			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
56	M88A	N127	N128			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
57	M89	N128	N132			RIGID	None	None	RIGID	Typical
58	M90	N135A	N106A			Corner Plate	Beam	BAR	A36 Gr.36	Typical
59	M91A	N129	N136			RIGID	None	None	RIGID	Typical
60	M92A	N116	N126			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
61	M93	N126	N130			Cross Arm Plate	Beam	RECT	A36 Gr.36	Typical
62	M94	N130	N133			RIGID	None	None	RIGID	Typical
63	M97	N142	N138			RIGID	None	None	RIGID	Typical
64	M98	N138	N140			RIGID	None	None	RIGID	Typical
65	M99	N139	N140			RIGID	None	None	RIGID	Typical
66	M81A	N106	N110A			Corner Plate	Beam	BAR	A36 Gr.36	Typical
67	M82A	N107A	N109			RIGID	None	None	RIGID	Typical
68	M83	N87A	N114A			Corner Plate	Beam	BAR	A36 Gr.36	Typical
69	M84B	N111A	N113A			RIGID	None	None	RIGID	Typical
70	M85B	N134	N117A			Corner Plate	Beam	BAR	A36 Gr.36	Typical
71	M86A	N115A	N116A			RIGID	None	None	RIGID	Typical
72	M87A	N107	N122A			Corner Plate	Beam	BAR	A36 Gr.36	Typical
73	M88B	N119A	N121A			RIGID	None	None	RIGID	Typical
74	M89A	N86C	N125A			Corner Plate	Beam	BAR	A36 Gr.36	Typical
75	M90A	N123A	N124A			RIGID	None	None	RIGID	Typical
76	M78B	N102C	N103B			RIGID	None	None	RIGID	Typical
77	MP2A	N105C	N104C			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
78	M80	N106B	N107B			RIGID	None	None	RIGID	Typical
79	MP3A	N109A	N108			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
80	M82B	N110B	N111B			RIGID	None	None	RIGID	Typical
81	MP4A	N113B	N112A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
82	M84C	N114B	N115B			RIGID	None	None	RIGID	Typical
83	MP1C	N117B	N116B			Mod Mount Pipe	Column	Pipe	A53 Gr.B	Typical
84	M86B	N118A	N119B			RIGID	None	None	RIGID	Typical
85	MP2C	N121B	N120A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
86	M88C	N122B	N123B			RIGID	None	None	RIGID	Typical
87	MP3C	N125B	N124B			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
88	M90B	N126A	N127A			RIGID	None	None	RIGID	Typical
89	MP4C	N129A	N128A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
90	M92	N130A	N131A			RIGID	None	None	RIGID	Typical
91	MP1	N133A	N132A			Mod Mount Pipe	Column	Pipe	A53 Gr.B	Typical
92	M94A	N134A	N135			RIGID	None	None	RIGID	Typical
93	MP2B	N137	N136A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
94	M96	N138A	N139A			RIGID	None	None	RIGID	Typical
95	MP3	N141A	N140A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
96	M98A	N142A	N143			RIGID	None	None	RIGID	Typical
97	MP4B	N145	N144A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
98	M98B	N142B	N143A			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
99	M99A	N144B	N145A			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
100	M100	N146	N147			RIGID	None	None	RIGID	Typical
101	M101	N148	N149			RIGID	None	None	RIGID	Typical
102	M102	N150	N151			RIGID	None	None	RIGID	Typical
103	M103	N152	N153			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
104	M105	N156	N157			RIGID	None	None	RIGID	Typical
105	M106	N158	N159			RIGID	None	None	RIGID	Typical
106	M107	N160	N161			RIGID	None	None	RIGID	Typical
107	M108	N162	N163			RIGID	None	None	RIGID	Typical
108	M109	N174	N175			Mod Support ...	Beam	Pipe	A53 Gr.B	Typical
109	M110	N166	N167			RIGID	None	None	RIGID	Typical
110	M111	N168	N169			RIGID	None	None	RIGID	Typical
111	M112	N170	N171			RIGID	None	None	RIGID	Typical
112	M113	N172	N173			RIGID	None	None	RIGID	Typical
113	M113A	N174A	N175A			Mod Support ...	Beam	Pipe	A53 Gr.B	Typical
114	M114	N176	N177			Mod Support ...	Beam	Pipe	A53 Gr.B	Typical
115	M115	N178	N179			RIGID	None	None	RIGID	Typical
116	M116	N180	N181			RIGID	None	None	RIGID	Typical
117	M117	N182	N183			RIGID	None	None	RIGID	Typical
118	M118	N184	N185			RIGID	None	None	RIGID	Typical
119	M119	N186	N187			RIGID	None	None	RIGID	Typical
120	M120	N188	N189			RIGID	None	None	RIGID	Typical
121	M121	N179	N185		180	Mod Support ...	Beam	Single Angle	A36 Gr.36	Typical
122	M122	N183	N189		180	Mod Support ...	Beam	Single Angle	A36 Gr.36	Typical
123	M123	N187	N181		180	Mod Support ...	Beam	Single Angle	A36 Gr.36	Typical
124	MP1B	N225A	N224A			Mod Mount Pipe	Column	Pipe	A53 Gr.B	Typical
125	MP3B	N239A	N238A			Mod Mount Pipe	Column	Pipe	A53 Gr.B	Typical
126	M126	N232A	N214			RIGID	None	None	RIGID	Typical
127	M127	N232A	N213			RIGID	None	None	RIGID	Typical
128	M128	N237A	N208			RIGID	None	None	RIGID	Typical
129	M129	N237A	N207			RIGID	None	None	RIGID	Typical
130	M130	N214	N208			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
131	M131	N213	N207			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
132	M132	N240A	N211			RIGID	None	None	RIGID	Typical
133	M133	N240A	N210			RIGID	None	None	RIGID	Typical
134	M134	N245A	N213A			RIGID	None	None	RIGID	Typical
135	M135	N245A	N212			RIGID	None	None	RIGID	Typical
136	M136	N211	N213A			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
137	M137	N210	N212			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
138	M138	N218A	N217			RIGID	None	None	RIGID	Typical
139	M139	N218A	N216			RIGID	None	None	RIGID	Typical
140	M140	N223A	N219			RIGID	None	None	RIGID	Typical
141	M141	N223A	N218			RIGID	None	None	RIGID	Typical
142	M142	N217	N219			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
143	M143	N216	N218			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
144	M144	N226A	N221			RIGID	None	None	RIGID	Typical
145	M145	N226A	N220			RIGID	None	None	RIGID	Typical
146	M146	N231A	N223			RIGID	None	None	RIGID	Typical
147	M147	N231A	N222			RIGID	None	None	RIGID	Typical
148	M148	N221	N223			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
149	M149	N220	N222			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
150	M150	N224	N227			RIGID	None	None	RIGID	Typical
151	M151	N224	N226			RIGID	None	None	RIGID	Typical
152	M152	N225	N229			RIGID	None	None	RIGID	Typical
153	M153	N225	N228			RIGID	None	None	RIGID	Typical
154	M154	N227	N229			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
155	M155	N226	N228			Mod Threaded ...	Beam	Pipe	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
156	M156	N220B	N231			RIGID	None	None	RIGID	Typical
157	M157	N220B	N230			RIGID	None	None	RIGID	Typical
158	M158	N223B	N233			RIGID	None	None	RIGID	Typical
159	M159	N223B	N232			RIGID	None	None	RIGID	Typical
160	M160	N231	N233			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
161	M161	N230	N232			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
162	M162	N238	N241			RIGID	None	None	RIGID	Typical
163	M163	N238	N240			RIGID	None	None	RIGID	Typical
164	M164	N239	N243			RIGID	None	None	RIGID	Typical
165	M165	N239	N242			RIGID	None	None	RIGID	Typical
166	M166	N241	N243			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
167	M167	N240	N242			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
168	M168	N234	N245			RIGID	None	None	RIGID	Typical
169	M169	N234	N244			RIGID	None	None	RIGID	Typical
170	M170	N237	N247			RIGID	None	None	RIGID	Typical
171	M171	N237	N246			RIGID	None	None	RIGID	Typical
172	M172	N245	N247			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
173	M173	N244	N246			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
174	M174	N252	N255			RIGID	None	None	RIGID	Typical
175	M175	N252	N254			RIGID	None	None	RIGID	Typical
176	M176	N253	N257			RIGID	None	None	RIGID	Typical
177	M177	N253	N256			RIGID	None	None	RIGID	Typical
178	M178	N255	N257			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
179	M179	N254	N256			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
180	M180	N248	N259			RIGID	None	None	RIGID	Typical
181	M181	N248	N258			RIGID	None	None	RIGID	Typical
182	M182	N251	N261			RIGID	None	None	RIGID	Typical
183	M183	N251	N260			RIGID	None	None	RIGID	Typical
184	M184	N259	N261			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical
185	M185	N258	N260			Mod Threaded ...	Beam	Pipe	A36 Gr.36	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1						Yes	Default			None
2	M4						Yes				None
3	M10						Yes	Default			None
4	M19						Yes	** NA **			None
5	MP1A						Yes	** NA **			None
6	M43						Yes	Default			None
7	M46						Yes	Default			None
8	M35A						Yes	** NA **			None
9	M36A						Yes	** NA **			None
10	M51B	OOOOOX	OOOOOX				Yes	Default			None
11	M52B	OOOOOX	OOOOOX				Yes	Default			None
12	M52						Yes	** NA **			None
13	M58						Yes	** NA **			None
14	M59						Yes	** NA **			None
15	M76						Yes				None
16	M77						Yes				None
17	M79		BenPIN				Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
18	M84						Yes				None
19	M85						Yes				None
20	M88		BenPIN				Yes	** NA **			None
21	M50						Yes	** NA **			None
22	M51						Yes	** NA **			None
23	M51A						Yes	** NA **			None
24	M52A						Yes				None
25	M53						Yes	Default			None
26	M54						Yes	Default			None
27	M55						Yes	Default			None
28	M56						Yes	** NA **			None
29	M57						Yes	** NA **			None
30	M58A	OOOOOX	OOOOOX				Yes	Default			None
31	M59A	OOOOOX	OOOOOX				Yes	Default			None
32	M60						Yes	** NA **			None
33	M61						Yes	** NA **			None
34	M62						Yes	** NA **			None
35	M63						Yes				None
36	M64						Yes				None
37	M65		BenPIN				Yes	** NA **			None
38	M68						Yes				None
39	M69						Yes				None
40	M70		BenPIN				Yes	** NA **			None
41	M73						Yes	** NA **			None
42	M74						Yes	** NA **			None
43	M75						Yes	** NA **			None
44	M76A						Yes				None
45	M77A						Yes	Default			None
46	M78						Yes	Default			None
47	M79A						Yes	Default			None
48	M80A						Yes	** NA **			None
49	M81						Yes	** NA **			None
50	M82	OOOOOX	OOOOOX				Yes	Default			None
51	M83A	OOOOOX	OOOOOX				Yes	Default			None
52	M84A						Yes	** NA **			None
53	M85A						Yes	** NA **			None
54	M86						Yes	** NA **			None
55	M87						Yes				None
56	M88A						Yes				None
57	M89		BenPIN				Yes	** NA **			None
58	M90						Yes	Default			None
59	M91A		BenPIN				Yes	** NA **			None
60	M92A						Yes				None
61	M93						Yes				None
62	M94		BenPIN				Yes	** NA **			None
63	M97						Yes	** NA **			None
64	M98						Yes	** NA **			None
65	M99						Yes	** NA **			None
66	M81A						Yes	Default			None
67	M82A		BenPIN				Yes	** NA **			None
68	M83						Yes	Default			None
69	M84B		BenPIN				Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
70	M85B						Yes	Default			None
71	M86A		BenPIN				Yes	** NA **			None
72	M87A						Yes	Default			None
73	M88B		BenPIN				Yes	** NA **			None
74	M89A						Yes	Default			None
75	M90A		BenPIN				Yes	** NA **			None
76	M78B						Yes	** NA **			None
77	MP2A						Yes	** NA **			None
78	M80						Yes	** NA **			None
79	MP3A						Yes	** NA **			None
80	M82B						Yes	** NA **			None
81	MP4A						Yes	** NA **			None
82	M84C						Yes	** NA **			None
83	MP1C						Yes	** NA **			None
84	M86B						Yes	** NA **			None
85	MP2C						Yes	** NA **			None
86	M88C						Yes	** NA **			None
87	MP3C						Yes	** NA **			None
88	M90B						Yes	** NA **			None
89	MP4C						Yes	** NA **			None
90	M92						Yes	** NA **			None
91	MP1						Yes	** NA **			None
92	M94A						Yes	** NA **			None
93	MP2B						Yes	** NA **			None
94	M96						Yes	** NA **			None
95	MP3						Yes	** NA **			None
96	M98A						Yes	** NA **			None
97	MP4B						Yes	** NA **			None
98	M98B						Yes	Default			None
99	M99A						Yes	Default			None
100	M100						Yes	** NA **			None
101	M101						Yes	** NA **			None
102	M102						Yes	** NA **			None
103	M103						Yes	** NA **			None
104	M105						Yes	** NA **			None
105	M106						Yes	** NA **			None
106	M107						Yes	** NA **			None
107	M108						Yes	** NA **			None
108	M109						Yes	Default			None
109	M110						Yes	** NA **			None
110	M111						Yes	** NA **			None
111	M112						Yes	** NA **			None
112	M113						Yes	** NA **			None
113	M113A						Yes	Default			None
114	M114						Yes	Default			None
115	M115	OOOOOX					Yes	** NA **			None
116	M116	OOOOOX					Yes	** NA **			None
117	M117	OOOOOX					Yes	** NA **			None
118	M118	OOOOOX					Yes	** NA **			None
119	M119	OOOOOX					Yes	** NA **			None
120	M120	OOOOOX					Yes	** NA **			None
121	M121						Yes	Default			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...
122	M122						Yes	Default			None
123	M123						Yes	Default			None
124	MP1B						Yes	** NA **			None
125	MP3B						Yes	** NA **			None
126	M126						Yes	** NA **			None
127	M127						Yes	** NA **			None
128	M128	OOOXOX					Yes	** NA **			None
129	M129	OOOXOX					Yes	** NA **			None
130	M130						Yes				None
131	M131						Yes				None
132	M132						Yes	** NA **			None
133	M133						Yes	** NA **			None
134	M134	OOOXOX					Yes	** NA **			None
135	M135	OOOXOX					Yes	** NA **			None
136	M136						Yes				None
137	M137						Yes				None
138	M138						Yes	** NA **			None
139	M139						Yes	** NA **			None
140	M140	OOOXOX					Yes	** NA **			None
141	M141	OOOXOX					Yes	** NA **			None
142	M142						Yes	Default			None
143	M143						Yes				None
144	M144						Yes	** NA **			None
145	M145						Yes	** NA **			None
146	M146	OOOXOX					Yes	** NA **			None
147	M147	OOOXOX					Yes	** NA **			None
148	M148						Yes				None
149	M149						Yes				None
150	M150						Yes	** NA **			None
151	M151						Yes	** NA **			None
152	M152	OOOXOX					Yes	** NA **			None
153	M153	OOOXOX					Yes	** NA **			None
154	M154						Yes				None
155	M155						Yes				None
156	M156						Yes	** NA **			None
157	M157						Yes	** NA **			None
158	M158	OOOXOX					Yes	** NA **			None
159	M159	OOOXOX					Yes	** NA **			None
160	M160						Yes				None
161	M161						Yes				None
162	M162						Yes	** NA **			None
163	M163						Yes	** NA **			None
164	M164	OOOXOX					Yes	** NA **			None
165	M165	OOOXOX					Yes	** NA **			None
166	M166						Yes				None
167	M167						Yes				None
168	M168						Yes	** NA **			None
169	M169						Yes	** NA **			None
170	M170	OOOXOX					Yes	** NA **			None
171	M171	OOOXOX					Yes	** NA **			None
172	M172						Yes				None
173	M173						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...
174	M174						Yes	** NA **			None
175	M175						Yes	** NA **			None
176	M176	OOOXOX					Yes	** NA **			None
177	M177	OOOXOX					Yes	** NA **			None
178	M178						Yes				None
179	M179						Yes				None
180	M180						Yes	** NA **			None
181	M181						Yes	** NA **			None
182	M182	OOOXOX					Yes	** NA **			None
183	M183	OOOXOX					Yes	** NA **			None
184	M184						Yes				None
185	M185						Yes				None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	Y	-8.5	.5
2	MP4A	My	-.004	.5
3	MP4A	Mz	0	.5
4	MP4A	Y	-8.5	5.5
5	MP4A	My	-.004	5.5
6	MP4A	Mz	0	5.5
7	MP4B	Y	-8.5	.5
8	MP4B	My	.004	.5
9	MP4B	Mz	-.002	.5
10	MP4B	Y	-8.5	5.5
11	MP4B	My	.004	5.5
12	MP4B	Mz	-.002	5.5
13	MP4C	Y	-8.5	.5
14	MP4C	My	.002	.5
15	MP4C	Mz	.004	.5
16	MP4C	Y	-8.5	5.5
17	MP4C	My	.002	5.5
18	MP4C	Mz	.004	5.5
19	MP1A	Y	-39	.5
20	MP1A	My	-.019	.5
21	MP1A	Mz	.028	.5
22	MP1A	Y	-39	5.5
23	MP1A	My	-.019	5.5
24	MP1A	Mz	.028	5.5
25	MP1B	Y	-39	.5
26	MP1B	My	.003	.5
27	MP1B	Mz	-.034	.5
28	MP1B	Y	-39	5.5
29	MP1B	My	.003	5.5
30	MP1B	Mz	-.034	5.5
31	MP1C	Y	-39	.5
32	MP1C	My	.034	.5
33	MP1C	Mz	.003	.5
34	MP1C	Y	-39	5.5
35	MP1C	My	.034	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
36	MP1C	Mz	.003	5.5
37	MP1A	Y	-39	.5
38	MP1A	My	-.019	.5
39	MP1A	Mz	-.028	.5
40	MP1A	Y	-39	5.5
41	MP1A	My	-.019	5.5
42	MP1A	Mz	-.028	5.5
43	MP1B	Y	-39	.5
44	MP1B	My	.031	.5
45	MP1B	Mz	.014	.5
46	MP1B	Y	-39	5.5
47	MP1B	My	.031	5.5
48	MP1B	Mz	.014	5.5
49	MP1C	Y	-39	.5
50	MP1C	My	-.014	.5
51	MP1C	Mz	.031	.5
52	MP1C	Y	-39	5.5
53	MP1C	My	-.014	5.5
54	MP1C	Mz	.031	5.5
55	MP3A	Y	-28.65	2
56	MP3A	My	-.014	2
57	MP3A	Mz	0	2
58	MP3A	Y	-28.65	4
59	MP3A	My	-.014	4
60	MP3A	Mz	0	4
61	MP3B	Y	-28.65	2
62	MP3B	My	.012	2
63	MP3B	Mz	-.007	2
64	MP3B	Y	-28.65	4
65	MP3B	My	.012	4
66	MP3B	Mz	-.007	4
67	MP3C	Y	-28.65	2
68	MP3C	My	.005	2
69	MP3C	Mz	.013	2
70	MP3C	Y	-28.65	4
71	MP3C	My	.005	4
72	MP3C	Mz	.013	4
73	MP1A	Y	-74.7	2.75
74	MP1A	My	.037	2.75
75	MP1A	Mz	0	2.75
76	MP1B	Y	-74.7	2.75
77	MP1B	My	-.019	2.75
78	MP1B	Mz	.032	2.75
79	MP1C	Y	-74.7	2.75
80	MP1C	My	-.019	2.75
81	MP1C	Mz	-.032	2.75
82	MP2A	Y	-79.1	2.75
83	MP2A	My	.04	2.75
84	MP2A	Mz	0	2.75
85	MP2B	Y	-79.1	2.75
86	MP2B	My	-.02	2.75
87	MP2B	Mz	.034	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
88	MP2C	Y	-79.1	2.75
89	MP2C	My	-.02	2.75
90	MP2C	Mz	-.034	2.75

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	Y	-49.916	.5
2	MP4A	My	-.025	.5
3	MP4A	Mz	0	.5
4	MP4A	Y	-49.916	5.5
5	MP4A	My	-.025	5.5
6	MP4A	Mz	0	5.5
7	MP4B	Y	-49.916	.5
8	MP4B	My	.022	.5
9	MP4B	Mz	-.012	.5
10	MP4B	Y	-49.916	5.5
11	MP4B	My	.022	5.5
12	MP4B	Mz	-.012	5.5
13	MP4C	Y	-49.916	.5
14	MP4C	My	.012	.5
15	MP4C	Mz	.022	.5
16	MP4C	Y	-49.916	5.5
17	MP4C	My	.012	5.5
18	MP4C	Mz	.022	5.5
19	MP1A	Y	-79.629	.5
20	MP1A	My	-.04	.5
21	MP1A	Mz	.056	.5
22	MP1A	Y	-79.629	5.5
23	MP1A	My	-.04	5.5
24	MP1A	Mz	.056	5.5
25	MP1B	Y	-79.629	.5
26	MP1B	My	.006	.5
27	MP1B	Mz	-.069	.5
28	MP1B	Y	-79.629	5.5
29	MP1B	My	.006	5.5
30	MP1B	Mz	-.069	5.5
31	MP1C	Y	-79.629	.5
32	MP1C	My	.069	.5
33	MP1C	Mz	.006	.5
34	MP1C	Y	-79.629	5.5
35	MP1C	My	.069	5.5
36	MP1C	Mz	.006	5.5
37	MP1A	Y	-79.629	.5
38	MP1A	My	-.04	.5
39	MP1A	Mz	-.056	.5
40	MP1A	Y	-79.629	5.5
41	MP1A	My	-.04	5.5
42	MP1A	Mz	-.056	5.5
43	MP1B	Y	-79.629	.5
44	MP1B	My	.063	.5
45	MP1B	Mz	.029	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
46	MP1B	Y	-79.629	5.5
47	MP1B	My	.063	5.5
48	MP1B	Mz	.029	5.5
49	MP1C	Y	-79.629	.5
50	MP1C	My	-.029	.5
51	MP1C	Mz	.063	.5
52	MP1C	Y	-79.629	5.5
53	MP1C	My	-.029	5.5
54	MP1C	Mz	.063	5.5
55	MP3A	Y	-28.719	2
56	MP3A	My	-.014	2
57	MP3A	Mz	0	2
58	MP3A	Y	-28.719	4
59	MP3A	My	-.014	4
60	MP3A	Mz	0	4
61	MP3B	Y	-28.719	2
62	MP3B	My	.012	2
63	MP3B	Mz	-.007	2
64	MP3B	Y	-28.719	4
65	MP3B	My	.012	4
66	MP3B	Mz	-.007	4
67	MP3C	Y	-28.719	2
68	MP3C	My	.005	2
69	MP3C	Mz	.013	2
70	MP3C	Y	-28.719	4
71	MP3C	My	.005	4
72	MP3C	Mz	.013	4
73	MP1A	Y	-43.266	2.75
74	MP1A	My	.022	2.75
75	MP1A	Mz	0	2.75
76	MP1B	Y	-43.266	2.75
77	MP1B	My	-.011	2.75
78	MP1B	Mz	.019	2.75
79	MP1C	Y	-43.266	2.75
80	MP1C	My	-.011	2.75
81	MP1C	Mz	-.019	2.75
82	MP2A	Y	-43.725	2.75
83	MP2A	My	.022	2.75
84	MP2A	Mz	0	2.75
85	MP2B	Y	-43.725	2.75
86	MP2B	My	-.011	2.75
87	MP2B	Mz	.019	2.75
88	MP2C	Y	-43.725	2.75
89	MP2C	My	-.011	2.75
90	MP2C	Mz	-.019	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	.5
2	MP4A	Z	-162.904	.5
3	MP4A	Mx	0	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP4A	X	0	5.5
5	MP4A	Z	-162.904	5.5
6	MP4A	Mx	0	5.5
7	MP4B	X	0	.5
8	MP4B	Z	-144.548	.5
9	MP4B	Mx	.036	.5
10	MP4B	X	0	5.5
11	MP4B	Z	-144.548	5.5
12	MP4B	Mx	.036	5.5
13	MP4C	X	0	.5
14	MP4C	Z	-107.837	.5
15	MP4C	Mx	-.047	.5
16	MP4C	X	0	5.5
17	MP4C	Z	-107.837	5.5
18	MP4C	Mx	-.047	5.5
19	MP1A	X	0	.5
20	MP1A	Z	-101.788	.5
21	MP1A	Mx	-.072	.5
22	MP1A	X	0	5.5
23	MP1A	Z	-101.788	5.5
24	MP1A	Mx	-.072	5.5
25	MP1B	X	0	.5
26	MP1B	Z	-95.386	.5
27	MP1B	Mx	.082	.5
28	MP1B	X	0	5.5
29	MP1B	Z	-95.386	5.5
30	MP1B	Mx	.082	5.5
31	MP1C	X	0	.5
32	MP1C	Z	-82.582	.5
33	MP1C	Mx	-.007	.5
34	MP1C	X	0	5.5
35	MP1C	Z	-82.582	5.5
36	MP1C	Mx	-.007	5.5
37	MP1A	X	0	.5
38	MP1A	Z	-101.788	.5
39	MP1A	Mx	.072	.5
40	MP1A	X	0	5.5
41	MP1A	Z	-101.788	5.5
42	MP1A	Mx	.072	5.5
43	MP1B	X	0	.5
44	MP1B	Z	-95.386	.5
45	MP1B	Mx	-.035	.5
46	MP1B	X	0	5.5
47	MP1B	Z	-95.386	5.5
48	MP1B	Mx	-.035	5.5
49	MP1C	X	0	.5
50	MP1C	Z	-82.582	.5
51	MP1C	Mx	-.065	.5
52	MP1C	X	0	5.5
53	MP1C	Z	-82.582	5.5
54	MP1C	Mx	-.065	5.5
55	MP3A	X	0	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
56	MP3A	Z	-68.002	2
57	MP3A	Mx	0	2
58	MP3A	X	0	4
59	MP3A	Z	-68.002	4
60	MP3A	Mx	0	4
61	MP3B	X	0	2
62	MP3B	Z	-56.973	2
63	MP3B	Mx	.014	2
64	MP3B	X	0	4
65	MP3B	Z	-56.973	4
66	MP3B	Mx	.014	4
67	MP3C	X	0	2
68	MP3C	Z	-29.047	2
69	MP3C	Mx	-.014	2
70	MP3C	X	0	4
71	MP3C	Z	-29.047	4
72	MP3C	Mx	-.014	4
73	MP1A	X	0	2.75
74	MP1A	Z	-66.641	2.75
75	MP1A	Mx	0	2.75
76	MP1B	X	0	2.75
77	MP1B	Z	-50.195	2.75
78	MP1B	Mx	-.022	2.75
79	MP1C	X	0	2.75
80	MP1C	Z	-50.195	2.75
81	MP1C	Mx	.022	2.75
82	MP2A	X	0	2.75
83	MP2A	Z	-80.399	2.75
84	MP2A	Mx	0	2.75
85	MP2B	X	0	2.75
86	MP2B	Z	-61.213	2.75
87	MP2B	Mx	-.027	2.75
88	MP2C	X	0	2.75
89	MP2C	Z	-61.213	2.75
90	MP2C	Mx	.027	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	72.274	.5
2	MP4A	Z	-125.182	.5
3	MP4A	Mx	-.036	.5
4	MP4A	X	72.274	5.5
5	MP4A	Z	-125.182	5.5
6	MP4A	Mx	-.036	5.5
7	MP4B	X	53.918	.5
8	MP4B	Z	-93.389	.5
9	MP4B	Mx	.047	.5
10	MP4B	X	53.918	5.5
11	MP4B	Z	-93.389	5.5
12	MP4B	Mx	.047	5.5
13	MP4C	X	72.274	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
14	MP4C	Z	-125.182	.5
15	MP4C	Mx	-.036	.5
16	MP4C	X	72.274	5.5
17	MP4C	Z	-125.182	5.5
18	MP4C	Mx	-.036	5.5
19	MP1A	X	47.693	.5
20	MP1A	Z	-82.607	.5
21	MP1A	Mx	-.082	.5
22	MP1A	X	47.693	5.5
23	MP1A	Z	-82.607	5.5
24	MP1A	Mx	-.082	5.5
25	MP1B	X	41.291	.5
26	MP1B	Z	-71.518	.5
27	MP1B	Mx	.065	.5
28	MP1B	X	41.291	5.5
29	MP1B	Z	-71.518	5.5
30	MP1B	Mx	.065	5.5
31	MP1C	X	47.693	.5
32	MP1C	Z	-82.607	.5
33	MP1C	Mx	.035	.5
34	MP1C	X	47.693	5.5
35	MP1C	Z	-82.607	5.5
36	MP1C	Mx	.035	5.5
37	MP1A	X	47.693	.5
38	MP1A	Z	-82.607	.5
39	MP1A	Mx	.035	.5
40	MP1A	X	47.693	5.5
41	MP1A	Z	-82.607	5.5
42	MP1A	Mx	.035	5.5
43	MP1B	X	41.291	.5
44	MP1B	Z	-71.518	.5
45	MP1B	Mx	.007	.5
46	MP1B	X	41.291	5.5
47	MP1B	Z	-71.518	5.5
48	MP1B	Mx	.007	5.5
49	MP1C	X	47.693	.5
50	MP1C	Z	-82.607	.5
51	MP1C	Mx	-.082	.5
52	MP1C	X	47.693	5.5
53	MP1C	Z	-82.607	5.5
54	MP1C	Mx	-.082	5.5
55	MP3A	X	28.487	2
56	MP3A	Z	-49.34	2
57	MP3A	Mx	-.014	2
58	MP3A	X	28.487	4
59	MP3A	Z	-49.34	4
60	MP3A	Mx	-.014	4
61	MP3B	X	17.458	2
62	MP3B	Z	-30.238	2
63	MP3B	Mx	.015	2
64	MP3B	X	17.458	4
65	MP3B	Z	-30.238	4

