

Colliers Engineering & Design,
Architecture, Landscape Architecture,
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Stamford, CT 06901
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peter.albano@collierseng.com

Post-Modification Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10220448
Colliers Engineering & Design Project #: 20776634 (Rev 2)

January 29, 2024

Site Information

Site ID: 5000385115-VZW /
East_Haven_Cosey_Beach_CT
Site Name: East_Haven_Cosey_Beach_CT
Carrier Name: Verizon Wireless
Address: 60 Commerce Street
East Haven, Connecticut 06512
New Haven County
Latitude: 41.251233°
Longitude: -72.882094°

Structure Information

Tower Type: 70-Ft Monopole
Mount Type: 12.50-Ft T-Arm

FUZE ID # 16227600

Analysis Results

T-Arm: 66.2% **Pass w/ Modifications ***

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

***Contractor PMI Requirements:

Included at the end of this MA report

Available & Submitted via portal at <https://pmi.vzwsmart.com>

For additional questions and support, please reach out to:

pmisupport@colliersengineering.com

Report Prepared By: Vincent DiGirolamo



01/29/2024

Executive Summary:

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

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

Sources of Information:

Document Type	Remarks
<i>Radio Frequency Data Sheet (RFDS)</i>	<i>Verizon RFDS Site ID: 628868 Dated November 2, 2023</i>
<i>Mount Mapping Report</i>	<i>Hudson Design Group LLC. Site ID: 469123 Dated January 27, 2021</i>
<i>Failing Mount Analysis</i>	<i>Colliers Engineering & Design Project #: 20777634, Rev 2 Dated January 11, 2024</i>
<i>Mount Modification Drawings</i>	<i>Colliers Engineering & Design Project #: 20777634, Rev 1 Dated December 11, 2023</i>

Analysis Criteria:

Codes and Standards: ANSI/TIA-222-H
2022 Connecticut State Building Code (CSBC), Effective October 1, 2022

Wind Parameters: Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT} : 125 mph
Ice Wind Speed (3-sec. Gust): 50 mph
Design Ice Thickness: 1.00 in
Risk Category: II
Exposure Category: C
Topographic Category: 1
Topographic Feature Considered: N/A
Topographic Method: N/A
Ground Elevation Factor, K_e : 1.000

Seismic Parameters: S_s : 0.200 g
 S_1 : 0.053 g

Maintenance Parameters: Wind Speed (3-sec. Gust): 30 mph
Maintenance Live Load, L_v : 250 lbs.
Maintenance Live Load, L_m : 500 lbs.

Analysis Software: RISA-3D (V17)

Final Loading Configuration:

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

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
53.00	55.00	6	Commscope	JAHH-65B-R3B	Added
		3	Samsung	MT6413-77A	
		3	Commscope	CBC78T-DS-43-2X	
		2	RFS	DB-B1-6C-12AB-0Z	
		3	Samsung	RF4461d-13A	
		3	Samsung	RF4439d-25A	
		3	Amphenol	BXA-80063-6BF	Retained

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

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

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to Colliers Engineering & Design and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Colliers Engineering & Design to verify deviation will not adversely impact the analysis.
2. Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer’s specifications.

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

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

3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped in accordance with the NSTD-446 Standard, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer’s specifications.
4. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
5. The mount was checked up to, and including, the bolts that fasten it to the mount collar/attachment and threaded rod connections in collar members if applicable. Local deformation and interaction between the mount collar/attachment and the supporting tower structure are outside the scope of this analysis.

6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Colliers Engineering & Design is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.
7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
 - o Channel, Solid Round, Angle, Plate ASTM A36 (Gr. 36)
 - o HSS (Rectangular) ASTM 500 (Gr. B-46)
 - o Pipe ASTM A53 (Gr. B-35)
 - o Threaded Rod F1554 (Gr. 36)
 - o Bolts ASTM A325
8. Any mount modifications listed under Sources of Information are assumed to have been installed per the design specifications.

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

Analysis Results:

Component	Utilization %	Pass/Fail
<i>Antenna Pipe</i>	44.6	<i>Pass</i>
<i>Face Horizontal</i>	39.2	<i>Pass</i>
<i>Standoff Horizontal</i>	33.4	<i>Pass</i>
<i>T-Arm Kit</i>	56.5	<i>Pass</i>
<i>Secondary Horizontal</i>	66.2	<i>Pass</i>
<i>Mount Connection</i>	64.8	<i>Pass</i>

Structure Rating – (Controlling Utilization of all Components)	66.2%
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Mount Connection Envelope Reactions:

Connection Description	Elev. AGL (Ft)	Node Label	Envelope Wind Reactions				Envelope Wind + Ice Reactions			
			Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)	Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)
Sector A Standoff	53	N1	608	1559	2.057	3.967	1171	1005	3.131	1.857
Sector A Top Reinforcement	55.75	N28	337	1223	0.926	4.086	612	1005	1.409	1.879

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

BASELINE mount weight per SBA agreement: 1232.1 lbs

Increase in mount weight due to Verizon loading change per SBA agreement: 1080.0 lbs

The weights listed above include three sectors.

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

Ice Thickness (In)	Mount Pipes Excluded		Mount Pipes Included	
	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	13.2	3.2	20.0	10.0
0.5	17.2	4.5	27.0	14.2
1	21.0	5.4	33.6	18.0

Notes:

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

Requirements:

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

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

Attachments:

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

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Mount Modification

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

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

PSLC #: 5000385115

SMART Project #: 10220448

Fuze Project ID: 16227600

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

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

Base Requirements:

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

Photo Requirements:

- Photos taken at ground level
 - Photo of Gate Signs showing the tower owner, site name, and number.
 - Overall tower structure after installation of the modifications.
 - Photos of the mount after installation of the modifications; if the mounts are at different rad elevations, pictures must be provided for all elevations that the modifications were installed
- Photos taken at Mount Elevation
 - Photos showing the safety climb wire rope above and below the mount prior to modification.
 - Photos showing the climbing facility and safety climb if present.

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

Material Certification:

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

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

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

OR

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

Antenna & Equipment Placement and Geometry Confirmation:

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

OR

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

Comments:

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

- Yes No

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

Issue:

Contractor to re-tension existing safety climb wire rope and install new safety climb wire clips on the existing and proposed collars as required.

Proposed OVP to be installed onto proposed OVP pipe.

Response:

Special Instruction Confirmation:

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

Comments:

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

- Yes No

Contractor certifies no new damage created during the current installation:

- Yes No

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

- Safety Climb in Good Condition Safety Climb Damaged

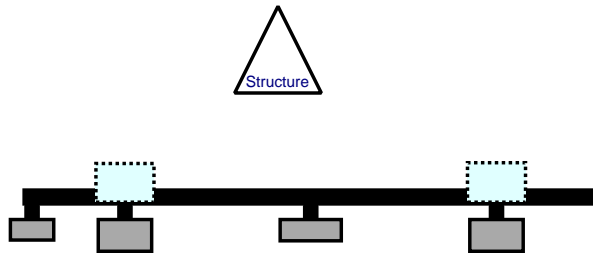
Comments:

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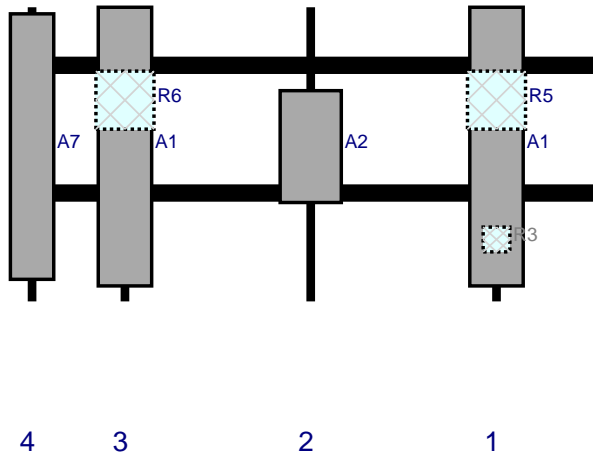
Certifying Individual:

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

Plan View

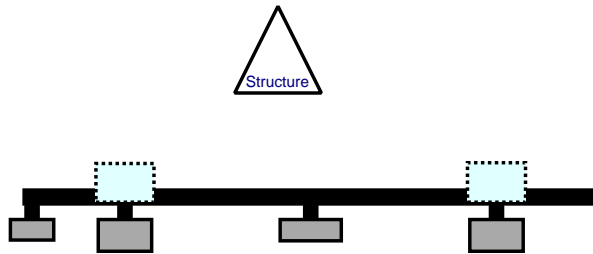


Front View - Looking at Structure

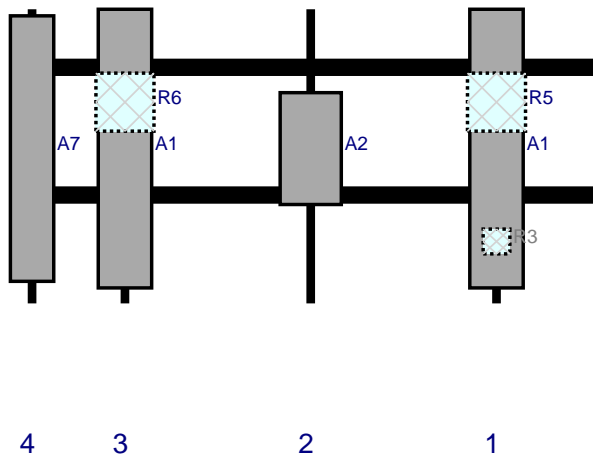


Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	JAHH-65B-R3B	72	13.8	122.5	1	a	Front	36	0	Added	
R3	CBC78T-DS-43-2X	6.4	6.9	122.5	1	a	Behind	60	0	Added	
R5	RF4461d-13A	15	15	122.5	1	a	Behind	24	0	Added	
A2	MT6413-77A	28.9	15.8	74.5	2	a	Front	36	0	Added	
A1	JAHH-65B-R3B	72	13.8	26.5	3	a	Front	36	0	Added	
R6	RF4439d-25A	15	15	26.5	3	a	Behind	24	0	Added	
A7	BXA-80063-6BF	68.6	11.2	2.5	4	a	Front	36	0	Retained	01/27/2021
OVP	DB-B1-6C-12AB-0Z	28.9	15.7			Member				Added	

Plan View

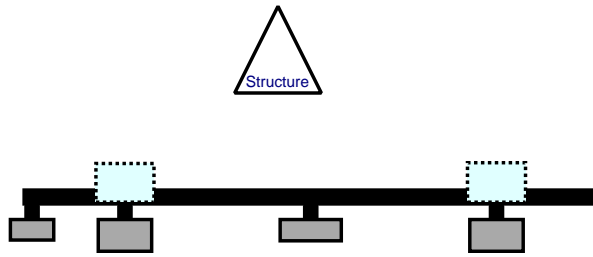


Front View - Looking at Structure

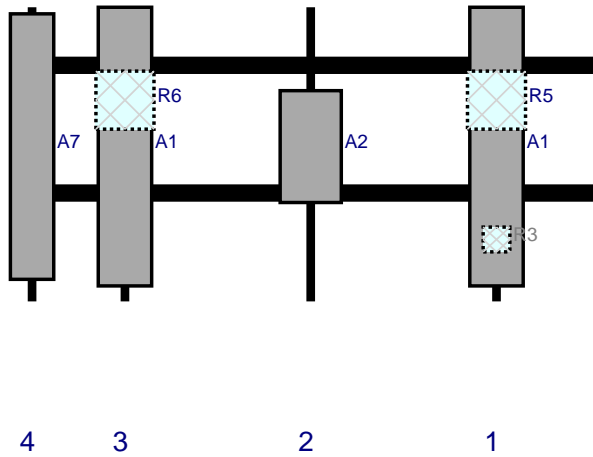


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Plan View



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
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R3	CBC78T-DS-43-2X	6.4	6.9	122.5	1	a	Behind	60	0	Added	
R5	RF4461d-13A	15	15	122.5	1	a	Behind	24	0	Added	
A2	MT6413-77A	28.9	15.8	74.5	2	a	Front	36	0	Added	
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R6	RF4439d-25A	15	15	26.5	3	a	Behind	24	0	Added	
A7	BXA-80063-6BF	68.6	11.2	2.5	4	a	Front	36	0	Retained	01/27/2021



MOUNT MODIFICATION DRAWINGS
EXISTING 12.50' T-ARM

TOWER OWNER: SBA TOWER COMMUNICATIONS
TOWER OWNER SITE NUMBER: CT46147

CARRIER SITE NAME: EAST_HAVEN_COSEY_BEACH_CT
CARRIER SITE NUMBER: 5000385115
FUZE ID: 16227600

60 COMMERCE STREET
EAST HAVEN, CT 06512
NEW HAVEN COUNTY

LATITUDE: 41.251233° N
LONGITUDE: 72.882094° W



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WWW.CALL811.COM

SCALE: AS SHOWN JOB NUMBER: 20777634

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	12/11/2023	ISSUED FOR CONSTRUCTION	DA	DX
0	03/31/2021	ISSUED FOR CONSTRUCTION	MSG	DX



12/11/2023

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

SITE NAME:

EAST_HAVEN_COSEY_BEACH_CT
5000385115

60 COMMERCE STREET
EAST HAVEN, CT 06512
NEW HAVEN COUNTY

DESIGN CRITERIA

WIND LOADS
BASIC WIND SPEED (3 SECOND GUST), V = 125 MPH
EXPOSURE CATEGORY C
TOPOGRAPHIC CATEGORY: I
TOPOGRAPHY CONSIDERED: N/A
MEAN BASE ELEVATION (AMSL) = 11.44'

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

SEISMIC LOADS
SEISMIC DESIGN CATEGORY B
SHORT TERM MCER GROUND MOTION, S_s = .200
LONG TERM MCER GROUND MOTION, S_l = .053

PROJECT INFORMATION

APPLICANT/LESSEE
COMPANY: VERIZON WIRELESS
CLIENT REPRESENTATIVE
COMPANY: VERIZON WIRELESS
PROJECT MANAGER
COMPANY: COLLIERS ENGINEERING & DESIGN
CONTACT: PETER ALBANO
PHONE: 856.797.0412
E-MAIL: PETER.ALBANO@COLLIERSENG.COM

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #: 10214770
VZW MDG #: 5000385115
ANALYSIS DATE: 12/11/2023

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

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

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BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	VZWSMART	VZWSMART-P40-312X150	150" LONG, PIPE 3 SCH40 (3.5"OD X 0.216" THK)		114	342
12		VZWSMART-MSK2	CROSSOVER PLATE		15	180
2		VZWSMART-MSK6	BACK TO BACK CROSSOVER PLATE		34	68
3		VZWSMART-SFK4	T-ARM KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	106	318
1		VZWSMART-PLK7	MONOPOLE COLLAR MOUNT ASSEMBLY		150	150

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
2	-	-	PROPOSED 36" LONG, PIPE 2 SCH40	GALVANIZED	11	22

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	PERFECT VISION	H42-0501-06	STANDOFF CLAMP BRACKET	OR EOR APPROVED EQUIVALENT	-	-
1	PERFECT VISION	PV-CMX-CG-BO	WIRE ROPE GUIDE	OR EOR APPROVED EQUIVALENT	-	-
TOTAL:						1080

*FOR ACTUAL INSTALL WEIGHT PLEASE CHECK THE MA REPORT

NOTES:

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

VZWSMART KITS - APPROVED VENDORS

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM
METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM

PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM
SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM

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



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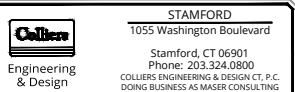


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5000385115

60 COMMERCE STREET
EAST HAVEN, CT 06512
NEW HAVEN COUNTY



BILL OF MATERIALS

SHEET NUMBER: **SBOM-1**

GENERAL NOTES

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

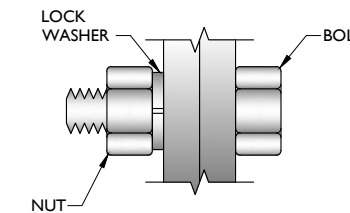
STRUCTURAL STEEL

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

CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE
- ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
- PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
 - SUBMIT SHOP DRAWINGS TO
PETER.ALBANO@COLLIERSENG.COM
 - PROVIDE COLLIERS ENGINEERING & DESIGN PROJECT # AND COLLIERS ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
- DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
- ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
- WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
- FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
- ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
- ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINC COTE, OR EOR APPROVED EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
- ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

BOLT SCHEDULE (IN.)				
BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2	9/16	9/16 x 1 1/16	7/8	1 1/2
5/8	1 1/16	1 1/16 x 7/8	1 1/8	1 7/8
3/4	1 3/16	1 3/16 x 1	1 1/4	2 1/4
7/8	1 5/16	1 5/16 x 1 1/8	1 1/2	2 5/8
1	1 7/16	1 7/16 x 1 5/16	1 3/4	3

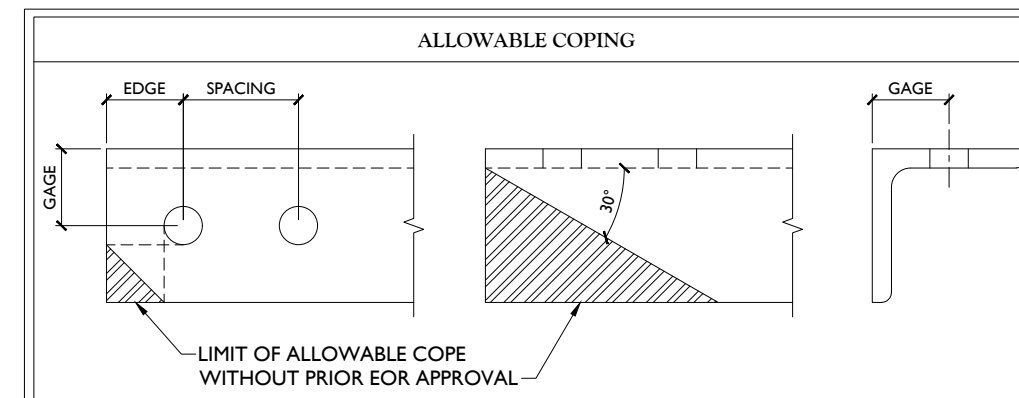
WORKABLE GAGES (IN.)	
LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



TYP. BOLT ASSEMBLY

NOTES:

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



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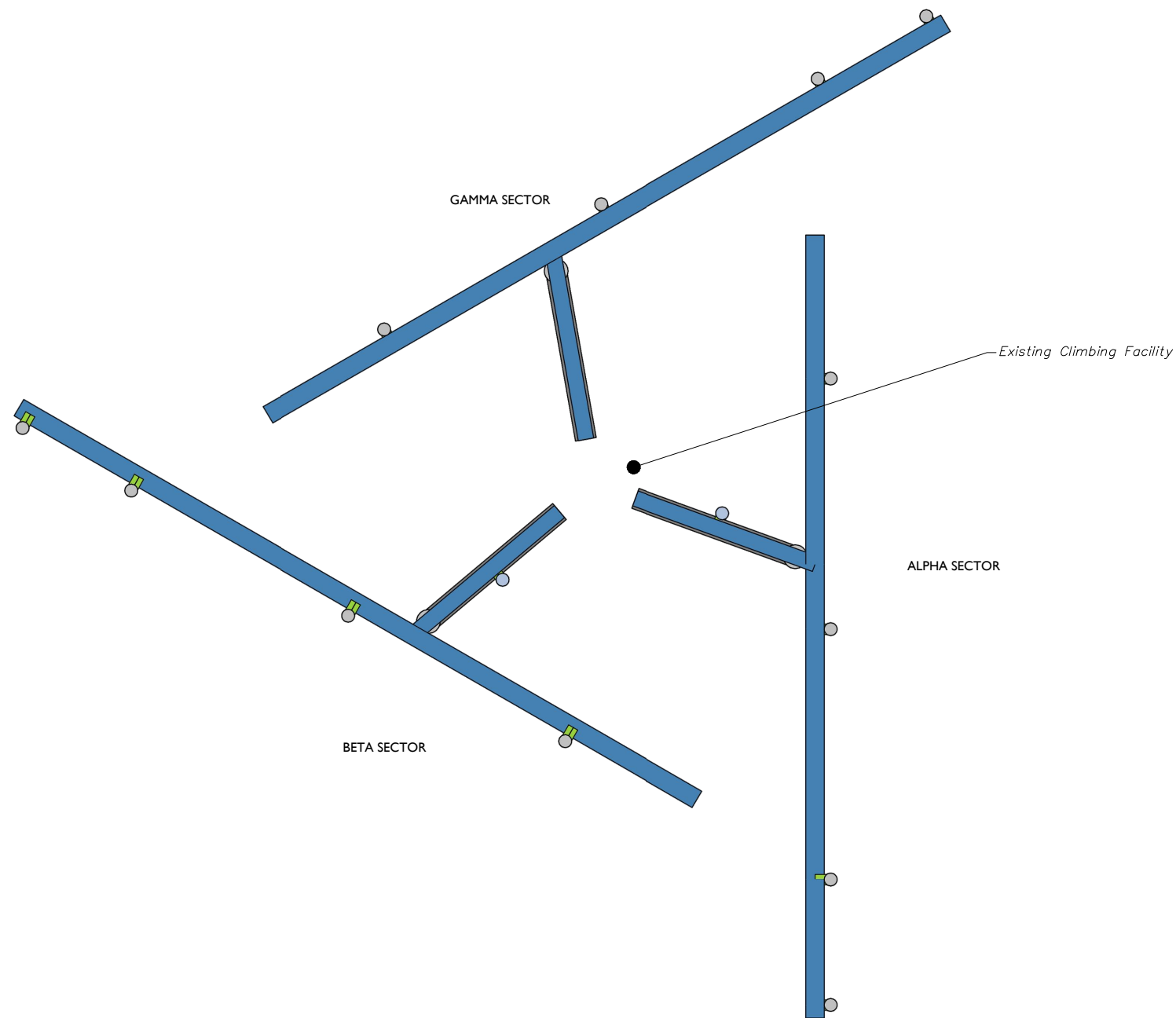
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SHEET TITLE:
GENERAL NOTES

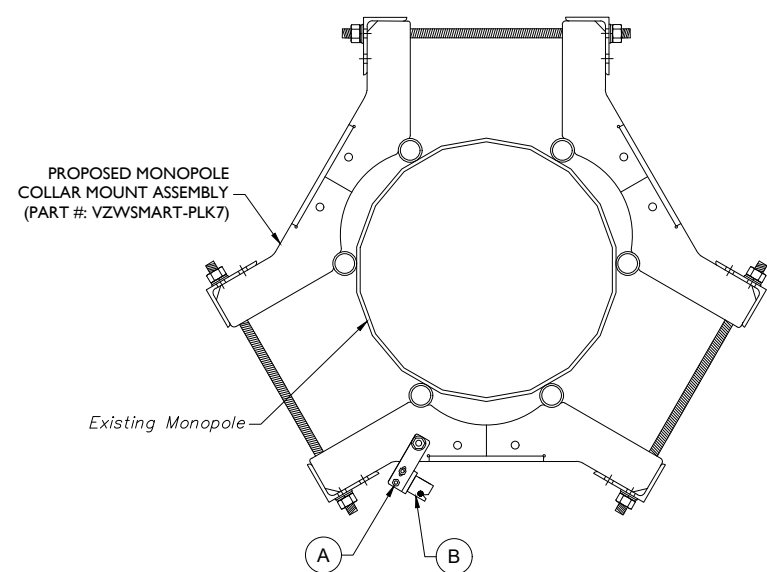
SHEET NUMBER:
SGN-I



1 CLIMBING FACILITY LOCATION
SCALE : N.T.S.

STRUCTURAL NOTES:

- PER THE MOUNT MAPPING COMPLETED BY HUDSON DESIGN GROUP LLC ON 1/27/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (53'-0") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
- INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.



