

January 2, 2024

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
51 Daniels Avenue, Waterford, Connecticut**

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains a wireless telecommunications facility at the above-referenced address (the “Property”). Cellco’s facility consists of antennas and remote radio heads attached to a tower. Equipment associated with the facility is located on the ground adjacent to the tower. The tower was approved by the Town of Waterford in November 2008. Cellco’s shared use of the tower was approved by the Council in April of 2009 (TS-VER-152-090326). A copy of the Town’s original tower approval and Cellco’s shared use approval are included in Attachment 1.

Cellco’s proposed modification involves the removal of six (6) existing antennas and three (3) existing remote radio heads (RRHs) and the installation of nine (9) new antennas (six (6) Model JAHH-65B-R2B and three (3) Model MT6413-77A) and six (6) new RRHs (three (3) Model RF4439d-25A and three (3) Model RF4461d-13A). All new equipment will be installed on Cellco’s existing antenna mounting assemblies. A set of Project Plans showing Cellco’s modifications and the specifications for the 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 Waterford’s Chief Elected Official and Land Use Officer. The Town of Waterford is the owner of the Property.

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

28331257-v1

Melanie A. Bachman, Esq.
January 2, 2024
Page 2

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

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

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

4. The installation of Cellco's new antennas and RRHs will not result in a change to radio frequency (RF) emissions from the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A Calculate Radio Frequency Emissions Report for Cellco's modified facility is included in Attachment 3.

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, foundation, and antenna mounting assemblies, with certain modifications, can support Cellco's proposed modifications. A copy 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:

Rob Brule, First Selectman
Jonathan Mullen, Planning Director
Alex Tyurin, Verizon Wireless

ATTACHMENT 1

FIFTEEN ROPE FERRY ROAD



WATERFORD, CT 06385-2886

**TOWN OF WATERFORD
PLANNING & ZONING COMMISSION**

NOTICE OF GRANT OF A SPECIAL PERMIT

This is to certify that on November 24, 2008, the Waterford Planning & Zoning Commission granted Special Permit #PZ2008-033.

Owner of Record: Town of Waterford

Address: 51 Daniels Avenue

Description of Premises:

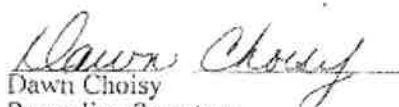
As recorded in Volumes 107, Page(s) 567 of the Waterford Land Records.

Nature of Special Permit: Special Permit and site plan approval granted for erection of a telecommunications tower

Applicable Zoning Regulations: Sections 5, 22 & 23.

Permit findings, stipulations and conditions are filed in the office of the Town Clerk as stated in the minutes of the Planning & Zoning Commission meeting of November 24, 2008.

PLANNING & ZONING COMMISSION

By: 
Dawn Choisy
Recording Secretary
Planning & Zoning Commission

This notice is to be recorded on the land records of the Town of Waterford, indexed in the Grantor's Index under the name of the record owner.

FIFTEEN ROPE FERRY ROAD



WATERFORD, CT 06385-2886

October 17, 2008

Christopher B. Fisher, Esq.
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, NY 10601

RE: Conservation Permit #2008-041
51 Daniels Avenue - Communications Tower

Dear Mr. Fisher:

At a meeting held on October 16, 2008, the Waterford Conservation Commission approved the above referenced application with conditions.

Please submit two copies of the finalized site plans in accordance with the terms and conditions of the permit (attached). Once submitted, the Chairman will sign the plans and permit and a set will be forwarded to you for your records. If you have any questions, please feel free to call Maureen FitzGerald, Environmental Planner, at 860-444-5813.

Sincerely,

Carol Libby
Recording Secretary
Conservation Commission

Certified Mail #7006 0810 0006 0893 5010

cc: Town of Waterford - 1st Selectman
SBA Network Services, Inc.

FIFTEEN ROPE FERRY ROAD
November 25, 2008



WATERFORD, CT 06385-2886

SBA Towers II, LLC
c/o SBA Network Services, Inc.
80 Eastern Boulevard
Glastonbury, CT 06033

RE: Application #PZ2008-033
51 Daniels Avenue/Communications Tower

Dear Mr. Dupont:

At a meeting on November 24, 2008, the Town of Waterford Planning and Zoning Commission took the following action in regards to the above referenced application:


APPROVED WITH CONDITIONS: #PZ2008-033 - Request of the Town of Waterford by its agent SBA Towers II, LLC, applicant: Town of Waterford, owner, Christopher B. Fisher, Esq. agent for special permit and site plan approval to locate a communications tower at 51 Daniels Avenue, R-40 zone, in accordance with Sections 5.2.1, 5.2.2, 22 and 23 of the Zoning Regulations and as shown on plans entitled "Site Name: Southwest School, Site Address: 51 Daniels Avenue, Waterford, CT 06385" dated July 28, 2008 with revisions to September 13, 2008.

Please refer to the attached minutes and special permit for the conditions of the approval.

In order to comply with the record retention schedule required by the State of Connecticut, you are required to file a Notice of Special Permit with the Waterford Town Clerk. This Notice can be filed after the 15 day appeal period expires, which is December 16, 2008. At the time you are ready to file this Notice, please come to the Permitting Office and the original notice and one copy will be given to you. Both of these shall be stamped in at the Clerk's Office, and the copy is to be returned to this office.

Please also submit two sets of check prints incorporating the conditions of the Planning and Zoning Commission and Conservation Commission approvals for Staff review. After this review, you will be notified to submit one mylar and 12 sets of final plans for the Chairmen's signatures.

Sincerely,


Dawn Choisy
Recording Secretary
Planning and Zoning Commission

Enclosure: Minutes
Notice of Action

Certified #7008 0500 0000 7478 7841

Cc: Christopher B. Fisher, Esq., w/attachments

FIFTEEN ROPE FERRY ROAD



WATERFORD, CT 06385-2886

November 25, 2008

The Day Publishing Company - Legal Ads
Eugene O'Neill Drive
New London, CT 06320

Please prepare the following notice for publication in your newspaper on Monday December 1, 2008 and send a Publisher's Certificate along with your bill, charged to #92962:

**TOWN OF WATERFORD
PLANNING AND ZONING COMMISSION
NOTICE OF ACTION**

At a meeting held on November 24, 2008, the Waterford Planning and Zoning Commission took the following actions:

APPROVED WITH CONDITIONS

#PZ2008-033 - Request of the Town of Waterford by its agent SBA Towers II, LLC, applicant; Town of Waterford, owner, Christopher B. Fisher, Esq. agent for special permit and site plan approval to locate a communications tower at 51 Daniels Avenue, R-40 zone.

#PZ2008-030 - Request of Jeffrey J. Barclay, applicant Edmund O & Vincent P. DeSantis owners; Boundaries, LLC, agent for Coastal Site Plan review and approval to construct a new single family home on property located at 14 Westcot Road, RU-120 zone.

#PZ2008-038 - Request of Michael Hoelck, applicant; Hoelck's Realty LLC, owner, for modification of an approved site plan at 341 Boston Post Road, R-20 zone. The approval of this site plan includes fire zones as may be established and enforced pursuant to Chapter 8.08 of the Waterford Code of Ordinances.

Information regarding the above actions is on file in the office of the Planning and Zoning Commission, Waterford, Connecticut.

Dated at Waterford, CT this 25th day of November, 2008.

Edwin Maguire, Chairman
Gwendolyn Hughes, Secretary

By: *Dawn Choisy*
Dawn Choisy, Recording Secretary 444-5813



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

April 27, 2009

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

RE: **TS-VER-152-090326** - Celco Partnership d/b/a Verizon Wireless request for an order to approve tower sharing at an existing telecommunications facility located at 51 Daniels Avenue, Waterford, Connecticut.

Dear Attorney Baldwin:

At a public meeting held April 23, 2009, 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 coax lines shall be configured per Figure 1 of the structural analysis report dated March 3, 2009 and sealed by Christopher Michael Murphy, P.E.; and
- The Council shall be notified in writing that the coax was configured as specified.

This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

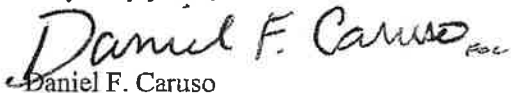
This decision is under the exclusive jurisdiction of the Council. Any additional change to this facility may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. 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.

The proposed shared use is to be implemented as specified in your letter dated March 26, 2009, including the placement of all necessary equipment and shelters within the tower compound.

Thank you for your attention and cooperation.

Very truly yours,


Daniel F. Caruso

Chairman

DFC/MP/laf

c: The Honorable Daniel M. Steward, First Selectman, Town of Waterford
Thomas V. Wagner, Planning Director, Town of Waterford
SBA



ATTACHMENT 2



20 ALEXANDER DRIVE, 2nd FLOOR
WALLINGFORD, CT 06492

WATERFORD SOUTH CT

51 DANIELS AVENUE
WATERFORD, CT 06385
NEW LONDON COUNTY

PROJECT TYPE: UPGRADE TO EXISTING WIRELESS TELECOMMUNICATIONS
INSTALLATION ON EXISTING 180'± SELF-SUPPORT TOWER

SUPPORTING DOCUMENTS

RADIO FREQUENCY (RF) DESIGN DATE: 12/05/23
ANTENNA MOUNT STRUCTURAL ANALYSIS DATE: 09/13/23 (BY COLLIERS ENGINEERING & DESIGN)
STRUCTURAL ANALYSIS DATE: 11/21/23 (BY TOWER ENGINEERING SOLUTIONS)



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



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



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



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

| REV. | DATE | DESCRIPTION | BY |
|------|----------|-------------------------|-----|
| 2 | 12/06/23 | CONSTRUCTION REISED | CJC |
| 1 | 11/21/23 | ISSUED FOR CONSTRUCTION | CJC |
| 0 | 11/14/23 | ISSUED FOR REVIEW | CJC |

PROJECT NAME & ADDRESS

WATERFORD
SOUTH CT

51 DANIELS AVENUE
WATERFORD, CT 06385

VZW LOCATION CODE: 488615
MDG LOCATION ID: 6000244405
FUZE PROJECT ID: 17123905

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T01

SITE INFORMATION

VERIZON LOCATION CODE: 468615
VERIZON SITE NAME: WATERFORD SOUTH CT
SBA SITE NUMBER: CT09865-S
SBA SITE NAME: NIAN TIC
SBA COLLO APP NUMBER: 240519, V1
MDG LOCATION ID: 5000244405
FUZE PROJECT ID: 17123905
SITE ADDRESS: 51 DANIELS AVENUE
WATERFORD, CT 06385
PROPERTY OWNER: TOWN OF WATERFORD
15 ROPE FERRY ROAD
WATERFORD, CT 06385
TOWER OWNER: SBA TOWERS II, LLC
8501 CONGRESS AVENUE
BOCA RATON, FL 33487
PHONE: 561-226-9523
COUNTY: NEW LONDON, CT
ZONING DISTRICT: (R-40) RESIDENTIAL
STRUCTURE TYPE: SELF-SUPPORT TOWER
STRUCTURE HEIGHT: 180'±
STRUCTURE HEIGHT W/APURTENANCE: 188'±
GROUND ELEVATION: 116'±
TOTAL AMSL: 304'±
SITE CONTROL POINT: CENTER OF EXISTING SELF-SUPPORT TOWER
N 41°-19'-49.95" (41.330264°) (NAD '83)
W 72°-10'-00.02" (-72.166672°) (NAD '83)
ARCHITECT/ENGINEER: CHAPPELL ENGINEERING ASSOCIATES, LLC
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752

GENERAL NOTES

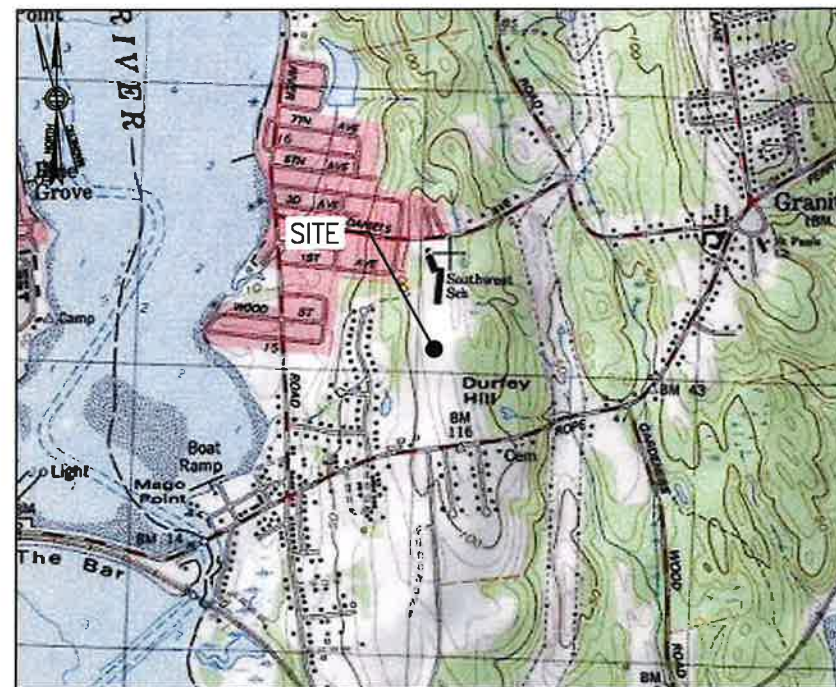
- CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACES THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
- NEW CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
 - BUILDING CODE: 2022 CONNECTICUT STATE BUILDING CODE
 - ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
 - STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS

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



VICINITY MAP

SCALE: 1"=1000'



DRIVING DIRECTIONS

FROM WALLINGFORD, TAKE CT-68 EAST. TURN LEFT ONTO CT-17 NORTH/MAIN STREET. TURN RIGHT ONTO RANDOLPH ROAD. TURN RIGHT TO MERGE ONTO CT-9 SOUTH TOWARD OLD SAYBROOK. MERGE ONTO CT-9 SOUTH. USE LEFT LANE TO MERGE ONTO I-95 NORTH/US-1 NORTH TOWARD NEW LONDON/PROVIDENCE. CONTINUE TO FOLLOW I-95 NORTH. TAKE EXIT 75 TOWARD WATERFORD. MERGE ONTO US-1 NORTH/BOSTON POST ROAD. TURN RIGHT ONTO NIAN TIC RIVER ROAD. TURN LEFT ONTO DANIELS AVENUE. SITE IS LOCATED ON THE RIGHT HAND SIDE.

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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

- 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.
- THIS FACILITY DOES NOT, NOR WILL IT CONSUME UNRECOVERABLE ENERGY.
- NO PORTABLE WATER SUPPLY IS OR WILL BE PROVIDED AT THIS LOCATION.
- NO WASTE WATER IS OR WILL BE GENERATED AT THIS LOCATION.
- NO SOLID WASTE IS OR WILL BE GENERATED AT THIS LOCATION.

SCOPE OF WORK

REMOVE:

- 3 SECTOR FRAMES
- 12 ANTENNAS
- 3 RADIOS
- 1 JUNCTION BOX (OVP)
- 18 COAXIAL CABLES

INSTALL:

- 3 HEAVY-DUTY V-FRAMES
- 3 SIDE-BY-SIDE ANTENNA MOUNTS
- 9 ANTENNAS
- 6 RADIOS
- 3 DIPLEXERS
- 2 JUNCTION BOXES (OVP)
- 1 HYBRID CABLE

GENERAL NOTES:

- 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
- 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.
- 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.
- ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
- 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.
- 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.
- 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.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
- 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.
- 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.
- CONSTRUCTION SHALL COMPLY WITH VERIZON WIRELESS NETWORK STANDARD #NSTD123 TO THE MAXIMUM EXTENT FEASIBLE UNLESS PRECLUDED OR LIMITED BY DESIGN SHOWN ON THESE DRAWINGS.
- 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.
- 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.
- 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:

- THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- 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.
- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
- 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.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- 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.
- THE AREAS OF THE OWNER'S 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.
- 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.
- THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE VERIZON WIRELESS SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

- 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.
- 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.
- 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.
- 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:
 #8 AND LARGER2 IN.
 #5 AND SMALLER & WWF1 1/2 IN.
 CONCRETE NOT EXPOSED TO EARTH OR WEATHER
 OR NOT CAST AGAINST THE GROUND:
 SLAB AND WALL3/4 IN.
 BEAMS AND COLUMNS1/2 IN.
- A CHAMFER 3/8" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- 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.
- CONCRETE CYLINDER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (BC1805.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER:
 (A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIER'S 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.
- 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.
- 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:

- ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND VERIZON WIRELESS SPECIFICATION 25292-000-3PS-GET-0001 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".
- 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.
- BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (3/4") AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
- NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 3/4" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.
- INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURER'S 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.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL.
- ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

- EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
- COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
- 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.
- 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.
- AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/36) 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:

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

CONSTRUCTION NOTES:

- FIELD VERIFICATION:
 SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, VERIZON WIRELESS ANTENNA PLATFORM LOCATION AND ANTENNAS TO BE REPLACED.
- COORDINATION OF WORK:
 SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.
- 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:

- WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
- SUBCONTRACTOR SHALL MODIFY EXISTING CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLEING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
- CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
- 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.
- POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC & OSHA AND MATCH EXISTING INSTALLATION REQUIREMENTS.
- 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).
- PANEL BOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 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.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#8 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.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #5 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#34 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.
- 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).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANS/IEEE, AND NEC.
- NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- 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.
- ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- GALVANIZED STEEL, INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
- 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 ENGAGED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANS/IEEE, AND NEC.
- CABINETS, BOXES, AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PAINTOUT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- 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.
- 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.
- 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.
- THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- 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.
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
- CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.



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



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



R.L.K. EXECUTIVE CENTRE
 201 BOSTON POST ROAD WEST, SUITE 101
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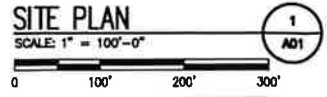
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| 1 | 11/21/23 | ISSUED FOR CONSTRUCTION | CAC |
| 0 | 11/14/23 | ISSUED FOR REVIEW | CAC |

PROJECT NAME & ADDRESS
WATERFORD SOUTH CT
 51 DANIELS AVENUE
 WATERFORD, CT 06385

V2W LOCATION CODE: 488615
 MDG LOCATION ID: 500284405
 FUZZ PROJECT ID: 17123008

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN01



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WALLINGFORD, CT 06492
(203) 741-7338



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(508) 251-0720



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PROJECT NAME & ADDRESS
WATERFORD SOUTH CT
51 DANIELS AVENUE
WATERFORD, CT 06385

VZW LOCATION CODE: 400016

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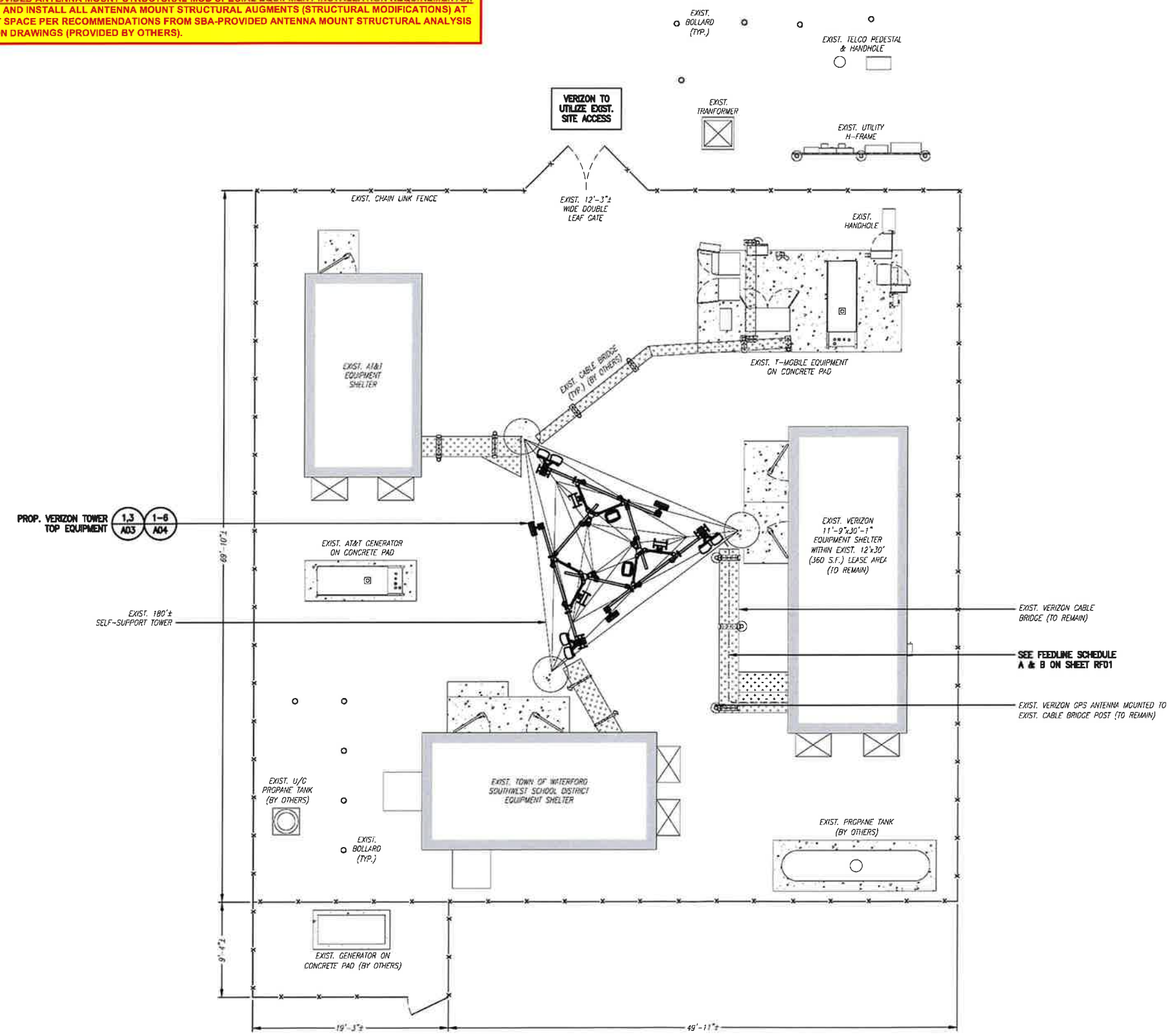
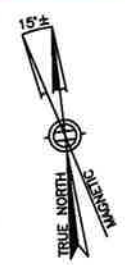
FUZE PROJECT ID: 17123806

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).



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



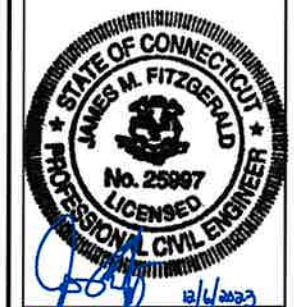
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 WALLINGFORD, CT 06492
 (203) 741-7338



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 134 FLANDERS ROAD, SUITE 125
 WESTBOROUGH, MA 01581
 (508) 251-0720



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| 1 | 11/21/23 | ISSUED FOR CONSTRUCTION | CAC |
| 0 | 11/14/23 | ISSUED FOR REVIEW | CAC |

PROJECT NAME & ADDRESS
WATERFORD SOUTH CT
 51 DANIELS AVENUE
 WATERFORD, CT 06385

VZW LOCATION CODE: 488818

MDG LOCATION ID: 8002844405

FUZE PROJECT ID: 17123806

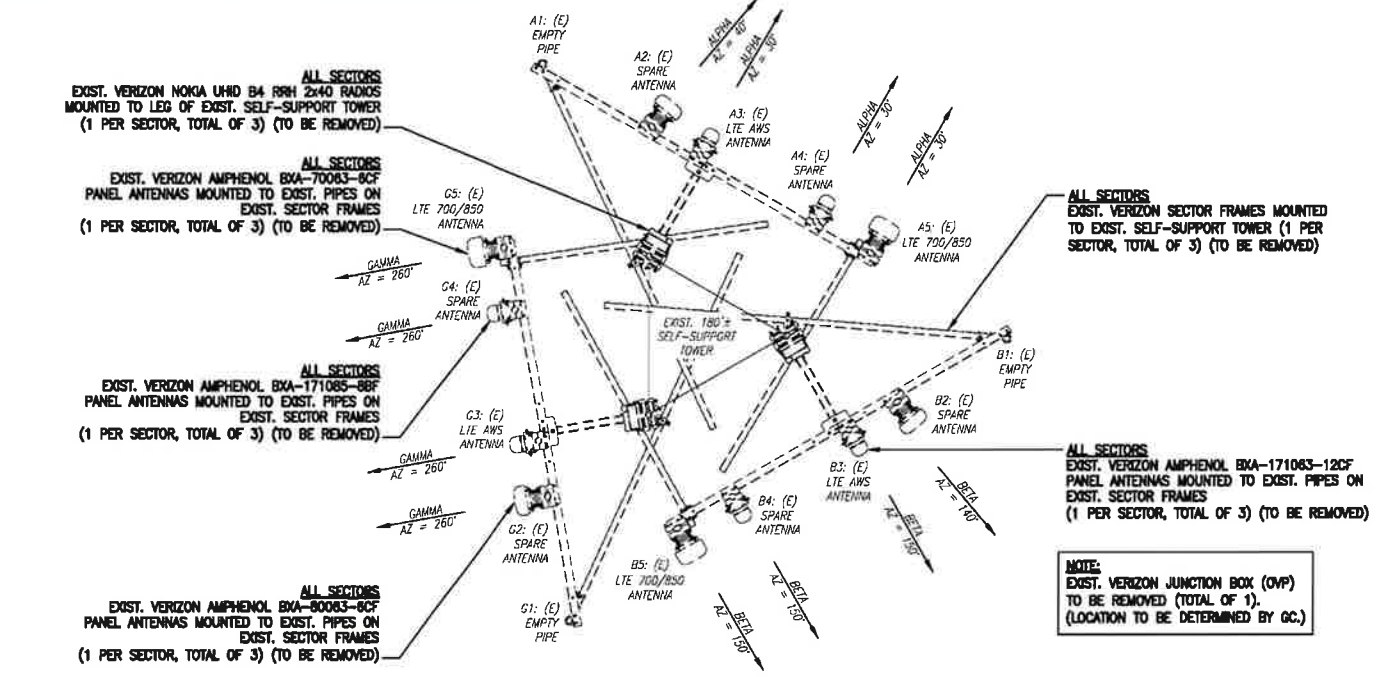
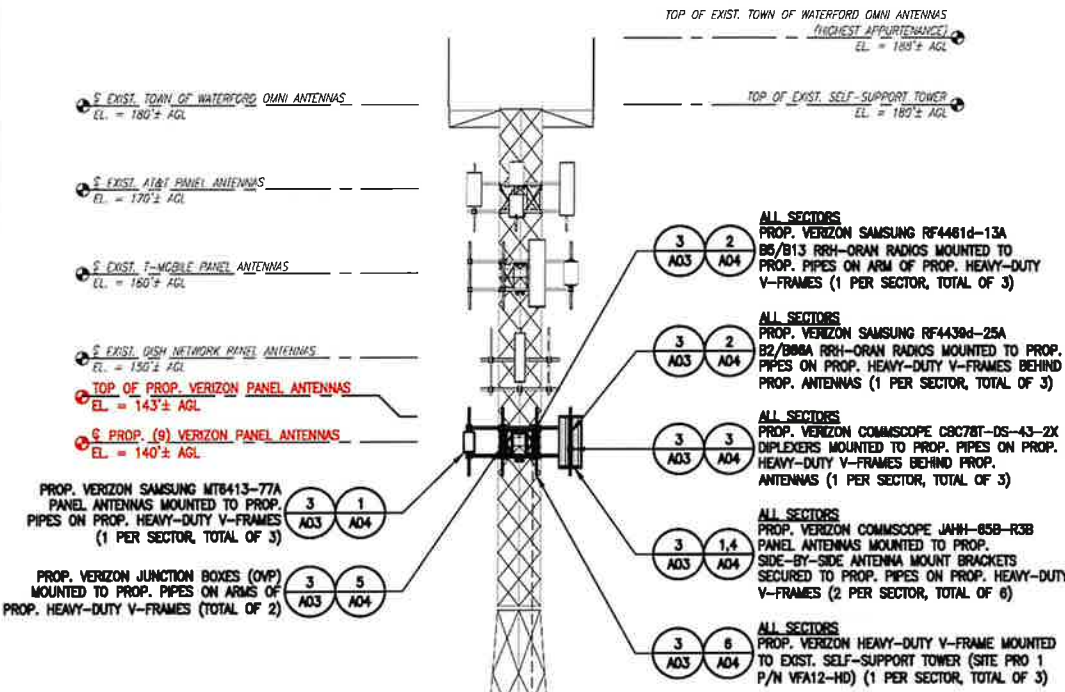
SHEET TITLE
COMPOUND PLAN

SHEET NUMBER
A02

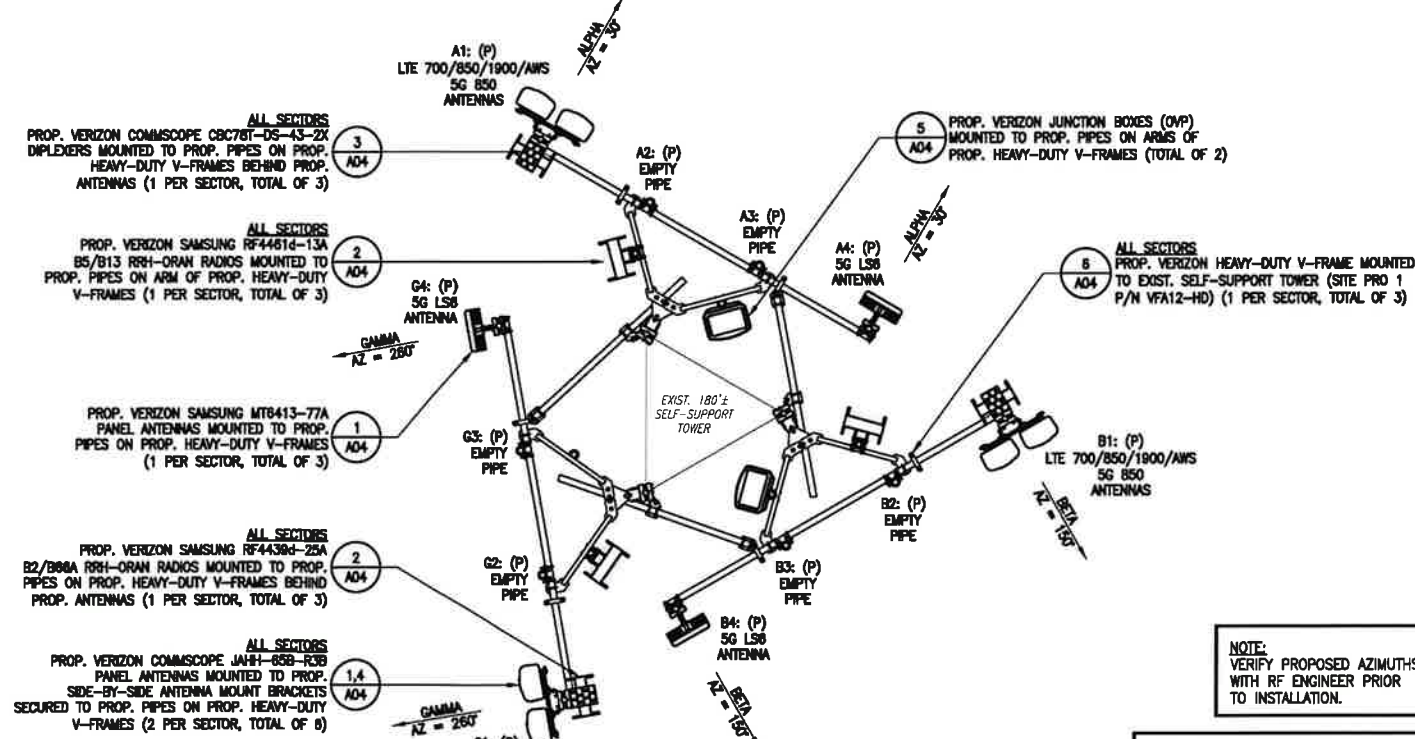
SPECIAL CONSTRUCTION NOTE (SBA-PROVIDED ANTENNA MOUNT STRUCTURAL MOD SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
 GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE VERIZON RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED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

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

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.



EXISTING ANTENNA PLAN
 SCALE: N.T.S.

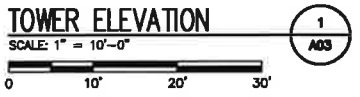


PROPOSED ANTENNA PLAN
 SCALE: N.T.S.

NOTE:
 GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

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

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



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



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



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 201 BOSTON POST ROAD WEST, SUITE 101
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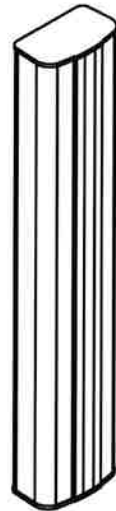
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| 1 | 11/21/23 | ISSUED FOR CONSTRUCTION | CNC |
| 0 | 11/14/23 | ISSUED FOR REVIEW | CNC |

PROJECT NAME & ADDRESS
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 51 DANIELS AVENUE
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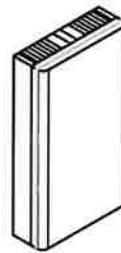
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 MDG LOCATION ID: 800244405
 FUZZE PROJECT ID: 17123805

SHEET TITLE
TOWER ELEVATION & ANTENNA PLANS

SHEET NUMBER
A03



COMMSCOPE JAHH-65B-R3B ANTENNA
 DIMENSIONS: 72.0"H x 13.8"W x 8.2"D
 WEIGHT: 84.4 lbs
 QUANTITY: 2 PER SECTOR, TOTAL OF 6
 SECTORS: ALPHA, BETA, GAMMA



SAMSUNG MT6413-77A ANTENNA
 DIMENSIONS: 28.0"H x 15.8"W x 5.5"D
 WEIGHT: 57.3 lbs
 QUANTITY: 1 PER SECTOR, TOTAL OF 3
 SECTORS: ALPHA, BETA, GAMMA

ANTENNA DETAILS
 SCALE: N.T.S.

1
A04



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 RF4481d-13A B5/B13 RADIO
 DIMENSIONS: 15.0"H x 15.0"W x 10.2"D
 WEIGHT: 78.1 lbs
 QUANTITY: 1 PER SECTOR, TOTAL OF 3
 SECTORS: ALPHA, BETA, GAMMA

RADIO DETAIL
 SCALE: N.T.S.

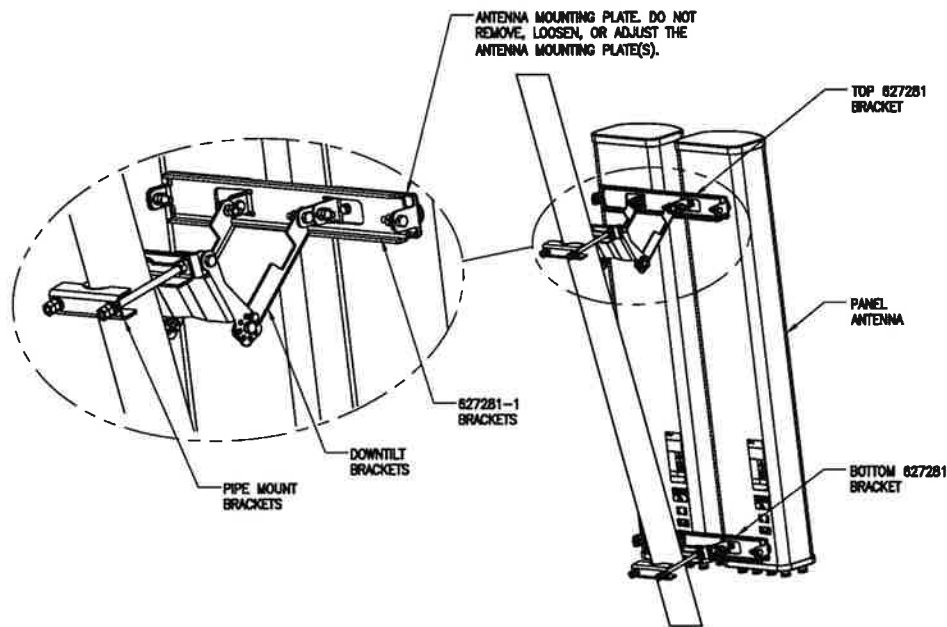
2
A04



COMMSCOPE CRC78T-DS-43-2X 4-PACK 700/850MHz DIPLEXER
 DIMENSIONS: 8.4"H x 6.9"W x 9.8"D
 WEIGHT: 20.7 lbs
 QUANTITY: 1 PER SECTOR, TOTAL OF 3

DIPLEXER DETAIL
 SCALE: N.T.S.

3
A04



COMMSCOPE BSAMNT-SRS-1-2 SIDE-BY-SIDE ANTENNA MOUNT BRACKET
 WEIGHT: 25.4 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
 SCALE: N.T.S.

4
A04

Procedure
 Mounting Procedures

- 4.1 A mounting base is delivered with the unit. The base allows either wall/ladder or pole mounted installation. See picture to identify the holes for each installation method.
- 4.2 **Option 1: Pole Mount**
Using supplied hardware, mount Bracket to 2" to 4" diameter pole
- 4.3 **Option 2: Unistrut**
- 4.4 **Option 3: Monopole**
Use 1" stainless steel bands (not supplied) through slots on bracket to mount to Monopole.



Gland/Insert Definitions

- 5.1 See picture to identify Base Gland Assembly Definitions.

Assembled in unit as shipped:

| Qty | Connector Size | Pos | Insert P/N | Insert Hole | Cable Type |
|-----|----------------|-----|------------|-------------|------------|
| 2 | M75 | A | 180-0790 | 42mm | 6x12 RL |
| 4 | M75 | B | 180-0738 | 3x 18.5mm | 1x2 |

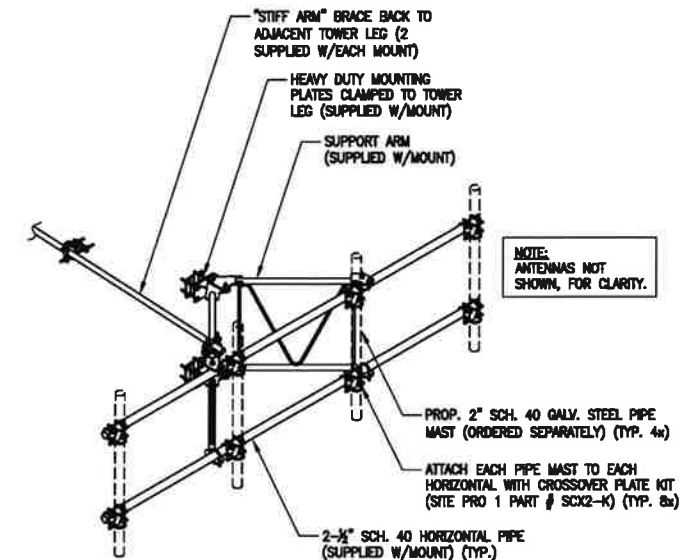
Included in kit shipped with unit:

| Qty | Connector Size | Insert P/N | Insert Hole | Cable Type | Purpose | Pos |
|-----|----------------|------------|-------------|------------|-----------------------------------|-----|
| 2 | M75 | 190-0760 | 42mm | 6x12 RL | 2 glands fit 1 each 6x12 Hyd | B |
| 2 | M75 | 190-0747 | 2x 24.5mm | 2x12 DC | 2 glands fit 2 each #8 12 cond DC | B |
| 1 | M75 | 190-0905 | 2x 10.5mm | 2x12 Fibr | 1 gland fit 2 x 12 fiber trunk | B |
| 1 | M75 | 190-0912 | 2x 9.5mm | 2 ETH | 1 gland fits 2 ethernet cable | B |

FIBER JUNCTION BOX
 DIMENSIONS: 29.58"H x 18.5"W x 12.6"D
 WEIGHT: 32.0 lbs
 QUANTITY: TOTAL OF 2

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

5
A04



SITE-PRO 1 12'-6" HEAVY-DUTY V-FRAME
 PART NUMBER: VFA12-HD
 QUANTITY: TOTAL OF 3

ANTENNA MOUNT DETAIL
 SCALE: N.T.S.

6
A04



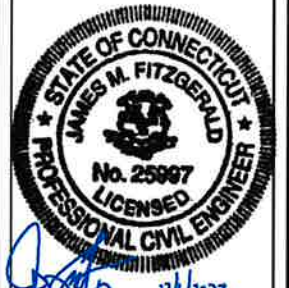
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| SUBMITTALS | | | |
|------------|----------|-------------------------|-----|
| REV. | DATE | DESCRIPTION | BY |
| 2 | 12/08/23 | CONSTRUCTION REVIEW | CJC |
| 1 | 11/21/23 | ISSUED FOR CONSTRUCTION | CJC |
| 0 | 11/14/23 | ISSUED FOR REVIEW | CJC |

PROJECT NAME & ADDRESS
WATERFORD SOUTH CT
 51 DANIELS AVENUE
 WATERFORD, CT 06385

V2W LOCATION CODE: 488818
 MDG LOCATION ID: 8002844408
 FUZZ PROJECT ID: 17123808

SHEET TITLE
SITE DETAILS

SHEET NUMBER
A04

| EXISTING EQUIPMENT CONFIGURATION | | | | | | | | | | | | | |
|----------------------------------|----------------------------------|-----|----------------------|-------------|-------------|---------------------|---------------------|------------------|--------|--------|--------|--------------|---|
| SECTOR | EQUIPMENT MAKE & MODEL | QTY | AZIMUTH (TRUE NORTH) | ANTENNA RAD | BAND | MECHANICAL DOWNTILT | ELECTRICAL DOWNTILT | EQUIPMENT STATUS | H (IN) | W (IN) | D (IN) | WEIGHT (LBS) | HYBRID CABLE SIZE & QTY |
| ALPHA | AMPHENOL BXA-80063/6CF ANTENNA | 1 | 40° | 140± AGL | SPARE | - | - | ETRE | 71.1 | 11.2 | 4.5 | 14.9 | EXIST. (18) 1-3/8" COAXIAL CABLES EXIST. (1) 6x12 HYBRID CABLE |
| | AMPHENOL BXA-171063/12CF ANTENNA | 1 | 30° | 140± AGL | LTE AWS | 2° | 2° | ETRE | 72.5 | 5.1 | 4.1 | 12.8 | |
| | AMPHENOL BXA-171085/BBF ANTENNA | 1 | 30° | 140± AGL | SPARE | - | - | ETRE | 48.5 | 5.1 | 4.1 | 10.5 | |
| | AMPHENOL BXA-70063/6CF ANTENNA | 1 | 30° | 140± AGL | LTE 700/850 | 10°/10° | 0°/0° | ETRE | 71.0 | 11.3 | 6.0 | 17.0 | |
| BETA | AMPHENOL BXA-80063/6CF ANTENNA | 1 | 140° | 140± AGL | SPARE | - | - | ETRE | 71.1 | 11.2 | 4.5 | 14.9 | |
| | AMPHENOL BXA-171063/12CF ANTENNA | 1 | 150° | 140± AGL | LTE AWS | 1° | 2° | ETRE | 72.5 | 5.1 | 4.1 | 12.8 | |
| | AMPHENOL BXA-171085/BBF ANTENNA | 1 | 150° | 140± AGL | SPARE | - | - | ETRE | 48.5 | 5.1 | 4.1 | 10.5 | |
| GAMMA | AMPHENOL BXA-70063/6CF ANTENNA | 1 | 150° | 140± AGL | LTE 700/850 | 3°/3° | 0°/0° | ETRE | 71.0 | 11.3 | 6.0 | 17.0 | |
| | AMPHENOL BXA-80063/6CF ANTENNA | 1 | 260° | 140± AGL | SPARE | - | - | ETRE | 71.1 | 11.2 | 4.5 | 14.9 | |
| | AMPHENOL BXA-171063/12CF ANTENNA | 1 | 260° | 140± AGL | LTE AWS | 2° | 2° | ETRE | 72.5 | 5.1 | 4.1 | 12.8 | |
| | AMPHENOL BXA-171085/BBF ANTENNA | 1 | 260° | 140± AGL | SPARE | - | - | ETRE | 48.5 | 5.1 | 4.1 | 10.5 | |
| ALL | AMPHENOL BXA-70063/6CF ANTENNA | 1 | 260° | 140± AGL | LTE 700/850 | 9°/9° | 0°/0° | ETRE | 71.0 | 11.3 | 6.0 | 17.0 | |
| | NOKIA UHO B4 RRH 2x40 RADIOS | 3 | - | - | - | - | - | ETRE | 24.4 | 10.6 | 6.7 | 44.0 | |
| | OVP 6 | 1 | - | - | - | - | - | ETRE | 29.5 | 16.5 | 12.6 | 32.0 | |

- NOTES:
1. "ETR" DENOTES "EXISTING TO REMAIN".
 2. "ETRE" DENOTES "EXISTING TO BE REMOVED".
 3. WEIGHTS LISTED ARE WITHOUT MOUNTING BRACKETS.
 4. INFORMATION IS BASED ON RFDS DATED 12/05/23.

| FINAL EQUIPMENT CONFIGURATION | | | | | | | | | | | | | |
|-------------------------------|-------------------------------------|-----|----------------------|-------------|-----------------------------|---------------------|---------------------|------------------|--------|--------|--------|--------------|---|
| SECTOR | EQUIPMENT MAKE & MODEL | QTY | AZIMUTH (TRUE NORTH) | ANTENNA RAD | BAND | MECHANICAL DOWNTILT | ELECTRICAL DOWNTILT | EQUIPMENT STATUS | H (IN) | W (IN) | D (IN) | WEIGHT (LBS) | HYBRID CABLE SIZE & QTY |
| ALPHA | COMMSCOPE J4HH-65B-R3B ANTENNAS | 2 | 30° | 140± AGL | LTE 700/850/1900/AWS 5G B50 | Z/Z/Z/Z | 10°/10°/Z/Z | NEW | 72.0 | 13.8 | 8.2 | 64.4 | EXIST. (1) 6x12 HYBRID CABLE PROP. (1) 6x12 HYBRID CABLE |
| | SAMSUNG MT8413-77A ANTENNA | 1 | 30° | 140± AGL | 5G LS8 | Z | 1° | NEW | 28.9 | 15.8 | 5.5 | 57.3 | |
| BETA | COMMSCOPE J4HH-65B-R3B ANTENNAS | 2 | 150° | 140± AGL | LTE 700/850/1900/AWS 5G B50 | σ/σ/σ/σ | 14°/14°/Z/Z | NEW | 72.0 | 13.8 | 8.2 | 64.4 | |
| | SAMSUNG MT8413-77A ANTENNA | 1 | 150° | 140± AGL | 5G LS8 | σ | 1° | NEW | 28.9 | 15.8 | 5.5 | 57.3 | |
| GAMMA | COMMSCOPE J4HH-65B-R3B ANTENNAS | 2 | 280° | 140± AGL | LTE 700/850/1900/AWS 5G B50 | σ/σ/σ/σ | 10°/10°/Z/Z | NEW | 72.0 | 13.8 | 8.2 | 64.4 | |
| | SAMSUNG MT8413-77A ANTENNA | 1 | 280° | 140± AGL | 5G LS8 | σ | 1° | NEW | 28.9 | 15.8 | 5.5 | 57.3 | |
| ALL | SAMSUNG B5/B13 RF4481d-13A RADIOS | 3 | - | - | - | - | - | NEW | 15.0 | 15.0 | 10.2 | 79.1 | |
| | SAMSUNG B2/B88A RF4438d-25A RADIOS | 3 | - | - | - | - | - | NEW | 15.0 | 15.0 | 10.0 | 74.7 | |
| | COMMSCOPE CBC78T-DS-43-2X DIPLEXERS | 3 | - | - | - | - | - | NEW | 8.4 | 8.9 | 9.8 | 20.7 | |
| | OVP 8 | 2 | - | - | - | - | - | NEW | 29.8 | 16.5 | 12.6 | 32.0 | |

- NOTES:
1. "ETR" DENOTES "EXISTING TO REMAIN".
 2. "ETRE" DENOTES "EXISTING TO BE REMOVED".
 3. WEIGHTS LISTED ARE WITHOUT MOUNTING BRACKETS.
 4. INFORMATION IS BASED ON RFDS DATED 12/05/23.

| FEEDLINE SCHEDULE | | |
|-------------------|--|--------------------------------|
| SCHEDULE | FEEDLINES | LOCATION |
| A | EXISTING TO REMAIN: (1) 1/2" COAX CABLE FOR GPS ANTENNA (1) 6x12 HYBRID CABLE EXISTING TO BE REMOVED: (18) 1-3/8" COAXIAL CABLES | ROUTED PER STRUCTURAL ANALYSIS |
| B | PROPOSED: (1) 6x12 HYBRID CABLE | |

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



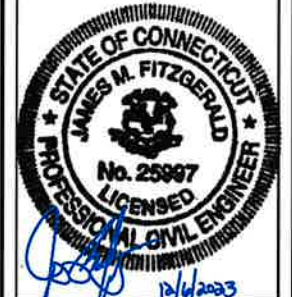
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(203) 741-7338



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WESTBOROUGH, MA 01581
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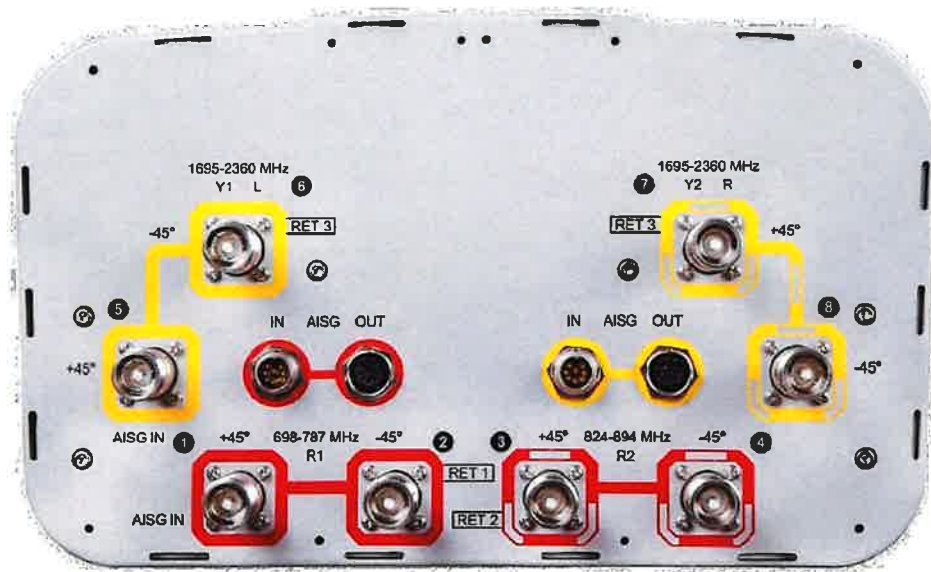
| SUBMITTALS | | | |
|------------|----------|-------------------------|-----|
| REV. | DATE | DESCRIPTION | BY |
| 2 | 12/04/23 | CONSTRUCTION REVISION | CAC |
| 1 | 11/21/23 | ISSUED FOR CONSTRUCTION | CAC |
| 0 | 11/14/23 | ISSUED FOR REVIEW | CAC |

PROJECT NAME & ADDRESS
WATERFORD SOUTH CT
51 DANIELS AVENUE
WATERFORD, CT 06385

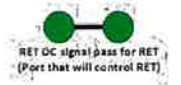
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MDG LOCATION ID: 800844408
FUZE PROJECT ID: 17123808

SHEET TITLE
RF DATA

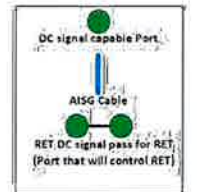
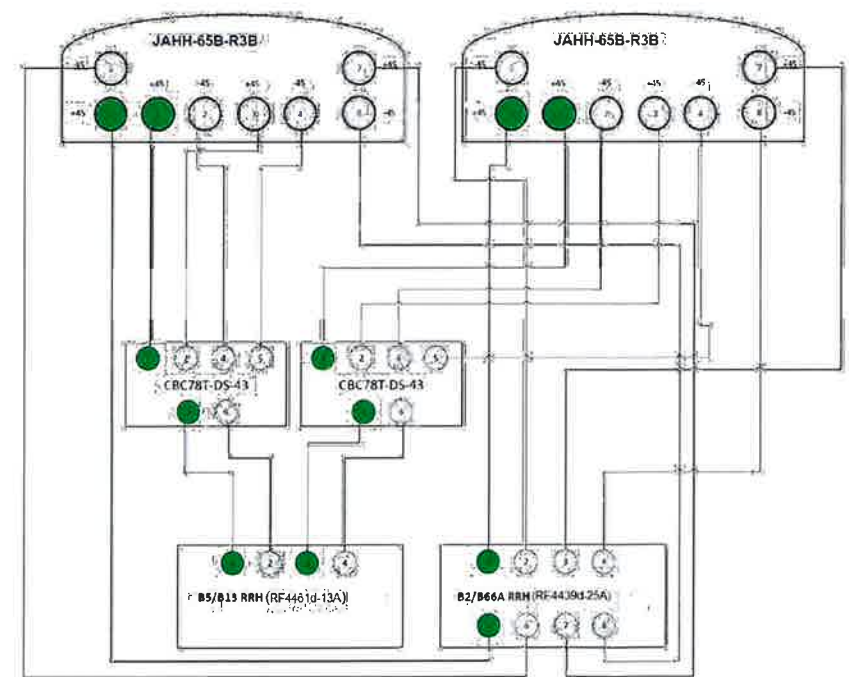
SHEET NUMBER
RF01



- Ports 1 & 2 are for 700MHz
- Ports 3 & 4 are for 850MHz
- Ports 5, 6, 7 & 8 are for high band (1695-2180 MHz).
- Smart Bias Tee (SBT) is through port 1 for low band and port 5 for high band.
- AISG cable is only needed when drawn in the diagrams below, if it is not drawn then SBT is enough to control all RET motors.
- Not all SBT ports are needed to control RET; only green port connection to green port will control RET.



Cap and weatherproof unused antenna ports



Comments:
 Diagram shows configuration as viewed from below antennas.
 Cap and weatherproof unused antenna ports.
 CDMA not shown (not being changed).
 All plumbing diagram colors are irrelevant except for AISG cable. (For the coax colors follow Coax Colors guide)

Tower/
 Watertank/
 Rooftop
 Equipment
 Pad 1

RF PLUMBING DIAGRAM
 SCALE: N.T.S.

1
 RF02



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 WALLINGFORD, CT 06492
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 134 FLANDERS ROAD, SUITE 125
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 (508) 251-0720



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APPROVED BY: JMT

| SUBMITTALS | | | |
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| REV. | DATE | DESCRIPTION | BY |
| 2 | 12/08/23 | CONSTRUCTION REVIEW | CJC |
| 1 | 11/21/23 | ISSUED FOR CONSTRUCTION | CJC |
| 0 | 11/14/23 | ISSUED FOR REVIEW | CJC |

PROJECT NAME & ADDRESS
WATERFORD SOUTH CT
 51 DANIELS AVENUE
 WATERFORD, CT 06385

VZW LOCATION CODE: 488816
 MDG LOCATION ID: 600084408
 FUZZE PROJECT ID: 17123808

SHEET TITLE
RF PLUMBING DIAGRAM

SHEET NUMBER
RF02



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SUBMITTALS

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|------|----------|-------------------------|-----|
| 2 | 12/09/23 | CONSTRUCTION REVISION | CAC |
| 1 | 11/21/23 | ISSUED FOR CONSTRUCTION | CAC |
| 0 | 11/14/23 | ISSUED FOR REVIEW | CAC |

PROJECT NAME & ADDRESS

**WATERFORD
SOUTH CT**

51 DANIELS AVENUE
WATERFORD, CT 06385

VZW LOCATION CODE: 488015

MDG LOCATION ID: 8000244405

FUZZE PROJECT ID: 17123808

SHEET TITLE

RF COLOR CODE
SPECIFICATIONS

SHEET NUMBER

RF03

| Sector | Band | Color Coding | Sector | Band | Color Coding | Sector | Band | Color Coding |
|--------------------------|------|--------------|--------------------------|------|--------------|---------------------------|------|--------------|
| Alpha Sector Az = 30° | 700 | A | Beta Sector Az = 150° | 700 | A | Gamma Sector Az = 270° | 700 | A |
| | 700 | B | | 700 | B | | 700 | B |
| | 700 | C | | 700 | C | | 700 | C |
| | 700 | D | | 700 | D | | 700 | D |
| | 700 | E | | 700 | E | | 700 | E |
| | 700 | F | | 700 | F | | 700 | F |
| | 700 | G | | 700 | G | | 700 | G |
| | 700 | H | | 700 | H | | 700 | H |
| | 700 | I | | 700 | I | | 700 | I |
| | 700 | J | | 700 | J | | 700 | J |
| | 700 | K | | 700 | K | | 700 | K |
| | 700 | L | | 700 | L | | 700 | L |
| | 700 | M | | 700 | M | | 700 | M |
| | 700 | N | | 700 | N | | 700 | N |
| | 700 | O | | 700 | O | | 700 | O |
| | 700 | P | | 700 | P | | 700 | P |
| | 700 | Q | | 700 | Q | | 700 | Q |

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

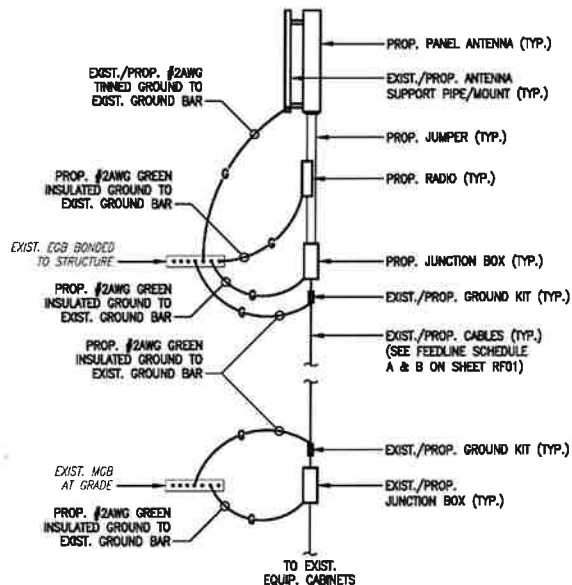
Hybrid Cable on Towers

| 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 | ⊖ | ⊕ |

GROUNDING GENERAL NOTES

- ALL EXTERIOR CONDUCTORS SHALL BE #2 AWG, SOLID, BARE, TINNED COPPER, UNLESS OTHERWISE NOTED. MINIMUM BEND RADIUS SHALL BE EIGHT (8) INCHES.
- ALL WIRE-TO-WIRE CONNECTIONS SHALL BE THREE-CLAMP, C TAP COMPRESSION (TAG #54740 ORANGE OR EQUIVALENT). ALL GROUND BAR CONNECTIONS SHALL BE TWO-HOLE, LONG-BARREL TYPE COMPRESSION LUGS (TAG OR EQUIVALENT). ALL OTHER CONNECTIONS TO STEEL SURFACES SHALL USE LUG-TYPE CONNECTORS.
- MECHANICALLY BOND ANTENNA MOUNTS WITH #2 AWG, BARE, STRANDED CONDUCTORS.
- ALL GROUNDING WORK SHALL COMPLY WITH VERIZON WIRELESS STANDARDS.
- CONNECT GROUND CONDUCTOR TO EXISTING GROUNDING SYSTEM. ATTACH TO WALLS, PARAPET, CABLE TRAY, ETC. WITH A CLAMP AS NECESSARY. REMOVE PAINT, FIREPROOFING, MILL SCALE, ETC. TO ACHIEVE GOOD CAD WELD GROUND CONNECTION.
- CONNECT TO HALF GROUND USING C-TAP (#54730).
- CONNECT TO ENCLOSURES USING BLUE GROUND LUGS.
- COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC (CADWELD) CONNECTIONS.
- ALL GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC (CADWELD).
- ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR & EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
- ALL EXOTHERMIC CONNECTIONS TO THE GROUND RODS SHALL START AT THE TOP & HAVE A VERTICAL SEPARATION OF 6" FOR EVERY ADDITIONAL CONNECTION.
- ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
- USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
- 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.
- ANTENNA GROUND KITS SHALL BE FURNISHED BY VERIZON & INSTALLED BY CONTRACTOR.



TYP. ANTENNA GROUNDING RISER (1) ED1
SCALE: NOT TO SCALE

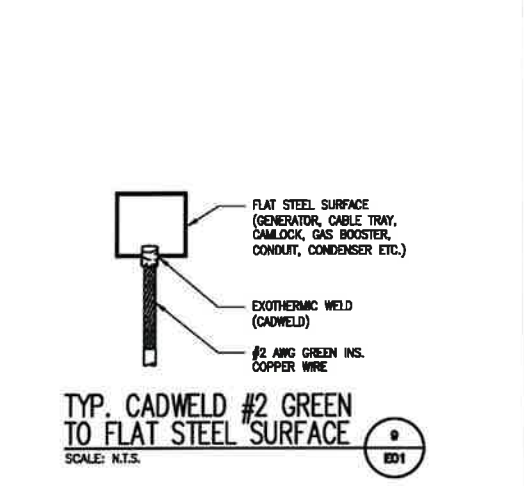
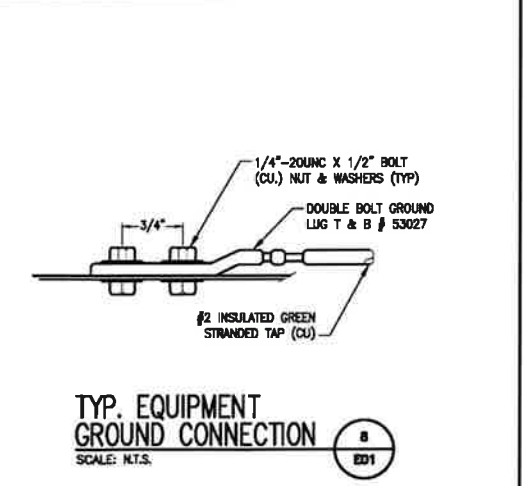
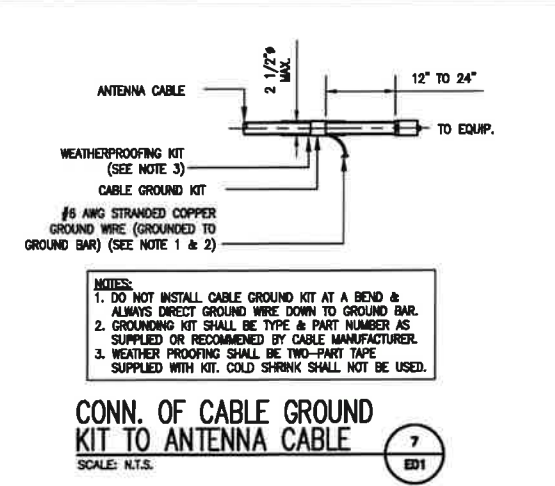
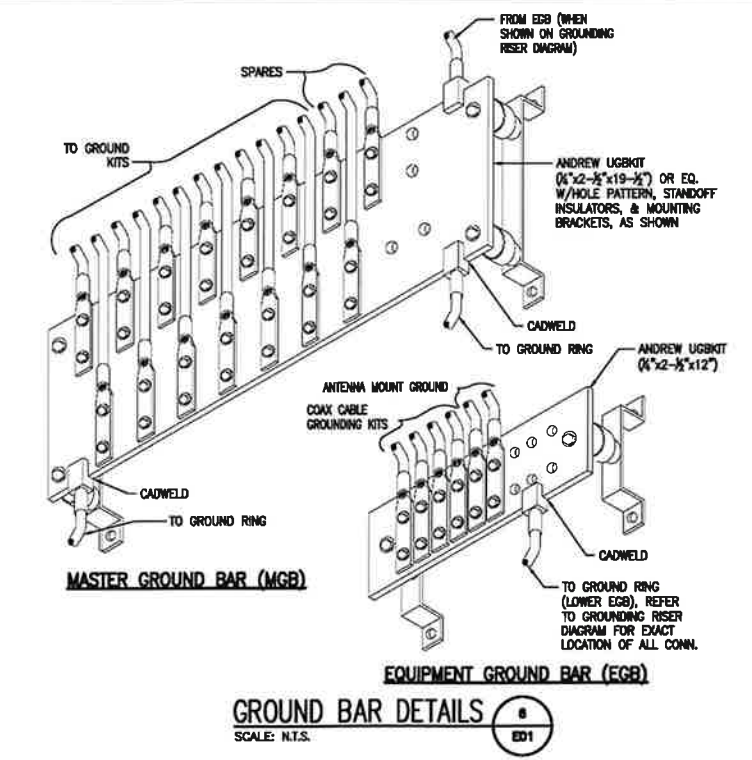
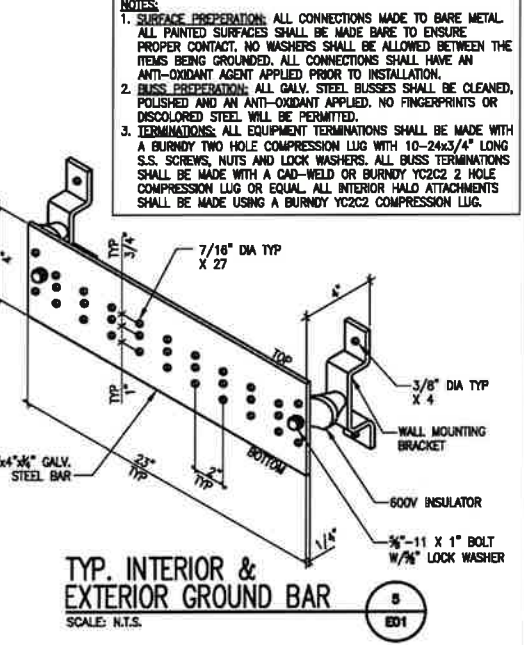
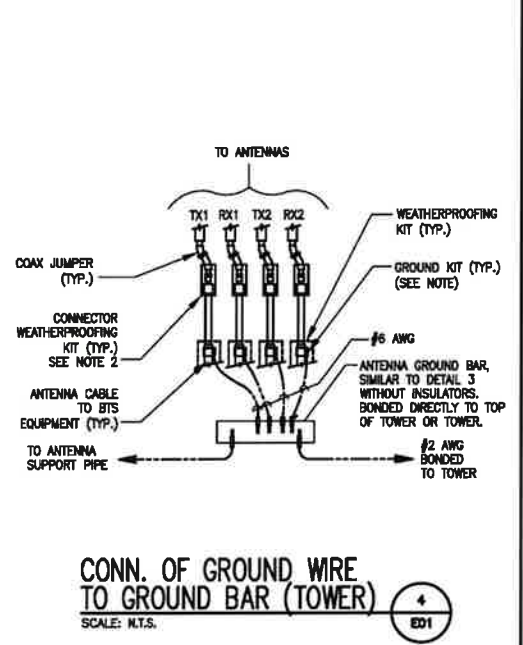
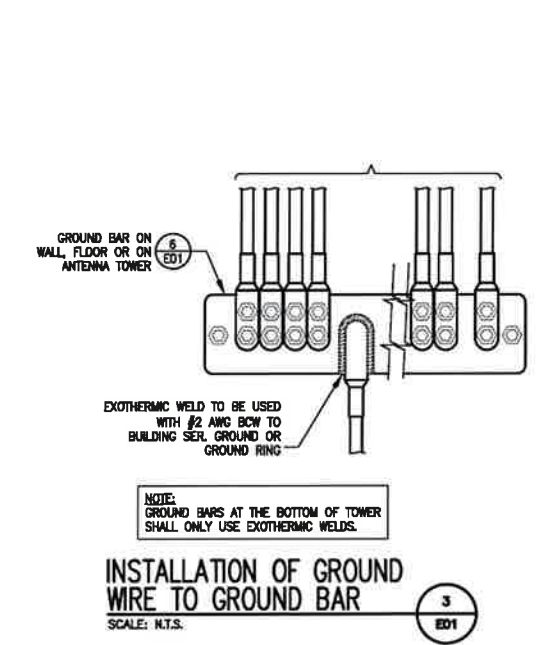
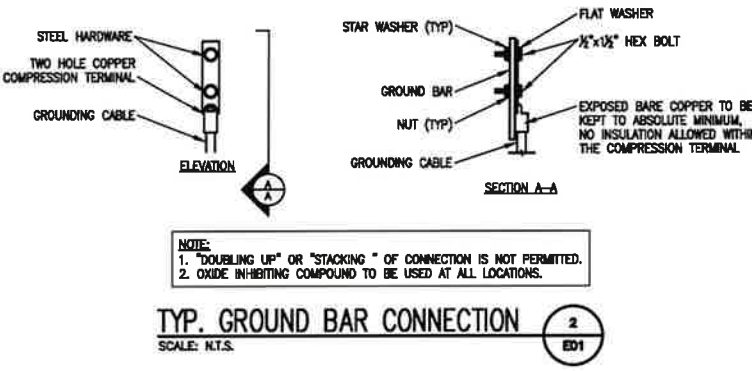
LEGEND

GROUNDING SYMBOLS

- ⊗ GROUND ROD/TEST (OBSERVATION) WELL
- ⊙ GROUND ROD
- ▲ CADWELD TYPE CONNECTION
- COMPRESSION TYPE CONNECTION
- GROUNDING WIRE
- ⊕/⊖ REPRESENTS DETAIL NUMBER

ABBREVIATIONS

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



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.J. 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

12/14/2023

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS

| REV. | DATE | DESCRIPTION | BY |
|------|----------|-------------------------|-----|
| 2 | 12/08/23 | CONSTRUCTION REVIEW | CJC |
| 1 | 11/21/23 | ISSUED FOR CONSTRUCTION | CJC |
| 0 | 11/14/23 | ISSUED FOR REVIEW | CJC |

PROJECT NAME & ADDRESS
WATERFORD SOUTH CT
51 DANIELS AVENUE
WATERFORD, CT 06385

VZW LOCATION CODE: 488818
MDG LOCATION ID: 600284405
FUZE PROJECT ID: 17123808

SHEET TITLE
GROUNDING NOTES & DETAILS

SHEET NUMBER
E01

JAHH-65B-R3B



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

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

General Specifications

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

Remote Electrical Tilt (RET) Information, General

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

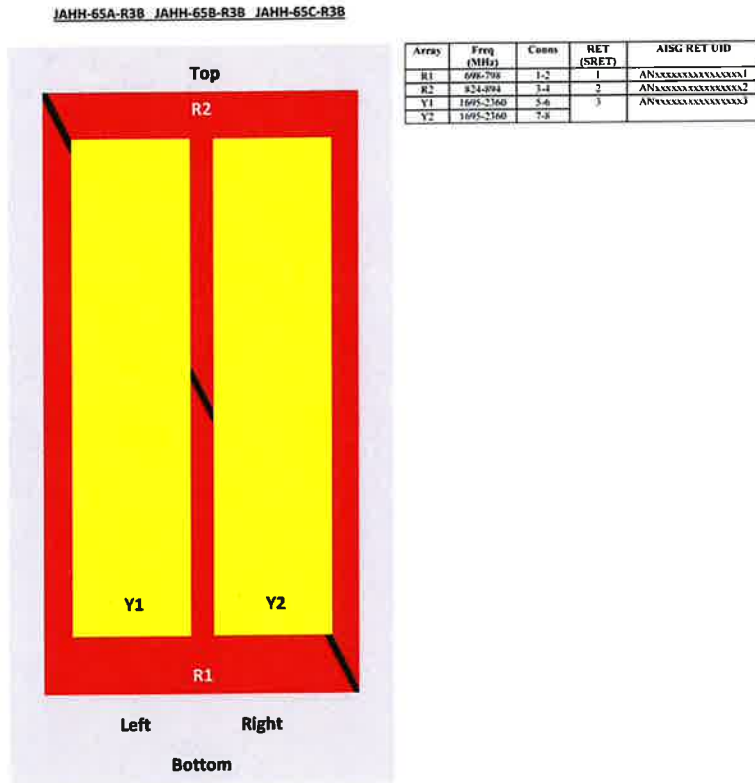
Dimensions

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

JAHH-65B-R3B

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

Array Layout



View from the front of the antenna
 (Sizes of colored boxes are not true depictions of array sizes)

Electrical Specifications

Impedance 50 ohm
Operating Frequency Band 1695 – 2360 MHz | 698 – 787 MHz | 824 – 894 MHz
Polarization ±45°

Remote Electrical Tilt (RET) Information, Electrical

Protocol 3GPP/AISG 2.0 (Single RET)
Power Consumption, idle state, maximum 2 W

JAHH-65B-R3B

| | |
|---|------------------------------|
| Power Consumption, normal conditions, maximum | 13 W |
| Input Voltage | 10–30 Vdc |
| Internal Bias Tee | Port 1 Port 5 |
| Internal RET | High band (1) Low band (2) |

Electrical Specifications

| Frequency Band, MHz | 698–787 | 824–894 | 1695–1880 | 1850–1990 | 1920–2200 | 2300–2360 |
|---|------------|------------|------------|------------|------------|------------|
| Gain, dBi | 14.5 | 15.8 | 18 | 18.4 | 18.5 | 18.8 |
| Beamwidth, Horizontal, degrees | 67 | 65 | 63 | 63 | 65 | 68 |
| Beamwidth, Vertical, degrees | 12.4 | 10.5 | 5.7 | 5.2 | 4.9 | 4.4 |
| Beam Tilt, degrees | 2–14 | 2–14 | 0–10 | 0–10 | 0–10 | 0–10 |
| USLS (First Lobe), dB | 18 | 18 | 20 | 20 | 21 | 23 |
| Front-to-Back Ratio at 180°, dB | 32 | 34 | 31 | 35 | 36 | 38 |
| Isolation, Cross Polarization, dB | 25 | 25 | 25 | 25 | 25 | 25 |
| Isolation, Inter-band, dB | 30 | 30 | 30 | 30 | 30 | 30 |
| VSWR Return loss, dB | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 |
| PIM, 3rd Order, 2 x 20 W, dBc | -153 | -153 | -153 | -153 | -153 | -153 |
| Input Power per Port at 50° C, maximum, watts | 200 | 200 | 300 | 300 | 300 | 250 |

Electrical Specifications, BASTA

| Frequency Band, MHz | 698–787 | 824–894 | 1695–1880 | 1850–1990 | 1920–2200 | 2300–2360 |
|---|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| Gain by all Beam Tilts, average, dBi | 14.3 | 14.9 | 17.6 | 18.1 | 18.2 | 18.5 |
| Gain by all Beam Tilts Tolerance, dB | ±0.3 | ±0.5 | ±0.6 | ±0.4 | ±0.5 | ±0.6 |
| Gain by Beam Tilt, average, dBi | 2° 14.3 8° 14.3 14° 14.3 | 2° 15.0 8° 14.9 14° 15.4 | 0° 17.2 5° 17.6 10° 17.6 | 0° 17.6 5° 18.2 10° 18.2 | 0° 17.7 5° 18.3 10° 18.3 | 0° 17.9 5° 18.7 10° 18.7 |
| Beamwidth, Horizontal Tolerance, degrees | ±1.2 | ±1.4 | ±4 | ±2.4 | ±2.9 | ±2.7 |
| Beamwidth, Vertical Tolerance, degrees | ±0.9 | ±0.5 | ±0.3 | ±0.2 | ±0.3 | ±0.1 |
| USLS, beampeak to 20° above beampeak, dB | 18 | 17 | 17 | 18 | 19 | 18 |
| Front-to-Back Total Power at 180° ± 30°, dB | 25 | 24 | 26 | 29 | 27 | 29 |
| CPR at Boresight, dB | 22 | 23 | 20 | 21 | 21 | 24 |

JAHH-65B-R3B

CPR at Sector, dB 11 12 11 11 11 8

Mechanical Specifications

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

Packaging and Weights

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

Regulatory Compliance/Certifications

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



Included Products

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

* Footnotes

Performance Note Severe environmental conditions may degrade optimum performance

C-band 64T64R

Gen 2

SAMSUNG

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



* 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 (WxHxD) | 400 x 734 x 140 mm (15.75 x 28.90 x 5.51 inch) |
| Volume | 41.1L |
| Weight | 26kg (57.3 lb) |
| Operating Temperature | -40°C - 55°C (w/o solar load) |
| Cooling | Natural convection 3GPP 38.104 |
| Unwanted Emission | FCC 47 CFR 27.53 : < -13dBm/MHz < -40 dBm/MHz @ above 4 GHz < -50 dBm /MHz @ 4.040 ~ 4.050 MHz, < -60 dBm /MHz @ above 4.050 MHz |
| Optic Interface | 15km, 4 ports (25Gbps x 4), SFP28, single mode, Bi-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

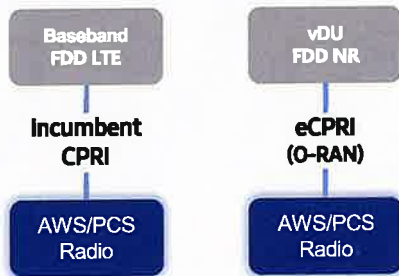


Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

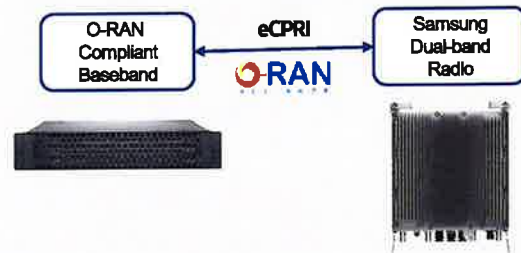
Samsung's AWS/PCS macro radio can support each incumbent CPRI interface as well as advanced eCPRI interfaces. This feature provides installable options for both legacy LTE networks and added NR networks.



