Robinson+Cole

KENNETH C. BALDWIN

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

Also admitted in Massachusetts and New York

April 5, 2024

Via Electronic Mail

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

Re: **Notice of Exempt Modification – Facility Modification**
237 Godfrey Road, Weston, Connecticut

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains an existing wireless telecommunications facility at the above-referenced property address (the "Property"). The facility consists of antennas on an existing tower and related equipment on the ground, near the base of the tower. The tower was approved by the Town of Weston ("Town") in October of 2006. Cellco's use of the tower were approved by the Siting Council ("Council") in March of 2009 (EM-VER-157-090206). A copy of the Town's original tower approval and Cellco's shared use approval are included in Attachment 1.

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

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

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

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

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

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

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

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

6. According to the attached Revised Passing with Modification Structural Analysis Report ("SA") and New/Replacement Antenna Mount Analysis Report ("MA"), the existing tower, tower foundation and antenna mounting system, with certain modifications, can support Cellco's proposed facility modifications. Copies of the SA and MA are included in Attachment 4.

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

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

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Samantha Nestor, First Selectwoman
Richelle Hodza, Land Use Director
Aleksey Tyurin

ATTACHMENT 1

Town of Weston

24 School Road
Weston, CT 06883
203-222-2658

BUILDING PERMIT

This is to certify that permission is hereby granted for:
Cell tower

Owner: Town of Weston
Located At:237 Godfrey Road

Applicant Information
Town of Weston
56 Norfield Road
Weston, CT 6883

SBL #: Map 16 Block 1 Lot 35
Building Permit #: 6110
Permit Type: Building
Date: 10/24/2006
Cost of Construction: $ 285000

Fees:.	Check #	Amount

Do not proceed beyond these points below until signed and dated by the inspector.

The undersigned owner or authorized agent hereby: (1) agrees to conform to all the requirements of the Laws of the State of Connecticut and the Ordinances of the Town of Weston; (2) agrees to notify the Building Inspector of any alterations in the plans or specifications of the building for which the permit is asked; (3) warrants that this building shall be located at the proper distance from all street lines, side yard lines and required distances from all other zones and is located in a zone in which this building and its use is allowed; (4) warrants that this application and all maps and location surveys submitted in connection herewith fully and accurately describe the premises and structures thereon and any conditions to approval of the same by Weston Planning and Zoning Commission; (5) applies for the issuance, upon satisfactory completion, of a Certificate of Occupancy for the use as herein stated; (6) requests of plans upon issuance of a Certificate of Occupancy.

The laws and building regulations of the State of Connecticut and Town of Weston shall at all times have precedence over drawings and specifications. Anything contrary to said laws and regulations that may at any time appear in the drawings and specifications, or in the work as executed, shall be corrected without delay upon the receipt of due notice from the Building Inspector.

The granting of a permit for the proposed work shall not be assumed or construed any right or permission to do anything contrary to the laws and regulations aforesaid, under any circumstances whatsoever.

Building Inspector: R. Gleason/dl

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

Internet: ct.gov/csc

Daniel F. Caruso
Chairman

March 11, 2009

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

RE: **EM-VER-157-090206** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 237 Godfrey Road, Weston, Connecticut.

Dear Attorney Baldwin:

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

The proposed modifications are to be implemented as specified here and in your notice dated February 6, 2009, including the placement of all necessary equipment and shelters within the tower compound. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

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

Thank you for your attention and cooperation.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/MP/laf

c: The Honorable Woody Bliss, First Selectman, Town of Weston
Tom Landry, Town Administrator, Town of Weston
Robert P. Turner, Zoning Enforcement Officer, Town of Weston

ATTACHMENT 2

verizon

WIRELESS COMMUNICATIONS FACILITY

WESTON NORTH CT
237 GODFREY ROAD
WESTON, CT 06883

PROJECT:
L-SUB6-CARRIER ADD

LOCATION MAP

SUPPORTING DOCUMENTS

RADIO FREQUENCY (RF) DESIGN: 12/01/23
MOUNT MAPPING REPORT: 04/16/21 (BY RKS DESIGN AND ENGINEERING, LLC)
MOUNT ANALYSIS: 12/22/23 (BY COLLIERS ENGINEERING)
STRUCTURAL ANALYSIS: (SELF SUPPORT TOWER): 02/12/24 (BY CENTERLINE)

PROJECT INFORMATION

SITE NAME:	WESTON NORTH CT
LOCATION CODE:	468022
SITE ADDRESS:	237 GODFREY ROAD WESTON, CT 06883
LATITUDE:	41° 14' 31.19" N
LONGITUDE:	73° 21' 51.52" W

DRAWING INDEX

NO.	DESCRIPTION
T-1	TITLE SHEET
A-1	TOWER ELEVATION & COMPOUND PLAN
A-2	ANTENNA CONFIGURATION & SCOPE OF WORK
A-3	EQUIPMENT SPECIFICATIONS, BILL OF MATERIALS & PLUMBING DIAGRAM
S-1	STRUCTURAL DETAILS
SN-1	STRUCTURAL NOTES

RFDS PROJECT SCOPE

RFDS SOW: 700/ 850/ PCS/ AWS/ L-SUB6 CARRIER ADDS, SAMSUNG DUAL BAND RRH SWAP, ANTENNA CHANGE

1 - REMOVE 850 CARRIERS AND ADD 700/ 850/ PCS/ AWS/ L-SUB6 CARRIERS
2 - INSTALL (3) SAMSUNG MT6413-77A L-SUB6 ALL-IN-ONE ANTENNA/ RRHS
3 - INSTALL (4) NEW JMA MX08FHG665-HG ANTENNAS ON NEW JMA 2' EDGE-TO-EDGE MOUNTS IN BETA-GAMMA SECTORS AND (2) NEW JMA MX06FHG865-HG ANTENNAS ON NEW JMA 2' EDGE-TO-EDGE MOUNT IN ALPHA SECTOR
4 - INSTALL (3) NEW SAMSUNG RF4461D-13A & (3) NEW SAMSUNG B2/B66A RRH ORAN (RF4439D-25A) TO TOWER
5 - REPLACE (3) EXISTING SECTOR MOUNTS W TH (3) NEW MOUNTS BY PERFECT VISION, PART# PV-SFR-GS-12-25-AP1
6 - PLUMB 700/ 850/ PCS/ AWS/ L-SUB6 ACCORDING TO THE PLUMBING DIAGRAM
7 - USE RF PORTS ON DUAL BAND RRHS TO COMMUNICATE WITH RETS VIA SMART BIAS-T BUILT INTO THE ANTENNA
8 - CAP AND WEATHERPROOF UNUSED PORTS/CONNECTORS
9 - REMOVE ANY UNUSED COAX, TOWER/SHELTER DIPLEXERS

SUMMARY:

- ADDING 9 ANTENNAS, REMOVING 15, RETAINING 0 (FINAL ANTENNA COUNT: 9)
- ADDING 9 RRU'S, REMOVING 6, RETAINING 0 (FINAL RRU COUNT: 9)

BUILDING CODES

APPLICABLE BUILDING CODES: SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

- BUILDING CODE: IBC 2015 & CONNECTICUT STATE BUILDING CODE 2018
- ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
- LIGHTENING CODE: NFPA 70-2017
- TELECOMMUNICATIONS INDUSTRY ASSOCIATION ANSI (TIA) 222-H, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

CENTERLINE
ENGINEERING SERVICES, PA
750 W CENTER ST. SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

NO.	DATE	DESCRIPTION
11	02/12/24	REVISED PER MA
10	01/28/24	REVISED PER MA
9	12/27/23	REVISED PER COMMENTS
8	12/20/23	REVISED PER RFDS
7	11/27/23	REVISED FOR REVIEW
6	11/22/23	REVISED PER RFDS
5	09/15/22	ISSUED FOR CONSTRUCTION
4	07/26/22	REVISED FOR REVIEW
3	04/28/22	ISSUED FOR CONSTRUCTION
2	04/13/22	REVISED FOR REVIEW
1	02/23/22	REVISED FOR REVIEW
0	02/16/22	ISSUED FOR REVIEW

DESIGNED BY:	APPROVED BY:
KL	DC

STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED PROFESSIONAL ENGINEER

CBYD.com 811
Call Before You Dig, Inc.

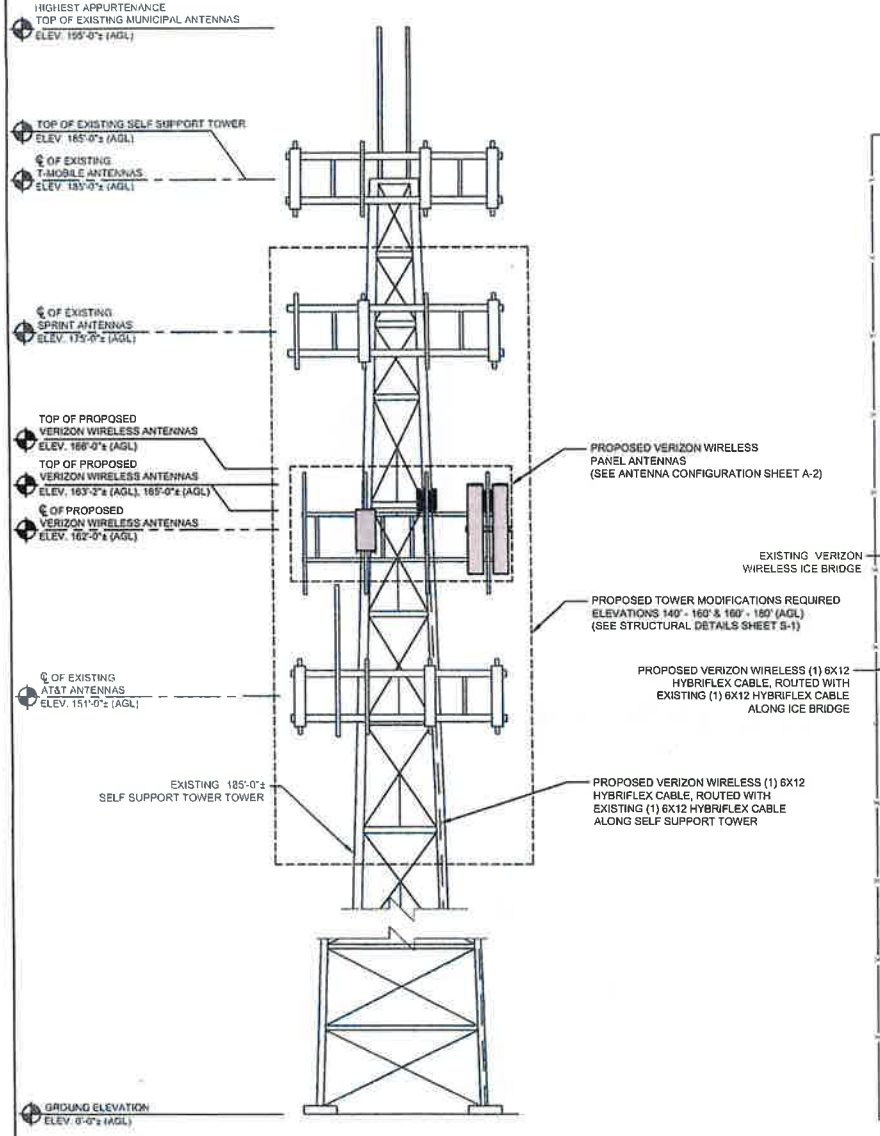
SITE NAME:
WESTON NORTH CT

SITE ADDRESS:
237 GODFREY ROAD
WESTON, CT 06883
FAIRFIELD COUNTY

LOCATION CODE:
468022

SHEET TITLE:
TITLE SHEET

SHEET #: T-1 REVISION: 11



1 A-1 TOWER ELEVATION

SCALE: 1/4" = 1'-0" (22"X34")
1/8" = 1'-0" (11"X17")

GRAPHIC SCALE

2 A-1 COMPOUND PLAN

SCALE: 3/16" = 1'-0" (22"X34")
3/32" = 1'-0" (11"X17")

GRAPHIC SCALE

verizon

20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

CENTERLINE
ENGINEERING SERVICES, PA

750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
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1	02/23/22	REVISED FOR REVIEW
0	02/16/22	ISSUED FOR REVIEW
NO.	DATE	DESCRIPTION

DESIGNED BY:	APPROVED BY:
KL	DC

STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED PROFESSIONAL ENGINEER

CBYD.com 811
Call Before You Dig, Inc.

SITE NAME:
WESTON NORTH CT

SITE ADDRESS:
237 GODFREY ROAD
WESTON, CT 06883
FAIRFIELD COUNTY

LOCATION CODE:
486022

SHEET TITLE:
TOWER ELEVATION &
COMPOUND PLAN

SHEET #: A-1 REVISION: 11

NOTES

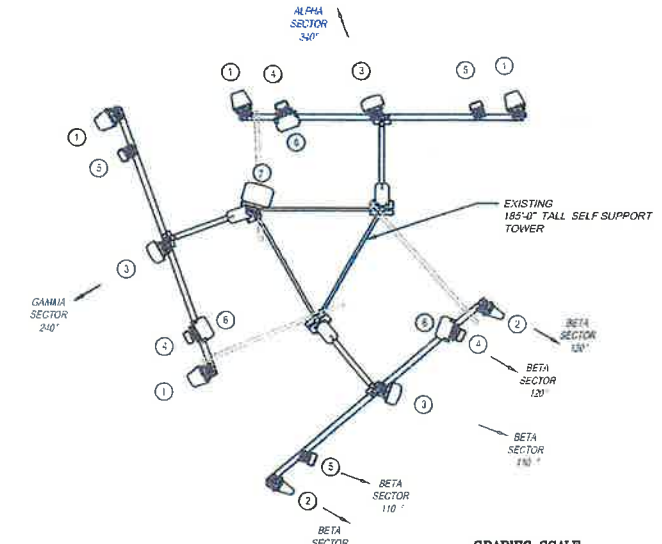
1. IF SHOWN, ANTENNA SPACING DIMENSIONS ARE TO THE CENTER OF THE EXIST. ANTENNA AND PROP. ANTENNA FACE.
2. REFER TO THE FINAL RFDS PROVIDED BY VERIZON FOR THE LATEST INFORMATION REGARDING EQUIPMENT MODELS, REQUIRED CABLING & DOWN-TILT INFORMATION.
3. REFER TO ASSEMBLY DRAWING AND MOUNT ANALYSIS BY COLLIERS ENGINEERING FOR ALL REQUIRED EQUIPMENT MODIFICATION INFORMATION.

GENERAL ABBREVIATION LIST

- ABP ABOVE BASE PLATE
- AGL ABOVE GRADE LEVEL
- AMSL ABOVE MEAN SEA LEVEL
- AWS ADVANCED WIRELESS SERVICE
- HDG HOT DIPPED GALVANIZED
- OVP OVER VOLTAGE PROTECTION
- RRH REMOTE RADIO HEAD
- V.I.F. VERIFY IN FIELD
- W.P. WORK POINT
- A.F.R. ABOVE FINISH ROOF

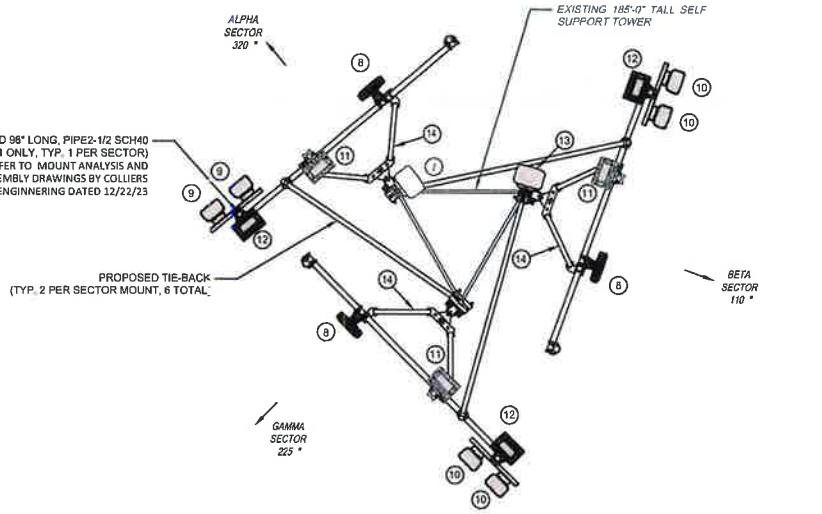
SCOPE OF WORK (ALL 3 SECTORS)

1. EXIST. ANTENNA (TO BE REMOVED) MODEL: ANDREW DB846F65ZAXV
2. EXIST. ANTENNA (TO BE REMOVED) MODEL: DECIBEL PRODUCTS DB846H0E-SX
3. EXIST. ANTENNA (TO BE REMOVED) MODEL: ANTEL BXA-70063-6CF
4. EXIST. ANTENNA (TO BE REMOVED) MODEL: KATHREIN 742213-2110
5. EXIST. SFARE ANTENNA (TO BE REMOVED)
6. EXIST. RRH (TO BE REMOVED) MODEL: NOKIA UHIC B4 RRH 2X60-4R
7. EXIST. OVP BOX (TO REMAIN) MODEL: 6 OVP
8. NEW ANTENNA MODEL: SAMSUNG MT6413-77A MOUNTED ON EXIST. PIPE MAST
9. NEW ANTENNA MOUNTED VIA NEW DUAL-MOUNT BRACKETS (JMA 2" SIDE-BY-SIDE) MODEL: JMA MX06FHG865-HG
10. NEW ANTENNA MOUNTED VIA NEW DUAL-MOUNT BRACKETS (JMA 2" SIDE-BY-SIDE) MODEL: JMA MX06FHG665-HG
11. NEW DUAL BAND RRH MODEL: RF4461D-13A
12. NEW DUAL BAND RRH MODEL: SAMSUNG B2/B66A RRH ORAN (RF4439D-25A)
13. NEW OVP BOX MOUNT TBD MODEL: 6 OVP
14. PROPOSED MOUNT KIT, PERFECT VISION PART#: PV-SFR-GS12-25-AP1, REFER TO MOUNT ANALYSIS AND ASSEMBLY DRAWINGS BY COLLIERS ENGINNERING DATED 12/22/23



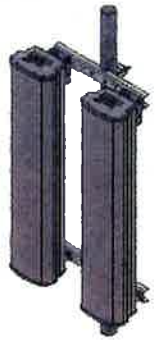
1/A-2 EXISTING ANTENNA PLAN
SCALE: 3/8" = 1'-0" (22"X34")
3/16" = 1'-0" (11"X17")

GRAPHIC SCALE
(IN FEET)

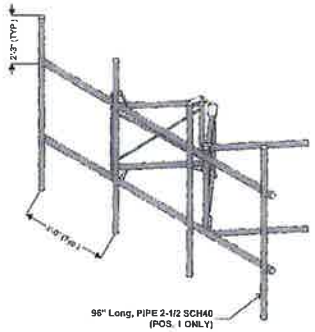


2/A-2 PROPOSED ANTENNA PLAN
SCALE: 3/8" = 1'-0" (22"X34")
3/16" = 1'-0" (11"X17")

GRAPHIC SCALE
(IN FEET)



3/A-2 PROPOSED DUAL ANTENNA BRACKET DETAIL
N.T.S.



4/A-2 PROPOSED ANTENNA MOUNT DETAIL (ISOMETRIC VIEW)
N.T.S.

verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

CENTERLINE
ENGINEERING SERVICES, PA
750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

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DESIGNED BY:	APPROVED BY:
KL	DC

STATE OF CONNECTICUT
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No. 21857
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LOCATION CODE:
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SHEET TITLE:
ANTENNA CONFIGURATION & SCOPE OF WORK

SHEET # A-2 REVISION 11

BILL OF MATERIALS

ITEM	DESCRIPTION	QTY.	LENGTH	COMMENTS
1	L-SUB6 ANTENNA	3	-	(SAMSUNG MT6413-77A) MOUNTED TO NEW ANTENNA PIPE
2	LTE 700/850/PCS/AWS ANTENNA	4	-	(JMA MX06FHG665-HG) MOUNTED TO NEW PIPE MAST VIA NEW DUAL MOUNT BRACKETS (JMA 2" EDGE-TO-EDGE)
3	LTE 700/850/PCS/AWS ANTENNA	2	-	(JMA MX06FHG865-HG) MOUNTED TO NEW PIPE MAST VIA NEW DUAL MOUNT BRACKETS (JMA 2" EDGE-TO-EDGE)
4	HYBRIFLEX CABLE	3	15'	ROUTE FROM NEW UPPER OVP TO L-SUB6 ANTENNA
5	1/2" JUMPER CABLE	36	10'	ROUTE FROM NEW RRH TO ANTENNA
6	LTE 700/850 RRH	3	-	(SAMSUNG RF4461D-13A MOUNTED TO NEW ANTENNA PIPE
7	LTE PCS/AWS RRH	3	-	(SAMSUNG B2/B66A RRH ORAN (RF4439D-25A) MOUNTED TO NEW ANTENNA PIPE
8	RRH CABLE(S)	6	15'	PROPRIETARY POWER & FIBER CABLES
9	UPPER OVP6	1	-	NEW UPPER OVP MOUNT TBD
10	6X12 LI HYBRID CABLE	1	250'	ROUTE FROM LOWER OVP RACK TO UPPER OVP BOX
11	LOWER OVP6	1	-	LOWER OVP RACK MOUNTED WITHIN EXISTING RACK IN EQUIPMENT AREA

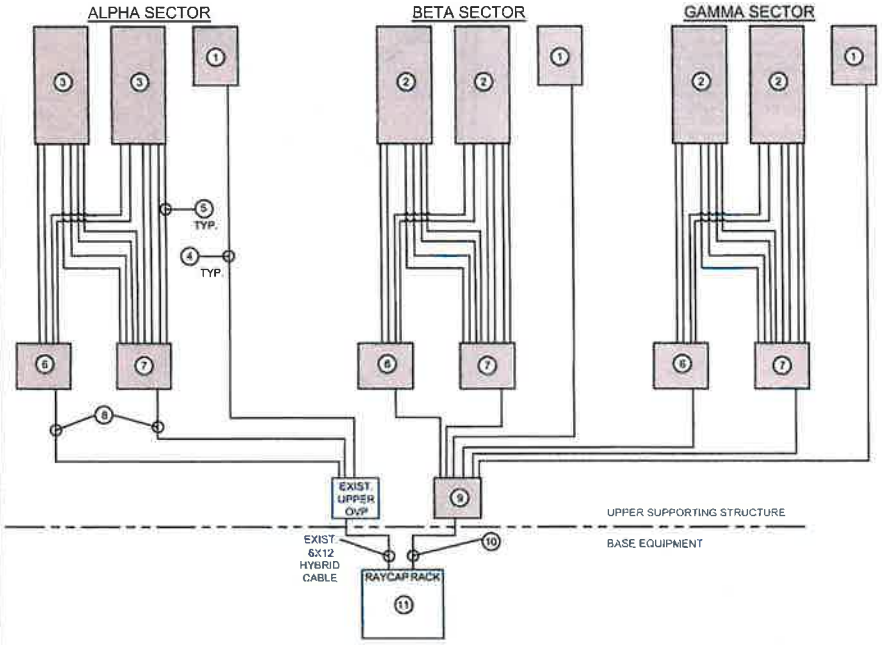
NOTES:
1. INFORMATION SHOWN HEREON IS FOR USE BY VERIZON EQUIPMENT OPERATIONS.
2. INFORMATION IS BASED ON RFDS DATED 12/01/23.
3. * REFER TO ASSEMBLY DRAWING AND MOUNT ANALYSIS BY GPD ENGINEERING AND ARCHITECTURE (WHERE APPLICABLE)

EQUIPMENT DATA

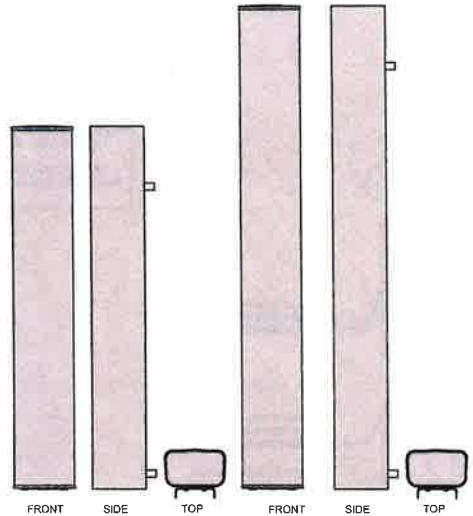
EQUIPMENT SPECIFICATIONS

SECTOR	ANTENNA MAKE/MODEL	QTY	AZIMUTH	EQUIPMENT STATUS	HEIGHT (IN)	WIDTH (IN)	DEPTH (IN)	WEIGHT (LBS)
ALPHA	SAMSUNG MT6413-77A	1	320	NEW	28.9	15.8	5.5	57.3
	LTE 700/850/PCS/AWS JMA MX06FHG865-HG	1	320	NEW	95.9	12.2	7.5	51.0
	LTE 700/850/PCS/AWS JMA MX06FHG865-HG	1	320	NEW	95.9	12.2	7.5	51.0
BETA	SAMSUNG MT6413-77A	1	110	NEW	28.9	15.8	5.5	57.3
	LTE 700/850/PCS/AWS JMA MX06FHG665-HG	1	110	NEW	72.0	12.2	7.5	41.0
	LTE 700/850/PCS/AWS JMA MX06FHG665-HG	1	110	NEW	72.0	12.2	7.5	41.0
GAMMA	SAMSUNG MT6413-77A	1	225	NEW	28.9	15.8	5.5	57.3
	LTE 700/850/PCS/AWS JMA MX06FHG665-HG	1	225	NEW	72.0	12.2	7.5	41.0
	LTE 700/850/PCS/AWS JMA MX06FHG665-HG	1	225	NEW	72.0	12.2	7.5	41.0
ALL	APPURTENANCE MAKE/MODEL							
	SAMSUNG B2/B66A RRH ORAN (RF4439D-25A)	3	-	NEW	14.9	14.9	10.04	74.7
	SAMSUNG RF4461D-13A	3	-	NEW	14.9	14.9	10.24	79.1
	SAMSUNG MT6413-77A	3	-	NEW	-	-	-	-
	6 OVP BOX	1	-	NEW	29.0	15.7	10.3	32.0
	6 OVP BOX	1	-	ETR	29.0	15.7	10.3	32.0

NOTES:
1. "ETR" DENOTES EXISTING TO REMAIN
2. WEIGHTS LISTED ARE WITHOUT MOUNTING BRACKET.
3. INFORMATION IS BASED ON RFDS DATED 12/01/23.



1 A-3 PLUMBING DIAGRAM N.T.S.



2 A-3 ANTENNA DETAIL N.T.S.

3 A-3 ANTENNA DETAIL N.T.S.

4 A-3 ANTENNA DETAIL N.T.S.

5 A-3 RRH DETAIL N.T.S.

6 A-3 RRH DETAIL N.T.S.

verizon
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4	07/26/22	REVISED FOR REVIEW
3	04/28/22	ISSUED FOR CONSTRUCTION
2	04/13/22	REVISED FOR REVIEW
1	02/23/22	REVISED FOR REVIEW
0	02/16/22	ISSUED FOR REVIEW

DESIGNED BY:	APPROVED BY:
KL	DC

STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED PROFESSIONAL ENGINEER

IT IS A VIOLATION OF LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT. UNLESS EXPRESSLY ASSENTED TO BY THE SEALING ENGINEER, THE SEALING ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY UNAUTHORIZED ALTERATIONS TO THIS DOCUMENT.

CBYD 811 .COM Call Before You Dig, Inc.

SITE NAME:
WESTON NORTH CT

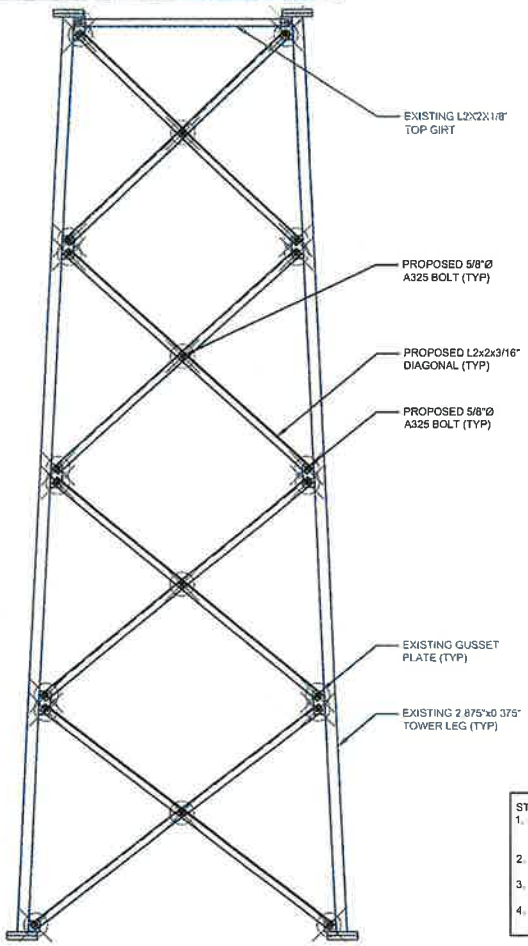
SITE ADDRESS:
237 GODFREY ROAD
WESTON, CT 06883
FAIRFIELD COUNTY

LOCATION CODE:
488022

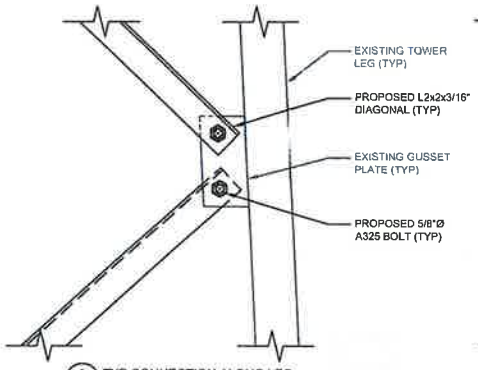
SHEET TITLE:
EQUIPMENT SPECIFICATIONS, BILL OF MATERIALS & PLUMBING DIAGRAM

SHEET #: A-3 REVISION: 11

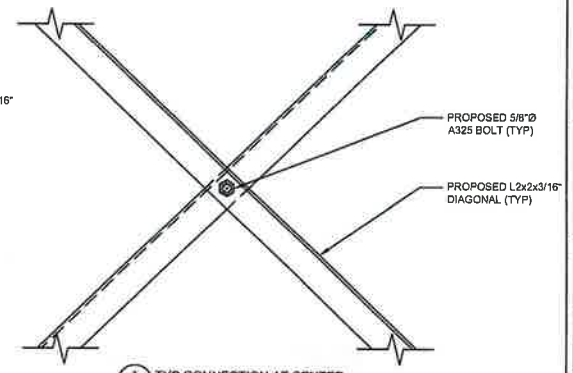
NOTES:
1. ONLY ONE PANEL FACE SHOWN FOR CLARITY OF ILLUSTRATION (SIMILAR ALL THREE FACES).



1 S-1 TOWER DETAIL (140'-160' &160'-180')

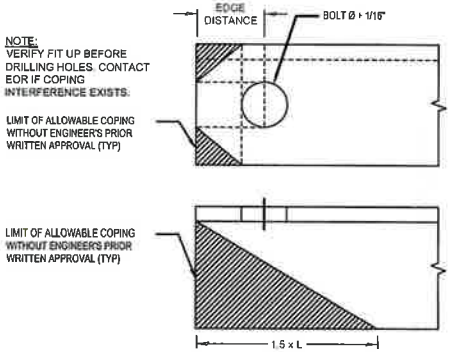


2 S-1 TYP CONNECTION ALONG LEG



3 S-1 TYP CONNECTION AT CENTER

NOTE:
VERIFY FIT UP BEFORE DRILLING HOLES. CONTACT EOR IF COPING INTERFERENCE EXISTS.



4 S-1 BOLT HOLE PLACEMENT AND COPING DISTANCES

STRUCTURAL NOTES:
1. CONTRACTOR SHALL VERIFY ALL LENGTHS AND QUANTITIES PROVIDED PRIOR TO FABRICATION. LENGTHS AND QUANTITIES PROVIDED ARE FOR QUOTING PURPOSES ONLY.
2. ANTENNAS AND OTHER APPURTENANCES MAY NEED TO BE TEMPORARILY REMOVED OR RELOCATED DURING THE INSTALLATION OF THE MODIFICATIONS.
3. STEEL ANGLES AND PLATES ARE TO BE GRADE A36 UNLESS NOTED OTHERWISE.
4. ALL HOLES SHALL BE DRILLED OR PUNCHED.

DIAGONAL BRACE SCHEDULE

ELEVATION (FT.)	DIAGONAL BRACE				BRACE BOLTS (A325)				STITCH BOLTS (A325)		
	EXISTING	PROPOSED (ASTM A36)	CUT LENGTH	QTY	BOLT X LENGTH	EDGE DISTANCE (IN)	GAGE DISTANCE (IN)	QTY	BOLT X LENGTH	GAGE DISTANCE (IN)	QTY
140 - 160	L2X2X1/8	L2X2X3/16	9' - 0"	24	5/8" DIA. X 1-3/4"	1	1 1/8	48	5/8" DIA. X 1-3/4"	1 1/8	12
160 - 180	L2X2X1/8	L2X2X3/16	7' - 6"	24	5/8" DIA. X 1-3/4"	1	1 1/8	48	5/8" DIA. X 1-3/4"	1 1/8	12

verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

CENTERLINE
ENGINEERING SERVICES, PA
750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

NO.	DATE	DESCRIPTION
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DESIGNED BY:	APPROVED BY:
KL	DC

STATE OF CONNECTICUT
DEREK J CREASER
No. 28554
LICENSED PROFESSIONAL ENGINEER

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WESTON, CT 06883
FAIRFIELD COUNTY

LOCATION CODE:
488022

SHEET TITLE:
STRUCTURAL DETAILS

SHEET # S-1 REVISION: 11

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS". UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL", 14TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
16. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
17. ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
18. NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
19. SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

SPECIAL INSPECTION CHECKLIST	
BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS [1]
N/A	MATERIAL SPECIFICATIONS REPORT [2]
N/A	FABRICATOR NDE INSPECTION
N/A	PACKING SLIPS [3]
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS [4]
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION [5]
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS [6]
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTES:

1. REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
2. PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
3. PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
4. HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
5. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
6. AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

NOTES:

1. ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
2. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
3. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
4. VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
5. CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
6. EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

verizon

20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

CENTERLINE
ENGINEERING SERVICES, PA
750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

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SHEET TITLE:
STRUCTURAL NOTES

SHEET # SN-1 REVISION: 11

MX06FHG665-HG

NWAV™ X-Pol Hex-Port Antenna

X-Pol Hex-Port 6 ft 65° Form in Tighter High Gain (FHG) with Smart Bias Ts, 698-2180 MHz:
2 ports 698-894 MHz and 4 ports 1695-2180 MHz

- Industry-leading high gain for MB and LB for extended cell coverage
- Excellent passive intermodulation (PIM) performance reduces harmful interference.
- Fully integrated (iRETs) with independent RET control for low and high bands for ease of network optimization
- Suitable for LTE/CDMA/PCS/UMTS/GSM air interface technologies
- Integrated Smart Bias-Ts reduce leasing costs
- Optimized width for reduced wind loading

Electrical specification (minimum/maximum)	Ports 1, 2		Ports 3, 4, 5, 6		
Frequency bands, MHz	698-798	824-894	1695-1880	1850-1990	1920-2180
Polarization	±45°		±45°		
Max gain over all tilts, dBi	15.5	16.0	18.9	19.0	19.6
Average gain, dBi	15.3 ± 0.2	15.8 ± 0.2	18.8 ± 0.1	18.8 ± 0.2	19.3 ± 0.3
Horizontal beamwidth (HBW), degrees	67.0	64.0	63.0	64.0	64.0
Front-to-back ratio, co-polar power @180°± 30°, dB	>25.0	>25.0	>28.0	>26.0	>25.0
X-Pol discrimination (CPR) at boresight, dB	>20.0	>18.0	>25	>20	>18
Sector power ratio, percent[1]	<4.0	<3.6	<5.0	<3.8	<3.6
Vertical beamwidth (VBW), degrees[1]	14.0	12.5	5.8	5.5	5.2
Electrical downtilt (EDT) range, degrees	0-12		0-9		
First upper side lobe (USLS) suppression, dB[1]	≤-16.0	≤-15.0	≤-16.0	≤-16.0	≤-16.0
Cross-polar isolation, port-to-port, dB[1]	25	25	25	25	25
Max VSWR / return loss, dB	1.5:1 / -14.0		1.5:1 / -14.0		
Max passive intermodulation (PIM), 2x20W carrier, dBc	-153		-153		
Max input power per any port, watts	300		250		
Total composite power all ports, watts	1500				

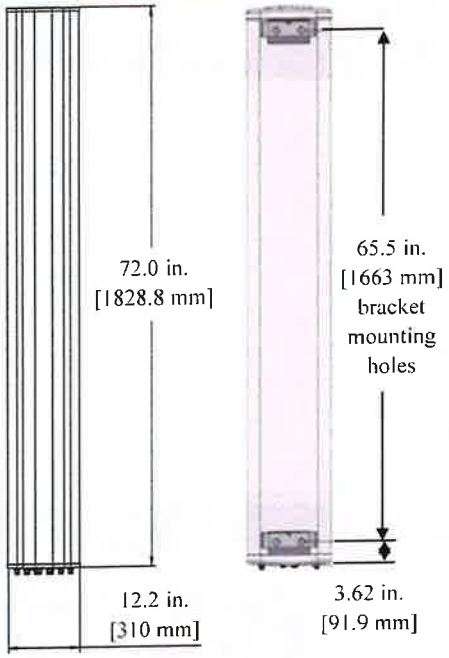
[1] Typical value over frequency and tilt

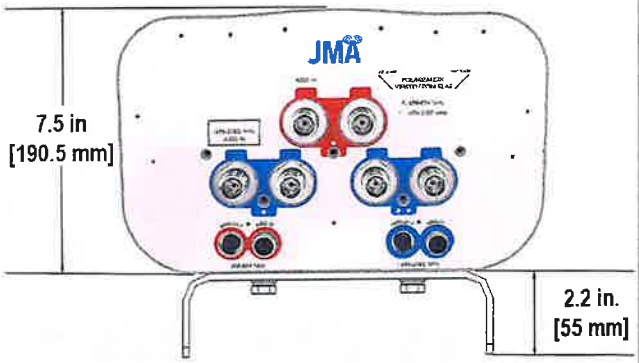
MX06FHG665-HG

NWAV™ X-Pol Hex-Port Antenna

Mechanical specifications	
Dimensions height/width/depth, inches (mm)	72.0/ 12.2/ 7.5 (1828.8/ 310/ 191)
Shipping dimensions length/width/height, inches (mm)	76/ 20/ 14.5 (1930/ 508/ 368)
No. of RF input ports, connector type, and location	6 x 4.3-10 female, bottom
RF connector torque	96 lbf·in (10.85 N·m or 8 lbf·ft)
Net antenna weight, lb (kg)	41 (18.6)
Shipping weight, lb (kg)	86 (39.0)
Antenna mounting and downtilt kit included with antenna	91900318
Net weight of the mounting and downtilt kit, lb (kg)	26 (11.82)
Range of mechanical up/down tilt	-2° to 12°
Rated wind survival speed, mph (km/h)	150 (241)
Frontal and lateral wind loading @ 150 km/h, lbf (N)	66.9 (292.6), 60.0 (266.9)
Equivalent flat plate @ 100 mph and Cd=2, sq ft	1.41
EPA frontal and lateral, ft^2, (m^2)	2.0 (0.28), 3.6 (0.33)

Front view | Back view | Bottom view





Ordering information	
Antenna model	**Description**
MX06FHG665-HG	6F X-Pol HEX FHG 65°, 0-12° / 0-9° RET, 4.3-10 & SBT
Optional accessories	
AISG cables	M/F cables for AISG connections
PCU-1000 RET controller	Stand-alone controller for RET control and configurations

MX06FHG665-HG

NWAV™ X-Pol Hex-Port Antenna

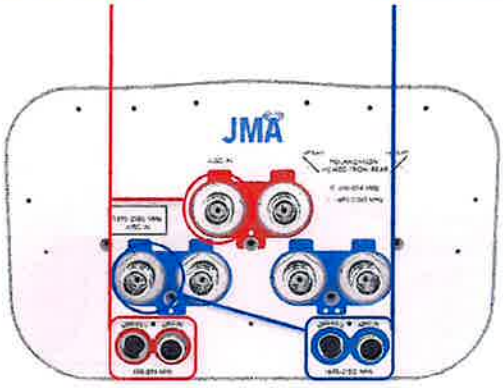
Remote electrical tilt (RET 1000) information	
RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9
RET connector torque	Min 0.5 N·m to max 1.0 N·m (hand pressure & finger tight)
RET interface connector quantity	2 pairs of AISG male/female connectors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

RET and RF connector topology

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

RET device	Band	RF port
R1	698-894	1-2

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

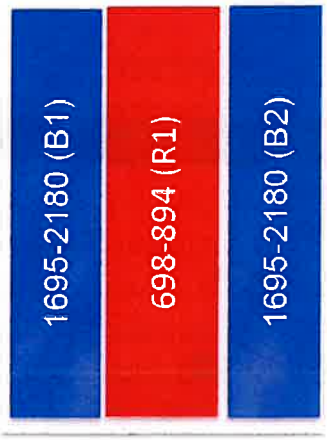


Array topology

3 sets of radiating arrays

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

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



MX06FHG865-HG

NWAV™ X-Pol Hex-Port Antenna

X-Pol Hex-Port 8 ft 65° Form in Tighter High Gain (FHG) with Smart Bias Ts, 698-2180 MHz:

2 ports 698-894 MHz and 4 ports 1695-2200 MHz

- Industry-leading high gain for MB and LB for extended cell coverage
- Excellent passive intermodulation (PIM) performance reduces harmful interference.
- Fully integrated (iRETs) with independent RET control for low and high bands for ease of network optimization
- Suitable for LTE/CDMA/PCS/UMTS/GSM air interface technologies
- Integrated Smart Bias-Ts reduce leasing costs
- Optimized width for reduced wind loading

nWAV

Electrical specification (minimum/maximum)	Ports 1, 2		Ports 3, 4, 5, 6		
Frequency bands, MHz	698-806	806-894	1695-1880	1850-1990	1920-2200
Polarization	±45°		±45°		
Max gain over all tilts, dBi	17.2	17.6	19.4	19.5	20.0
Average gain, dBi	17.1 ± 0.1	17.3 ± 0.3	19.3 ± 0.1	19.2 ± 0.3	19.7 ± 0.3
Horizontal beamwidth (HBW), degrees	67.0	65.0	63.0	63.0	62.0
Front-to-back ratio, co-polar power @180°± 30°, dB	>25.0	>25.0	>28.0	>26.0	>25.0
X-Pol discrimination (CPR) at boresight, dB	>20.0	>18.0	>25	>20	>18
Sector power ratio, percent[1]	<4.0	<3.6	<5.0	<3.8	<3.6
Vertical beamwidth (VBW), degrees[1]	9.3	8.4	5.0	4.9	4.5
Electrical downtilt (EDT) range, degrees	0-10		0-7		
First upper side lobe (USLS) suppression, dB[1]	≤-16.0	≤-15.0	≤-16.0	≤-16.0	≤-16.0
Cross-polar isolation, port-to-port, dB[1]	25	25	25	25	25
Max VSWR / return loss, dB	1.5:1 / -14.0		1.5:1 / -14.0		
Max passive intermodulation (PIM), 2x20W carrier, dBc	-153		-153		
Max input power per any port, watts	300		250		
Total composite power all ports, watts	1500				

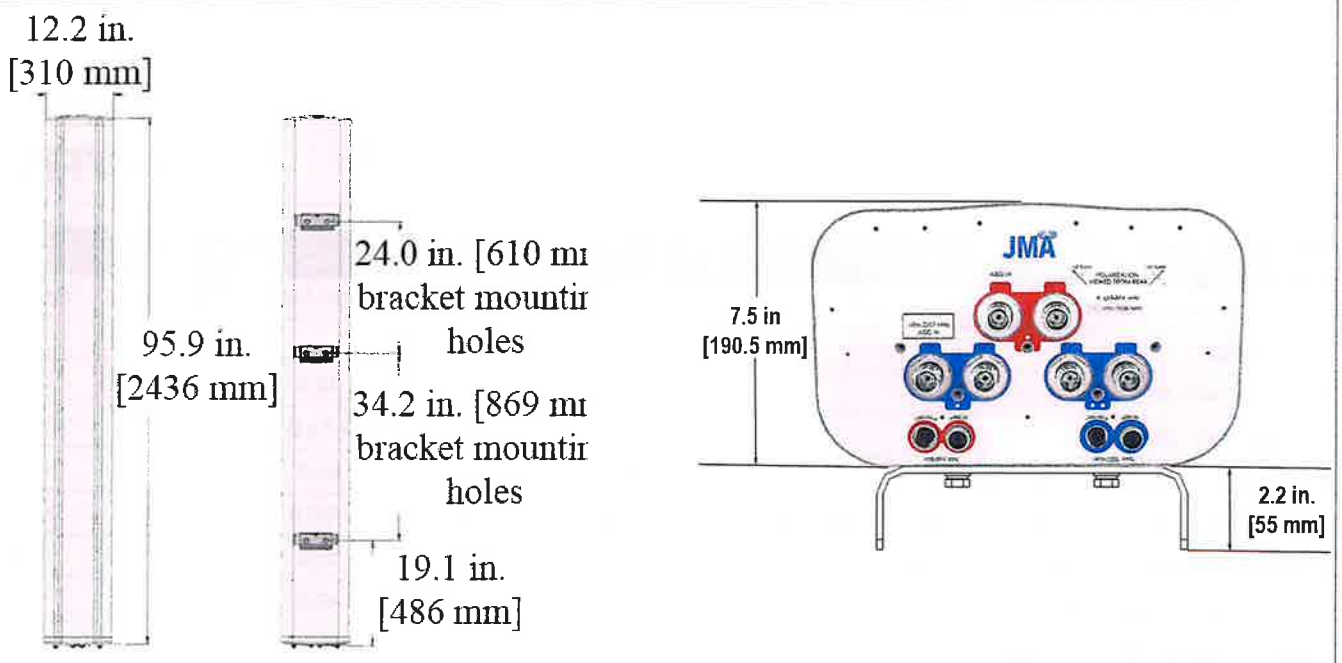
[1] Typical value over frequency and tilt

MX06FHG865-HG

NWAV™ X-Pol Hex-Port Antenna

Mechanical specifications	
Dimensions height/width/depth, inches (mm)	95.9/ 12.2/ 7.5 (2436/ 310/ 191)
Shipping dimensions length/width/height, inches (mm)	106/ 20/ 15 (2692/ 508/ 381)
No. of RF input ports, connector type, and location	6 x 4.3-10 female, bottom
RF connector torque	96 lbf·in (10.85 N·m or 8 lbf·ft)
Net antenna weight, lb (kg)	51 (23.1)
Shipping weight, lb (kg)	100 (45.3)
Antenna mounting and downtilt kit included with antenna	91900318, 91900319 (middle bracket)
Net weight of the mounting and downtilt kit, lb (kg)	26 (11.82)
Range of mechanical up/down tilt	-2° to 12°
Rated wind survival speed, mph (km/h)	150 (241)
Frontal and lateral wind loading @ 150 km/h, lbf (N)	90.5 (402.6), 81.2 (361.2)
Equivalent flat plate @ 100 mph and Cd=2, sq ft	2.27
EPA frontal and lateral, ft^2, (m^2)	4.1 (0.38), 2.2 (0.20)

Front view | Back view | Bottom view



Ordering information	
Antenna model	**Description**
MX06FHG865-HG	8F X-Pol HEX FHG 65°, 0-10° / 0-7° RET, 4.3-10 & SBT
Optional accessories	
AISG cables	M/F cables for AISG connections
PCU-1000 RET controller	Stand-alone controller for RET control and configurations

MX06FHG865-HG

NWAV™ X-Pol Hex-Port Antenna

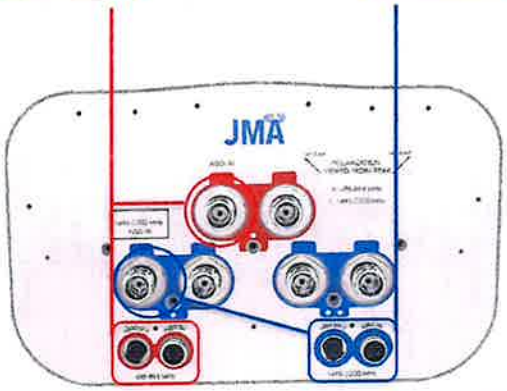
Remote electrical tilt (RET 1000) information	
RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9
RET connector torque	Min 0.5 N·m to max 1.0 N·m (hand pressure & finger tight)
RET interface connector quantity	2 pairs of AISG male/female connectors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

RET and RF connector topology

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

RET device	Band	RF port
R1	698-894	1-2

RET device	Band	RF port
B1/B2	1695-2200	3-6

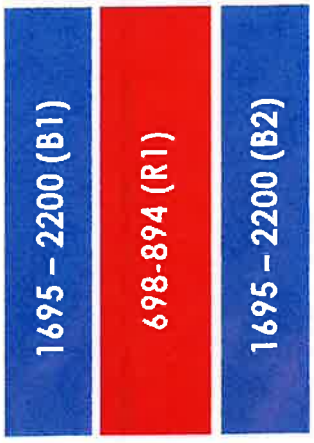


Array topology

3 sets of radiating arrays

R1: 698-894 MHz
B1: 1695-2200 MHz
B2: 1695-2200 MHz

Band	RF port
1695-2200	3-4
698-894	1-2
1695-2200	5-6



C-band 64T64R

SAMSUNG

Gen 2

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

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

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

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

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

SAMSUNG

Specifications

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

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

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

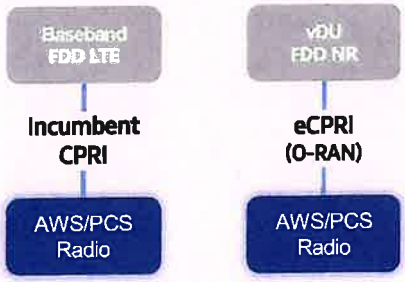
Homepage
samsungnetworks.com

Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

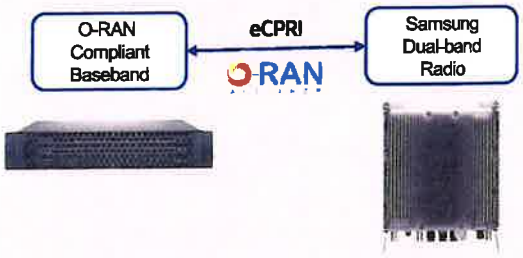
Samsung's AWS/PCS macro radio can support each incumbent CPRI interface as well as advanced eCPRI interfaces. This feature provides installable options for both legacy LTE networks and added NR networks.