ITEM #	QTY	PART NUMBER	DESCRIPTIONS
A	1	H42-0501-06	STANDOFF CLAMP BRACKET (PERFECT VISION OR EOR APPROVED EQ.)
B	1	PV-CMX-CG-BO	WIRE ROPE GUIDE (PERFECT VISION OR EOR APPROVED EQ.)

2 PROPOSED WIRE ROPE GUIDE ATTACHMENT - PLAN VIEW
SCALE : N.T.S.

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



CLIMBING FACILITY PHOTO

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SHEET TITLE:
CLIMBING FACILITY DETAIL

SHEET NUMBER:
SCF-1

LEGEND:

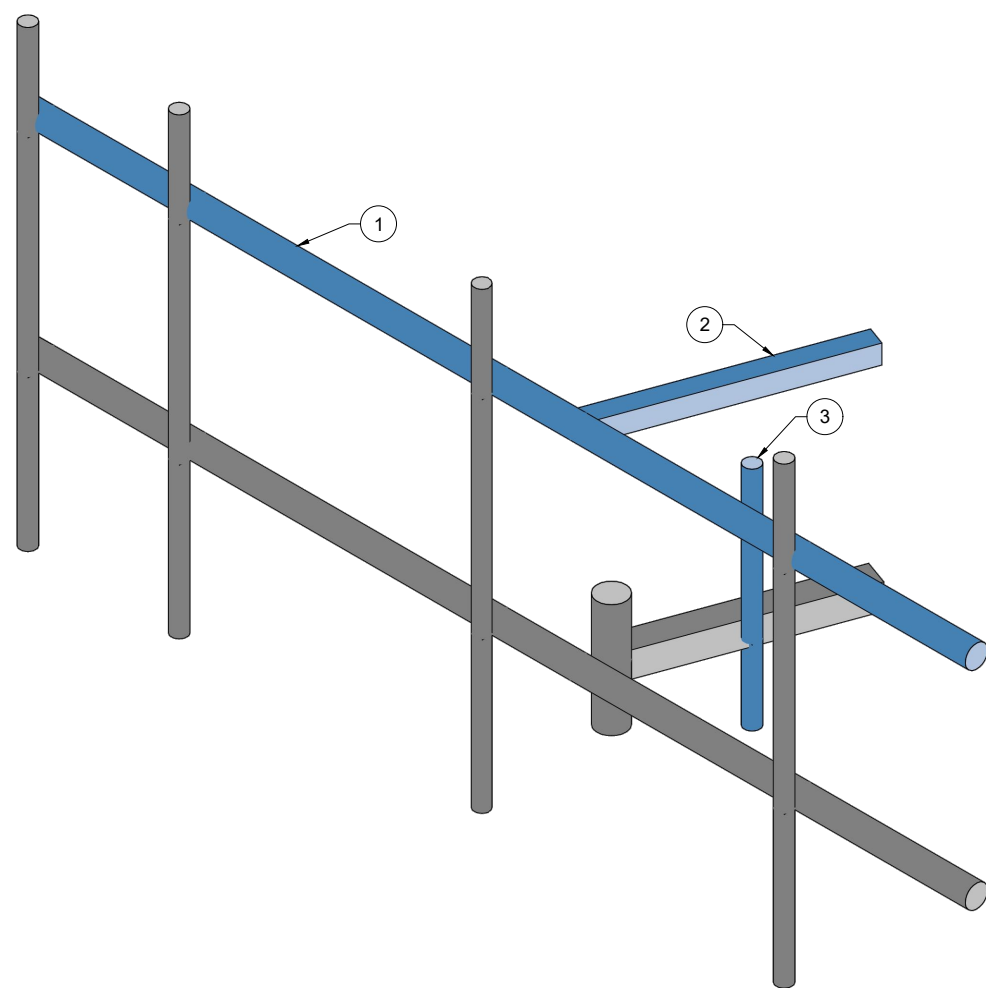
- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE

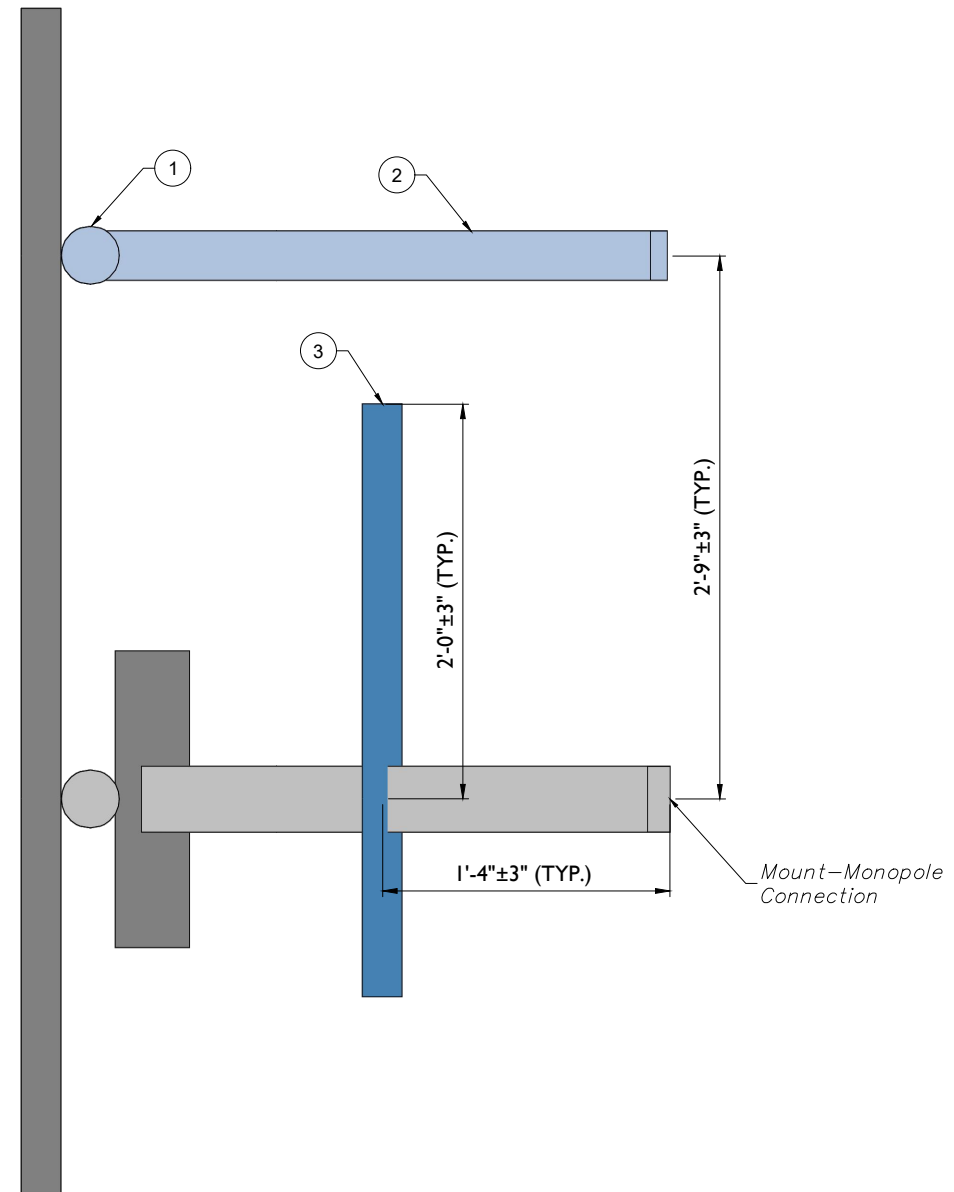
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	53'-0"	3	PROPOSED 150" LONG, PIPE 3 SCH40 (PART #: VZWSMART-P40-312X150)	RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE. CONNECT NEW HORIZONTAL TO ALL VERTICAL MOUNT PIPES WITH CROSSOVER PLATES (PART #: VZWSMART-MSK2).
2		3	PROPOSED T-ARM KIT (PART #: VZWSMART-SFK4)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. CONNECT OTHER END OF T-ARM KIT TO MONOPOLE COLLAR MOUNT ASSEMBLY (PART #: VZWSMART-PLK7). SEE GENERAL NOTE B.
3		2	PROPOSED 36" LONG, PIPE 2 SCH40 OVP PIPE	CONNECT NEW OVP PIPE TO EXISTING STANDOFF HORIZONTAL WITH BACK TO BACK CROSSOVER PLATE (PART #: VZWSMART-MSK6). ALPHA & BETA SECTOR STANDOFF ONLY.

GENERAL NOTES:

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



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

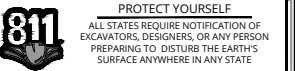


2 PROPOSED SIDE ELEVATION VIEW
SCALE : N.T.S.



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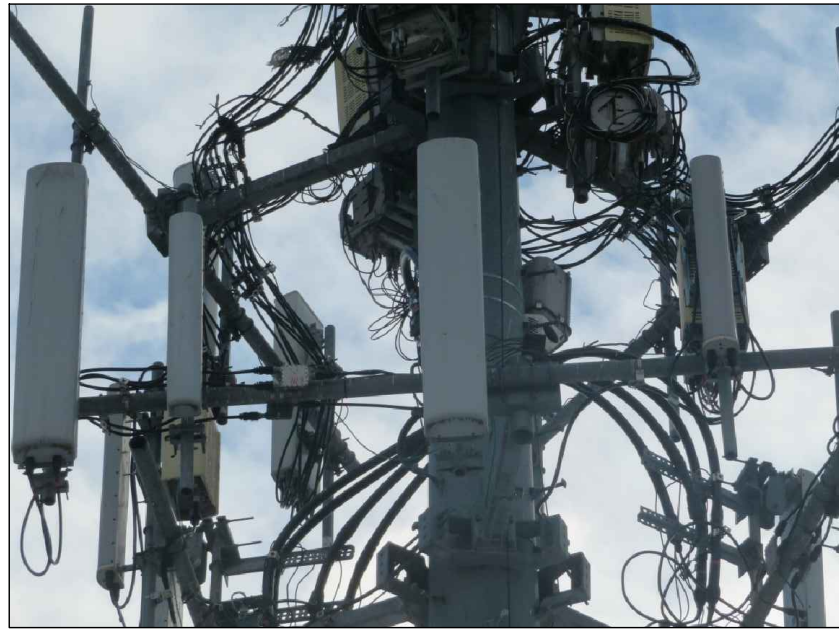
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MODIFICATION DETAILS

SHEET NUMBER: SS-1



MOUNT PHOTO 1



MOUNT PHOTO 2



MOUNT PHOTO 3



MOUNT PHOTO 4



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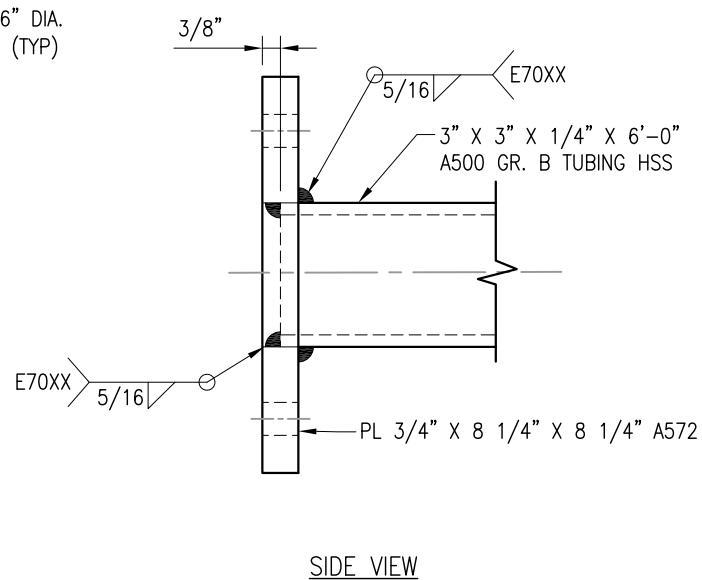
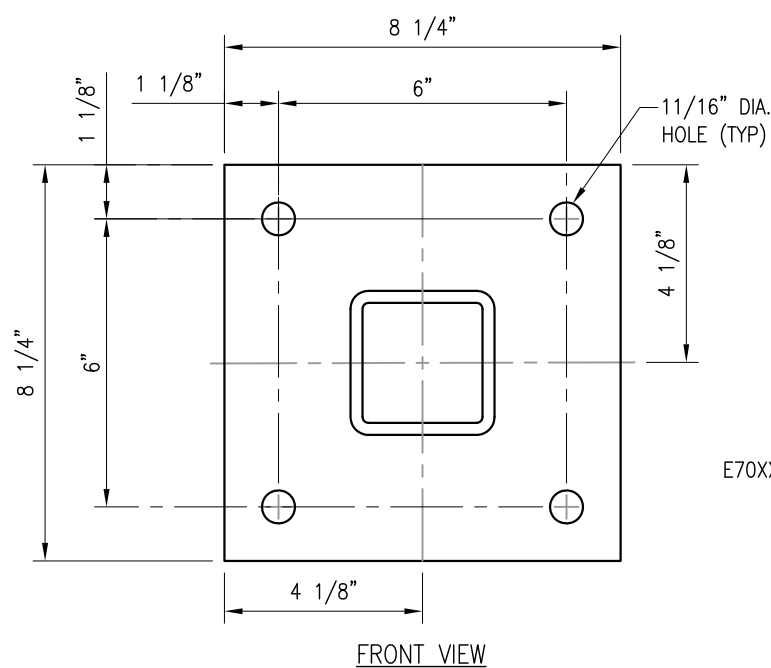
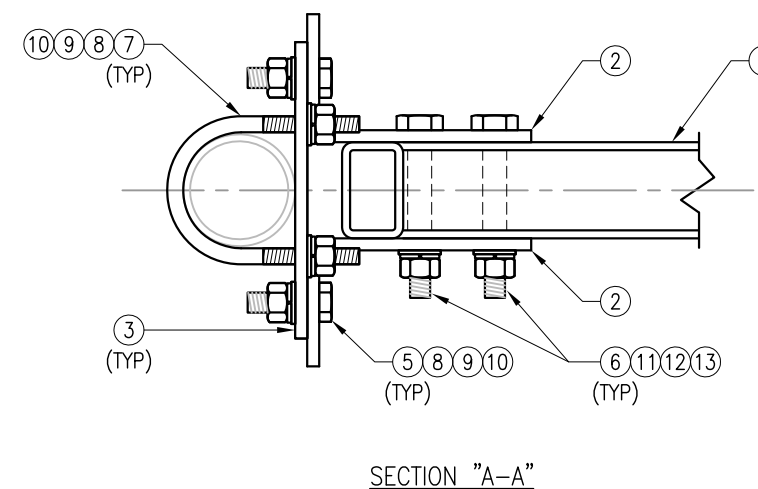
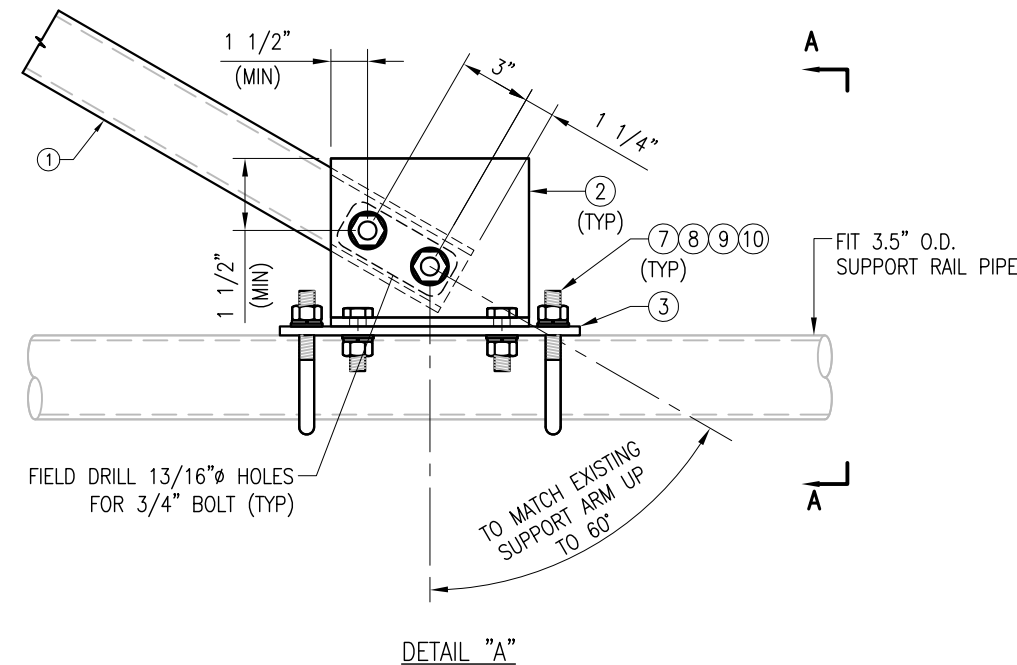
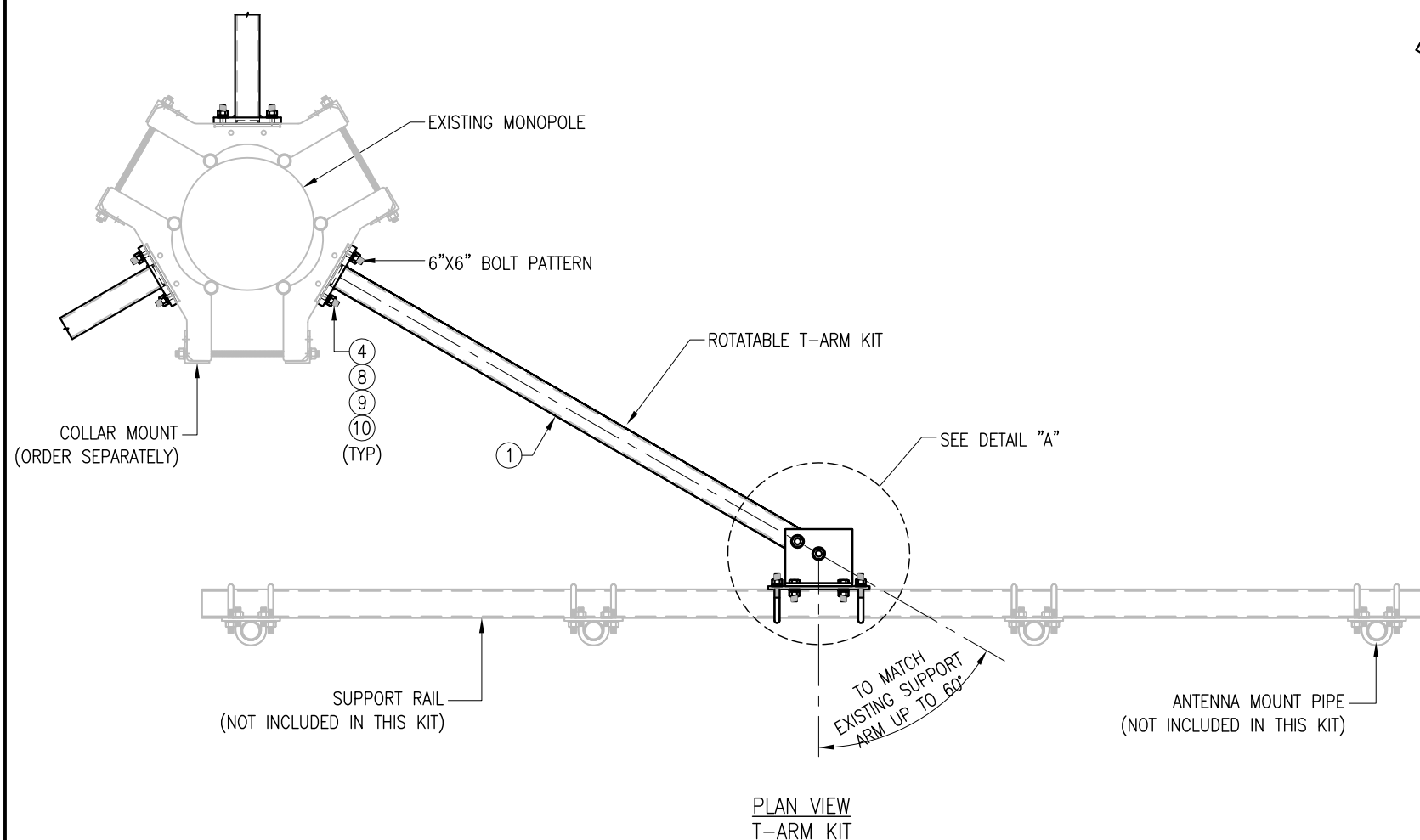
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SHEET TITLE:
MOUNT PHOTOS

SHEET NUMBER:
SS-2



VZWSMART-SFK4 (T-ARM KIT)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	RO-TAW-6	T-ARM WELDMENT	SFK4-F1	71
2	2	BP825-94375	PL 3/8" X 8 1/4" X 9 7/16" A36 BEND PLATE	SFK4-F2	17
3	1	PL375-92512025	PL 3/8" X 9 1/4" X 1'-0 1/2" A36	SFK4-F3	12
4	4	---	BOLT 5/8" X 2 1/4" A325	---	0
5	4	---	BOLT 5/8" X 2" A325	---	0
6	2	---	BOLT 3/4" X 5 1/4" A325	---	0
7	2	MS02-625-3625-600	RU-BOLT 5/8" X 3 5/8" I.W. X 6" I.L. A36 (OR EQUIV.)	RBC-1	3
8	12	FW-625	5/8" HDG USS FLAT WASHER	---	1
9	12	LW-625	5/8" HDG LOCK WASHER	---	0
10	12	NUT-625	5/8" HDG HEX NUT	---	1
11	2	FW-75	3/4" HDG USS FLAT WASHER	---	0
12	2	LW-75	3/4" HDG LOCK WASHER	---	0
13	2	NUT-75	3/4" HDG HEX NUT	---	0
GALVANIZED WT					106