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.

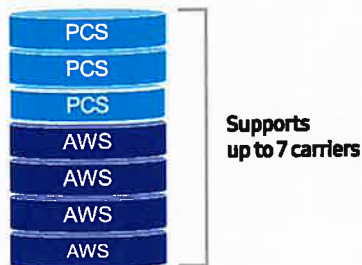
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



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.



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 DL: 869~894MHz UL: 777~787MHz UL: 824~849MHz |
| IBW | 10MHz |
| OBW | 10MHz |
| Carrier Bandwidth | LTE/NR 5*/10MHz |
| # of carriers | 2C* |
| Total # of carriers | 4C + B13 (SDL) 1C 3C |
| RF Chain | 4T4R/2T4R/2T2R/1T2R 2T2R+2T2R bi-sector Total : 320W |
| RF Output Power | 4 x 40W or 2 x 60W 4 x 40W or 2 x 60W |
| Spectrum Analyzer | TX/RX Support |
| RX Sensitivity | Typ. -104.5dBm @1Rx (25RBs 5MHz) |
| Modulation | 256QAM support, (1024QAM with 1~2dB power back-off) |
| Input Power | -48VDC (-38VDC to -57VDC) |
| Power Consumption | 1,165 Watt @ 100% RF load, room temperature |
| Size (WHD) | 380 x 380 x 260 mm (14.96 x 14.96 x 10.23 inch) |
| Volume | 37.5 L |
| Weight (w/o Solar Shield & finger guard) | 35.9 kg (79.1 lb) |
| Operating Temperature | -40°C (-40°F) ~ 55°C (131°F) (Without solar load) |
| Cooling | Natural convection |
| Unwanted Emission | 3GPP 36.104 FCC 47 CFR 27.53 c), f) |
| CPRI Cascade | 3GPP 36.104 FCC 47 CFR 22.917 |
| Optic Interface | -69 dBm/100 kHz per path @ 856 ~901MHz |
| RET & TMA Interface | Not supported |
| Bias-T | 20km, 2 ports (9.8Gbps x 2), SFP+, single mode, Duplex (Option: Bi-d) |
| Mounting Options | AISC 3.0 4 ports (2 ports per band) Pole, wall |
| PIM Cancellation | 2GB+2IB or 4IB |
| # of antenna port | Support 4 |
| External Alarm | 25A+2GB or 2GB+2IB or 4GB |
| 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



C Squared Systems, LLC
65 Dartmouth Drive
Auburn, NH 03032
(603) 644-2800

support@csquaredsystems.com

Calculated Radio Frequency Emissions Report



Waterford South CT

51 Daniels Ave, Waterford, CT 06385

December 13, 2023

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1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modification of Verizon's antenna arrays to be mounted at 140' AGL on an existing self-support tower located at 51 Daniels Ave in Waterford, CT. The coordinates of the monopole tower are 41° 19' 48.95" N, 72° 10' 0.02" W.

Verizon is proposing the following:

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

This report considers the proposed antenna configuration for Verizon¹ as well as existing antenna configuration²³ for AT&T, DISH, Town of Waterford and T-Mobile to derive the resulting % MPE of its proposed installation.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

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

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

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm²). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment C of this report.

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

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

¹ As referenced to Verizon's Radio Frequency Design Sheet updated 09/22/2023.

² As referenced to SBA's Structural Analysis Report, dated November 16, 2023

³ As referenced to C Squared Systems Calculated Radio Frequency Exposure report dated, March 15, 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:

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

Where:

EIRP = Effective Isotropic Radiated Power

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

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Off Beam Loss is determined by the selected antenna patterns

Ground reflection factor (GRF) of 1.6

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

4. Antenna Inventory

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

| Operator | Sector / Call Sign | TX Freq (MHz) | Power at Antenna (Watts) | Ant Gain (dBi) | Power EIRP (Watts) | Antenna Model | Beam Width (degree) | Mech. Tilt | Length (ft) | Antenna Centerline Height (ft) |
|----------|--------------------|---------------|--------------------------|----------------|--------------------|---------------|---------------------|------------|-------------|--------------------------------|
| Verizon | Alpha / 30° | 700 | 160 | 14.5 | 4509 | JAHH-65B-R3B | 67 | 0 | 6 | 140 |
| | | 850 | 160 | 15.8 | 6083 | | 65 | | | |
| | | 1900 | 160 | 18.4 | 11069 | | 63 | | | |
| | | 2100 | 240 | 18.5 | 16991 | | 65 | | | |
| | | 3700 | 320 | 26.5 | 117530 | MT6413-77A | 105 | 0 | 2.46 | 140 |
| | Beta / 150° | 700 | 160 | 14.5 | 4509 | JAHH-65B-R3B | 67 | 0 | 6 | 140 |
| | | 850 | 160 | 15.8 | 6083 | | 65 | | | |
| | | 1900 | 160 | 18.4 | 11069 | | 63 | | | |
| | | 2100 | 240 | 18.5 | 16991 | | 65 | | | |
| | | 3700 | 320 | 26.5 | 117530 | MT6413-77A | 105 | 0 | 2.46 | 140 |
| | Gamma / 260° | 700 | 160 | 14.5 | 4509 | JAHH-65B-R3B | 67 | 0 | 6 | 140 |
| | | 850 | 160 | 15.8 | 6083 | | 65 | | | |
| | | 1900 | 160 | 18.4 | 11069 | | 63 | | | |
| | | 2100 | 240 | 18.5 | 16991 | | 65 | | | |
| | | 3700 | 320 | 26.5 | 117530 | MT6413-77A | 105 | 0 | 2.46 | 140 |

Table 1: Proposed Antenna Inventory⁴⁵

⁴ Antenna heights are in reference to Verizon’s Radio Frequency Design Sheet updated 11/21/2023.

⁵ 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.

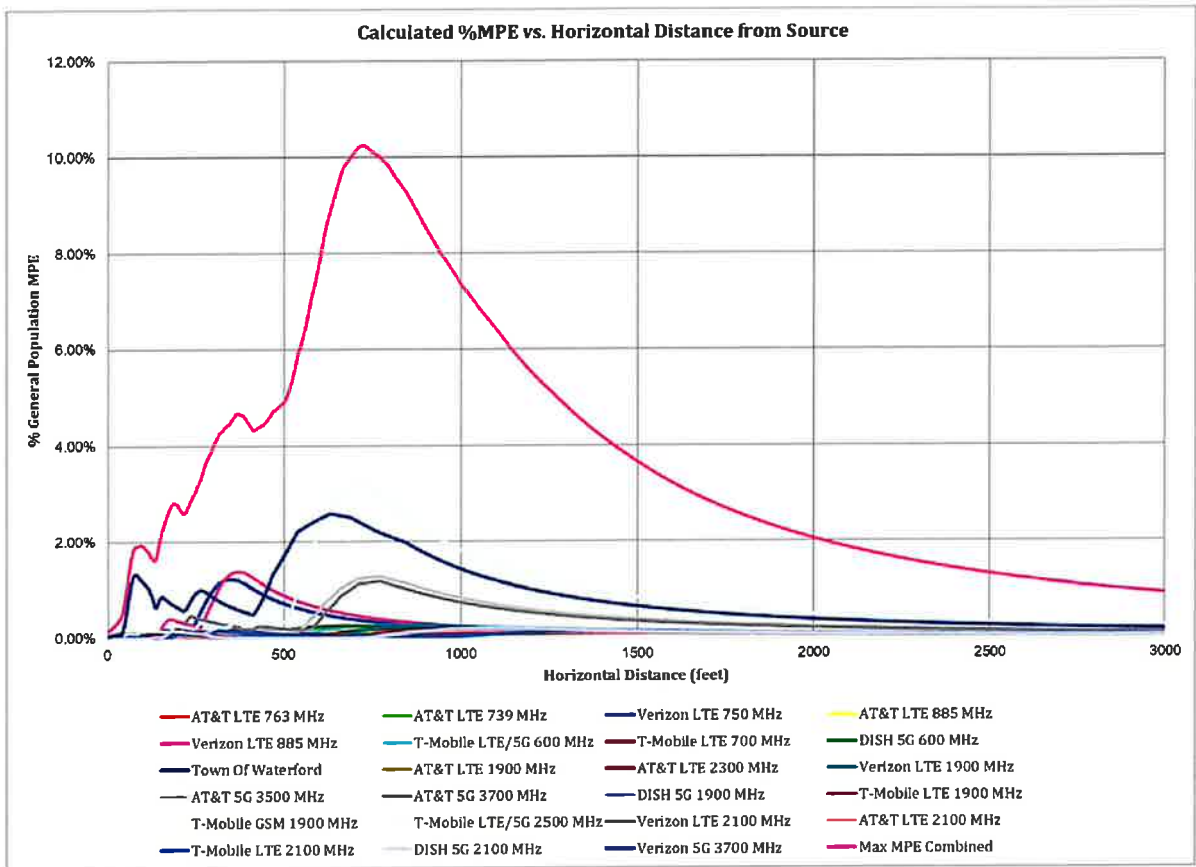


Figure 1: Graph of General Population % MPE vs. Distance

The highest percent of MPE (10.23% of the General Population limit) is calculated to occur at a horizontal distance of 724 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 724 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 | 108.4 | 170.0 | 724 | 0.012423 | 1.000 | 1.24% |
| AT&T 5G 3700 MHz | 1 | 108.4 | 170.0 | 724 | 0.011327 | 1.000 | 1.13% |
| AT&T LTE 1900 MHz | 1 | 160.0 | 170.0 | 724 | 0.000351 | 1.000 | 0.04% |
| AT&T LTE 2100 MHz | 1 | 240.0 | 170.0 | 724 | 0.000378 | 1.000 | 0.04% |
| AT&T LTE 2300 MHz | 1 | 160.0 | 170.0 | 724 | 0.000539 | 1.000 | 0.05% |
| AT&T LTE 739 MHz | 1 | 160.0 | 170.0 | 724 | 0.000934 | 0.493 | 0.19% |
| AT&T LTE 763 MHz | 1 | 160.0 | 170.0 | 724 | 0.000385 | 0.509 | 0.08% |
| AT&T LTE 885 MHz | 1 | 160.0 | 170.0 | 724 | 0.000813 | 0.590 | 0.14% |
| DISH 5G 1900 MHz | 1 | 160.0 | 160.0 | 724 | 0.000167 | 1.000 | 0.02% |
| DISH 5G 2100 MHz | 1 | 160.0 | 160.0 | 724 | 0.000118 | 1.000 | 0.01% |
| DISH 5G 600 MHz | 1 | 160.0 | 160.0 | 724 | 0.000991 | 0.400 | 0.25% |
| T-Mobile GSM 1900 MHz | 1 | 20.0 | 160.0 | 724 | 0.000059 | 1.000 | 0.01% |
| T-Mobile LTE 1900 MHz | 1 | 160.0 | 160.0 | 724 | 0.000472 | 1.000 | 0.05% |
| T-Mobile LTE 2100 MHz | 1 | 160.0 | 160.0 | 724 | 0.000443 | 1.000 | 0.04% |
| T-Mobile LTE 700 MHz | 1 | 160.0 | 160.0 | 724 | 0.000741 | 0.467 | 0.16% |
| T-Mobile LTE/5G 2500 MHz | 1 | 240.0 | 160.0 | 724 | 0.031904 | 1.000 | 3.19% |
| T-Mobile LTE/5G 600 MHz | 1 | 160.0 | 160.0 | 724 | 0.000960 | 0.400 | 0.24% |
| Town Of Waterford | 1 | 100.0 | 180.0 | 724 | 0.000038 | 0.567 | 0.01% |
| Verizon 5G 3700 MHz | 1 | 320.0 | 140.0 | 724 | 0.023576 | 1.000 | 2.36% |
| Verizon LTE 1900 MHz | 1 | 160.0 | 160.0 | 724 | 0.001595 | 1.000 | 0.16% |
| Verizon LTE 2100 MHz | 1 | 240.0 | 140.0 | 724 | 0.000535 | 1.000 | 0.05% |
| Verizon LTE 750 MHz | 1 | 160.0 | 140.0 | 724 | 0.001770 | 0.500 | 0.35% |
| Verizon LTE 885 MHz | 1 | 160.0 | 140.0 | 724 | 0.002466 | 0.567 | 0.44% |
| Total | | | | | | | 10.23% |

Table 2: Maximum Percent of General Population Exposure Values⁶

⁶ In the case where pattern data was unavailable from the manufacturer, vertical patterns with similar specifications were used

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 **10.23%** of the FCC limit (General Population/Uncontrolled). This maximum cumulative percent of MPE value is calculated to occur 724 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 1
C Squared Systems, LLC

December 11, 2023
Date



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

December 13, 2023
Date

Attachment A: References

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

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

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

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

(A) Limits for Occupational/Controlled Exposure⁷

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

(B) Limits for General Population/Uncontrolled Exposure⁸

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

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

Table 3: FCC Limits for Maximum Permissible Exposure

⁷ Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

⁸ General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

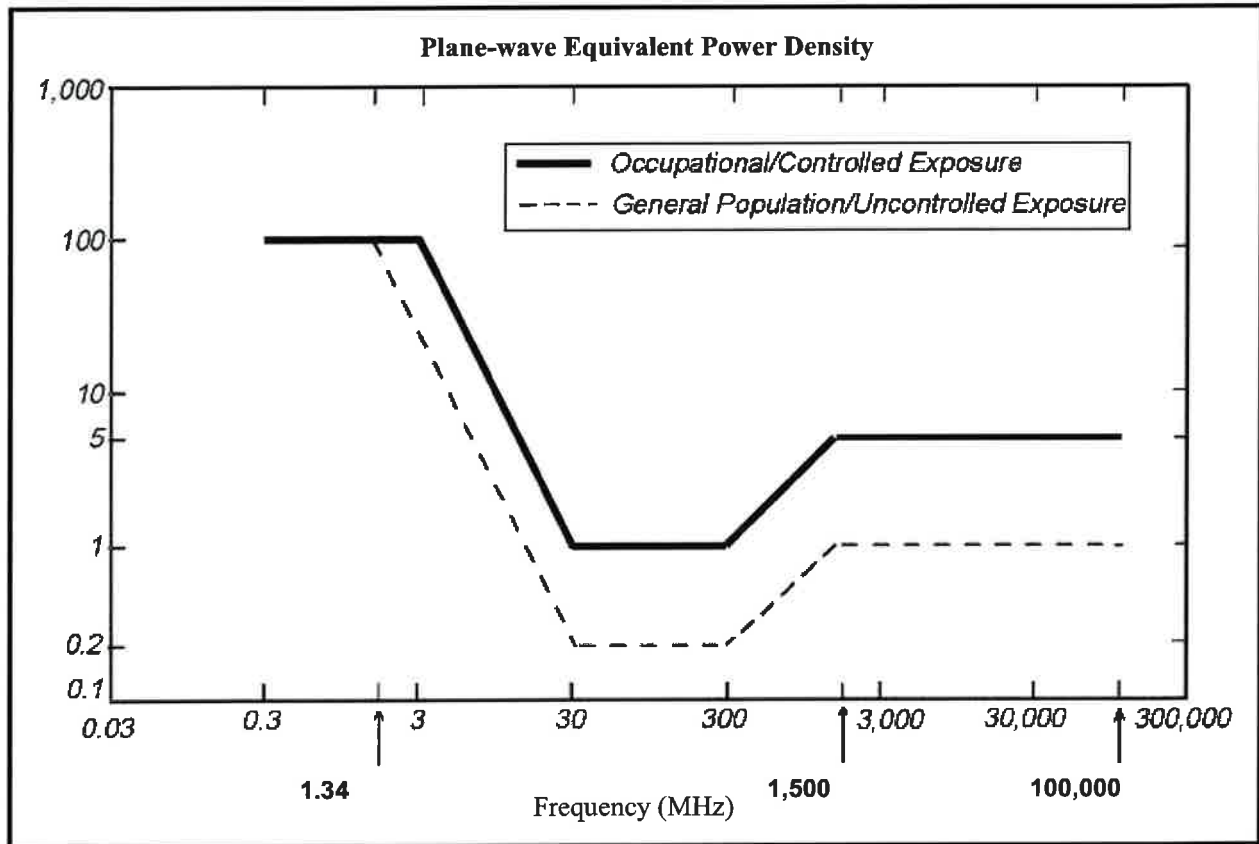
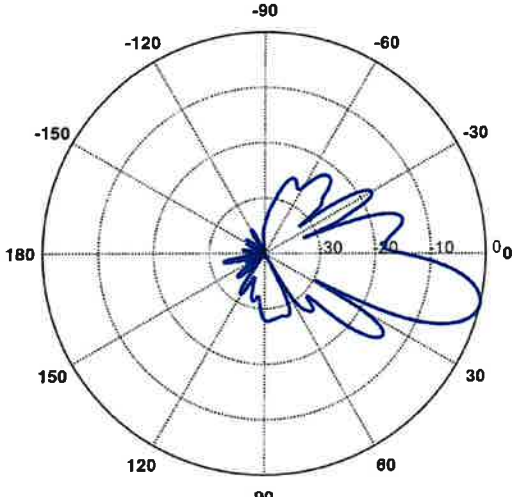
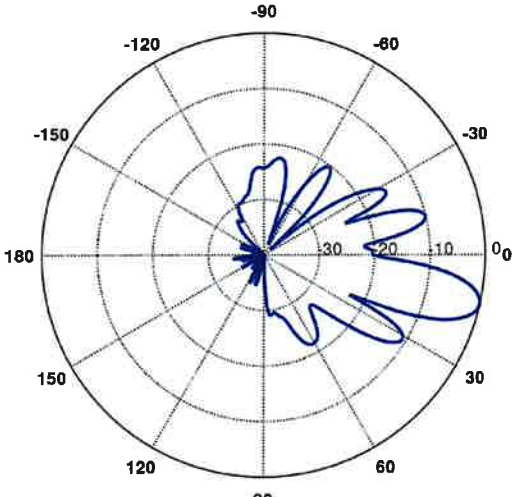


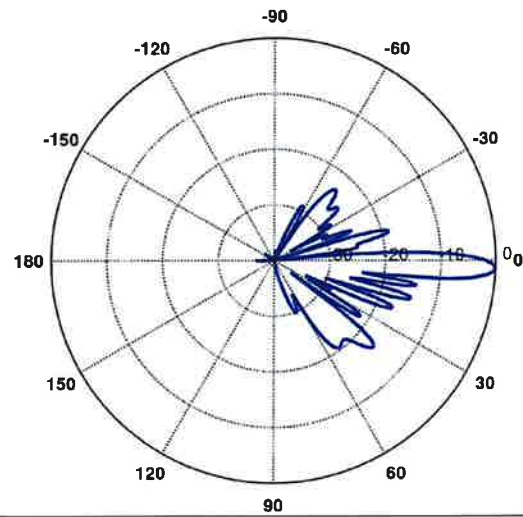
Figure 2: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: Verizon Antenna Model Data Sheets and Electrical Patterns

| | |
|--|---|
| <p>739 MHz</p> <p>Manufacturer: CommScope Model #: JAHH-65B-R3B Frequency Band: 698-787 MHz Gain: 14.5 dBi Vertical Beamwidth: 12.4° Horizontal Beamwidth: 67° Polarization: Dual Linear 45° Size L x W x D: 72" x 13.78" x 8.2"</p> |  <p>A polar plot showing the radiation pattern for the 739 MHz antenna. The plot is circular with concentric dashed lines representing gain levels and radial lines representing angles from 0 to 180 degrees. The main beam is centered at 0 degrees, with a peak gain of approximately 14.5 dBi. The pattern shows a main lobe and several side lobes, with the horizontal beamwidth being 67 degrees.</p> |
| <p>885 MHz</p> <p>Manufacturer: CommScope Model #: JAHH-65B-R3B Frequency Band: 824 - 894 MHz Gain: 15.8 dBi Vertical Beamwidth: 10.5° Horizontal Beamwidth: 65° Polarization: Dual Linear 45° Size L x W x D: 72" x 13.78" x 8.2"</p> |  <p>A polar plot showing the radiation pattern for the 885 MHz antenna. The plot is circular with concentric dashed lines representing gain levels and radial lines representing angles from 0 to 180 degrees. The main beam is centered at 0 degrees, with a peak gain of approximately 15.8 dBi. The pattern shows a main lobe and several side lobes, with the horizontal beamwidth being 65 degrees.</p> |

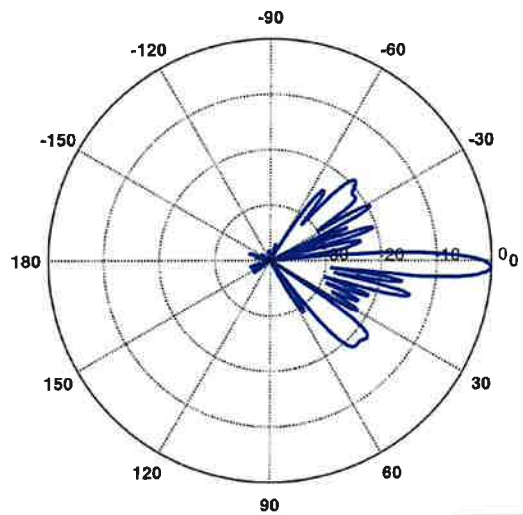
1900 MHz

Manufacturer: CommScope
 Model #: JAHH-65B-R3B
 Frequency Band: 1850-1990 MHz
 Gain: 18.4 dBi
 Vertical Beamwidth: 5.2°
 Horizontal Beamwidth: 63°
 Polarization: Dual Linear 45°
 Size L x W x D: 72" x 13.78" x 8.2"



2100 MHz

Manufacturer: CommScope
 Model #: JAHH-65B-R3B
 Frequency Band: 1920-2200 MHz
 Gain: 18.5 dBi
 Vertical Beamwidth: 4.9°
 Horizontal Beamwidth: 65°
 Polarization: Dual Linear 45°
 Size L x W x D: 72" x 13.78" x 8.2"



ATTACHMENT 4



SBA Communications Corporation
8051 Congress Avenue
Boca Raton, FL 33487-1307

T + 561.995.7670
F + 561.995.7626

sbsite.com

Structural Analysis Report

Client: Verizon

Client Site ID / Name: 5000244405 / Waterford South CT
Application #: 240519, v1

SBA Site ID / Name: CT09865-S / NIANTIC

180' Self Supporting Tower

51 Daniel's Avenue
Waterford, CT 06385
Lat: 41.330264, Long: -72.166672

Project number: CT09865-VZW-111323

Analysis Results

| | | |
|------------|-------|------|
| Tower | 78.3% | Pass |
| Foundation | 72.0% | Pass |

| | |
|--|-----|
| Change in tower stress due to mount modification / replacement | N/A |
|--|-----|

Prepared by:

Asmerom Hagos
Structural Engineer II
214-570-8110 ext 2612
ahagos@sbsite.com

Reviewed by:

Shan Shanubhogue, P.E.
Senior Manager, Structural Engineering
561-981-7390
sshanubhogue@sbsite.com

November 16, 2023



By ssamuel at 5:16:54 PM, 11/21/2023

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 Foundation Analysis Report.....



Introduction

The purpose of this report is to summarize the analysis results on the 180' Self Supporting Tower to support the proposed antennas and transmissions lines in addition to those currently installed.

Table 1 List of Documents Used

| Item | Document |
|------------------------------|---|
| Tower Design | Tower Innovations, Project # 5210, dated 11/5/2008 |
| Foundation Design | Tower Innovations, Project # 5210, dated 11/5/2008 |
| Geotechnical report | Dr. Clearance Welti, P.E., dated 10/23/2008 |
| Modification drawings | N/A |
| Carrier MA | Colliers Engineering & Design, Project # 22777306 (Rev. 3), Dated 9/13/2023 |
| Latest SA Report | TES, Project # 137520-Rev1, dated 1/5/2023 |

Analysis Criteria

Table 2 Code Related Data

| | |
|---|---|
| Jurisdiction (State/County/City) | Connecticut / New London / Waterford |
| Governing Codes | ANSI/TIA-222-H , 2021 IBC, 2022 Connecticut State Building Code / |
| Ultimate Wind Speed (3-Sec gust) | 127 mph |
| Wind Speed with Ice (3-Sec gust) | 50 mph |
| Service Wind Speed (3-Sec gust) | 60 mph |
| Ice Thickness | 1 in |
| Risk category | II |
| Exposure Category | C |
| Topographic Category | 1 |
| Crest Height | 0 ft. |
| Ground Elevation | 116.12 ft. |
| Seismic Parameter S_s | 0.193 |
| Seismic Parameter S_1 | 0.053 |

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.

Appurtenance Loading

Existing Loading:

Table 3 Existing Appurtenances

| Mount Elev. (ft) | CL Elev. (ft) | Type | Qty | Manufacturer | Model | Feed Line Size | Mount Type Qty. | Carrier |
|------------------|---------------|----------|----------|--------------------|------------------------|--|--|-------------------|
| 180 | 187.9 | Omni | 3 | Sinclair | SC488-HF2LNF | (2) 1-5/8" | (3) 6' Standoffs | Town of Waterford |
| | 180 | TMA | 1 | DBSpectra | ATS8TMA10 | | | |
| 170 | 170 | Panel | 3 | Ericsson | AIR 6419 B77G | (11) 1-5/8" (1) 1" DC Power (2) 1/2" Fiber (6) 3/4" DC (1) 7/16" Fiber | (3) Modified T-Frames | AT&T |
| | | Panel | 3 | CCI | DMP65R-BU4DA | | | |
| | | Panel | 3 | KMW | EPBQ-654L8H6-L2 | | | |
| | | TMA | 6 | Powerwave | TT19-08BP111-001 | | | |
| | | RRU | 6 | Ericsson | RRUS 32 | | | |
| | | RRU | 3 | Ericsson | RRUS 4478 B14 | | | |
| | | RRU | 3 | Ericsson | 4415 B25 | | | |
| | | RRU | 3 | Ericsson | RRUS 4449 B5/B12 | | | |
| | | OVP | 2 | Raycap | DC6-48-60-18-8F | | | |
| | OVP | 1 | Raycap | DC9-48-60-24-8C-EV | | | | |
| 168 | Panel | 3 | Ericsson | AIR 6449 B77D | | | | |
| 160 | 160 | Panel | 3 | RFS | APXVAARR24_43-U-NA20 | (13) 1-5/8" (3) 1-5/8" Fiber (1) 1/2" (2) 1.9" Fiber | (3) Modified T-Frames | T-Mobile |
| | | TMA | 3 | Ericsson | KRY 112 144/1 | | | |
| | | TMA | 3 | Ericsson | KRY 112 489/2 | | | |
| | | TMA | 3 | Kathrein | 782 11056 | | | |
| | | Panel | 3 | Ericsson | AIR 6419 B41 | | | |
| | | RRU | 3 | Ericsson | 4449 B71 + B85 | | | |
| | | RRU | 3 | Ericsson | 4460 B25 + B66 | | | |
| 150 | 150 | Panel | 3 | JMA Wireless | MX08FRO665-21 | (1) 1.6" Hybrid | (3) Sector Mounts | Dish Wireless |
| | | RRU | 3 | Fujitsu | TA08025-B605 | | | |
| | | RRU | 3 | Fujitsu | TA08025-B604 | | | |
| | | OVP | 1 | Raycap | RDIDC-9181-PF-48 | | | |
| 140 | 140 | Panel | 6 | Commscope | JAHH-65B-R3B | (16) 1-5/8" (2) 1-5/8" Hybrid | (3) V-Frame w/ (3) Side-by-side mounts | Verizon |
| | | Panel | 3 | Antel | BXA-80063/6CF | | | |
| | | Panel | 3 | Samsung | MT6407-77A | | | |
| | | Diplexer | 3 | Commscope | CBC78T-DS-2X/W14F05P50 | | | |
| | | RRU | 3 | Samsung | B5/B13 RFV01U-D2A | | | |
| | | RRU | 3 | Samsung | B2/B66A RRHBR049 | | | |
| | | OVP | 2 | RFS Celwave | DB-T1-6Z-8AB-0Z | | | |

Note: AT&T loading includes FirstNET equipment

Proposed Loading:

Information pertaining to proposed antennas and transmission lines were based upon the Application #: 240519, v1 from Verizon and is listed in Table 4.

Table 4 Proposed Appurtenances

| Mount Elev. (ft) | CL Elev. (ft) | Type | Qty | Manufacturer | Model | Feed Line Size | Mount Type Qty. | Carrier |
|------------------|---------------|----------|-----|--------------|--------------------------------|----------------------------------|--|---------|
| 140 | 140 | Panel | 6 | Commscope | JAHH-65B-R3B | (16) 1-5/8" (2) 1-5/8" Hybrid | (3) V-Frame Assemblies (Site Pro 1 VFA12-HD), (3) Side-by-side mounts (Commscope BSAMNT-SBS-2-2) | Verizon |
| | | Panel | 3 | Antel | BXA-80063/6CF | | | |
| | | Panel | 3 | Samsung | MT6413-77A | | | |
| | | Diplexer | 3 | Commscope | CBC78T-DS-2X/W14F05P50 | | | |
| | | RRU | 3 | Samsung | B2/B66A RRH ORAN (RF4439d-25A) | | | |
| | | RRU | 3 | Samsung | B5/B13 RRH ORAN (RF4461d-13A) | | | |
| | | OVP | 2 | Raycap | DB-T1-6Z-8AB-0Z (Rfs Celwave) | | | |



Analysis Results

Tower

The results of the structural analysis are shown below in table 5. Additional information for the tower analysis is provided within the Appendix.

Table 5 Tower Analysis Summary

| Structural Component | % capacity | Analysis Result |
|-----------------------------|-------------------|------------------------|
| Leg | 62.4 | Pass |
| Diagonal | 78.3 | Pass |
| Top girt | 33.6 | Pass |
| Bottom girt | 38.2 | Pass |
| Bolt | 61.4 | Pass |
| Anchor Bolt | 30.9 | Pass |

Foundation

The results of the foundation analysis are shown below in table 6. Additional information for the foundation analysis is provided within the Appendix.

Table 6 Foundation Analysis Summary

| Structural Component | Max Usage (%) | Analysis Result |
|-----------------------------|----------------------|------------------------|
| Foundation | 72.0 | Pass |

Conclusions

Based on the analysis results, the existing tower and foundation were found to be **sufficient** to safely support the equipment listed in this analysis. No modification to the tower and foundation is needed at this time.

Installation Requirements

This analysis was performed under the assumption that the carrier will place the proposed equipment and feed lines at the installation height listed in Table 4 and in accordance with the coax layout shown. TMAs and RRUs are to be installed on existing mounts behind tenant's antennas unless otherwise noted. No equipment is to be installed directly in the climbing path. All equipment is to be installed per mount manufacturer specifications. In case site conditions do not allow for the required installation parameters to be met the carrier must notify SBA Communications Corporation engineers for approval of an alternative placement.

Assumptions and Limitations

Assumptions

This analysis was completed based on the following assumptions:

- Tower and foundation were built in accordance to manufacturer specifications.
- Tower and foundation has been properly maintained in accordance with the manufacturer's specifications
- All existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion
- Welds and bolts are assumed able to carry their intended original design loads.
- The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Table 3 and 4.
- This analysis may be affected if any assumptions are not valid or have been made in error. SBA should be notified to determine the effect on the structural integrity of the tower.

Limitations

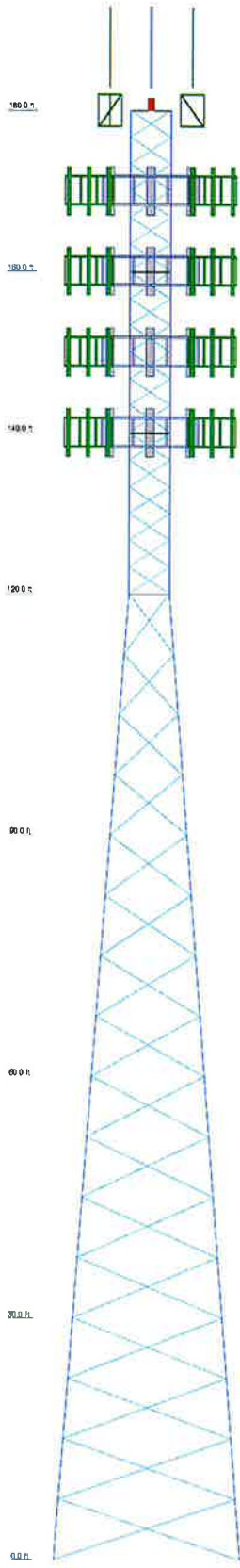
The computer generated analysis performed by the tower software is limited to theoretical capacities of the towers structural members and does not account for any missing or damaged members or connections. The tower and foundation are assumed to have been properly designed, fabricated, installed and maintained, barring any conflicting findings from the most recent inspection.

SBA Communications Corporation has used its due diligence to verify the information provided to perform this analysis. It is unreasonable to perform a more detailed inspection of a tower and its components. This report is not a condition assessment of the tower or foundation.

Appendix



| Section | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | |
|-------------------|----|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Legs | | | SR13.12 | SR13.12 | SR14.24 | SR14.24 | SR13.12 | SR13.12 | SR14.24 | SR14.24 | SR13.12 | SR13.12 |
| Top Chords | | | | | | | | | | | SR7.70 | SR7.70 |
| Diagonals | | | | | | | | | | | SR1.46 | SR1.46 |
| Diagonal Chords | | | | | | | | | | | SR1.46 | SR1.46 |
| Top Chords | | | | | | | | | | | SR1.46 | SR1.46 |
| Bottom Chords | | | | | | | | | | | SR1.46 | SR1.46 |
| Welds (P) (Q) (R) | | | | | | | | | | | SR1.46 | SR1.46 |
| Welds (P) (Q) (R) | | | | | | | | | | | SR1.46 | SR1.46 |
| | | | | | | | | | | | SR1.46 | SR1.46 |
| | | | | | | | | | | | SR1.46 | SR1.46 |
| | | | | | | | | | | | SR1.46 | SR1.46 |



| TYPE | ELEVATION | TYPE | ELEVATION |
|------------------------------|-----------|------------------------------|-----------|
| 4400 625 x 600 (15'x17x11.0) | 140 | 4400 625 x 600 (15'x17x11.0) | 140 |
| 4400 625 x 600 (15'x17x11.0) | 140 | 4400 625 x 600 (15'x17x11.0) | 140 |
| 4400 625 x 600 (15'x17x11.0) | 140 | 4400 625 x 600 (15'x17x11.0) | 140 |
| 4400 625 x 600 (15'x17x11.0) | 140 | 4400 625 x 600 (15'x17x11.0) | 140 |
| 4400 625 x 600 (15'x17x11.0) | 140 | 4400 625 x 600 (15'x17x11.0) | 140 |

| GRADE | Fy | Fu | GRADE | Fy | Fu |
|---------|--------|--------|---------|--------|--------|
| A36 | 36 ksi | 58 ksi | A36 | 36 ksi | 58 ksi |
| A572-50 | 50 ksi | 73 ksi | A572-50 | 50 ksi | 73 ksi |

TOWER DESIGN NOTES

1. Tower is located in New London County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 127 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflection are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category I with Crest Height of 0.00 ft.
8. TOWER RATING: 78.3%

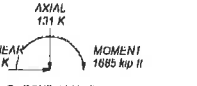
ALL REACTIONS ARE FACTORED

MAX CORNER REACTIONS AT BASE
 DOWN: 367 K
 SHEAR: 43 K

UPLIFT: 211 K
 SHEAR: 37 K



TORQUE 0 kip-ft
 SEISMIC

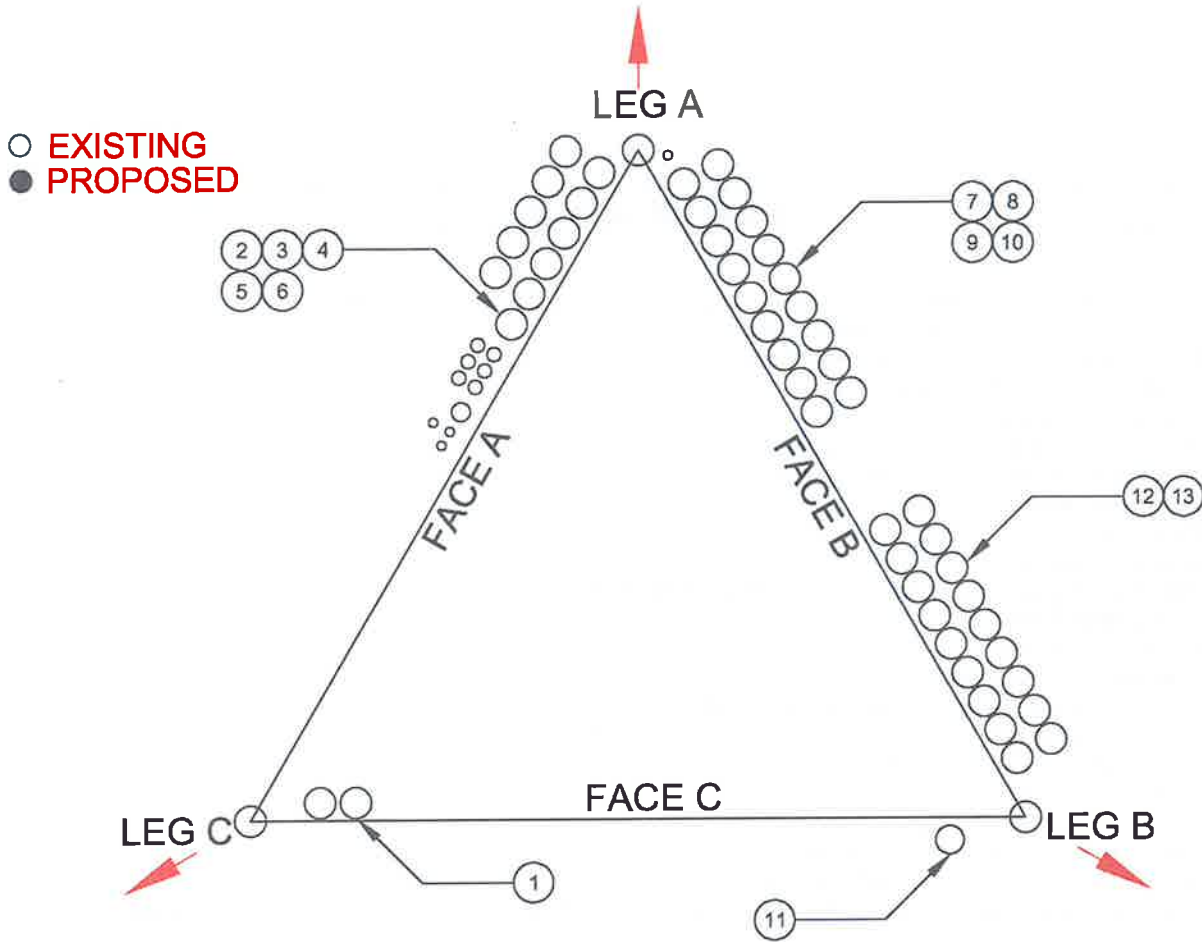


TORQUE 14 kip-ft
 60 mph WIND - 1.0000 in ICE



TORQUE 60 kip-ft
 REACTIONS - 127 mph WIND

COAX LAYOUT



| CT09865-S | | | | | |
|------------------|-------------------|----------|--------|-----------|----------|
| # | CARRIER | SIZE | QTY. | ELEVATION | NOTES |
| 1 | Town of Waterford | 1-5/8" | 2 | 180 | |
| 2 | AT&T | 1-5/8" | 11 | 170 | |
| 3 | | 1" | 1 | | DC Power |
| 4 | | 1/2" | 2 | | Fiber |
| 5 | | 3/4" | 6 | | DC Power |
| 6 | | 7/16" | 1 | | Fiber |
| 7 | | T-Mobile | 1-5/8" | | 13 |
| 8 | 1-5/8" | | 3 | Fiber | |
| 9 | 1/2" | | 1 | | |
| 10 | 1.9" | | 2 | Fiber | |
| 11 | Dish Wireless | 1.6" | 1 | 150 | Hybrid |
| 12 | Verizon | 1-5/8" | 16 | 140 | |
| 13 | | 1-5/8" | 2 | | Hybrid |

| | | |
|--|----------------|----------------------------------|
| tnxTower SBA Communications Corporation 8051 Congress Avenue Boca Raton, FL 33487 Phone: 214.570.8110 ext 2612 FAX: | Job | Page 1 of 27 |
| | Project | Date 08:13:57 11/16/23 |
| | Client | Designed by Asmerom |

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 180.00 ft above the ground line.

The base of the tower is set at an elevation of 0.00 ft above the ground line.

The face width of the tower is 5.00 ft at the top and 23.00 ft at the base.

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

The following design criteria apply:

Tower is located in New London County, Connecticut.

Tower base elevation above sea level: 116.12 ft.

Basic wind speed of 127 mph.

Risk Category II.

Exposure Category C.

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

Topographic Category: 1.

Crest Height: 0.00 ft.

Nominal icc thickness of 1.0000 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

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

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

Pressures are calculated at each section.

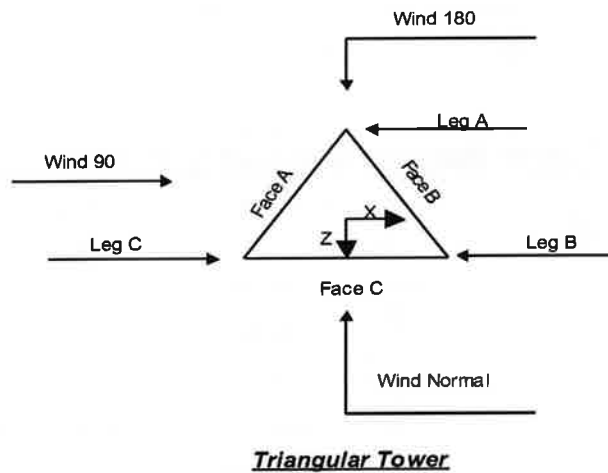
Stress ratio used in tower member design is 1.

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

Options

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

| | | |
|--|----------------|----------------------------------|
| tnxTower SBA Communications Corporation 8051 Congress Avenue Boca Raton, FL 33487 Phone: 214.570.8110 ext 2612 FAX: | Job | Page 2 of 27 |
| | Project | Date 08:13:57 11/16/23 |
| | Client | Designed by Asmerom |
| CT09865-VZW-111323 | | |



Tower Section Geometry

| Tower Section | Tower Elevation | Assembly Database | Description | Section Width | Number of Sections | Section Length |
|---------------|-----------------|-------------------|-------------|---------------|--------------------|----------------|
| | <i>ft</i> | | | <i>ft</i> | | <i>ft</i> |
| T1 | 180.00-160.00 | | | 5.00 | 1 | 20.00 |
| T2 | 160.00-140.00 | | | 5.00 | 1 | 20.00 |
| T3 | 140.00-120.00 | | | 5.00 | 1 | 20.00 |
| T4 | 120.00-90.00 | | | 5.00 | 1 | 30.00 |
| T5 | 90.00-60.00 | | | 9.50 | 1 | 30.00 |
| T6 | 60.00-30.00 | | | 14.00 | 1 | 30.00 |
| T7 | 30.00-0.00 | | | 18.50 | 1 | 30.00 |

Tower Section Geometry (cont'd)

| Tower Section | Tower Elevation | Diagonal Spacing | Bracing Type | Has K Brace End Panels | Has Horizontals | Top Girt Offset | Bottom Girt Offset |
|---------------|-----------------|------------------|--------------|------------------------|-----------------|-----------------|--------------------|
| | <i>ft</i> | <i>ft</i> | | | | <i>in</i> | <i>in</i> |
| T1 | 180.00-160.00 | 3.32 | X Brace | No | Yes | 0.0000 | 1.0000 |
| T2 | 160.00-140.00 | 3.31 | X Brace | No | Yes | 1.0000 | 1.0000 |
| T3 | 140.00-120.00 | 3.32 | X Brace | No | Yes | 1.0000 | 0.0000 |
| T4 | 120.00-90.00 | 7.50 | X Brace | No | No | 0.0000 | 0.0000 |

| | | |
|---|----------------|----------------------------------|
| <i>tnxTower</i> SBA Communications Corporation 8051 Congress Avenue Boca Raton, FL 33487 Phone: 214.570.8110 ext 2612 FAX: | Job | Page 3 of 27 |
| | Project | Date 08:13:57 11/16/23 |
| | Client | Designed by Asmerom |

| Tower Section | Tower Elevation | Diagonal Spacing | Bracing Type | Has K Brace End Panels | Has Horizontals | Top Girt Offset | Bottom Girt Offset |
|---------------|-----------------|------------------|--------------|------------------------|-----------------|-----------------|--------------------|
| | ft | ft | | | | in | in |
| T5 | 90.00-60.00 | 7.50 | X Brace | No | No | 0.0000 | 0.0000 |
| T6 | 60.00-30.00 | 7.50 | X Brace | No | No | 0.0000 | 0.0000 |
| T7 | 30.00-0.00 | 7.50 | X Brace | No | No | 0.0000 | 0.0000 |

Tower Section Geometry (cont'd)

| Tower Elevation | Leg Type | Leg Size | Leg Grade | Diagonal Type | Diagonal Size | Diagonal Grade |
|------------------|-------------|----------|------------------|---------------|-------------------|------------------|
| ft | | | | | | |
| T1 180.00-160.00 | Solid Round | 1 3/4 | A572-50 (50 ksi) | Solid Round | 7/8 | A572-50 (50 ksi) |
| T2 160.00-140.00 | Solid Round | 2 1/2 | A572-50 (50 ksi) | Solid Round | 1 | A572-50 (50 ksi) |
| T3 140.00-120.00 | Solid Round | 3 1/2 | A572-50 (50 ksi) | Solid Round | 1 1/8 | A572-50 (50 ksi) |
| T4 120.00-90.00 | Solid Round | 4 1/4 | A572-58 (58 ksi) | Equal Angle | L2 1/2x2 1/2x3/16 | A36 (36 ksi) |
| T5 90.00-60.00 | Solid Round | 4 1/2 | A572-58 (58 ksi) | Equal Angle | L3x3x3/16 | A36 (36 ksi) |
| T6 60.00-30.00 | Solid Round | 4 3/4 | A572-58 (58 ksi) | Equal Angle | L3 1/2x3 1/2x1/4 | A36 (36 ksi) |
| T7 30.00-0.00 | Solid Round | 4 3/4 | A572-58 (58 ksi) | Equal Angle | L4x4x5/16 | A36 (36 ksi) |

Tower Section Geometry (cont'd)

| Tower Elevation | Top Girt Type | Top Girt Size | Top Girt Grade | Bottom Girt Type | Bottom Girt Size | Bottom Girt Grade |
|------------------|---------------|---------------|------------------|------------------|------------------|-------------------|
| ft | | | | | | |
| T1 180.00-160.00 | Solid Round | 7/8 | A572-50 (50 ksi) | Solid Round | 7/8 | A572-50 (50 ksi) |
| T2 160.00-140.00 | Solid Round | 1 | A572-50 (50 ksi) | Solid Round | 1 | A572-50 (50 ksi) |
| T3 140.00-120.00 | Solid Round | 1 1/8 | A572-50 (50 ksi) | Solid Round | 1 1/8 | A572-50 (50 ksi) |

Tower Section Geometry (cont'd)

| | | |
|--|----------------|----------------------------------|
| tnxTower SBA Communications Corporation 8051 Congress Avenue Boca Raton, FL 33487 Phone: 214.570.8110 ext 2612 FAX: | Job | Page 4 of 27 |
| | Project | Date 08:13:57 11/16/23 |
| | Client | Designed by Asmerom |
| CT09865-VZW-111323 | | |

| Tower Elevation | Gusset Area (per face) | Gusset Thickness | Gusset Grade | Adjust. Factor A_f | Adjust. Factor A_r | Weight Mult. | Double Angle Stitch Bolt Spacing Diagonals | Double Angle Stitch Bolt Spacing Horizontals | Double Angle Stitch Bolt Spacing Redundants |
|------------------|------------------------|------------------|--------------|----------------------|----------------------|--------------|--|--|---|
| ft | ft ² | in | | | | | in | in | in |
| T1 180.00-160.00 | 0.00 | 0.0000 | A36 (36 ksi) | 1 | 1 | 1.05 | 36.0000 | 36.0000 | 36.0000 |
| T2 160.00-140.00 | 0.00 | 0.0000 | A36 (36 ksi) | 1 | 1 | 1.05 | 36.0000 | 36.0000 | 36.0000 |
| T3 140.00-120.00 | 0.00 | 0.0000 | A36 (36 ksi) | 1 | 1 | 1.05 | 36.0000 | 36.0000 | 36.0000 |
| T4 120.00-90.00 | 0.00 | 0.0000 | A36 (36 ksi) | 1 | 1 | 1.05 | 36.0000 | 36.0000 | 36.0000 |
| T5 90.00-60.00 | 0.00 | 0.0000 | A36 (36 ksi) | 1 | 1 | 1.05 | 36.0000 | 36.0000 | 36.0000 |
| T6 60.00-30.00 | 0.00 | 0.0000 | A36 (36 ksi) | 1 | 1 | 1.05 | 36.0000 | 36.0000 | 36.0000 |
| T7 30.00-0.00 | 0.00 | 0.0000 | A36 (36 ksi) | 1 | 1 | 1.05 | 36.0000 | 36.0000 | 36.0000 |

Tower Section Geometry (cont'd)

| Tower Elevation | Calc K Single Angles | Calc K Solid Rounds | Legs | K Factors ¹ | | | | | | |
|------------------|----------------------|---------------------|------|------------------------|---------------|--------------|--------|--------|-------------|-------------|
| | | | | X Brace Diags | K Brace Diags | Single Diags | Girts | Horiz. | Sec. Horiz. | Inner Brace |
| | | | | X Y | X Y | X Y | X Y | X Y | X Y | X Y |
| T1 180.00-160.00 | Yes | Yes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| T2 160.00-140.00 | Yes | Yes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| T3 140.00-120.00 | Yes | Yes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| T4 120.00-90.00 | Yes | Yes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| T5 90.00-60.00 | Yes | Yes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| T6 60.00-30.00 | Yes | Yes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| T7 30.00-0.00 | Yes | Yes | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

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

Tower Section Geometry (cont'd)

inxTower

SBA Communications Corporation
 8051 Congress Avenue
 Boca Raton, FL 33487
 Phone: 214.570.8110 ext 2612
 FAX:

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| Tower Elevation ft | Leg | | Diagonal | | Top Girt | | Bottom Girt | | Mid Girt | | Long Horizontal | | Short Horizontal | |
|--------------------|---------------------|---|---------------------|------|---------------------|---|---------------------|---|---------------------|------|---------------------|------|---------------------|------|
| | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U |
| T1 180.00-160.00 | 0.0000 | 1 | 0.0000 | 1 | 0.0000 | 1 | 0.0000 | 1 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 |
| T2 160.00-140.00 | 0.0000 | 1 | 0.0000 | 1 | 0.0000 | 1 | 0.0000 | 1 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 |
| T3 140.00-120.00 | 0.0000 | 1 | 0.0000 | 1 | 0.0000 | 1 | 0.0000 | 1 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 |
| T4 120.00-90.00 | 0.0000 | 1 | 0.0000 | 0.75 | 0.0000 | 1 | 0.0000 | 1 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 |
| T5 90.00-60.00 | 0.0000 | 1 | 0.0000 | 0.75 | 0.0000 | 1 | 0.0000 | 1 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 |
| T6 60.00-30.00 | 0.0000 | 1 | 0.0000 | 0.75 | 0.0000 | 1 | 0.0000 | 1 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 |
| T7 30.00-0.00 | 0.0000 | 1 | 0.0000 | 0.75 | 0.0000 | 1 | 0.0000 | 1 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 |

| Tower Elevation ft | Redundant Horizontal | | Redundant Diagonal | | Redundant Sub-Diagonal | | Redundant Sub-Horizontal | | Redundant Vertical | | Redundant Hip | | Redundant Hip Diagonal | |
|--------------------|----------------------|----------|---------------------|----------|------------------------|------|--------------------------|------|---------------------|------|---------------------|----------|------------------------|----------|
| | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U | Net Width Deduct in | U |
| T1 180.00-160.00 | 0.0000 | 0.75 (1) | 0.0000 | 0.75 (1) | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 (1) | 0.0000 | 0.75 (1) |
| | 0.0000 | 0.75 (2) | 0.0000 | 0.75 (2) | | | | | | | 0.0000 | 0.75 (2) | 0.0000 | 0.75 (2) |
| | 0.0000 | 0.75 (3) | 0.0000 | 0.75 (3) | | | | | | | 0.0000 | 0.75 (3) | 0.0000 | 0.75 (3) |
| | 0.0000 | 0.75 (4) | 0.0000 | 0.75 (4) | | | | | | | 0.0000 | 0.75 (4) | 0.0000 | 0.75 (4) |
| T2 160.00-140.00 | 0.0000 | 0.75 (1) | 0.0000 | 0.75 (1) | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 (1) | 0.0000 | 0.75 (1) |
| | 0.0000 | 0.75 (2) | 0.0000 | 0.75 (2) | | | | | | | 0.0000 | 0.75 (2) | 0.0000 | 0.75 (2) |
| | 0.0000 | 0.75 (3) | 0.0000 | 0.75 (3) | | | | | | | 0.0000 | 0.75 (3) | 0.0000 | 0.75 (3) |
| | 0.0000 | 0.75 (4) | 0.0000 | 0.75 (4) | | | | | | | 0.0000 | 0.75 (4) | 0.0000 | 0.75 (4) |
| T3 140.00-120.00 | 0.0000 | 0.75 (1) | 0.0000 | 0.75 (1) | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 (1) | 0.0000 | 0.75 (1) |
| | 0.0000 | 0.75 (2) | 0.0000 | 0.75 (2) | | | | | | | 0.0000 | 0.75 (2) | 0.0000 | 0.75 (2) |
| | 0.0000 | 0.75 (3) | 0.0000 | 0.75 (3) | | | | | | | 0.0000 | 0.75 (3) | 0.0000 | 0.75 (3) |
| | 0.0000 | 0.75 (4) | 0.0000 | 0.75 (4) | | | | | | | 0.0000 | 0.75 (4) | 0.0000 | 0.75 (4) |
| T4 120.00-90.00 | 0.0000 | 0.75 (1) | 0.0000 | 0.75 (1) | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 | 0.0000 | 0.75 (1) | 0.0000 | 0.75 (1) |
| | 0.0000 | 0.75 (2) | 0.0000 | 0.75 (2) | | | | | | | 0.0000 | 0.75 (2) | 0.0000 | 0.75 (2) |
| | 0.0000 | 0.75 (3) | 0.0000 | 0.75 (3) | | | | | | | 0.0000 | 0.75 (3) | 0.0000 | 0.75 (3) |
| | 0.0000 | 0.75 (4) | 0.0000 | 0.75 (4) | | | | | | | 0.0000 | 0.75 (4) | 0.0000 | 0.75 (4) |

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| Description | Face or Shield Leg | Allow Shield | Exclude From Torque Calculation | Component Type | Placement ft | Face Offset in | Lateral Offset (Frac FW) | # | # Per Row | Clear Spacing in | Width or Diameter in | Perimeter in | Weight plf |
|---------------------------|--------------------|--------------|---------------------------------|----------------|---------------|----------------|--------------------------|----|-----------|------------------|----------------------|--------------|------------|
| Feedline Ladder (Af) 1.5" | B | No | No | Af (CaAa) | 180.00 - 0.00 | 0.0000 | 0.4 | 1 | 1 | 0.5000 | 1.5000 | | 4.20 |
| LDF7-50A (1-5/8 FOAM) | B | No | No | Ar (CaAa) | 140.00 - 0.00 | 0.0000 | 0.4 | 16 | 8 | 0.5000 | 1.9800 | | 0.82 |
| 1-5/8" Hybrid | B | No | No | Ar (CaAa) | 140.00 - 0.00 | 0.0000 | 0.36 | 2 | 1 | 0.5000 | 1.9800 | | 2.72 |
| *** | | | | | | | | | | | | | |

Feed Line/Linear Appurtenances - Entered As Area

| Description | Face or Shield Leg | Allow Shield | Exclude From Torque Calculation | Component Type | Placement ft | Total Number | C _{AA} ft ² /ft | Weight plf |
|-------------|--------------------|--------------|---------------------------------|----------------|--------------|--------------|-------------------------------------|------------|
| *** | | | | | | | | |

Feed Line/Linear Appurtenances Section Areas

| Tower Section | Tower Elevation ft | Face | A _R ft ² | A _F ft ² | C _{AA} In Face ft ² | C _{AA} Out Face ft ² | Weight K |
|---------------|--------------------|------|--------------------------------|--------------------------------|---|--|----------|
| T1 | 180.00-160.00 | A | 0.000 | 0.000 | 35.585 | 0.000 | 0.20 |
| | | B | 0.000 | 0.000 | 10.000 | 0.000 | 0.17 |
| | | C | 0.000 | 0.000 | 17.920 | 0.000 | 0.20 |
| T2 | 160.00-140.00 | A | 0.000 | 0.000 | 65.420 | 0.000 | 0.31 |
| | | B | 0.000 | 0.000 | 82.540 | 0.000 | 0.47 |
| | | C | 0.000 | 0.000 | 19.520 | 0.000 | 0.21 |
| T3 | 140.00-120.00 | A | 0.000 | 0.000 | 65.420 | 0.000 | 0.31 |
| | | B | 0.000 | 0.000 | 153.820 | 0.000 | 0.84 |
| | | C | 0.000 | 0.000 | 21.120 | 0.000 | 0.22 |
| T4 | 120.00-90.00 | A | 0.000 | 0.000 | 98.130 | 0.000 | 0.47 |
| | | B | 0.000 | 0.000 | 230.730 | 0.000 | 1.26 |
| | | C | 0.000 | 0.000 | 31.680 | 0.000 | 0.33 |
| T5 | 90.00-60.00 | A | 0.000 | 0.000 | 98.130 | 0.000 | 0.47 |
| | | B | 0.000 | 0.000 | 230.730 | 0.000 | 1.26 |
| | | C | 0.000 | 0.000 | 31.680 | 0.000 | 0.33 |
| T6 | 60.00-30.00 | A | 0.000 | 0.000 | 98.130 | 0.000 | 0.47 |
| | | B | 0.000 | 0.000 | 230.730 | 0.000 | 1.26 |
| | | C | 0.000 | 0.000 | 31.680 | 0.000 | 0.33 |
| T7 | 30.00-0.00 | A | 0.000 | 0.000 | 98.130 | 0.000 | 0.47 |
| | | B | 0.000 | 0.000 | 230.730 | 0.000 | 1.26 |
| | | C | 0.000 | 0.000 | 31.680 | 0.000 | 0.33 |

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Feed Line/Linear Appurtenances Section Areas - With Ice

| Tower Section | Tower Elevation ft | Face or Leg | Ice Thickness in | A_R ft ² | A_F ft ² | $C_A A_A$ In Face ft ² | $C_A A_A$ Out Face ft ² | Weight K |
|---------------|-----------------------|-------------|---------------------|--------------------------|--------------------------|---|--|-------------|
| T1 | 180.00-160.00 | A | 1.178 | 0.000 | 0.000 | 59.732 | 0.000 | 0.80 |
| | | B | | 0.000 | 0.000 | 19.425 | 0.000 | 0.36 |
| | | C | | 0.000 | 0.000 | 39.622 | 0.000 | 0.54 |
| T2 | 160.00-140.00 | A | 1.163 | 0.000 | 0.000 | 103.753 | 0.000 | 1.36 |
| | | B | | 0.000 | 0.000 | 87.928 | 0.000 | 1.52 |
| | | C | | 0.000 | 0.000 | 43.330 | 0.000 | 0.59 |
| T3 | 140.00-120.00 | A | 1.147 | 0.000 | 0.000 | 103.150 | 0.000 | 1.35 |
| | | B | | 0.000 | 0.000 | 164.269 | 0.000 | 2.77 |
| | | C | | 0.000 | 0.000 | 46.945 | 0.000 | 0.62 |
| T4 | 120.00-90.00 | A | 1.123 | 0.000 | 0.000 | 153.397 | 0.000 | 1.99 |
| | | B | | 0.000 | 0.000 | 245.264 | 0.000 | 4.11 |
| | | C | | 0.000 | 0.000 | 69.730 | 0.000 | 0.92 |
| T5 | 90.00-60.00 | A | 1.086 | 0.000 | 0.000 | 151.363 | 0.000 | 1.93 |
| | | B | | 0.000 | 0.000 | 243.520 | 0.000 | 4.04 |
| | | C | | 0.000 | 0.000 | 68.677 | 0.000 | 0.89 |
| T6 | 60.00-30.00 | A | 1.032 | 0.000 | 0.000 | 148.405 | 0.000 | 1.86 |
| | | B | | 0.000 | 0.000 | 240.983 | 0.000 | 3.93 |
| | | C | | 0.000 | 0.000 | 67.146 | 0.000 | 0.86 |
| T7 | 30.00-0.00 | A | 0.924 | 0.000 | 0.000 | 142.536 | 0.000 | 1.72 |
| | | B | | 0.000 | 0.000 | 235.955 | 0.000 | 3.72 |
| | | C | | 0.000 | 0.000 | 64.107 | 0.000 | 0.79 |

Feed Line Center of Pressure

| Section | Elevation ft | CP_x in | CP_z in | CP_x Ice in | CP_z Ice in |
|---------|-----------------|--------------|--------------|---------------------|---------------------|
| T1 | 180.00-160.00 | -2.0553 | -9.0925 | -1.5297 | -7.1889 |
| T2 | 160.00-140.00 | -0.1345 | -17.1464 | -0.2973 | -13.9018 |
| T3 | 140.00-120.00 | 5.2682 | -10.1467 | 4.0353 | -9.2145 |
| T4 | 120.00-90.00 | 6.0807 | -12.6106 | 5.2701 | -12.3291 |
| T5 | 90.00-60.00 | 8.1210 | -17.6298 | 7.3491 | -17.5664 |
| T6 | 60.00-30.00 | 9.2817 | -21.0413 | 8.7728 | -21.4582 |
| T7 | 30.00-0.00 | 9.8373 | -23.1693 | 9.6729 | -24.2189 |

Shielding Factor K_a

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K_a No Ice | K_a Ice |
|---------------|----------------------|---------------------------|-------------------------|-----------------|--------------|
| T1 | 2 | Safety Line 3/8 | 160.00 - 180.00 | 0.6000 | 0.6000 |
| T1 | 4 | Feedline Ladder (Af) 1.5" | 160.00 - 180.00 | 0.6000 | 0.6000 |

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| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K_a No Ice | K_a Ice |
|---------------|----------------------|------------------------------|-------------------------|--------------|-----------|
| T1 | 5 | LDF7-50A (1-5/8 FOAM) | 160.00 - 180.00 | 0.6000 | 0.6000 |
| T1 | 7 | Feedline Ladder (Af) 1.5" | 160.00 - 180.00 | 0.6000 | 0.6000 |
| T1 | 8 | LDF7-50A (1-5/8 FOAM) | 160.00 - 170.00 | 0.6000 | 0.6000 |
| T1 | 9 | 3/4" DC Power | 160.00 - 170.00 | 0.6000 | 0.6000 |
| T1 | 10 | 1" DC Power | 160.00 - 170.00 | 0.6000 | 0.6000 |
| T1 | 11 | 1/2" Fiber | 160.00 - 170.00 | 0.6000 | 0.6000 |
| T1 | 12 | 7/16" DC Fiber | 160.00 - 170.00 | 0.6000 | 0.6000 |
| T1 | 14 | Feedline Ladder (Af) 1.5" | 160.00 - 180.00 | 0.6000 | 0.6000 |
| T1 | 18 | Feedline Ladder (Af) 1.5" | 160.00 - 180.00 | 0.6000 | 0.6000 |
| T1 | 21 | Feedline Ladder (Af) 1.5" | 160.00 - 180.00 | 0.6000 | 0.6000 |
| T2 | 2 | Safety Line 3/8 | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T2 | 4 | Feedline Ladder (Af) 1.5" | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T2 | 5 | LDF7-50A (1-5/8 FOAM) | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T2 | 7 | Feedline Ladder (Af) 1.5" | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T2 | 8 | LDF7-50A (1-5/8 FOAM) | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T2 | 9 | 3/4" DC Power | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T2 | 10 | 1" DC Power | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T2 | 11 | 1/2" Fiber | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T2 | 12 | 7/16" DC Fiber | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T2 | 14 | Feedline Ladder (Af) 1.5" | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T2 | 15 | (16) 1-5/8" & (2) 1.9" Fiber | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T2 | 16 | LDF4-50A (1/2 FOAM) | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T2 | 18 | Feedline Ladder (Af) 1.5" | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T2 | 19 | 1.60" Hybrid | 140.00 - 150.00 | 0.6000 | 0.6000 |
| T2 | 21 | Feedline Ladder (Af) 1.5" | 140.00 - 160.00 | 0.6000 | 0.6000 |
| T3 | 2 | Safety Line 3/8 | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T3 | 4 | Feedline Ladder (Af) 1.5" | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T3 | 5 | LDF7-50A (1-5/8 FOAM) | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T3 | 7 | Feedline Ladder (Af) 1.5" | 120.00 - 140.00 | 0.6000 | 0.6000 |