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
66	MP3B	Mx	.015	4
67	MP3C	X	24.887	2
68	MP3C	Z	-43.106	2
69	MP3C	Mx	-.016	2
70	MP3C	X	24.887	4
71	MP3C	Z	-43.106	4
72	MP3C	Mx	-.016	4
73	MP1A	X	30.579	2.75
74	MP1A	Z	-52.965	2.75
75	MP1A	Mx	.015	2.75
76	MP1B	X	22.357	2.75
77	MP1B	Z	-38.723	2.75
78	MP1B	Mx	-.022	2.75
79	MP1C	X	30.579	2.75
80	MP1C	Z	-52.965	2.75
81	MP1C	Mx	.015	2.75
82	MP2A	X	37.002	2.75
83	MP2A	Z	-64.089	2.75
84	MP2A	Mx	.019	2.75
85	MP2B	X	27.409	2.75
86	MP2B	Z	-47.473	2.75
87	MP2B	Mx	-.027	2.75
88	MP2C	X	37.002	2.75
89	MP2C	Z	-64.089	2.75
90	MP2C	Mx	.019	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	93.389	.5
2	MP4A	Z	-53.918	.5
3	MP4A	Mx	-.047	.5
4	MP4A	X	93.389	5.5
5	MP4A	Z	-53.918	5.5
6	MP4A	Mx	-.047	5.5
7	MP4B	X	77.493	.5
8	MP4B	Z	-44.74	.5
9	MP4B	Mx	.045	.5
10	MP4B	X	77.493	5.5
11	MP4B	Z	-44.74	5.5
12	MP4B	Mx	.045	5.5
13	MP4C	X	141.079	.5
14	MP4C	Z	-81.452	.5
15	MP4C	Mx	0	.5
16	MP4C	X	141.079	5.5
17	MP4C	Z	-81.452	5.5
18	MP4C	Mx	0	5.5
19	MP1A	X	71.518	.5
20	MP1A	Z	-41.291	.5
21	MP1A	Mx	-.065	.5
22	MP1A	X	71.518	5.5
23	MP1A	Z	-41.291	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
24	MP1A	Mx	-.065	5.5
25	MP1B	X	65.973	.5
26	MP1B	Z	-38.09	.5
27	MP1B	Mx	.038	.5
28	MP1B	X	65.973	5.5
29	MP1B	Z	-38.09	5.5
30	MP1B	Mx	.038	5.5
31	MP1C	X	88.151	.5
32	MP1C	Z	-50.894	.5
33	MP1C	Mx	.072	.5
34	MP1C	X	88.151	5.5
35	MP1C	Z	-50.894	5.5
36	MP1C	Mx	.072	5.5
37	MP1A	X	71.518	.5
38	MP1A	Z	-41.291	.5
39	MP1A	Mx	-.007	.5
40	MP1A	X	71.518	5.5
41	MP1A	Z	-41.291	5.5
42	MP1A	Mx	-.007	5.5
43	MP1B	X	65.973	.5
44	MP1B	Z	-38.09	.5
45	MP1B	Mx	.038	.5
46	MP1B	X	65.973	5.5
47	MP1B	Z	-38.09	5.5
48	MP1B	Mx	.038	5.5
49	MP1C	X	88.151	.5
50	MP1C	Z	-50.894	.5
51	MP1C	Mx	-.072	.5
52	MP1C	X	88.151	5.5
53	MP1C	Z	-50.894	5.5
54	MP1C	Mx	-.072	5.5
55	MP3A	X	30.238	2
56	MP3A	Z	-17.458	2
57	MP3A	Mx	-.015	2
58	MP3A	X	30.238	4
59	MP3A	Z	-17.458	4
60	MP3A	Mx	-.015	4
61	MP3B	X	20.687	2
62	MP3B	Z	-11.943	2
63	MP3B	Mx	.012	2
64	MP3B	X	20.687	4
65	MP3B	Z	-11.943	4
66	MP3B	Mx	.012	4
67	MP3C	X	57.74	2
68	MP3C	Z	-33.336	2
69	MP3C	Mx	-.006	2
70	MP3C	X	57.74	4
71	MP3C	Z	-33.336	4
72	MP3C	Mx	-.006	4
73	MP1A	X	43.47	2.75
74	MP1A	Z	-25.098	2.75
75	MP1A	Mx	.022	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
76	MP1B	X	43.47	2.75
77	MP1B	Z	-25.098	2.75
78	MP1B	Mx	-.022	2.75
79	MP1C	X	57.712	2.75
80	MP1C	Z	-33.32	2.75
81	MP1C	Mx	0	2.75
82	MP2A	X	53.012	2.75
83	MP2A	Z	-30.606	2.75
84	MP2A	Mx	.027	2.75
85	MP2B	X	53.012	2.75
86	MP2B	Z	-30.606	2.75
87	MP2B	Mx	-.027	2.75
88	MP2C	X	69.627	2.75
89	MP2C	Z	-40.199	2.75
90	MP2C	Mx	0	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	89.481	.5
2	MP4A	Z	0	.5
3	MP4A	Mx	-.045	.5
4	MP4A	X	89.481	5.5
5	MP4A	Z	0	5.5
6	MP4A	Mx	-.045	5.5
7	MP4B	X	107.837	.5
8	MP4B	Z	0	.5
9	MP4B	Mx	.047	.5
10	MP4B	X	107.837	5.5
11	MP4B	Z	0	5.5
12	MP4B	Mx	.047	5.5
13	MP4C	X	144.548	.5
14	MP4C	Z	0	.5
15	MP4C	Mx	.036	.5
16	MP4C	X	144.548	5.5
17	MP4C	Z	0	5.5
18	MP4C	Mx	.036	5.5
19	MP1A	X	76.18	.5
20	MP1A	Z	0	.5
21	MP1A	Mx	-.038	.5
22	MP1A	X	76.18	5.5
23	MP1A	Z	0	5.5
24	MP1A	Mx	-.038	5.5
25	MP1B	X	82.582	.5
26	MP1B	Z	0	.5
27	MP1B	Mx	.007	.5
28	MP1B	X	82.582	5.5
29	MP1B	Z	0	5.5
30	MP1B	Mx	.007	5.5
31	MP1C	X	95.386	.5
32	MP1C	Z	0	.5
33	MP1C	Mx	.082	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
34	MP1C	X	95.386	5.5
35	MP1C	Z	0	5.5
36	MP1C	Mx	.082	5.5
37	MP1A	X	76.18	.5
38	MP1A	Z	0	.5
39	MP1A	Mx	-.038	.5
40	MP1A	X	76.18	5.5
41	MP1A	Z	0	5.5
42	MP1A	Mx	-.038	5.5
43	MP1B	X	82.582	.5
44	MP1B	Z	0	.5
45	MP1B	Mx	.065	.5
46	MP1B	X	82.582	5.5
47	MP1B	Z	0	5.5
48	MP1B	Mx	.065	5.5
49	MP1C	X	95.386	.5
50	MP1C	Z	0	.5
51	MP1C	Mx	-.035	.5
52	MP1C	X	95.386	5.5
53	MP1C	Z	0	5.5
54	MP1C	Mx	-.035	5.5
55	MP3A	X	23.887	2
56	MP3A	Z	0	2
57	MP3A	Mx	-.012	2
58	MP3A	X	23.887	4
59	MP3A	Z	0	4
60	MP3A	Mx	-.012	4
61	MP3B	X	34.916	2
62	MP3B	Z	0	2
63	MP3B	Mx	.015	2
64	MP3B	X	34.916	4
65	MP3B	Z	0	4
66	MP3B	Mx	.015	4
67	MP3C	X	62.842	2
68	MP3C	Z	0	2
69	MP3C	Mx	.011	2
70	MP3C	X	62.842	4
71	MP3C	Z	0	4
72	MP3C	Mx	.011	4
73	MP1A	X	44.714	2.75
74	MP1A	Z	0	2.75
75	MP1A	Mx	.022	2.75
76	MP1B	X	61.159	2.75
77	MP1B	Z	0	2.75
78	MP1B	Mx	-.015	2.75
79	MP1C	X	61.159	2.75
80	MP1C	Z	0	2.75
81	MP1C	Mx	-.015	2.75
82	MP2A	X	54.817	2.75
83	MP2A	Z	0	2.75
84	MP2A	Mx	.027	2.75
85	MP2B	X	74.003	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
86	MP2B	Z	0	2.75
87	MP2B	Mx	-.019	2.75
88	MP2C	X	74.003	2.75
89	MP2C	Z	0	2.75
90	MP2C	Mx	-.019	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	93.389	.5
2	MP4A	Z	53.918	.5
3	MP4A	Mx	-.047	.5
4	MP4A	X	93.389	5.5
5	MP4A	Z	53.918	5.5
6	MP4A	Mx	-.047	5.5
7	MP4B	X	125.182	.5
8	MP4B	Z	72.274	.5
9	MP4B	Mx	.036	.5
10	MP4B	X	125.182	5.5
11	MP4B	Z	72.274	5.5
12	MP4B	Mx	.036	5.5
13	MP4C	X	93.389	.5
14	MP4C	Z	53.918	.5
15	MP4C	Mx	.047	.5
16	MP4C	X	93.389	5.5
17	MP4C	Z	53.918	5.5
18	MP4C	Mx	.047	5.5
19	MP1A	X	71.518	.5
20	MP1A	Z	41.291	.5
21	MP1A	Mx	-.007	.5
22	MP1A	X	71.518	5.5
23	MP1A	Z	41.291	5.5
24	MP1A	Mx	-.007	5.5
25	MP1B	X	82.607	.5
26	MP1B	Z	47.693	.5
27	MP1B	Mx	-.035	.5
28	MP1B	X	82.607	5.5
29	MP1B	Z	47.693	5.5
30	MP1B	Mx	-.035	5.5
31	MP1C	X	71.518	.5
32	MP1C	Z	41.291	.5
33	MP1C	Mx	.065	.5
34	MP1C	X	71.518	5.5
35	MP1C	Z	41.291	5.5
36	MP1C	Mx	.065	5.5
37	MP1A	X	71.518	.5
38	MP1A	Z	41.291	.5
39	MP1A	Mx	-.065	.5
40	MP1A	X	71.518	5.5
41	MP1A	Z	41.291	5.5
42	MP1A	Mx	-.065	5.5
43	MP1B	X	82.607	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
44	MP1B	Z	47.693	.5
45	MP1B	Mx	.082	.5
46	MP1B	X	82.607	5.5
47	MP1B	Z	47.693	5.5
48	MP1B	Mx	.082	5.5
49	MP1C	X	71.518	.5
50	MP1C	Z	41.291	.5
51	MP1C	Mx	.007	.5
52	MP1C	X	71.518	5.5
53	MP1C	Z	41.291	5.5
54	MP1C	Mx	.007	5.5
55	MP3A	X	30.238	2
56	MP3A	Z	17.458	2
57	MP3A	Mx	-.015	2
58	MP3A	X	30.238	4
59	MP3A	Z	17.458	4
60	MP3A	Mx	-.015	4
61	MP3B	X	49.34	2
62	MP3B	Z	28.487	2
63	MP3B	Mx	.014	2
64	MP3B	X	49.34	4
65	MP3B	Z	28.487	4
66	MP3B	Mx	.014	4
67	MP3C	X	36.472	2
68	MP3C	Z	21.057	2
69	MP3C	Mx	.016	2
70	MP3C	X	36.472	4
71	MP3C	Z	21.057	4
72	MP3C	Mx	.016	4
73	MP1A	X	43.47	2.75
74	MP1A	Z	25.098	2.75
75	MP1A	Mx	.022	2.75
76	MP1B	X	57.712	2.75
77	MP1B	Z	33.32	2.75
78	MP1B	Mx	0	2.75
79	MP1C	X	43.47	2.75
80	MP1C	Z	25.098	2.75
81	MP1C	Mx	-.022	2.75
82	MP2A	X	53.012	2.75
83	MP2A	Z	30.606	2.75
84	MP2A	Mx	.027	2.75
85	MP2B	X	69.627	2.75
86	MP2B	Z	40.199	2.75
87	MP2B	Mx	0	2.75
88	MP2C	X	53.012	2.75
89	MP2C	Z	30.606	2.75
90	MP2C	Mx	-.027	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	72.274	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
2	MP4A	Z	125.182	.5
3	MP4A	Mx	-.036	.5
4	MP4A	X	72.274	5.5
5	MP4A	Z	125.182	5.5
6	MP4A	Mx	-.036	5.5
7	MP4B	X	81.452	.5
8	MP4B	Z	141.079	.5
9	MP4B	Mx	0	.5
10	MP4B	X	81.452	5.5
11	MP4B	Z	141.079	5.5
12	MP4B	Mx	0	5.5
13	MP4C	X	44.74	.5
14	MP4C	Z	77.493	.5
15	MP4C	Mx	.045	.5
16	MP4C	X	44.74	5.5
17	MP4C	Z	77.493	5.5
18	MP4C	Mx	.045	5.5
19	MP1A	X	47.693	.5
20	MP1A	Z	82.607	.5
21	MP1A	Mx	.035	.5
22	MP1A	X	47.693	5.5
23	MP1A	Z	82.607	5.5
24	MP1A	Mx	.035	5.5
25	MP1B	X	50.894	.5
26	MP1B	Z	88.151	.5
27	MP1B	Mx	-.072	.5
28	MP1B	X	50.894	5.5
29	MP1B	Z	88.151	5.5
30	MP1B	Mx	-.072	5.5
31	MP1C	X	38.09	.5
32	MP1C	Z	65.973	.5
33	MP1C	Mx	.038	.5
34	MP1C	X	38.09	5.5
35	MP1C	Z	65.973	5.5
36	MP1C	Mx	.038	5.5
37	MP1A	X	47.693	.5
38	MP1A	Z	82.607	.5
39	MP1A	Mx	-.082	.5
40	MP1A	X	47.693	5.5
41	MP1A	Z	82.607	5.5
42	MP1A	Mx	-.082	5.5
43	MP1B	X	50.894	.5
44	MP1B	Z	88.151	.5
45	MP1B	Mx	.072	.5
46	MP1B	X	50.894	5.5
47	MP1B	Z	88.151	5.5
48	MP1B	Mx	.072	5.5
49	MP1C	X	38.09	.5
50	MP1C	Z	65.973	.5
51	MP1C	Mx	.038	.5
52	MP1C	X	38.09	5.5
53	MP1C	Z	65.973	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
54	MP1C	Mx	.038	5.5
55	MP3A	X	28.487	2
56	MP3A	Z	49.34	2
57	MP3A	Mx	-.014	2
58	MP3A	X	28.487	4
59	MP3A	Z	49.34	4
60	MP3A	Mx	-.014	4
61	MP3B	X	34.001	2
62	MP3B	Z	58.892	2
63	MP3B	Mx	0	2
64	MP3B	X	34.001	4
65	MP3B	Z	58.892	4
66	MP3B	Mx	0	4
67	MP3C	X	12.609	2
68	MP3C	Z	21.839	2
69	MP3C	Mx	.012	2
70	MP3C	X	12.609	4
71	MP3C	Z	21.839	4
72	MP3C	Mx	.012	4
73	MP1A	X	30.579	2.75
74	MP1A	Z	52.965	2.75
75	MP1A	Mx	.015	2.75
76	MP1B	X	30.579	2.75
77	MP1B	Z	52.965	2.75
78	MP1B	Mx	.015	2.75
79	MP1C	X	22.357	2.75
80	MP1C	Z	38.723	2.75
81	MP1C	Mx	-.022	2.75
82	MP2A	X	37.002	2.75
83	MP2A	Z	64.089	2.75
84	MP2A	Mx	.019	2.75
85	MP2B	X	37.002	2.75
86	MP2B	Z	64.089	2.75
87	MP2B	Mx	.019	2.75
88	MP2C	X	27.409	2.75
89	MP2C	Z	47.473	2.75
90	MP2C	Mx	-.027	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	.5
2	MP4A	Z	162.904	.5
3	MP4A	Mx	0	.5
4	MP4A	X	0	5.5
5	MP4A	Z	162.904	5.5
6	MP4A	Mx	0	5.5
7	MP4B	X	0	.5
8	MP4B	Z	144.548	.5
9	MP4B	Mx	-.036	.5
10	MP4B	X	0	5.5
11	MP4B	Z	144.548	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
12	MP4B	Mx	-.036	5.5
13	MP4C	X	0	.5
14	MP4C	Z	107.837	.5
15	MP4C	Mx	.047	.5
16	MP4C	X	0	5.5
17	MP4C	Z	107.837	5.5
18	MP4C	Mx	.047	5.5
19	MP1A	X	0	.5
20	MP1A	Z	101.788	.5
21	MP1A	Mx	.072	.5
22	MP1A	X	0	5.5
23	MP1A	Z	101.788	5.5
24	MP1A	Mx	.072	5.5
25	MP1B	X	0	.5
26	MP1B	Z	95.386	.5
27	MP1B	Mx	-.082	.5
28	MP1B	X	0	5.5
29	MP1B	Z	95.386	5.5
30	MP1B	Mx	-.082	5.5
31	MP1C	X	0	.5
32	MP1C	Z	82.582	.5
33	MP1C	Mx	.007	.5
34	MP1C	X	0	5.5
35	MP1C	Z	82.582	5.5
36	MP1C	Mx	.007	5.5
37	MP1A	X	0	.5
38	MP1A	Z	101.788	.5
39	MP1A	Mx	-.072	.5
40	MP1A	X	0	5.5
41	MP1A	Z	101.788	5.5
42	MP1A	Mx	-.072	5.5
43	MP1B	X	0	.5
44	MP1B	Z	95.386	.5
45	MP1B	Mx	.035	.5
46	MP1B	X	0	5.5
47	MP1B	Z	95.386	5.5
48	MP1B	Mx	.035	5.5
49	MP1C	X	0	.5
50	MP1C	Z	82.582	.5
51	MP1C	Mx	.065	.5
52	MP1C	X	0	5.5
53	MP1C	Z	82.582	5.5
54	MP1C	Mx	.065	5.5
55	MP3A	X	0	2
56	MP3A	Z	68.002	2
57	MP3A	Mx	0	2
58	MP3A	X	0	4
59	MP3A	Z	68.002	4
60	MP3A	Mx	0	4
61	MP3B	X	0	2
62	MP3B	Z	56.973	2
63	MP3B	Mx	-.014	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
64	MP3B	X	0	4
65	MP3B	Z	56.973	4
66	MP3B	Mx	-.014	4
67	MP3C	X	0	2
68	MP3C	Z	29.047	2
69	MP3C	Mx	.014	2
70	MP3C	X	0	4
71	MP3C	Z	29.047	4
72	MP3C	Mx	.014	4
73	MP1A	X	0	2.75
74	MP1A	Z	66.641	2.75
75	MP1A	Mx	0	2.75
76	MP1B	X	0	2.75
77	MP1B	Z	50.195	2.75
78	MP1B	Mx	.022	2.75
79	MP1C	X	0	2.75
80	MP1C	Z	50.195	2.75
81	MP1C	Mx	-.022	2.75
82	MP2A	X	0	2.75
83	MP2A	Z	80.399	2.75
84	MP2A	Mx	0	2.75
85	MP2B	X	0	2.75
86	MP2B	Z	61.213	2.75
87	MP2B	Mx	.027	2.75
88	MP2C	X	0	2.75
89	MP2C	Z	61.213	2.75
90	MP2C	Mx	-.027	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-72.274	.5
2	MP4A	Z	125.182	.5
3	MP4A	Mx	.036	.5
4	MP4A	X	-72.274	5.5
5	MP4A	Z	125.182	5.5
6	MP4A	Mx	.036	5.5
7	MP4B	X	-53.918	.5
8	MP4B	Z	93.389	.5
9	MP4B	Mx	-.047	.5
10	MP4B	X	-53.918	5.5
11	MP4B	Z	93.389	5.5
12	MP4B	Mx	-.047	5.5
13	MP4C	X	-72.274	.5
14	MP4C	Z	125.182	.5
15	MP4C	Mx	.036	.5
16	MP4C	X	-72.274	5.5
17	MP4C	Z	125.182	5.5
18	MP4C	Mx	.036	5.5
19	MP1A	X	-47.693	.5
20	MP1A	Z	82.607	.5
21	MP1A	Mx	.082	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
22	MP1A	X	-47.693	5.5
23	MP1A	Z	82.607	5.5
24	MP1A	Mx	.082	5.5
25	MP1B	X	-41.291	.5
26	MP1B	Z	71.518	.5
27	MP1B	Mx	-.065	.5
28	MP1B	X	-41.291	5.5
29	MP1B	Z	71.518	5.5
30	MP1B	Mx	-.065	5.5
31	MP1C	X	-47.693	.5
32	MP1C	Z	82.607	.5
33	MP1C	Mx	-.035	.5
34	MP1C	X	-47.693	5.5
35	MP1C	Z	82.607	5.5
36	MP1C	Mx	-.035	5.5
37	MP1A	X	-47.693	.5
38	MP1A	Z	82.607	.5
39	MP1A	Mx	-.035	.5
40	MP1A	X	-47.693	5.5
41	MP1A	Z	82.607	5.5
42	MP1A	Mx	-.035	5.5
43	MP1B	X	-41.291	.5
44	MP1B	Z	71.518	.5
45	MP1B	Mx	-.007	.5
46	MP1B	X	-41.291	5.5
47	MP1B	Z	71.518	5.5
48	MP1B	Mx	-.007	5.5
49	MP1C	X	-47.693	.5
50	MP1C	Z	82.607	.5
51	MP1C	Mx	.082	.5
52	MP1C	X	-47.693	5.5
53	MP1C	Z	82.607	5.5
54	MP1C	Mx	.082	5.5
55	MP3A	X	-28.487	2
56	MP3A	Z	49.34	2
57	MP3A	Mx	.014	2
58	MP3A	X	-28.487	4
59	MP3A	Z	49.34	4
60	MP3A	Mx	.014	4
61	MP3B	X	-17.458	2
62	MP3B	Z	30.238	2
63	MP3B	Mx	-.015	2
64	MP3B	X	-17.458	4
65	MP3B	Z	30.238	4
66	MP3B	Mx	-.015	4
67	MP3C	X	-24.887	2
68	MP3C	Z	43.106	2
69	MP3C	Mx	.016	2
70	MP3C	X	-24.887	4
71	MP3C	Z	43.106	4
72	MP3C	Mx	.016	4
73	MP1A	X	-30.579	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
74	MP1A	Z	52.965	2.75
75	MP1A	Mx	-.015	2.75
76	MP1B	X	-22.357	2.75
77	MP1B	Z	38.723	2.75
78	MP1B	Mx	.022	2.75
79	MP1C	X	-30.579	2.75
80	MP1C	Z	52.965	2.75
81	MP1C	Mx	-.015	2.75
82	MP2A	X	-37.002	2.75
83	MP2A	Z	64.089	2.75
84	MP2A	Mx	-.019	2.75
85	MP2B	X	-27.409	2.75
86	MP2B	Z	47.473	2.75
87	MP2B	Mx	.027	2.75
88	MP2C	X	-37.002	2.75
89	MP2C	Z	64.089	2.75
90	MP2C	Mx	-.019	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-93.389	.5
2	MP4A	Z	53.918	.5
3	MP4A	Mx	.047	.5
4	MP4A	X	-93.389	5.5
5	MP4A	Z	53.918	5.5
6	MP4A	Mx	.047	5.5
7	MP4B	X	-77.493	.5
8	MP4B	Z	44.74	.5
9	MP4B	Mx	-.045	.5
10	MP4B	X	-77.493	5.5
11	MP4B	Z	44.74	5.5
12	MP4B	Mx	-.045	5.5
13	MP4C	X	-141.079	.5
14	MP4C	Z	81.452	.5
15	MP4C	Mx	0	.5
16	MP4C	X	-141.079	5.5
17	MP4C	Z	81.452	5.5
18	MP4C	Mx	0	5.5
19	MP1A	X	-71.518	.5
20	MP1A	Z	41.291	.5
21	MP1A	Mx	.065	.5
22	MP1A	X	-71.518	5.5
23	MP1A	Z	41.291	5.5
24	MP1A	Mx	.065	5.5
25	MP1B	X	-65.973	.5
26	MP1B	Z	38.09	.5
27	MP1B	Mx	-.038	.5
28	MP1B	X	-65.973	5.5
29	MP1B	Z	38.09	5.5
30	MP1B	Mx	-.038	5.5
31	MP1C	X	-88.151	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
32	MP1C	Z	50.894	.5
33	MP1C	Mx	-.072	.5
34	MP1C	X	-88.151	5.5
35	MP1C	Z	50.894	5.5
36	MP1C	Mx	-.072	5.5
37	MP1A	X	-71.518	.5
38	MP1A	Z	41.291	.5
39	MP1A	Mx	.007	.5
40	MP1A	X	-71.518	5.5
41	MP1A	Z	41.291	5.5
42	MP1A	Mx	.007	5.5
43	MP1B	X	-65.973	.5
44	MP1B	Z	38.09	.5
45	MP1B	Mx	-.038	.5
46	MP1B	X	-65.973	5.5
47	MP1B	Z	38.09	5.5
48	MP1B	Mx	-.038	5.5
49	MP1C	X	-88.151	.5
50	MP1C	Z	50.894	.5
51	MP1C	Mx	.072	.5
52	MP1C	X	-88.151	5.5
53	MP1C	Z	50.894	5.5
54	MP1C	Mx	.072	5.5
55	MP3A	X	-30.238	2
56	MP3A	Z	17.458	2
57	MP3A	Mx	.015	2
58	MP3A	X	-30.238	4
59	MP3A	Z	17.458	4
60	MP3A	Mx	.015	4
61	MP3B	X	-20.687	2
62	MP3B	Z	11.943	2
63	MP3B	Mx	-.012	2
64	MP3B	X	-20.687	4
65	MP3B	Z	11.943	4
66	MP3B	Mx	-.012	4
67	MP3C	X	-57.74	2
68	MP3C	Z	33.336	2
69	MP3C	Mx	.006	2
70	MP3C	X	-57.74	4
71	MP3C	Z	33.336	4
72	MP3C	Mx	.006	4
73	MP1A	X	-43.47	2.75
74	MP1A	Z	25.098	2.75
75	MP1A	Mx	-.022	2.75
76	MP1B	X	-43.47	2.75
77	MP1B	Z	25.098	2.75
78	MP1B	Mx	.022	2.75
79	MP1C	X	-57.712	2.75
80	MP1C	Z	33.32	2.75
81	MP1C	Mx	0	2.75
82	MP2A	X	-53.012	2.75
83	MP2A	Z	30.606	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
84	MP2A	Mx	-.027	2.75
85	MP2B	X	-53.012	2.75
86	MP2B	Z	30.606	2.75
87	MP2B	Mx	.027	2.75
88	MP2C	X	-69.627	2.75
89	MP2C	Z	40.199	2.75
90	MP2C	Mx	0	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-89.481	.5
2	MP4A	Z	0	.5
3	MP4A	Mx	.045	.5
4	MP4A	X	-89.481	5.5
5	MP4A	Z	0	5.5
6	MP4A	Mx	.045	5.5
7	MP4B	X	-107.837	.5
8	MP4B	Z	0	.5
9	MP4B	Mx	-.047	.5
10	MP4B	X	-107.837	5.5
11	MP4B	Z	0	5.5
12	MP4B	Mx	-.047	5.5
13	MP4C	X	-144.548	.5
14	MP4C	Z	0	.5
15	MP4C	Mx	-.036	.5
16	MP4C	X	-144.548	5.5
17	MP4C	Z	0	5.5
18	MP4C	Mx	-.036	5.5
19	MP1A	X	-76.18	.5
20	MP1A	Z	0	.5
21	MP1A	Mx	.038	.5
22	MP1A	X	-76.18	5.5
23	MP1A	Z	0	5.5
24	MP1A	Mx	.038	5.5
25	MP1B	X	-82.582	.5
26	MP1B	Z	0	.5
27	MP1B	Mx	-.007	.5
28	MP1B	X	-82.582	5.5
29	MP1B	Z	0	5.5
30	MP1B	Mx	-.007	5.5
31	MP1C	X	-95.386	.5
32	MP1C	Z	0	.5
33	MP1C	Mx	-.082	.5
34	MP1C	X	-95.386	5.5
35	MP1C	Z	0	5.5
36	MP1C	Mx	-.082	5.5
37	MP1A	X	-76.18	.5
38	MP1A	Z	0	.5
39	MP1A	Mx	.038	.5
40	MP1A	X	-76.18	5.5
41	MP1A	Z	0	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
42	MP1A	Mx	.038	5.5
43	MP1B	X	-82.582	.5
44	MP1B	Z	0	.5
45	MP1B	Mx	-.065	.5
46	MP1B	X	-82.582	5.5
47	MP1B	Z	0	5.5
48	MP1B	Mx	-.065	5.5
49	MP1C	X	-95.386	.5
50	MP1C	Z	0	.5
51	MP1C	Mx	.035	.5
52	MP1C	X	-95.386	5.5
53	MP1C	Z	0	5.5
54	MP1C	Mx	.035	5.5
55	MP3A	X	-23.887	2
56	MP3A	Z	0	2
57	MP3A	Mx	.012	2
58	MP3A	X	-23.887	4
59	MP3A	Z	0	4
60	MP3A	Mx	.012	4
61	MP3B	X	-34.916	2
62	MP3B	Z	0	2
63	MP3B	Mx	-.015	2
64	MP3B	X	-34.916	4
65	MP3B	Z	0	4
66	MP3B	Mx	-.015	4
67	MP3C	X	-62.842	2
68	MP3C	Z	0	2
69	MP3C	Mx	-.011	2
70	MP3C	X	-62.842	4
71	MP3C	Z	0	4
72	MP3C	Mx	-.011	4
73	MP1A	X	-44.714	2.75
74	MP1A	Z	0	2.75
75	MP1A	Mx	-.022	2.75
76	MP1B	X	-61.159	2.75
77	MP1B	Z	0	2.75
78	MP1B	Mx	.015	2.75
79	MP1C	X	-61.159	2.75
80	MP1C	Z	0	2.75
81	MP1C	Mx	.015	2.75
82	MP2A	X	-54.817	2.75
83	MP2A	Z	0	2.75
84	MP2A	Mx	-.027	2.75
85	MP2B	X	-74.003	2.75
86	MP2B	Z	0	2.75
87	MP2B	Mx	.019	2.75
88	MP2C	X	-74.003	2.75
89	MP2C	Z	0	2.75
90	MP2C	Mx	.019	2.75