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

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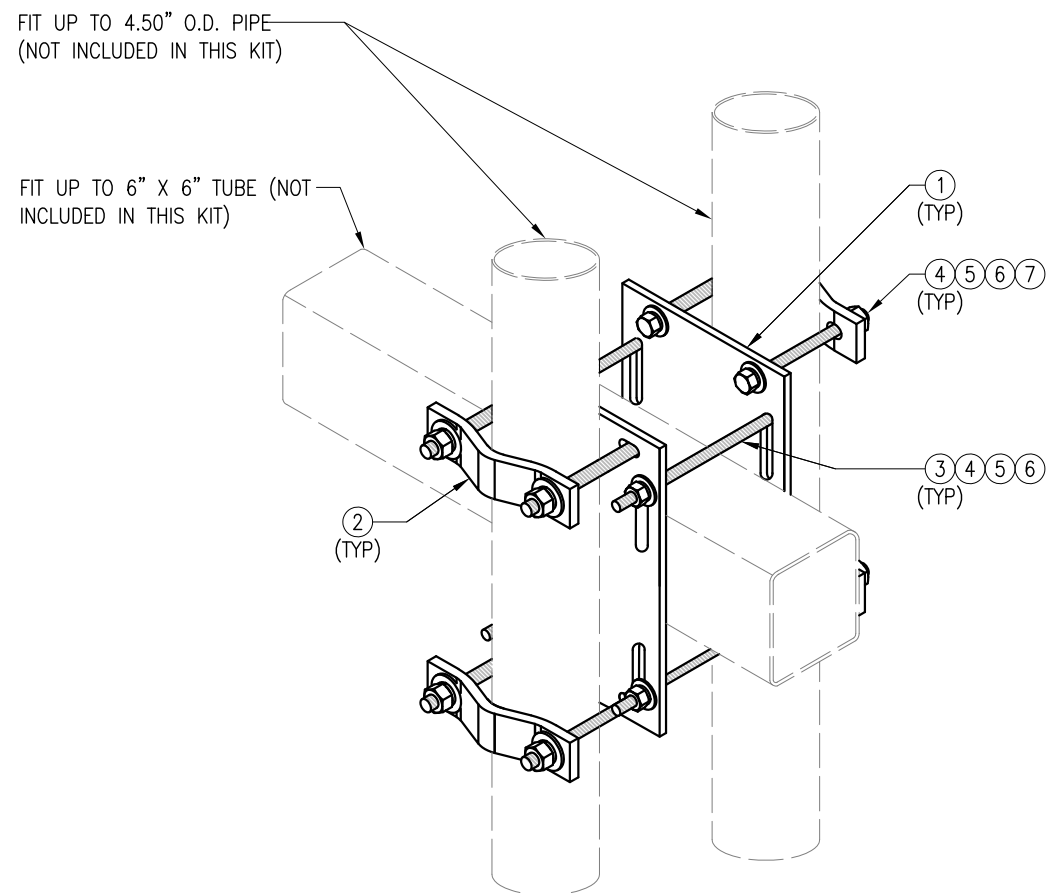
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SHEET TITLE:

VZWSMART-SFK4
T-ARM KIT

SHEET NUMBER: REV #:

VZWSMART-SFK4 0



ISOMETRIC VIEW
 BACK TO BACK CROSSOVER

FOR REFERENCE
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REV.	DESCRIPTION	BY	DATE
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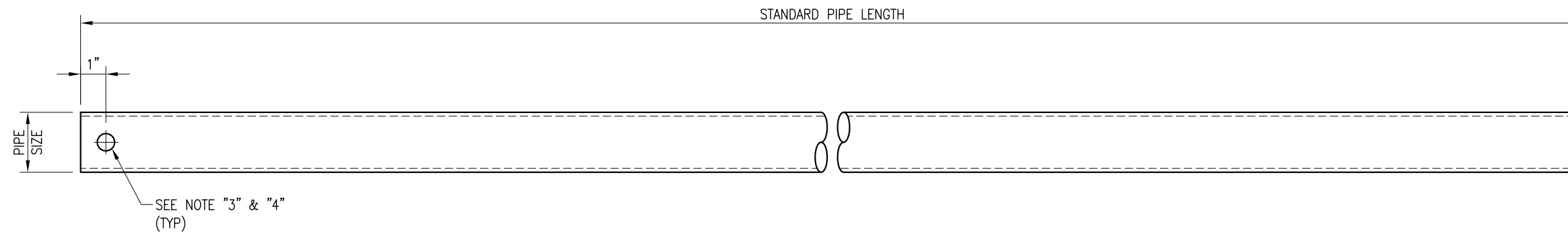
SHEET TITLE:
 VZSMART-MSK6
 BACK TO BACK
 CROSSOVER

SHEET NUMBER:
 VZSMART-MSK6

REV #:
 0

VZSMART-MSK6 (VZSMART-MSK6 - BACK TO BACK CROSSOVER)						
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT	
1	2	PL375-8512	PL 3/8" X 8 1/2" X 1'-0" A36	MSK6-F2	20.7	
2	4	VCP	PL 1/2" X 2" X 8 5/8" A36 BENT PLATE	MSK6-F1	9.6	
3	4	---	THREADED ROD 5/8" DIA. X 10" F1554-36 HDG	---	---	
4	16	NUT-625	5/8" HDG HEX NUT	---	2	
5	16	FW-625	5/8" HDG USS FLAT WASHER	---	1	
6	16	LW-625	5/8" HDG LOCK WASHER	---	0	
7	8	---	BOLT 5/8" X 6" SAE GRADE 5 ALL THREAD	---	1	
					GALVANIZED WT	34

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



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

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

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

FOR REFERENCE
 ONLY

DRAWN BY: BT CHECKED BY: HMA/KW

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

SHEET TITLE:
 VZWSMART
 STANDARD PIPE

SHEET NUMBER: VZWSMART-PIPE REV #: 0



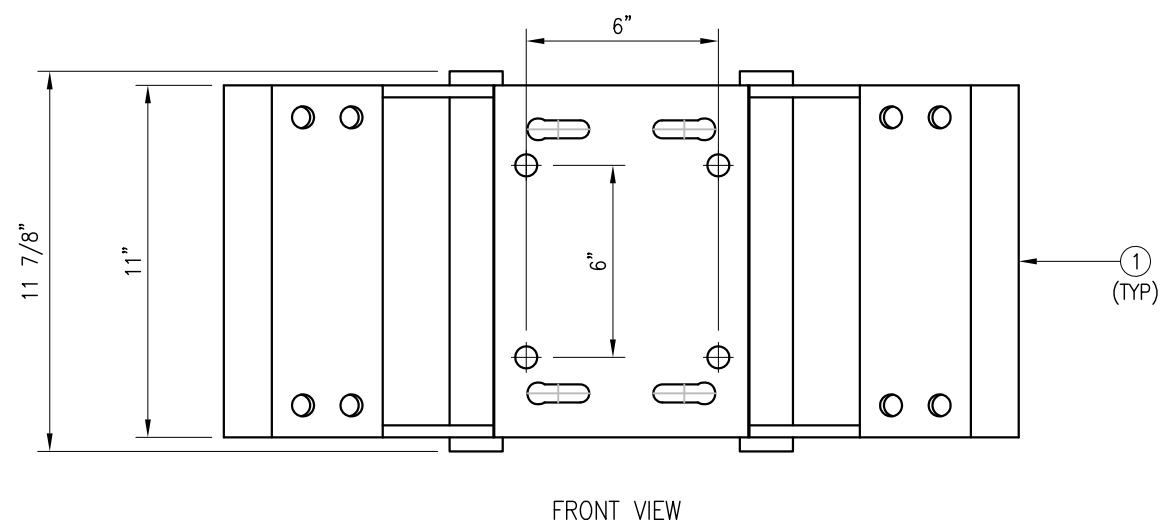
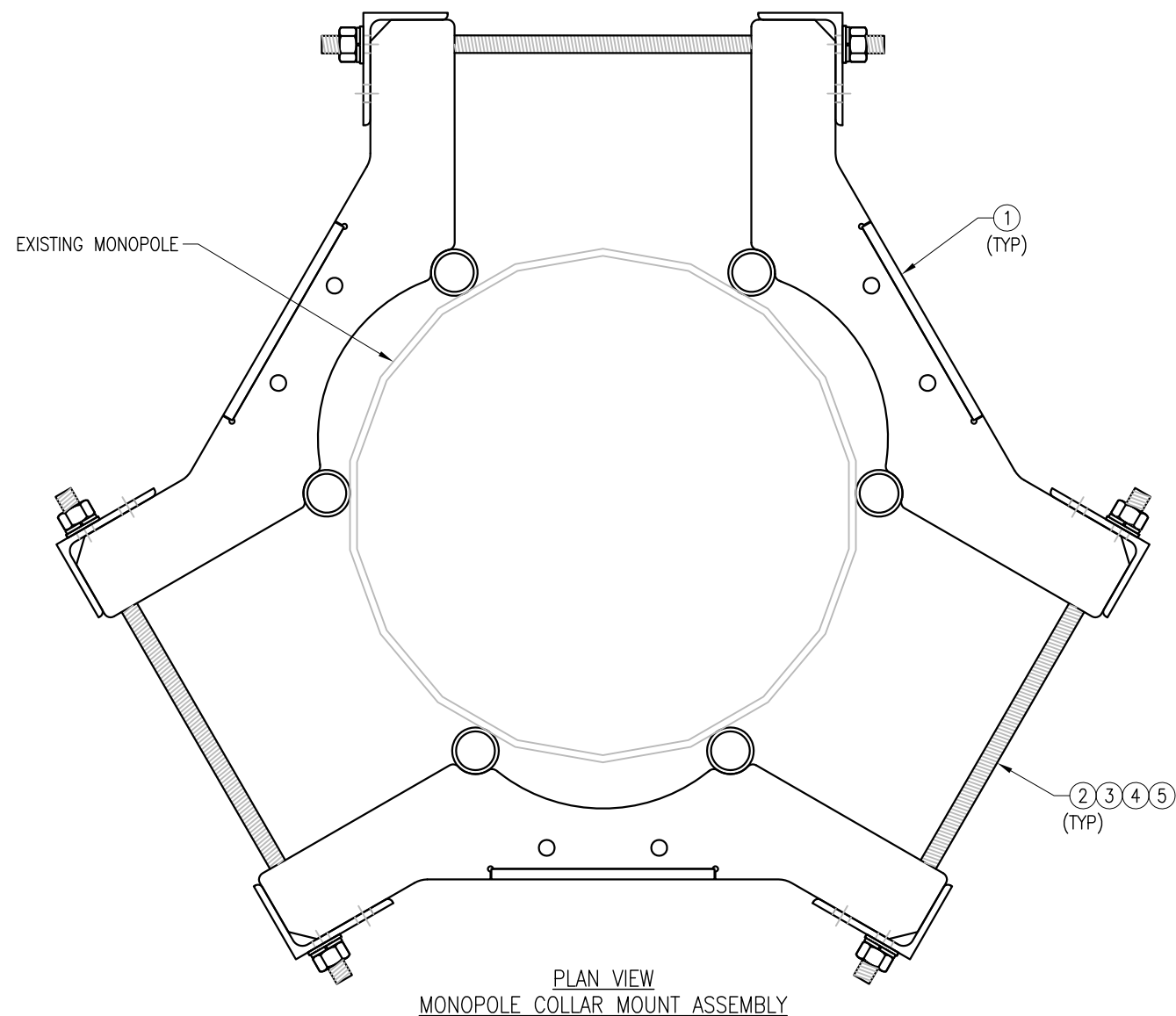
FOR REFERENCE
 ONLY

DRAWN BY: BT CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	05/11/20

SHEET TITLE:
 VZSMART-PLK7
 MONOPOLE COLLAR
 MOUNT ASSEMBLY

SHEET NUMBER: VZSMART-PLK7 REV #: 0

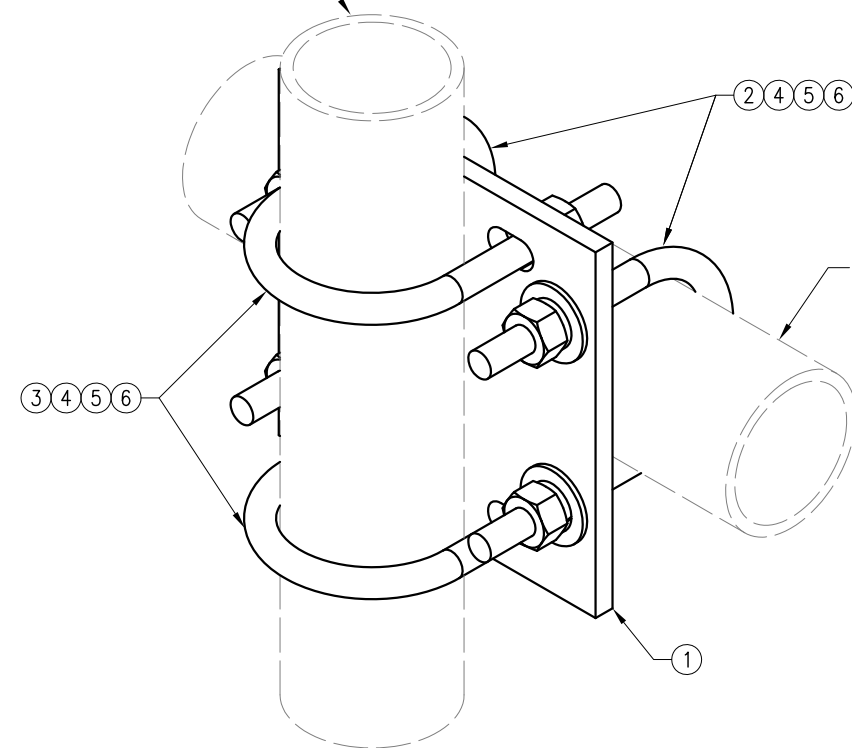


NOTES:
 1. FIT 12" TO 45" DIA MONOPOLE.
 2. HOT-DIPPED GALVANIZED PER ASTM A123.

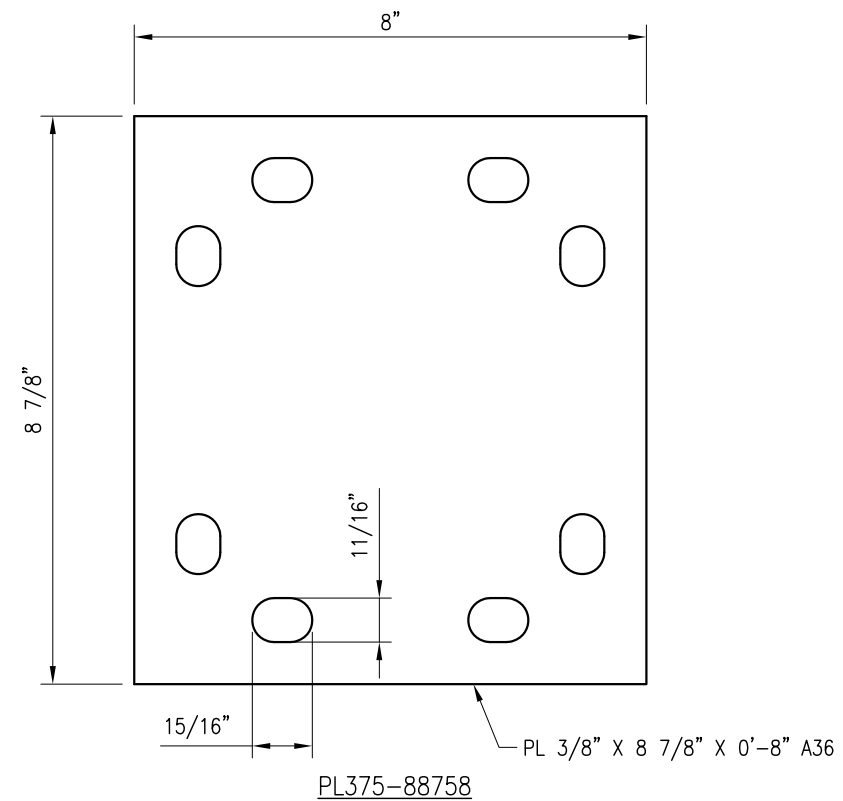
VZSMART-PLK7 (MONOPOLE COLLAR MOUNT ASSEMBLY)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	CM-1245	COLLAR MOUNT ASSEMBLY	PLK7-F1	147
2	6	---	THREADED ROD 5/8" X 4'-0" A193-B7	---	---
3	12	FW-625	5/8" HDG USS FLAT WASHER	---	1
4	12	LW-625	5/8" HDG LOCK WASHER	---	0
5	12	NUT-625	5/8" HDG HEX NUT	---	1
GALVANIZED WT					150



FITS 2.375" O.D. AND 2.875" O.D.
 VERTICAL PIPE.
 (NOT INCLUDED IN THIS KIT)



FITS 3.5" O.D. AND 4" O.D.
 HORIZONTAL PIPE.
 (NOT INCLUDED IN THIS KIT)



FOR REFERENCE
 ONLY

DRAWN BY: H.R. CHECKED BY: HMA

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

SHEET TITLE:

VZSMART-MSK2
 CROSSOVER PLATE

SHEET NUMBER: REV #:

VZSMART-MSK2 0

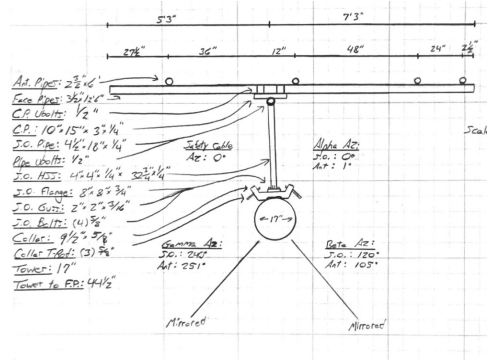
NOTES:
 1. HOT-DIPPED GALVANIZED PER ASTM A123.

VZSMART-MSK2 (CROSSOVER PLATE)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	PL375-88758	PL 3/8" X 8 3/4" X 0'-8" A36	MSK2-F1	8
2	2	MS02-625-4125-600	RU-BOLT 5/8" X 4 1/8" I.W. X 6" I.L. A36 (OR EQUIV.)	RBC-1	3
3	2	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	3
4	8	FW-625	5/8" HDG USS FLAT WASHER	---	1
5	8	LW-625	5/8" HDG LOCK WASHER	---	0
6	8	NUT-625	5/8" HDG HEX NUT	---	1
GALVANIZED WT					15

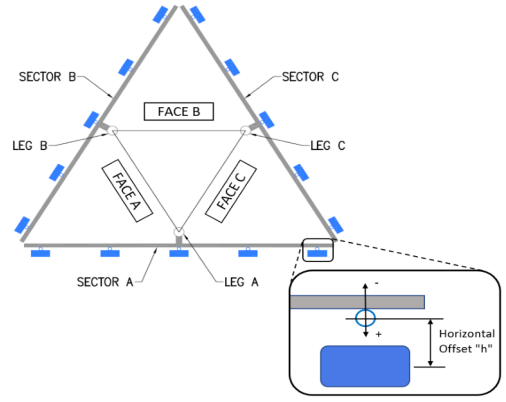


	Antenna Mount Mapping Form (PATENT PENDING)			FCC #
	Tower Owner:	SBA	Mapping Date:	1/27/2021
	Site Name:	East Haven Cosey Beach CT (VZW)	Tower Type:	Monopole
	Site Number or ID:	469123	Tower Height (Ft.):	70' (est.)
	Mapping Contractor:	HUDSON DESIGN GROUP LLC.	Mount Elevation (Ft.):	55.9

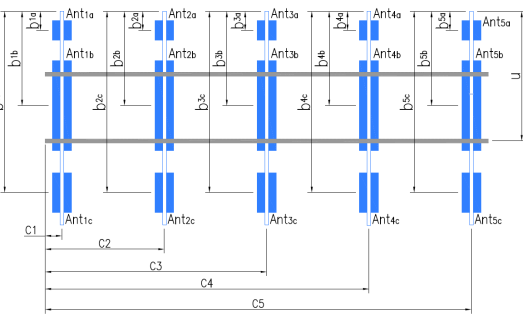
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Mount Pipe Configuration and Geometries [Unit = Inches]								
Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "U"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "U"	Horizontal Offset "C1, C2, C3, etc."	
A1	PIPE 2" STD X 0.154 X 72" LONG	48.00	27.50	C1	PIPE 2" STD X 0.154 X 72" LONG	48.00	27.50	
A2	PIPE 2" STD X 0.154 X 72" LONG	48.00	48.00	C2	PIPE 2" STD X 0.154 X 72" LONG	48.00	48.00	
A3	PIPE 2" STD X 0.154 X 72" LONG	48.00	48.00	C3	PIPE 2" STD X 0.154 X 72" LONG	48.00	48.00	
A4	PIPE 2" STD X 0.154 X 72" LONG	48.00	24.00	C4	PIPE 2" STD X 0.154 X 72" LONG	48.00	24.00	
A5				C5				
A6				C6				
B1	PIPE 2" STD X 0.154 X 72" LONG	48.00	27.50	D1				
B2	PIPE 2" STD X 0.154 X 72" LONG	48.00	48.00	D2				
B3	PIPE 2" STD X 0.154 X 72" LONG	48.00	48.00	D3				
B4	PIPE 2" STD X 0.154 X 72" LONG	48.00	24.00	D4				
B5				D5				
B6				D6				
Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details.							0.00	
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.)							8	
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.)								
Please enter additional information or comments below.								
Tower Face Width at Mount Elev. (ft.):				Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):				17

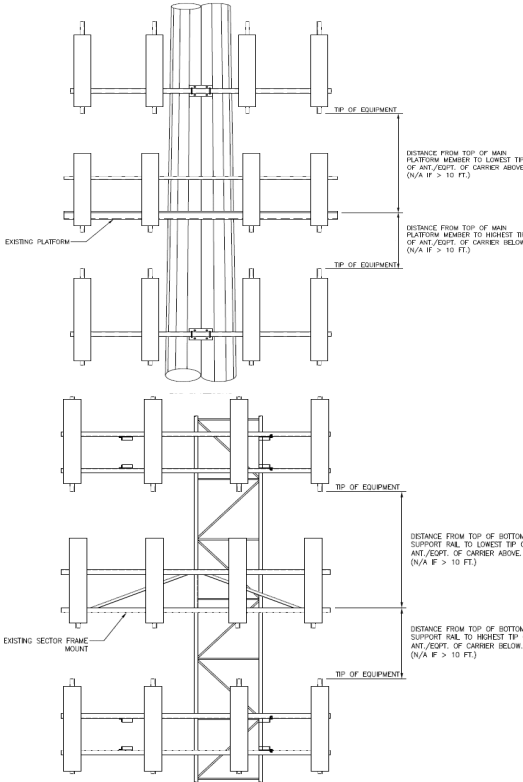


Sector / Items	Enter antenna model. If not labeled, enter "Unknown".						Mounting Locations [Units are inches and degrees]			Photos of antennas
	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Vertical Distances "b1a, b2a, b3a, b1b,..." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photo Numbers
Sector A										
Ant1a	9442 RRH2x40-AWS	12.00	8.00	25.00		57.4	30.00	8.00		5
Ant1b	BXA 171063-8BF-EDIN	6.00	4.00	48.00		58.9	12.00	7.00	0.00	5
Ant1c										
Ant2a										
Ant2b	BXA 70063/6CF-EDIN	11.00	5.00	71.00		56.9	36.00	10.50	0.00	6
Ant2c										
Ant3a	BXA 185063/8CF-EDIN	6.00	4.00	48.00		56.9	36.00	6.00	0.00	7
Ant3b	RFS Diplexer	6.50	0.75	4.50		55.9	48.00			7
Ant3c										
Ant4a	BXA 80063-6BF-EDIN	11.50	5.00	72.00		56.9	36.00	9.00	0.00	8
Ant4b	RFS Diplexer	6.50	0.75	4.50		55.9	48.00			7
Ant4c										
Ant5a										
Ant5b										
Ant5c										
Ant on Standoff										
Ant on Standoff										
Ant on Tower	RRFDC-3315-PF-48	15.00	10.00	28.00	.5" Hybrid	61		6.00		33
Ant on Tower										



Antenna Layout (Looking Out From Tower)