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.

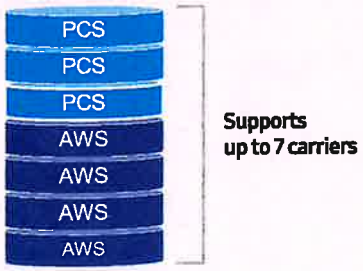
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



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

ATTACHMENT 3

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

Calculated Radio Frequency Emissions Report

Weston North

237 Godfrey Road, Weston, CT

April 3, 2024

Table of Contents

List of Figures

List of Tables

1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modification of Verizon's antenna arrays mounted at 162' on an existing monopole tower located at 237 Godfrey Road, Weston, CT. The coordinates of the tower are 41° 14' 31.189" N, 73° 21' 51.520" W.

Verizon is proposing the following:

1) Install twelve (12) multi-band antennas, four (4) per sector to support its commercial LTE and 5G network.

This report considers the planned antenna configuration for Verizon[1] to derive the resulting % MPE of its proposed modification.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

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

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

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

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

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

[1] As referenced to Verizon's Radio Frequency Design Sheet updated 11/28/2023.

3. RF Exposure Prediction Methods

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

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

Where:

EIRP = Effective Isotropic Radiated Power

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

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Off Beam Loss is determined by the selected antenna patterns

Ground reflection factor (GRF) of 1.6

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

4. Antenna Inventory

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

Operator	Sector / Azimuth	TX Freq (MHz)	Power at Antenna (Watts)	Ant Gain (dBi)	Power EIRP (Watts)	Antenna Model	Beam Width	Mech Tilt	Length (ft)	Antenna Centerline Height (ft)
Verizon	Alpha / 110°	750	160	14.75	4776	MX06FHG865-HG	67	0	8	162
		850	160	15.15	5237		65			
		1900	160	16.25	6747		63			
		2100	240	17.35	13038		65			
		750	160	16.1	6518	BXA-70063-6CF	67	0	6	162
		850	160	15.6	5809		65			
		3700	320	25.5	113540	MT6413-77A	-	0	3.42	162
	Beta / 110°	750	160	14.75	4776	MX06FHG865-HG	67	0	8	162
		850	160	15.15	5237		65			
		1900	160	16.25	6747		63			
		2100	240	17.35	13038		65			
		750	160	16.1	6518	BXA-70063-6CF	67	0	6	162
		850	160	15.6	5809		65			
		3700	320	25.5	113540	MT6413-77A	-	0	3.42	162
	Gamma	750	160	14.75	4776	MX06FHG865-HG	67	0	8	162
		850	160	15.15	5237		65			
		1900	160	16.25	6747		63			
		2100	240	17.35	13038		65			
		750	160	16.1	6518	BXA-70063-6CF	67	0	6	162
		850	160	15.6	5809		65			
		3700	320	25.5	113540	MT6413-77A	-	0	3.42	162

Table 1: Proposed Antenna Inventory[2][3]

[2] Antenna heights are in reference to Verizon's Radio Frequency Design Sheet updated 12/01/2023.

[3] 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.

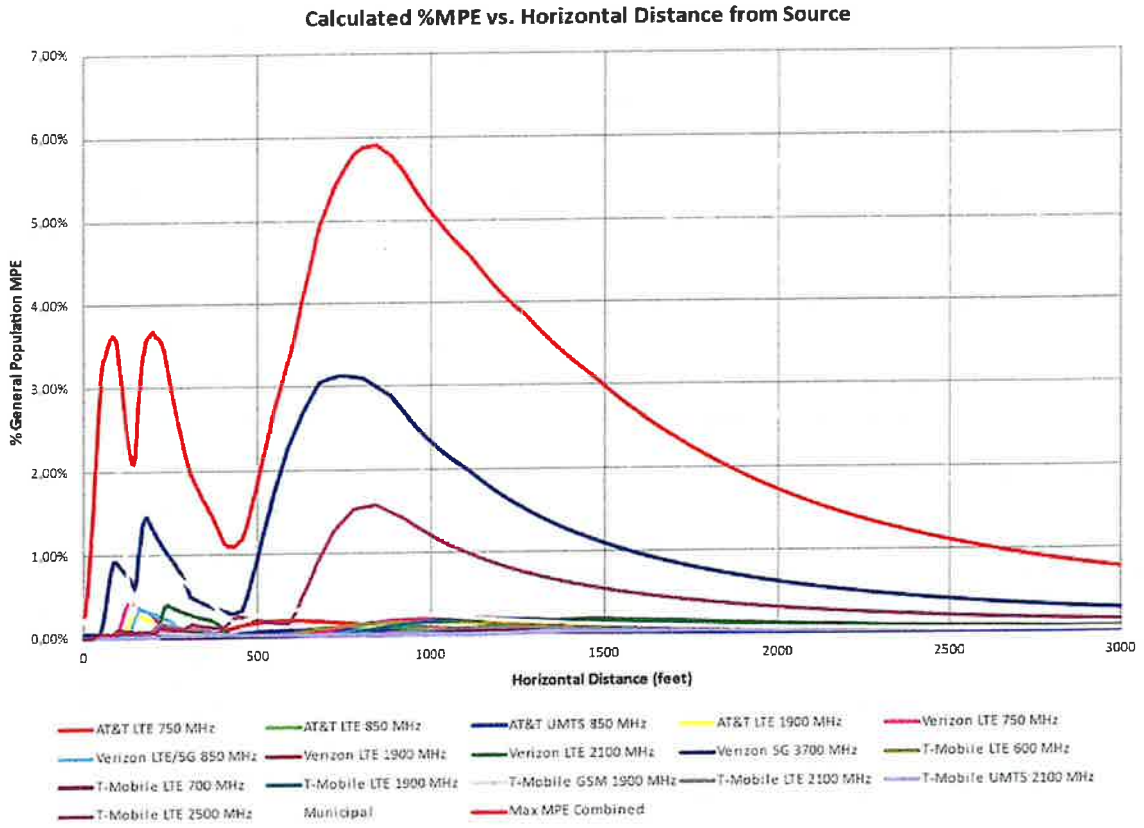


Figure 1: Graph of General Population % MPE vs. Distance

The highest percent of MPE (5.91% of the General Population limit) is calculated to occur at a horizontal distance of 842 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 842 feet from the site (reference Figure 1).

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

Carrier	Number of Transmitters	Power out of Base Station Per Transmitter (Watts)	Antenna Height (Feet)	Distance to the Base of Antennas (Feet)	Power Density (mW/cm^2)	Limit (mW/cm^2)	% MPE
AT&T LTE 1900 MHz	1	160.0	151.0	842	0.001094	1.000	0.11%
AT&T LTE 750 MHz	1	80.0	151.0	842	0.000661	0.500	0.13%
AT&T LTE 850 MHz	1	80.0	151.0	842	0.000545	0.567	0.10%
AT&T UMTS 850 MHz	1	60.0	151.0	842	0.000363	0.567	0.06%
Municipal	6	100.0	140.0	842	0.000904	0.300	0.30%
T-Mobile GSM 1900 MHz	1	120.0	185.0	842	0.000262	1.000	0.03%
T-Mobile LTE 1900 MHz	1	240.0	185.0	842	0.000893	1.000	0.09%
T-Mobile LTE 2100 MHz	1	120.0	185.0	842	0.000251	1.000	0.03%
T-Mobile LTE 2500 MHz	1	160.0	185.0	842	0.015745	1.000	1.57%
T-Mobile LTE 600 MHz	1	140.0	185.0	842	0.000622	0.400	0.16%
T-Mobile LTE 700 MHz	1	60.0	185.0	842	0.000206	0.467	0.04%
T-Mobile UMTS 2100 MHz	1	60.0	185.0	842	0.000123	1.000	0.01%
Verizon 5G 3700 MHz	1	320.0	162.0	842	0.029926	1.000	2.99%
Verizon LTE 1900 MHz	1	160.0	162.0	842	0.000095	1.000	0.01%
Verizon LTE 2100 MHz	1	240.0	162.0	842	0.000116	1.000	0.01%
Verizon LTE 750 MHz	1	160.0	162.0	842	0.000823	0.500	0.16%
Verizon LTE/5G 850 MHz	1	160.0	162.0	842	0.000551	0.567	0.10%
						Total	**5.91%**

Table 2: Maximum Percent of General Population Exposure Values[4,5,6]

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

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

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

6. Conclusion

The above analysis verifies that RF exposure levels from the site with Verizon's proposed antenna configuration will be well below the maximum permissible levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using the conservative calculation methods and parameters detailed above, the maximum cumulative percent of MPE in consideration of all transmitters is calculated to be **5.91 %** of the FCC limit (General Population/Uncontrolled). This maximum cumulative percent of MPE value is calculated to occur 842 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.

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

April 3, 2024
Date

Attachment A: References

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

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

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

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

(A) Limits for Occupational/Controlled Exposure[7]

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

(B) Limits for General Population/Uncontrolled Exposure[8]

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.

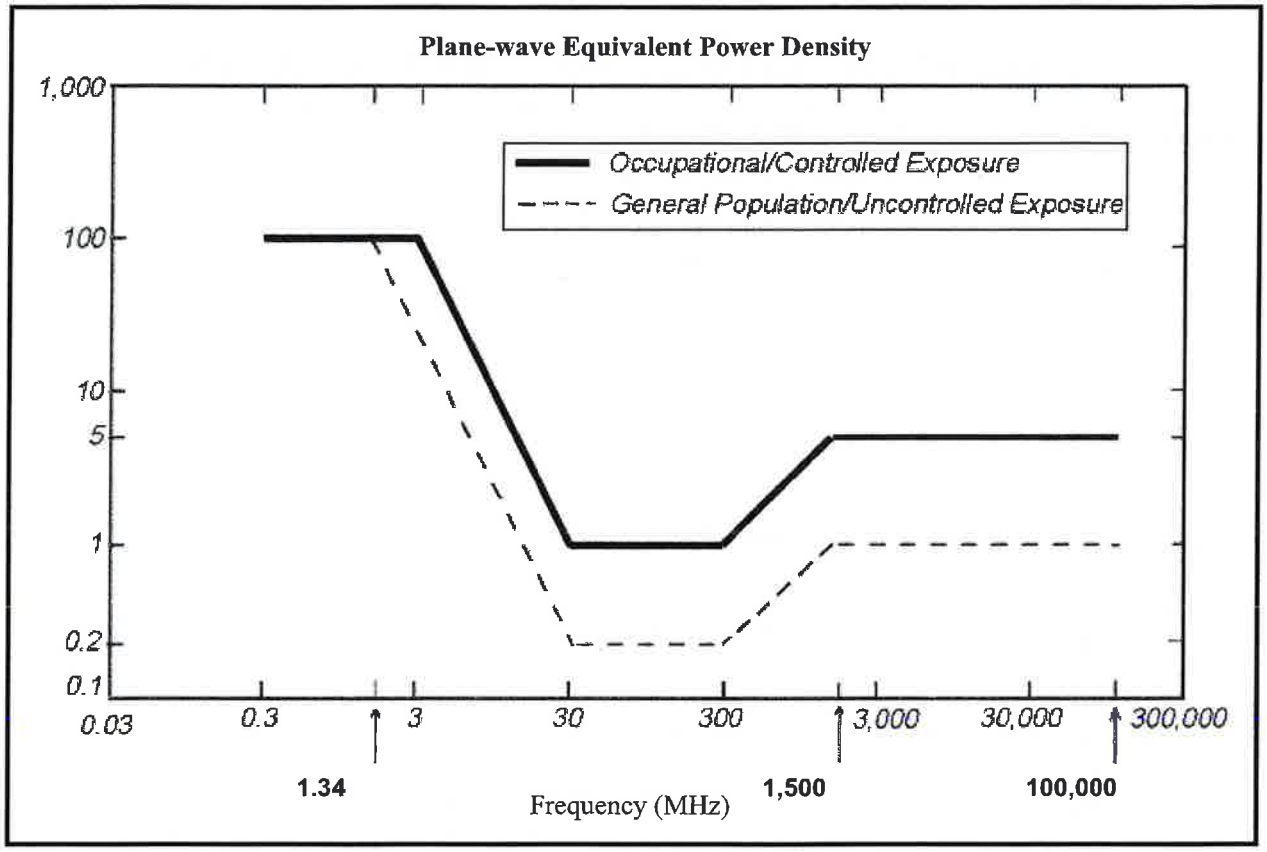
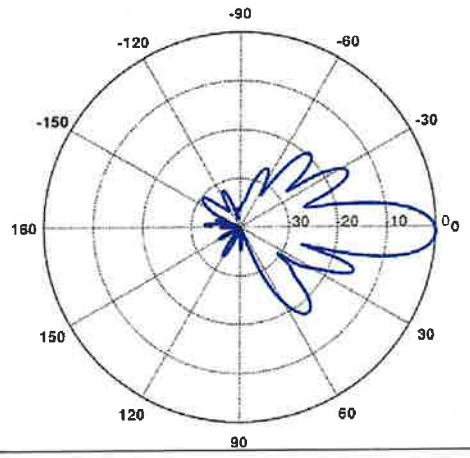


Figure 2: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: Verizon Antenna Model Data Sheets and Electrical Patterns

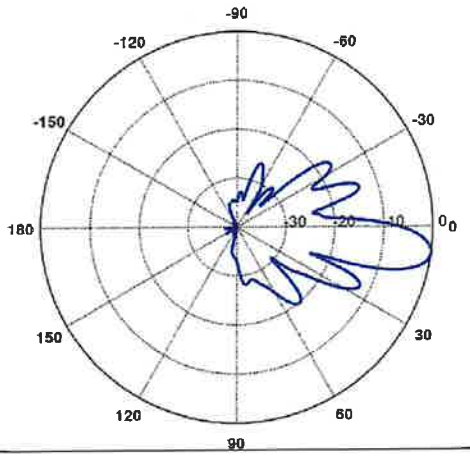
750 MHz

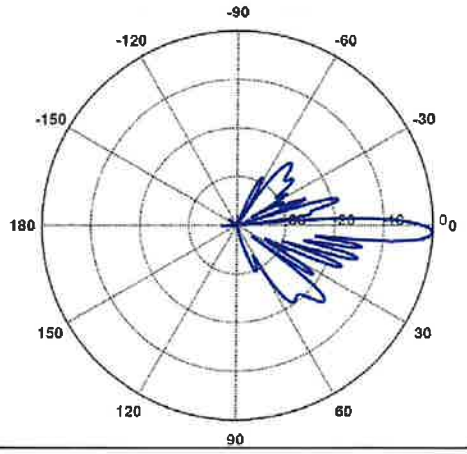
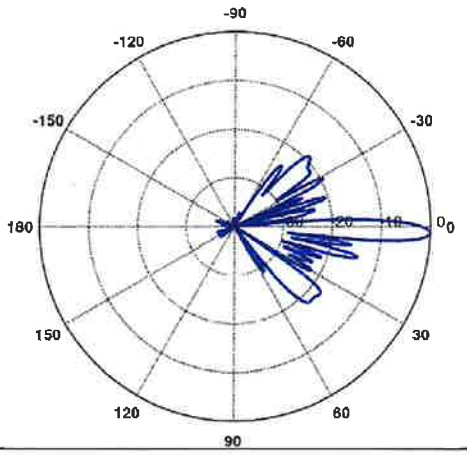
Manufacturer:	COMMSCOPE
Model #:	JAHH-65B-R3B
Frequency Band:	698-787 MHz
Gain:	14.5 dBi
Vertical Beamwidth:	12.4°
Horizontal Beamwidth:	67°
Polarization:	±45°
Dimensions (L x W x D):	71.96" x 13.78" x 8.2"



850 MHz

Manufacturer:	COMMSCOPE
Model #:	JAHH-65B-R3B
Frequency Band:	824-894 MHz
Gain:	15.8 dBi
Vertical Beamwidth:	5.7°
Horizontal Beamwidth:	65°
Polarization:	±45°
Dimensions (L x W x D):	71.96" x 13.78" x 8.2"



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: ±45° Dimensions (L x W x D): 71.96" 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: ±45° Dimensions (L x W x D): 71.96" x 13.78" x 8.2"	

ATTACHMENT 4

CENTERLINE

Revised Passing With Modification Structural Analysis Report

Location Code: 468022
Site Name: Weston Noth CT
FUZE Project ID: 17123714
Project Name: L-SUB6-CARRIER ADD
Address: 237 Godfrey Road
Weston, CT 06883

Client:

verizon

20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

Date: 2/12/2024 Rev. 7
1/5/2024 Rev. 6
11/27/2023 Rev. 5
9/15/2022 Rev. 4
7/26/2022 Rev. 3
4/26/2022 Rev. 2
3/14/2022 Rev. 1
1/25/2022 Rev. 0

STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED
PROFESSIONAL ENGINEER

Sufficient Capacity – 80.8%

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750 W Center St, Suite 301
West Bridgewater, MA 02379
781-713-4725

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Scope of Work:

Centerline Communications was authorized by Verizon Wireless to perform an analysis of the existing 185 ft. self-support tower to determine its capacity to support the existing and proposed equipment listed in this report.

Existing & Proposed Equipment:

Carrier	Mounting Level (ft)	Center Line Elevation (ft)	Number of Appurtenances	Antenna Manufacturer	Appurtenance Model	Feed Lines (in)
Municipal	185.0	185.0	1	-	DB636-A Antenna	(1) 7/8" Coax
			2	-	DB222 Antenna	(2) 7/8" Coax
T-Mobile	185.0	185.0	3	Ericsson	AIR 6449 Antenna	(10) 1-5/8" Coax (3) 1-5/8" Hybrid
			3	Ericsson	AIR 32 Antenna	
			3	RFS	APVXAARR24-43 Antenna	
			6	-	RRU	
			3	-	TMA	
			3	-	Diplexer	
			3	-	T-Frame Mounts	
Sprint	174.0	174.0	3	RFS	APXV9TH14-ALU-120 Antenna	(4) 1-1/4" Hybrid
			3	RFS	APXVSSP18-C-A-20 Antenna	
			3	-	800 Mhz RRH	
			3	-	1900 Mhz RRH	
			3	Alcatel-Lucent	TD-RRH8x20 RRH	
			3	-	T-Frame Mounts	
Verizon Wireless	162.0	162.0	**3**	**Samsung**	**MT6413-77A w/ RRH**	(1) 6x12 Hybrid **(1) 6x12 Hybrid**
			2	**JMA**	**MX06FHG865-HG w/ 2" Edge-to-Edge**	
			4	**MA**	**MX06FHG665-HG w/ 2" Edge-to-Edge**	
			3	**Samsung**	**B2/B66 RRH ORAN (RF4439D-25A)**	
			3	**Samsung**	**RF4461D-13A**	
			1	**RFS**	**DB-B1-6C-12AB-0Z**	
			1	RFS	DB-B1-6C-12AB-0Z	
			3	**Perfect Vision**	**PV-SRF-GS12-25-AP1**	

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Carrier	Mounting Level (ft)	Center Line Elevation (ft)	Number of Appurtenances	Antenna Manufacturer	Appurtenance Model	Feed Lines (in)
AT&T	151.0	151.0	3	Powerwave	7770 Antenna	(12) 1-5/8" Coax (1) 3" Flex Conduit
			3	CCI	HPA65R-BU6A Antenna	
			3	Powerwave	P65-16-XLH-RR Antenna	
			1	Raycap	DC6-48-60-18-8F	
			6	-	RRH	
			6	Powerwave	LGP21401 TMAs	
			3	Powerwave	TT19-08BP111 TMA	
			3	-	T-Frame Mounts	
Municipal	148.0	148.0	4	-	6' Omni Antenna	(4) 7/8" Coax
	145.0	145.0	4	-	6' Standoff Mount	
	141.0	141.0	4	-	8' Dipole	
Sprint / Nextel	138.0	138.0	1	-	3' Dish	(1) 1/2" Coax
			1	-	2' Standoff Mount	

*Note: Proposed equipment shown in **bold**.*

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Design Criteria:

Design Codes:
2022 Connecticut State Building Code
2021 International Building Code
ASCE 7-16
TIA-222-H Standards

Basic Design Wind Speed (V)	120 mph
Wind Speed with Ice	50 mph
Ice Thickness	1.00 in.
Exposure Category	B
Topographic Category	1
Risk Category	II
Site Soil Class (Assumed)	D – Stiff Soil
Seismic Design Category	B
Spectral Response Acceleration Parameter at a Short Periods, S_S	0.233 g
Spectral Response Acceleration Parameter at a Period of 1 Second, S_1	0.056 g
Short Period Site Coefficient, F_a	1.60
Long Period Site Coefficient, F_v	2.40

***Refer to calculations for additional design criteria.**

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Conclusion:

Tower Section Capacity (Summary)

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	185 - 180	Leg	P2x.154	3	-2.76	31.62	9.2	Pass
T2	180 - 160	Leg	P2.5x.203	13	-33.81	57.19	59.1	Pass
T3	160 - 140	Leg	Sabre 2.875"x0.375"	43	-75.86	95.23	79.7	Pass
T4	140 - 120	Leg	P3.5x.318 (4.00 OD)	73	-112.11	158.89	70.6	Pass
T5	120 - 100	Leg	Pipe 5 Std (5.563"ODx0.258")	112	-142.76	186.76	76.4	Pass
T6	100 - 80	Leg	Pipe 5 XStr (5.563"ODx0.375")	142	-173.50	239.39	72.5	Pass
T7	80 - 60	Leg	Pipe 5 XStr (5.563"ODx0.375")	163	-203.17	272.66	74.5	Pass
T8	60 - 40	Leg	HSS5x0.500	283	-230.46	285.12	80.8	Pass
T9	40 - 20	Leg	P8x.322	304	-257.79	365.96	70.4	Pass
T10	20 - 0	Leg	P8x.322	325	-286.11	375.09	76.3	Pass
T1	185 - 180	Diagonal	L2x2x1/8	7	-2.30	11.29	20.3 45.2 (b)	Pass
T2	180 - 160	Diagonal	L2x2x3/16	19	-4.96	16.96	29.3 70.0 (b)	Pass
T3	160 - 140	Diagonal	L2x2x3/16	54	-5.44	13.20	41.3 78.7 (b)	Pass
T4	140 - 120	Diagonal	L2x2x3/16	81	-5.30	9.30	57.0 78.3 (b)	Pass
T5	120 - 100	Diagonal	L2 1/2x2 1/2x3/16	120	-5.91	11.83	49.9 73.4 (b)	Pass
T6	100 - 80	Diagonal	L2 1/2x2 1/2x3/16	150	-5.86	9.06	64.7 72.4 (b)	Pass
T7	80 - 60	Diagonal	L3x3x3/16	223	-8.12	24.69	32.9 75.2 (b)	Pass
T8	60 - 40	Diagonal	L3x3x1/4	288	-7.63	10.97	69.5	Pass
T9	40 - 20	Diagonal	L3-1/2x3-1/2x1/4	309	-9.39	15.38	61.1 64.4 (b)	Pass
T10	20 - 0	Diagonal	L3-1/2x3-1/2x1/4	375	-11.03	34.26	32.2 73.9 (b)	Pass
T7	80 - 60	Horizontal	L3x3x3/8	166	-3.52	17.33	20.3	Pass
T10	20 - 0	Horizontal	L3 1/2x3 1/2x1/2	328	-4.96	18.55	26.7	Pass
T4	140 - 120	Secondary Horizontal	L2x2x1/4	82	-1.94	16.66	11.7	Pass
T5	120 - 100	Secondary Horizontal	L2 1/2x2 1/2x3/8	121	-2.48	32.03	7.7	Pass
T8	60 - 40	Secondary Horizontal	L3x3x7/16	292	-4.00	29.26	13.7	Pass
T9	40 - 20	Secondary Horizontal	L3x3x1/2	313	-4.47	27.99	16.0	Pass
T1	185 - 180	Top Girt	L2x2x1/8	5	-0.46	7.31	6.3 13.7 (b)	Pass
T2	180 - 160	Top Girt	L2x2x1/8	16	-0.59	7.44	7.9 12.9 (b)	Pass
T3	160 - 140	Top Girt	L2x2x1/8	46	-1.32	7.44	17.7	Pass

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							28.9 (b)	
T7	80 - 60	Redund Horz 1 Bracing	L3x3x1/2	203	-4.48	70.73	6.3	Pass
T10	20 - 0	Redund Horz 1 Bracing	L3x3x1/2	365	-6.16	62.04	9.9	Pass
T7	80 - 60	Redund Diag 1 Bracing	L3x3x1/2	243	-3.00	69.12	4.3	Pass
T10	20 - 0	Redund Diag 1 Bracing	L3x3x1/2	366	-4.35	57.39	7.6	Pass
							Summary	
						Leg (T8)	80.8	Pass
						Diagonal (T3)	78.7	Pass
						Horizontal (T10)	26.7	Pass
						Secondary Horizontal (T9)	16.0	Pass
						Top Girt (T3)	28.9	Pass
						Redund Horz 1 Bracing (T10)	9.9	Pass
						Redund Diag 1 Bracing (T10)	7.6	Pass
						Bolt Checks	78.7	Pass
						RATING =	**80.8**	**Pass**

Structure Rating (Max From All Components) =	**80.8%**

Foundation Capacity (Summary)

Component	*% Capacity*	*Pass Fail*
Foundation – Soil Rating	45.8	Pass
Foundation – Structural Rating	69.9	Pass

Foundation Rating (Max From All Components) =	**69.9%**

Recommendations:

The existing tower and its foundation have sufficient capacity to support the existing and proposed loading for the final loading configuration upon completion of modifications. Centerline Communications recommends the following:

- Replace the existing diagonals from 140'-180' with new L2x2x3/16 diagonals and new 5/8" A325 hardware.

Reference Documents:

- Structural Modification Report by Centerline, dated February 12, 2024
- Construction Drawings by Centerline, dated February 12, 2024
- Structural Analysis Report by AECOM, dated April 22, 2021
- Mount Analysis Report by Colliers Engineering & Design, dated December 26, 2023

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Assumptions and Limitations:

- The tower and structures were built and maintained with the manufacturer's specifications.
- The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in this report and the referenced drawings.
- Existing appurtenance information obtained from the Structural Analysis Report by Centerline, dated January 05, 2024 and the Construction Drawings by Centerline, dated January 23, 2024.
- Modifications designed by Centerline, dated February 12, 2024 are assumed to have been considered for the purpose of this analysis.

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Design Calculations

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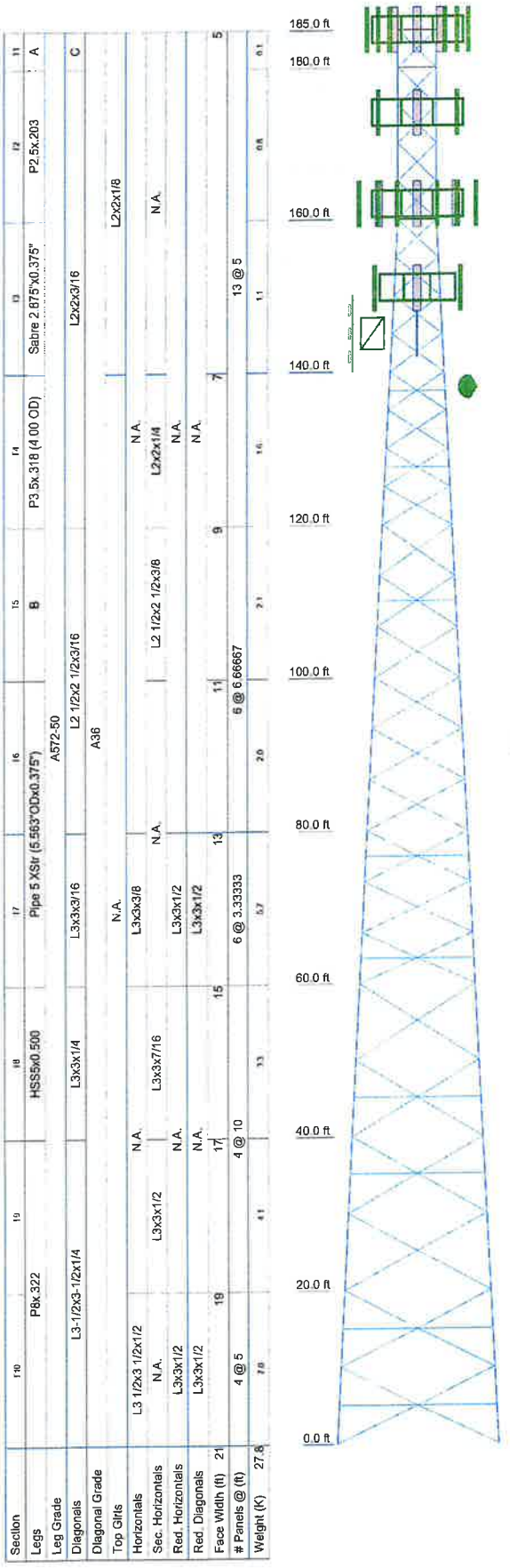

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
DB636-A	185	(2) MX06FHG665-HG	162
DB222	185	B2/B66 RRH ORAN (RF4439D-25A)	162
DB222	185	B2/B66 RRH ORAN (RF4439D-25A)	162
PIROD 12' Lightweight T-Frame	185	B2/B66 RRH ORAN (RF4439D-25A)	162
PIROD 12' Lightweight T-Frame	185	RF4461D-13A	162
PIROD 12' Lightweight T-Frame	185	RF4461D-13A	162
AIR 6449 B77D	185	RF4461D-13A	162
AIR 6449 B77D	185	DB-C1-12C-24AB-0Z	162
AIR 6449 B77D	185	DB-C1-12C-24AB-0Z	162
AIR 32 B2a/B66Aa	185	(4) 8' x 2" Mount Pipe	162
AIR 32 B2a/B66Aa	185	(4) 8' x 2" Mount Pipe	162
AIR 32 B2a/B66Aa	185	(4) 8' x 2" Mount Pipe	162
APXVAARR24_43-U-NA20	185	PV-SRF-GS12-25-AP1	162
APXVAARR24_43-U-NA20	185	PV-SRF-GS12-25-AP1	162
APXVAARR24_43-U-NA20	185	PV-SRF-GS12-25-AP1	162
(2) RRUS 11	185	2" Edge to Edge	162
(2) RRUS 11	185	2" Edge to Edge	162
(2) RRUS 11	185	2" Edge to Edge	162
Generic TMA	185	(2) LGP214nn	151
Generic TMA	185	(2) LGP214nn	151
Generic TMA	185	(2) LGP214nn	151
SDX1926Q-43	185	7770.00	151
SDX1926Q-43	185	7770.00	151
SDX1926Q-43	185	7770.00	151
PIROD 12' Lightweight T-Frame	174	HPA65R-BU6A	151
PIROD 12' Lightweight T-Frame	174	HPA65R-BU6A	151
PIROD 12' Lightweight T-Frame	174	HPA65R-BU6A	151
APXVSPP18-C-A20 w/ Mount Pipe	174	P65-16-XLH-RR	151
APXVSPP18-C-A20 w/ Mount Pipe	174	P65-16-XLH-RR	151
APXVSPP18-C-A20 w/ Mount Pipe	174	P65-16-XLH-RR	151
APXVTM14-ALU-I20	174	20"x15"x10" Surge Protector	151
APXVTM14-ALU-I20	174	(2) RRU	151
APXVTM14-ALU-I20	174	(2) RRU	151
1900MHz RRH (65MHz) w/Mount pipe	174	(2) RRU	151
1900MHz RRH (65MHz) w/Mount pipe	174	10' Sector Frame	151
1900MHz RRH (65MHz) w/Mount pipe	174	10' Sector Frame	151
TME-800MHZ RRH W/ MOUNT PIPE	174	10' Sector Frame	151
TME-800MHZ RRH W/ MOUNT PIPE	174	6' Side Arm Mount	145
TME-800MHZ RRH W/ MOUNT PIPE	174	(2) 6' x 2" Omni	145
RRU	174	(2) 6' x 2" Omni	145
RRU	174	(2) 8' Dipole	145
RRU	174	(2) 8' Dipole	145
MT6413-77A	162	6' Side Arm Mount	145
MT6413-77A	162	6' Side Arm Mount	145
MT6413-77A	162	6' Side Arm Mount	145
(2) MX06FHG865-HG	162	3' Dish	138
(2) MX06FHG665-HG	162		

ALL REACT
ARE FACT

MAX. CORI
DOWN:
SHEAR:

UPLIFT:
SHEAR:

AXIAL
107 K

SHEAR
12 K

TORQUE 5 kip
50 mph WIND - 1.

AXIAL
58 K

SHEAR
47 K

MOMENT
5007 kip-ft

TORQUE 21 kip-ft
REACTIONS - 120 mph WIND

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	P2x.154	C	L2x2x1/8
B	Pipe 5 Std (5.563"ODx0.258")		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower designed for Exposure B to the TIA-222-H Standard.
2. Tower designed for a 120 mph basic wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 80.8%

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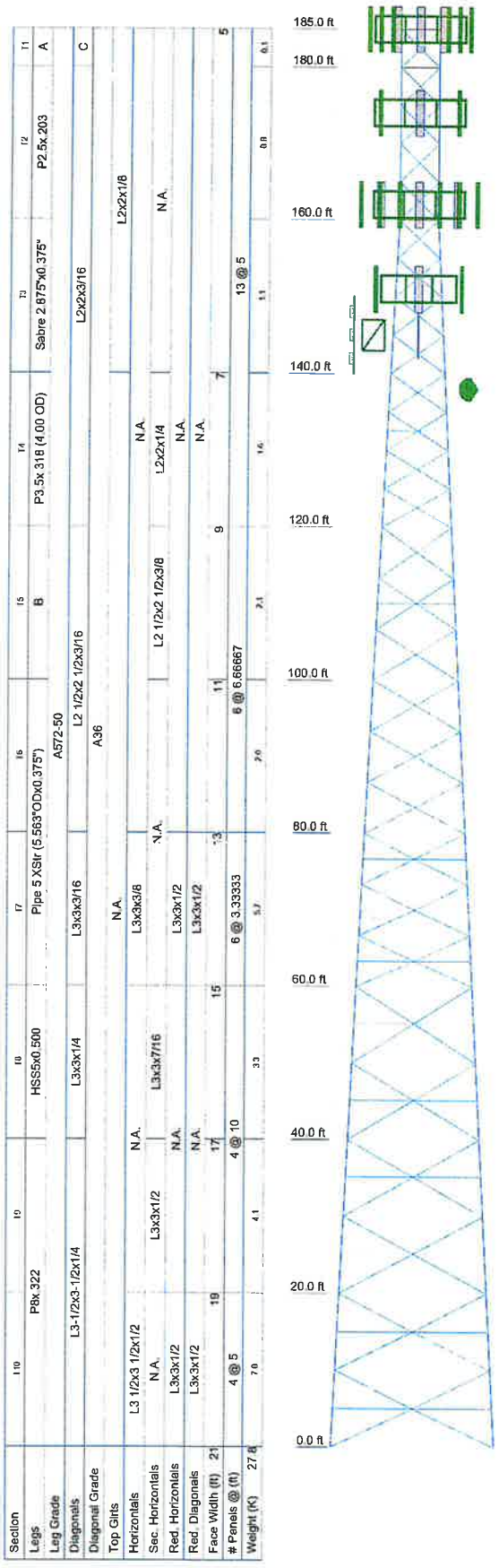
West Bridgewater, MA 02379
Phone: (781) 713-4725
FAX:

Job: **Weston North CT**			
Project: **RF Filter Add**			
Client: Verizon Wireless	Drawn by: jboegel	App'd:	
Code: TIA-222-H	Date: 02/12/24	Scale: NTS	
Path:		Dwg No. E-1	



SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	P2x.154	C	L2x2x1/8
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MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower designed for Exposure B to the TIA-222-H Standard.
2. Tower designed for a 120 mph basic wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. Seismic calculations are in accordance with TIA-222-H.
8. Seismic loads do not control this analysis.
9. TOWER RATING: 80.8%

△

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 295 K
SHEAR: 31 K

UPLIFT: -249 K
SHEAR: 26 K

AXIAL 61 K
SHEAR 2 K *MOMENT 297 kip-ft*
TORQUE 0 kip-ft
SEISMIC

AXIAL 107 K
SHEAR 12 K *MOMENT 1327 kip-ft*
TORQUE 5 kip-ft
50 mph WIND - 1.0000 in ICE

AXIAL 58 K
SHEAR 47 K *MOMENT 5007 kip-ft*
TORQUE 21 kip-ft
REACTIONS - 120 mph WIND

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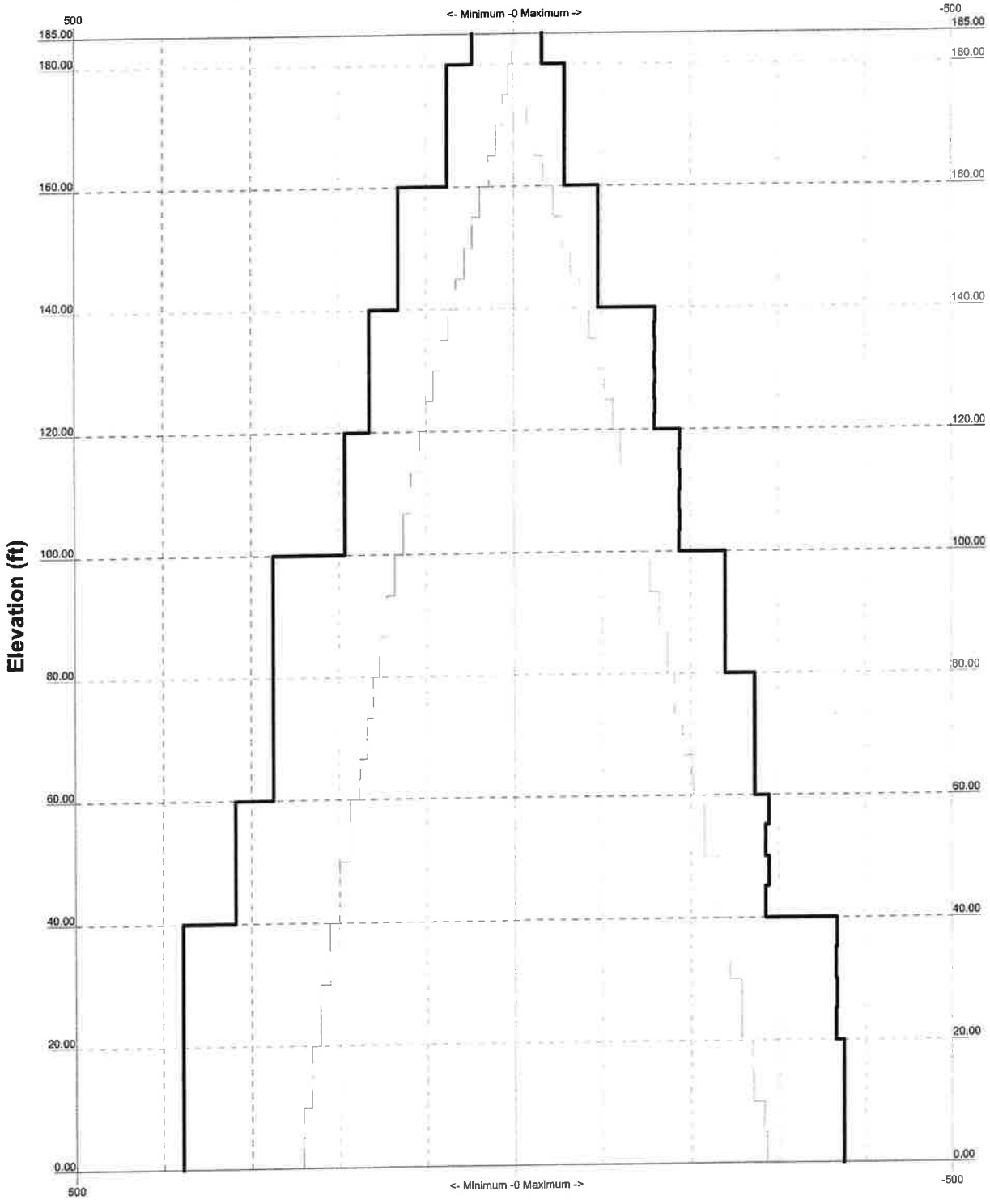
FAX:

Job: **Weston North CT**			
Project: ***RF Filter Add***			
Client: Verizon Wireless	Drawn by: jboegel	App'd.	
Code: TIA-222-H	Date: 02/12/24	Scale: NTS	
Path: C:\Users\jboegel\Desktop\Allied\Weston North CT CD\Seismic 3.2E Wind And Seismic Analysis.er		Dwg No. E-1	

TIA-222-H - 120 mph/50 mph 1.0000 in Ice Exposure B

Leg Capacity ——— **Leg Compression (K)**



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FAX:

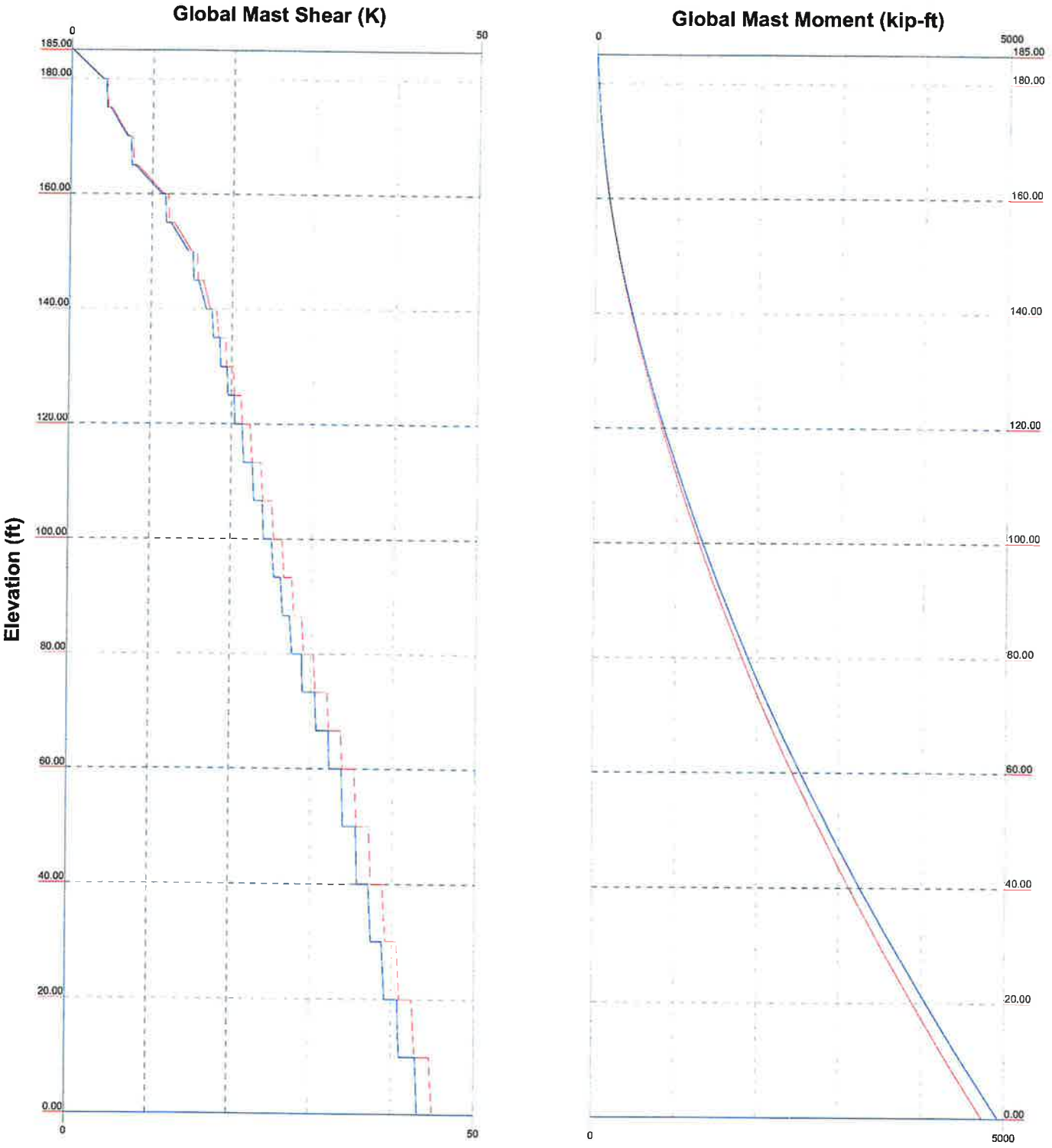
Job: **Weston North CT**			
Project: ***RF Filter Add***			
Client: Verizon Wireless	Drawn by: jboegel	App'd:	
Code: TIA-222-H	Date: 02/12/24	Scale: NTS	
Path:		Dwg No. E-3	

TIA-222-H - 120 mph/50 mph 1.0000 in Ice Exposure B

Vx Vz

Maximum Values

Mx Mz



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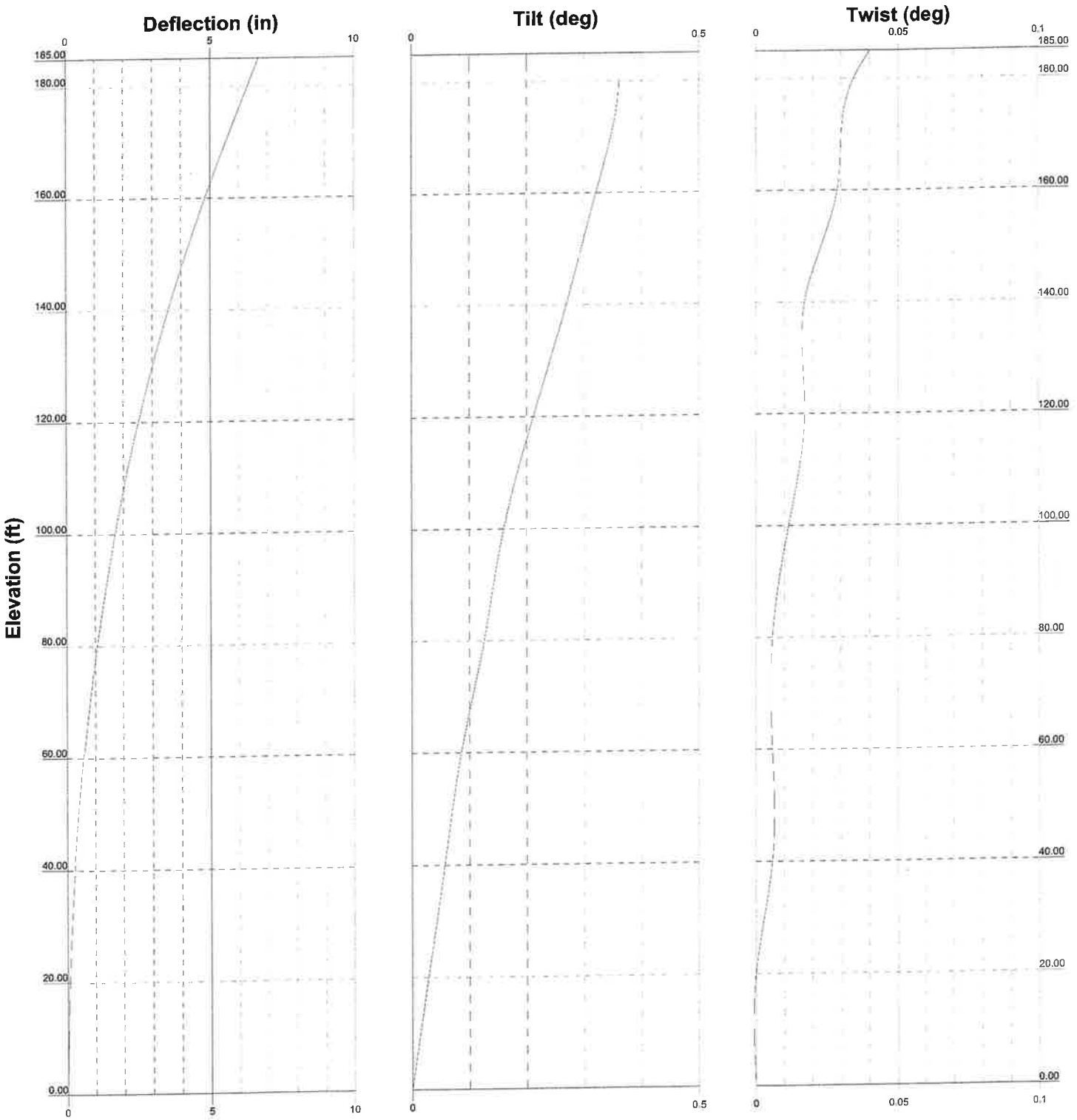
Job: **Weston North CT**			
Project: ***RF Filter Add***			
Client: Verizon Wireless	Drawn by: jboegel	App'd:	
Code: TIA-222-H	Date: 02/12/24	Scale: NTS	
Path:		Dwg No. E-4	