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

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

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-93.389	.5
2	MP4A	Z	-53.918	.5
3	MP4A	Mx	.047	.5
4	MP4A	X	-93.389	5.5
5	MP4A	Z	-53.918	5.5
6	MP4A	Mx	.047	5.5
7	MP4B	X	-125.182	.5
8	MP4B	Z	-72.274	.5
9	MP4B	Mx	-.036	.5
10	MP4B	X	-125.182	5.5
11	MP4B	Z	-72.274	5.5
12	MP4B	Mx	-.036	5.5
13	MP4C	X	-93.389	.5
14	MP4C	Z	-53.918	.5
15	MP4C	Mx	-.047	.5
16	MP4C	X	-93.389	5.5
17	MP4C	Z	-53.918	5.5
18	MP4C	Mx	-.047	5.5
19	MP1A	X	-71.518	.5
20	MP1A	Z	-41.291	.5
21	MP1A	Mx	.007	.5
22	MP1A	X	-71.518	5.5
23	MP1A	Z	-41.291	5.5
24	MP1A	Mx	.007	5.5
25	MP1B	X	-82.607	.5
26	MP1B	Z	-47.693	.5
27	MP1B	Mx	.035	.5
28	MP1B	X	-82.607	5.5
29	MP1B	Z	-47.693	5.5
30	MP1B	Mx	.035	5.5
31	MP1C	X	-71.518	.5
32	MP1C	Z	-41.291	.5
33	MP1C	Mx	-.065	.5
34	MP1C	X	-71.518	5.5
35	MP1C	Z	-41.291	5.5
36	MP1C	Mx	-.065	5.5
37	MP1A	X	-71.518	.5
38	MP1A	Z	-41.291	.5
39	MP1A	Mx	.065	.5
40	MP1A	X	-71.518	5.5
41	MP1A	Z	-41.291	5.5
42	MP1A	Mx	.065	5.5
43	MP1B	X	-82.607	.5
44	MP1B	Z	-47.693	.5
45	MP1B	Mx	-.082	.5
46	MP1B	X	-82.607	5.5
47	MP1B	Z	-47.693	5.5
48	MP1B	Mx	-.082	5.5
49	MP1C	X	-71.518	.5
50	MP1C	Z	-41.291	.5
51	MP1C	Mx	-.007	.5
52	MP1C	X	-71.518	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP1C	Z	-41.291	5.5
54	MP1C	Mx	-.007	5.5
55	MP3A	X	-30.238	2
56	MP3A	Z	-17.458	2
57	MP3A	Mx	.015	2
58	MP3A	X	-30.238	4
59	MP3A	Z	-17.458	4
60	MP3A	Mx	.015	4
61	MP3B	X	-49.34	2
62	MP3B	Z	-28.487	2
63	MP3B	Mx	-.014	2
64	MP3B	X	-49.34	4
65	MP3B	Z	-28.487	4
66	MP3B	Mx	-.014	4
67	MP3C	X	-36.472	2
68	MP3C	Z	-21.057	2
69	MP3C	Mx	-.016	2
70	MP3C	X	-36.472	4
71	MP3C	Z	-21.057	4
72	MP3C	Mx	-.016	4
73	MP1A	X	-43.47	2.75
74	MP1A	Z	-25.098	2.75
75	MP1A	Mx	-.022	2.75
76	MP1B	X	-57.712	2.75
77	MP1B	Z	-33.32	2.75
78	MP1B	Mx	0	2.75
79	MP1C	X	-43.47	2.75
80	MP1C	Z	-25.098	2.75
81	MP1C	Mx	.022	2.75
82	MP2A	X	-53.012	2.75
83	MP2A	Z	-30.606	2.75
84	MP2A	Mx	-.027	2.75
85	MP2B	X	-69.627	2.75
86	MP2B	Z	-40.199	2.75
87	MP2B	Mx	0	2.75
88	MP2C	X	-53.012	2.75
89	MP2C	Z	-30.606	2.75
90	MP2C	Mx	.027	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-72.274	.5
2	MP4A	Z	-125.182	.5
3	MP4A	Mx	.036	.5
4	MP4A	X	-72.274	5.5
5	MP4A	Z	-125.182	5.5
6	MP4A	Mx	.036	5.5
7	MP4B	X	-81.452	.5
8	MP4B	Z	-141.079	.5
9	MP4B	Mx	0	.5
10	MP4B	X	-81.452	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
11	MP4B	Z	-141.079	5.5
12	MP4B	Mx	0	5.5
13	MP4C	X	-44.74	.5
14	MP4C	Z	-77.493	.5
15	MP4C	Mx	-.045	.5
16	MP4C	X	-44.74	5.5
17	MP4C	Z	-77.493	5.5
18	MP4C	Mx	-.045	5.5
19	MP1A	X	-47.693	.5
20	MP1A	Z	-82.607	.5
21	MP1A	Mx	-.035	.5
22	MP1A	X	-47.693	5.5
23	MP1A	Z	-82.607	5.5
24	MP1A	Mx	-.035	5.5
25	MP1B	X	-50.894	.5
26	MP1B	Z	-88.151	.5
27	MP1B	Mx	.072	.5
28	MP1B	X	-50.894	5.5
29	MP1B	Z	-88.151	5.5
30	MP1B	Mx	.072	5.5
31	MP1C	X	-38.09	.5
32	MP1C	Z	-65.973	.5
33	MP1C	Mx	-.038	.5
34	MP1C	X	-38.09	5.5
35	MP1C	Z	-65.973	5.5
36	MP1C	Mx	-.038	5.5
37	MP1A	X	-47.693	.5
38	MP1A	Z	-82.607	.5
39	MP1A	Mx	.082	.5
40	MP1A	X	-47.693	5.5
41	MP1A	Z	-82.607	5.5
42	MP1A	Mx	.082	5.5
43	MP1B	X	-50.894	.5
44	MP1B	Z	-88.151	.5
45	MP1B	Mx	-.072	.5
46	MP1B	X	-50.894	5.5
47	MP1B	Z	-88.151	5.5
48	MP1B	Mx	-.072	5.5
49	MP1C	X	-38.09	.5
50	MP1C	Z	-65.973	.5
51	MP1C	Mx	-.038	.5
52	MP1C	X	-38.09	5.5
53	MP1C	Z	-65.973	5.5
54	MP1C	Mx	-.038	5.5
55	MP3A	X	-28.487	2
56	MP3A	Z	-49.34	2
57	MP3A	Mx	.014	2
58	MP3A	X	-28.487	4
59	MP3A	Z	-49.34	4
60	MP3A	Mx	.014	4
61	MP3B	X	-34.001	2
62	MP3B	Z	-58.892	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
63	MP3B	Mx	0	2
64	MP3B	X	-34.001	4
65	MP3B	Z	-58.892	4
66	MP3B	Mx	0	4
67	MP3C	X	-12.609	2
68	MP3C	Z	-21.839	2
69	MP3C	Mx	-.012	2
70	MP3C	X	-12.609	4
71	MP3C	Z	-21.839	4
72	MP3C	Mx	-.012	4
73	MP1A	X	-30.579	2.75
74	MP1A	Z	-52.965	2.75
75	MP1A	Mx	-.015	2.75
76	MP1B	X	-30.579	2.75
77	MP1B	Z	-52.965	2.75
78	MP1B	Mx	-.015	2.75
79	MP1C	X	-22.357	2.75
80	MP1C	Z	-38.723	2.75
81	MP1C	Mx	.022	2.75
82	MP2A	X	-37.002	2.75
83	MP2A	Z	-64.089	2.75
84	MP2A	Mx	-.019	2.75
85	MP2B	X	-37.002	2.75
86	MP2B	Z	-64.089	2.75
87	MP2B	Mx	-.019	2.75
88	MP2C	X	-27.409	2.75
89	MP2C	Z	-47.473	2.75
90	MP2C	Mx	.027	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	.5
2	MP4A	Z	-28.764	.5
3	MP4A	Mx	0	.5
4	MP4A	X	0	5.5
5	MP4A	Z	-28.764	5.5
6	MP4A	Mx	0	5.5
7	MP4B	X	0	.5
8	MP4B	Z	-25.777	.5
9	MP4B	Mx	.006	.5
10	MP4B	X	0	5.5
11	MP4B	Z	-25.777	5.5
12	MP4B	Mx	.006	5.5
13	MP4C	X	0	.5
14	MP4C	Z	-19.803	.5
15	MP4C	Mx	-.009	.5
16	MP4C	X	0	5.5
17	MP4C	Z	-19.803	5.5
18	MP4C	Mx	-.009	5.5
19	MP1A	X	0	.5
20	MP1A	Z	-36.956	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
21	MP1A	Mx	-.026	.5
22	MP1A	X	0	5.5
23	MP1A	Z	-36.956	5.5
24	MP1A	Mx	-.026	5.5
25	MP1B	X	0	.5
26	MP1B	Z	-34.703	.5
27	MP1B	Mx	.03	.5
28	MP1B	X	0	5.5
29	MP1B	Z	-34.703	5.5
30	MP1B	Mx	.03	5.5
31	MP1C	X	0	.5
32	MP1C	Z	-30.195	.5
33	MP1C	Mx	-.002	.5
34	MP1C	X	0	5.5
35	MP1C	Z	-30.195	5.5
36	MP1C	Mx	-.002	5.5
37	MP1A	X	0	.5
38	MP1A	Z	-36.956	.5
39	MP1A	Mx	.026	.5
40	MP1A	X	0	5.5
41	MP1A	Z	-36.956	5.5
42	MP1A	Mx	.026	5.5
43	MP1B	X	0	.5
44	MP1B	Z	-34.703	.5
45	MP1B	Mx	-.013	.5
46	MP1B	X	0	5.5
47	MP1B	Z	-34.703	5.5
48	MP1B	Mx	-.013	5.5
49	MP1C	X	0	.5
50	MP1C	Z	-30.195	.5
51	MP1C	Mx	-.024	.5
52	MP1C	X	0	5.5
53	MP1C	Z	-30.195	5.5
54	MP1C	Mx	-.024	5.5
55	MP3A	X	0	2
56	MP3A	Z	-14.857	2
57	MP3A	Mx	0	2
58	MP3A	X	0	4
59	MP3A	Z	-14.857	4
60	MP3A	Mx	0	4
61	MP3B	X	0	2
62	MP3B	Z	-12.707	2
63	MP3B	Mx	.003	2
64	MP3B	X	0	4
65	MP3B	Z	-12.707	4
66	MP3B	Mx	.003	4
67	MP3C	X	0	2
68	MP3C	Z	-7.261	2
69	MP3C	Mx	-.003	2
70	MP3C	X	0	4
71	MP3C	Z	-7.261	4
72	MP3C	Mx	-.003	4

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
73	MP1A	X	0	2.75
74	MP1A	Z	-15.305	2.75
75	MP1A	Mx	0	2.75
76	MP1B	X	0	2.75
77	MP1B	Z	-11.801	2.75
78	MP1B	Mx	-.005	2.75
79	MP1C	X	0	2.75
80	MP1C	Z	-11.801	2.75
81	MP1C	Mx	.005	2.75
82	MP2A	X	0	2.75
83	MP2A	Z	-15.305	2.75
84	MP2A	Mx	0	2.75
85	MP2B	X	0	2.75
86	MP2B	Z	-11.941	2.75
87	MP2B	Mx	-.005	2.75
88	MP2C	X	0	2.75
89	MP2C	Z	-11.941	2.75
90	MP2C	Mx	.005	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	12.889	.5
2	MP4A	Z	-22.324	.5
3	MP4A	Mx	-.006	.5
4	MP4A	X	12.889	5.5
5	MP4A	Z	-22.324	5.5
6	MP4A	Mx	-.006	5.5
7	MP4B	X	9.901	.5
8	MP4B	Z	-17.15	.5
9	MP4B	Mx	.009	.5
10	MP4B	X	9.901	5.5
11	MP4B	Z	-17.15	5.5
12	MP4B	Mx	.009	5.5
13	MP4C	X	12.889	.5
14	MP4C	Z	-22.324	.5
15	MP4C	Mx	-.006	.5
16	MP4C	X	12.889	5.5
17	MP4C	Z	-22.324	5.5
18	MP4C	Mx	-.006	5.5
19	MP1A	X	17.351	.5
20	MP1A	Z	-30.053	.5
21	MP1A	Mx	-.03	.5
22	MP1A	X	17.351	5.5
23	MP1A	Z	-30.053	5.5
24	MP1A	Mx	-.03	5.5
25	MP1B	X	15.098	.5
26	MP1B	Z	-26.15	.5
27	MP1B	Mx	.024	.5
28	MP1B	X	15.098	5.5
29	MP1B	Z	-26.15	5.5
30	MP1B	Mx	.024	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
31	MP1C	X	17.351	.5
32	MP1C	Z	-30.053	.5
33	MP1C	Mx	.013	.5
34	MP1C	X	17.351	5.5
35	MP1C	Z	-30.053	5.5
36	MP1C	Mx	.013	5.5
37	MP1A	X	17.351	.5
38	MP1A	Z	-30.053	.5
39	MP1A	Mx	.013	.5
40	MP1A	X	17.351	5.5
41	MP1A	Z	-30.053	5.5
42	MP1A	Mx	.013	5.5
43	MP1B	X	15.098	.5
44	MP1B	Z	-26.15	.5
45	MP1B	Mx	.002	.5
46	MP1B	X	15.098	5.5
47	MP1B	Z	-26.15	5.5
48	MP1B	Mx	.002	5.5
49	MP1C	X	17.351	.5
50	MP1C	Z	-30.053	.5
51	MP1C	Mx	-.03	.5
52	MP1C	X	17.351	5.5
53	MP1C	Z	-30.053	5.5
54	MP1C	Mx	-.03	5.5
55	MP3A	X	6.353	2
56	MP3A	Z	-11.004	2
57	MP3A	Mx	-.003	2
58	MP3A	X	6.353	4
59	MP3A	Z	-11.004	4
60	MP3A	Mx	-.003	4
61	MP3B	X	4.203	2
62	MP3B	Z	-7.279	2
63	MP3B	Mx	.004	2
64	MP3B	X	4.203	4
65	MP3B	Z	-7.279	4
66	MP3B	Mx	.004	4
67	MP3C	X	5.651	2
68	MP3C	Z	-9.789	2
69	MP3C	Mx	-.004	2
70	MP3C	X	5.651	4
71	MP3C	Z	-9.789	4
72	MP3C	Mx	-.004	4
73	MP1A	X	7.069	2.75
74	MP1A	Z	-12.243	2.75
75	MP1A	Mx	.004	2.75
76	MP1B	X	5.316	2.75
77	MP1B	Z	-9.208	2.75
78	MP1B	Mx	-.005	2.75
79	MP1C	X	7.069	2.75
80	MP1C	Z	-12.243	2.75
81	MP1C	Mx	.004	2.75
82	MP2A	X	7.092	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
83	MP2A	Z	-12.284	2.75
84	MP2A	Mx	.004	2.75
85	MP2B	X	5.41	2.75
86	MP2B	Z	-9.37	2.75
87	MP2B	Mx	-.005	2.75
88	MP2C	X	7.092	2.75
89	MP2C	Z	-12.284	2.75
90	MP2C	Mx	.004	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	17.15	.5
2	MP4A	Z	-9.901	.5
3	MP4A	Mx	-.009	.5
4	MP4A	X	17.15	5.5
5	MP4A	Z	-9.901	5.5
6	MP4A	Mx	-.009	5.5
7	MP4B	X	14.563	.5
8	MP4B	Z	-8.408	.5
9	MP4B	Mx	.008	.5
10	MP4B	X	14.563	5.5
11	MP4B	Z	-8.408	5.5
12	MP4B	Mx	.008	5.5
13	MP4C	X	24.911	.5
14	MP4C	Z	-14.382	.5
15	MP4C	Mx	0	.5
16	MP4C	X	24.911	5.5
17	MP4C	Z	-14.382	5.5
18	MP4C	Mx	0	5.5
19	MP1A	X	26.15	.5
20	MP1A	Z	-15.098	.5
21	MP1A	Mx	-.024	.5
22	MP1A	X	26.15	5.5
23	MP1A	Z	-15.098	5.5
24	MP1A	Mx	-.024	5.5
25	MP1B	X	24.198	.5
26	MP1B	Z	-13.971	.5
27	MP1B	Mx	.014	.5
28	MP1B	X	24.198	5.5
29	MP1B	Z	-13.971	5.5
30	MP1B	Mx	.014	5.5
31	MP1C	X	32.005	.5
32	MP1C	Z	-18.478	.5
33	MP1C	Mx	.026	.5
34	MP1C	X	32.005	5.5
35	MP1C	Z	-18.478	5.5
36	MP1C	Mx	.026	5.5
37	MP1A	X	26.15	.5
38	MP1A	Z	-15.098	.5
39	MP1A	Mx	-.002	.5
40	MP1A	X	26.15	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
41	MP1A	Z	-15.098	5.5
42	MP1A	Mx	-.002	5.5
43	MP1B	X	24.198	.5
44	MP1B	Z	-13.971	.5
45	MP1B	Mx	.014	.5
46	MP1B	X	24.198	5.5
47	MP1B	Z	-13.971	5.5
48	MP1B	Mx	.014	5.5
49	MP1C	X	32.005	.5
50	MP1C	Z	-18.478	.5
51	MP1C	Mx	-.026	.5
52	MP1C	X	32.005	5.5
53	MP1C	Z	-18.478	5.5
54	MP1C	Mx	-.026	5.5
55	MP3A	X	7.279	2
56	MP3A	Z	-4.203	2
57	MP3A	Mx	-.004	2
58	MP3A	X	7.279	4
59	MP3A	Z	-4.203	4
60	MP3A	Mx	-.004	4
61	MP3B	X	5.417	2
62	MP3B	Z	-3.127	2
63	MP3B	Mx	.003	2
64	MP3B	X	5.417	4
65	MP3B	Z	-3.127	4
66	MP3B	Mx	.003	4
67	MP3C	X	12.642	2
68	MP3C	Z	-7.299	2
69	MP3C	Mx	-.001	2
70	MP3C	X	12.642	4
71	MP3C	Z	-7.299	4
72	MP3C	Mx	-.001	4
73	MP1A	X	10.22	2.75
74	MP1A	Z	-5.9	2.75
75	MP1A	Mx	.005	2.75
76	MP1B	X	10.22	2.75
77	MP1B	Z	-5.9	2.75
78	MP1B	Mx	-.005	2.75
79	MP1C	X	13.255	2.75
80	MP1C	Z	-7.653	2.75
81	MP1C	Mx	0	2.75
82	MP2A	X	10.341	2.75
83	MP2A	Z	-5.971	2.75
84	MP2A	Mx	.005	2.75
85	MP2B	X	10.341	2.75
86	MP2B	Z	-5.971	2.75
87	MP2B	Mx	-.005	2.75
88	MP2C	X	13.255	2.75
89	MP2C	Z	-7.653	2.75
90	MP2C	Mx	0	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	16.816	.5
2	MP4A	Z	0	.5
3	MP4A	Mx	-.008	.5
4	MP4A	X	16.816	5.5
5	MP4A	Z	0	5.5
6	MP4A	Mx	-.008	5.5
7	MP4B	X	19.803	.5
8	MP4B	Z	0	.5
9	MP4B	Mx	.009	.5
10	MP4B	X	19.803	5.5
11	MP4B	Z	0	5.5
12	MP4B	Mx	.009	5.5
13	MP4C	X	25.777	.5
14	MP4C	Z	0	.5
15	MP4C	Mx	.006	.5
16	MP4C	X	25.777	5.5
17	MP4C	Z	0	5.5
18	MP4C	Mx	.006	5.5
19	MP1A	X	27.941	.5
20	MP1A	Z	0	.5
21	MP1A	Mx	-.014	.5
22	MP1A	X	27.941	5.5
23	MP1A	Z	0	5.5
24	MP1A	Mx	-.014	5.5
25	MP1B	X	30.195	.5
26	MP1B	Z	0	.5
27	MP1B	Mx	.002	.5
28	MP1B	X	30.195	5.5
29	MP1B	Z	0	5.5
30	MP1B	Mx	.002	5.5
31	MP1C	X	34.703	.5
32	MP1C	Z	0	.5
33	MP1C	Mx	.03	.5
34	MP1C	X	34.703	5.5
35	MP1C	Z	0	5.5
36	MP1C	Mx	.03	5.5
37	MP1A	X	27.941	.5
38	MP1A	Z	0	.5
39	MP1A	Mx	-.014	.5
40	MP1A	X	27.941	5.5
41	MP1A	Z	0	5.5
42	MP1A	Mx	-.014	5.5
43	MP1B	X	30.195	.5
44	MP1B	Z	0	.5
45	MP1B	Mx	.024	.5
46	MP1B	X	30.195	5.5
47	MP1B	Z	0	5.5
48	MP1B	Mx	.024	5.5
49	MP1C	X	34.703	.5
50	MP1C	Z	0	.5
51	MP1C	Mx	-.013	.5
52	MP1C	X	34.703	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP1C	Z	0	5.5
54	MP1C	Mx	-.013	5.5
55	MP3A	X	6.255	2
56	MP3A	Z	0	2
57	MP3A	Mx	-.003	2
58	MP3A	X	6.255	4
59	MP3A	Z	0	4
60	MP3A	Mx	-.003	4
61	MP3B	X	8.405	2
62	MP3B	Z	0	2
63	MP3B	Mx	.004	2
64	MP3B	X	8.405	4
65	MP3B	Z	0	4
66	MP3B	Mx	.004	4
67	MP3C	X	13.851	2
68	MP3C	Z	0	2
69	MP3C	Mx	.002	2
70	MP3C	X	13.851	4
71	MP3C	Z	0	4
72	MP3C	Mx	.002	4
73	MP1A	X	10.633	2.75
74	MP1A	Z	0	2.75
75	MP1A	Mx	.005	2.75
76	MP1B	X	14.137	2.75
77	MP1B	Z	0	2.75
78	MP1B	Mx	-.004	2.75
79	MP1C	X	14.137	2.75
80	MP1C	Z	0	2.75
81	MP1C	Mx	-.004	2.75
82	MP2A	X	10.82	2.75
83	MP2A	Z	0	2.75
84	MP2A	Mx	.005	2.75
85	MP2B	X	14.184	2.75
86	MP2B	Z	0	2.75
87	MP2B	Mx	-.004	2.75
88	MP2C	X	14.184	2.75
89	MP2C	Z	0	2.75
90	MP2C	Mx	-.004	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	17.15	.5
2	MP4A	Z	9.901	.5
3	MP4A	Mx	-.009	.5
4	MP4A	X	17.15	5.5
5	MP4A	Z	9.901	5.5
6	MP4A	Mx	-.009	5.5
7	MP4B	X	22.324	.5
8	MP4B	Z	12.889	.5
9	MP4B	Mx	.006	.5
10	MP4B	X	22.324	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
11	MP4B	Z	12.889	5.5
12	MP4B	Mx	.006	5.5
13	MP4C	X	17.15	.5
14	MP4C	Z	9.901	.5
15	MP4C	Mx	.009	.5
16	MP4C	X	17.15	5.5
17	MP4C	Z	9.901	5.5
18	MP4C	Mx	.009	5.5
19	MP1A	X	26.15	.5
20	MP1A	Z	15.098	.5
21	MP1A	Mx	-.002	.5
22	MP1A	X	26.15	5.5
23	MP1A	Z	15.098	5.5
24	MP1A	Mx	-.002	5.5
25	MP1B	X	30.053	.5
26	MP1B	Z	17.351	.5
27	MP1B	Mx	-.013	.5
28	MP1B	X	30.053	5.5
29	MP1B	Z	17.351	5.5
30	MP1B	Mx	-.013	5.5
31	MP1C	X	26.15	.5
32	MP1C	Z	15.098	.5
33	MP1C	Mx	.024	.5
34	MP1C	X	26.15	5.5
35	MP1C	Z	15.098	5.5
36	MP1C	Mx	.024	5.5
37	MP1A	X	26.15	.5
38	MP1A	Z	15.098	.5
39	MP1A	Mx	-.024	.5
40	MP1A	X	26.15	5.5
41	MP1A	Z	15.098	5.5
42	MP1A	Mx	-.024	5.5
43	MP1B	X	30.053	.5
44	MP1B	Z	17.351	.5
45	MP1B	Mx	.03	.5
46	MP1B	X	30.053	5.5
47	MP1B	Z	17.351	5.5
48	MP1B	Mx	.03	5.5
49	MP1C	X	26.15	.5
50	MP1C	Z	15.098	.5
51	MP1C	Mx	.002	.5
52	MP1C	X	26.15	5.5
53	MP1C	Z	15.098	5.5
54	MP1C	Mx	.002	5.5
55	MP3A	X	7.279	2
56	MP3A	Z	4.203	2
57	MP3A	Mx	-.004	2
58	MP3A	X	7.279	4
59	MP3A	Z	4.203	4
60	MP3A	Mx	-.004	4
61	MP3B	X	11.004	2
62	MP3B	Z	6.353	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
63	MP3B	Mx	.003	2
64	MP3B	X	11.004	4
65	MP3B	Z	6.353	4
66	MP3B	Mx	.003	4
67	MP3C	X	8.495	2
68	MP3C	Z	4.905	2
69	MP3C	Mx	.004	2
70	MP3C	X	8.495	4
71	MP3C	Z	4.905	4
72	MP3C	Mx	.004	4
73	MP1A	X	10.22	2.75
74	MP1A	Z	5.9	2.75
75	MP1A	Mx	.005	2.75
76	MP1B	X	13.255	2.75
77	MP1B	Z	7.653	2.75
78	MP1B	Mx	0	2.75
79	MP1C	X	10.22	2.75
80	MP1C	Z	5.9	2.75
81	MP1C	Mx	-.005	2.75
82	MP2A	X	10.341	2.75
83	MP2A	Z	5.971	2.75
84	MP2A	Mx	.005	2.75
85	MP2B	X	13.255	2.75
86	MP2B	Z	7.653	2.75
87	MP2B	Mx	0	2.75
88	MP2C	X	10.341	2.75
89	MP2C	Z	5.971	2.75
90	MP2C	Mx	-.005	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	12.889	.5
2	MP4A	Z	22.324	.5
3	MP4A	Mx	-.006	.5
4	MP4A	X	12.889	5.5
5	MP4A	Z	22.324	5.5
6	MP4A	Mx	-.006	5.5
7	MP4B	X	14.382	.5
8	MP4B	Z	24.911	.5
9	MP4B	Mx	0	.5
10	MP4B	X	14.382	5.5
11	MP4B	Z	24.911	5.5
12	MP4B	Mx	0	5.5
13	MP4C	X	8.408	.5
14	MP4C	Z	14.563	.5
15	MP4C	Mx	.008	.5
16	MP4C	X	8.408	5.5
17	MP4C	Z	14.563	5.5
18	MP4C	Mx	.008	5.5
19	MP1A	X	17.351	.5
20	MP1A	Z	30.053	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
21	MP1A	Mx	.013	.5
22	MP1A	X	17.351	5.5
23	MP1A	Z	30.053	5.5
24	MP1A	Mx	.013	5.5
25	MP1B	X	18.478	.5
26	MP1B	Z	32.005	.5
27	MP1B	Mx	-.026	.5
28	MP1B	X	18.478	5.5
29	MP1B	Z	32.005	5.5
30	MP1B	Mx	-.026	5.5
31	MP1C	X	13.971	.5
32	MP1C	Z	24.198	.5
33	MP1C	Mx	.014	.5
34	MP1C	X	13.971	5.5
35	MP1C	Z	24.198	5.5
36	MP1C	Mx	.014	5.5
37	MP1A	X	17.351	.5
38	MP1A	Z	30.053	.5
39	MP1A	Mx	-.03	.5
40	MP1A	X	17.351	5.5
41	MP1A	Z	30.053	5.5
42	MP1A	Mx	-.03	5.5
43	MP1B	X	18.478	.5
44	MP1B	Z	32.005	.5
45	MP1B	Mx	.026	.5
46	MP1B	X	18.478	5.5
47	MP1B	Z	32.005	5.5
48	MP1B	Mx	.026	5.5
49	MP1C	X	13.971	.5
50	MP1C	Z	24.198	.5
51	MP1C	Mx	.014	.5
52	MP1C	X	13.971	5.5
53	MP1C	Z	24.198	5.5
54	MP1C	Mx	.014	5.5
55	MP3A	X	6.353	2
56	MP3A	Z	11.004	2
57	MP3A	Mx	-.003	2
58	MP3A	X	6.353	4
59	MP3A	Z	11.004	4
60	MP3A	Mx	-.003	4
61	MP3B	X	7.429	2
62	MP3B	Z	12.867	2
63	MP3B	Mx	0	2
64	MP3B	X	7.429	4
65	MP3B	Z	12.867	4
66	MP3B	Mx	0	4
67	MP3C	X	3.257	2
68	MP3C	Z	5.642	2
69	MP3C	Mx	.003	2
70	MP3C	X	3.257	4
71	MP3C	Z	5.642	4
72	MP3C	Mx	.003	4