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector				Sector B											
Sector A:	0.00	Deg	Leg A:		Deg	Ant _{1a}	9442 RRH2x40-AWS	12.00	8.00	25.00		57.4	30.00	8.00		17			
Sector B:	120.00	Deg	Leg B:		Deg	Ant _{1b}	BXA 171063-8BF-EDIN	6.00	4.00	48.00		58.9	12.00	7.00	120.00	17			
Sector C:	240.00	Deg	Leg C:		Deg	Ant _{1c}													
Sector D:		Deg	Leg D:		Deg	Ant _{2a}													
Climbing Facility Information							Ant _{2b}	BXA 70063/6CF-EDIN	11.00	5.00	71.00		56.9	36.00	10.50	120.00	18		
Location:	0 degrees	Deg	Other				Ant _{2c}												
Climbing Facility	Corrosion Type:	Good condition.					Ant _{3a}	BXA 185063/8CF-EDIN	6.00	4.00	48.00		56.9	36.00	6.00	120.00	19		
	Access:	Climbing path was unobstructed.					Ant _{3b}	RFS Diplexer	6.50	0.75	4.50		55.9	48.00			19		
	Condition:	Good condition.					Ant _{3c}												
							Ant _{4a}	BXA 80063-6BF-EDIN	11.50	5.00	72.00		56.9	36.00	9.00	105.00	20		
							Ant _{4b}	RFS Diplexer	6.50	0.75	4.50		55.9	48.00			19		
							Ant _{4c}												
							Ant _{5a}												
							Ant _{5b}												
							Ant _{5c}												
							Ant on Standoff												
							Ant on Standoff												
							Ant on Tower												
							Ant on Tower												
Sector C																			
							Ant _{1a}	9442 RRH2x40-AWS	12.00	8.00	25.00		57.4	30.00	8.00		29		
							Ant _{1b}	BXA 171063-8BF-EDIN	6.00	4.00	48.00		58.9	12.00	7.00	240.00	29		
							Ant _{1c}												
							Ant _{2a}												
							Ant _{2b}	BXA 70063/6CF-EDIN	11.00	5.00	71.00		56.9	36.00	10.50	240.00	30		
							Ant _{2c}												
							Ant _{3a}	BXA 185063/8CF-EDIN	6.00	4.00	48.00		56.9	36.00	6.00	240.00	31		
							Ant _{3b}	RFS Diplexer	6.50	0.75	4.50		55.9	48.00			31		
							Ant _{3c}												
							Ant _{4a}	BXA 80063-6BF-EDIN	11.50	5.00	72.00		56.9	36.00	9.00	240.00	32		
							Ant _{4b}	RFS Diplexer	6.50	0.75	4.50		55.9	48.00			31		
							Ant _{4c}												
							Ant _{5a}												
							Ant _{5b}												
							Ant _{5c}												
							Ant on Standoff												
							Ant on Standoff												
							Ant on Tower												
							Ant on Tower												
Sector D																			
							Ant _{1a}												
							Ant _{1b}												
							Ant _{1c}												
							Ant _{2a}												
							Ant _{2b}												
							Ant _{2c}												
							Ant _{3a}												
							Ant _{3b}												
							Ant _{3c}												
							Ant _{4a}												
							Ant _{4b}												
							Ant _{4c}												
							Ant _{5a}												
							Ant _{5b}												
							Ant _{5c}												
							Ant on Standoff												
							Ant on Standoff												
							Ant on Tower												
							Ant on Tower												



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


1	(12) 1-5/8" COAX (1) 1-1/2" HYBRID	
2		
3	SAFETY CLIMB HAS EXCESSIVE SLACK	40
4		
5		
6		
7		
8		

Mapping Notes

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

Standard Conditions

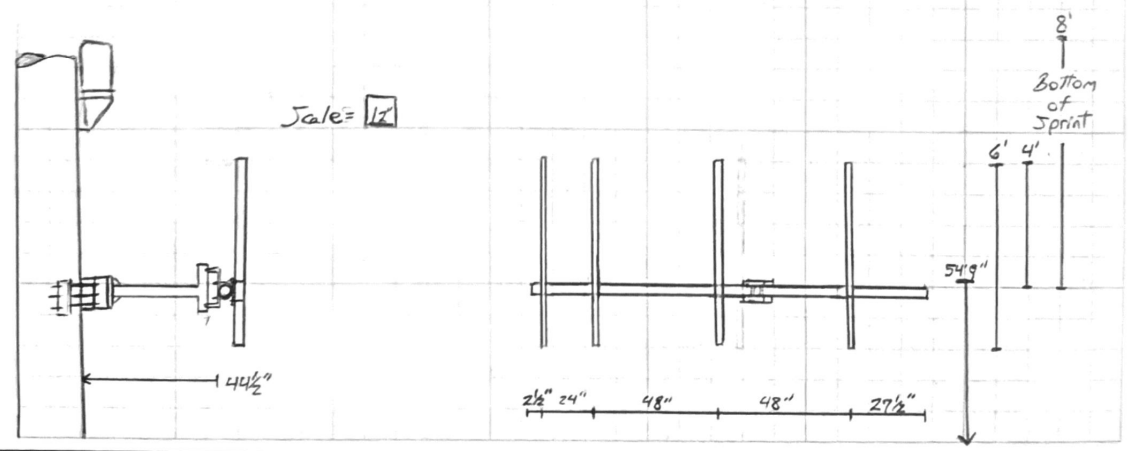
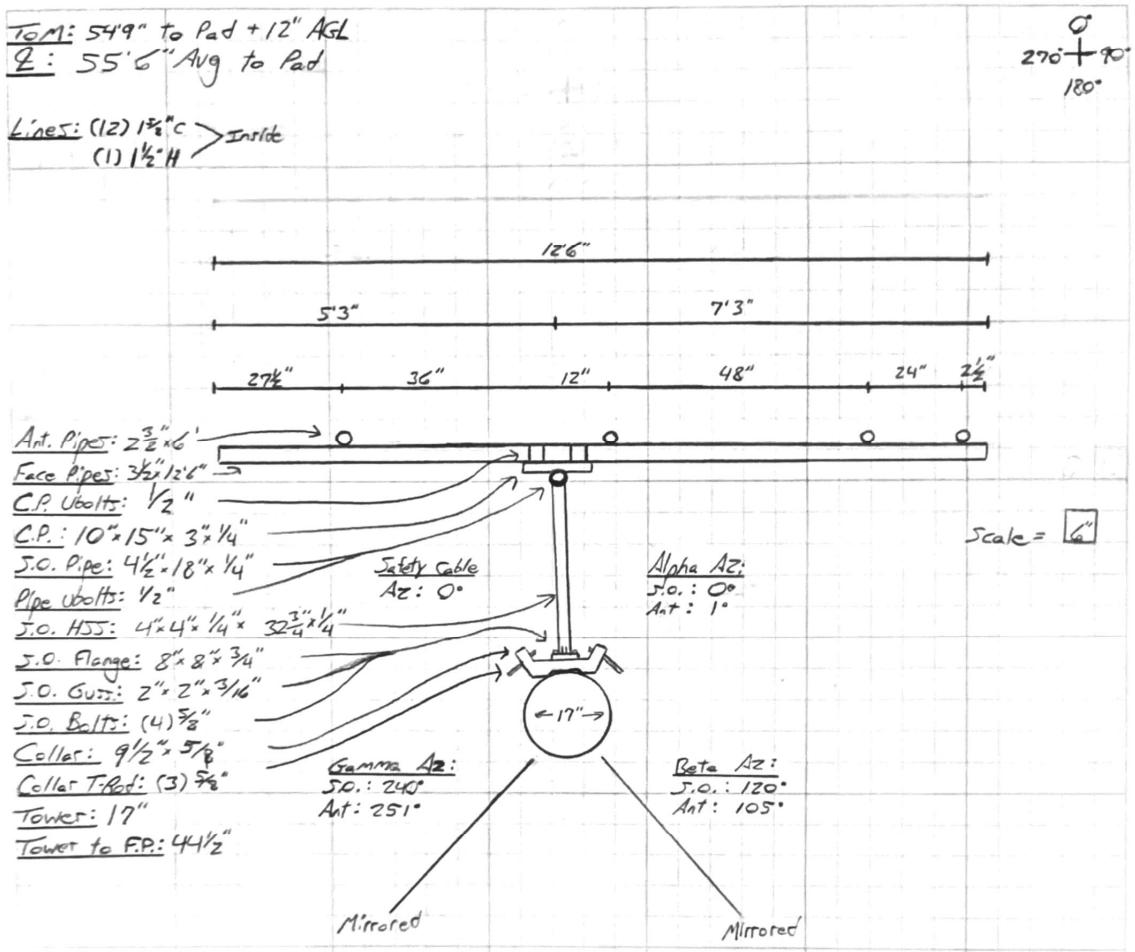
1. Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping are to be reported in this mapping. However, this mount mapping is not a condition assessment of the mount.

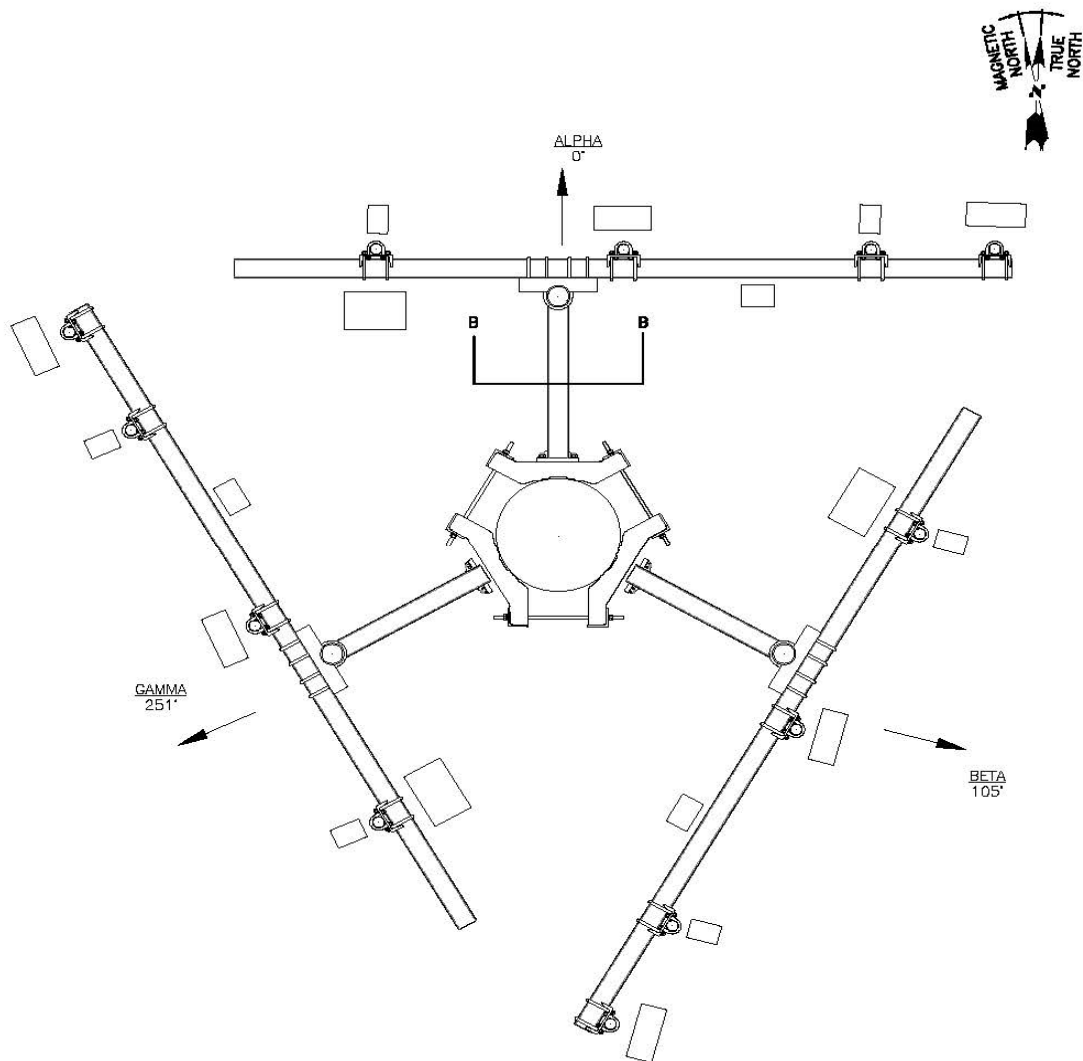
	Antenna Mount Mapping Form (PATENT PENDING)			FCC #
	Tower Owner:	SBA	Mapping Date:	1/27/2021
	Site Name:	East Haven Cosey Beach CT (VZW)	Tower Type:	Monopole
	Site Number or ID:	469123	Tower Height (Ft.):	70' (est.)
	Mapping Contractor:	HUDSON DESIGN GROUP LLC.	Mount Elevation (Ft.):	55.9

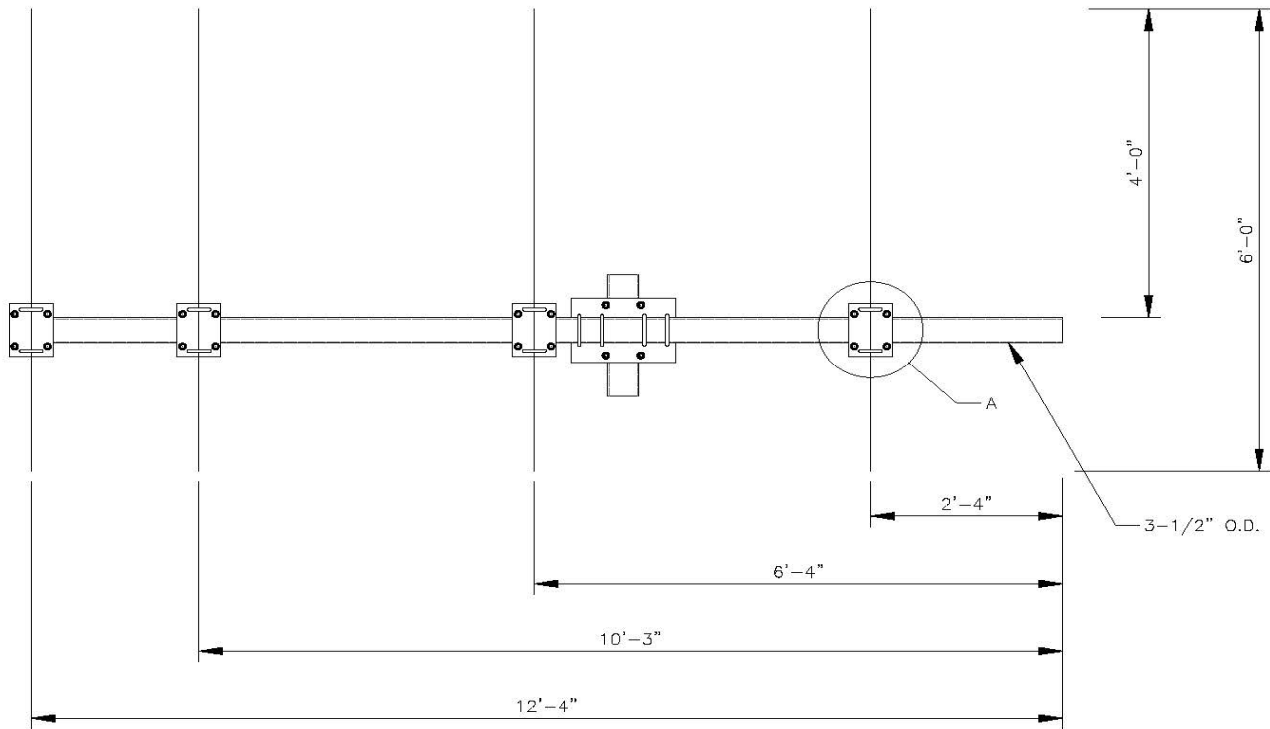
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Please Insert Sketches of the Antenna Mount

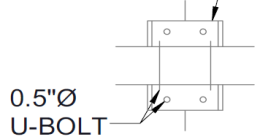
DATE: 1-27-21
 Project Name: Maser Mappings
 Project No.: East Haven Cosey Beach CT
 Design By: Joah Chk'd By: _____ Page ____ of ____