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| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K _a No Ice | K _a Ice |
|---------------|----------------------|------------------------------|-------------------------|-----------------------|--------------------|
| T3 | 8 | LDF7-50A (1-5/8 FOAM) | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T3 | 9 | 3/4" DC Power | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T3 | 10 | 1" DC Power | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T3 | 11 | 1/2" Fiber | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T3 | 12 | 7/16" DC Fiber | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T3 | 14 | Feedline Ladder (Af) 1.5" | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T3 | 15 | (16) 1-5/8" & (2) 1.9" Fiber | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T3 | 16 | LDF4-50A (1/2 FOAM) | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T3 | 18 | Feedline Ladder (Af) 1.5" | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T3 | 19 | 1.60" Hybrid | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T3 | 21 | Feedline Ladder (Af) 1.5" | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T3 | 22 | LDF7-50A (1-5/8 FOAM) | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T3 | 23 | 1-5/8" Hybrid | 120.00 - 140.00 | 0.6000 | 0.6000 |
| T4 | 2 | Safety Line 3/8" | 90.00 - 120.00 | 0.6000 | 0.6000 |
| T4 | 4 | Feedline Ladder (Af) 1.5" | 90.00 - 120.00 | 0.6000 | 0.6000 |
| T4 | 5 | LDF7-50A (1-5/8 FOAM) | 90.00 - 120.00 | 0.6000 | 0.6000 |
| T4 | 7 | Feedline Ladder (Af) 1.5" | 90.00 - 120.00 | 0.6000 | 0.6000 |
| T4 | 8 | LDF7-50A (1-5/8 FOAM) | 90.00 - 120.00 | 0.6000 | 0.6000 |
| T4 | 9 | 3/4" DC Power | 90.00 - 120.00 | 0.6000 | 0.6000 |
| T4 | 10 | 1" DC Power | 90.00 - 120.00 | 0.6000 | 0.6000 |
| T4 | 11 | 1/2" Fiber | 90.00 - 120.00 | 0.6000 | 0.6000 |
| T4 | 12 | 7/16" DC Fiber | 90.00 - 120.00 | 0.6000 | 0.6000 |
| T4 | 14 | Feedline Ladder (Af) 1.5" | 90.00 - 120.00 | 0.6000 | 0.6000 |
| T4 | 15 | (16) 1-5/8" & (2) 1.9" Fiber | 90.00 - 120.00 | 0.6000 | 0.6000 |
| T4 | 16 | LDF4-50A (1/2 FOAM) | 90.00 - 120.00 | 0.6000 | 0.6000 |
| T4 | 18 | Feedline Ladder (Af) 1.5" | 90.00 - 120.00 | 0.6000 | 0.6000 |
| T4 | 19 | 1.60" Hybrid | 90.00 - 120.00 | 0.6000 | 0.6000 |
| T4 | 21 | Feedline Ladder (Af) 1.5" | 90.00 - 120.00 | 0.6000 | 0.6000 |
| T4 | 22 | LDF7-50A (1-5/8 FOAM) | 90.00 - 120.00 | 0.6000 | 0.6000 |
| T4 | 23 | 1-5/8" Hybrid | 90.00 - 120.00 | 0.6000 | 0.6000 |
| T5 | 2 | Safety Line 3/8" | 60.00 - 90.00 | 0.6000 | 0.6000 |
| T5 | 4 | Feedline Ladder (Af) 1.5" | 60.00 - 90.00 | 0.6000 | 0.6000 |
| T5 | 5 | LDF7-50A (1-5/8 FOAM) | 60.00 - 90.00 | 0.6000 | 0.6000 |
| T5 | 7 | Feedline Ladder (Af) 1.5" | 60.00 - 90.00 | 0.6000 | 0.6000 |
| T5 | 8 | LDF7-50A (1-5/8 FOAM) | 60.00 - 90.00 | 0.6000 | 0.6000 |
| T5 | 9 | 3/4" DC Power | 60.00 - 90.00 | 0.6000 | 0.6000 |
| T5 | 10 | 1" DC Power | 60.00 - 90.00 | 0.6000 | 0.6000 |
| T5 | 11 | 1/2" Fiber | 60.00 - 90.00 | 0.6000 | 0.6000 |
| T5 | 12 | 7/16" DC Fiber | 60.00 - 90.00 | 0.6000 | 0.6000 |
| T5 | 14 | Feedline Ladder (Af) 1.5" | 60.00 - 90.00 | 0.6000 | 0.6000 |
| T5 | 15 | (16) 1-5/8" & (2) 1.9" Fiber | 60.00 - 90.00 | 0.6000 | 0.6000 |
| T5 | 16 | LDF4-50A (1/2 FOAM) | 60.00 - 90.00 | 0.6000 | 0.6000 |
| T5 | 18 | Feedline Ladder (Af) 1.5" | 60.00 - 90.00 | 0.6000 | 0.6000 |
| T5 | 19 | 1.60" Hybrid | 60.00 - 90.00 | 0.6000 | 0.6000 |
| T5 | 21 | Feedline Ladder (Af) 1.5" | 60.00 - 90.00 | 0.6000 | 0.6000 |

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| tnxTower SBA Communications Corporation 8051 Congress Avenue Boca Raton, FL 33487 Phone: 214.570.8110 ext 2612 FAX: | Job | Page 12 of 27 |
| | Project | Date 08:13:57 11/16/23 |
| | Client | Designed by Asmerom |
| CT09865-VZW-111323 | | |

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K_a No Ice | K_a Ice |
|---------------|----------------------|------------------------------|-------------------------|-----------------|--------------|
| T5 | 22 | LDF7-50A (1-5/8 FOAM) | 60.00 - 90.00 | 0.6000 | 0.6000 |
| T5 | 23 | 1-5/8" Hybrid | 60.00 - 90.00 | 0.6000 | 0.6000 |
| T6 | 2 | Safety Line 3/8 | 30.00 - 60.00 | 0.6000 | 0.6000 |
| T6 | 4 | Feedline Ladder (Af) 1.5" | 30.00 - 60.00 | 0.6000 | 0.6000 |
| T6 | 5 | LDF7-50A (1-5/8 FOAM) | 30.00 - 60.00 | 0.6000 | 0.6000 |
| T6 | 7 | Feedline Ladder (Af) 1.5" | 30.00 - 60.00 | 0.6000 | 0.6000 |
| T6 | 8 | LDF7-50A (1-5/8 FOAM) | 30.00 - 60.00 | 0.6000 | 0.6000 |
| T6 | 9 | 3/4" DC Power | 30.00 - 60.00 | 0.6000 | 0.6000 |
| T6 | 10 | 1" DC Power | 30.00 - 60.00 | 0.6000 | 0.6000 |
| T6 | 11 | 1/2" Fiber | 30.00 - 60.00 | 0.6000 | 0.6000 |
| T6 | 12 | 7/16" DC Fiber | 30.00 - 60.00 | 0.6000 | 0.6000 |
| T6 | 14 | Feedline Ladder (Af) 1.5" | 30.00 - 60.00 | 0.6000 | 0.6000 |
| T6 | 15 | (16) 1-5/8" & (2) 1.9" Fiber | 30.00 - 60.00 | 0.6000 | 0.6000 |
| T6 | 16 | LDF4-50A (1/2 FOAM) | 30.00 - 60.00 | 0.6000 | 0.6000 |
| T6 | 18 | Feedline Ladder (Af) 1.5" | 30.00 - 60.00 | 0.6000 | 0.6000 |
| T6 | 19 | 1.60" Hybrid | 30.00 - 60.00 | 0.6000 | 0.6000 |
| T6 | 21 | Feedline Ladder (Af) 1.5" | 30.00 - 60.00 | 0.6000 | 0.6000 |
| T6 | 22 | LDF7-50A (1-5/8 FOAM) | 30.00 - 60.00 | 0.6000 | 0.6000 |
| T6 | 23 | 1-5/8" Hybrid | 30.00 - 60.00 | 0.6000 | 0.6000 |
| T7 | 2 | Safety Line 3/8 | 0.00 - 30.00 | 0.6000 | 0.6000 |
| T7 | 4 | Feedline Ladder (Af) 1.5" | 0.00 - 30.00 | 0.6000 | 0.6000 |
| T7 | 5 | LDF7-50A (1-5/8 FOAM) | 0.00 - 30.00 | 0.6000 | 0.6000 |
| T7 | 7 | Feedline Ladder (Af) 1.5" | 0.00 - 30.00 | 0.6000 | 0.6000 |
| T7 | 8 | LDF7-50A (1-5/8 FOAM) | 0.00 - 30.00 | 0.6000 | 0.6000 |
| T7 | 9 | 3/4" DC Power | 0.00 - 30.00 | 0.6000 | 0.6000 |
| T7 | 10 | 1" DC Power | 0.00 - 30.00 | 0.6000 | 0.6000 |
| T7 | 11 | 1/2" Fiber | 0.00 - 30.00 | 0.6000 | 0.6000 |
| T7 | 12 | 7/16" DC Fiber | 0.00 - 30.00 | 0.6000 | 0.6000 |
| T7 | 14 | Feedline Ladder (Af) 1.5" | 0.00 - 30.00 | 0.6000 | 0.6000 |
| T7 | 15 | (16) 1-5/8" & (2) 1.9" Fiber | 0.00 - 30.00 | 0.6000 | 0.6000 |
| T7 | 16 | LDF4-50A (1/2 FOAM) | 0.00 - 30.00 | 0.6000 | 0.6000 |
| T7 | 18 | Feedline Ladder (Af) 1.5" | 0.00 - 30.00 | 0.6000 | 0.6000 |
| T7 | 19 | 1.60" Hybrid | 0.00 - 30.00 | 0.6000 | 0.6000 |
| T7 | 21 | Feedline Ladder (Af) 1.5" | 0.00 - 30.00 | 0.6000 | 0.6000 |
| T7 | 22 | LDF7-50A (1-5/8 FOAM) | 0.00 - 30.00 | 0.6000 | 0.6000 |
| T7 | 23 | 1-5/8" Hybrid | 0.00 - 30.00 | 0.6000 | 0.6000 |

User Defined Loads - Seismic

| Description | Elevation | Offset From Centroid | Azimuth Angle | E_v | E_{hx} | E_{hx} | E_h |
|-------------|-----------|----------------------|---------------|-------|----------|----------|-------|
| | ft | ft | ° | K | K | K | K |
| SL1 | 180.00 | 0.00 | 0.0000 | 0.23 | 0.00 | 0.00 | 0.56 |
| SL2 | 160.00 | 0.00 | 0.0000 | 0.34 | 0.00 | 0.00 | 0.77 |
| SL3 | 140.00 | 0.00 | 0.0000 | 0.35 | 0.00 | 0.00 | 0.68 |
| SL4 | 120.00 | 0.00 | 0.0000 | 0.31 | 0.00 | 0.00 | 0.50 |
| SL5 | 90.00 | 0.00 | 0.0000 | 0.35 | 0.00 | 0.00 | 0.42 |
| SL6 | 60.00 | 0.00 | 0.0000 | 0.43 | 0.00 | 0.00 | 0.33 |
| SL7 | 30.00 | 0.00 | 0.0000 | 0.51 | 0.00 | 0.00 | 0.18 |

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| | Client | Designed by Asmerom |

Discrete Tower Loads

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _A A _A | | Weight |
|--|-------------|-------------|--------------|--------|--------------------|-----------|-------------------------------|-----------------|--------|
| | | | Horz Lateral | Vert | | | Front | Side | |
| | | | ft | ft | ° | ft | ft ² | ft ² | K |
| *** | | | | | | | | | |
| Lightning Rod | C | From Leg | 3.00 | 0.0000 | 180.00 | No Ice | 0.25 | 0.25 | 0.03 |
| | | | 0.00 | | | 1/2" Ice | 0.66 | 0.66 | 0.04 |
| | | | 0.00 | | | 1" Ice | 0.97 | 0.97 | 0.04 |
| Flash Beacon Lighting | C | None | 3.00 | 0.0000 | 180.00 | No Ice | 2.70 | 2.70 | 0.05 |
| | | | 0.00 | | | 1/2" Ice | 3.10 | 3.10 | 0.07 |
| | | | 0.00 | | | 1" Ice | 3.50 | 3.50 | 0.09 |
| *** | | | | | | | | | |
| SC488-HF2LNF (190x2.88x2.88) | A | From Leg | 3.00 | 0.0000 | 180.00 | No Ice | 4.56 | 4.56 | 0.03 |
| | | | 0.00 | | | 1/2" Ice | 6.18 | 6.18 | 0.07 |
| | | | 7.92 | | | 1" Ice | 7.81 | 7.81 | 0.11 |
| SC488-HF2LNF (190x2.88x2.88) | B | From Leg | 3.00 | 0.0000 | 180.00 | No Ice | 4.56 | 4.56 | 0.03 |
| | | | 0.00 | | | 1/2" Ice | 6.18 | 6.18 | 0.07 |
| | | | 7.92 | | | 1" Ice | 7.81 | 7.81 | 0.11 |
| SC488-HF2LNF (190x2.88x2.88) | C | From Leg | 3.00 | 0.0000 | 180.00 | No Ice | 4.56 | 4.56 | 0.03 |
| | | | 0.00 | | | 1/2" Ice | 6.18 | 6.18 | 0.07 |
| | | | 7.92 | | | 1" Ice | 7.81 | 7.81 | 0.11 |
| DBSpectra ATS8TMA10 TMA | C | From Leg | 3.00 | 0.0000 | 180.00 | No Ice | 2.74 | 2.74 | 0.03 |
| | | | 0.00 | | | 1/2" Ice | 3.03 | 3.03 | 0.04 |
| | | | 0.00 | | | 1" Ice | 3.33 | 3.33 | 0.07 |
| SitePRO1 HM6 6' Stanoffs | A | From Leg | 3.00 | 0.0000 | 180.00 | No Ice | 2.64 | 4.40 | 0.08 |
| | | | 0.00 | | | 1/2" Ice | 3.69 | 6.20 | 0.10 |
| | | | 0.00 | | | 1" Ice | 4.74 | 8.00 | 0.12 |
| SitePRO1 HM6 6' Stanoffs | B | From Leg | 3.00 | 0.0000 | 180.00 | No Ice | 2.64 | 4.40 | 0.08 |
| | | | 0.00 | | | 1/2" Ice | 3.69 | 6.20 | 0.10 |
| | | | 0.00 | | | 1" Ice | 4.74 | 8.00 | 0.12 |
| SitePRO1 HM6 6' Stanoffs | C | From Leg | 3.00 | 0.0000 | 180.00 | No Ice | 2.64 | 4.40 | 0.08 |
| | | | 0.00 | | | 1/2" Ice | 3.69 | 6.20 | 0.10 |
| | | | 0.00 | | | 1" Ice | 4.74 | 8.00 | 0.12 |
| *** | | | | | | | | | |
| AIR6419 B77G w/mount pipe (30.4x15.9x8.1) | A | From Leg | 3.00 | 0.0000 | 170.00 | No Ice | 5.33 | 4.05 | 0.11 |
| | | | 0.00 | | | 1/2" Ice | 6.15 | 5.09 | 0.16 |
| | | | 1.80 | | | 1" Ice | 6.88 | 5.98 | 0.22 |
| AIR6419 B77G w/mount pipe (30.4x15.9x8.1) | B | From Leg | 3.00 | 0.0000 | 170.00 | No Ice | 5.33 | 4.05 | 0.11 |
| | | | 0.00 | | | 1/2" Ice | 6.15 | 5.09 | 0.16 |
| | | | 1.80 | | | 1" Ice | 6.88 | 5.98 | 0.22 |
| AIR6419 B77G w/mount pipe (30.4x15.9x8.1) | C | From Leg | 3.00 | 0.0000 | 170.00 | No Ice | 5.33 | 4.05 | 0.11 |
| | | | 0.00 | | | 1/2" Ice | 6.15 | 5.09 | 0.16 |
| | | | 1.80 | | | 1" Ice | 6.88 | 5.98 | 0.22 |
| DMP65R-BU4DA w/mount pipe (48x20.7x7.7) | A | From Leg | 3.00 | 0.0000 | 170.00 | No Ice | 9.23 | 5.41 | 0.10 |
| | | | 0.00 | | | 1/2" Ice | 10.03 | 6.54 | 0.17 |
| | | | 0.00 | | | 1" Ice | 10.76 | 7.52 | 0.25 |
| DMP65R-BU4DA w/mount pipe (48x20.7x7.7) | B | From Leg | 3.00 | 0.0000 | 170.00 | No Ice | 9.23 | 5.41 | 0.10 |
| | | | 0.00 | | | 1/2" Ice | 10.03 | 6.54 | 0.17 |
| | | | 0.00 | | | 1" Ice | 10.76 | 7.52 | 0.25 |
| DMP65R-BU4DA w/mount pipe (48x20.7x7.7) | C | From Leg | 3.00 | 0.0000 | 170.00 | No Ice | 9.23 | 5.41 | 0.10 |
| | | | 0.00 | | | 1/2" Ice | 10.03 | 6.54 | 0.17 |

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| | Project CT09865-VZW-111323 | Date 08:13:57 11/16/23 |
| | Client | Designed by Asmerom |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _A A ₁ Front | C _A A ₁ Side | Weight |
|---|-------------|-------------|--------------|------|--------------------|-----------|-------------------------------------|------------------------------------|--------|
| | | | Horz Lateral | Vert | | | | | |
| | | | | | | | | | |
| AIR6449 B77D w/mount pipe (30.4x15.9x8.1) | A | From Leg | 0.00 | | 0.0000 | 170.00 | 1" Ice 10.76 | 7.52 | 0.25 |
| | | | 3.00 | | | | No Ice 5.33 | 4.05 | 0.11 |
| | | | 0.00 | | | | 1/2" Ice 6.15 | 5.09 | 0.16 |
| | | | -2.00 | | | | 1" Ice 6.88 | 5.98 | 0.22 |
| AIR6449 B77D w/mount pipe (30.4x15.9x8.1) | B | From Leg | 3.00 | | 0.0000 | 170.00 | No Ice 5.33 | 4.05 | 0.11 |
| | | | 0.00 | | | | 1/2" Ice 6.15 | 5.09 | 0.16 |
| | | | -2.00 | | | | 1" Ice 6.88 | 5.98 | 0.22 |
| AIR6449 B77D w/mount pipe (30.4x15.9x8.1) | C | From Leg | 3.00 | | 0.0000 | 170.00 | No Ice 5.33 | 4.05 | 0.11 |
| | | | 0.00 | | | | 1/2" Ice 6.15 | 5.09 | 0.16 |
| | | | -2.00 | | | | 1" Ice 6.88 | 5.98 | 0.22 |
| EPBQ-654L8H6-L2 w/mount pipe (73x21x6.3) | A | From Leg | 3.00 | | 0.0000 | 170.00 | No Ice 13.69 | 6.86 | 0.10 |
| | | | 0.00 | | | | 1/2" Ice 14.40 | 8.14 | 0.20 |
| | | | 0.00 | | | | 1" Ice 15.07 | 9.28 | 0.30 |
| EPBQ-654L8H6-L2 w/mount pipe (73x21x6.3) | B | From Leg | 3.00 | | 0.0000 | 170.00 | No Ice 13.69 | 6.86 | 0.10 |
| | | | 0.00 | | | | 1/2" Ice 14.40 | 8.14 | 0.20 |
| | | | 0.00 | | | | 1" Ice 15.07 | 9.28 | 0.30 |
| EPBQ-654L8H6-L2 w/mount pipe (73x21x6.3) | C | From Leg | 3.00 | | 0.0000 | 170.00 | No Ice 13.69 | 6.86 | 0.10 |
| | | | 0.00 | | | | 1/2" Ice 14.40 | 8.14 | 0.20 |
| | | | 0.00 | | | | 1" Ice 15.07 | 9.28 | 0.30 |
| (2) TT19-08BP111-001 (9.9x6.7x5.4) | A | From Leg | 3.00 | | 0.0000 | 170.00 | No Ice 0.55 | 0.45 | 0.02 |
| | | | 0.00 | | | | 1/2" Ice 0.65 | 0.53 | 0.02 |
| | | | 0.00 | | | | 1" Ice 0.75 | 0.63 | 0.03 |
| (2) TT19-08BP111-001 (9.9x6.7x5.4) | B | From Leg | 3.00 | | 0.0000 | 170.00 | No Ice 0.55 | 0.45 | 0.02 |
| | | | 0.00 | | | | 1/2" Ice 0.65 | 0.53 | 0.02 |
| | | | 0.00 | | | | 1" Ice 0.75 | 0.63 | 0.03 |
| (2) TT19-08BP111-001 (9.9x6.7x5.4) | C | From Leg | 3.00 | | 0.0000 | 170.00 | No Ice 0.55 | 0.45 | 0.02 |
| | | | 0.00 | | | | 1/2" Ice 0.65 | 0.53 | 0.02 |
| | | | 0.00 | | | | 1" Ice 0.75 | 0.63 | 0.03 |
| (2) RRUS 32 (20.9x13.4x9.5) | A | From Leg | 3.00 | | 0.0000 | 170.00 | No Ice 2.33 | 1.65 | 0.08 |
| | | | 0.00 | | | | 1/2" Ice 2.53 | 1.83 | 0.10 |
| | | | 0.00 | | | | 1" Ice 2.73 | 2.01 | 0.12 |
| (2) RRUS 32 (20.9x13.4x9.5) | B | From Leg | 3.00 | | 0.0000 | 170.00 | No Ice 2.33 | 1.65 | 0.08 |
| | | | 0.00 | | | | 1/2" Ice 2.53 | 1.83 | 0.10 |
| | | | 0.00 | | | | 1" Ice 2.73 | 2.01 | 0.12 |
| (2) RRUS 32 (20.9x13.4x9.5) | C | From Leg | 3.00 | | 0.0000 | 170.00 | No Ice 2.33 | 1.65 | 0.08 |
| | | | 0.00 | | | | 1/2" Ice 2.53 | 1.83 | 0.10 |
| | | | 0.00 | | | | 1" Ice 2.73 | 2.01 | 0.12 |
| RRUS 4478 B14 (15x13.2x7.4) | A | From Leg | 3.00 | | 0.0000 | 170.00 | No Ice 1.65 | 0.93 | 0.06 |
| | | | 0.00 | | | | 1/2" Ice 1.81 | 1.05 | 0.07 |
| | | | 0.00 | | | | 1" Ice 1.98 | 1.19 | 0.09 |
| RRUS 4478 B14 (15x13.2x7.4) | B | From Leg | 3.00 | | 0.0000 | 170.00 | No Ice 1.65 | 0.93 | 0.06 |
| | | | 0.00 | | | | 1/2" Ice 1.81 | 1.05 | 0.07 |
| | | | 0.00 | | | | 1" Ice 1.98 | 1.19 | 0.09 |
| RRUS 4478 B14 (15x13.2x7.4) | C | From Leg | 3.00 | | 0.0000 | 170.00 | No Ice 1.65 | 0.93 | 0.06 |
| | | | 0.00 | | | | 1/2" Ice 1.81 | 1.05 | 0.07 |
| | | | 0.00 | | | | 1" Ice 1.98 | 1.19 | 0.09 |
| 4415 B25 (16.5x13.4x5.9) | A | From Leg | 3.00 | | 0.0000 | 170.00 | No Ice 1.84 | 0.82 | 0.05 |
| | | | 0.00 | | | | 1/2" Ice 2.01 | 0.94 | 0.06 |
| | | | 0.00 | | | | 1" Ice 2.19 | 1.07 | 0.08 |
| 4415 B25 (16.5x13.4x5.9) | B | From Leg | 3.00 | | 0.0000 | 170.00 | No Ice 1.84 | 0.82 | 0.05 |
| | | | 0.00 | | | | 1/2" Ice 2.01 | 0.94 | 0.06 |
| | | | 0.00 | | | | 1" Ice 2.19 | 1.07 | 0.08 |
| 4415 B25 (16.5x13.4x5.9) | C | From Leg | 3.00 | | 0.0000 | 170.00 | No Ice 1.84 | 0.82 | 0.05 |

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| | Project CT09865-VZW-111323 | Date 08:13:57 11/16/23 |
| | Client | Designed by Asmerom |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _A A _A Front | C _A A _A Side | Weight | |
|--|-------------|-------------|----------|---------|--------------------|-----------|-------------------------------------|------------------------------------|--------|------|
| | | | Horz | Lateral | | | | | | Vert |
| | | | ft | ft | | | | | | |
| | | | 0.00 | | | | 1/2" Ice | 2.01 | 0.94 | 0.06 |
| | | | 0.00 | | | | 1" Ice | 2.19 | 1.07 | 0.08 |
| RRUS 4449 B5/B12 (14.96x13.19x10.43) | A | From Leg | 3.00 | 0.0000 | 170.00 | | No Ice | 1.64 | 1.30 | 0.07 |
| | | | 0.00 | | | | 1/2" Ice | 1.80 | 1.45 | 0.09 |
| | | | 0.00 | | | | 1" Ice | 1.97 | 1.60 | 0.11 |
| RRUS 4449 B5/B12 (14.96x13.19x10.43) | B | From Leg | 3.00 | 0.0000 | 170.00 | | No Ice | 1.64 | 1.30 | 0.07 |
| | | | 0.00 | | | | 1/2" Ice | 1.80 | 1.45 | 0.09 |
| | | | 0.00 | | | | 1" Ice | 1.97 | 1.60 | 0.11 |
| RRUS 4449 B5/B12 (14.96x13.19x10.43) | C | From Leg | 3.00 | 0.0000 | 170.00 | | No Ice | 1.64 | 1.30 | 0.07 |
| | | | 0.00 | | | | 1/2" Ice | 1.80 | 1.45 | 0.09 |
| | | | 0.00 | | | | 1" Ice | 1.97 | 1.60 | 0.11 |
| DC6-48-60-18-8F (24x11x18.5) | A | From Leg | 3.00 | 0.0000 | 170.00 | | No Ice | 2.20 | 3.70 | 0.03 |
| | | | 0.00 | | | | 1/2" Ice | 2.40 | 3.94 | 0.06 |
| | | | 0.00 | | | | 1" Ice | 2.60 | 4.19 | 0.10 |
| DC6-48-60-18-8F (24x11x18.5) | B | From Leg | 3.00 | 0.0000 | 170.00 | | No Ice | 2.20 | 3.70 | 0.03 |
| | | | 0.00 | | | | 1/2" Ice | 2.40 | 3.94 | 0.06 |
| | | | 0.00 | | | | 1" Ice | 2.60 | 4.19 | 0.10 |
| DC9-48-60-24-8C-EV (18.3x10.2x31.4) | C | From Leg | 3.00 | 0.0000 | 170.00 | | No Ice | 1.56 | 4.79 | 0.03 |
| | | | 0.00 | | | | 1/2" Ice | 1.72 | 5.07 | 0.06 |
| | | | 0.00 | | | | 1" Ice | 1.89 | 5.36 | 0.10 |
| T-Frame | A | From Leg | 1.50 | 0.0000 | 170.00 | | No Ice | 9.72 | 7.05 | 0.28 |
| | | | 0.00 | | | | 1/2" Ice | 13.66 | 9.87 | 0.40 |
| | | | 0.00 | | | | 1" Ice | 17.60 | 12.69 | 0.52 |
| T-Frame | B | From Leg | 1.50 | 0.0000 | 170.00 | | No Ice | 9.72 | 7.05 | 0.28 |
| | | | 0.00 | | | | 1/2" Ice | 13.66 | 9.87 | 0.40 |
| | | | 0.00 | | | | 1" Ice | 17.60 | 12.69 | 0.52 |
| T-Frame | C | From Leg | 1.50 | 0.0000 | 170.00 | | No Ice | 9.72 | 7.05 | 0.28 |
| | | | 0.00 | | | | 1/2" Ice | 13.66 | 9.87 | 0.40 |
| | | | 0.00 | | | | 1" Ice | 17.60 | 12.69 | 0.52 |
| (2) Mod (Diagonal Pipe Braces) | A | From Leg | 3.00 | 0.0000 | 170.00 | | No Ice | 1.17 | 1.17 | 0.04 |
| | | | 0.00 | | | | 1/2" Ice | 1.58 | 1.58 | 0.05 |
| | | | 0.00 | | | | 1" Ice | 1.99 | 1.99 | 0.06 |
| (2) Mod (Diagonal Pipe Braces) | B | From Leg | 3.00 | 0.0000 | 170.00 | | No Ice | 1.17 | 1.17 | 0.04 |
| | | | 0.00 | | | | 1/2" Ice | 1.58 | 1.58 | 0.05 |
| | | | 0.00 | | | | 1" Ice | 1.99 | 1.99 | 0.06 |
| (2) Mod (Diagonal Pipe Braces) | C | From Leg | 3.00 | 0.0000 | 170.00 | | No Ice | 1.17 | 1.17 | 0.04 |
| | | | 0.00 | | | | 1/2" Ice | 1.58 | 1.58 | 0.05 |
| | | | 0.00 | | | | 1" Ice | 1.99 | 1.99 | 0.06 |
| *** | | | | | | | | | | |
| AIR6419 B41 w/mount pipe (36.3x20.9x9) | A | From Leg | 3.00 | 0.0000 | 160.00 | | No Ice | 7.50 | 4.78 | 0.11 |
| | | | 0.00 | | | | 1/2" Ice | 8.34 | 5.85 | 0.18 |
| | | | 0.00 | | | | 1" Ice | 9.09 | 6.78 | 0.25 |
| AIR6419 B41 w/mount pipe (36.3x20.9x9) | B | From Leg | 3.00 | 0.0000 | 160.00 | | No Ice | 7.50 | 4.78 | 0.11 |
| | | | 0.00 | | | | 1/2" Ice | 8.34 | 5.85 | 0.18 |
| | | | 0.00 | | | | 1" Ice | 9.09 | 6.78 | 0.25 |
| AIR6419 B41 w/mount pipe (36.3x20.9x9) | C | From Leg | 3.00 | 0.0000 | 160.00 | | No Ice | 7.50 | 4.78 | 0.11 |
| | | | 0.00 | | | | 1/2" Ice | 8.34 | 5.85 | 0.18 |
| | | | 0.00 | | | | 1" Ice | 9.09 | 6.78 | 0.25 |
| APXVAARR24_43-U-NA20 w/mount pipe (95.9x24x8.7) | A | From Leg | 3.00 | 0.0000 | 160.00 | | No Ice | 20.24 | 10.79 | 0.16 |
| | | | 0.00 | | | | 1/2" Ice | 20.89 | 12.21 | 0.29 |
| | | | 0.00 | | | | 1" Ice | 21.55 | 13.49 | 0.44 |
| APXVAARR24_43-U-NA20 w/mount pipe (95.9x24x8.7) | B | From Leg | 3.00 | 0.0000 | 160.00 | | No Ice | 20.24 | 10.79 | 0.16 |
| | | | 0.00 | | | | 1/2" Ice | 20.89 | 12.21 | 0.29 |

| | | |
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| | Project CT09865-VZW-111323 | Date 08:13:57 11/16/23 |
| | Client | Designed by Asmerom |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _A A ₁ Front | C _A A ₂ Side | Weight | |
|--|-------------|-------------|--------------|--------|--------------------|-----------|-------------------------------------|------------------------------------|--------|------|
| | | | Horz Lateral | Vert | | | | | | ° |
| APXVAARR24_43-U-NA20 w/mount pipe (95.9x24x8.7) | C | From Leg | 0.00 | 3.00 | 0.0000 | 160.00 | 1" Ice | 21.55 | 13.49 | 0.44 |
| | | | 0.00 | 0.00 | | | No Ice | 20.24 | 10.79 | 0.16 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 20.89 | 12.21 | 0.29 |
| | | | 0.00 | 0.00 | | | 1" Ice | 21.55 | 13.49 | 0.44 |
| KRY 112 144/1 (6.9x6.1x2.7) | A | From Leg | 3.00 | 0.00 | 0.0000 | 160.00 | No Ice | 0.35 | 0.16 | 0.01 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 0.43 | 0.21 | 0.01 |
| | | | 0.00 | 0.00 | | | 1" Ice | 0.51 | 0.28 | 0.02 |
| | | | 0.00 | 0.00 | | | No Ice | 0.35 | 0.16 | 0.01 |
| KRY 112 144/1 (6.9x6.1x2.7) | B | From Leg | 3.00 | 0.00 | 0.0000 | 160.00 | 1/2" Ice | 0.43 | 0.21 | 0.01 |
| | | | 0.00 | 0.00 | | | 1" Ice | 0.51 | 0.28 | 0.02 |
| | | | 0.00 | 0.00 | | | No Ice | 0.35 | 0.16 | 0.01 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 0.43 | 0.21 | 0.01 |
| KRY 112 144/1 (6.9x6.1x2.7) | C | From Leg | 0.00 | 3.00 | 0.0000 | 160.00 | 1" Ice | 0.51 | 0.28 | 0.02 |
| | | | 0.00 | 0.00 | | | No Ice | 0.35 | 0.16 | 0.01 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 0.43 | 0.21 | 0.01 |
| | | | 0.00 | 0.00 | | | 1" Ice | 0.51 | 0.28 | 0.02 |
| KRY 112 489/2 (11x6.1x3.94) | A | From Leg | 3.00 | 0.00 | 0.0000 | 160.00 | No Ice | 0.56 | 0.37 | 0.02 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 0.66 | 0.45 | 0.02 |
| | | | 0.00 | 0.00 | | | 1" Ice | 0.76 | 0.54 | 0.03 |
| | | | 0.00 | 0.00 | | | No Ice | 0.56 | 0.37 | 0.02 |
| KRY 112 489/2 (11x6.1x3.94) | B | From Leg | 3.00 | 0.00 | 0.0000 | 160.00 | 1/2" Ice | 0.66 | 0.45 | 0.02 |
| | | | 0.00 | 0.00 | | | 1" Ice | 0.76 | 0.54 | 0.03 |
| | | | 0.00 | 0.00 | | | No Ice | 0.56 | 0.37 | 0.02 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 0.66 | 0.45 | 0.02 |
| KRY 112 489/2 (11x6.1x3.94) | C | From Leg | 0.00 | 3.00 | 0.0000 | 160.00 | 1" Ice | 0.76 | 0.54 | 0.03 |
| | | | 0.00 | 0.00 | | | No Ice | 0.56 | 0.37 | 0.02 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 0.66 | 0.45 | 0.02 |
| | | | 0.00 | 0.00 | | | 1" Ice | 0.76 | 0.54 | 0.03 |
| 4449 B71 + B85 (17.9x13.1x10.6) | A | From Leg | 3.00 | 0.00 | 0.0000 | 160.00 | No Ice | 1.95 | 1.58 | 0.08 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 2.13 | 1.74 | 0.09 |
| | | | 0.00 | 0.00 | | | 1" Ice | 2.31 | 1.91 | 0.12 |
| | | | 0.00 | 0.00 | | | No Ice | 1.95 | 1.58 | 0.08 |
| 4449 B71 + B85 (17.9x13.1x10.6) | B | From Leg | 3.00 | 0.00 | 0.0000 | 160.00 | 1/2" Ice | 2.13 | 1.74 | 0.09 |
| | | | 0.00 | 0.00 | | | 1" Ice | 2.31 | 1.91 | 0.12 |
| | | | 0.00 | 0.00 | | | No Ice | 1.95 | 1.58 | 0.08 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 2.13 | 1.74 | 0.09 |
| 4449 B71 + B85 (17.9x13.1x10.6) | C | From Leg | 0.00 | 3.00 | 0.0000 | 160.00 | 1" Ice | 2.31 | 1.91 | 0.12 |
| | | | 0.00 | 0.00 | | | No Ice | 1.95 | 1.58 | 0.08 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 2.13 | 1.74 | 0.09 |
| | | | 0.00 | 0.00 | | | 1" Ice | 2.31 | 1.91 | 0.12 |
| 4460 B25 + B66 (15.1x17x11.9) | A | From Leg | 3.00 | 0.00 | 0.0000 | 160.00 | No Ice | 2.14 | 1.50 | 0.10 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 2.32 | 1.65 | 0.13 |
| | | | 0.00 | 0.00 | | | 1" Ice | 2.51 | 1.81 | 0.15 |
| | | | 0.00 | 0.00 | | | No Ice | 2.14 | 1.50 | 0.10 |
| 4460 B25 + B66 (15.1x17x11.9) | B | From Leg | 3.00 | 0.00 | 0.0000 | 160.00 | 1/2" Ice | 2.32 | 1.65 | 0.13 |
| | | | 0.00 | 0.00 | | | 1" Ice | 2.51 | 1.81 | 0.15 |
| | | | 0.00 | 0.00 | | | No Ice | 2.14 | 1.50 | 0.10 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 2.32 | 1.65 | 0.13 |
| 4460 B25 + B66 (15.1x17x11.9) | C | From Leg | 0.00 | 3.00 | 0.0000 | 160.00 | 1" Ice | 2.51 | 1.81 | 0.15 |
| | | | 0.00 | 0.00 | | | No Ice | 2.14 | 1.50 | 0.10 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 2.32 | 1.65 | 0.13 |
| | | | 0.00 | 0.00 | | | 1" Ice | 2.51 | 1.81 | 0.15 |
| 782 11056 (5.5x3.2x1.8) | A | From Leg | 3.00 | 0.00 | 0.0000 | 160.00 | No Ice | 0.15 | 0.08 | 0.00 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 0.20 | 0.13 | 0.00 |
| | | | 0.00 | 0.00 | | | 1" Ice | 0.26 | 0.18 | 0.01 |
| | | | 0.00 | 0.00 | | | No Ice | 0.15 | 0.08 | 0.00 |
| 782 11056 (5.5x3.2x1.8) | B | From Leg | 3.00 | 0.00 | 0.0000 | 160.00 | 1/2" Ice | 0.20 | 0.13 | 0.00 |
| | | | 0.00 | 0.00 | | | 1" Ice | 0.26 | 0.18 | 0.01 |
| | | | 0.00 | 0.00 | | | No Ice | 0.15 | 0.08 | 0.00 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 0.20 | 0.13 | 0.00 |
| 782 11056 (5.5x3.2x1.8) | C | From Leg | 0.00 | 3.00 | 0.0000 | 160.00 | 1" Ice | 0.26 | 0.18 | 0.01 |
| | | | 0.00 | 0.00 | | | No Ice | 0.15 | 0.08 | 0.00 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 0.20 | 0.13 | 0.00 |
| | | | 0.00 | 0.00 | | | 1" Ice | 0.26 | 0.18 | 0.01 |
| (3) Empty Mount Pipe | A | From Leg | 3.00 | 0.00 | 0.0000 | 160.00 | No Ice | 1.90 | 1.90 | 0.03 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 2.70 | 2.70 | 0.04 |
| | | | 0.00 | 0.00 | | | 1" Ice | 3.30 | 3.30 | 0.06 |
| (3) Empty Mount Pipe | B | From Leg | 3.00 | 0.0000 | 160.00 | No Ice | 1.90 | 1.90 | 0.03 | |

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| tnxTower SBA Communications Corporation 8051 Congress Avenue Boca Raton, FL 33487 Phone: 214.570.8110 ext 2612 FAX: | Job | Page 17 of 27 |
| | Project | Date 08:13:57 11/16/23 |
| | Client | Designed by Asmerom |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _A A _A Front | C _A A _A Side | Weight | |
|-------------------------------------|-------------|-------------|----------|---------|--------------------|-----------|-------------------------------------|------------------------------------|--------|------|
| | | | Horz | Lateral | | | | | | Vert |
| | | | ft | ft | | | | | | |
| | | | 0.00 | | | | 1/2" Ice | 2.70 | 2.70 | 0.04 |
| | | | 0.00 | | | | 1" Ice | 3.30 | 3.30 | 0.06 |
| (3) Empty Mount Pipe | C | From Leg | 3.00 | | 0.0000 | 160.00 | No Ice | 1.90 | 1.90 | 0.03 |
| | | | 0.00 | | | | 1/2" Ice | 2.70 | 2.70 | 0.04 |
| | | | 0.00 | | | | 1" Ice | 3.30 | 3.30 | 0.06 |
| T-Frame | A | From Leg | 1.50 | | 0.0000 | 160.00 | No Ice | 16.58 | 10.27 | 0.32 |
| | | | 0.00 | | | | 1/2" Ice | 20.58 | 13.30 | 0.48 |
| | | | 0.00 | | | | 1" Ice | 24.58 | 16.33 | 0.64 |
| T-Frame | B | From Leg | 1.50 | | 0.0000 | 160.00 | No Ice | 16.58 | 10.27 | 0.32 |
| | | | 0.00 | | | | 1/2" Ice | 20.58 | 13.30 | 0.48 |
| | | | 0.00 | | | | 1" Ice | 24.58 | 16.33 | 0.64 |
| T-Frame | C | From Leg | 1.50 | | 0.0000 | 160.00 | No Ice | 16.58 | 10.27 | 0.32 |
| | | | 0.00 | | | | 1/2" Ice | 20.58 | 13.30 | 0.48 |
| | | | 0.00 | | | | 1" Ice | 24.58 | 16.33 | 0.64 |
| Mount Mod | A | From Leg | 1.50 | | 0.0000 | 160.00 | No Ice | 16.16 | 16.16 | 0.33 |
| | | | 0.00 | | | | 1/2" Ice | 20.12 | 20.12 | 0.45 |
| | | | 0.00 | | | | 1" Ice | 24.08 | 24.08 | 0.56 |
| Mount Mod | B | From Leg | 1.50 | | 0.0000 | 160.00 | No Ice | 16.16 | 16.16 | 0.33 |
| | | | 0.00 | | | | 1/2" Ice | 20.12 | 20.12 | 0.45 |
| | | | 0.00 | | | | 1" Ice | 24.08 | 24.08 | 0.56 |
| Mount Mod | C | From Leg | 1.50 | | 0.0000 | 160.00 | No Ice | 16.16 | 16.16 | 0.33 |
| | | | 0.00 | | | | 1/2" Ice | 20.12 | 20.12 | 0.45 |
| | | | 0.00 | | | | 1" Ice | 24.08 | 24.08 | 0.56 |
| *** | | | | | | | | | | |
| MX08FRO665-21 (72x20x8) | A | From Leg | 3.00 | | 0.0000 | 150.00 | No Ice | 12.49 | 5.87 | 0.06 |
| | | | 0.00 | | | | 1/2" Ice | 12.99 | 6.32 | 0.14 |
| | | | 0.00 | | | | 1" Ice | 13.49 | 6.79 | 0.22 |
| MX08FRO665-21 (72x20x8) | B | From Leg | 3.00 | | 0.0000 | 150.00 | No Ice | 12.49 | 5.87 | 0.06 |
| | | | 0.00 | | | | 1/2" Ice | 12.99 | 6.32 | 0.14 |
| | | | 0.00 | | | | 1" Ice | 13.49 | 6.79 | 0.22 |
| MX08FRO665-21 (72x20x8) | C | From Leg | 3.00 | | 0.0000 | 150.00 | No Ice | 12.49 | 5.87 | 0.06 |
| | | | 0.00 | | | | 1/2" Ice | 12.99 | 6.32 | 0.14 |
| | | | 0.00 | | | | 1" Ice | 13.49 | 6.79 | 0.22 |
| TA08025-B605 (15.75x14.96x9.05) | A | From Leg | 3.00 | | 0.0000 | 150.00 | No Ice | 1.96 | 1.19 | 0.07 |
| | | | 0.00 | | | | 1/2" Ice | 2.14 | 1.33 | 0.09 |
| | | | 0.00 | | | | 1" Ice | 2.32 | 1.48 | 0.11 |
| TA08025-B605 (15.75x14.96x9.05) | B | From Leg | 3.00 | | 0.0000 | 150.00 | No Ice | 1.96 | 1.19 | 0.07 |
| | | | 0.00 | | | | 1/2" Ice | 2.14 | 1.33 | 0.09 |
| | | | 0.00 | | | | 1" Ice | 2.32 | 1.48 | 0.11 |
| TA08025-B605 (15.75x14.96x9.05) | C | From Leg | 3.00 | | 0.0000 | 150.00 | No Ice | 1.96 | 1.19 | 0.07 |
| | | | 0.00 | | | | 1/2" Ice | 2.14 | 1.33 | 0.09 |
| | | | 0.00 | | | | 1" Ice | 2.32 | 1.48 | 0.11 |
| TA08025-B604 (15.75x14.96x7.87) | A | From Leg | 3.00 | | 0.0000 | 150.00 | No Ice | 1.96 | 1.03 | 0.06 |
| | | | 0.00 | | | | 1/2" Ice | 2.14 | 1.17 | 0.08 |
| | | | 0.00 | | | | 1" Ice | 2.32 | 1.31 | 0.10 |
| TA08025-B604 (15.75x14.96x7.87) | B | From Leg | 3.00 | | 0.0000 | 150.00 | No Ice | 1.96 | 1.03 | 0.06 |
| | | | 0.00 | | | | 1/2" Ice | 2.14 | 1.17 | 0.08 |
| | | | 0.00 | | | | 1" Ice | 2.32 | 1.31 | 0.10 |
| TA08025-B604 (15.75x14.96x7.87) | C | From Leg | 3.00 | | 0.0000 | 150.00 | No Ice | 1.96 | 1.03 | 0.06 |
| | | | 0.00 | | | | 1/2" Ice | 2.14 | 1.17 | 0.08 |
| | | | 0.00 | | | | 1" Ice | 2.32 | 1.31 | 0.10 |
| RDIDC-9181-PF-48 (16.57x14.57x8.46) | B | From Leg | 3.00 | | 0.0000 | 150.00 | No Ice | 2.01 | 1.17 | 0.02 |
| | | | 0.00 | | | | 1/2" Ice | 2.19 | 1.31 | 0.04 |

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| tnxTower SBA Communications Corporation 8051 Congress Avenue Boca Raton, FL 33487 Phone: 214.570.8110 ext 2612 FAX: | Job | Page 18 of 27 |
| | Project CT09865-VZW-111323 | Date 08:13:57 11/16/23 |
| | Client | Designed by Asmerom |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _A A _A | | Weight |
|--|-------------|-------------|--------------|------|--------------------|-----------|-------------------------------|-----------------|--------------|
| | | | Horz Lateral | Vert | | | Front | Side | |
| | | | ft | ft | ° | ft | ft ² | ft ² | K |
| | | | 0.00 | | | | | | |
| Sector Frame (Commscope MTC3975083) w/mount Pipe | A | From Leg | 1.50 | | 0.0000 | 150.00 | 1" Ice 2.37 No Ice 10.60 | 1.46 8.10 | 0.06 0.43 |
| | | | 0.00 | | | | 1/2" Ice 16.40 | 12.60 | 0.59 |
| | | | 0.00 | | | | 1" Ice 22.20 | 17.10 | 0.74 |
| Sector Frame (Commscope MTC3975083) w/mount Pipe | B | From Leg | 1.50 | | 0.0000 | 150.00 | No Ice 10.60 | 8.10 | 0.43 |
| | | | 0.00 | | | | 1/2" Ice 16.40 | 12.60 | 0.59 |
| | | | 0.00 | | | | 1" Ice 22.20 | 17.10 | 0.74 |
| Sector Frame (Commscope MTC3975083) w/mount Pipe | C | From Leg | 1.50 | | 0.0000 | 150.00 | No Ice 10.60 | 8.10 | 0.43 |
| | | | 0.00 | | | | 1/2" Ice 16.40 | 12.60 | 0.59 |
| | | | 0.00 | | | | 1" Ice 22.20 | 17.10 | 0.74 |
| *** | | | | | | | | | |
| (2) JAHH-65B-R3B w/mount pipe (72x13.8x8.2) | A | From Leg | 3.00 | | 0.0000 | 140.00 | No Ice 9.59 | 7.88 | 0.09 |
| | | | 0.00 | | | | 1/2" Ice 10.26 | 9.17 | 0.17 |
| | | | 0.00 | | | | 1" Ice 10.90 | 10.31 | 0.26 |
| (2) JAHH-65B-R3B w/mount pipe (72x13.8x8.2) | B | From Leg | 3.00 | | 0.0000 | 140.00 | No Ice 9.59 | 7.88 | 0.09 |
| | | | 0.00 | | | | 1/2" Ice 10.26 | 9.17 | 0.17 |
| | | | 0.00 | | | | 1" Ice 10.90 | 10.31 | 0.26 |
| (2) JAHH-65B-R3B w/mount pipe (72x13.8x8.2) | C | From Leg | 3.00 | | 0.0000 | 140.00 | No Ice 9.59 | 7.88 | 0.09 |
| | | | 0.00 | | | | 1/2" Ice 10.26 | 9.17 | 0.17 |
| | | | 0.00 | | | | 1" Ice 10.90 | 10.31 | 0.26 |
| BXA-80063/6CF w/mount pipe (71.1x11.2x5.2) | A | From Leg | 3.00 | | 0.0000 | 140.00 | No Ice 8.07 | 6.07 | 0.05 |
| | | | 0.00 | | | | 1/2" Ice 8.74 | 7.33 | 0.11 |
| | | | 0.00 | | | | 1" Ice 9.37 | 8.45 | 0.18 |
| BXA-80063/6CF w/mount pipe (71.1x11.2x5.2) | B | From Leg | 3.00 | | 0.0000 | 140.00 | No Ice 8.07 | 6.07 | 0.05 |
| | | | 0.00 | | | | 1/2" Ice 8.74 | 7.33 | 0.11 |
| | | | 0.00 | | | | 1" Ice 9.37 | 8.45 | 0.18 |
| BXA-80063/6CF w/mount pipe (71.1x11.2x5.2) | C | From Leg | 3.00 | | 0.0000 | 140.00 | No Ice 8.07 | 6.07 | 0.05 |
| | | | 0.00 | | | | 1/2" Ice 8.74 | 7.33 | 0.11 |
| | | | 0.00 | | | | 1" Ice 9.37 | 8.45 | 0.18 |
| MT6413 77A w/mount pipe (15.75x28.9x5.51) | A | From Leg | 3.00 | | 0.0000 | 140.00 | No Ice 5.38 | 2.63 | 0.09 |
| | | | 0.00 | | | | 1/2" Ice 6.33 | 3.58 | 0.13 |
| | | | 0.00 | | | | 1" Ice 7.15 | 4.38 | 0.18 |
| MT6413 77A w/mount pipe (15.75x28.9x5.51) | B | From Leg | 3.00 | | 0.0000 | 140.00 | No Ice 5.38 | 2.63 | 0.09 |
| | | | 0.00 | | | | 1/2" Ice 6.33 | 3.58 | 0.13 |
| | | | 0.00 | | | | 1" Ice 7.15 | 4.38 | 0.18 |
| MT6413 77A w/mount pipe (15.75x28.9x5.51) | C | From Leg | 3.00 | | 0.0000 | 140.00 | No Ice 5.38 | 2.63 | 0.09 |
| | | | 0.00 | | | | 1/2" Ice 6.33 | 3.58 | 0.13 |
| | | | 0.00 | | | | 1" Ice 7.15 | 4.38 | 0.18 |
| CBC78T-DS-2X/W14F05P50 (6.4x6.9x9.6) | A | From Leg | 3.00 | | 0.0000 | 140.00 | No Ice 0.37 | 0.51 | 0.02 |
| | | | 0.00 | | | | 1/2" Ice 0.45 | 0.60 | 0.03 |
| | | | 0.00 | | | | 1" Ice 0.53 | 0.70 | 0.04 |
| CBC78T-DS-2X/W14F05P50 (6.4x6.9x9.6) | B | From Leg | 3.00 | | 0.0000 | 140.00 | No Ice 0.37 | 0.51 | 0.02 |
| | | | 0.00 | | | | 1/2" Ice 0.45 | 0.60 | 0.03 |
| | | | 0.00 | | | | 1" Ice 0.53 | 0.70 | 0.04 |
| CBC78T-DS-2X/W14F05P50 (6.4x6.9x9.6) | C | From Leg | 3.00 | | 0.0000 | 140.00 | No Ice 0.37 | 0.51 | 0.02 |
| | | | 0.00 | | | | 1/2" Ice 0.45 | 0.60 | 0.03 |
| | | | 0.00 | | | | 1" Ice 0.53 | 0.70 | 0.04 |
| B2/B66A RRH ORAN (RF4439d-25A) (14.96x14.96x10.04) | A | From Leg | 3.00 | | 0.0000 | 140.00 | No Ice 1.87 | 1.25 | 0.07 |
| | | | 0.00 | | | | 1/2" Ice 2.03 | 1.39 | 0.09 |
| | | | 0.00 | | | | 1" Ice 2.21 | 1.54 | 0.11 |
| B2/B66A RRH ORAN (RF4439d-25A) (14.96x14.96x10.04) | B | From Leg | 3.00 | | 0.0000 | 140.00 | No Ice 1.87 | 1.25 | 0.07 |
| | | | 0.00 | | | | 1/2" Ice 2.03 | 1.39 | 0.09 |
| | | | 0.00 | | | | 1" Ice 2.21 | 1.54 | 0.11 |

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| tnxTower SBA Communications Corporation 8051 Congress Avenue Boca Raton, FL 33487 Phone: 214.570.8110 ext 2612 FAX: | Job | Page 19 of 27 |
| | Project | Date 08:13:57 11/16/23 |
| | Client | Designed by Asmerom |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _{AA} | | Weight |
|--|-------------|-------------|----------|---------|--------------------|-----------|-----------------|-----------------|--------|
| | | | Horz | Lateral | | | Front | Side | |
| | | | ft | ft | ° | ft | ft ² | ft ² | K |
| B2/B66A RRH ORAN (RF4439d-25A) (14.96x14.96x10.04) | C | From Leg | 3.00 | 0.00 | 0.0000 | 140.00 | No Ice 1.87 | 1.25 | 0.07 |
| | | | 0.00 | | | | 1/2" Ice 2.03 | 1.39 | 0.09 |
| | | | 0.00 | | | | 1" Ice 2.21 | 1.54 | 0.11 |
| B5/B13 RRH ORAN (RF4461d-13A) (14.96x14.96x10.23) | A | From Leg | 3.00 | 0.00 | 0.0000 | 140.00 | No Ice 1.87 | 1.28 | 0.08 |
| | | | 0.00 | | | | 1/2" Ice 2.03 | 1.42 | 0.10 |
| | | | 0.00 | | | | 1" Ice 2.21 | 1.57 | 0.12 |
| B5/B13 RRH ORAN (RF4461d-13A) (14.96x14.96x10.23) | B | From Leg | 3.00 | 0.00 | 0.0000 | 140.00 | No Ice 1.87 | 1.28 | 0.08 |
| | | | 0.00 | | | | 1/2" Ice 2.03 | 1.42 | 0.10 |
| | | | 0.00 | | | | 1" Ice 2.21 | 1.57 | 0.12 |
| B5/B13 RRH ORAN (RF4461d-13A) (14.96x14.96x10.23) | C | From Leg | 3.00 | 0.00 | 0.0000 | 140.00 | No Ice 1.87 | 1.28 | 0.08 |
| | | | 0.00 | | | | 1/2" Ice 2.03 | 1.42 | 0.10 |
| | | | 0.00 | | | | 1" Ice 2.21 | 1.57 | 0.12 |
| RVZDC-6627-PF-48 (12.6x16.5x29.5) | B | From Leg | 3.00 | 0.00 | 0.0000 | 140.00 | No Ice 1.73 | 3.10 | 0.03 |
| | | | 0.00 | | | | 1/2" Ice 1.90 | 3.34 | 0.07 |
| | | | 0.00 | | | | 1" Ice 2.07 | 3.58 | 0.11 |
| Empty Mount Pipe | A | From Leg | 3.00 | 0.00 | 0.0000 | 140.00 | No Ice 1.90 | 1.90 | 0.03 |
| | | | 0.00 | | | | 1/2" Ice 2.70 | 2.70 | 0.04 |
| | | | 0.00 | | | | 1" Ice 3.30 | 3.30 | 0.06 |
| Empty Mount Pipe | B | From Leg | 3.00 | 0.00 | 0.0000 | 140.00 | No Ice 1.90 | 1.90 | 0.03 |
| | | | 0.00 | | | | 1/2" Ice 2.70 | 2.70 | 0.04 |
| | | | 0.00 | | | | 1" Ice 3.30 | 3.30 | 0.06 |
| Empty Mount Pipe | C | From Leg | 3.00 | 0.00 | 0.0000 | 140.00 | No Ice 1.90 | 1.90 | 0.03 |
| | | | 0.00 | | | | 1/2" Ice 2.70 | 2.70 | 0.04 |
| | | | 0.00 | | | | 1" Ice 3.30 | 3.30 | 0.06 |
| Side-By-Side Commscope Mounting Kit BSAMNT-SBS-2-2 | A | From Leg | 3.00 | 0.00 | 0.0000 | 140.00 | No Ice 0.22 | 0.30 | 0.07 |
| | | | 0.00 | | | | 1/2" Ice 0.26 | 0.35 | 0.09 |
| | | | 0.00 | | | | 1" Ice 0.30 | 0.40 | 0.10 |
| Side-By-Side Commscope Mounting Kit BSAMNT-SBS-2-2 | B | From Leg | 3.00 | 0.00 | 0.0000 | 140.00 | No Ice 0.22 | 0.30 | 0.07 |
| | | | 0.00 | | | | 1/2" Ice 0.26 | 0.35 | 0.09 |
| | | | 0.00 | | | | 1" Ice 0.30 | 0.40 | 0.10 |
| Side-By-Side Commscope Mounting Kit BSAMNT-SBS-2-2 | C | From Leg | 3.00 | 0.00 | 0.0000 | 140.00 | No Ice 0.22 | 0.30 | 0.07 |
| | | | 0.00 | | | | 1/2" Ice 0.26 | 0.35 | 0.09 |
| | | | 0.00 | | | | 1" Ice 0.30 | 0.40 | 0.10 |
| Sector Mount (Site Pro 1 VFA12-HD) | A | From Leg | 1.50 | 0.00 | 0.0000 | 140.00 | No Ice 13.20 | 9.20 | 0.74 |
| | | | 0.00 | | | | 1/2" Ice 17.82 | 12.42 | 1.00 |
| | | | 0.00 | | | | 1" Ice 22.44 | 15.64 | 1.25 |
| Sector Mount (Site Pro 1 VFA12-HD) | B | From Leg | 1.50 | 0.00 | 0.0000 | 140.00 | No Ice 13.20 | 9.20 | 0.74 |
| | | | 0.00 | | | | 1/2" Ice 17.82 | 12.42 | 1.00 |
| | | | 0.00 | | | | 1" Ice 22.44 | 15.64 | 1.25 |
| Sector Mount (Site Pro 1 VFA12-HD) | C | From Leg | 1.50 | 0.00 | 0.0000 | 140.00 | No Ice 13.20 | 9.20 | 0.74 |
| | | | 0.00 | | | | 1/2" Ice 17.82 | 12.42 | 1.00 |
| | | | 0.00 | | | | 1" Ice 22.44 | 15.64 | 1.25 |

Load Combinations

| | | |
|--|----------------|----------------------------------|
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| <i>Comb. No.</i> | <i>Description</i> |
|------------------|--|
| 1 | Dead Only |
| 2 | 1.2 Dead+1.0 Wind 0 deg - No Ice |
| 3 | 1.2D+1.0W (pattern 1) 0 deg - No Ice |
| 4 | 1.2D+1.0W (pattern 2) 0 deg - No Ice |
| 5 | 0.9 Dead+1.0 Wind 0 deg - No Ice |
| 6 | 1.2 Dead+1.0 Wind 30 deg - No Ice |
| 7 | 1.2D+1.0W (pattern 1) 30 deg - No Ice |
| 8 | 1.2D+1.0W (pattern 2) 30 deg - No Ice |
| 9 | 0.9 Dead+1.0 Wind 30 deg - No Ice |
| 10 | 1.2 Dead+1.0 Wind 60 deg - No Ice |
| 11 | 1.2D+1.0W (pattern 1) 60 deg - No Ice |
| 12 | 1.2D+1.0W (pattern 2) 60 deg - No Ice |
| 13 | 0.9 Dead+1.0 Wind 60 deg - No Ice |
| 14 | 1.2 Dead+1.0 Wind 90 deg - No Ice |
| 15 | 1.2D+1.0W (pattern 1) 90 deg - No Ice |
| 16 | 1.2D+1.0W (pattern 2) 90 deg - No Ice |
| 17 | 0.9 Dead+1.0 Wind 90 deg - No Ice |
| 18 | 1.2 Dead+1.0 Wind 120 deg - No Ice |
| 19 | 1.2D+1.0W (pattern 1) 120 deg - No Ice |
| 20 | 1.2D+1.0W (pattern 2) 120 deg - No Ice |
| 21 | 0.9 Dead+1.0 Wind 120 deg - No Ice |
| 22 | 1.2 Dead+1.0 Wind 150 deg - No Ice |
| 23 | 1.2D+1.0W (pattern 1) 150 deg - No Ice |
| 24 | 1.2D+1.0W (pattern 2) 150 deg - No Ice |
| 25 | 0.9 Dead+1.0 Wind 150 deg - No Ice |
| 26 | 1.2 Dead+1.0 Wind 180 deg - No Ice |
| 27 | 1.2D+1.0W (pattern 1) 180 deg - No Ice |
| 28 | 1.2D+1.0W (pattern 2) 180 deg - No Ice |
| 29 | 0.9 Dead+1.0 Wind 180 deg - No Ice |
| 30 | 1.2 Dead+1.0 Wind 210 deg - No Ice |
| 31 | 1.2D+1.0W (pattern 1) 210 deg - No Ice |
| 32 | 1.2D+1.0W (pattern 2) 210 deg - No Ice |
| 33 | 0.9 Dead+1.0 Wind 210 deg - No Ice |
| 34 | 1.2 Dead+1.0 Wind 240 deg - No Ice |
| 35 | 1.2D+1.0W (pattern 1) 240 deg - No Ice |
| 36 | 1.2D+1.0W (pattern 2) 240 deg - No Ice |
| 37 | 0.9 Dead+1.0 Wind 240 deg - No Ice |
| 38 | 1.2 Dead+1.0 Wind 270 deg - No Ice |
| 39 | 1.2D+1.0W (pattern 1) 270 deg - No Ice |
| 40 | 1.2D+1.0W (pattern 2) 270 deg - No Ice |
| 41 | 0.9 Dead+1.0 Wind 270 deg - No Ice |
| 42 | 1.2 Dead+1.0 Wind 300 deg - No Ice |
| 43 | 1.2D+1.0W (pattern 1) 300 deg - No Ice |
| 44 | 1.2D+1.0W (pattern 2) 300 deg - No Ice |
| 45 | 0.9 Dead+1.0 Wind 300 deg - No Ice |
| 46 | 1.2 Dead+1.0 Wind 330 deg - No Ice |
| 47 | 1.2D+1.0W (pattern 1) 330 deg - No Ice |
| 48 | 1.2D+1.0W (pattern 2) 330 deg - No Ice |
| 49 | 0.9 Dead+1.0 Wind 330 deg - No Ice |
| 50 | 1.2 Dead+1.0 Ice+1.0 Temp |
| 51 | 1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp |
| 52 | 1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp |
| 53 | 1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp |
| 54 | 1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp |
| 55 | 1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp |
| 56 | 1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp |
| 57 | 1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp |
| 58 | 1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp |

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| <i>Comb. No.</i> | <i>Description</i> |
|------------------|--|
| 59 | 1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp |
| 60 | 1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp |
| 61 | 1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp |
| 62 | 1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp |
| 63 | Dead+Wind 0 deg - Service |
| 64 | Dead+Wind 30 deg - Service |
| 65 | Dead+Wind 60 deg - Service |
| 66 | Dead+Wind 90 deg - Service |
| 67 | Dead+Wind 120 deg - Service |
| 68 | Dead+Wind 150 deg - Service |
| 69 | Dead+Wind 180 deg - Service |
| 70 | Dead+Wind 210 deg - Service |
| 71 | Dead+Wind 240 deg - Service |
| 72 | Dead+Wind 270 deg - Service |
| 73 | Dead+Wind 300 deg - Service |
| 74 | Dead+Wind 330 deg - Service |
| 75 | 1.2 Dead+1.0 Ev+1.0 Eh 0 deg |
| 76 | 0.9 Dead-1.0 Ev+1.0 Eh 0 deg |
| 77 | 1.2 Dead+1.0 Ev+1.0 Eh 30 deg |
| 78 | 0.9 Dead-1.0 Ev+1.0 Eh 30 deg |
| 79 | 1.2 Dead+1.0 Ev+1.0 Eh 60 deg |
| 80 | 0.9 Dead-1.0 Ev+1.0 Eh 60 deg |
| 81 | 1.2 Dead+1.0 Ev+1.0 Eh 90 deg |
| 82 | 0.9 Dead-1.0 Ev+1.0 Eh 90 deg |
| 83 | 1.2 Dead+1.0 Ev+1.0 Eh 120 deg |
| 84 | 0.9 Dead-1.0 Ev+1.0 Eh 120 deg |
| 85 | 1.2 Dead+1.0 Ev+1.0 Eh 150 deg |
| 86 | 0.9 Dead-1.0 Ev+1.0 Eh 150 deg |
| 87 | 1.2 Dead+1.0 Ev+1.0 Eh 180 deg |
| 88 | 0.9 Dead-1.0 Ev+1.0 Eh 180 deg |
| 89 | 1.2 Dead+1.0 Ev+1.0 Eh 210 deg |
| 90 | 0.9 Dead-1.0 Ev+1.0 Eh 210 deg |
| 91 | 1.2 Dead+1.0 Ev+1.0 Eh 240 deg |
| 92 | 0.9 Dead-1.0 Ev+1.0 Eh 240 deg |
| 93 | 1.2 Dead+1.0 Ev+1.0 Eh 270 deg |
| 94 | 0.9 Dead-1.0 Ev+1.0 Eh 270 deg |
| 95 | 1.2 Dead+1.0 Ev+1.0 Eh 300 deg |
| 96 | 0.9 Dead-1.0 Ev+1.0 Eh 300 deg |
| 97 | 1.2 Dead+1.0 Ev+1.0 Eh 330 deg |
| 98 | 0.9 Dead-1.0 Ev+1.0 Eh 330 deg |

Maximum Tower Deflections - Service Wind

| <i>Section No.</i> | <i>Elevation ft</i> | <i>Horz. Deflection in</i> | <i>Gov. Load Comb.</i> | <i>Tilt °</i> | <i>Twist °</i> |
|--------------------|-------------------------|--------------------------------|----------------------------|-------------------|--------------------|
| T1 | 180 - 160 | 3.787 | 65 | 0.2248 | 0.0759 |
| T2 | 160 - 140 | 2.846 | 65 | 0.2146 | 0.0750 |
| T3 | 140 - 120 | 1.973 | 65 | 0.1775 | 0.0612 |
| T4 | 120 - 90 | 1.281 | 65 | 0.1260 | 0.0426 |
| T5 | 90 - 60 | 0.665 | 65 | 0.0725 | 0.0211 |
| T6 | 60 - 30 | 0.293 | 71 | 0.0416 | 0.0107 |
| T7 | 30 - 0 | 0.084 | 71 | 0.0193 | 0.0044 |

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Critical Deflections and Radius of Curvature - Service Wind

| <i>Elevation</i> | <i>Appurtenance</i> | <i>Gov. Load Comb.</i> | <i>Deflection</i> | <i>Tilt</i> | <i>Twist</i> | <i>Radius of Curvature</i> |
|------------------|--|------------------------|-------------------|-------------|--------------|----------------------------|
| <i>ft</i> | | | <i>in</i> | <i>°</i> | <i>°</i> | <i>ft</i> |
| 180.00 | Lightning Rod | 65 | 3.787 | 0.2248 | 0.0759 | 315200 |
| 170.00 | AIR6419 B77G w/mount pipe (30.4x15.9x8.1) | 65 | 3.313 | 0.2219 | 0.0766 | 157600 |
| 160.00 | AIR6419 B41 w/mount pipe (36.3x20.9x9) | 65 | 2.846 | 0.2146 | 0.0750 | 75267 |
| 150.00 | MX08FRO665-21 (72x20x8) | 65 | 2.394 | 0.1994 | 0.0695 | 38192 |
| 140.00 | (2) JAHH-65B-R3B w/mount pipe (72x13.8x8.2) | 65 | 1.973 | 0.1775 | 0.0612 | 25463 |
| 120.00 | SL4 | 65 | 1.281 | 0.1260 | 0.0426 | 17815 |
| 90.00 | SL5 | 65 | 0.665 | 0.0725 | 0.0211 | 59545 |
| 60.00 | SL6 | 71 | 0.293 | 0.0416 | 0.0107 | 66608 |
| 30.00 | SL7 | 71 | 0.084 | 0.0193 | 0.0044 | 72787 |

Maximum Tower Deflections - Design Wind

| <i>Section No.</i> | <i>Elevation</i> | <i>Horz. Deflection</i> | <i>Gov. Load Comb.</i> | <i>Tilt</i> | <i>Twist</i> |
|--------------------|------------------|-------------------------|------------------------|-------------|--------------|
| | <i>ft</i> | <i>in</i> | | <i>°</i> | <i>°</i> |
| T1 | 180 - 160 | 16.821 | 14 | 1.0016 | 0.3402 |
| T2 | 160 - 140 | 12.622 | 14 | 0.9547 | 0.3360 |
| T3 | 140 - 120 | 8.743 | 37 | 0.7887 | 0.2740 |
| T4 | 120 - 90 | 5.689 | 37 | 0.5585 | 0.1914 |
| T5 | 90 - 60 | 2.967 | 37 | 0.3200 | 0.0947 |
| T6 | 60 - 30 | 1.316 | 37 | 0.1833 | 0.0478 |
| T7 | 30 - 0 | 0.375 | 37 | 0.0854 | 0.0198 |