TIA-222-H - Service - 60 mph

Maximum Values



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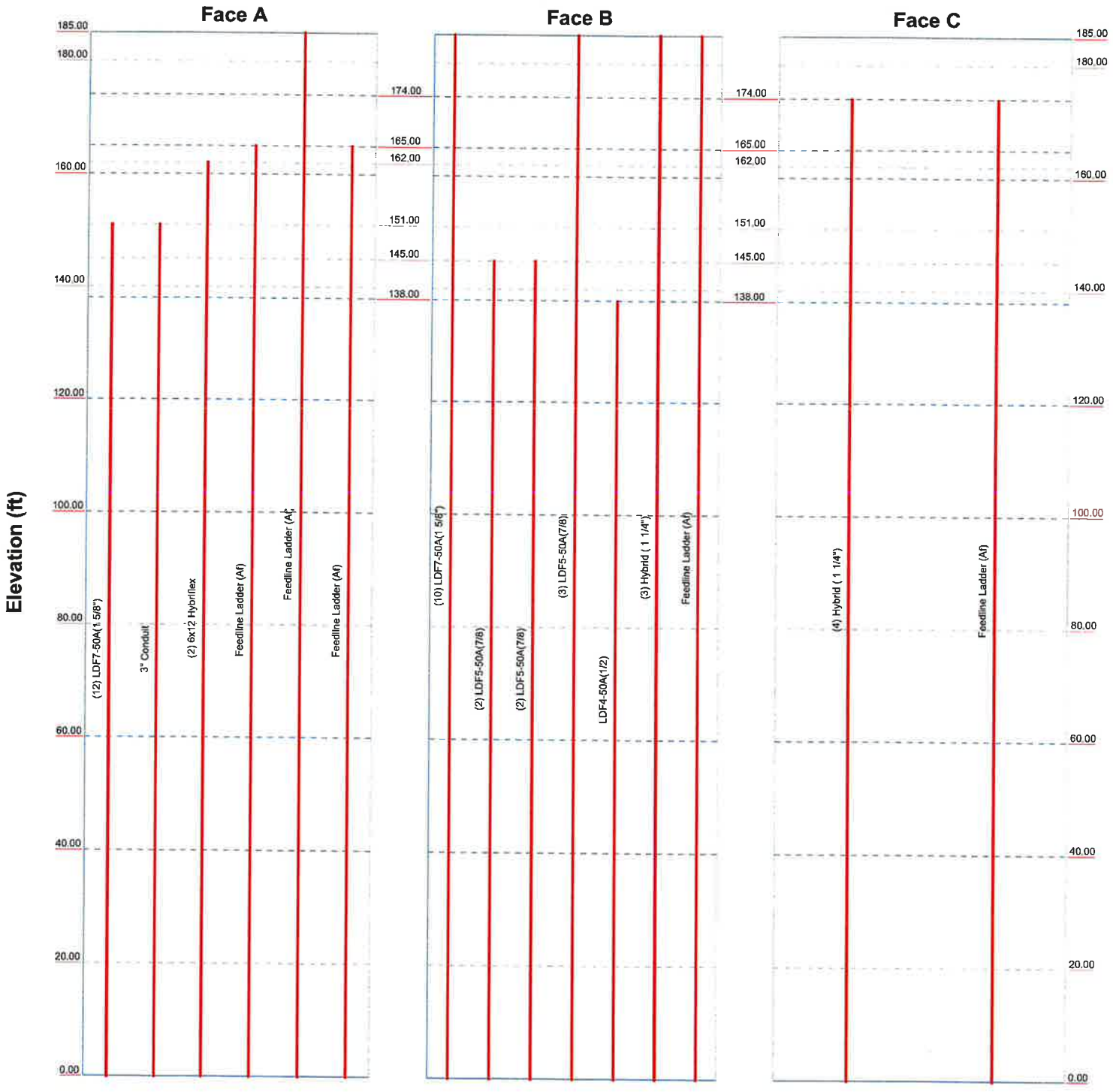
Phone: (781) 713-4725
FAX:

Job: **Weston North CT**			
Project: ***RF Filter Add***			
Client: Verizon Wireless	Drawn by: jboegel	App'd:	
Code: TIA-222-H	Date: 02/12/24	Scale: NTS	
Path:		Dwg No. E-5	

Feed Line Distribution Chart
0' - 185'

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



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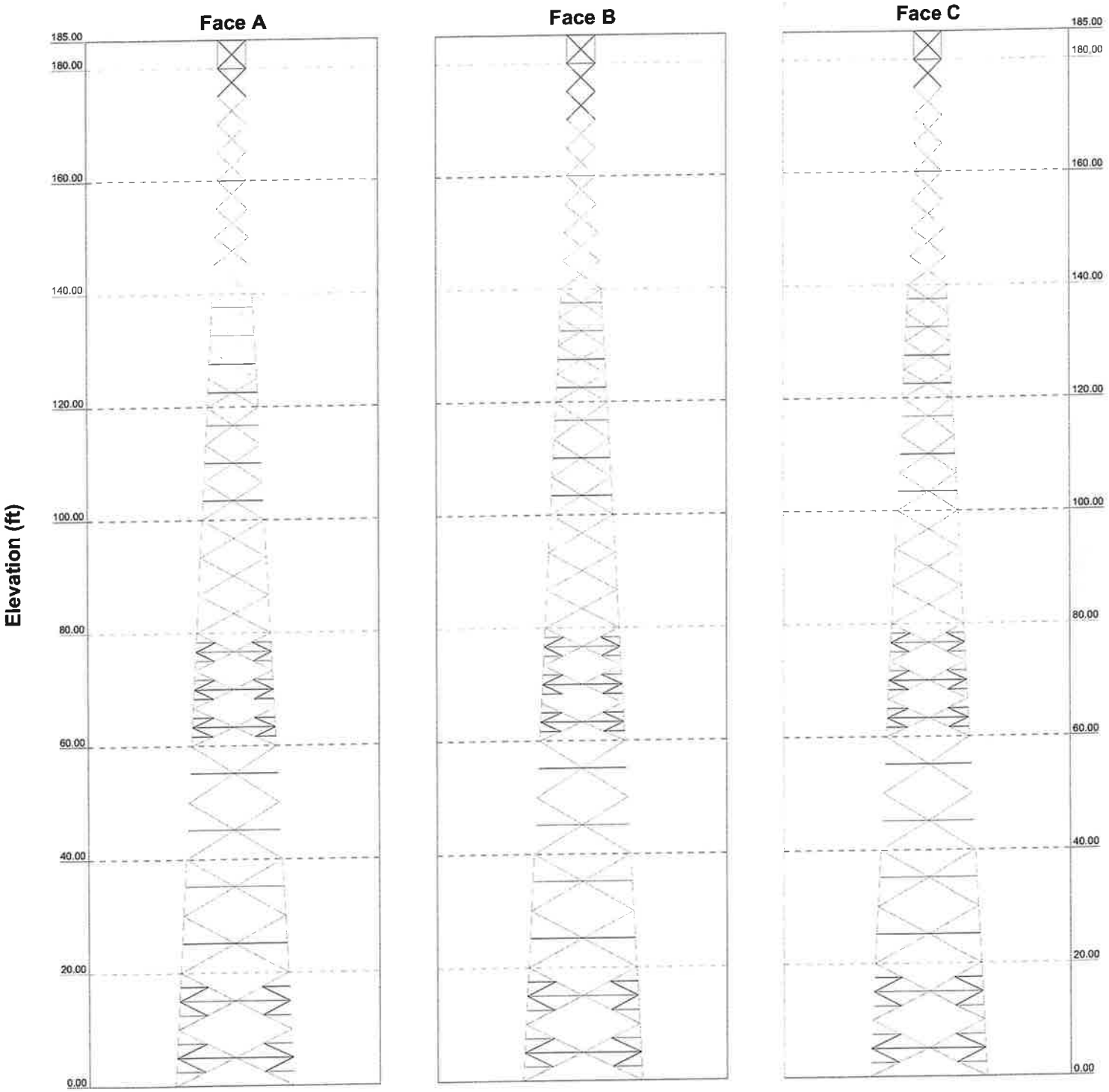
Phone: (781) 713-4725
FAX:

Job: ***Weston North CT***		
Project: ***RF Filter Add***		
Client: Verizon Wireless	Drawn by: jboegel	App'd:
Code: TIA-222-H	Date: 02/12/24	Scale: NTS
Path:		Dwg No. E-7

Stress Distribution Chart
0' - 185'

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



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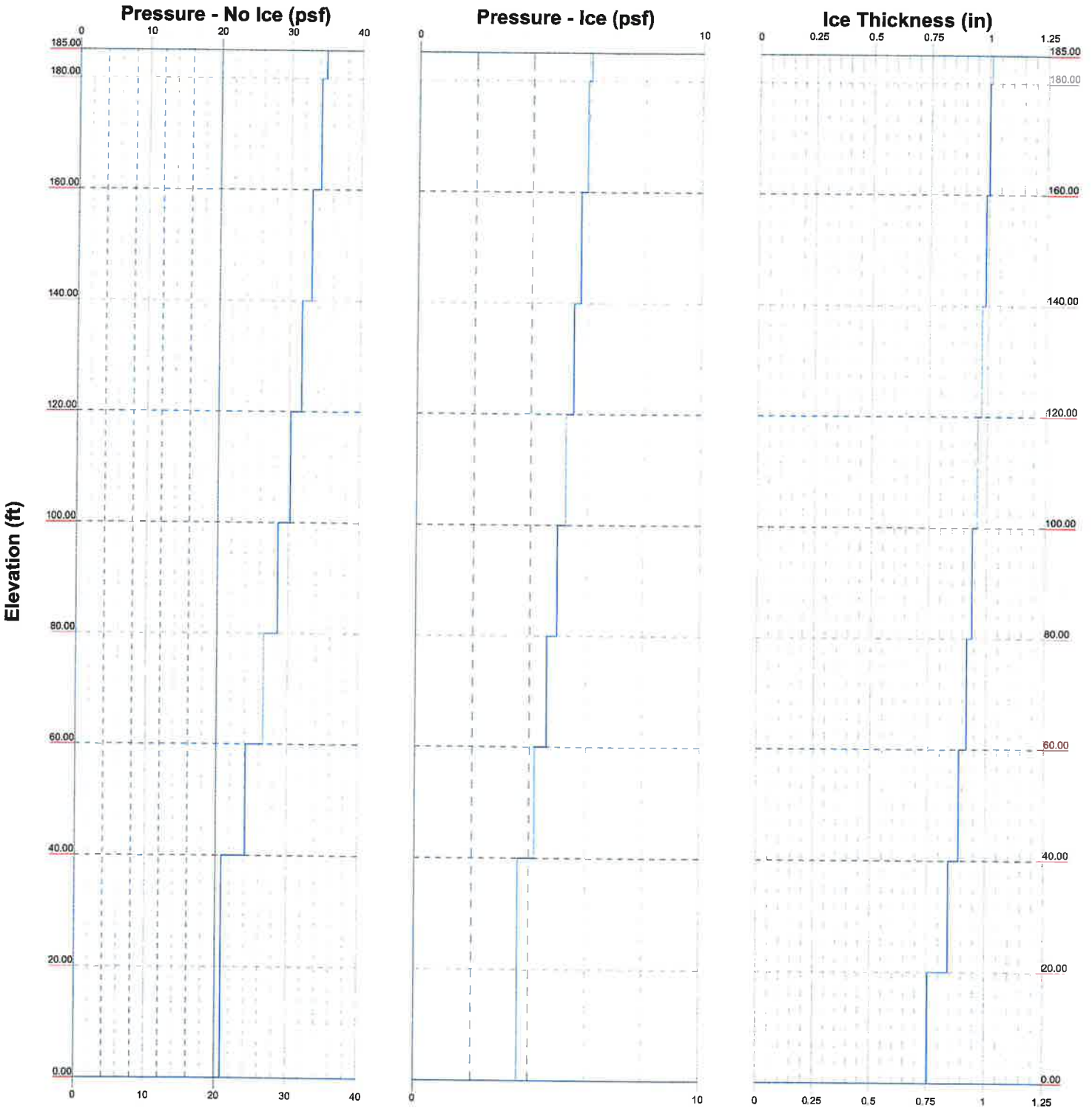
Phone: (781) 713-4725
FAX:

Job: ***Weston North CT***		
Project: ***RF Filter Add***		
Client: Verizon Wireless	Drawn by: jboegel	App'd:
Code: TIA-222-H	Date: 02/12/24	Scale: NTS
Path:		Dwg No. E-8

Wind Pressures and Ice Thickness

TIA-222-H - 120 mph/50 mph 1.0000 in Ice Exposure B



Centerline Engineering Services, PA
750 W Center Street, Suite 301
West Bridgewater, MA 02379
Phone: (781) 713-4725
FAX:

Job: **Weston North CT**		
Project: ***RF Filter Add***		
Client: Verizon Wireless	Drawn by: jboegel	App'd:
Code: TIA-222-H	Date: 02/12/24	Scale: NTS
Path:		Dwg No. E-9

tnxTower	Job: Weston North CT	Page: 1 of 46
Centerline Enginerring Services, PA 750 W Center Street, Suite 301 West Bridgewater, MA 02379 Phone: (781) 713-4725 FAX:	Project: RF Filter Add	Date: 12:54:53 02/12/24
	Client: Verizon Wireless	Designed by: jboegel

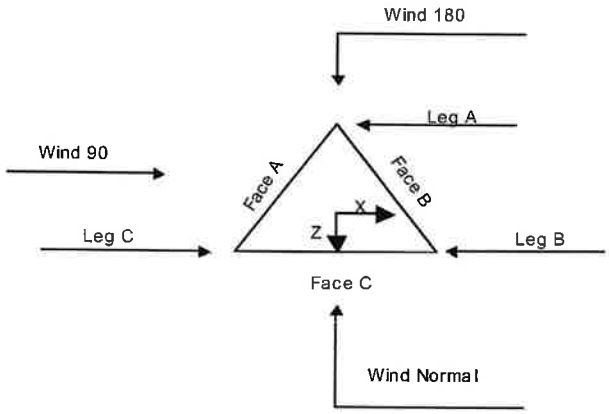
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 185.00 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 21.00 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower base elevation above sea level: 0.00 ft.
Basic wind speed of 120 mph.
Risk Category II.
Exposure Category B.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.00 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Tower analysis based on target reliabilities in accordance with Annex S.
Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
Maximum demand-capacity ratio is: 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	185.00-180.00			5.00	1	5.00
T2	180.00-160.00			5.00	1	20.00
T3	160.00-140.00			5.00	1	20.00
T4	140.00-120.00			7.00	1	20.00
T5	120.00-100.00			9.00	1	20.00
T6	100.00-80.00			11.00	1	20.00
T7	80.00-60.00			13.00	1	20.00
T8	60.00-40.00			15.00	1	20.00
T9	40.00-20.00			17.00	1	20.00
T10	20.00-0.00			19.00	1	20.00

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
	ft	ft				in	in
T1	185.00-180.00	5.00	X Brace	No	No	0.0000	0.0000
T2	180.00-160.00	5.00	X Brace	No	No	0.0000	0.0000
T3	160.00-140.00	5.00	X Brace	No	No	0.0000	0.0000
T4	140.00-120.00	5.00	X Brace	No	Yes	0.0000	0.0000
T5	120.00-100.00	6.67	X Brace	No	Yes	0.0000	0.0000

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T6	100.00-80.00	6.67	X Brace	No	No	0.0000	0.0000
T7	80.00-60.00	3.33	Double K1	No	Yes	0.0000	0.0000
T8	60.00-40.00	10.00	X Brace	No	Yes	0.0000	0.0000
T9	40.00-20.00	10.00	X Brace	No	Yes	0.0000	0.0000
T10	20.00-0.00	5.00	Double K1	No	Yes	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 185.00-180.00	Pipe	P2x.154	A572-50 (50 ksi)	Single Angle	L2x2x1/8	A36 (36 ksi)
T2 180.00-160.00	Pipe	P2.5x.203	A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T3 160.00-140.00	Pipe	Sabre 2.875"x0.375"	A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T4 140.00-120.00	Pipe	P3.5x.318 (4.00 OD)	A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T5 120.00-100.00	Pipe	Pipe 5 Std (5.563"ODx0.258")	A572-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T6 100.00-80.00	Pipe	Pipe 5 XStr (5.563"ODx0.375")	A572-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T7 80.00-60.00	Pipe	Pipe 5 XStr (5.563"ODx0.375")	A572-50 (50 ksi)	Single Angle	L3x3x3/16	A36 (36 ksi)
T8 60.00-40.00	Pipe	HSS5x0.500	A572-50 (50 ksi)	Single Angle	L3x3x1/4	A36 (36 ksi)
T9 40.00-20.00	Pipe	P8x.322	A572-50 (50 ksi)	Single Angle	L3-1/2x3-1/2x1/4	A36 (36 ksi)
T10 20.00-0.00	Pipe	P8x.322	A572-50 (50 ksi)	Single Angle	L3-1/2x3-1/2x1/4	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 185.00-180.00	Single Angle	L2x2x1/8	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T2 180.00-160.00	Single Angle	L2x2x1/8	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T3 160.00-140.00	Single Angle	L2x2x1/8	A36 (36 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T7 80.00-60.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L3x3x3/8	A36 (36 ksi)
T10 20.00-0.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L3 1/2x3 1/2x1/2	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T4 140.00-120.00	Equal Angle	L2x2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T5 120.00-100.00	Equal Angle	L2 1/2x2 1/2x3/8	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T8 60.00-40.00	Equal Angle	L3x3x7/16	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T9 40.00-20.00	Equal Angle	L3x3x1/2	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Redundant Bracing Grade		Redundant Type	Redundant Size	K Factor
T7 80.00-60.00	A36 (36 ksi)	Horizontal (1)	Equal Angle	L3x3x1/2	1
	A36 (36 ksi)	Diagonal (1)	Equal Angle	L3x3x1/2	1
T10 20.00-0.00	A36 (36 ksi)	Horizontal (1)	Equal Angle	L3x3x1/2	1
	A36 (36 ksi)	Diagonal (1)	Equal Angle	L3x3x1/2	1

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 185.00-180.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T2 180.00-160.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T3 160.00-140.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T4 140.00-120.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T5 120.00-100.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T6 100.00-80.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T7 80.00-60.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T8 60.00-40.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T9 40.00-20.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T10 20.00-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000

Tower Section Geometry (cont'd)

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X	X Brace Diags Y	K Single Diags X	K Single Diags Y	Girts X	Girts Y	Horiz. X	Horiz. Y	Sec. Horiz. X	Sec. Horiz. Y	Inner Brace X	Inner Brace Y
T1 185.00-180.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T2 180.00-160.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T3 160.00-140.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T4 140.00-120.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T5 120.00-100.00	Yes	Yes	1	1	1	1	1	1	1	1	1	0.5	1	1	1
T6 100.00-80.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T7 80.00-60.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T8 60.00-40.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T9 40.00-20.00	Yes	Yes	1	1	1	1	1	1	1	1	1	0.5	1	1	1
T10 20.00-0.00	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1

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

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 185.00-180.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 180.00-160.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 160.00-140.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 140.00-120.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 120.00-100.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 100.00-80.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 60.00-40.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 40.00-20.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 20.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

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 185.00-180.00	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 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)
T3 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)
T4 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)

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T5 120.00-100.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T6 100.00-80.00	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)
T7 80.00-60.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T8 60.00-40.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T9 40.00-20.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)
	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)
T10 20.00-0.00	0.0000	0.75 (1)	0.0000	0.75 (1)	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75 (1)	0.0000	0.75 (1)
	0.0000	0.75 (2)	0.0000	0.75 (2)							0.0000	0.75 (2)	0.0000	0.75 (2)
	0.0000	0.75 (3)	0.0000	0.75 (3)							0.0000	0.75 (3)	0.0000	0.75 (3)

	0.0000	0.75 (4)	0.0000	0.75 (4)							0.0000	0.75 (4)	0.0000	0.75 (4)	

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 185.00-180.00	Flange	0.6250 A325N	4	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 180.00-160.00	Flange	0.7500 A325N	6	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T3 160.00-140.00	Flange	0.7500 A325N	6	0.6250 A325N	1	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T4 140.00-120.00	Flange	1.0000 A325N	6	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T5 120.00-100.00	Flange	1.0000 A325N	6	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T6 100.00-80.00	Flange	1.0000 A325N	6	0.6250 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T7 80.00-60.00	Flange	1.0000 A325N	6	0.7500 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T8 60.00-40.00	Flange	1.0000 A325N	6	0.7500 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T9 40.00-20.00	Flange	1.2500 A325N	6	0.7500 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T10 20.00-0.00	Flange	1.2500 A325N	6	0.7500 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
LDF7-50A(1 5/8")	B	No	No	Ar (CaAa)	185.00 - 0.00	0.0000	0.15	10	10	0.5000	1.9800		0.82
LDF7-50A(1 5/8")	A	No	No	Ar (CaAa)	151.00 - 0.00	0.0000	0.15	12	6	0.5000	1.9800		0.82
LDF5-50A(7/ 8)	B	No	No	Ar (CaAa)	145.00 - 0.00	-2.0000	0.17	2	2	0.5000	1.0900		0.33
LDF5-50A(7/ 8)	B	No	No	Ar (CaAa)	145.00 - 0.00	-2.0000	0.15	2	2	0.5000	1.0900		0.33
LDF5-50A(7/ 8)	B	No	No	Ar (CaAa)	185.00 - 0.00	-2.0000	0.13	3	3	0.5000	1.0900		0.33
LDF4-50A(1/ 2)	B	No	No	Ar (CaAa)	138.00 - 0.00	-2.0000	0.11	1	1	0.5000	0.6300		0.15
3" Conduit	A	No	No	Ar (CaAa)	151.00 - 0.00	0.0000	0.2	1	1	0.5000	3.0000		2.80
Hybrid (1 1/4")	B	No	No	Ar (CaAa)	185.00 - 0.00	0.0000	0.15	3	3	0.5000	1.2500		0.68
Hybrid (1 1/4")	C	No	No	Ar (CaAa)	174.00 - 0.00	-1.5000	0.15	4	4	0.5000	1.2500		0.68
6x12	A	No	No	Ar (CaAa)	162.00 -	-9.0000	0.21	2	2	0.5000	1.5400		1.70

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
Hybriflex Feedline Ladder (Af)	A	No	No	Af (CaAa)	0.00 165.00 - 0.00	0.0000	0.17	1	1	0.5000	3.0000		8.40
Feedline Ladder (Af)	B	No	No	Af (CaAa)	0.00 185.00 - 0.00	0.0000	0.14	1	1	0.5000	3.0000		8.40
Feedline Ladder (Af)	A	No	No	Af (CaAa)	0.00 185.00 - 0.00	0.0000	0	1	1	0.5000	3.0000		8.40
Feedline Ladder (Af)	C	No	No	Af (CaAa)	0.00 174.00 - 0.00	-1.0000	0.14	1	1	0.5000	3.0000		8.40
Feedline Ladder (Af)	A	No	No	Af (CaAa)	0.00 165.00 - 0.00	-1.0000	0.17	1	1	0.5000	3.0000		8.40

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	185.00-180.00	A	0.000	0.000	2.500	0.000	0.04
		B	0.000	0.000	15.910	0.000	0.10
		C	0.000	0.000	0.000	0.000	0.00
T2	180.00-160.00	A	0.000	0.000	15.616	0.000	0.26
		B	0.000	0.000	63.640	0.000	0.39
		C	0.000	0.000	14.000	0.000	0.16
T3	160.00-140.00	A	0.000	0.000	65.596	0.000	0.71
		B	0.000	0.000	65.820	0.000	0.40
		C	0.000	0.000	20.000	0.000	0.22
T4	140.00-120.00	A	0.000	0.000	89.680	0.000	0.82
		B	0.000	0.000	73.494	0.000	0.42
		C	0.000	0.000	20.000	0.000	0.22
T5	120.00-100.00	A	0.000	0.000	89.680	0.000	0.82
		B	0.000	0.000	73.620	0.000	0.42
		C	0.000	0.000	20.000	0.000	0.22
T6	100.00-80.00	A	0.000	0.000	89.680	0.000	0.82
		B	0.000	0.000	73.620	0.000	0.42
		C	0.000	0.000	20.000	0.000	0.22
T7	80.00-60.00	A	0.000	0.000	89.680	0.000	0.82
		B	0.000	0.000	73.620	0.000	0.42
		C	0.000	0.000	20.000	0.000	0.22
T8	60.00-40.00	A	0.000	0.000	89.680	0.000	0.82
		B	0.000	0.000	73.620	0.000	0.42
		C	0.000	0.000	20.000	0.000	0.22
T9	40.00-20.00	A	0.000	0.000	89.680	0.000	0.82
		B	0.000	0.000	73.620	0.000	0.42
		C	0.000	0.000	20.000	0.000	0.22
T10	20.00-0.00	A	0.000	0.000	89.680	0.000	0.82
		B	0.000	0.000	73.620	0.000	0.42
		C	0.000	0.000	20.000	0.000	0.22

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft²	A_F ft²	C_AA_A In Face ft²	C_AA_A Out Face ft²	Weight K
T1	185.00-180.00	A	1.009	0.000	0.000	3.509	0.000	0.07
		B		0.000	0.000	29.225	0.000	0.33
		C		0.000	0.000	0.000	0.000	0.00
T2	180.00-160.00	A	1.001	0.000	0.000	22.661	0.000	0.45
		B		0.000	0.000	116.735	0.000	1.30
		C		0.000	0.000	25.736	0.000	0.35
T3	160.00-140.00	A	0.989	0.000	0.000	87.959	0.000	1.51
		B		0.000	0.000	123.420	0.000	1.34
		C		0.000	0.000	36.635	0.000	0.50
T4	140.00-120.00	A	0.975	0.000	0.000	111.803	0.000	1.88
		B		0.000	0.000	148.461	0.000	1.50
		C		0.000	0.000	36.488	0.000	0.50
T5	120.00-100.00	A	0.959	0.000	0.000	111.328	0.000	1.86
		B		0.000	0.000	148.317	0.000	1.49
		C		0.000	0.000	36.319	0.000	0.49
T6	100.00-80.00	A	0.940	0.000	0.000	110.769	0.000	1.84
		B		0.000	0.000	147.538	0.000	1.47
		C		0.000	0.000	36.121	0.000	0.49
T7	80.00-60.00	A	0.916	0.000	0.000	110.084	0.000	1.82
		B		0.000	0.000	146.586	0.000	1.44
		C		0.000	0.000	35.877	0.000	0.48
T8	60.00-40.00	A	0.886	0.000	0.000	109.194	0.000	1.79
		B		0.000	0.000	145.349	0.000	1.41
		C		0.000	0.000	35.561	0.000	0.47
T9	40.00-20.00	A	0.842	0.000	0.000	107.899	0.000	1.75
		B		0.000	0.000	143.551	0.000	1.36
		C		0.000	0.000	35.102	0.000	0.46
T10	20.00-0.00	A	0.754	0.000	0.000	105.332	0.000	1.66
		B		0.000	0.000	139.989	0.000	1.27
		C		0.000	0.000	34.194	0.000	0.43

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	185.00-180.00	5.1333	-1.1465	5.2765	-1.1936
T2	180.00-160.00	3.5906	-0.8220	3.2967	-0.6981
T3	160.00-140.00	1.2338	-4.5404	1.0314	-4.1902
T4	140.00-120.00	1.2778	-6.3239	1.7581	-5.7396
T5	120.00-100.00	1.4687	-7.2593	2.0713	-6.7284
T6	100.00-80.00	1.8412	-8.9671	2.5412	-8.2543
T7	80.00-60.00	1.3565	-7.1745	2.0417	-7.0953
T8	60.00-40.00	2.0563	-10.3359	2.9009	-9.8708
T9	40.00-20.00	2.0525	-10.4492	2.8365	-9.9747
T10	20.00-0.00	1.7486	-9.2770	2.4180	-9.1801

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice

tnxTower	Job: Weston North CT	Page: 11 of 46
Centerline Enginerring Services, PA 750 W Center Street, Suite 301 West Bridgewater, MA 02379 Phone: (781) 713-4725 FAX:	Project: RF Filter Add	Date: 12:54:53 02/12/24
	Client: Verizon Wireless	Designed by: jboegel

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	1	LDF7-50A(1 5/8")	180.00 - 185.00	0.6000	0.6000
T1	5	LDF5-50A(7/8)	180.00 - 185.00	0.6000	0.6000
T1	8	Hybrid (1 1/4")	180.00 - 185.00	0.6000	0.6000
T1	12	Feedline Ladder (Af)	180.00 - 185.00	0.6000	0.6000
T1	13	Feedline Ladder (Af)	180.00 - 185.00	0.6000	0.6000
T2	1	LDF7-50A(1 5/8")	160.00 - 180.00	0.6000	0.6000
T2	5	LDF5-50A(7/8)	160.00 - 180.00	0.6000	0.6000
T2	8	Hybrid (1 1/4")	160.00 - 180.00	0.6000	0.6000
T2	9	Hybrid (1 1/4")	160.00 - 174.00	0.6000	0.6000
T2	10	6x12 Hybriflex	160.00 - 162.00	0.6000	0.6000
T2	11	Feedline Ladder (Af)	160.00 - 165.00	0.6000	0.6000
T2	12	Feedline Ladder (Af)	160.00 - 180.00	0.6000	0.6000
T2	13	Feedline Ladder (Af)	160.00 - 180.00	0.6000	0.6000
T2	14	Feedline Ladder (Af)	160.00 - 174.00	0.6000	0.6000
T2	15	Feedline Ladder (Af)	160.00 - 165.00	0.6000	0.6000
T3	1	LDF7-50A(1 5/8")	140.00 - 160.00	0.6000	0.6000
T3	2	LDF7-50A(1 5/8")	140.00 - 151.00	0.6000	0.6000
T3	3	LDF5-50A(7/8)	140.00 - 145.00	0.6000	0.6000
T3	4	LDF5-50A(7/8)	140.00 - 145.00	0.6000	0.6000
T3	5	LDF5-50A(7/8)	140.00 - 160.00	0.6000	0.6000
T3	7	3" Conduit	140.00 - 151.00	0.6000	0.6000
T3	8	Hybrid (1 1/4")	140.00 - 160.00	0.6000	0.6000
T3	9	Hybrid (1 1/4")	140.00 - 160.00	0.6000	0.6000
T3	10	6x12 Hybriflex	140.00 - 160.00	0.6000	0.6000
T3	11	Feedline Ladder (Af)	140.00 - 160.00	0.6000	0.6000
T3	12	Feedline Ladder (Af)	140.00 - 160.00	0.6000	0.6000
T3	13	Feedline Ladder (Af)	140.00 - 160.00	0.6000	0.6000
T3	14	Feedline Ladder (Af)	140.00 - 160.00	0.6000	0.6000
T3	15	Feedline Ladder (Af)	140.00 - 160.00	0.6000	0.6000
T4	1	LDF7-50A(1 5/8")	120.00 - 140.00	0.6000	0.6000
T4	2	LDF7-50A(1 5/8")	120.00 - 140.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T4	3	LDF5-50A(7/8)	120.00 - 140.00	0.6000	0.6000
T4	4	LDF5-50A(7/8)	120.00 - 140.00	0.6000	0.6000
T4	5	LDF5-50A(7/8)	120.00 - 140.00	0.6000	0.6000
T4	6	LDF4-50A(1/2)	120.00 - 138.00	0.6000	0.6000
T4	7	3" Conduit	120.00 - 140.00	0.6000	0.6000
T4	8	Hybrid (1 1/4")	120.00 - 140.00	0.6000	0.6000
T4	9	Hybrid (1 1/4")	120.00 - 140.00	0.6000	0.6000
T4	10	6x12 Hybriflex	120.00 - 140.00	0.6000	0.6000
T4	11	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T4	12	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T4	13	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T4	14	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T4	15	Feedline Ladder (Af)	120.00 - 140.00	0.6000	0.6000
T5	1	LDF7-50A(1 5/8")	100.00 - 120.00	0.6000	0.6000
T5	2	LDF7-50A(1 5/8")	100.00 - 120.00	0.6000	0.6000
T5	3	LDF5-50A(7/8)	100.00 - 120.00	0.6000	0.6000
T5	4	LDF5-50A(7/8)	100.00 - 120.00	0.6000	0.6000
T5	5	LDF5-50A(7/8)	100.00 - 120.00	0.6000	0.6000
T5	6	LDF4-50A(1/2)	100.00 - 120.00	0.6000	0.6000
T5	7	3" Conduit	100.00 - 120.00	0.6000	0.6000
T5	8	Hybrid (1 1/4")	100.00 - 120.00	0.6000	0.6000
T5	9	Hybrid (1 1/4")	100.00 - 120.00	0.6000	0.6000
T5	10	6x12 Hybriflex	100.00 - 120.00	0.6000	0.6000
T5	11	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T5	12	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T5	13	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T5	14	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T5	15	Feedline Ladder (Af)	100.00 - 120.00	0.6000	0.6000
T6	1	LDF7-50A(1 5/8")	80.00 - 100.00	0.6000	0.6000
T6	2	LDF7-50A(1 5/8")	80.00 - 100.00	0.6000	0.6000
T6	3	LDF5-50A(7/8)	80.00 - 100.00	0.6000	0.6000
T6	4	LDF5-50A(7/8)	80.00 - 100.00	0.6000	0.6000
T6	5	LDF5-50A(7/8)	80.00 - 100.00	0.6000	0.6000
T6	6	LDF4-50A(1/2)	80.00 - 100.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T6	7	3" Conduit	80.00 - 100.00	0.6000	0.6000
T6	8	Hybrid (1 1/4")	80.00 - 100.00	0.6000	0.6000
T6	9	Hybrid (1 1/4")	80.00 - 100.00	0.6000	0.6000
T6	10	6x12 Hybriflex	80.00 - 100.00	0.6000	0.6000
T6	11	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T6	12	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T6	13	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T6	14	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T6	15	Feedline Ladder (Af)	80.00 - 100.00	0.6000	0.6000
T7	1	LDF7-50A(1 5/8")	60.00 - 80.00	0.6000	0.6000
T7	2	LDF7-50A(1 5/8")	60.00 - 80.00	0.6000	0.6000
T7	3	LDF5-50A(7/8)	60.00 - 80.00	0.6000	0.6000
T7	4	LDF5-50A(7/8)	60.00 - 80.00	0.6000	0.6000
T7	5	LDF5-50A(7/8)	60.00 - 80.00	0.6000	0.6000
T7	6	LDF4-50A(1/2)	60.00 - 80.00	0.6000	0.6000
T7	7	3" Conduit	60.00 - 80.00	0.6000	0.6000
T7	8	Hybrid (1 1/4")	60.00 - 80.00	0.6000	0.6000
T7	9	Hybrid (1 1/4")	60.00 - 80.00	0.6000	0.6000
T7	10	6x12 Hybriflex	60.00 - 80.00	0.6000	0.6000
T7	11	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T7	12	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T7	13	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T7	14	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T7	15	Feedline Ladder (Af)	60.00 - 80.00	0.6000	0.6000
T8	1	LDF7-50A(1 5/8")	40.00 - 60.00	0.6000	0.6000
T8	2	LDF7-50A(1 5/8")	40.00 - 60.00	0.6000	0.6000
T8	3	LDF5-50A(7/8)	40.00 - 60.00	0.6000	0.6000
T8	4	LDF5-50A(7/8)	40.00 - 60.00	0.6000	0.6000
T8	5	LDF5-50A(7/8)	40.00 - 60.00	0.6000	0.6000
T8	6	LDF4-50A(1/2)	40.00 - 60.00	0.6000	0.6000
T8	7	3" Conduit	40.00 - 60.00	0.6000	0.6000
T8	8	Hybrid (1 1/4")	40.00 - 60.00	0.6000	0.6000
T8	9	Hybrid (1 1/4")	40.00 - 60.00	0.6000	0.6000
T8	10	6x12 Hybriflex	40.00 - 60.00	0.6000	0.6000
T8	11	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T8	12	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T8	13	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T8	14	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T8	15	Feedline Ladder (Af)	40.00 - 60.00	0.6000	0.6000
T9	1	LDF7-50A(1 5/8")	20.00 - 40.00	0.6000	0.6000
T9	2	LDF7-50A(1 5/8")	20.00 - 40.00	0.6000	0.6000
T9	3	LDF5-50A(7/8)	20.00 - 40.00	0.6000	0.6000
T9	4	LDF5-50A(7/8)	20.00 - 40.00	0.6000	0.6000
T9	5	LDF5-50A(7/8)	20.00 - 40.00	0.6000	0.6000
T9	6	LDF4-50A(1/2)	20.00 - 40.00	0.6000	0.6000
T9	7	3" Conduit	20.00 - 40.00	0.6000	0.6000
T9	8	Hybrid (1 1/4")	20.00 - 40.00	0.6000	0.6000
T9	9	Hybrid (1 1/4")	20.00 - 40.00	0.6000	0.6000
T9	10	6x12 Hybriflex	20.00 - 40.00	0.6000	0.6000
T9	11	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T9	12	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T9	13	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T9	14	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T9	15	Feedline Ladder (Af)	20.00 - 40.00	0.6000	0.6000
T10	1	LDF7-50A(1 5/8")	0.00 - 20.00	0.6000	0.6000
T10	2	LDF7-50A(1 5/8")	0.00 - 20.00	0.6000	0.6000
T10	3	LDF5-50A(7/8)	0.00 - 20.00	0.6000	0.6000
T10	4	LDF5-50A(7/8)	0.00 - 20.00	0.6000	0.6000
T10	5	LDF5-50A(7/8)	0.00 - 20.00	0.6000	0.6000
T10	6	LDF4-50A(1/2)	0.00 - 20.00	0.6000	0.6000
T10	7	3" Conduit	0.00 - 20.00	0.6000	0.6000
T10	8	Hybrid (1 1/4")	0.00 - 20.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T10	9	Hybrid (1 1/4")	0.00 - 20.00	0.6000	0.6000
T10	10	6x12 Hybriflex	0.00 - 20.00	0.6000	0.6000
T10	11	Feedline Ladder (Af)	0.00 - 20.00	0.6000	0.6000
T10	12	Feedline Ladder (Af)	0.00 - 20.00	0.6000	0.6000
T10	13	Feedline Ladder (Af)	0.00 - 20.00	0.6000	0.6000
T10	14	Feedline Ladder (Af)	0.00 - 20.00	0.6000	0.6000
T10	15	Feedline Ladder (Af)	0.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
DB636-A	B	From Leg	0.00		0.0000	185.00	No Ice	2.78	2.78	0.03
			0.00				1/2" Ice	3.96	3.96	0.05
			0.00				1" Ice	5.16	5.16	0.08
DB222	A	From Leg	0.00		0.0000	185.00	No Ice	1.60	1.60	0.02
			0.00				1/2" Ice	2.88	2.88	0.02
			0.00				1" Ice	4.16	4.16	0.03
DB222	C	From Leg	0.00		0.0000	185.00	No Ice	1.60	1.60	0.02
			0.00				1/2" Ice	2.88	2.88	0.02
			0.00				1" Ice	4.16	4.16	0.03
PiROD 12' Lightweight T-Frame	A	None			0.0000	185.00	No Ice	10.20	10.20	0.25
							1/2" Ice	16.20	16.20	0.35
							1" Ice	22.20	22.20	0.46
PiROD 12' Lightweight T-Frame	B	None			0.0000	185.00	No Ice	10.20	10.20	0.25
							1/2" Ice	16.20	16.20	0.35
							1" Ice	22.20	22.20	0.46
PiROD 12' Lightweight T-Frame	C	None			0.0000	185.00	No Ice	10.20	10.20	0.25
							1/2" Ice	16.20	16.20	0.35
							1" Ice	22.20	22.20	0.46
AIR 6449 B77D	A	From Leg	3.00		0.0000	185.00	No Ice	5.32	4.04	0.11
			3.00				1/2" Ice	6.14	5.08	0.16
			0.00				1" Ice	6.87	5.97	0.22
AIR 6449 B77D	B	From Leg	3.00		0.0000	185.00	No Ice	5.32	4.04	0.11
			3.00				1/2" Ice	6.14	5.08	0.16
			0.00				1" Ice	6.87	5.97	0.22
AIR 6449 B77D	C	From Leg	3.00		0.0000	185.00	No Ice	5.32	4.04	0.11
			3.00				1/2" Ice	6.14	5.08	0.16
			0.00				1" Ice	6.87	5.97	0.22
AIR 32 B2a/B66Aa	A	From Leg	3.00		0.0000	185.00	No Ice	6.51	4.71	0.13
			-3.00				1/2" Ice	6.89	5.07	0.18
			0.00				1" Ice	7.27	5.43	0.23
AIR 32 B2a/B66Aa	B	From Leg	3.00		0.0000	185.00	No Ice	6.51	4.71	0.13
			-3.00				1/2" Ice	6.89	5.07	0.18
			0.00				1" Ice	7.27	5.43	0.23
AIR 32 B2a/B66Aa	C	From Leg	3.00		0.0000	185.00	No Ice	6.51	4.71	0.13
			-3.00				1/2" Ice	6.89	5.07	0.18
			0.00				1" Ice	7.27	5.43	0.23
APXVAARR24_43-U-NA20	A	From Leg	3.00		0.0000	185.00	No Ice	20.24	8.89	0.13
			0.00				1/2" Ice	20.89	9.49	0.24

tnxTower	Job: Weston North CT	Page: 15 of 46
Centerline Engineering Services, PA 750 W Center Street, Suite 301 West Bridgewater, MA 02379 Phone: (781) 713-4725 FAX:	Project: RF Filter Add	Date: 12:54:53 02/12/24
	Client: Verizon Wireless	Designed by: jboegel

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
					0.00			1" Ice	21.54	10.09	0.36
APXVAARR24_43-U-NA20	B	From Leg	3.00		0.00	0.0000	185.00	No Ice	20.24	8.89	0.13
								1/2" Ice	20.89	9.49	0.24
					0.00			1" Ice	21.54	10.09	0.36
APXVAARR24_43-U-NA20	C	From Leg	3.00		0.00	0.0000	185.00	No Ice	20.24	8.89	0.13
								1/2" Ice	20.89	9.49	0.24
					0.00			1" Ice	21.54	10.09	0.36
(2) RRUS 11	A	From Leg	3.00		0.00	0.0000	185.00	No Ice	2.78	1.19	0.05
								1/2" Ice	2.99	1.33	0.07
					0.00			1" Ice	3.21	1.49	0.09
(2) RRUS 11	B	From Leg	3.00		0.00	0.0000	185.00	No Ice	2.78	1.19	0.05
								1/2" Ice	2.99	1.33	0.07
					0.00			1" Ice	3.21	1.49	0.09
(2) RRUS 11	C	From Leg	3.00		0.00	0.0000	185.00	No Ice	2.78	1.19	0.05
								1/2" Ice	2.99	1.33	0.07
					0.00			1" Ice	3.21	1.49	0.09
Generic TMA	A	From Leg	3.00		0.00	0.0000	185.00	No Ice	0.58	0.40	0.01
								1/2" Ice	0.69	0.49	0.02
					0.00			1" Ice	0.80	0.59	0.03
Generic TMA	B	From Leg	3.00		0.00	0.0000	185.00	No Ice	0.58	0.40	0.01
								1/2" Ice	0.69	0.49	0.02
					0.00			1" Ice	0.80	0.59	0.03
Generic TMA	C	From Leg	3.00		0.00	0.0000	185.00	No Ice	0.58	0.40	0.01
								1/2" Ice	0.69	0.49	0.02
					0.00			1" Ice	0.80	0.59	0.03
SDX1926Q-43	A	From Leg	3.00		0.00	0.0000	185.00	No Ice	0.24	0.10	0.01
								1/2" Ice	0.31	0.14	0.01
					0.00			1" Ice	0.38	0.19	0.01
SDX1926Q-43	B	From Leg	3.00		0.00	0.0000	185.00	No Ice	0.24	0.10	0.01
								1/2" Ice	0.31	0.14	0.01
					0.00			1" Ice	0.38	0.19	0.01
SDX1926Q-43	C	From Leg	3.00		0.00	0.0000	185.00	No Ice	0.24	0.10	0.01
								1/2" Ice	0.31	0.14	0.01
					0.00			1" Ice	0.38	0.19	0.01
*****											
PiROD 12' Lightweight T-Frame	A	None				0.0000	174.00	No Ice	10.20	10.20	0.25
								1/2" Ice	16.20	16.20	0.35
								1" Ice	22.20	22.20	0.46
PiROD 12' Lightweight T-Frame	B	None				0.0000	174.00	No Ice	10.20	10.20	0.25
								1/2" Ice	16.20	16.20	0.35
								1" Ice	22.20	22.20	0.46
PiROD 12' Lightweight T-Frame	C	None				0.0000	174.00	No Ice	10.20	10.20	0.25
								1/2" Ice	16.20	16.20	0.35
								1" Ice	22.20	22.20	0.46
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	3.00		0.00	0.0000	174.00	No Ice	8.26	6.95	0.08
								1/2" Ice	8.82	8.13	0.15
					0.00			1" Ice	9.35	9.02	0.23
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	3.00		0.00	0.0000	174.00	No Ice	8.26	6.95	0.08
								1/2" Ice	8.82	8.13	0.15
					0.00			1" Ice	9.35	9.02	0.23
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	3.00		0.00	0.0000	174.00	No Ice	8.26	6.95	0.08
								1/2" Ice	8.82	8.13	0.15
					0.00			1" Ice	9.35	9.02	0.23
APXVTM14-ALU-I20	A	From Leg	3.00		0.00	0.0000	174.00	No Ice	6.34	3.61	0.06
								1/2" Ice	6.72	3.97	0.10
					0.00			1" Ice	7.10	4.33	0.14
APXVTM14-ALU-I20	B	From Leg	3.00			0.0000	174.00	No Ice	6.34	3.61	0.06