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
73	MP1A	X	7.069	2.75
74	MP1A	Z	12.243	2.75
75	MP1A	Mx	.004	2.75
76	MP1B	X	7.069	2.75
77	MP1B	Z	12.243	2.75
78	MP1B	Mx	.004	2.75
79	MP1C	X	5.316	2.75
80	MP1C	Z	9.208	2.75
81	MP1C	Mx	-.005	2.75
82	MP2A	X	7.092	2.75
83	MP2A	Z	12.284	2.75
84	MP2A	Mx	.004	2.75
85	MP2B	X	7.092	2.75
86	MP2B	Z	12.284	2.75
87	MP2B	Mx	.004	2.75
88	MP2C	X	5.41	2.75
89	MP2C	Z	9.37	2.75
90	MP2C	Mx	-.005	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	.5
2	MP4A	Z	28.764	.5
3	MP4A	Mx	0	.5
4	MP4A	X	0	5.5
5	MP4A	Z	28.764	5.5
6	MP4A	Mx	0	5.5
7	MP4B	X	0	.5
8	MP4B	Z	25.777	.5
9	MP4B	Mx	-.006	.5
10	MP4B	X	0	5.5
11	MP4B	Z	25.777	5.5
12	MP4B	Mx	-.006	5.5
13	MP4C	X	0	.5
14	MP4C	Z	19.803	.5
15	MP4C	Mx	.009	.5
16	MP4C	X	0	5.5
17	MP4C	Z	19.803	5.5
18	MP4C	Mx	.009	5.5
19	MP1A	X	0	.5
20	MP1A	Z	36.956	.5
21	MP1A	Mx	.026	.5
22	MP1A	X	0	5.5
23	MP1A	Z	36.956	5.5
24	MP1A	Mx	.026	5.5
25	MP1B	X	0	.5
26	MP1B	Z	34.703	.5
27	MP1B	Mx	-.03	.5
28	MP1B	X	0	5.5
29	MP1B	Z	34.703	5.5
30	MP1B	Mx	-.03	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
31	MP1C	X	0	.5
32	MP1C	Z	30.195	.5
33	MP1C	Mx	.002	.5
34	MP1C	X	0	5.5
35	MP1C	Z	30.195	5.5
36	MP1C	Mx	.002	5.5
37	MP1A	X	0	.5
38	MP1A	Z	36.956	.5
39	MP1A	Mx	-.026	.5
40	MP1A	X	0	5.5
41	MP1A	Z	36.956	5.5
42	MP1A	Mx	-.026	5.5
43	MP1B	X	0	.5
44	MP1B	Z	34.703	.5
45	MP1B	Mx	.013	.5
46	MP1B	X	0	5.5
47	MP1B	Z	34.703	5.5
48	MP1B	Mx	.013	5.5
49	MP1C	X	0	.5
50	MP1C	Z	30.195	.5
51	MP1C	Mx	.024	.5
52	MP1C	X	0	5.5
53	MP1C	Z	30.195	5.5
54	MP1C	Mx	.024	5.5
55	MP3A	X	0	2
56	MP3A	Z	14.857	2
57	MP3A	Mx	0	2
58	MP3A	X	0	4
59	MP3A	Z	14.857	4
60	MP3A	Mx	0	4
61	MP3B	X	0	2
62	MP3B	Z	12.707	2
63	MP3B	Mx	-.003	2
64	MP3B	X	0	4
65	MP3B	Z	12.707	4
66	MP3B	Mx	-.003	4
67	MP3C	X	0	2
68	MP3C	Z	7.261	2
69	MP3C	Mx	.003	2
70	MP3C	X	0	4
71	MP3C	Z	7.261	4
72	MP3C	Mx	.003	4
73	MP1A	X	0	2.75
74	MP1A	Z	15.305	2.75
75	MP1A	Mx	0	2.75
76	MP1B	X	0	2.75
77	MP1B	Z	11.801	2.75
78	MP1B	Mx	.005	2.75
79	MP1C	X	0	2.75
80	MP1C	Z	11.801	2.75
81	MP1C	Mx	-.005	2.75
82	MP2A	X	0	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
83	MP2A	Z	15.305	2.75
84	MP2A	Mx	0	2.75
85	MP2B	X	0	2.75
86	MP2B	Z	11.941	2.75
87	MP2B	Mx	.005	2.75
88	MP2C	X	0	2.75
89	MP2C	Z	11.941	2.75
90	MP2C	Mx	-.005	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-12.889	.5
2	MP4A	Z	22.324	.5
3	MP4A	Mx	.006	.5
4	MP4A	X	-12.889	5.5
5	MP4A	Z	22.324	5.5
6	MP4A	Mx	.006	5.5
7	MP4B	X	-9.901	.5
8	MP4B	Z	17.15	.5
9	MP4B	Mx	-.009	.5
10	MP4B	X	-9.901	5.5
11	MP4B	Z	17.15	5.5
12	MP4B	Mx	-.009	5.5
13	MP4C	X	-12.889	.5
14	MP4C	Z	22.324	.5
15	MP4C	Mx	.006	.5
16	MP4C	X	-12.889	5.5
17	MP4C	Z	22.324	5.5
18	MP4C	Mx	.006	5.5
19	MP1A	X	-17.351	.5
20	MP1A	Z	30.053	.5
21	MP1A	Mx	.03	.5
22	MP1A	X	-17.351	5.5
23	MP1A	Z	30.053	5.5
24	MP1A	Mx	.03	5.5
25	MP1B	X	-15.098	.5
26	MP1B	Z	26.15	.5
27	MP1B	Mx	-.024	.5
28	MP1B	X	-15.098	5.5
29	MP1B	Z	26.15	5.5
30	MP1B	Mx	-.024	5.5
31	MP1C	X	-17.351	.5
32	MP1C	Z	30.053	.5
33	MP1C	Mx	-.013	.5
34	MP1C	X	-17.351	5.5
35	MP1C	Z	30.053	5.5
36	MP1C	Mx	-.013	5.5
37	MP1A	X	-17.351	.5
38	MP1A	Z	30.053	.5
39	MP1A	Mx	-.013	.5
40	MP1A	X	-17.351	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
41	MP1A	Z	30.053	5.5
42	MP1A	Mx	-.013	5.5
43	MP1B	X	-15.098	.5
44	MP1B	Z	26.15	.5
45	MP1B	Mx	-.002	.5
46	MP1B	X	-15.098	5.5
47	MP1B	Z	26.15	5.5
48	MP1B	Mx	-.002	5.5
49	MP1C	X	-17.351	.5
50	MP1C	Z	30.053	.5
51	MP1C	Mx	.03	.5
52	MP1C	X	-17.351	5.5
53	MP1C	Z	30.053	5.5
54	MP1C	Mx	.03	5.5
55	MP3A	X	-6.353	2
56	MP3A	Z	11.004	2
57	MP3A	Mx	.003	2
58	MP3A	X	-6.353	4
59	MP3A	Z	11.004	4
60	MP3A	Mx	.003	4
61	MP3B	X	-4.203	2
62	MP3B	Z	7.279	2
63	MP3B	Mx	-.004	2
64	MP3B	X	-4.203	4
65	MP3B	Z	7.279	4
66	MP3B	Mx	-.004	4
67	MP3C	X	-5.651	2
68	MP3C	Z	9.789	2
69	MP3C	Mx	.004	2
70	MP3C	X	-5.651	4
71	MP3C	Z	9.789	4
72	MP3C	Mx	.004	4
73	MP1A	X	-7.069	2.75
74	MP1A	Z	12.243	2.75
75	MP1A	Mx	-.004	2.75
76	MP1B	X	-5.316	2.75
77	MP1B	Z	9.208	2.75
78	MP1B	Mx	.005	2.75
79	MP1C	X	-7.069	2.75
80	MP1C	Z	12.243	2.75
81	MP1C	Mx	-.004	2.75
82	MP2A	X	-7.092	2.75
83	MP2A	Z	12.284	2.75
84	MP2A	Mx	-.004	2.75
85	MP2B	X	-5.41	2.75
86	MP2B	Z	9.37	2.75
87	MP2B	Mx	.005	2.75
88	MP2C	X	-7.092	2.75
89	MP2C	Z	12.284	2.75
90	MP2C	Mx	-.004	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-17.15	.5
2	MP4A	Z	9.901	.5
3	MP4A	Mx	.009	.5
4	MP4A	X	-17.15	5.5
5	MP4A	Z	9.901	5.5
6	MP4A	Mx	.009	5.5
7	MP4B	X	-14.563	.5
8	MP4B	Z	8.408	.5
9	MP4B	Mx	-.008	.5
10	MP4B	X	-14.563	5.5
11	MP4B	Z	8.408	5.5
12	MP4B	Mx	-.008	5.5
13	MP4C	X	-24.911	.5
14	MP4C	Z	14.382	.5
15	MP4C	Mx	0	.5
16	MP4C	X	-24.911	5.5
17	MP4C	Z	14.382	5.5
18	MP4C	Mx	0	5.5
19	MP1A	X	-26.15	.5
20	MP1A	Z	15.098	.5
21	MP1A	Mx	.024	.5
22	MP1A	X	-26.15	5.5
23	MP1A	Z	15.098	5.5
24	MP1A	Mx	.024	5.5
25	MP1B	X	-24.198	.5
26	MP1B	Z	13.971	.5
27	MP1B	Mx	-.014	.5
28	MP1B	X	-24.198	5.5
29	MP1B	Z	13.971	5.5
30	MP1B	Mx	-.014	5.5
31	MP1C	X	-32.005	.5
32	MP1C	Z	18.478	.5
33	MP1C	Mx	-.026	.5
34	MP1C	X	-32.005	5.5
35	MP1C	Z	18.478	5.5
36	MP1C	Mx	-.026	5.5
37	MP1A	X	-26.15	.5
38	MP1A	Z	15.098	.5
39	MP1A	Mx	.002	.5
40	MP1A	X	-26.15	5.5
41	MP1A	Z	15.098	5.5
42	MP1A	Mx	.002	5.5
43	MP1B	X	-24.198	.5
44	MP1B	Z	13.971	.5
45	MP1B	Mx	-.014	.5
46	MP1B	X	-24.198	5.5
47	MP1B	Z	13.971	5.5
48	MP1B	Mx	-.014	5.5
49	MP1C	X	-32.005	.5
50	MP1C	Z	18.478	.5
51	MP1C	Mx	.026	.5
52	MP1C	X	-32.005	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP1C	Z	18.478	5.5
54	MP1C	Mx	.026	5.5
55	MP3A	X	-7.279	2
56	MP3A	Z	4.203	2
57	MP3A	Mx	.004	2
58	MP3A	X	-7.279	4
59	MP3A	Z	4.203	4
60	MP3A	Mx	.004	4
61	MP3B	X	-5.417	2
62	MP3B	Z	3.127	2
63	MP3B	Mx	-.003	2
64	MP3B	X	-5.417	4
65	MP3B	Z	3.127	4
66	MP3B	Mx	-.003	4
67	MP3C	X	-12.642	2
68	MP3C	Z	7.299	2
69	MP3C	Mx	.001	2
70	MP3C	X	-12.642	4
71	MP3C	Z	7.299	4
72	MP3C	Mx	.001	4
73	MP1A	X	-10.22	2.75
74	MP1A	Z	5.9	2.75
75	MP1A	Mx	-.005	2.75
76	MP1B	X	-10.22	2.75
77	MP1B	Z	5.9	2.75
78	MP1B	Mx	.005	2.75
79	MP1C	X	-13.255	2.75
80	MP1C	Z	7.653	2.75
81	MP1C	Mx	0	2.75
82	MP2A	X	-10.341	2.75
83	MP2A	Z	5.971	2.75
84	MP2A	Mx	-.005	2.75
85	MP2B	X	-10.341	2.75
86	MP2B	Z	5.971	2.75
87	MP2B	Mx	.005	2.75
88	MP2C	X	-13.255	2.75
89	MP2C	Z	7.653	2.75
90	MP2C	Mx	0	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-16.816	.5
2	MP4A	Z	0	.5
3	MP4A	Mx	.008	.5
4	MP4A	X	-16.816	5.5
5	MP4A	Z	0	5.5
6	MP4A	Mx	.008	5.5
7	MP4B	X	-19.803	.5
8	MP4B	Z	0	.5
9	MP4B	Mx	-.009	.5
10	MP4B	X	-19.803	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
11	MP4B	Z	0	5.5
12	MP4B	Mx	-.009	5.5
13	MP4C	X	-25.777	.5
14	MP4C	Z	0	.5
15	MP4C	Mx	-.006	.5
16	MP4C	X	-25.777	5.5
17	MP4C	Z	0	5.5
18	MP4C	Mx	-.006	5.5
19	MP1A	X	-27.941	.5
20	MP1A	Z	0	.5
21	MP1A	Mx	.014	.5
22	MP1A	X	-27.941	5.5
23	MP1A	Z	0	5.5
24	MP1A	Mx	.014	5.5
25	MP1B	X	-30.195	.5
26	MP1B	Z	0	.5
27	MP1B	Mx	-.002	.5
28	MP1B	X	-30.195	5.5
29	MP1B	Z	0	5.5
30	MP1B	Mx	-.002	5.5
31	MP1C	X	-34.703	.5
32	MP1C	Z	0	.5
33	MP1C	Mx	-.03	.5
34	MP1C	X	-34.703	5.5
35	MP1C	Z	0	5.5
36	MP1C	Mx	-.03	5.5
37	MP1A	X	-27.941	.5
38	MP1A	Z	0	.5
39	MP1A	Mx	.014	.5
40	MP1A	X	-27.941	5.5
41	MP1A	Z	0	5.5
42	MP1A	Mx	.014	5.5
43	MP1B	X	-30.195	.5
44	MP1B	Z	0	.5
45	MP1B	Mx	-.024	.5
46	MP1B	X	-30.195	5.5
47	MP1B	Z	0	5.5
48	MP1B	Mx	-.024	5.5
49	MP1C	X	-34.703	.5
50	MP1C	Z	0	.5
51	MP1C	Mx	.013	.5
52	MP1C	X	-34.703	5.5
53	MP1C	Z	0	5.5
54	MP1C	Mx	.013	5.5
55	MP3A	X	-6.255	2
56	MP3A	Z	0	2
57	MP3A	Mx	.003	2
58	MP3A	X	-6.255	4
59	MP3A	Z	0	4
60	MP3A	Mx	.003	4
61	MP3B	X	-8.405	2
62	MP3B	Z	0	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
63	MP3B	Mx	-.004	2
64	MP3B	X	-8.405	4
65	MP3B	Z	0	4
66	MP3B	Mx	-.004	4
67	MP3C	X	-13.851	2
68	MP3C	Z	0	2
69	MP3C	Mx	-.002	2
70	MP3C	X	-13.851	4
71	MP3C	Z	0	4
72	MP3C	Mx	-.002	4
73	MP1A	X	-10.633	2.75
74	MP1A	Z	0	2.75
75	MP1A	Mx	-.005	2.75
76	MP1B	X	-14.137	2.75
77	MP1B	Z	0	2.75
78	MP1B	Mx	.004	2.75
79	MP1C	X	-14.137	2.75
80	MP1C	Z	0	2.75
81	MP1C	Mx	.004	2.75
82	MP2A	X	-10.82	2.75
83	MP2A	Z	0	2.75
84	MP2A	Mx	-.005	2.75
85	MP2B	X	-14.184	2.75
86	MP2B	Z	0	2.75
87	MP2B	Mx	.004	2.75
88	MP2C	X	-14.184	2.75
89	MP2C	Z	0	2.75
90	MP2C	Mx	.004	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-17.15	.5
2	MP4A	Z	-9.901	.5
3	MP4A	Mx	.009	.5
4	MP4A	X	-17.15	5.5
5	MP4A	Z	-9.901	5.5
6	MP4A	Mx	.009	5.5
7	MP4B	X	-22.324	.5
8	MP4B	Z	-12.889	.5
9	MP4B	Mx	-.006	.5
10	MP4B	X	-22.324	5.5
11	MP4B	Z	-12.889	5.5
12	MP4B	Mx	-.006	5.5
13	MP4C	X	-17.15	.5
14	MP4C	Z	-9.901	.5
15	MP4C	Mx	-.009	.5
16	MP4C	X	-17.15	5.5
17	MP4C	Z	-9.901	5.5
18	MP4C	Mx	-.009	5.5
19	MP1A	X	-26.15	.5
20	MP1A	Z	-15.098	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
21	MP1A	Mx	.002	.5
22	MP1A	X	-26.15	5.5
23	MP1A	Z	-15.098	5.5
24	MP1A	Mx	.002	5.5
25	MP1B	X	-30.053	.5
26	MP1B	Z	-17.351	.5
27	MP1B	Mx	.013	.5
28	MP1B	X	-30.053	5.5
29	MP1B	Z	-17.351	5.5
30	MP1B	Mx	.013	5.5
31	MP1C	X	-26.15	.5
32	MP1C	Z	-15.098	.5
33	MP1C	Mx	-.024	.5
34	MP1C	X	-26.15	5.5
35	MP1C	Z	-15.098	5.5
36	MP1C	Mx	-.024	5.5
37	MP1A	X	-26.15	.5
38	MP1A	Z	-15.098	.5
39	MP1A	Mx	.024	.5
40	MP1A	X	-26.15	5.5
41	MP1A	Z	-15.098	5.5
42	MP1A	Mx	.024	5.5
43	MP1B	X	-30.053	.5
44	MP1B	Z	-17.351	.5
45	MP1B	Mx	-.03	.5
46	MP1B	X	-30.053	5.5
47	MP1B	Z	-17.351	5.5
48	MP1B	Mx	-.03	5.5
49	MP1C	X	-26.15	.5
50	MP1C	Z	-15.098	.5
51	MP1C	Mx	-.002	.5
52	MP1C	X	-26.15	5.5
53	MP1C	Z	-15.098	5.5
54	MP1C	Mx	-.002	5.5
55	MP3A	X	-7.279	2
56	MP3A	Z	-4.203	2
57	MP3A	Mx	.004	2
58	MP3A	X	-7.279	4
59	MP3A	Z	-4.203	4
60	MP3A	Mx	.004	4
61	MP3B	X	-11.004	2
62	MP3B	Z	-6.353	2
63	MP3B	Mx	-.003	2
64	MP3B	X	-11.004	4
65	MP3B	Z	-6.353	4
66	MP3B	Mx	-.003	4
67	MP3C	X	-8.495	2
68	MP3C	Z	-4.905	2
69	MP3C	Mx	-.004	2
70	MP3C	X	-8.495	4
71	MP3C	Z	-4.905	4
72	MP3C	Mx	-.004	4

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
73	MP1A	X	-10.22	2.75
74	MP1A	Z	-5.9	2.75
75	MP1A	Mx	-.005	2.75
76	MP1B	X	-13.255	2.75
77	MP1B	Z	-7.653	2.75
78	MP1B	Mx	0	2.75
79	MP1C	X	-10.22	2.75
80	MP1C	Z	-5.9	2.75
81	MP1C	Mx	.005	2.75
82	MP2A	X	-10.341	2.75
83	MP2A	Z	-5.971	2.75
84	MP2A	Mx	-.005	2.75
85	MP2B	X	-13.255	2.75
86	MP2B	Z	-7.653	2.75
87	MP2B	Mx	0	2.75
88	MP2C	X	-10.341	2.75
89	MP2C	Z	-5.971	2.75
90	MP2C	Mx	.005	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-12.889	.5
2	MP4A	Z	-22.324	.5
3	MP4A	Mx	.006	.5
4	MP4A	X	-12.889	5.5
5	MP4A	Z	-22.324	5.5
6	MP4A	Mx	.006	5.5
7	MP4B	X	-14.382	.5
8	MP4B	Z	-24.911	.5
9	MP4B	Mx	0	.5
10	MP4B	X	-14.382	5.5
11	MP4B	Z	-24.911	5.5
12	MP4B	Mx	0	5.5
13	MP4C	X	-8.408	.5
14	MP4C	Z	-14.563	.5
15	MP4C	Mx	-.008	.5
16	MP4C	X	-8.408	5.5
17	MP4C	Z	-14.563	5.5
18	MP4C	Mx	-.008	5.5
19	MP1A	X	-17.351	.5
20	MP1A	Z	-30.053	.5
21	MP1A	Mx	-.013	.5
22	MP1A	X	-17.351	5.5
23	MP1A	Z	-30.053	5.5
24	MP1A	Mx	-.013	5.5
25	MP1B	X	-18.478	.5
26	MP1B	Z	-32.005	.5
27	MP1B	Mx	.026	.5
28	MP1B	X	-18.478	5.5
29	MP1B	Z	-32.005	5.5
30	MP1B	Mx	.026	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
31	MP1C	X	-13.971	.5
32	MP1C	Z	-24.198	.5
33	MP1C	Mx	-.014	.5
34	MP1C	X	-13.971	5.5
35	MP1C	Z	-24.198	5.5
36	MP1C	Mx	-.014	5.5
37	MP1A	X	-17.351	.5
38	MP1A	Z	-30.053	.5
39	MP1A	Mx	.03	.5
40	MP1A	X	-17.351	5.5
41	MP1A	Z	-30.053	5.5
42	MP1A	Mx	.03	5.5
43	MP1B	X	-18.478	.5
44	MP1B	Z	-32.005	.5
45	MP1B	Mx	-.026	.5
46	MP1B	X	-18.478	5.5
47	MP1B	Z	-32.005	5.5
48	MP1B	Mx	-.026	5.5
49	MP1C	X	-13.971	.5
50	MP1C	Z	-24.198	.5
51	MP1C	Mx	-.014	.5
52	MP1C	X	-13.971	5.5
53	MP1C	Z	-24.198	5.5
54	MP1C	Mx	-.014	5.5
55	MP3A	X	-6.353	2
56	MP3A	Z	-11.004	2
57	MP3A	Mx	.003	2
58	MP3A	X	-6.353	4
59	MP3A	Z	-11.004	4
60	MP3A	Mx	.003	4
61	MP3B	X	-7.429	2
62	MP3B	Z	-12.867	2
63	MP3B	Mx	0	2
64	MP3B	X	-7.429	4
65	MP3B	Z	-12.867	4
66	MP3B	Mx	0	4
67	MP3C	X	-3.257	2
68	MP3C	Z	-5.642	2
69	MP3C	Mx	-.003	2
70	MP3C	X	-3.257	4
71	MP3C	Z	-5.642	4
72	MP3C	Mx	-.003	4
73	MP1A	X	-7.069	2.75
74	MP1A	Z	-12.243	2.75
75	MP1A	Mx	-.004	2.75
76	MP1B	X	-7.069	2.75
77	MP1B	Z	-12.243	2.75
78	MP1B	Mx	-.004	2.75
79	MP1C	X	-5.316	2.75
80	MP1C	Z	-9.208	2.75
81	MP1C	Mx	.005	2.75
82	MP2A	X	-7.092	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
83	MP2A	Z	-12.284	2.75
84	MP2A	Mx	-.004	2.75
85	MP2B	X	-7.092	2.75
86	MP2B	Z	-12.284	2.75
87	MP2B	Mx	-.004	2.75
88	MP2C	X	-5.41	2.75
89	MP2C	Z	-9.37	2.75
90	MP2C	Mx	.005	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	.5
2	MP4A	Z	-9.383	.5
3	MP4A	Mx	0	.5
4	MP4A	X	0	5.5
5	MP4A	Z	-9.383	5.5
6	MP4A	Mx	0	5.5
7	MP4B	X	0	.5
8	MP4B	Z	-8.326	.5
9	MP4B	Mx	.002	.5
10	MP4B	X	0	5.5
11	MP4B	Z	-8.326	5.5
12	MP4B	Mx	.002	5.5
13	MP4C	X	0	.5
14	MP4C	Z	-6.211	.5
15	MP4C	Mx	-.003	.5
16	MP4C	X	0	5.5
17	MP4C	Z	-6.211	5.5
18	MP4C	Mx	-.003	5.5
19	MP1A	X	0	.5
20	MP1A	Z	-5.863	.5
21	MP1A	Mx	-.004	.5
22	MP1A	X	0	5.5
23	MP1A	Z	-5.863	5.5
24	MP1A	Mx	-.004	5.5
25	MP1B	X	0	.5
26	MP1B	Z	-5.494	.5
27	MP1B	Mx	.005	.5
28	MP1B	X	0	5.5
29	MP1B	Z	-5.494	5.5
30	MP1B	Mx	.005	5.5
31	MP1C	X	0	.5
32	MP1C	Z	-4.757	.5
33	MP1C	Mx	-.000375	.5
34	MP1C	X	0	5.5
35	MP1C	Z	-4.757	5.5
36	MP1C	Mx	-.000375	5.5
37	MP1A	X	0	.5
38	MP1A	Z	-5.863	.5
39	MP1A	Mx	.004	.5
40	MP1A	X	0	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
41	MP1A	Z	-5.863	5.5
42	MP1A	Mx	.004	5.5
43	MP1B	X	0	.5
44	MP1B	Z	-5.494	.5
45	MP1B	Mx	-.002	.5
46	MP1B	X	0	5.5
47	MP1B	Z	-5.494	5.5
48	MP1B	Mx	-.002	5.5
49	MP1C	X	0	.5
50	MP1C	Z	-4.757	.5
51	MP1C	Mx	-.004	.5
52	MP1C	X	0	5.5
53	MP1C	Z	-4.757	5.5
54	MP1C	Mx	-.004	5.5
55	MP3A	X	0	2
56	MP3A	Z	-3.917	2
57	MP3A	Mx	0	2
58	MP3A	X	0	4
59	MP3A	Z	-3.917	4
60	MP3A	Mx	0	4
61	MP3B	X	0	2
62	MP3B	Z	-3.282	2
63	MP3B	Mx	.00082	2
64	MP3B	X	0	4
65	MP3B	Z	-3.282	4
66	MP3B	Mx	.00082	4
67	MP3C	X	0	2
68	MP3C	Z	-1.673	2
69	MP3C	Mx	-.000786	2
70	MP3C	X	0	4
71	MP3C	Z	-1.673	4
72	MP3C	Mx	-.000786	4
73	MP1A	X	0	2.75
74	MP1A	Z	-3.838	2.75
75	MP1A	Mx	0	2.75
76	MP1B	X	0	2.75
77	MP1B	Z	-2.891	2.75
78	MP1B	Mx	-.001	2.75
79	MP1C	X	0	2.75
80	MP1C	Z	-2.891	2.75
81	MP1C	Mx	.001	2.75
82	MP2A	X	0	2.75
83	MP2A	Z	-4.631	2.75
84	MP2A	Mx	0	2.75
85	MP2B	X	0	2.75
86	MP2B	Z	-3.526	2.75
87	MP2B	Mx	-.002	2.75
88	MP2C	X	0	2.75
89	MP2C	Z	-3.526	2.75
90	MP2C	Mx	.002	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	4.163	.5
2	MP4A	Z	-7.21	.5
3	MP4A	Mx	-.002	.5
4	MP4A	X	4.163	5.5
5	MP4A	Z	-7.21	5.5
6	MP4A	Mx	-.002	5.5
7	MP4B	X	3.106	.5
8	MP4B	Z	-5.379	.5
9	MP4B	Mx	.003	.5
10	MP4B	X	3.106	5.5
11	MP4B	Z	-5.379	5.5
12	MP4B	Mx	.003	5.5
13	MP4C	X	4.163	.5
14	MP4C	Z	-7.21	.5
15	MP4C	Mx	-.002	.5
16	MP4C	X	4.163	5.5
17	MP4C	Z	-7.21	5.5
18	MP4C	Mx	-.002	5.5
19	MP1A	X	2.747	.5
20	MP1A	Z	-4.758	.5
21	MP1A	Mx	-.005	.5
22	MP1A	X	2.747	5.5
23	MP1A	Z	-4.758	5.5
24	MP1A	Mx	-.005	5.5
25	MP1B	X	2.378	.5
26	MP1B	Z	-4.119	.5
27	MP1B	Mx	.004	.5
28	MP1B	X	2.378	5.5
29	MP1B	Z	-4.119	5.5
30	MP1B	Mx	.004	5.5
31	MP1C	X	2.747	.5
32	MP1C	Z	-4.758	.5
33	MP1C	Mx	.002	.5
34	MP1C	X	2.747	5.5
35	MP1C	Z	-4.758	5.5
36	MP1C	Mx	.002	5.5
37	MP1A	X	2.747	.5
38	MP1A	Z	-4.758	.5
39	MP1A	Mx	.002	.5
40	MP1A	X	2.747	5.5
41	MP1A	Z	-4.758	5.5
42	MP1A	Mx	.002	5.5
43	MP1B	X	2.378	.5
44	MP1B	Z	-4.119	.5
45	MP1B	Mx	.000375	.5
46	MP1B	X	2.378	5.5
47	MP1B	Z	-4.119	5.5
48	MP1B	Mx	.000375	5.5
49	MP1C	X	2.747	.5
50	MP1C	Z	-4.758	.5
51	MP1C	Mx	-.005	.5
52	MP1C	X	2.747	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP1C	Z	-4.758	5.5
54	MP1C	Mx	-.005	5.5
55	MP3A	X	1.641	2
56	MP3A	Z	-2.842	2
57	MP3A	Mx	-.00082	2
58	MP3A	X	1.641	4
59	MP3A	Z	-2.842	4
60	MP3A	Mx	-.00082	4
61	MP3B	X	1.006	2
62	MP3B	Z	-1.742	2
63	MP3B	Mx	.000871	2
64	MP3B	X	1.006	4
65	MP3B	Z	-1.742	4
66	MP3B	Mx	.000871	4
67	MP3C	X	1.434	2
68	MP3C	Z	-2.483	2
69	MP3C	Mx	-.000921	2
70	MP3C	X	1.434	4
71	MP3C	Z	-2.483	4
72	MP3C	Mx	-.000921	4
73	MP1A	X	1.761	2.75
74	MP1A	Z	-3.051	2.75
75	MP1A	Mx	.00088	2.75
76	MP1B	X	1.288	2.75
77	MP1B	Z	-2.23	2.75
78	MP1B	Mx	-.001	2.75
79	MP1C	X	1.761	2.75
80	MP1C	Z	-3.051	2.75
81	MP1C	Mx	.000881	2.75
82	MP2A	X	2.131	2.75
83	MP2A	Z	-3.692	2.75
84	MP2A	Mx	.001	2.75
85	MP2B	X	1.579	2.75
86	MP2B	Z	-2.734	2.75
87	MP2B	Mx	-.002	2.75
88	MP2C	X	2.131	2.75
89	MP2C	Z	-3.692	2.75
90	MP2C	Mx	.001	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	5.379	.5
2	MP4A	Z	-3.106	.5
3	MP4A	Mx	-.003	.5
4	MP4A	X	5.379	5.5
5	MP4A	Z	-3.106	5.5
6	MP4A	Mx	-.003	5.5
7	MP4B	X	4.464	.5
8	MP4B	Z	-2.577	.5
9	MP4B	Mx	.003	.5
10	MP4B	X	4.464	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
11	MP4B	Z	-2.577	5.5
12	MP4B	Mx	.003	5.5
13	MP4C	X	8.126	.5
14	MP4C	Z	-4.692	.5
15	MP4C	Mx	0	.5
16	MP4C	X	8.126	5.5
17	MP4C	Z	-4.692	5.5
18	MP4C	Mx	0	5.5
19	MP1A	X	4.119	.5
20	MP1A	Z	-2.378	.5
21	MP1A	Mx	-.004	.5
22	MP1A	X	4.119	5.5
23	MP1A	Z	-2.378	5.5
24	MP1A	Mx	-.004	5.5
25	MP1B	X	3.8	.5
26	MP1B	Z	-2.194	.5
27	MP1B	Mx	.002	.5
28	MP1B	X	3.8	5.5
29	MP1B	Z	-2.194	5.5
30	MP1B	Mx	.002	5.5
31	MP1C	X	5.077	.5
32	MP1C	Z	-2.931	.5
33	MP1C	Mx	.004	.5
34	MP1C	X	5.077	5.5
35	MP1C	Z	-2.931	5.5
36	MP1C	Mx	.004	5.5
37	MP1A	X	4.119	.5
38	MP1A	Z	-2.378	.5
39	MP1A	Mx	-.000375	.5
40	MP1A	X	4.119	5.5
41	MP1A	Z	-2.378	5.5
42	MP1A	Mx	-.000375	5.5
43	MP1B	X	3.8	.5
44	MP1B	Z	-2.194	.5
45	MP1B	Mx	.002	.5
46	MP1B	X	3.8	5.5
47	MP1B	Z	-2.194	5.5
48	MP1B	Mx	.002	5.5
49	MP1C	X	5.077	.5
50	MP1C	Z	-2.931	.5
51	MP1C	Mx	-.004	.5
52	MP1C	X	5.077	5.5
53	MP1C	Z	-2.931	5.5
54	MP1C	Mx	-.004	5.5
55	MP3A	X	1.742	2
56	MP3A	Z	-1.006	2
57	MP3A	Mx	-.000871	2
58	MP3A	X	1.742	4
59	MP3A	Z	-1.006	4
60	MP3A	Mx	-.000871	4
61	MP3B	X	1.192	2
62	MP3B	Z	-.688	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
63	MP3B	Mx	.000688	2
64	MP3B	X	1.192	4
65	MP3B	Z	-.688	4
66	MP3B	Mx	.000688	4
67	MP3C	X	3.326	2
68	MP3C	Z	-1.92	2
69	MP3C	Mx	-.000333	2
70	MP3C	X	3.326	4
71	MP3C	Z	-1.92	4
72	MP3C	Mx	-.000333	4
73	MP1A	X	2.504	2.75
74	MP1A	Z	-1.446	2.75
75	MP1A	Mx	.001	2.75
76	MP1B	X	2.504	2.75
77	MP1B	Z	-1.446	2.75
78	MP1B	Mx	-.001	2.75
79	MP1C	X	3.324	2.75
80	MP1C	Z	-1.919	2.75
81	MP1C	Mx	0	2.75
82	MP2A	X	3.053	2.75
83	MP2A	Z	-1.763	2.75
84	MP2A	Mx	.002	2.75
85	MP2B	X	3.053	2.75
86	MP2B	Z	-1.763	2.75
87	MP2B	Mx	-.002	2.75
88	MP2C	X	4.011	2.75
89	MP2C	Z	-2.315	2.75
90	MP2C	Mx	0	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	5.154	.5
2	MP4A	Z	0	.5
3	MP4A	Mx	-.003	.5
4	MP4A	X	5.154	5.5
5	MP4A	Z	0	5.5
6	MP4A	Mx	-.003	5.5
7	MP4B	X	6.211	.5
8	MP4B	Z	0	.5
9	MP4B	Mx	.003	.5
10	MP4B	X	6.211	5.5
11	MP4B	Z	0	5.5
12	MP4B	Mx	.003	5.5
13	MP4C	X	8.326	.5
14	MP4C	Z	0	.5
15	MP4C	Mx	.002	.5
16	MP4C	X	8.326	5.5
17	MP4C	Z	0	5.5
18	MP4C	Mx	.002	5.5
19	MP1A	X	4.388	.5
20	MP1A	Z	0	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
21	MP1A	Mx	-.002	.5
22	MP1A	X	4.388	5.5
23	MP1A	Z	0	5.5
24	MP1A	Mx	-.002	5.5
25	MP1B	X	4.757	.5
26	MP1B	Z	0	.5
27	MP1B	Mx	.000375	.5
28	MP1B	X	4.757	5.5
29	MP1B	Z	0	5.5
30	MP1B	Mx	.000375	5.5
31	MP1C	X	5.494	.5
32	MP1C	Z	0	.5
33	MP1C	Mx	.005	.5
34	MP1C	X	5.494	5.5
35	MP1C	Z	0	5.5
36	MP1C	Mx	.005	5.5
37	MP1A	X	4.388	.5
38	MP1A	Z	0	.5
39	MP1A	Mx	-.002	.5
40	MP1A	X	4.388	5.5
41	MP1A	Z	0	5.5
42	MP1A	Mx	-.002	5.5
43	MP1B	X	4.757	.5
44	MP1B	Z	0	.5
45	MP1B	Mx	.004	.5
46	MP1B	X	4.757	5.5
47	MP1B	Z	0	5.5
48	MP1B	Mx	.004	5.5
49	MP1C	X	5.494	.5
50	MP1C	Z	0	.5
51	MP1C	Mx	-.002	.5
52	MP1C	X	5.494	5.5
53	MP1C	Z	0	5.5
54	MP1C	Mx	-.002	5.5
55	MP3A	X	1.376	2
56	MP3A	Z	0	2
57	MP3A	Mx	-.000688	2
58	MP3A	X	1.376	4
59	MP3A	Z	0	4
60	MP3A	Mx	-.000688	4
61	MP3B	X	2.011	2
62	MP3B	Z	0	2
63	MP3B	Mx	.000871	2
64	MP3B	X	2.011	4
65	MP3B	Z	0	4
66	MP3B	Mx	.000871	4
67	MP3C	X	3.62	2
68	MP3C	Z	0	2
69	MP3C	Mx	.000619	2
70	MP3C	X	3.62	4
71	MP3C	Z	0	4
72	MP3C	Mx	.000619	4