Critical Deflections and Radius of Curvature - Design Wind

| <i>Elevation</i> | <i>Appurtenance</i> | <i>Gov. Load Comb.</i> | <i>Deflection</i> | <i>Tilt</i> | <i>Twist</i> | <i>Radius of Curvature</i> |
|------------------|--|------------------------|-------------------|-------------|--------------|----------------------------|
| <i>ft</i> | | | <i>in</i> | <i>°</i> | <i>°</i> | <i>ft</i> |
| 180.00 | Lightning Rod | 14 | 16.821 | 1.0016 | 0.3402 | 69185 |
| 170.00 | AIR6419 B77G w/mount pipe (30.4x15.9x8.1) | 14 | 14.706 | 0.9881 | 0.3433 | 34592 |
| 160.00 | AIR6419 B41 w/mount pipe (36.3x20.9x9) | 14 | 12.622 | 0.9547 | 0.3360 | 16578 |
| 150.00 | MX08FRO665-21 (72x20x8) | 14 | 10.611 | 0.8866 | 0.3112 | 8548 |
| 140.00 | (2) JAHH-65B-R3B w/mount pipe (72x13.8x8.2) | 37 | 8.743 | 0.7887 | 0.2740 | 5706 |
| 120.00 | SL4 | 37 | 5.689 | 0.5585 | 0.1914 | 4001 |
| 90.00 | SL5 | 37 | 2.967 | 0.3200 | 0.0947 | 13446 |
| 60.00 | SL6 | 37 | 1.316 | 0.1833 | 0.0478 | 15068 |
| 30.00 | SL7 | 37 | 0.375 | 0.0854 | 0.0198 | 16538 |

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Bolt Design Data

| Section No. | Elevation ft | Component Type | Bolt Grade | Bolt Size in | Number Of Bolts | Maximum Load per Bolt K | Allowable Load per Bolt K | Ratio Load Allowable | Allowable Ratio | Criteria |
|-------------|-----------------|----------------|------------|-----------------|-----------------|----------------------------|------------------------------|----------------------|-----------------|--------------------|
| T1 | 180 | Leg | A325N | 0.8750 | 6 | 3.60 | 41.56 | 0.087 ✓ | 1 | Bolt Tension |
| T2 | 160 | Leg | A325N>1' | 1.1250 | 6 | 16.30 | 60.11 | 0.271 ✓ | 1 | Bolt Tension |
| T3 | 140 | Leg | A325N>1' | 1.1250 | 6 | 34.33 | 60.11 | 0.571 ✓ | 1 | Bolt Tension |
| T4 | 120 | Leg | A325N>1' | 1.2500 | 6 | 38.37 | 76.32 | 0.503 ✓ | 1 | Bolt Tension |
| | | Diagonal | A325N | 0.7500 | 1 | 3.84 | 8.97 | 0.428 ✓ | 1 | Member Block Shear |
| T5 | 90 | Leg | A325N>1' | 1.2500 | 6 | 42.31 | 76.32 | 0.554 ✓ | 1 | Bolt Tension |
| | | Diagonal | A325N | 0.7500 | 1 | 4.68 | 9.46 | 0.495 ✓ | 1 | Member Bearing |
| T6 | 60 | Leg | A325N>1' | 1.2500 | 6 | 46.83 | 76.32 | 0.614 ✓ | 1 | Bolt Tension |
| | | Diagonal | A325N | 0.8750 | 1 | 6.18 | 14.79 | 0.418 ✓ | 1 | Member Bearing |
| T7 | 30 | Diagonal | A325N | 0.8750 | 1 | 7.49 | 18.49 | 0.405 ✓ | 1 | Member Bearing |

Compression Checks

Leg Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio P _u / φP _n |
|-------------|-----------------|-------|---------|----------------------|----------------|----------------------|---------------------|----------------------|--|
| T1 | 180 - 160 | 1 3/4 | 20.00 | 3.32 | 91.0 K=1.00 | 2.4053 | -21.81 | 59.04 | 0.369 ¹ ✓ |
| T2 | 160 - 140 | 2 1/2 | 20.00 | 3.31 | 63.5 K=1.00 | 4.9087 | -99.14 | 164.54 | 0.603 ¹ ✓ |
| T3 | 140 - 120 | 3 1/2 | 20.00 | 3.32 | 45.5 K=1.00 | 9.6211 | -220.31 | 372.07 | 0.592 ¹ ✓ |
| T4 | 120 - 90 | 4 1/4 | 30.11 | 7.53 | 85.0 K=1.00 | 14.1863 | -249.44 | 401.11 | 0.622 ¹ ✓ |
| T5 | 90 - 60 | 4 1/2 | 30.11 | 7.53 | 80.3 K=1.00 | 15.9043 | -279.81 | 480.48 | 0.582 ¹ ✓ |
| T6 | 60 - 30 | 4 3/4 | 30.11 | 7.53 | 76.1 K=1.00 | 17.7205 | -315.39 | 566.21 | 0.557 ¹ ✓ |
| T7 | 30 - 0 | 4 3/4 | 30.11 | 7.53 | 76.1 K=1.00 | 17.7205 | -353.33 | 566.21 | 0.624 ¹ ✓ |

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| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|------|---------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
|-------------|-----------------|------|---------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|

¹ P_u / φP_n controls

Diagonal Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 180 - 160 | 7/8 | 6.00 | 2.91 | 143.8 K=0.90 | 0.6013 | -3.67 | 6.57 | 0.559 ¹ ✓ |
| T2 | 160 - 140 | 1 | 5.99 | 2.87 | 124.1 K=0.90 | 0.7854 | -9.02 | 11.53 | 0.783 ¹ ✓ |
| T3 | 140 - 120 | 1 1/8 | 6.00 | 2.83 | 108.5 K=0.90 | 0.9940 | -12.35 | 18.91 | 0.653 ¹ ✓ |
| T4 | 120 - 90 | L2 1/2x2 1/2x3/16 | 11.67 | 5.84 | 141.5 K=1.00 | 0.9020 | -3.61 | 12.89 | 0.280 ¹ ✓ |
| T5 | 90 - 60 | L3x3x3/16 | 15.39 | 7.67 | 154.4 K=1.00 | 1.0900 | -5.00 | 13.09 | 0.382 ¹ ✓ |
| T6 | 60 - 30 | L3 1/2x3 1/2x1/4 | 19.44 | 9.66 | 167.1 K=1.00 | 1.6900 | -6.54 | 17.33 | 0.377 ¹ ✓ |
| T7 | 30 - 0 | L4x4x5/16 | 23.66 | 11.77 | 178.5 K=1.00 | 2.4000 | -8.14 | 21.56 | 0.378 ¹ ✓ |

¹ P_u / φP_n controls

Top Girt Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 180 - 160 | 7/8 | 5.00 | 4.85 | 186.4 K=0.70 | 0.6013 | -0.12 | 3.91 | 0.032 ¹ ✓ |
| T2 | 160 - 140 | 1 | 5.00 | 4.79 | 161.0 K=0.70 | 0.7854 | -1.86 | 6.85 | 0.271 ¹ ✓ |
| T3 | 140 - 120 | 1 1/8 | 5.00 | 4.71 | 140.6 K=0.70 | 0.9940 | -3.82 | 11.36 | 0.336 ¹ ✓ |

¹ P_u / φP_n controls

Bottom Girt Design Data (Compression)

| | | |
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| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 180 - 160 | 7/8 | 5.00 | 4.85 | 186.4 K=0.70 | 0.6013 | -0.44 | 3.91 | 0.112 ¹ ✓ |
| T2 | 160 - 140 | 1 | 5.00 | 4.79 | 161.0 K=0.70 | 0.7854 | -1.86 | 6.85 | 0.271 ¹ ✓ |
| T3 | 140 - 120 | 1 1/8 | 5.00 | 4.71 | 140.6 K=0.70 | 0.9940 | -4.33 | 11.36 | 0.382 ¹ ✓ |

¹ P_u / φP_n controls

Tension Checks

Leg Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------|---------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 180 - 160 | 1 3/4 | 20.00 | 0.08 | 2.3 | 2.4053 | 21.58 | 108.24 | 0.199 ¹ ✓ |
| T2 | 160 - 140 | 2 1/2 | 20.00 | 0.08 | 1.6 | 4.9087 | 97.78 | 220.89 | 0.443 ¹ ✓ |
| T3 | 140 - 120 | 3 1/2 | 20.00 | 3.32 | 45.5 | 9.6211 | 206.00 | 432.95 | 0.476 ¹ ✓ |
| T4 | 120 - 90 | 4 1/4 | 30.11 | 7.53 | 85.0 | 14.1863 | 230.19 | 740.52 | 0.311 ¹ ✓ |
| T5 | 90 - 60 | 4 1/2 | 30.11 | 7.53 | 80.3 | 15.9043 | 253.89 | 830.21 | 0.306 ¹ ✓ |
| T6 | 60 - 30 | 4 3/4 | 30.11 | 7.53 | 76.1 | 17.7205 | 281.00 | 925.01 | 0.304 ¹ ✓ |
| T7 | 30 - 0 | 4 3/4 | 30.11 | 7.53 | 76.1 | 17.7205 | 308.67 | 925.01 | 0.334 ¹ ✓ |

¹ P_u / φP_n controls

Diagonal Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 180 - 160 | 7/8 | 6.00 | 2.91 | 159.8 | 0.6013 | 3.63 | 27.06 | 0.134 ¹ ✓ |

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| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T2 | 160 - 140 | 1 | 5.99 | 2.87 | 137.9 | 0.7854 | 8.95 | 35.34 | 0.253 ¹ |
| T3 | 140 - 120 | 1 1/8 | 6.00 | 2.83 | 120.6 | 0.9940 | 12.18 | 44.73 | 0.272 ¹ |
| T4 | 120 - 90 | L2 1/2x2 1/2x3/16 | 9.34 | 4.78 | 75.8 | 0.5535 | 3.84 | 24.08 | 0.160 ¹ |
| T5 | 90 - 60 | L3x3x3/16 | 15.39 | 7.67 | 99.7 | 0.6945 | 4.68 | 30.21 | 0.155 ¹ |
| T6 | 60 - 30 | L3 1/2x3 1/2x1/4 | 19.44 | 9.66 | 108.0 | 1.0800 | 6.18 | 46.98 | 0.132 ¹ |
| T7 | 30 - 0 | L4x4x5/16 | 23.66 | 11.77 | 115.3 | 1.5656 | 7.49 | 68.10 | 0.110 ¹ |

¹ P_u / φP_n controls

Top Girt Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 180 - 160 | 7/8 | 5.00 | 4.85 | 266.3 | 0.6013 | 0.09 | 27.06 | 0.003 ¹ |
| T2 | 160 - 140 | 1 | 5.00 | 4.79 | 230.0 | 0.7854 | 1.86 | 35.34 | 0.053 ¹ |
| T3 | 140 - 120 | 1 1/8 | 5.00 | 4.71 | 200.9 | 0.9940 | 3.82 | 44.73 | 0.085 ¹ |

¹ P_u / φP_n controls

Bottom Girt Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T1 | 180 - 160 | 7/8 | 5.00 | 4.85 | 266.3 | 0.6013 | 0.44 | 27.06 | 0.016 ¹ |
| T2 | 160 - 140 | 1 | 5.00 | 4.79 | 230.0 | 0.7854 | 1.86 | 35.34 | 0.053 ¹ |
| T3 | 140 - 120 | 1 1/8 | 5.00 | 4.71 | 200.9 | 0.9940 | 4.33 | 44.73 | 0.097 ¹ |

¹ P_u / φP_n controls

| | | |
|--|----------------|----------------------------------|
| tnxTower SBA Communications Corporation 8051 Congress Avenue Boca Raton, FL 33487 Phone: 214.570.8110 ext 2612 FAX: | Job | Page 27 of 27 |
| | Project | Date 08:13:57 11/16/23 |
| | Client | Designed by Asmerom |

Section Capacity Table

| Section No. | Elevation ft | Component Type | Size | Critical Element | P K | θP_{allow} K | % Capacity | Pass Fail | |
|-------------|--------------|----------------|-------------------|------------------|---------|----------------------|------------------|-------------|-------------|
| T1 | 180 - 160 | Leg | 1 3/4 | 2 | -21.81 | 59.04 | 36.9 | Pass | |
| T2 | 160 - 140 | Leg | 2 1/2 | 47 | -99.14 | 164.54 | 60.3 | Pass | |
| T3 | 140 - 120 | Leg | 3 1/2 | 92 | -220.31 | 372.07 | 59.2 | Pass | |
| T4 | 120 - 90 | Leg | 4 1/4 | 136 | -249.44 | 401.11 | 62.2 | Pass | |
| T5 | 90 - 60 | Leg | 4 1/2 | 163 | -279.81 | 480.48 | 58.2 | Pass | |
| T6 | 60 - 30 | Leg | 4 3/4 | 190 | -315.39 | 566.21 | 55.7 | Pass | |
| T7 | 30 - 0 | Leg | 4 3/4 | 217 | -353.33 | 566.21 | 61.4 (b) | Pass | |
| T1 | 180 - 160 | Diagonal | 7/8 | 14 | -3.67 | 6.57 | 62.4 | Pass | |
| T2 | 160 - 140 | Diagonal | 1 | 59 | -9.02 | 11.53 | 55.9 | Pass | |
| T3 | 140 - 120 | Diagonal | 1 1/8 | 105 | -12.35 | 18.91 | 78.3 | Pass | |
| T4 | 120 - 90 | Diagonal | L2 1/2x2 1/2x3/16 | 141 | -3.61 | 12.89 | 65.3 | Pass | |
| T5 | 90 - 60 | Diagonal | L3x3x3/16 | 168 | -5.00 | 13.09 | 28.0 | Pass | |
| T6 | 60 - 30 | Diagonal | L3 1/2x3 1/2x1/4 | 195 | -6.54 | 17.33 | 42.8 (b) | Pass | |
| T7 | 30 - 0 | Diagonal | L4x4x5/16 | 222 | -8.14 | 21.56 | 49.5 (b) | Pass | |
| T1 | 180 - 160 | Top Girt | 7/8 | 5 | -0.12 | 3.91 | 37.7 | Pass | |
| T2 | 160 - 140 | Top Girt | 1 | 49 | -1.86 | 6.85 | 41.8 (b) | Pass | |
| T3 | 140 - 120 | Top Girt | 1 1/8 | 95 | -3.82 | 11.36 | 37.8 | Pass | |
| T1 | 180 - 160 | Bottom Girt | 7/8 | 8 | -0.44 | 3.91 | 40.5 (b) | Pass | |
| T2 | 160 - 140 | Bottom Girt | 1 | 52 | -1.86 | 6.85 | 37.8 | Pass | |
| T3 | 140 - 120 | Bottom Girt | 1 1/8 | 97 | -4.33 | 11.36 | 38.2 | Pass | |
| | | | | | | | Summary | | |
| | | | | | | | Leg (T7) | 62.4 | Pass |
| | | | | | | | Diagonal (T2) | 78.3 | Pass |
| | | | | | | | Top Girt (T3) | 33.6 | Pass |
| | | | | | | | Bottom Girt (T3) | 38.2 | Pass |
| | | | | | | | Bolt Checks | 61.4 | Pass |
| | | | | | | | RATING = | 78.3 | Pass |

Self Support Anchor Bolt Check

Project Information

SBA Project # : CT09865-VZW-111323

Code : H

Leg Reaction

Uplift(kips): 311 Shear (kips) : 37

Comp(kips): 357 Shear (kips) : 43

Grout

5,000 psi Grout Present

Strength Reduction Factors

Tension : 0.75

Compression : 0.90

Shear : 0.75

Flexure : 0.9

Bolt Capacity : 30.0%

Pass

Bolt Information

Quantity : 8

Diameter (in) : 1.5

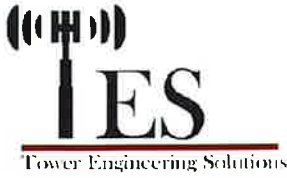
Assumed lar (in) : 1.5

Bolt Fy (ksi) : 105

Bolt Fu (AISC Table 2-6) (ksi): 125

Bolt Grade Info: Known

of threads (AISC Table 7-17) : 6



Mat Foundation Design for Self Supporting Tower

Date
11/16/2023

| | | | |
|-----------------------|-----------|--------------------------------|-----------|
| Customer Name: | Verizon | TIA Standard: | TIA-222-H |
| Site Name: | | Structure Height (Ft.): | 180 |
| Site Number: | CT09865-S | Engineer Name: | A. Hagos |
| Engr. Number: | | Engineer Login ID: | |

Foundation Info Obtained from:

Drawings/Calculations

Analysis or Design?

Analysis

Number of Tower Legs:

3 Legs

Base Reactions (Factored):

(1). Individual Leg:

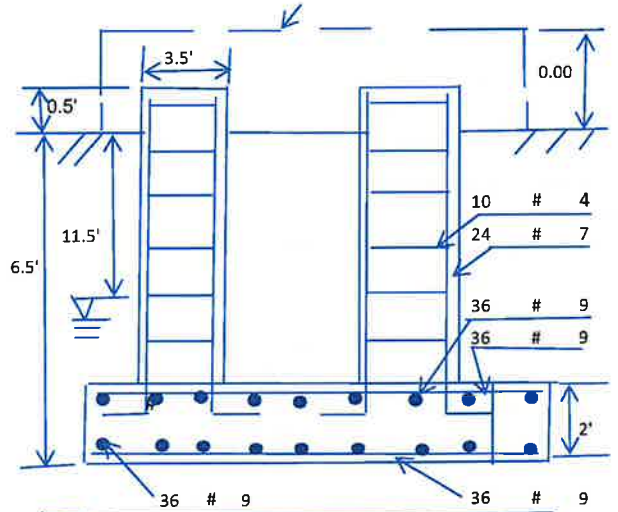
| | | | |
|---------------------|-------|----------------------|-------|
| Axial Load (Kips): | 357.0 | Uplift Force (Kips): | 311.0 |
| Shear Force (Kips): | 43.0 | | |

(2). Tower Base:

| | | | |
|-----------------------------|--------|---------------------------|------|
| Total Vertical Load (Kips): | 73.0 | Total Shear Force (Kips): | 66.0 |
| Moment (Kips-ft): | 6632.0 | | |

Foundation Geometries:

| | | | |
|--------------------------------------|-----------|--------------------------|------|
| Leg distance (Center-to-Center ft.): | 23.0 | Mods required -Yes/No ?: | No |
| Diameter of Pier (ft.): | Round 3.5 | Pier Height A. G. (ft.): | 0.50 |
| Tower center to mat center (ft.): | 0 | Depth of Base BG (ft.): | 6.5 |
| Length of Pad (ft.): | 36 | Width of Pad (ft.): | 36 |
| Thickness of Pad (ft.): | 2.00 | | |



Material Properties and Rebar Info:

| | | | |
|---------------------------|------|---------------------------|-----------|
| Concrete Strength (psi): | 4000 | Steel Elastic Modulus: | 29000 ksi |
| Vertical bar yield (ksi): | 60 | Tie steel yield (ksi): | 60 |
| Vertical Rebar Size #: | 7 | Tie / Stirrup Size #: | 4 |
| Qty. of Vertical Rebars: | 24 | Tie Spacing (in): | 9.0 |
| Pad Rebar Yield (Ksi): | 60 | Pad Steel Rebar Size (#): | 9 |
| Concrete Cover (in.): | 3 | Unit Weight of Concrete: | 150.0 pcf |

Rebar at the bottom of the concrete pad:

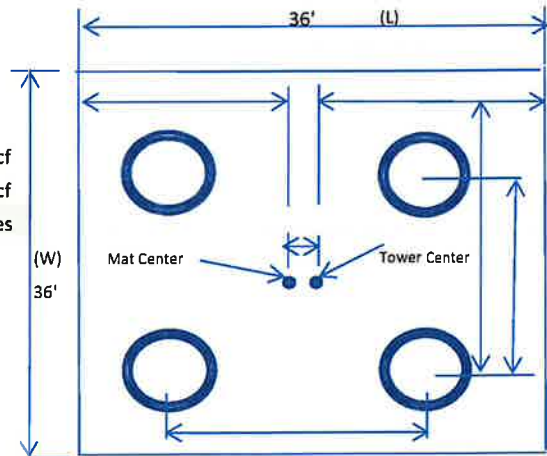
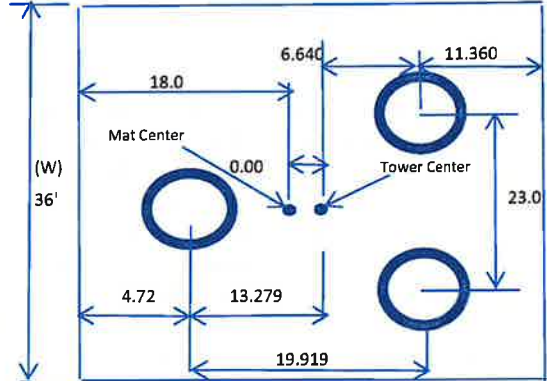
| | | | |
|---------------------------|----|---------------------------|----|
| Qty. of Rebar in Pad (L): | 36 | Qty. of Rebar in Pad (W): | 36 |
|---------------------------|----|---------------------------|----|

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): | 125.0 | Soil Buoyant Weight: | 62.6 Pcf |
| Water Table B.G.S. (ft): | 11.5 | Unit Weight of Water: | 62.4 pcf |
| Ultimate Bearing Pressure (psf): | 8000 | Consider ties in concrete shear strength: | Yes |
| Consider Soil Lateral Resistance ? | No | | |



| | | | | | |
|--|---------|--|--------|--|---------|
| Foundation Analysis and Design: | | Uplift Strength Reduction Factor: | 0.75 | Compression Strength Reduction Factor: | 0.75 |
| Total Dry Soil Volume (cu. Ft.): | 5702.11 | Total Dry Soil Weight (Kips): | 712.76 | Total Buoyant Soil Weight (Kips): | 0.00 |
| Total Buoyant Soil Volume (cu. Ft.): | 0.00 | Weight from the Concrete Block at Top (K): | 0.00 | Total Dry Concrete Weight (Kips): | 410.45 |
| Total Effective Soil Weight (Kips): | 712.76 | Total Buoyant Concrete Weight (Kips): | 0.00 | Total Vertical Load on Base (Kips): | 1196.21 |
| Total Dry Concrete Volume (cu. Ft.): | 2736.32 | | | | |
| Total Buoyant Concrete Volume (cu. Ft.): | 0.00 | | | | |
| Total Effective Concrete Weight (Kips): | 410.45 | | | | |

Check Soil Capacities:

| | | | | | | |
|--|---------|-----|--|------|------|-----|
| Calculated Maxium Net Soil Pressure under the base (psf): | 1710.39 | < | Allowable Factored Soil Bearing (psf): | 6000 | 0.29 | OKI |
| Allowable Foundation Overturning Resistance (kips-ft.): | 19510.0 | > | Design Factored Momont (kips-ft): | 7094 | 0.36 | OKI |
| Factor of Safety Against Overturning (O. R. Moment/Design Moment): | 2.75 | OKI | | | | |

Check the capacities of Reinforcing Concrete:

| | | | |
|--|------|--------------------------------------|------|
| Strength reduction factor (Flexure and axial tension): | 0.90 | Strength reduction factor (Shear): | 0.75 |
| Strength reduction factor (Axial compression): | 0.65 | Wind Load Factor on Concrete Design: | 1.00 |

(1) Concrete Pier:

| | | | | | | |
|---|--------|------------------------------------|--|-------|------|-----|
| Vertical Steel Rebar Area (sq. in./each): | 0.60 | Tie / Stirrup Area (sq. in./each): | 0.20 | | | |
| Calculated Moment Capacity (Mn,Kips-Ft): | 685.7 | > | Design Factored Moment (Mu, Kips-Ft) | 215.0 | 0.31 | OKI |
| Calculated Shear Capacity (Kips): | 133.3 | > | Design Factored Shear (Kips): | 43.0 | 0.32 | OKI |
| Calculated Tension Capacity (Tn, Kips): | 777.6 | > | Design Factored Tension (Tu Kips): | 311.0 | 0.40 | OKI |
| Calculated Compression Capacity (Pn, Kips): | 2424.0 | > | Design Factored Axial Load (Pu Kips): | 357.0 | 0.15 | OKI |
| Moment & Tension Strength Combination: | 0.31 | OKI | Check Tie Spacing (Design/Req'd): | 0.75 | | |
| Pier Reinforcement Ratio: | 0.010 | | Reinforcement Ratio is satisfied per ACI | | | |

(2).Concrete Pad:

| | | | | | | |
|--|--------|---|--|--------|------|-----|
| One-Way Design Shear Capacity (L or W Direction, Kips): | 837.6 | > | One-Way Factored Shear (L/W-Dir Kips | 384.9 | 0.46 | OKI |
| One-Way Design Shear Capacity (Diagonal Dir., Kips): | 778.9 | > | One-Way Factored Shear (Dia. Dir, Kips | 343.0 | 0.44 | OKI |
| Lower Steel Pad Reinforcement Ratio (L or W-Direct.): | 0.0041 | | Lower Steel Reinf. Ratio (Dia. Dir.): | 0.0037 | | |
| Lower Steel Pad Moment Capacity (L or W-Dir. Kips-ft): | 3191.8 | > | Moment at Bottom (L-Direct. K-Ft): | 2076.2 | 0.65 | OKI |
| Lower Steel Pad Moment Capacity (Dia. Direction,K-ft): | 3041.8 | > | Moment at Bottom (Dia. Dir. K-Ft): | 2198.6 | 0.72 | OKI |
| Upper Steel Pad Reinforcement Ratio (L or W -Direction): | 0.0041 | | Upper Steel Reinf. Ratio (Dia. Dir.): | 0.0037 | | |
| Upper Steel Pad Moment Capacity (L or W-Dir., Kips-ft): | 3191.8 | > | Moment at the top (L-Dir Kips-Ft): | 797.0 | 0.25 | OKI |
| Upper Steel Pad Moment Capacity (Dia. Direction, K-ft): | 3041.8 | > | Moment at the top (Dia. Dir., K-Ft): | 593.4 | 0.20 | OKI |
| Punching Failure Capacity From Down Load (Kips): | 760.6 | > | Punch. Failure Factored Shear (K): | 357.0 | 0.47 | OKI |
| Punching Failure Capacity From Uplift (Kips): | 676.9 | > | Punch. Failure Factored Shear (K): | 311.0 | 0.46 | OKI |

(3). Check Max. eccentricity of Loading:

| | | | | | |
|--------------------------------------|------|-----|---------------------------------------|------|-----|
| The maximum eccentricity of Loading: | 5.93 | ft. | Allowable eccentricity (0.45 W, ft.): | 16.2 | OKI |
|--------------------------------------|------|-----|---------------------------------------|------|-----|

Reinforce Concrete Pad by enlarging the size of pier (Yes/No):

No



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

New/Replacement Antenna Mount Analysis Report and PMI Requirements

Mount ReAnalysis-VZW

SMART Tool Project #: 10209455
Colliers Engineering & Design CT, P.C. Project #: 22777306 (Rev. 3)

September 13, 2023

Site Information

Site ID: 5000244405-VZW / WATERFORD SOUTH CT
Site Name: WATERFORD SOUTH CT
Carrier Name: Verizon Wireless
Address: 51 Daniels Avenue
Waterford, Connecticut 06385
New London County
Latitude: 41.330264°
Longitude: -72.166672°

Structure Information

Tower Type: Self-Support
Mount Type: 12.50-Ft Sector Frame

FUZE ID # 2025221

Analysis Results

Sector Frame: 65.7% Pass w/ Mount Replacement*
(3 Site Pro 1: VFA12-HD)

***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: Prasanna Dhakal



Executive Summary:

The objective of this report is to determine the capacity of the proposed antenna support mount at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards. The proposed mount was assumed to be installed properly to the existing tower per the manufacturer's instructions. Colliers Engineering & Design CT, P.C. cannot verify that the proposed mount will fit properly and is not liable for any fit-up issues during installation.

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

Sources of Information:

| Document Type | Remarks |
|--|---|
| <i>Radio Frequency Data Sheet (RFDS)</i> | <i>Verizon RFDS, Site ID: 325079, dated August 22, 2023</i> |
| <i>Desktop Mount Mapping Report</i> | <i>Colliers Engineering & Design, Project # 22777306A, dated October 17, 2022</i> |
| <i>Previous Mount Analysis</i> | <i>Colliers Engineering & Design, Project # 22777306A, dated October 24, 2022</i> |
| <i>Mount Manufacturer Drawings</i> | <i>Site Pro 1, Part #: VFA12-HD</i> |

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 : 0.996 |
| Seismic Parameters: | S_s : 0.194 g S_1 : 0.053 g |
| Maintenance Parameters: | Wind Speed (3-sec. Gust): 30 mph Maintenance Load, L_v : 250 lbs. Maintenance Load, L_m : 500 lbs. |
| Analysis Software: | RISA-3D (V17) |

Final Loading Configuration:

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

| Mount Elevation (ft) | Equipment Elevation (ft) | Quantity | Manufacturer | Model | Status |
|----------------------|--------------------------|----------|--------------|------------------|--------|
| 140.00 | 140.00 | 6 | Commscope | JAHH-65B-R3B | Added |
| | | 3 | Samsung | MT6413-77A | |
| | | 1 | Raycap | RVZDC-6627-PF-48 | |
| | | 3 | Samsung | RF4439d-25A | |
| | | 3 | Commscope | CBC78T-DS-43-2X | |
| | | 3 | Samsung | RF4461d-13A | |

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

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

| 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 CT, P.C. 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 CT, P.C. 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.
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 CT, P.C. is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.

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

- o Channel, Solid Round, Angle, Plate ASTM A36 (Gr. 36)
- o HSS (Rectangular) ASTM 500 (Gr. B-46)
- o Pipe ASTM A53 (Gr. B-35)
- o Threaded Rod F1554 (Gr. 36)
- o Bolts ASTM A325

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

Analysis Results:

| Component | Utilization % | Pass/Fail |
|---------------------|---------------|-----------|
| Face Horizontal | 65.7% | Pass |
| Standoff Plate | 43.0% | Pass |
| Standoff Horizontal | 25.4% | Pass |
| Standoff Diagonal | 8.3% | Pass |
| Mount Pipe | 48.1% | Pass |
| Standoff Vertical | 7.4% | Pass |
| Tieback | 2.7% | Pass |
| Mount Connection | 9.5% | Pass |

| | |
|---|--------------|
| Structure Rating – (Controlling Utilization of all Components) | 65.7% |
|---|--------------|

BASELINE mount weight per SBA agreement: 1541.4 lbs

Increase in mount weight due to Verizon loading change per SBA agreement: 1082.8 lbs

The weights listed above include 3 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 | 16.2 | 7.9 | 25.3 | 17.0 |
| 0.5 | 25.3 | 14.1 | 38.3 | 27.0 |
| 1 | 33.7 | 19.6 | 50.5 | 36.4 |

Notes:

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

Requirements:

The proposed antenna mounts are **SUFFICIENT** for the final loading configuration (attachment 2) upon completion of the mount replacement (attachment 3) and requirements below.

1. Refer to document at the end of this form for special instructions. Contact EOR if special instructions are not available.

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 Post Installation Inspection (PMI) Report Deliverables**
2. Antenna Placement Diagrams
3. Mount Manufacturer Drawings
4. Existing Mount Photos
5. Analysis Calculations

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – **New Mount Passing MA**

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

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

MDG #: 5000244405

SMART Project #: 10209455

Fuze Project ID: 2025221

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

Contractor is responsible for making certain the photos provided as noted below provide confirmation that the installation was completed in accordance with this Passing Mount Analysis.

Contractor shall relay any data that can impact the performance of the mount, this includes safety issues.

Base Requirements:

If installation will cause damage to the structure, the climbing facility, or safety climb if present or any installed system, SMART Tool vendor to be notified prior to install. Any special photos outside of the standard requirements will be indicated on the drawings.

Provide “as built mount drawings” showing contractor’s name, contact information, preparer’s signature, and date. Any deviations from the drawings (Proposed modification) shall be shown. NOTE: If loading is different than what is conveyed in the passing mount analysis (MA) contact the SMART Tool vendor immediately.

Each photo should be time and date stamped.

Photos should be high resolution.

Contractor shall ensure that the safety climb wire rope is supported and not adversely impacted by the install of the modification components. This may involve the install of wire rope guides, or other items to protect the wire rope. If there is conflict, contact the SMART Tool engineer for recommendations.

The PMI can be accessed at the following portal: <https://pmi.vzwsmart.com>

Photo Requirements:

Photos taken at ground level

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

Photos taken at Mount Elevation

- Photos showing the safety climb wire rope above and below the mount prior to installation.
- Photos showing the climbing facility and safety climb if present.
- Photos showing each individual sector after installation of mounts. Each entire sector shall be in one photo to show the interconnection of members.

- These photos shall also certify that the placement and geometry of the equipment on the mount is as depicted in the antenna placement diagram in this form.
- Photos that show the model number of each antenna and piece of equipment installed per sector.
- Photos of each installed mount; pictures shall also include connection hardware (U-bolts, bolts, nuts, all-threaded rods, etc.)
- Photos showing the installed mount elevation.

Antenna & Equipment Placement and Geometry Confirmation:

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

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

OR

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

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

Issue:

1. Refer to document at the end of this form for special instructions. Contact EOR if special instructions are not available.

Response:

Special Instruction Confirmation:

The contractor has read and acknowledges the above special instructions.

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:

| |
|--|
| |
|--|

New Mount Certification:

- The contractor certifies that the New Mount installed is as specified in the Passing Mount Analysis.
- The contractor notes that the New Mount installed is not as specified and engineering approval was received for the New Mount installed.

Certifying Individual:

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

Project #: 22777306 (Rev. 3)
MDG: 5000244405
Site Name: WATERFORD SOUTH CT
FUZE: 2025221

PMI Notes:

Contractor shall remove existing mount and associated hardware. Contractor shall restore any degradation in galvanization on tower due to removed mount and protect with two (2) coats of cold galvanization (Zinga or Zinc Kote).

Contractor shall install the proposed VFA12-HD mounts in accordance with manufacturer specifications and the Mount Replacement Sketch. Contact EOR if these documents are not available.

Contractor shall install (4) 96" long PIPE 2 SCH40 mount pipes per sector. Refer to placement diagrams and Mount Replacement Sketch. Contact EOR if these documents are not available.

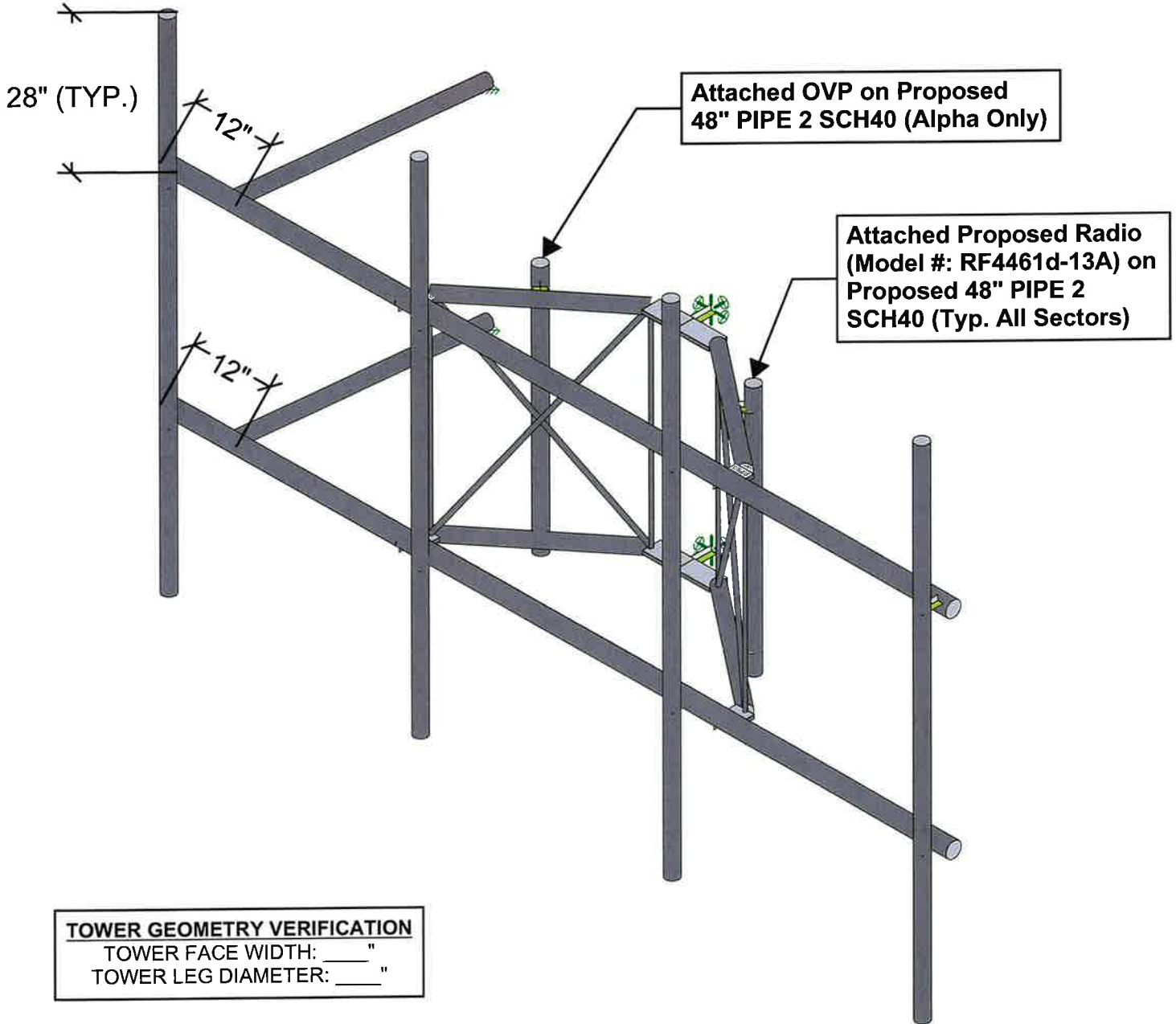
Contractor shall install mount pipes with vertical offsets as shown in the Mount Replacement Sketch.

Attach tiebacks to adjacent tower legs. Proposed tieback shall extend no more than 12" beyond the plane of the tower face. Contractor shall trim as required and protect cut end with two (2) coats of cold galvanization (Zinga or Zinc Kote).

Contractor shall install proposed OVP on a new 48" long PIPE 2 SCH40 pipes connected to the welded tabs of the alpha sector standoff. Refer to the Mount Replacement Sketch.

Contractor shall install proposed radio (Model #: RF4461d-13A) on a new 48" long PIPE 2 SCH40 pipes connected to the welded tabs on all sector standoffs. Refer to the Mount Replacement Sketch.

MOUNT REPLACEMENT SKETCH



MOUNT ISOMETRIC VIEW
N.T.S

Structure: 500244405-VZW - NE WATERFORD SOUTH

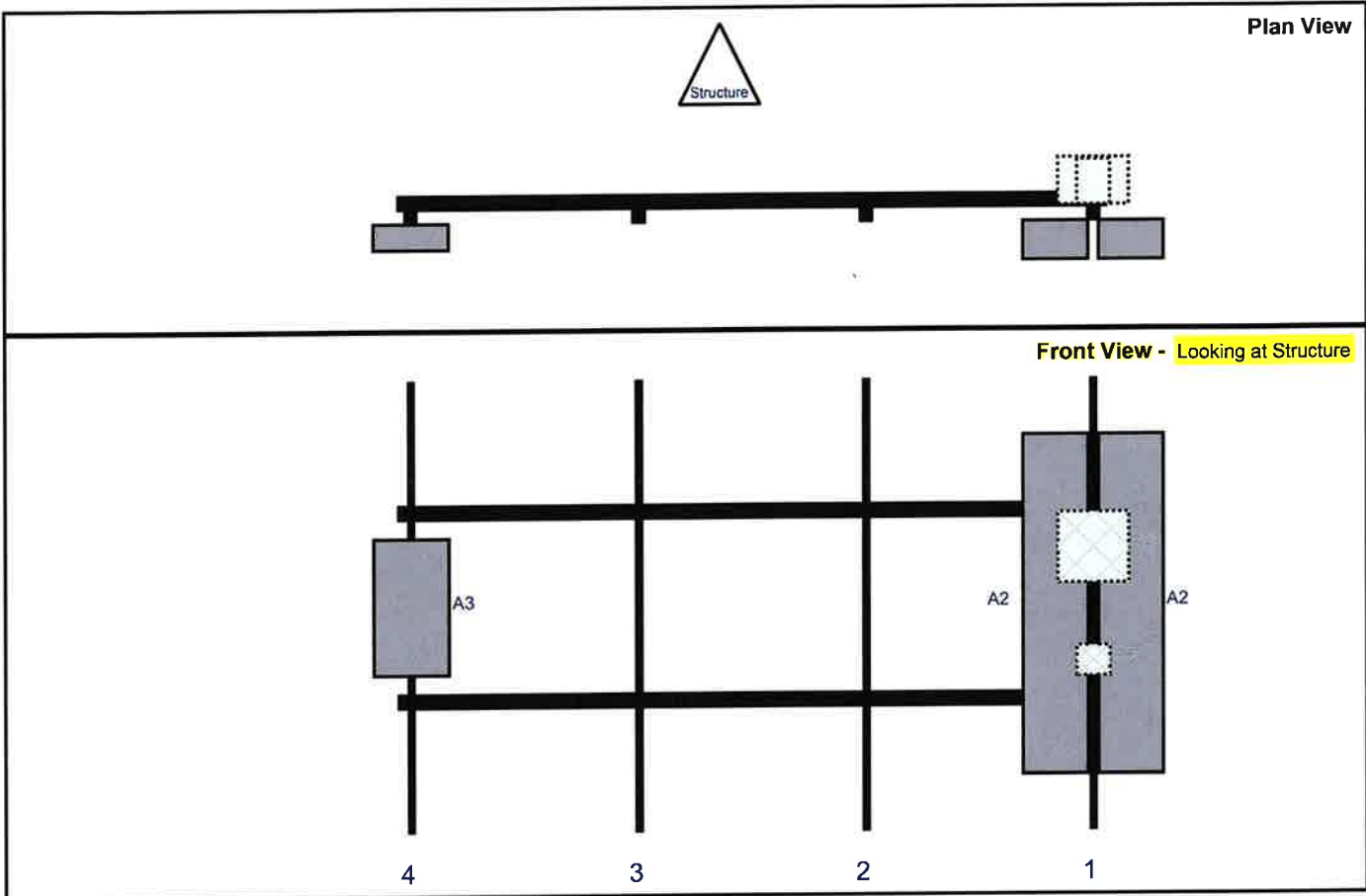
Sector: **A**
 Structure Type: Self Support
 Mount Elev: 140.00

10209455

9/13/2023



Page: 1



| Ref# | Model | Height (in) | Width (in) | H Dist Frm L. | Pipe # | Pipe Pos V | Ant Pos | C. Ant Frm T. | Ant H Off | Status | Validation |
|------|------------------|-------------|------------|---------------|--------|------------|---------|---------------|-----------|--------|------------|
| A2 | JAHH-65B-R3B | 72 | 13.8 | 147 | 1 | a | Front | 48 | -8 | Added | |
| A2 | JAHH-65B-R3B | 72 | 13.8 | 147 | 1 | b | Front | 48 | 8 | Added | |
| R4 | RF4439d-25A | 15 | 15 | 147 | 1 | a | Behind | 36 | 0 | Added | |
| R5 | CBC78T-DS-43-2X | 6.4 | 6.9 | 147 | 1 | a | Behind | 60 | 0 | Added | |
| A3 | MT6413-77A | 28.9 | 15.8 | 3 | 4 | a | Front | 48 | 0 | Added | |
| OVP | RVZDC-6627-PF-48 | 29.5 | 16.5 | | Member | | | | | Added | |
| RRU | RF4461d-13A | 15 | 15 | | Member | | | | | Added | |

Structure: 5000244405-VZW - NE WATERFORD SOUTH

Sector: B

9/13/2023

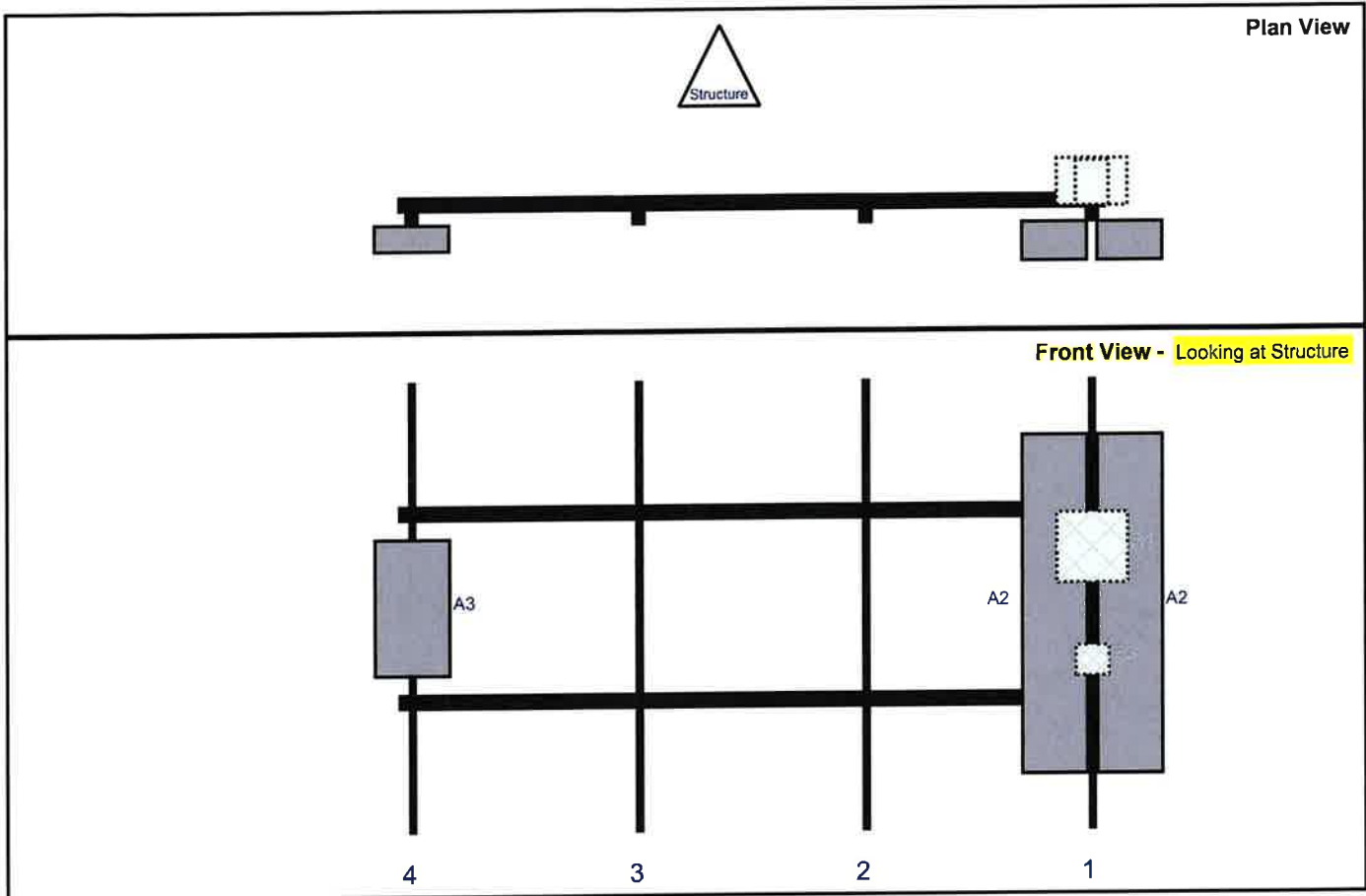
Structure Type: Self Support

10209455



Mount Elev: 140.00

Page: 2



| Ref# | Model | Height (in) | Width (in) | H Dist Frm L. | Pipe # | Pipe Pos V | Ant Pos | C. Ant Frm T. | Ant H Off | Status | Validation |
|------|-----------------|-------------|------------|---------------|--------|------------|---------|---------------|-----------|--------|------------|
| A2 | JAHH-65B-R3B | 72 | 13.8 | 147 | 1 | a | Front | 48 | -8 | Added | |
| A2 | JAHH-65B-R3B | 72 | 13.8 | 147 | 1 | b | Front | 48 | 8 | Added | |
| R4 | RF4439d-25A | 15 | 15 | 147 | 1 | a | Behind | 36 | 0 | Added | |
| R5 | CBC78T-DS-43-2X | 6.4 | 6.9 | 147 | 1 | a | Behind | 60 | 0 | Added | |
| A3 | MT6413-77A | 28.9 | 15.8 | 3 | 4 | a | Front | 48 | 0 | Added | |

Structure: 5000244405-VZW - NE WATERFORD SOUTH

Sector: C

9/13/2023

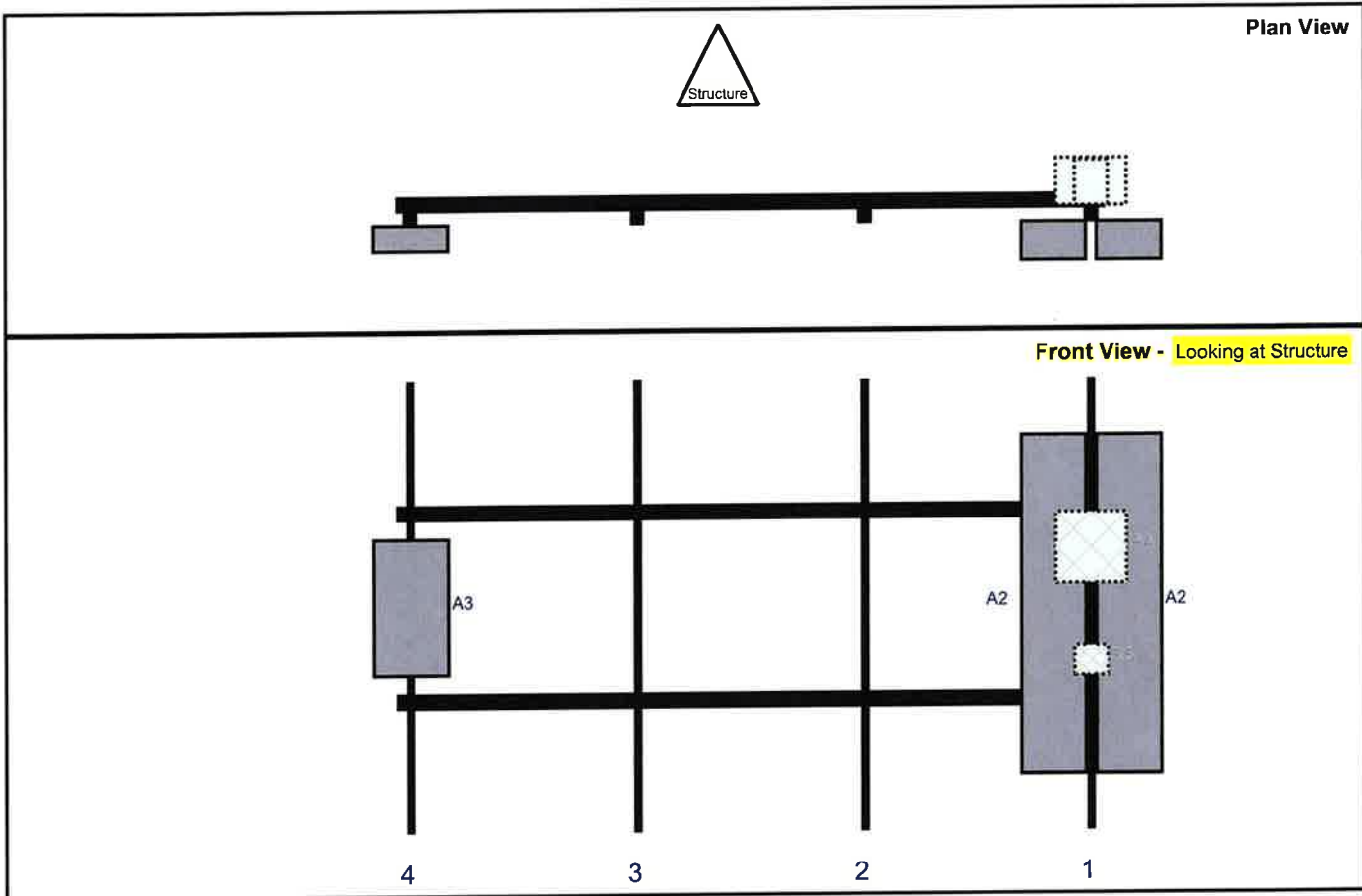
Structure Type: Self Support

10209455

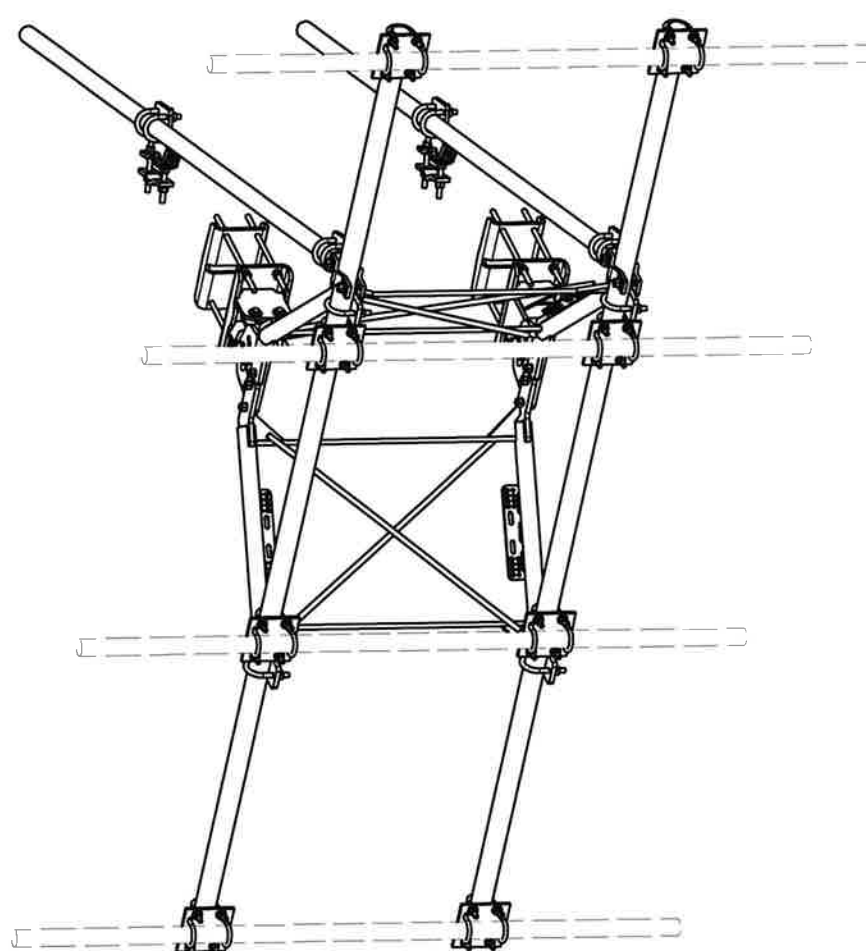


Mount Elev: 140.00

Page: 3



| Ref# | Model | Height (in) | Width (in) | H Dist Frm L. | Pipe # | Pipe Pos V | Ant Pos | C. Ant Frm T. | Ant H Off | Status | Validation |
|------|-----------------|-------------|------------|---------------|--------|------------|---------|---------------|-----------|--------|------------|
| A2 | JAHH-65B-R3B | 72 | 13.8 | 147 | 1 | a | Front | 48 | -8 | Added | |
| A2 | JAHH-65B-R3B | 72 | 13.8 | 147 | 1 | b | Front | 48 | 8 | Added | |
| R4 | RF4439d-25A | 15 | 15 | 147 | 1 | a | Behind | 36 | 0 | Added | |
| R5 | CBC78T-DS-43-2X | 6.4 | 6.9 | 147 | 1 | a | Behind | 60 | 0 | Added | |
| A3 | MT6413-77A | 28.9 | 15.8 | 3 | 4 | a | Front | 48 | 0 | Added | |



PARTS LIST

| ITEM | QTY | PART NO. | PART DESCRIPTION | LENGTH | UNIT WT. | NET WT. |
|------|-----|------------|--|------------|----------|---------|
| 1 | 2 | X-VFAW | SUPPORT ARM | | 71.41 | 142.81 |
| 2 | 1 | X-HDCAMTBW | CLAMP WELDMENT FOR BCAM-HD | | 33.86 | 33.86 |
| 3 | 1 | X-MHTPHD | MULTI-HOLE TAPER PLATE WELDMENT | | 36.24 | 36.24 |
| 4 | 2 | X-VFAPL4 | VFA-HD PIVOT PLATE | 12 in | 15.88 | 31.77 |
| 5 | 2 | X-LOBR4 | BENT BACKING PLATE | 13 in | 19.00 | 38.01 |
| 6 | 1 | X-HDCAMSS | ANGLE ADJUSTMENT WELDMENT FOR BCAM-HD | | 16.39 | 16.39 |
| 7 | 4 | X-SPTB | SLICING PIPE TIE BACK PLATE | | 5.87 | 23.49 |
| 8 | 1 | X-HDCAMSP | POSITIONING PLATE WELDMENT FOR BCAM-HD | 5 1/2 in | 2.58 | 2.58 |
| 9 | 4 | X-TBCA | TIE BACK CLIP ANGLE | | 2.01 | 8.02 |
| 10 | 8 | SCX2 | CROSSOVER PLATE | 7 in | 4.80 | 38.37 |
| 11 | 4 | MCP | CLAMP HALF 1/2" THICK, 11-5/8" LONG | 12 1/16 in | 3.59 | 14.37 |
| 12 | 8 | DCP | 1/2" THICK, 5-3/4" CENTER TO CENTER CLAMP HALF | 8 1/8 in | 2.36 | 18.90 |
| 13 | 2 | P2126 | 2-3/8" X 126" (2" SCH. 40) GALVANIZED PIPE | 126 in | 40.75 | 81.50 |
| 14 | 2 | P30150 | 2-7/8" X 150" (2-1/2" SCH. 40) GALVANIZED PIPE | 150 in | 76.94 | 153.87 |
| 15 | 4 | A34212 | 3/4" X 2-1/2" UNC HEX BOLT (A325) | 2 1/2 in | 0.48 | 1.92 |
| 16 | 4 | G34FW | 3/4" HDG USS FLATWASHER | | 0.06 | 0.24 |
| 17 | 4 | G34LW | 3/4" HDG LOCKWASHER | | 0.04 | 0.17 |
| 18 | 4 | G34NUT | 3/4" HDG HEAVY 2H HEX NUT | | 0.21 | 0.85 |
| 19 | 8 | G58R-18 | 5/8" X 18" THREADED ROD (HDG.) | 18 in | 0.40 | 3.19 |
| 20 | 4 | G58R-12 | 5/8" X 12" THREADED ROD (HDG.) | | 1.05 | 4.18 |
| 21 | 4 | G58R-8 | 5/8" X 8" THREADED ROD (HDG.) | | 0.70 | 2.79 |
| 22 | 4 | X-UBG5300 | 5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.) | | 1.15 | 4.60 |
| 23 | 8 | X-UBG256 | 5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.) | | 1.00 | 8.00 |
| 24 | 2 | G5807 | 5/8" X 7" HDG HEX BOLT GR5 FULL THREAD | 7 in | 0.70 | 1.41 |
| 25 | 1 | G5806 | 5/8" X 6" HDG HEX BOLT GR5 FULL THREAD | 6 in | 0.62 | 0.62 |
| 26 | 8 | G5804 | 5/8" X 4" HDG HEX BOLT GR5 | | 0.44 | 3.55 |
| 27 | 4 | G5802 | 5/8" X 2" HDG HEX BOLT GR5 | 2 1/4 in | 0.31 | 2.50 |
| 28 | 8 | A582114 | 5/8" X 2-1/4" HDG A325 HEX BOLT | | 0.07 | 1.76 |
| 29 | 25 | G58FW | 5/8" HDG USS FLATWASHER | 1/8 in | 0.03 | 1.72 |
| 30 | 66 | G58LW | 5/8" HDG LOCKWASHER | | 0.13 | 9.22 |
| 31 | 71 | G58NUT | 5/8" HDG HEAVY 2H HEX NUT | | 0.60 | 9.56 |
| 32 | 32 | X-UB1300 | 1/2" X 3" X 5" X 2" GALV U-BOLT | | 0.03 | 2.18 |
| 33 | 16 | X-UB1212 | 1/2" X 2" X 3" X 1-1/4" U-BOLT (HDG.) | 3/32 in | 0.03 | 2.18 |
| 34 | 64 | G12FW | 1/2" HDG USS FLATWASHER | 1/8 in | 0.01 | 0.89 |
| 35 | 64 | G12LW | 1/2" HDG LOCKWASHER | | 0.07 | 4.58 |
| 36 | 64 | G12NUT | 1/2" HDG HEAVY 2H HEX NUT | | 0.01 | 738.06 |

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
 SAWS, SHEARED AND GAS CUT EDGES (± 0.0097)
 DRILLED AND GAS CUT HOLES (± 0.0097) - NO CONING OF HOLES
 LABER CUT EDGES AND HOLES (± 0.0107) - NO CONING OF HOLES
 ALL OTHER MACHINING (± 0.0097)
 ALL OTHER ASSEMBLY (± 0.0097)

INCIDENTAL NOTE:
 THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT
 AND ARE NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE CONSENT OF
 VALMONT INDUSTRIES INC. ELECTRICALLY PROTECTED.

DESCRIPTION

12' 6" HEAVY DUTY
 V-FRAME ASSEMBLY
 WITH TWO STIFF ARMS

ENG. APPROVAL

CHECKED BY **BMC** 12/13/2017

DRAWN BY **CEK** 1/25/2017

DRAWING USAGE **CUSTOMER**

CPD NO. **81** SUB **02**

CLASS **81** PART NO. **VFA12-HD**

DWG. NO. **VFA12-HD**

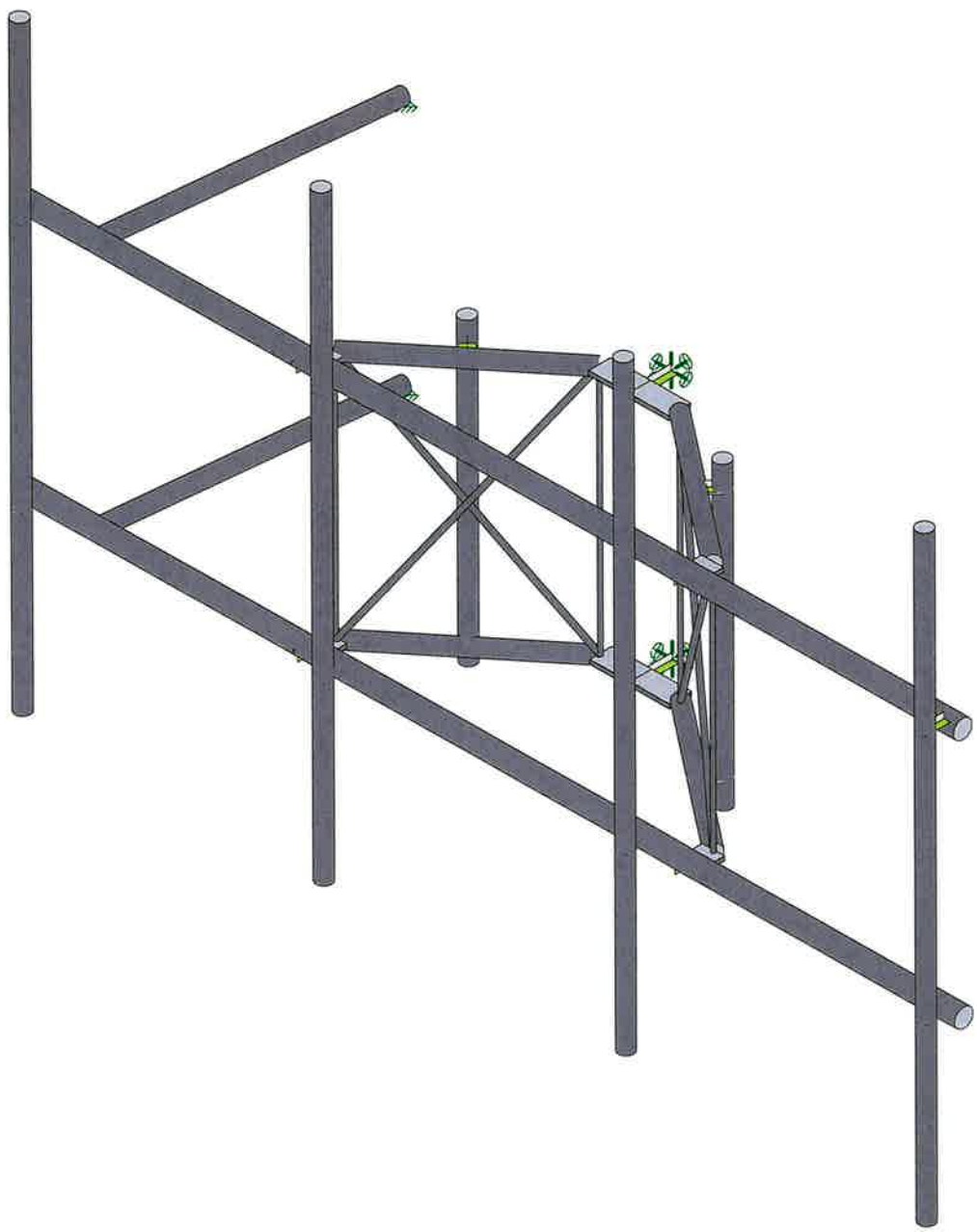
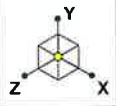
| REV | DESCRIPTION OF REVISIONS | CPD | BY | DATE |
|-----|--|-----|----|-----------|
| D | UPDATED BCAM VERSION 1 TO BCAM VERSION 2 | CEK | | 6/29/2018 |
| C | UPDATED PIN LEG CONNECTION TO B-CAM CONNECTION | CEK | | 12/7/2017 |
| B | CHANGED TIE-BACK BACK CONNECTION | CEK | | 7/31/2017 |
| A | CHANGED TIE-BACK FRONT CONNECTION | CEK | | 2/2/2017 |
| REV | REVISION HISTORY | | | |

Locations:
 New York, NY
 Atlanta, GA
 Birmingham, AL
 Plymouth, IN
 Salem, OR
 Dallas, TX

Engineering Support
 1-888-753-7466

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 A Valmont COMPANY





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Colliers Engineering & De...

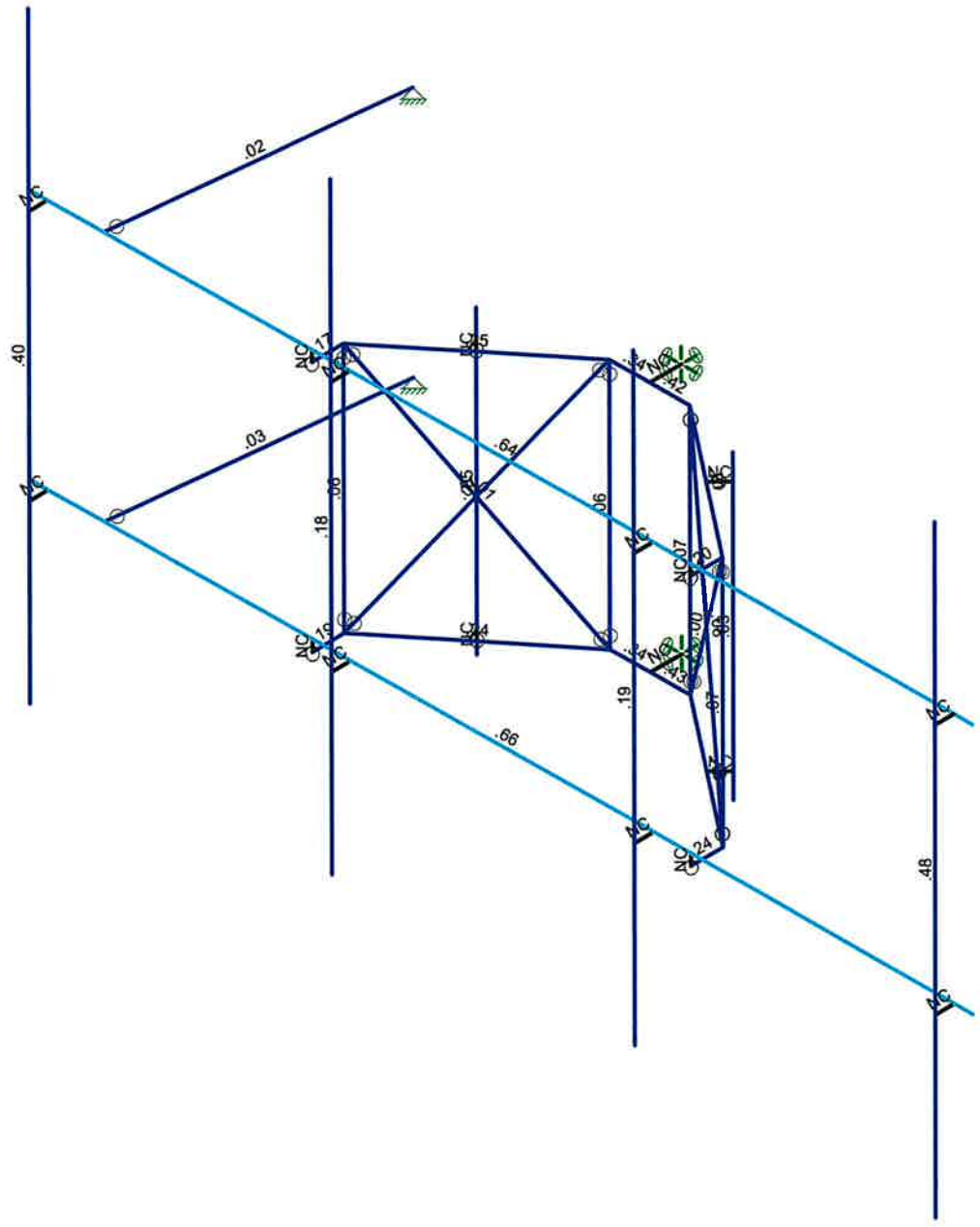
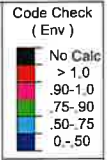
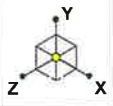
Project # 22777306

Antenna Mount Analysis

SK - 1

Sept 12, 2023 at 3:54 PM

5000244405-VZW_MT_LOT_A_H...



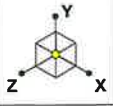
Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & De...