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00				1/2" Ice	6.72	3.97	0.10
			0.00				1" Ice	7.10	4.33	0.14
APXVTM14-ALU-I20	C	From Leg	3.00		0.0000	174.00	No Ice	6.34	3.61	0.06
			0.00				1/2" Ice	6.72	3.97	0.10
			0.00				1" Ice	7.10	4.33	0.14
1900MHz RRH (65MHz) w/Mount pipe	A	From Leg	3.00		0.0000	174.00	No Ice	2.31	2.52	0.06
			0.00				1/2" Ice	2.52	2.80	0.09
			0.00				1" Ice	2.73	3.10	0.12
1900MHz RRH (65MHz) w/Mount pipe	B	From Leg	3.00		0.0000	174.00	No Ice	2.31	2.52	0.06
			0.00				1/2" Ice	2.52	2.80	0.09
			0.00				1" Ice	2.73	3.10	0.12
1900MHz RRH (65MHz) w/Mount pipe	C	From Leg	3.00		0.0000	174.00	No Ice	2.31	2.52	0.06
			0.00				1/2" Ice	2.52	2.80	0.09
			0.00				1" Ice	2.73	3.10	0.12
TME-800MHZ RRH W/ MOUNT PIPE	A	From Leg	3.00		0.0000	174.00	No Ice	2.32	2.27	0.06
			0.00				1/2" Ice	2.57	2.61	0.09
			0.00				1" Ice	2.83	2.96	0.12
TME-800MHZ RRH W/ MOUNT PIPE	B	From Leg	3.00		0.0000	174.00	No Ice	2.32	2.27	0.06
			0.00				1/2" Ice	2.57	2.61	0.09
			0.00				1" Ice	2.83	2.96	0.12
TME-800MHZ RRH W/ MOUNT PIPE	C	From Leg	3.00		0.0000	174.00	No Ice	2.32	2.27	0.06
			0.00				1/2" Ice	2.57	2.61	0.09
			0.00				1" Ice	2.83	2.96	0.12
RRU	A	From Leg	3.00		0.0000	174.00	No Ice	1.20	0.60	0.01
			0.00				1/2" Ice	1.34	0.70	0.02
			0.00				1" Ice	1.48	0.81	0.03
RRU	B	From Leg	3.00		0.0000	174.00	No Ice	1.20	0.60	0.01
			0.00				1/2" Ice	1.34	0.70	0.02
			0.00				1" Ice	1.48	0.81	0.03
RRU	C	From Leg	3.00		0.0000	174.00	No Ice	1.20	0.60	0.01
			0.00				1/2" Ice	1.34	0.70	0.02
			0.00				1" Ice	1.48	0.81	0.03
*******										
MT6413-77A	A	From Leg	3.00		0.0000	162.00	No Ice	3.79	1.46	0.06
			0.00				1/2" Ice	4.04	1.65	0.08
			0.00				1" Ice	4.30	1.85	0.11
MT6413-77A	B	From Leg	3.00		0.0000	162.00	No Ice	3.79	1.46	0.06
			0.00				1/2" Ice	4.04	1.65	0.08
			0.00				1" Ice	4.30	1.85	0.11
MT6413-77A	C	From Leg	3.00		0.0000	162.00	No Ice	3.79	1.46	0.06
			0.00				1/2" Ice	4.04	1.65	0.08
			0.00				1" Ice	4.30	1.85	0.11
(2) MX06FHG865-HG	A	From Leg	3.00		0.0000	162.00	No Ice	11.61	7.96	0.05
			0.00				1/2" Ice	12.23	8.55	0.12
			0.00				1" Ice	12.85	9.15	0.19
(2) MX06FHG665-HG	B	From Leg	3.00		0.0000	162.00	No Ice	8.24	5.58	0.04
			0.00				1/2" Ice	8.70	6.03	0.09
			0.00				1" Ice	9.16	6.49	0.15
(2) MX06FHG665-HG	C	From Leg	3.00		0.0000	162.00	No Ice	8.24	5.58	0.04
			0.00				1/2" Ice	8.70	6.03	0.09
			0.00				1" Ice	9.16	6.49	0.15
B2/B66 RRH ORAN (RF4439D-25A)	A	From Leg	3.00		0.0000	162.00	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/B66 RRH ORAN (RF4439D-25A)	B	From Leg	3.00		0.0000	162.00	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

tnxTower	Job: Weston North CT	Page: 17 of 46
Centerline Enginerring Services, PA 750 W Center Street, Suite 301 West Bridgewater, MA 02379 Phone: (781) 713-4725 FAX:	Project: RF Filter Add	Date: 12:54:53 02/12/24
	Client: Verizon Wireless	Designed by: jboegel

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Offsets: Horz ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
B2/B66 RRH ORAN (RF4439D-25A)	C	From Leg	3.00	0.00	0.00	0.0000	162.00	No Ice	1.87	1.25	0.07
								1/2" Ice	2.03	1.39	0.09
								1" Ice	2.21	1.54	0.11
RF4461D-13A	A	From Leg	3.00	0.00	0.00	0.0000	162.00	No Ice	1.87	1.28	0.08
								1/2" Ice	2.03	1.42	0.10
								1" Ice	2.21	1.57	0.12
RF4461D-13A	B	From Leg	3.00	0.00	0.00	0.0000	162.00	No Ice	1.87	1.28	0.08
								1/2" Ice	2.03	1.42	0.10
								1" Ice	2.21	1.57	0.12
RF4461D-13A	C	From Leg	3.00	0.00	0.00	0.0000	162.00	No Ice	1.87	1.28	0.08
								1/2" Ice	2.03	1.42	0.10
								1" Ice	2.21	1.57	0.12
DB-C1-12C-24AB-0Z	A	From Leg	1.50	0.00	0.00	0.0000	162.00	No Ice	3.10	4.06	0.03
								1/2" Ice	3.34	4.32	0.07
								1" Ice	3.58	4.58	0.11
DB-C1-12C-24AB-0Z	B	From Leg	1.50	0.00	0.00	0.0000	162.00	No Ice	3.10	4.06	0.03
								1/2" Ice	3.34	4.32	0.07
								1" Ice	3.58	4.58	0.11
(4) 8' x 2" Mount Pipe	A	None				0.0000	162.00	No Ice	1.90	1.90	0.03
								1/2" Ice	2.73	2.73	0.04
								1" Ice	3.40	3.40	0.06
(4) 8' x 2" Mount Pipe	B	None				0.0000	162.00	No Ice	1.90	1.90	0.03
								1/2" Ice	2.73	2.73	0.04
								1" Ice	3.40	3.40	0.06
(4) 8' x 2" Mount Pipe	C	None				0.0000	162.00	No Ice	1.90	1.90	0.03
								1/2" Ice	2.73	2.73	0.04
								1" Ice	3.40	3.40	0.06
PV-SRF-GS12-25-AP1	A	None				0.0000	162.00	No Ice	12.40	12.40	0.32
								1/2" Ice	15.10	15.10	0.52
								1" Ice	17.40	17.40	0.60
PV-SRF-GS12-25-AP1	B	None				0.0000	162.00	No Ice	12.40	12.40	0.32
								1/2" Ice	15.10	15.10	0.52
								1" Ice	17.40	17.40	0.60
PV-SRF-GS12-25-AP1	C	None				0.0000	162.00	No Ice	12.40	12.40	0.32
								1/2" Ice	15.10	15.10	0.52
								1" Ice	17.40	17.40	0.60
******											
10' Sector Frame	A	None				0.0000	151.00	No Ice	9.00	9.00	0.25
								1/2" Ice	13.20	13.20	0.35
								1" Ice	17.40	17.40	0.45
10' Sector Frame	B	None				0.0000	151.00	No Ice	9.00	9.00	0.25
								1/2" Ice	13.20	13.20	0.35
								1" Ice	17.40	17.40	0.45
10' Sector Frame	C	None				0.0000	151.00	No Ice	9.00	9.00	0.25
								1/2" Ice	13.20	13.20	0.35
								1" Ice	17.40	17.40	0.45
(2) LGP214nn	A	From Leg	3.00	0.00	0.00	0.0000	151.00	No Ice	1.10	0.35	0.01
								1/2" Ice	1.24	0.44	0.02
								1" Ice	1.38	0.54	0.03
(2) LGP214nn	B	From Leg	3.00	0.00	0.00	0.0000	151.00	No Ice	1.10	0.35	0.01
								1/2" Ice	1.24	0.44	0.02
								1" Ice	1.38	0.54	0.03
(2) LGP214nn	C	From Leg	3.00	0.00	0.00	0.0000	151.00	No Ice	1.10	0.35	0.01
								1/2" Ice	1.24	0.44	0.02
								1" Ice	1.38	0.54	0.03
7770.00	A	From Leg	3.00	0.00	0.00	0.0000	151.00	No Ice	5.51	2.93	0.04
								1/2" Ice	5.87	3.27	0.07

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00				1" Ice	6.23	3.63	0.11
7770.00	B	From Leg	3.00		0.0000	151.00	No Ice	5.51	2.93	0.04
			0.00				1/2" Ice	5.87	3.27	0.07
			0.00				1" Ice	6.23	3.63	0.11
7770.00	C	From Leg	3.00		0.0000	151.00	No Ice	5.51	2.93	0.04
			0.00				1/2" Ice	5.87	3.27	0.07
			0.00				1" Ice	6.23	3.63	0.11
HPA65R-BU6A	A	From Leg	3.00		0.0000	151.00	No Ice	7.85	5.61	0.05
			0.00				1/2" Ice	8.30	6.06	0.10
			0.00				1" Ice	8.76	6.52	0.16
HPA65R-BU6A	B	From Leg	3.00		0.0000	151.00	No Ice	7.85	5.61	0.05
			0.00				1/2" Ice	8.30	6.06	0.10
			0.00				1" Ice	8.76	6.52	0.16
HPA65R-BU6A	C	From Leg	3.00		0.0000	151.00	No Ice	7.85	5.61	0.05
			0.00				1/2" Ice	8.30	6.06	0.10
			0.00				1" Ice	8.76	6.52	0.16
P65-16-XLH-RR	A	From Leg	3.00		0.0000	151.00	No Ice	8.13	4.70	0.05
			0.00				1/2" Ice	8.59	5.15	0.10
			0.00				1" Ice	9.05	5.60	0.15
P65-16-XLH-RR	B	From Leg	3.00		0.0000	151.00	No Ice	8.13	4.70	0.05
			0.00				1/2" Ice	8.59	5.15	0.10
			0.00				1" Ice	9.05	5.60	0.15
P65-16-XLH-RR	C	From Leg	3.00		0.0000	151.00	No Ice	8.13	4.70	0.05
			0.00				1/2" Ice	8.59	5.15	0.10
			0.00				1" Ice	9.05	5.60	0.15
20"x15"x10" Surge Protector	A	From Leg	3.00		0.0000	151.00	No Ice	2.50	1.67	0.04
			0.00				1/2" Ice	2.70	1.84	0.06
			0.00				1" Ice	2.90	2.01	0.08
(2) RRU	A	From Leg	3.00		0.0000	151.00	No Ice	1.20	0.60	0.01
			0.00				1/2" Ice	1.34	0.70	0.02
			0.00				1" Ice	1.48	0.81	0.03
(2) RRU	B	From Leg	3.00		0.0000	151.00	No Ice	1.20	0.60	0.01
			0.00				1/2" Ice	1.34	0.70	0.02
			0.00				1" Ice	1.48	0.81	0.03
(2) RRU	C	From Leg	3.00		0.0000	151.00	No Ice	1.20	0.60	0.01
			0.00				1/2" Ice	1.34	0.70	0.02
			0.00				1" Ice	1.48	0.81	0.03
*********										
6' Side Arm Mount	A	From Leg	3.00		0.0000	145.00	No Ice	4.54	1.23	0.05
			0.00				1/2" Ice	7.80	2.55	0.08
			0.00				1" Ice	11.05	3.88	0.10
6' Side Arm Mount	C	From Leg	3.00		0.0000	145.00	No Ice	4.54	1.23	0.05
			0.00				1/2" Ice	7.80	2.55	0.08
			0.00				1" Ice	11.05	3.88	0.10
6' Side Arm Mount	A	From Leg	3.00		0.0000	145.00	No Ice	4.54	1.23	0.05
			0.00				1/2" Ice	7.80	2.55	0.08
			0.00				1" Ice	11.05	3.88	0.10
6' Side Arm Mount	C	From Leg	3.00		0.0000	145.00	No Ice	4.54	1.23	0.05
			0.00				1/2" Ice	7.80	2.55	0.08
			0.00				1" Ice	11.05	3.88	0.10
(2) 6' x 2" Omni	A	From Leg	6.00		0.0000	145.00	No Ice	1.20	1.20	0.02
			0.00				1/2" Ice	1.80	1.80	0.02
			0.00				1" Ice	2.17	2.17	0.04
(2) 6' x 2" Omni	C	From Leg	6.00		0.0000	145.00	No Ice	1.20	1.20	0.02
			0.00				1/2" Ice	1.80	1.80	0.02
			0.00				1" Ice	2.17	2.17	0.04
(2) 8' Dipole	A	From Leg	6.00		0.0000	145.00	No Ice	2.78	2.78	0.03

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1/2" Ice	3.96	3.96	0.05
			0.00			1" Ice	5.16	5.16	0.08
(2) 8' Dipole	C	From Leg	6.00	0.0000	145.00	No Ice	2.78	2.78	0.03
			0.00			1/2" Ice	3.96	3.96	0.05
			0.00			1" Ice	5.16	5.16	0.08
********									
********									
2" Edge to Edge	A	From Leg	3.00	-60.0000	162.00	No Ice	2.30	0.15	0.02
			0.00			1/2" Ice	2.54	0.21	0.04
			0.00			1" Ice	2.79	0.28	0.05
2" Edge to Edge	B	From Leg	3.00	-30.0000	162.00	No Ice	2.30	0.15	0.02
			0.00			1/2" Ice	2.54	0.21	0.04
			0.00			1" Ice	2.79	0.28	0.05
2" Edge to Edge	C	From Leg	3.00	-40.0000	162.00	No Ice	2.30	0.15	0.02
			0.00			1/2" Ice	2.54	0.21	0.04
			0.00			1" Ice	2.79	0.28	0.05
*********									

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
3' Dish	B	Paraboloid w/Radome	From Leg	2.00	0.0000		138.00	3.00	No Ice	7.07	0.15
				0.00					1/2" Ice	7.47	0.19
				0.00					1" Ice	7.86	0.23

Tower Pressures - No Ice

$G_H = 0.850$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
T1	182.50	1.174	35	25.990	A	3.064	1.979	1.979	39.24	2.500	0.000
185.00-180.00					B	3.064	1.979		39.24	15.910	0.000
					C	3.064	1.979		39.24	0.000	0.000
T2	170.00	1.15	34	104.792	A	9.770	9.583	9.583	49.52	15.616	0.000
180.00-160.00					B	9.770	9.583		49.52	63.640	0.000
					C	9.770	9.583		49.52	14.000	0.000
T3	150.00	1.11	33	124.798	A	10.802	9.599	9.599	47.05	65.596	0.000
160.00-140.00					B	10.802	9.599		47.05	65.820	0.000
					C	10.802	9.599		47.05	20.000	0.000
T4	130.00	1.065	32	166.675	A	17.167	13.356	13.356	43.76	89.680	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
140.00-120.00					B	17.167	13.356		43.76	73.494	0.000
					C	17.167	13.356		43.76	20.000	0.000
T5	110.00	1.016	30	209.283	A	20.286	18.574	18.574	47.80	89.680	0.000
120.00-100.00					B	20.286	18.574		47.80	73.620	0.000
					C	20.286	18.574		47.80	20.000	0.000
T6	90.00	0.959	29	249.283	A	16.501	18.574	18.574	52.96	89.680	0.000
100.00-80.00					B	16.501	18.574		52.96	73.620	0.000
					C	16.501	18.574		52.96	20.000	0.000
T7 80.00-60.00	70.00	0.892	27	289.283	A	53.313	18.574	18.574	25.84	89.680	0.000
					B	53.313	18.574		25.84	73.620	0.000
					C	53.313	18.574		25.84	20.000	0.000
T8 60.00-40.00	50.00	0.811	24	328.344	A	26.164	16.694	16.694	38.95	89.680	0.000
					B	26.164	16.694		38.95	73.620	0.000
					C	26.164	16.694		38.95	20.000	0.000
T9 40.00-20.00	30.00	0.701	21	374.393	A	31.701	28.798	28.798	47.60	89.680	0.000
					B	31.701	28.798		47.60	73.620	0.000
					C	31.701	28.798		47.60	20.000	0.000
T10 20.00-0.00	10.00	0.7	21	414.393	A	56.062	28.798	28.798	33.94	89.680	0.000
					B	56.062	28.798		33.94	73.620	0.000
					C	56.062	28.798		33.94	20.000	0.000

Tower Pressure - With Ice

$G_H = 0.850$

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1	182.50	1.174	6	1.0085	26.830	A	3.064	6.750	3.660	37.29	3.509	0.000
185.00-180.00						B	3.064	6.750		37.29	29.225	0.000
						C	3.064	6.750		37.29	0.000	0.000
T2	170.00	1.15	6	1.0014	108.130	A	9.770	26.043	16.259	45.40	22.661	0.000
180.00-160.00						B	9.770	26.043		45.40	116.735	0.000
						C	9.770	26.043		45.40	25.736	0.000
T3	150.00	1.11	6	0.9890	128.098	A	10.802	26.886	16.203	42.99	87.959	0.000
160.00-140.00						B	10.802	26.886		42.99	123.420	0.000
						C	10.802	26.886		42.99	36.635	0.000
T4	130.00	1.065	6	0.9749	169.929	A	17.167	36.602	19.866	36.95	111.803	0.000
140.00-120.00						B	17.167	36.602		36.95	148.461	0.000
						C	17.167	36.602		36.95	36.488	0.000
T5	110.00	1.016	5	0.9588	212.483	A	20.286	40.536	24.977	41.07	111.328	0.000
120.00-100.00						B	20.286	40.536		41.07	148.317	0.000
						C	20.286	40.536		41.07	36.319	0.000
T6 100.00-80.00	90.00	0.959	5	0.9397	252.420	A	16.501	37.254	24.849	46.23	110.769	0.000
						B	16.501	37.254		46.23	147.538	0.000
						C	16.501	37.254		46.23	36.121	0.000
T7 80.00-60.00	70.00	0.892	5	0.9164	292.342	A	53.313	57.264	24.694	22.33	110.084	0.000
						B	53.313	57.264		22.33	146.586	0.000
						C	53.313	57.264		22.33	35.877	0.000
T8 60.00-40.00	50.00	0.811	4	0.8861	331.301	A	26.164	38.067	22.611	35.20	109.194	0.000
						B	26.164	38.067		35.20	145.349	0.000
						C	26.164	38.067		35.20	35.561	0.000
T9 40.00-20.00	30.00	0.701	4	0.8419	377.203	A	31.701	50.364	34.420	41.94	107.899	0.000
						B	31.701	50.364		41.94	143.551	0.000
						C	31.701	50.364		41.94	35.102	0.000

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T10 20.00-0.00	10.00	0.7	4	0.7543	416.911	A	56.062	59.413	33.835	29.30	105.332	0.000
						B	56.062	59.413		29.30	139.989	0.000
						C	56.062	59.413		29.30	34.194	0.000

Tower Pressure - Service

$G_H = 0.850$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1 185.00-180.00	182.50	1.174	9	25.990	A	3.064	1.979	1.979	39.24	2.500	0.000
					B	3.064	1.979		39.24	15.910	0.000
					C	3.064	1.979		39.24	0.000	0.000
T2 180.00-160.00	170.00	1.15	9	104.792	A	9.770	9.583	9.583	49.52	15.616	0.000
					B	9.770	9.583		49.52	63.640	0.000
					C	9.770	9.583		49.52	14.000	0.000
T3 160.00-140.00	150.00	1.11	9	124.798	A	10.802	9.599	9.599	47.05	65.596	0.000
					B	10.802	9.599		47.05	65.820	0.000
					C	10.802	9.599		47.05	20.000	0.000
T4 140.00-120.00	130.00	1.065	8	166.675	A	17.167	13.356	13.356	43.76	89.680	0.000
					B	17.167	13.356		43.76	73.494	0.000
					C	17.167	13.356		43.76	20.000	0.000
T5 120.00-100.00	110.00	1.016	8	209.283	A	20.286	18.574	18.574	47.80	89.680	0.000
					B	20.286	18.574		47.80	73.620	0.000
					C	20.286	18.574		47.80	20.000	0.000
T6 100.00-80.00	90.00	0.959	8	249.283	A	16.501	18.574	18.574	52.96	89.680	0.000
					B	16.501	18.574		52.96	73.620	0.000
					C	16.501	18.574		52.96	20.000	0.000
T7 80.00-60.00	70.00	0.892	7	289.283	A	53.313	18.574	18.574	25.84	89.680	0.000
					B	53.313	18.574		25.84	73.620	0.000
					C	53.313	18.574		25.84	20.000	0.000
T8 60.00-40.00	50.00	0.811	6	328.344	A	26.164	16.694	16.694	38.95	89.680	0.000
					B	26.164	16.694		38.95	73.620	0.000
					C	26.164	16.694		38.95	20.000	0.000
T9 40.00-20.00	30.00	0.701	5	374.393	A	31.701	28.798	28.798	47.60	89.680	0.000
					B	31.701	28.798		47.60	73.620	0.000
					C	31.701	28.798		47.60	20.000	0.000
T10 20.00-0.00	10.00	0.7	5	414.393	A	56.062	28.798	28.798	33.94	89.680	0.000
					B	56.062	28.798		33.94	73.620	0.000
					C	56.062	28.798		33.94	20.000	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1 185.00-180.00	0.14	0.15	A	0.194	2.616	35	1	1	4.199	0.63	126.38	B
			B	0.194	2.616		1	1	4.199			
			C	0.194	2.616		1	1	4.199			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T2	0.81	0.79	A	0.185	2.648	34	1	1	15.251	2.62	130.89	B
180.00-160.00			B	0.185	2.648		1	1	15.251			
			C	0.185	2.648		1	1	15.251			
T3	1.33	1.08	A	0.163	2.723	33	1	1	16.265	3.23	161.29	B
160.00-140.00			B	0.163	2.723		1	1	16.265			
			C	0.163	2.723		1	1	16.265			
T4	1.47	1.61	A	0.183	2.653	32	1	1	24.697	3.96	198.16	B
140.00-120.00			B	0.183	2.653		1	1	24.697			
			C	0.183	2.653		1	1	24.697			
T5	1.47	2.07	A	0.186	2.645	30	1	1	29.820	4.12	206.15	B
120.00-100.00			B	0.186	2.645		1	1	29.820			
			C	0.186	2.645		1	1	29.820			
T6	1.47	2.01	A	0.141	2.806	29	1	1	25.901	3.74	187.17	B
100.00-80.00			B	0.141	2.806		1	1	25.901			
			C	0.141	2.806		1	1	25.901			
T7	1.47	5.68	A	0.249	2.442	27	1	1	63.463	5.34	267.12	B
80.00-60.00			B	0.249	2.442		1	1	63.463			
			C	0.249	2.442		1	1	63.463			
T8	1.47	3.35	A	0.131	2.844	24	1	1	35.207	3.73	186.40	B
60.00-40.00			B	0.131	2.844		1	1	35.207			
			C	0.131	2.844		1	1	35.207			
T9	1.47	4.15	A	0.162	2.729	21	1	1	44.550	3.60	180.09	B
40.00-20.00			B	0.162	2.729		1	1	44.550			
			C	0.162	2.729		1	1	44.550			
T10	1.47	6.97	A	0.205	2.58	21	1	1	69.524	4.62	231.12	B
20.00-0.00			B	0.205	2.58		1	1	69.524			
			C	0.205	2.58		1	1	69.524			
Sum Weight:	12.56	27.85						OTM	3064.55 kip-ft	35.60		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1	0.14	0.15	A	0.194	2.616	35	0.8	1	3.586	0.58	116.86	C
185.00-180.00			B	0.194	2.616		0.8	1	3.586			
			C	0.194	2.616		0.8	1	3.586			
T2	0.81	0.79	A	0.185	2.648	34	0.8	1	13.297	2.47	123.36	C
180.00-160.00			B	0.185	2.648		0.8	1	13.297			
			C	0.185	2.648		0.8	1	13.297			
T3	1.33	1.08	A	0.163	2.723	33	0.8	1	14.104	3.06	153.04	C
160.00-140.00			B	0.163	2.723		0.8	1	14.104			
			C	0.163	2.723		0.8	1	14.104			
T4	1.47	1.61	A	0.183	2.653	32	0.8	1	21.264	3.72	185.89	C
140.00-120.00			B	0.183	2.653		0.8	1	21.264			
			C	0.183	2.653		0.8	1	21.264			
T5	1.47	2.07	A	0.186	2.645	30	0.8	1	25.763	3.85	192.37	C
120.00-100.00			B	0.186	2.645		0.8	1	25.763			
			C	0.186	2.645		0.8	1	25.763			
T6	1.47	2.01	A	0.141	2.806	29	0.8	1	22.601	3.52	175.93	C
100.00-80.00			B	0.141	2.806		0.8	1	22.601			
			C	0.141	2.806		0.8	1	22.601			

tnxTower	Job: Weston North CT	Page: 23 of 46
Centerline Enginerring Services, PA 750 W Center Street, Suite 301 West Bridgewater, MA 02379 Phone: (781) 713-4725 FAX:	Project: RF Filter Add	Date: 12:54:53 02/12/24
	Client: Verizon Wireless	Designed by: jboegel

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T7	1.47	5.68	A	0.249	2.442	27	0.8	1	52.801	4.75	237.72	C
80.00-60.00			B	0.249	2.442		0.8	1	52.801			
			C	0.249	2.442		0.8	1	52.801			
T8	1.47	3.35	A	0.131	2.844	24	0.8	1	29.974	3.42	171.13	C
60.00-40.00			B	0.131	2.844		0.8	1	29.974			
			C	0.131	2.844		0.8	1	29.974			
T9	1.47	4.15	A	0.162	2.729	21	0.8	1	38.209	3.30	164.76	C
40.00-20.00			B	0.162	2.729		0.8	1	38.209			
			C	0.162	2.729		0.8	1	38.209			
T10	1.47	6.97	A	0.205	2.58	21	0.8	1	58.312	4.11	205.50	C
20.00-0.00			B	0.205	2.58		0.8	1	58.312			
			C	0.205	2.58		0.8	1	58.312			
Sum Weight:	12.56	27.85						OTM	2852.28 kip-ft	32.78		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1	0.14	0.15	A	0.194	2.616	35	0.85	1	3.739	0.60	119.24	C
185.00-180.00			B	0.194	2.616		0.85	1	3.739			
			C	0.194	2.616		0.85	1	3.739			
T2	0.81	0.79	A	0.185	2.648	34	0.85	1	13.786	2.55	127.33	A
180.00-160.00			B	0.185	2.648		0.85	1	13.786			
			C	0.185	2.648		0.85	1	13.786			
T3	1.33	1.08	A	0.163	2.723	33	0.85	1	14.644	3.18	158.95	C
160.00-140.00			B	0.163	2.723		0.85	1	14.644			
			C	0.163	2.723		0.85	1	14.644			
T4	1.47	1.61	A	0.183	2.653	32	0.85	1	22.122	3.94	197.17	C
140.00-120.00			B	0.183	2.653		0.85	1	22.122			
			C	0.183	2.653		0.85	1	22.122			
T5	1.47	2.07	A	0.186	2.645	30	0.85	1	26.777	4.07	203.64	C
120.00-100.00			B	0.186	2.645		0.85	1	26.777			
			C	0.186	2.645		0.85	1	26.777			
T6	1.47	2.01	A	0.141	2.806	29	0.85	1	23.426	3.72	186.13	C
100.00-80.00			B	0.141	2.806		0.85	1	23.426			
			C	0.141	2.806		0.85	1	23.426			
T7	1.47	5.68	A	0.249	2.442	27	0.85	1	55.466	5.04	251.95	C
80.00-60.00			B	0.249	2.442		0.85	1	55.466			
			C	0.249	2.442		0.85	1	55.466			
T8	1.47	3.35	A	0.131	2.844	24	0.85	1	31.282	3.62	181.20	C
60.00-40.00			B	0.131	2.844		0.85	1	31.282			
			C	0.131	2.844		0.85	1	31.282			
T9	1.47	4.15	A	0.162	2.729	21	0.85	1	39.794	3.48	173.99	C
40.00-20.00			B	0.162	2.729		0.85	1	39.794			
			C	0.162	2.729		0.85	1	39.794			
T10	1.47	6.97	A	0.205	2.58	21	0.85	1	61.115	4.35	217.30	C
20.00-0.00			B	0.205	2.58		0.85	1	61.115			
			C	0.205	2.58		0.85	1	61.115			
Sum Weight:	12.56	27.85						OTM	2996.06 kip-ft	34.55		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1	0.40	0.48	A	0.366	2.136	6	1	1	7.264	0.18	35.10	B
185.00-180.00			B	0.366	2.136		1	1	7.264			
			C	0.366	2.136		1	1	7.264			
T2	2.11	1.94	A	0.331	2.216	6	1	1	25.636	0.73	36.68	B
180.00-160.00			B	0.331	2.216		1	1	25.636			
			C	0.331	2.216		1	1	25.636			
T3	3.35	2.30	A	0.294	2.312	6	1	1	26.857	0.90	45.16	B
160.00-140.00			B	0.294	2.312		1	1	26.857			
			C	0.294	2.312		1	1	26.857			
T4	3.88	3.43	A	0.316	2.253	6	1	1	39.282	1.09	54.54	B
140.00-120.00			B	0.316	2.253		1	1	39.282			
			C	0.316	2.253		1	1	39.282			
T5	3.84	4.14	A	0.286	2.333	5	1	1	44.395	1.11	55.27	B
120.00-100.00			B	0.286	2.333		1	1	44.395			
			C	0.286	2.333		1	1	44.395			
T6	3.80	3.73	A	0.213	2.553	5	1	1	37.992	1.01	50.63	B
100.00-80.00			B	0.213	2.553		1	1	37.992			
			C	0.213	2.553		1	1	37.992			
T7	3.74	9.99	A	0.378	2.109	5	1	1	89.223	1.30	64.78	B
80.00-60.00			B	0.378	2.109		1	1	89.223			
			C	0.378	2.109		1	1	89.223			
T8	3.67	5.52	A	0.194	2.617	4	1	1	47.993	0.95	47.47	B
60.00-40.00			B	0.194	2.617		1	1	47.993			
			C	0.194	2.617		1	1	47.993			
T9	3.56	6.77	A	0.218	2.538	4	1	1	60.801	0.90	45.15	B
40.00-20.00			B	0.218	2.538		1	1	60.801			
			C	0.218	2.538		1	1	60.801			
T10	3.36	10.70	A	0.277	2.359	4	1	1	91.240	1.08	53.89	B
20.00-0.00			B	0.277	2.359		1	1	91.240			
			C	0.277	2.359		1	1	91.240			
Sum Weight:	31.70	48.99						OTM	822.76 kip-ft	9.25		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1	0.40	0.48	A	0.366	2.136	6	0.8	1	6.651	0.17	33.75	C
185.00-180.00			B	0.366	2.136		0.8	1	6.651			
			C	0.366	2.136		0.8	1	6.651			
T2	2.11	1.94	A	0.331	2.216	6	0.8	1	23.682	0.71	35.59	C
180.00-160.00			B	0.331	2.216		0.8	1	23.682			
			C	0.331	2.216		0.8	1	23.682			
T3	3.35	2.30	A	0.294	2.312	6	0.8	1	24.696	0.88	43.94	C
160.00-140.00			B	0.294	2.312		0.8	1	24.696			
			C	0.294	2.312		0.8	1	24.696			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T4	3.88	3.43	A	0.316	2.253	6	0.8	1	35.849	1.05	52.73	C
140.00-120.00			B	0.316	2.253		0.8	1	35.849			
			C	0.316	2.253		0.8	1	35.849			
T5	3.84	4.14	A	0.286	2.333	5	0.8	1	40.338	1.06	53.16	C
120.00-100.00			B	0.286	2.333		0.8	1	40.338			
			C	0.286	2.333		0.8	1	40.338			
T6	3.80	3.73	A	0.213	2.553	5	0.8	1	34.692	0.98	48.85	C
100.00-80.00			B	0.213	2.553		0.8	1	34.692			
			C	0.213	2.553		0.8	1	34.692			
T7	3.74	9.99	A	0.378	2.109	5	0.8	1	78.560	1.21	60.38	C
80.00-60.00			B	0.378	2.109		0.8	1	78.560			
			C	0.378	2.109		0.8	1	78.560			
T8	3.67	5.52	A	0.194	2.617	4	0.8	1	42.760	0.90	45.03	C
60.00-40.00			B	0.194	2.617		0.8	1	42.760			
			C	0.194	2.617		0.8	1	42.760			
T9	3.56	6.77	A	0.218	2.538	4	0.8	1	54.460	0.85	42.67	C
40.00-20.00			B	0.218	2.538		0.8	1	54.460			
			C	0.218	2.538		0.8	1	54.460			
T10	3.36	10.70	A	0.277	2.359	4	0.8	1	80.028	1.00	49.82	C
20.00-0.00			B	0.277	2.359		0.8	1	80.028			
			C	0.277	2.359		0.8	1	80.028			
Sum Weight:	31.70	48.99						OTM	790.70 kip-ft	8.81		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1	0.40	0.48	A	0.366	2.136	6	0.85	1	6.804	0.16	31.28	C
185.00-180.00			B	0.366	2.136		0.85	1	6.804			
			C	0.366	2.136		0.85	1	6.804			
T2	2.11	1.94	A	0.331	2.216	6	0.85	1	24.171	0.68	33.79	A
180.00-160.00			B	0.331	2.216		0.85	1	24.171			
			C	0.331	2.216		0.85	1	24.171			
T3	3.35	2.30	A	0.294	2.312	6	0.85	1	25.237	0.85	42.41	C
160.00-140.00			B	0.294	2.312		0.85	1	25.237			
			C	0.294	2.312		0.85	1	25.237			
T4	3.88	3.43	A	0.316	2.253	6	0.85	1	36.707	1.04	51.99	C
140.00-120.00			B	0.316	2.253		0.85	1	36.707			
			C	0.316	2.253		0.85	1	36.707			
T5	3.84	4.14	A	0.286	2.333	5	0.85	1	41.352	1.05	52.55	C
120.00-100.00			B	0.286	2.333		0.85	1	41.352			
			C	0.286	2.333		0.85	1	41.352			
T6	3.80	3.73	A	0.213	2.553	5	0.85	1	35.517	0.96	48.23	C
100.00-80.00			B	0.213	2.553		0.85	1	35.517			
			C	0.213	2.553		0.85	1	35.517			
T7	3.74	9.99	A	0.378	2.109	5	0.85	1	81.226	1.21	60.48	C
80.00-60.00			B	0.378	2.109		0.85	1	81.226			
			C	0.378	2.109		0.85	1	81.226			
T8	3.67	5.52	A	0.194	2.617	4	0.85	1	44.069	0.89	44.74	C
60.00-40.00			B	0.194	2.617		0.85	1	44.069			
			C	0.194	2.617		0.85	1	44.069			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T9	3.56	6.77	A	0.218	2.538	4	0.85	1	56.045	0.85	42.51	C
40.00-20.00			B	0.218	2.538		0.85	1	56.045			
			C	0.218	2.538		0.85	1	56.045			
T10	3.36	10.70	A	0.277	2.359	4	0.85	1	82.831	1.00	50.06	C
20.00-0.00			B	0.277	2.359		0.85	1	82.831			
			C	0.277	2.359		0.85	1	82.831			
Sum Weight:	31.70	48.99						OTM	773.22 kip-ft	8.69		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1	0.14	0.15	A	0.194	2.616	9	1	1	4.199	0.17	33.26	B
185.00-180.00			B	0.194	2.616		1	1	4.199			
			C	0.194	2.616		1	1	4.199			
T2	0.81	0.79	A	0.185	2.648	9	1	1	15.251	0.69	34.45	B
180.00-160.00			B	0.185	2.648		1	1	15.251			
			C	0.185	2.648		1	1	15.251			
T3	1.33	1.08	A	0.163	2.723	9	1	1	16.265	0.85	42.45	B
160.00-140.00			B	0.163	2.723		1	1	16.265			
			C	0.163	2.723		1	1	16.265			
T4	1.47	1.61	A	0.183	2.653	8	1	1	24.803	1.04	52.25	B
140.00-120.00			B	0.183	2.653		1	1	24.803			
			C	0.183	2.653		1	1	24.803			
T5	1.47	2.07	A	0.186	2.645	8	1	1	30.912	1.10	55.23	B
120.00-100.00			B	0.186	2.645		1	1	30.912			
			C	0.186	2.645		1	1	30.912			
T6	1.47	2.01	A	0.141	2.806	8	1	1	27.026	1.01	50.26	B
100.00-80.00			B	0.141	2.806		1	1	27.026			
			C	0.141	2.806		1	1	27.026			
T7	1.47	5.68	A	0.249	2.442	7	1	1	64.172	1.42	70.81	B
80.00-60.00			B	0.249	2.442		1	1	64.172			
			C	0.249	2.442		1	1	64.172			
T8	1.47	3.35	A	0.131	2.844	6	1	1	35.611	0.99	49.36	B
60.00-40.00			B	0.131	2.844		1	1	35.611			
			C	0.131	2.844		1	1	35.611			
T9	1.47	4.15	A	0.162	2.729	5	1	1	48.082	0.99	49.64	B
40.00-20.00			B	0.162	2.729		1	1	48.082			
			C	0.162	2.729		1	1	48.082			
T10	1.47	6.97	A	0.205	2.58	5	1	1	72.630	1.25	62.69	B
20.00-0.00			B	0.205	2.58		1	1	72.630			
			C	0.205	2.58		1	1	72.630			
Sum Weight:	12.56	27.85						OTM	813.43 kip-ft	9.51		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1	0.14	0.15	A	0.194	2.616	9	0.8	1	3.586	0.15	30.75	C
185.00-180.00			B	0.194	2.616		0.8	1	3.586			
			C	0.194	2.616		0.8	1	3.586			
T2	0.81	0.79	A	0.185	2.648	9	0.8	1	13.297	0.65	32.46	C
180.00-160.00			B	0.185	2.648		0.8	1	13.297			
			C	0.185	2.648		0.8	1	13.297			
T3	1.33	1.08	A	0.163	2.723	9	0.8	1	14.104	0.81	40.27	C
160.00-140.00			B	0.163	2.723		0.8	1	14.104			
			C	0.163	2.723		0.8	1	14.104			
T4	1.47	1.61	A	0.183	2.653	8	0.8	1	21.369	0.98	49.02	C
140.00-120.00			B	0.183	2.653		0.8	1	21.369			
			C	0.183	2.653		0.8	1	21.369			
T5	1.47	2.07	A	0.186	2.645	8	0.8	1	26.855	1.03	51.60	C
120.00-100.00			B	0.186	2.645		0.8	1	26.855			
			C	0.186	2.645		0.8	1	26.855			
T6	1.47	2.01	A	0.141	2.806	8	0.8	1	23.726	0.95	47.31	C
100.00-80.00			B	0.141	2.806		0.8	1	23.726			
			C	0.141	2.806		0.8	1	23.726			
T7	1.47	5.68	A	0.249	2.442	7	0.8	1	53.510	1.26	63.07	C
80.00-60.00			B	0.249	2.442		0.8	1	53.510			
			C	0.249	2.442		0.8	1	53.510			
T8	1.47	3.35	A	0.131	2.844	6	0.8	1	30.378	0.91	45.35	C
60.00-40.00			B	0.131	2.844		0.8	1	30.378			
			C	0.131	2.844		0.8	1	30.378			
T9	1.47	4.15	A	0.162	2.729	5	0.8	1	41.742	0.91	45.61	C
40.00-20.00			B	0.162	2.729		0.8	1	41.742			
			C	0.162	2.729		0.8	1	41.742			
T10	1.47	6.97	A	0.205	2.58	5	0.8	1	61.418	1.12	55.95	C
20.00-0.00			B	0.205	2.58		0.8	1	61.418			
			C	0.205	2.58		0.8	1	61.418			
Sum Weight:	12.56	27.85						OTM	757.57 kip-ft	8.77		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
T1	0.14	0.15	A	0.194	2.616	9	0.85	1	3.739	0.16	31.38	C
185.00-180.00			B	0.194	2.616		0.85	1	3.739			
			C	0.194	2.616		0.85	1	3.739			
T2	0.81	0.79	A	0.185	2.648	9	0.85	1	13.786	0.67	33.51	A
180.00-160.00			B	0.185	2.648		0.85	1	13.786			
			C	0.185	2.648		0.85	1	13.786			
T3	1.33	1.08	A	0.163	2.723	9	0.85	1	14.644	0.84	41.83	C
160.00-140.00			B	0.163	2.723		0.85	1	14.644			
			C	0.163	2.723		0.85	1	14.644			
T4	1.47	1.61	A	0.183	2.653	8	0.85	1	22.228	1.04	51.99	C
140.00-120.00			B	0.183	2.653		0.85	1	22.228			
			C	0.183	2.653		0.85	1	22.228			
T5	1.47	2.07	A	0.186	2.645	8	0.85	1	27.870	1.09	54.57	C
120.00-100.00			B	0.186	2.645		0.85	1	27.870			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F K	w plf	Ctrl. Face
			C	0.186	2.645		0.85	1	27.870			
T6	1.47	2.01	A	0.141	2.806	8	0.85	1	24.551	1.00	49.99	C
100.00-80.00			B	0.141	2.806		0.85	1	24.551			
			C	0.141	2.806		0.85	1	24.551			
T7	1.47	5.68	A	0.249	2.442	7	0.85	1	56.175	1.34	66.82	C
80.00-60.00			B	0.249	2.442		0.85	1	56.175			
			C	0.249	2.442		0.85	1	56.175			
T8	1.47	3.35	A	0.131	2.844	6	0.85	1	31.686	0.96	47.99	C
60.00-40.00			B	0.131	2.844		0.85	1	31.686			
			C	0.131	2.844		0.85	1	31.686			
T9	1.47	4.15	A	0.162	2.729	5	0.85	1	43.327	0.96	48.04	C
40.00-20.00			B	0.162	2.729		0.85	1	43.327			
			C	0.162	2.729		0.85	1	43.327			
T10	1.47	6.97	A	0.205	2.58	5	0.85	1	64.221	1.18	59.05	C
20.00-0.00			B	0.205	2.58		0.85	1	64.221			
			C	0.205	2.58		0.85	1	64.221			
Sum Weight:	12.56	27.85						OTM	795.41 kip-ft	9.23		

Force Totals

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Leg Weight	10.02					
Bracing Weight	17.83					
Total Member Self-Weight	27.85			-17.84	4.60	
Total Weight	48.48			-17.84	4.60	
Wind 0 deg - No Ice		-0.02	-44.07	-4697.19	7.60	3.16
Wind 30 deg - No Ice		22.26	-38.61	-4173.44	-2390.54	3.04
Wind 60 deg - No Ice		38.22	-22.07	-2397.58	-4115.53	-6.62
Wind 90 deg - No Ice		45.77	0.00	-17.22	-4874.46	-18.22
Wind 120 deg - No Ice		39.41	22.75	2374.27	-4138.66	-20.70
Wind 150 deg - No Ice		20.33	35.20	3758.82	-2176.57	-7.26
Wind 180 deg - No Ice		-0.01	41.20	4442.31	5.45	-3.07
Wind 210 deg - No Ice		-22.30	38.58	4134.21	2405.89	-3.04
Wind 240 deg - No Ice		-40.72	23.49	2468.17	4316.48	6.53
Wind 270 deg - No Ice		-45.82	-0.00	-18.52	4891.10	18.15
Wind 300 deg - No Ice		-37.00	-21.36	-2306.12	3968.01	20.70
Wind 330 deg - No Ice		-20.35	-35.24	-3800.91	2189.55	7.33
Member Ice	21.14					
Total Weight Ice	97.74			-41.16	-7.60	
Wind 0 deg - Ice		-0.00	-11.04	-1239.55	-7.02	0.80
Wind 30 deg - Ice		5.70	-9.89	-1121.72	-630.67	1.07
Wind 60 deg - Ice		10.16	-5.87	-680.99	-1115.49	-0.89
Wind 90 deg - Ice		11.56	0.00	-41.04	-1262.03	-4.67
Wind 120 deg - Ice		9.68	5.59	561.25	-1051.00	-5.26
Wind 150 deg - Ice		5.21	9.03	946.10	-577.73	-2.37
Wind 180 deg - Ice		-0.00	10.59	1123.84	-7.44	-0.78
Wind 210 deg - Ice		-5.71	9.88	1038.71	616.66	-1.07
Wind 240 deg - Ice		-10.54	6.08	614.72	1129.58	0.88
Wind 270 deg - Ice		-11.57	-0.00	-41.29	1248.26	4.66
Wind 300 deg - Ice		-9.31	-5.38	-627.99	1008.81	5.26

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Wind 330 deg - Ice		-5.22	-9.04	-1029.65	563.26	2.38
Total Weight	48.48			-17.84	4.60	
Wind 0 deg - Service		-0.01	-11.74	-1239.18	1.30	0.83
Wind 30 deg - Service		5.93	-10.28	-1100.42	-633.27	0.80
Wind 60 deg - Service		10.18	-5.88	-630.54	-1089.77	-1.74
Wind 90 deg - Service		12.18	0.00	-0.64	-1290.42	-4.79
Wind 120 deg - Service		10.49	6.06	632.19	-1095.86	-5.45
Wind 150 deg - Service		5.42	9.38	999.09	-576.96	-1.91
Wind 180 deg - Service		-0.00	10.98	1179.90	0.74	-0.81
Wind 210 deg - Service		-5.94	10.27	1097.88	635.92	-0.80
Wind 240 deg - Service		-10.84	6.25	656.90	1141.26	1.72
Wind 270 deg - Service		-12.20	-0.00	-0.98	1293.41	4.78
Wind 300 deg - Service		-9.86	-5.69	-606.47	1049.56	5.45
Wind 330 deg - Service		-5.43	-9.40	-1002.39	578.99	1.93

Load Combinations

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

Comb. No.	Description
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	185 - 180	Leg	Max Tension	6	2.14	0.00	-0.00
			Max. Compression	10	-2.78	0.00	-0.01
			Max. Mx	10	0.21	0.03	0.00
			Max. My	2	0.19	-0.01	-0.04
			Max. Vy	20	1.32	0.00	0.00
			Max. Vx	24	1.26	0.00	-0.00
		Diagonal	Max Tension	9	2.06	0.00	0.00
			Max. Compression	20	-2.30	0.00	0.00
			Max. Mx	30	0.29	0.01	-0.00
			Max. My	24	-2.25	0.00	-0.00
			Max. Vy	30	-0.01	0.01	-0.00
			Max. Vx	24	0.00	0.00	-0.00
		Top Girt	Max Tension	18	0.62	0.00	0.00
			Max. Compression	7	-0.46	0.00	0.00
			Max. Mx	27	0.31	-0.02	0.00
			Max. My	24	0.09	0.00	-0.00
			Max. Vy	27	-0.02	0.00	0.00
			Max. Vx	24	0.00	0.00	0.00
T2	180 - 160	Leg	Max Tension	7	28.96	-0.28	0.17
			Max. Compression	18	-33.81	0.58	-0.36
			Max. Mx	20	-2.10	-0.82	-0.02
			Max. My	2	11.84	0.07	-0.81
			Max. Vy	8	0.70	-0.62	-0.11
			Max. Vx	2	-0.72	0.01	0.68
		Diagonal	Max Tension	8	4.78	0.00	0.00
			Max. Compression	20	-4.96	0.00	0.00
			Max. Mx	18	3.45	0.04	-0.00
			Max. My	8	-3.91	-0.02	-0.01
			Max. Vy	31	-0.02	0.03	-0.00
			Max. Vx	8	-0.00	0.00	0.00
		Top Girt	Max Tension	14	0.34	0.00	0.00
			Max. Compression	11	-0.23	0.00	0.00
			Max. Mx	27	0.06	-0.02	0.00
			Max. My	24	0.07	0.00	-0.00
			Max. Vy	27	0.02	0.00	0.00
			Max. Vx	24	0.00	0.00	0.00
T3	160 - 140	Leg	Max Tension	7	66.49	-0.04	-0.01
			Max. Compression	18	-75.86	0.05	-0.00
			Max. Mx	18	-45.01	0.68	-0.03
			Max. My	11	17.54	-0.31	0.47

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	14	0.67	-0.40	0.00
			Max. Vx	10	-0.53	-0.20	0.21
		Diagonal	Max Tension	16	5.38	0.00	0.00
			Max. Compression	16	-5.44	0.00	0.00
			Max. Mx	18	3.89	0.03	-0.00
			Max. My	24	-4.52	-0.01	-0.01
			Max. Vy	27	-0.02	0.02	0.00
			Max. Vx	24	0.00	0.00	0.00
		Top Girt	Max Tension	13	0.05	0.00	0.00
			Max. Compression	22	-0.12	0.00	0.00
			Max. Mx	26	-0.02	-0.02	0.00
			Max. My	37	-0.01	0.00	0.00
			Max. Vy	26	0.02	0.00	0.00
			Max. Vx	37	-0.00	0.00	0.00
T4	140 - 120	Leg	Max Tension	7	99.49	0.50	0.00
			Max. Compression	18	-112.15	1.24	0.00
			Max. Mx	18	-112.08	1.24	0.00
			Max. My	20	-6.51	-0.11	-0.95
			Max. Vy	18	0.84	1.24	0.00
			Max. Vx	20	0.45	-0.11	-0.95
		Diagonal	Max Tension	16	5.35	0.02	-0.00
			Max. Compression	16	-5.52	0.00	0.00
			Max. Mx	18	3.72	0.03	0.00
			Max. My	4	-5.41	-0.01	0.01
			Max. Vy	29	0.02	0.02	0.00
			Max. Vx	4	-0.00	0.00	0.00
		Secondary Horizontal	Max Tension	4	1.13	0.01	-0.00
			Max. Compression	5	-1.03	0.01	0.01
			Max. Mx	29	-0.06	0.02	0.00
			Max. My	20	-0.85	0.01	0.01
			Max. Vy	29	-0.02	0.02	0.00
			Max. Vx	8	-0.00	0.00	0.00
T5	120 - 100	Leg	Max Tension	7	126.70	1.19	0.01
			Max. Compression	18	-142.78	2.39	0.00
			Max. Mx	18	-132.22	2.63	0.00
			Max. My	20	-6.92	-0.19	-1.33
			Max. Vy	18	-1.33	2.63	0.00
			Max. Vx	20	-0.53	-0.19	-1.33
		Diagonal	Max Tension	17	5.74	0.04	-0.00
			Max. Compression	16	-6.02	0.00	0.00
			Max. Mx	18	3.92	0.05	0.01
			Max. My	10	-5.77	-0.02	0.01
			Max. Vy	29	0.03	0.04	0.00
			Max. Vx	10	0.00	0.00	0.00
		Secondary Horizontal	Max Tension	20	1.68	0.02	-0.01
			Max. Compression	5	-1.55	0.02	0.01
			Max. Mx	34	0.04	0.04	0.01
			Max. My	20	-1.31	0.02	0.02
			Max. Vy	34	0.04	0.04	0.01
			Max. Vx	8	-0.00	0.00	0.00
T6	100 - 80	Leg	Max Tension	7	153.55	-0.81	0.01
			Max. Compression	18	-173.50	-0.85	0.00
			Max. Mx	18	-173.50	-0.85	0.00
			Max. My	20	-8.38	-0.11	-0.93
			Max. Vy	19	0.29	0.78	-0.00
			Max. Vx	20	-0.15	-0.11	-0.93
		Diagonal	Max Tension	16	5.67	0.00	0.00
			Max. Compression	16	-5.86	0.00	0.00
			Max. Mx	29	1.18	0.06	-0.01