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
73	MP1A	X	2.576	2.75
74	MP1A	Z	0	2.75
75	MP1A	Mx	.001	2.75
76	MP1B	X	3.523	2.75
77	MP1B	Z	0	2.75
78	MP1B	Mx	-.000881	2.75
79	MP1C	X	3.523	2.75
80	MP1C	Z	0	2.75
81	MP1C	Mx	-.000881	2.75
82	MP2A	X	3.157	2.75
83	MP2A	Z	0	2.75
84	MP2A	Mx	.002	2.75
85	MP2B	X	4.263	2.75
86	MP2B	Z	0	2.75
87	MP2B	Mx	-.001	2.75
88	MP2C	X	4.263	2.75
89	MP2C	Z	0	2.75
90	MP2C	Mx	-.001	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	5.379	.5
2	MP4A	Z	3.106	.5
3	MP4A	Mx	-.003	.5
4	MP4A	X	5.379	5.5
5	MP4A	Z	3.106	5.5
6	MP4A	Mx	-.003	5.5
7	MP4B	X	7.21	.5
8	MP4B	Z	4.163	.5
9	MP4B	Mx	.002	.5
10	MP4B	X	7.21	5.5
11	MP4B	Z	4.163	5.5
12	MP4B	Mx	.002	5.5
13	MP4C	X	5.379	.5
14	MP4C	Z	3.106	.5
15	MP4C	Mx	.003	.5
16	MP4C	X	5.379	5.5
17	MP4C	Z	3.106	5.5
18	MP4C	Mx	.003	5.5
19	MP1A	X	4.119	.5
20	MP1A	Z	2.378	.5
21	MP1A	Mx	-.000375	.5
22	MP1A	X	4.119	5.5
23	MP1A	Z	2.378	5.5
24	MP1A	Mx	-.000375	5.5
25	MP1B	X	4.758	.5
26	MP1B	Z	2.747	.5
27	MP1B	Mx	-.002	.5
28	MP1B	X	4.758	5.5
29	MP1B	Z	2.747	5.5
30	MP1B	Mx	-.002	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
31	MP1C	X	4.119	.5
32	MP1C	Z	2.378	.5
33	MP1C	Mx	.004	.5
34	MP1C	X	4.119	5.5
35	MP1C	Z	2.378	5.5
36	MP1C	Mx	.004	5.5
37	MP1A	X	4.119	.5
38	MP1A	Z	2.378	.5
39	MP1A	Mx	-.004	.5
40	MP1A	X	4.119	5.5
41	MP1A	Z	2.378	5.5
42	MP1A	Mx	-.004	5.5
43	MP1B	X	4.758	.5
44	MP1B	Z	2.747	.5
45	MP1B	Mx	.005	.5
46	MP1B	X	4.758	5.5
47	MP1B	Z	2.747	5.5
48	MP1B	Mx	.005	5.5
49	MP1C	X	4.119	.5
50	MP1C	Z	2.378	.5
51	MP1C	Mx	.000375	.5
52	MP1C	X	4.119	5.5
53	MP1C	Z	2.378	5.5
54	MP1C	Mx	.000375	5.5
55	MP3A	X	1.742	2
56	MP3A	Z	1.006	2
57	MP3A	Mx	-.000871	2
58	MP3A	X	1.742	4
59	MP3A	Z	1.006	4
60	MP3A	Mx	-.000871	4
61	MP3B	X	2.842	2
62	MP3B	Z	1.641	2
63	MP3B	Mx	.00082	2
64	MP3B	X	2.842	4
65	MP3B	Z	1.641	4
66	MP3B	Mx	.00082	4
67	MP3C	X	2.101	2
68	MP3C	Z	1.213	2
69	MP3C	Mx	.000929	2
70	MP3C	X	2.101	4
71	MP3C	Z	1.213	4
72	MP3C	Mx	.000929	4
73	MP1A	X	2.504	2.75
74	MP1A	Z	1.446	2.75
75	MP1A	Mx	.001	2.75
76	MP1B	X	3.324	2.75
77	MP1B	Z	1.919	2.75
78	MP1B	Mx	0	2.75
79	MP1C	X	2.504	2.75
80	MP1C	Z	1.446	2.75
81	MP1C	Mx	-.001	2.75
82	MP2A	X	3.053	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
83	MP2A	Z	1.763	2.75
84	MP2A	Mx	.002	2.75
85	MP2B	X	4.011	2.75
86	MP2B	Z	2.315	2.75
87	MP2B	Mx	0	2.75
88	MP2C	X	3.053	2.75
89	MP2C	Z	1.763	2.75
90	MP2C	Mx	-.002	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	4.163	.5
2	MP4A	Z	7.21	.5
3	MP4A	Mx	-.002	.5
4	MP4A	X	4.163	5.5
5	MP4A	Z	7.21	5.5
6	MP4A	Mx	-.002	5.5
7	MP4B	X	4.692	.5
8	MP4B	Z	8.126	.5
9	MP4B	Mx	0	.5
10	MP4B	X	4.692	5.5
11	MP4B	Z	8.126	5.5
12	MP4B	Mx	0	5.5
13	MP4C	X	2.577	.5
14	MP4C	Z	4.464	.5
15	MP4C	Mx	.003	.5
16	MP4C	X	2.577	5.5
17	MP4C	Z	4.464	5.5
18	MP4C	Mx	.003	5.5
19	MP1A	X	2.747	.5
20	MP1A	Z	4.758	.5
21	MP1A	Mx	.002	.5
22	MP1A	X	2.747	5.5
23	MP1A	Z	4.758	5.5
24	MP1A	Mx	.002	5.5
25	MP1B	X	2.931	.5
26	MP1B	Z	5.077	.5
27	MP1B	Mx	-.004	.5
28	MP1B	X	2.931	5.5
29	MP1B	Z	5.077	5.5
30	MP1B	Mx	-.004	5.5
31	MP1C	X	2.194	.5
32	MP1C	Z	3.8	.5
33	MP1C	Mx	.002	.5
34	MP1C	X	2.194	5.5
35	MP1C	Z	3.8	5.5
36	MP1C	Mx	.002	5.5
37	MP1A	X	2.747	.5
38	MP1A	Z	4.758	.5
39	MP1A	Mx	-.005	.5
40	MP1A	X	2.747	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
41	MP1A	Z	4.758	5.5
42	MP1A	Mx	-.005	5.5
43	MP1B	X	2.931	.5
44	MP1B	Z	5.077	.5
45	MP1B	Mx	.004	.5
46	MP1B	X	2.931	5.5
47	MP1B	Z	5.077	5.5
48	MP1B	Mx	.004	5.5
49	MP1C	X	2.194	.5
50	MP1C	Z	3.8	.5
51	MP1C	Mx	.002	.5
52	MP1C	X	2.194	5.5
53	MP1C	Z	3.8	5.5
54	MP1C	Mx	.002	5.5
55	MP3A	X	1.641	2
56	MP3A	Z	2.842	2
57	MP3A	Mx	-.00082	2
58	MP3A	X	1.641	4
59	MP3A	Z	2.842	4
60	MP3A	Mx	-.00082	4
61	MP3B	X	1.958	2
62	MP3B	Z	3.392	2
63	MP3B	Mx	0	2
64	MP3B	X	1.958	4
65	MP3B	Z	3.392	4
66	MP3B	Mx	0	4
67	MP3C	X	.726	2
68	MP3C	Z	1.258	2
69	MP3C	Mx	.000715	2
70	MP3C	X	.726	4
71	MP3C	Z	1.258	4
72	MP3C	Mx	.000715	4
73	MP1A	X	1.761	2.75
74	MP1A	Z	3.051	2.75
75	MP1A	Mx	.00088	2.75
76	MP1B	X	1.761	2.75
77	MP1B	Z	3.051	2.75
78	MP1B	Mx	.000881	2.75
79	MP1C	X	1.288	2.75
80	MP1C	Z	2.23	2.75
81	MP1C	Mx	-.001	2.75
82	MP2A	X	2.131	2.75
83	MP2A	Z	3.692	2.75
84	MP2A	Mx	.001	2.75
85	MP2B	X	2.131	2.75
86	MP2B	Z	3.692	2.75
87	MP2B	Mx	.001	2.75
88	MP2C	X	1.579	2.75
89	MP2C	Z	2.734	2.75
90	MP2C	Mx	-.002	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	.5
2	MP4A	Z	9.383	.5
3	MP4A	Mx	0	.5
4	MP4A	X	0	5.5
5	MP4A	Z	9.383	5.5
6	MP4A	Mx	0	5.5
7	MP4B	X	0	.5
8	MP4B	Z	8.326	.5
9	MP4B	Mx	-.002	.5
10	MP4B	X	0	5.5
11	MP4B	Z	8.326	5.5
12	MP4B	Mx	-.002	5.5
13	MP4C	X	0	.5
14	MP4C	Z	6.211	.5
15	MP4C	Mx	.003	.5
16	MP4C	X	0	5.5
17	MP4C	Z	6.211	5.5
18	MP4C	Mx	.003	5.5
19	MP1A	X	0	.5
20	MP1A	Z	5.863	.5
21	MP1A	Mx	.004	.5
22	MP1A	X	0	5.5
23	MP1A	Z	5.863	5.5
24	MP1A	Mx	.004	5.5
25	MP1B	X	0	.5
26	MP1B	Z	5.494	.5
27	MP1B	Mx	-.005	.5
28	MP1B	X	0	5.5
29	MP1B	Z	5.494	5.5
30	MP1B	Mx	-.005	5.5
31	MP1C	X	0	.5
32	MP1C	Z	4.757	.5
33	MP1C	Mx	.000375	.5
34	MP1C	X	0	5.5
35	MP1C	Z	4.757	5.5
36	MP1C	Mx	.000375	5.5
37	MP1A	X	0	.5
38	MP1A	Z	5.863	.5
39	MP1A	Mx	-.004	.5
40	MP1A	X	0	5.5
41	MP1A	Z	5.863	5.5
42	MP1A	Mx	-.004	5.5
43	MP1B	X	0	.5
44	MP1B	Z	5.494	.5
45	MP1B	Mx	.002	.5
46	MP1B	X	0	5.5
47	MP1B	Z	5.494	5.5
48	MP1B	Mx	.002	5.5
49	MP1C	X	0	.5
50	MP1C	Z	4.757	.5
51	MP1C	Mx	.004	.5
52	MP1C	X	0	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP1C	Z	4.757	5.5
54	MP1C	Mx	.004	5.5
55	MP3A	X	0	2
56	MP3A	Z	3.917	2
57	MP3A	Mx	0	2
58	MP3A	X	0	4
59	MP3A	Z	3.917	4
60	MP3A	Mx	0	4
61	MP3B	X	0	2
62	MP3B	Z	3.282	2
63	MP3B	Mx	-.00082	2
64	MP3B	X	0	4
65	MP3B	Z	3.282	4
66	MP3B	Mx	-.00082	4
67	MP3C	X	0	2
68	MP3C	Z	1.673	2
69	MP3C	Mx	.000786	2
70	MP3C	X	0	4
71	MP3C	Z	1.673	4
72	MP3C	Mx	.000786	4
73	MP1A	X	0	2.75
74	MP1A	Z	3.838	2.75
75	MP1A	Mx	0	2.75
76	MP1B	X	0	2.75
77	MP1B	Z	2.891	2.75
78	MP1B	Mx	.001	2.75
79	MP1C	X	0	2.75
80	MP1C	Z	2.891	2.75
81	MP1C	Mx	-.001	2.75
82	MP2A	X	0	2.75
83	MP2A	Z	4.631	2.75
84	MP2A	Mx	0	2.75
85	MP2B	X	0	2.75
86	MP2B	Z	3.526	2.75
87	MP2B	Mx	.002	2.75
88	MP2C	X	0	2.75
89	MP2C	Z	3.526	2.75
90	MP2C	Mx	-.002	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-4.163	.5
2	MP4A	Z	7.21	.5
3	MP4A	Mx	.002	.5
4	MP4A	X	-4.163	5.5
5	MP4A	Z	7.21	5.5
6	MP4A	Mx	.002	5.5
7	MP4B	X	-3.106	.5
8	MP4B	Z	5.379	.5
9	MP4B	Mx	-.003	.5
10	MP4B	X	-3.106	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
11	MP4B	Z	5.379	5.5
12	MP4B	Mx	-.003	5.5
13	MP4C	X	-4.163	.5
14	MP4C	Z	7.21	.5
15	MP4C	Mx	.002	.5
16	MP4C	X	-4.163	5.5
17	MP4C	Z	7.21	5.5
18	MP4C	Mx	.002	5.5
19	MP1A	X	-2.747	.5
20	MP1A	Z	4.758	.5
21	MP1A	Mx	.005	.5
22	MP1A	X	-2.747	5.5
23	MP1A	Z	4.758	5.5
24	MP1A	Mx	.005	5.5
25	MP1B	X	-2.378	.5
26	MP1B	Z	4.119	.5
27	MP1B	Mx	-.004	.5
28	MP1B	X	-2.378	5.5
29	MP1B	Z	4.119	5.5
30	MP1B	Mx	-.004	5.5
31	MP1C	X	-2.747	.5
32	MP1C	Z	4.758	.5
33	MP1C	Mx	-.002	.5
34	MP1C	X	-2.747	5.5
35	MP1C	Z	4.758	5.5
36	MP1C	Mx	-.002	5.5
37	MP1A	X	-2.747	.5
38	MP1A	Z	4.758	.5
39	MP1A	Mx	-.002	.5
40	MP1A	X	-2.747	5.5
41	MP1A	Z	4.758	5.5
42	MP1A	Mx	-.002	5.5
43	MP1B	X	-2.378	.5
44	MP1B	Z	4.119	.5
45	MP1B	Mx	-.000375	.5
46	MP1B	X	-2.378	5.5
47	MP1B	Z	4.119	5.5
48	MP1B	Mx	-.000375	5.5
49	MP1C	X	-2.747	.5
50	MP1C	Z	4.758	.5
51	MP1C	Mx	.005	.5
52	MP1C	X	-2.747	5.5
53	MP1C	Z	4.758	5.5
54	MP1C	Mx	.005	5.5
55	MP3A	X	-1.641	2
56	MP3A	Z	2.842	2
57	MP3A	Mx	.00082	2
58	MP3A	X	-1.641	4
59	MP3A	Z	2.842	4
60	MP3A	Mx	.00082	4
61	MP3B	X	-1.006	2
62	MP3B	Z	1.742	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
63	MP3B	Mx	-.000871	2
64	MP3B	X	-1.006	4
65	MP3B	Z	1.742	4
66	MP3B	Mx	-.000871	4
67	MP3C	X	-1.434	2
68	MP3C	Z	2.483	2
69	MP3C	Mx	.000921	2
70	MP3C	X	-1.434	4
71	MP3C	Z	2.483	4
72	MP3C	Mx	.000921	4
73	MP1A	X	-1.761	2.75
74	MP1A	Z	3.051	2.75
75	MP1A	Mx	-.00088	2.75
76	MP1B	X	-1.288	2.75
77	MP1B	Z	2.23	2.75
78	MP1B	Mx	.001	2.75
79	MP1C	X	-1.761	2.75
80	MP1C	Z	3.051	2.75
81	MP1C	Mx	-.000881	2.75
82	MP2A	X	-2.131	2.75
83	MP2A	Z	3.692	2.75
84	MP2A	Mx	-.001	2.75
85	MP2B	X	-1.579	2.75
86	MP2B	Z	2.734	2.75
87	MP2B	Mx	.002	2.75
88	MP2C	X	-2.131	2.75
89	MP2C	Z	3.692	2.75
90	MP2C	Mx	-.001	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-5.379	.5
2	MP4A	Z	3.106	.5
3	MP4A	Mx	.003	.5
4	MP4A	X	-5.379	5.5
5	MP4A	Z	3.106	5.5
6	MP4A	Mx	.003	5.5
7	MP4B	X	-4.464	.5
8	MP4B	Z	2.577	.5
9	MP4B	Mx	-.003	.5
10	MP4B	X	-4.464	5.5
11	MP4B	Z	2.577	5.5
12	MP4B	Mx	-.003	5.5
13	MP4C	X	-8.126	.5
14	MP4C	Z	4.692	.5
15	MP4C	Mx	0	.5
16	MP4C	X	-8.126	5.5
17	MP4C	Z	4.692	5.5
18	MP4C	Mx	0	5.5
19	MP1A	X	-4.119	.5
20	MP1A	Z	2.378	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
21	MP1A	Mx	.004	.5
22	MP1A	X	-4.119	5.5
23	MP1A	Z	2.378	5.5
24	MP1A	Mx	.004	5.5
25	MP1B	X	-3.8	.5
26	MP1B	Z	2.194	.5
27	MP1B	Mx	-.002	.5
28	MP1B	X	-3.8	5.5
29	MP1B	Z	2.194	5.5
30	MP1B	Mx	-.002	5.5
31	MP1C	X	-5.077	.5
32	MP1C	Z	2.931	.5
33	MP1C	Mx	-.004	.5
34	MP1C	X	-5.077	5.5
35	MP1C	Z	2.931	5.5
36	MP1C	Mx	-.004	5.5
37	MP1A	X	-4.119	.5
38	MP1A	Z	2.378	.5
39	MP1A	Mx	.000375	.5
40	MP1A	X	-4.119	5.5
41	MP1A	Z	2.378	5.5
42	MP1A	Mx	.000375	5.5
43	MP1B	X	-3.8	.5
44	MP1B	Z	2.194	.5
45	MP1B	Mx	-.002	.5
46	MP1B	X	-3.8	5.5
47	MP1B	Z	2.194	5.5
48	MP1B	Mx	-.002	5.5
49	MP1C	X	-5.077	.5
50	MP1C	Z	2.931	.5
51	MP1C	Mx	.004	.5
52	MP1C	X	-5.077	5.5
53	MP1C	Z	2.931	5.5
54	MP1C	Mx	.004	5.5
55	MP3A	X	-1.742	2
56	MP3A	Z	1.006	2
57	MP3A	Mx	.000871	2
58	MP3A	X	-1.742	4
59	MP3A	Z	1.006	4
60	MP3A	Mx	.000871	4
61	MP3B	X	-1.192	2
62	MP3B	Z	.688	2
63	MP3B	Mx	-.000688	2
64	MP3B	X	-1.192	4
65	MP3B	Z	.688	4
66	MP3B	Mx	-.000688	4
67	MP3C	X	-3.326	2
68	MP3C	Z	1.92	2
69	MP3C	Mx	.000333	2
70	MP3C	X	-3.326	4
71	MP3C	Z	1.92	4
72	MP3C	Mx	.000333	4

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
73	MP1A	X	-2.504	2.75
74	MP1A	Z	1.446	2.75
75	MP1A	Mx	-.001	2.75
76	MP1B	X	-2.504	2.75
77	MP1B	Z	1.446	2.75
78	MP1B	Mx	.001	2.75
79	MP1C	X	-3.324	2.75
80	MP1C	Z	1.919	2.75
81	MP1C	Mx	0	2.75
82	MP2A	X	-3.053	2.75
83	MP2A	Z	1.763	2.75
84	MP2A	Mx	-.002	2.75
85	MP2B	X	-3.053	2.75
86	MP2B	Z	1.763	2.75
87	MP2B	Mx	.002	2.75
88	MP2C	X	-4.011	2.75
89	MP2C	Z	2.315	2.75
90	MP2C	Mx	0	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-5.154	.5
2	MP4A	Z	0	.5
3	MP4A	Mx	.003	.5
4	MP4A	X	-5.154	5.5
5	MP4A	Z	0	5.5
6	MP4A	Mx	.003	5.5
7	MP4B	X	-6.211	.5
8	MP4B	Z	0	.5
9	MP4B	Mx	-.003	.5
10	MP4B	X	-6.211	5.5
11	MP4B	Z	0	5.5
12	MP4B	Mx	-.003	5.5
13	MP4C	X	-8.326	.5
14	MP4C	Z	0	.5
15	MP4C	Mx	-.002	.5
16	MP4C	X	-8.326	5.5
17	MP4C	Z	0	5.5
18	MP4C	Mx	-.002	5.5
19	MP1A	X	-4.388	.5
20	MP1A	Z	0	.5
21	MP1A	Mx	.002	.5
22	MP1A	X	-4.388	5.5
23	MP1A	Z	0	5.5
24	MP1A	Mx	.002	5.5
25	MP1B	X	-4.757	.5
26	MP1B	Z	0	.5
27	MP1B	Mx	-.000375	.5
28	MP1B	X	-4.757	5.5
29	MP1B	Z	0	5.5
30	MP1B	Mx	-.000375	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
31	MP1C	X	-5.494	.5
32	MP1C	Z	0	.5
33	MP1C	Mx	-.005	.5
34	MP1C	X	-5.494	5.5
35	MP1C	Z	0	5.5
36	MP1C	Mx	-.005	5.5
37	MP1A	X	-4.388	.5
38	MP1A	Z	0	.5
39	MP1A	Mx	.002	.5
40	MP1A	X	-4.388	5.5
41	MP1A	Z	0	5.5
42	MP1A	Mx	.002	5.5
43	MP1B	X	-4.757	.5
44	MP1B	Z	0	.5
45	MP1B	Mx	-.004	.5
46	MP1B	X	-4.757	5.5
47	MP1B	Z	0	5.5
48	MP1B	Mx	-.004	5.5
49	MP1C	X	-5.494	.5
50	MP1C	Z	0	.5
51	MP1C	Mx	.002	.5
52	MP1C	X	-5.494	5.5
53	MP1C	Z	0	5.5
54	MP1C	Mx	.002	5.5
55	MP3A	X	-1.376	2
56	MP3A	Z	0	2
57	MP3A	Mx	.000688	2
58	MP3A	X	-1.376	4
59	MP3A	Z	0	4
60	MP3A	Mx	.000688	4
61	MP3B	X	-2.011	2
62	MP3B	Z	0	2
63	MP3B	Mx	-.000871	2
64	MP3B	X	-2.011	4
65	MP3B	Z	0	4
66	MP3B	Mx	-.000871	4
67	MP3C	X	-3.62	2
68	MP3C	Z	0	2
69	MP3C	Mx	-.000619	2
70	MP3C	X	-3.62	4
71	MP3C	Z	0	4
72	MP3C	Mx	-.000619	4
73	MP1A	X	-2.576	2.75
74	MP1A	Z	0	2.75
75	MP1A	Mx	-.001	2.75
76	MP1B	X	-3.523	2.75
77	MP1B	Z	0	2.75
78	MP1B	Mx	.000881	2.75
79	MP1C	X	-3.523	2.75
80	MP1C	Z	0	2.75
81	MP1C	Mx	.000881	2.75
82	MP2A	X	-3.157	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
83	MP2A	Z	0	2.75
84	MP2A	Mx	-.002	2.75
85	MP2B	X	-4.263	2.75
86	MP2B	Z	0	2.75
87	MP2B	Mx	.001	2.75
88	MP2C	X	-4.263	2.75
89	MP2C	Z	0	2.75
90	MP2C	Mx	.001	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-5.379	.5
2	MP4A	Z	-3.106	.5
3	MP4A	Mx	.003	.5
4	MP4A	X	-5.379	5.5
5	MP4A	Z	-3.106	5.5
6	MP4A	Mx	.003	5.5
7	MP4B	X	-7.21	.5
8	MP4B	Z	-4.163	.5
9	MP4B	Mx	-.002	.5
10	MP4B	X	-7.21	5.5
11	MP4B	Z	-4.163	5.5
12	MP4B	Mx	-.002	5.5
13	MP4C	X	-5.379	.5
14	MP4C	Z	-3.106	.5
15	MP4C	Mx	-.003	.5
16	MP4C	X	-5.379	5.5
17	MP4C	Z	-3.106	5.5
18	MP4C	Mx	-.003	5.5
19	MP1A	X	-4.119	.5
20	MP1A	Z	-2.378	.5
21	MP1A	Mx	.000375	.5
22	MP1A	X	-4.119	5.5
23	MP1A	Z	-2.378	5.5
24	MP1A	Mx	.000375	5.5
25	MP1B	X	-4.758	.5
26	MP1B	Z	-2.747	.5
27	MP1B	Mx	.002	.5
28	MP1B	X	-4.758	5.5
29	MP1B	Z	-2.747	5.5
30	MP1B	Mx	.002	5.5
31	MP1C	X	-4.119	.5
32	MP1C	Z	-2.378	.5
33	MP1C	Mx	-.004	.5
34	MP1C	X	-4.119	5.5
35	MP1C	Z	-2.378	5.5
36	MP1C	Mx	-.004	5.5
37	MP1A	X	-4.119	.5
38	MP1A	Z	-2.378	.5
39	MP1A	Mx	.004	.5
40	MP1A	X	-4.119	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
41	MP1A	Z	-2.378	5.5
42	MP1A	Mx	.004	5.5
43	MP1B	X	-4.758	.5
44	MP1B	Z	-2.747	.5
45	MP1B	Mx	-.005	.5
46	MP1B	X	-4.758	5.5
47	MP1B	Z	-2.747	5.5
48	MP1B	Mx	-.005	5.5
49	MP1C	X	-4.119	.5
50	MP1C	Z	-2.378	.5
51	MP1C	Mx	-.000375	.5
52	MP1C	X	-4.119	5.5
53	MP1C	Z	-2.378	5.5
54	MP1C	Mx	-.000375	5.5
55	MP3A	X	-1.742	2
56	MP3A	Z	-1.006	2
57	MP3A	Mx	.000871	2
58	MP3A	X	-1.742	4
59	MP3A	Z	-1.006	4
60	MP3A	Mx	.000871	4
61	MP3B	X	-2.842	2
62	MP3B	Z	-1.641	2
63	MP3B	Mx	-.00082	2
64	MP3B	X	-2.842	4
65	MP3B	Z	-1.641	4
66	MP3B	Mx	-.00082	4
67	MP3C	X	-2.101	2
68	MP3C	Z	-1.213	2
69	MP3C	Mx	-.000929	2
70	MP3C	X	-2.101	4
71	MP3C	Z	-1.213	4
72	MP3C	Mx	-.000929	4
73	MP1A	X	-2.504	2.75
74	MP1A	Z	-1.446	2.75
75	MP1A	Mx	-.001	2.75
76	MP1B	X	-3.324	2.75
77	MP1B	Z	-1.919	2.75
78	MP1B	Mx	0	2.75
79	MP1C	X	-2.504	2.75
80	MP1C	Z	-1.446	2.75
81	MP1C	Mx	.001	2.75
82	MP2A	X	-3.053	2.75
83	MP2A	Z	-1.763	2.75
84	MP2A	Mx	-.002	2.75
85	MP2B	X	-4.011	2.75
86	MP2B	Z	-2.315	2.75
87	MP2B	Mx	0	2.75
88	MP2C	X	-3.053	2.75
89	MP2C	Z	-1.763	2.75
90	MP2C	Mx	.002	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-4.163	.5
2	MP4A	Z	-7.21	.5
3	MP4A	Mx	.002	.5
4	MP4A	X	-4.163	5.5
5	MP4A	Z	-7.21	5.5
6	MP4A	Mx	.002	5.5
7	MP4B	X	-4.692	.5
8	MP4B	Z	-8.126	.5
9	MP4B	Mx	0	.5
10	MP4B	X	-4.692	5.5
11	MP4B	Z	-8.126	5.5
12	MP4B	Mx	0	5.5
13	MP4C	X	-2.577	.5
14	MP4C	Z	-4.464	.5
15	MP4C	Mx	-.003	.5
16	MP4C	X	-2.577	5.5
17	MP4C	Z	-4.464	5.5
18	MP4C	Mx	-.003	5.5
19	MP1A	X	-2.747	.5
20	MP1A	Z	-4.758	.5
21	MP1A	Mx	-.002	.5
22	MP1A	X	-2.747	5.5
23	MP1A	Z	-4.758	5.5
24	MP1A	Mx	-.002	5.5
25	MP1B	X	-2.931	.5
26	MP1B	Z	-5.077	.5
27	MP1B	Mx	.004	.5
28	MP1B	X	-2.931	5.5
29	MP1B	Z	-5.077	5.5
30	MP1B	Mx	.004	5.5
31	MP1C	X	-2.194	.5
32	MP1C	Z	-3.8	.5
33	MP1C	Mx	-.002	.5
34	MP1C	X	-2.194	5.5
35	MP1C	Z	-3.8	5.5
36	MP1C	Mx	-.002	5.5
37	MP1A	X	-2.747	.5
38	MP1A	Z	-4.758	.5
39	MP1A	Mx	.005	.5
40	MP1A	X	-2.747	5.5
41	MP1A	Z	-4.758	5.5
42	MP1A	Mx	.005	5.5
43	MP1B	X	-2.931	.5
44	MP1B	Z	-5.077	.5
45	MP1B	Mx	-.004	.5
46	MP1B	X	-2.931	5.5
47	MP1B	Z	-5.077	5.5
48	MP1B	Mx	-.004	5.5
49	MP1C	X	-2.194	.5
50	MP1C	Z	-3.8	.5
51	MP1C	Mx	-.002	.5
52	MP1C	X	-2.194	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP1C	Z	-3.8	5.5
54	MP1C	Mx	-.002	5.5
55	MP3A	X	-1.641	2
56	MP3A	Z	-2.842	2
57	MP3A	Mx	.00082	2
58	MP3A	X	-1.641	4
59	MP3A	Z	-2.842	4
60	MP3A	Mx	.00082	4
61	MP3B	X	-1.958	2
62	MP3B	Z	-3.392	2
63	MP3B	Mx	0	2
64	MP3B	X	-1.958	4
65	MP3B	Z	-3.392	4
66	MP3B	Mx	0	4
67	MP3C	X	-.726	2
68	MP3C	Z	-1.258	2
69	MP3C	Mx	-.000715	2
70	MP3C	X	-.726	4
71	MP3C	Z	-1.258	4
72	MP3C	Mx	-.000715	4
73	MP1A	X	-1.761	2.75
74	MP1A	Z	-3.051	2.75
75	MP1A	Mx	-.00088	2.75
76	MP1B	X	-1.761	2.75
77	MP1B	Z	-3.051	2.75
78	MP1B	Mx	-.000881	2.75
79	MP1C	X	-1.288	2.75
80	MP1C	Z	-2.23	2.75
81	MP1C	Mx	.001	2.75
82	MP2A	X	-2.131	2.75
83	MP2A	Z	-3.692	2.75
84	MP2A	Mx	-.001	2.75
85	MP2B	X	-2.131	2.75
86	MP2B	Z	-3.692	2.75
87	MP2B	Mx	-.001	2.75
88	MP2C	X	-1.579	2.75
89	MP2C	Z	-2.734	2.75
90	MP2C	Mx	.002	2.75