Project # 22777306

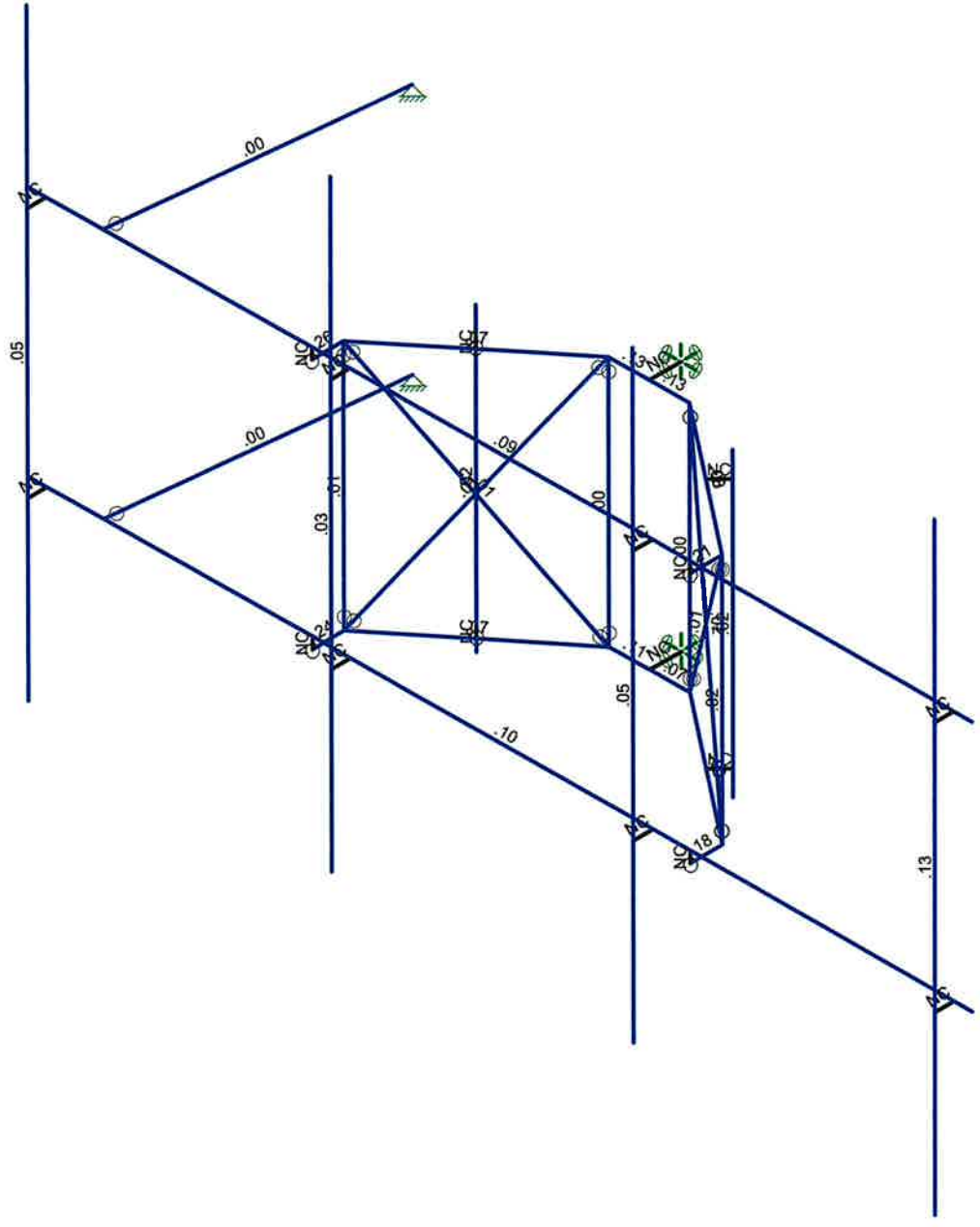
Antenna Mount Analysis

SK - 2
Sept 12, 2023 at 3:54 PM
5000244405-VZW_MT_LOT_A_H...



Shear Check (Env)

| | |
|-----------|---------|
| Black | No Calc |
| Red | > 1.0 |
| Yellow | .90-1.0 |
| Green | .75-90 |
| Blue | .50-.75 |
| Dark Blue | 0-.50 |



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & De...

Project # 22777306

Antenna Mount Analysis

SK - 3
Sept 12, 2023 at 3:54 PM
5000244405-VZW_MT_LOT_A_H...



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

Sept 12, 2023
 3:54 PM
 Checked By: _____

Basic Load Cases

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



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

Sept 12, 2023
 3:54 PM
 Checked By: _____

Basic Load Cases (Continued)

| | BLC Description | Category | X Gr... | Y Gr... | Z Gr... | Joint | Point | Distributed | Area(Member) | Surfa... |
|----|------------------------|----------|---------|---------|---------|-------|-------|-------------|--------------|----------|
| 57 | Structure Wi (120 Deg) | None | | | | | | 60 | | |
| 58 | Structure Wi (150 Deg) | None | | | | | | 60 | | |
| 59 | Structure Wi (180 Deg) | None | | | | | | 60 | | |
| 60 | Structure Wi (210 Deg) | None | | | | | | 60 | | |
| 61 | Structure Wi (240 Deg) | None | | | | | | 60 | | |
| 62 | Structure Wi (270 Deg) | None | | | | | | 60 | | |
| 63 | Structure Wi (300 Deg) | None | | | | | | 60 | | |
| 64 | Structure Wi (330 Deg) | None | | | | | | 60 | | |
| 65 | Structure Wm (0 Deg) | None | | | | | | 60 | | |
| 66 | Structure Wm (30 Deg) | None | | | | | | 60 | | |
| 67 | Structure Wm (60 Deg) | None | | | | | | 60 | | |
| 68 | Structure Wm (90 Deg) | None | | | | | | 60 | | |
| 69 | Structure Wm (120 Deg) | None | | | | | | 60 | | |
| 70 | Structure Wm (150 Deg) | None | | | | | | 60 | | |
| 71 | Structure Wm (180 Deg) | None | | | | | | 60 | | |
| 72 | Structure Wm (210 Deg) | None | | | | | | 60 | | |
| 73 | Structure Wm (240 Deg) | None | | | | | | 60 | | |
| 74 | Structure Wm (270 Deg) | None | | | | | | 60 | | |
| 75 | Structure Wm (300 Deg) | None | | | | | | 60 | | |
| 76 | Structure Wm (330 Deg) | None | | | | | | 60 | | |
| 77 | Lm1 | None | | | | | 1 | | | |
| 78 | Lm2 | None | | | | | 1 | | | |
| 79 | Lv1 | None | | | | | 1 | | | |
| 80 | Lv2 | None | | | | | 1 | | | |
| 81 | Antenna Ev | None | | | | | 30 | | | |
| 82 | Antenna Eh (0 Deg) | None | | | | | 20 | | | |
| 83 | Antenna Eh (90 Deg) | None | | | | | 20 | | | |
| 84 | Structure Ev | ELY | | | | | | | | |
| 85 | Structure Eh (0 Deg) | ELZ | | | | | | | | |
| 86 | Structure Eh (90 Deg) | ELX | .1035 | | | | | | | |

Load Combinations

| | Description | S... | PDel... | SR... | BLC Fa... | BLC Fa... | BLC Fa... | B... Fa... | B... Fa... | B... Fa... | BLC Fa... | B... Fa... | B... Fa... | B... Fa... |
|----|-------------------------|------|---------|-------|-----------|-----------|-----------|------------|------------|------------|-----------|------------|------------|------------|
| 1 | 1.2D+1.0Wo (0 Deg) | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 3 | 1 | 41 | 1 | | |
| 2 | 1.2D+1.0Wo (30 Deg) | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 4 | 1 | 42 | 1 | | |
| 3 | 1.2D+1.0Wo (60 Deg) | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 5 | 1 | 43 | 1 | | |
| 4 | 1.2D+1.0Wo (90 Deg) | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 6 | 1 | 44 | 1 | | |
| 5 | 1.2D+1.0Wo (120 De... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 7 | 1 | 45 | 1 | | |
| 6 | 1.2D+1.0Wo (150 De... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 8 | 1 | 46 | 1 | | |
| 7 | 1.2D+1.0Wo (180 De... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 9 | 1 | 47 | 1 | | |
| 8 | 1.2D+1.0Wo (210 De... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 10 | 1 | 48 | 1 | | |
| 9 | 1.2D+1.0Wo (240 De... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 11 | 1 | 49 | 1 | | |
| 10 | 1.2D+1.0Wo (270 De... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 12 | 1 | 50 | 1 | | |
| 11 | 1.2D+1.0Wo (300 De... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 13 | 1 | 51 | 1 | | |
| 12 | 1.2D+1.0Wo (330 De... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 14 | 1 | 52 | 1 | | |
| 13 | 1.2D + 1.0Di + 1.0Wi... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 15 | 1 |
| 14 | 1.2D + 1.0Di + 1.0Wi... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 16 | 1 |
| 15 | 1.2D + 1.0Di + 1.0Wi... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 17 | 1 |
| 16 | 1.2D + 1.0Di + 1.0Wi... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 18 | 1 |
| 17 | 1.2D + 1.0Di + 1.0Wi... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 19 | 1 |
| 18 | 1.2D + 1.0Di + 1.0Wi... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 20 | 1 |
| 19 | 1.2D + 1.0Di + 1.0Wi... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 21 | 1 |
| 20 | 1.2D + 1.0Di + 1.0Wi... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 22 | 1 |
| 21 | 1.2D + 1.0Di + 1.0Wi... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 23 | 1 |
| 22 | 1.2D + 1.0Di + 1.0Wi... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 24 | 1 |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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Joint Coordinates and Temperatures

| | Label | X [ft] | Y [ft] | Z [ft] | Temp [F] | Detach From Diap... |
|----|-------|-----------|-----------|-----------|----------|---------------------|
| 1 | N1 | 6.249997 | -3.187497 | 2.380203 | 0 | |
| 2 | N2 | -6.250003 | -3.187497 | 2.380203 | 0 | |
| 3 | N3 | 6.249997 | 0.145837 | 2.380203 | 0 | |
| 4 | N4 | -6.250003 | 0.145837 | 2.380203 | 0 | |
| 5 | N5 | -6.000003 | -3.187497 | 2.380203 | 0 | |
| 6 | N6 | -6.000003 | 0.145837 | 2.380203 | 0 | |
| 7 | N7 | -2.000003 | -3.187497 | 2.380203 | 0 | |
| 8 | N8 | -2.000003 | 0.145837 | 2.380203 | 0 | |
| 9 | N9 | 1.999997 | -3.187497 | 2.380203 | 0 | |
| 10 | N10 | 1.999997 | 0.145837 | 2.380203 | 0 | |
| 11 | N11 | 5.999997 | -3.187497 | 2.380203 | 0 | |
| 12 | N12 | 5.999997 | 0.145837 | 2.380203 | 0 | |
| 13 | N13 | -6.000003 | -3.187497 | 2.630203 | 0 | |
| 14 | N14 | -6.000003 | 0.145837 | 2.630203 | 0 | |
| 15 | N15 | -2.000003 | -3.187497 | 2.630203 | 0 | |
| 16 | N16 | -2.000003 | 0.145837 | 2.630203 | 0 | |
| 17 | N17 | 1.999997 | -3.187497 | 2.630203 | 0 | |
| 18 | N18 | 1.999997 | 0.145837 | 2.630203 | 0 | |
| 19 | N19 | 5.999997 | -3.187497 | 2.630203 | 0 | |
| 20 | N20 | 5.999997 | 0.145837 | 2.630203 | 0 | |
| 21 | N21 | -2.500003 | -3.33333 | 2.380203 | 0 | |
| 22 | N22 | -2.500003 | 0.000003 | 2.380203 | 0 | |
| 23 | N23 | 2.499997 | -3.33333 | 2.380203 | 0 | |
| 24 | N24 | 2.499997 | 0.000003 | 2.380203 | 0 | |
| 25 | N25 | -2.500003 | -3.33333 | 1.958328 | 0 | |
| 26 | N26 | -2.500003 | 0.000003 | 1.958328 | 0 | |
| 27 | N27 | 2.499997 | -3.33333 | 1.958328 | 0 | |
| 28 | N28 | 2.499997 | 0.000003 | 1.958328 | 0 | |
| 29 | N29 | -0.000003 | -3.33333 | 0.416662 | 0 | |
| 30 | N30 | -0.000003 | 0.000003 | 0.416662 | 0 | |
| 31 | N31 | -0.531253 | -3.33333 | 0.416662 | 0 | |
| 32 | N32 | -0.531253 | 0.000003 | 0.416662 | 0 | |
| 33 | N33 | 0.531247 | -3.33333 | 0.416662 | 0 | |
| 34 | N34 | 0.531247 | 0.000003 | 0.416662 | 0 | |
| 35 | N35 | -0.000003 | -3.33333 | -0.000005 | 0 | |
| 36 | N36 | -0.000003 | 0.000003 | -0.000005 | 0 | |
| 37 | N39 | -6.000003 | 2.47917 | 2.630203 | 0 | |
| 38 | N40 | -2.000003 | 2.47917 | 2.630203 | 0 | |
| 39 | N41 | 1.999997 | 2.47917 | 2.630203 | 0 | |
| 40 | N42 | 5.999997 | 2.47917 | 2.630203 | 0 | |
| 41 | N43 | -6.000003 | -5.52083 | 2.630203 | 0 | |
| 42 | N44 | -2.000003 | -5.52083 | 2.630203 | 0 | |
| 43 | N45 | 1.999997 | -5.52083 | 2.630203 | 0 | |
| 44 | N46 | 5.999997 | -5.52083 | 2.630203 | 0 | |
| 45 | N58 | -2.500003 | 0.000003 | 2.005203 | 0 | |
| 46 | N76 | -0.093753 | -3.33333 | 0.416662 | 0 | |
| 47 | N77 | -0.395837 | -3.33333 | 0.416662 | 0 | |
| 48 | N78 | 0.093747 | -3.33333 | 0.416662 | 0 | |
| 49 | N79 | 0.39583 | -3.33333 | 0.416662 | 0 | |
| 50 | N80 | -0.093753 | 0.000003 | 0.416662 | 0 | |
| 51 | N81 | -0.395837 | 0.000003 | 0.416662 | 0 | |
| 52 | N82 | 0.093747 | 0.000003 | 0.416662 | 0 | |
| 53 | N83 | 0.39583 | 0.000003 | 0.416662 | 0 | |
| 54 | N58A | -0.000003 | 0.145837 | 2.380203 | 0 | |
| 55 | N59 | -2.500003 | -3.187497 | 2.380203 | 0 | |
| 56 | N60 | -2.500003 | 0.145837 | 2.380203 | 0 | |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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Joint Coordinates and Temperatures (Continued)

| | Label | X [ft] | Y [ft] | Z [ft] | Temp [F] | Detach From Diap... |
|----|-------|-----------|-----------|----------|----------|---------------------|
| 57 | N61 | 2.499997 | -3.187497 | 2.380203 | 0 | |
| 58 | N62 | 2.499997 | 0.145837 | 2.380203 | 0 | |
| 59 | N59A | -5.250003 | 0.145837 | 2.380203 | 0 | |
| 60 | N61A | -4.829632 | 0.145837 | -1.2941 | 0 | |
| 61 | N63 | -5.250003 | -3.187463 | 2.380203 | 0 | |
| 62 | N64 | -4.829632 | -3.187463 | -1.2941 | 0 | |
| 63 | N63A | -1.515628 | 0.000003 | 1.187495 | 0 | |
| 64 | N64A | -1.515628 | -3.33333 | 1.187495 | 0 | |
| 65 | N65 | -1.692405 | 0.000003 | 1.010718 | 0 | |
| 66 | N66 | -1.692405 | -3.33333 | 1.010718 | 0 | |
| 67 | N67 | -1.692405 | 0.333333 | 1.010718 | 0 | |
| 68 | N68 | -1.692405 | -3.666667 | 1.010718 | 0 | |
| 69 | N69 | 1.515628 | 0.000003 | 1.187495 | 0 | |
| 70 | N70 | 1.515628 | -3.33333 | 1.187495 | 0 | |
| 71 | N71 | 1.692405 | 0.000003 | 1.010718 | 0 | |
| 72 | N72 | 1.692405 | -3.33333 | 1.010718 | 0 | |
| 73 | N73 | 1.692405 | 0.333333 | 1.010718 | 0 | |
| 74 | N74 | 1.692405 | -3.666667 | 1.010718 | 0 | |

Hot Rolled Steel Section Sets

| | Label | Shape | Type | Design List | Material | Desig... A [in ²] | Iyy [i...] | Izz [i...] | J [in ⁴] | |
|---|---------------------|-----------|--------|-------------|-----------|-------------------------------|------------|------------|----------------------|-------|
| 1 | Mount Pipe | PIPE 2.0 | Column | Pipe | A53 Gr. B | Typical | 1.02 | .627 | .627 | 1.25 |
| 2 | Face Horizontal | PIPE 2.5 | Beam | Pipe | Q235 | Typical | 1.61 | 1.45 | 1.45 | 2.89 |
| 3 | Standoff Horizontal | PIPE 2.0 | Beam | Pipe | Q235 | Typical | 1.02 | .627 | .627 | 1.25 |
| 4 | Standoff Diagonal | SR 0.75 | Column | BAR | Q235 | Typical | .4418 | .0155 | .0155 | .0311 |
| 5 | Tieback | PIPE 2.0 | Beam | Pipe | Q235 | Typical | 1.02 | .627 | .627 | 1.25 |
| 6 | Standoff Vertical | SR 0.625 | Column | BAR | Q235 | Typical | .3068 | .0075 | .0075 | .015 |
| 7 | Standoff Plate | PL5/8X3.5 | Beam | BAR | Q235 | Typical | 2.1875 | .0712 | 2.2331 | .2528 |

Hot Rolled Steel Properties

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

Member Primary Data

| | Label | I Joint | J Joint | K Joint | Rotate(d...) | Section/Shape | Type | Design List | Material | Design Ru... |
|----|-------|---------|---------|---------|--------------|-----------------|------|-------------|----------|--------------|
| 1 | F | N2 | N1 | | | Face Horizontal | Beam | Pipe | Q235 | Typical |
| 2 | M2 | N4 | N3 | | | Face Horizontal | Beam | Pipe | Q235 | Typical |
| 3 | 3 | N5 | N13 | | | RIGID | None | None | RIGID | Typical |
| 4 | M4 | N6 | N14 | | | RIGID | None | None | RIGID | Typical |
| 5 | M5 | N8 | N16 | | | RIGID | None | None | RIGID | Typical |
| 6 | M6 | N7 | N15 | | | RIGID | None | None | RIGID | Typical |
| 7 | M9 | N10 | N18 | | | RIGID | None | None | RIGID | Typical |
| 8 | 2 | N9 | N17 | | | RIGID | None | None | RIGID | Typical |
| 9 | M11 | N12 | N20 | | | RIGID | None | None | RIGID | Typical |
| 10 | 1 | N11 | N19 | | | RIGID | None | None | RIGID | Typical |
| 11 | M13 | N22 | N26 | | 90 | Standoff Plate | Beam | BAR | Q235 | Typical |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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Member Primary Data (Continued)

| | Label | I Joint | J Joint | K Joint | Rotate(d...) | Section/Shape | Type | Design List | Material | Design Ru... |
|----|-------|---------|---------|---------|--------------|---------------------|--------|-------------|-----------|--------------|
| 12 | M14 | N21 | N25 | | 90 | Standoff Plate | Beam | BAR | Q235 | Typical |
| 13 | M15 | N23 | N27 | | 90 | Standoff Plate | Beam | BAR | Q235 | Typical |
| 14 | M16 | N24 | N28 | | 90 | Standoff Plate | Beam | BAR | Q235 | Typical |
| 15 | SO | N26 | N32 | | | Standoff Horizontal | Beam | Pipe | Q235 | Typical |
| 16 | M18 | N25 | N31 | | | Standoff Horizontal | Beam | Pipe | Q235 | Typical |
| 17 | M19 | N27 | N33 | | | Standoff Horizontal | Beam | Pipe | Q235 | Typical |
| 18 | M20 | N28 | N34 | | | Standoff Horizontal | Beam | Pipe | Q235 | Typical |
| 19 | M21 | N32 | N30 | | 90 | Standoff Plate | Beam | BAR | Q235 | Typical |
| 20 | M22 | N34 | N30 | | 90 | Standoff Plate | Beam | BAR | Q235 | Typical |
| 21 | M23 | N31 | N29 | | 90 | Standoff Plate | Beam | BAR | Q235 | Typical |
| 22 | M24 | N33 | N29 | | 90 | Standoff Plate | Beam | BAR | Q235 | Typical |
| 23 | M25 | N31 | N26 | | | Standoff Diagonal | Column | BAR | Q235 | Typical |
| 24 | M26 | N32 | N25 | | | Standoff Diagonal | Column | BAR | Q235 | Typical |
| 25 | M27 | N33 | N28 | | | Standoff Diagonal | Column | BAR | Q235 | Typical |
| 26 | M28 | N27 | N34 | | | Standoff Diagonal | Column | BAR | Q235 | Typical |
| 27 | M29 | N29 | N35 | | | RIGID | None | None | RIGID | Typical |
| 28 | M30 | N30 | N36 | | | RIGID | None | None | RIGID | Typical |
| 29 | MP4A | N39 | N43 | | | Mount Pipe | Column | Pipe | A53 Gr. B | Typical |
| 30 | MP3A | N40 | N44 | | | Mount Pipe | Column | Pipe | A53 Gr. B | Typical |
| 31 | MP2A | N41 | N45 | | | Mount Pipe | Column | Pipe | A53 Gr. B | Typical |
| 32 | MP1A | N42 | N46 | | | Mount Pipe | Column | Pipe | A53 Gr. B | Typical |
| 33 | M44 | N25 | N26 | | | Standoff Vertical | Column | BAR | Q235 | Typical |
| 34 | M45 | N31 | N32 | | | Standoff Vertical | Column | BAR | Q235 | Typical |
| 35 | M46 | N33 | N34 | | | Standoff Vertical | Column | BAR | Q235 | Typical |
| 36 | M47 | N27 | N28 | | | Standoff Vertical | Column | BAR | Q235 | Typical |
| 37 | M47B | N22 | N60 | | | RIGID | None | None | RIGID | Typical |
| 38 | M48A | N21 | N59 | | | RIGID | None | None | RIGID | Typical |
| 39 | M49A | N24 | N62 | | | RIGID | None | None | RIGID | Typical |
| 40 | M50A | N23 | N61 | | | RIGID | None | None | RIGID | Typical |
| 41 | M51A | N30 | N36 | | | RIGID | None | None | RIGID | Typical |
| 42 | M52A | N29 | N35 | | | RIGID | None | None | RIGID | Typical |
| 43 | M43 | N59A | N61A | | | Tieback | Beam | Pipe | Q235 | Typical |
| 44 | M45A | N63 | N64 | | | Tieback | Beam | Pipe | Q235 | Typical |
| 45 | M45B | N64A | N66 | | | RIGID | None | None | RIGID | Typical |
| 46 | M46A | N63A | N65 | | | RIGID | None | None | RIGID | Typical |
| 47 | OVP | N67 | N68 | | | Mount Pipe | Column | Pipe | A53 Gr. B | Typical |
| 48 | M48 | N70 | N72 | | | RIGID | None | None | RIGID | Typical |
| 49 | M49 | N69 | N71 | | | RIGID | None | None | RIGID | Typical |
| 50 | RRU | N73 | N74 | | | Mount Pipe | Column | Pipe | A53 Gr. B | Typical |

Member Advanced Data

| | Label | I Release | J Release | I Offset[in] | J Offset[in] | T/C Only | Physical Defl Ratio Opti... | Analysis ... | Inactive | Seismi... |
|----|-------|-----------|-----------|--------------|--------------|----------|-----------------------------|--------------|----------|-----------|
| 1 | F | | | | | | Yes | | | None |
| 2 | M2 | | | | | | Yes | | | None |
| 3 | 3 | | | | | | Yes | ** NA ** | | None |
| 4 | M4 | | | | | | Yes | ** NA ** | | None |
| 5 | M5 | | | | | | Yes | ** NA ** | | None |
| 6 | M6 | | | | | | Yes | ** NA ** | | None |
| 7 | M9 | | | | | | Yes | ** NA ** | | None |
| 8 | 2 | | | | | | Yes | ** NA ** | | None |
| 9 | M11 | | | | | | Yes | ** NA ** | | None |
| 10 | 1 | | | | | | Yes | ** NA ** | | None |
| 11 | M13 | | | | | | Yes | Default | | None |
| 12 | M14 | | | | | | Yes | Default | | None |
| 13 | M15 | | | | | | Yes | | | None |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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Member Advanced Data (Continued)

| | Label | I Release | J Release | I Offset[in] | J Offset[in] | T/C Only | Physical Defl | Ratio Opti... | Analysis ... | Inactive | Seismi... |
|----|-------|-----------|-----------|--------------|--------------|----------|---------------|---------------|--------------|----------|-----------|
| 14 | M16 | | | | | | Yes | | | | None |
| 15 | SO | | | | | | Yes | Default | | | None |
| 16 | M18 | | | | | | Yes | | | | None |
| 17 | M19 | | | | | | Yes | | | | None |
| 18 | M20 | | | | | | Yes | Default | | | None |
| 19 | M21 | | | | | | Yes | Default | | | None |
| 20 | M22 | | | | | | Yes | | | | None |
| 21 | M23 | | | | | | Yes | | | | None |
| 22 | M24 | | | | | | Yes | | | | None |
| 23 | M25 | BenPIN | BenPIN | | | | Euler Bu... | ** NA ** | | | None |
| 24 | M26 | BenPIN | BenPIN | | | | Euler Bu... | ** NA ** | | | None |
| 25 | M27 | BenPIN | BenPIN | | | | Euler Bu... | ** NA ** | | | None |
| 26 | M28 | BenPIN | BenPIN | | | | Euler Bu... | ** NA ** | | | None |
| 27 | M29 | | | | | | Yes | ** NA ** | | Inactive | None |
| 28 | M30 | | | | | | Yes | ** NA ** | | Inactive | None |
| 29 | MP4A | | | | | | Yes | ** NA ** | | | None |
| 30 | MP3A | | | | | | Yes | ** NA ** | | | None |
| 31 | MP2A | | | | | | Yes | ** NA ** | | | None |
| 32 | MP1A | | | | | | Yes | ** NA ** | | | None |
| 33 | M44 | BenPIN | BenPIN | | | | Yes | ** NA ** | | | None |
| 34 | M45 | BenPIN | BenPIN | | | | Yes | ** NA ** | | | None |
| 35 | M46 | BenPIN | BenPIN | | | | Yes | ** NA ** | | | None |
| 36 | M47 | BenPIN | BenPIN | | | | Yes | ** NA ** | | | None |
| 37 | M47B | | OOOXOO | | | | Yes | ** NA ** | | | None |
| 38 | M48A | | OOOXOO | | | | Yes | ** NA ** | | | None |
| 39 | M49A | | OOOXOO | | | | Yes | ** NA ** | | | None |
| 40 | M50A | | OOOXOO | | | | Yes | ** NA ** | | | None |
| 41 | M51A | | | | | | Yes | ** NA ** | | | None |
| 42 | M52A | | | | | | Yes | ** NA ** | | | None |
| 43 | M43 | BenPIN | | | | | Yes | Default | | | None |
| 44 | M45A | BenPIN | | | | | Yes | Default | | | None |
| 45 | M45B | | OOOXOO | | | | Yes | ** NA ** | | | None |
| 46 | M46A | | OOOXOO | | | | Yes | ** NA ** | | | None |
| 47 | OVP | | | | | | Yes | ** NA ** | | | None |
| 48 | M48 | | OOOXOO | | | | Yes | ** NA ** | | | None |
| 49 | M49 | | OOOXOO | | | | Yes | ** NA ** | | | None |
| 50 | RRU | | | | | | Yes | ** NA ** | | | None |

Member Point Loads (BLC 1 : Antenna D)

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | Y | -70.3 | 1 |
| 2 | RRU | My | 0 | 1 |
| 3 | RRU | Mz | 0 | 1 |
| 4 | OVP | Y | -32 | 1 |
| 5 | OVP | My | 0 | 1 |
| 6 | OVP | Mz | 0 | 1 |
| 7 | MP1A | Y | -31.65 | 1.5 |
| 8 | MP1A | My | -.0158 | 1.5 |
| 9 | MP1A | Mz | -.0211 | 1.5 |
| 10 | MP1A | Y | -31.65 | 6.5 |
| 11 | MP1A | Mv | -.0158 | 6.5 |
| 12 | MP1A | Mz | -.0211 | 6.5 |
| 13 | MP1A | Y | -31.65 | 1.5 |
| 14 | MP1A | My | -.0158 | 1.5 |
| 15 | MP1A | Mz | .0211 | 1.5 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 16 | MP1A | Y | -31.65 | 6.5 |
| 17 | MP1A | My | -.0158 | 6.5 |
| 18 | MP1A | Mz | .0211 | 6.5 |
| 19 | MP4A | Y | -28.65 | 3 |
| 20 | MP4A | My | -.0143 | 3 |
| 21 | MP4A | Mz | 0 | 3 |
| 22 | MP4A | Y | -28.65 | 5 |
| 23 | MP4A | My | -.0143 | 5 |
| 24 | MP4A | Mz | 0 | 5 |
| 25 | MP1A | Y | -74.7 | 3 |
| 26 | MP1A | My | .0374 | 3 |
| 27 | MP1A | Mz | 0 | 3 |
| 28 | MP1A | Y | -20.8 | 5 |
| 29 | MP1A | My | .0104 | 5 |
| 30 | MP1A | Mz | 0 | 5 |

Member Point Loads (BLC 2 : Antenna Di)

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | Y | -42.8205 | 1 |
| 2 | RRU | My | 0 | 1 |
| 3 | RRU | Mz | 0 | 1 |
| 4 | OVP | Y | -88.0361 | 1 |
| 5 | OVP | My | 0 | 1 |
| 6 | OVP | Mz | 0 | 1 |
| 7 | MP1A | Y | -70.0453 | 1.5 |
| 8 | MP1A | My | -.035 | 1.5 |
| 9 | MP1A | Mz | -.0467 | 1.5 |
| 10 | MP1A | Y | -70.0453 | 6.5 |
| 11 | MP1A | My | -.035 | 6.5 |
| 12 | MP1A | Mz | -.0467 | 6.5 |
| 13 | MP1A | Y | -70.0453 | 1.5 |
| 14 | MP1A | My | -.035 | 1.5 |
| 15 | MP1A | Mz | .0467 | 1.5 |
| 16 | MP1A | Y | -70.0453 | 6.5 |
| 17 | MP1A | My | -.035 | 6.5 |
| 18 | MP1A | Mz | .0467 | 6.5 |
| 19 | MP4A | Y | -29.8213 | 3 |
| 20 | MP4A | My | -.0149 | 3 |
| 21 | MP4A | Mz | 0 | 3 |
| 22 | MP4A | Y | -29.8213 | 5 |
| 23 | MP4A | My | -.0149 | 5 |
| 24 | MP4A | Mz | 0 | 5 |
| 25 | MP1A | Y | -44.965 | 3 |
| 26 | MP1A | My | .0225 | 3 |
| 27 | MP1A | Mz | 0 | 3 |
| 28 | MP1A | Y | -16.1917 | 5 |
| 29 | MP1A | My | .0081 | 5 |
| 30 | MP1A | Mz | 0 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|---|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 0 | 1 |
| 2 | RRU | Z | -69.934 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 0 | 1 |
| 5 | OVP | Z | -149.125 | 1 |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft. %] |
|----|--------------|-----------|--------------------|-----------------|
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 0 | 1.5 |
| 8 | MP1A | Z | -227.941 | 1.5 |
| 9 | MP1A | Mx | .152 | 1.5 |
| 10 | MP1A | X | 0 | 6.5 |
| 11 | MP1A | Z | -227.941 | 6.5 |
| 12 | MP1A | Mx | .152 | 6.5 |
| 13 | MP1A | X | 0 | 1.5 |
| 14 | MP1A | Z | -227.941 | 1.5 |
| 15 | MP1A | Mx | -.152 | 1.5 |
| 16 | MP1A | X | 0 | 6.5 |
| 17 | MP1A | Z | -227.941 | 6.5 |
| 18 | MP1A | Mx | -.152 | 6.5 |
| 19 | MP4A | X | 0 | 3 |
| 20 | MP4A | Z | -94.829 | 3 |
| 21 | MP4A | Mx | 0 | 3 |
| 22 | MP4A | X | 0 | 5 |
| 23 | MP4A | Z | -94.829 | 5 |
| 24 | MP4A | Mx | 0 | 5 |
| 25 | MP1A | X | 0 | 3 |
| 26 | MP1A | Z | -77.565 | 3 |
| 27 | MP1A | Mx | 0 | 3 |
| 28 | MP1A | X | 0 | 5 |
| 29 | MP1A | Z | -18.516 | 5 |
| 30 | MP1A | Mx | 0 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft. %] |
|----|--------------|-----------|--------------------|-----------------|
| 1 | RRU | X | 27.335 | 1 |
| 2 | RRU | Z | -47.346 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 65.054 | 1 |
| 5 | OVP | Z | -112.678 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 104.191 | 1.5 |
| 8 | MP1A | Z | -180.465 | 1.5 |
| 9 | MP1A | Mx | .0682 | 1.5 |
| 10 | MP1A | X | 104.191 | 6.5 |
| 11 | MP1A | Z | -180.465 | 6.5 |
| 12 | MP1A | Mx | .0682 | 6.5 |
| 13 | MP1A | X | 104.191 | 1.5 |
| 14 | MP1A | Z | -180.465 | 1.5 |
| 15 | MP1A | Mx | -.1724 | 1.5 |
| 16 | MP1A | X | 104.191 | 6.5 |
| 17 | MP1A | Z | -180.465 | 6.5 |
| 18 | MP1A | Mx | -.1724 | 6.5 |
| 19 | MP4A | X | 40.126 | 3 |
| 20 | MP4A | Z | -69.501 | 3 |
| 21 | MP4A | Mx | -.0201 | 3 |
| 22 | MP4A | X | 40.126 | 5 |
| 23 | MP4A | Z | -69.501 | 5 |
| 24 | MP4A | Mx | -.0201 | 5 |
| 25 | MP1A | X | 35.592 | 3 |
| 26 | MP1A | Z | -61.648 | 3 |
| 27 | MP1A | Mx | .0178 | 3 |
| 28 | MP1A | X | 10.146 | 5 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 29 | MP1A | Z | -17.573 | 5 |
| 30 | MP1A | Mx | .0051 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 40.737 | 1 |
| 2 | RRU | Z | -23.52 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 104.444 | 1 |
| 5 | OVP | Z | -60.301 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 146.589 | 1.5 |
| 8 | MP1A | Z | -84.633 | 1.5 |
| 9 | MP1A | Mx | -.0169 | 1.5 |
| 10 | MP1A | X | 146.589 | 6.5 |
| 11 | MP1A | Z | -84.633 | 6.5 |
| 12 | MP1A | Mx | -.0169 | 6.5 |
| 13 | MP1A | X | 146.589 | 1.5 |
| 14 | MP1A | Z | -84.633 | 1.5 |
| 15 | MP1A | Mx | -.1297 | 1.5 |
| 16 | MP1A | X | 146.589 | 6.5 |
| 17 | MP1A | Z | -84.633 | 6.5 |
| 18 | MP1A | Mx | -.1297 | 6.5 |
| 19 | MP4A | X | 44.254 | 3 |
| 20 | MP4A | Z | -25.55 | 3 |
| 21 | MP4A | Mx | -.0221 | 3 |
| 22 | MP4A | X | 44.254 | 5 |
| 23 | MP4A | Z | -25.55 | 5 |
| 24 | MP4A | Mx | -.0221 | 5 |
| 25 | MP1A | X | 50.597 | 3 |
| 26 | MP1A | Z | -29.212 | 3 |
| 27 | MP1A | Mx | .0253 | 3 |
| 28 | MP1A | X | 20.65 | 5 |
| 29 | MP1A | Z | -11.922 | 5 |
| 30 | MP1A | Mx | .0103 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 54.671 | 1 |
| 2 | RRU | Z | 0 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 130.109 | 1 |
| 5 | OVP | Z | 0 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 149.709 | 1.5 |
| 8 | MP1A | Z | 0 | 1.5 |
| 9 | MP1A | Mx | -.0749 | 1.5 |
| 10 | MP1A | X | 149.709 | 6.5 |
| 11 | MP1A | Z | 0 | 6.5 |
| 12 | MP1A | Mx | -.0749 | 6.5 |
| 13 | MP1A | X | 149.709 | 1.5 |
| 14 | MP1A | Z | 0 | 1.5 |
| 15 | MP1A | Mx | -.0749 | 1.5 |
| 16 | MP1A | X | 149.709 | 6.5 |
| 17 | MP1A | Z | 0 | 6.5 |
| 18 | MP1A | Mx | -.0749 | 6.5 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 19 | MP4A | X | 36.524 | 3 |
| 20 | MP4A | Z | 0 | 3 |
| 21 | MP4A | Mx | -.0183 | 3 |
| 22 | MP4A | X | 36.524 | 5 |
| 23 | MP4A | Z | 0 | 5 |
| 24 | MP4A | Mx | -.0183 | 5 |
| 25 | MP1A | X | 52.044 | 3 |
| 26 | MP1A | Z | 0 | 3 |
| 27 | MP1A | Mx | .026 | 3 |
| 28 | MP1A | X | 25.621 | 5 |
| 29 | MP1A | Z | 0 | 5 |
| 30 | MP1A | Mx | .0128 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 60.564 | 1 |
| 2 | RRU | Z | 34.967 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 129.146 | 1 |
| 5 | OVP | Z | 74.562 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 146.589 | 1.5 |
| 8 | MP1A | Z | 84.633 | 1.5 |
| 9 | MP1A | Mx | -.1297 | 1.5 |
| 10 | MP1A | X | 146.589 | 6.5 |
| 11 | MP1A | Z | 84.633 | 6.5 |
| 12 | MP1A | Mx | -.1297 | 6.5 |
| 13 | MP1A | X | 146.589 | 1.5 |
| 14 | MP1A | Z | 84.633 | 1.5 |
| 15 | MP1A | Mx | -.0169 | 1.5 |
| 16 | MP1A | X | 146.589 | 6.5 |
| 17 | MP1A | Z | 84.633 | 6.5 |
| 18 | MP1A | Mx | -.0169 | 6.5 |
| 19 | MP4A | X | 44.254 | 3 |
| 20 | MP4A | Z | 25.55 | 3 |
| 21 | MP4A | Mx | -.0221 | 3 |
| 22 | MP4A | X | 44.254 | 5 |
| 23 | MP4A | Z | 25.55 | 5 |
| 24 | MP4A | Mx | -.0221 | 5 |
| 25 | MP1A | X | 50.597 | 3 |
| 26 | MP1A | Z | 29.212 | 3 |
| 27 | MP1A | Mx | .0253 | 3 |
| 28 | MP1A | X | 20.65 | 5 |
| 29 | MP1A | Z | 11.922 | 5 |
| 30 | MP1A | Mx | .0103 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|---|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 38.782 | 1 |
| 2 | RRU | Z | 67.173 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 79.316 | 1 |
| 5 | OVP | Z | 137.38 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 104.191 | 1.5 |
| 8 | MP1A | Z | 180.465 | 1.5 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 9 | MP1A | Mx | -.1724 | 1.5 |
| 10 | MP1A | X | 104.191 | 6.5 |
| 11 | MP1A | Z | 180.465 | 6.5 |
| 12 | MP1A | Mx | -.1724 | 6.5 |
| 13 | MP1A | X | 104.191 | 1.5 |
| 14 | MP1A | Z | 180.465 | 1.5 |
| 15 | MP1A | Mx | .0682 | 1.5 |
| 16 | MP1A | X | 104.191 | 6.5 |
| 17 | MP1A | Z | 180.465 | 6.5 |
| 18 | MP1A | Mx | .0682 | 6.5 |
| 19 | MP4A | X | 40.126 | 3 |
| 20 | MP4A | Z | 69.501 | 3 |
| 21 | MP4A | Mx | -.0201 | 3 |
| 22 | MP4A | X | 40.126 | 5 |
| 23 | MP4A | Z | 69.501 | 5 |
| 24 | MP4A | Mx | -.0201 | 5 |
| 25 | MP1A | X | 35.592 | 3 |
| 26 | MP1A | Z | 61.648 | 3 |
| 27 | MP1A | Mx | .0178 | 3 |
| 28 | MP1A | X | 10.146 | 5 |
| 29 | MP1A | Z | 17.573 | 5 |
| 30 | MP1A | Mx | .0051 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 0 | 1 |
| 2 | RRU | Z | 69.934 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 0 | 1 |
| 5 | OVP | Z | 149.125 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 0 | 1.5 |
| 8 | MP1A | Z | 227.941 | 1.5 |
| 9 | MP1A | Mx | -.152 | 1.5 |
| 10 | MP1A | X | 0 | 6.5 |
| 11 | MP1A | Z | 227.941 | 6.5 |
| 12 | MP1A | Mx | -.152 | 6.5 |
| 13 | MP1A | X | 0 | 1.5 |
| 14 | MP1A | Z | 227.941 | 1.5 |
| 15 | MP1A | Mx | .152 | 1.5 |
| 16 | MP1A | X | 0 | 6.5 |
| 17 | MP1A | Z | 227.941 | 6.5 |
| 18 | MP1A | Mx | .152 | 6.5 |
| 19 | MP4A | X | 0 | 3 |
| 20 | MP4A | Z | 94.829 | 3 |
| 21 | MP4A | Mx | 0 | 3 |
| 22 | MP4A | X | 0 | 5 |
| 23 | MP4A | Z | 94.829 | 5 |
| 24 | MP4A | Mx | 0 | 5 |
| 25 | MP1A | X | 0 | 3 |
| 26 | MP1A | Z | 77.565 | 3 |
| 27 | MP1A | Mx | 0 | 3 |
| 28 | MP1A | X | 0 | 5 |
| 29 | MP1A | Z | 18.516 | 5 |
| 30 | MP1A | Mx | 0 | 5 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | -27.335 | 1 |
| 2 | RRU | Z | 47.346 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | -65.054 | 1 |
| 5 | OVP | Z | 112.678 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | -104.191 | 1.5 |
| 8 | MP1A | Z | 180.465 | 1.5 |
| 9 | MP1A | Mx | -.0682 | 1.5 |
| 10 | MP1A | X | -104.191 | 6.5 |
| 11 | MP1A | Z | 180.465 | 6.5 |
| 12 | MP1A | Mx | -.0682 | 6.5 |
| 13 | MP1A | X | -104.191 | 1.5 |
| 14 | MP1A | Z | 180.465 | 1.5 |
| 15 | MP1A | Mx | .1724 | 1.5 |
| 16 | MP1A | X | -104.191 | 6.5 |
| 17 | MP1A | Z | 180.465 | 6.5 |
| 18 | MP1A | Mx | .1724 | 6.5 |
| 19 | MP4A | X | -40.126 | 3 |
| 20 | MP4A | Z | 69.501 | 3 |
| 21 | MP4A | Mx | .0201 | 3 |
| 22 | MP4A | X | -40.126 | 5 |
| 23 | MP4A | Z | 69.501 | 5 |
| 24 | MP4A | Mx | .0201 | 5 |
| 25 | MP1A | X | -35.592 | 3 |
| 26 | MP1A | Z | 61.648 | 3 |
| 27 | MP1A | Mx | -.0178 | 3 |
| 28 | MP1A | X | -10.146 | 5 |
| 29 | MP1A | Z | 17.573 | 5 |
| 30 | MP1A | Mx | -.0051 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | -40.737 | 1 |
| 2 | RRU | Z | 23.52 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | -104.444 | 1 |
| 5 | OVP | Z | 60.301 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | -146.589 | 1.5 |
| 8 | MP1A | Z | 84.633 | 1.5 |
| 9 | MP1A | Mx | .0169 | 1.5 |
| 10 | MP1A | X | -146.589 | 6.5 |
| 11 | MP1A | Z | 84.633 | 6.5 |
| 12 | MP1A | Mx | .0169 | 6.5 |
| 13 | MP1A | X | -146.589 | 1.5 |
| 14 | MP1A | Z | 84.633 | 1.5 |
| 15 | MP1A | Mx | .1297 | 1.5 |
| 16 | MP1A | X | -146.589 | 6.5 |
| 17 | MP1A | Z | 84.633 | 6.5 |
| 18 | MP1A | Mx | .1297 | 6.5 |
| 19 | MP4A | X | -44.254 | 3 |
| 20 | MP4A | Z | 25.55 | 3 |
| 21 | MP4A | Mx | .0221 | 3 |
| 22 | MP4A | X | -44.254 | 5 |
| 23 | MP4A | Z | 25.55 | 5 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 24 | MP4A | Mx | .0221 | 5 |
| 25 | MP1A | X | -50.597 | 3 |
| 26 | MP1A | Z | 29.212 | 3 |
| 27 | MP1A | Mx | -.0253 | 3 |
| 28 | MP1A | X | -20.65 | 5 |
| 29 | MP1A | Z | 11.922 | 5 |
| 30 | MP1A | Mx | -.0103 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | -54.671 | 1 |
| 2 | RRU | Z | 0 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | -130.109 | 1 |
| 5 | OVP | Z | 0 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | -149.709 | 1.5 |
| 8 | MP1A | Z | 0 | 1.5 |
| 9 | MP1A | Mx | .0749 | 1.5 |
| 10 | MP1A | X | -149.709 | 6.5 |
| 11 | MP1A | Z | 0 | 6.5 |
| 12 | MP1A | Mx | .0749 | 6.5 |
| 13 | MP1A | X | -149.709 | 1.5 |
| 14 | MP1A | Z | 0 | 1.5 |
| 15 | MP1A | Mx | .0749 | 1.5 |
| 16 | MP1A | X | -149.709 | 6.5 |
| 17 | MP1A | Z | 0 | 6.5 |
| 18 | MP1A | Mx | .0749 | 6.5 |
| 19 | MP4A | X | -36.524 | 3 |
| 20 | MP4A | Z | 0 | 3 |
| 21 | MP4A | Mx | .0183 | 3 |
| 22 | MP4A | X | -36.524 | 5 |
| 23 | MP4A | Z | 0 | 5 |
| 24 | MP4A | Mx | .0183 | 5 |
| 25 | MP1A | X | -52.044 | 3 |
| 26 | MP1A | Z | 0 | 3 |
| 27 | MP1A | Mx | -.026 | 3 |
| 28 | MP1A | X | -25.621 | 5 |
| 29 | MP1A | Z | 0 | 5 |
| 30 | MP1A | Mx | -.0128 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | -60.564 | 1 |
| 2 | RRU | Z | -34.967 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | -129.146 | 1 |
| 5 | OVP | Z | -74.562 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | -146.589 | 1.5 |
| 8 | MP1A | Z | -84.633 | 1.5 |
| 9 | MP1A | Mx | .1297 | 1.5 |
| 10 | MP1A | X | -146.589 | 6.5 |
| 11 | MP1A | Z | -84.633 | 6.5 |
| 12 | MP1A | Mx | .1297 | 6.5 |
| 13 | MP1A | X | -146.589 | 1.5 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft. %] |
|----|--------------|-----------|--------------------|-----------------|
| 14 | MP1A | Z | -84.633 | 1.5 |
| 15 | MP1A | Mx | .0169 | 1.5 |
| 16 | MP1A | X | -146.589 | 6.5 |
| 17 | MP1A | Z | -84.633 | 6.5 |
| 18 | MP1A | Mx | .0169 | 6.5 |
| 19 | MP4A | X | -44.254 | 3 |
| 20 | MP4A | Z | -25.55 | 3 |
| 21 | MP4A | Mx | .0221 | 3 |
| 22 | MP4A | X | -44.254 | 5 |
| 23 | MP4A | Z | -25.55 | 5 |
| 24 | MP4A | Mx | .0221 | 5 |
| 25 | MP1A | X | -50.597 | 3 |
| 26 | MP1A | Z | -29.212 | 3 |
| 27 | MP1A | Mx | -.0253 | 3 |
| 28 | MP1A | X | -20.65 | 5 |
| 29 | MP1A | Z | -11.922 | 5 |
| 30 | MP1A | Mx | -.0103 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft. %] |
|----|--------------|-----------|--------------------|-----------------|
| 1 | RRU | X | -38.782 | 1 |
| 2 | RRU | Z | -67.173 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | -79.316 | 1 |
| 5 | OVP | Z | -137.38 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | -104.191 | 1.5 |
| 8 | MP1A | Z | -180.465 | 1.5 |
| 9 | MP1A | Mx | .1724 | 1.5 |
| 10 | MP1A | X | -104.191 | 6.5 |
| 11 | MP1A | Z | -180.465 | 6.5 |
| 12 | MP1A | Mx | .1724 | 6.5 |
| 13 | MP1A | X | -104.191 | 1.5 |
| 14 | MP1A | Z | -180.465 | 1.5 |
| 15 | MP1A | Mx | -.0682 | 1.5 |
| 16 | MP1A | X | -104.191 | 6.5 |
| 17 | MP1A | Z | -180.465 | 6.5 |
| 18 | MP1A | Mx | -.0682 | 6.5 |
| 19 | MP4A | X | -40.126 | 3 |
| 20 | MP4A | Z | -69.501 | 3 |
| 21 | MP4A | Mx | .0201 | 3 |
| 22 | MP4A | X | -40.126 | 5 |
| 23 | MP4A | Z | -69.501 | 5 |
| 24 | MP4A | Mx | .0201 | 5 |
| 25 | MP1A | X | -35.592 | 3 |
| 26 | MP1A | Z | -61.648 | 3 |
| 27 | MP1A | Mx | -.0178 | 3 |
| 28 | MP1A | X | -10.146 | 5 |
| 29 | MP1A | Z | -17.573 | 5 |
| 30 | MP1A | Mx | -.0051 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft. %] |
|---|--------------|-----------|--------------------|-----------------|
| 1 | RRU | X | 0 | 1 |
| 2 | RRU | Z | -15.079 | 1 |
| 3 | RRU | Mx | 0 | 1 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 4 | OVP | X | 0 | 1 |
| 5 | OVP | Z | -32.189 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 0 | 1.5 |
| 8 | MP1A | Z | -36.954 | 1.5 |
| 9 | MP1A | Mx | .0246 | 1.5 |
| 10 | MP1A | X | 0 | 6.5 |
| 11 | MP1A | Z | -36.954 | 6.5 |
| 12 | MP1A | Mx | .0246 | 6.5 |
| 13 | MP1A | X | 0 | 1.5 |
| 14 | MP1A | Z | -36.954 | 1.5 |
| 15 | MP1A | Mx | -.0246 | 1.5 |
| 16 | MP1A | X | 0 | 6.5 |
| 17 | MP1A | Z | -36.954 | 6.5 |
| 18 | MP1A | Mx | -.0246 | 6.5 |
| 19 | MP4A | X | 0 | 3 |
| 20 | MP4A | Z | -16.039 | 3 |
| 21 | MP4A | Mx | 0 | 3 |
| 22 | MP4A | X | 0 | 5 |
| 23 | MP4A | Z | -16.039 | 5 |
| 24 | MP4A | Mx | 0 | 5 |
| 25 | MP1A | X | 0 | 3 |
| 26 | MP1A | Z | -16.567 | 3 |
| 27 | MP1A | Mx | 0 | 3 |
| 28 | MP1A | X | 0 | 5 |
| 29 | MP1A | Z | -4.022 | 5 |
| 30 | MP1A | Mx | 0 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 6.052 | 1 |
| 2 | RRU | Z | -10.483 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 14.239 | 1 |
| 5 | OVP | Z | -24.663 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 17.009 | 1.5 |
| 8 | MP1A | Z | -29.46 | 1.5 |
| 9 | MP1A | Mx | .0111 | 1.5 |
| 10 | MP1A | X | 17.009 | 6.5 |
| 11 | MP1A | Z | -29.46 | 6.5 |
| 12 | MP1A | Mx | .0111 | 6.5 |
| 13 | MP1A | X | 17.009 | 1.5 |
| 14 | MP1A | Z | -29.46 | 1.5 |
| 15 | MP1A | Mx | -.0281 | 1.5 |
| 16 | MP1A | X | 17.009 | 6.5 |
| 17 | MP1A | Z | -29.46 | 6.5 |
| 18 | MP1A | Mx | -.0281 | 6.5 |
| 19 | MP4A | X | 6.861 | 3 |
| 20 | MP4A | Z | -11.884 | 3 |
| 21 | MP4A | Mx | -.0034 | 3 |
| 22 | MP4A | X | 6.861 | 5 |
| 23 | MP4A | Z | -11.884 | 5 |
| 24 | MP4A | Mx | -.0034 | 5 |
| 25 | MP1A | X | 7.653 | 3 |
| 26 | MP1A | Z | -13.256 | 3 |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 27 | MP1A | Mx | .0038 | 3 |
| 28 | MP1A | X | 2.173 | 5 |
| 29 | MP1A | Z | -3.763 | 5 |
| 30 | MP1A | Mx | .0011 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 9.194 | 1 |
| 2 | RRU | Z | -5.308 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 23.056 | 1 |
| 5 | OVP | Z | -13.311 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 24.375 | 1.5 |
| 8 | MP1A | Z | -14.073 | 1.5 |
| 9 | MP1A | Mx | -.0028 | 1.5 |
| 10 | MP1A | X | 24.375 | 6.5 |
| 11 | MP1A | Z | -14.073 | 6.5 |
| 12 | MP1A | Mx | -.0028 | 6.5 |
| 13 | MP1A | X | 24.375 | 1.5 |
| 14 | MP1A | Z | -14.073 | 1.5 |
| 15 | MP1A | Mx | -.0216 | 1.5 |
| 16 | MP1A | X | 24.375 | 6.5 |
| 17 | MP1A | Z | -14.073 | 6.5 |
| 18 | MP1A | Mx | -.0216 | 6.5 |
| 19 | MP4A | X | 7.872 | 3 |
| 20 | MP4A | Z | -4.545 | 3 |
| 21 | MP4A | Mx | -.0039 | 3 |
| 22 | MP4A | X | 7.872 | 5 |
| 23 | MP4A | Z | -4.545 | 5 |
| 24 | MP4A | Mx | -.0039 | 5 |
| 25 | MP1A | X | 11.072 | 3 |
| 26 | MP1A | Z | -6.393 | 3 |
| 27 | MP1A | Mx | .0055 | 3 |
| 28 | MP1A | X | 4.322 | 5 |
| 29 | MP1A | Z | -2.495 | 5 |
| 30 | MP1A | Mx | .0022 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 12.104 | 1 |
| 2 | RRU | Z | 0 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 28.478 | 1 |
| 5 | OVP | Z | 0 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 25.209 | 1.5 |
| 8 | MP1A | Z | 0 | 1.5 |
| 9 | MP1A | Mx | -.0126 | 1.5 |
| 10 | MP1A | X | 25.209 | 6.5 |
| 11 | MP1A | Z | 0 | 6.5 |
| 12 | MP1A | Mx | -.0126 | 6.5 |
| 13 | MP1A | X | 25.209 | 1.5 |
| 14 | MP1A | Z | 0 | 1.5 |
| 15 | MP1A | Mx | -.0126 | 1.5 |
| 16 | MP1A | X | 25.209 | 6.5 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 17 | MP1A | Z | 0 | 6.5 |
| 18 | MP1A | Mx | -.0126 | 6.5 |
| 19 | MP4A | X | 6.773 | 3 |
| 20 | MP4A | Z | 0 | 3 |
| 21 | MP4A | Mx | -.0034 | 3 |
| 22 | MP4A | X | 6.773 | 5 |
| 23 | MP4A | Z | 0 | 5 |
| 24 | MP4A | Mx | -.0034 | 5 |
| 25 | MP1A | X | 11.524 | 3 |
| 26 | MP1A | Z | 0 | 3 |
| 27 | MP1A | Mx | .0058 | 3 |
| 28 | MP1A | X | 5.313 | 5 |
| 29 | MP1A | Z | 0 | 5 |
| 30 | MP1A | Mx | .0027 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 13.059 | 1 |
| 2 | RRU | Z | 7.54 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 27.877 | 1 |
| 5 | OVP | Z | 16.095 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 24.375 | 1.5 |
| 8 | MP1A | Z | 14.073 | 1.5 |
| 9 | MP1A | Mx | -.0216 | 1.5 |
| 10 | MP1A | X | 24.375 | 6.5 |
| 11 | MP1A | Z | 14.073 | 6.5 |
| 12 | MP1A | Mx | -.0216 | 6.5 |
| 13 | MP1A | X | 24.375 | 1.5 |
| 14 | MP1A | Z | 14.073 | 1.5 |
| 15 | MP1A | Mx | -.0028 | 1.5 |
| 16 | MP1A | X | 24.375 | 6.5 |
| 17 | MP1A | Z | 14.073 | 6.5 |
| 18 | MP1A | Mx | -.0028 | 6.5 |
| 19 | MP4A | X | 7.872 | 3 |
| 20 | MP4A | Z | 4.545 | 3 |
| 21 | MP4A | Mx | -.0039 | 3 |
| 22 | MP4A | X | 7.872 | 5 |
| 23 | MP4A | Z | 4.545 | 5 |
| 24 | MP4A | Mx | -.0039 | 5 |
| 25 | MP1A | X | 11.072 | 3 |
| 26 | MP1A | Z | 6.393 | 3 |
| 27 | MP1A | Mx | .0055 | 3 |
| 28 | MP1A | X | 4.322 | 5 |
| 29 | MP1A | Z | 2.495 | 5 |
| 30 | MP1A | Mx | .0022 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|---|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 8.283 | 1 |
| 2 | RRU | Z | 14.347 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 17.022 | 1 |
| 5 | OVP | Z | 29.483 | 1 |
| 6 | OVP | Mx | 0 | 1 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft. %] |
|----|--------------|-----------|--------------------|-----------------|
| 7 | MP1A | X | 17.009 | 1.5 |
| 8 | MP1A | Z | 29.46 | 1.5 |
| 9 | MP1A | Mx | -.0281 | 1.5 |
| 10 | MP1A | X | 17.009 | 6.5 |
| 11 | MP1A | Z | 29.46 | 6.5 |
| 12 | MP1A | Mx | -.0281 | 6.5 |
| 13 | MP1A | X | 17.009 | 1.5 |
| 14 | MP1A | Z | 29.46 | 1.5 |
| 15 | MP1A | Mx | .0111 | 1.5 |
| 16 | MP1A | X | 17.009 | 6.5 |
| 17 | MP1A | Z | 29.46 | 6.5 |
| 18 | MP1A | Mx | .0111 | 6.5 |
| 19 | MP4A | X | 6.861 | 3 |
| 20 | MP4A | Z | 11.884 | 3 |
| 21 | MP4A | Mx | -.0034 | 3 |
| 22 | MP4A | X | 6.861 | 5 |
| 23 | MP4A | Z | 11.884 | 5 |
| 24 | MP4A | Mx | -.0034 | 5 |
| 25 | MP1A | X | 7.653 | 3 |
| 26 | MP1A | Z | 13.256 | 3 |
| 27 | MP1A | Mx | .0038 | 3 |
| 28 | MP1A | X | 2.173 | 5 |
| 29 | MP1A | Z | 3.763 | 5 |
| 30 | MP1A | Mx | .0011 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft. %] |
|----|--------------|-----------|--------------------|-----------------|
| 1 | RRU | X | 0 | 1 |
| 2 | RRU | Z | 15.079 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 0 | 1 |
| 5 | OVP | Z | 32.189 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 0 | 1.5 |
| 8 | MP1A | Z | 36.954 | 1.5 |
| 9 | MP1A | Mx | -.0246 | 1.5 |
| 10 | MP1A | X | 0 | 6.5 |
| 11 | MP1A | Z | 36.954 | 6.5 |
| 12 | MP1A | Mx | -.0246 | 6.5 |
| 13 | MP1A | X | 0 | 1.5 |
| 14 | MP1A | Z | 36.954 | 1.5 |
| 15 | MP1A | Mx | .0246 | 1.5 |
| 16 | MP1A | X | 0 | 6.5 |
| 17 | MP1A | Z | 36.954 | 6.5 |
| 18 | MP1A | Mx | .0246 | 6.5 |
| 19 | MP4A | X | 0 | 3 |
| 20 | MP4A | Z | 16.039 | 3 |
| 21 | MP4A | Mx | 0 | 3 |
| 22 | MP4A | X | 0 | 5 |
| 23 | MP4A | Z | 16.039 | 5 |
| 24 | MP4A | Mx | 0 | 5 |
| 25 | MP1A | X | 0 | 3 |
| 26 | MP1A | Z | 16.567 | 3 |
| 27 | MP1A | Mx | 0 | 3 |
| 28 | MP1A | X | 0 | 5 |
| 29 | MP1A | Z | 4.022 | 5 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 30 | MP1A | Mx | 0 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | -6.052 | 1 |
| 2 | RRU | Z | 10.483 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | -14.239 | 1 |
| 5 | OVP | Z | 24.663 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | -17.009 | 1.5 |
| 8 | MP1A | Z | 29.46 | 1.5 |
| 9 | MP1A | Mx | -.0111 | 1.5 |
| 10 | MP1A | X | -17.009 | 6.5 |
| 11 | MP1A | Z | 29.46 | 6.5 |
| 12 | MP1A | Mx | -.0111 | 6.5 |
| 13 | MP1A | X | -17.009 | 1.5 |
| 14 | MP1A | Z | 29.46 | 1.5 |
| 15 | MP1A | Mx | .0281 | 1.5 |
| 16 | MP1A | X | -17.009 | 6.5 |
| 17 | MP1A | Z | 29.46 | 6.5 |
| 18 | MP1A | Mx | .0281 | 6.5 |
| 19 | MP4A | X | -6.861 | 3 |
| 20 | MP4A | Z | 11.884 | 3 |
| 21 | MP4A | Mx | .0034 | 3 |
| 22 | MP4A | X | -6.861 | 5 |
| 23 | MP4A | Z | 11.884 | 5 |
| 24 | MP4A | Mx | .0034 | 5 |
| 25 | MP1A | X | -7.653 | 3 |
| 26 | MP1A | Z | 13.256 | 3 |
| 27 | MP1A | Mx | -.0038 | 3 |
| 28 | MP1A | X | -2.173 | 5 |
| 29 | MP1A | Z | 3.763 | 5 |
| 30 | MP1A | Mx | -.0011 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | -9.194 | 1 |
| 2 | RRU | Z | 5.308 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | -23.056 | 1 |
| 5 | OVP | Z | 13.311 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | -24.375 | 1.5 |
| 8 | MP1A | Z | 14.073 | 1.5 |
| 9 | MP1A | Mx | .0028 | 1.5 |
| 10 | MP1A | X | -24.375 | 6.5 |
| 11 | MP1A | Z | 14.073 | 6.5 |
| 12 | MP1A | Mx | .0028 | 6.5 |
| 13 | MP1A | X | -24.375 | 1.5 |
| 14 | MP1A | Z | 14.073 | 1.5 |
| 15 | MP1A | Mx | .0216 | 1.5 |
| 16 | MP1A | X | -24.375 | 6.5 |
| 17 | MP1A | Z | 14.073 | 6.5 |
| 18 | MP1A | Mx | .0216 | 6.5 |
| 19 | MP4A | X | -7.872 | 3 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft. %] |
|----|--------------|-----------|--------------------|-----------------|
| 20 | MP4A | Z | 4.545 | 3 |
| 21 | MP4A | Mx | .0039 | 3 |
| 22 | MP4A | X | -7.872 | 5 |
| 23 | MP4A | Z | 4.545 | 5 |
| 24 | MP4A | Mx | .0039 | 5 |
| 25 | MP1A | X | -11.072 | 3 |
| 26 | MP1A | Z | 6.393 | 3 |
| 27 | MP1A | Mx | -.0055 | 3 |
| 28 | MP1A | X | -4.322 | 5 |
| 29 | MP1A | Z | 2.495 | 5 |
| 30 | MP1A | Mx | -.0022 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft. %] |
|----|--------------|-----------|--------------------|-----------------|
| 1 | RRU | X | -12.104 | 1 |
| 2 | RRU | Z | 0 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | -28.478 | 1 |
| 5 | OVP | Z | 0 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | -25.209 | 1.5 |
| 8 | MP1A | Z | 0 | 1.5 |
| 9 | MP1A | Mx | .0126 | 1.5 |
| 10 | MP1A | X | -25.209 | 6.5 |
| 11 | MP1A | Z | 0 | 6.5 |
| 12 | MP1A | Mx | .0126 | 6.5 |
| 13 | MP1A | X | -25.209 | 1.5 |
| 14 | MP1A | Z | 0 | 1.5 |
| 15 | MP1A | Mx | .0126 | 1.5 |
| 16 | MP1A | X | -25.209 | 6.5 |
| 17 | MP1A | Z | 0 | 6.5 |
| 18 | MP1A | Mx | .0126 | 6.5 |
| 19 | MP4A | X | -6.773 | 3 |
| 20 | MP4A | Z | 0 | 3 |
| 21 | MP4A | Mx | .0034 | 3 |
| 22 | MP4A | X | -6.773 | 5 |
| 23 | MP4A | Z | 0 | 5 |
| 24 | MP4A | Mx | .0034 | 5 |
| 25 | MP1A | X | -11.524 | 3 |
| 26 | MP1A | Z | 0 | 3 |
| 27 | MP1A | Mx | -.0058 | 3 |
| 28 | MP1A | X | -5.313 | 5 |
| 29 | MP1A | Z | 0 | 5 |
| 30 | MP1A | Mx | -.0027 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft. %] |
|---|--------------|-----------|--------------------|-----------------|
| 1 | RRU | X | -13.059 | 1 |
| 2 | RRU | Z | -7.54 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | -27.877 | 1 |
| 5 | OVP | Z | -16.095 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | -24.375 | 1.5 |
| 8 | MP1A | Z | -14.073 | 1.5 |
| 9 | MP1A | Mx | .0216 | 1.5 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 10 | MP1A | X | -24.375 | 6.5 |
| 11 | MP1A | Z | -14.073 | 6.5 |
| 12 | MP1A | Mx | .0216 | 6.5 |
| 13 | MP1A | X | -24.375 | 1.5 |
| 14 | MP1A | Z | -14.073 | 1.5 |
| 15 | MP1A | Mx | .0028 | 1.5 |
| 16 | MP1A | X | -24.375 | 6.5 |
| 17 | MP1A | Z | -14.073 | 6.5 |
| 18 | MP1A | Mx | .0028 | 6.5 |
| 19 | MP4A | X | -7.872 | 3 |
| 20 | MP4A | Z | -4.545 | 3 |
| 21 | MP4A | Mx | .0039 | 3 |
| 22 | MP4A | X | -7.872 | 5 |
| 23 | MP4A | Z | -4.545 | 5 |
| 24 | MP4A | Mx | .0039 | 5 |
| 25 | MP1A | X | -11.072 | 3 |
| 26 | MP1A | Z | -6.393 | 3 |
| 27 | MP1A | Mx | -.0055 | 3 |
| 28 | MP1A | X | -4.322 | 5 |
| 29 | MP1A | Z | -2.495 | 5 |
| 30 | MP1A | Mx | -.0022 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | -8.283 | 1 |
| 2 | RRU | Z | -14.347 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | -17.022 | 1 |
| 5 | OVP | Z | -29.483 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | -17.009 | 1.5 |
| 8 | MP1A | Z | -29.46 | 1.5 |
| 9 | MP1A | Mx | .0281 | 1.5 |
| 10 | MP1A | X | -17.009 | 6.5 |
| 11 | MP1A | Z | -29.46 | 6.5 |
| 12 | MP1A | Mx | .0281 | 6.5 |
| 13 | MP1A | X | -17.009 | 1.5 |
| 14 | MP1A | Z | -29.46 | 1.5 |
| 15 | MP1A | Mx | -.0111 | 1.5 |
| 16 | MP1A | X | -17.009 | 6.5 |
| 17 | MP1A | Z | -29.46 | 6.5 |
| 18 | MP1A | Mx | -.0111 | 6.5 |
| 19 | MP4A | X | -6.861 | 3 |
| 20 | MP4A | Z | -11.884 | 3 |
| 21 | MP4A | Mx | .0034 | 3 |
| 22 | MP4A | X | -6.861 | 5 |
| 23 | MP4A | Z | -11.884 | 5 |
| 24 | MP4A | Mx | .0034 | 5 |
| 25 | MP1A | X | -7.653 | 3 |
| 26 | MP1A | Z | -13.256 | 3 |
| 27 | MP1A | Mx | -.0038 | 3 |
| 28 | MP1A | X | -2.173 | 5 |
| 29 | MP1A | Z | -3.763 | 5 |
| 30 | MP1A | Mx | -.0011 | 5 |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 0 | 1 |
| 2 | RRU | Z | -3.724 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 0 | 1 |
| 5 | OVP | Z | -7.942 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 0 | 1.5 |
| 8 | MP1A | Z | -12.139 | 1.5 |
| 9 | MP1A | Mx | .0081 | 1.5 |
| 10 | MP1A | X | 0 | 6.5 |
| 11 | MP1A | Z | -12.139 | 6.5 |
| 12 | MP1A | Mx | .0081 | 6.5 |
| 13 | MP1A | X | 0 | 1.5 |
| 14 | MP1A | Z | -12.139 | 1.5 |
| 15 | MP1A | Mx | -.0081 | 1.5 |
| 16 | MP1A | X | 0 | 6.5 |
| 17 | MP1A | Z | -12.139 | 6.5 |
| 18 | MP1A | Mx | -.0081 | 6.5 |
| 19 | MP4A | X | 0 | 3 |
| 20 | MP4A | Z | -5.05 | 3 |
| 21 | MP4A | Mx | 0 | 3 |
| 22 | MP4A | X | 0 | 5 |
| 23 | MP4A | Z | -5.05 | 5 |
| 24 | MP4A | Mx | 0 | 5 |
| 25 | MP1A | X | 0 | 3 |
| 26 | MP1A | Z | -4.131 | 3 |
| 27 | MP1A | Mx | 0 | 3 |
| 28 | MP1A | X | 0 | 5 |
| 29 | MP1A | Z | -.986 | 5 |
| 30 | MP1A | Mx | 0 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 1.456 | 1 |
| 2 | RRU | Z | -2.521 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 3.464 | 1 |
| 5 | OVP | Z | -6.001 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 5.549 | 1.5 |
| 8 | MP1A | Z | -9.611 | 1.5 |
| 9 | MP1A | Mx | .0036 | 1.5 |
| 10 | MP1A | X | 5.549 | 6.5 |
| 11 | MP1A | Z | -9.611 | 6.5 |
| 12 | MP1A | Mx | .0036 | 6.5 |
| 13 | MP1A | X | 5.549 | 1.5 |
| 14 | MP1A | Z | -9.611 | 1.5 |
| 15 | MP1A | Mx | -.0092 | 1.5 |
| 16 | MP1A | X | 5.549 | 6.5 |
| 17 | MP1A | Z | -9.611 | 6.5 |
| 18 | MP1A | Mx | -.0092 | 6.5 |
| 19 | MP4A | X | 2.137 | 3 |
| 20 | MP4A | Z | -3.701 | 3 |
| 21 | MP4A | Mx | -.0011 | 3 |
| 22 | MP4A | X | 2.137 | 5 |
| 23 | MP4A | Z | -3.701 | 5 |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 24 | MP4A | Mx | -.0011 | 5 |
| 25 | MP1A | X | 1.895 | 3 |
| 26 | MP1A | Z | -3.283 | 3 |
| 27 | MP1A | Mx | .000948 | 3 |
| 28 | MP1A | X | .54 | 5 |
| 29 | MP1A | Z | -.936 | 5 |
| 30 | MP1A | Mx | .00027 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 2.169 | 1 |
| 2 | RRU | Z | -1.253 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 5.562 | 1 |
| 5 | OVP | Z | -3.211 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 7.807 | 1.5 |
| 8 | MP1A | Z | -4.507 | 1.5 |
| 9 | MP1A | Mx | -.000899 | 1.5 |
| 10 | MP1A | X | 7.807 | 6.5 |
| 11 | MP1A | Z | -4.507 | 6.5 |
| 12 | MP1A | Mx | -.000899 | 6.5 |
| 13 | MP1A | X | 7.807 | 1.5 |
| 14 | MP1A | Z | -4.507 | 1.5 |
| 15 | MP1A | Mx | -.0069 | 1.5 |
| 16 | MP1A | X | 7.807 | 6.5 |
| 17 | MP1A | Z | -4.507 | 6.5 |
| 18 | MP1A | Mx | -.0069 | 6.5 |
| 19 | MP4A | X | 2.357 | 3 |
| 20 | MP4A | Z | -1.361 | 3 |
| 21 | MP4A | Mx | -.0012 | 3 |
| 22 | MP4A | X | 2.357 | 5 |
| 23 | MP4A | Z | -1.361 | 5 |
| 24 | MP4A | Mx | -.0012 | 5 |
| 25 | MP1A | X | 2.694 | 3 |
| 26 | MP1A | Z | -1.556 | 3 |
| 27 | MP1A | Mx | .0013 | 3 |
| 28 | MP1A | X | 1.1 | 5 |
| 29 | MP1A | Z | -.635 | 5 |
| 30 | MP1A | Mx | .00055 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 2.911 | 1 |
| 2 | RRU | Z | 0 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 6.929 | 1 |
| 5 | OVP | Z | 0 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 7.973 | 1.5 |
| 8 | MP1A | Z | 0 | 1.5 |
| 9 | MP1A | Mx | -.004 | 1.5 |
| 10 | MP1A | X | 7.973 | 6.5 |
| 11 | MP1A | Z | 0 | 6.5 |
| 12 | MP1A | Mx | -.004 | 6.5 |
| 13 | MP1A | X | 7.973 | 1.5 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 14 | MP1A | Z | 0 | 1.5 |
| 15 | MP1A | Mx | -.004 | 1.5 |
| 16 | MP1A | X | 7.973 | 6.5 |
| 17 | MP1A | Z | 0 | 6.5 |
| 18 | MP1A | Mx | -.004 | 6.5 |
| 19 | MP4A | X | 1.945 | 3 |
| 20 | MP4A | Z | 0 | 3 |
| 21 | MP4A | Mx | -.000972 | 3 |
| 22 | MP4A | X | 1.945 | 5 |
| 23 | MP4A | Z | 0 | 5 |
| 24 | MP4A | Mx | -.000972 | 5 |
| 25 | MP1A | X | 2.772 | 3 |
| 26 | MP1A | Z | 0 | 3 |
| 27 | MP1A | Mx | .0014 | 3 |
| 28 | MP1A | X | 1.364 | 5 |
| 29 | MP1A | Z | 0 | 5 |
| 30 | MP1A | Mx | .000682 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 3.225 | 1 |
| 2 | RRU | Z | 1.862 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 6.878 | 1 |
| 5 | OVP | Z | 3.971 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 7.807 | 1.5 |
| 8 | MP1A | Z | 4.507 | 1.5 |
| 9 | MP1A | Mx | -.0069 | 1.5 |
| 10 | MP1A | X | 7.807 | 6.5 |
| 11 | MP1A | Z | 4.507 | 6.5 |
| 12 | MP1A | Mx | -.0069 | 6.5 |
| 13 | MP1A | X | 7.807 | 1.5 |
| 14 | MP1A | Z | 4.507 | 1.5 |
| 15 | MP1A | Mx | -.000899 | 1.5 |
| 16 | MP1A | X | 7.807 | 6.5 |
| 17 | MP1A | Z | 4.507 | 6.5 |
| 18 | MP1A | Mx | -.000899 | 6.5 |
| 19 | MP4A | X | 2.357 | 3 |
| 20 | MP4A | Z | 1.361 | 3 |
| 21 | MP4A | Mx | -.0012 | 3 |
| 22 | MP4A | X | 2.357 | 5 |
| 23 | MP4A | Z | 1.361 | 5 |
| 24 | MP4A | Mx | -.0012 | 5 |
| 25 | MP1A | X | 2.694 | 3 |
| 26 | MP1A | Z | 1.556 | 3 |
| 27 | MP1A | Mx | .0013 | 3 |
| 28 | MP1A | X | 1.1 | 5 |
| 29 | MP1A | Z | .635 | 5 |
| 30 | MP1A | Mx | .00055 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|---|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 2.065 | 1 |
| 2 | RRU | Z | 3.577 | 1 |
| 3 | RRU | Mx | 0 | 1 |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 4 | OVP | X | 4.224 | 1 |
| 5 | OVP | Z | 7.316 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 5.549 | 1.5 |
| 8 | MP1A | Z | 9.611 | 1.5 |
| 9 | MP1A | Mx | -.0092 | 1.5 |
| 10 | MP1A | X | 5.549 | 6.5 |
| 11 | MP1A | Z | 9.611 | 6.5 |
| 12 | MP1A | Mx | -.0092 | 6.5 |
| 13 | MP1A | X | 5.549 | 1.5 |
| 14 | MP1A | Z | 9.611 | 1.5 |
| 15 | MP1A | Mx | .0036 | 1.5 |
| 16 | MP1A | X | 5.549 | 6.5 |
| 17 | MP1A | Z | 9.611 | 6.5 |
| 18 | MP1A | Mx | .0036 | 6.5 |
| 19 | MP4A | X | 2.137 | 3 |
| 20 | MP4A | Z | 3.701 | 3 |
| 21 | MP4A | Mx | -.0011 | 3 |
| 22 | MP4A | X | 2.137 | 5 |
| 23 | MP4A | Z | 3.701 | 5 |
| 24 | MP4A | Mx | -.0011 | 5 |
| 25 | MP1A | X | 1.895 | 3 |
| 26 | MP1A | Z | 3.283 | 3 |
| 27 | MP1A | Mx | .000948 | 3 |
| 28 | MP1A | X | .54 | 5 |
| 29 | MP1A | Z | .936 | 5 |
| 30 | MP1A | Mx | .00027 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 0 | 1 |
| 2 | RRU | Z | 3.724 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | 0 | 1 |
| 5 | OVP | Z | 7.942 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | 0 | 1.5 |
| 8 | MP1A | Z | 12.139 | 1.5 |
| 9 | MP1A | Mx | -.0081 | 1.5 |
| 10 | MP1A | X | 0 | 6.5 |
| 11 | MP1A | Z | 12.139 | 6.5 |
| 12 | MP1A | Mx | -.0081 | 6.5 |
| 13 | MP1A | X | 0 | 1.5 |
| 14 | MP1A | Z | 12.139 | 1.5 |
| 15 | MP1A | Mx | .0081 | 1.5 |
| 16 | MP1A | X | 0 | 6.5 |
| 17 | MP1A | Z | 12.139 | 6.5 |
| 18 | MP1A | Mx | .0081 | 6.5 |
| 19 | MP4A | X | 0 | 3 |
| 20 | MP4A | Z | 5.05 | 3 |
| 21 | MP4A | Mx | 0 | 3 |
| 22 | MP4A | X | 0 | 5 |
| 23 | MP4A | Z | 5.05 | 5 |
| 24 | MP4A | Mx | 0 | 5 |
| 25 | MP1A | X | 0 | 3 |
| 26 | MP1A | Z | 4.131 | 3 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft. %] |
|----|--------------|-----------|--------------------|-----------------|
| 27 | MP1A | Mx | 0 | 3 |
| 28 | MP1A | X | 0 | 5 |
| 29 | MP1A | Z | .986 | 5 |
| 30 | MP1A | Mx | 0 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft. %] |
|----|--------------|-----------|--------------------|-----------------|
| 1 | RRU | X | -1.456 | 1 |
| 2 | RRU | Z | 2.521 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | -3.464 | 1 |
| 5 | OVP | Z | 6.001 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | -5.549 | 1.5 |
| 8 | MP1A | Z | 9.611 | 1.5 |
| 9 | MP1A | Mx | -.0036 | 1.5 |
| 10 | MP1A | X | -5.549 | 6.5 |
| 11 | MP1A | Z | 9.611 | 6.5 |
| 12 | MP1A | Mx | -.0036 | 6.5 |
| 13 | MP1A | X | -5.549 | 1.5 |
| 14 | MP1A | Z | 9.611 | 1.5 |
| 15 | MP1A | Mx | .0092 | 1.5 |
| 16 | MP1A | X | -5.549 | 6.5 |
| 17 | MP1A | Z | 9.611 | 6.5 |
| 18 | MP1A | Mx | .0092 | 6.5 |
| 19 | MP4A | X | -2.137 | 3 |
| 20 | MP4A | Z | 3.701 | 3 |
| 21 | MP4A | Mx | .0011 | 3 |
| 22 | MP4A | X | -2.137 | 5 |
| 23 | MP4A | Z | 3.701 | 5 |
| 24 | MP4A | Mx | .0011 | 5 |
| 25 | MP1A | X | -1.895 | 3 |
| 26 | MP1A | Z | 3.283 | 3 |
| 27 | MP1A | Mx | -.000948 | 3 |
| 28 | MP1A | X | -.54 | 5 |
| 29 | MP1A | Z | .936 | 5 |
| 30 | MP1A | Mx | -.00027 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft. %] |
|----|--------------|-----------|--------------------|-----------------|
| 1 | RRU | X | -2.169 | 1 |
| 2 | RRU | Z | 1.253 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | -5.562 | 1 |
| 5 | OVP | Z | 3.211 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | -7.807 | 1.5 |
| 8 | MP1A | Z | 4.507 | 1.5 |
| 9 | MP1A | Mx | .000899 | 1.5 |
| 10 | MP1A | X | -7.807 | 6.5 |
| 11 | MP1A | Z | 4.507 | 6.5 |
| 12 | MP1A | Mx | .000899 | 6.5 |
| 13 | MP1A | X | -7.807 | 1.5 |
| 14 | MP1A | Z | 4.507 | 1.5 |
| 15 | MP1A | Mx | .0069 | 1.5 |
| 16 | MP1A | X | -7.807 | 6.5 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 17 | MP1A | Z | 4.507 | 6.5 |
| 18 | MP1A | Mx | .0069 | 6.5 |
| 19 | MP4A | X | -2.357 | 3 |
| 20 | MP4A | Z | 1.361 | 3 |
| 21 | MP4A | Mx | .0012 | 3 |
| 22 | MP4A | X | -2.357 | 5 |
| 23 | MP4A | Z | 1.361 | 5 |
| 24 | MP4A | Mx | .0012 | 5 |
| 25 | MP1A | X | -2.694 | 3 |
| 26 | MP1A | Z | 1.556 | 3 |
| 27 | MP1A | Mx | -.0013 | 3 |
| 28 | MP1A | X | -1.1 | 5 |
| 29 | MP1A | Z | .635 | 5 |
| 30 | MP1A | Mx | -.00055 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | -2.911 | 1 |
| 2 | RRU | Z | 0 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | -6.929 | 1 |
| 5 | OVP | Z | 0 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | -7.973 | 1.5 |
| 8 | MP1A | Z | 0 | 1.5 |
| 9 | MP1A | Mx | .004 | 1.5 |
| 10 | MP1A | X | -7.973 | 6.5 |
| 11 | MP1A | Z | 0 | 6.5 |
| 12 | MP1A | Mx | .004 | 6.5 |
| 13 | MP1A | X | -7.973 | 1.5 |
| 14 | MP1A | Z | 0 | 1.5 |
| 15 | MP1A | Mx | .004 | 1.5 |
| 16 | MP1A | X | -7.973 | 6.5 |
| 17 | MP1A | Z | 0 | 6.5 |
| 18 | MP1A | Mx | .004 | 6.5 |
| 19 | MP4A | X | -1.945 | 3 |
| 20 | MP4A | Z | 0 | 3 |
| 21 | MP4A | Mx | .000972 | 3 |
| 22 | MP4A | X | -1.945 | 5 |
| 23 | MP4A | Z | 0 | 5 |
| 24 | MP4A | Mx | .000972 | 5 |
| 25 | MP1A | X | -2.772 | 3 |
| 26 | MP1A | Z | 0 | 3 |
| 27 | MP1A | Mx | -.0014 | 3 |
| 28 | MP1A | X | -1.364 | 5 |
| 29 | MP1A | Z | 0 | 5 |
| 30 | MP1A | Mx | -.000682 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|---|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | -3.225 | 1 |
| 2 | RRU | Z | -1.862 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | -6.878 | 1 |
| 5 | OVP | Z | -3.971 | 1 |
| 6 | OVP | Mx | 0 | 1 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 7 | MP1A | X | -7.807 | 1.5 |
| 8 | MP1A | Z | -4.507 | 1.5 |
| 9 | MP1A | Mx | .0069 | 1.5 |
| 10 | MP1A | X | -7.807 | 6.5 |
| 11 | MP1A | Z | -4.507 | 6.5 |
| 12 | MP1A | Mx | .0069 | 6.5 |
| 13 | MP1A | X | -7.807 | 1.5 |
| 14 | MP1A | Z | -4.507 | 1.5 |
| 15 | MP1A | Mx | .000899 | 1.5 |
| 16 | MP1A | X | -7.807 | 6.5 |
| 17 | MP1A | Z | -4.507 | 6.5 |
| 18 | MP1A | Mx | .000899 | 6.5 |
| 19 | MP4A | X | -2.357 | 3 |
| 20 | MP4A | Z | -1.361 | 3 |
| 21 | MP4A | Mx | .0012 | 3 |
| 22 | MP4A | X | -2.357 | 5 |
| 23 | MP4A | Z | -1.361 | 5 |
| 24 | MP4A | Mx | .0012 | 5 |
| 25 | MP1A | X | -2.694 | 3 |
| 26 | MP1A | Z | -1.556 | 3 |
| 27 | MP1A | Mx | -.0013 | 3 |
| 28 | MP1A | X | -1.1 | 5 |
| 29 | MP1A | Z | -.635 | 5 |
| 30 | MP1A | Mx | -.00055 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | -2.065 | 1 |
| 2 | RRU | Z | -3.577 | 1 |
| 3 | RRU | Mx | 0 | 1 |
| 4 | OVP | X | -4.224 | 1 |
| 5 | OVP | Z | -7.316 | 1 |
| 6 | OVP | Mx | 0 | 1 |
| 7 | MP1A | X | -5.549 | 1.5 |
| 8 | MP1A | Z | -9.611 | 1.5 |
| 9 | MP1A | Mx | .0092 | 1.5 |
| 10 | MP1A | X | -5.549 | 6.5 |
| 11 | MP1A | Z | -9.611 | 6.5 |
| 12 | MP1A | Mx | .0092 | 6.5 |
| 13 | MP1A | X | -5.549 | 1.5 |
| 14 | MP1A | Z | -9.611 | 1.5 |
| 15 | MP1A | Mx | -.0036 | 1.5 |
| 16 | MP1A | X | -5.549 | 6.5 |
| 17 | MP1A | Z | -9.611 | 6.5 |
| 18 | MP1A | Mx | -.0036 | 6.5 |
| 19 | MP4A | X | -2.137 | 3 |
| 20 | MP4A | Z | -3.701 | 3 |
| 21 | MP4A | Mx | .0011 | 3 |
| 22 | MP4A | X | -2.137 | 5 |
| 23 | MP4A | Z | -3.701 | 5 |
| 24 | MP4A | Mx | .0011 | 5 |
| 25 | MP1A | X | -1.895 | 3 |
| 26 | MP1A | Z | -3.283 | 3 |
| 27 | MP1A | Mx | -.000948 | 3 |
| 28 | MP1A | X | -.54 | 5 |
| 29 | MP1A | Z | -.936 | 5 |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 30 | MP1A | Mx | -0.0027 | 5 |