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	31	-0.19	0.05	0.01
			Max. Vy	29	0.04	0.06	-0.01
			Max. Vx	31	-0.00	0.00	0.00
T7	80 - 60	Leg	Max Tension	7	176.93	0.79	-0.00
			Max. Compression	18	-203.17	1.85	0.06
			Max. Mx	18	-201.65	4.96	-0.06
			Max. My	20	-12.38	-0.24	-1.69
			Max. Vy	18	-5.23	4.81	-0.06
			Max. Vx	20	1.47	-0.24	-1.69
		Diagonal	Max Tension	7	7.12	0.03	-0.00
			Max. Compression	18	-8.12	0.00	0.00
			Max. Mx	18	3.09	0.11	0.00
			Max. My	36	-0.74	0.01	-0.01
			Max. Vy	18	-0.04	0.11	0.00
			Max. Vx	28	-0.00	0.00	0.00
		Horizontal	Max Tension	20	1.08	0.05	0.02
			Max. Compression	21	-0.98	0.04	0.02
			Max. Mx	35	-0.11	0.09	0.04
			Max. My	35	-0.11	0.09	0.04
			Max. Vy	35	-0.06	0.09	0.04
			Max. Vx	35	-0.01	0.00	0.00
		Redund Horz 1 Bracing	Max Tension	18	5.04	0.00	0.00
			Max. Compression	7	-4.48	0.00	0.00
			Max. Mx	26	0.45	-0.03	0.00
			Max. My	30	1.49	0.00	0.00
			Max. Vy	26	0.03	0.00	0.00
			Max. Vx	30	0.00	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	7	2.52	0.00	0.00
			Max. Compression	18	-3.00	0.00	0.00
			Max. Mx	28	0.29	-0.03	0.00
			Max. My	31	-0.09	0.00	-0.00
			Max. Vy	28	0.03	0.00	0.00
			Max. Vx	31	0.00	0.00	0.00
T8	60 - 40	Leg	Max Tension	7	199.54	1.26	0.01
			Max. Compression	18	-230.46	-1.76	-0.00
			Max. Mx	18	-230.35	2.48	-0.00
			Max. My	20	-12.99	-0.24	-1.69
			Max. Vy	18	-0.89	2.48	-0.00
			Max. Vx	20	-0.50	-0.23	-1.65
		Diagonal	Max Tension	17	7.10	0.08	0.00
			Max. Compression	10	-7.69	0.00	0.00
			Max. Mx	35	1.96	0.12	0.01
			Max. My	10	-7.66	0.00	0.02
			Max. Vy	29	0.06	0.12	-0.01
			Max. Vx	10	0.00	0.00	0.00
		Secondary Horizontal	Max Tension	6	1.18	0.10	0.00
			Max. Compression	21	-1.21	0.06	0.02
			Max. Mx	30	-0.12	0.13	0.03
			Max. My	22	-0.81	0.09	0.03
			Max. Vy	30	-0.08	0.12	0.02
			Max. Vx	30	-0.01	0.00	0.00
T9	40 - 20	Leg	Max Tension	7	221.64	2.74	0.02
			Max. Compression	18	-257.81	6.80	0.00
			Max. Mx	18	-257.62	6.80	0.00
			Max. My	20	-15.52	-0.58	-3.31
			Max. Vy	18	2.62	6.80	0.00
			Max. Vx	20	-0.75	-0.58	-3.31
		Diagonal	Max Tension	23	8.13	0.11	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	10	-9.39	0.00	0.00
			Max. Mx	35	1.17	0.17	0.02
			Max. My	10	-8.44	0.02	0.02
			Max. Vy	29	0.08	0.15	-0.02
			Max. Vx	30	0.00	0.00	0.00
		Secondary Horizontal	Max Tension	20	2.90	0.12	0.00
			Max. Compression	21	-2.59	0.09	0.02
			Max. Mx	34	-0.16	0.18	0.03
			Max. My	20	-1.99	0.11	0.03
			Max. Vy	35	0.09	0.15	0.02
			Max. Vx	30	-0.01	0.00	0.00
T10	20 - 0	Leg	Max Tension	7	242.13	1.24	-0.00
			Max. Compression	18	-286.11	4.73	0.10
			Max. Mx	18	-270.02	10.42	-0.07
			Max. My	20	-18.16	-1.17	-4.43
			Max. Vy	18	-8.05	10.12	-0.07
			Max. Vx	20	2.13	-1.17	-4.43
		Diagonal	Max Tension	23	9.32	0.06	0.01
			Max. Compression	10	-11.03	0.00	0.00
			Max. Mx	18	3.11	0.16	0.01
			Max. My	34	-4.03	0.02	-0.01
			Max. Vy	35	-0.05	0.11	0.01
			Max. Vx	34	-0.00	0.00	0.00
		Horizontal	Max Tension	20	2.04	0.14	0.06
			Max. Compression	21	-1.87	0.12	0.05
			Max. Mx	35	-0.64	0.29	0.10
			Max. My	35	-0.65	0.29	0.10
			Max. Vy	35	-0.12	0.29	0.10
			Max. Vx	35	-0.01	0.00	0.00
		Redund Horz 1 Bracing	Max Tension	18	7.30	0.00	0.00
			Max. Compression	7	-6.16	0.00	0.00
			Max. Mx	35	1.63	-0.05	0.00
			Max. My	35	1.58	0.00	0.00
			Max. Vy	35	0.04	0.00	0.00
			Max. Vx	35	-0.00	0.00	0.00
		Redund Diag 1 Bracing	Max Tension	7	3.46	0.00	0.00
			Max. Compression	18	-4.35	0.00	0.00
			Max. Mx	28	0.75	-0.06	0.00
			Max. My	35	0.36	0.00	0.00
			Max. Vy	28	0.04	0.00	0.00
			Max. Vx	35	-0.00	0.00	0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg C	Max. Vert	18	294.69	26.85	-15.74
	Max. H_x	18	294.69	26.85	-15.74
	Max. H_z	7	-248.73	-22.67	13.28
	Min. Vert	7	-248.73	-22.67	13.28
	Min. H_x	7	-248.73	-22.67	13.28
	Min. H_z	18	294.69	26.85	-15.74
Leg B	Max. Vert	10	283.47	-25.81	-15.57

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Max. H_x	23	-239.09	21.67	13.17
	Max. H_z	23	-239.09	21.67	13.17
	Min. Vert	23	-239.09	21.67	13.17
	Min. H_x	10	283.47	-25.81	-15.57
	Min. H_z	10	283.47	-25.81	-15.57
Leg A	Max. Vert	2	279.72	0.08	29.34
	Max. H_x	21	15.47	2.44	1.39
	Max. H_z	2	279.72	0.08	29.34
	Min. Vert	15	-231.14	-0.09	-24.42
	Min. H_x	9	15.40	-2.45	1.39
	Min. H_z	15	-231.14	-0.09	-24.42

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	48.48	0.00	0.00	-17.84	4.60	-0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	58.17	-0.02	-44.07	-4734.43	8.56	3.12
0.9 Dead+1.0 Wind 0 deg - No Ice	43.63	-0.02	-44.07	-4720.51	7.16	3.13
1.2 Dead+1.0 Wind 30 deg - No Ice	58.17	22.26	-38.60	-4207.09	-2406.81	2.94
0.9 Dead+1.0 Wind 30 deg - No Ice	43.63	22.26	-38.60	-4194.09	-2403.82	2.97
1.2 Dead+1.0 Wind 60 deg - No Ice	58.17	38.22	-22.07	-2418.47	-4144.25	-6.77
0.9 Dead+1.0 Wind 60 deg - No Ice	43.63	38.22	-22.07	-2408.70	-4138.11	-6.73
1.2 Dead+1.0 Wind 90 deg - No Ice	58.17	45.77	0.00	-20.98	-4908.38	-18.39
0.9 Dead+1.0 Wind 90 deg - No Ice	43.63	45.77	0.00	-15.57	-4900.93	-18.35
1.2 Dead+1.0 Wind 120 deg - No Ice	58.17	39.41	22.75	2387.49	-4167.21	-20.82
0.9 Dead+1.0 Wind 120 deg - No Ice	43.63	39.41	22.75	2388.59	-4161.14	-20.79
1.2 Dead+1.0 Wind 150 deg - No Ice	58.17	20.33	35.20	3782.34	-2191.41	-7.30
0.9 Dead+1.0 Wind 150 deg - No Ice	43.63	20.33	35.20	3780.85	-2188.82	-7.29
1.2 Dead+1.0 Wind 180 deg - No Ice	58.17	-0.01	41.20	4470.92	6.40	-3.03
0.9 Dead+1.0 Wind 180 deg - No Ice	43.63	-0.01	41.20	4468.14	5.01	-3.04
1.2 Dead+1.0 Wind 210 deg - No Ice	58.17	-22.30	38.58	4160.39	2424.16	-2.94
0.9 Dead+1.0 Wind 210 deg - No Ice	43.63	-22.30	38.58	4158.22	2418.38	-2.97
1.2 Dead+1.0 Wind 240 deg - No Ice	58.17	-40.72	23.49	2482.16	4348.20	6.69
0.9 Dead+1.0 Wind 240 deg - No Ice	43.63	-40.72	23.49	2483.07	4339.01	6.65
1.2 Dead+1.0 Wind 270 deg - No Ice	58.17	-45.82	-0.00	-22.29	4926.98	18.32
0.9 Dead+1.0 Wind 270 deg -	43.63	-45.82	-0.00	-16.87	4916.73	18.28

Load Combination	Vertical K	Shear$_x$ K	Shear$_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
No Ice 1.2 Dead+1.0 Wind 300 deg -	58.17	-37.00	-21.36	-2326.34	3997.40	20.81
No Ice 0.9 Dead+1.0 Wind 300 deg -	43.63	-37.00	-21.36	-2316.76	3988.79	20.78
No Ice 1.2 Dead+1.0 Wind 330 deg -	58.17	-20.35	-35.24	-3831.95	2206.22	7.37
No Ice 0.9 Dead+1.0 Wind 330 deg -	43.63	-20.35	-35.24	-3819.62	2200.83	7.35
No Ice 1.2 Dead+1.0 Ice+1.0 Temp	107.43	-0.00	0.00	-45.16	-6.75	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	107.43	-0.00	-11.04	-1261.11	-6.21	0.82
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	107.43	5.70	-9.89	-1141.59	-638.91	1.04
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	107.43	10.16	-5.87	-694.45	-1130.72	-0.96
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	107.43	11.56	0.00	-45.24	-1279.34	-4.76
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	107.43	9.68	5.59	565.74	-1065.25	-5.34
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	107.43	5.21	9.03	956.27	-585.23	-2.42
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	107.43	-0.00	10.59	1136.64	-6.63	-0.80
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	107.43	-5.71	9.88	1050.19	626.52	-1.04
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	107.43	-10.54	6.08	619.96	1146.74	0.95
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	107.43	-11.57	-0.00	-45.49	1267.20	4.75
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	107.43	-9.31	-5.38	-640.70	1024.36	5.34
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	107.43	-5.22	-9.04	-1048.23	572.37	2.44
Dead+Wind 0 deg - Service	48.48	-0.01	-11.74	-1263.72	5.42	0.82
Dead+Wind 30 deg - Service	48.48	5.93	-10.28	-1124.18	-632.96	0.78
Dead+Wind 60 deg - Service	48.48	10.18	-5.88	-651.46	-1092.22	-1.77
Dead+Wind 90 deg - Service	48.48	12.18	0.00	-17.77	-1294.02	-4.83
Dead+Wind 120 deg - Service	48.48	10.49	6.06	618.80	-1098.26	-5.47
Dead+Wind 150 deg - Service	48.48	5.42	9.38	987.97	-576.34	-1.92
Dead+Wind 180 deg - Service	48.48	-0.00	10.98	1169.88	4.85	-0.80
Dead+Wind 210 deg - Service	48.48	-5.94	10.27	1087.35	643.86	-0.78
Dead+Wind 240 deg - Service	48.48	-10.84	6.25	643.67	1152.16	1.75
Dead+Wind 270 deg - Service	48.48	-12.20	-0.00	-18.12	1305.24	4.81
Dead+Wind 300 deg - Service	48.48	-9.86	-5.69	-627.24	1059.95	5.47
Dead+Wind 330 deg - Service	48.48	-5.43	-9.40	-1025.56	586.57	1.94

Solution Summary

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
1	0.00	-48.48	0.00	-0.00	48.48	-0.00	0.000%
2	-0.02	-58.17	-44.07	0.02	58.17	44.07	0.002%
3	-0.02	-43.63	-44.07	0.02	43.63	44.07	0.002%
4	22.26	-58.17	-38.61	-22.26	58.17	38.60	0.002%
5	22.26	-43.63	-38.61	-22.26	43.63	38.60	0.002%
6	38.22	-58.17	-22.07	-38.22	58.17	22.07	0.003%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
7	38.22	-43.63	-22.07	-38.22	43.63	22.07	0.002%
8	45.77	-58.17	0.00	-45.77	58.17	-0.00	0.002%
9	45.77	-43.63	0.00	-45.77	43.63	-0.00	0.002%
10	39.41	-58.17	22.75	-39.41	58.17	-22.75	0.002%
11	39.41	-43.63	22.75	-39.41	43.63	-22.75	0.002%
12	20.33	-58.17	35.20	-20.33	58.17	-35.20	0.002%
13	20.33	-43.63	35.20	-20.33	43.63	-35.20	0.002%
14	-0.01	-58.17	41.20	0.01	58.17	-41.20	0.002%
15	-0.01	-43.63	41.20	0.01	43.63	-41.20	0.002%
16	-22.30	-58.17	38.58	22.30	58.17	-38.58	0.002%
17	-22.30	-43.63	38.58	22.30	43.63	-38.58	0.002%
18	-40.72	-58.17	23.49	40.72	58.17	-23.49	0.002%
19	-40.72	-43.63	23.49	40.72	43.63	-23.49	0.002%
20	-45.82	-58.17	-0.00	45.82	58.17	0.00	0.002%
21	-45.82	-43.63	-0.00	45.82	43.63	0.00	0.002%
22	-37.00	-58.17	-21.36	37.00	58.17	21.36	0.002%
23	-37.00	-43.63	-21.36	37.00	43.63	21.36	0.002%
24	-20.35	-58.17	-35.24	20.35	58.17	35.24	0.002%
25	-20.35	-43.63	-35.24	20.35	43.63	35.24	0.002%
26	0.00	-107.43	0.00	0.00	107.43	-0.00	0.001%
27	-0.00	-107.43	-11.04	0.00	107.43	11.04	0.000%
28	5.70	-107.43	-9.89	-5.70	107.43	9.89	0.000%
29	10.16	-107.43	-5.87	-10.16	107.43	5.87	0.000%
30	11.56	-107.43	0.00	-11.56	107.43	-0.00	0.000%
31	9.68	-107.43	5.59	-9.68	107.43	-5.59	0.000%
32	5.21	-107.43	9.03	-5.21	107.43	-9.03	0.000%
33	-0.00	-107.43	10.59	0.00	107.43	-10.59	0.000%
34	-5.71	-107.43	9.88	5.71	107.43	-9.88	0.000%
35	-10.54	-107.43	6.08	10.54	107.43	-6.08	0.000%
36	-11.57	-107.43	-0.00	11.57	107.43	0.00	0.000%
37	-9.31	-107.43	-5.38	9.31	107.43	5.38	0.000%
38	-5.22	-107.43	-9.04	5.22	107.43	9.04	0.000%
39	-0.01	-48.48	-11.74	0.01	48.48	11.74	0.001%
40	5.93	-48.48	-10.28	-5.93	48.48	10.28	0.001%
41	10.18	-48.48	-5.88	-10.18	48.48	5.88	0.001%
42	12.18	-48.48	0.00	-12.18	48.48	-0.00	0.001%
43	10.49	-48.48	6.06	-10.49	48.48	-6.06	0.001%
44	5.42	-48.48	9.38	-5.42	48.48	-9.38	0.001%
45	-0.00	-48.48	10.98	0.00	48.48	-10.98	0.001%
46	-5.94	-48.48	10.27	5.94	48.48	-10.27	0.001%
47	-10.84	-48.48	6.25	10.84	48.48	-6.25	0.001%
48	-12.20	-48.48	-0.00	12.20	48.48	0.00	0.001%
49	-9.86	-48.48	-5.69	9.86	48.48	5.69	0.001%
50	-5.43	-48.48	-9.40	5.43	48.48	9.40	0.001%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00001171
2	Yes	11	0.00000001	0.00010754
3	Yes	11	0.00000001	0.00007902
4	Yes	11	0.00000001	0.00010992
5	Yes	11	0.00000001	0.00008127
6	Yes	11	0.00000001	0.00011218
7	Yes	11	0.00000001	0.00008343

8	Yes	11	0.00000001	0.00010959
9	Yes	11	0.00000001	0.00008102
10	Yes	11	0.00000001	0.00010714
11	Yes	11	0.00000001	0.00007871
12	Yes	11	0.00000001	0.00011009
13	Yes	11	0.00000001	0.00008144
14	Yes	11	0.00000001	0.00011236
15	Yes	11	0.00000001	0.00008358
16	Yes	11	0.00000001	0.00010992
17	Yes	11	0.00000001	0.00008127
18	Yes	11	0.00000001	0.00010714
19	Yes	11	0.00000001	0.00007868
20	Yes	11	0.00000001	0.00010955
21	Yes	11	0.00000001	0.00008100
22	Yes	11	0.00000001	0.00011193
23	Yes	11	0.00000001	0.00008326
24	Yes	11	0.00000001	0.00011006
25	Yes	11	0.00000001	0.00008143
26	Yes	8	0.00000001	0.00013189
27	Yes	12	0.00000001	0.00007000
28	Yes	12	0.00000001	0.00007104
29	Yes	12	0.00000001	0.00007146
30	Yes	12	0.00000001	0.00007042
31	Yes	12	0.00000001	0.00006886
32	Yes	12	0.00000001	0.00006776
33	Yes	12	0.00000001	0.00006833
34	Yes	12	0.00000001	0.00006945
35	Yes	12	0.00000001	0.00007015
36	Yes	12	0.00000001	0.00006999
37	Yes	12	0.00000001	0.00006942
38	Yes	12	0.00000001	0.00006915
39	Yes	11	0.00000001	0.00008715
40	Yes	11	0.00000001	0.00008801
41	Yes	11	0.00000001	0.00008850
42	Yes	11	0.00000001	0.00008772
43	Yes	11	0.00000001	0.00008678
44	Yes	11	0.00000001	0.00008730
45	Yes	11	0.00000001	0.00008814
46	Yes	11	0.00000001	0.00008786
47	Yes	11	0.00000001	0.00008713
48	Yes	11	0.00000001	0.00008770
49	Yes	11	0.00000001	0.00008807
50	Yes	11	0.00000001	0.00008749

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	185 - 180	6.691	47	0.3621	0.0399
T2	180 - 160	6.309	47	0.3605	0.0372
T3	160 - 140	4.835	47	0.3226	0.0280
T4	140 - 120	3.564	47	0.2680	0.0200
T5	120 - 100	2.523	47	0.2130	0.0152
T6	100 - 80	1.709	47	0.1619	0.0116
T7	80 - 60	1.077	47	0.1250	0.0080
T8	60 - 40	0.600	47	0.0878	0.0053
T9	40 - 20	0.276	47	0.0550	0.0032
T10	20 - 0	0.081	47	0.0274	0.0015

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
185.00	DB636-A	47	6.691	0.3621	0.0399	102825
174.00	PiROD 12' Lightweight T-Frame	47	5.853	0.3538	0.0344	46064
162.00	MT6413-77A	47	4.975	0.3278	0.0290	21928
151.00	10' Sector Frame	47	4.235	0.2984	0.0232	20497
145.00	6' Side Arm Mount	47	3.861	0.2819	0.0214	20859
138.00	3' Dish	47	3.450	0.2625	0.0194	20991

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	185 - 180	25.487	18	1.3827	0.1517
T2	180 - 160	24.026	18	1.3764	0.1415
T3	160 - 140	18.404	18	1.2307	0.1067
T4	140 - 120	13.558	18	1.0216	0.0761
T5	120 - 100	9.589	18	0.8114	0.0579
T6	100 - 80	6.493	18	0.6163	0.0441
T7	80 - 60	4.087	18	0.4756	0.0303
T8	60 - 40	2.277	18	0.3338	0.0200
T9	40 - 20	1.047	18	0.2088	0.0122
T10	20 - 0	0.306	18	0.1040	0.0058

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
185.00	DB636-A	18	25.487	1.3827	0.1517	27233
174.00	PiROD 12' Lightweight T-Frame	18	22.288	1.3505	0.1307	12245
162.00	MT6413-77A	18	18.937	1.2506	0.1105	5809
151.00	10' Sector Frame	18	16.113	1.1380	0.0882	5425
145.00	6' Side Arm Mount	18	14.687	1.0746	0.0816	5519
138.00	3' Dish	18	13.121	1.0004	0.0739	5548

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	185	Leg	A325N	0.6250	4	0.53	20.34	0.026 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	1	2.06	4.55	0.452 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	0.62	4.55	0.137 ✓	1	Member Block Shear
T2	180	Leg	A325N	0.7500	6	4.83	30.10	0.160 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	1	4.78	6.83	0.700 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	0.59	4.55	0.129 ✓	1	Member Block Shear
T3	160	Leg	A325N	0.7500	6	11.04	30.10	0.367 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	1	5.38	6.83	0.787 ✓	1	Member Block Shear
		Top Girt	A325N	0.6250	1	1.32	4.55	0.289 ✓	1	Member Block Shear
T4	140	Leg	A325N	1.0000	6	16.56	54.52	0.304 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	1	5.35	6.83	0.783 ✓	1	Member Block Shear
T5	120	Leg	A325N	1.0000	6	21.09	54.52	0.387 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	1	5.74	7.83	0.734 ✓	1	Member Bearing
T6	100	Leg	A325N	1.0000	6	25.59	54.52	0.469 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	1	5.67	7.83	0.724 ✓	1	Member Bearing
T7	80	Leg	A325N	1.0000	6	29.45	54.52	0.540 ✓	1	Bolt Tension
		Diagonal	A325N	0.7500	1	7.12	9.46	0.752 ✓	1	Member Bearing
T8	60	Leg	A325N	1.0000	6	33.22	54.52	0.609 ✓	1	Bolt Tension
		Diagonal	A325N	0.7500	1	7.10	12.62	0.563 ✓	1	Member Bearing
T9	40	Leg	A325N	1.2500	6	36.87	87.22	0.423 ✓	1	Bolt Tension
		Diagonal	A325N	0.7500	1	8.13	12.62	0.644 ✓	1	Member Bearing
T10	20	Leg	A325N	1.2500	6	40.30	87.22	0.462 ✓	1	Bolt Tension
		Diagonal	A325N	0.7500	1	9.32	12.62	0.739 ✓	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 $\frac{P_u}{\phi P_n}$
T1	185 - 180	P2x.154	5.00	5.00	76.2 K=1.00	1.0745	-2.78	31.62	0.088 [1] ✓
T2	180 - 160	P2.5x.203	20.00	5.00	63.3 K=1.00	1.7040	-33.81	57.19	0.591 [1] ✓
T3	160 - 140	Sabre 2.875"x0.375"	20.03	5.01	67.2	2.9452	-75.86	95.23	0.797 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T4	140 - 120	P3.5x.318 (4.00 OD)	20.03	2.58	23.7 K=1.00	3.6784	-112.11	158.89	0.706 [1] ✔
T5	120 - 100	Pipe 5 Std (5.563"ODx0.258")	20.03	3.44	22.0 K=1.00	4.2999	-142.76	186.76	0.764 [1] ✔
T6	100 - 80	Pipe 5 XStr (5.563"ODx0.375")	20.03	6.68	43.6 K=1.00	6.1120	-173.50	239.39	0.725 [1] ✔
T7	80 - 60	Pipe 5 XStr (5.563"ODx0.375")	20.03	1.67	10.9 K=1.00	6.1120	-203.17	272.66	0.745 [1] ✔
T8	60 - 40	HSS5x0.500	20.03	5.16	38.7 K=1.00	7.0686	-230.46	285.12	0.808 [1] ✔
T9	40 - 20	P8x.322	20.03	5.14	21.0 K=1.00	8.3993	-257.79	365.96	0.704 [1] ✔
T10	20 - 0	P8x.322	20.03	2.50	10.2 K=1.00	8.3993	-286.11	375.09	0.763 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	185 - 180	L2x2x1/8	7.07	3.28	104.2 K=1.05	0.4844	-2.30	11.29	0.203 [1] ✔
T2	180 - 160	L2x2x3/16	7.07	3.25	104.2 K=1.05	0.7150	-4.96	16.96	0.293 [1] ✔
T3	160 - 140	L2x2x3/16	8.40	4.09	124.5 K=1.00	0.7150	-5.44	13.20	0.413 [1] ✔
T4	140 - 120	L2x2x3/16	10.08	4.87	148.4 K=1.00	0.7150	-5.30	9.30	0.570 [1] ✔
T5	120 - 100	L2 1/2x2 1/2x3/16	12.58	6.09	147.7 K=1.00	0.9020	-5.91	11.83	0.499 [1] ✔
T6	100 - 80	L2 1/2x2 1/2x3/16	14.32	6.96	168.8 K=1.00	0.9020	-5.86	9.06	0.647 [1] ✔
T7	80 - 60	L3x3x3/16	7.90	7.38	107.2 K=1.14	1.0900	-8.12	24.69	0.329 [1] ✔
T8	60 - 40	L3x3x1/4	19.30	9.56	193.8 K=1.00	1.4400	-7.63	10.97	0.695 [1] ✔
T9	40 - 20	L3-1/2x3-1/2x1/4	21.03	10.26	177.3 K=1.00	1.6900	-9.39	15.38	0.611 [1] ✔
T10	20 - 0	L3-1/2x3-1/2x1/4	11.18	10.51	117.9 K=1.02	1.6900	-11.03	34.26	0.322 [1] ✔

[1] P_u / ϕP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T7	80 - 60	L3x3x3/8	14.67	10.65	186.7 K=1.00	2.1100	-3.52	17.33	0.203 [1] ✔
T10	20 - 0	L3 1/2x3 1/2x1/2	20.50	14.84	223.9 K=1.00	3.2500	-4.96	18.55	0.267 [1] ✔

[1] P_u / ϕP_n controls

Secondary Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T4	140 - 120	L2x2x1/4	8.74	4.20	126.9 K=0.98	0.9380	-1.94	16.66	0.117 [1] ✔
T5	120 - 100	L2 1/2x2 1/2x3/8	10.66	5.10	124.3 K=0.99	1.7300	-2.48	32.03	0.077 [1] ✔
T8	60 - 40	L3x3x7/16	16.48	8.03	154.2 K=0.94	2.4300	-4.00	29.26	0.137 [1] ✔
T9	40 - 20	L3x3x1/2	18.49	8.88	167.7 K=0.92	2.7500	-4.47	27.99	0.160 [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	185 - 180	L2x2x1/8	5.00	4.56	137.7 K=1.00	0.4844	-0.46	7.31	0.063 [1] ✔
T2	180 - 160	L2x2x1/8	5.00	4.52	136.5 K=1.00	0.4844	-0.59	7.44	0.079 [1] ✔
T3	160 - 140	L2x2x1/8	5.00	4.52	136.5 K=1.00	0.4844	-1.32	7.44	0.177 [1] ✔

[1] P_u / ϕP_n controls

Redundant Horizontal (1) 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 $\frac{P_u}{\phi P_n}$
T7	80 - 60	L3x3x1/2	3.67	3.43	95.3 K=1.35	2.7500	-4.48	70.73	0.063 [1] ✔
T10	20 - 0	L3x3x1/2	5.13	4.77	109.0 K=1.11	2.7500	-6.16	62.04	0.099 [1] ✔

[1] P_u / ϕP_n controls

Redundant Diagonal (1) 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 $\frac{P_u}{\phi P_n}$
T7	80 - 60	L3x3x1/2	3.95	3.70	98.0 K=1.29	2.7500	-3.00	69.12	0.043 [1] ✔
T10	20 - 0	L3x3x1/2	5.82	5.41	115.6 K=1.04	2.7500	-4.35	57.39	0.076 [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	185 - 180	P2x.154	5.00	5.00	76.2	1.0745	2.14	48.35	0.044 [1] ✔
T2	180 - 160	P2.5x.203	20.00	5.00	63.3	1.7040	28.96	76.68	0.378 [1] ✔
T3	160 - 140	Sabre 2.875"x0.375"	20.03	5.01	67.2	2.9452	66.25	132.54	0.500 [1] ✔
T4	140 - 120	P3.5x.318 (4.00 OD)	20.03	2.43	22.3	3.6784	99.49	165.53	0.601 [1] ✔
T5	120 - 100	Pipe 5 Std (5.563"ODx0.258")	20.03	3.23	20.7	4.2999	126.70	193.49	0.655 [1] ✔
T6	100 - 80	Pipe 5 XStr (5.563"ODx0.375")	20.03	6.68	43.6	6.1120	153.55	275.04	0.558 [1] ✔
T7	80 - 60	Pipe 5 XStr (5.563"ODx0.375")	20.03	1.67	10.9	6.1120	176.93	275.04	0.643 [1] ✔
T8	60 - 40	HSS5x0.500	20.03	4.86	36.4	7.0686	199.54	318.09	0.627 [1] ✔
T9	40 - 20	P8x.322	20.03	4.87	19.9	8.3993	221.64	377.97	0.586 [1] ✔
T10	20 - 0	P8x.322	20.03	2.50	10.2	8.3993	242.13	377.97	0.641 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$

[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	185 - 180	L2x2x1/8	7.07	3.28	65.1	0.2930	2.06	12.74	0.161 [1]
T2	180 - 160	L2x2x3/16	7.07	3.25	65.5	0.4308	4.78	18.74	0.255 [1]
T3	160 - 140	L2x2x3/16	8.40	4.09	81.8	0.4308	5.38	18.74	0.287 [1]
T4	140 - 120	L2x2x3/16	8.81	4.24	84.9	0.4308	5.35	18.74	0.286 [1]
T5	120 - 100	L2 1/2x2 1/2x3/16	12.02	5.82	91.6	0.5710	5.74	24.84	0.231 [1]
T6	100 - 80	L2 1/2x2 1/2x3/16	14.32	6.96	109.3	0.5710	5.67	24.84	0.228 [1]
T7	80 - 60	L3x3x3/16	7.90	7.38	97.8	0.6945	7.12	30.21	0.236 [1]
T8	60 - 40	L3x3x1/4	19.30	9.56	125.1	0.9159	7.10	39.84	0.178 [1]
T9	40 - 20	L3-1/2x3-1/2x1/4	21.03	10.26	114.4	1.1034	8.13	48.00	0.169 [1]
T10	20 - 0	L3-1/2x3-1/2x1/4	11.18	10.51	118.7	1.1034	9.32	48.00	0.194 [1]

[1] P_u / ϕP_n controls

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T7	80 - 60	L3x3x3/8	14.67	10.65	140.0	2.1100	3.52	68.36	0.052 [1]
T10	20 - 0	L3 1/2x3 1/2x1/2	20.50	14.84	168.0	3.2500	4.96	105.30	0.047 [1]

[1] P_u / ϕP_n controls

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	Weston North CT	44 of 46
Centerline Engineering Services, PA 750 W Center Street, Suite 301 West Bridgewater, MA 02379 Phone: (781) 713-4725 FAX:	**Project** RF Filter Add	**Date** 12:54:53 02/12/24
	Client Verizon Wireless	**Designed by** jboegel

Secondary Horizontal Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T4	140 - 120	L2x2x1/4	8.74	4.20	165.7	0.9380	1.94	30.39	0.064 [1] ✔
T5	120 - 100	L2 1/2x2 1/2x3/8	10.66	5.10	162.4	1.7300	2.48	56.05	0.044 [1] ✔
T8	60 - 40	L3x3x7/16	16.48	8.03	213.1	2.4300	4.00	78.73	0.051 [1] ✔
T9	40 - 20	L3x3x1/2	18.49	8.88	237.4	2.7500	4.47	89.10	0.050 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	185 - 180	L2x2x1/8	5.00	4.56	92.0	0.2930	0.62	12.74	0.049 [1] ✔
T2	180 - 160	L2x2x1/8	5.00	4.52	91.2	0.2930	0.59	12.74	0.046 [1] ✔
T3	160 - 140	L2x2x1/8	5.00	4.52	91.2	0.2930	1.32	12.74	0.103 [1] ✔

[1] P_u / ϕP_n controls

Redundant Horizontal (1) Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T7	80 - 60	L3x3x1/2	3.50	3.27	43.7	2.7500	5.04	89.10	0.057 [1] ✔
T10	20 - 0	L3x3x1/2	5.13	4.77	63.7	2.7500	7.30	89.10	0.082 [1] ✔

[1] P_u / ϕP_n controls

Redundant Diagonal (1) 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 $\frac{P_u}{\phi P_n}$
T7	80 - 60	L3x3x1/2	3.95	3.70	49.4	2.7500	2.52	89.10	0.028 [1] ✔
T10	20 - 0	L3x3x1/2	5.82	5.41	72.3	2.7500	3.46	89.10	0.039 [1] ✔

[1] $P_u / \phi P_n$ controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	%a Capacity	Pass Fail
T1	185 - 180	Leg	P2x.154	3	-2.76	31.62	9.2	Pass
T2	180 - 160	Leg	P2.5x.203	13	-33.81	57.19	59.1	Pass
T3	160 - 140	Leg	Sabre 2.875"x0.375"	43	-75.86	95.23	79.7	Pass
T4	140 - 120	Leg	P3.5x.318 (4.00 OD)	73	-112.11	158.89	70.6	Pass
T5	120 - 100	Leg	Pipe 5 Std (5.563"ODx0.258")	112	-142.76	186.76	76.4	Pass
T6	100 - 80	Leg	Pipe 5 XStr (5.563"ODx0.375")	142	-173.50	239.39	72.5	Pass
T7	80 - 60	Leg	Pipe 5 XStr (5.563"ODx0.375")	163	-203.17	272.66	74.5	Pass
T8	60 - 40	Leg	HSS5x0.500	283	-230.46	285.12	80.8	Pass
T9	40 - 20	Leg	P8x.322	304	-257.79	365.96	70.4	Pass
T10	20 - 0	Leg	P8x.322	325	-286.11	375.09	76.3	Pass
T1	185 - 180	Diagonal	L2x2x1/8	7	-2.30	11.29	20.3 45.2 (b)	Pass
T2	180 - 160	Diagonal	L2x2x3/16	19	-4.96	16.96	29.3 70.0 (b)	Pass
T3	160 - 140	Diagonal	L2x2x3/16	54	-5.44	13.20	41.3 78.7 (b)	Pass
T4	140 - 120	Diagonal	L2x2x3/16	81	-5.30	9.30	57.0 78.3 (b)	Pass
T5	120 - 100	Diagonal	L2 1/2x2 1/2x3/16	120	-5.91	11.83	49.9 73.4 (b)	Pass
T6	100 - 80	Diagonal	L2 1/2x2 1/2x3/16	150	-5.86	9.06	64.7 72.4 (b)	Pass
T7	80 - 60	Diagonal	L3x3x3/16	223	-8.12	24.69	32.9 75.2 (b)	Pass
T8	60 - 40	Diagonal	L3x3x1/4	288	-7.63	10.97	69.5	Pass
T9	40 - 20	Diagonal	L3-1/2x3-1/2x1/4	309	-9.39	15.38	61.1 64.4 (b)	Pass
T10	20 - 0	Diagonal	L3-1/2x3-1/2x1/4	375	-11.03	34.26	32.2 73.9 (b)	Pass
T7	80 - 60	Horizontal	L3x3x3/8	166	-3.52	17.33	20.3	Pass
T10	20 - 0	Horizontal	L3 1/2x3 1/2x1/2	328	-4.96	18.55	26.7	Pass
T4	140 - 120	Secondary Horizontal	L2x2x1/4	82	-1.94	16.66	11.7	Pass
T5	120 - 100	Secondary Horizontal	L2 1/2x2 1/2x3/8	121	-2.48	32.03	7.7	Pass
T8	60 - 40	Secondary Horizontal	L3x3x7/16	292	-4.00	29.26	13.7	Pass
T9	40 - 20	Secondary Horizontal	L3x3x1/2	313	-4.47	27.99	16.0	Pass
T1	185 - 180	Top Girt	L2x2x1/8	5	-0.46	7.31	6.3 13.7 (b)	Pass
T2	180 - 160	Top Girt	L2x2x1/8	16	-0.59	7.44	7.9 12.9 (b)	Pass
T3	160 - 140	Top Girt	L2x2x1/8	46	-1.32	7.44	17.7 28.9 (b)	Pass
T7	80 - 60	Redund Horz 1 Bracing	L3x3x1/2	203	-4.48	70.73	6.3	Pass
T10	20 - 0	Redund Horz 1	L3x3x1/2	365	-6.16	62.04	9.9	Pass

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	Client Verizon Wireless	Designed by jboegel

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T7	80 - 60	Bracing Redund Diag 1 Bracing	L3x3x1/2	243	-3.00	69.12	4.3	Pass
T10	20 - 0	Redund Diag 1 Bracing	L3x3x1/2	366	-4.35	57.39	7.6	Pass
							Summary	
						Leg (T8)	80.8	Pass
						Diagonal (T3)	78.7	Pass
						Horizontal (T10)	26.7	Pass
						Secondary Horizontal (T9)	16.0	Pass
						Top Girt (T3)	28.9	Pass
						Redund Horz 1 Bracing (T10)	9.9	Pass
						Redund Diag 1 Bracing (T10)	7.6	Pass
						Bolt Checks	78.7	Pass
						RATING =	**80.8**	**Pass**

Centerline Engineering Services, PA
750 W Center St, Suite 301
West Bridgewater, MA 02379
Tel: (781)-713-4725

Job:	Weston North CT	Engineer:	TV
Project:	23CLVZ-0003 Rev.1	Date:	2/12/2024
Client:	Verizon Wireless	Sheet:	1 of 1

SST Anchor Rod Check (TIA-H)

Anchor Rod Information

Grout Considered?:	No	
Clear Distance, l_{ar}:	0	*in*
Quanity Per Leg:	6	
Diameter:	1.5	*in*
Rod Material:	A449 (1-1/8 to 1-1/2 Incl.)	
Strength (Fu):	105	*ksi*
Yield (Fy):	81	*ksi*

Reactions

Compression, P_{uc}:	295.0	*kips*
Comp Shear, V_{uc}:	31.0	*kips*
Tension, P_{ut}:	249.0	*kips*
Tension Shear, V_{ut}:	26.0	*kips*

Capacity Results

Anchor Rod Results

Interaction Equations for lar ≤ 1(d)	(Puc/ϕcRnc) + [Vu/ϕcRnvc]^2 ≤ 1.0

$R_{nt} = FuA_n$=	148.05	*kips*	Rnvc = $0.6F_yA_n/2$	34.26	*kips*	ϕ_t=	0.75
$R_{nc} = F_yA_n$=	114.21	*kips*	$R_{nb} = F_{cr}A_n$=	114.21	*kips*	ϕ_v=	0.75
$R_{nv} = 0.5F_uA_g$=	92.78	*kips*	$M_n = F_yZ$=	32.47	*ksi*	ϕ_c=	1.0
						ϕ_f=	0.9

P_{uc}=	49.17	*kips*	V_{uc}=	5.17	*kips*	M_{uc}=	0.00	*ksi*
P_{ut}=	41.50	*kips*	V_{ut}=	4.33	*kips*	M_{ut}=	0.00	*ksi*

Anchor Rod Stress Ratio= 45.3% Good

Centerline Engineering Services, PA
750 W Center St, Suite 301
West Bridgewater, MA 02379
Tel: (781)-713-4725

Job:	Weston North CT	Engineer:	TV
Project:	23CLVZ-0003 Rev.1	Date:	2/12/2024
Client:	Verizon Wireless	Sheet:	1 of 1

SST Unit Base Analysis Summary (TIA-H)

Analysis Reactions and Tower Information

Global Moment, M:	5007	*ft-kips*
Global Axial, P:	58	*kips*
Global Shear, V:	47	*kips*
Leg Compression, P_{comp}:	295	*kips*
Leg Comp. Shear, V_{u_comp}:	31	*kips*
Leg Uplift, P_{uplift}:	249	*kips*
Leg Uplift Shear, V_{u_uplift}:	26	*kips*
Tower Height, H:	185	*ft*
Base Face Width: BW:	21	*ft*
BP Dist. Above Fdn, bp_{dist}:	2	*in*

Soil Properties

Total Soil Unit Weight, γ:	120	*pcf*
Ultimate Gross Bearing, Qult:	12	*ksf*
Cohesion, Cu:	0	*ksf*
Friction Angle, ϕ:	32	*degrees*
SPT Blow Count, N_{blows}:	0	
Base Friction, μ:	0.45	
Neglected Depth, N:	0	*ft*
Foundation Bearing on Rock?:	No	
Groundwater Depth, D_{gw}:	N/A	*ft*

Pier Properties

Pier Shape:	Circular	
Pier Diameter, d_{pier}:	3.5	*ft*
Ext. Above Grade, E:	0	*ft*
Pier Rebar Size, R_{spier}:	7	
Pier Rebar Quantity, R_{qpier}:	14	
Pier Tie Size, T_{spier}:	4	
Pier Tie Quantity, T_{qpier}:	7	
Pier Clear Cover, cc_{pier}:	3	*in*

Pad Properties:

Depth, D:	6.5	*ft*
Pad Width, W:	30.5	*ft*
Pad Thickness, T:	1.5	*ft*
Pad Rebar Size (Bottom), R_{spad}:	10	
Pad Rebar Qnty (Bottom), R_{qpad}:	29	
Pad Clear Cover, cc_{pad}:	3	*in*

Material Properties

Rebar Strength, F_y:	60	*ksi*
Concrete Strength, f'c:	4	*ksi*
Dry Concrete Density, δ_c:	150	*pcf*

Foundation Analysis Results

Soil Capacity Results

	Capacity	Demand	Rating	
Lateral (Sliding) *(kips)* :	364.6	47.0	12.3%	**45.8%**
Bearing Pressure *(ksf)* :	9.0	1.8	19.4%	**Good**
Overturning *(kip*ft)* :	11,615.0	5,320.3	45.8%	

Structural Capacity Results

	Capacity	Demand	Rating	
Pier Flexure (Comp.) *(kip*ft)* :	959.3	155.0	15.4%	
Pier Flexure (Tension) *(kip*ft)* :	348.1	130.0	35.6%	**69.9%**
Pier Compression *(kip)* :	5,468.7	303.7	5.3%	**Good**
Pad Flexure *(kip*ft)* :	2,023.1	1,018.3	47.9%	
Pad Shear - 1-way *(kips)* :	454.7	196.7	41.2%	
Pad Shear - 2-way *(ksi)* :	0.2	0.1	69.9%	

Colliers Engineering & Design,
Architecture, Landscaping Architecture, Surveying, 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 Analysis-R

SMART Tool Project #: 10214745
Colliers Engineering & Design Project #: 21777037 (Rev. 2)

December 22, 2023

Site Information	*Site ID:*	*5000381704-VZW / WESTON NORTH CT*
	Site Name:	*WESTON NORTH CT*
	Carrier Name:	*Verizon Wireless*
	Address:	*237 Godfrey Rd* *Weston, Connecticut 06883* *Fairfield County*
	Latitude:	*41.241997°*
	Longitude:	*-73.364311°*
Structure Information	*Tower Type:*	*185-Ft Self Support*
	Mount Type:	*12.50-Ft Sector Frame*

FUZE ID # 16272233

Analysis Results

Sector Frame: **38.2% Pass w/ Mount Replacement***
((3) PV-SFR-GS12-25-AP1)

***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

STATE OF CONNECTICUT
DEJIAN XU
No. 33733
LICENSED PROFESSIONAL ENGINEER
12/26/2023

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 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
Radio Frequency Data Sheet	*Verizon RFDS, Site ID: 524755, dated December 1, 2023*
Mount Mapping Report	*RKS Design & Engineering, LLC, Site ID: VZW 16272233, dated April 16, 2021*
Previous Mount Analysis	*Colliers Engineering & Design, Project #: 21777037 (Rev. 2), dated November 13, 2023*
Mount Specification	*Perfect Vision, Part #: PV-SFR-GS12-25-AP1*

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}:	120 mph
	Ice Wind Speed (3-sec. Gust):	50 mph
	Design Ice Thickness:	1.00 in
	Risk Category:	II
	Exposure Category:	B
	Topographic Category:	1
	Topographic Feature Considered:	N/A
	Topographic Method:	N/A
	Ground Elevation Factor, K_e:	0.985
Seismic Parameters:	S_S:	0.233 g
	S_1:	0.056 g
Maintenance Parameters:	Wind Speed (3-sec. Gust):	30 mph
	Maintenance Load, Lv:	250 lbs.
	Maintenance Load, Lm:	500 lbs.
Analysis Software:	RISA-3D (V17)	

Final Loading Configuration:

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

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
162.00	162.00	3	Samsung	MT6413-77A	Added
		4	JMA Wireless	MX06FHG665-HG	
		2	JMA Wireless	MX06FHG865-HG	
		1	RFS	DB-B1-6C-12AB-0Z	
		3	Samsung	RF4439d-25A	
		3	Samsung	RF4461d-13A	
		1	Raycap	RRFDC-3315-PF-48	Retained

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 and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Colliers Engineering & Design to verify deviation will not adversely impact the analysis.

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

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

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

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

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

7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
   - Channel, Solid Round, Angle, Plate — ASTM A36 (Gr. 36)
   - HSS (Rectangular) — ASTM 500 (Gr. B-46)
   - Pipe — ASTM A53 (Gr. B-35)
   - Threaded Rod — F1554 (Gr. 36)
   - Bolts — ASTM A325

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

Analysis Results:

Component	Utilization %	Pass/Fail
Standoff Vertical Pipe	*25.7%*	*Pass*
Standoff Horizontal	*25.4%*	*Pass*
Standoff Diagonal	*16.5%*	*Pass*
Face Horizontal	*38.2%*	*Pass*
Tieback	*3.3%*	*Pass*
Mount Pipe P2	*15.1%*	*Pass*
Mount Pipe P2.5	*26.9%*	*Pass*
Corner Plate	*23.4%*	*Pass*
Mount Connection	*17.4%*	*Pass*

Structure Rating – *(Controlling Utilization of all Components)*	**38.2%**

Mount Connection Envelope Reactions:

Connection Description	Elev. AGL (Ft)	Node Label	Envelope Wind Reactions				Envelope Wind + Ice Reactions			
			Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)	Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)
Bottom Standoff	160.38	N63	228	1701	0.000	0.000	441	2393	0.000	0.000
Top Standoff	163.63	N62	824	1993	0.000	0.000	1689	2456	0.000	0.000

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

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	17.7	9.1	27.3	18.7
0.5	26.0	14.8	39.5	28.2
1	33.7	19.7	51.0	37.0

Notes:
- (EPA)a values listed above may be used in the absence of more precise information
- (EPA)a values in the table above include 1 sector.
- 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. 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).
2. Contractor shall install the proposed sector frame mounts (Perfect Vision, Part #: PV-SFR-GS12-25-AP1) in accordance with manufacturer specifications and the Mount Replacement Sketch. Contact EOR if these documents are not available.
3. Contractor shall replace mount pipe at pos. 1 (as seen from behind the mount) with 96" long PIPE 2-1/2 SCH40.
4. Attach tiebacks to adjacent tower legs. Proposed tiebacks shall extend no more than 12" beyond the tower leg. Trim as required and protect cut end with two (2) coats of cold galvanization (Zinga or Zinc Kote).
5. Contractor shall install proposed and retained OVPs directly to the top right (as seen from behind the mount) standoff horizontal in alpha and beta sectors respectively.

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 #: 5000381704 SMART Project #: 10214745 Fuze Project ID: 16272233

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. 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).
2. Contractor shall install the proposed sector frame mounts (Perfect Vision, Part #: PV-SFR-GS12-25-AP1) in accordance with manufacturer specifications and the Mount Replacement Sketch. Contact EOR if these documents are not available.
3. Contractor shall replace mount pipe at pos. 1 (as seen from behind the mount) with 96" long PIPE 2-1/2 SCH40.
4. Attach tiebacks to adjacent tower legs. Proposed tiebacks shall extend no more than 12" beyond the tower leg. Trim as required and protect cut end with two (2) coats of cold galvanization (Zinga or Zinc Kote).
5. Contractor shall install proposed and retained OVPs directly to the top right (as seen from behind the mount) standoff horizontal in alpha and beta sectors respectively.