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M19	Y	-500	0

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M78B	Y	-500	0

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M1	Y	-250	%50

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M1	Y	-250	%100

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	Y	-.352	.5
2	MP4A	My	-.000176	.5
3	MP4A	Mz	0	.5
4	MP4A	Y	-.352	5.5
5	MP4A	My	-.000176	5.5
6	MP4A	Mz	0	5.5
7	MP4B	Y	-.352	.5
8	MP4B	My	.000152	.5
9	MP4B	Mz	-8.8e-5	.5
10	MP4B	Y	-.352	5.5
11	MP4B	My	.000152	5.5
12	MP4B	Mz	-8.8e-5	5.5
13	MP4C	Y	-.352	.5
14	MP4C	My	8.8e-5	.5
15	MP4C	Mz	.000152	.5
16	MP4C	Y	-.352	5.5
17	MP4C	My	8.8e-5	5.5
18	MP4C	Mz	.000152	5.5
19	MP1A	Y	-1.614	.5
20	MP1A	My	-.000807	.5
21	MP1A	Mz	.001	.5
22	MP1A	Y	-1.614	5.5
23	MP1A	My	-.000807	5.5
24	MP1A	Mz	.001	5.5
25	MP1B	Y	-1.614	.5
26	MP1B	My	.000127	.5
27	MP1B	Mz	-.001	.5
28	MP1B	Y	-1.614	5.5
29	MP1B	My	.000127	5.5
30	MP1B	Mz	-.001	5.5
31	MP1C	Y	-1.614	.5
32	MP1C	My	.001	.5
33	MP1C	Mz	.000127	.5
34	MP1C	Y	-1.614	5.5
35	MP1C	My	.001	5.5
36	MP1C	Mz	.000127	5.5
37	MP1A	Y	-1.614	.5
38	MP1A	My	-.000807	.5
39	MP1A	Mz	-.001	.5
40	MP1A	Y	-1.614	5.5
41	MP1A	My	-.000807	5.5
42	MP1A	Mz	-.001	5.5
43	MP1B	Y	-1.614	.5
44	MP1B	My	.001	.5
45	MP1B	Mz	.000587	.5
46	MP1B	Y	-1.614	5.5
47	MP1B	My	.001	5.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
48	MP1B	Mz	.000587	5.5
49	MP1C	Y	-1.614	.5
50	MP1C	My	-.000587	.5
51	MP1C	Mz	.001	.5
52	MP1C	Y	-1.614	5.5
53	MP1C	My	-.000587	5.5
54	MP1C	Mz	.001	5.5
55	MP3A	Y	-1.186	2
56	MP3A	My	-.000593	2
57	MP3A	Mz	0	2
58	MP3A	Y	-1.186	4
59	MP3A	My	-.000593	4
60	MP3A	Mz	0	4
61	MP3B	Y	-1.186	2
62	MP3B	My	.000513	2
63	MP3B	Mz	-.000296	2
64	MP3B	Y	-1.186	4
65	MP3B	My	.000513	4
66	MP3B	Mz	-.000296	4
67	MP3C	Y	-1.186	2
68	MP3C	My	.000203	2
69	MP3C	Mz	.000557	2
70	MP3C	Y	-1.186	4
71	MP3C	My	.000203	4
72	MP3C	Mz	.000557	4
73	MP1A	Y	-3.092	2.75
74	MP1A	My	.002	2.75
75	MP1A	Mz	0	2.75
76	MP1B	Y	-3.092	2.75
77	MP1B	My	-.000773	2.75
78	MP1B	Mz	.001	2.75
79	MP1C	Y	-3.092	2.75
80	MP1C	My	-.000773	2.75
81	MP1C	Mz	-.001	2.75
82	MP2A	Y	-3.274	2.75
83	MP2A	My	.002	2.75
84	MP2A	Mz	0	2.75
85	MP2B	Y	-3.274	2.75
86	MP2B	My	-.000818	2.75
87	MP2B	Mz	.001	2.75
88	MP2C	Y	-3.274	2.75
89	MP2C	My	-.000818	2.75
90	MP2C	Mz	-.001	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	Z	-.879	.5
2	MP4A	Mx	0	.5
3	MP4A	Z	-.879	5.5
4	MP4A	Mx	0	5.5
5	MP4B	Z	-.879	.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
6	MP4B	Mx	.00022	.5
7	MP4B	Z	-.879	5.5
8	MP4B	Mx	.00022	5.5
9	MP4C	Z	-.879	.5
10	MP4C	Mx	-.000381	.5
11	MP4C	Z	-.879	5.5
12	MP4C	Mx	-.000381	5.5
13	MP1A	Z	-4.035	.5
14	MP1A	Mx	-.003	.5
15	MP1A	Z	-4.035	5.5
16	MP1A	Mx	-.003	5.5
17	MP1B	Z	-4.035	.5
18	MP1B	Mx	.003	.5
19	MP1B	Z	-4.035	5.5
20	MP1B	Mx	.003	5.5
21	MP1C	Z	-4.035	.5
22	MP1C	Mx	-.000318	.5
23	MP1C	Z	-4.035	5.5
24	MP1C	Mx	-.000318	5.5
25	MP1A	Z	-4.035	.5
26	MP1A	Mx	.003	.5
27	MP1A	Z	-4.035	5.5
28	MP1A	Mx	.003	5.5
29	MP1B	Z	-4.035	.5
30	MP1B	Mx	-.001	.5
31	MP1B	Z	-4.035	5.5
32	MP1B	Mx	-.001	5.5
33	MP1C	Z	-4.035	.5
34	MP1C	Mx	-.003	.5
35	MP1C	Z	-4.035	5.5
36	MP1C	Mx	-.003	5.5
37	MP3A	Z	-2.964	2
38	MP3A	Mx	0	2
39	MP3A	Z	-2.964	4
40	MP3A	Mx	0	4
41	MP3B	Z	-2.964	2
42	MP3B	Mx	.000741	2
43	MP3B	Z	-2.964	4
44	MP3B	Mx	.000741	4
45	MP3C	Z	-2.964	2
46	MP3C	Mx	-.001	2
47	MP3C	Z	-2.964	4
48	MP3C	Mx	-.001	4
49	MP1A	Z	-7.729	2.75
50	MP1A	Mx	0	2.75
51	MP1B	Z	-7.729	2.75
52	MP1B	Mx	-.003	2.75
53	MP1C	Z	-7.729	2.75
54	MP1C	Mx	.003	2.75
55	MP2A	Z	-8.184	2.75
56	MP2A	Mx	0	2.75
57	MP2B	Z	-8.184	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
58	MP2B	Mx	-.004	2.75
59	MP2C	Z	-8.184	2.75
60	MP2C	Mx	.004	2.75

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	.879	.5
2	MP4A	Mx	-.00044	.5
3	MP4A	X	.879	5.5
4	MP4A	Mx	-.00044	5.5
5	MP4B	X	.879	.5
6	MP4B	Mx	.000381	.5
7	MP4B	X	.879	5.5
8	MP4B	Mx	.000381	5.5
9	MP4C	X	.879	.5
10	MP4C	Mx	.00022	.5
11	MP4C	X	.879	5.5
12	MP4C	Mx	.00022	5.5
13	MP1A	X	4.035	.5
14	MP1A	Mx	-.002	.5
15	MP1A	X	4.035	5.5
16	MP1A	Mx	-.002	5.5
17	MP1B	X	4.035	.5
18	MP1B	Mx	.000318	.5
19	MP1B	X	4.035	5.5
20	MP1B	Mx	.000318	5.5
21	MP1C	X	4.035	.5
22	MP1C	Mx	.003	.5
23	MP1C	X	4.035	5.5
24	MP1C	Mx	.003	5.5
25	MP1A	X	4.035	.5
26	MP1A	Mx	-.002	.5
27	MP1A	X	4.035	5.5
28	MP1A	Mx	-.002	5.5
29	MP1B	X	4.035	.5
30	MP1B	Mx	.003	.5
31	MP1B	X	4.035	5.5
32	MP1B	Mx	.003	5.5
33	MP1C	X	4.035	.5
34	MP1C	Mx	-.001	.5
35	MP1C	X	4.035	5.5
36	MP1C	Mx	-.001	5.5
37	MP3A	X	2.964	2
38	MP3A	Mx	-.001	2
39	MP3A	X	2.964	4
40	MP3A	Mx	-.001	4
41	MP3B	X	2.964	2
42	MP3B	Mx	.001	2
43	MP3B	X	2.964	4
44	MP3B	Mx	.001	4
45	MP3C	X	2.964	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
46	MP3C	Mx	.000507	2
47	MP3C	X	2.964	4
48	MP3C	Mx	.000507	4
49	MP1A	X	7.729	2.75
50	MP1A	Mx	.004	2.75
51	MP1B	X	7.729	2.75
52	MP1B	Mx	-.002	2.75
53	MP1C	X	7.729	2.75
54	MP1C	Mx	-.002	2.75
55	MP2A	X	8.184	2.75
56	MP2A	Mx	.004	2.75
57	MP2B	X	8.184	2.75
58	MP2B	Mx	-.002	2.75
59	MP2C	X	8.184	2.75
60	MP2C	Mx	-.002	2.75

Member Area Loads (BLC 39 : Structure D)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N7	N87B	N87C	N6	Y	Two Way	-.005
2	N118	N141	N139	N117	Y	Two Way	-.005
3	N90	N113	N111	N89	Y	Two Way	-.005

Member Area Loads (BLC 40 : Structure Di)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N7	N87B	N87C	N6	Y	Two Way	-.01
2	N118	N141	N139	N117	Y	Two Way	-.01
3	N90	N113	N111	N89	Y	Two Way	-.01

Member Area Loads (BLC 84 : Structure Ev)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N7	N87B	N87C	N6	Y	Two Way	-.000215
2	N118	N141	N139	N117	Y	Two Way	-.000215
3	N90	N113	N111	N89	Y	Two Way	-.000215

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

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N7	N87B	N87C	N6	Z	Two Way	-.000538
2	N118	N141	N139	N117	Z	Two Way	-.000538
3	N90	N113	N111	N89	Z	Two Way	-.000538

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

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N7	N87B	N87C	N6	X	Two Way	.000538
2	N118	N141	N139	N117	X	Two Way	.000538
3	N90	N113	N111	N89	X	Two Way	.000538

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	N3	max	822.621	10	2605.925	13	2504.12	1	5.753	13	1.691	4	.188	5
2		min	-861.114	4	450.178	7	-2635.731	7	-.021	7	-1.595	10	-.123	11
3	N87D	max	2052.334	9	2637.639	21	1348.688	2	.135	3	1.915	12	-.31	3
4		min	-2238.824	3	521.201	3	-1341.503	8	-2.601	21	-2	6	-5.253	21
5	N115	max	2095.847	11	2220.135	17	1254.729	11	.006	11	1.252	8	3.916	17
6		min	-1871.989	5	324.827	11	-1127.009	5	-2.779	29	-1.178	2	-.408	11
7	Totals:	max	4600.451	10	6894.939	14	4938.423	1						
8		min	-4600.489	4	2394.359	71	-4938.467	7						

Joint Reactions

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N3	-167.112	1884.447	2504.12	4.821	.554	-.043
2	1	N87D	-952.035	841.048	1339.995	-.263	1.508	-1.207
3	1	N115	1118.926	620.882	1094.307	-.414	-.408	.649
4	1	Totals:	-.221	3346.377	4938.423			
5	1	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
6	2	N3	-329.856	1781.4	2186.651	4.422	.484	.04
7	2	N87D	-1956.122	587.972	1348.688	.114	.425	-.489
8	2	N115	-145.852	977.008	676.558	-.987	-1.178	1.745
9	2	Totals:	-2431.83	3346.379	4211.898			
10	2	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
11	3	N3	-651.46	1509.937	1262.475	3.472	1.122	.119
12	3	N87D	-2238.824	521.201	1193.227	.135	.113	-.31
13	3	N115	-1175.25	1315.237	-108.357	-1.544	-.74	2.718
14	3	Totals:	-4065.534	3346.376	2347.345			
15	3	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
16	4	N3	-861.114	1174.626	-49.84	2.324	1.691	.17
17	4	N87D	-2059.751	620.835	892.393	-.137	.018	-.616
18	4	N115	-1679.623	1550.908	-842.392	-1.942	.122	3.345
19	4	Totals:	-4600.489	3346.368	.16			
20	4	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
21	5	N3	-606.421	840.383	-1364.485	1.205	.995	.188
22	5	N87D	-1570.633	847.387	153.864	-.62	-.988	-1.294
23	5	N115	-1871.989	1658.588	-1127.009	-2.144	.077	3.582
24	5	Totals:	-4049.044	3346.357	-2337.629			
25	5	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
26	6	N3	-138.103	566.411	-2298.295	.317	-.173	.167
27	6	N87D	-569.68	1178.416	-800.618	-1.252	-2	-2.264
28	6	N115	-1714.294	1601.518	-1096.485	-2.09	-.197	3.329
29	6	Totals:	-2422.077	3346.345	-4195.399			
30	6	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
31	7	N3	126.157	450.178	-2635.731	-.021	-.459	.106
32	7	N87D	776.861	1539.226	-1338.222	-1.87	-1.589	-3.296
33	7	N115	-902.834	1356.931	-964.513	-1.725	.478	2.528
34	7	Totals:	.184	3346.335	-4938.467			
35	7	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
36	8	N3	295.324	551.879	-2317.059	.383	-.393	.021
37	8	N87D	1775.055	1795.532	-1341.503	-2.245	-.505	-4.011
38	8	N115	361.413	998.922	-553.379	-1.153	1.252	1.432

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
39	8	Totals:	2431.792	3346.333	-4211.941			
40	8	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
41	9	N3	615.665	820.286	-1389.685	1.338	-1.03	-.057
42	9	N87D	2052.334	1863.848	-1188.434	-2.269	-.196	-4.189
43	9	N115	1397.497	662.202	230.731	-.596	.819	.456
44	9	Totals:	4065.496	3346.337	-2347.388			
45	9	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
46	10	N3	822.621	1154.15	-74.091	2.487	-1.595	-.107
47	10	N87D	1870.393	1762.346	-891.65	-1.999	-.104	-3.885
48	10	N115	1907.436	429.847	965.538	-.197	-.042	-.173
49	10	Totals:	4600.451	3346.344	-.203			
50	10	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
51	11	N3	565.223	1488.895	1237.049	3.6	-.898	-.123
52	11	N87D	1387.936	1532.632	-154.192	-1.517	.902	-3.21
53	11	N115	2095.847	324.827	1254.729	.006	-.002	-.408
54	11	Totals:	4049.006	3346.355	2337.586			
55	11	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
56	12	N3	93.327	1765.623	2166.223	4.483	.27	-.103
57	12	N87D	395.763	1200.244	798.922	-.885	1.915	-2.241
58	12	N115	1932.95	380.5	1230.21	-.048	.265	-.153
59	12	Totals:	2422.04	3346.367	4195.355			
60	12	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
61	13	N3	-85.425	2605.925	545.229	5.753	.251	.026
62	13	N87D	-469.458	2353.787	369.41	-2.047	.345	-4.427
63	13	N115	554.787	1935.226	453.714	-2.053	-.036	3.112
64	13	Totals:	-.096	6894.938	1368.352			
65	13	COG (ft):	X: -.296	Y: 1.082	Z: -.107			
66	14	N3	-138.799	2579.051	468.261	5.647	.265	.048
67	14	N87D	-754.28	2282.413	383.651	-1.941	.077	-4.226
68	14	N115	215.308	2033.475	321.879	-2.21	-.213	3.412
69	14	Totals:	-677.771	6894.939	1173.792			
70	14	COG (ft):	X: -.296	Y: 1.082	Z: -.107			
71	15	N3	-228.737	2504.322	211.47	5.385	.453	.069
72	15	N87D	-840.514	2263.084	351.909	-1.933	-.002	-4.175
73	15	N115	-67.288	2127.531	92.774	-2.365	-.08	3.683
74	15	Totals:	-1136.539	6894.938	656.154			
75	15	COG (ft):	X: -.296	Y: 1.082	Z: -.107			
76	16	N3	-269.056	2410.961	-157.412	5.067	.575	.082
77	16	N87D	-795.264	2291.881	263.243	-2.01	-.064	-4.263
78	16	N115	-217.922	2192.094	-105.825	-2.475	.126	3.855
79	16	Totals:	-1282.241	6894.936	.006			
80	16	COG (ft):	X: -.296	Y: 1.082	Z: -.107			
81	17	N3	-181.653	2318.85	-521.435	4.762	.357	.087
82	17	N87D	-656.948	2355.947	55.21	-2.145	-.362	-4.453
83	17	N115	-283.091	2220.135	-181.383	-2.528	.096	3.916
84	17	Totals:	-1121.693	6894.933	-647.608			
85	17	COG (ft):	X: -.296	Y: 1.082	Z: -.107			
86	18	N3	-51.888	2243.587	-781.874	4.52	.047	.081
87	18	N87D	-372.59	2447.244	-196.917	-2.317	-.625	-4.718
88	18	N115	-244.659	2204.098	-180.236	-2.512	.038	3.844
89	18	Totals:	-669.137	6894.929	-1159.027			
90	18	COG (ft):	X: -.296	Y: 1.082	Z: -.107			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
91	19	N3	18.463	2210.408	-887.065	4.424	-.031	.065
92	19	N87D	7.773	2546.55	-339.093	-2.487	-.511	-5.002
93	19	N115	-26.221	2137.968	-142.289	-2.412	.223	3.628
94	19	Totals:	.014	6894.927	-1368.447			
95	19	COG (ft):	X: -.296	Y: 1.082	Z: -.107			
96	20	N3	72.3	2237.186	-809.986	4.531	-.045	.042
97	20	N87D	292.116	2618.184	-352.938	-2.594	-.243	-5.202
98	20	N115	313.274	2039.555	-10.963	-2.256	.401	3.327
99	20	Totals:	677.69	6894.926	-1173.887			
100	20	COG (ft):	X: -.296	Y: 1.082	Z: -.107			
101	21	N3	162.163	2311.674	-552.935	4.793	-.234	.021
102	21	N87D	377.875	2637.639	-321.364	-2.601	-.164	-5.253
103	21	N115	596.42	1945.614	218.05	-2.101	.268	3.056
104	21	Totals:	1136.458	6894.927	-656.249			
105	21	COG (ft):	X: -.296	Y: 1.082	Z: -.107			
106	22	N3	202.279	2404.909	-183.834	5.111	-.355	.008
107	22	N87D	332.4	2608.699	-232.982	-2.525	-.103	-5.166
108	22	N115	747.479	1881.322	416.716	-1.991	.062	2.884
109	22	Totals:	1282.159	6894.929	-.101			
110	22	COG (ft):	X: -.296	Y: 1.082	Z: -.107			
111	23	N3	114.673	2497.053	179.913	5.416	-.136	.004
112	23	N87D	194.625	2544.394	-25.041	-2.391	.196	-4.976
113	23	N115	812.314	1853.485	492.641	-1.938	.092	2.823
114	23	Totals:	1121.611	6894.932	647.513			
115	23	COG (ft):	X: -.296	Y: 1.082	Z: -.107			
116	24	N3	-15.346	2572.538	440.004	5.657	.173	.009
117	24	N87D	-89.035	2452.982	226.982	-2.218	.459	-4.711
118	24	N115	773.437	1869.415	491.946	-1.954	.149	2.895
119	24	Totals:	669.056	6894.935	1158.932			
120	24	COG (ft):	X: -.296	Y: 1.082	Z: -.107			
121	25	N3	-33.017	1073.13	52.979	2.121	.105	.098
122	25	N87D	-168.75	1130.596	84.482	-1.016	.029	-1.795
123	25	N115	201.764	1892.618	147.291	-2.68	.015	3.584
124	25	Totals:	-.002	4096.344	284.752			
125	25	COG (ft):	X: .722	Y: .871	Z: .658			
126	26	N3	-42.584	1067.207	34.625	2.098	.101	.103
127	26	N87D	-226.499	1115.923	84.846	-.994	-.033	-1.754
128	26	N115	128.878	1913.214	123.394	-2.713	-.03	3.647
129	26	Totals:	-140.205	4096.344	242.864			
130	26	COG (ft):	X: .722	Y: .871	Z: .658			
131	27	N3	-61.106	1051.649	-18.764	2.043	.138	.107
132	27	N87D	-242.663	1112.006	75.96	-.993	-.051	-1.743
133	27	N115	69.361	1932.689	78.168	-2.745	-.005	3.703
134	27	Totals:	-234.407	4096.344	135.364			
135	27	COG (ft):	X: .722	Y: .871	Z: .658			
136	28	N3	-73.121	1032.375	-94.538	1.977	.171	.11
137	28	N87D	-232.267	1117.757	58.721	-1.008	-.056	-1.761
138	28	N115	40.128	1946.212	35.842	-2.768	.045	3.739
139	28	Totals:	-265.259	4096.344	.026			
140	28	COG (ft):	X: .722	Y: .871	Z: .658			
141	29	N3	-58.358	1013.113	-170.256	1.912	.131	.111
142	29	N87D	-204.237	1130.859	16.163	-1.036	-.114	-1.8

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
143	29	N115	29.144	1952.371	19.323	-2.779	.043	3.753
144	29	Totals:	-233.451	4096.343	-134.77			
145	29	COG (ft):	X: .722	Y: .871	Z: .658			
146	30	N3	-31.258	997.275	-223.968	1.861	.063	.11
147	30	N87D	-146.749	1149.941	-38.828	-1.072	-.173	-1.856
148	30	N115	38.369	1949.127	20.918	-2.776	.027	3.738
149	30	Totals:	-139.638	4096.342	-241.878			
150	30	COG (ft):	X: .722	Y: .871	Z: .658			
151	31	N3	-16.121	990.54	-243.427	1.842	.047	.107
152	31	N87D	-69.062	1170.67	-69.923	-1.108	-.149	-1.915
153	31	N115	85.204	1935.131	28.628	-2.755	.066	3.692
154	31	Totals:	.021	4096.342	-284.721			
155	31	COG (ft):	X: .722	Y: .871	Z: .658			
156	32	N3	-6.532	996.459	-225.069	1.865	.051	.102
157	32	N87D	-11.334	1185.354	-70.268	-1.13	-.087	-1.957
158	32	N115	158.09	1914.529	52.503	-2.722	.11	3.629
159	32	Totals:	140.224	4096.342	-242.834			
160	32	COG (ft):	X: .722	Y: .871	Z: .658			
161	33	N3	11.985	1012.007	-171.669	1.92	.014	.097
162	33	N87D	4.813	1189.275	-61.391	-1.131	-.069	-1.967
163	33	N115	217.628	1895.059	97.726	-2.691	.085	3.573
164	33	Totals:	234.426	4096.342	-135.334			
165	33	COG (ft):	X: .722	Y: .871	Z: .658			
166	34	N3	23.992	1031.276	-95.885	1.986	-.019	.094
167	34	N87D	-5.593	1183.519	-44.165	-1.115	-.064	-1.949
168	34	N115	246.879	1881.547	140.055	-2.668	.036	3.537
169	34	Totals:	265.278	4096.342	.005			
170	34	COG (ft):	X: .722	Y: .871	Z: .658			
171	35	N3	9.219	1050.54	-20.178	2.05	.022	.093
172	35	N87D	-33.601	1170.406	-1.611	-1.088	-.005	-1.91
173	35	N115	257.851	1875.397	156.589	-2.656	.038	3.524
174	35	Totals:	233.469	4096.343	134.8			
175	35	COG (ft):	X: .722	Y: .871	Z: .658			
176	36	N3	-17.892	1066.387	33.518	2.101	.089	.095
177	36	N87D	-91.06	1151.32	53.376	-1.051	.053	-1.855
178	36	N115	248.609	1878.637	155.014	-2.659	.054	3.538
179	36	Totals:	139.656	4096.344	241.909			
180	36	COG (ft):	X: .722	Y: .871	Z: .658			
181	37	N3	-29.563	1056.053	74.952	2.212	.081	.01
182	37	N87D	-148.815	1371.706	81.587	-1.405	.043	-2.223
183	37	N115	178.358	1668.592	128.186	-2.337	.01	2.469
184	37	Totals:	-.02	4096.351	284.726			
185	37	COG (ft):	X: .157	Y: .871	Z: .658			
186	38	N3	-39.127	1050.149	56.614	2.189	.077	.015
187	38	N87D	-206.552	1357.024	81.941	-1.384	-.019	-2.181
188	38	N115	105.456	1689.179	104.284	-2.37	-.035	2.532
189	38	Totals:	-140.223	4096.351	242.838			
190	38	COG (ft):	X: .157	Y: .871	Z: .658			
191	39	N3	-57.644	1034.597	3.249	2.134	.114	.02
192	39	N87D	-222.709	1353.11	73.047	-1.382	-.037	-2.171
193	39	N115	45.928	1708.643	59.041	-2.402	-.01	2.588
194	39	Totals:	-234.425	4096.351	135.338			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
195	39	COG (ft):	X: .157	Y: .871	Z: .658			
196	40	N3	-69.658	1015.322	-72.498	2.068	.147	.023
197	40	N87D	-212.309	1358.877	55.804	-1.398	-.043	-2.188
198	40	N115	16.69	1722.152	16.693	-2.425	.04	2.624
199	40	Totals:	-265.277	4096.351	0			
200	40	COG (ft):	X: .157	Y: .871	Z: .658			
201	41	N3	-54.89	996.054	-148.193	2.004	.107	.024
202	41	N87D	-184.28	1372.002	13.241	-1.426	-.101	-2.227
203	41	N115	5.702	1728.294	.156	-2.437	.037	2.638
204	41	Totals:	-233.468	4096.35	-134.796			
205	41	COG (ft):	X: .157	Y: .871	Z: .658			
206	42	N3	-27.784	980.206	-201.89	1.953	.039	.022
207	42	N87D	-126.798	1391.101	-41.752	-1.462	-.159	-2.283
208	42	N115	14.927	1725.042	1.737	-2.434	.022	2.623
209	42	Totals:	-139.655	4096.349	-241.905			
210	42	COG (ft):	X: .157	Y: .871	Z: .658			
211	43	N3	-12.646	973.452	-221.347	1.933	.023	.019
212	43	N87D	-49.122	1411.844	-72.842	-1.498	-.135	-2.343
213	43	N115	61.772	1711.053	9.441	-2.413	.061	2.577
214	43	Totals:	.003	4096.349	-284.748			
215	43	COG (ft):	X: .157	Y: .871	Z: .658			
216	44	N3	-3.062	979.352	-203.004	1.956	.027	.014
217	44	N87D	8.595	1426.537	-73.178	-1.519	-.073	-2.384
218	44	N115	134.673	1690.461	33.321	-2.38	.105	2.514
219	44	Totals:	140.206	4096.349	-242.86			
220	44	COG (ft):	X: .157	Y: .871	Z: .658			
221	45	N3	15.452	994.893	-149.629	2.011	-.01	.01
222	45	N87D	24.734	1430.455	-64.292	-1.521	-.055	-2.394
223	45	N115	194.223	1671.001	78.561	-2.348	.08	2.458
224	45	Totals:	234.408	4096.349	-135.36			
225	45	COG (ft):	X: .157	Y: .871	Z: .658			
226	46	N3	27.456	1014.164	-73.871	2.078	-.043	.007
227	46	N87D	14.325	1424.682	-47.062	-1.505	-.05	-2.377
228	46	N115	223.479	1657.503	120.912	-2.325	.03	2.422
229	46	Totals:	265.26	4096.349	-.022			
230	46	COG (ft):	X: .157	Y: .871	Z: .658			
231	47	N3	12.68	1033.433	1.813	2.142	-.002	.006
232	47	N87D	-13.682	1411.547	-4.503	-1.477	.008	-2.338
233	47	N115	234.454	1651.37	137.464	-2.313	.033	2.408
234	47	Totals:	233.452	4096.35	134.774			
235	47	COG (ft):	X: .157	Y: .871	Z: .658			
236	48	N3	-14.438	1049.291	55.494	2.193	.065	.007
237	48	N87D	-71.135	1392.443	50.486	-1.441	.067	-2.282
238	48	N115	225.212	1654.617	135.903	-2.316	.048	2.423
239	48	Totals:	139.639	4096.351	241.883			
240	48	COG (ft):	X: .157	Y: .871	Z: .658			
241	49	N3	-19.344	1085.968	-71.29	2.251	.047	.033
242	49	N87D	-97.963	1424.904	4.598	-1.501	-.042	-2.444
243	49	N115	117.29	1210.481	66.671	-1.482	.037	1.765
244	49	Totals:	-.016	3721.353	-.021			
245	49	COG (ft):	X: -.272	Y: .958	Z: .315			
246	50	N3	-14.135	1098.099	-91.193	2.162	.027	-.033