Member Point Loads (BLC 77 : Lm1)

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|---|--------------|-----------|--------------------|----------------|
| 1 | 3 | Y | -500 | 0 |

Member Point Loads (BLC 78 : Lm2)

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

Member Point Loads (BLC 79 : Lv1)

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

Member Point Loads (BLC 80 : Lv2)

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

Member Point Loads (BLC 81 : Antenna Ev)

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | Y | -2.9095 | 1 |
| 2 | RRU | My | 0 | 1 |
| 3 | RRU | Mz | 0 | 1 |
| 4 | OVP | Y | -1.3244 | 1 |
| 5 | OVP | Mv | 0 | 1 |
| 6 | OVP | Mz | 0 | 1 |
| 7 | MP1A | Y | -1.3099 | 1.5 |
| 8 | MP1A | My | -.000655 | 1.5 |
| 9 | MP1A | Mz | -.000873 | 1.5 |
| 10 | MP1A | Y | -1.3099 | 6.5 |
| 11 | MP1A | My | -.000655 | 6.5 |
| 12 | MP1A | Mz | -.000873 | 6.5 |
| 13 | MP1A | Y | -1.3099 | 1.5 |
| 14 | MP1A | My | -.000655 | 1.5 |
| 15 | MP1A | Mz | .000873 | 1.5 |
| 16 | MP1A | Y | -1.3099 | 6.5 |
| 17 | MP1A | My | -.000655 | 6.5 |
| 18 | MP1A | Mz | .000873 | 6.5 |
| 19 | MP4A | Y | -1.1857 | 3 |
| 20 | MP4A | My | -.000593 | 3 |
| 21 | MP4A | Mz | 0 | 3 |
| 22 | MP4A | Y | -1.1857 | 5 |
| 23 | MP4A | My | -.000593 | 5 |
| 24 | MP4A | Mz | 0 | 5 |
| 25 | MP1A | Y | -3.0916 | 3 |
| 26 | MP1A | My | .0015 | 3 |
| 27 | MP1A | Mz | 0 | 3 |
| 28 | MP1A | Y | -.8608 | 5 |
| 29 | MP1A | My | .00043 | 5 |
| 30 | MP1A | Mz | 0 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|---|--------------|-----------|--------------------|----------------|
| 1 | RRU | Z | -7.2737 | 1 |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 2 | RRU | Mx | 0 | 1 |
| 3 | OVP | Z | -3.3109 | 1 |
| 4 | OVP | Mx | 0 | 1 |
| 5 | MP1A | Z | -3.2747 | 1.5 |
| 6 | MP1A | Mx | .0022 | 1.5 |
| 7 | MP1A | Z | -3.2747 | 6.5 |
| 8 | MP1A | Mx | .0022 | 6.5 |
| 9 | MP1A | Z | -3.2747 | 1.5 |
| 10 | MP1A | Mx | -.0022 | 1.5 |
| 11 | MP1A | Z | -3.2747 | 6.5 |
| 12 | MP1A | Mx | -.0022 | 6.5 |
| 13 | MP4A | Z | -2.9643 | 3 |
| 14 | MP4A | Mx | 0 | 3 |
| 15 | MP4A | Z | -2.9643 | 5 |
| 16 | MP4A | Mx | 0 | 5 |
| 17 | MP1A | Z | -7.729 | 3 |
| 18 | MP1A | Mx | 0 | 3 |
| 19 | MP1A | Z | -2.1521 | 5 |
| 20 | MP1A | Mx | 0 | 5 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | RRU | X | 7.2737 | 1 |
| 2 | RRU | Mx | 0 | 1 |
| 3 | OVP | X | 3.3109 | 1 |
| 4 | OVP | Mx | 0 | 1 |
| 5 | MP1A | X | 3.2747 | 1.5 |
| 6 | MP1A | Mx | -.0016 | 1.5 |
| 7 | MP1A | X | 3.2747 | 6.5 |
| 8 | MP1A | Mx | -.0016 | 6.5 |
| 9 | MP1A | X | 3.2747 | 1.5 |
| 10 | MP1A | Mx | -.0016 | 1.5 |
| 11 | MP1A | X | 3.2747 | 6.5 |
| 12 | MP1A | Mx | -.0016 | 6.5 |
| 13 | MP4A | X | 2.9643 | 3 |
| 14 | MP4A | Mx | -.0015 | 3 |
| 15 | MP4A | X | 2.9643 | 5 |
| 16 | MP4A | Mx | -.0015 | 5 |
| 17 | MP1A | X | 7.729 | 3 |
| 18 | MP1A | Mx | .0039 | 3 |
| 19 | MP1A | X | 2.1521 | 5 |
| 20 | MP1A | Mx | .0011 | 5 |

Member Distributed Loads (BLC 40 : Structure Di)

| | Member Label | Direction | Start Magnitude... | End Magnitude[...] | Start Location[ft...] | End Location[ft...] |
|----|--------------|-----------|--------------------|--------------------|-----------------------|---------------------|
| 1 | F | Y | -5.6898 | -5.6898 | 0 | %100 |
| 2 | M2 | Y | -5.6898 | -5.6898 | 0 | %100 |
| 3 | M13 | Y | -6.6502 | -6.6502 | 0 | %100 |
| 4 | M14 | Y | -6.6502 | -6.6502 | 0 | %100 |
| 5 | M15 | Y | -6.6502 | -6.6502 | 0 | %100 |
| 6 | M16 | Y | -6.6502 | -6.6502 | 0 | %100 |
| 7 | SO | Y | -4.9839 | -4.9839 | 0 | %100 |
| 8 | M18 | Y | -4.9839 | -4.9839 | 0 | %100 |
| 9 | M19 | Y | -4.9839 | -4.9839 | 0 | %100 |
| 10 | M20 | Y | -4.9839 | -4.9839 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft...] | End Location[ft...] |
|----|--------------|-----------|-----------------|---------------|-----------------------|---------------------|
| 11 | M21 | Y | -6.6502 | -6.6502 | 0 | %100 |
| 12 | M22 | Y | -6.6502 | -6.6502 | 0 | %100 |
| 13 | M23 | Y | -6.6502 | -6.6502 | 0 | %100 |
| 14 | M24 | Y | -6.6502 | -6.6502 | 0 | %100 |
| 15 | M25 | Y | -2.6899 | -2.6899 | 0 | %100 |
| 16 | M26 | Y | -2.6899 | -2.6899 | 0 | %100 |
| 17 | M27 | Y | -2.6899 | -2.6899 | 0 | %100 |
| 18 | M28 | Y | -2.6899 | -2.6899 | 0 | %100 |
| 19 | MP4A | Y | -4.9839 | -4.9839 | 0 | %100 |
| 20 | MP3A | Y | -4.9839 | -4.9839 | 0 | %100 |
| 21 | MP2A | Y | -4.9839 | -4.9839 | 0 | %100 |
| 22 | MP1A | Y | -4.9839 | -4.9839 | 0 | %100 |
| 23 | M44 | Y | -2.5135 | -2.5135 | 0 | %100 |
| 24 | M45 | Y | -2.5135 | -2.5135 | 0 | %100 |
| 25 | M46 | Y | -2.5135 | -2.5135 | 0 | %100 |
| 26 | M47 | Y | -2.5135 | -2.5135 | 0 | %100 |
| 27 | M43 | Y | -4.9839 | -4.9839 | 0 | %100 |
| 28 | M45A | Y | -4.9839 | -4.9839 | 0 | %100 |
| 29 | OVP | Y | -4.9839 | -4.9839 | 0 | %100 |
| 30 | RRU | Y | -4.9839 | -4.9839 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft...] | End Location[ft...] |
|----|--------------|-----------|-----------------|---------------|-----------------------|---------------------|
| 1 | F | X | 0 | 0 | 0 | %100 |
| 2 | F | Z | -14.3871 | -14.3871 | 0 | %100 |
| 3 | M2 | X | 0 | 0 | 0 | %100 |
| 4 | M2 | Z | -14.3871 | -14.3871 | 0 | %100 |
| 5 | M13 | X | 0 | 0 | 0 | %100 |
| 6 | M13 | Z | 0 | 0 | 0 | %100 |
| 7 | M14 | X | 0 | 0 | 0 | %100 |
| 8 | M14 | Z | 0 | 0 | 0 | %100 |
| 9 | M15 | X | 0 | 0 | 0 | %100 |
| 10 | M15 | Z | 0 | 0 | 0 | %100 |
| 11 | M16 | X | 0 | 0 | 0 | %100 |
| 12 | M16 | Z | 0 | 0 | 0 | %100 |
| 13 | SO | X | 0 | 0 | 0 | %100 |
| 14 | SO | Z | -5.6803 | -5.6803 | 0 | %100 |
| 15 | M18 | X | 0 | 0 | 0 | %100 |
| 16 | M18 | Z | -5.6803 | -5.6803 | 0 | %100 |
| 17 | M19 | X | 0 | 0 | 0 | %100 |
| 18 | M19 | Z | -5.6803 | -5.6803 | 0 | %100 |
| 19 | M20 | X | 0 | 0 | 0 | %100 |
| 20 | M20 | Z | -5.6803 | -5.6803 | 0 | %100 |
| 21 | M21 | X | 0 | 0 | 0 | %100 |
| 22 | M21 | Z | -3.1276 | -3.1276 | 0 | %100 |
| 23 | M22 | X | 0 | 0 | 0 | %100 |
| 24 | M22 | Z | -3.1276 | -3.1276 | 0 | %100 |
| 25 | M23 | X | 0 | 0 | 0 | %100 |
| 26 | M23 | Z | -3.1276 | -3.1276 | 0 | %100 |
| 27 | M24 | X | 0 | 0 | 0 | %100 |
| 28 | M24 | Z | -3.1276 | -3.1276 | 0 | %100 |
| 29 | M25 | X | 0 | 0 | 0 | %100 |
| 30 | M25 | Z | -3.2394 | -3.2394 | 0 | %100 |
| 31 | M26 | X | 0 | 0 | 0 | %100 |
| 32 | M26 | Z | -3.2394 | -3.2394 | 0 | %100 |
| 33 | M27 | X | 0 | 0 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location(ft) | End Location(ft) |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 34 | M27 | Z | -3.2394 | -3.2394 | 0 | %100 |
| 35 | M28 | X | 0 | 0 | 0 | %100 |
| 36 | M28 | Z | -3.2394 | -3.2394 | 0 | %100 |
| 37 | MP4A | X | 0 | 0 | 0 | %100 |
| 38 | MP4A | Z | -11.885 | -11.885 | 0 | %100 |
| 39 | MP3A | X | 0 | 0 | 0 | %100 |
| 40 | MP3A | Z | -11.885 | -11.885 | 0 | %100 |
| 41 | MP2A | X | 0 | 0 | 0 | %100 |
| 42 | MP2A | Z | -11.885 | -11.885 | 0 | %100 |
| 43 | MP1A | X | 0 | 0 | 0 | %100 |
| 44 | MP1A | Z | -11.885 | -11.885 | 0 | %100 |
| 45 | M44 | X | 0 | 0 | 0 | %100 |
| 46 | M44 | Z | -3.1276 | -3.1276 | 0 | %100 |
| 47 | M45 | X | 0 | 0 | 0 | %100 |
| 48 | M45 | Z | -3.1276 | -3.1276 | 0 | %100 |
| 49 | M46 | X | 0 | 0 | 0 | %100 |
| 50 | M46 | Z | -3.1276 | -3.1276 | 0 | %100 |
| 51 | M47 | X | 0 | 0 | 0 | %100 |
| 52 | M47 | Z | -3.1276 | -3.1276 | 0 | %100 |
| 53 | M43 | X | 0 | 0 | 0 | %100 |
| 54 | M43 | Z | -1.1356 | -1.1356 | 0 | %100 |
| 55 | M45A | X | 0 | 0 | 0 | %100 |
| 56 | M45A | Z | -1.1356 | -1.1356 | 0 | %100 |
| 57 | OVP | X | 0 | 0 | 0 | %100 |
| 58 | OVP | Z | -10.8308 | -10.8308 | 0 | %100 |
| 59 | RRU | X | 0 | 0 | 0 | %100 |
| 60 | RRU | Z | -10.8308 | -10.8308 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location(ft) | End Location(ft) |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 1 | F | X | 5.3951 | 5.3951 | 0 | %100 |
| 2 | F | Z | -9.3447 | -9.3447 | 0 | %100 |
| 3 | M2 | X | 5.3951 | 5.3951 | 0 | %100 |
| 4 | M2 | Z | -9.3447 | -9.3447 | 0 | %100 |
| 5 | M13 | X | .391 | .391 | 0 | %100 |
| 6 | M13 | Z | -.6771 | -.6771 | 0 | %100 |
| 7 | M14 | X | .391 | .391 | 0 | %100 |
| 8 | M14 | Z | -.6771 | -.6771 | 0 | %100 |
| 9 | M15 | X | .391 | .391 | 0 | %100 |
| 10 | M15 | Z | -.6771 | -.6771 | 0 | %100 |
| 11 | M16 | X | .391 | .391 | 0 | %100 |
| 12 | M16 | Z | -.6771 | -.6771 | 0 | %100 |
| 13 | SO | X | .6394 | .6394 | 0 | %100 |
| 14 | SO | Z | -1.1075 | -1.1075 | 0 | %100 |
| 15 | M18 | X | .6394 | .6394 | 0 | %100 |
| 16 | M18 | Z | -1.1075 | -1.1075 | 0 | %100 |
| 17 | M19 | X | 4.4915 | 4.4915 | 0 | %100 |
| 18 | M19 | Z | -7.7796 | -7.7796 | 0 | %100 |
| 19 | M20 | X | 4.4915 | 4.4915 | 0 | %100 |
| 20 | M20 | Z | -7.7796 | -7.7796 | 0 | %100 |
| 21 | M21 | X | 1.1729 | 1.1729 | 0 | %100 |
| 22 | M21 | Z | -2.0314 | -2.0314 | 0 | %100 |
| 23 | M22 | X | 1.1729 | 1.1729 | 0 | %100 |
| 24 | M22 | Z | -2.0314 | -2.0314 | 0 | %100 |
| 25 | M23 | X | 1.1729 | 1.1729 | 0 | %100 |
| 26 | M23 | Z | -2.0314 | -2.0314 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 27 | M24 | X | 1.1729 | 1.1729 | 0 | %100 |
| 28 | M24 | Z | -2.0314 | -2.0314 | 0 | %100 |
| 29 | M25 | X | 1.2951 | 1.2951 | 0 | %100 |
| 30 | M25 | Z | -2.2432 | -2.2432 | 0 | %100 |
| 31 | M26 | X | 1.2951 | 1.2951 | 0 | %100 |
| 32 | M26 | Z | -2.2432 | -2.2432 | 0 | %100 |
| 33 | M27 | X | 1.8633 | 1.8633 | 0 | %100 |
| 34 | M27 | Z | -3.2273 | -3.2273 | 0 | %100 |
| 35 | M28 | X | 1.8633 | 1.8633 | 0 | %100 |
| 36 | M28 | Z | -3.2273 | -3.2273 | 0 | %100 |
| 37 | MP4A | X | 5.9425 | 5.9425 | 0 | %100 |
| 38 | MP4A | Z | -10.2927 | -10.2927 | 0 | %100 |
| 39 | MP3A | X | 5.9425 | 5.9425 | 0 | %100 |
| 40 | MP3A | Z | -10.2927 | -10.2927 | 0 | %100 |
| 41 | MP2A | X | 5.9425 | 5.9425 | 0 | %100 |
| 42 | MP2A | Z | -10.2927 | -10.2927 | 0 | %100 |
| 43 | MP1A | X | 5.9425 | 5.9425 | 0 | %100 |
| 44 | MP1A | Z | -10.2927 | -10.2927 | 0 | %100 |
| 45 | M44 | X | 1.5638 | 1.5638 | 0 | %100 |
| 46 | M44 | Z | -2.7086 | -2.7086 | 0 | %100 |
| 47 | M45 | X | 1.5638 | 1.5638 | 0 | %100 |
| 48 | M45 | Z | -2.7086 | -2.7086 | 0 | %100 |
| 49 | M46 | X | 1.5638 | 1.5638 | 0 | %100 |
| 50 | M46 | Z | -2.7086 | -2.7086 | 0 | %100 |
| 51 | M47 | X | 1.5638 | 1.5638 | 0 | %100 |
| 52 | M47 | Z | -2.7086 | -2.7086 | 0 | %100 |
| 53 | M43 | X | .8326 | .8326 | 0 | %100 |
| 54 | M43 | Z | -1.4421 | -1.4421 | 0 | %100 |
| 55 | M45A | X | .8326 | .8326 | 0 | %100 |
| 56 | M45A | Z | -1.4421 | -1.4421 | 0 | %100 |
| 57 | OVP | X | 5.4154 | 5.4154 | 0 | %100 |
| 58 | OVP | Z | -9.3798 | -9.3798 | 0 | %100 |
| 59 | RRU | X | 5.4154 | 5.4154 | 0 | %100 |
| 60 | RRU | Z | -9.3798 | -9.3798 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 1 | F | X | 3.1149 | 3.1149 | 0 | %100 |
| 2 | F | Z | -1.7984 | -1.7984 | 0 | %100 |
| 3 | M2 | X | 3.1149 | 3.1149 | 0 | %100 |
| 4 | M2 | Z | -1.7984 | -1.7984 | 0 | %100 |
| 5 | M13 | X | 2.0314 | 2.0314 | 0 | %100 |
| 6 | M13 | Z | -1.1729 | -1.1729 | 0 | %100 |
| 7 | M14 | X | 2.0314 | 2.0314 | 0 | %100 |
| 8 | M14 | Z | -1.1729 | -1.1729 | 0 | %100 |
| 9 | M15 | X | 2.0314 | 2.0314 | 0 | %100 |
| 10 | M15 | Z | -1.1729 | -1.1729 | 0 | %100 |
| 11 | M16 | X | 2.0314 | 2.0314 | 0 | %100 |
| 12 | M16 | Z | -1.1729 | -1.1729 | 0 | %100 |
| 13 | SO | X | .1561 | .1561 | 0 | %100 |
| 14 | SO | Z | -.0901 | -.0901 | 0 | %100 |
| 15 | M18 | X | .1561 | .1561 | 0 | %100 |
| 16 | M18 | Z | -.0901 | -.0901 | 0 | %100 |
| 17 | M19 | X | 6.8282 | 6.8282 | 0 | %100 |
| 18 | M19 | Z | -3.9423 | -3.9423 | 0 | %100 |
| 19 | M20 | X | 6.8282 | 6.8282 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location(ft) | End Location(ft) |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 20 | M20 | Z | -3.9423 | -3.9423 | 0 | %100 |
| 21 | M21 | X | .6771 | .6771 | 0 | %100 |
| 22 | M21 | Z | -.391 | -.391 | 0 | %100 |
| 23 | M22 | X | .6771 | .6771 | 0 | %100 |
| 24 | M22 | Z | -.391 | -.391 | 0 | %100 |
| 25 | M23 | X | .6771 | .6771 | 0 | %100 |
| 26 | M23 | Z | -.391 | -.391 | 0 | %100 |
| 27 | M24 | X | .6771 | .6771 | 0 | %100 |
| 28 | M24 | Z | -.391 | -.391 | 0 | %100 |
| 29 | M25 | X | 2.1029 | 2.1029 | 0 | %100 |
| 30 | M25 | Z | -1.2141 | -1.2141 | 0 | %100 |
| 31 | M26 | X | 2.1029 | 2.1029 | 0 | %100 |
| 32 | M26 | Z | -1.2141 | -1.2141 | 0 | %100 |
| 33 | M27 | X | 3.087 | 3.087 | 0 | %100 |
| 34 | M27 | Z | -1.7823 | -1.7823 | 0 | %100 |
| 35 | M28 | X | 3.087 | 3.087 | 0 | %100 |
| 36 | M28 | Z | -1.7823 | -1.7823 | 0 | %100 |
| 37 | MP4A | X | 10.2927 | 10.2927 | 0 | %100 |
| 38 | MP4A | Z | -5.9425 | -5.9425 | 0 | %100 |
| 39 | MP3A | X | 10.2927 | 10.2927 | 0 | %100 |
| 40 | MP3A | Z | -5.9425 | -5.9425 | 0 | %100 |
| 41 | MP2A | X | 10.2927 | 10.2927 | 0 | %100 |
| 42 | MP2A | Z | -5.9425 | -5.9425 | 0 | %100 |
| 43 | MP1A | X | 10.2927 | 10.2927 | 0 | %100 |
| 44 | MP1A | Z | -5.9425 | -5.9425 | 0 | %100 |
| 45 | M44 | X | 2.7086 | 2.7086 | 0 | %100 |
| 46 | M44 | Z | -1.5638 | -1.5638 | 0 | %100 |
| 47 | M45 | X | 2.7086 | 2.7086 | 0 | %100 |
| 48 | M45 | Z | -1.5638 | -1.5638 | 0 | %100 |
| 49 | M46 | X | 2.7086 | 2.7086 | 0 | %100 |
| 50 | M46 | Z | -1.5638 | -1.5638 | 0 | %100 |
| 51 | M47 | X | 2.7086 | 2.7086 | 0 | %100 |
| 52 | M47 | Z | -1.5638 | -1.5638 | 0 | %100 |
| 53 | M43 | X | 5.8693 | 5.8693 | 0 | %100 |
| 54 | M43 | Z | -3.3886 | -3.3886 | 0 | %100 |
| 55 | M45A | X | 5.8693 | 5.8693 | 0 | %100 |
| 56 | M45A | Z | -3.3886 | -3.3886 | 0 | %100 |
| 57 | OVP | X | 9.3798 | 9.3798 | 0 | %100 |
| 58 | OVP | Z | -5.4154 | -5.4154 | 0 | %100 |
| 59 | RRU | X | 9.3798 | 9.3798 | 0 | %100 |
| 60 | RRU | Z | -5.4154 | -5.4154 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location(ft) | End Location(ft) |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 1 | F | X | 0 | 0 | 0 | %100 |
| 2 | F | Z | 0 | 0 | 0 | %100 |
| 3 | M2 | X | 0 | 0 | 0 | %100 |
| 4 | M2 | Z | 0 | 0 | 0 | %100 |
| 5 | M13 | X | 3.1276 | 3.1276 | 0 | %100 |
| 6 | M13 | Z | 0 | 0 | 0 | %100 |
| 7 | M14 | X | 3.1276 | 3.1276 | 0 | %100 |
| 8 | M14 | Z | 0 | 0 | 0 | %100 |
| 9 | M15 | X | 3.1276 | 3.1276 | 0 | %100 |
| 10 | M15 | Z | 0 | 0 | 0 | %100 |
| 11 | M16 | X | 3.1276 | 3.1276 | 0 | %100 |
| 12 | M16 | Z | 0 | 0 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 13 | SO | X | 3.4831 | 3.4831 | 0 | %100 |
| 14 | SO | Z | 0 | 0 | 0 | %100 |
| 15 | M18 | X | 3.4831 | 3.4831 | 0 | %100 |
| 16 | M18 | Z | 0 | 0 | 0 | %100 |
| 17 | M19 | X | 3.4831 | 3.4831 | 0 | %100 |
| 18 | M19 | Z | 0 | 0 | 0 | %100 |
| 19 | M20 | X | 3.4831 | 3.4831 | 0 | %100 |
| 20 | M20 | Z | 0 | 0 | 0 | %100 |
| 21 | M21 | X | 0 | 0 | 0 | %100 |
| 22 | M21 | Z | 0 | 0 | 0 | %100 |
| 23 | M22 | X | 0 | 0 | 0 | %100 |
| 24 | M22 | Z | 0 | 0 | 0 | %100 |
| 25 | M23 | X | 0 | 0 | 0 | %100 |
| 26 | M23 | Z | 0 | 0 | 0 | %100 |
| 27 | M24 | X | 0 | 0 | 0 | %100 |
| 28 | M24 | Z | 0 | 0 | 0 | %100 |
| 29 | M25 | X | 2.9154 | 2.9154 | 0 | %100 |
| 30 | M25 | Z | 0 | 0 | 0 | %100 |
| 31 | M26 | X | 2.9154 | 2.9154 | 0 | %100 |
| 32 | M26 | Z | 0 | 0 | 0 | %100 |
| 33 | M27 | X | 2.9154 | 2.9154 | 0 | %100 |
| 34 | M27 | Z | 0 | 0 | 0 | %100 |
| 35 | M28 | X | 2.9154 | 2.9154 | 0 | %100 |
| 36 | M28 | Z | 0 | 0 | 0 | %100 |
| 37 | MP4A | X | 11.885 | 11.885 | 0 | %100 |
| 38 | MP4A | Z | 0 | 0 | 0 | %100 |
| 39 | MP3A | X | 11.885 | 11.885 | 0 | %100 |
| 40 | MP3A | Z | 0 | 0 | 0 | %100 |
| 41 | MP2A | X | 11.885 | 11.885 | 0 | %100 |
| 42 | MP2A | Z | 0 | 0 | 0 | %100 |
| 43 | MP1A | X | 11.885 | 11.885 | 0 | %100 |
| 44 | MP1A | Z | 0 | 0 | 0 | %100 |
| 45 | M44 | X | 3.1276 | 3.1276 | 0 | %100 |
| 46 | M44 | Z | 0 | 0 | 0 | %100 |
| 47 | M45 | X | 3.1276 | 3.1276 | 0 | %100 |
| 48 | M45 | Z | 0 | 0 | 0 | %100 |
| 49 | M46 | X | 3.1276 | 3.1276 | 0 | %100 |
| 50 | M46 | Z | 0 | 0 | 0 | %100 |
| 51 | M47 | X | 3.1276 | 3.1276 | 0 | %100 |
| 52 | M47 | Z | 0 | 0 | 0 | %100 |
| 53 | M43 | X | 10.3597 | 10.3597 | 0 | %100 |
| 54 | M43 | Z | 0 | 0 | 0 | %100 |
| 55 | M45A | X | 10.3597 | 10.3597 | 0 | %100 |
| 56 | M45A | Z | 0 | 0 | 0 | %100 |
| 57 | OVP | X | 10.8308 | 10.8308 | 0 | %100 |
| 58 | OVP | Z | 0 | 0 | 0 | %100 |
| 59 | RRU | X | 10.8308 | 10.8308 | 0 | %100 |
| 60 | RRU | Z | 0 | 0 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|---|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 1 | F | X | 3.1149 | 3.1149 | 0 | %100 |
| 2 | F | Z | 1.7984 | 1.7984 | 0 | %100 |
| 3 | M2 | X | 3.1149 | 3.1149 | 0 | %100 |
| 4 | M2 | Z | 1.7984 | 1.7984 | 0 | %100 |
| 5 | M13 | X | 2.0314 | 2.0314 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Locationft | End Locationft |
|----|--------------|-----------|-----------------|---------------|------------------|----------------|
| 6 | M13 | Z | 1.1729 | 1.1729 | 0 | %100 |
| 7 | M14 | X | 2.0314 | 2.0314 | 0 | %100 |
| 8 | M14 | Z | 1.1729 | 1.1729 | 0 | %100 |
| 9 | M15 | X | 2.0314 | 2.0314 | 0 | %100 |
| 10 | M15 | Z | 1.1729 | 1.1729 | 0 | %100 |
| 11 | M16 | X | 2.0314 | 2.0314 | 0 | %100 |
| 12 | M16 | Z | 1.1729 | 1.1729 | 0 | %100 |
| 13 | SO | X | 6.8282 | 6.8282 | 0 | %100 |
| 14 | SO | Z | 3.9423 | 3.9423 | 0 | %100 |
| 15 | M18 | X | 6.8282 | 6.8282 | 0 | %100 |
| 16 | M18 | Z | 3.9423 | 3.9423 | 0 | %100 |
| 17 | M19 | X | .1561 | .1561 | 0 | %100 |
| 18 | M19 | Z | .0901 | .0901 | 0 | %100 |
| 19 | M20 | X | .1561 | .1561 | 0 | %100 |
| 20 | M20 | Z | .0901 | .0901 | 0 | %100 |
| 21 | M21 | X | .6771 | .6771 | 0 | %100 |
| 22 | M21 | Z | .391 | .391 | 0 | %100 |
| 23 | M22 | X | .6771 | .6771 | 0 | %100 |
| 24 | M22 | Z | .391 | .391 | 0 | %100 |
| 25 | M23 | X | .6771 | .6771 | 0 | %100 |
| 26 | M23 | Z | .391 | .391 | 0 | %100 |
| 27 | M24 | X | .6771 | .6771 | 0 | %100 |
| 28 | M24 | Z | .391 | .391 | 0 | %100 |
| 29 | M25 | X | 3.087 | 3.087 | 0 | %100 |
| 30 | M25 | Z | 1.7823 | 1.7823 | 0 | %100 |
| 31 | M26 | X | 3.087 | 3.087 | 0 | %100 |
| 32 | M26 | Z | 1.7823 | 1.7823 | 0 | %100 |
| 33 | M27 | X | 2.1029 | 2.1029 | 0 | %100 |
| 34 | M27 | Z | 1.2141 | 1.2141 | 0 | %100 |
| 35 | M28 | X | 2.1029 | 2.1029 | 0 | %100 |
| 36 | M28 | Z | 1.2141 | 1.2141 | 0 | %100 |
| 37 | MP4A | X | 10.2927 | 10.2927 | 0 | %100 |
| 38 | MP4A | Z | 5.9425 | 5.9425 | 0 | %100 |
| 39 | MP3A | X | 10.2927 | 10.2927 | 0 | %100 |
| 40 | MP3A | Z | 5.9425 | 5.9425 | 0 | %100 |
| 41 | MP2A | X | 10.2927 | 10.2927 | 0 | %100 |
| 42 | MP2A | Z | 5.9425 | 5.9425 | 0 | %100 |
| 43 | MP1A | X | 10.2927 | 10.2927 | 0 | %100 |
| 44 | MP1A | Z | 5.9425 | 5.9425 | 0 | %100 |
| 45 | M44 | X | 2.7086 | 2.7086 | 0 | %100 |
| 46 | M44 | Z | 1.5638 | 1.5638 | 0 | %100 |
| 47 | M45 | X | 2.7086 | 2.7086 | 0 | %100 |
| 48 | M45 | Z | 1.5638 | 1.5638 | 0 | %100 |
| 49 | M46 | X | 2.7086 | 2.7086 | 0 | %100 |
| 50 | M46 | Z | 1.5638 | 1.5638 | 0 | %100 |
| 51 | M47 | X | 2.7086 | 2.7086 | 0 | %100 |
| 52 | M47 | Z | 1.5638 | 1.5638 | 0 | %100 |
| 53 | M43 | X | 7.6471 | 7.6471 | 0 | %100 |
| 54 | M43 | Z | 4.4151 | 4.4151 | 0 | %100 |
| 55 | M45A | X | 7.6471 | 7.6471 | 0 | %100 |
| 56 | M45A | Z | 4.4151 | 4.4151 | 0 | %100 |
| 57 | OVP | X | 9.3798 | 9.3798 | 0 | %100 |
| 58 | OVP | Z | 5.4154 | 5.4154 | 0 | %100 |
| 59 | RRU | X | 9.3798 | 9.3798 | 0 | %100 |
| 60 | RRU | Z | 5.4154 | 5.4154 | 0 | %100 |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft...] | End Location[ft...] |
|----|--------------|-----------|-----------------|---------------|-----------------------|---------------------|
| 1 | F | X | 5.3951 | 5.3951 | 0 | %100 |
| 2 | F | Z | 9.3447 | 9.3447 | 0 | %100 |
| 3 | M2 | X | 5.3951 | 5.3951 | 0 | %100 |
| 4 | M2 | Z | 9.3447 | 9.3447 | 0 | %100 |
| 5 | M13 | X | .391 | .391 | 0 | %100 |
| 6 | M13 | Z | .6771 | .6771 | 0 | %100 |
| 7 | M14 | X | .391 | .391 | 0 | %100 |
| 8 | M14 | Z | .6771 | .6771 | 0 | %100 |
| 9 | M15 | X | .391 | .391 | 0 | %100 |
| 10 | M15 | Z | .6771 | .6771 | 0 | %100 |
| 11 | M16 | X | .391 | .391 | 0 | %100 |
| 12 | M16 | Z | .6771 | .6771 | 0 | %100 |
| 13 | SO | X | 4.4915 | 4.4915 | 0 | %100 |
| 14 | SO | Z | 7.7796 | 7.7796 | 0 | %100 |
| 15 | M18 | X | 4.4915 | 4.4915 | 0 | %100 |
| 16 | M18 | Z | 7.7796 | 7.7796 | 0 | %100 |
| 17 | M19 | X | .6394 | .6394 | 0 | %100 |
| 18 | M19 | Z | 1.1075 | 1.1075 | 0 | %100 |
| 19 | M20 | X | .6394 | .6394 | 0 | %100 |
| 20 | M20 | Z | 1.1075 | 1.1075 | 0 | %100 |
| 21 | M21 | X | 1.1729 | 1.1729 | 0 | %100 |
| 22 | M21 | Z | 2.0314 | 2.0314 | 0 | %100 |
| 23 | M22 | X | 1.1729 | 1.1729 | 0 | %100 |
| 24 | M22 | Z | 2.0314 | 2.0314 | 0 | %100 |
| 25 | M23 | X | 1.1729 | 1.1729 | 0 | %100 |
| 26 | M23 | Z | 2.0314 | 2.0314 | 0 | %100 |
| 27 | M24 | X | 1.1729 | 1.1729 | 0 | %100 |
| 28 | M24 | Z | 2.0314 | 2.0314 | 0 | %100 |
| 29 | M25 | X | 1.8633 | 1.8633 | 0 | %100 |
| 30 | M25 | Z | 3.2273 | 3.2273 | 0 | %100 |
| 31 | M26 | X | 1.8633 | 1.8633 | 0 | %100 |
| 32 | M26 | Z | 3.2273 | 3.2273 | 0 | %100 |
| 33 | M27 | X | 1.2951 | 1.2951 | 0 | %100 |
| 34 | M27 | Z | 2.2432 | 2.2432 | 0 | %100 |
| 35 | M28 | X | 1.2951 | 1.2951 | 0 | %100 |
| 36 | M28 | Z | 2.2432 | 2.2432 | 0 | %100 |
| 37 | MP4A | X | 5.9425 | 5.9425 | 0 | %100 |
| 38 | MP4A | Z | 10.2927 | 10.2927 | 0 | %100 |
| 39 | MP3A | X | 5.9425 | 5.9425 | 0 | %100 |
| 40 | MP3A | Z | 10.2927 | 10.2927 | 0 | %100 |
| 41 | MP2A | X | 5.9425 | 5.9425 | 0 | %100 |
| 42 | MP2A | Z | 10.2927 | 10.2927 | 0 | %100 |
| 43 | MP1A | X | 5.9425 | 5.9425 | 0 | %100 |
| 44 | MP1A | Z | 10.2927 | 10.2927 | 0 | %100 |
| 45 | M44 | X | 1.5638 | 1.5638 | 0 | %100 |
| 46 | M44 | Z | 2.7086 | 2.7086 | 0 | %100 |
| 47 | M45 | X | 1.5638 | 1.5638 | 0 | %100 |
| 48 | M45 | Z | 2.7086 | 2.7086 | 0 | %100 |
| 49 | M46 | X | 1.5638 | 1.5638 | 0 | %100 |
| 50 | M46 | Z | 2.7086 | 2.7086 | 0 | %100 |
| 51 | M47 | X | 1.5638 | 1.5638 | 0 | %100 |
| 52 | M47 | Z | 2.7086 | 2.7086 | 0 | %100 |
| 53 | M43 | X | 1.859 | 1.859 | 0 | %100 |
| 54 | M43 | Z | 3.2199 | 3.2199 | 0 | %100 |
| 55 | M45A | X | 1.859 | 1.859 | 0 | %100 |
| 56 | M45A | Z | 3.2199 | 3.2199 | 0 | %100 |
| 57 | OVP | X | 5.4154 | 5.4154 | 0 | %100 |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 58 | OVP | Z | 9.3798 | 9.3798 | 0 | %100 |
| 59 | RRU | X | 5.4154 | 5.4154 | 0 | %100 |
| 60 | RRU | Z | 9.3798 | 9.3798 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 1 | F | X | 0 | 0 | 0 | %100 |
| 2 | F | Z | 14.3871 | 14.3871 | 0 | %100 |
| 3 | M2 | X | 0 | 0 | 0 | %100 |
| 4 | M2 | Z | 14.3871 | 14.3871 | 0 | %100 |
| 5 | M13 | X | 0 | 0 | 0 | %100 |
| 6 | M13 | Z | 0 | 0 | 0 | %100 |
| 7 | M14 | X | 0 | 0 | 0 | %100 |
| 8 | M14 | Z | 0 | 0 | 0 | %100 |
| 9 | M15 | X | 0 | 0 | 0 | %100 |
| 10 | M15 | Z | 0 | 0 | 0 | %100 |
| 11 | M16 | X | 0 | 0 | 0 | %100 |
| 12 | M16 | Z | 0 | 0 | 0 | %100 |
| 13 | SO | X | 0 | 0 | 0 | %100 |
| 14 | SO | Z | 5.6803 | 5.6803 | 0 | %100 |
| 15 | M18 | X | 0 | 0 | 0 | %100 |
| 16 | M18 | Z | 5.6803 | 5.6803 | 0 | %100 |
| 17 | M19 | X | 0 | 0 | 0 | %100 |
| 18 | M19 | Z | 5.6803 | 5.6803 | 0 | %100 |
| 19 | M20 | X | 0 | 0 | 0 | %100 |
| 20 | M20 | Z | 5.6803 | 5.6803 | 0 | %100 |
| 21 | M21 | X | 0 | 0 | 0 | %100 |
| 22 | M21 | Z | 3.1276 | 3.1276 | 0 | %100 |
| 23 | M22 | X | 0 | 0 | 0 | %100 |
| 24 | M22 | Z | 3.1276 | 3.1276 | 0 | %100 |
| 25 | M23 | X | 0 | 0 | 0 | %100 |
| 26 | M23 | Z | 3.1276 | 3.1276 | 0 | %100 |
| 27 | M24 | X | 0 | 0 | 0 | %100 |
| 28 | M24 | Z | 3.1276 | 3.1276 | 0 | %100 |
| 29 | M25 | X | 0 | 0 | 0 | %100 |
| 30 | M25 | Z | 3.2394 | 3.2394 | 0 | %100 |
| 31 | M26 | X | 0 | 0 | 0 | %100 |
| 32 | M26 | Z | 3.2394 | 3.2394 | 0 | %100 |
| 33 | M27 | X | 0 | 0 | 0 | %100 |
| 34 | M27 | Z | 3.2394 | 3.2394 | 0 | %100 |
| 35 | M28 | X | 0 | 0 | 0 | %100 |
| 36 | M28 | Z | 3.2394 | 3.2394 | 0 | %100 |
| 37 | MP4A | X | 0 | 0 | 0 | %100 |
| 38 | MP4A | Z | 11.885 | 11.885 | 0 | %100 |
| 39 | MP3A | X | 0 | 0 | 0 | %100 |
| 40 | MP3A | Z | 11.885 | 11.885 | 0 | %100 |
| 41 | MP2A | X | 0 | 0 | 0 | %100 |
| 42 | MP2A | Z | 11.885 | 11.885 | 0 | %100 |
| 43 | MP1A | X | 0 | 0 | 0 | %100 |
| 44 | MP1A | Z | 11.885 | 11.885 | 0 | %100 |
| 45 | M44 | X | 0 | 0 | 0 | %100 |
| 46 | M44 | Z | 3.1276 | 3.1276 | 0 | %100 |
| 47 | M45 | X | 0 | 0 | 0 | %100 |
| 48 | M45 | Z | 3.1276 | 3.1276 | 0 | %100 |
| 49 | M46 | X | 0 | 0 | 0 | %100 |
| 50 | M46 | Z | 3.1276 | 3.1276 | 0 | %100 |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 51 | M47 | X | 0 | 0 | 0 | %100 |
| 52 | M47 | Z | 3.1276 | 3.1276 | 0 | %100 |
| 53 | M43 | X | 0 | 0 | 0 | %100 |
| 54 | M43 | Z | .1356 | .1356 | 0 | %100 |
| 55 | M45A | X | 0 | 0 | 0 | %100 |
| 56 | M45A | Z | .1356 | .1356 | 0 | %100 |
| 57 | OVP | X | 0 | 0 | 0 | %100 |
| 58 | OVP | Z | 10.8308 | 10.8308 | 0 | %100 |
| 59 | RRU | X | 0 | 0 | 0 | %100 |
| 60 | RRU | Z | 10.8308 | 10.8308 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 1 | F | X | -5.3951 | -5.3951 | 0 | %100 |
| 2 | F | Z | 9.3447 | 9.3447 | 0 | %100 |
| 3 | M2 | X | -5.3951 | -5.3951 | 0 | %100 |
| 4 | M2 | Z | 9.3447 | 9.3447 | 0 | %100 |
| 5 | M13 | X | -.391 | -.391 | 0 | %100 |
| 6 | M13 | Z | .6771 | .6771 | 0 | %100 |
| 7 | M14 | X | -.391 | -.391 | 0 | %100 |
| 8 | M14 | Z | .6771 | .6771 | 0 | %100 |
| 9 | M15 | X | -.391 | -.391 | 0 | %100 |
| 10 | M15 | Z | .6771 | .6771 | 0 | %100 |
| 11 | M16 | X | -.391 | -.391 | 0 | %100 |
| 12 | M16 | Z | .6771 | .6771 | 0 | %100 |
| 13 | SO | X | -6.394 | -6.394 | 0 | %100 |
| 14 | SO | Z | 1.1075 | 1.1075 | 0 | %100 |
| 15 | M18 | X | -6.394 | -6.394 | 0 | %100 |
| 16 | M18 | Z | 1.1075 | 1.1075 | 0 | %100 |
| 17 | M19 | X | -4.4915 | -4.4915 | 0 | %100 |
| 18 | M19 | Z | 7.7796 | 7.7796 | 0 | %100 |
| 19 | M20 | X | -4.4915 | -4.4915 | 0 | %100 |
| 20 | M20 | Z | 7.7796 | 7.7796 | 0 | %100 |
| 21 | M21 | X | -1.1729 | -1.1729 | 0 | %100 |
| 22 | M21 | Z | 2.0314 | 2.0314 | 0 | %100 |
| 23 | M22 | X | -1.1729 | -1.1729 | 0 | %100 |
| 24 | M22 | Z | 2.0314 | 2.0314 | 0 | %100 |
| 25 | M23 | X | -1.1729 | -1.1729 | 0 | %100 |
| 26 | M23 | Z | 2.0314 | 2.0314 | 0 | %100 |
| 27 | M24 | X | -1.1729 | -1.1729 | 0 | %100 |
| 28 | M24 | Z | 2.0314 | 2.0314 | 0 | %100 |
| 29 | M25 | X | -1.2951 | -1.2951 | 0 | %100 |
| 30 | M25 | Z | 2.2432 | 2.2432 | 0 | %100 |
| 31 | M26 | X | -1.2951 | -1.2951 | 0 | %100 |
| 32 | M26 | Z | 2.2432 | 2.2432 | 0 | %100 |
| 33 | M27 | X | -1.8633 | -1.8633 | 0 | %100 |
| 34 | M27 | Z | 3.2273 | 3.2273 | 0 | %100 |
| 35 | M28 | X | -1.8633 | -1.8633 | 0 | %100 |
| 36 | M28 | Z | 3.2273 | 3.2273 | 0 | %100 |
| 37 | MP4A | X | -5.9425 | -5.9425 | 0 | %100 |
| 38 | MP4A | Z | 10.2927 | 10.2927 | 0 | %100 |
| 39 | MP3A | X | -5.9425 | -5.9425 | 0 | %100 |
| 40 | MP3A | Z | 10.2927 | 10.2927 | 0 | %100 |
| 41 | MP2A | X | -5.9425 | -5.9425 | 0 | %100 |
| 42 | MP2A | Z | 10.2927 | 10.2927 | 0 | %100 |
| 43 | MP1A | X | -5.9425 | -5.9425 | 0 | %100 |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location(ft) | End Location(ft) |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 44 | MP1A | Z | 10.2927 | 10.2927 | 0 | %100 |
| 45 | M44 | X | -1.5638 | -1.5638 | 0 | %100 |
| 46 | M44 | Z | 2.7086 | 2.7086 | 0 | %100 |
| 47 | M45 | X | -1.5638 | -1.5638 | 0 | %100 |
| 48 | M45 | Z | 2.7086 | 2.7086 | 0 | %100 |
| 49 | M46 | X | -1.5638 | -1.5638 | 0 | %100 |
| 50 | M46 | Z | 2.7086 | 2.7086 | 0 | %100 |
| 51 | M47 | X | -1.5638 | -1.5638 | 0 | %100 |
| 52 | M47 | Z | 2.7086 | 2.7086 | 0 | %100 |
| 53 | M43 | X | -.8326 | -.8326 | 0 | %100 |
| 54 | M43 | Z | 1.4421 | 1.4421 | 0 | %100 |
| 55 | M45A | X | -.8326 | -.8326 | 0 | %100 |
| 56 | M45A | Z | 1.4421 | 1.4421 | 0 | %100 |
| 57 | OVP | X | -5.4154 | -5.4154 | 0 | %100 |
| 58 | OVP | Z | 9.3798 | 9.3798 | 0 | %100 |
| 59 | RRU | X | -5.4154 | -5.4154 | 0 | %100 |
| 60 | RRU | Z | 9.3798 | 9.3798 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location(ft) | End Location(ft) |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 1 | F | X | -3.1149 | -3.1149 | 0 | %100 |
| 2 | F | Z | 1.7984 | 1.7984 | 0 | %100 |
| 3 | M2 | X | -3.1149 | -3.1149 | 0 | %100 |
| 4 | M2 | Z | 1.7984 | 1.7984 | 0 | %100 |
| 5 | M13 | X | -2.0314 | -2.0314 | 0 | %100 |
| 6 | M13 | Z | 1.1729 | 1.1729 | 0 | %100 |
| 7 | M14 | X | -2.0314 | -2.0314 | 0 | %100 |
| 8 | M14 | Z | 1.1729 | 1.1729 | 0 | %100 |
| 9 | M15 | X | -2.0314 | -2.0314 | 0 | %100 |
| 10 | M15 | Z | 1.1729 | 1.1729 | 0 | %100 |
| 11 | M16 | X | -2.0314 | -2.0314 | 0 | %100 |
| 12 | M16 | Z | 1.1729 | 1.1729 | 0 | %100 |
| 13 | SO | X | -.1561 | -.1561 | 0 | %100 |
| 14 | SO | Z | .0901 | .0901 | 0 | %100 |
| 15 | M18 | X | -.1561 | -.1561 | 0 | %100 |
| 16 | M18 | Z | .0901 | .0901 | 0 | %100 |
| 17 | M19 | X | -6.8282 | -6.8282 | 0 | %100 |
| 18 | M19 | Z | 3.9423 | 3.9423 | 0 | %100 |
| 19 | M20 | X | -6.8282 | -6.8282 | 0 | %100 |
| 20 | M20 | Z | 3.9423 | 3.9423 | 0 | %100 |
| 21 | M21 | X | -.6771 | -.6771 | 0 | %100 |
| 22 | M21 | Z | .391 | .391 | 0 | %100 |
| 23 | M22 | X | -.6771 | -.6771 | 0 | %100 |
| 24 | M22 | Z | .391 | .391 | 0 | %100 |
| 25 | M23 | X | -.6771 | -.6771 | 0 | %100 |
| 26 | M23 | Z | .391 | .391 | 0 | %100 |
| 27 | M24 | X | -.6771 | -.6771 | 0 | %100 |
| 28 | M24 | Z | .391 | .391 | 0 | %100 |
| 29 | M25 | X | -2.1029 | -2.1029 | 0 | %100 |
| 30 | M25 | Z | 1.2141 | 1.2141 | 0 | %100 |
| 31 | M26 | X | -2.1029 | -2.1029 | 0 | %100 |
| 32 | M26 | Z | 1.2141 | 1.2141 | 0 | %100 |
| 33 | M27 | X | -3.087 | -3.087 | 0 | %100 |
| 34 | M27 | Z | 1.7823 | 1.7823 | 0 | %100 |
| 35 | M28 | X | -3.087 | -3.087 | 0 | %100 |
| 36 | M28 | Z | 1.7823 | 1.7823 | 0 | %100 |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 37 | MP4A | X | -10.2927 | -10.2927 | 0 | %100 |
| 38 | MP4A | Z | 5.9425 | 5.9425 | 0 | %100 |
| 39 | MP3A | X | -10.2927 | -10.2927 | 0 | %100 |
| 40 | MP3A | Z | 5.9425 | 5.9425 | 0 | %100 |
| 41 | MP2A | X | -10.2927 | -10.2927 | 0 | %100 |
| 42 | MP2A | Z | 5.9425 | 5.9425 | 0 | %100 |
| 43 | MP1A | X | -10.2927 | -10.2927 | 0 | %100 |
| 44 | MP1A | Z | 5.9425 | 5.9425 | 0 | %100 |
| 45 | M44 | X | -2.7086 | -2.7086 | 0 | %100 |
| 46 | M44 | Z | 1.5638 | 1.5638 | 0 | %100 |
| 47 | M45 | X | -2.7086 | -2.7086 | 0 | %100 |
| 48 | M45 | Z | 1.5638 | 1.5638 | 0 | %100 |
| 49 | M46 | X | -2.7086 | -2.7086 | 0 | %100 |
| 50 | M46 | Z | 1.5638 | 1.5638 | 0 | %100 |
| 51 | M47 | X | -2.7086 | -2.7086 | 0 | %100 |
| 52 | M47 | Z | 1.5638 | 1.5638 | 0 | %100 |
| 53 | M43 | X | -5.8693 | -5.8693 | 0 | %100 |
| 54 | M43 | Z | 3.3886 | 3.3886 | 0 | %100 |
| 55 | M45A | X | -5.8693 | -5.8693 | 0 | %100 |
| 56 | M45A | Z | 3.3886 | 3.3886 | 0 | %100 |
| 57 | OVP | X | -9.3798 | -9.3798 | 0 | %100 |
| 58 | OVP | Z | 5.4154 | 5.4154 | 0 | %100 |
| 59 | RRU | X | -9.3798 | -9.3798 | 0 | %100 |
| 60 | RRU | Z | 5.4154 | 5.4154 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 1 | F | X | 0 | 0 | 0 | %100 |
| 2 | F | Z | 0 | 0 | 0 | %100 |
| 3 | M2 | X | 0 | 0 | 0 | %100 |
| 4 | M2 | Z | 0 | 0 | 0 | %100 |
| 5 | M13 | X | -3.1276 | -3.1276 | 0 | %100 |
| 6 | M13 | Z | 0 | 0 | 0 | %100 |
| 7 | M14 | X | -3.1276 | -3.1276 | 0 | %100 |
| 8 | M14 | Z | 0 | 0 | 0 | %100 |
| 9 | M15 | X | -3.1276 | -3.1276 | 0 | %100 |
| 10 | M15 | Z | 0 | 0 | 0 | %100 |
| 11 | M16 | X | -3.1276 | -3.1276 | 0 | %100 |
| 12 | M16 | Z | 0 | 0 | 0 | %100 |
| 13 | SO | X | -3.4831 | -3.4831 | 0 | %100 |
| 14 | SO | Z | 0 | 0 | 0 | %100 |
| 15 | M18 | X | -3.4831 | -3.4831 | 0 | %100 |
| 16 | M18 | Z | 0 | 0 | 0 | %100 |
| 17 | M19 | X | -3.4831 | -3.4831 | 0 | %100 |
| 18 | M19 | Z | 0 | 0 | 0 | %100 |
| 19 | M20 | X | -3.4831 | -3.4831 | 0 | %100 |
| 20 | M20 | Z | 0 | 0 | 0 | %100 |
| 21 | M21 | X | 0 | 0 | 0 | %100 |
| 22 | M21 | Z | 0 | 0 | 0 | %100 |
| 23 | M22 | X | 0 | 0 | 0 | %100 |
| 24 | M22 | Z | 0 | 0 | 0 | %100 |
| 25 | M23 | X | 0 | 0 | 0 | %100 |
| 26 | M23 | Z | 0 | 0 | 0 | %100 |
| 27 | M24 | X | 0 | 0 | 0 | %100 |
| 28 | M24 | Z | 0 | 0 | 0 | %100 |
| 29 | M25 | X | -2.9154 | -2.9154 | 0 | %100 |