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:

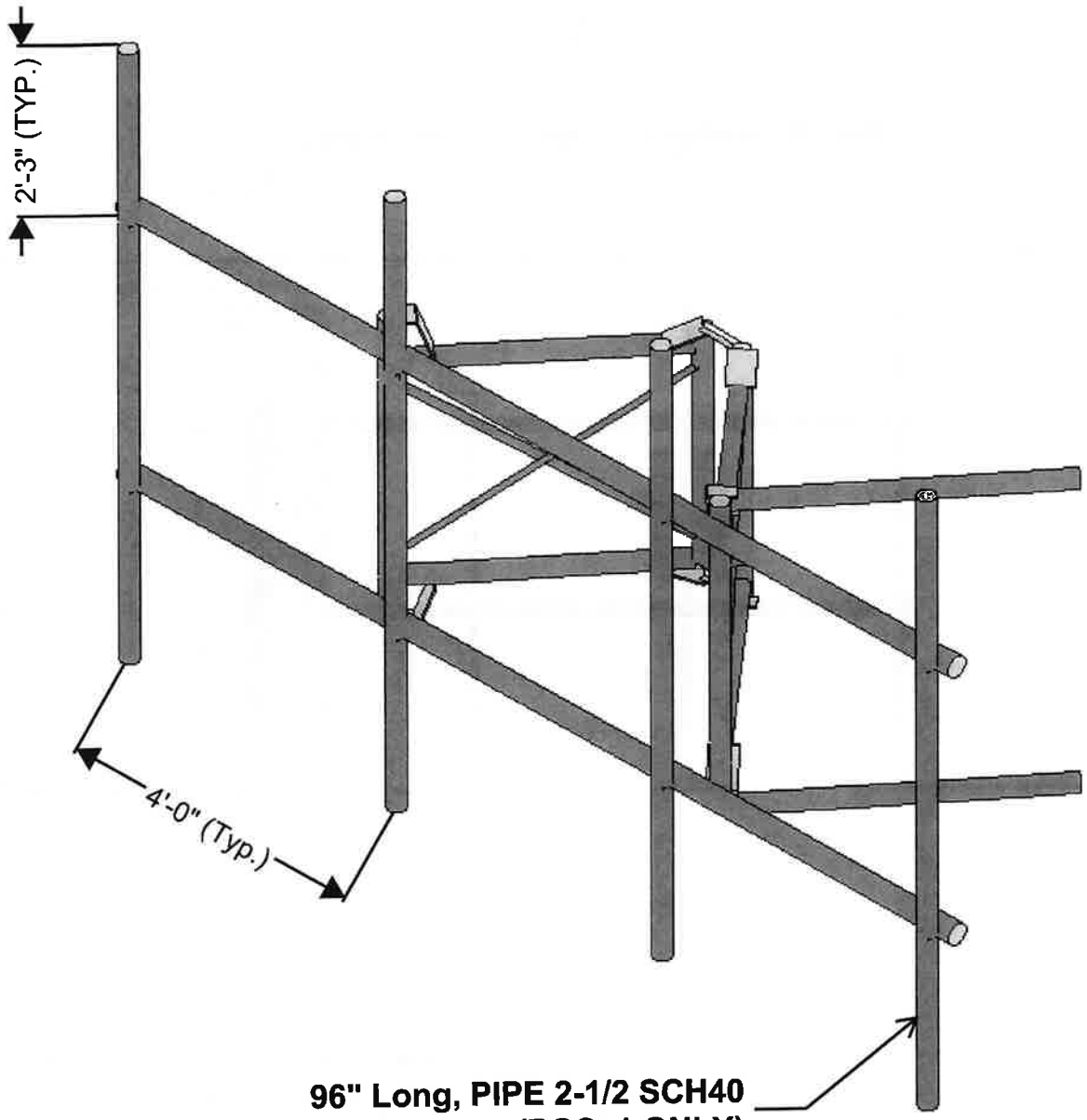
☐ The contractor certifies that the New Mount installed is as specified in the Passing Mount Analysis.

☐ 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:	

MOUNT REPLACEMENT SKETCH



MOUNT ISOMETRIC VIEW
N.T.S

Structure: 5000381704-VZW - WESTON NORTH CT

Sector: **A**

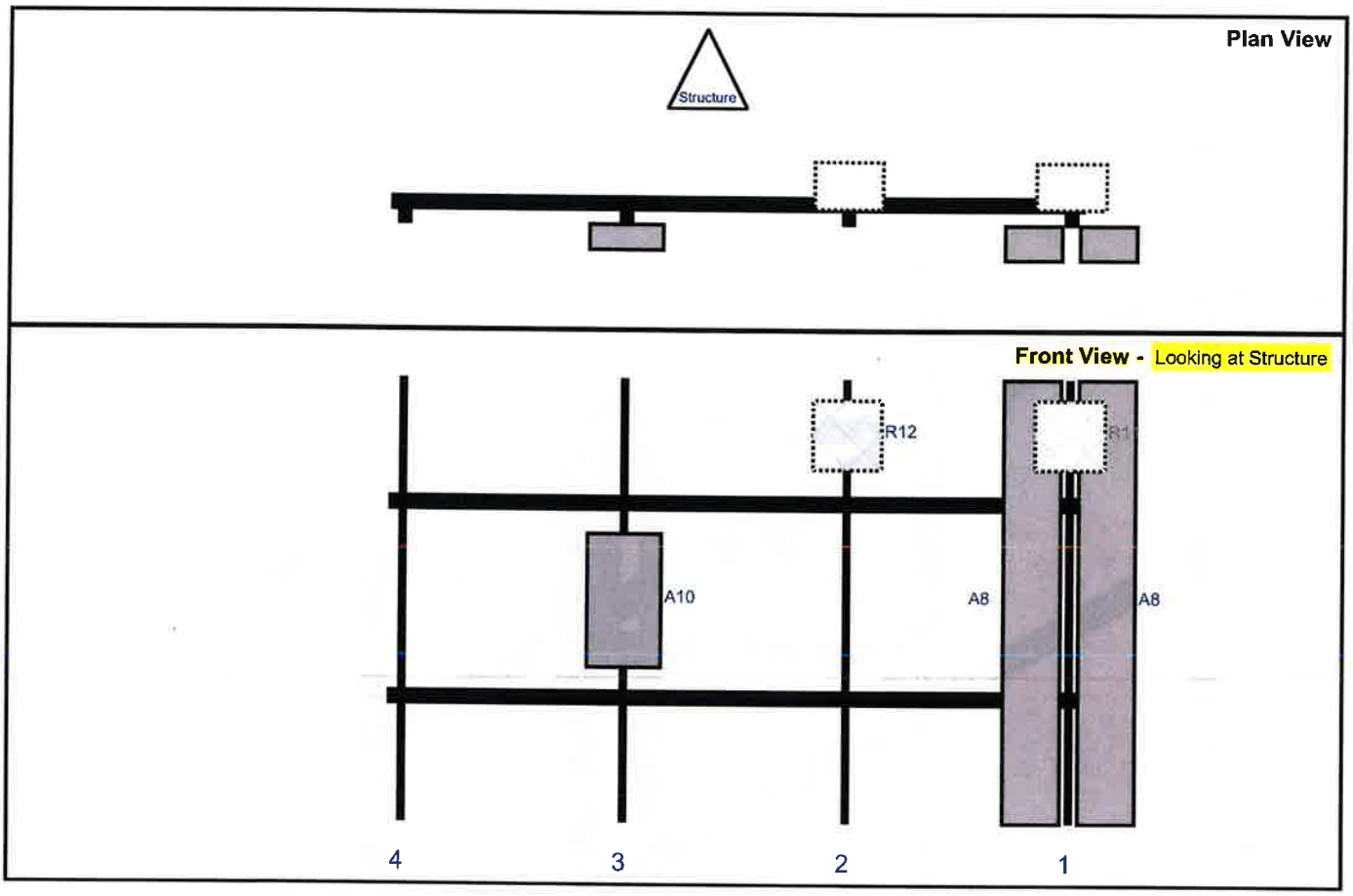
Structure Type: Self Support

Mount Elev: 162.00

10214745

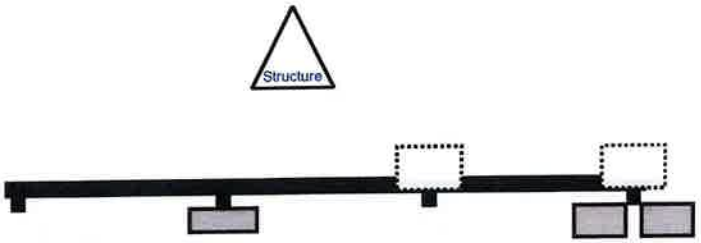
12/22/2023

Colliers Engineering & Design

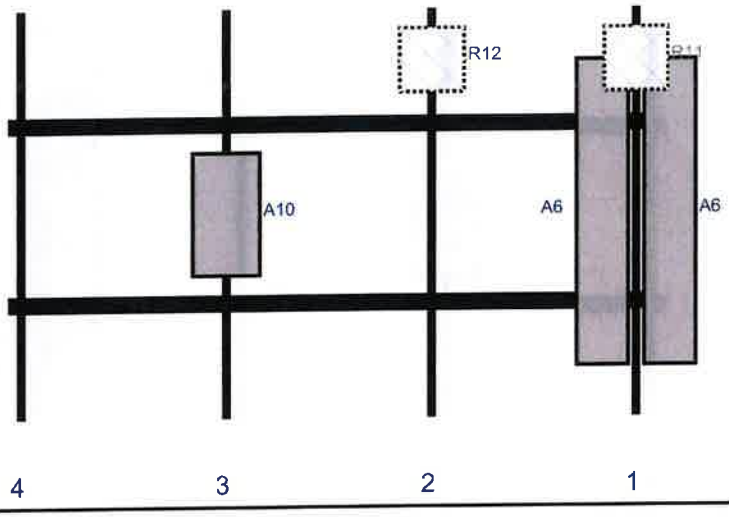


Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A8	MX06FHG865-HG	95.9	12.2	147	1	a	Front	48	8	Added	
A8	MX06FHG865-HG	95.9	12.2	147	1	b	Front	48	-8	Added	
R11	RF4439d-25A	15	15	147	1	a	Behind	12	0	Added	
R12	RF4461d-13A	15	15	99	2	a	Behind	12	0	Added	
A10	MT6413-77A	28.9	15.8	51	3	a	Front	48	0	Added	
OVP	DB-B1-6C-12AB-0Z	28.9	15.7		Member					Added	

Plan View

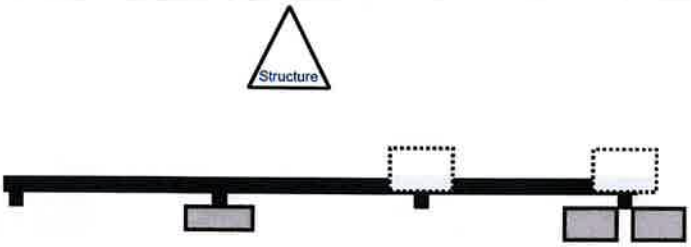


Front View - Looking at Structure

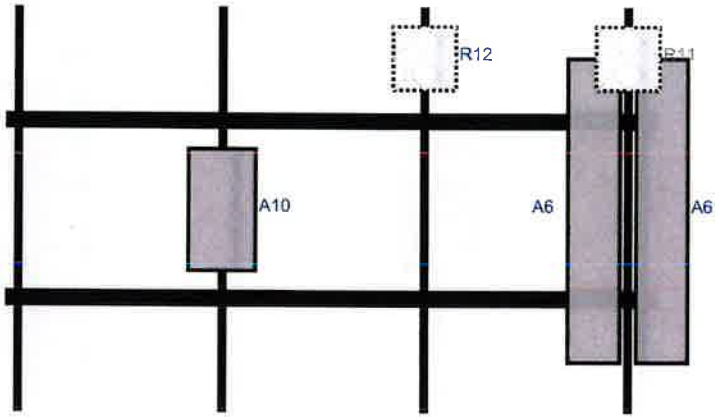


Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A6	MX06FHG665-HG	72	12.2	147	1	a	Front	48	-8	Added	
A6	MX06FHG665-HG	72	12.2	147	1	b	Front	48	8	Added	
R11	RF4439d-25A	15	15	147	1	a	Behind	12	0	Added	
R12	RF4461d-13A	15	15	99	2	a	Behind	12	0	Added	
A10	MT6413-77A	28.9	15.8	51	3	a	Front	48	0	Added	

Plan View



Front View - Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A6	MX06FHG665-HG	72	12.2	147	1	a	Front	48	-8	Added	
A6	MX06FHG665-HG	72	12.2	147	1	b	Front	48	8	Added	
R11	RF4439d-25A	15	15	147	1	a	Behind	12	0	Added	
R12	RF4461d-13A	15	15	99	2	a	Behind	12	0	Added	
A10	MT6413-77A	28.9	15.8	51	3	a	Front	48	0	Added	

GUARDIAN SECTOR FRAME

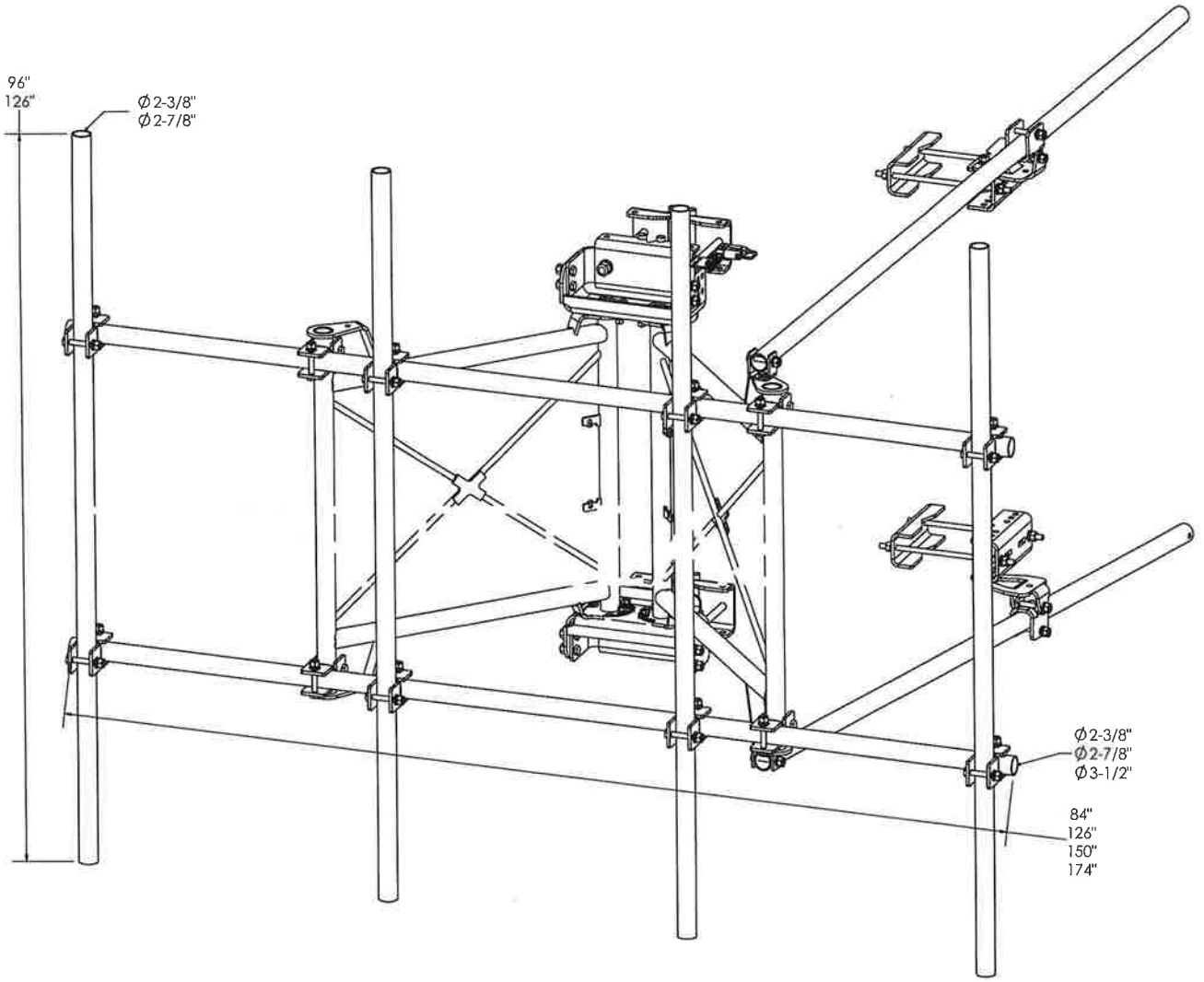


TABLE OF CONTENTS

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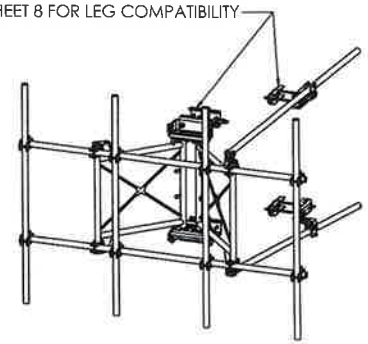
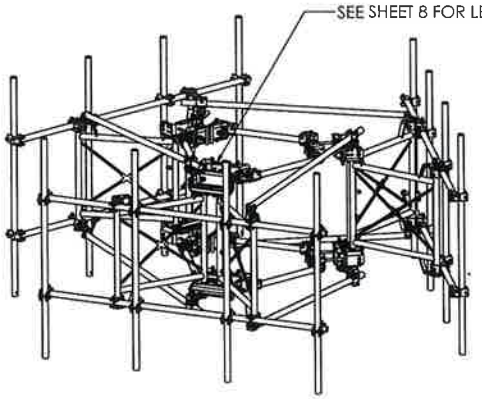
SHEET: 1 OF 24	THIRD ANGLE PROJECTION	CATEGORY: 01_Lattice Tower	4			PERFECTVISION
11/29/2022	SCALE: 1:14	SERIES: 01_V-Frames	3			
DIMENSIONS ARE IN INCHES TOLERANCES U.N.O. HOLES: +1/16", -1/32" ANGULAR: PROFILE±1/4°, BEND±2° ALL OTHERS: ±1/16"		TYPE: PV-SFR-GS_Guardian	2			GUARDIAN SECTOR FRAME
		BY: DJN	1	GROUND BAR	11/10/22	DOCUMENT NUMBER: SFR-ENG-01-R1
		CHECKED: SJS	0	INITIAL RELEASE	2/15/21	REV: 1
		STATUS: NOT FOR RELEASE	REV	DESCRIPTION	DATE	

SEE SHEET 8 FOR LEG COMPATIBILITY

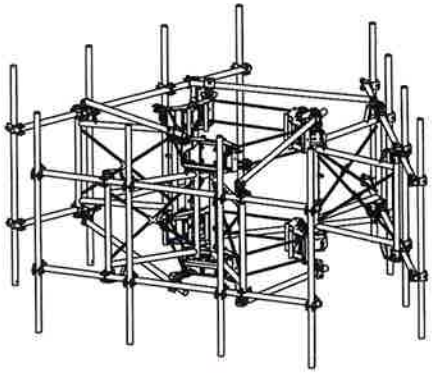


SINGLE SECTOR - STANDARD LEG BRACKET
SEE SHEET 21 FOR AVAILABLE CONFIGURATIONS
(PV-SFR-GS10-20-AP1 SHOWN)

SEE SHEET 8 FOR LEG COMPATIBILITY

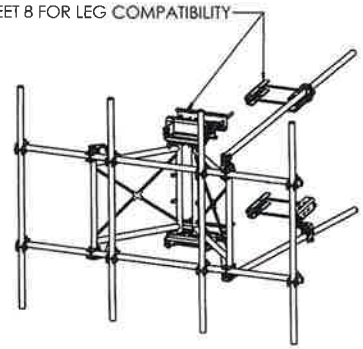


THREE SECTOR - STANDARD LEG BRACKET
SEE SHEET 13 FOR AVAILABLE CONFIGURATIONS
(PV-SFR-GS3X10-20-AP1 SHOWN)



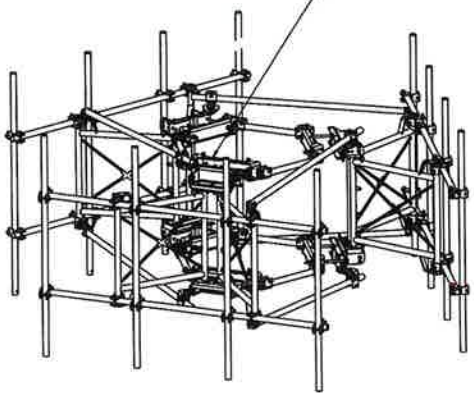
THREE SECTOR - MONOPOLE
SEE SHEET 17 FOR AVAILABLE CONFIGURATIONS
(PV-SFRGS-MP10M-20-AP1 SHOWN)

SEE SHEET 8 FOR LEG COMPATIBILITY

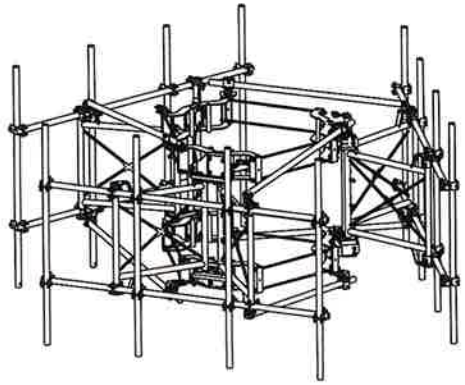


SINGLE SECTOR - LARGE LEG BRACKET
SEE SHEET 23 FOR AVAILABLE CONFIGURATIONS
(PV-SFR-GSL10-20-AP1 SHOWN)

SEE SHEET 8 FOR LEG COMPATIBILITY



THREE SECTOR - LARGE LEG BRACKET
SEE SHEET 15 FOR AVAILABLE CONFIGURATIONS
(PV-SFR-GSL3X10-20-AP1 SHOWN)



THREE SECTOR - LARGE MONOPOLE
SEE SHEET 19 FOR AVAILABLE CONFIGURATIONS
(PV-SFRGS-MP10L-20-AP1 SHOWN)

SHEET: 2 OF 24	*THIRD ANGLE PROJECTION	CATEGORY: 01_Lattice Tower	4			PERFECTVISION
		SERIES: 01_V-Frames	3			
11/29/2022	SCALE: 1:50	TYPE: PV-SFR-GS_Guardian	2			
DIMENSIONS ARE IN INCHES TOLERANCES U.N.O. HOLES: +1/16", -1/32" ANGULAR: PROFILE±1/4°, BEND±2° ALL OTHERS: ±1/16"		BY: DJN	1	GROUND BAR	11/10/22	GUARDIAN SECTOR FRAME
		CHECKED: SJS	0	INITIAL RELEASE	2/15/21	DOCUMENT NUMBER: SFR-ENG-01-R1 REV: 1
		STATUS: NOT FOR RELEASE	REV	DESCRIPTION	DATE	

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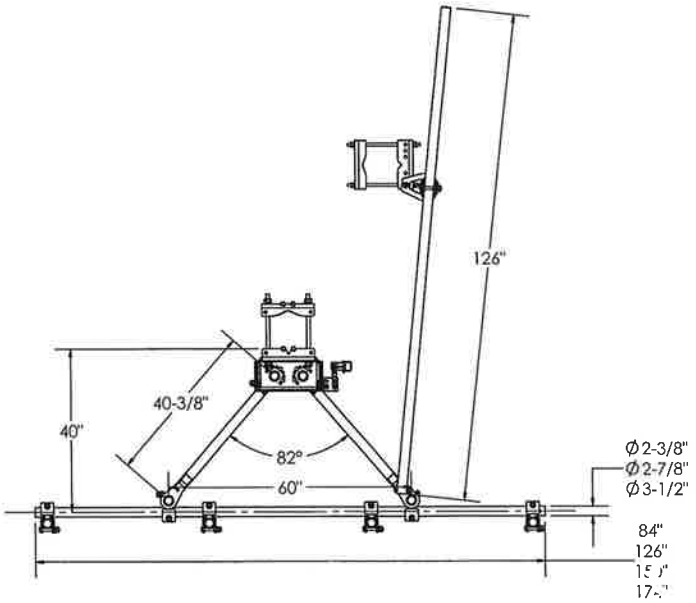
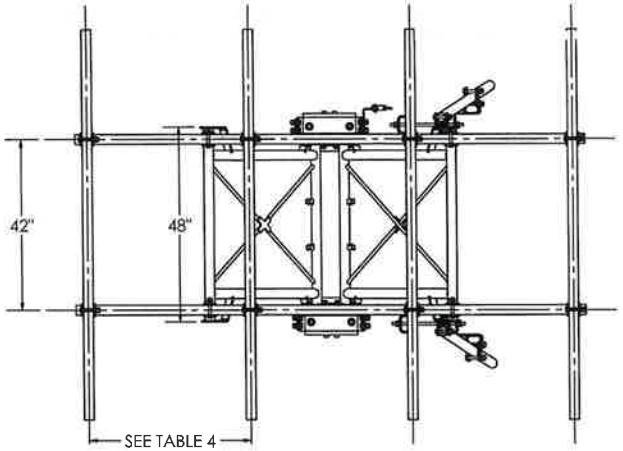
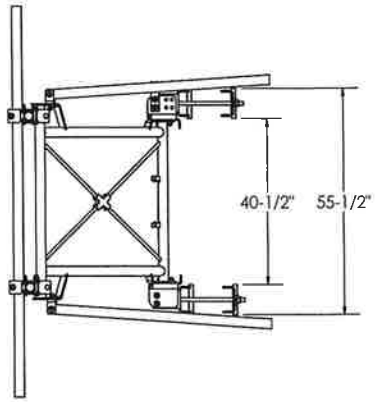
DIMENSIONAL OVERVIEW

Table 3: Antenna Pipe Options & EPA					
-AP Designation	Qty Pipes (per Sector)	Pipe Diameter [in]	Pipe Length [in]	(EPA)A (per pipe) [ft2]	(EPA)A 0.5" Ice (per pipe) [ft2]
-AP1	4	2-3/8	96	1.5	2.2
-AP2	4	2-3/8	126	2.0	2.9
-AP3	4	2-7/8	96	1.8	2.5
-AP4	4	2-7/8	126	2.4	3.3
-AP13	5	2-3/8	96	1.5	2.2
-AP14	5	2-3/8	126	2.0	2.9
-AP15	5	2-7/8	96	1.8	2.5
-AP16	5	2-7/8	126	2.4	3.3

Table 4: Antenna Pipe Spacing		
Face Width	4 Pipe Spacing (C-C)	5 Pipe Spacing (C-C)
7'	2'4"	-
10'6"	3'4"	-
12'6"	4'	3'
14'6"	4'8"	3'6"







SHEET: 4 OF 24	THIRD ANGLE PROJECTION	CATEGORY: 01_Lattice Tower	4			PERFECTVISION
11/29/2022	SCALE: 1:30	SERIES: 01_V-Frames	3			
		TYPE: PV-SFR-GS_Guardian	2			
DIMENSIONS ARE IN INCHES TOLERANCES U.N.O. HOLES: +1/16", -1/32" ANGULAR: PROFILE±1/4°, BEND±2° ALL OTHERS: ±1/16"		BY: DJN	1	GROUND BAR	11/10/22	GUARDIAN SECTOR FRAME
		CHECKED: SJS	0	INITIAL RELEASE	2/15/21	DOCUMENT NUMBER: SFR-ENG-01-R1
		STATUS: NOT FOR RELEASE	REV	DESCRIPTION	DATE	REV: 1

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Table 15: Single Sector Standard Leg Configurations

Part Number	Description	Weight [lbs]	Included Parts																								
			PV-SFR-GS-B	PV-SFR-HK-SST8	PV-XP-DC-2020	PV-XP-DC-2025	PV-XP-DC-2030	PV-XP-DC-2525	PV-XP-DC-2530	PIPE-238X84	PIPE-238X96	PIPE-238X126	PIPE-238X150	PIPE-238X174	PIPE-278X84	PIPE-278X96	PIPE-278X126	PIPE-278X150	PIPE-278X174	PIPE-312X150	PIPE-312X174	PV-SA- PIPE-150	PV-SMU2080-01	PV-SCRB-SFA	PV-CMX-CG-BO
PV-SFR-GS7-20-B	7' FW, 2-3/8" Face Pipe, No Antenna Pipe	560	1	1	4	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS7-20-AP1	7' FW, 2-3/8" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	720	1	1	12	-	-	-	-	2	4	-	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS7-20-AP2	7' FW, 2-3/8" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	760	1	1	12	-	-	-	-	2	-	4	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS7-20-AP3	7' FW, 2-3/8" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	800	1	1	4	8	-	-	-	2	-	-	-	-	-	4	-	-	-	-	-	2	2	2	2
PV-SFR-GS7-20-AP4	7' FW, 2-3/8" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	860	1	1	4	8	-	-	-	2	-	-	-	-	-	-	4	-	-	-	-	2	2	2	2
PV-SFR-GS7-25-B	7' FW, 2-7/8" Face Pipe, No Antenna Pipe	590	1	1	-	4	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS7-25-AP1	7' FW, 2-7/8" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	760	1	1	-	12	-	-	-	4	-	-	-	-	2	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS7-25-AP2	7' FW, 2-7/8" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	800	1	1	-	12	-	-	-	-	4	-	-	-	2	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS7-25-AP3	7' FW, 2-7/8" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	840	1	1	-	4	-	8	-	-	-	-	-	-	2	4	-	-	-	-	-	2	2	2	2
PV-SFR-GS7-25-AP4	7' FW, 2-7/8" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	900	1	1	-	4	-	8	-	-	-	-	-	-	2	-	4	-	-	-	-	2	2	2	2
PV-SFR-GS10-20-B	10'6" FW, 2-3/8" Face Pipe, No Antenna Pipe	580	1	1	4	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS10-20-AP1	10'6" FW, 2-3/8" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	750	1	1	12	-	-	-	-	4	2	-	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS10-20-AP2	10'6" FW, 2-3/8" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	780	1	1	12	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS10-20-AP3	10'6" FW, 2-3/8" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	820	1	1	4	8	-	-	-	-	2	-	-	-	4	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS10-20-AP4	10'6" FW, 2-3/8" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	880	1	1	4	8	-	-	-	-	2	-	-	-	-	4	-	-	-	-	-	2	2	2	2
PV-SFR-GS10-25-B	10'6" FW, 2-7/8" Face Pipe, No Antenna Pipe	630	1	1	-	4	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2	2	2	2
PV-SFR-GS10-25-AP1	10'6" FW, 2-7/8" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	800	1	1	-	12	-	-	-	4	-	-	-	-	-	2	-	-	-	-	-	2	2	2	2
PV-SFR-GS10-25-AP2	10'6" FW, 2-7/8" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	840	1	1	-	12	-	-	-	-	4	-	-	-	-	2	-	-	-	-	-	2	2	2	2
PV-SFR-GS10-25-AP3	10'6" FW, 2-7/8" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	880	1	1	-	4	-	8	-	-	-	-	-	-	4	2	-	-	-	-	-	2	2	2	2
PV-SFR-GS10-25-AP4	10'6" FW, 2-7/8" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	940	1	1	-	4	-	8	-	-	-	-	-	-	-	6	-	-	-	-	-	2	2	2	2
PV-SFR-GS12-20-B	12'6" FW, 2-3/8" Face Pipe, No Antenna Pipe	600	1	1	4	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS12-20-AP1	12'6" FW, 2-3/8" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	760	1	1	12	-	-	-	-	4	-	2	-	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS12-20-AP2	12'6" FW, 2-3/8" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	800	1	1	12	-	-	-	-	-	-	4	2	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS12-20-AP3	12'6" FW, 2-3/8" Face Pipe, (4) 2-7/8" x 96" Antenn Pipe	840	1	1	-	8	-	-	-	-	-	2	-	-	4	-	-	-	-	-	-	2	-	2	2
PV-SFR-GS12-20-AP4	12'6" FW, 2-3/8" Face Pipe, (4) 2-7/8" x 126" Anten a Pipe	900	1	1	-	8	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	2	-	2	2
PV-SFR-GS12-25-B	12'6" FW, 2-7/8" Face Pipe, No Antenna Pipe	650	1	1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	2
PV-SFR-GS12-25-AP1	12'6" FW, 2-7/8" Face Pipe, (4) 2-3/8" x 96" Antenn Pipe	830	1	1	-	12	-	-	-	-	4	-	-	-	-	-	-	-	2	-	-	2	-	2	2
PV-SFR-GS12-25-AP2	12'6" FW, 2-7/8" Face Pipe, (4) 2-3/8" x 126" Anten a Pipe	860	1	1	-	12	-	-	-	-	4	-	-	-	-	-	-	-	2	-	-	2	-	2	2
PV-SFR-GS12-25-AP3	12'6" FW, 2-7/8" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	900	1	1	-	4	-	8	-	-	-	-	-	-	-	4	-	2	-	-	-	2	2	2	2
PV-SFR-GS12-25-AP4	12'6" FW, 2-7/8" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	960	1	1	-	4	-	8	-	-	-	-	-	-	-	-	4	2	-	-	-	2	2	2	2
PV-SFR-GS12-30-B	12'6" FW, 3-1/2" Face Pipe, No Antenna Pipe	700	1	1	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	2	2	2
PV-SFR-GS12-30-AP1	12'6" FW, 3-1/2" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	890	1	1	-	-	12	-	-	-	4	-	-	-	-	-	-	-	-	2	-	2	2	2	2
PV-SFR-GS12-30-AP2	12'6" FW, 3-1/2" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	920	1	1	-	-	12	-	-	-	-	4	-	-	-	-	-	-	-	2	-	2	2	2	2
PV-SFR-GS12-30-AP3	12'6" FW, 3-1/2" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	960	1	1	-	-	4	-	8	-	-	-	-	-	4	-	-	-	-	2	-	2	2	2	2
PV-SFR-GS12-30-AP4	12'6" FW, 3-1/2" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	1020	1	1	-	-	4	-	8	-	-	-	-	-	-	-	4	-	-	2	-	2	2	2	2
PV-SFR-GS14-20-B	14'6" FW, 2-3/8" Face Pipe, No Antenna Pipe	610	1	1	4	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-20-AP1	14'6" FW, 2-3/8" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	780	1	1	12	-	-	-	-	4	-	-	2	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-20-AP2	14'6" FW, 2-3/8" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	810	1	1	12	-	-	-	-	-	4	-	2	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-20-AP3	14'6" FW, 2-3/8" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	850	1	1	4	8	-	-	-	-	-	-	2	-	4	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-20-AP4	14'6" FW, 2-3/8" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	910	1	1	4	8	-	-	-	-	-	-	2	-	-	4	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-20-AP13	14'6" FW, 2-3/8" Face Pipe, (5) 2-3/8" x 96" Antenna Pipe	820	1	1	14	-	-	-	-	5	-	-	2	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-20-AP14	14'6" FW, 2-3/8" Face Pipe, (5) 2-3/8" x 126" Antenna Pipe	860	1	1	14	-	-	-	-	-	5	-	2	-	-	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-20-AP15	14'6" FW, 2-3/8" Face Pipe, (5) 2-7/8" x 96" Antenna Pipe	910	1	1	4	10	-	-	-	-	-	-	2	-	5	-	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-20-AP16	14'6" FW, 2-3/8" Face Pipe, (5) 2-7/8" x 126" Antenna Pipe	990	1	1	4	10	-	-	-	-	-	-	2	-	-	5	-	-	-	-	-	2	2	2	2
PV-SFR-GS14-25-B	14'6" FW, 2-7/8" Face Pipe, No Antenna Pipe	680	1	1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	2	2	2
PV-SFR-GS14-25-AP1	14'6" FW, 2-7/8" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	850	1	1	-	12	-	-	-	-	4	-	-	-	-	-	-	-	-	2	-	2	2	2	2
PV-SFR-GS14-25-AP2	14'6" FW, 2-7/8" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	890	1	1	-	12	-	-	-	-	4	-	-	-	-	-	-	-	-	2	-	2	2	2	2
PV-SFR-GS14-25-AP3	14'6" FW, 2-7/8" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	930	1	1	-	4	-	8	-	-	-	-	-	-	-	4	-	-	2	-	-	2	2	2	2
PV-SFR-GS14-25-AP4	14'6" FW, 2-7/8" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	990	1	1	-	4	-	8	-	-	-	-	-	-	-	-	4	-	2	-	-	2	2	2	2
PV-SFR-GS14-25-AP13	14'6" FW, 2-7/8" Face Pipe, (5) 2-3/8" x 96" Antenna Pipe	890	1	1	-	14	-	-	-	-	5	-	-	-	-	-	-	-	2	-	-	2	2	2	2
PV-SFR-GS14-25-AP14	14'6" FW, 2-7/8" Face Pipe, (5) 2-3/8" x 126" Antenna Pipe	940	1	1	-	14	-	-	-	-	5	-	-	-	-	-	-	-	2	-	-	2	2	2	2
PV-SFR-GS14-25-AP15	14'6" FW, 2-7/8" Face Pipe, (5) 2-7/8" x 96" Antenna Pipe	990	1	1	-	4	-	10	-	-	-	-	-	-	5	-	-	2	-	-	-	2	2	2	2
PV-SFR-GS14-25-AP16	14'6" FW, 2-7/8" Face Pipe, (5) 2-7/8" x 126" Antenna Pipe	1060	1	1	-	4	-	10	-	-	-	-	-	-	-	5	-	2	-	-	-	2	2	2	2
PV-SFR-GS14-30-B	14'6" FW, 3-1/2" Face Pipe, No Antenna Pipe	730	1	1	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2
PV-SFR-GS14-30-AP1	14'6" FW, 3-1/2" Face Pipe, (4) 2-3/8" x 96" Antenna Pipe	920	1	1	-	-	12	-	-	-	4	-	-	-	-	-	-	-	-	-	2	2	2	2	2
PV-SFR-GS14-30-AP2	14'6" FW, 3-1/2" Face Pipe, (4) 2-3/8" x 126" Antenna Pipe	950	1	1	-	-	12	-	-	-	-	4	-	-	-	-	-	-	-	-	2	2	2	2	2
PV-SFR-GS14-30-AP3	14'6" FW, 3-1/2" Face Pipe, (4) 2-7/8" x 96" Antenna Pipe	990	1	1	-	-	4	-	8	-	-	-	-	-	4	-	-	-	-	2	2	2	2	2	2
PV-SFR-GS14-30-AP4	14'6" FW, 3-1/2" Face Pipe, (4) 2-7/8" x 126" Antenna Pipe	1050	1	1	-	-	4	-	8	-	-	-	-	-	-	4	-	-	-	2	2	2	2	2	2
PV-SFR-GS14-30-AP13	14'6" FW, 3-1/2" Face Pipe, (5) 2-3/8" x 96" Antenna Pipe	960	1	1	-	-	14	-	-	-	5	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2
PV-SFR-GS14-30-AP14	14'6" FW, 3-1/2" Face Pipe, (5) 2-3/8" x 126" Antenna Pipe	1010	1	1	-	-	14	-	-	-	-	5	-	-	-	-	-	-	-	-	2	2	2	2	2	2
PV-SFR-GS14-30-AP15	14'6" FW, 3-1/2" Face Pipe, (5) 2-7/8" x 96" Antenna Pipe	1060	1	1	-	-	4	-	10	-	-	-	-	-	-	5	-	-	-	-	2	2	2	2	2	2
PV-SFR-GS14-30-AP16	14'6" FW, 3-1/2" Face Pipe, (5) 2-7/8" x 126" Antenna Pipe	1130	1	1	-	-	4	-	10	-	-	-	-	-	-	-	5	-	-	-	2	2	2	2	2	2

SINGLE SECTOR

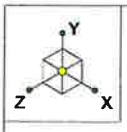
PERFECTVISION

SHEET 21 OF 24

DOCUMENT NUMBER SFR-ENG-01-R1

REV 1

C:\PVA\Steel\ Catalog\SW Working Files\Engineering Details



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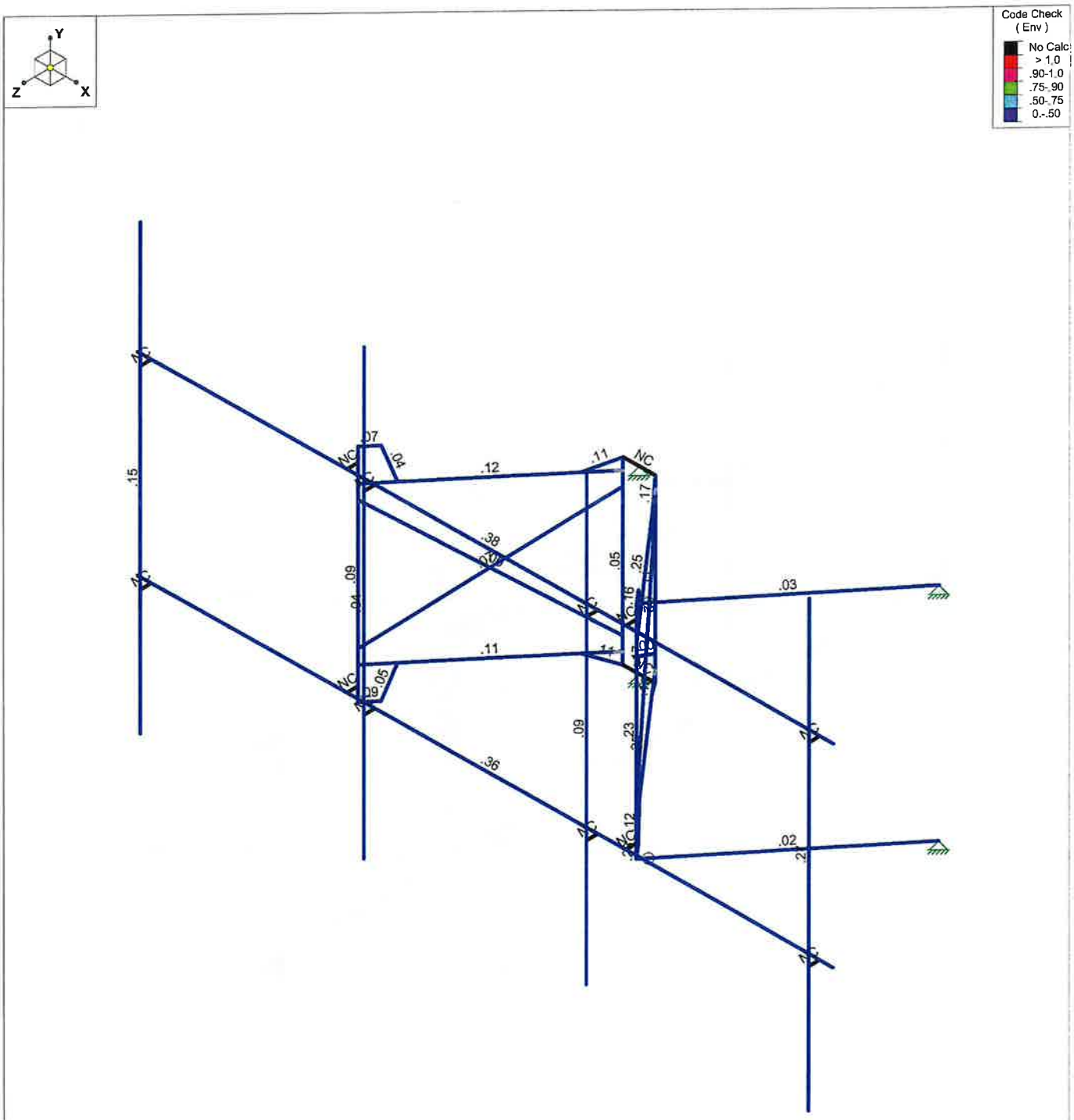
Colliers Engineering & De...	Antenna Mount Analysis	SK - 1
		Dec 22, 2023 at 12:21 PM
Project # 21777037		5000381704-VZW_MT_LOT_A_H....



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & De...	Antenna Mount Analysis	SK - 2
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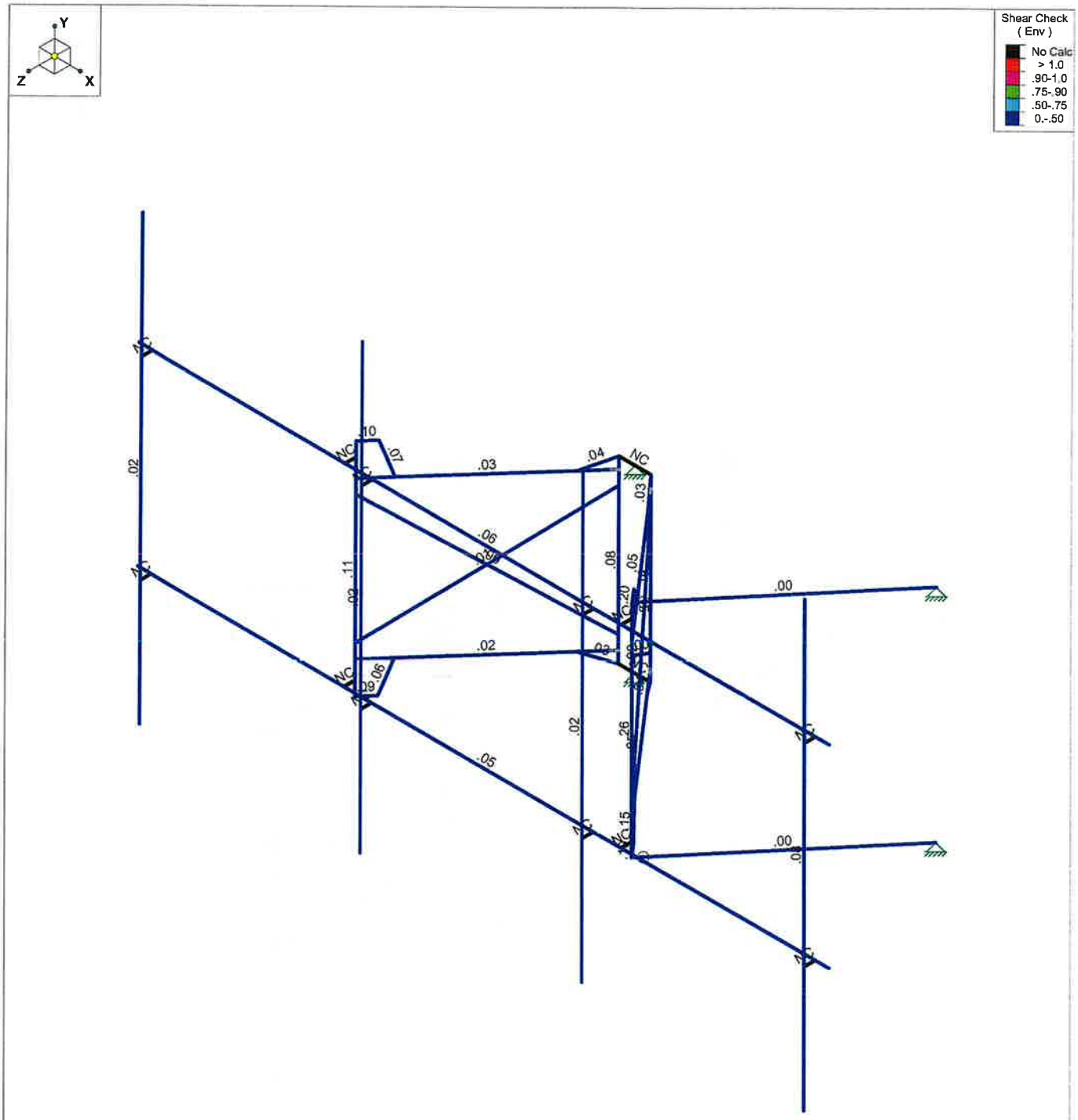
Project # 21777037		5000381704-VZW_MT_LOT_A_H....



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Colliers Engineering & De...	Antenna Mount Analysis	SK - 3
		Dec 22, 2023 at 12:22 PM
Project # 21777037		5000381704-VZW_MT_LOT_A_H....