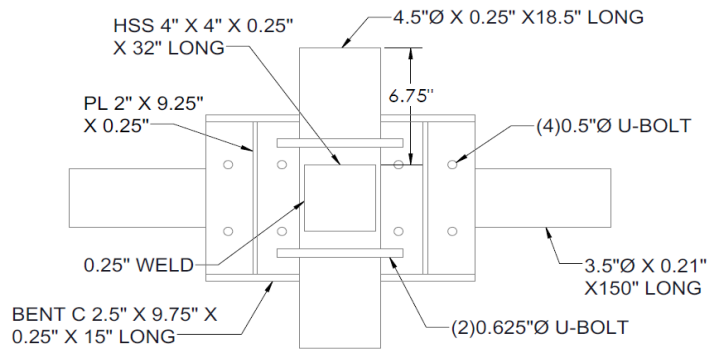




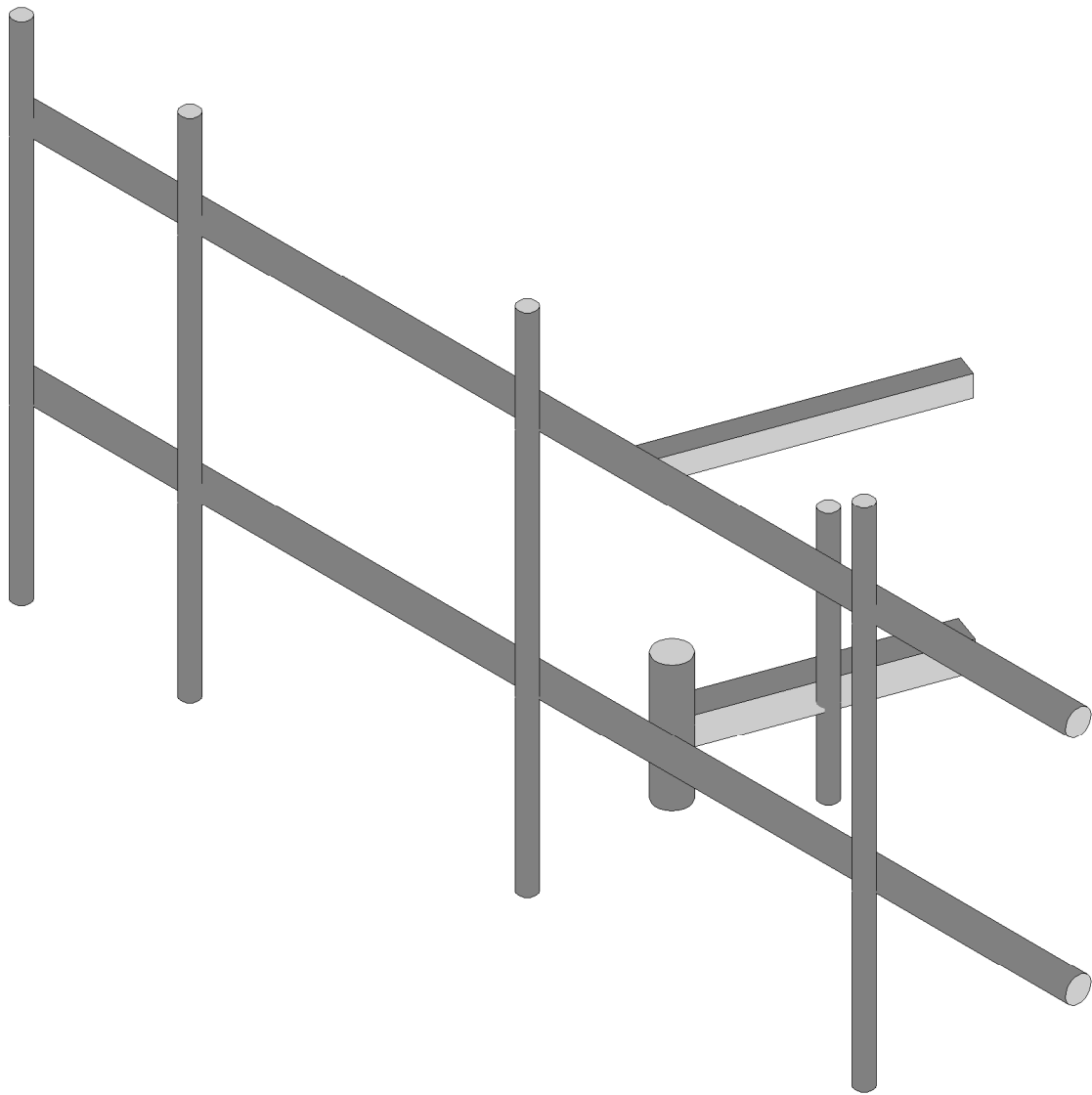
C 2.5" X 6.25" X 0.31"
X 8.25" LONG



DETAIL A



SECTION B-B



Envelope Only Solution

Rendered Model

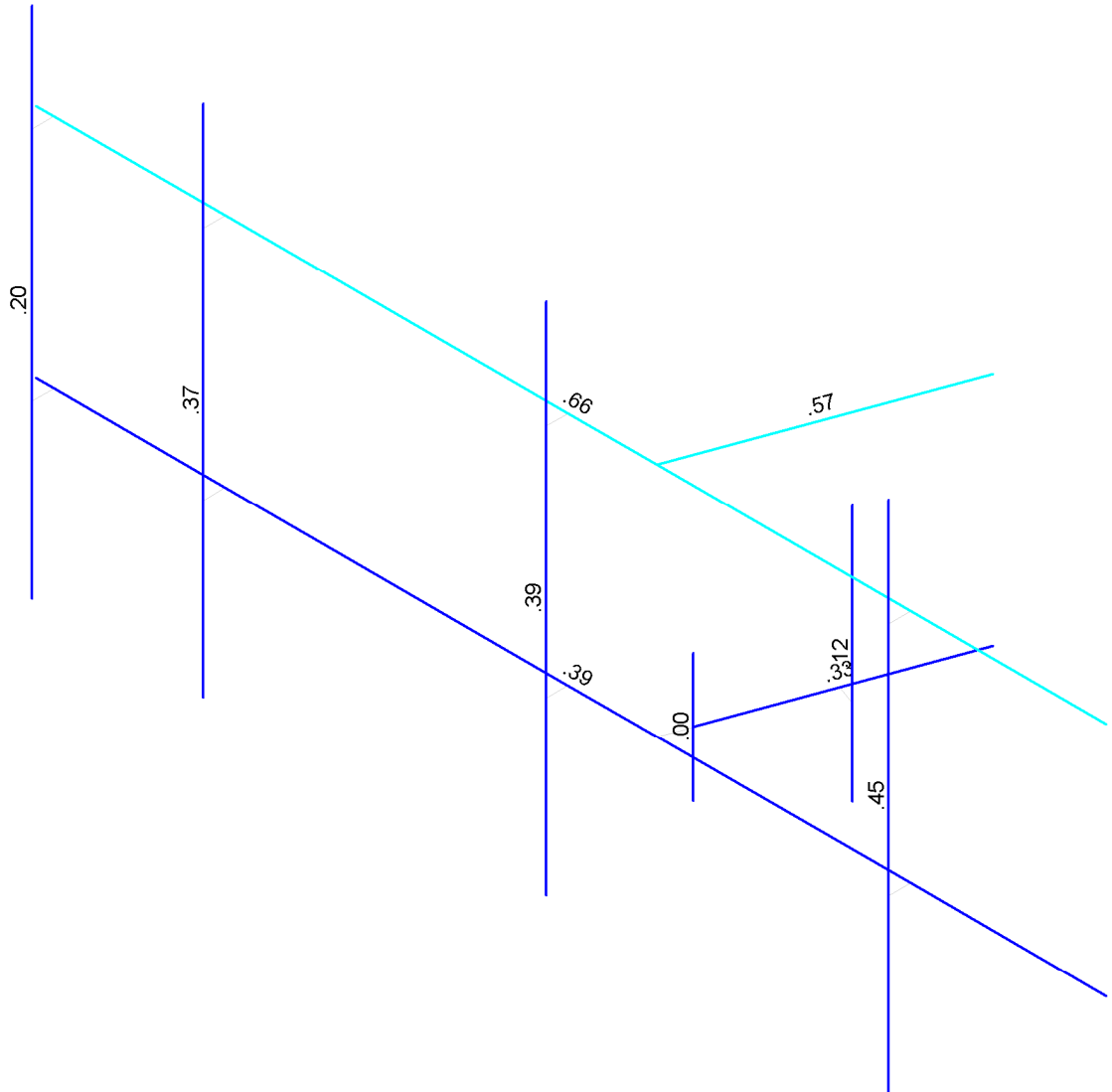
SK - 1

Jan 26, 2024 at 9:52 AM

5000385115-VZW_MT_LOT_A_H.r3d

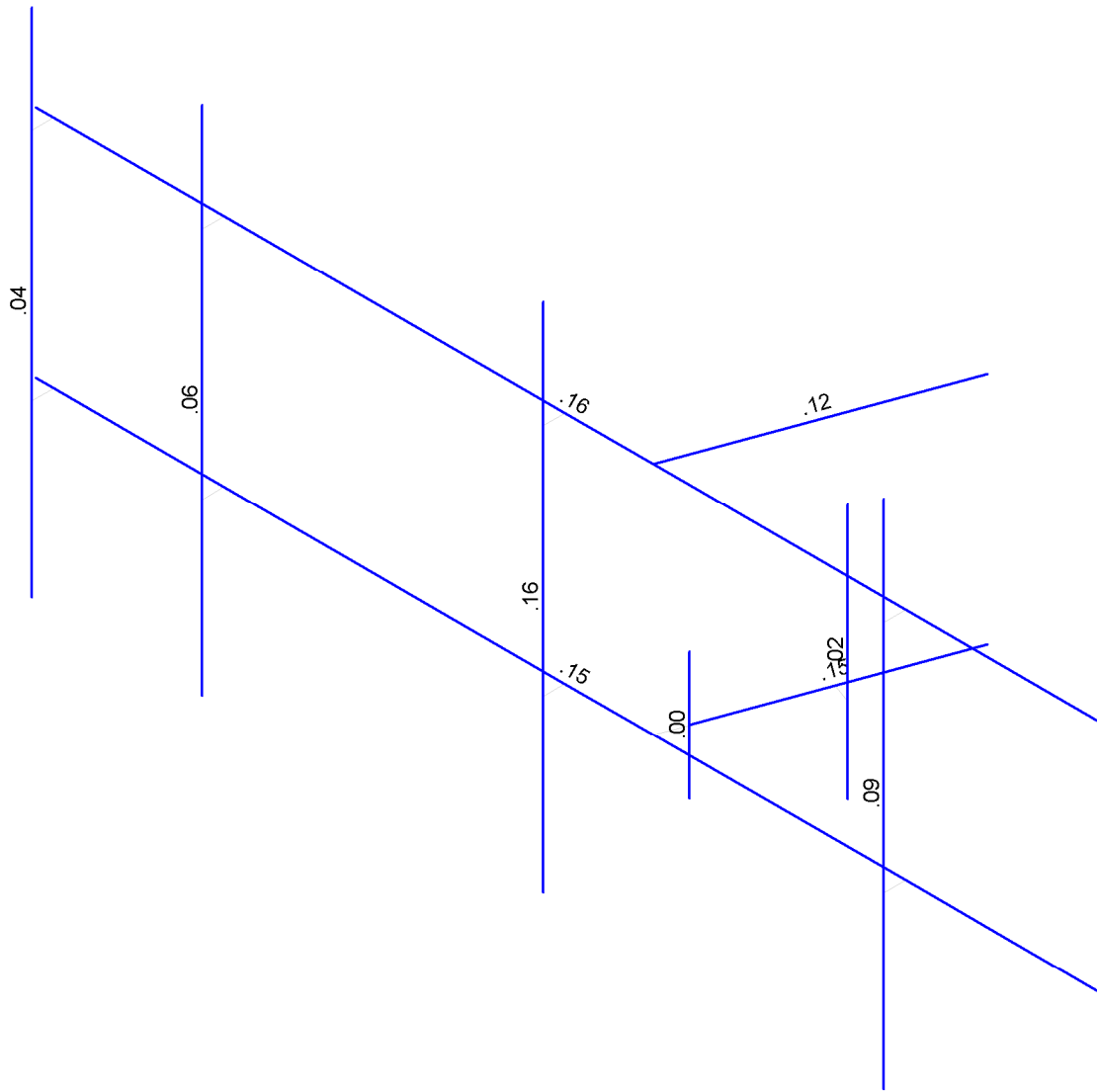


Code Check	
[Env]	
■	No Calc
■	> 1.0
■	90-1.0
■	75-90
■	50-75
■	0-50



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

		SK - 2
		Jan 26, 2024 at 9:52 AM
	Bending Check	5000385115-VZW_MT_LOT_A_H.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

		SK - 3
		Jan 26, 2024 at 9:52 AM
	Shear Check	5000385115-VZW_MT_LOT_A_H.r3d



Company :
 Designer :
 Job Number :
 Model Name :

Jan 26, 2024
 9:53 AM
 Checked By: _____

Basic Load Cases

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

Basic Load Cases (Continued)

BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
54 Structure Wi (30 Deg)	None						20	
55 Structure Wi (60 Deg)	None						20	
56 Structure Wi (90 Deg)	None						20	
57 Structure Wi (120 De..)	None						20	
58 Structure Wi (150 De..)	None						20	
59 Structure Wi (180 De..)	None						20	
60 Structure Wi (210 De..)	None						20	
61 Structure Wi (240 De..)	None						20	
62 Structure Wi (270 De..)	None						20	
63 Structure Wi (300 De..)	None						20	
64 Structure Wi (330 De..)	None						20	
65 Structure Wm (0 Deg)	None						20	
66 Structure Wm (30 De..)	None						20	
67 Structure Wm (60 De..)	None						20	
68 Structure Wm (90 De..)	None						20	
69 Structure Wm (120 D..)	None						20	
70 Structure Wm (150 D..)	None						20	
71 Structure Wm (180 D..)	None						20	
72 Structure Wm (210 D..)	None						20	
73 Structure Wm (240 D..)	None						20	
74 Structure Wm (270 D..)	None						20	
75 Structure Wm (300 D..)	None						20	
76 Structure Wm (330 D..)	None						20	
77 Lm1	None					1		
78 Lm2	None					1		
79 Lv1	None					1		
80 Lv2	None					1		
81 Antenna Ev	None					36		
82 Antenna Eh (0 Deg)	None					24		
83 Antenna Eh (90 Deg)	None					24		
84 Structure Ev	ELY		-0.043					
85 Structure Eh (0 Deg)	ELZ			-0.107				
86 Structure Eh (90 Deg)	ELX	.107						

Load Combinations

Description	S... P...	S... B...	Fa... B...	Fa... B...	Fa... B...	Fa... B...	Fa... B...	Fa... B...	Fa... B...	Fa... B...	Fa... B...	Fa... B...	Fa... B...	Fa... B...	Fa... B...	Fa... B...	Fa... B...	Fa... B...
1 1.2D+1.0Wo (0 Deg)	Yes Y	1	1.2	39	1.2	3	1	41	1									
2 1.2D+1.0Wo (30 Deg)	Yes Y	1	1.2	39	1.2	4	1	42	1									
3 1.2D+1.0Wo (60 Deg)	Yes Y	1	1.2	39	1.2	5	1	43	1									
4 1.2D+1.0Wo (90 Deg)	Yes Y	1	1.2	39	1.2	6	1	44	1									
5 1.2D+1.0Wo (120 Deg)	Yes Y	1	1.2	39	1.2	7	1	45	1									
6 1.2D+1.0Wo (150 Deg)	Yes Y	1	1.2	39	1.2	8	1	46	1									
7 1.2D+1.0Wo (180 Deg)	Yes Y	1	1.2	39	1.2	9	1	47	1									
8 1.2D+1.0Wo (210 Deg)	Yes Y	1	1.2	39	1.2	10	1	48	1									
9 1.2D+1.0Wo (240 Deg)	Yes Y	1	1.2	39	1.2	11	1	49	1									
10 1.2D+1.0Wo (270 Deg)	Yes Y	1	1.2	39	1.2	12	1	50	1									
11 1.2D+1.0Wo (300 Deg)	Yes Y	1	1.2	39	1.2	13	1	51	1									
12 1.2D+1.0Wo (330 Deg)	Yes Y	1	1.2	39	1.2	14	1	52	1									
13 1.2D + 1.0Di + 1.0Wi (0 Deg)	Yes Y	1	1.2	39	1.2	2	1	40	1	15	1	53	1					
14 1.2D + 1.0Di + 1.0Wi (30 Deg)	Yes Y	1	1.2	39	1.2	2	1	40	1	16	1	54	1					
15 1.2D + 1.0Di + 1.0Wi (60 Deg)	Yes Y	1	1.2	39	1.2	2	1	40	1	17	1	55	1					
16 1.2D + 1.0Di + 1.0Wi (90 Deg)	Yes Y	1	1.2	39	1.2	2	1	40	1	18	1	56	1					
17 1.2D + 1.0Di + 1.0Wi (120 Deg)	Yes Y	1	1.2	39	1.2	2	1	40	1	19	1	57	1					
18 1.2D + 1.0Di + 1.0Wi (150 Deg)	Yes Y	1	1.2	39	1.2	2	1	40	1	20	1	58	1					
19 1.2D + 1.0Di + 1.0Wi (180 Deg)	Yes Y	1	1.2	39	1.2	2	1	40	1	21	1	59	1					

Load Combinations (Continued)

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

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in ²]	I _{yy} [in ⁴]	I _{zz} [in ⁴]	J [in ⁴]
1	Antenna Pipe	PIPE 2.0	Column	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
2	Face Horizontal	PIPE 3.0	Beam	Pipe	A53 Gr. B	Typical	2.07	2.85	2.85	5.69
3	Mast Pipe	PIPE 4.0	Column	Pipe	A53 Gr. B	Typical	2.96	6.82	6.82	13.6
4	Standoff Horizontal	HSS4X4X4	Beam	SquareTube	A500 Gr. B 46	Typical	3.37	7.8	7.8	12.8
5	T-Arm Kit	HSS3X3X4	Beam	SquareTube	A500 Gr. B 46	Typical	2.44	3.02	3.02	5.08
6	Secondary Horizontal	PIPE 3.0	Beam	Pipe	A53 Gr. B	Typical	2.07	2.85	2.85	5.69

Hot Rolled Steel Properties

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

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N3	N4			RIGID	None	None	RIGID	Typical
2	M3	N1	N3			Standoff Horiz...	Beam	SquareTube	A500 Gr. ...	Typical
3	M4	N6	N5			Mast Pipe	Column	Pipe	A53 Gr. B	Typical
4	FACE	N8	N7			Face Horizontal	Beam	Pipe	A53 Gr. B	Typical
5	MP1A	N17	N20			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
6	MP3A	N16	N19			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
7	MP4A	N15	N18			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
8	LIVE2	N9	N12			RIGID	None	None	RIGID	Typical
9	M1000	N10	N13			RIGID	None	None	RIGID	Typical
10	LIVE1	N11	N14			RIGID	None	None	RIGID	Typical
11	M11A	N20A	N21			RIGID	None	None	RIGID	Typical
12	OVP	N22	N23			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
13	MP2A	N26	N27			Antenna Pipe	Column	Pipe	A53 Gr. B	Typical
14	M14	N24	N25			RIGID	None	None	RIGID	Typical
15	M15	N28	N29			T-Arm Kit	Beam	SquareTube	A500 Gr. ...	Typical
16	M16	N31	N30			Secondary Hor...	Beam	Pipe	A53 Gr. B	Typical
17	M17	N32	N35			RIGID	None	None	RIGID	Typical
18	M18	N33	N36			RIGID	None	None	RIGID	Typical
19	M19	N34	N37			RIGID	None	None	RIGID	Typical
20	M20	N38	N39			RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1	OOOXXO					Yes	** NA **			None
2	M3						Yes	Default			None
3	M4						Yes	** NA **			None
4	FACE						Yes				None
5	MP1A						Yes	** NA **			None
6	MP3A						Yes	** NA **			None
7	MP4A						Yes	** NA **			None
8	LIVE2						Yes	** NA **			None
9	M1000						Yes	** NA **			None
10	LIVE1						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat..	Analysis ...	Inactive	Seismic..
11	M11A						Yes	** NA **			None
12	OVP						Yes	** NA **			None
13	MP2A						Yes	** NA **			None
14	M14						Yes	** NA **			None
15	M15						Yes	Default			None
16	M16						Yes				None
17	M17						Yes	** NA **			None
18	M18						Yes	** NA **			None
19	M19						Yes	** NA **			None
20	M20						Yes	** NA **			None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	Y	-31.65	1
2	MP1A	My	-.016	1
3	MP1A	Mz	0	1
4	MP1A	Y	-31.65	5
5	MP1A	My	-.016	5
6	MP1A	Mz	0	5
7	MP3A	Y	-31.65	1
8	MP3A	My	-.016	1
9	MP3A	Mz	0	1
10	MP3A	Y	-31.65	5
11	MP3A	My	-.016	5
12	MP3A	Mz	0	5
13	MP2A	Y	-28.65	2
14	MP2A	My	-.014	2
15	MP2A	Mz	0	2
16	MP2A	Y	-28.65	4
17	MP2A	My	-.014	4
18	MP2A	Mz	0	4
19	MP1A	Y	-20.8	5
20	MP1A	My	.007	5
21	MP1A	Mz	0	5
22	OVP	Y	-32	.5
23	OVP	My	0	.5
24	OVP	Mz	0	.5
25	MP1A	Y	-79.1	2
26	MP1A	My	.026	2
27	MP1A	Mz	0	2
28	MP3A	Y	-74.7	2
29	MP3A	My	.025	2
30	MP3A	Mz	0	2
31	MP4A	Y	-9.6	1
32	MP4A	My	-.005	1
33	MP4A	Mz	0	1
34	MP4A	Y	-9.6	5
35	MP4A	My	-.005	5
36	MP4A	Mz	0	5

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	Y	-63.008	1
2	MP1A	My	-.032	1
3	MP1A	Mz	0	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
4	MP1A	Y	-63.008	5
5	MP1A	My	-.032	5
6	MP1A	Mz	0	5
7	MP3A	Y	-63.008	1
8	MP3A	My	-.032	1
9	MP3A	Mz	0	1
10	MP3A	Y	-63.008	5
11	MP3A	My	-.032	5
12	MP3A	Mz	0	5
13	MP2A	Y	-26.757	2
14	MP2A	My	-.013	2
15	MP2A	Mz	0	2
16	MP2A	Y	-26.757	4
17	MP2A	My	-.013	4
18	MP2A	Mz	0	4
19	MP1A	Y	-9.522	5
20	MP1A	My	.003	5
21	MP1A	Mz	0	5
22	OVP	Y	-68.356	.5
23	OVP	My	0	.5
24	OVP	Mz	0	.5
25	MP1A	Y	-40.743	2
26	MP1A	My	.014	2
27	MP1A	Mz	0	2
28	MP3A	Y	-40.312	2
29	MP3A	My	.013	2
30	MP3A	Mz	0	2
31	MP4A	Y	-45.32	1
32	MP4A	My	-.023	1
33	MP4A	Mz	0	1
34	MP4A	Y	-45.32	5
35	MP4A	My	-.023	5
36	MP4A	Mz	0	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	0	1
2	MP1A	Z	-172.421	1
3	MP1A	Mx	0	1
4	MP1A	X	0	5
5	MP1A	Z	-172.421	5
6	MP1A	Mx	0	5
7	MP3A	X	0	1
8	MP3A	Z	-172.421	1
9	MP3A	Mx	0	1
10	MP3A	X	0	5
11	MP3A	Z	-172.421	5
12	MP3A	Mx	0	5
13	MP2A	X	0	2
14	MP2A	Z	-59.808	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Z	-59.808	4
18	MP2A	Mx	0	4
19	MP1A	X	0	5
20	MP1A	Z	-14.006	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
21	MP1A	Mx	0	5
22	OVP	X	0	.5
23	OVP	Z	-143.463	.5
24	OVP	Mx	0	.5
25	MP1A	X	0	2
26	MP1A	Z	-70.785	2
27	MP1A	Mx	0	2
28	MP3A	X	0	2
29	MP3A	Z	-58.672	2
30	MP3A	Mx	0	2
31	MP4A	X	0	1
32	MP4A	Z	-137.407	1
33	MP4A	Mx	0	1
34	MP4A	X	0	5
35	MP4A	Z	-137.407	5
36	MP4A	Mx	0	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	78.813	1
2	MP1A	Z	-136.509	1
3	MP1A	Mx	-.039	1
4	MP1A	X	78.813	5
5	MP1A	Z	-136.509	5
6	MP1A	Mx	-.039	5
7	MP3A	X	78.813	1
8	MP3A	Z	-136.509	1
9	MP3A	Mx	-.039	1
10	MP3A	X	78.813	5
11	MP3A	Z	-136.509	5
12	MP3A	Mx	-.039	5
13	MP2A	X	25.054	2
14	MP2A	Z	-43.395	2
15	MP2A	Mx	-.013	2
16	MP2A	X	25.054	4
17	MP2A	Z	-43.395	4
18	MP2A	Mx	-.013	4
19	MP1A	X	6.463	5
20	MP1A	Z	-11.195	5
21	MP1A	Mx	.002	5
22	OVP	X	65.669	.5
23	OVP	Z	-113.742	.5
24	OVP	Mx	0	.5
25	MP1A	X	32.577	2
26	MP1A	Z	-56.426	2
27	MP1A	Mx	.011	2
28	MP3A	X	26.923	2
29	MP3A	Z	-46.632	2
30	MP3A	Mx	.009	2
31	MP4A	X	61.074	1
32	MP4A	Z	-105.783	1
33	MP4A	Mx	-.031	1
34	MP4A	X	61.074	5
35	MP4A	Z	-105.783	5
36	MP4A	Mx	-.031	5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	110.884	1
2	MP1A	Z	-64.019	1
3	MP1A	Mx	-.055	1
4	MP1A	X	110.884	5
5	MP1A	Z	-64.019	5
6	MP1A	Mx	-.055	5
7	MP3A	X	110.884	1
8	MP3A	Z	-64.019	1
9	MP3A	Mx	-.055	1
10	MP3A	X	110.884	5
11	MP3A	Z	-64.019	5
12	MP3A	Mx	-.055	5
13	MP2A	X	26.594	2
14	MP2A	Z	-15.354	2
15	MP2A	Mx	-.013	2
16	MP2A	X	26.594	4
17	MP2A	Z	-15.354	4
18	MP2A	Mx	-.013	4
19	MP1A	X	9.326	5
20	MP1A	Z	-5.385	5
21	MP1A	Mx	.003	5
22	OVP	X	92.74	.5
23	OVP	Z	-53.543	.5
24	OVP	Mx	0	.5
25	MP1A	X	46.673	2
26	MP1A	Z	-26.947	2
27	MP1A	Mx	.016	2
28	MP3A	X	38.273	2
29	MP3A	Z	-22.097	2
30	MP3A	Mx	.013	2
31	MP4A	X	79.353	1
32	MP4A	Z	-45.814	1
33	MP4A	Mx	-.04	1
34	MP4A	X	79.353	5
35	MP4A	Z	-45.814	5
36	MP4A	Mx	-.04	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	113.244	1
2	MP1A	Z	0	1
3	MP1A	Mx	-.057	1
4	MP1A	X	113.244	5
5	MP1A	Z	0	5
6	MP1A	Mx	-.057	5
7	MP3A	X	113.244	1
8	MP3A	Z	0	1
9	MP3A	Mx	-.057	1
10	MP3A	X	113.244	5
11	MP3A	Z	0	5
12	MP3A	Mx	-.057	5
13	MP2A	X	21.008	2
14	MP2A	Z	0	2
15	MP2A	Mx	-.011	2
16	MP2A	X	21.008	4
17	MP2A	Z	0	4