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 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location(ft) | End Location(ft) |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 30 | M25 | Z | 0 | 0 | 0 | %100 |
| 31 | M26 | X | -2.9154 | -2.9154 | 0 | %100 |
| 32 | M26 | Z | 0 | 0 | 0 | %100 |
| 33 | M27 | X | -2.9154 | -2.9154 | 0 | %100 |
| 34 | M27 | Z | 0 | 0 | 0 | %100 |
| 35 | M28 | X | -2.9154 | -2.9154 | 0 | %100 |
| 36 | M28 | Z | 0 | 0 | 0 | %100 |
| 37 | MP4A | X | -11.885 | -11.885 | 0 | %100 |
| 38 | MP4A | Z | 0 | 0 | 0 | %100 |
| 39 | MP3A | X | -11.885 | -11.885 | 0 | %100 |
| 40 | MP3A | Z | 0 | 0 | 0 | %100 |
| 41 | MP2A | X | -11.885 | -11.885 | 0 | %100 |
| 42 | MP2A | Z | 0 | 0 | 0 | %100 |
| 43 | MP1A | X | -11.885 | -11.885 | 0 | %100 |
| 44 | MP1A | Z | 0 | 0 | 0 | %100 |
| 45 | M44 | X | -3.1276 | -3.1276 | 0 | %100 |
| 46 | M44 | Z | 0 | 0 | 0 | %100 |
| 47 | M45 | X | -3.1276 | -3.1276 | 0 | %100 |
| 48 | M45 | Z | 0 | 0 | 0 | %100 |
| 49 | M46 | X | -3.1276 | -3.1276 | 0 | %100 |
| 50 | M46 | Z | 0 | 0 | 0 | %100 |
| 51 | M47 | X | -3.1276 | -3.1276 | 0 | %100 |
| 52 | M47 | Z | 0 | 0 | 0 | %100 |
| 53 | M43 | X | -10.3597 | -10.3597 | 0 | %100 |
| 54 | M43 | Z | 0 | 0 | 0 | %100 |
| 55 | M45A | X | -10.3597 | -10.3597 | 0 | %100 |
| 56 | M45A | Z | 0 | 0 | 0 | %100 |
| 57 | OVP | X | -10.8308 | -10.8308 | 0 | %100 |
| 58 | OVP | Z | 0 | 0 | 0 | %100 |
| 59 | RRU | X | -10.8308 | -10.8308 | 0 | %100 |
| 60 | RRU | Z | 0 | 0 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location(ft) | End Location(ft) |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 1 | F | X | -3.1149 | -3.1149 | 0 | %100 |
| 2 | F | Z | -1.7984 | -1.7984 | 0 | %100 |
| 3 | M2 | X | -3.1149 | -3.1149 | 0 | %100 |
| 4 | M2 | Z | -1.7984 | -1.7984 | 0 | %100 |
| 5 | M13 | X | -2.0314 | -2.0314 | 0 | %100 |
| 6 | M13 | Z | -1.1729 | -1.1729 | 0 | %100 |
| 7 | M14 | X | -2.0314 | -2.0314 | 0 | %100 |
| 8 | M14 | Z | -1.1729 | -1.1729 | 0 | %100 |
| 9 | M15 | X | -2.0314 | -2.0314 | 0 | %100 |
| 10 | M15 | Z | -1.1729 | -1.1729 | 0 | %100 |
| 11 | M16 | X | -2.0314 | -2.0314 | 0 | %100 |
| 12 | M16 | Z | -1.1729 | -1.1729 | 0 | %100 |
| 13 | SO | X | -6.8282 | -6.8282 | 0 | %100 |
| 14 | SO | Z | -3.9423 | -3.9423 | 0 | %100 |
| 15 | M18 | X | -6.8282 | -6.8282 | 0 | %100 |
| 16 | M18 | Z | -3.9423 | -3.9423 | 0 | %100 |
| 17 | M19 | X | -.1561 | -.1561 | 0 | %100 |
| 18 | M19 | Z | -.0901 | -.0901 | 0 | %100 |
| 19 | M20 | X | -.1561 | -.1561 | 0 | %100 |
| 20 | M20 | Z | -.0901 | -.0901 | 0 | %100 |
| 21 | M21 | X | -.6771 | -.6771 | 0 | %100 |
| 22 | M21 | Z | -.391 | -.391 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 23 | M22 | X | -6771 | -6771 | 0 | %100 |
| 24 | M22 | Z | -.391 | -.391 | 0 | %100 |
| 25 | M23 | X | -6771 | -6771 | 0 | %100 |
| 26 | M23 | Z | -.391 | -.391 | 0 | %100 |
| 27 | M24 | X | -6771 | -6771 | 0 | %100 |
| 28 | M24 | Z | -.391 | -.391 | 0 | %100 |
| 29 | M25 | X | -3.087 | -3.087 | 0 | %100 |
| 30 | M25 | Z | -1.7823 | -1.7823 | 0 | %100 |
| 31 | M26 | X | -3.087 | -3.087 | 0 | %100 |
| 32 | M26 | Z | -1.7823 | -1.7823 | 0 | %100 |
| 33 | M27 | X | -2.1029 | -2.1029 | 0 | %100 |
| 34 | M27 | Z | -1.2141 | -1.2141 | 0 | %100 |
| 35 | M28 | X | -2.1029 | -2.1029 | 0 | %100 |
| 36 | M28 | Z | -1.2141 | -1.2141 | 0 | %100 |
| 37 | MP4A | X | -10.2927 | -10.2927 | 0 | %100 |
| 38 | MP4A | Z | -5.9425 | -5.9425 | 0 | %100 |
| 39 | MP3A | X | -10.2927 | -10.2927 | 0 | %100 |
| 40 | MP3A | Z | -5.9425 | -5.9425 | 0 | %100 |
| 41 | MP2A | X | -10.2927 | -10.2927 | 0 | %100 |
| 42 | MP2A | Z | -5.9425 | -5.9425 | 0 | %100 |
| 43 | MP1A | X | -10.2927 | -10.2927 | 0 | %100 |
| 44 | MP1A | Z | -5.9425 | -5.9425 | 0 | %100 |
| 45 | M44 | X | -2.7086 | -2.7086 | 0 | %100 |
| 46 | M44 | Z | -1.5638 | -1.5638 | 0 | %100 |
| 47 | M45 | X | -2.7086 | -2.7086 | 0 | %100 |
| 48 | M45 | Z | -1.5638 | -1.5638 | 0 | %100 |
| 49 | M46 | X | -2.7086 | -2.7086 | 0 | %100 |
| 50 | M46 | Z | -1.5638 | -1.5638 | 0 | %100 |
| 51 | M47 | X | -2.7086 | -2.7086 | 0 | %100 |
| 52 | M47 | Z | -1.5638 | -1.5638 | 0 | %100 |
| 53 | M43 | X | -7.6471 | -7.6471 | 0 | %100 |
| 54 | M43 | Z | -4.4151 | -4.4151 | 0 | %100 |
| 55 | M45A | X | -7.6471 | -7.6471 | 0 | %100 |
| 56 | M45A | Z | -4.4151 | -4.4151 | 0 | %100 |
| 57 | OVP | X | -9.3798 | -9.3798 | 0 | %100 |
| 58 | OVP | Z | -5.4154 | -5.4154 | 0 | %100 |
| 59 | RRU | X | -9.3798 | -9.3798 | 0 | %100 |
| 60 | RRU | Z | -5.4154 | -5.4154 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 1 | F | X | -5.3951 | -5.3951 | 0 | %100 |
| 2 | F | Z | -9.3447 | -9.3447 | 0 | %100 |
| 3 | M2 | X | -5.3951 | -5.3951 | 0 | %100 |
| 4 | M2 | Z | -9.3447 | -9.3447 | 0 | %100 |
| 5 | M13 | X | -.391 | -.391 | 0 | %100 |
| 6 | M13 | Z | -.6771 | -.6771 | 0 | %100 |
| 7 | M14 | X | -.391 | -.391 | 0 | %100 |
| 8 | M14 | Z | -.6771 | -.6771 | 0 | %100 |
| 9 | M15 | X | -.391 | -.391 | 0 | %100 |
| 10 | M15 | Z | -.6771 | -.6771 | 0 | %100 |
| 11 | M16 | X | -.391 | -.391 | 0 | %100 |
| 12 | M16 | Z | -.6771 | -.6771 | 0 | %100 |
| 13 | SO | X | -4.4915 | -4.4915 | 0 | %100 |
| 14 | SO | Z | -7.7796 | -7.7796 | 0 | %100 |
| 15 | M18 | X | -4.4915 | -4.4915 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 16 | M18 | Z | -7.7796 | -7.7796 | 0 | %100 |
| 17 | M19 | X | -6394 | -6394 | 0 | %100 |
| 18 | M19 | Z | -1.1075 | -1.1075 | 0 | %100 |
| 19 | M20 | X | -6394 | -6394 | 0 | %100 |
| 20 | M20 | Z | -1.1075 | -1.1075 | 0 | %100 |
| 21 | M21 | X | -1.1729 | -1.1729 | 0 | %100 |
| 22 | M21 | Z | -2.0314 | -2.0314 | 0 | %100 |
| 23 | M22 | X | -1.1729 | -1.1729 | 0 | %100 |
| 24 | M22 | Z | -2.0314 | -2.0314 | 0 | %100 |
| 25 | M23 | X | -1.1729 | -1.1729 | 0 | %100 |
| 26 | M23 | Z | -2.0314 | -2.0314 | 0 | %100 |
| 27 | M24 | X | -1.1729 | -1.1729 | 0 | %100 |
| 28 | M24 | Z | -2.0314 | -2.0314 | 0 | %100 |
| 29 | M25 | X | -1.8633 | -1.8633 | 0 | %100 |
| 30 | M25 | Z | -3.2273 | -3.2273 | 0 | %100 |
| 31 | M26 | X | -1.8633 | -1.8633 | 0 | %100 |
| 32 | M26 | Z | -3.2273 | -3.2273 | 0 | %100 |
| 33 | M27 | X | -1.2951 | -1.2951 | 0 | %100 |
| 34 | M27 | Z | -2.2432 | -2.2432 | 0 | %100 |
| 35 | M28 | X | -1.2951 | -1.2951 | 0 | %100 |
| 36 | M28 | Z | -2.2432 | -2.2432 | 0 | %100 |
| 37 | MP4A | X | -5.9425 | -5.9425 | 0 | %100 |
| 38 | MP4A | Z | -10.2927 | -10.2927 | 0 | %100 |
| 39 | MP3A | X | -5.9425 | -5.9425 | 0 | %100 |
| 40 | MP3A | Z | -10.2927 | -10.2927 | 0 | %100 |
| 41 | MP2A | X | -5.9425 | -5.9425 | 0 | %100 |
| 42 | MP2A | Z | -10.2927 | -10.2927 | 0 | %100 |
| 43 | MP1A | X | -5.9425 | -5.9425 | 0 | %100 |
| 44 | MP1A | Z | -10.2927 | -10.2927 | 0 | %100 |
| 45 | M44 | X | -1.5638 | -1.5638 | 0 | %100 |
| 46 | M44 | Z | -2.7086 | -2.7086 | 0 | %100 |
| 47 | M45 | X | -1.5638 | -1.5638 | 0 | %100 |
| 48 | M45 | Z | -2.7086 | -2.7086 | 0 | %100 |
| 49 | M46 | X | -1.5638 | -1.5638 | 0 | %100 |
| 50 | M46 | Z | -2.7086 | -2.7086 | 0 | %100 |
| 51 | M47 | X | -1.5638 | -1.5638 | 0 | %100 |
| 52 | M47 | Z | -2.7086 | -2.7086 | 0 | %100 |
| 53 | M43 | X | -1.859 | -1.859 | 0 | %100 |
| 54 | M43 | Z | -3.2199 | -3.2199 | 0 | %100 |
| 55 | M45A | X | -1.859 | -1.859 | 0 | %100 |
| 56 | M45A | Z | -3.2199 | -3.2199 | 0 | %100 |
| 57 | OVP | X | -5.4154 | -5.4154 | 0 | %100 |
| 58 | OVP | Z | -9.3798 | -9.3798 | 0 | %100 |
| 59 | RRU | X | -5.4154 | -5.4154 | 0 | %100 |
| 60 | RRU | Z | -9.3798 | -9.3798 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|---|--------------|-----------|-----------------|---------------|----------------|--------------|
| 1 | F | X | 0 | 0 | 0 | %100 |
| 2 | F | Z | -3.839 | -3.839 | 0 | %100 |
| 3 | M2 | X | 0 | 0 | 0 | %100 |
| 4 | M2 | Z | -3.839 | -3.839 | 0 | %100 |
| 5 | M13 | X | 0 | 0 | 0 | %100 |
| 6 | M13 | Z | 0 | 0 | 0 | %100 |
| 7 | M14 | X | 0 | 0 | 0 | %100 |
| 8 | M14 | Z | 0 | 0 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 9 | M15 | X | 0 | 0 | 0 | %100 |
| 10 | M15 | Z | 0 | 0 | 0 | %100 |
| 11 | M16 | X | 0 | 0 | 0 | %100 |
| 12 | M16 | Z | 0 | 0 | 0 | %100 |
| 13 | SO | X | 0 | 0 | 0 | %100 |
| 14 | SO | Z | -1.6648 | -1.6648 | 0 | %100 |
| 15 | M18 | X | 0 | 0 | 0 | %100 |
| 16 | M18 | Z | -1.6648 | -1.6648 | 0 | %100 |
| 17 | M19 | X | 0 | 0 | 0 | %100 |
| 18 | M19 | Z | -1.6648 | -1.6648 | 0 | %100 |
| 19 | M20 | X | 0 | 0 | 0 | %100 |
| 20 | M20 | Z | -1.6648 | -1.6648 | 0 | %100 |
| 21 | M21 | X | 0 | 0 | 0 | %100 |
| 22 | M21 | Z | -1.4688 | -1.4688 | 0 | %100 |
| 23 | M22 | X | 0 | 0 | 0 | %100 |
| 24 | M22 | Z | -1.4688 | -1.4688 | 0 | %100 |
| 25 | M23 | X | 0 | 0 | 0 | %100 |
| 26 | M23 | Z | -1.4688 | -1.4688 | 0 | %100 |
| 27 | M24 | X | 0 | 0 | 0 | %100 |
| 28 | M24 | Z | -1.4688 | -1.4688 | 0 | %100 |
| 29 | M25 | X | 0 | 0 | 0 | %100 |
| 30 | M25 | Z | -1.8638 | -1.8638 | 0 | %100 |
| 31 | M26 | X | 0 | 0 | 0 | %100 |
| 32 | M26 | Z | -1.8638 | -1.8638 | 0 | %100 |
| 33 | M27 | X | 0 | 0 | 0 | %100 |
| 34 | M27 | Z | -1.8638 | -1.8638 | 0 | %100 |
| 35 | M28 | X | 0 | 0 | 0 | %100 |
| 36 | M28 | Z | -1.8638 | -1.8638 | 0 | %100 |
| 37 | MP4A | X | 0 | 0 | 0 | %100 |
| 38 | MP4A | Z | -3.4688 | -3.4688 | 0 | %100 |
| 39 | MP3A | X | 0 | 0 | 0 | %100 |
| 40 | MP3A | Z | -3.4688 | -3.4688 | 0 | %100 |
| 41 | MP2A | X | 0 | 0 | 0 | %100 |
| 42 | MP2A | Z | -3.4688 | -3.4688 | 0 | %100 |
| 43 | MP1A | X | 0 | 0 | 0 | %100 |
| 44 | MP1A | Z | -3.4688 | -3.4688 | 0 | %100 |
| 45 | M44 | X | 0 | 0 | 0 | %100 |
| 46 | M44 | Z | -1.9297 | -1.9297 | 0 | %100 |
| 47 | M45 | X | 0 | 0 | 0 | %100 |
| 48 | M45 | Z | -1.9297 | -1.9297 | 0 | %100 |
| 49 | M46 | X | 0 | 0 | 0 | %100 |
| 50 | M46 | Z | -1.9297 | -1.9297 | 0 | %100 |
| 51 | M47 | X | 0 | 0 | 0 | %100 |
| 52 | M47 | Z | -1.9297 | -1.9297 | 0 | %100 |
| 53 | M43 | X | 0 | 0 | 0 | %100 |
| 54 | M43 | Z | -0.398 | -0.398 | 0 | %100 |
| 55 | M45A | X | 0 | 0 | 0 | %100 |
| 56 | M45A | Z | -0.398 | -0.398 | 0 | %100 |
| 57 | OVP | X | 0 | 0 | 0 | %100 |
| 58 | OVP | Z | -3.1789 | -3.1789 | 0 | %100 |
| 59 | RRU | X | 0 | 0 | 0 | %100 |
| 60 | RRU | Z | -3.1789 | -3.1789 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|---|--------------|-----------|-----------------|---------------|----------------|--------------|
| 1 | F | X | 1.4396 | 1.4396 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Locationft... | End Locationft... |
|----|--------------|-----------|-----------------|---------------|---------------------|-------------------|
| 2 | F | Z | -2.4935 | -2.4935 | 0 | %100 |
| 3 | M2 | X | 1.4396 | 1.4396 | 0 | %100 |
| 4 | M2 | Z | -2.4935 | -2.4935 | 0 | %100 |
| 5 | M13 | X | .1826 | .1826 | 0 | %100 |
| 6 | M13 | Z | -.3162 | -.3162 | 0 | %100 |
| 7 | M14 | X | .1826 | .1826 | 0 | %100 |
| 8 | M14 | Z | -.3162 | -.3162 | 0 | %100 |
| 9 | M15 | X | .1826 | .1826 | 0 | %100 |
| 10 | M15 | Z | -.3162 | -.3162 | 0 | %100 |
| 11 | M16 | X | .1826 | .1826 | 0 | %100 |
| 12 | M16 | Z | -.3162 | -.3162 | 0 | %100 |
| 13 | SO | X | .1874 | .1874 | 0 | %100 |
| 14 | SO | Z | -.3246 | -.3246 | 0 | %100 |
| 15 | M18 | X | .1874 | .1874 | 0 | %100 |
| 16 | M18 | Z | -.3246 | -.3246 | 0 | %100 |
| 17 | M19 | X | 1.3164 | 1.3164 | 0 | %100 |
| 18 | M19 | Z | -2.28 | -2.28 | 0 | %100 |
| 19 | M20 | X | 1.3164 | 1.3164 | 0 | %100 |
| 20 | M20 | Z | -2.28 | -2.28 | 0 | %100 |
| 21 | M21 | X | .5508 | .5508 | 0 | %100 |
| 22 | M21 | Z | -.954 | -.954 | 0 | %100 |
| 23 | M22 | X | .5508 | .5508 | 0 | %100 |
| 24 | M22 | Z | -.954 | -.954 | 0 | %100 |
| 25 | M23 | X | .5508 | .5508 | 0 | %100 |
| 26 | M23 | Z | -.954 | -.954 | 0 | %100 |
| 27 | M24 | X | .5508 | .5508 | 0 | %100 |
| 28 | M24 | Z | -.954 | -.954 | 0 | %100 |
| 29 | M25 | X | .7452 | .7452 | 0 | %100 |
| 30 | M25 | Z | -1.2907 | -1.2907 | 0 | %100 |
| 31 | M26 | X | .7452 | .7452 | 0 | %100 |
| 32 | M26 | Z | -1.2907 | -1.2907 | 0 | %100 |
| 33 | M27 | X | 1.0721 | 1.0721 | 0 | %100 |
| 34 | M27 | Z | -1.8568 | -1.8568 | 0 | %100 |
| 35 | M28 | X | 1.0721 | 1.0721 | 0 | %100 |
| 36 | M28 | Z | -1.8568 | -1.8568 | 0 | %100 |
| 37 | MP4A | X | 1.7344 | 1.7344 | 0 | %100 |
| 38 | MP4A | Z | -3.0041 | -3.0041 | 0 | %100 |
| 39 | MP3A | X | 1.7344 | 1.7344 | 0 | %100 |
| 40 | MP3A | Z | -3.0041 | -3.0041 | 0 | %100 |
| 41 | MP2A | X | 1.7344 | 1.7344 | 0 | %100 |
| 42 | MP2A | Z | -3.0041 | -3.0041 | 0 | %100 |
| 43 | MP1A | X | 1.7344 | 1.7344 | 0 | %100 |
| 44 | MP1A | Z | -3.0041 | -3.0041 | 0 | %100 |
| 45 | M44 | X | .9649 | .9649 | 0 | %100 |
| 46 | M44 | Z | -1.6712 | -1.6712 | 0 | %100 |
| 47 | M45 | X | .9649 | .9649 | 0 | %100 |
| 48 | M45 | Z | -1.6712 | -1.6712 | 0 | %100 |
| 49 | M46 | X | .9649 | .9649 | 0 | %100 |
| 50 | M46 | Z | -1.6712 | -1.6712 | 0 | %100 |
| 51 | M47 | X | .9649 | .9649 | 0 | %100 |
| 52 | M47 | Z | -1.6712 | -1.6712 | 0 | %100 |
| 53 | M43 | X | .2443 | .2443 | 0 | %100 |
| 54 | M43 | Z | -.4232 | -.4232 | 0 | %100 |
| 55 | M45A | X | .2443 | .2443 | 0 | %100 |
| 56 | M45A | Z | -.4232 | -.4232 | 0 | %100 |
| 57 | OVP | X | 1.5895 | 1.5895 | 0 | %100 |
| 58 | OVP | Z | -2.753 | -2.753 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 59 | RRU | X | 1.5895 | 1.5895 | 0 | %100 |
| 60 | RRU | Z | -2.753 | -2.753 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 1 | F | X | .8312 | .8312 | 0 | %100 |
| 2 | F | Z | -.4799 | -.4799 | 0 | %100 |
| 3 | M2 | X | .8312 | .8312 | 0 | %100 |
| 4 | M2 | Z | -.4799 | -.4799 | 0 | %100 |
| 5 | M13 | X | .9487 | .9487 | 0 | %100 |
| 6 | M13 | Z | -.5477 | -.5477 | 0 | %100 |
| 7 | M14 | X | .9487 | .9487 | 0 | %100 |
| 8 | M14 | Z | -.5477 | -.5477 | 0 | %100 |
| 9 | M15 | X | .9487 | .9487 | 0 | %100 |
| 10 | M15 | Z | -.5477 | -.5477 | 0 | %100 |
| 11 | M16 | X | .9487 | .9487 | 0 | %100 |
| 12 | M16 | Z | -.5477 | -.5477 | 0 | %100 |
| 13 | SO | X | .0458 | .0458 | 0 | %100 |
| 14 | SO | Z | -.0264 | -.0264 | 0 | %100 |
| 15 | M18 | X | .0458 | .0458 | 0 | %100 |
| 16 | M18 | Z | -.0264 | -.0264 | 0 | %100 |
| 17 | M19 | X | 2.0012 | 2.0012 | 0 | %100 |
| 18 | M19 | Z | -1.1554 | -1.1554 | 0 | %100 |
| 19 | M20 | X | 2.0012 | 2.0012 | 0 | %100 |
| 20 | M20 | Z | -1.1554 | -1.1554 | 0 | %100 |
| 21 | M21 | X | .318 | .318 | 0 | %100 |
| 22 | M21 | Z | -.1836 | -.1836 | 0 | %100 |
| 23 | M22 | X | .318 | .318 | 0 | %100 |
| 24 | M22 | Z | -.1836 | -.1836 | 0 | %100 |
| 25 | M23 | X | .318 | .318 | 0 | %100 |
| 26 | M23 | Z | -.1836 | -.1836 | 0 | %100 |
| 27 | M24 | X | .318 | .318 | 0 | %100 |
| 28 | M24 | Z | -.1836 | -.1836 | 0 | %100 |
| 29 | M25 | X | 1.2099 | 1.2099 | 0 | %100 |
| 30 | M25 | Z | -.6986 | -.6986 | 0 | %100 |
| 31 | M26 | X | 1.2099 | 1.2099 | 0 | %100 |
| 32 | M26 | Z | -.6986 | -.6986 | 0 | %100 |
| 33 | M27 | X | 1.7761 | 1.7761 | 0 | %100 |
| 34 | M27 | Z | -1.0254 | -1.0254 | 0 | %100 |
| 35 | M28 | X | 1.7761 | 1.7761 | 0 | %100 |
| 36 | M28 | Z | -1.0254 | -1.0254 | 0 | %100 |
| 37 | MP4A | X | 3.0041 | 3.0041 | 0 | %100 |
| 38 | MP4A | Z | -1.7344 | -1.7344 | 0 | %100 |
| 39 | MP3A | X | 3.0041 | 3.0041 | 0 | %100 |
| 40 | MP3A | Z | -1.7344 | -1.7344 | 0 | %100 |
| 41 | MP2A | X | 3.0041 | 3.0041 | 0 | %100 |
| 42 | MP2A | Z | -1.7344 | -1.7344 | 0 | %100 |
| 43 | MP1A | X | 3.0041 | 3.0041 | 0 | %100 |
| 44 | MP1A | Z | -1.7344 | -1.7344 | 0 | %100 |
| 45 | M44 | X | 1.6712 | 1.6712 | 0 | %100 |
| 46 | M44 | Z | -.9649 | -.9649 | 0 | %100 |
| 47 | M45 | X | 1.6712 | 1.6712 | 0 | %100 |
| 48 | M45 | Z | -.9649 | -.9649 | 0 | %100 |
| 49 | M46 | X | 1.6712 | 1.6712 | 0 | %100 |
| 50 | M46 | Z | -.9649 | -.9649 | 0 | %100 |
| 51 | M47 | X | 1.6712 | 1.6712 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 52 | M47 | Z | -9649 | -9649 | 0 | %100 |
| 53 | M43 | X | 1.7222 | 1.7222 | 0 | %100 |
| 54 | M43 | Z | -9943 | -9943 | 0 | %100 |
| 55 | M45A | X | 1.7222 | 1.7222 | 0 | %100 |
| 56 | M45A | Z | -9943 | -9943 | 0 | %100 |
| 57 | OVP | X | 2.753 | 2.753 | 0 | %100 |
| 58 | OVP | Z | -1.5895 | -1.5895 | 0 | %100 |
| 59 | RRU | X | 2.753 | 2.753 | 0 | %100 |
| 60 | RRU | Z | -1.5895 | -1.5895 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 1 | F | X | 0 | 0 | 0 | %100 |
| 2 | F | Z | 0 | 0 | 0 | %100 |
| 3 | M2 | X | 0 | 0 | 0 | %100 |
| 4 | M2 | Z | 0 | 0 | 0 | %100 |
| 5 | M13 | X | 1.4606 | 1.4606 | 0 | %100 |
| 6 | M13 | Z | 0 | 0 | 0 | %100 |
| 7 | M14 | X | 1.4606 | 1.4606 | 0 | %100 |
| 8 | M14 | Z | 0 | 0 | 0 | %100 |
| 9 | M15 | X | 1.4606 | 1.4606 | 0 | %100 |
| 10 | M15 | Z | 0 | 0 | 0 | %100 |
| 11 | M16 | X | 1.4606 | 1.4606 | 0 | %100 |
| 12 | M16 | Z | 0 | 0 | 0 | %100 |
| 13 | SO | X | 1.0208 | 1.0208 | 0 | %100 |
| 14 | SO | Z | 0 | 0 | 0 | %100 |
| 15 | M18 | X | 1.0208 | 1.0208 | 0 | %100 |
| 16 | M18 | Z | 0 | 0 | 0 | %100 |
| 17 | M19 | X | 1.0208 | 1.0208 | 0 | %100 |
| 18 | M19 | Z | 0 | 0 | 0 | %100 |
| 19 | M20 | X | 1.0208 | 1.0208 | 0 | %100 |
| 20 | M20 | Z | 0 | 0 | 0 | %100 |
| 21 | M21 | X | 0 | 0 | 0 | %100 |
| 22 | M21 | Z | 0 | 0 | 0 | %100 |
| 23 | M22 | X | 0 | 0 | 0 | %100 |
| 24 | M22 | Z | 0 | 0 | 0 | %100 |
| 25 | M23 | X | 0 | 0 | 0 | %100 |
| 26 | M23 | Z | 0 | 0 | 0 | %100 |
| 27 | M24 | X | 0 | 0 | 0 | %100 |
| 28 | M24 | Z | 0 | 0 | 0 | %100 |
| 29 | M25 | X | 1.6774 | 1.6774 | 0 | %100 |
| 30 | M25 | Z | 0 | 0 | 0 | %100 |
| 31 | M26 | X | 1.6774 | 1.6774 | 0 | %100 |
| 32 | M26 | Z | 0 | 0 | 0 | %100 |
| 33 | M27 | X | 1.6774 | 1.6774 | 0 | %100 |
| 34 | M27 | Z | 0 | 0 | 0 | %100 |
| 35 | M28 | X | 1.6774 | 1.6774 | 0 | %100 |
| 36 | M28 | Z | 0 | 0 | 0 | %100 |
| 37 | MP4A | X | 3.4688 | 3.4688 | 0 | %100 |
| 38 | MP4A | Z | 0 | 0 | 0 | %100 |
| 39 | MP3A | X | 3.4688 | 3.4688 | 0 | %100 |
| 40 | MP3A | Z | 0 | 0 | 0 | %100 |
| 41 | MP2A | X | 3.4688 | 3.4688 | 0 | %100 |
| 42 | MP2A | Z | 0 | 0 | 0 | %100 |
| 43 | MP1A | X | 3.4688 | 3.4688 | 0 | %100 |
| 44 | MP1A | Z | 0 | 0 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft...] | End Location[ft...] |
|----|--------------|-----------|-----------------|---------------|-----------------------|---------------------|
| 45 | M44 | X | 1.9297 | 1.9297 | 0 | %100 |
| 46 | M44 | Z | 0 | 0 | 0 | %100 |
| 47 | M45 | X | 1.9297 | 1.9297 | 0 | %100 |
| 48 | M45 | Z | 0 | 0 | 0 | %100 |
| 49 | M46 | X | 1.9297 | 1.9297 | 0 | %100 |
| 50 | M46 | Z | 0 | 0 | 0 | %100 |
| 51 | M47 | X | 1.9297 | 1.9297 | 0 | %100 |
| 52 | M47 | Z | 0 | 0 | 0 | %100 |
| 53 | M43 | X | 3.0399 | 3.0399 | 0 | %100 |
| 54 | M43 | Z | 0 | 0 | 0 | %100 |
| 55 | M45A | X | 3.0399 | 3.0399 | 0 | %100 |
| 56 | M45A | Z | 0 | 0 | 0 | %100 |
| 57 | OVP | X | 3.1789 | 3.1789 | 0 | %100 |
| 58 | OVP | Z | 0 | 0 | 0 | %100 |
| 59 | RRU | X | 3.1789 | 3.1789 | 0 | %100 |
| 60 | RRU | Z | 0 | 0 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft...] | End Location[ft...] |
|----|--------------|-----------|-----------------|---------------|-----------------------|---------------------|
| 1 | F | X | .8312 | .8312 | 0 | %100 |
| 2 | F | Z | .4799 | .4799 | 0 | %100 |
| 3 | M2 | X | .8312 | .8312 | 0 | %100 |
| 4 | M2 | Z | .4799 | .4799 | 0 | %100 |
| 5 | M13 | X | .9487 | .9487 | 0 | %100 |
| 6 | M13 | Z | .5477 | .5477 | 0 | %100 |
| 7 | M14 | X | .9487 | .9487 | 0 | %100 |
| 8 | M14 | Z | .5477 | .5477 | 0 | %100 |
| 9 | M15 | X | .9487 | .9487 | 0 | %100 |
| 10 | M15 | Z | .5477 | .5477 | 0 | %100 |
| 11 | M16 | X | .9487 | .9487 | 0 | %100 |
| 12 | M16 | Z | .5477 | .5477 | 0 | %100 |
| 13 | SO | X | 2.0012 | 2.0012 | 0 | %100 |
| 14 | SO | Z | 1.1554 | 1.1554 | 0 | %100 |
| 15 | M18 | X | 2.0012 | 2.0012 | 0 | %100 |
| 16 | M18 | Z | 1.1554 | 1.1554 | 0 | %100 |
| 17 | M19 | X | .0458 | .0458 | 0 | %100 |
| 18 | M19 | Z | .0264 | .0264 | 0 | %100 |
| 19 | M20 | X | .0458 | .0458 | 0 | %100 |
| 20 | M20 | Z | .0264 | .0264 | 0 | %100 |
| 21 | M21 | X | .318 | .318 | 0 | %100 |
| 22 | M21 | Z | .1836 | .1836 | 0 | %100 |
| 23 | M22 | X | .318 | .318 | 0 | %100 |
| 24 | M22 | Z | .1836 | .1836 | 0 | %100 |
| 25 | M23 | X | .318 | .318 | 0 | %100 |
| 26 | M23 | Z | .1836 | .1836 | 0 | %100 |
| 27 | M24 | X | .318 | .318 | 0 | %100 |
| 28 | M24 | Z | .1836 | .1836 | 0 | %100 |
| 29 | M25 | X | 1.7761 | 1.7761 | 0 | %100 |
| 30 | M25 | Z | 1.0254 | 1.0254 | 0 | %100 |
| 31 | M26 | X | 1.7761 | 1.7761 | 0 | %100 |
| 32 | M26 | Z | 1.0254 | 1.0254 | 0 | %100 |
| 33 | M27 | X | 1.2099 | 1.2099 | 0 | %100 |
| 34 | M27 | Z | .6986 | .6986 | 0 | %100 |
| 35 | M28 | X | 1.2099 | 1.2099 | 0 | %100 |
| 36 | M28 | Z | .6986 | .6986 | 0 | %100 |
| 37 | MP4A | X | 3.0041 | 3.0041 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude... | End Magnitude[... | Start Locationft... | End Locationft... |
|----|--------------|-----------|--------------------|-------------------|---------------------|-------------------|
| 38 | MP4A | Z | 1.7344 | 1.7344 | 0 | %100 |
| 39 | MP3A | X | 3.0041 | 3.0041 | 0 | %100 |
| 40 | MP3A | Z | 1.7344 | 1.7344 | 0 | %100 |
| 41 | MP2A | X | 3.0041 | 3.0041 | 0 | %100 |
| 42 | MP2A | Z | 1.7344 | 1.7344 | 0 | %100 |
| 43 | MP1A | X | 3.0041 | 3.0041 | 0 | %100 |
| 44 | MP1A | Z | 1.7344 | 1.7344 | 0 | %100 |
| 45 | M44 | X | 1.6712 | 1.6712 | 0 | %100 |
| 46 | M44 | Z | .9649 | .9649 | 0 | %100 |
| 47 | M45 | X | 1.6712 | 1.6712 | 0 | %100 |
| 48 | M45 | Z | .9649 | .9649 | 0 | %100 |
| 49 | M46 | X | 1.6712 | 1.6712 | 0 | %100 |
| 50 | M46 | Z | .9649 | .9649 | 0 | %100 |
| 51 | M47 | X | 1.6712 | 1.6712 | 0 | %100 |
| 52 | M47 | Z | .9649 | .9649 | 0 | %100 |
| 53 | M43 | X | 2.2439 | 2.2439 | 0 | %100 |
| 54 | M43 | Z | 1.2955 | 1.2955 | 0 | %100 |
| 55 | M45A | X | 2.2439 | 2.2439 | 0 | %100 |
| 56 | M45A | Z | 1.2955 | 1.2955 | 0 | %100 |
| 57 | OVP | X | 2.753 | 2.753 | 0 | %100 |
| 58 | OVP | Z | 1.5895 | 1.5895 | 0 | %100 |
| 59 | RRU | X | 2.753 | 2.753 | 0 | %100 |
| 60 | RRU | Z | 1.5895 | 1.5895 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude... | End Magnitude[... | Start Locationft... | End Locationft... |
|----|--------------|-----------|--------------------|-------------------|---------------------|-------------------|
| 1 | F | X | 1.4396 | 1.4396 | 0 | %100 |
| 2 | F | Z | 2.4935 | 2.4935 | 0 | %100 |
| 3 | M2 | X | 1.4396 | 1.4396 | 0 | %100 |
| 4 | M2 | Z | 2.4935 | 2.4935 | 0 | %100 |
| 5 | M13 | X | .1826 | .1826 | 0 | %100 |
| 6 | M13 | Z | .3162 | .3162 | 0 | %100 |
| 7 | M14 | X | .1826 | .1826 | 0 | %100 |
| 8 | M14 | Z | .3162 | .3162 | 0 | %100 |
| 9 | M15 | X | .1826 | .1826 | 0 | %100 |
| 10 | M15 | Z | .3162 | .3162 | 0 | %100 |
| 11 | M16 | X | .1826 | .1826 | 0 | %100 |
| 12 | M16 | Z | .3162 | .3162 | 0 | %100 |
| 13 | SO | X | 1.3164 | 1.3164 | 0 | %100 |
| 14 | SO | Z | 2.28 | 2.28 | 0 | %100 |
| 15 | M18 | X | 1.3164 | 1.3164 | 0 | %100 |
| 16 | M18 | Z | 2.28 | 2.28 | 0 | %100 |
| 17 | M19 | X | .1874 | .1874 | 0 | %100 |
| 18 | M19 | Z | .3246 | .3246 | 0 | %100 |
| 19 | M20 | X | .1874 | .1874 | 0 | %100 |
| 20 | M20 | Z | .3246 | .3246 | 0 | %100 |
| 21 | M21 | X | .5508 | .5508 | 0 | %100 |
| 22 | M21 | Z | .954 | .954 | 0 | %100 |
| 23 | M22 | X | .5508 | .5508 | 0 | %100 |
| 24 | M22 | Z | .954 | .954 | 0 | %100 |
| 25 | M23 | X | .5508 | .5508 | 0 | %100 |
| 26 | M23 | Z | .954 | .954 | 0 | %100 |
| 27 | M24 | X | .5508 | .5508 | 0 | %100 |
| 28 | M24 | Z | .954 | .954 | 0 | %100 |
| 29 | M25 | X | 1.0721 | 1.0721 | 0 | %100 |
| 30 | M25 | Z | 1.8568 | 1.8568 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 31 | M26 | X | 1.0721 | 1.0721 | 0 | %100 |
| 32 | M26 | Z | 1.8568 | 1.8568 | 0 | %100 |
| 33 | M27 | X | .7452 | .7452 | 0 | %100 |
| 34 | M27 | Z | 1.2907 | 1.2907 | 0 | %100 |
| 35 | M28 | X | .7452 | .7452 | 0 | %100 |
| 36 | M28 | Z | 1.2907 | 1.2907 | 0 | %100 |
| 37 | MP4A | X | 1.7344 | 1.7344 | 0 | %100 |
| 38 | MP4A | Z | 3.0041 | 3.0041 | 0 | %100 |
| 39 | MP3A | X | 1.7344 | 1.7344 | 0 | %100 |
| 40 | MP3A | Z | 3.0041 | 3.0041 | 0 | %100 |
| 41 | MP2A | X | 1.7344 | 1.7344 | 0 | %100 |
| 42 | MP2A | Z | 3.0041 | 3.0041 | 0 | %100 |
| 43 | MP1A | X | 1.7344 | 1.7344 | 0 | %100 |
| 44 | MP1A | Z | 3.0041 | 3.0041 | 0 | %100 |
| 45 | M44 | X | .9649 | .9649 | 0 | %100 |
| 46 | M44 | Z | 1.6712 | 1.6712 | 0 | %100 |
| 47 | M45 | X | .9649 | .9649 | 0 | %100 |
| 48 | M45 | Z | 1.6712 | 1.6712 | 0 | %100 |
| 49 | M46 | X | .9649 | .9649 | 0 | %100 |
| 50 | M46 | Z | 1.6712 | 1.6712 | 0 | %100 |
| 51 | M47 | X | .9649 | .9649 | 0 | %100 |
| 52 | M47 | Z | 1.6712 | 1.6712 | 0 | %100 |
| 53 | M43 | X | .5455 | .5455 | 0 | %100 |
| 54 | M43 | Z | .9448 | .9448 | 0 | %100 |
| 55 | M45A | X | .5455 | .5455 | 0 | %100 |
| 56 | M45A | Z | .9448 | .9448 | 0 | %100 |
| 57 | OVP | X | 1.5895 | 1.5895 | 0 | %100 |
| 58 | OVP | Z | 2.753 | 2.753 | 0 | %100 |
| 59 | RRU | X | 1.5895 | 1.5895 | 0 | %100 |
| 60 | RRU | Z | 2.753 | 2.753 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 1 | F | X | 0 | 0 | 0 | %100 |
| 2 | F | Z | 3.839 | 3.839 | 0 | %100 |
| 3 | M2 | X | 0 | 0 | 0 | %100 |
| 4 | M2 | Z | 3.839 | 3.839 | 0 | %100 |
| 5 | M13 | X | 0 | 0 | 0 | %100 |
| 6 | M13 | Z | 0 | 0 | 0 | %100 |
| 7 | M14 | X | 0 | 0 | 0 | %100 |
| 8 | M14 | Z | 0 | 0 | 0 | %100 |
| 9 | M15 | X | 0 | 0 | 0 | %100 |
| 10 | M15 | Z | 0 | 0 | 0 | %100 |
| 11 | M16 | X | 0 | 0 | 0 | %100 |
| 12 | M16 | Z | 0 | 0 | 0 | %100 |
| 13 | SO | X | 0 | 0 | 0 | %100 |
| 14 | SO | Z | 1.6648 | 1.6648 | 0 | %100 |
| 15 | M18 | X | 0 | 0 | 0 | %100 |
| 16 | M18 | Z | 1.6648 | 1.6648 | 0 | %100 |
| 17 | M19 | X | 0 | 0 | 0 | %100 |
| 18 | M19 | Z | 1.6648 | 1.6648 | 0 | %100 |
| 19 | M20 | X | 0 | 0 | 0 | %100 |
| 20 | M20 | Z | 1.6648 | 1.6648 | 0 | %100 |
| 21 | M21 | X | 0 | 0 | 0 | %100 |
| 22 | M21 | Z | 1.4688 | 1.4688 | 0 | %100 |
| 23 | M22 | X | 0 | 0 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 24 | M22 | Z | 1.4688 | 1.4688 | 0 | %100 |
| 25 | M23 | X | 0 | 0 | 0 | %100 |
| 26 | M23 | Z | 1.4688 | 1.4688 | 0 | %100 |
| 27 | M24 | X | 0 | 0 | 0 | %100 |
| 28 | M24 | Z | 1.4688 | 1.4688 | 0 | %100 |
| 29 | M25 | X | 0 | 0 | 0 | %100 |
| 30 | M25 | Z | 1.8638 | 1.8638 | 0 | %100 |
| 31 | M26 | X | 0 | 0 | 0 | %100 |
| 32 | M26 | Z | 1.8638 | 1.8638 | 0 | %100 |
| 33 | M27 | X | 0 | 0 | 0 | %100 |
| 34 | M27 | Z | 1.8638 | 1.8638 | 0 | %100 |
| 35 | M28 | X | 0 | 0 | 0 | %100 |
| 36 | M28 | Z | 1.8638 | 1.8638 | 0 | %100 |
| 37 | MP4A | X | 0 | 0 | 0 | %100 |
| 38 | MP4A | Z | 3.4688 | 3.4688 | 0 | %100 |
| 39 | MP3A | X | 0 | 0 | 0 | %100 |
| 40 | MP3A | Z | 3.4688 | 3.4688 | 0 | %100 |
| 41 | MP2A | X | 0 | 0 | 0 | %100 |
| 42 | MP2A | Z | 3.4688 | 3.4688 | 0 | %100 |
| 43 | MP1A | X | 0 | 0 | 0 | %100 |
| 44 | MP1A | Z | 3.4688 | 3.4688 | 0 | %100 |
| 45 | M44 | X | 0 | 0 | 0 | %100 |
| 46 | M44 | Z | 1.9297 | 1.9297 | 0 | %100 |
| 47 | M45 | X | 0 | 0 | 0 | %100 |
| 48 | M45 | Z | 1.9297 | 1.9297 | 0 | %100 |
| 49 | M46 | X | 0 | 0 | 0 | %100 |
| 50 | M46 | Z | 1.9297 | 1.9297 | 0 | %100 |
| 51 | M47 | X | 0 | 0 | 0 | %100 |
| 52 | M47 | Z | 1.9297 | 1.9297 | 0 | %100 |
| 53 | M43 | X | 0 | 0 | 0 | %100 |
| 54 | M43 | Z | .0398 | .0398 | 0 | %100 |
| 55 | M45A | X | 0 | 0 | 0 | %100 |
| 56 | M45A | Z | .0398 | .0398 | 0 | %100 |
| 57 | OVP | X | 0 | 0 | 0 | %100 |
| 58 | OVP | Z | 3.1789 | 3.1789 | 0 | %100 |
| 59 | RRU | X | 0 | 0 | 0 | %100 |
| 60 | RRU | Z | 3.1789 | 3.1789 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 1 | F | X | -1.4396 | -1.4396 | 0 | %100 |
| 2 | F | Z | 2.4935 | 2.4935 | 0 | %100 |
| 3 | M2 | X | -1.4396 | -1.4396 | 0 | %100 |
| 4 | M2 | Z | 2.4935 | 2.4935 | 0 | %100 |
| 5 | M13 | X | -.1826 | -.1826 | 0 | %100 |
| 6 | M13 | Z | .3162 | .3162 | 0 | %100 |
| 7 | M14 | X | -.1826 | -.1826 | 0 | %100 |
| 8 | M14 | Z | .3162 | .3162 | 0 | %100 |
| 9 | M15 | X | -.1826 | -.1826 | 0 | %100 |
| 10 | M15 | Z | .3162 | .3162 | 0 | %100 |
| 11 | M16 | X | -.1826 | -.1826 | 0 | %100 |
| 12 | M16 | Z | .3162 | .3162 | 0 | %100 |
| 13 | SO | X | -.1874 | -.1874 | 0 | %100 |
| 14 | SO | Z | .3246 | .3246 | 0 | %100 |
| 15 | M18 | X | -.1874 | -.1874 | 0 | %100 |
| 16 | M18 | Z | .3246 | .3246 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude] | Start Location[ft... | End Location[ft... |
|----|--------------|-----------|-----------------|----------------|----------------------|--------------------|
| 17 | M19 | X | -1.3164 | -1.3164 | 0 | %100 |
| 18 | M19 | Z | 2.28 | 2.28 | 0 | %100 |
| 19 | M20 | X | -1.3164 | -1.3164 | 0 | %100 |
| 20 | M20 | Z | 2.28 | 2.28 | 0 | %100 |
| 21 | M21 | X | -5508 | -5508 | 0 | %100 |
| 22 | M21 | Z | .954 | .954 | 0 | %100 |
| 23 | M22 | X | -5508 | -5508 | 0 | %100 |
| 24 | M22 | Z | .954 | .954 | 0 | %100 |
| 25 | M23 | X | -5508 | -5508 | 0 | %100 |
| 26 | M23 | Z | .954 | .954 | 0 | %100 |
| 27 | M24 | X | -5508 | -5508 | 0 | %100 |
| 28 | M24 | Z | .954 | .954 | 0 | %100 |
| 29 | M25 | X | -7452 | -7452 | 0 | %100 |
| 30 | M25 | Z | 1.2907 | 1.2907 | 0 | %100 |
| 31 | M26 | X | -7452 | -7452 | 0 | %100 |
| 32 | M26 | Z | 1.2907 | 1.2907 | 0 | %100 |
| 33 | M27 | X | -1.0721 | -1.0721 | 0 | %100 |
| 34 | M27 | Z | 1.8568 | 1.8568 | 0 | %100 |
| 35 | M28 | X | -1.0721 | -1.0721 | 0 | %100 |
| 36 | M28 | Z | 1.8568 | 1.8568 | 0 | %100 |
| 37 | MP4A | X | -1.7344 | -1.7344 | 0 | %100 |
| 38 | MP4A | Z | 3.0041 | 3.0041 | 0 | %100 |
| 39 | MP3A | X | -1.7344 | -1.7344 | 0 | %100 |
| 40 | MP3A | Z | 3.0041 | 3.0041 | 0 | %100 |
| 41 | MP2A | X | -1.7344 | -1.7344 | 0 | %100 |
| 42 | MP2A | Z | 3.0041 | 3.0041 | 0 | %100 |
| 43 | MP1A | X | -1.7344 | -1.7344 | 0 | %100 |
| 44 | MP1A | Z | 3.0041 | 3.0041 | 0 | %100 |
| 45 | M44 | X | -9649 | -9649 | 0 | %100 |
| 46 | M44 | Z | 1.6712 | 1.6712 | 0 | %100 |
| 47 | M45 | X | -9649 | -9649 | 0 | %100 |
| 48 | M45 | Z | 1.6712 | 1.6712 | 0 | %100 |
| 49 | M46 | X | -9649 | -9649 | 0 | %100 |
| 50 | M46 | Z | 1.6712 | 1.6712 | 0 | %100 |
| 51 | M47 | X | -9649 | -9649 | 0 | %100 |
| 52 | M47 | Z | 1.6712 | 1.6712 | 0 | %100 |
| 53 | M43 | X | -2443 | -2443 | 0 | %100 |
| 54 | M43 | Z | .4232 | .4232 | 0 | %100 |
| 55 | M45A | X | -2443 | -2443 | 0 | %100 |
| 56 | M45A | Z | .4232 | .4232 | 0 | %100 |
| 57 | OVP | X | -1.5895 | -1.5895 | 0 | %100 |
| 58 | OVP | Z | 2.753 | 2.753 | 0 | %100 |
| 59 | RRU | X | -1.5895 | -1.5895 | 0 | %100 |
| 60 | RRU | Z | 2.753 | 2.753 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude] | Start Location[ft... | End Location[ft... |
|---|--------------|-----------|-----------------|----------------|----------------------|--------------------|
| 1 | F | X | -.8312 | -.8312 | 0 | %100 |
| 2 | F | Z | .4799 | .4799 | 0 | %100 |
| 3 | M2 | X | -.8312 | -.8312 | 0 | %100 |
| 4 | M2 | Z | .4799 | .4799 | 0 | %100 |
| 5 | M13 | X | -.9487 | -.9487 | 0 | %100 |
| 6 | M13 | Z | .5477 | .5477 | 0 | %100 |
| 7 | M14 | X | -.9487 | -.9487 | 0 | %100 |
| 8 | M14 | Z | .5477 | .5477 | 0 | %100 |
| 9 | M15 | X | -.9487 | -.9487 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude... | End Magnitude[...] | Start Location[ft...] | End Location[ft...] |
|----|--------------|-----------|--------------------|--------------------|-----------------------|---------------------|
| 10 | M15 | Z | .5477 | .5477 | 0 | %100 |
| 11 | M16 | X | -.9487 | -.9487 | 0 | %100 |
| 12 | M16 | Z | .5477 | .5477 | 0 | %100 |
| 13 | SO | X | -.0458 | -.0458 | 0 | %100 |
| 14 | SO | Z | .0264 | .0264 | 0 | %100 |
| 15 | M18 | X | -.0458 | -.0458 | 0 | %100 |
| 16 | M18 | Z | .0264 | .0264 | 0 | %100 |
| 17 | M19 | X | -2.0012 | -2.0012 | 0 | %100 |
| 18 | M19 | Z | 1.1554 | 1.1554 | 0 | %100 |
| 19 | M20 | X | -2.0012 | -2.0012 | 0 | %100 |
| 20 | M20 | Z | 1.1554 | 1.1554 | 0 | %100 |
| 21 | M21 | X | -.318 | -.318 | 0 | %100 |
| 22 | M21 | Z | .1836 | .1836 | 0 | %100 |
| 23 | M22 | X | -.318 | -.318 | 0 | %100 |
| 24 | M22 | Z | .1836 | .1836 | 0 | %100 |
| 25 | M23 | X | -.318 | -.318 | 0 | %100 |
| 26 | M23 | Z | .1836 | .1836 | 0 | %100 |
| 27 | M24 | X | -.318 | -.318 | 0 | %100 |
| 28 | M24 | Z | .1836 | .1836 | 0 | %100 |
| 29 | M25 | X | -1.2099 | -1.2099 | 0 | %100 |
| 30 | M25 | Z | .6986 | .6986 | 0 | %100 |
| 31 | M26 | X | -1.2099 | -1.2099 | 0 | %100 |
| 32 | M26 | Z | .6986 | .6986 | 0 | %100 |
| 33 | M27 | X | -1.7761 | -1.7761 | 0 | %100 |
| 34 | M27 | Z | 1.0254 | 1.0254 | 0 | %100 |
| 35 | M28 | X | -1.7761 | -1.7761 | 0 | %100 |
| 36 | M28 | Z | 1.0254 | 1.0254 | 0 | %100 |
| 37 | MP4A | X | -3.0041 | -3.0041 | 0 | %100 |
| 38 | MP4A | Z | 1.7344 | 1.7344 | 0 | %100 |
| 39 | MP3A | X | -3.0041 | -3.0041 | 0 | %100 |
| 40 | MP3A | Z | 1.7344 | 1.7344 | 0 | %100 |
| 41 | MP2A | X | -3.0041 | -3.0041 | 0 | %100 |
| 42 | MP2A | Z | 1.7344 | 1.7344 | 0 | %100 |
| 43 | MP1A | X | -3.0041 | -3.0041 | 0 | %100 |
| 44 | MP1A | Z | 1.7344 | 1.7344 | 0 | %100 |
| 45 | M44 | X | -1.6712 | -1.6712 | 0 | %100 |
| 46 | M44 | Z | .9649 | .9649 | 0 | %100 |
| 47 | M45 | X | -1.6712 | -1.6712 | 0 | %100 |
| 48 | M45 | Z | .9649 | .9649 | 0 | %100 |
| 49 | M46 | X | -1.6712 | -1.6712 | 0 | %100 |
| 50 | M46 | Z | .9649 | .9649 | 0 | %100 |
| 51 | M47 | X | -1.6712 | -1.6712 | 0 | %100 |
| 52 | M47 | Z | .9649 | .9649 | 0 | %100 |
| 53 | M43 | X | -1.7222 | -1.7222 | 0 | %100 |
| 54 | M43 | Z | .9943 | .9943 | 0 | %100 |
| 55 | M45A | X | -1.7222 | -1.7222 | 0 | %100 |
| 56 | M45A | Z | .9943 | .9943 | 0 | %100 |
| 57 | OVP | X | -2.753 | -2.753 | 0 | %100 |
| 58 | OVP | Z | 1.5895 | 1.5895 | 0 | %100 |
| 59 | RRU | X | -2.753 | -2.753 | 0 | %100 |
| 60 | RRU | Z | 1.5895 | 1.5895 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude... | End Magnitude[...] | Start Location[ft...] | End Location[ft...] |
|---|--------------|-----------|--------------------|--------------------|-----------------------|---------------------|
| 1 | F | X | 0 | 0 | 0 | %100 |
| 2 | F | Z | 0 | 0 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft...] | End Location[ft...] |
|----|--------------|-----------|-----------------|---------------|-----------------------|---------------------|
| 3 | M2 | X | 0 | 0 | 0 | %100 |
| 4 | M2 | Z | 0 | 0 | 0 | %100 |
| 5 | M13 | X | -1.4606 | -1.4606 | 0 | %100 |
| 6 | M13 | Z | 0 | 0 | 0 | %100 |
| 7 | M14 | X | -1.4606 | -1.4606 | 0 | %100 |
| 8 | M14 | Z | 0 | 0 | 0 | %100 |
| 9 | M15 | X | -1.4606 | -1.4606 | 0 | %100 |
| 10 | M15 | Z | 0 | 0 | 0 | %100 |
| 11 | M16 | X | -1.4606 | -1.4606 | 0 | %100 |
| 12 | M16 | Z | 0 | 0 | 0 | %100 |
| 13 | SO | X | -1.0208 | -1.0208 | 0 | %100 |
| 14 | SO | Z | 0 | 0 | 0 | %100 |
| 15 | M18 | X | -1.0208 | -1.0208 | 0 | %100 |
| 16 | M18 | Z | 0 | 0 | 0 | %100 |
| 17 | M19 | X | -1.0208 | -1.0208 | 0 | %100 |
| 18 | M19 | Z | 0 | 0 | 0 | %100 |
| 19 | M20 | X | -1.0208 | -1.0208 | 0 | %100 |
| 20 | M20 | Z | 0 | 0 | 0 | %100 |
| 21 | M21 | X | 0 | 0 | 0 | %100 |
| 22 | M21 | Z | 0 | 0 | 0 | %100 |
| 23 | M22 | X | 0 | 0 | 0 | %100 |
| 24 | M22 | Z | 0 | 0 | 0 | %100 |
| 25 | M23 | X | 0 | 0 | 0 | %100 |
| 26 | M23 | Z | 0 | 0 | 0 | %100 |
| 27 | M24 | X | 0 | 0 | 0 | %100 |
| 28 | M24 | Z | 0 | 0 | 0 | %100 |
| 29 | M25 | X | -1.6774 | -1.6774 | 0 | %100 |
| 30 | M25 | Z | 0 | 0 | 0 | %100 |
| 31 | M26 | X | -1.6774 | -1.6774 | 0 | %100 |
| 32 | M26 | Z | 0 | 0 | 0 | %100 |
| 33 | M27 | X | -1.6774 | -1.6774 | 0 | %100 |
| 34 | M27 | Z | 0 | 0 | 0 | %100 |
| 35 | M28 | X | -1.6774 | -1.6774 | 0 | %100 |
| 36 | M28 | Z | 0 | 0 | 0 | %100 |
| 37 | MP4A | X | -3.4688 | -3.4688 | 0 | %100 |
| 38 | MP4A | Z | 0 | 0 | 0 | %100 |
| 39 | MP3A | X | -3.4688 | -3.4688 | 0 | %100 |
| 40 | MP3A | Z | 0 | 0 | 0 | %100 |
| 41 | MP2A | X | -3.4688 | -3.4688 | 0 | %100 |
| 42 | MP2A | Z | 0 | 0 | 0 | %100 |
| 43 | MP1A | X | -3.4688 | -3.4688 | 0 | %100 |
| 44 | MP1A | Z | 0 | 0 | 0 | %100 |
| 45 | M44 | X | -1.9297 | -1.9297 | 0 | %100 |
| 46 | M44 | Z | 0 | 0 | 0 | %100 |
| 47 | M45 | X | -1.9297 | -1.9297 | 0 | %100 |
| 48 | M45 | Z | 0 | 0 | 0 | %100 |
| 49 | M46 | X | -1.9297 | -1.9297 | 0 | %100 |
| 50 | M46 | Z | 0 | 0 | 0 | %100 |
| 51 | M47 | X | -1.9297 | -1.9297 | 0 | %100 |
| 52 | M47 | Z | 0 | 0 | 0 | %100 |
| 53 | M43 | X | -3.0399 | -3.0399 | 0 | %100 |
| 54 | M43 | Z | 0 | 0 | 0 | %100 |
| 55 | M45A | X | -3.0399 | -3.0399 | 0 | %100 |
| 56 | M45A | Z | 0 | 0 | 0 | %100 |
| 57 | OVP | X | -3.1789 | -3.1789 | 0 | %100 |
| 58 | OVP | Z | 0 | 0 | 0 | %100 |
| 59 | RRU | X | -3.1789 | -3.1789 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 60 | RRU | Z | 0 | 0 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 1 | F | X | -8312 | -8312 | 0 | %100 |
| 2 | F | Z | -4799 | -4799 | 0 | %100 |
| 3 | M2 | X | -8312 | -8312 | 0 | %100 |
| 4 | M2 | Z | -4799 | -4799 | 0 | %100 |
| 5 | M13 | X | -9487 | -9487 | 0 | %100 |
| 6 | M13 | Z | -5477 | -5477 | 0 | %100 |
| 7 | M14 | X | -9487 | -9487 | 0 | %100 |
| 8 | M14 | Z | -5477 | -5477 | 0 | %100 |
| 9 | M15 | X | -9487 | -9487 | 0 | %100 |
| 10 | M15 | Z | -5477 | -5477 | 0 | %100 |
| 11 | M16 | X | -9487 | -9487 | 0 | %100 |
| 12 | M16 | Z | -5477 | -5477 | 0 | %100 |
| 13 | SO | X | -2.0012 | -2.0012 | 0 | %100 |
| 14 | SO | Z | -1.1554 | -1.1554 | 0 | %100 |
| 15 | M18 | X | -2.0012 | -2.0012 | 0 | %100 |
| 16 | M18 | Z | -1.1554 | -1.1554 | 0 | %100 |
| 17 | M19 | X | -0.458 | -0.458 | 0 | %100 |
| 18 | M19 | Z | -0.264 | -0.264 | 0 | %100 |
| 19 | M20 | X | -0.458 | -0.458 | 0 | %100 |
| 20 | M20 | Z | -0.264 | -0.264 | 0 | %100 |
| 21 | M21 | X | -318 | -318 | 0 | %100 |
| 22 | M21 | Z | -1836 | -1836 | 0 | %100 |
| 23 | M22 | X | -318 | -318 | 0 | %100 |
| 24 | M22 | Z | -1836 | -1836 | 0 | %100 |
| 25 | M23 | X | -318 | -318 | 0 | %100 |
| 26 | M23 | Z | -1836 | -1836 | 0 | %100 |
| 27 | M24 | X | -318 | -318 | 0 | %100 |
| 28 | M24 | Z | -1836 | -1836 | 0 | %100 |
| 29 | M25 | X | -1.7761 | -1.7761 | 0 | %100 |
| 30 | M25 | Z | -1.0254 | -1.0254 | 0 | %100 |
| 31 | M26 | X | -1.7761 | -1.7761 | 0 | %100 |
| 32 | M26 | Z | -1.0254 | -1.0254 | 0 | %100 |
| 33 | M27 | X | -1.2099 | -1.2099 | 0 | %100 |
| 34 | M27 | Z | -6986 | -6986 | 0 | %100 |
| 35 | M28 | X | -1.2099 | -1.2099 | 0 | %100 |
| 36 | M28 | Z | -6986 | -6986 | 0 | %100 |
| 37 | MP4A | X | -3.0041 | -3.0041 | 0 | %100 |
| 38 | MP4A | Z | -1.7344 | -1.7344 | 0 | %100 |
| 39 | MP3A | X | -3.0041 | -3.0041 | 0 | %100 |
| 40 | MP3A | Z | -1.7344 | -1.7344 | 0 | %100 |
| 41 | MP2A | X | -3.0041 | -3.0041 | 0 | %100 |
| 42 | MP2A | Z | -1.7344 | -1.7344 | 0 | %100 |
| 43 | MP1A | X | -3.0041 | -3.0041 | 0 | %100 |
| 44 | MP1A | Z | -1.7344 | -1.7344 | 0 | %100 |
| 45 | M44 | X | -1.6712 | -1.6712 | 0 | %100 |
| 46 | M44 | Z | -9649 | -9649 | 0 | %100 |
| 47 | M45 | X | -1.6712 | -1.6712 | 0 | %100 |
| 48 | M45 | Z | -9649 | -9649 | 0 | %100 |
| 49 | M46 | X | -1.6712 | -1.6712 | 0 | %100 |
| 50 | M46 | Z | -9649 | -9649 | 0 | %100 |
| 51 | M47 | X | -1.6712 | -1.6712 | 0 | %100 |
| 52 | M47 | Z | -9649 | -9649 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 53 | M43 | X | -2.2439 | -2.2439 | 0 | %100 |
| 54 | M43 | Z | -1.2955 | -1.2955 | 0 | %100 |
| 55 | M45A | X | -2.2439 | -2.2439 | 0 | %100 |
| 56 | M45A | Z | -1.2955 | -1.2955 | 0 | %100 |
| 57 | OVP | X | -2.753 | -2.753 | 0 | %100 |
| 58 | OVP | Z | -1.5895 | -1.5895 | 0 | %100 |
| 59 | RRU | X | -2.753 | -2.753 | 0 | %100 |
| 60 | RRU | Z | -1.5895 | -1.5895 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 1 | F | X | -1.4396 | -1.4396 | 0 | %100 |
| 2 | F | Z | -2.4935 | -2.4935 | 0 | %100 |
| 3 | M2 | X | -1.4396 | -1.4396 | 0 | %100 |
| 4 | M2 | Z | -2.4935 | -2.4935 | 0 | %100 |
| 5 | M13 | X | -1.826 | -1.826 | 0 | %100 |
| 6 | M13 | Z | -3.162 | -3.162 | 0 | %100 |
| 7 | M14 | X | -1.826 | -1.826 | 0 | %100 |
| 8 | M14 | Z | -3.162 | -3.162 | 0 | %100 |
| 9 | M15 | X | -1.826 | -1.826 | 0 | %100 |
| 10 | M15 | Z | -3.162 | -3.162 | 0 | %100 |
| 11 | M16 | X | -1.826 | -1.826 | 0 | %100 |
| 12 | M16 | Z | -3.162 | -3.162 | 0 | %100 |
| 13 | SO | X | -1.3164 | -1.3164 | 0 | %100 |
| 14 | SO | Z | -2.28 | -2.28 | 0 | %100 |
| 15 | M18 | X | -1.3164 | -1.3164 | 0 | %100 |
| 16 | M18 | Z | -2.28 | -2.28 | 0 | %100 |
| 17 | M19 | X | -1.874 | -1.874 | 0 | %100 |
| 18 | M19 | Z | -3.246 | -3.246 | 0 | %100 |
| 19 | M20 | X | -1.874 | -1.874 | 0 | %100 |
| 20 | M20 | Z | -3.246 | -3.246 | 0 | %100 |
| 21 | M21 | X | -5.508 | -5.508 | 0 | %100 |
| 22 | M21 | Z | -954 | -954 | 0 | %100 |
| 23 | M22 | X | -5.508 | -5.508 | 0 | %100 |
| 24 | M22 | Z | -954 | -954 | 0 | %100 |
| 25 | M23 | X | -5.508 | -5.508 | 0 | %100 |
| 26 | M23 | Z | -954 | -954 | 0 | %100 |
| 27 | M24 | X | -5.508 | -5.508 | 0 | %100 |
| 28 | M24 | Z | -954 | -954 | 0 | %100 |
| 29 | M25 | X | -1.0721 | -1.0721 | 0 | %100 |
| 30 | M25 | Z | -1.8568 | -1.8568 | 0 | %100 |
| 31 | M26 | X | -1.0721 | -1.0721 | 0 | %100 |
| 32 | M26 | Z | -1.8568 | -1.8568 | 0 | %100 |
| 33 | M27 | X | -7452 | -7452 | 0 | %100 |
| 34 | M27 | Z | -1.2907 | -1.2907 | 0 | %100 |
| 35 | M28 | X | -7452 | -7452 | 0 | %100 |
| 36 | M28 | Z | -1.2907 | -1.2907 | 0 | %100 |
| 37 | MP4A | X | -1.7344 | -1.7344 | 0 | %100 |
| 38 | MP4A | Z | -3.0041 | -3.0041 | 0 | %100 |
| 39 | MP3A | X | -1.7344 | -1.7344 | 0 | %100 |
| 40 | MP3A | Z | -3.0041 | -3.0041 | 0 | %100 |
| 41 | MP2A | X | -1.7344 | -1.7344 | 0 | %100 |
| 42 | MP2A | Z | -3.0041 | -3.0041 | 0 | %100 |
| 43 | MP1A | X | -1.7344 | -1.7344 | 0 | %100 |
| 44 | MP1A | Z | -3.0041 | -3.0041 | 0 | %100 |
| 45 | M44 | X | -9649 | -9649 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Locationft | End Locationft |
|----|--------------|-----------|-----------------|---------------|------------------|----------------|
| 46 | M44 | Z | -1.6712 | -1.6712 | 0 | %100 |
| 47 | M45 | X | -.9649 | -.9649 | 0 | %100 |
| 48 | M45 | Z | -1.6712 | -1.6712 | 0 | %100 |
| 49 | M46 | X | -.9649 | -.9649 | 0 | %100 |
| 50 | M46 | Z | -1.6712 | -1.6712 | 0 | %100 |
| 51 | M47 | X | -.9649 | -.9649 | 0 | %100 |
| 52 | M47 | Z | -1.6712 | -1.6712 | 0 | %100 |
| 53 | M43 | X | -.5455 | -.5455 | 0 | %100 |
| 54 | M43 | Z | -.9448 | -.9448 | 0 | %100 |
| 55 | M45A | X | -.5455 | -.5455 | 0 | %100 |
| 56 | M45A | Z | -.9448 | -.9448 | 0 | %100 |
| 57 | OVP | X | -1.5895 | -1.5895 | 0 | %100 |
| 58 | OVP | Z | -2.753 | -2.753 | 0 | %100 |
| 59 | RRU | X | -1.5895 | -1.5895 | 0 | %100 |
| 60 | RRU | Z | -2.753 | -2.753 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Locationft | End Locationft |
|----|--------------|-----------|-----------------|---------------|------------------|----------------|
| 1 | F | X | 0 | 0 | 0 | %100 |
| 2 | F | Z | -.7662 | -.7662 | 0 | %100 |
| 3 | M2 | X | 0 | 0 | 0 | %100 |
| 4 | M2 | Z | -.7662 | -.7662 | 0 | %100 |
| 5 | M13 | X | 0 | 0 | 0 | %100 |
| 6 | M13 | Z | 0 | 0 | 0 | %100 |
| 7 | M14 | X | 0 | 0 | 0 | %100 |
| 8 | M14 | Z | 0 | 0 | 0 | %100 |
| 9 | M15 | X | 0 | 0 | 0 | %100 |
| 10 | M15 | Z | 0 | 0 | 0 | %100 |
| 11 | M16 | X | 0 | 0 | 0 | %100 |
| 12 | M16 | Z | 0 | 0 | 0 | %100 |
| 13 | SO | X | 0 | 0 | 0 | %100 |
| 14 | SO | Z | -.3025 | -.3025 | 0 | %100 |
| 15 | M18 | X | 0 | 0 | 0 | %100 |
| 16 | M18 | Z | -.3025 | -.3025 | 0 | %100 |
| 17 | M19 | X | 0 | 0 | 0 | %100 |
| 18 | M19 | Z | -.3025 | -.3025 | 0 | %100 |
| 19 | M20 | X | 0 | 0 | 0 | %100 |
| 20 | M20 | Z | -.3025 | -.3025 | 0 | %100 |
| 21 | M21 | X | 0 | 0 | 0 | %100 |
| 22 | M21 | Z | -.1666 | -.1666 | 0 | %100 |
| 23 | M22 | X | 0 | 0 | 0 | %100 |
| 24 | M22 | Z | -.1666 | -.1666 | 0 | %100 |
| 25 | M23 | X | 0 | 0 | 0 | %100 |
| 26 | M23 | Z | -.1666 | -.1666 | 0 | %100 |
| 27 | M24 | X | 0 | 0 | 0 | %100 |
| 28 | M24 | Z | -.1666 | -.1666 | 0 | %100 |
| 29 | M25 | X | 0 | 0 | 0 | %100 |
| 30 | M25 | Z | -.1725 | -.1725 | 0 | %100 |
| 31 | M26 | X | 0 | 0 | 0 | %100 |
| 32 | M26 | Z | -.1725 | -.1725 | 0 | %100 |
| 33 | M27 | X | 0 | 0 | 0 | %100 |
| 34 | M27 | Z | -.1725 | -.1725 | 0 | %100 |
| 35 | M28 | X | 0 | 0 | 0 | %100 |
| 36 | M28 | Z | -.1725 | -.1725 | 0 | %100 |
| 37 | MP4A | X | 0 | 0 | 0 | %100 |
| 38 | MP4A | Z | -.6329 | -.6329 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 39 | MP3A | X | 0 | 0 | 0 | %100 |
| 40 | MP3A | Z | -6329 | -6329 | 0 | %100 |
| 41 | MP2A | X | 0 | 0 | 0 | %100 |
| 42 | MP2A | Z | -6329 | -6329 | 0 | %100 |
| 43 | MP1A | X | 0 | 0 | 0 | %100 |
| 44 | MP1A | Z | -6329 | -6329 | 0 | %100 |
| 45 | M44 | X | 0 | 0 | 0 | %100 |
| 46 | M44 | Z | -1666 | -1666 | 0 | %100 |
| 47 | M45 | X | 0 | 0 | 0 | %100 |
| 48 | M45 | Z | -1666 | -1666 | 0 | %100 |
| 49 | M46 | X | 0 | 0 | 0 | %100 |
| 50 | M46 | Z | -1666 | -1666 | 0 | %100 |
| 51 | M47 | X | 0 | 0 | 0 | %100 |
| 52 | M47 | Z | -1666 | -1666 | 0 | %100 |
| 53 | M43 | X | 0 | 0 | 0 | %100 |
| 54 | M43 | Z | -0072 | -0072 | 0 | %100 |
| 55 | M45A | X | 0 | 0 | 0 | %100 |
| 56 | M45A | Z | -0072 | -0072 | 0 | %100 |
| 57 | OVP | X | 0 | 0 | 0 | %100 |
| 58 | OVP | Z | -5768 | -5768 | 0 | %100 |
| 59 | RRU | X | 0 | 0 | 0 | %100 |
| 60 | RRU | Z | -5768 | -5768 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 1 | F | X | .2873 | .2873 | 0 | %100 |
| 2 | F | Z | -4976 | -4976 | 0 | %100 |
| 3 | M2 | X | .2873 | .2873 | 0 | %100 |
| 4 | M2 | Z | -4976 | -4976 | 0 | %100 |
| 5 | M13 | X | .0208 | .0208 | 0 | %100 |
| 6 | M13 | Z | -0361 | -0361 | 0 | %100 |
| 7 | M14 | X | .0208 | .0208 | 0 | %100 |
| 8 | M14 | Z | -0361 | -0361 | 0 | %100 |
| 9 | M15 | X | .0208 | .0208 | 0 | %100 |
| 10 | M15 | Z | -0361 | -0361 | 0 | %100 |
| 11 | M16 | X | .0208 | .0208 | 0 | %100 |
| 12 | M16 | Z | -0361 | -0361 | 0 | %100 |
| 13 | SO | X | .0341 | .0341 | 0 | %100 |
| 14 | SO | Z | -.059 | -.059 | 0 | %100 |
| 15 | M18 | X | .0341 | .0341 | 0 | %100 |
| 16 | M18 | Z | -.059 | -.059 | 0 | %100 |
| 17 | M19 | X | .2392 | .2392 | 0 | %100 |
| 18 | M19 | Z | -4143 | -4143 | 0 | %100 |
| 19 | M20 | X | .2392 | .2392 | 0 | %100 |
| 20 | M20 | Z | -4143 | -4143 | 0 | %100 |
| 21 | M21 | X | .0625 | .0625 | 0 | %100 |
| 22 | M21 | Z | -1082 | -1082 | 0 | %100 |
| 23 | M22 | X | .0625 | .0625 | 0 | %100 |
| 24 | M22 | Z | -1082 | -1082 | 0 | %100 |
| 25 | M23 | X | .0625 | .0625 | 0 | %100 |
| 26 | M23 | Z | -1082 | -1082 | 0 | %100 |
| 27 | M24 | X | .0625 | .0625 | 0 | %100 |
| 28 | M24 | Z | -1082 | -1082 | 0 | %100 |
| 29 | M25 | X | .069 | .069 | 0 | %100 |
| 30 | M25 | Z | -1195 | -1195 | 0 | %100 |
| 31 | M26 | X | .069 | .069 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Locationft | End Locationft |
|----|--------------|-----------|-----------------|---------------|------------------|----------------|
| 32 | M26 | Z | -.1195 | -.1195 | 0 | %100 |
| 33 | M27 | X | .0992 | .0992 | 0 | %100 |
| 34 | M27 | Z | -.1719 | -.1719 | 0 | %100 |
| 35 | M28 | X | .0992 | .0992 | 0 | %100 |
| 36 | M28 | Z | -.1719 | -.1719 | 0 | %100 |
| 37 | MP4A | X | .3165 | .3165 | 0 | %100 |
| 38 | MP4A | Z | -.5481 | -.5481 | 0 | %100 |
| 39 | MP3A | X | .3165 | .3165 | 0 | %100 |
| 40 | MP3A | Z | -.5481 | -.5481 | 0 | %100 |
| 41 | MP2A | X | .3165 | .3165 | 0 | %100 |
| 42 | MP2A | Z | -.5481 | -.5481 | 0 | %100 |
| 43 | MP1A | X | .3165 | .3165 | 0 | %100 |
| 44 | MP1A | Z | -.5481 | -.5481 | 0 | %100 |
| 45 | M44 | X | .0833 | .0833 | 0 | %100 |
| 46 | M44 | Z | -.1442 | -.1442 | 0 | %100 |
| 47 | M45 | X | .0833 | .0833 | 0 | %100 |
| 48 | M45 | Z | -.1442 | -.1442 | 0 | %100 |
| 49 | M46 | X | .0833 | .0833 | 0 | %100 |
| 50 | M46 | Z | -.1442 | -.1442 | 0 | %100 |
| 51 | M47 | X | .0833 | .0833 | 0 | %100 |
| 52 | M47 | Z | -.1442 | -.1442 | 0 | %100 |
| 53 | M43 | X | .0443 | .0443 | 0 | %100 |
| 54 | M43 | Z | -.0768 | -.0768 | 0 | %100 |
| 55 | M45A | X | .0443 | .0443 | 0 | %100 |
| 56 | M45A | Z | -.0768 | -.0768 | 0 | %100 |
| 57 | OVP | X | .2884 | .2884 | 0 | %100 |
| 58 | OVP | Z | -.4995 | -.4995 | 0 | %100 |
| 59 | RRU | X | .2884 | .2884 | 0 | %100 |
| 60 | RRU | Z | -.4995 | -.4995 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Locationft | End Locationft |
|----|--------------|-----------|-----------------|---------------|------------------|----------------|
| 1 | F | X | .1659 | .1659 | 0 | %100 |
| 2 | F | Z | -.0958 | -.0958 | 0 | %100 |
| 3 | M2 | X | .1659 | .1659 | 0 | %100 |
| 4 | M2 | Z | -.0958 | -.0958 | 0 | %100 |
| 5 | M13 | X | .1082 | .1082 | 0 | %100 |
| 6 | M13 | Z | -.0625 | -.0625 | 0 | %100 |
| 7 | M14 | X | .1082 | .1082 | 0 | %100 |
| 8 | M14 | Z | -.0625 | -.0625 | 0 | %100 |
| 9 | M15 | X | .1082 | .1082 | 0 | %100 |
| 10 | M15 | Z | -.0625 | -.0625 | 0 | %100 |
| 11 | M16 | X | .1082 | .1082 | 0 | %100 |
| 12 | M16 | Z | -.0625 | -.0625 | 0 | %100 |
| 13 | SO | X | .0083 | .0083 | 0 | %100 |
| 14 | SO | Z | -.0048 | -.0048 | 0 | %100 |
| 15 | M18 | X | .0083 | .0083 | 0 | %100 |
| 16 | M18 | Z | -.0048 | -.0048 | 0 | %100 |
| 17 | M19 | X | .3636 | .3636 | 0 | %100 |
| 18 | M19 | Z | -.2099 | -.2099 | 0 | %100 |
| 19 | M20 | X | .3636 | .3636 | 0 | %100 |
| 20 | M20 | Z | -.2099 | -.2099 | 0 | %100 |
| 21 | M21 | X | .0361 | .0361 | 0 | %100 |
| 22 | M21 | Z | -.0208 | -.0208 | 0 | %100 |
| 23 | M22 | X | .0361 | .0361 | 0 | %100 |
| 24 | M22 | Z | -.0208 | -.0208 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 25 | M23 | X | .0361 | .0361 | 0 | %100 |
| 26 | M23 | Z | -.0208 | -.0208 | 0 | %100 |
| 27 | M24 | X | .0361 | .0361 | 0 | %100 |
| 28 | M24 | Z | -.0208 | -.0208 | 0 | %100 |
| 29 | M25 | X | .112 | .112 | 0 | %100 |
| 30 | M25 | Z | -.0647 | -.0647 | 0 | %100 |
| 31 | M26 | X | .112 | .112 | 0 | %100 |
| 32 | M26 | Z | -.0647 | -.0647 | 0 | %100 |
| 33 | M27 | X | .1644 | .1644 | 0 | %100 |
| 34 | M27 | Z | -.0949 | -.0949 | 0 | %100 |
| 35 | M28 | X | .1644 | .1644 | 0 | %100 |
| 36 | M28 | Z | -.0949 | -.0949 | 0 | %100 |
| 37 | MP4A | X | .5481 | .5481 | 0 | %100 |
| 38 | MP4A | Z | -.3165 | -.3165 | 0 | %100 |
| 39 | MP3A | X | .5481 | .5481 | 0 | %100 |
| 40 | MP3A | Z | -.3165 | -.3165 | 0 | %100 |
| 41 | MP2A | X | .5481 | .5481 | 0 | %100 |
| 42 | MP2A | Z | -.3165 | -.3165 | 0 | %100 |
| 43 | MP1A | X | .5481 | .5481 | 0 | %100 |
| 44 | MP1A | Z | -.3165 | -.3165 | 0 | %100 |
| 45 | M44 | X | .1442 | .1442 | 0 | %100 |
| 46 | M44 | Z | -.0833 | -.0833 | 0 | %100 |
| 47 | M45 | X | .1442 | .1442 | 0 | %100 |
| 48 | M45 | Z | -.0833 | -.0833 | 0 | %100 |
| 49 | M46 | X | .1442 | .1442 | 0 | %100 |
| 50 | M46 | Z | -.0833 | -.0833 | 0 | %100 |
| 51 | M47 | X | .1442 | .1442 | 0 | %100 |
| 52 | M47 | Z | -.0833 | -.0833 | 0 | %100 |
| 53 | M43 | X | .3126 | .3126 | 0 | %100 |
| 54 | M43 | Z | -.1805 | -.1805 | 0 | %100 |
| 55 | M45A | X | .3126 | .3126 | 0 | %100 |
| 56 | M45A | Z | -.1805 | -.1805 | 0 | %100 |
| 57 | OVP | X | .4995 | .4995 | 0 | %100 |
| 58 | OVP | Z | -.2884 | -.2884 | 0 | %100 |
| 59 | RRU | X | .4995 | .4995 | 0 | %100 |
| 60 | RRU | Z | -.2884 | -.2884 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 1 | F | X | 0 | 0 | 0 | %100 |
| 2 | F | Z | 0 | 0 | 0 | %100 |
| 3 | M2 | X | 0 | 0 | 0 | %100 |
| 4 | M2 | Z | 0 | 0 | 0 | %100 |
| 5 | M13 | X | .1666 | .1666 | 0 | %100 |
| 6 | M13 | Z | 0 | 0 | 0 | %100 |
| 7 | M14 | X | .1666 | .1666 | 0 | %100 |
| 8 | M14 | Z | 0 | 0 | 0 | %100 |
| 9 | M15 | X | .1666 | .1666 | 0 | %100 |
| 10 | M15 | Z | 0 | 0 | 0 | %100 |
| 11 | M16 | X | .1666 | .1666 | 0 | %100 |
| 12 | M16 | Z | 0 | 0 | 0 | %100 |
| 13 | SO | X | .1855 | .1855 | 0 | %100 |
| 14 | SO | Z | 0 | 0 | 0 | %100 |
| 15 | M18 | X | .1855 | .1855 | 0 | %100 |
| 16 | M18 | Z | 0 | 0 | 0 | %100 |
| 17 | M19 | X | .1855 | .1855 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Locationft | End Locationft |
|----|--------------|-----------|-----------------|---------------|------------------|----------------|
| 18 | M19 | Z | 0 | 0 | 0 | %100 |
| 19 | M20 | X | .1855 | .1855 | 0 | %100 |
| 20 | M20 | Z | 0 | 0 | 0 | %100 |
| 21 | M21 | X | 0 | 0 | 0 | %100 |
| 22 | M21 | Z | 0 | 0 | 0 | %100 |
| 23 | M22 | X | 0 | 0 | 0 | %100 |
| 24 | M22 | Z | 0 | 0 | 0 | %100 |
| 25 | M23 | X | 0 | 0 | 0 | %100 |
| 26 | M23 | Z | 0 | 0 | 0 | %100 |
| 27 | M24 | X | 0 | 0 | 0 | %100 |
| 28 | M24 | Z | 0 | 0 | 0 | %100 |
| 29 | M25 | X | .1553 | .1553 | 0 | %100 |
| 30 | M25 | Z | 0 | 0 | 0 | %100 |
| 31 | M26 | X | .1553 | .1553 | 0 | %100 |
| 32 | M26 | Z | 0 | 0 | 0 | %100 |
| 33 | M27 | X | .1553 | .1553 | 0 | %100 |
| 34 | M27 | Z | 0 | 0 | 0 | %100 |
| 35 | M28 | X | .1553 | .1553 | 0 | %100 |
| 36 | M28 | Z | 0 | 0 | 0 | %100 |
| 37 | MP4A | X | .6329 | .6329 | 0 | %100 |
| 38 | MP4A | Z | 0 | 0 | 0 | %100 |
| 39 | MP3A | X | .6329 | .6329 | 0 | %100 |
| 40 | MP3A | Z | 0 | 0 | 0 | %100 |
| 41 | MP2A | X | .6329 | .6329 | 0 | %100 |
| 42 | MP2A | Z | 0 | 0 | 0 | %100 |
| 43 | MP1A | X | .6329 | .6329 | 0 | %100 |
| 44 | MP1A | Z | 0 | 0 | 0 | %100 |
| 45 | M44 | X | .1666 | .1666 | 0 | %100 |
| 46 | M44 | Z | 0 | 0 | 0 | %100 |
| 47 | M45 | X | .1666 | .1666 | 0 | %100 |
| 48 | M45 | Z | 0 | 0 | 0 | %100 |
| 49 | M46 | X | .1666 | .1666 | 0 | %100 |
| 50 | M46 | Z | 0 | 0 | 0 | %100 |
| 51 | M47 | X | .1666 | .1666 | 0 | %100 |
| 52 | M47 | Z | 0 | 0 | 0 | %100 |
| 53 | M43 | X | .5517 | .5517 | 0 | %100 |
| 54 | M43 | Z | 0 | 0 | 0 | %100 |
| 55 | M45A | X | .5517 | .5517 | 0 | %100 |
| 56 | M45A | Z | 0 | 0 | 0 | %100 |
| 57 | OVP | X | .5768 | .5768 | 0 | %100 |
| 58 | OVP | Z | 0 | 0 | 0 | %100 |
| 59 | RRU | X | .5768 | .5768 | 0 | %100 |
| 60 | RRU | Z | 0 | 0 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Locationft | End Locationft |
|----|--------------|-----------|-----------------|---------------|------------------|----------------|
| 1 | F | X | .1659 | .1659 | 0 | %100 |
| 2 | F | Z | .0958 | .0958 | 0 | %100 |
| 3 | M2 | X | .1659 | .1659 | 0 | %100 |
| 4 | M2 | Z | .0958 | .0958 | 0 | %100 |
| 5 | M13 | X | .1082 | .1082 | 0 | %100 |
| 6 | M13 | Z | .0625 | .0625 | 0 | %100 |
| 7 | M14 | X | .1082 | .1082 | 0 | %100 |
| 8 | M14 | Z | .0625 | .0625 | 0 | %100 |
| 9 | M15 | X | .1082 | .1082 | 0 | %100 |
| 10 | M15 | Z | .0625 | .0625 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 11 | M16 | X | .1082 | .1082 | 0 | %100 |
| 12 | M16 | Z | .0625 | .0625 | 0 | %100 |
| 13 | SO | X | .3636 | .3636 | 0 | %100 |
| 14 | SO | Z | .2099 | .2099 | 0 | %100 |
| 15 | M18 | X | .3636 | .3636 | 0 | %100 |
| 16 | M18 | Z | .2099 | .2099 | 0 | %100 |
| 17 | M19 | X | .0083 | .0083 | 0 | %100 |
| 18 | M19 | Z | .0048 | .0048 | 0 | %100 |
| 19 | M20 | X | .0083 | .0083 | 0 | %100 |
| 20 | M20 | Z | .0048 | .0048 | 0 | %100 |
| 21 | M21 | X | .0361 | .0361 | 0 | %100 |
| 22 | M21 | Z | .0208 | .0208 | 0 | %100 |
| 23 | M22 | X | .0361 | .0361 | 0 | %100 |
| 24 | M22 | Z | .0208 | .0208 | 0 | %100 |
| 25 | M23 | X | .0361 | .0361 | 0 | %100 |
| 26 | M23 | Z | .0208 | .0208 | 0 | %100 |
| 27 | M24 | X | .0361 | .0361 | 0 | %100 |
| 28 | M24 | Z | .0208 | .0208 | 0 | %100 |
| 29 | M25 | X | .1644 | .1644 | 0 | %100 |
| 30 | M25 | Z | .0949 | .0949 | 0 | %100 |
| 31 | M26 | X | .1644 | .1644 | 0 | %100 |
| 32 | M26 | Z | .0949 | .0949 | 0 | %100 |
| 33 | M27 | X | .112 | .112 | 0 | %100 |
| 34 | M27 | Z | .0647 | .0647 | 0 | %100 |
| 35 | M28 | X | .112 | .112 | 0 | %100 |
| 36 | M28 | Z | .0647 | .0647 | 0 | %100 |
| 37 | MP4A | X | .5481 | .5481 | 0 | %100 |
| 38 | MP4A | Z | .3165 | .3165 | 0 | %100 |
| 39 | MP3A | X | .5481 | .5481 | 0 | %100 |
| 40 | MP3A | Z | .3165 | .3165 | 0 | %100 |
| 41 | MP2A | X | .5481 | .5481 | 0 | %100 |
| 42 | MP2A | Z | .3165 | .3165 | 0 | %100 |
| 43 | MP1A | X | .5481 | .5481 | 0 | %100 |
| 44 | MP1A | Z | .3165 | .3165 | 0 | %100 |
| 45 | M44 | X | .1442 | .1442 | 0 | %100 |
| 46 | M44 | Z | .0833 | .0833 | 0 | %100 |
| 47 | M45 | X | .1442 | .1442 | 0 | %100 |
| 48 | M45 | Z | .0833 | .0833 | 0 | %100 |
| 49 | M46 | X | .1442 | .1442 | 0 | %100 |
| 50 | M46 | Z | .0833 | .0833 | 0 | %100 |
| 51 | M47 | X | .1442 | .1442 | 0 | %100 |
| 52 | M47 | Z | .0833 | .0833 | 0 | %100 |
| 53 | M43 | X | .4072 | .4072 | 0 | %100 |
| 54 | M43 | Z | .2351 | .2351 | 0 | %100 |
| 55 | M45A | X | .4072 | .4072 | 0 | %100 |
| 56 | M45A | Z | .2351 | .2351 | 0 | %100 |
| 57 | OVP | X | .4995 | .4995 | 0 | %100 |
| 58 | OVP | Z | .2884 | .2884 | 0 | %100 |
| 59 | RRU | X | .4995 | .4995 | 0 | %100 |
| 60 | RRU | Z | .2884 | .2884 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|---|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 1 | F | X | .2873 | .2873 | 0 | %100 |
| 2 | F | Z | .4976 | .4976 | 0 | %100 |
| 3 | M2 | X | .2873 | .2873 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Locationft | End Locationft |
|----|--------------|-----------|-----------------|---------------|------------------|----------------|
| 4 | M2 | Z | .4976 | .4976 | 0 | %100 |
| 5 | M13 | X | .0208 | .0208 | 0 | %100 |
| 6 | M13 | Z | .0361 | .0361 | 0 | %100 |
| 7 | M14 | X | .0208 | .0208 | 0 | %100 |
| 8 | M14 | Z | .0361 | .0361 | 0 | %100 |
| 9 | M15 | X | .0208 | .0208 | 0 | %100 |
| 10 | M15 | Z | .0361 | .0361 | 0 | %100 |
| 11 | M16 | X | .0208 | .0208 | 0 | %100 |
| 12 | M16 | Z | .0361 | .0361 | 0 | %100 |
| 13 | SO | X | .2392 | .2392 | 0 | %100 |
| 14 | SO | Z | .4143 | .4143 | 0 | %100 |
| 15 | M18 | X | .2392 | .2392 | 0 | %100 |
| 16 | M18 | Z | .4143 | .4143 | 0 | %100 |
| 17 | M19 | X | .0341 | .0341 | 0 | %100 |
| 18 | M19 | Z | .059 | .059 | 0 | %100 |
| 19 | M20 | X | .0341 | .0341 | 0 | %100 |
| 20 | M20 | Z | .059 | .059 | 0 | %100 |
| 21 | M21 | X | .0625 | .0625 | 0 | %100 |
| 22 | M21 | Z | .1082 | .1082 | 0 | %100 |
| 23 | M22 | X | .0625 | .0625 | 0 | %100 |
| 24 | M22 | Z | .1082 | .1082 | 0 | %100 |
| 25 | M23 | X | .0625 | .0625 | 0 | %100 |
| 26 | M23 | Z | .1082 | .1082 | 0 | %100 |
| 27 | M24 | X | .0625 | .0625 | 0 | %100 |
| 28 | M24 | Z | .1082 | .1082 | 0 | %100 |
| 29 | M25 | X | .0992 | .0992 | 0 | %100 |
| 30 | M25 | Z | .1719 | .1719 | 0 | %100 |
| 31 | M26 | X | .0992 | .0992 | 0 | %100 |
| 32 | M26 | Z | .1719 | .1719 | 0 | %100 |
| 33 | M27 | X | .069 | .069 | 0 | %100 |
| 34 | M27 | Z | .1195 | .1195 | 0 | %100 |
| 35 | M28 | X | .069 | .069 | 0 | %100 |
| 36 | M28 | Z | .1195 | .1195 | 0 | %100 |
| 37 | MP4A | X | .3165 | .3165 | 0 | %100 |
| 38 | MP4A | Z | .5481 | .5481 | 0 | %100 |
| 39 | MP3A | X | .3165 | .3165 | 0 | %100 |
| 40 | MP3A | Z | .5481 | .5481 | 0 | %100 |
| 41 | MP2A | X | .3165 | .3165 | 0 | %100 |
| 42 | MP2A | Z | .5481 | .5481 | 0 | %100 |
| 43 | MP1A | X | .3165 | .3165 | 0 | %100 |
| 44 | MP1A | Z | .5481 | .5481 | 0 | %100 |
| 45 | M44 | X | .0833 | .0833 | 0 | %100 |
| 46 | M44 | Z | .1442 | .1442 | 0 | %100 |
| 47 | M45 | X | .0833 | .0833 | 0 | %100 |
| 48 | M45 | Z | .1442 | .1442 | 0 | %100 |
| 49 | M46 | X | .0833 | .0833 | 0 | %100 |
| 50 | M46 | Z | .1442 | .1442 | 0 | %100 |
| 51 | M47 | X | .0833 | .0833 | 0 | %100 |
| 52 | M47 | Z | .1442 | .1442 | 0 | %100 |
| 53 | M43 | X | .099 | .099 | 0 | %100 |
| 54 | M43 | Z | .1715 | .1715 | 0 | %100 |
| 55 | M45A | X | .099 | .099 | 0 | %100 |
| 56 | M45A | Z | .1715 | .1715 | 0 | %100 |
| 57 | OVP | X | .2884 | .2884 | 0 | %100 |
| 58 | OVP | Z | .4995 | .4995 | 0 | %100 |
| 59 | RRU | X | .2884 | .2884 | 0 | %100 |
| 60 | RRU | Z | .4995 | .4995 | 0 | %100 |