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
247	50	N87D	-119.788	1705.551	21.072	-1.943	-.044	-3.576
248	50	N115	133.904	917.686	70.082	-.984	.053	1.274
249	50	Totals:	-.019	3721.336	-.038			
250	50	COG (ft):	X: -.952	Y: .958	Z: .315			
251	51	N3	-22.559	1360.078	-82.774	2.81	.055	.037
252	51	N87D	-113.229	1389.638	5.141	-1.249	-.049	-2.632
253	51	N115	135.765	1154.366	77.608	-1.25	.044	1.856
254	51	Totals:	-.022	3904.082	-.025			
255	51	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
256	52	N3	-29.478	1244.328	78.23	2.622	.069	.029
257	52	N87D	-144.564	1213.448	73.766	-1.064	.028	-2.278
258	52	N115	174.012	1003.988	136.516	-1.073	0	1.595
259	52	Totals:	-.029	3461.764	288.512			
260	52	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
261	53	N3	-50.893	1239.471	60.042	2.602	.1	.034
262	53	N87D	-204.153	1199.221	87.296	-1.042	.005	-2.238
263	53	N115	110.752	1023.072	102.516	-1.103	-.004	1.654
264	53	Totals:	-144.294	3461.764	249.854			
265	53	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
266	54	N3	-64.026	1225.635	6.105	2.553	.118	.038
267	54	N87D	-235.936	1193.82	78.664	-1.039	-.031	-2.223
268	54	N115	50.069	1042.309	59.486	-1.135	.003	1.71
269	54	Totals:	-249.893	3461.764	144.255			
270	54	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
271	55	N3	-65.362	1206.528	-69.145	2.487	.118	.041
272	55	N87D	-231.396	1198.689	50.182	-1.053	-.07	-2.237
273	55	N115	8.207	1056.546	18.952	-1.16	.019	1.749
274	55	Totals:	-288.551	3461.763	-.011			
275	55	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
276	56	N3	-54.535	1187.272	-145.54	2.422	.099	.042
277	56	N87D	-191.739	1212.529	9.482	-1.082	-.102	-2.278
278	56	N115	-3.608	1061.962	-8.221	-1.171	.04	1.76
279	56	Totals:	-249.883	3461.763	-144.28			
280	56	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
281	57	N3	-34.45	1173.027	-202.606	2.376	.066	.04
282	57	N87D	-127.609	1231.63	-32.522	-1.118	-.119	-2.334
283	57	N115	17.782	1057.105	-14.759	-1.165	.061	1.741
284	57	Totals:	-144.277	3461.762	-249.887			
285	57	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
286	58	N3	-10.482	1167.605	-225.058	2.361	.029	.036
287	58	N87D	-56.183	1250.879	-64.584	-1.151	-.115	-2.389
288	58	N115	66.656	1043.277	1.085	-1.144	.076	1.695
289	58	Totals:	-.01	3461.762	-288.557			
290	58	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
291	59	N3	10.94	1172.459	-206.864	2.381	-.003	.031
292	59	N87D	3.394	1265.115	-78.109	-1.172	-.093	-2.43
293	59	N115	129.92	1024.187	35.074	-1.114	.081	1.637
294	59	Totals:	144.255	3461.761	-249.899			
295	59	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
296	60	N3	24.075	1186.287	-152.916	2.43	-.021	.027
297	60	N87D	35.163	1270.52	-69.479	-1.176	-.057	-2.445
298	60	N115	190.615	1004.954	78.096	-1.082	.075	1.58

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
299	60	Totals:	249.854	3461.762	-144.3			
300	60	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
301	61	N3	25.405	1205.388	-77.663	2.496	-.02	.023
302	61	N87D	30.623	1265.647	-41.005	-1.161	-.018	-2.43
303	61	N115	232.484	990.727	118.634	-1.057	.058	1.541
304	61	Totals:	288.512	3461.762	-.034			
305	61	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
306	62	N3	14.571	1224.646	-1.274	2.56	-.001	.023
307	62	N87D	-9.021	1251.798	-.311	-1.132	.015	-2.39
308	62	N115	244.294	985.318	145.819	-1.046	.037	1.53
309	62	Totals:	249.844	3461.763	144.235			
310	62	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
311	63	N3	-5.517	1238.899	55.782	2.606	.031	.025
312	63	N87D	-73.137	1232.693	41.696	-1.097	.031	-2.334
313	63	N115	222.892	990.171	152.365	-1.052	.016	1.55
314	63	Totals:	144.238	3461.763	249.842			
315	63	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
316	64	N3	-23.282	872.407	100.787	1.853	.053	.019
317	64	N87D	-113.577	833.492	72.428	-.722	.041	-1.559
318	64	N115	136.835	688.462	115.303	-.731	-.011	1.088
319	64	Totals:	-.023	2394.361	288.519			
320	64	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
321	65	N3	-44.712	867.549	82.6	1.833	.085	.024
322	65	N87D	-173.161	819.276	85.949	-.701	.019	-1.518
323	65	N115	73.584	707.536	81.312	-.761	-.016	1.147
324	65	Totals:	-144.288	2394.361	249.861			
325	65	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
326	66	N3	-57.855	853.722	28.671	1.784	.103	.028
327	66	N87D	-204.945	813.878	77.306	-.697	-.017	-1.503
328	66	N115	12.913	726.762	38.284	-.793	-.009	1.203
329	66	Totals:	-249.887	2394.361	144.261			
330	66	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
331	67	N3	-59.193	834.629	-46.563	1.719	.103	.032
332	67	N87D	-200.414	818.741	48.815	-.711	-.056	-1.518
333	67	N115	-28.938	740.991	-2.256	-.818	.007	1.242
334	67	Totals:	-288.545	2394.361	-.004			
335	67	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
336	68	N3	-48.36	815.391	-122.942	1.654	.084	.032
337	68	N87D	-160.772	832.566	8.11	-.741	-.089	-1.558
338	68	N115	-40.745	746.403	-29.441	-.829	.028	1.253
339	68	Totals:	-249.877	2394.36	-144.273			
340	68	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
341	69	N3	-28.262	801.163	-179.993	1.608	.051	.03
342	69	N87D	-96.658	851.648	-33.894	-.776	-.105	-1.614
343	69	N115	-19.351	741.549	-35.993	-.823	.049	1.234
344	69	Totals:	-144.271	2394.36	-249.88			
345	69	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
346	70	N3	-4.278	795.751	-202.437	1.593	.014	.026
347	70	N87D	-25.244	870.879	-65.951	-.809	-.102	-1.67
348	70	N115	29.519	727.728	-20.162	-.803	.064	1.188
349	70	Totals:	-.004	2394.359	-288.55			
350	70	COG (ft):	X: -.293	Y: 1.066	Z: -.104			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
351	71	N3	17.16	800.607	-184.244	1.613	-.018	.021
352	71	N87D	34.327	885.103	-79.466	-.831	-.079	-1.71
353	71	N115	92.774	708.649	13.817	-.772	.069	1.13
354	71	Totals:	144.261	2394.359	-249.892			
355	71	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
356	72	N3	30.305	814.427	-130.305	1.662	-.036	.017
357	72	N87D	66.098	890.506	-70.825	-.834	-.043	-1.725
358	72	N115	153.457	689.427	56.837	-.74	.063	1.073
359	72	Totals:	249.86	2394.359	-144.293			
360	72	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
361	73	N3	31.636	833.513	-55.066	1.728	-.035	.013
362	73	N87D	61.567	885.639	-42.342	-.82	-.004	-1.71
363	73	N115	195.314	675.208	97.381	-.716	.047	1.034
364	73	Totals:	288.518	2394.359	-.027			
365	73	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
366	74	N3	20.796	852.753	21.306	1.792	-.016	.013
367	74	N87D	21.938	871.805	-1.642	-.791	.028	-1.67
368	74	N115	207.116	669.802	124.578	-.705	.025	1.023
369	74	Totals:	249.85	2394.36	144.242			
370	74	COG (ft):	X: -.293	Y: 1.066	Z: -.104			
371	75	N3	.696	866.989	78.347	1.838	.016	.015
372	75	N87D	-42.163	852.719	40.364	-.755	.045	-1.614
373	75	N115	185.711	674.653	131.138	-.71	.004	1.043
374	75	Totals:	144.244	2394.361	249.849			
375	75	COG (ft):	X: -.293	Y: 1.066	Z: -.104			

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

	Member	Shape	Code Check	Loc[..	LC	Shear..	Loc[..	Dir	LC	phi*Pn...	phi*Pnt..	phi*Mn...	phi*Mn...	Cb	Eqn
1	M1	PIPE_3.0	.155	8.438	9	.088	9		7	24533....	65205	5.749	5.749	2.477	H1-1b
2	M4	HSS4X4X4	.373	0	13	.071	0	y	14	12465...	139518	16.181	16.181	2.822	H1-1b
3	M10	HSS4X4X4	.170	2.375	14	.057	2.375	y	13	13626...	139518	16.181	16.181	1.662	H1-1b
4	MP1A	PIPE_2.5	.260	4.5	9	.074	4.5		8	30038....	50715	3.596	3.596	1.98	H1-1b
5	M43	HSS4X4X4	.192	0	24	.057	0	y	13	13626...	139518	16.181	16.181	1.643	H1-1b
6	M46	PL3/8X6	.205	.516	12	.123	.516	y	11	36639....	72900	.57	9.113	1.419	H1-1b
7	M51B	L2x2x3	.184	4.162	2	.010	4.162	y	17	9823.1...	23392.8	.558	1.098	1.254	H2-1
8	M52B	L2x2x3	.181	4.162	12	.014	4.162	y	21	9823.1...	23392.8	.558	1.102	1.27	H2-1
9	M76	PL3/8X6	.248	0	2	.152	0	y	18	70677....	72900	.57	9.113	1.207	H1-1b
10	M77	PL3/8X6	.299	.167	8	.348	0	y	14	71601....	72900	.57	9.113	1.272	H1-1b
11	M84	PL3/8X6	.322	0	1	.268	0	y	20	70677....	72900	.57	9.113	1.223	H1-1b
12	M85	PL3/8X6	.321	.167	6	.380	0	y	13	71601....	72900	.57	9.113	1.149	H1-1b
13	M52A	HSS4X4X4	.377	0	19	.097	0	y	22	12465...	139518	16.181	16.181	2.884	H1-1b
14	M53	HSS4X4X4	.181	2.375	22	.064	2.375	y	21	13626...	139518	16.181	16.181	1.669	H1-1b
15	M54	HSS4X4X4	.183	0	20	.054	2.152	z	8	13626...	139518	16.181	16.181	1.636	H1-1b
16	M55	PL3/8X6	.211	.516	8	.128	.516	y	7	36639....	72900	.57	9.113	1.425	H1-1b
17	M58A	L2x2x3	.165	4.162	10	.011	4.162	y	13	9823.1...	23392.8	.558	1.098	1.254	H2-1
18	M59A	L2x2x3	.196	4.162	8	.013	4.162	y	18	9823.1...	23392.8	.558	1.102	1.27	H2-1
19	M63	PL3/8X6	.256	0	4	.162	0	y	14	70677....	72900	.57	9.113	1.547	H1-1b
20	M64	PL3/8X6	.318	.167	4	.378	0	y	22	71601....	72900	.57	9.113	1.443	H1-1b
21	M68	PL3/8X6	.297	0	8	.263	0	y	16	70677....	72900	.57	9.113	1.239	H1-1b
22	M69	PL3/8X6	.298	.167	8	.358	0	y	20	71601....	72900	.57	9.113	1.551	H1-1b

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

	Member	Shape	Code Check	Loc[..	LC	Shear..	Loc[..	Dir	LC	phi*Pn...	phi*Pnt..	phi*Mn...	phi*Mn...	Cb	Eqn
23	M76A	HSS4X4X4	.295	0	17	.103	0	y	42	12465...	139518	16.181	16.181	3.009	H1-1b
24	M77A	HSS4X4X4	.152	2.375	18	.055	2.375	y	41	13626...	139518	16.181	16.181	1.665	H1-1b
25	M78	HSS4X4X4	.158	0	16	.045	0	y	17	13626...	139518	16.181	16.181	1.642	H1-1b
26	M79A	PL3/8X6	.200	.516	12	.131	.516	y	27	36639....	72900	.57	9.113	1.408	H1-1b
27	M82	L2x2x3	.174	4.162	6	.011	4.162	y	21	9823.1...	23392.8	.558	1.102	1.27	H2-1
28	M83A	L2x2x3	.164	4.162	4	.013	4.162	y	13	9823.1...	23392.8	.558	1.098	1.254	H2-1
29	M87	PL3/8X6	.309	0	6	.141	0	y	22	70677....	72900	.57	9.113	1.207	H1-1b
30	M88A	PL3/8X6	.316	.167	12	.316	0	y	18	71601....	72900	.57	9.113	1.221	H1-1b
31	M90	PL3/8X6	.056	.122	10	.237	0	y	27	70011....	72900	.57	9.113	2.834	H1-1b
32	M92A	PL3/8X6	.270	0	4	.250	0	y	24	70677....	72900	.57	9.113	1.247	H1-1b
33	M93	PL3/8X6	.289	.167	10	.310	0	y	16	71601....	72900	.57	9.113	1.1	H1-1b
34	M81A	PL3/8X6	.068	.122	9	.164	.122	y	6	70011....	72900	.57	9.113	2.3	H1-1b
35	M83	PL3/8X6	.060	.122	12	.194	0	y	11	70011....	72900	.57	9.113	3.716	H1-1b
36	M85B	PL3/8X6	.056	.122	11	.173	.122	y	1	70011....	72900	.57	9.113	4.172	H1-1b
37	M87A	PL3/8X6	.094	.122	7	.209	0	y	7	70011....	72900	.57	9.113	4.459	H1-1b
38	M89A	PL3/8X6	.072	.122	1	.167	.122	y	9	70011....	72900	.57	9.113	2.299	H1-1b
39	MP2A	PIPE_2.0	.405	4.5	9	.070	2.667		12	14916....	32130	1.872	1.872	1.905	H1-1b
40	MP3A	PIPE_2.0	.356	4.5	5	.073	4.5		2	14916....	32130	1.872	1.872	1.911	H1-1b
41	MP4A	PIPE_2.0	.304	4.5	5	.075	4.5		1	14916....	32130	1.872	1.872	1.921	H1-1b
42	MP1C	PIPE_2.5	.237	4.5	5	.067	4.5		4	30038....	50715	3.596	3.596	2.132	H1-1b
43	MP2C	PIPE_2.0	.375	4.5	6	.058	4.5		4	14916....	32130	1.872	1.872	1.898	H1-1b
44	MP3C	PIPE_2.0	.409	4.5	1	.078	4.5		11	14916....	32130	1.872	1.872	1.866	H1-1b
45	MP4C	PIPE_2.0	.332	4.5	1	.077	4.5		2	14916....	32130	1.872	1.872	1.962	H1-1b
46	MP1	PIPE_2.5	.291	4.5	1	.097	4.5		3	30038....	50715	3.596	3.596	1.97	H1-1b
47	MP2B	PIPE_2.0	.416	4.5	2	.063	2.667		3	14916....	32130	1.872	1.872	1.908	H1-1b
48	MP3	PIPE_2.0	.429	4.5	8	.118	4.5		7	14916....	32130	1.872	1.872	1.91	H1-1b
49	MP4B	PIPE_2.0	.317	4.5	9	.078	4.5		10	14916....	32130	1.872	1.872	2.014	H1-1b
50	M98B	PIPE_3.0	.152	4.781	1	.085	9		3	24533....	65205	5.749	5.749	2.574	H1-1b
51	M99A	PIPE_3.0	.149	1.547	2	.095	9		11	24533....	65205	5.749	5.749	2.501	H1-1b
52	M109	PIPE_2.5	.200	1.042	9	.066	1.432		12	14558....	50715	3.596	3.596	3.262	H1-1b
53	M113A	PIPE_2.5	.182	1.042	5	.054	1.432		8	14558....	50715	3.596	3.596	3.165	H1-1b
54	M114	PIPE_2.5	.215	1.042	1	.059	1.432		10	14558....	50715	3.596	3.596	3.128	H1-1b
55	M121	L3X3X4	.269	0	8	.039	0	z	2	42415....	46656	1.688	3.756	2.234	H2-1
56	M122	L3X3X4	.268	0	10	.038	.475	z	10	42415....	46656	1.688	3.756	2.242	H2-1
57	M123	L3X3X4	.349	0	12	.041	.065	z	12	42415....	46656	1.688	3.756	2.227	H2-1
58	MP1B	PIPE_2.5	.068	3.5	7	.042	2		11	30038....	50715	3.596	3.596	1.603	H1-1b
59	MP3B	PIPE_2.5	.066	3.5	5	.042	2.833		11	30038....	50715	3.596	3.596	2.254	H1-1b
60	M130	SR_0.625...	.264	0	14	.084	0		23	7133.3...	9946.8	.097	.097	1.702	H1-1b
61	M131	SR_0.625...	.262	0	13	.082	0		17	7133.3...	9946.8	.097	.097	1.702	H1-1b
62	M136	SR_0.625...	.242	0	24	.074	0		22	7133.3...	9946.8	.097	.097	1.705	H1-1b
63	M137	SR_0.625...	.241	0	24	.076	0		23	7133.3...	9946.8	.097	.097	1.705	H1-1b
64	M142	SR_0.625...	.796	0	15	.260	0		19	7133.3...	9946.8	.097	.097	1.678	H1-1b
65	M143	SR_0.625...	.790	0	15	.264	0		14	7133.3...	9946.8	.097	.097	1.678	H1-1b
66	M148	SR_0.625...	.779	0	20	.258	0		22	7133.3...	9946.8	.097	.097	1.679	H1-1b
67	M149	SR_0.625...	.787	0	20	.251	0		13	7133.3...	9946.8	.097	.097	1.679	H1-1b
68	M154	SR_0.625...	.264	0	17	.083	0		16	7133.3...	9946.8	.097	.097	1.701	H1-1b
69	M155	SR_0.625...	.266	0	19	.082	0		16	7133.3...	9946.8	.097	.097	1.702	H1-1b
70	M160	SR_0.625...	.802	0	17	.263	0		19	7133.3...	9946.8	.097	.097	1.678	H1-1b
71	M161	SR_0.625...	.802	0	18	.264	0		13	7133.3...	9946.8	.097	.097	1.678	H1-1b
72	M166	SR_0.625...	.290	0	8	.079	0		19	7133.3...	9946.8	.097	.097	1.69	H1-1b
73	M167	SR_0.625...	.292	0	7	.080	0		21	7133.3...	9946.8	.097	.097	1.689	H1-1b
74	M172	SR_0.625...	.804	0	15	.261	0		22	7133.3...	9946.8	.097	.097	1.678	H1-1b

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

	Member	Shape	Code Check	Loc[..	LC	Shear..	Loc[..	Dir	LC	phi*Pn...	phi*Pnt...	phi*Mn...	phi*Mn...	Cb	Eqn
75	M173	SR_0.625...	.802	0	19	.258	0		15	7133.3...	9946.8	.097	.097	1.678	H1-1b
76	M178	SR_0.625...	.257	0	19	.080	0		17	7133.3...	9946.8	.097	.097	1.703	H1-1b
77	M179	SR_0.625...	.258	0	19	.081	0		17	7133.3...	9946.8	.097	.097	1.703	H1-1b
78	M184	SR_0.625...	.795	0	18	.263	0		17	7133.3...	9946.8	.097	.097	1.678	H1-1b
79	M185	SR_0.625...	.796	0	15	.263	0		18	7133.3...	9946.8	.097	.097	1.678	H1-1b

VzW SMART Tool© Vendor

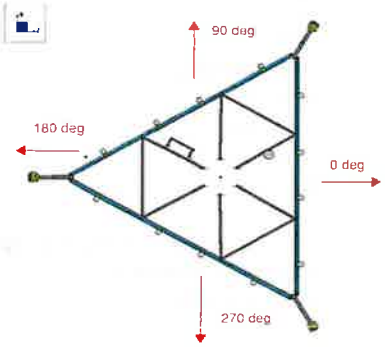
Client:	Verizon Wireless	Date:	2/16/2024
Site Name:	NORWICH NE CT		
MDG #:	5000244310		
Fuze ID #:	16227625	Page:	1

Version 2.00

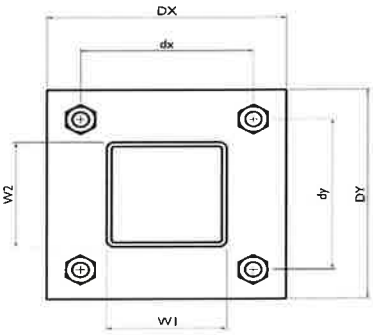
I. Mount-to-Tower Connection Check

Custom Orientation Required	Yes

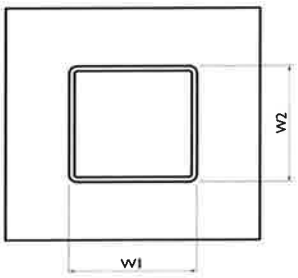
Nodes (labeled per Risa)	Orientation (per graphic of typical platform)
N115	60
N87D	300
N3	180



Tower Connection Bolt Checks	Yes
Bolt Orientation	Parallel
Bolt Quantity per Reaction:	4
d_x (in) *(Delta X of typ. bolt config. sketch)* :	7
d_y (in) *(Delta Y of typ. bolt config. sketch)* :	7
Bolt Type:	A325N
Bolt Diameter (in):	0.625
Required Tensile Strength / bolt (kips):	5.5
Required Shear Strength / bolt (kips):	0.5
Tensile Capacity / bolt (kips):	20.7
Shear Capacity / bolt (kips):	12.4
Bolt Overall Utilization:	**26.5%**



Tower Connection Baseplate Checks	Yes
Connecting Standoff Member Shape:	Rect Tube
Weld Stiffener Configuration:	No Stiffeners
Plate Width, D_x (in):	10
Plate Height, D_y (in):	10
W1(in):	4
W2 (in):	4
Member Thickness (in):	0.25
Stiffener location a_1 (in):	
Stiffener location b_1 (in):	
Stiffener location a_2 (in):	
Stiffener location b_2 (in):	
F_y (ksi, plate):	36
Plate Thickness (in):	0.625
Length of Yield Line, L_y (in):	7.75
Bolt Eccentricity, e (in):	2.35
M_u (kip-in):	12.92
Phi*M_n (kip-in):	24.52
Plate Bending Utilization:	**52.7%**

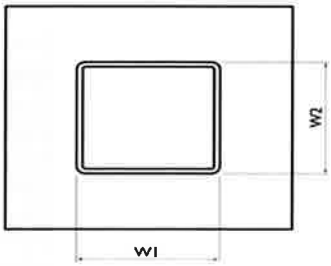


VzW SMART Tool© Vendor

Client:	Verizon Wireless	Date:	2/16/2024
Site Name:	NORWICH NE CT		
MDG #:	5000244310		
Fuze ID #:	16227625	Page:	2

Version 2.00

Tower Connection Weld Checks	Yes
Weld Shape:	Rectangle
Weld Stiffener Configuration:	None
Weld Size (1/16 in):	4
W1 (in):	4
W2 (in):	4
Weld Total Length (in):	16.00
Z_x (in^3/in):	21.33
Z_y (in^3/in):	21.33
J_p (in^4/in):	85.33
c_x (in)	2.25
c_y (in)	2.25
Required combined strength (kip/in):	2.31
Weld Capacity (kip/in):	5.57
Weld Utilization:	**41.4%**



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MOUNT MODIFICATION DRAWINGS
EXISTING 13.50' PLATFORM

TOWER OWNER: SBA COMMUNICATIONS CORPORATION
TOWER OWNER SITE NUMBER: CT13556

CARRIER SITE NAME: NORWICH NE CT
CARRIER SITE NUMBER: 5000244310
FUZE ID: 16227625

39 MAENNERCHOR AVE
TAFTVILLE, CT 06380
NEW LONDON COUNTY

LATITUDE: 41.558472° N
LONGITUDE: 72.051278° W

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), V = 125 MPH
EXPOSURE CATEGORY C
TOPOGRAPHIC CATEGORY: I
TOPOGRAPHIC CONSIDERED: N/A
TOPOGRAPHIC METHOD: N/A
MEAN BASE ELEVATION (AMSL) = 156.72'

ICE LOADS

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

SEISMIC LOADS

SEISMIC DESIGN CATEGORY B
SHORT TERM MCER GROUND MOTION, S_s = .194
LONG TERM MCER GROUND MOTION, S_1 = .054

PROJECT INFORMATION

APPLICANT/LESSEE

COMPANY: VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY: VERIZON WIRELESS

PROJECT MANAGER

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

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #: 10215319
VZW MDG #: 5000244310
ANALYSIS DATE: 12/14/2023

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

SHEET	DESCRIPTION
ST-1	TITLE SHEET
SBOM-1	BILL OF MATERIALS
SGN-1	GENERAL NOTES
SCF-1	CLIMBING FACILITY DETAIL
SS-1	MODIFICATION DETAILS
SS-2	MOUNT PHOTOS
	SPECIFICATION SHEETS

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SCALE	JOB NUMBER
AS SHOWN	21777096

STATE OF CONNECTICUT · DEJIAN XU · No. 33733 · LICENSED PROFESSIONAL ENGINEER
12/18/2023

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

SITE NAME:
NORWICH NE CT
5000244310
39 MAENNERCHOR AVE
TAFTVILLE, CT 06380
NEW LONDON COUNTY

Colliers Engineering & Design
STAMFORD

TITLE SHEET

ST-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	VZWSMART	VZWSMART-PLK1	SUPPORT RAIL KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	504	504
5		VZWSMART-P40-278X096	96" LONG, PIPE 2.5 SCH40 (2.875"OD X 0.203" THK)		46	232

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	SITE PRO 1	SP219-H	CROSSOVER PLATE	OR EOR APPROVED EQUAL. CONTACT COLLIERS ENGINEERING & DESIGN FOR APPROVAL OF SUBSTITUTION.	13	38
5	SITE PRO 1	DCP18K	PIPE TO PIPE CLAMP	OR EOR APPROVED EQUAL. CONTACT COLLIERS ENGINEERING & DESIGN FOR APPROVAL OF SUBSTITUTION.	29	146

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	PERFECT VISON	PV-SCRB-RM-U	ROUTING BRACKET	OR EOR APPROVED EQUIVALENT	-	-
1	PERFECT VISION	PV-CMX-CG-BO	WIRE ROPE GUIDE	OR EOR APPROVED EQUIVALENT	-	-
					TOTAL:	920*

*FOR ACTUAL INSTALL WEIGHT PLEASE CHECK THE MA REPORT

NOTES:

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

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

VZWSMART KITS - APPROVED VENDORS

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM

PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM

SITE PRO 1	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM

METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM

SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM

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STATE OF CONNECTICUT — DEJIAN XU — No. 33733 — LICENSED PROFESSIONAL ENGINEER — 12/18/2023

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

SITE NAME:

NORWICH NE CT
5000244310
39 MAENNERCHOR AVE
TAFTVILLE, CT 06380
NEW LONDON COUNTY

STAMFORD

BILL OF MATERIALS

SBOM-1

GENERAL NOTES

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

STRUCTURAL STEEL

1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS
   a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
   b. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
   c. AISC CODE OF STANDARD PRACTICE
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:

CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE

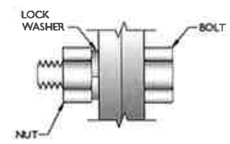
3. ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
4. PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION
   a. SUBMIT SHOP DRAWINGS TO
      PETER.ALBANO@COLLIERSENG.COM
   b. PROVIDE COLLIERS ENGINEERING & DESIGN PROJECT # AND COLLIERS ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
5. DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
6. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
7. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
8. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
9. WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
10. FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
11. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
12. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
13. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
14. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINC COTE, OR EOR APPROVED EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
15. ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

BOLT SCHEDULE (IN.)

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

WORKABLE GAGES (IN.)

LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8

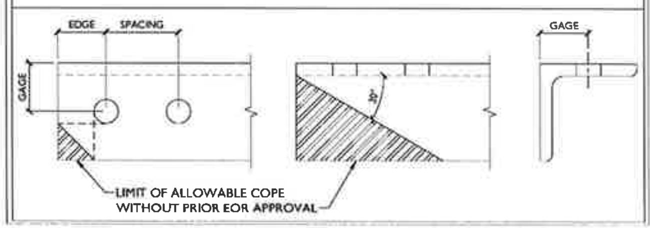


TYP. BOLT ASSEMBLY

NOTES:

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

ALLOWABLE COPING



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STATE OF CONNECTICUT DEJIAN XU No. 33733 LICENSED PROFESSIONAL ENGINEER 12/18/2023

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

SITE NAME:

NORWICH NE CT
5000244310

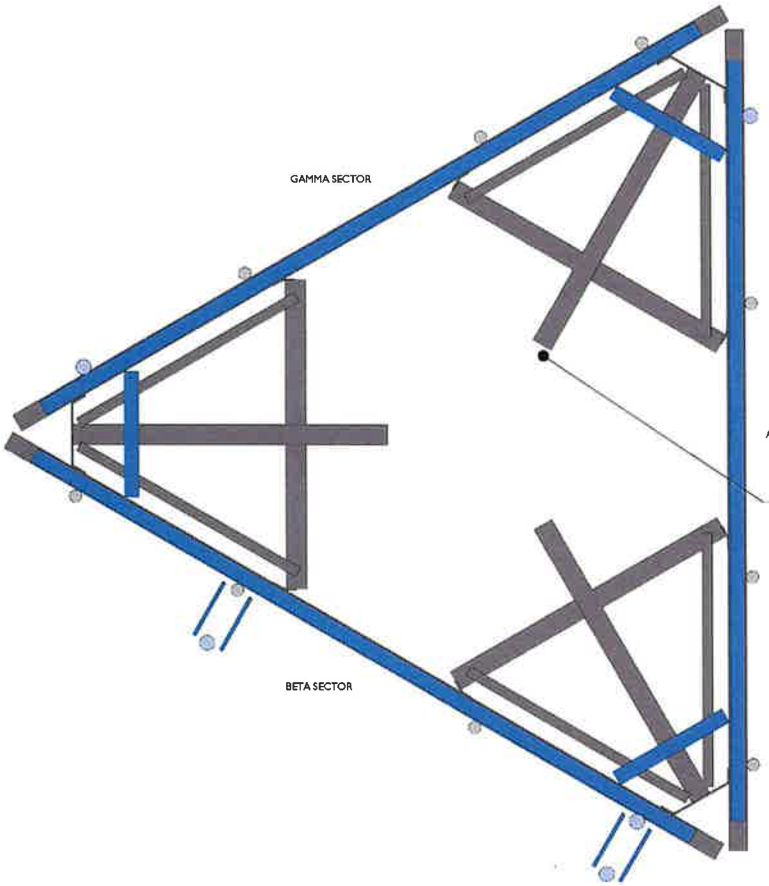
39 MAENNERCHOR AVE
TAFTVILLE, CT 06380
NEW LONDON COUNTY

Colliers Engineering & Design — STAMFORD

GENERAL NOTES

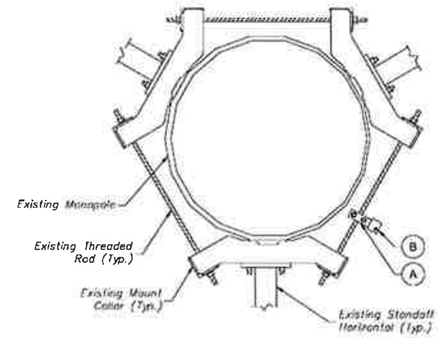
SGN-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



1 CLIMBING FACILITY LOCATION

SCALE : N.T.S.