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
18	MP2A	Mx	-.011	4
19	MP1A	X	9.69	5
20	MP1A	Z	0	5
21	MP1A	Mx	.003	5
22	OVP	X	94.961	.5
23	OVP	Z	0	.5
24	OVP	Mx	0	.5
25	MP1A	X	48.263	2
26	MP1A	Z	0	2
27	MP1A	Mx	.016	2
28	MP3A	X	39.367	2
29	MP3A	Z	0	2
30	MP3A	Mx	.013	2
31	MP4A	X	76.369	1
32	MP4A	Z	0	1
33	MP4A	Mx	-.038	1
34	MP4A	X	76.369	5
35	MP4A	Z	0	5
36	MP4A	Mx	-.038	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	110.884	1
2	MP1A	Z	64.019	1
3	MP1A	Mx	-.055	1
4	MP1A	X	110.884	5
5	MP1A	Z	64.019	5
6	MP1A	Mx	-.055	5
7	MP3A	X	110.884	1
8	MP3A	Z	64.019	1
9	MP3A	Mx	-.055	1
10	MP3A	X	110.884	5
11	MP3A	Z	64.019	5
12	MP3A	Mx	-.055	5
13	MP2A	X	26.594	2
14	MP2A	Z	15.354	2
15	MP2A	Mx	-.013	2
16	MP2A	X	26.594	4
17	MP2A	Z	15.354	4
18	MP2A	Mx	-.013	4
19	MP1A	X	9.326	5
20	MP1A	Z	5.385	5
21	MP1A	Mx	.003	5
22	OVP	X	92.74	.5
23	OVP	Z	53.543	.5
24	OVP	Mx	0	.5
25	MP1A	X	46.673	2
26	MP1A	Z	26.947	2
27	MP1A	Mx	.016	2
28	MP3A	X	38.273	2
29	MP3A	Z	22.097	2
30	MP3A	Mx	.013	2
31	MP4A	X	79.353	1
32	MP4A	Z	45.814	1
33	MP4A	Mx	-.04	1
34	MP4A	X	79.353	5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
35	MP4A	Z	45.814	5
36	MP4A	Mx	-.04	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	78.813	1
2	MP1A	Z	136.509	1
3	MP1A	Mx	-.039	1
4	MP1A	X	78.813	5
5	MP1A	Z	136.509	5
6	MP1A	Mx	-.039	5
7	MP3A	X	78.813	1
8	MP3A	Z	136.509	1
9	MP3A	Mx	-.039	1
10	MP3A	X	78.813	5
11	MP3A	Z	136.509	5
12	MP3A	Mx	-.039	5
13	MP2A	X	25.054	2
14	MP2A	Z	43.395	2
15	MP2A	Mx	-.013	2
16	MP2A	X	25.054	4
17	MP2A	Z	43.395	4
18	MP2A	Mx	-.013	4
19	MP1A	X	6.463	5
20	MP1A	Z	11.195	5
21	MP1A	Mx	.002	5
22	OVP	X	65.669	.5
23	OVP	Z	113.742	.5
24	OVP	Mx	0	.5
25	MP1A	X	32.577	2
26	MP1A	Z	56.426	2
27	MP1A	Mx	.011	2
28	MP3A	X	26.923	2
29	MP3A	Z	46.632	2
30	MP3A	Mx	.009	2
31	MP4A	X	61.074	1
32	MP4A	Z	105.783	1
33	MP4A	Mx	-.031	1
34	MP4A	X	61.074	5
35	MP4A	Z	105.783	5
36	MP4A	Mx	-.031	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	0	1
2	MP1A	Z	172.421	1
3	MP1A	Mx	0	1
4	MP1A	X	0	5
5	MP1A	Z	172.421	5
6	MP1A	Mx	0	5
7	MP3A	X	0	1
8	MP3A	Z	172.421	1
9	MP3A	Mx	0	1
10	MP3A	X	0	5
11	MP3A	Z	172.421	5
12	MP3A	Mx	0	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
13	MP2A	X	0	2
14	MP2A	Z	59.808	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Z	59.808	4
18	MP2A	Mx	0	4
19	MP1A	X	0	5
20	MP1A	Z	14.006	5
21	MP1A	Mx	0	5
22	OVP	X	0	.5
23	OVP	Z	143.463	.5
24	OVP	Mx	0	.5
25	MP1A	X	0	2
26	MP1A	Z	70.785	2
27	MP1A	Mx	0	2
28	MP3A	X	0	2
29	MP3A	Z	58.672	2
30	MP3A	Mx	0	2
31	MP4A	X	0	1
32	MP4A	Z	137.407	1
33	MP4A	Mx	0	1
34	MP4A	X	0	5
35	MP4A	Z	137.407	5
36	MP4A	Mx	0	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-78.813	1
2	MP1A	Z	136.509	1
3	MP1A	Mx	.039	1
4	MP1A	X	-78.813	5
5	MP1A	Z	136.509	5
6	MP1A	Mx	.039	5
7	MP3A	X	-78.813	1
8	MP3A	Z	136.509	1
9	MP3A	Mx	.039	1
10	MP3A	X	-78.813	5
11	MP3A	Z	136.509	5
12	MP3A	Mx	.039	5
13	MP2A	X	-25.054	2
14	MP2A	Z	43.395	2
15	MP2A	Mx	.013	2
16	MP2A	X	-25.054	4
17	MP2A	Z	43.395	4
18	MP2A	Mx	.013	4
19	MP1A	X	-6.463	5
20	MP1A	Z	11.195	5
21	MP1A	Mx	-.002	5
22	OVP	X	-65.669	.5
23	OVP	Z	113.742	.5
24	OVP	Mx	0	.5
25	MP1A	X	-32.577	2
26	MP1A	Z	56.426	2
27	MP1A	Mx	-.011	2
28	MP3A	X	-26.923	2
29	MP3A	Z	46.632	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
30	MP3A	Mx	-.009	2
31	MP4A	X	-61.074	1
32	MP4A	Z	105.783	1
33	MP4A	Mx	.031	1
34	MP4A	X	-61.074	5
35	MP4A	Z	105.783	5
36	MP4A	Mx	.031	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-110.884	1
2	MP1A	Z	64.019	1
3	MP1A	Mx	.055	1
4	MP1A	X	-110.884	5
5	MP1A	Z	64.019	5
6	MP1A	Mx	.055	5
7	MP3A	X	-110.884	1
8	MP3A	Z	64.019	1
9	MP3A	Mx	.055	1
10	MP3A	X	-110.884	5
11	MP3A	Z	64.019	5
12	MP3A	Mx	.055	5
13	MP2A	X	-26.594	2
14	MP2A	Z	15.354	2
15	MP2A	Mx	.013	2
16	MP2A	X	-26.594	4
17	MP2A	Z	15.354	4
18	MP2A	Mx	.013	4
19	MP1A	X	-9.326	5
20	MP1A	Z	5.385	5
21	MP1A	Mx	-.003	5
22	OVP	X	-92.74	.5
23	OVP	Z	53.543	.5
24	OVP	Mx	0	.5
25	MP1A	X	-46.673	2
26	MP1A	Z	26.947	2
27	MP1A	Mx	-.016	2
28	MP3A	X	-38.273	2
29	MP3A	Z	22.097	2
30	MP3A	Mx	-.013	2
31	MP4A	X	-79.353	1
32	MP4A	Z	45.814	1
33	MP4A	Mx	.04	1
34	MP4A	X	-79.353	5
35	MP4A	Z	45.814	5
36	MP4A	Mx	.04	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-113.244	1
2	MP1A	Z	0	1
3	MP1A	Mx	.057	1
4	MP1A	X	-113.244	5
5	MP1A	Z	0	5
6	MP1A	Mx	.057	5
7	MP3A	X	-113.244	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
8	MP3A	Z	0	1
9	MP3A	Mx	.057	1
10	MP3A	X	-113.244	5
11	MP3A	Z	0	5
12	MP3A	Mx	.057	5
13	MP2A	X	-21.008	2
14	MP2A	Z	0	2
15	MP2A	Mx	.011	2
16	MP2A	X	-21.008	4
17	MP2A	Z	0	4
18	MP2A	Mx	.011	4
19	MP1A	X	-9.69	5
20	MP1A	Z	0	5
21	MP1A	Mx	-.003	5
22	OVP	X	-94.961	.5
23	OVP	Z	0	.5
24	OVP	Mx	0	.5
25	MP1A	X	-48.263	2
26	MP1A	Z	0	2
27	MP1A	Mx	-.016	2
28	MP3A	X	-39.367	2
29	MP3A	Z	0	2
30	MP3A	Mx	-.013	2
31	MP4A	X	-76.369	1
32	MP4A	Z	0	1
33	MP4A	Mx	.038	1
34	MP4A	X	-76.369	5
35	MP4A	Z	0	5
36	MP4A	Mx	.038	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	-110.884	1
2	MP1A	Z	-64.019	1
3	MP1A	Mx	.055	1
4	MP1A	X	-110.884	5
5	MP1A	Z	-64.019	5
6	MP1A	Mx	.055	5
7	MP3A	X	-110.884	1
8	MP3A	Z	-64.019	1
9	MP3A	Mx	.055	1
10	MP3A	X	-110.884	5
11	MP3A	Z	-64.019	5
12	MP3A	Mx	.055	5
13	MP2A	X	-26.594	2
14	MP2A	Z	-15.354	2
15	MP2A	Mx	.013	2
16	MP2A	X	-26.594	4
17	MP2A	Z	-15.354	4
18	MP2A	Mx	.013	4
19	MP1A	X	-9.326	5
20	MP1A	Z	-5.385	5
21	MP1A	Mx	-.003	5
22	OVP	X	-92.74	.5
23	OVP	Z	-53.543	.5
24	OVP	Mx	0	.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
25	MP1A	X	-46.673	2
26	MP1A	Z	-26.947	2
27	MP1A	Mx	-.016	2
28	MP3A	X	-38.273	2
29	MP3A	Z	-22.097	2
30	MP3A	Mx	-.013	2
31	MP4A	X	-79.353	1
32	MP4A	Z	-45.814	1
33	MP4A	Mx	.04	1
34	MP4A	X	-79.353	5
35	MP4A	Z	-45.814	5
36	MP4A	Mx	.04	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-78.813	1
2	MP1A	Z	-136.509	1
3	MP1A	Mx	.039	1
4	MP1A	X	-78.813	5
5	MP1A	Z	-136.509	5
6	MP1A	Mx	.039	5
7	MP3A	X	-78.813	1
8	MP3A	Z	-136.509	1
9	MP3A	Mx	.039	1
10	MP3A	X	-78.813	5
11	MP3A	Z	-136.509	5
12	MP3A	Mx	.039	5
13	MP2A	X	-25.054	2
14	MP2A	Z	-43.395	2
15	MP2A	Mx	.013	2
16	MP2A	X	-25.054	4
17	MP2A	Z	-43.395	4
18	MP2A	Mx	.013	4
19	MP1A	X	-6.463	5
20	MP1A	Z	-11.195	5
21	MP1A	Mx	-.002	5
22	OVP	X	-65.669	.5
23	OVP	Z	-113.742	.5
24	OVP	Mx	0	.5
25	MP1A	X	-32.577	2
26	MP1A	Z	-56.426	2
27	MP1A	Mx	-.011	2
28	MP3A	X	-26.923	2
29	MP3A	Z	-46.632	2
30	MP3A	Mx	-.009	2
31	MP4A	X	-61.074	1
32	MP4A	Z	-105.783	1
33	MP4A	Mx	.031	1
34	MP4A	X	-61.074	5
35	MP4A	Z	-105.783	5
36	MP4A	Mx	.031	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	0	1
2	MP1A	Z	-29.98	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
3	MP1A	Mx	0	1
4	MP1A	X	0	5
5	MP1A	Z	-29.98	5
6	MP1A	Mx	0	5
7	MP3A	X	0	1
8	MP3A	Z	-29.98	1
9	MP3A	Mx	0	1
10	MP3A	X	0	5
11	MP3A	Z	-29.98	5
12	MP3A	Mx	0	5
13	MP2A	X	0	2
14	MP2A	Z	-12.968	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Z	-12.968	4
18	MP2A	Mx	0	4
19	MP1A	X	0	5
20	MP1A	Z	-3.179	5
21	MP1A	Mx	0	5
22	OVP	X	0	.5
23	OVP	Z	-25.783	.5
24	OVP	Mx	0	.5
25	MP1A	X	0	2
26	MP1A	Z	-13.338	2
27	MP1A	Mx	0	2
28	MP3A	X	0	2
29	MP3A	Z	-13.338	2
30	MP3A	Mx	0	2
31	MP4A	X	0	1
32	MP4A	Z	-24.166	1
33	MP4A	Mx	0	1
34	MP4A	X	0	5
35	MP4A	Z	-24.166	5
36	MP4A	Mx	0	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	13.79	1
2	MP1A	Z	-23.886	1
3	MP1A	Mx	-.007	1
4	MP1A	X	13.79	5
5	MP1A	Z	-23.886	5
6	MP1A	Mx	-.007	5
7	MP3A	X	13.79	1
8	MP3A	Z	-23.886	1
9	MP3A	Mx	-.007	1
10	MP3A	X	13.79	5
11	MP3A	Z	-23.886	5
12	MP3A	Mx	-.007	5
13	MP2A	X	5.541	2
14	MP2A	Z	-9.598	2
15	MP2A	Mx	-.003	2
16	MP2A	X	5.541	4
17	MP2A	Z	-9.598	4
18	MP2A	Mx	-.003	4
19	MP1A	X	1.489	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
20	MP1A	Z	-2.579	5
21	MP1A	Mx	.000496	5
22	OVP	X	11.865	.5
23	OVP	Z	-20.551	.5
24	OVP	Mx	0	.5
25	MP1A	X	6.178	2
26	MP1A	Z	-10.7	2
27	MP1A	Mx	.002	2
28	MP3A	X	6.157	2
29	MP3A	Z	-10.664	2
30	MP3A	Mx	.002	2
31	MP4A	X	10.841	1
32	MP4A	Z	-18.777	1
33	MP4A	Mx	-.005	1
34	MP4A	X	10.841	5
35	MP4A	Z	-18.777	5
36	MP4A	Mx	-.005	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft,%]
1	MP1A	X	19.73	1
2	MP1A	Z	-11.391	1
3	MP1A	Mx	-.01	1
4	MP1A	X	19.73	5
5	MP1A	Z	-11.391	5
6	MP1A	Mx	-.01	5
7	MP3A	X	19.73	1
8	MP3A	Z	-11.391	1
9	MP3A	Mx	-.01	1
10	MP3A	X	19.73	5
11	MP3A	Z	-11.391	5
12	MP3A	Mx	-.01	5
13	MP2A	X	6.334	2
14	MP2A	Z	-3.657	2
15	MP2A	Mx	-.003	2
16	MP2A	X	6.334	4
17	MP2A	Z	-3.657	4
18	MP2A	Mx	-.003	4
19	MP1A	X	2.229	5
20	MP1A	Z	-1.287	5
21	MP1A	Mx	.000743	5
22	OVP	X	16.997	.5
23	OVP	Z	-9.813	.5
24	OVP	Mx	0	.5
25	MP1A	X	8.998	2
26	MP1A	Z	-5.195	2
27	MP1A	Mx	.003	2
28	MP3A	X	8.892	2
29	MP3A	Z	-5.134	2
30	MP3A	Mx	.003	2
31	MP4A	X	14.473	1
32	MP4A	Z	-8.356	1
33	MP4A	Mx	-.007	1
34	MP4A	X	14.473	5
35	MP4A	Z	-8.356	5
36	MP4A	Mx	-.007	5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	20.382	1
2	MP1A	Z	0	1
3	MP1A	Mx	-.01	1
4	MP1A	X	20.382	5
5	MP1A	Z	0	5
6	MP1A	Mx	-.01	5
7	MP3A	X	20.382	1
8	MP3A	Z	0	1
9	MP3A	Mx	-.01	1
10	MP3A	X	20.382	5
11	MP3A	Z	0	5
12	MP3A	Mx	-.01	5
13	MP2A	X	5.429	2
14	MP2A	Z	0	2
15	MP2A	Mx	-.003	2
16	MP2A	X	5.429	4
17	MP2A	Z	0	4
18	MP2A	Mx	-.003	4
19	MP1A	X	2.371	5
20	MP1A	Z	0	5
21	MP1A	Mx	.00079	5
22	OVP	X	17.574	.5
23	OVP	Z	0	.5
24	OVP	Mx	0	.5
25	MP1A	X	9.407	2
26	MP1A	Z	0	2
27	MP1A	Mx	.003	2
28	MP3A	X	9.244	2
29	MP3A	Z	0	2
30	MP3A	Mx	.003	2
31	MP4A	X	14.228	1
32	MP4A	Z	0	1
33	MP4A	Mx	-.007	1
34	MP4A	X	14.228	5
35	MP4A	Z	0	5
36	MP4A	Mx	-.007	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	19.73	1
2	MP1A	Z	11.391	1
3	MP1A	Mx	-.01	1
4	MP1A	X	19.73	5
5	MP1A	Z	11.391	5
6	MP1A	Mx	-.01	5
7	MP3A	X	19.73	1
8	MP3A	Z	11.391	1
9	MP3A	Mx	-.01	1
10	MP3A	X	19.73	5
11	MP3A	Z	11.391	5
12	MP3A	Mx	-.01	5
13	MP2A	X	6.334	2
14	MP2A	Z	3.657	2
15	MP2A	Mx	-.003	2
16	MP2A	X	6.334	4
17	MP2A	Z	3.657	4

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
18	MP2A	Mx	-.003	4
19	MP1A	X	2.229	5
20	MP1A	Z	1.287	5
21	MP1A	Mx	.000743	5
22	OVP	X	16.997	.5
23	OVP	Z	9.813	.5
24	OVP	Mx	0	.5
25	MP1A	X	8.998	2
26	MP1A	Z	5.195	2
27	MP1A	Mx	.003	2
28	MP3A	X	8.892	2
29	MP3A	Z	5.134	2
30	MP3A	Mx	.003	2
31	MP4A	X	14.473	1
32	MP4A	Z	8.356	1
33	MP4A	Mx	-.007	1
34	MP4A	X	14.473	5
35	MP4A	Z	8.356	5
36	MP4A	Mx	-.007	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	13.79	1
2	MP1A	Z	23.886	1
3	MP1A	Mx	-.007	1
4	MP1A	X	13.79	5
5	MP1A	Z	23.886	5
6	MP1A	Mx	-.007	5
7	MP3A	X	13.79	1
8	MP3A	Z	23.886	1
9	MP3A	Mx	-.007	1
10	MP3A	X	13.79	5
11	MP3A	Z	23.886	5
12	MP3A	Mx	-.007	5
13	MP2A	X	5.541	2
14	MP2A	Z	9.598	2
15	MP2A	Mx	-.003	2
16	MP2A	X	5.541	4
17	MP2A	Z	9.598	4
18	MP2A	Mx	-.003	4
19	MP1A	X	1.489	5
20	MP1A	Z	2.579	5
21	MP1A	Mx	.000496	5
22	OVP	X	11.865	.5
23	OVP	Z	20.551	.5
24	OVP	Mx	0	.5
25	MP1A	X	6.178	2
26	MP1A	Z	10.7	2
27	MP1A	Mx	.002	2
28	MP3A	X	6.157	2
29	MP3A	Z	10.664	2
30	MP3A	Mx	.002	2
31	MP4A	X	10.841	1
32	MP4A	Z	18.777	1
33	MP4A	Mx	-.005	1
34	MP4A	X	10.841	5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
35	MP4A	Z	18.777	5
36	MP4A	Mx	-.005	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	0	1
2	MP1A	Z	29.98	1
3	MP1A	Mx	0	1
4	MP1A	X	0	5
5	MP1A	Z	29.98	5
6	MP1A	Mx	0	5
7	MP3A	X	0	1
8	MP3A	Z	29.98	1
9	MP3A	Mx	0	1
10	MP3A	X	0	5
11	MP3A	Z	29.98	5
12	MP3A	Mx	0	5
13	MP2A	X	0	2
14	MP2A	Z	12.968	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Z	12.968	4
18	MP2A	Mx	0	4
19	MP1A	X	0	5
20	MP1A	Z	3.179	5
21	MP1A	Mx	0	5
22	OVP	X	0	.5
23	OVP	Z	25.783	.5
24	OVP	Mx	0	.5
25	MP1A	X	0	2
26	MP1A	Z	13.338	2
27	MP1A	Mx	0	2
28	MP3A	X	0	2
29	MP3A	Z	13.338	2
30	MP3A	Mx	0	2
31	MP4A	X	0	1
32	MP4A	Z	24.166	1
33	MP4A	Mx	0	1
34	MP4A	X	0	5
35	MP4A	Z	24.166	5
36	MP4A	Mx	0	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-13.79	1
2	MP1A	Z	23.886	1
3	MP1A	Mx	.007	1
4	MP1A	X	-13.79	5
5	MP1A	Z	23.886	5
6	MP1A	Mx	.007	5
7	MP3A	X	-13.79	1
8	MP3A	Z	23.886	1
9	MP3A	Mx	.007	1
10	MP3A	X	-13.79	5
11	MP3A	Z	23.886	5
12	MP3A	Mx	.007	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
13	MP2A	X	-5.541	2
14	MP2A	Z	9.598	2
15	MP2A	Mx	.003	2
16	MP2A	X	-5.541	4
17	MP2A	Z	9.598	4
18	MP2A	Mx	.003	4
19	MP1A	X	-1.489	5
20	MP1A	Z	2.579	5
21	MP1A	Mx	-.000496	5
22	OVP	X	-11.865	.5
23	OVP	Z	20.551	.5
24	OVP	Mx	0	.5
25	MP1A	X	-6.178	2
26	MP1A	Z	10.7	2
27	MP1A	Mx	-.002	2
28	MP3A	X	-6.157	2
29	MP3A	Z	10.664	2
30	MP3A	Mx	-.002	2
31	MP4A	X	-10.841	1
32	MP4A	Z	18.777	1
33	MP4A	Mx	.005	1
34	MP4A	X	-10.841	5
35	MP4A	Z	18.777	5
36	MP4A	Mx	.005	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-19.73	1
2	MP1A	Z	11.391	1
3	MP1A	Mx	.01	1
4	MP1A	X	-19.73	5
5	MP1A	Z	11.391	5
6	MP1A	Mx	.01	5
7	MP3A	X	-19.73	1
8	MP3A	Z	11.391	1
9	MP3A	Mx	.01	1
10	MP3A	X	-19.73	5
11	MP3A	Z	11.391	5
12	MP3A	Mx	.01	5
13	MP2A	X	-6.334	2
14	MP2A	Z	3.657	2
15	MP2A	Mx	.003	2
16	MP2A	X	-6.334	4
17	MP2A	Z	3.657	4
18	MP2A	Mx	.003	4
19	MP1A	X	-2.229	5
20	MP1A	Z	1.287	5
21	MP1A	Mx	-.000743	5
22	OVP	X	-16.997	.5
23	OVP	Z	9.813	.5
24	OVP	Mx	0	.5
25	MP1A	X	-8.998	2
26	MP1A	Z	5.195	2
27	MP1A	Mx	-.003	2
28	MP3A	X	-8.892	2
29	MP3A	Z	5.134	2