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 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 1 | F | X | 0 | 0 | 0 | %100 |
| 2 | F | Z | .7662 | .7662 | 0 | %100 |
| 3 | M2 | X | 0 | 0 | 0 | %100 |
| 4 | M2 | Z | .7662 | .7662 | 0 | %100 |
| 5 | M13 | X | 0 | 0 | 0 | %100 |
| 6 | M13 | Z | 0 | 0 | 0 | %100 |
| 7 | M14 | X | 0 | 0 | 0 | %100 |
| 8 | M14 | Z | 0 | 0 | 0 | %100 |
| 9 | M15 | X | 0 | 0 | 0 | %100 |
| 10 | M15 | Z | 0 | 0 | 0 | %100 |
| 11 | M16 | X | 0 | 0 | 0 | %100 |
| 12 | M16 | Z | 0 | 0 | 0 | %100 |
| 13 | SO | X | 0 | 0 | 0 | %100 |
| 14 | SO | Z | .3025 | .3025 | 0 | %100 |
| 15 | M18 | X | 0 | 0 | 0 | %100 |
| 16 | M18 | Z | .3025 | .3025 | 0 | %100 |
| 17 | M19 | X | 0 | 0 | 0 | %100 |
| 18 | M19 | Z | .3025 | .3025 | 0 | %100 |
| 19 | M20 | X | 0 | 0 | 0 | %100 |
| 20 | M20 | Z | .3025 | .3025 | 0 | %100 |
| 21 | M21 | X | 0 | 0 | 0 | %100 |
| 22 | M21 | Z | .1666 | .1666 | 0 | %100 |
| 23 | M22 | X | 0 | 0 | 0 | %100 |
| 24 | M22 | Z | .1666 | .1666 | 0 | %100 |
| 25 | M23 | X | 0 | 0 | 0 | %100 |
| 26 | M23 | Z | .1666 | .1666 | 0 | %100 |
| 27 | M24 | X | 0 | 0 | 0 | %100 |
| 28 | M24 | Z | .1666 | .1666 | 0 | %100 |
| 29 | M25 | X | 0 | 0 | 0 | %100 |
| 30 | M25 | Z | .1725 | .1725 | 0 | %100 |
| 31 | M26 | X | 0 | 0 | 0 | %100 |
| 32 | M26 | Z | .1725 | .1725 | 0 | %100 |
| 33 | M27 | X | 0 | 0 | 0 | %100 |
| 34 | M27 | Z | .1725 | .1725 | 0 | %100 |
| 35 | M28 | X | 0 | 0 | 0 | %100 |
| 36 | M28 | Z | .1725 | .1725 | 0 | %100 |
| 37 | MP4A | X | 0 | 0 | 0 | %100 |
| 38 | MP4A | Z | .6329 | .6329 | 0 | %100 |
| 39 | MP3A | X | 0 | 0 | 0 | %100 |
| 40 | MP3A | Z | .6329 | .6329 | 0 | %100 |
| 41 | MP2A | X | 0 | 0 | 0 | %100 |
| 42 | MP2A | Z | .6329 | .6329 | 0 | %100 |
| 43 | MP1A | X | 0 | 0 | 0 | %100 |
| 44 | MP1A | Z | .6329 | .6329 | 0 | %100 |
| 45 | M44 | X | 0 | 0 | 0 | %100 |
| 46 | M44 | Z | .1666 | .1666 | 0 | %100 |
| 47 | M45 | X | 0 | 0 | 0 | %100 |
| 48 | M45 | Z | .1666 | .1666 | 0 | %100 |
| 49 | M46 | X | 0 | 0 | 0 | %100 |
| 50 | M46 | Z | .1666 | .1666 | 0 | %100 |
| 51 | M47 | X | 0 | 0 | 0 | %100 |
| 52 | M47 | Z | .1666 | .1666 | 0 | %100 |
| 53 | M43 | X | 0 | 0 | 0 | %100 |
| 54 | M43 | Z | .0072 | .0072 | 0 | %100 |
| 55 | M45A | X | 0 | 0 | 0 | %100 |
| 56 | M45A | Z | .0072 | .0072 | 0 | %100 |
| 57 | OVP | X | 0 | 0 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Locationft | End Locationft |
|----|--------------|-----------|-----------------|---------------|------------------|----------------|
| 58 | OVP | Z | .5768 | .5768 | 0 | %100 |
| 59 | RRU | X | 0 | 0 | 0 | %100 |
| 60 | RRU | Z | .5768 | .5768 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Locationft | End Locationft |
|----|--------------|-----------|-----------------|---------------|------------------|----------------|
| 1 | F | X | -.2873 | -.2873 | 0 | %100 |
| 2 | F | Z | .4976 | .4976 | 0 | %100 |
| 3 | M2 | X | -.2873 | -.2873 | 0 | %100 |
| 4 | M2 | Z | .4976 | .4976 | 0 | %100 |
| 5 | M13 | X | -.0208 | -.0208 | 0 | %100 |
| 6 | M13 | Z | .0361 | .0361 | 0 | %100 |
| 7 | M14 | X | -.0208 | -.0208 | 0 | %100 |
| 8 | M14 | Z | .0361 | .0361 | 0 | %100 |
| 9 | M15 | X | -.0208 | -.0208 | 0 | %100 |
| 10 | M15 | Z | .0361 | .0361 | 0 | %100 |
| 11 | M16 | X | -.0208 | -.0208 | 0 | %100 |
| 12 | M16 | Z | .0361 | .0361 | 0 | %100 |
| 13 | SO | X | -.0341 | -.0341 | 0 | %100 |
| 14 | SO | Z | .059 | .059 | 0 | %100 |
| 15 | M18 | X | -.0341 | -.0341 | 0 | %100 |
| 16 | M18 | Z | .059 | .059 | 0 | %100 |
| 17 | M19 | X | -.2392 | -.2392 | 0 | %100 |
| 18 | M19 | Z | .4143 | .4143 | 0 | %100 |
| 19 | M20 | X | -.2392 | -.2392 | 0 | %100 |
| 20 | M20 | Z | .4143 | .4143 | 0 | %100 |
| 21 | M21 | X | -.0625 | -.0625 | 0 | %100 |
| 22 | M21 | Z | .1082 | .1082 | 0 | %100 |
| 23 | M22 | X | -.0625 | -.0625 | 0 | %100 |
| 24 | M22 | Z | .1082 | .1082 | 0 | %100 |
| 25 | M23 | X | -.0625 | -.0625 | 0 | %100 |
| 26 | M23 | Z | .1082 | .1082 | 0 | %100 |
| 27 | M24 | X | -.0625 | -.0625 | 0 | %100 |
| 28 | M24 | Z | .1082 | .1082 | 0 | %100 |
| 29 | M25 | X | -.069 | -.069 | 0 | %100 |
| 30 | M25 | Z | .1195 | .1195 | 0 | %100 |
| 31 | M26 | X | -.069 | -.069 | 0 | %100 |
| 32 | M26 | Z | .1195 | .1195 | 0 | %100 |
| 33 | M27 | X | -.0992 | -.0992 | 0 | %100 |
| 34 | M27 | Z | .1719 | .1719 | 0 | %100 |
| 35 | M28 | X | -.0992 | -.0992 | 0 | %100 |
| 36 | M28 | Z | .1719 | .1719 | 0 | %100 |
| 37 | MP4A | X | -.3165 | -.3165 | 0 | %100 |
| 38 | MP4A | Z | .5481 | .5481 | 0 | %100 |
| 39 | MP3A | X | -.3165 | -.3165 | 0 | %100 |
| 40 | MP3A | Z | .5481 | .5481 | 0 | %100 |
| 41 | MP2A | X | -.3165 | -.3165 | 0 | %100 |
| 42 | MP2A | Z | .5481 | .5481 | 0 | %100 |
| 43 | MP1A | X | -.3165 | -.3165 | 0 | %100 |
| 44 | MP1A | Z | .5481 | .5481 | 0 | %100 |
| 45 | M44 | X | -.0833 | -.0833 | 0 | %100 |
| 46 | M44 | Z | .1442 | .1442 | 0 | %100 |
| 47 | M45 | X | -.0833 | -.0833 | 0 | %100 |
| 48 | M45 | Z | .1442 | .1442 | 0 | %100 |
| 49 | M46 | X | -.0833 | -.0833 | 0 | %100 |
| 50 | M46 | Z | .1442 | .1442 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 51 | M47 | X | -.0833 | -.0833 | 0 | %100 |
| 52 | M47 | Z | .1442 | .1442 | 0 | %100 |
| 53 | M43 | X | -.0443 | -.0443 | 0 | %100 |
| 54 | M43 | Z | .0768 | .0768 | 0 | %100 |
| 55 | M45A | X | -.0443 | -.0443 | 0 | %100 |
| 56 | M45A | Z | .0768 | .0768 | 0 | %100 |
| 57 | OVP | X | -.2884 | -.2884 | 0 | %100 |
| 58 | OVP | Z | .4995 | .4995 | 0 | %100 |
| 59 | RRU | X | -.2884 | -.2884 | 0 | %100 |
| 60 | RRU | Z | .4995 | .4995 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 1 | F | X | -.1659 | -.1659 | 0 | %100 |
| 2 | F | Z | .0958 | .0958 | 0 | %100 |
| 3 | M2 | X | -.1659 | -.1659 | 0 | %100 |
| 4 | M2 | Z | .0958 | .0958 | 0 | %100 |
| 5 | M13 | X | -.1082 | -.1082 | 0 | %100 |
| 6 | M13 | Z | .0625 | .0625 | 0 | %100 |
| 7 | M14 | X | -.1082 | -.1082 | 0 | %100 |
| 8 | M14 | Z | .0625 | .0625 | 0 | %100 |
| 9 | M15 | X | -.1082 | -.1082 | 0 | %100 |
| 10 | M15 | Z | .0625 | .0625 | 0 | %100 |
| 11 | M16 | X | -.1082 | -.1082 | 0 | %100 |
| 12 | M16 | Z | .0625 | .0625 | 0 | %100 |
| 13 | SO | X | -.0083 | -.0083 | 0 | %100 |
| 14 | SO | Z | .0048 | .0048 | 0 | %100 |
| 15 | M18 | X | -.0083 | -.0083 | 0 | %100 |
| 16 | M18 | Z | .0048 | .0048 | 0 | %100 |
| 17 | M19 | X | -.3636 | -.3636 | 0 | %100 |
| 18 | M19 | Z | .2099 | .2099 | 0 | %100 |
| 19 | M20 | X | -.3636 | -.3636 | 0 | %100 |
| 20 | M20 | Z | .2099 | .2099 | 0 | %100 |
| 21 | M21 | X | -.0361 | -.0361 | 0 | %100 |
| 22 | M21 | Z | .0208 | .0208 | 0 | %100 |
| 23 | M22 | X | -.0361 | -.0361 | 0 | %100 |
| 24 | M22 | Z | .0208 | .0208 | 0 | %100 |
| 25 | M23 | X | -.0361 | -.0361 | 0 | %100 |
| 26 | M23 | Z | .0208 | .0208 | 0 | %100 |
| 27 | M24 | X | -.0361 | -.0361 | 0 | %100 |
| 28 | M24 | Z | .0208 | .0208 | 0 | %100 |
| 29 | M25 | X | -.112 | -.112 | 0 | %100 |
| 30 | M25 | Z | .0647 | .0647 | 0 | %100 |
| 31 | M26 | X | -.112 | -.112 | 0 | %100 |
| 32 | M26 | Z | .0647 | .0647 | 0 | %100 |
| 33 | M27 | X | -.1644 | -.1644 | 0 | %100 |
| 34 | M27 | Z | .0949 | .0949 | 0 | %100 |
| 35 | M28 | X | -.1644 | -.1644 | 0 | %100 |
| 36 | M28 | Z | .0949 | .0949 | 0 | %100 |
| 37 | MP4A | X | -.5481 | -.5481 | 0 | %100 |
| 38 | MP4A | Z | .3165 | .3165 | 0 | %100 |
| 39 | MP3A | X | -.5481 | -.5481 | 0 | %100 |
| 40 | MP3A | Z | .3165 | .3165 | 0 | %100 |
| 41 | MP2A | X | -.5481 | -.5481 | 0 | %100 |
| 42 | MP2A | Z | .3165 | .3165 | 0 | %100 |
| 43 | MP1A | X | -.5481 | -.5481 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 44 | MP1A | Z | .3165 | .3165 | 0 | %100 |
| 45 | M44 | X | -.1442 | -.1442 | 0 | %100 |
| 46 | M44 | Z | .0833 | .0833 | 0 | %100 |
| 47 | M45 | X | -.1442 | -.1442 | 0 | %100 |
| 48 | M45 | Z | .0833 | .0833 | 0 | %100 |
| 49 | M46 | X | -.1442 | -.1442 | 0 | %100 |
| 50 | M46 | Z | .0833 | .0833 | 0 | %100 |
| 51 | M47 | X | -.1442 | -.1442 | 0 | %100 |
| 52 | M47 | Z | .0833 | .0833 | 0 | %100 |
| 53 | M43 | X | -.3126 | -.3126 | 0 | %100 |
| 54 | M43 | Z | .1805 | .1805 | 0 | %100 |
| 55 | M45A | X | -.3126 | -.3126 | 0 | %100 |
| 56 | M45A | Z | .1805 | .1805 | 0 | %100 |
| 57 | OVP | X | -.4995 | -.4995 | 0 | %100 |
| 58 | OVP | Z | .2884 | .2884 | 0 | %100 |
| 59 | RRU | X | -.4995 | -.4995 | 0 | %100 |
| 60 | RRU | Z | .2884 | .2884 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location | End Location |
|----|--------------|-----------|-----------------|---------------|----------------|--------------|
| 1 | F | X | 0 | 0 | 0 | %100 |
| 2 | F | Z | 0 | 0 | 0 | %100 |
| 3 | M2 | X | 0 | 0 | 0 | %100 |
| 4 | M2 | Z | 0 | 0 | 0 | %100 |
| 5 | M13 | X | -.1666 | -.1666 | 0 | %100 |
| 6 | M13 | Z | 0 | 0 | 0 | %100 |
| 7 | M14 | X | -.1666 | -.1666 | 0 | %100 |
| 8 | M14 | Z | 0 | 0 | 0 | %100 |
| 9 | M15 | X | -.1666 | -.1666 | 0 | %100 |
| 10 | M15 | Z | 0 | 0 | 0 | %100 |
| 11 | M16 | X | -.1666 | -.1666 | 0 | %100 |
| 12 | M16 | Z | 0 | 0 | 0 | %100 |
| 13 | SO | X | -.1855 | -.1855 | 0 | %100 |
| 14 | SO | Z | 0 | 0 | 0 | %100 |
| 15 | M18 | X | -.1855 | -.1855 | 0 | %100 |
| 16 | M18 | Z | 0 | 0 | 0 | %100 |
| 17 | M19 | X | -.1855 | -.1855 | 0 | %100 |
| 18 | M19 | Z | 0 | 0 | 0 | %100 |
| 19 | M20 | X | -.1855 | -.1855 | 0 | %100 |
| 20 | M20 | Z | 0 | 0 | 0 | %100 |
| 21 | M21 | X | 0 | 0 | 0 | %100 |
| 22 | M21 | Z | 0 | 0 | 0 | %100 |
| 23 | M22 | X | 0 | 0 | 0 | %100 |
| 24 | M22 | Z | 0 | 0 | 0 | %100 |
| 25 | M23 | X | 0 | 0 | 0 | %100 |
| 26 | M23 | Z | 0 | 0 | 0 | %100 |
| 27 | M24 | X | 0 | 0 | 0 | %100 |
| 28 | M24 | Z | 0 | 0 | 0 | %100 |
| 29 | M25 | X | -.1553 | -.1553 | 0 | %100 |
| 30 | M25 | Z | 0 | 0 | 0 | %100 |
| 31 | M26 | X | -.1553 | -.1553 | 0 | %100 |
| 32 | M26 | Z | 0 | 0 | 0 | %100 |
| 33 | M27 | X | -.1553 | -.1553 | 0 | %100 |
| 34 | M27 | Z | 0 | 0 | 0 | %100 |
| 35 | M28 | X | -.1553 | -.1553 | 0 | %100 |
| 36 | M28 | Z | 0 | 0 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 37 | MP4A | X | -.6329 | -.6329 | 0 | %100 |
| 38 | MP4A | Z | 0 | 0 | 0 | %100 |
| 39 | MP3A | X | -.6329 | -.6329 | 0 | %100 |
| 40 | MP3A | Z | 0 | 0 | 0 | %100 |
| 41 | MP2A | X | -.6329 | -.6329 | 0 | %100 |
| 42 | MP2A | Z | 0 | 0 | 0 | %100 |
| 43 | MP1A | X | -.6329 | -.6329 | 0 | %100 |
| 44 | MP1A | Z | 0 | 0 | 0 | %100 |
| 45 | M44 | X | -.1666 | -.1666 | 0 | %100 |
| 46 | M44 | Z | 0 | 0 | 0 | %100 |
| 47 | M45 | X | -.1666 | -.1666 | 0 | %100 |
| 48 | M45 | Z | 0 | 0 | 0 | %100 |
| 49 | M46 | X | -.1666 | -.1666 | 0 | %100 |
| 50 | M46 | Z | 0 | 0 | 0 | %100 |
| 51 | M47 | X | -.1666 | -.1666 | 0 | %100 |
| 52 | M47 | Z | 0 | 0 | 0 | %100 |
| 53 | M43 | X | -.5517 | -.5517 | 0 | %100 |
| 54 | M43 | Z | 0 | 0 | 0 | %100 |
| 55 | M45A | X | -.5517 | -.5517 | 0 | %100 |
| 56 | M45A | Z | 0 | 0 | 0 | %100 |
| 57 | OVP | X | -.5768 | -.5768 | 0 | %100 |
| 58 | OVP | Z | 0 | 0 | 0 | %100 |
| 59 | RRU | X | -.5768 | -.5768 | 0 | %100 |
| 60 | RRU | Z | 0 | 0 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 1 | F | X | -.1659 | -.1659 | 0 | %100 |
| 2 | F | Z | -.0958 | -.0958 | 0 | %100 |
| 3 | M2 | X | -.1659 | -.1659 | 0 | %100 |
| 4 | M2 | Z | -.0958 | -.0958 | 0 | %100 |
| 5 | M13 | X | -.1082 | -.1082 | 0 | %100 |
| 6 | M13 | Z | -.0625 | -.0625 | 0 | %100 |
| 7 | M14 | X | -.1082 | -.1082 | 0 | %100 |
| 8 | M14 | Z | -.0625 | -.0625 | 0 | %100 |
| 9 | M15 | X | -.1082 | -.1082 | 0 | %100 |
| 10 | M15 | Z | -.0625 | -.0625 | 0 | %100 |
| 11 | M16 | X | -.1082 | -.1082 | 0 | %100 |
| 12 | M16 | Z | -.0625 | -.0625 | 0 | %100 |
| 13 | SO | X | -.3636 | -.3636 | 0 | %100 |
| 14 | SO | Z | -.2099 | -.2099 | 0 | %100 |
| 15 | M18 | X | -.3636 | -.3636 | 0 | %100 |
| 16 | M18 | Z | -.2099 | -.2099 | 0 | %100 |
| 17 | M19 | X | -.0083 | -.0083 | 0 | %100 |
| 18 | M19 | Z | -.0048 | -.0048 | 0 | %100 |
| 19 | M20 | X | -.0083 | -.0083 | 0 | %100 |
| 20 | M20 | Z | -.0048 | -.0048 | 0 | %100 |
| 21 | M21 | X | -.0361 | -.0361 | 0 | %100 |
| 22 | M21 | Z | -.0208 | -.0208 | 0 | %100 |
| 23 | M22 | X | -.0361 | -.0361 | 0 | %100 |
| 24 | M22 | Z | -.0208 | -.0208 | 0 | %100 |
| 25 | M23 | X | -.0361 | -.0361 | 0 | %100 |
| 26 | M23 | Z | -.0208 | -.0208 | 0 | %100 |
| 27 | M24 | X | -.0361 | -.0361 | 0 | %100 |
| 28 | M24 | Z | -.0208 | -.0208 | 0 | %100 |
| 29 | M25 | X | -.1644 | -.1644 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Locationft | End Locationft |
|----|--------------|-----------|-----------------|---------------|------------------|----------------|
| 30 | M25 | Z | -.0949 | -.0949 | 0 | %100 |
| 31 | M26 | X | -.1644 | -.1644 | 0 | %100 |
| 32 | M26 | Z | -.0949 | -.0949 | 0 | %100 |
| 33 | M27 | X | -.112 | -.112 | 0 | %100 |
| 34 | M27 | Z | -.0647 | -.0647 | 0 | %100 |
| 35 | M28 | X | -.112 | -.112 | 0 | %100 |
| 36 | M28 | Z | -.0647 | -.0647 | 0 | %100 |
| 37 | MP4A | X | -.5481 | -.5481 | 0 | %100 |
| 38 | MP4A | Z | -.3165 | -.3165 | 0 | %100 |
| 39 | MP3A | X | -.5481 | -.5481 | 0 | %100 |
| 40 | MP3A | Z | -.3165 | -.3165 | 0 | %100 |
| 41 | MP2A | X | -.5481 | -.5481 | 0 | %100 |
| 42 | MP2A | Z | -.3165 | -.3165 | 0 | %100 |
| 43 | MP1A | X | -.5481 | -.5481 | 0 | %100 |
| 44 | MP1A | Z | -.3165 | -.3165 | 0 | %100 |
| 45 | M44 | X | -.1442 | -.1442 | 0 | %100 |
| 46 | M44 | Z | -.0833 | -.0833 | 0 | %100 |
| 47 | M45 | X | -.1442 | -.1442 | 0 | %100 |
| 48 | M45 | Z | -.0833 | -.0833 | 0 | %100 |
| 49 | M46 | X | -.1442 | -.1442 | 0 | %100 |
| 50 | M46 | Z | -.0833 | -.0833 | 0 | %100 |
| 51 | M47 | X | -.1442 | -.1442 | 0 | %100 |
| 52 | M47 | Z | -.0833 | -.0833 | 0 | %100 |
| 53 | M43 | X | -.4072 | -.4072 | 0 | %100 |
| 54 | M43 | Z | -.2351 | -.2351 | 0 | %100 |
| 55 | M45A | X | -.4072 | -.4072 | 0 | %100 |
| 56 | M45A | Z | -.2351 | -.2351 | 0 | %100 |
| 57 | OVP | X | -.4995 | -.4995 | 0 | %100 |
| 58 | OVP | Z | -.2884 | -.2884 | 0 | %100 |
| 59 | RRU | X | -.4995 | -.4995 | 0 | %100 |
| 60 | RRU | Z | -.2884 | -.2884 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Locationft | End Locationft |
|----|--------------|-----------|-----------------|---------------|------------------|----------------|
| 1 | F | X | -.2873 | -.2873 | 0 | %100 |
| 2 | F | Z | -.4976 | -.4976 | 0 | %100 |
| 3 | M2 | X | -.2873 | -.2873 | 0 | %100 |
| 4 | M2 | Z | -.4976 | -.4976 | 0 | %100 |
| 5 | M13 | X | -.0208 | -.0208 | 0 | %100 |
| 6 | M13 | Z | -.0361 | -.0361 | 0 | %100 |
| 7 | M14 | X | -.0208 | -.0208 | 0 | %100 |
| 8 | M14 | Z | -.0361 | -.0361 | 0 | %100 |
| 9 | M15 | X | -.0208 | -.0208 | 0 | %100 |
| 10 | M15 | Z | -.0361 | -.0361 | 0 | %100 |
| 11 | M16 | X | -.0208 | -.0208 | 0 | %100 |
| 12 | M16 | Z | -.0361 | -.0361 | 0 | %100 |
| 13 | SO | X | -.2392 | -.2392 | 0 | %100 |
| 14 | SO | Z | -.4143 | -.4143 | 0 | %100 |
| 15 | M18 | X | -.2392 | -.2392 | 0 | %100 |
| 16 | M18 | Z | -.4143 | -.4143 | 0 | %100 |
| 17 | M19 | X | -.0341 | -.0341 | 0 | %100 |
| 18 | M19 | Z | -.059 | -.059 | 0 | %100 |
| 19 | M20 | X | -.0341 | -.0341 | 0 | %100 |
| 20 | M20 | Z | -.059 | -.059 | 0 | %100 |
| 21 | M21 | X | -.0625 | -.0625 | 0 | %100 |
| 22 | M21 | Z | -.1082 | -.1082 | 0 | %100 |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

Sept 12, 2023
 3:54 PM
 Checked By: _____

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

| | Member Label | Direction | Start Magnitude | End Magnitude | Start Location[ft] | End Location[ft] |
|----|--------------|-----------|-----------------|---------------|--------------------|------------------|
| 23 | M22 | X | -.0625 | -.0625 | 0 | %100 |
| 24 | M22 | Z | -.1082 | -.1082 | 0 | %100 |
| 25 | M23 | X | -.0625 | -.0625 | 0 | %100 |
| 26 | M23 | Z | -.1082 | -.1082 | 0 | %100 |
| 27 | M24 | X | -.0625 | -.0625 | 0 | %100 |
| 28 | M24 | Z | -.1082 | -.1082 | 0 | %100 |
| 29 | M25 | X | -.0992 | -.0992 | 0 | %100 |
| 30 | M25 | Z | -.1719 | -.1719 | 0 | %100 |
| 31 | M26 | X | -.0992 | -.0992 | 0 | %100 |
| 32 | M26 | Z | -.1719 | -.1719 | 0 | %100 |
| 33 | M27 | X | -.069 | -.069 | 0 | %100 |
| 34 | M27 | Z | -.1195 | -.1195 | 0 | %100 |
| 35 | M28 | X | -.069 | -.069 | 0 | %100 |
| 36 | M28 | Z | -.1195 | -.1195 | 0 | %100 |
| 37 | MP4A | X | -.3165 | -.3165 | 0 | %100 |
| 38 | MP4A | Z | -.5481 | -.5481 | 0 | %100 |
| 39 | MP3A | X | -.3165 | -.3165 | 0 | %100 |
| 40 | MP3A | Z | -.5481 | -.5481 | 0 | %100 |
| 41 | MP2A | X | -.3165 | -.3165 | 0 | %100 |
| 42 | MP2A | Z | -.5481 | -.5481 | 0 | %100 |
| 43 | MP1A | X | -.3165 | -.3165 | 0 | %100 |
| 44 | MP1A | Z | -.5481 | -.5481 | 0 | %100 |
| 45 | M44 | X | -.0833 | -.0833 | 0 | %100 |
| 46 | M44 | Z | -.1442 | -.1442 | 0 | %100 |
| 47 | M45 | X | -.0833 | -.0833 | 0 | %100 |
| 48 | M45 | Z | -.1442 | -.1442 | 0 | %100 |
| 49 | M46 | X | -.0833 | -.0833 | 0 | %100 |
| 50 | M46 | Z | -.1442 | -.1442 | 0 | %100 |
| 51 | M47 | X | -.0833 | -.0833 | 0 | %100 |
| 52 | M47 | Z | -.1442 | -.1442 | 0 | %100 |
| 53 | M43 | X | -.099 | -.099 | 0 | %100 |
| 54 | M43 | Z | -.1715 | -.1715 | 0 | %100 |
| 55 | M45A | X | -.099 | -.099 | 0 | %100 |
| 56 | M45A | Z | -.1715 | -.1715 | 0 | %100 |
| 57 | OVP | X | -.2884 | -.2884 | 0 | %100 |
| 58 | OVP | Z | -.4995 | -.4995 | 0 | %100 |
| 59 | RRU | X | -.2884 | -.2884 | 0 | %100 |
| 60 | RRU | Z | -.4995 | -.4995 | 0 | %100 |

Member Area Loads

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

Envelope Joint Reactions

| Joint | X [lb] | LC | Y [lb] | LC | Z [lb] | LC | MX [k-ft] | LC | MY [k-ft] | LC | MZ [k-ft] | LC | | |
|-------|---------|-----|-----------|----|----------|----|-----------|----|-----------|----|-----------|----|-------|----|
| 1 | N35 | ... | 1588.338 | 46 | 997.848 | 14 | 1914.8 | 1 | -.122 | 8 | 0 | 75 | .282 | 39 |
| 2 | | ... | -943.965 | 28 | 334.3 | 72 | -969.787 | 7 | -.409 | 14 | 0 | 1 | -.158 | 33 |
| 3 | N36 | ... | 956.97 | 34 | 979.95 | 20 | 1468.464 | 1 | -.102 | 7 | 0 | 75 | .27 | 39 |
| 4 | | ... | -1600.013 | 40 | 328.373 | 66 | -2369.963 | 7 | -.392 | 13 | 0 | 1 | -.152 | 33 |
| 5 | N61A | ... | 68.103 | 2 | 17.227 | 14 | 610.684 | 8 | 0 | 75 | 0 | 75 | 0 | 75 |
| 6 | | ... | -75.783 | 8 | 5.513 | 72 | -675.48 | 2 | 0 | 1 | 0 | 1 | 0 | 1 |
| 7 | N64 | ... | 64.999 | 2 | 17.019 | 14 | 712.852 | 8 | 0 | 75 | 0 | 75 | 0 | 75 |
| 8 | | ... | -88.803 | 8 | 5.484 | 72 | -643.787 | 2 | 0 | 1 | 0 | 1 | 0 | 1 |
| 9 | Totals: | ... | 1608.292 | 10 | 2006.134 | 14 | 2403.222 | 1 | | | | | | |



Company : Colliers Engineering & Design
 Designer :
 Job Number : Project # 22777306
 Model Name : Antenna Mount Analysis

Sept 12, 2023
 3:54 PM
 Checked By: _____

Envelope Joint Reactions (Continued)

| Joint | X [lb] | LC | Y [lb] | LC | Z [lb] | LC | MX [k-ft] | LC | MY [k-ft] | LC | MZ [k-ft] | LC |
|-------|--------|-----------|--------|---------|--------|-----------|-----------|----|-----------|----|-----------|----|
| 10 | ... | -1608.294 | 4 | 674.214 | 71 | -2403.224 | 7 | | | | | |

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

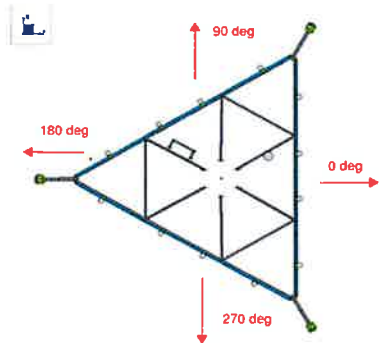
| Member | Shape | Code Check | Lo... | LC | Shear Check | Lo..... | LC | phi*Pnc | phi*Pnt | phi*Mn y | phi*Mn... | Cb | Eqn | | |
|--------|-------|------------|-------|------|-------------|---------|------|---------|------------|------------|-----------|-------|-------|--------|--------|
| 1 | F | PIPE 2.5 | .657 | 3... | 8 | .098 | 8... | 1 | 14558.7... | 50715 | 3.596 | 3.596 | 2.026 | H1-... | |
| 2 | M2 | PIPE 2.5 | .644 | 3... | 8 | .094 | 8... | 7 | 14558.7... | 50715 | 3.596 | 3.596 | 2.457 | H1-... | |
| 3 | M13 | PL5/8X3.5 | .169 | 422 | 8 | .259 | .374 | y | 2 | 66184.77 | 68906.25 | .897 | 5.024 | 1.667 | H1-... |
| 4 | M14 | PL5/8X3.5 | .194 | 0 | 26 | .245 | .422 | y | 8 | 66184.77 | 68906.25 | .897 | 5.024 | 1.667 | H1-... |
| 5 | M15 | PL5/8X3.5 | .236 | 0 | 43 | .184 | 0 | y | 1 | 66184.77 | 68906.25 | .897 | 5.024 | 1.667 | H1-... |
| 6 | M16 | PL5/8X3.5 | .199 | 422 | 43 | .207 | 0 | y | 7 | 66184.77 | 68906.25 | .897 | 5.024 | 1.667 | H1-... |
| 7 | SO | PIPE 2.0 | .254 | 0 | 2 | .068 | 1.25 | 2 | 31128.25 | 32130 | 1.872 | 1.872 | 1.37 | H1-... | |
| 8 | M18 | PIPE 2.0 | .236 | 0 | 8 | .073 | 0 | 26 | 31128.25 | 32130 | 1.872 | 1.872 | 2.443 | H1-... | |
| 9 | M19 | PIPE 2.0 | .177 | 0 | 1 | .089 | 0 | 37 | 31128.25 | 32130 | 1.872 | 1.872 | 1.08 | H1-... | |
| 10 | M20 | PIPE 2.0 | .214 | 0 | 7 | .077 | 1.25 | 1 | 31128.25 | 32130 | 1.872 | 1.872 | 2.354 | H1-... | |
| 11 | M21 | PL5/8X3.5 | .338 | 531 | 32 | .132 | .531 | y | 8 | 67591.76 | 68906.25 | .897 | 5.024 | 1.648 | H1-... |
| 12 | M22 | PL5/8X3.5 | .424 | 531 | 43 | .128 | .531 | y | 7 | 67591.76 | 68906.25 | .897 | 5.024 | 1.682 | H1-... |
| 13 | M23 | PL5/8X3.5 | .342 | 531 | 26 | .107 | .531 | y | 8 | 67591.76 | 68906.25 | .897 | 5.024 | 1.64 | H1-... |
| 14 | M24 | PL5/8X3.5 | .430 | 531 | 37 | .066 | .437 | y | 1 | 67591.76 | 68906.25 | .897 | 5.024 | 1.678 | H1-... |
| 15 | M25 | SR 0.75 | .005 | 4... | 44 | .009 | 4... | 32 | 2863.854 | 13916.2... | .174 | .174 | 1.136 | H1-... | |
| 16 | M26 | SR 0.75 | .066 | 0 | 32 | .013 | 4... | 26 | 2863.854 | 13916.2... | .174 | .174 | 1.136 | H1-... | |
| 17 | M27 | SR 0.75 | .000 | 0 | 75 | .012 | 4... | 41 | 2863.854 | 13916.2... | .174 | .174 | 1.136 | H1-... | |
| 18 | M28 | SR 0.75 | .083 | 4... | 43 | .017 | 0 | 48 | 2863.854 | 13916.2... | .174 | .174 | 1.136 | H1-... | |
| 19 | MP4A | PIPE 2.0 | .396 | 2... | 33 | .050 | 2... | 30 | 14916.0... | 32130 | 1.872 | 1.872 | 4.923 | H1-... | |
| 20 | MP3A | PIPE 2.0 | .183 | 2... | 32 | .034 | 2... | 32 | 14916.0... | 32130 | 1.872 | 1.872 | 4.937 | H1-... | |
| 21 | MP2A | PIPE 2.0 | .187 | 2... | 43 | .049 | 5... | 45 | 14916.0... | 32130 | 1.872 | 1.872 | 4.973 | H1-... | |
| 22 | MP1A | PIPE 2.0 | .481 | 2... | 41 | .126 | 2... | 5 | 14916.0... | 32130 | 1.872 | 1.872 | 4.856 | H1-... | |
| 23 | M44 | SR 0.625 | .059 | 1... | 8 | .014 | 0 | 48 | 2158.31 | 9664.079 | .101 | .101 | 1.136 | H1-... | |
| 24 | M45 | SR 0.625 | .063 | 1... | 8 | .005 | 0 | 42 | 2158.31 | 9664.079 | .101 | .101 | 1.136 | H1-... | |
| 25 | M46 | SR 0.625 | .066 | 1... | 7 | .005 | 0 | 34 | 2158.31 | 9664.079 | .101 | .101 | 1 | H1-... | |
| 26 | M47 | SR 0.625 | .074 | 1... | 1 | .015 | 0 | 46 | 2158.31 | 9664.079 | .101 | .101 | 1 | H1-... | |
| 27 | M43 | PIPE 2.0 | .023 | 0 | 8 | .002 | 0 | 10 | 27270.42 | 32130 | 1.872 | 1.872 | 1.136 | H1-... | |
| 28 | M45A | PIPE 2.0 | .027 | 0 | 8 | .002 | 0 | 10 | 27270.42 | 32130 | 1.872 | 1.872 | 1.136 | H1-... | |
| 29 | OVP | PIPE 2.0 | .050 | 1... | 6 | .024 | .333 | 43 | 26521.4... | 32130 | 1.872 | 1.872 | 1.333 | H1-... | |
| 30 | RRU | PIPE 2.0 | .028 | 1... | 6 | .021 | .333 | 48 | 26521.4... | 32130 | 1.872 | 1.872 | 1.268 | H1-... | |

I. Mount-to-Tower Connection Check

Custom Orientation Required

Yes

| Nodes (labeled per Risa) | Orientation (per graphic of typical platform) |
|-----------------------------|--|
| N36 | 0 |
| N35 | 0 |
| | |
| | |
| | |
| | |
| | |
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| | |



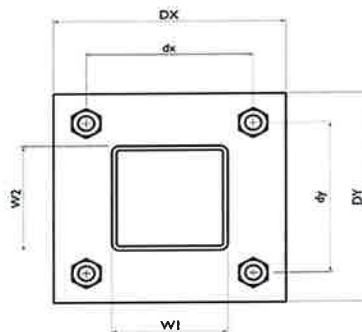
Tower Connection Bolt Checks

Yes

Bolt Orientation

Parallel

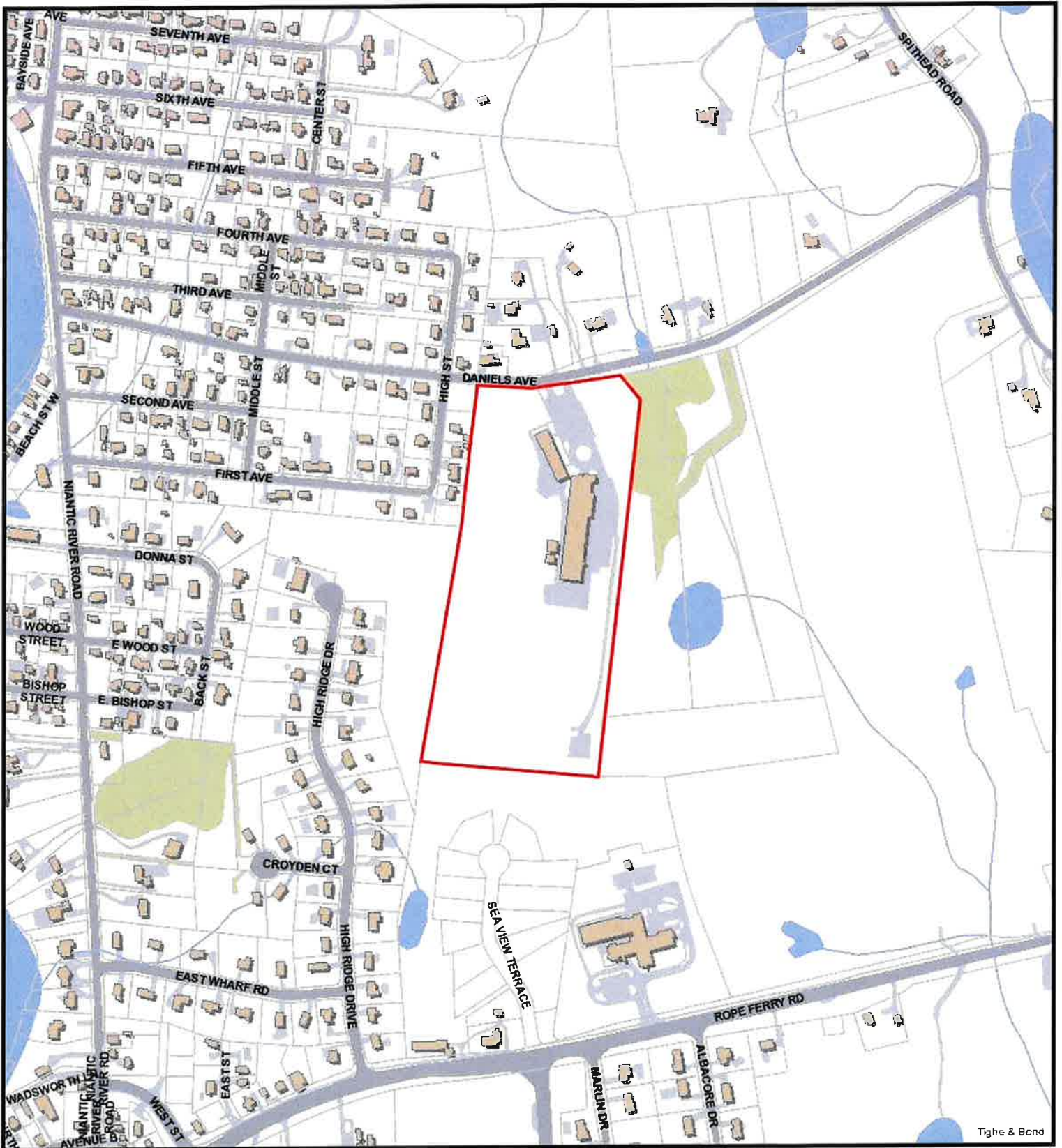
| | |
|--|-------|
| Bolt Quantity per Reaction: | 4 |
| d_x (in) (<i>Delta X of typ. bolt config. sketch</i>): | 11 |
| d_y (in) (<i>Delta Y of typ. bolt config. sketch</i>): | 4.5 |
| Bolt Type: | A307 |
| Bolt Diameter (in): | 0.625 |
| Required Tensile Strength / bolt (kips): | 0.7 |
| Required Shear Strength / bolt (kips): | 0.6 |
| Tensile Capacity / bolt (kips): | 10.4 |
| Shear Capacity / bolt (kips): | 6.2 |
| Bolt Overall Utilization: | 9.5% |



Tower Connection Baseplate Checks

No

ATTACHMENT 5



Tghe & Bcnd

51 Daniels Avenue

3/4/2022 10:38:04 AM

Scale: 1"=500'
Scale is approximate

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.



51 DANIELS AVENUE

Location 51 DANIELS AVENUE

Mblu 143 / 1783 / /

Acct# 00153300

Owner WATERFORD TOWN OF

Assessment \$2,924,780

Appraisal \$4,178,257

PID 1783

Building Count 1

Current Value

| Appraisal | | | |
|----------------|--------------|-------------|-------------|
| Valuation Year | Improvements | Land | Total |
| 2017 | \$2,498,257 | \$1,680,000 | \$4,178,257 |

| Assessment | | | |
|----------------|--------------|-------------|-------------|
| Valuation Year | Improvements | Land | Total |
| 2017 | \$1,748,780 | \$1,176,000 | \$2,924,780 |

Parcel Addresses

| Additional Addresses |
|---|
| No Additional Addresses available for this parcel |

Owner of Record

Owner WATERFORD TOWN OF
Co-Owner SOUTHWEST SCHOOL

Sale Price \$0
Certificate
Book & Page 0107/0567
Sale Date 09/15/1956
Instrument 00

Ownership History

| Ownership History | | | | | |
|-------------------|------------|-------------|-------------|------------|------------|
| Owner | Sale Price | Certificate | Book & Page | Instrument | Sale Date |
| WATERFORD TOWN OF | \$0 | | 0107/0567 | 00 | 09/15/1956 |

Building Information

Building 1 : Section 1

Year Built: 1960
Living Area: 29,627
Replacement Cost: \$3,608,900
Building Percent Good: 65

Building Attributes

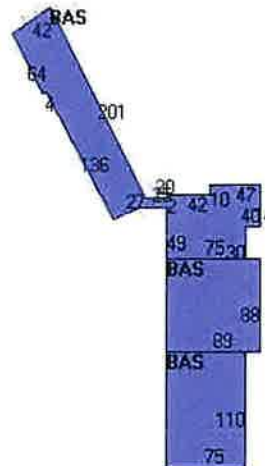
| Field | Description |
|------------------|--------------|
| STYLE | School |
| MODEL | Comm/Ind |
| Grade | Above Ave |
| Stories: | 1.00 |
| Occupancy | 1.00 |
| Exterior Wall 1 | Brick Veneer |
| Exterior Wall 2 | |
| Roof Structure | Flat |
| Roof Cover | Rolled |
| Interior Wall 1 | Typical |
| Interior Wall 2 | |
| Interior Floor 1 | Comp Tile |
| Interior Floor 2 | |
| Heating Fuel | Oil |
| Heating Type | Hot Water |
| % Central Air | 0 |
| Foundation | Poured Conc |
| Bldg Use | Exempt Comm |
| Total Rooms | 0 |
| Total Bedrms | 0 |
| Total Fixtures | 0 |
| % Wet Sprinkler | |
| % Dry Sprinkler | |
| 1st Floor Use | |
| Heat/AC | Typical |
| Frame Type | MASONRY |
| Baths/Plumbing | AVERAGE |
| % Finished | 100 |
| Class | C |
| Wall Height | 10.00 |
| Usrflid 214 | |

Building Photo



(<http://images.vgsi.com/photos/WaterfordCTPhotos/\00\01\54\22.jpg>)

Building Layout



(http://images.vgsi.com/photos/WaterfordCTPhotos//Sketches/1783_1783.j)

| Building Sub-Areas (sq ft) | | | Legend |
|----------------------------|-------------|------------|-------------|
| Code | Description | Gross Area | Living Area |
| BAS | First Floor | 29,627 | 29,627 |
| | | 29,627 | 29,627 |

Extra Features

| Extra Features | | | | Legend |
|----------------|-------------------|--------------|----------|--------|
| Code | Description | Size | Value | Bldg # |
| ELV1 | ELEVATOR PASS | 1.00 STOPS | \$16,250 | 1 |
| MSC13 | RADIO TOWER | 5000.00 UNIT | \$32,500 | 1 |
| GEN | GEN BACKUP DIESEL | 1.00 UNITS | \$10,000 | 1 |

Land

Land Use

Use Code 920
Description Exempt Comm
Zone R-40
Neighborhood 800
Alt Land Appr No
Category

Land Line Valuation

Size (Acres) 20
Frontage 0
Depth 0
Assessed Value \$1,176,000
Appraised Value \$1,680,000

Outbuildings

| Outbuildings | | | | | | Legend |
|--------------|-------------|----------|-----------------|---------------|----------|--------|
| Code | Description | Sub Code | Sub Description | Size | Value | Bldg # |
| PAV1 | Paving | AS | Asphalt | 42000.00 S.F. | \$78,750 | 1 |
| SHD1 | Shed | FR | Frame | 400.00 S.F. | \$6,750 | 1 |
| SHD1 | Shed | FR | Frame | 200.00 S.F. | \$3,380 | 1 |
| SHD1 | Shed | FR | Frame | 400.00 S.F. | \$6,750 | 1 |

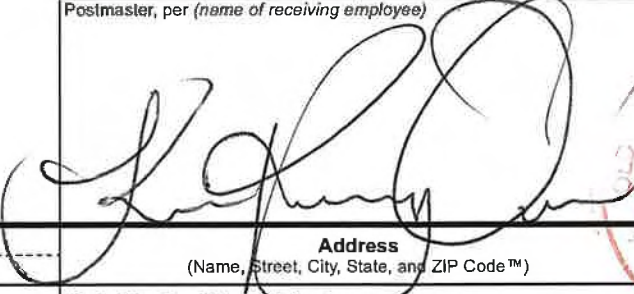

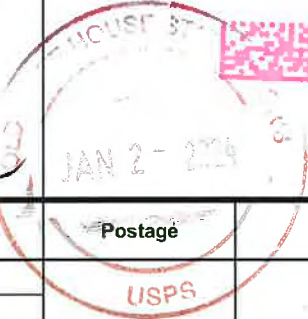

Valuation History

| Appraisal | | | |
|----------------|--------------|-------------|-------------|
| Valuation Year | Improvements | Land | Total |
| 2021 | \$2,498,257 | \$1,680,000 | \$4,178,257 |
| 2020 | \$2,498,257 | \$1,680,000 | \$4,178,257 |

| Assessment | | | |
|----------------|--------------|-------------|-------------|
| Valuation Year | Improvements | Land | Total |
| 2021 | \$1,748,780 | \$1,176,000 | \$2,924,780 |
| 2020 | \$1,748,780 | \$1,176,000 | \$2,924,780 |

ATTACHMENT 6



| | | | | | | |
|--|--|---|--|--|--|--|
| Name and Address of Sender Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103 | TOTAL NO. of Pieces Listed by Sender 2 | TOTAL NO. of Pieces Received at Post Office™ 2 | Affix Stamp Here <i>Postmark with Date of Receipt.</i> | | | |
| | Postmaster, per (name of receiving employee)  | |    ZIP 06103 041L12203937 | | | |

| USPS® Tracking Number Firm-specific Identifier | Address (Name, Street, City, State, and ZIP Code™) | Postage | Fee | Special Handling | Parcel Airlift |
|---|--|---------|-----|------------------|----------------|
| 1. | Rob Brule, First Sleetman Waterford Town Hall 15 Rope Ferry Road Waterford, CT 06385 | | | | |
| 2. | Jonathan Mullen, Planning Director Waterford Town Hall 15 Rope Ferry Road Waterford, CT 06385 | | | | |
| 3. | | | | | |
| 4. | | | | | |
| 5. | | | | | |
| 6. | | | | | |