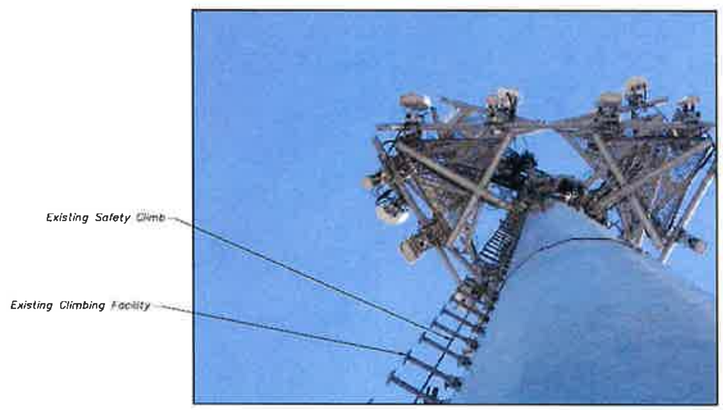


ITEM #	QTY	PART NUMBER	DESCRIPTIONS
A	1	PV-SCRB-RM-U	ROUTING BRACKET (PERFECT VISION OR EOR APPROVED EQ.)
B	1	PV-CMX-CG-BO	WIRE ROPE GUIDE (PERFECT VISION OR EOR APPROVED EQ.)

2 PROPOSED WIRE ROPE GUIDE ATTACHMENT - PLAN VIEW

SCALE : N.T.S.

NOTE: CONTRACTOR SHALL ENSURE THAT WIRE ROPE GUIDE DOES NOT PUSH THE WIRE ROPE OUTSIDE OF THE VERTICAL PLANE OF THE SAFETY CLIMB. CONTRACT EOR WITH PHOTOS OF SAFETY CLIMB AND COLLAR FOR FURTHER DIRECTION IF NEEDED.



CLIMBING FACILITY PHOTO

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY HUDSON DESIGN GROUP, LLC ON 2/10/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (98'-6") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
2. INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.

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PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

AS SHOWN | 21777096

STATE OF CONNECTICUT DEJIAN XU No. 33733 LICENSED PROFESSIONAL ENGINEER 12/18/2023

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SITE NAME:

NORWICH NE CT
5000244310
39 MAENNERCHOR AVE
TAFTVILLE, CT 06380
NEW LONDON COUNTY

STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800

CLIMBING FACILITY DETAIL

SCF-1

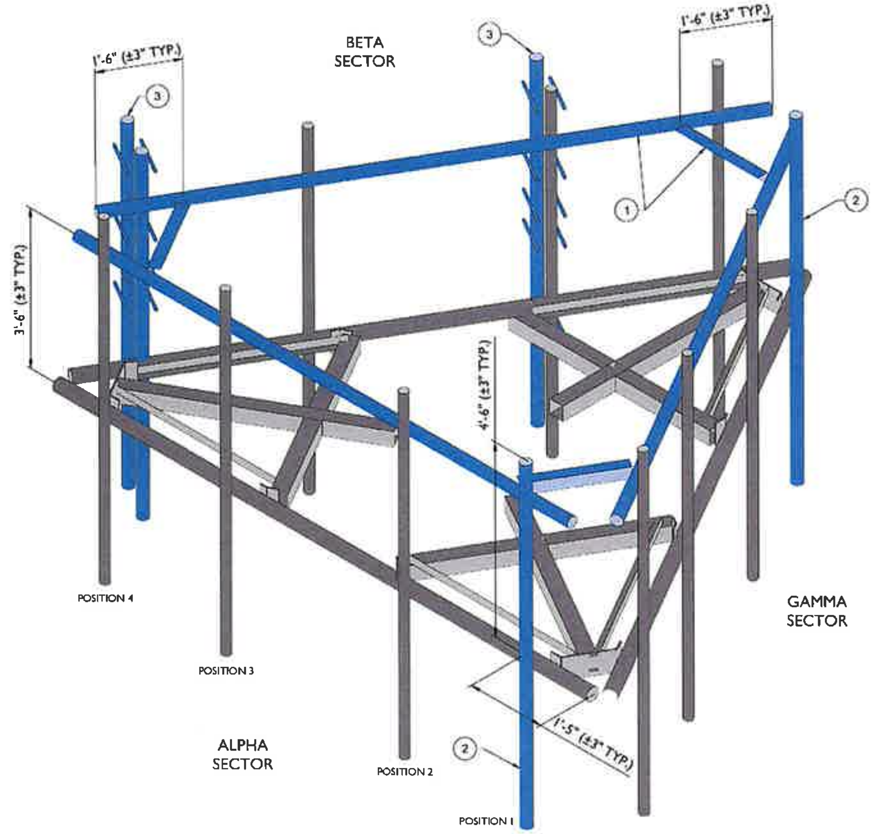
LEGEND:
- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE

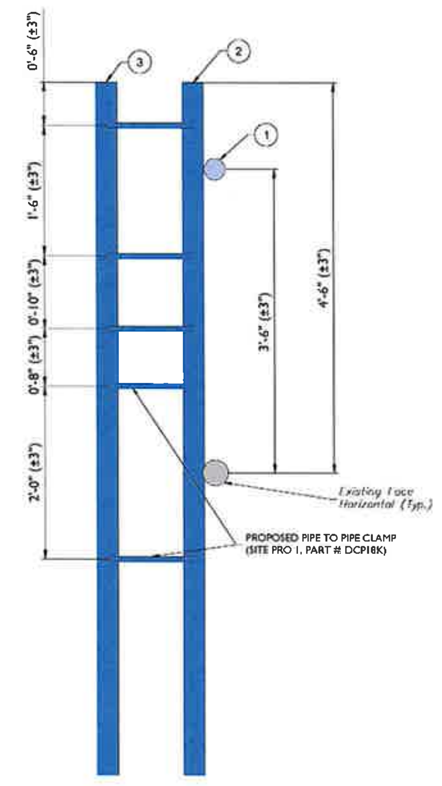
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	98'-6"	1	PROPOSED SUPPORT RAIL KIT (PART #: VZWSMART-PLK1)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. RADIO AND/OR THE POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE. SEE GENERAL NOTE B.
2		3	PROPOSED 96" LONG, PIPE 2.5 SCH40 (PART #: VZWSMART-P40-278X096) (POS. 1 OF ALL SECTOR)	CONTRACTOR SHALL REPLACE EXISTING MOUNT PIPE AT POS. 1 (AS SEEN FROM BEHIND THE MOUNT) ON ALL SECLTOR WITH PROPOSED PIPE. CONNECT NEW MOUNT PIPE TO EXISTING FACE HORIZONTAL PIPE WITH CROSSOVER PLATES (SITE PRO 1, PART # SP219-H OR EOR APPROVED EQUAL).
3		2	PROPOSED 96" LONG, PIPE 2.5 SCH40 (PART #: VZWSMART-P40-278X096) WITH PIPE TO PIPE CLAMP (SITE PRO 1, PART #: DCP18K OR EOR APPROVED EQUAL) (POS. 1 & 3 OF BETA SECTOR ONLY)	CONNECT PROPOSED MOUNT PIPE TO MOUNT PIPE AT POS. 1 & 3 (AS SEEN FROM BEHIND THE MOUNT) WITH PIPE TO PIPE CLAMP (SITE PRO 1, PART #: DCP18K OR EOR APPROVED EQUAL) IN BETA SECTOR ONLY. MAX. UNBRACED LENGTH OF THREADED ROD SHALL NOT EXCEED 12". REFER TO DETAIL 2/SS-1.

GENERAL NOTES:

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



1 PROPOSED ISOMETRIC VIEW
SCALE: N.T.S.



2 PROPOSED MOUNT PIPE @ POS. 1 & 3 DETAILS (BETA SECTOR ONLY) (SIDE ELEVATION VIEW)
SCALE: N.T.S.

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REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
2		ISSUED FOR CONSTRUCTION		DK
1		ISSUED FOR CONSTRUCTION		DK
0		ISSUED FOR CONSTRUCTION		DK

STATE OF CONNECTICUT DEJIAN XU No. 33733 LICENSED PROFESSIONAL ENGINEER 12/18/2023

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SITE NAME:

NORWICH NE CT
5000244310
39 MAENNERCHOR AVE
TAFTVILLE, CT 06380
NEW LONDON COUNTY

Colliers Engineering & Design — STAMFORD, 1055 Washington Boulevard, Stamford, CT 06901

MODIFICATION DETAILS

SS-1

MOUNT PHOTO 1

MOUNT PHOTO 2

MOUNT PHOTO 3

MOUNT PHOTO 4

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STATE OF CONNECTICUT DEJIAN XU No. 33733 LICENSED PROFESSIONAL ENGINEER 12/18/2023

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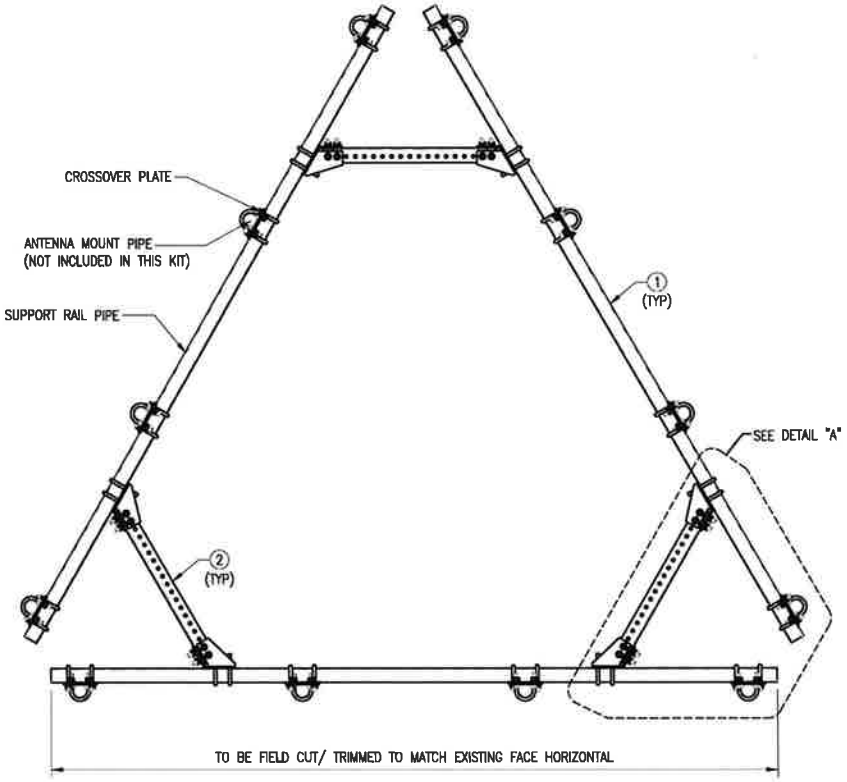
5000244310

39 MAENNERCHOR AVE
TAFTVILLE, CT 06380
NEW LONDON COUNTY

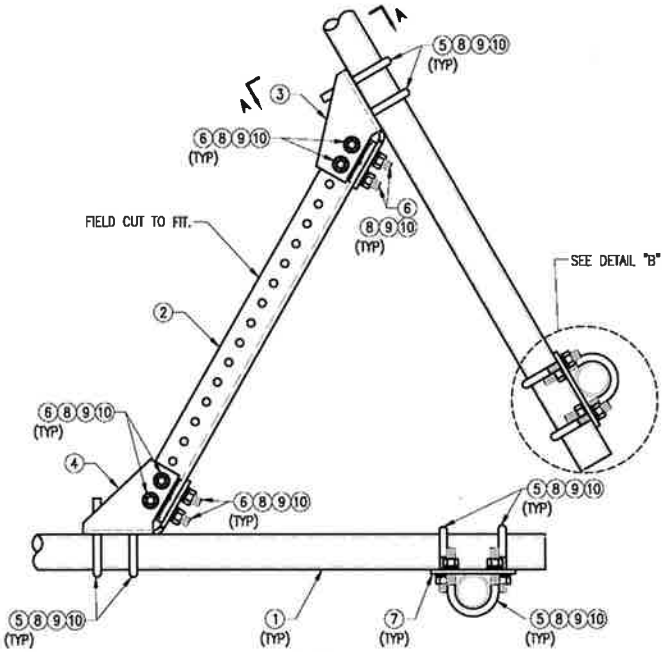
STAMFORD
1055 Washington Boulevard
Stamford, CT 06901

MOUNT PHOTOS

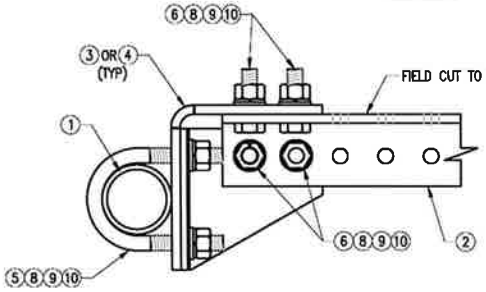
SS-2



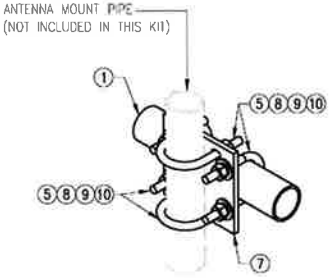
PLAN VIEW



DETAIL "A"



SECTION "A-A"



DETAIL "B"

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

VZW SMART-PLK1 (SUPPORT RAIL KIT)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	PST2875-12.5	2.5" PST (2.875" O.D. X 0.203" THK.) X 12'-6" A53 GR-B	PLK1-F1	292
2	3	L33375-3	L 3" X 3" X 3/8" X 3'-0" A36	PLK1-F1	66
3	3	CBP-L	CORNER BENT PLATE BRACKET	PLK1-F2	28
4	3	CBP-R	CORNER BENT PLATE BRACKET	PLK1-F2	28
5	60	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	82
6	24	---	BOLT 5/8" X 2" A325	---	9
7	12	PL375-B57	PL 3/8" X 8 1/2" X 7'-0" A36	PLK1-F3	77
8	144	FW-625	5/8" HDG USS FLAT WASHER	---	12
9	144	LW-625	5/8" HDG LOCK WASHER	---	3
10	144	NUT-625	5/8" HDG HEX NUT	---	17
				GALVANIZED WT	504

VzW SMART Tool© Vendor

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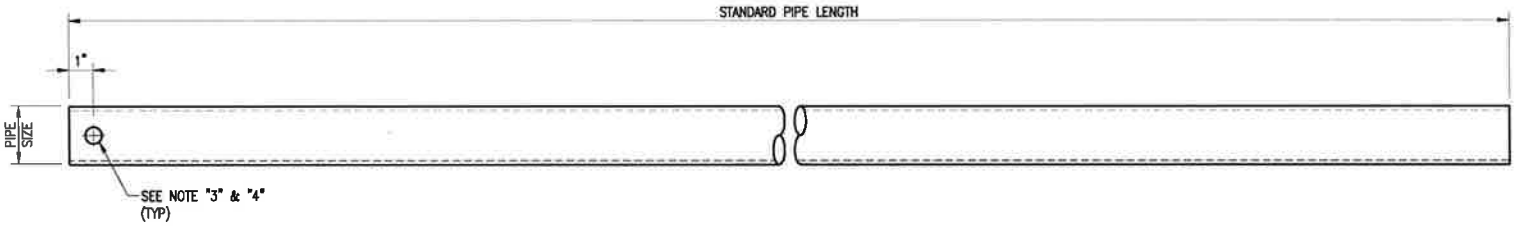
DRAWN BY: HLR | CHECKED BY: HMA

REV	DESCRIPTION	BY	DATE
0	FIRST ISSUE	HLR	05/06/20

SHEET TITLE:
VZWSMART-PLK1
SUPPORT RAIL KIT

SHEET NUMBER: VZWSMART-PLK1

REV #: 0



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

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

NOTES:
1. ALL PIPE GRADE A53-B OR BETTER.
2. HOT-DIPPED GALVANIZED PER ASTM A123.
3. ALL HOLES ARE 11/16" DIA. U.N.O
4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

VzW SMART Tool© Vendor

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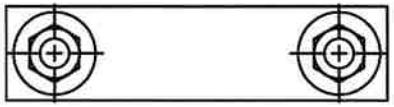
DRAWN BY: BT | CHECKED BY: HMA/KW

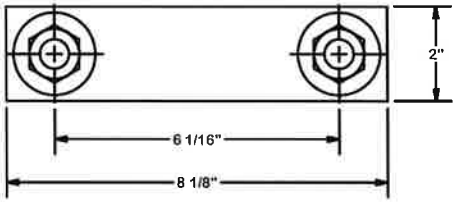
REV	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	08/04/21

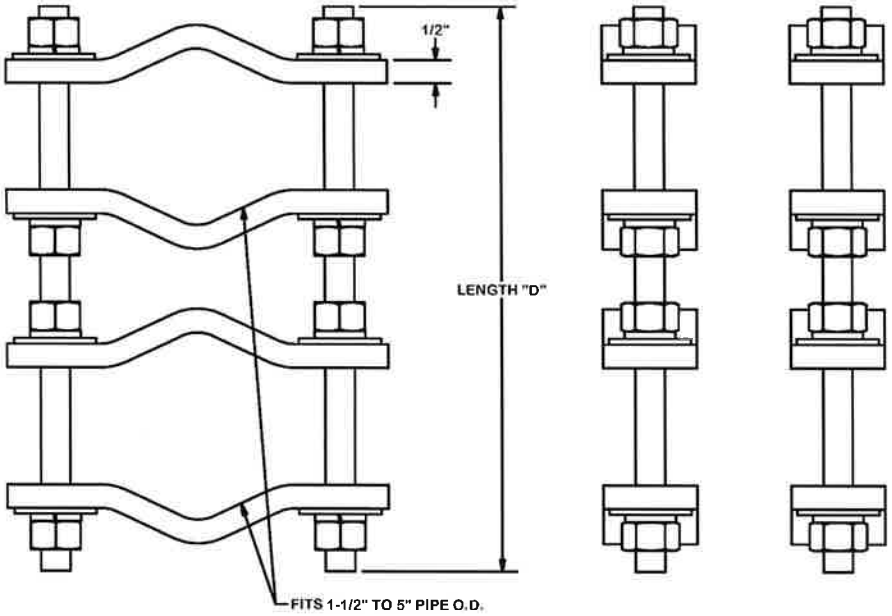
SHEET TITLE:
VZWSMART STANDARD PIPE

SHEET NUMBER: VZWSMART-PIPE

REV #: 0

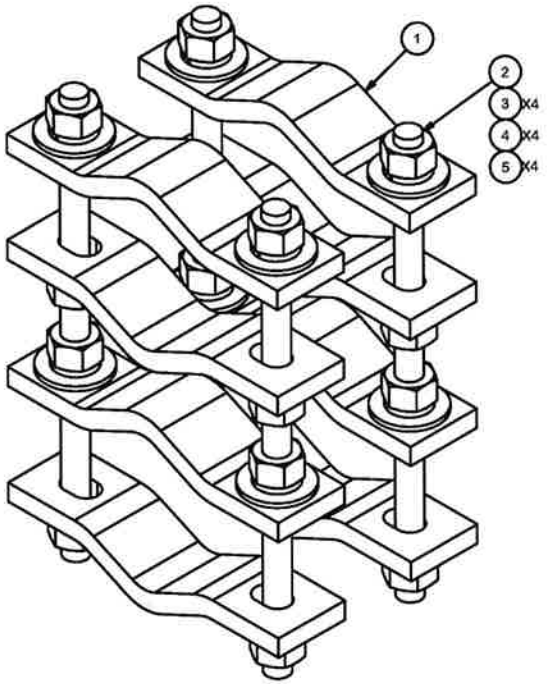






PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	8	DCP	CLAMP HALF, 1/2" THICK, 8-3/8"		2.42	19.36
2	B	C	5/8" THREADED ROD	D	E	F
3	16	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	2.08
4	16	G58LW	5/8" HDG LOCKWASHER		0.03	0.42
5	16	G58FW	5/8" HDG USS FLATWASHER		0.07	1.13

VARIABLE PARTS TABLE						
ASSEMBLY "A"	QTY "B"	PART "C"	LENGTH "D"	UNIT WT. "E"	NET WT. "F"	TOTAL WEIGHT
DCP12K	4	G58R-12	12"	1.05	4.18	27.01
DCP18K	4	G58R-18	18"	1.57	6.27	29.10



FOR REFERENCE ONLY

TOLERANCE NOTES

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

DESCRIPTION
PIPE TO PIPE CLAMP SET
1-1/2" TO 5" PIPE
1/2" THICK CLAMP

SITE PRO 1 — A valmont COMPANY

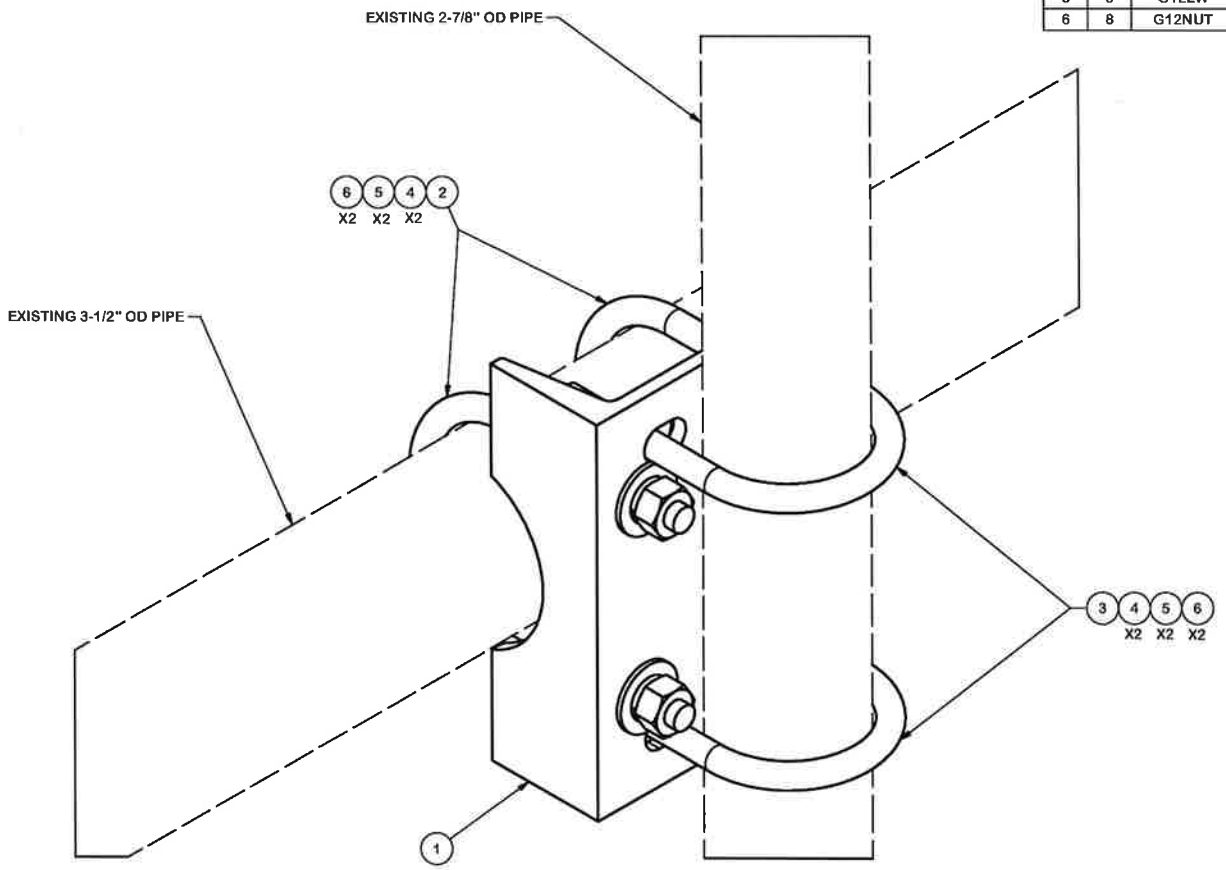
Engineering Support Team: 1-866-753-7446

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

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.	PAGE
	KC8 8/21/2012		SEE ASSEMBLY "A"	1 OF 1

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	01	CUSTOMER	CEK 1/22/2013	DCPxxK

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	1	X-SP219	SMALL SUPPORT CROSS PLATE	8 1/4 in	8.61	8.61
2	2	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.66	1.31
3	2	X-UB1300	1/2" X 3" X 5" X 2" U-BOLT (HDG.)		0.66	1.31
4	8	G12FW	1/2" HDG USS FLATWASHER		0.03	0.27
5	8	G12LW	1/2" HDG LOCKWASHER		0.01	0.11
6	8	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	0.57
					TOTAL WT. #	12.61



FOR REFERENCE ONLY

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	REDRAWN IN INV, UPDATED VIEWS & TABLE		KCB	8-21-2012

REVISION HISTORY

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES *(± 0.090")*
DRILLED AND GAS CUT HOLES *(± 0.030")* - NO CONING OF HOLES
LASER CUT EDGES AND HOLES *(± 0.010")* - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING *(± 0.030")*
ALL OTHER ASSEMBLY *(± 0.060")*

DESCRIPTION
2-7/8" TO 3-1/2"
PIPE MOUNT ASSEMBLY

SITE PRO 1
A valmont COMPANY

Engineering Support Team: 1-888-753-7446

Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
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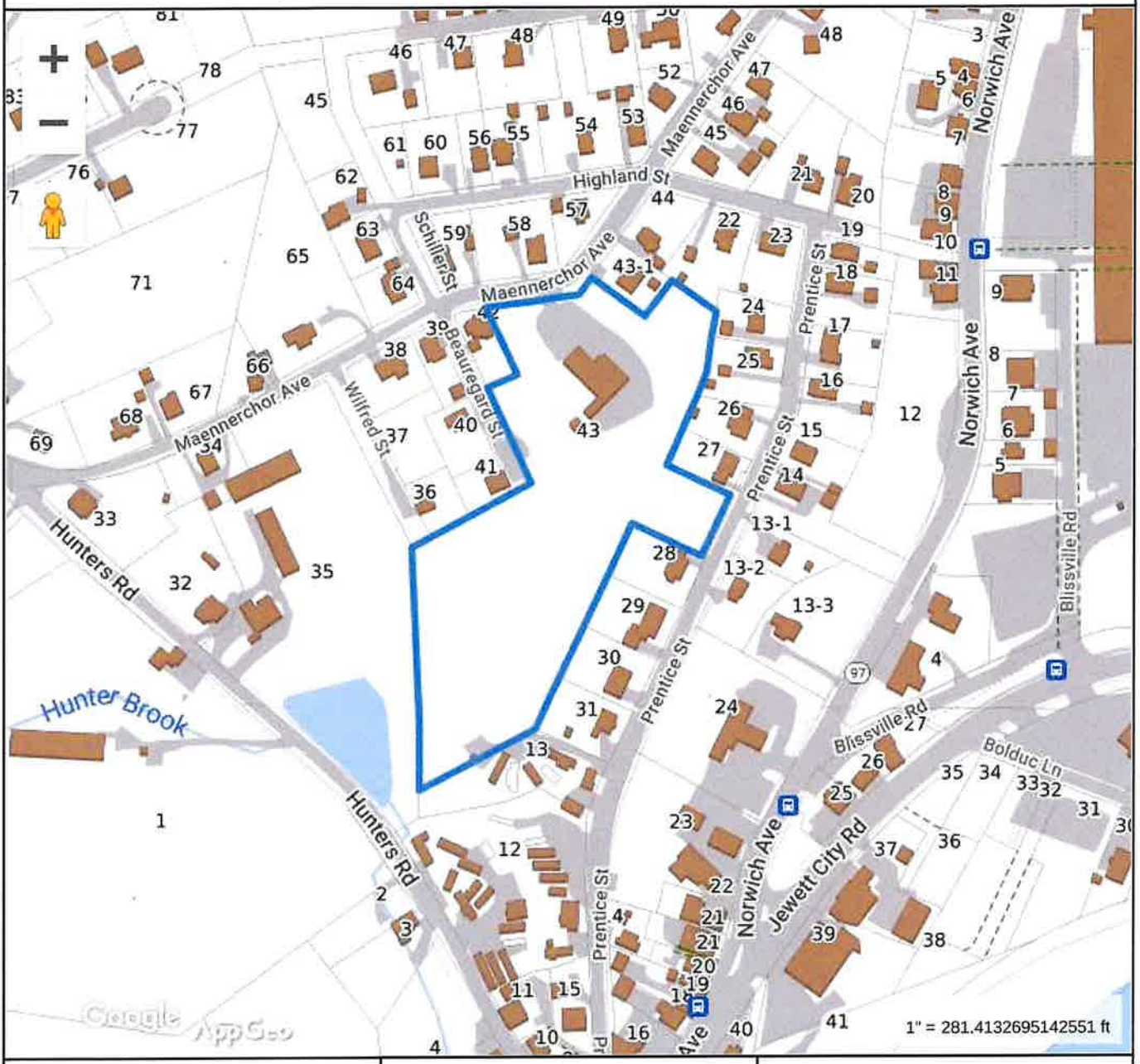
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.	PAGE
4518	BMC 6/3/2009		SP219-H	1 OF 1
CLASS / SUB	DRAWING USAGE	CHECKED BY	DWG. NO.	
81 / 01	CUSTOMER	CEK 2/18/2013	SP219-H	

ATTACHMENT 5

39 Maennerchor Ave Tax Map



Property Information

Property ID	055-002-043.000-0000
Location	39 MAENNERCHOR AVE
Owner	MAENNERCHOR CLUB

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Norwich, CT makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 5/25/2021
Data updated on a daily basis

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

39 MAENNERCHOR AVE

Location	39 MAENNERCHOR AVE	**Mblu**	55/ 2/ 43/ /
Acct#	0069120001	**Owner**	MAENNERCHOR CLUB
Assessment	$249,100	**Appraisal**	$355,800
PID	102164	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2023	$185,400	$170,400	$355,800
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2023	$129,900	$119,200	$249,100

Parcel Addreses

Additional Addresses
No Additional Addresses available for this parcel

Owner of Record

Owner MAENNERCHOR CLUB
Address 39 MAENNERCHOR AVE
TAFTVILLE, CT 06380

Sale Price $0
Certificate
Book & Page 0187/0065
Sale Date 01/01/1900
Instrument 25

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
MAENNERCHOR CLUB	$0		0187/0065	25	01/01/1900

Building Information

Building 1 : Section 1

ATTACHMENT 6

VW/Norwich NW

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	OLD STATE HOUSE STATION 06103 JUN 18 2024 USPS quadient CORRECTION IMI $003.34 06/18/2024 ZIP 06101 043M822006619 US POSTAGE
	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.	Peter A. Nystrom, Mayor City of Norwich 100 Broadway Norwich, CT 06360				
2.	Deanna Rhodes, Director of Planning and Neighborhood Services City of Norwich 23 Union Street Norwich, CT 06360				
3.	Maennerchor Club 39 Maennerchor Avenue Taftville, CT 06380				
4.					
5.					
6.					

See Reverse for Instructions