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
30	MP3A	Mx	-.003	2
31	MP4A	X	-14.473	1
32	MP4A	Z	8.356	1
33	MP4A	Mx	.007	1
34	MP4A	X	-14.473	5
35	MP4A	Z	8.356	5
36	MP4A	Mx	.007	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-20.382	1
2	MP1A	Z	0	1
3	MP1A	Mx	.01	1
4	MP1A	X	-20.382	5
5	MP1A	Z	0	5
6	MP1A	Mx	.01	5
7	MP3A	X	-20.382	1
8	MP3A	Z	0	1
9	MP3A	Mx	.01	1
10	MP3A	X	-20.382	5
11	MP3A	Z	0	5
12	MP3A	Mx	.01	5
13	MP2A	X	-5.429	2
14	MP2A	Z	0	2
15	MP2A	Mx	.003	2
16	MP2A	X	-5.429	4
17	MP2A	Z	0	4
18	MP2A	Mx	.003	4
19	MP1A	X	-2.371	5
20	MP1A	Z	0	5
21	MP1A	Mx	-.00079	5
22	OVP	X	-17.574	.5
23	OVP	Z	0	.5
24	OVP	Mx	0	.5
25	MP1A	X	-9.407	2
26	MP1A	Z	0	2
27	MP1A	Mx	-.003	2
28	MP3A	X	-9.244	2
29	MP3A	Z	0	2
30	MP3A	Mx	-.003	2
31	MP4A	X	-14.228	1
32	MP4A	Z	0	1
33	MP4A	Mx	.007	1
34	MP4A	X	-14.228	5
35	MP4A	Z	0	5
36	MP4A	Mx	.007	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-19.73	1
2	MP1A	Z	-11.391	1
3	MP1A	Mx	.01	1
4	MP1A	X	-19.73	5
5	MP1A	Z	-11.391	5
6	MP1A	Mx	.01	5
7	MP3A	X	-19.73	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
8	MP3A	Z	-11.391	1
9	MP3A	Mx	.01	1
10	MP3A	X	-19.73	5
11	MP3A	Z	-11.391	5
12	MP3A	Mx	.01	5
13	MP2A	X	-6.334	2
14	MP2A	Z	-3.657	2
15	MP2A	Mx	.003	2
16	MP2A	X	-6.334	4
17	MP2A	Z	-3.657	4
18	MP2A	Mx	.003	4
19	MP1A	X	-2.229	5
20	MP1A	Z	-1.287	5
21	MP1A	Mx	-.000743	5
22	OVP	X	-16.997	.5
23	OVP	Z	-9.813	.5
24	OVP	Mx	0	.5
25	MP1A	X	-8.998	2
26	MP1A	Z	-5.195	2
27	MP1A	Mx	-.003	2
28	MP3A	X	-8.892	2
29	MP3A	Z	-5.134	2
30	MP3A	Mx	-.003	2
31	MP4A	X	-14.473	1
32	MP4A	Z	-8.356	1
33	MP4A	Mx	.007	1
34	MP4A	X	-14.473	5
35	MP4A	Z	-8.356	5
36	MP4A	Mx	.007	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-13.79	1
2	MP1A	Z	-23.886	1
3	MP1A	Mx	.007	1
4	MP1A	X	-13.79	5
5	MP1A	Z	-23.886	5
6	MP1A	Mx	.007	5
7	MP3A	X	-13.79	1
8	MP3A	Z	-23.886	1
9	MP3A	Mx	.007	1
10	MP3A	X	-13.79	5
11	MP3A	Z	-23.886	5
12	MP3A	Mx	.007	5
13	MP2A	X	-5.541	2
14	MP2A	Z	-9.598	2
15	MP2A	Mx	.003	2
16	MP2A	X	-5.541	4
17	MP2A	Z	-9.598	4
18	MP2A	Mx	.003	4
19	MP1A	X	-1.489	5
20	MP1A	Z	-2.579	5
21	MP1A	Mx	-.000496	5
22	OVP	X	-11.865	.5
23	OVP	Z	-20.551	.5
24	OVP	Mx	0	.5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
25	MP1A	X	-6.178	2
26	MP1A	Z	-10.7	2
27	MP1A	Mx	-.002	2
28	MP3A	X	-6.157	2
29	MP3A	Z	-10.664	2
30	MP3A	Mx	-.002	2
31	MP4A	X	-10.841	1
32	MP4A	Z	-18.777	1
33	MP4A	Mx	.005	1
34	MP4A	X	-10.841	5
35	MP4A	Z	-18.777	5
36	MP4A	Mx	.005	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	0	1
2	MP1A	Z	-9.931	1
3	MP1A	Mx	0	1
4	MP1A	X	0	5
5	MP1A	Z	-9.931	5
6	MP1A	Mx	0	5
7	MP3A	X	0	1
8	MP3A	Z	-9.931	1
9	MP3A	Mx	0	1
10	MP3A	X	0	5
11	MP3A	Z	-9.931	5
12	MP3A	Mx	0	5
13	MP2A	X	0	2
14	MP2A	Z	-3.445	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Z	-3.445	4
18	MP2A	Mx	0	4
19	MP1A	X	0	5
20	MP1A	Z	-.807	5
21	MP1A	Mx	0	5
22	OVP	X	0	.5
23	OVP	Z	-8.263	.5
24	OVP	Mx	0	.5
25	MP1A	X	0	2
26	MP1A	Z	-4.077	2
27	MP1A	Mx	0	2
28	MP3A	X	0	2
29	MP3A	Z	-3.38	2
30	MP3A	Mx	0	2
31	MP4A	X	0	1
32	MP4A	Z	-7.915	1
33	MP4A	Mx	0	1
34	MP4A	X	0	5
35	MP4A	Z	-7.915	5
36	MP4A	Mx	0	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft. %]
1	MP1A	X	4.54	1
2	MP1A	Z	-7.863	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
3	MP1A	Mx	-0.002	1
4	MP1A	X	4.54	5
5	MP1A	Z	-7.863	5
6	MP1A	Mx	-0.002	5
7	MP3A	X	4.54	1
8	MP3A	Z	-7.863	1
9	MP3A	Mx	-0.002	1
10	MP3A	X	4.54	5
11	MP3A	Z	-7.863	5
12	MP3A	Mx	-0.002	5
13	MP2A	X	1.443	2
14	MP2A	Z	-2.5	2
15	MP2A	Mx	-0.000722	2
16	MP2A	X	1.443	4
17	MP2A	Z	-2.5	4
18	MP2A	Mx	-0.000722	4
19	MP1A	X	.372	5
20	MP1A	Z	-.645	5
21	MP1A	Mx	.000124	5
22	OVP	X	3.783	.5
23	OVP	Z	-6.552	.5
24	OVP	Mx	0	.5
25	MP1A	X	1.876	2
26	MP1A	Z	-3.25	2
27	MP1A	Mx	.000625	2
28	MP3A	X	1.551	2
29	MP3A	Z	-2.686	2
30	MP3A	Mx	.000517	2
31	MP4A	X	3.518	1
32	MP4A	Z	-6.093	1
33	MP4A	Mx	-0.002	1
34	MP4A	X	3.518	5
35	MP4A	Z	-6.093	5
36	MP4A	Mx	-0.002	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	6.387	1
2	MP1A	Z	-3.688	1
3	MP1A	Mx	-0.003	1
4	MP1A	X	6.387	5
5	MP1A	Z	-3.688	5
6	MP1A	Mx	-0.003	5
7	MP3A	X	6.387	1
8	MP3A	Z	-3.688	1
9	MP3A	Mx	-0.003	1
10	MP3A	X	6.387	5
11	MP3A	Z	-3.688	5
12	MP3A	Mx	-0.003	5
13	MP2A	X	1.532	2
14	MP2A	Z	-.884	2
15	MP2A	Mx	-0.000766	2
16	MP2A	X	1.532	4
17	MP2A	Z	-.884	4
18	MP2A	Mx	-0.000766	4
19	MP1A	X	.537	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
20	MP1A	Z	-0.31	5
21	MP1A	Mx	.000179	5
22	OVP	X	5.342	.5
23	OVP	Z	-3.084	.5
24	OVP	Mx	0	.5
25	MP1A	X	2.688	2
26	MP1A	Z	-1.552	2
27	MP1A	Mx	.000896	2
28	MP3A	X	2.205	2
29	MP3A	Z	-1.273	2
30	MP3A	Mx	.000735	2
31	MP4A	X	4.571	1
32	MP4A	Z	-2.639	1
33	MP4A	Mx	-.002	1
34	MP4A	X	4.571	5
35	MP4A	Z	-2.639	5
36	MP4A	Mx	-.002	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	6.523	1
2	MP1A	Z	0	1
3	MP1A	Mx	-.003	1
4	MP1A	X	6.523	5
5	MP1A	Z	0	5
6	MP1A	Mx	-.003	5
7	MP3A	X	6.523	1
8	MP3A	Z	0	1
9	MP3A	Mx	-.003	1
10	MP3A	X	6.523	5
11	MP3A	Z	0	5
12	MP3A	Mx	-.003	5
13	MP2A	X	1.21	2
14	MP2A	Z	0	2
15	MP2A	Mx	-.000605	2
16	MP2A	X	1.21	4
17	MP2A	Z	0	4
18	MP2A	Mx	-.000605	4
19	MP1A	X	.558	5
20	MP1A	Z	0	5
21	MP1A	Mx	.000186	5
22	OVP	X	5.47	.5
23	OVP	Z	0	.5
24	OVP	Mx	0	.5
25	MP1A	X	2.78	2
26	MP1A	Z	0	2
27	MP1A	Mx	.000927	2
28	MP3A	X	2.268	2
29	MP3A	Z	0	2
30	MP3A	Mx	.000756	2
31	MP4A	X	4.399	1
32	MP4A	Z	0	1
33	MP4A	Mx	-.002	1
34	MP4A	X	4.399	5
35	MP4A	Z	0	5
36	MP4A	Mx	-.002	5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	6.387	1
2	MP1A	Z	3.688	1
3	MP1A	Mx	-.003	1
4	MP1A	X	6.387	5
5	MP1A	Z	3.688	5
6	MP1A	Mx	-.003	5
7	MP3A	X	6.387	1
8	MP3A	Z	3.688	1
9	MP3A	Mx	-.003	1
10	MP3A	X	6.387	5
11	MP3A	Z	3.688	5
12	MP3A	Mx	-.003	5
13	MP2A	X	1.532	2
14	MP2A	Z	.884	2
15	MP2A	Mx	-.000766	2
16	MP2A	X	1.532	4
17	MP2A	Z	.884	4
18	MP2A	Mx	-.000766	4
19	MP1A	X	.537	5
20	MP1A	Z	.31	5
21	MP1A	Mx	.000179	5
22	OVP	X	5.342	.5
23	OVP	Z	3.084	.5
24	OVP	Mx	0	.5
25	MP1A	X	2.688	2
26	MP1A	Z	1.552	2
27	MP1A	Mx	.000896	2
28	MP3A	X	2.205	2
29	MP3A	Z	1.273	2
30	MP3A	Mx	.000735	2
31	MP4A	X	4.571	1
32	MP4A	Z	2.639	1
33	MP4A	Mx	-.002	1
34	MP4A	X	4.571	5
35	MP4A	Z	2.639	5
36	MP4A	Mx	-.002	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	4.54	1
2	MP1A	Z	7.863	1
3	MP1A	Mx	-.002	1
4	MP1A	X	4.54	5
5	MP1A	Z	7.863	5
6	MP1A	Mx	-.002	5
7	MP3A	X	4.54	1
8	MP3A	Z	7.863	1
9	MP3A	Mx	-.002	1
10	MP3A	X	4.54	5
11	MP3A	Z	7.863	5
12	MP3A	Mx	-.002	5
13	MP2A	X	1.443	2
14	MP2A	Z	2.5	2
15	MP2A	Mx	-.000722	2
16	MP2A	X	1.443	4
17	MP2A	Z	2.5	4

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
18	MP2A	Mx	-.000722	4
19	MP1A	X	.372	5
20	MP1A	Z	.645	5
21	MP1A	Mx	.000124	5
22	OVP	X	3.783	.5
23	OVP	Z	6.552	.5
24	OVP	Mx	0	.5
25	MP1A	X	1.876	2
26	MP1A	Z	3.25	2
27	MP1A	Mx	.000625	2
28	MP3A	X	1.551	2
29	MP3A	Z	2.686	2
30	MP3A	Mx	.000517	2
31	MP4A	X	3.518	1
32	MP4A	Z	6.093	1
33	MP4A	Mx	-.002	1
34	MP4A	X	3.518	5
35	MP4A	Z	6.093	5
36	MP4A	Mx	-.002	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	0	1
2	MP1A	Z	9.931	1
3	MP1A	Mx	0	1
4	MP1A	X	0	5
5	MP1A	Z	9.931	5
6	MP1A	Mx	0	5
7	MP3A	X	0	1
8	MP3A	Z	9.931	1
9	MP3A	Mx	0	1
10	MP3A	X	0	5
11	MP3A	Z	9.931	5
12	MP3A	Mx	0	5
13	MP2A	X	0	2
14	MP2A	Z	3.445	2
15	MP2A	Mx	0	2
16	MP2A	X	0	4
17	MP2A	Z	3.445	4
18	MP2A	Mx	0	4
19	MP1A	X	0	5
20	MP1A	Z	.807	5
21	MP1A	Mx	0	5
22	OVP	X	0	.5
23	OVP	Z	8.263	.5
24	OVP	Mx	0	.5
25	MP1A	X	0	2
26	MP1A	Z	4.077	2
27	MP1A	Mx	0	2
28	MP3A	X	0	2
29	MP3A	Z	3.38	2
30	MP3A	Mx	0	2
31	MP4A	X	0	1
32	MP4A	Z	7.915	1
33	MP4A	Mx	0	1
34	MP4A	X	0	5



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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
35	MP4A	Z	7.915	5
36	MP4A	Mx	0	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-4.54	1
2	MP1A	Z	7.863	1
3	MP1A	Mx	.002	1
4	MP1A	X	-4.54	5
5	MP1A	Z	7.863	5
6	MP1A	Mx	.002	5
7	MP3A	X	-4.54	1
8	MP3A	Z	7.863	1
9	MP3A	Mx	.002	1
10	MP3A	X	-4.54	5
11	MP3A	Z	7.863	5
12	MP3A	Mx	.002	5
13	MP2A	X	-1.443	2
14	MP2A	Z	2.5	2
15	MP2A	Mx	.000722	2
16	MP2A	X	-1.443	4
17	MP2A	Z	2.5	4
18	MP2A	Mx	.000722	4
19	MP1A	X	-.372	5
20	MP1A	Z	.645	5
21	MP1A	Mx	-.000124	5
22	OVP	X	-3.783	.5
23	OVP	Z	6.552	.5
24	OVP	Mx	0	.5
25	MP1A	X	-1.876	2
26	MP1A	Z	3.25	2
27	MP1A	Mx	-.000625	2
28	MP3A	X	-1.551	2
29	MP3A	Z	2.686	2
30	MP3A	Mx	-.000517	2
31	MP4A	X	-3.518	1
32	MP4A	Z	6.093	1
33	MP4A	Mx	.002	1
34	MP4A	X	-3.518	5
35	MP4A	Z	6.093	5
36	MP4A	Mx	.002	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-6.387	1
2	MP1A	Z	3.688	1
3	MP1A	Mx	.003	1
4	MP1A	X	-6.387	5
5	MP1A	Z	3.688	5
6	MP1A	Mx	.003	5
7	MP3A	X	-6.387	1
8	MP3A	Z	3.688	1
9	MP3A	Mx	.003	1
10	MP3A	X	-6.387	5
11	MP3A	Z	3.688	5
12	MP3A	Mx	.003	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
13	MP2A	X	-1.532	2
14	MP2A	Z	.884	2
15	MP2A	Mx	.000766	2
16	MP2A	X	-1.532	4
17	MP2A	Z	.884	4
18	MP2A	Mx	.000766	4
19	MP1A	X	-.537	5
20	MP1A	Z	.31	5
21	MP1A	Mx	-.000179	5
22	OVP	X	-5.342	.5
23	OVP	Z	3.084	.5
24	OVP	Mx	0	.5
25	MP1A	X	-2.688	2
26	MP1A	Z	1.552	2
27	MP1A	Mx	-.000896	2
28	MP3A	X	-2.205	2
29	MP3A	Z	1.273	2
30	MP3A	Mx	-.000735	2
31	MP4A	X	-4.571	1
32	MP4A	Z	2.639	1
33	MP4A	Mx	.002	1
34	MP4A	X	-4.571	5
35	MP4A	Z	2.639	5
36	MP4A	Mx	.002	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-6.523	1
2	MP1A	Z	0	1
3	MP1A	Mx	.003	1
4	MP1A	X	-6.523	5
5	MP1A	Z	0	5
6	MP1A	Mx	.003	5
7	MP3A	X	-6.523	1
8	MP3A	Z	0	1
9	MP3A	Mx	.003	1
10	MP3A	X	-6.523	5
11	MP3A	Z	0	5
12	MP3A	Mx	.003	5
13	MP2A	X	-1.21	2
14	MP2A	Z	0	2
15	MP2A	Mx	.000605	2
16	MP2A	X	-1.21	4
17	MP2A	Z	0	4
18	MP2A	Mx	.000605	4
19	MP1A	X	-.558	5
20	MP1A	Z	0	5
21	MP1A	Mx	-.000186	5
22	OVP	X	-5.47	.5
23	OVP	Z	0	.5
24	OVP	Mx	0	.5
25	MP1A	X	-2.78	2
26	MP1A	Z	0	2
27	MP1A	Mx	-.000927	2
28	MP3A	X	-2.268	2
29	MP3A	Z	0	2

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
30	MP3A	Mx	-.000756	2
31	MP4A	X	-4.399	1
32	MP4A	Z	0	1
33	MP4A	Mx	.002	1
34	MP4A	X	-4.399	5
35	MP4A	Z	0	5
36	MP4A	Mx	.002	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-6.387	1
2	MP1A	Z	-3.688	1
3	MP1A	Mx	.003	1
4	MP1A	X	-6.387	5
5	MP1A	Z	-3.688	5
6	MP1A	Mx	.003	5
7	MP3A	X	-6.387	1
8	MP3A	Z	-3.688	1
9	MP3A	Mx	.003	1
10	MP3A	X	-6.387	5
11	MP3A	Z	-3.688	5
12	MP3A	Mx	.003	5
13	MP2A	X	-1.532	2
14	MP2A	Z	-.884	2
15	MP2A	Mx	.000766	2
16	MP2A	X	-1.532	4
17	MP2A	Z	-.884	4
18	MP2A	Mx	.000766	4
19	MP1A	X	-.537	5
20	MP1A	Z	-.31	5
21	MP1A	Mx	-.000179	5
22	OVP	X	-5.342	.5
23	OVP	Z	-3.084	.5
24	OVP	Mx	0	.5
25	MP1A	X	-2.688	2
26	MP1A	Z	-1.552	2
27	MP1A	Mx	-.000896	2
28	MP3A	X	-2.205	2
29	MP3A	Z	-1.273	2
30	MP3A	Mx	-.000735	2
31	MP4A	X	-4.571	1
32	MP4A	Z	-2.639	1
33	MP4A	Mx	.002	1
34	MP4A	X	-4.571	5
35	MP4A	Z	-2.639	5
36	MP4A	Mx	.002	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	-4.54	1
2	MP1A	Z	-7.863	1
3	MP1A	Mx	.002	1
4	MP1A	X	-4.54	5
5	MP1A	Z	-7.863	5
6	MP1A	Mx	.002	5
7	MP3A	X	-4.54	1

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
8	MP3A	Z	-7.863	1
9	MP3A	Mx	.002	1
10	MP3A	X	-4.54	5
11	MP3A	Z	-7.863	5
12	MP3A	Mx	.002	5
13	MP2A	X	-1.443	2
14	MP2A	Z	-2.5	2
15	MP2A	Mx	.000722	2
16	MP2A	X	-1.443	4
17	MP2A	Z	-2.5	4
18	MP2A	Mx	.000722	4
19	MP1A	X	-.372	5
20	MP1A	Z	-.645	5
21	MP1A	Mx	-.000124	5
22	OVP	X	-3.783	.5
23	OVP	Z	-6.552	.5
24	OVP	Mx	0	.5
25	MP1A	X	-1.876	2
26	MP1A	Z	-3.25	2
27	MP1A	Mx	-.000625	2
28	MP3A	X	-1.551	2
29	MP3A	Z	-2.686	2
30	MP3A	Mx	-.000517	2
31	MP4A	X	-3.518	1
32	MP4A	Z	-6.093	1
33	MP4A	Mx	.002	1
34	MP4A	X	-3.518	5
35	MP4A	Z	-6.093	5
36	MP4A	Mx	.002	5

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	M1000	Y	-500	0

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	LIVE1	Y	-500	0

Member Point Loads (BLC 79 : Lv1)

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

Member Point Loads (BLC 80 : Lv2)

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

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	Y	-1.35	1
2	MP1A	My	-.000675	1
3	MP1A	Mz	0	1
4	MP1A	Y	-1.35	5
5	MP1A	My	-.000675	5
6	MP1A	Mz	0	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
7	MP3A	Y	-1.35	1
8	MP3A	My	-.000675	1
9	MP3A	Mz	0	1
10	MP3A	Y	-1.35	5
11	MP3A	My	-.000675	5
12	MP3A	Mz	0	5
13	MP2A	Y	-1.222	2
14	MP2A	My	-.000611	2
15	MP2A	Mz	0	2
16	MP2A	Y	-1.222	4
17	MP2A	My	-.000611	4
18	MP2A	Mz	0	4
19	MP1A	Y	-.887	5
20	MP1A	My	.000296	5
21	MP1A	Mz	0	5
22	OVP	Y	-1.365	.5
23	OVP	My	0	.5
24	OVP	Mz	0	.5
25	MP1A	Y	-3.375	2
26	MP1A	My	.001	2
27	MP1A	Mz	0	2
28	MP3A	Y	-3.187	2
29	MP3A	My	.001	2
30	MP3A	Mz	0	2
31	MP4A	Y	-.41	1
32	MP4A	My	-.000205	1
33	MP4A	Mz	0	1
34	MP4A	Y	-.41	5
35	MP4A	My	-.000205	5
36	MP4A	Mz	0	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	Z	-3.376	1
2	MP1A	Mx	0	1
3	MP1A	Z	-3.376	5
4	MP1A	Mx	0	5
5	MP3A	Z	-3.376	1
6	MP3A	Mx	0	1
7	MP3A	Z	-3.376	5
8	MP3A	Mx	0	5
9	MP2A	Z	-3.056	2
10	MP2A	Mx	0	2
11	MP2A	Z	-3.056	4
12	MP2A	Mx	0	4
13	MP1A	Z	-2.219	5
14	MP1A	Mx	0	5
15	OVP	Z	-3.413	.5
16	OVP	Mx	0	.5
17	MP1A	Z	-8.437	2
18	MP1A	Mx	0	2
19	MP3A	Z	-7.968	2
20	MP3A	Mx	0	2
21	MP4A	Z	-1.024	1
22	MP4A	Mx	0	1
23	MP4A	Z	-1.024	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
24	MP4A	Mx	0	5

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

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft.%]
1	MP1A	X	3.376	1
2	MP1A	Mx	-.002	1
3	MP1A	X	3.376	5
4	MP1A	Mx	-.002	5
5	MP3A	X	3.376	1
6	MP3A	Mx	-.002	1
7	MP3A	X	3.376	5
8	MP3A	Mx	-.002	5
9	MP2A	X	3.056	2
10	MP2A	Mx	-.002	2
11	MP2A	X	3.056	4
12	MP2A	Mx	-.002	4
13	MP1A	X	2.219	5
14	MP1A	Mx	.00074	5
15	OVP	X	3.413	.5
16	OVP	Mx	0	.5
17	MP1A	X	8.437	2
18	MP1A	Mx	.003	2
19	MP3A	X	7.968	2
20	MP3A	Mx	.003	2
21	MP4A	X	1.024	1
22	MP4A	Mx	-.000512	1
23	MP4A	X	1.024	5
24	MP4A	Mx	-.000512	5

Joint Loads and Enforced Displacements

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

Member Area Loads

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

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N1	max	788.891	12	1170.873	18	1537.087	1	-.926	75	3.031	12	.331	6
2		min	-1340.499	5	418.419	72	-1028.146	7	-2.647	18	-3.967	6	-2.553	36
3	N28	max	1057.499	32	612.342	24	423.511	1	-.428	75	4.086	12	.107	6
4		min	-363.935	2	224.602	66	-932.497	7	-1.222	43	-3.218	6	-1.106	25
5	Totals:	max	1183.332	11	1775.631	19	1960.598	1						
6		min	-1183.334	5	644.134	75	-1960.643	7						

Joint Reactions (By Combination)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N1	257.859	569.832	1537.087	-1.039	1.985	-1.751
2	1	N28	-257.876	331.733	423.511	-.501	3.684	-.779