Basic Load Cases

	BLC Description	Category	X Gr...	Y Gr...	Z Gr...	Joint	Point	Distributed	Area(Member)	Surfa...
1	Antenna D	None					27			
2	Antenna Di	None					27			
3	Antenna Wo (0 Deg)	None					27			
4	Antenna Wo (30 Deg)	None					27			
5	Antenna Wo (60 Deg)	None					27			
6	Antenna Wo (90 Deg)	None					27			
7	Antenna Wo (120 Deg)	None					27			
8	Antenna Wo (150 Deg)	None					27			
9	Antenna Wo (180 Deg)	None					27			
10	Antenna Wo (210 Deg)	None					27			
11	Antenna Wo (240 Deg)	None					27			
12	Antenna Wo (270 Deg)	None					27			
13	Antenna Wo (300 Deg)	None					27			
14	Antenna Wo (330 Deg)	None					27			
15	Antenna Wi (0 Deg)	None					27			
16	Antenna Wi (30 Deg)	None					27			
17	Antenna Wi (60 Deg)	None					27			
18	Antenna Wi (90 Deg)	None					27			
19	Antenna Wi (120 Deg)	None					27			
20	Antenna Wi (150 Deg)	None					27			
21	Antenna Wi (180 Deg)	None					27			
22	Antenna Wi (210 Deg)	None					27			
23	Antenna Wi (240 Deg)	None					27			
24	Antenna Wi (270 Deg)	None					27			
25	Antenna Wi (300 Deg)	None					27			
26	Antenna Wi (330 Deg)	None					27			
27	Antenna Wm (0 Deg)	None					27			
28	Antenna Wm (30 Deg)	None					27			
29	Antenna Wm (60 Deg)	None					27			
30	Antenna Wm (90 Deg)	None					27			
31	Antenna Wm (120 Deg)	None					27			
32	Antenna Wm (150 Deg)	None					27			
33	Antenna Wm (180 Deg)	None					27			
34	Antenna Wm (210 Deg)	None					27			
35	Antenna Wm (240 Deg)	None					27			
36	Antenna Wm (270 Deg)	None					27			
37	Antenna Wm (300 Deg)	None					27			
38	Antenna Wm (330 Deg)	None					27			
39	Structure D	None		-1						
40	Structure Di	None						32		
41	Structure Wo (0 Deg)	None						64		
42	Structure Wo (30 Deg)	None						64		
43	Structure Wo (60 Deg)	None						64		
44	Structure Wo (90 Deg)	None						64		
45	Structure Wo (120 Deg)	None						64		
46	Structure Wo (150 Deg)	None						64		
47	Structure Wo (180 Deg)	None						64		
48	Structure Wo (210 Deg)	None						64		
49	Structure Wo (240 Deg)	None						64		
50	Structure Wo (270 Deg)	None						64		
51	Structure Wo (300 Deg)	None						64		
52	Structure Wo (330 Deg)	None						64		
53	Structure Wi (0 Deg)	None						64		
54	Structure Wi (30 Deg)	None						64		
55	Structure Wi (60 Deg)	None						64		
56	Structure Wi (90 Deg)	None						64		

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						64		
58	Structure Wi (150 Deg)	None						64		
59	Structure Wi (180 Deg)	None						64		
60	Structure Wi (210 Deg)	None						64		
61	Structure Wi (240 Deg)	None						64		
62	Structure Wi (270 Deg)	None						64		
63	Structure Wi (300 Deg)	None						64		
64	Structure Wi (330 Deg)	None						64		
65	Structure Wm (0 Deg)	None						64		
66	Structure Wm (30 Deg)	None						64		
67	Structure Wm (60 Deg)	None						64		
68	Structure Wm (90 Deg)	None						64		
69	Structure Wm (120 Deg)	None						64		
70	Structure Wm (150 Deg)	None						64		
71	Structure Wm (180 Deg)	None						64		
72	Structure Wm (210 Deg)	None						64		
73	Structure Wm (240 Deg)	None						64		
74	Structure Wm (270 Deg)	None						64		
75	Structure Wm (300 Deg)	None						64		
76	Structure Wm (330 Deg)	None						64		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					27			
82	Antenna Eh (0 Deg)	None					18			
83	Antenna Eh (90 Deg)	None					18			
84	Structure Ev	ELY		-.0497						
85	Structure Eh (0 Deg)	ELZ			-.1243					
86	Structure Eh (90 Deg)	ELX	.1243							

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	53	1								
14	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1								
15	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1								
16	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1								
17	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1								
18	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1								
19	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1								
20	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1								
21	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1								
22	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1								

Load Combinations (Continued)

	Description	S...	PDel...	SR...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
23	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1								
24	1.2D + 1.0Di + 1.0Wi...	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1								
25	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1										
26	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1										
27	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1										
28	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1										
29	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1										
30	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1										
31	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1										
32	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1										
33	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1										
34	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1										
35	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1										
36	1.2D + 1.5Lm1 + 1.0...	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1										
37	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1										
38	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1										
39	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1										
40	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1										
41	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1										
42	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1										
43	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1										
44	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1										
45	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1										
46	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1										
47	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1										
48	1.2D + 1.5Lm2 + 1.0...	Yes	Y		1	1.2	39	1.2	78	1.5	38	1	76	1										
49	1.2D + 1.5Lv1	Yes	Y		1	1.2	39	1.2	79	1.5														
50	1.2D + 1.5Lv2	Yes	Y		1	1.2	39	1.2	80	1.5														
51	1.4D	Yes	Y		1	1.4	39	1.4																
52	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	1	83		ELZ	1	E...					
53	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.866	83	.5	ELZ	.866	E...	.5				
54	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.5	83	.866	ELZ	.5	E...	.866				
55	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	1	ELZ		E...	1				
56	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.5	83	.866	ELZ	-.5	E...	.866				
57	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.8...	83	.5	ELZ	-.8...	E...	.5				
58	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-1	83		ELZ	-1	E...					
59	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.8...	83	-.5	ELZ	-.8...	E...	-.5				
60	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.5	83	-.8...	ELZ	-.5	E...	-.8...				
61	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	-1	ELZ		E...	-1				
62	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.5	83	-.8...	ELZ	.5	E...	-.8...				
63	1.2D + 1.0Ev + 1.0E...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.866	83	-.5	ELZ	.866	E...	-.5				
64	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	1	83		ELZ	1	E...					
65	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.866	83	.5	ELZ	.866	E...	.5				
66	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.5	83	.866	ELZ	.5	E...	.866				
67	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	1	ELZ		E...	1				
68	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.5	83	.866	ELZ	-.5	E...	.866				
69	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.8...	83	.5	ELZ	-.8...	E...	.5				
70	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-1	83		ELZ	-1	E...					
71	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.8...	83	-.5	ELZ	-.8...	E...	-.5				
72	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.5	83	-.8...	ELZ	-.5	E...	-.8...				
73	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	-1	ELZ		E...	-1				
74	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.5	83	-.8...	ELZ	.5	E...	-.8...				
75	0.9D - 1.0Ev + 1.0Eh...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.866	83	-.5	ELZ	.866	E...	-.5				

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Desig...	A [in2]	Iyy [i...	Izz [i...	J [in4]
1	Standoff Vertical Pipe	PIPE_2.0X	Column	HSS Pipe	A500 Gr.C R...	Typical	1.4	.827	.827	1.65
2	Standoff Horizontal	PIPE_2.0	Beam	HSS Pipe	A500 Gr.C R...	Typical	1.02	.627	.627	1.25
3	Standoff Diagonal	SR 0.75	None	None	A36 Gr.36	Typical	.4418	.0155	.0155	.0311
4	Face Horizontal	PIPE_2.5	Beam	HSS Pipe	A500 Gr.C R...	Typical	1.61	1.45	1.45	2.89
5	Mount Pipe P2	PIPE_2.0	Column	HSS Pipe	A500 Gr.C R...	Typical	1.02	.627	.627	1.25
6	Mount Pipe P2.5	PIPE_2.5	Column	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
7	Tieback	PIPE_2.0	HBrace	HSS Pipe	A500 Gr.C R...	Typical	1.02	.627	.627	1.25
8	Corner Plate	PL3/8x2	None	None	A36 Gr.36	Typical	.75	.0088	.25	.031

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.25	65	1.15
8	A913 Gr.65	29000	11154	.3	.65	.49	65	1.1	80	1.1
9	A500 Gr.C RND	29000	11154	.3	.65	.527	46	1.4	58	1.3

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Ru...
1	M1	N2	N1			Standoff Vertical P...	Column	HSS Pipe	A500 Gr...	Typical
2	M2	N4	N3			Standoff Vertical P...	Column	HSS Pipe	A500 Gr...	Typical
3	M3	N14	N13			Standoff Vertical P...	Column	HSS Pipe	A500 Gr...	Typical
4	M4	N16	N15			Standoff Vertical P...	Column	HSS Pipe	A500 Gr...	Typical
5	OVP	N17	N5			Standoff Horizontal	Beam	HSS Pipe	A500 Gr...	Typical
6	M6	N18	N6			Standoff Horizontal	Beam	HSS Pipe	A500 Gr...	Typical
7	M7	N19	N7			Standoff Horizontal	Beam	HSS Pipe	A500 Gr...	Typical
8	M8	N20	N8			Standoff Horizontal	Beam	HSS Pipe	A500 Gr...	Typical
9	M9	N21	N10			Standoff Diagonal	None	None	A36 Gr.36	Typical
10	M10	N22	N9			Standoff Diagonal	None	None	A36 Gr.36	Typical
11	M11	N23	N12			Standoff Diagonal	None	None	A36 Gr.36	Typical
12	M12	N24	N11			Standoff Diagonal	None	None	A36 Gr.36	Typical
13	M13	N33	N35			Face Horizontal	Beam	HSS Pipe	A500 Gr...	Typical
14	FACE	N34	N36			Face Horizontal	Beam	HSS Pipe	A500 Gr...	Typical
15	M15	N25	N29			RIGID	None	None	RIGID	Typical
16	M16	N26	N30			RIGID	None	None	RIGID	Typical
17	M17	N28	N32			RIGID	None	None	RIGID	Typical
18	M18	N27	N31			RIGID	None	None	RIGID	Typical
19	M19	N15	N37			Tieback	HBrace	HSS Pipe	A500 Gr...	Typical
20	MP4A	N42	N43			Mount Pipe P2	Column	HSS Pipe	A500 Gr...	Typical
21	M21	N39	N38			RIGID	None	None	RIGID	Typical
22	LL2	N41	N40			RIGID	None	None	RIGID	Typical
23	M23	N44	N45			RIGID	None	None	RIGID	Typical
24	MP3A	N47	N46			Mount Pipe P2	Column	HSS Pipe	A500 Gr...	Typical
25	LM1	N48	N49			RIGID	None	None	RIGID	Typical
26	M26	N50	N51			RIGID	None	None	RIGID	Typical
27	MP2A	N53	N52			Mount Pipe P2	Column	HSS Pipe	A500 Gr...	Typical
28	LL1	N54	N55			RIGID	None	None	RIGID	Typical
29	M29	N56	N57			RIGID	None	None	RIGID	Typical
30	MP1A	N59	N58			Mount Pipe P2.5	Column	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Ru...
31	M31	N60	N61			RIGID	None	None	RIGID	Typical
32	M32	N1	N3			RIGID	None	None	RIGID	Typical
33	M33	N2	N4			RIGID	None	None	RIGID	Typical
34	M34	N16	N64			Tieback	HBrace	HSS Pipe	A500 Gr...	Typical
35	M35	N13	N69		90	Corner Plate	None	None	A36 Gr.36	Typical
36	M36	N69	N65		90	Corner Plate	None	None	A36 Gr.36	Typical
37	M37	N14	N70		90	Corner Plate	None	None	A36 Gr.36	Typical
38	M38	N70	N66		90	Corner Plate	None	None	A36 Gr.36	Typical
39	M39	N15	N71		90	Corner Plate	None	None	A36 Gr.36	Typical
40	M40	N71	N67		90	Corner Plate	None	None	A36 Gr.36	Typical
41	M41	N16	N72		90	Corner Plate	None	None	A36 Gr.36	Typical
42	M42	N72	N68		90	Corner Plate	None	None	A36 Gr.36	Typical
43	M43	N1	N73		90	Corner Plate	None	None	A36 Gr.36	Typical
44	M44	N2	N74		90	Corner Plate	None	None	A36 Gr.36	Typical
45	M45	N3	N75		90	Corner Plate	None	None	A36 Gr.36	Typical
46	M46	N4	N76		90	Corner Plate	None	None	A36 Gr.36	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	M1						Yes	** NA **			None
2	M2						Yes	** NA **			None
3	M3						Yes	** NA **			None
4	M4						Yes	** NA **			None
5	OVP			1.2	1.2		Yes	Default			None
6	M6			1.2	1.2		Yes	Default			None
7	M7			1.2	1.2		Yes	Default			None
8	M8			1.2	1.2		Yes	Default			None
9	M9			1.2	1.2	Tension ...	Yes	** NA **			None
10	M10			1.2	1.2	Tension ...	Yes	** NA **			None
11	M11			1.2	1.2	Tension ...	Yes	** NA **			None
12	M12			1.2	1.2	Tension ...	Yes	** NA **			None
13	M13						Yes	Default			None
14	FACE						Yes	Default			None
15	M15						Yes	** NA **			None
16	M16						Yes	** NA **			None
17	M17						Yes	** NA **			None
18	M18						Yes	** NA **			None
19	M19	BenPIN					Yes	** NA **			None
20	MP4A						Yes	** NA **			None
21	M21						Yes	** NA **			None
22	LL2						Yes	** NA **			None
23	M23						Yes	** NA **			None
24	MP3A						Yes	** NA **			None
25	LM1						Yes	** NA **			None
26	M26						Yes	** NA **			None
27	MP2A						Yes	** NA **			None
28	LL1						Yes	** NA **			None
29	M29						Yes	** NA **			None
30	MP1A						Yes	** NA **			None
31	M31						Yes	** NA **			None
32	M32						Yes	** NA **			None
33	M33						Yes	** NA **			None
34	M34	BenPIN					Yes	** NA **			None
35	M35			1.2			Yes	** NA **			None
36	M36				1.2		Yes	** NA **			None

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...
37	M37			1.2			Yes	** NA **			None
38	M38				1.2		Yes	** NA **			None
39	M39			1.2			Yes	** NA **			None
40	M40				1.2		Yes	** NA **			None
41	M41			1.2			Yes	** NA **			None
42	M42				1.2		Yes	** NA **			None
43	M43				1.2		Yes	** NA **			None
44	M44				1.2		Yes	** NA **			None
45	M45				1.2		Yes	** NA **			None
46	M46				1.2		Yes	** NA **			None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-38.5	1.5
2	MP1A	My	-.0257	1.5
3	MP1A	Mz	.0257	1.5
4	MP1A	Y	-38.5	6.5
5	MP1A	My	-.0257	6.5
6	MP1A	Mz	.0257	6.5
7	MP1A	Y	-38.5	1.5
8	MP1A	My	-.0257	1.5
9	MP1A	Mz	-.0257	1.5
10	MP1A	Y	-38.5	6.5
11	MP1A	My	-.0257	6.5
12	MP1A	Mz	-.0257	6.5
13	MP3A	Y	-28.65	3
14	MP3A	My	-.0191	3
15	MP3A	Mz	0	3
16	MP3A	Y	-28.65	5
17	MP3A	My	-.0191	5
18	MP3A	Mz	0	5
19	OVP	Y	-32	1
20	OVP	My	0	1
21	OVP	Mz	0	1
22	MP1A	Y	-74.7	1
23	MP1A	My	.0498	1
24	MP1A	Mz	0	1
25	MP2A	Y	-79.1	1
26	MP2A	My	.0527	1
27	MP2A	Mz	0	1

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-83.4599	1.5
2	MP1A	My	-.0556	1.5
3	MP1A	Mz	.0556	1.5
4	MP1A	Y	-83.4599	6.5
5	MP1A	My	-.0556	6.5
6	MP1A	Mz	.0556	6.5
7	MP1A	Y	-83.4599	1.5
8	MP1A	My	-.0556	1.5
9	MP1A	Mz	-.0556	1.5
10	MP1A	Y	-83.4599	6.5
11	MP1A	My	-.0556	6.5
12	MP1A	Mz	-.0556	6.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
13	MP3A	Y	-30.3138	3
14	MP3A	My	-.0202	3
15	MP3A	Mz	0	3
16	MP3A	Y	-30.3138	5
17	MP3A	My	-.0202	5
18	MP3A	Mz	0	5
19	OVP	Y	-77.2925	1
20	OVP	My	0	1
21	OVP	Mz	0	1
22	MP1A	Y	-45.7135	1
23	MP1A	My	.0305	1
24	MP1A	Mz	0	1
25	MP2A	Y	-46.1974	1
26	MP2A	My	.0308	1
27	MP2A	Mz	0	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	1.5
2	MP1A	Z	-204.359	1.5
3	MP1A	Mx	-.1362	1.5
4	MP1A	X	0	6.5
5	MP1A	Z	-204.359	6.5
6	MP1A	Mx	-.1362	6.5
7	MP1A	X	0	1.5
8	MP1A	Z	-204.359	1.5
9	MP1A	Mx	.1362	1.5
10	MP1A	X	0	6.5
11	MP1A	Z	-204.359	6.5
12	MP1A	Mx	.1362	6.5
13	MP3A	X	0	3
14	MP3A	Z	-66.711	3
15	MP3A	Mx	0	3
16	MP3A	X	0	5
17	MP3A	Z	-66.711	5
18	MP3A	Mx	0	5
19	OVP	X	0	1
20	OVP	Z	-128.146	1
21	OVP	Mx	0	1
22	MP1A	X	0	1
23	MP1A	Z	-54.566	1
24	MP1A	Mx	0	1
25	MP2A	X	0	1
26	MP2A	Z	-65.831	1
27	MP2A	Mx	0	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	94.14	1.5
2	MP1A	Z	-163.055	1.5
3	MP1A	Mx	-.1715	1.5
4	MP1A	X	94.14	6.5
5	MP1A	Z	-163.055	6.5
6	MP1A	Mx	-.1715	6.5
7	MP1A	X	94.14	1.5
8	MP1A	Z	-163.055	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
9	MP1A	Mx	.0459	1.5
10	MP1A	X	94.14	6.5
11	MP1A	Z	-163.055	6.5
12	MP1A	Mx	.0459	6.5
13	MP3A	X	28.229	3
14	MP3A	Z	-48.893	3
15	MP3A	Mx	-.0188	3
16	MP3A	X	28.229	5
17	MP3A	Z	-48.893	5
18	MP3A	Mx	-.0188	5
19	OVP	X	66.031	1
20	OVP	Z	-114.37	1
21	OVP	Mx	0	1
22	MP1A	X	25.039	1
23	MP1A	Z	-43.368	1
24	MP1A	Mx	.0167	1
25	MP2A	X	30.297	1
26	MP2A	Z	-52.477	1
27	MP2A	Mx	.0202	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	135.206	1.5
2	MP1A	Z	-78.061	1.5
3	MP1A	Mx	-.1422	1.5
4	MP1A	X	135.206	6.5
5	MP1A	Z	-78.061	6.5
6	MP1A	Mx	-.1422	6.5
7	MP1A	X	135.206	1.5
8	MP1A	Z	-78.061	1.5
9	MP1A	Mx	-.0381	1.5
10	MP1A	X	135.206	6.5
11	MP1A	Z	-78.061	6.5
12	MP1A	Mx	-.0381	6.5
13	MP3A	X	31.132	3
14	MP3A	Z	-17.974	3
15	MP3A	Mx	-.0208	3
16	MP3A	X	31.132	5
17	MP3A	Z	-17.974	5
18	MP3A	Mx	-.0208	5
19	OVP	X	99.407	1
20	OVP	Z	-57.393	1
21	OVP	Mx	0	1
22	MP1A	X	35.594	1
23	MP1A	Z	-20.55	1
24	MP1A	Mx	.0237	1
25	MP2A	X	43.407	1
26	MP2A	Z	-25.061	1
27	MP2A	Mx	.0289	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	140.044	1.5
2	MP1A	Z	0	1.5
3	MP1A	Mx	-.0934	1.5
4	MP1A	X	140.044	6.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
5	MP1A	Z	0	6.5
6	MP1A	Mx	-.0934	6.5
7	MP1A	X	140.044	1.5
8	MP1A	Z	0	1.5
9	MP1A	Mx	-.0934	1.5
10	MP1A	X	140.044	6.5
11	MP1A	Z	0	6.5
12	MP1A	Mx	-.0934	6.5
13	MP3A	X	25.694	3
14	MP3A	Z	0	3
15	MP3A	Mx	-.0171	3
16	MP3A	X	25.694	5
17	MP3A	Z	0	5
18	MP3A	Mx	-.0171	5
19	OVP	X	93.592	1
20	OVP	Z	0	1
21	OVP	Mx	0	1
22	MP1A	X	36.612	1
23	MP1A	Z	0	1
24	MP1A	Mx	.0244	1
25	MP2A	X	44.885	1
26	MP2A	Z	0	1
27	MP2A	Mx	.0299	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	135.206	1.5
2	MP1A	Z	78.061	1.5
3	MP1A	Mx	-.0381	1.5
4	MP1A	X	135.206	6.5
5	MP1A	Z	78.061	6.5
6	MP1A	Mx	-.0381	6.5
7	MP1A	X	135.206	1.5
8	MP1A	Z	78.061	1.5
9	MP1A	Mx	-.1422	1.5
10	MP1A	X	135.206	6.5
11	MP1A	Z	78.061	6.5
12	MP1A	Mx	-.1422	6.5
13	MP3A	X	31.132	3
14	MP3A	Z	17.974	3
15	MP3A	Mx	-.0208	3
16	MP3A	X	31.132	5
17	MP3A	Z	17.974	5
18	MP3A	Mx	-.0208	5
19	OVP	X	77.661	1
20	OVP	Z	44.838	1
21	OVP	Mx	0	1
22	MP1A	X	35.594	1
23	MP1A	Z	20.55	1
24	MP1A	Mx	.0237	1
25	MP2A	X	43.407	1
26	MP2A	Z	25.061	1
27	MP2A	Mx	.0289	1

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

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

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	94.14	1.5
2	MP1A	Z	163.055	1.5
3	MP1A	Mx	.0459	1.5
4	MP1A	X	94.14	6.5
5	MP1A	Z	163.055	6.5
6	MP1A	Mx	.0459	6.5
7	MP1A	X	94.14	1.5
8	MP1A	Z	163.055	1.5
9	MP1A	Mx	-.1715	1.5
10	MP1A	X	94.14	6.5
11	MP1A	Z	163.055	6.5
12	MP1A	Mx	-.1715	6.5
13	MP3A	X	28.229	3
14	MP3A	Z	48.893	3
15	MP3A	Mx	-.0188	3
16	MP3A	X	28.229	5
17	MP3A	Z	48.893	5
18	MP3A	Mx	-.0188	5
19	OVP	X	53.476	1
20	OVP	Z	92.624	1
21	OVP	Mx	0	1
22	MP1A	X	25.039	1
23	MP1A	Z	43.368	1
24	MP1A	Mx	.0167	1
25	MP2A	X	30.297	1
26	MP2A	Z	52.477	1
27	MP2A	Mx	.0202	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	1.5
2	MP1A	Z	204.359	1.5
3	MP1A	Mx	.1362	1.5
4	MP1A	X	0	6.5
5	MP1A	Z	204.359	6.5
6	MP1A	Mx	.1362	6.5
7	MP1A	X	0	1.5
8	MP1A	Z	204.359	1.5
9	MP1A	Mx	-.1362	1.5
10	MP1A	X	0	6.5
11	MP1A	Z	204.359	6.5
12	MP1A	Mx	-.1362	6.5
13	MP3A	X	0	3
14	MP3A	Z	66.711	3
15	MP3A	Mx	0	3
16	MP3A	X	0	5
17	MP3A	Z	66.711	5
18	MP3A	Mx	0	5
19	OVP	X	0	1
20	OVP	Z	128.146	1
21	OVP	Mx	0	1
22	MP1A	X	0	1
23	MP1A	Z	54.566	1
24	MP1A	Mx	0	1
25	MP2A	X	0	1
26	MP2A	Z	65.831	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
27	MP2A	Mx	0	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-94.14	1.5
2	MP1A	Z	163.055	1.5
3	MP1A	Mx	.1715	1.5
4	MP1A	X	-94.14	6.5
5	MP1A	Z	163.055	6.5
6	MP1A	Mx	.1715	6.5
7	MP1A	X	-94.14	1.5
8	MP1A	Z	163.055	1.5
9	MP1A	Mx	-.0459	1.5
10	MP1A	X	-94.14	6.5
11	MP1A	Z	163.055	6.5
12	MP1A	Mx	-.0459	6.5
13	MP3A	X	-28.229	3
14	MP3A	Z	48.893	3
15	MP3A	Mx	.0188	3
16	MP3A	X	-28.229	5
17	MP3A	Z	48.893	5
18	MP3A	Mx	.0188	5
19	OVP	X	-66.031	1
20	OVP	Z	114.37	1
21	OVP	Mx	0	1
22	MP1A	X	-25.039	1
23	MP1A	Z	43.368	1
24	MP1A	Mx	-.0167	1
25	MP2A	X	-30.297	1
26	MP2A	Z	52.477	1
27	MP2A	Mx	-.0202	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-135.206	1.5
2	MP1A	Z	78.061	1.5
3	MP1A	Mx	.1422	1.5
4	MP1A	X	-135.206	6.5
5	MP1A	Z	78.061	6.5
6	MP1A	Mx	.1422	6.5
7	MP1A	X	-135.206	1.5
8	MP1A	Z	78.061	1.5
9	MP1A	Mx	.0381	1.5
10	MP1A	X	-135.206	6.5
11	MP1A	Z	78.061	6.5
12	MP1A	Mx	.0381	6.5
13	MP3A	X	-31.132	3
14	MP3A	Z	17.974	3
15	MP3A	Mx	.0208	3
16	MP3A	X	-31.132	5
17	MP3A	Z	17.974	5
18	MP3A	Mx	.0208	5
19	OVP	X	-99.407	1
20	OVP	Z	57.393	1
21	OVP	Mx	0	1
22	MP1A	X	-35.594	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
23	MP1A	Z	20.55	1
24	MP1A	Mx	-.0237	1
25	MP2A	X	-43.407	1
26	MP2A	Z	25.061	1
27	MP2A	Mx	-.0289	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-140.044	1.5
2	MP1A	Z	0	1.5
3	MP1A	Mx	.0934	1.5
4	MP1A	X	-140.044	6.5
5	MP1A	Z	0	6.5
6	MP1A	Mx	.0934	6.5
7	MP1A	X	-140.044	1.5
8	MP1A	Z	0	1.5
9	MP1A	Mx	.0934	1.5
10	MP1A	X	-140.044	6.5
11	MP1A	Z	0	6.5
12	MP1A	Mx	.0934	6.5
13	MP3A	X	-25.694	3
14	MP3A	Z	0	3
15	MP3A	Mx	.0171	3
16	MP3A	X	-25.694	5
17	MP3A	Z	0	5
18	MP3A	Mx	.0171	5
19	OVP	X	-93.592	1
20	OVP	Z	0	1
21	OVP	Mx	0	1
22	MP1A	X	-36.612	1
23	MP1A	Z	0	1
24	MP1A	Mx	-.0244	1
25	MP2A	X	-44.885	1
26	MP2A	Z	0	1
27	MP2A	Mx	-.0299	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-135.206	1.5
2	MP1A	Z	-78.061	1.5
3	MP1A	Mx	.0381	1.5
4	MP1A	X	-135.206	6.5
5	MP1A	Z	-78.061	6.5
6	MP1A	Mx	.0381	6.5
7	MP1A	X	-135.206	1.5
8	MP1A	Z	-78.061	1.5
9	MP1A	Mx	.1422	1.5
10	MP1A	X	-135.206	6.5
11	MP1A	Z	-78.061	6.5
12	MP1A	Mx	.1422	6.5
13	MP3A	X	-31.132	3
14	MP3A	Z	-17.974	3
15	MP3A	Mx	.0208	3
16	MP3A	X	-31.132	5
17	MP3A	Z	-17.974	5
18	MP3A	Mx	.0208	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
19	OVP	X	-77.661	1
20	OVP	Z	-44.838	1
21	OVP	Mx	0	1
22	MP1A	X	-35.594	1
23	MP1A	Z	-20.55	1
24	MP1A	Mx	-.0237	1
25	MP2A	X	-43.407	1
26	MP2A	Z	-25.061	1
27	MP2A	Mx	-.0289	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-94.14	1.5
2	MP1A	Z	-163.055	1.5
3	MP1A	Mx	-.0459	1.5
4	MP1A	X	-94.14	6.5
5	MP1A	Z	-163.055	6.5
6	MP1A	Mx	-.0459	6.5
7	MP1A	X	-94.14	1.5
8	MP1A	Z	-163.055	1.5
9	MP1A	Mx	.1715	1.5
10	MP1A	X	-94.14	6.5
11	MP1A	Z	-163.055	6.5
12	MP1A	Mx	.1715	6.5
13	MP3A	X	-28.229	3
14	MP3A	Z	-48.893	3
15	MP3A	Mx	.0188	3
16	MP3A	X	-28.229	5
17	MP3A	Z	-48.893	5
18	MP3A	Mx	.0188	5
19	OVP	X	-53.476	1
20	OVP	Z	-92.624	1
21	OVP	Mx	0	1
22	MP1A	X	-25.039	1
23	MP1A	Z	-43.368	1
24	MP1A	Mx	-.0167	1
25	MP2A	X	-30.297	1
26	MP2A	Z	-52.477	1
27	MP2A	Mx	-.0202	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	1.5
2	MP1A	Z	-38.856	1.5
3	MP1A	Mx	-.0259	1.5
4	MP1A	X	0	6.5
5	MP1A	Z	-38.856	6.5
6	MP1A	Mx	-.0259	6.5
7	MP1A	X	0	1.5
8	MP1A	Z	-38.856	1.5
9	MP1A	Mx	.0259	1.5
10	MP1A	X	0	6.5
11	MP1A	Z	-38.856	6.5
12	MP1A	Mx	.0259	6.5
13	MP3A	X	0	3
14	MP3A	Z	-13.267	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP3A	Mx	0	3
16	MP3A	X	0	5
17	MP3A	Z	-13.267	5
18	MP3A	Mx	0	5
19	OVP	X	0	1
20	OVP	Z	-25.406	1
21	OVP	Mx	0	1
22	MP1A	X	0	1
23	MP1A	Z	-13.713	1
24	MP1A	Mx	0	1
25	MP2A	X	0	1
26	MP2A	Z	-13.713	1
27	MP2A	Mx	0	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	18.001	1.5
2	MP1A	Z	-31.179	1.5
3	MP1A	Mx	-.0328	1.5
4	MP1A	X	18.001	6.5
5	MP1A	Z	-31.179	6.5
6	MP1A	Mx	-.0328	6.5
7	MP1A	X	18.001	1.5
8	MP1A	Z	-31.179	1.5
9	MP1A	Mx	.0088	1.5
10	MP1A	X	18.001	6.5
11	MP1A	Z	-31.179	6.5
12	MP1A	Mx	.0088	6.5
13	MP3A	X	5.676	3
14	MP3A	Z	-9.832	3
15	MP3A	Mx	-.0038	3
16	MP3A	X	5.676	5
17	MP3A	Z	-9.832	5
18	MP3A	Mx	-.0038	5
19	OVP	X	13.064	1
20	OVP	Z	-22.628	1
21	OVP	Mx	0	1
22	MP1A	X	6.335	1
23	MP1A	Z	-10.973	1
24	MP1A	Mx	.0042	1
25	MP2A	X	6.356	1
26	MP2A	Z	-11.009	1
27	MP2A	Mx	.0042	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	26.237	1.5
2	MP1A	Z	-15.148	1.5
3	MP1A	Mx	-.0276	1.5
4	MP1A	X	26.237	6.5
5	MP1A	Z	-15.148	6.5
6	MP1A	Mx	-.0276	6.5
7	MP1A	X	26.237	1.5
8	MP1A	Z	-15.148	1.5
9	MP1A	Mx	-.0074	1.5
10	MP1A	X	26.237	6.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
11	MP1A	Z	-15.148	6.5
12	MP1A	Mx	-.0074	6.5
13	MP3A	X	6.516	3
14	MP3A	Z	-3.762	3
15	MP3A	Mx	-.0043	3
16	MP3A	X	6.516	5
17	MP3A	Z	-3.762	5
18	MP3A	Mx	-.0043	5
19	OVP	X	19.867	1
20	OVP	Z	-11.47	1
21	OVP	Mx	0	1
22	MP1A	X	9.168	1
23	MP1A	Z	-5.293	1
24	MP1A	Mx	.0061	1
25	MP2A	X	9.277	1
26	MP2A	Z	-5.356	1
27	MP2A	Mx	.0062	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	27.443	1.5
2	MP1A	Z	0	1.5
3	MP1A	Mx	-.0183	1.5
4	MP1A	X	27.443	6.5
5	MP1A	Z	0	6.5
6	MP1A	Mx	-.0183	6.5
7	MP1A	X	27.443	1.5
8	MP1A	Z	0	1.5
9	MP1A	Mx	-.0183	1.5
10	MP1A	X	27.443	6.5
11	MP1A	Z	0	6.5
12	MP1A	Mx	-.0183	6.5
13	MP3A	X	5.61	3
14	MP3A	Z	0	3
15	MP3A	Mx	-.0037	3
16	MP3A	X	5.61	5
17	MP3A	Z	0	5
18	MP3A	Mx	-.0037	5
19	OVP	X	19.029	1
20	OVP	Z	0	1
21	OVP	Mx	0	1
22	MP1A	X	9.545	1
23	MP1A	Z	0	1
24	MP1A	Mx	.0064	1
25	MP2A	X	9.712	1
26	MP2A	Z	0	1
27	MP2A	Mx	.0065	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	26.237	1.5
2	MP1A	Z	15.148	1.5
3	MP1A	Mx	-.0074	1.5
4	MP1A	X	26.237	6.5
5	MP1A	Z	15.148	6.5
6	MP1A	Mx	-.0074	6.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
7	MP1A	X	26.237	1.5
8	MP1A	Z	15.148	1.5
9	MP1A	Mx	-.0276	1.5
10	MP1A	X	26.237	6.5
11	MP1A	Z	15.148	6.5
12	MP1A	Mx	-.0276	6.5
13	MP3A	X	6.516	3
14	MP3A	Z	3.762	3
15	MP3A	Mx	-.0043	3
16	MP3A	X	6.516	5
17	MP3A	Z	3.762	5
18	MP3A	Mx	-.0043	5
19	OVP	X	15.854	1
20	OVP	Z	9.153	1
21	OVP	Mx	0	1
22	MP1A	X	9.168	1
23	MP1A	Z	5.293	1
24	MP1A	Mx	.0061	1
25	MP2A	X	9.277	1
26	MP2A	Z	5.356	1
27	MP2A	Mx	.0062	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	18.001	1.5
2	MP1A	Z	31.179	1.5
3	MP1A	Mx	.0088	1.5
4	MP1A	X	18.001	6.5
5	MP1A	Z	31.179	6.5
6	MP1A	Mx	.0088	6.5
7	MP1A	X	18.001	1.5
8	MP1A	Z	31.179	1.5
9	MP1A	Mx	-.0328	1.5
10	MP1A	X	18.001	6.5
11	MP1A	Z	31.179	6.5
12	MP1A	Mx	-.0328	6.5
13	MP3A	X	5.676	3
14	MP3A	Z	9.832	3
15	MP3A	Mx	-.0038	3
16	MP3A	X	5.676	5
17	MP3A	Z	9.832	5
18	MP3A	Mx	-.0038	5
19	OVP	X	10.747	1
20	OVP	Z	18.615	1
21	OVP	Mx	0	1
22	MP1A	X	6.335	1
23	MP1A	Z	10.973	1
24	MP1A	Mx	.0042	1
25	MP2A	X	6.356	1
26	MP2A	Z	11.009	1
27	MP2A	Mx	.0042	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	1.5
2	MP1A	Z	38.856	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
3	MP1A	Mx	.0259	1.5
4	MP1A	X	0	6.5
5	MP1A	Z	38.856	6.5
6	MP1A	Mx	.0259	6.5
7	MP1A	X	0	1.5
8	MP1A	Z	38.856	1.5
9	MP1A	Mx	-.0259	1.5
10	MP1A	X	0	6.5
11	MP1A	Z	38.856	6.5
12	MP1A	Mx	-.0259	6.5
13	MP3A	X	0	3
14	MP3A	Z	13.267	3
15	MP3A	Mx	0	3
16	MP3A	X	0	5
17	MP3A	Z	13.267	5
18	MP3A	Mx	0	5
19	OVP	X	0	1
20	OVP	Z	25.406	1
21	OVP	Mx	0	1
22	MP1A	X	0	1
23	MP1A	Z	13.713	1
24	MP1A	Mx	0	1
25	MP2A	X	0	1
26	MP2A	Z	13.713	1
27	MP2A	Mx	0	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-18.001	1.5
2	MP1A	Z	31.179	1.5
3	MP1A	Mx	.0328	1.5
4	MP1A	X	-18.001	6.5
5	MP1A	Z	31.179	6.5
6	MP1A	Mx	.0328	6.5
7	MP1A	X	-18.001	1.5
8	MP1A	Z	31.179	1.5
9	MP1A	Mx	-.0088	1.5
10	MP1A	X	-18.001	6.5
11	MP1A	Z	31.179	6.5
12	MP1A	Mx	-.0088	6.5
13	MP3A	X	-5.676	3
14	MP3A	Z	9.832	3
15	MP3A	Mx	.0038	3
16	MP3A	X	-5.676	5
17	MP3A	Z	9.832	5
18	MP3A	Mx	.0038	5
19	OVP	X	-13.064	1
20	OVP	Z	22.628	1
21	OVP	Mx	0	1
22	MP1A	X	-6.335	1
23	MP1A	Z	10.973	1
24	MP1A	Mx	-.0042	1
25	MP2A	X	-6.356	1
26	MP2A	Z	11.009	1
27	MP2A	Mx	-.0042	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-26.237	1.5
2	MP1A	Z	15.148	1.5
3	MP1A	Mx	.0276	1.5
4	MP1A	X	-26.237	6.5
5	MP1A	Z	15.148	6.5
6	MP1A	Mx	.0276	6.5
7	MP1A	X	-26.237	1.5
8	MP1A	Z	15.148	1.5
9	MP1A	Mx	.0074	1.5
10	MP1A	X	-26.237	6.5
11	MP1A	Z	15.148	6.5
12	MP1A	Mx	.0074	6.5
13	MP3A	X	-6.516	3
14	MP3A	Z	3.762	3
15	MP3A	Mx	.0043	3
16	MP3A	X	-6.516	5
17	MP3A	Z	3.762	5
18	MP3A	Mx	.0043	5
19	OVP	X	-19.867	1
20	OVP	Z	11.47	1
21	OVP	Mx	0	1
22	MP1A	X	-9.168	1
23	MP1A	Z	5.293	1
24	MP1A	Mx	-.0061	1
25	MP2A	X	-9.277	1
26	MP2A	Z	5.356	1
27	MP2A	Mx	-.0062	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-27.443	1.5
2	MP1A	Z	0	1.5
3	MP1A	Mx	.0183	1.5
4	MP1A	X	-27.443	6.5
5	MP1A	Z	0	6.5
6	MP1A	Mx	.0183	6.5
7	MP1A	X	-27.443	1.5
8	MP1A	Z	0	1.5
9	MP1A	Mx	.0183	1.5
10	MP1A	X	-27.443	6.5
11	MP1A	Z	0	6.5
12	MP1A	Mx	.0183	6.5
13	MP3A	X	-5.61	3
14	MP3A	Z	0	3
15	MP3A	Mx	.0037	3
16	MP3A	X	-5.61	5
17	MP3A	Z	0	5
18	MP3A	Mx	.0037	5
19	OVP	X	-19.029	1
20	OVP	Z	0	1
21	OVP	Mx	0	1
22	MP1A	X	-9.545	1
23	MP1A	Z	0	1
24	MP1A	Mx	-.0064	1
25	MP2A	X	-9.712	1
26	MP2A	Z	0	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
27	MP2A	Mx	-.0065	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-26.237	1.5
2	MP1A	Z	-15.148	1.5
3	MP1A	Mx	.0074	1.5
4	MP1A	X	-26.237	6.5
5	MP1A	Z	-15.148	6.5
6	MP1A	Mx	.0074	6.5
7	MP1A	X	-26.237	1.5
8	MP1A	Z	-15.148	1.5
9	MP1A	Mx	.0276	1.5
10	MP1A	X	-26.237	6.5
11	MP1A	Z	-15.148	6.5
12	MP1A	Mx	.0276	6.5
13	MP3A	X	-6.516	3
14	MP3A	Z	-3.762	3
15	MP3A	Mx	.0043	3
16	MP3A	X	-6.516	5
17	MP3A	Z	-3.762	5
18	MP3A	Mx	.0043	5
19	OVP	X	-15.854	1
20	OVP	Z	-9.153	1
21	OVP	Mx	0	1
22	MP1A	X	-9.168	1
23	MP1A	Z	-5.293	1
24	MP1A	Mx	-.0061	1
25	MP2A	X	-9.277	1
26	MP2A	Z	-5.356	1
27	MP2A	Mx	-.0062	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-18.001	1.5
2	MP1A	Z	-31.179	1.5
3	MP1A	Mx	-.0088	1.5
4	MP1A	X	-18.001	6.5
5	MP1A	Z	-31.179	6.5
6	MP1A	Mx	-.0088	6.5
7	MP1A	X	-18.001	1.5
8	MP1A	Z	-31.179	1.5
9	MP1A	Mx	.0328	1.5
10	MP1A	X	-18.001	6.5
11	MP1A	Z	-31.179	6.5
12	MP1A	Mx	.0328	6.5
13	MP3A	X	-5.676	3
14	MP3A	Z	-9.832	3
15	MP3A	Mx	.0038	3
16	MP3A	X	-5.676	5
17	MP3A	Z	-9.832	5
18	MP3A	Mx	.0038	5
19	OVP	X	-10.747	1
20	OVP	Z	-18.615	1
21	OVP	Mx	0	1
22	MP1A	X	-6.335	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
23	MP1A	Z	-10.973	1
24	MP1A	Mx	-.0042	1
25	MP2A	X	-6.356	1
26	MP2A	Z	-11.009	1
27	MP2A	Mx	-.0042	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	1.5
2	MP1A	Z	-12.772	1.5
3	MP1A	Mx	-.0085	1.5
4	MP1A	X	0	6.5
5	MP1A	Z	-12.772	6.5
6	MP1A	Mx	-.0085	6.5
7	MP1A	X	0	1.5
8	MP1A	Z	-12.772	1.5
9	MP1A	Mx	.0085	1.5
10	MP1A	X	0	6.5
11	MP1A	Z	-12.772	6.5
12	MP1A	Mx	.0085	6.5
13	MP3A	X	0	3
14	MP3A	Z	-4.169	3
15	MP3A	Mx	0	3
16	MP3A	X	0	5
17	MP3A	Z	-4.169	5
18	MP3A	Mx	0	5
19	OVP	X	0	1
20	OVP	Z	-8.009	1
21	OVP	Mx	0	1
22	MP1A	X	0	1
23	MP1A	Z	-3.41	1
24	MP1A	Mx	0	1
25	MP2A	X	0	1
26	MP2A	Z	-4.114	1
27	MP2A	Mx	0	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	5.884	1.5
2	MP1A	Z	-10.191	1.5
3	MP1A	Mx	-.0107	1.5
4	MP1A	X	5.884	6.5
5	MP1A	Z	-10.191	6.5
6	MP1A	Mx	-.0107	6.5
7	MP1A	X	5.884	1.5
8	MP1A	Z	-10.191	1.5
9	MP1A	Mx	.0029	1.5
10	MP1A	X	5.884	6.5
11	MP1A	Z	-10.191	6.5
12	MP1A	Mx	.0029	6.5
13	MP3A	X	1.764	3
14	MP3A	Z	-3.056	3
15	MP3A	Mx	-.0012	3
16	MP3A	X	1.764	5
17	MP3A	Z	-3.056	5
18	MP3A	Mx	-.0012	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
19	OVP	X	4.127	1
20	OVP	Z	-7.148	1
21	OVP	Mx	0	1
22	MP1A	X	1.565	1
23	MP1A	Z	-2.711	1
24	MP1A	Mx	.001	1
25	MP2A	X	1.894	1
26	MP2A	Z	-3.28	1
27	MP2A	Mx	.0013	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	8.45	1.5
2	MP1A	Z	-4.879	1.5
3	MP1A	Mx	-.0089	1.5
4	MP1A	X	8.45	6.5
5	MP1A	Z	-4.879	6.5
6	MP1A	Mx	-.0089	6.5
7	MP1A	X	8.45	1.5
8	MP1A	Z	-4.879	1.5
9	MP1A	Mx	-.0024	1.5
10	MP1A	X	8.45	6.5
11	MP1A	Z	-4.879	6.5
12	MP1A	Mx	-.0024	6.5
13	MP3A	X	1.946	3
14	MP3A	Z	-1.123	3
15	MP3A	Mx	-.0013	3
16	MP3A	X	1.946	5
17	MP3A	Z	-1.123	5
18	MP3A	Mx	-.0013	5
19	OVP	X	6.213	1
20	OVP	Z	-3.587	1
21	OVP	Mx	0	1
22	MP1A	X	2.225	1
23	MP1A	Z	-1.284	1
24	MP1A	Mx	.0015	1
25	MP2A	X	2.713	1
26	MP2A	Z	-1.566	1
27	MP2A	Mx	.0018	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	8.753	1.5
2	MP1A	Z	0	1.5
3	MP1A	Mx	-.0058	1.5
4	MP1A	X	8.753	6.5
5	MP1A	Z	0	6.5
6	MP1A	Mx	-.0058	6.5
7	MP1A	X	8.753	1.5
8	MP1A	Z	0	1.5
9	MP1A	Mx	-.0058	1.5
10	MP1A	X	8.753	6.5
11	MP1A	Z	0	6.5
12	MP1A	Mx	-.0058	6.5
13	MP3A	X	1.606	3
14	MP3A	Z	0	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP3A	Mx	-.0011	3
16	MP3A	X	1.606	5
17	MP3A	Z	0	5
18	MP3A	Mx	-.0011	5
19	OVP	X	5.85	1
20	OVP	Z	0	1
21	OVP	Mx	0	1
22	MP1A	X	2.288	1
23	MP1A	Z	0	1
24	MP1A	Mx	.0015	1
25	MP2A	X	2.805	1
26	MP2A	Z	0	1
27	MP2A	Mx	.0019	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	8.45	1.5
2	MP1A	Z	4.879	1.5
3	MP1A	Mx	-.0024	1.5
4	MP1A	X	8.45	6.5
5	MP1A	Z	4.879	6.5
6	MP1A	Mx	-.0024	6.5
7	MP1A	X	8.45	1.5
8	MP1A	Z	4.879	1.5
9	MP1A	Mx	-.0089	1.5
10	MP1A	X	8.45	6.5
11	MP1A	Z	4.879	6.5
12	MP1A	Mx	-.0089	6.5
13	MP3A	X	1.946	3
14	MP3A	Z	1.123	3
15	MP3A	Mx	-.0013	3
16	MP3A	X	1.946	5
17	MP3A	Z	1.123	5
18	MP3A	Mx	-.0013	5
19	OVP	X	4.854	1
20	OVP	Z	2.802	1
21	OVP	Mx	0	1
22	MP1A	X	2.225	1
23	MP1A	Z	1.284	1
24	MP1A	Mx	.0015	1
25	MP2A	X	2.713	1
26	MP2A	Z	1.566	1
27	MP2A	Mx	.0018	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	5.884	1.5
2	MP1A	Z	10.191	1.5
3	MP1A	Mx	.0029	1.5
4	MP1A	X	5.884	6.5
5	MP1A	Z	10.191	6.5
6	MP1A	Mx	.0029	6.5
7	MP1A	X	5.884	1.5
8	MP1A	Z	10.191	1.5
9	MP1A	Mx	-.0107	1.5
10	MP1A	X	5.884	6.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
11	MP1A	Z	10.191	6.5
12	MP1A	Mx	-.0107	6.5
13	MP3A	X	1.764	3
14	MP3A	Z	3.056	3
15	MP3A	Mx	-.0012	3
16	MP3A	X	1.764	5
17	MP3A	Z	3.056	5
18	MP3A	Mx	-.0012	5
19	OVP	X	3.342	1
20	OVP	Z	5.789	1
21	OVP	Mx	0	1
22	MP1A	X	1.565	1
23	MP1A	Z	2.711	1
24	MP1A	Mx	.001	1
25	MP2A	X	1.894	1
26	MP2A	Z	3.28	1
27	MP2A	Mx	.0013	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	1.5
2	MP1A	Z	12.772	1.5
3	MP1A	Mx	.0085	1.5
4	MP1A	X	0	6.5
5	MP1A	Z	12.772	6.5
6	MP1A	Mx	.0085	6.5
7	MP1A	X	0	1.5
8	MP1A	Z	12.772	1.5
9	MP1A	Mx	-.0085	1.5
10	MP1A	X	0	6.5
11	MP1A	Z	12.772	6.5
12	MP1A	Mx	-.0085	6.5
13	MP3A	X	0	3
14	MP3A	Z	4.169	3
15	MP3A	Mx	0	3
16	MP3A	X	0	5
17	MP3A	Z	4.169	5
18	MP3A	Mx	0	5
19	OVP	X	0	1
20	OVP	Z	8.009	1
21	OVP	Mx	0	1
22	MP1A	X	0	1
23	MP1A	Z	3.41	1
24	MP1A	Mx	0	1
25	MP2A	X	0	1
26	MP2A	Z	4.114	1
27	MP2A	Mx	0	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-5.884	1.5
2	MP1A	Z	10.191	1.5
3	MP1A	Mx	.0107	1.5
4	MP1A	X	-5.884	6.5
5	MP1A	Z	10.191	6.5
6	MP1A	Mx	.0107	6.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
7	MP1A	X	-5.884	1.5
8	MP1A	Z	10.191	1.5
9	MP1A	Mx	-.0029	1.5
10	MP1A	X	-5.884	6.5
11	MP1A	Z	10.191	6.5
12	MP1A	Mx	-.0029	6.5
13	MP3A	X	-1.764	3
14	MP3A	Z	3.056	3
15	MP3A	Mx	.0012	3
16	MP3A	X	-1.764	5
17	MP3A	Z	3.056	5
18	MP3A	Mx	.0012	5
19	OVP	X	-4.127	1
20	OVP	Z	7.148	1
21	OVP	Mx	0	1
22	MP1A	X	-1.565	1
23	MP1A	Z	2.711	1
24	MP1A	Mx	-.001	1
25	MP2A	X	-1.894	1
26	MP2A	Z	3.28	1
27	MP2A	Mx	-.0013	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-8.45	1.5
2	MP1A	Z	4.879	1.5
3	MP1A	Mx	.0089	1.5
4	MP1A	X	-8.45	6.5
5	MP1A	Z	4.879	6.5
6	MP1A	Mx	.0089	6.5
7	MP1A	X	-8.45	1.5
8	MP1A	Z	4.879	1.5
9	MP1A	Mx	.0024	1.5
10	MP1A	X	-8.45	6.5
11	MP1A	Z	4.879	6.5
12	MP1A	Mx	.0024	6.5
13	MP3A	X	-1.946	3
14	MP3A	Z	1.123	3
15	MP3A	Mx	.0013	3
16	MP3A	X	-1.946	5
17	MP3A	Z	1.123	5
18	MP3A	Mx	.0013	5
19	OVP	X	-6.213	1
20	OVP	Z	3.587	1
21	OVP	Mx	0	1
22	MP1A	X	-2.225	1
23	MP1A	Z	1.284	1
24	MP1A	Mx	-.0015	1
25	MP2A	X	-2.713	1
26	MP2A	Z	1.566	1
27	MP2A	Mx	-.0018	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-8.753	1.5
2	MP1A	Z	0	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
3	MP1A	Mx	.0058	1.5
4	MP1A	X	-8.753	6.5
5	MP1A	Z	0	6.5
6	MP1A	Mx	.0058	6.5
7	MP1A	X	-8.753	1.5
8	MP1A	Z	0	1.5
9	MP1A	Mx	.0058	1.5
10	MP1A	X	-8.753	6.5
11	MP1A	Z	0	6.5
12	MP1A	Mx	.0058	6.5
13	MP3A	X	-1.606	3
14	MP3A	Z	0	3
15	MP3A	Mx	.0011	3
16	MP3A	X	-1.606	5
17	MP3A	Z	0	5
18	MP3A	Mx	.0011	5
19	OVP	X	-5.85	1
20	OVP	Z	0	1
21	OVP	Mx	0	1
22	MP1A	X	-2.288	1
23	MP1A	Z	0	1
24	MP1A	Mx	-.0015	1
25	MP2A	X	-2.805	1
26	MP2A	Z	0	1
27	MP2A	Mx	-.0019	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-8.45	1.5
2	MP1A	Z	-4.879	1.5
3	MP1A	Mx	.0024	1.5
4	MP1A	X	-8.45	6.5
5	MP1A	Z	-4.879	6.5
6	MP1A	Mx	.0024	6.5
7	MP1A	X	-8.45	1.5
8	MP1A	Z	-4.879	1.5
9	MP1A	Mx	.0089	1.5
10	MP1A	X	-8.45	6.5
11	MP1A	Z	-4.879	6.5
12	MP1A	Mx	.0089	6.5
13	MP3A	X	-1.946	3
14	MP3A	Z	-1.123	3
15	MP3A	Mx	.0013	3
16	MP3A	X	-1.946	5
17	MP3A	Z	-1.123	5
18	MP3A	Mx	.0013	5
19	OVP	X	-4.854	1
20	OVP	Z	-2.802	1
21	OVP	Mx	0	1
22	MP1A	X	-2.225	1
23	MP1A	Z	-1.284	1
24	MP1A	Mx	-.0015	1
25	MP2A	X	-2.713	1
26	MP2A	Z	-1.566	1
27	MP2A	Mx	-.0018	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-5.884	1.5
2	MP1A	Z	-10.191	1.5
3	MP1A	Mx	-.0029	1.5
4	MP1A	X	-5.884	6.5
5	MP1A	Z	-10.191	6.5
6	MP1A	Mx	-.0029	6.5
7	MP1A	X	-5.884	1.5
8	MP1A	Z	-10.191	1.5
9	MP1A	Mx	.0107	1.5
10	MP1A	X	-5.884	6.5
11	MP1A	Z	-10.191	6.5
12	MP1A	Mx	.0107	6.5
13	MP3A	X	-1.764	3
14	MP3A	Z	-3.056	3
15	MP3A	Mx	.0012	3
16	MP3A	X	-1.764	5
17	MP3A	Z	-3.056	5
18	MP3A	Mx	.0012	5
19	OVP	X	-3.342	1
20	OVP	Z	-5.789	1
21	OVP	Mx	0	1
22	MP1A	X	-1.565	1
23	MP1A	Z	-2.711	1
24	MP1A	Mx	-.001	1
25	MP2A	X	-1.894	1
26	MP2A	Z	-3.28	1
27	MP2A	Mx	-.0013	1