Joint Reactions (By Combination) (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
3	1	Totals:	-0.017	901.565	1960.598		
4	1	COG (ft):	X: -0.969	Y: 1.249	Z: 2.907		
5	2	N1	-506.257	581.699	1214.346	-1.17	-1.255
6	2	N28	-363.935	319.876	292.488	-0.538	1.808
7	2	Totals:	-870.193	901.575	1506.834		
8	2	COG (ft):	X: -0.969	Y: 1.249	Z: 2.907		
9	3	N1	-958.711	591.613	655.057	-1.31	-1.753
10	3	N28	-195.309	309.974	11.143	-0.586	0.032
11	3	Totals:	-1154.02	901.587	666.199		
12	3	COG (ft):	X: -0.969	Y: 1.249	Z: 2.907		
13	4	N1	-1138.387	598.122	211.808	-1.4	-2.552
14	4	N28	-7.175	303.472	-211.677	-0.618	-1.037
15	4	Totals:	-1145.562	901.594	0.131		
16	4	COG (ft):	X: -0.969	Y: 1.249	Z: 2.907		
17	5	N1	-1340.499	604.399	-242.098	-1.494	-3.449
18	5	N28	157.165	297.204	-440.764	-0.653	-2.207
19	5	Totals:	-1183.334	901.603	-682.862		
20	5	COG (ft):	X: -0.969	Y: 1.249	Z: 2.907		
21	6	N1	-1340.03	607.54	-784.837	-1.58	-3.967
22	6	N28	452.931	294.072	-751.134	-0.693	-3.218
23	6	Totals:	-887.099	901.611	-1535.971		0.331
24	6	COG (ft):	X: -0.969	Y: 1.249	Z: 2.907		0.107
25	7	N1	-791.499	602.081	-1028.146	-1.564	-2.87
26	7	N28	791.513	299.531	-932.497	-0.702	-2.695
27	7	Totals:	0.014	901.611	-1960.643		0.255
28	7	COG (ft):	X: -0.969	Y: 1.249	Z: 2.907		0.105
29	8	N1	-22.452	590.706	-709.391	-1.439	-0.717
30	8	N28	892.642	310.895	-797.498	-0.666	-0.789
31	8	Totals:	870.19	901.601	-1506.888		-0.257
32	8	COG (ft):	X: -0.969	Y: 1.249	Z: 2.907		-0.089
33	9	N1	418.942	581.02	-155.239	-1.308	0.832
34	9	N28	735.076	320.57	-511.001	-0.622	0.91
35	9	Totals:	1154.018	901.59	-666.24		-0.301
36	9	COG (ft):	X: -0.969	Y: 1.249	Z: 2.907		
37	10	N1	591.123	574.455	286.743	-1.219	1.611
38	10	N28	554.436	327.128	-286.904	-0.592	1.929
39	10	Totals:	1145.559	901.583	-0.161		-1.094
40	10	COG (ft):	X: -0.969	Y: 1.249	Z: 2.907		-0.444
41	11	N1	787.513	567.947	741.627	-1.123	2.497
42	11	N28	395.82	333.628	-58.787	-0.557	3.06
43	11	Totals:	1183.332	901.575	682.84		-1.437
44	11	COG (ft):	X: -0.969	Y: 1.249	Z: 2.907		-0.597
45	12	N1	788.891	564.388	1289.239	-1.03	3.031
46	12	N28	98.206	337.178	246.711	-0.514	4.086
47	12	Totals:	887.097	901.566	1535.949		-1.781
48	12	COG (ft):	X: -0.969	Y: 1.249	Z: 2.907		-0.762
49	13	N1	-523.799	1164.396	802.476	-2.544	-0.618
50	13	N28	523.793	611.225	-390.591	-1.154	1.782
51	13	Totals:	-0.006	1775.621	411.885		-1.82
52	13	COG (ft):	X: -1.243	Y: 1.209	Z: 2.908		-0.808
53	14	N1	-682.642	1166.455	737.039	-2.568	-1.065
54	14	N28	499.197	609.168	-419.424	-1.161	1.397
55	14	Totals:	-183.445	1775.623	317.615		-1.721
56	14	COG (ft):	X: -1.243	Y: 1.209	Z: 2.908		-0.77
57	15	N1	-778.242	1168.153	622.139	-2.594	-1.397
58	15	N28	531.051	607.473	-479.483	-1.171	1.036
59	15	Totals:	-247.191	1775.626	142.656		-1.613
							-0.725

Joint Reactions (By Combination) (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
60	15	COG (ft):	X: -1.243	Y: 1.209	Z: 2.908			
61	16	N1	-818.806	1169.346	527.426	-2.612	-1.573	-1.54
62	16	N28	569.67	606.281	-527.441	-1.177	.807	-.693
63	16	Totals:	-249.136	1775.627	-.015			
64	16	COG (ft):	X: -1.243	Y: 1.209	Z: 2.908			
65	17	N1	-859.318	1170.456	430.048	-2.63	-1.759	-1.465
66	17	N28	604.441	605.173	-577.172	-1.184	.563	-.66
67	17	Totals:	-254.877	1775.629	-147.124			
68	17	COG (ft):	X: -1.243	Y: 1.209	Z: 2.908			
69	18	N1	-854.64	1170.873	317.353	-2.647	-1.857	-1.395
70	18	N28	666.762	604.758	-642.7	-1.193	.359	-.627
71	18	Totals:	-187.879	1775.631	-325.347			
72	18	COG (ft):	X: -1.243	Y: 1.209	Z: 2.908			
73	19	N1	-740.094	1169.756	267.664	-2.644	-1.627	-1.405
74	19	N28	740.095	605.875	-679.64	-1.194	.461	-.626
75	19	Totals:	0	1775.631	-411.975			
76	19	COG (ft):	X: -1.243	Y: 1.209	Z: 2.908			
77	20	N1	-581.031	1167.718	332.936	-2.619	-1.18	-1.505
78	20	N28	764.47	607.911	-650.641	-1.187	.848	-.664
79	20	Totals:	183.439	1775.629	-317.705			
80	20	COG (ft):	X: -1.243	Y: 1.209	Z: 2.908			
81	21	N1	-485.897	1166.03	447.617	-2.594	-.85	-1.612
82	21	N28	733.082	609.597	-590.363	-1.178	1.206	-.708
83	21	Totals:	247.185	1775.627	-142.746			
84	21	COG (ft):	X: -1.243	Y: 1.209	Z: 2.908			
85	22	N1	-445.679	1164.834	542.271	-2.576	-.675	-1.684
86	22	N28	694.809	610.791	-542.346	-1.171	1.433	-.739
87	22	Totals:	249.13	1775.625	-.075			
88	22	COG (ft):	X: -1.243	Y: 1.209	Z: 2.908			
89	23	N1	-405.419	1163.713	639.696	-2.558	-.49	-1.758
90	23	N28	660.29	611.91	-492.661	-1.164	1.675	-.772
91	23	Totals:	254.871	1775.623	147.035			
92	23	COG (ft):	X: -1.243	Y: 1.209	Z: 2.908			
93	24	N1	-409.997	1163.279	752.601	-2.541	-.391	-1.829
94	24	N28	597.87	612.342	-427.343	-1.156	1.879	-.806
95	24	Totals:	187.873	1775.621	325.258			
96	24	COG (ft):	X: -1.243	Y: 1.209	Z: 2.908			
97	25	N1	-990.964	1075.199	591.812	-2.291	-1.999	-2.55
98	25	N28	990.957	576.35	-478.975	-1.022	2.312	-1.106
99	25	Totals:	-.006	1651.549	112.837			
100	25	COG (ft):	X: -2.819	Y: .682	Z: 2.93			
101	26	N1	-1035.235	1075.838	573.527	-2.298	-2.124	-2.521
102	26	N28	985.104	575.711	-486.824	-1.023	2.204	-1.095
103	26	Totals:	-50.13	1651.549	86.703			
104	26	COG (ft):	X: -2.819	Y: .682	Z: 2.93			
105	27	N1	-1061.073	1076.366	541.65	-2.306	-2.214	-2.491
106	27	N28	994.595	575.183	-503.368	-1.026	2.103	-1.083
107	27	Totals:	-66.478	1651.55	38.282			
108	27	COG (ft):	X: -2.819	Y: .682	Z: 2.93			
109	28	N1	-1071.258	1076.719	516.275	-2.311	-2.259	-2.472
110	28	N28	1005.267	574.831	-516.36	-1.028	2.043	-1.074
111	28	Totals:	-65.991	1651.55	-.085			
112	28	COG (ft):	X: -2.819	Y: .682	Z: 2.93			
113	29	N1	-1082.789	1077.063	490.231	-2.316	-2.311	-2.451
114	29	N28	1014.622	574.488	-529.658	-1.03	1.976	-1.065
115	29	Totals:	-68.167	1651.551	-39.427			
116	29	COG (ft):	X: -2.819	Y: .682	Z: 2.93			

Joint Reactions (By Combination) (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
117	30	N1	-1082.843	1077.228	458.953	-2.32	-2.341	-2.431
118	30	N28	1031.739	574.323	-547.52	-1.032	1.917	-1.056
119	30	Totals:	-51.104	1651.551	-88.566			
120	30	COG (ft):	X: -2.819	Y: .682	Z: 2.93			
121	31	N1	-1051.668	1076.912	444.788	-2.32	-2.279	-2.434
122	31	N28	1051.663	574.639	-557.812	-1.033	1.943	-1.055
123	31	Totals:	-.005	1651.551	-113.024			
124	31	COG (ft):	X: -2.819	Y: .682	Z: 2.93			
125	32	N1	-1007.38	1076.274	463.059	-2.313	-2.155	-2.463
126	32	N28	1057.499	575.276	-549.95	-1.031	2.052	-1.066
127	32	Totals:	50.119	1651.551	-86.89			
128	32	COG (ft):	X: -2.819	Y: .682	Z: 2.93			
129	33	N1	-981.578	1075.747	494.92	-2.305	-2.064	-2.493
130	33	N28	1048.045	575.804	-533.389	-1.028	2.152	-1.079
131	33	Totals:	66.467	1651.55	-38.469			
132	33	COG (ft):	X: -2.819	Y: .682	Z: 2.93			
133	34	N1	-971.418	1075.394	520.291	-2.3	-2.019	-2.512
134	34	N28	1037.398	576.156	-520.393	-1.026	2.212	-1.087
135	34	Totals:	65.98	1651.55	-.102			
136	34	COG (ft):	X: -2.819	Y: .682	Z: 2.93			
137	35	N1	-959.907	1075.049	546.339	-2.295	-1.968	-2.533
138	35	N28	1028.063	576.5	-507.099	-1.024	2.278	-1.096
139	35	Totals:	68.156	1651.549	39.24			
140	35	COG (ft):	X: -2.819	Y: .682	Z: 2.93			
141	36	N1	-959.847	1074.882	577.633	-2.29	-1.937	-2.553
142	36	N28	1010.939	576.666	-489.254	-1.022	2.338	-1.106
143	36	Totals:	51.093	1651.549	88.379			
144	36	COG (ft):	X: -2.819	Y: .682	Z: 2.93			
145	37	N1	34.438	1073.145	444.073	-2.509	.497	-.317
146	37	N28	-34.438	578.448	-331.121	-1.211	-.171	-.163
147	37	Totals:	0	1651.592	112.952			
148	37	COG (ft):	X: .814	Y: .682	Z: 2.93			
149	38	N1	-9.72	1073.821	425.51	-2.516	.372	-.288
150	38	N28	-40.403	577.772	-338.692	-1.213	-.28	-.152
151	38	Totals:	-50.124	1651.593	86.818			
152	38	COG (ft):	X: .814	Y: .682	Z: 2.93			
153	39	N1	-35.471	1074.388	393.353	-2.524	.282	-.258
154	39	N28	-31.001	577.206	-354.956	-1.215	-.38	-.139
155	39	Totals:	-66.472	1651.594	38.397			
156	39	COG (ft):	X: .814	Y: .682	Z: 2.93			
157	40	N1	-45.61	1074.765	367.8	-2.529	.236	-.239
158	40	N28	-20.375	576.829	-367.771	-1.217	-.44	-.131
159	40	Totals:	-65.985	1651.594	.03			
160	40	COG (ft):	X: .814	Y: .682	Z: 2.93			
161	41	N1	-57.092	1075.134	341.568	-2.534	.185	-.219
162	41	N28	-11.069	576.46	-380.881	-1.219	-.507	-.122
163	41	Totals:	-68.16	1651.595	-39.312			
164	41	COG (ft):	X: .814	Y: .682	Z: 2.93			
165	42	N1	-57.115	1075.325	310.114	-2.54	.155	-.199
166	42	N28	6.018	576.27	-398.566	-1.222	-.565	-.113
167	42	Totals:	-51.097	1651.595	-88.452			
168	42	COG (ft):	X: .814	Y: .682	Z: 2.93			
169	43	N1	-25.992	1075.005	295.991	-2.539	.216	-.202
170	43	N28	25.994	576.59	-408.901	-1.222	-.538	-.112
171	43	Totals:	.002	1651.595	-112.91			
172	43	COG (ft):	X: .814	Y: .682	Z: 2.93			
173	44	N1	18.182	1074.33	314.541	-2.531	.341	-.231

Joint Reactions (By Combination) (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
174	44	N28	31.943	577.264	-401.317	-1.22	-.429	-.123
175	44	Totals:	50.125	1651.594	-86.776			
176	44	COG (ft):	X: .814	Y: .682	Z: 2.93			
177	45	N1	43.896	1073.764	346.681	-2.523	.431	-.261
178	45	N28	22.578	577.829	-385.035	-1.217	-.329	-.136
179	45	Totals:	66.474	1651.594	-38.355			
180	45	COG (ft):	X: .814	Y: .682	Z: 2.93			
181	46	N1	54.01	1073.387	372.229	-2.518	.476	-.28
182	46	N28	11.977	578.207	-372.216	-1.216	-.269	-.144
183	46	Totals:	65.987	1651.593	.013			
184	46	COG (ft):	X: .814	Y: .682	Z: 2.93			
185	47	N1	65.473	1073.017	398.464	-2.513	.528	-.301
186	47	N28	2.689	578.576	-359.109	-1.214	-.203	-.153
187	47	Totals:	68.162	1651.593	39.355			
188	47	COG (ft):	X: .814	Y: .682	Z: 2.93			
189	48	N1	65.503	1072.825	429.934	-2.508	.558	-.32
190	48	N28	-14.403	578.768	-341.44	-1.211	-.144	-.163
191	48	Totals:	51.099	1651.592	88.494			
192	48	COG (ft):	X: .814	Y: .682	Z: 2.93			
193	49	N1	-356.541	840.196	337.487	-1.893	-.6	-1.119
194	49	N28	356.539	436.388	-337.51	-.858	.599	-.486
195	49	Totals:	-.002	1276.584	-.023			
196	49	COG (ft):	X: -.978	Y: .882	Z: 2.922			
197	50	N1	30.768	792.731	293.833	-1.856	.353	-.235
198	50	N28	-30.767	483.865	-293.813	-1.014	-.352	-.092
199	50	Totals:	0	1276.595	.02			
200	50	COG (ft):	X: .858	Y: .882	Z: 2.922			
201	51	N1	-316.612	683.967	291.113	-1.527	-.541	-.862
202	51	N28	316.61	367.886	-291.134	-.705	.54	-.388
203	51	Totals:	-.001	1051.853	-.022			
204	51	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
205	52	N1	-267.641	607.509	306.133	-1.349	-.406	-.792
206	52	N28	267.639	326.135	-226.025	-.622	.567	-.355
207	52	Totals:	-.002	933.645	80.109			
208	52	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
209	53	N1	-296.407	607.683	298.503	-1.352	-.481	-.778
210	53	N28	256.335	325.962	-229.127	-.624	.505	-.35
211	53	Totals:	-40.073	933.645	69.375			
212	53	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
213	54	N1	-321.055	607.715	280.132	-1.357	-.556	-.761
214	54	N28	251.65	325.93	-240.08	-.626	.436	-.344
215	54	Totals:	-69.405	933.645	40.052			
216	54	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
217	55	N1	-334.981	607.598	255.94	-1.361	-.611	-.745
218	55	N28	254.838	326.048	-255.952	-.628	.379	-.337
219	55	Totals:	-80.144	933.645	-.011			
220	55	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
221	56	N1	-334.443	607.362	232.414	-1.364	-.631	-.735
222	56	N28	265.039	326.284	-272.49	-.629	.349	-.333
223	56	Totals:	-69.404	933.646	-40.076			
224	56	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
225	57	N1	-319.589	607.07	215.855	-1.364	-.61	-.733
226	57	N28	279.517	326.575	-285.261	-.63	.354	-.332
227	57	Totals:	-40.072	933.646	-69.406			
228	57	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
229	58	N1	-294.4	606.802	210.698	-1.363	-.554	-.739
230	58	N28	294.399	326.844	-290.844	-.63	.392	-.334

Joint Reactions (By Combination) (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]	
231	58	Totals:	0	933.646	-80.147			
232	58	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
233	59	N1	-265.629	606.629	218.326	-1.359	-.478	-.753
234	59	N28	305.7	327.017	-287.74	-.628	.453	-.339
235	59	Totals:	40.07	933.645	-69.414			
236	59	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
237	60	N1	-240.991	606.596	236.693	-1.355	-.403	-.77
238	60	N28	310.393	327.049	-276.783	-.626	.522	-.346
239	60	Totals:	69.402	933.645	-40.09			
240	60	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
241	61	N1	-227.078	606.714	260.882	-1.351	-.349	-.786
242	61	N28	307.219	326.931	-260.909	-.624	.579	-.352
243	61	Totals:	80.141	933.645	-.027			
244	61	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
245	62	N1	-227.62	606.95	284.411	-1.348	-.329	-.796
246	62	N28	297.022	326.695	-244.373	-.623	.609	-.356
247	62	Totals:	69.402	933.644	40.038			
248	62	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
249	63	N1	-242.464	607.241	300.974	-1.347	-.35	-.798
250	63	N28	282.534	326.404	-231.606	-.622	.605	-.358
251	63	Totals:	40.07	933.644	69.367			
252	63	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
253	64	N1	-180.485	419.323	226.044	-.928	-.257	-.554
254	64	N28	180.484	224.812	-145.93	-.428	.418	-.249
255	64	Totals:	-.001	644.134	80.114			
256	64	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
257	65	N1	-209.249	419.498	218.403	-.932	-.332	-.541
258	65	N28	169.177	224.637	-149.021	-.43	.356	-.243
259	65	Totals:	-40.072	644.134	69.381			
260	65	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
261	66	N1	-233.896	419.533	200.019	-.936	-.407	-.524
262	66	N28	164.492	224.602	-159.962	-.432	.288	-.237
263	66	Totals:	-69.404	644.135	40.057			
264	66	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
265	67	N1	-247.823	419.419	175.818	-.94	-.462	-.508
266	67	N28	167.68	224.717	-175.823	-.434	.231	-.23
267	67	Totals:	-80.143	644.135	-.005			
268	67	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
269	68	N1	-247.288	419.186	152.286	-.943	-.482	-.497
270	68	N28	177.884	224.95	-192.356	-.435	.2	-.226
271	68	Totals:	-69.404	644.135	-40.07			
272	68	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
273	69	N1	-232.437	418.897	135.729	-.944	-.461	-.495
274	69	N28	192.365	225.239	-205.129	-.436	.205	-.225
275	69	Totals:	-40.072	644.135	-69.4			
276	69	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
277	70	N1	-207.251	418.629	130.578	-.942	-.405	-.502
278	70	N28	207.251	225.507	-210.719	-.435	.243	-.227
279	70	Totals:	0	644.135	-80.141			
280	70	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
281	71	N1	-178.483	418.454	138.218	-.939	-.33	-.516
282	71	N28	218.554	225.681	-207.625	-.434	.305	-.232
283	71	Totals:	40.071	644.135	-69.408			
284	71	COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
285	72	N1	-153.846	418.419	156.597	-.934	-.254	-.533
286	72	N28	223.249	225.716	-196.681	-.432	.373	-.239
287	72	Totals:	69.403	644.135	-40.084			



Company :
 Designer :
 Job Number :
 Model Name :

Jan 26, 2024
 9:53 AM
 Checked By: _____

Joint Reactions (By Combination) (Continued)

LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
288	72 COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
289	73 N1	-139.932	418.533	180.796	-.93	-.2	-.549
290	73 N28	220.074	225.601	-180.817	-.43	.43	-.245
291	73 Totals:	80.142	644.134	-.021			
292	73 COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
293	74 N1	-140.472	418.766	204.33	-.927	-.18	-.559
294	74 N28	209.874	225.368	-164.286	-.429	.461	-.25
295	74 Totals:	69.402	644.134	40.044			
296	74 COG (ft):	X: -.969	Y: 1.249	Z: 2.907			
297	75 N1	-155.313	419.055	220.891	-.926	-.201	-.561
298	75 N28	195.383	225.079	-151.518	-.428	.456	-.251
299	75 Totals:	40.07	644.134	69.373			
300	75 COG (ft):	X: -.969	Y: 1.249	Z: 2.907			

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

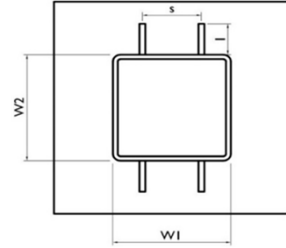
Member	Shape	Code Check	L...	LC	Shear Check	Loc[,Dir	LC	phi*Pn...	phi*Pnt...	phi*Mn...	phi*Mn...	Cb	Eqn	
1	M3	HSS4X4X4	.334	0	30	.146	0	y	36	135236...	139518	16.181	16.181	1...H1-1b
2	M4	PIPE 4.0	.000	....	6	.000	.75		6	92571...	93240	10.631	10.631	1...H1-1b
3	FACE	PIPE 3.0	.392	7...	1	.154	7.161		31	28250...	65205	5.749	5.749	2...H1-1b
4	MP1A	PIPE 2.0	.446	4	1	.088	4		6	20866...	32130	1.872	1.872	2...H1-1b
5	MP3A	PIPE 2.0	.373	1...	30	.060	4		5	20866...	32130	1.872	1.872	2...H1-1b
6	MP4A	PIPE 2.0	.196	1...	30	.040	4		5	20866...	32130	1.872	1.872	2...H1-1b
7	OVP	PIPE 2.0	.124	2	7	.016	2		7	28843...	32130	1.872	1.872	1...H1-1b
8	MP2A	PIPE 2.0	.393	4	30	.158	1.25		7	20866...	32130	1.872	1.872	2...H1-1b
9	M15	HSS3X3X4	.565	0	12	.123	0	z	36	93866...	101016	8.556	8.556	2...H1-1b
10	M16	PIPE 3.0	.662	7...	7	.164	7.161		7	28250...	65205	5.749	5.749	1...H1-1b

Tower Connection Weld Checks

Yes

Weld Shape:
Weld Stiffener Configuration:
Stiffener Notch Present?
Stiffener Length, l (in):
Stiffener Spacing/Width, s (in):
Stiffener Notch Length, n (in):
Weld Size (1/16 in):
W1 (in):
W2 (in):
Weld Total Length (in):
 Z_x (in³/in):
 Z_y (in³/in):
 J_p (in⁴/in):
 c_x (in)
 c_y (in)
Required combined strength (kip/in):
Weld Capacity (kip/in):
Weld Utilization:

Rectangle
(2) Stiffeners on top/bottom
No
1.875
2
4
4
4
31.00
63.37
28.83
226.66
3.875
3.875
1.32
5.57
23.6%



Tower Connection Weld Checks

Weld Shape:
 Weld Stiffener Configuration:
 Weld Size (1/16 in):
 W1 (in):
 W2 (in):
 Weld Total Length (in):
 Z_x (in³/in):
 Z_y (in³/in):
 J_p (in⁴/in):
 c_x (in):
 c_y (in):
 Required combined strength (kip/in):
 Weld Capacity (kip/in):
 Weld Utilization:

Yes
Rectangle
None
5
3
3
12.00
12.00
12.00
36.00
1.75
1.75
4.51
6.96
64.8%