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M31	Y	-500	%100

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	LL1	Y	-500	%100

Member Point Loads (BLC 79 : Lv1)

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

Member Point Loads (BLC 80 : Lv2)

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

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-1.9137	1.5
2	MP1A	My	-.0013	1.5
3	MP1A	Mz	.0013	1.5
4	MP1A	Y	-1.9137	6.5
5	MP1A	My	-.0013	6.5
6	MP1A	Mz	.0013	6.5
7	MP1A	Y	-1.9137	1.5
8	MP1A	My	-.0013	1.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
9	MP1A	Mz	-.0013	1.5
10	MP1A	Y	-1.9137	6.5
11	MP1A	My	-.0013	6.5
12	MP1A	Mz	-.0013	6.5
13	MP3A	Y	-1.4241	3
14	MP3A	My	-.000949	3
15	MP3A	Mz	0	3
16	MP3A	Y	-1.4241	5
17	MP3A	My	-.000949	5
18	MP3A	Mz	0	5
19	OVP	Y	-1.5906	1
20	OVP	My	0	1
21	OVP	Mz	0	1
22	MP1A	Y	-3.7131	1
23	MP1A	My	.0025	1
24	MP1A	Mz	0	1
25	MP2A	Y	-3.9318	1
26	MP2A	My	.0026	1
27	MP2A	Mz	0	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Z	-4.7843	1.5
2	MP1A	Mx	-.0032	1.5
3	MP1A	Z	-4.7843	6.5
4	MP1A	Mx	-.0032	6.5
5	MP1A	Z	-4.7843	1.5
6	MP1A	Mx	.0032	1.5
7	MP1A	Z	-4.7843	6.5
8	MP1A	Mx	.0032	6.5
9	MP3A	Z	-3.5602	3
10	MP3A	Mx	0	3
11	MP3A	Z	-3.5602	5
12	MP3A	Mx	0	5
13	OVP	Z	-3.9765	1
14	OVP	Mx	0	1
15	MP1A	Z	-9.2827	1
16	MP1A	Mx	0	1
17	MP2A	Z	-9.8295	1
18	MP2A	Mx	0	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	4.7843	1.5
2	MP1A	Mx	-.0032	1.5
3	MP1A	X	4.7843	6.5
4	MP1A	Mx	-.0032	6.5
5	MP1A	X	4.7843	1.5
6	MP1A	Mx	-.0032	1.5
7	MP1A	X	4.7843	6.5
8	MP1A	Mx	-.0032	6.5
9	MP3A	X	3.5602	3
10	MP3A	Mx	-.0024	3
11	MP3A	X	3.5602	5
12	MP3A	Mx	-.0024	5
13	OVP	X	3.9765	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
14	OVP	Mx	0	1
15	MP1A	X	9.2827	1
16	MP1A	Mx	.0062	1
17	MP2A	X	9.8295	1
18	MP2A	Mx	.0066	1

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]	...	MZ [k-ft]	LC
1	N64	...	622.384	8	18.834	20	577.613	2	0	75	0	75	0	75
2		...	-481.904	2	6.158	66	-746.016	8	0	1	0	1	0	1
3	N63	...	1605.245	36	440.556	24	2098.056	24	0	75	0	75	0	75
4		...	-107.291	49	148.704	69	419.521	6	0	1	0	1	0	1
5	N62	...	185.656	12	1688.946	18	-178.259	12	0	75	0	75	0	75
6		...	-1615.159	30	570.578	75	-2150.731	18	0	1	0	1	0	1
7	N37	...	574.733	8	18.51	20	850.029	2	0	75	0	75	0	75
8		...	-708.763	2	6.111	66	-689.412	8	0	1	0	1	0	1
9	Totals:	...	1303.087	10	2155.457	18	1944.231	1						
10		...	-1303.087	4	734.454	75	-1944.233	7						

Joint Reactions

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N64	-351.306	8.501	426.903	0	0	0
2	1	N63	874.428	224.384	1221.839	0	0	0
3	1	N62	25.422	795.235	-368.119	0	0	0
4	1	N37	-548.544	8.399	663.608	0	0	0
5	1	Totals:	0	1036.518	1944.231			
6	1	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
7	2	N64	-481.904	8.409	577.613	0	0	0
8	2	N63	637.908	215.07	898.991	0	0	0
9	2	N62	-333.11	804.756	-792.326	0	0	0
10	2	N37	-708.763	8.284	850.029	0	0	0
11	2	Totals:	-885.87	1036.519	1534.306			
12	2	COG (ft):	X: 1.793	Y: .586	Z: 2.506			
13	3	N64	-393.108	8.44	470.217	0	0	0
14	3	N63	400.115	206.37	672.428	0	0	0
15	3	N62	-648.253	813.399	-1154.372	0	0	0
16	3	N37	-615.469	8.31	737.254	0	0	0
17	3	Totals:	-1256.715	1036.519	725.527			
18	3	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
19	4	N64	-241.881	8.528	279.628	0	0	0
20	4	N63	227.599	201.257	564.247	0	0	0
21	4	N62	-845.484	818.33	-1365.364	0	0	0
22	4	N37	-443.321	8.404	521.478	0	0	0
23	4	Totals:	-1303.087	1036.519	-.011			
24	4	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
25	5	N64	-81.046	8.63	75.404	0	0	0
26	5	N63	73.085	197.448	457.062	0	0	0
27	5	N62	-1015.515	821.925	-1553.801	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
28	5	N37	-254.474	8.517	283.528	0	0	0
29	5	Totals:	-1277.949	1036.52	-737.807			
30	5	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
31	6	N64	180.538	8.8	-235.224	0	0	0
32	6	N63	-25.928	195.322	419.521	0	0	0
33	6	N62	-1103.852	823.684	-1659.718	0	0	0
34	6	N37	51.113	8.713	-80.134	0	0	0
35	6	Totals:	-898.129	1036.52	-1555.555			
36	6	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
37	7	N64	487.45	8.989	-590.258	0	0	0
38	7	N63	48.277	199.164	610.9	0	0	0
39	7	N62	-945.764	819.423	-1467.009	0	0	0
40	7	N37	410.038	8.943	-497.866	0	0	0
41	7	Totals:	0	1036.52	-1944.233			
42	7	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
43	8	N64	622.384	9.041	-746.016	0	0	0
44	8	N63	280.548	208.586	938.967	0	0	0
45	8	N62	-591.794	809.869	-1037.847	0	0	0
46	8	N37	574.733	9.024	-689.412	0	0	0
47	8	Totals:	885.87	1036.519	-1534.307			
48	8	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
49	9	N64	533.767	8.963	-638.688	0	0	0
50	9	N63	518.202	217.319	1165.729	0	0	0
51	9	N62	-277.042	801.292	-675.787	0	0	0
52	9	N37	481.788	8.945	-576.781	0	0	0
53	9	Totals:	1256.716	1036.519	-725.527			
54	9	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
55	10	N64	380.518	8.866	-445.655	0	0	0
56	10	N63	692.726	222.396	1271.476	0	0	0
57	10	N62	-77.811	796.423	-467.241	0	0	0
58	10	N37	307.655	8.835	-358.569	0	0	0
59	10	Totals:	1303.087	1036.519	.01			
60	10	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
61	11	N64	217.155	8.774	-238.441	0	0	0
62	11	N63	849.715	226.152	1375.592	0	0	0
63	11	N62	94.842	792.865	-281.744	0	0	0
64	11	N37	116.238	8.727	-117.602	0	0	0
65	11	Totals:	1277.95	1036.518	737.806			
66	11	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
67	12	N64	-46.667	8.65	74.711	0	0	0
68	12	N63	950.894	228.211	1410.435	0	0	0
69	12	N62	185.656	791.08	-178.259	0	0	0
70	12	N37	-191.753	8.578	248.666	0	0	0
71	12	Totals:	898.13	1036.518	1555.553			
72	12	COG (ft):	X: 1.793	Y: .586	Z: 2.506			
73	13	N64	63.07	18.591	-73.484	0	0	0
74	13	N63	1121.703	440.136	2056.771	0	0	0
75	13	N62	-946.848	1678.504	-1780.382	0	0	0
76	13	N37	-237.924	18.226	287.521	0	0	0
77	13	Totals:	0	2155.457	490.426			
78	13	COG (ft):	X: 1.924	Y: .461	Z: 2.489			
79	14	N64	25.505	18.546	-30.514	0	0	0
80	14	N63	1063.664	437.703	1969.659	0	0	0
81	14	N62	-1031.322	1681.038	-1889.398	0	0	0
82	14	N37	-281.83	18.17	338.19	0	0	0
83	14	Totals:	-223.983	2155.457	387.937			
84	14	COG (ft):	X: 1.924	Y: .461	Z: 2.489			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
85	15	N64	36.926	18.561	-44.558	0	0	0
86	15	N63	1009.838	434.883	1898.638	0	0	0
87	15	N62	-1103.017	1683.83	-1988.751	0	0	0
88	15	N37	-268.992	18.183	322.441	0	0	0
89	15	Totals:	-325.245	2155.457	187.769			
90	15	COG (ft):	X: 1.924	Y: .461	Z: 2.489			
91	16	N64	64.601	18.598	-80.951	0	0	0
92	16	N63	972.836	432.734	1855.141	0	0	0
93	16	N62	-1146.903	1685.9	-2054.008	0	0	0
94	16	N37	-236.16	18.225	279.813	0	0	0
95	16	Totals:	-345.625	2155.457	-.005			
96	16	COG (ft):	X: 1.924	Y: .461	Z: 2.489			
97	17	N64	95.758	18.639	-122.24	0	0	0
98	17	N63	945.032	430.857	1812.146	0	0	0
99	17	N62	-1178.807	1687.688	-2114.119	0	0	0
100	17	N37	-198.083	18.272	230.167	0	0	0
101	17	Totals:	-336.099	2155.457	-194.046			
102	17	COG (ft):	X: 1.924	Y: .461	Z: 2.489			
103	18	N64	151.765	18.707	-188.324	0	0	0
104	18	N63	935.639	429.452	1788.827	0	0	0
105	18	N62	-1186.041	1688.946	-2150.731	0	0	0
106	18	N37	-131.613	18.352	151.427	0	0	0
107	18	Totals:	-230.25	2155.457	-398.801			
108	18	COG (ft):	X: 1.924	Y: .461	Z: 2.489			
109	19	N64	223.076	18.791	-269.316	0	0	0
110	19	N63	964.616	429.872	1830.237	0	0	0
111	19	N62	-1139.193	1688.34	-2107.482	0	0	0
112	19	N37	-48.498	18.454	56.129	0	0	0
113	19	Totals:	0	2155.457	-490.433			
114	19	COG (ft):	X: 1.924	Y: .461	Z: 2.489			
115	20	N64	260.829	18.834	-312.505	0	0	0
116	20	N63	1022.471	432.308	1917.577	0	0	0
117	20	N62	-1054.918	1685.806	-1998.254	0	0	0
118	20	N37	-4.398	18.51	5.238	0	0	0
119	20	Totals:	223.984	2155.457	-387.944			
120	20	COG (ft):	X: 1.924	Y: .461	Z: 2.489			
121	21	N64	249.42	18.817	-298.465	0	0	0
122	21	N63	1076.288	435.129	1988.61	0	0	0
123	21	N62	-983.245	1683.018	-1898.901	0	0	0
124	21	N37	-17.217	18.493	20.98	0	0	0
125	21	Totals:	325.246	2155.457	-187.776			
126	21	COG (ft):	X: 1.924	Y: .461	Z: 2.489			
127	22	N64	221.656	18.778	-261.964	0	0	0
128	22	N63	1113.378	437.277	2031.999	0	0	0
129	22	N62	-939.272	1680.951	-1833.753	0	0	0
130	22	N37	-50.136	18.45	63.717	0	0	0
131	22	Totals:	345.626	2155.457	-.001			
132	22	COG (ft):	X: 1.924	Y: .461	Z: 2.489			
133	23	N64	190.386	18.738	-220.541	0	0	0
134	23	N63	1141.293	439.153	2074.855	0	0	0
135	23	N62	-907.251	1679.164	-1773.773	0	0	0
136	23	N37	-88.328	18.403	113.498	0	0	0
137	23	Totals:	336.101	2155.457	194.039			
138	23	COG (ft):	X: 1.924	Y: .461	Z: 2.489			
139	24	N64	134.282	18.672	-154.35	0	0	0
140	24	N63	1150.779	440.556	2098.056	0	0	0
141	24	N62	-899.908	1677.903	-1737.261	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
142	24	N37	-154.902	18.325	192.349	0	0	0
143	24	Totals:	230.251	2155.457	398.794			
144	24	COG (ft):	X: 1.924	Y: .461	Z: 2.489			
145	25	N64	262.53	9.045	-314.053	0	0	0
146	25	N63	1600.509	334.964	1892.091	0	0	0
147	25	N62	-1544.74	1434.298	-1838.906	0	0	0
148	25	N37	-318.298	8.22	382.38	0	0	0
149	25	Totals:	0	1786.527	121.512			
150	25	COG (ft):	X: 3.559	Y: -.394	Z: 2.603			
151	26	N64	254.209	9.035	-304.457	0	0	0
152	26	N63	1585.791	334.391	1871.706	0	0	0
153	26	N62	-1566.956	1434.897	-1865.51	0	0	0
154	26	N37	-328.412	8.204	394.158	0	0	0
155	26	Totals:	-55.367	1786.527	95.896			
156	26	COG (ft):	X: 3.559	Y: -.394	Z: 2.603			
157	27	N64	259.756	9.043	-311.168	0	0	0
158	27	N63	1570.874	333.855	1857.5	0	0	0
159	27	N62	-1586.581	1435.417	-1888.1	0	0	0
160	27	N37	-322.593	8.212	387.113	0	0	0
161	27	Totals:	-78.544	1786.527	45.345			
162	27	COG (ft):	X: 3.559	Y: -.394	Z: 2.603			
163	28	N64	269.282	9.058	-323.164	0	0	0
164	28	N63	1559.992	333.54	1850.788	0	0	0
165	28	N62	-1598.922	1435.702	-1901.195	0	0	0
166	28	N37	-311.795	8.228	373.571	0	0	0
167	28	Totals:	-81.443	1786.527	0			
168	28	COG (ft):	X: 3.559	Y: -.394	Z: 2.603			
169	29	N64	279.428	9.073	-336.033	0	0	0
170	29	N63	1550.23	333.307	1844.163	0	0	0
171	29	N62	-1609.589	1435.903	-1912.87	0	0	0
172	29	N37	-299.94	8.244	358.629	0	0	0
173	29	Totals:	-79.871	1786.527	-46.111			
174	29	COG (ft):	X: 3.559	Y: -.394	Z: 2.603			
175	30	N64	295.878	9.096	-355.551	0	0	0
176	30	N63	1543.961	333.176	1841.893	0	0	0
177	30	N62	-1615.159	1435.984	-1919.421	0	0	0
178	30	N37	-280.812	8.271	335.857	0	0	0
179	30	Totals:	-56.133	1786.527	-97.223			
180	30	COG (ft):	X: 3.559	Y: -.394	Z: 2.603			
181	31	N64	315.042	9.122	-377.702	0	0	0
182	31	N63	1548.688	333.407	1853.808	0	0	0
183	31	N62	-1605.233	1435.695	-1907.491	0	0	0
184	31	N37	-258.497	8.303	309.875	0	0	0
185	31	Totals:	0	1786.527	-121.51			
186	31	COG (ft):	X: 3.559	Y: -.394	Z: 2.603			
187	32	N64	323.38	9.133	-387.318	0	0	0
188	32	N63	1563.389	333.98	1874.214	0	0	0
189	32	N62	-1583.035	1435.095	-1880.868	0	0	0
190	32	N37	-248.366	8.318	298.077	0	0	0
191	32	Totals:	55.369	1786.527	-95.895			
192	32	COG (ft):	X: 3.559	Y: -.394	Z: 2.603			
193	33	N64	317.834	9.124	-380.607	0	0	0
194	33	N63	1578.306	334.517	1888.421	0	0	0
195	33	N62	-1563.411	1434.576	-1858.279	0	0	0
196	33	N37	-254.183	8.31	305.121	0	0	0
197	33	Totals:	78.545	1786.527	-45.344			
198	33	COG (ft):	X: 3.559	Y: -.394	Z: 2.603			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
199	34	N64	308.3	9.11	-368.602	0	0	0
200	34	N63	1589.196	334.831	1895.123	0	0	0
201	34	N62	-1551.062	1434.291	-1845.193	0	0	0
202	34	N37	-264.989	8.295	318.673	0	0	0
203	34	Totals:	81.445	1786.527	.002			
204	34	COG (ft):	X: 3.559	Y: -.394	Z: 2.603			
205	35	N64	298.144	9.094	-355.721	0	0	0
206	35	N63	1598.967	335.064	1901.736	0	0	0
207	35	N62	-1540.385	1434.09	-1833.529	0	0	0
208	35	N37	-276.854	8.278	333.627	0	0	0
209	35	Totals:	79.872	1786.527	46.113			
210	35	COG (ft):	X: 3.559	Y: -.394	Z: 2.603			
211	36	N64	281.686	9.071	-336.193	0	0	0
212	36	N63	1605.245	335.195	1903.996	0	0	0
213	36	N62	-1534.805	1434.009	-1826.988	0	0	0
214	36	N37	-295.991	8.251	356.409	0	0	0
215	36	Totals:	56.134	1786.527	97.224			
216	36	COG (ft):	X: 3.559	Y: -.394	Z: 2.603			
217	37	N64	10.587	8.687	-12.314	0	0	0
218	37	N63	987.406	373.767	1520.797	0	0	0
219	37	N62	-931.284	1395.469	-1467.361	0	0	0
220	37	N37	-66.709	8.599	80.389	0	0	0
221	37	Totals:	0	1786.521	121.511			
222	37	COG (ft):	X: 1.88	Y: -.394	Z: 2.603			
223	38	N64	2.296	8.677	-2.744	0	0	0
224	38	N63	972.754	373.188	1500.455	0	0	0
225	38	N62	-953.565	1396.07	-1494.007	0	0	0
226	38	N37	-76.853	8.587	92.191	0	0	0
227	38	Totals:	-55.367	1786.521	95.895			
228	38	COG (ft):	X: 1.88	Y: -.394	Z: 2.603			
229	39	N64	7.84	8.684	-9.453	0	0	0
230	39	N63	957.887	372.646	1486.266	0	0	0
231	39	N62	-973.242	1396.598	-1516.609	0	0	0
232	39	N37	-71.029	8.593	85.141	0	0	0
233	39	Totals:	-78.544	1786.521	45.345			
234	39	COG (ft):	X: 1.88	Y: -.394	Z: 2.603			
235	40	N64	17.349	8.695	-21.434	0	0	0
236	40	N63	947.032	372.328	1479.552	0	0	0
237	40	N62	-985.612	1396.892	-1529.7	0	0	0
238	40	N37	-60.212	8.606	71.582	0	0	0
239	40	Totals:	-81.444	1786.521	0			
240	40	COG (ft):	X: 1.88	Y: -.394	Z: 2.603			
241	41	N64	27.475	8.707	-34.285	0	0	0
242	41	N63	937.29	372.092	1472.92	0	0	0
243	41	N62	-996.302	1397.103	-1541.366	0	0	0
244	41	N37	-48.334	8.62	56.619	0	0	0
245	41	Totals:	-79.871	1786.521	-46.112			
246	41	COG (ft):	X: 1.88	Y: -.394	Z: 2.603			
247	42	N64	43.887	8.725	-53.769	0	0	0
248	42	N63	931.023	371.959	1470.626	0	0	0
249	42	N62	-1001.877	1397.195	-1547.89	0	0	0
250	42	N37	-29.166	8.642	33.81	0	0	0
251	42	Totals:	-56.133	1786.521	-97.224			
252	42	COG (ft):	X: 1.88	Y: -.394	Z: 2.603			
253	43	N64	63.003	8.747	-75.876	0	0	0
254	43	N63	935.708	372.194	1482.494	0	0	0
255	43	N62	-991.911	1396.915	-1535.912	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
256	43	N37	-6.8	8.667	7.783	0	0	0
257	43	Totals:	0	1786.521	-121.511			
258	43	COG (ft):	X: 1.88	Y: -.394	Z: 2.603			
259	44	N64	71.311	8.756	-85.465	0	0	0
260	44	N63	950.344	372.773	1502.856	0	0	0
261	44	N62	-969.648	1396.314	-1509.248	0	0	0
262	44	N37	3.361	8.679	-4.039	0	0	0
263	44	Totals:	55.368	1786.521	-95.895			
264	44	COG (ft):	X: 1.88	Y: -.394	Z: 2.603			
265	45	N64	65.768	8.749	-78.756	0	0	0
266	45	N63	965.21	373.315	1517.046	0	0	0
267	45	N62	-949.973	1395.786	-1486.645	0	0	0
268	45	N37	-2.461	8.672	3.01	0	0	0
269	45	Totals:	78.545	1786.521	-45.345			
270	45	COG (ft):	X: 1.88	Y: -.394	Z: 2.603			
271	46	N64	56.251	8.738	-66.766	0	0	0
272	46	N63	976.073	373.633	1523.75	0	0	0
273	46	N62	-937.594	1395.492	-1473.564	0	0	0
274	46	N37	-13.286	8.659	16.58	0	0	0
275	46	Totals:	81.445	1786.521	0			
276	46	COG (ft):	X: 1.88	Y: -.394	Z: 2.603			
277	47	N64	46.115	8.726	-53.903	0	0	0
278	47	N63	985.824	373.869	1530.37	0	0	0
279	47	N62	-926.894	1395.282	-1461.909	0	0	0
280	47	N37	-25.173	8.645	31.554	0	0	0
281	47	Totals:	79.872	1786.521	46.112			
282	47	COG (ft):	X: 1.88	Y: -.394	Z: 2.603			
283	48	N64	29.694	8.708	-34.409	0	0	0
284	48	N63	992.101	374.001	1532.654	0	0	0
285	48	N62	-921.31	1395.189	-1455.394	0	0	0
286	48	N37	-44.351	8.624	54.373	0	0	0
287	48	Totals:	56.134	1786.521	97.223			
288	48	COG (ft):	X: 1.88	Y: -.394	Z: 2.603			
289	49	N64	-55.695	8.65	66.757	0	0	0
290	49	N63	-107.291	278.45	1049.483	0	0	0
291	49	N62	107.315	1115.722	-1049.487	0	0	0
292	49	N37	55.671	8.7	-66.754	0	0	0
293	49	Totals:	0	1411.521	0			
294	49	COG (ft):	X: -.344	Y: -.034	Z: 2.567			
295	50	N64	62.621	8.72	-75.051	0	0	0
296	50	N63	468.26	307.361	1224.039	0	0	0
297	50	N62	-468.284	1086.81	-1224.062	0	0	0
298	50	N37	-62.597	8.629	75.074	0	0	0
299	50	Totals:	0	1411.52	0			
300	50	COG (ft):	X: 1.317	Y: -.034	Z: 2.567			
301	51	N64	80.057	10.174	-95.937	0	0	0
302	51	N63	537.717	247.015	1069.939	0	0	0
303	51	N62	-537.731	942.017	-1070	0	0	0
304	51	N37	-80.043	10.066	95.997	0	0	0
305	51	Totals:	0	1209.272	0			
306	51	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
307	52	N64	61.449	9.07	-72.741	0	0	0
308	52	N63	488.504	221.909	978.3	0	0	0
309	52	N62	-455.375	839.498	-912.543	0	0	0
310	52	N37	-94.577	8.978	114.319	0	0	0
311	52	Totals:	0	1079.454	107.334			
312	52	COG (ft):	X: 1.793	Y: .587	Z: 2.506			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
313	53	N64	52.833	9.066	-63.076	0	0	0
314	53	N63	479.488	221.468	964.597	0	0	0
315	53	N62	-478.777	839.951	-937.386	0	0	0
316	53	N37	-107.213	8.97	128.815	0	0	0
317	53	Totals:	-53.668	1079.454	92.951			
318	53	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
319	54	N64	49.207	9.064	-59.453	0	0	0
320	54	N63	470.608	220.78	948.342	0	0	0
321	54	N62	-502.502	840.643	-966.98	0	0	0
322	54	N37	-110.267	8.968	131.757	0	0	0
323	54	Totals:	-92.954	1079.454	53.666			
324	54	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
325	55	N64	51.54	9.066	-62.843	0	0	0
326	55	N63	464.242	220.029	933.886	0	0	0
327	55	N62	-520.197	841.388	-993.4	0	0	0
328	55	N37	-102.922	8.972	122.357	0	0	0
329	55	Totals:	-107.337	1079.454	0			
330	55	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
331	56	N64	59.211	9.07	-72.341	0	0	0
332	56	N63	462.096	219.416	925.106	0	0	0
333	56	N62	-527.118	841.986	-1009.562	0	0	0
334	56	N37	-87.143	8.981	103.129	0	0	0
335	56	Totals:	-92.953	1079.454	-53.668			
336	56	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
337	57	N64	70.165	9.077	-85.402	0	0	0
338	57	N63	464.742	219.106	924.357	0	0	0
339	57	N62	-521.416	842.278	-1011.134	0	0	0
340	57	N37	-67.159	8.993	79.227	0	0	0
341	57	Totals:	-53.668	1079.454	-92.952			
342	57	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
343	58	N64	81.468	9.083	-98.53	0	0	0
344	58	N63	471.47	219.181	931.84	0	0	0
345	58	N62	-504.618	842.185	-997.695	0	0	0
346	58	N37	-48.319	9.005	57.05	0	0	0
347	58	Totals:	0	1079.454	-107.335			
348	58	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
349	59	N64	90.089	9.087	-108.203	0	0	0
350	59	N63	480.479	219.622	945.55	0	0	0
351	59	N62	-481.224	841.732	-972.845	0	0	0
352	59	N37	-35.676	9.012	42.546	0	0	0
353	59	Totals:	53.669	1079.454	-92.952			
354	59	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
355	60	N64	93.717	9.089	-111.827	0	0	0
356	60	N63	489.357	220.31	961.807	0	0	0
357	60	N62	-457.502	841.041	-943.25	0	0	0
358	60	N37	-32.619	9.014	39.602	0	0	0
359	60	Totals:	92.954	1079.454	-53.668			
360	60	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
361	61	N64	91.38	9.087	-108.432	0	0	0
362	61	N63	495.728	221.061	976.259	0	0	0
363	61	N62	-439.803	840.296	-916.835	0	0	0
364	61	N37	-39.968	9.01	49.008	0	0	0
365	61	Totals:	107.337	1079.454	0			
366	61	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
367	62	N64	83.703	9.082	-98.927	0	0	0
368	62	N63	497.88	221.674	985.031	0	0	0
369	62	N62	-432.875	839.697	-900.681	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
370	62	N37	-55.754	9	68.243	0	0	0
371	62	Totals:	92.954	1079.454	53.667			
372	62	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
373	63	N64	72.748	9.076	-85.864	0	0	0
374	63	N63	495.236	221.984	985.778	0	0	0
375	63	N62	-438.574	839.405	-899.11	0	0	0
376	63	N37	-75.741	8.989	92.147	0	0	0
377	63	Totals:	53.669	1079.454	92.951			
378	63	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
379	64	N64	38.602	6.162	-45.366	0	0	0
380	64	N63	335.081	151.508	673.031	0	0	0
381	64	N62	-301.943	570.666	-607.251	0	0	0
382	64	N37	-71.74	6.118	86.92	0	0	0
383	64	Totals:	0	734.454	107.334			
384	64	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
385	65	N64	29.99	6.159	-35.704	0	0	0
386	65	N63	326.068	151.066	659.333	0	0	0
387	65	N62	-325.346	571.117	-632.097	0	0	0
388	65	N37	-84.38	6.112	101.419	0	0	0
389	65	Totals:	-53.668	734.454	92.951			
390	65	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
391	66	N64	26.367	6.158	-32.085	0	0	0
392	66	N63	317.19	150.377	643.083	0	0	0
393	66	N62	-349.075	571.808	-661.694	0	0	0
394	66	N37	-87.436	6.111	104.363	0	0	0
395	66	Totals:	-92.954	734.454	53.667			
396	66	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
397	67	N64	28.703	6.159	-35.478	0	0	0
398	67	N63	310.827	149.626	628.632	0	0	0
399	67	N62	-366.775	572.556	-688.118	0	0	0
400	67	N37	-80.091	6.114	94.963	0	0	0
401	67	Totals:	-107.337	734.454	0			
402	67	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
403	68	N64	36.374	6.162	-44.976	0	0	0
404	68	N63	308.683	149.013	619.856	0	0	0
405	68	N62	-373.701	573.159	-704.282	0	0	0
406	68	N37	-64.31	6.12	75.735	0	0	0
407	68	Totals:	-92.954	734.454	-53.668			
408	68	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
409	69	N64	47.325	6.166	-58.036	0	0	0
410	69	N63	311.33	148.704	619.108	0	0	0
411	69	N62	-368.002	573.456	-705.855	0	0	0
412	69	N37	-44.321	6.128	51.831	0	0	0
413	69	Totals:	-53.668	734.454	-92.952			
414	69	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
415	70	N64	58.624	6.171	-71.161	0	0	0
416	70	N63	318.057	148.78	626.59	0	0	0
417	70	N62	-351.205	573.367	-692.415	0	0	0
418	70	N37	-25.477	6.136	29.652	0	0	0
419	70	Totals:	0	734.454	-107.335			
420	70	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
421	71	N64	67.242	6.174	-80.83	0	0	0
422	71	N63	327.065	149.222	640.296	0	0	0
423	71	N62	-327.809	572.917	-667.562	0	0	0
424	71	N37	-12.83	6.141	15.145	0	0	0
425	71	Totals:	53.669	734.454	-92.952			
426	71	COG (ft):	X: 1.793	Y: .587	Z: 2.506			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
427	72	N64	70.867	6.175	-84.451	0	0	0
428	72	N63	335.941	149.911	656.548	0	0	0
429	72	N62	-304.083	572.226	-637.964	0	0	0
430	72	N37	-9.771	6.142	12.2	0	0	0
431	72	Totals:	92.954	734.454	-53.667			
432	72	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
433	73	N64	68.527	6.173	-81.053	0	0	0
434	73	N63	342.308	150.663	670.994	0	0	0
435	73	N62	-286.379	571.478	-611.545	0	0	0
436	73	N37	-17.119	6.139	21.604	0	0	0
437	73	Totals:	107.337	734.454	0			
438	73	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
439	74	N64	60.85	6.17	-71.547	0	0	0
440	74	N63	344.458	151.276	679.762	0	0	0
441	74	N62	-279.446	570.875	-595.388	0	0	0
442	74	N37	-32.908	6.133	40.84	0	0	0
443	74	Totals:	92.954	734.454	53.667			
444	74	COG (ft):	X: 1.793	Y: .587	Z: 2.506			
445	75	N64	49.897	6.166	-58.486	0	0	0
446	75	N63	341.813	151.585	680.507	0	0	0
447	75	N62	-285.142	570.578	-593.817	0	0	0
448	75	N37	-52.899	6.125	64.746	0	0	0
449	75	Totals:	53.669	734.454	92.951			
450	75	COG (ft):	X: 1.793	Y: .587	Z: 2.506			

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	M1	PIPE_2.0X	.054	3.25	30	.081	3.25	2	48742.36	57960	3.326	3.326	4.242	H1-...
2	M2	PIPE_2.0X	.115	3.25	30	.139	3.25	7	48742.36	57960	3.326	3.326	2.926	H1-...
3	M3	PIPE_2.0X	.093	.583	49	.113	.583	7	44584.3...	57960	3.326	3.326	2.34	H1-...
4	M4	PIPE_2.0X	.231	.583	25	.257	3....	7	44584.3...	57960	3.326	3.326	2.381	H1-...
5	OVP	PIPE_2.0	.118	0	1	.030	0	7	36063.4...	42228	2.46	2.46	1.929	H1-...
6	M6	PIPE_2.0	.111	0	7	.021	396	1	36063.4...	42228	2.46	2.46	1.877	H1-...
7	M7	PIPE_2.0	.249	0	7	.053	.396	7	36063.4...	42228	2.46	2.46	1.274	H1-...
8	M8	PIPE_2.0	.254	0	1	.053	2....	25	36063.4...	42228	2.46	2.46	1.398	H1-...
9	M9	SR 0.75	.000	0	75	.000	0	75	1606.592	14313.8...	.179	.179	1	H1-...
10	M10	SR 0.75	.075	3....	49	.007	0	6	1606.592	14313.8...	.179	.179	2.656	H1-...
11	M11	SR 0.75	.000	0	75	.000	0	75	1606.592	14313.8...	.179	.179	1	H1-...
12	M12	SR 0.75	.165	3....	28	.017	0	1	1606.592	14313.8...	.179	.179	2.756	H1-...
13	M13	PIPE_2.5	.382	8....	7	.059	8....	7	14558.7...	66654	4.727	4.727	3.037	H1-...
14	FACE	PIPE_2.5	.364	8....	1	.049	8....	1	14558.7...	66654	4.727	4.727	2.581	H1-...
15	M19	PIPE_2.0	.033	3....	2	.002	3....	23	33338.1...	42228	2.46	2.46	1.136	H1-...
16	MP4A	PIPE_2.0	.151	5.75	49	.021	2.25	49	15369.6...	42228	2.46	2.46	4.686	H1-...
17	MP3A	PIPE_2.0	.045	2.25	49	.017	2.25	8	15369.6...	42228	2.46	2.46	4.5	H1-...
18	MP2A	PIPE_2.0	.090	2.25	30	.019	2.25	4	15369.6...	42228	2.46	2.46	4.486	H1-...
19	MP1A	PIPE_2.5	.269	5.75	33	.079	5.75	5	30038.4...	50715	3.596	3.596	4.704	H1-...
20	M34	PIPE_2.0	.023	3....	2	.002	3....	23	33338.1...	42228	2.46	2.46	1.136	H1-...
21	M35	PL3/8x2	.068	0	49	.099	0 y	1	23729.3...	24300	.19	1.012	1.739	H1-...
22	M36	PL3/8x2	.041	.519	49	.069	0 y	1	20408.3...	24300	.19	1.012	1.605	H1-...
23	M37	PL3/8x2	.085	0	49	.092	0 y	7	23729.3...	24300	.19	1.012	1.719	H1-...
24	M38	PL3/8x2	.047	.519	49	.065	0 y	7	20408.3...	24300	.19	1.012	1.62	H1-...
25	M39	PL3/8x2	.162	0	31	.197	0 y	7	23729.3...	24300	.19	1.012	1.536	H1-...
26	M40	PL3/8x2	.117	.519	7	.151	0 y	7	20408.3...	24300	.19	1.012	2.152	H1-...
27	M41	PL3/8x2	.234	0	25	.191	0 y	1	23729.3...	24300	.19	1.012	1.56	H1-...
28	M42	PL3/8x2	.124	.519	1	.149	0 y	1	20408.3...	24300	.19	1.012	2.144	H1-...

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

	Member	Shape	Code Check	Lo...	LC	Shear Check	Lo.....	LC	phi*Pnc...	phi*Pnt [...	phi*Mn y...	phi*Mn...	Cb	Eqn
29	M43	PL3/8x2	.110	0	2	.038	.471 y	26	21057.0...	24300	.19	1.012	1.257	H1-...
30	M44	PL3/8x2	.108	0	8	.031	.471 y	8	21057.0...	24300	.19	1.012	1.23	H1-...
31	M45	PL3/8x2	.168	0	7	.033	.471 y	7	21057.0...	24300	.19	1.012	1.311	H1-...
32	M46	PL3/8x2	.162	0	1	.038	.471 y	1	21057.0...	24300	.19	1.012	1.339	H1-...

VzW SMART Tool© Vendor

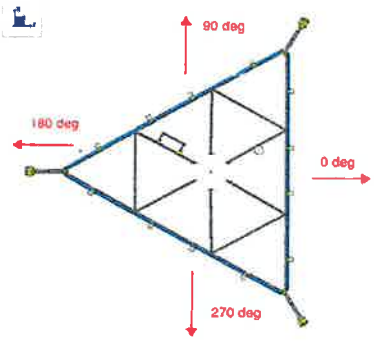
Client:	Verizon Wireless	Date:	12/22/2023
Site Name:	WESTON NORTH CT		
MDG #:	5000381704		
Fuze ID #:	16272233	Page:	1

Version 2.00

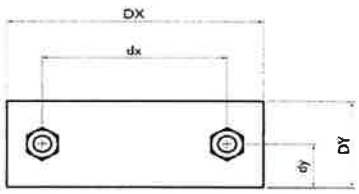
I. Mount-to-Tower Connection Check

Custom Orientation Required	Yes

Nodes (labeled per Risa)	Orientation (per graphic of typical platform)
N62	0
N63	0



Tower Connection Bolt Checks	Yes
Bolt Orientation	Parallel



Bolt Quantity per Reaction:	2 (Horizontal)
d_x (in) *(Delta X of typ. bolt config. sketch)* :	10
d_y (in) *(Delta Y of typ. bolt config. sketch)* :	3
Bolt Type:	A307
Bolt Diameter (in):	0.625
Required Tensile Strength / bolt (kips):	1.0
Required Shear Strength / bolt (kips):	1.1
Tensile Capacity / bolt (kips):	10.4
Shear Capacity / bolt (kips):	6.2
Bolt Overall Utilization:	**17.4%**

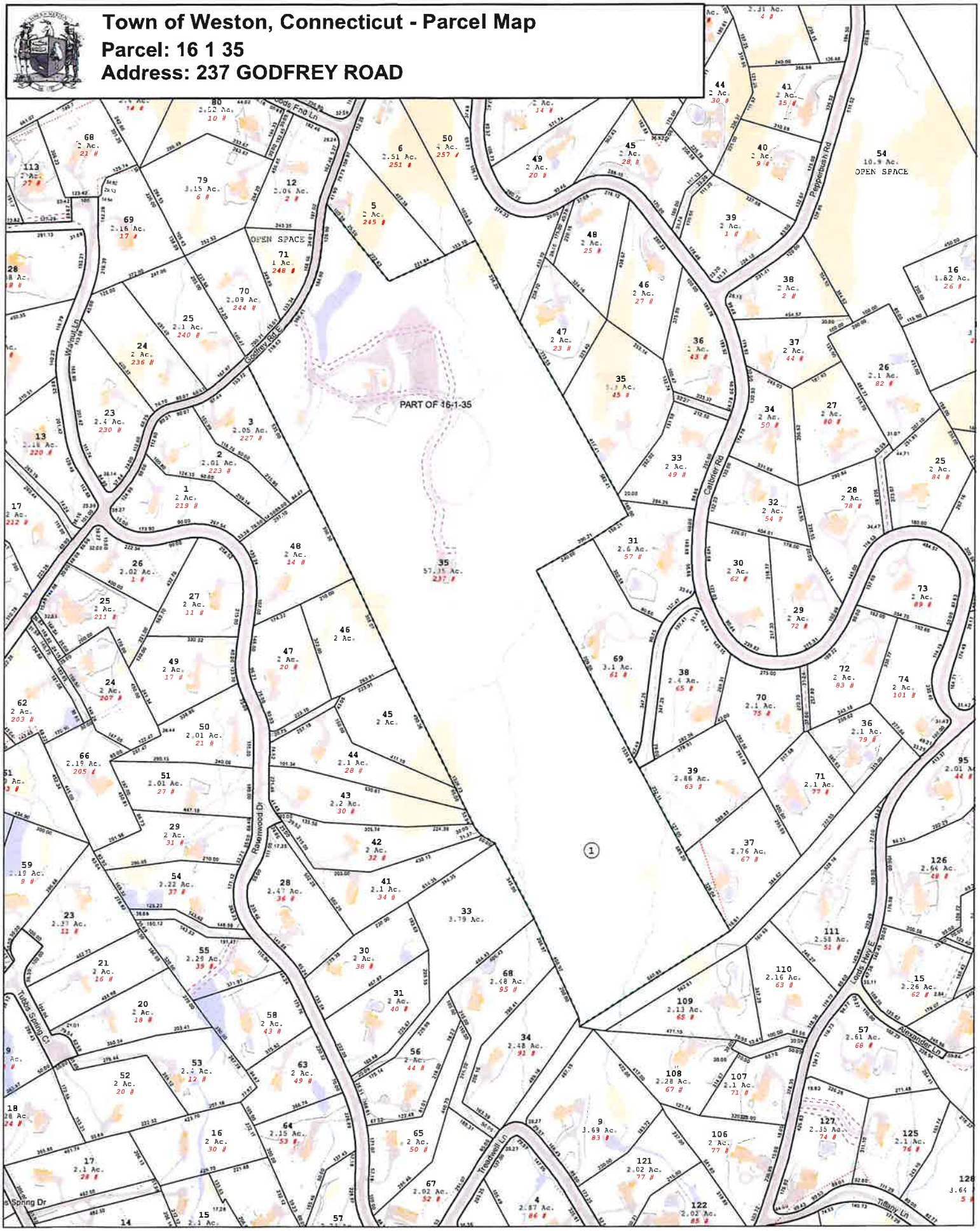
Tower Connection Baseplate Checks	No

ATTACHMENT 5

Town of Weston, Connecticut - Parcel Map

Parcel: 16 1 35

Address: 237 GODFREY ROAD



Approximate Scale:

0 90 180 270 360 Feet

Disclaimer: This map is for informational purposes only.
All information is subject to verification by any user.
The Town of Weston and its mapping contractors
assume no legal responsibility for the information contained herein.

Map Produced
February 2024

Town of Weston, CT

Property Listing Report

Map Block Lot	16 1 35	Unique Identifier	E00131		
Developer Map	1957	Developer Lot		Building #	1

Property Information

Property Location	237 GODFREY ROAD
Mailing Address	237 GODFREY RD WESTON CT 06883
Land Use	Governmental Building
Zoning Code	C
Neighborhood	C100

Owner	TOWN OF WESTON
Co-Owner	LANDFILL/TRANSFER STATION
Book / Page	0074/0498
Land Class	Commercial
Census Tract	83430
Acreage	57.35

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	38100	26670
Outbuildings	76200	53340
Land	2441900	1709330
Total	2556200	1789340

Building Area Info - sq/ft

Living	220
Basement	0
Finished Basement	0
Fin Bsmt Quality	

10		23
1S OFC-	22	Fr Gar

Primary Construction Details

Year Built	1980
Building Desc.	Commercial
Building Style	
Stories	1
Exterior Walls	Reinforced Concrete
Exterior Walls 2	Reinforced Concrete
Interior Walls	Other
Interior Walls 2	Other
Interior Floors 1	Concr Abv Grad
Interior Floors 2	Concr Abv Grad

Heating Fuel	Oil
Heating Type	Forced Hot Air
AC Type	None
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	
Occupancy	0

Building Use	Office Building
Building Condition	Good
Frame Type	C
Fireplaces	0
Bsmt Gar	0
Bsmt Access	
Building Grade	0
Roof Style	Gable
Roof Cover	Asphalt

Report Created On 3/5/2024

Town of Weston, CT

Property Listing Report

Map Block Lot 16 1 35 | Unique Identifier E00131

Developer Map 1957 | Developer Lot | Building # 1

Detached Outbuildings

Type	Description	Area (sq ft)	Condition	Year Built
Shed	Frame	676	Average	1980
Paving	Paving	19000	Average	1980
Shed	Frame	460	Average	1980
Garage	Detached Garage	912	Good	1992
Other	Generator	0		2019
Shed	Frame	288	Average	1980
Accessory Bldgs	Work Shop Avg	207	Average	1980

Attached Extra Features

Type	Description	Area (sq ft)	Condition	Year Built
Garage	Frame	506	Good	1980

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
TOWN OF WESTON	0074_0498	1/1/1900	0

Report Created On 3/5/2024

ATTACHMENT 6

Verizon/Weston North

UNITED STATES POSTAL SERVICE®

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here *Postmark with Date of Receipt.*
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	2	2	quadient CORRECTION IMI $003.34 04/05/2024 ZIP 06103 043M32206619 OLD STATE HOUSE STATION 06103 APR 05 2024 US POSTAGE
	Postmaster, per *(name of receiving employee)*		

USPS® Tracking Number / Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Samantha Nestor, First Selectman Town of Weston 56 Norfield Road Weston, CT 06883				
2.	Richelle Hodza, Land Use Director Town of Weston - Town Hall Annex 24 School Road Weston, CT 06883				
3.					
4.					
5.					
6.					