verizon

PJF PAUL J. FORD & COMPANY

Paul J. Ford and Company
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New Antenna Mount Analysis Report and PMI Requirements

Mount Analysis

SMART Tool Project #: 10240076

Paul J. Ford Project #: A24324-1180.001.7195

June 27, 2024

Site Information	*Site ID:*	*5000954019-VZW / BUSINESS DRIVE*
	Site Name:	*BUSINESS DRIVE*
	Carrier Name:	*Verizon Wireless*
	Address:	*2219 Sauk Trail Road Sheboygan, Wisconsin 53083, Sheboygan County*
	Latitude:	*43.730365°*
	Longitude:	*-87.732356°*
Structure Information	*Tower Type:*	*125-Ft Monopole*
	Mount Type:	*12.50-Ft Platform W/ Support Rails*

FUZE ID # 2612115

Analysis Results

12.50-Ft Platform W/ Support Rails: **20.2% Pass w/ New Install** (RMQP-4096-HK)

***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@pauljford.com

Report Prepared By: Rebekah M Dorris, PE

RMD

WISCONSIN
REBEKAH M. DORRIS
E-47595
COLUMBUS, OHIO
PROFESSIONAL ENGINEER
Rebekah Dorris

06/27/2024

Executive Summary:

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

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

Sources of Information:

Document Type	**Remarks**
Radio Frequency Data Sheet (RFDS)	*Verizon RFDS, 2612115, dated 5/13/2024*
Mount Specification	*RMQP-4096-HK,*

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H	
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT}:	106 mph
	Ice Wind Speed (3-sec. Gust):	40 mph
	Design Ice Thickness:	1.50 in
	Risk Category:	II
	Exposure Category:	C
	Topographic Category:	1
	Topographic Feature Considered:	N/A
	Topographic Method:	N/A
	Ground Elevation Factor, K_e:	0.977
Seismic Parameters:	S_S:	0.060 g
	S_1:	0.041 g
Maintenance Parameters:	Wind Speed (3-sec. Gust):	30 mph
	Maintenance Live Load, Lv:	250 lbs.
	Maintenance Live Load, Lm:	500 lbs.
Analysis Software:	RISA-3D (V17.0.3)	

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
120.00+/-	120.00	3	Ericsson	AIR 6419 B77	Added
		6	Commscope	NHH-65B-R2B	
		3	Ericsson	Radio 4890	
		3	Ericsson	Radio 4490	
		3	Raycap	RVZDC-3315-PF-48	

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

Model Number	Ports	AKA
RHSDC-1064-PF-48	2	OVP-2
RC3DC-3315-PF-48	6	OVP-6
RC3DC-3300-PF-48	6	OVP-6
RC3DC-4750-PF-48	6	OVP-6
RHSDC-6627-PF-48	12	OVP-12
RHSDC-6600-PF-48	12	OVP-12

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to Paul J. Ford and Company 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 Paul J. Ford and Company to verify deviation will not adversely impact the analysis.

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

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

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

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

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

7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
   - Channel, Solid Round, Angle, Unistrut — ASTM A53 (GR 35)
   - Pipe — ASTM A53 (GR 35)
   - HSS (Rectangular), Plate — Q235 Gr B (Fy = 34 ksi, Fu = 58 ksi)
   - HSS (Round) — ASTM A53 (GR 35)
   - Connection Bolts — ASTM A325
   - Threaded Rods — SAE J429 (GR2)
   - U-Bolts — SAE J429 (GR2)

Discrepancies between in-field conditions and the assumptions listed above may render this analysis invalid unless explicitly approved by Paul J. Ford and Company.

Analysis Results:

Component	Utilization %	Pass/Fail
Face Horizontals	*10.3%*	*Pass*
Support Rails	*6.6%*	*Pass*
Grating Support Members	*11.9%*	*Pass*
Standoff Members	*20.2%*	*Pass*
Kick-Brace	*9.5%*	*Pass*
Corner Plates	*13.5%*	*Pass*
Mount Pipes	*11.5%*	*Pass*
Mount to Tower Connection	*16.7%*	*Pass*

Structure Rating – *(Controlling Utilization of all Components)*	**20.2%**

Mount Connection Envelope Reactions:

Connection Description	Elev. AGL (Ft)	Node Label	Envelope Wind Reactions				Envelope Wind + Ice Reactions			
			Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)	Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)
Sector A standoff	121.5	N65	452	3011	0.587	0.969	1169	3910	1.469	0.274
Sector B Standoff	121.5	N172 A	406	2950	0.600	0.898	998	3899	1.408	0.265
Sector C Standoff	121.5	N176 A	402	2943	0.598	0.879	989	3887	1.395	0.260
A Kick brace	189.5	N172C	755	1523	0.000	0.000	1793	3620	0.000	0.000
B Kick brace	189.5	N4_1	755	1522	0.000	0.000	1788	3610	0.000	0.000
C Kick brace	189.5	N7	747	1504	0.000	0.000	1790	3613	0.000	0.000

Notes:
- Axial loads act along the axis of the tower leg
- Lateral reactions act perpendicular to the tower leg
- Moment loads introduce bending moment to the tower leg
- Torsion loads introduce twisting moment to the tower leg

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	28.1	28.1	50.7	50.7
0.5	36.4	36.4	67.1	67.1
1	44.0	44.0	82.8	82.8

Notes:
- (EPA)a values listed above may be used in the absence of more precise information
- (EPA)a values in the table above include 3 sector(s).
- Ka factors included in (EPA)a calculations

Requirements:

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

- Contractor shall install the proposed mount (SitePro1 Part # RMQP-4096-HK) in accordance with manufacture specification and the New Mount Sketch. Contact EOR if these documents are not available.
- Contractor shall install (3) 48" P2.0 STD mount pipes 1'-0" from mount collar on standoff. (3) VZWSMART-MSK6 kit will be required for installation.
- Contractor shall install wire rope guide

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

Attachments:

1. **Contractor Required Post Installation Inspection (PMI) Report Deliverables**
2. Antenna Placement Diagrams
3. Mount Manufacturer Drawings
4. Analysis Calculations

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – New Mount Passing MA

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

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MDG #: 5000954019 SMART Project #: 10240076 Fuze Project ID: 2612115

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

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

Base Requirements:

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

Photo Requirements:

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

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

Antenna & Equipment Placement and Geometry Confirmation:

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

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

OR

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

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

Issue:

- Contractor shall install the proposed mount (SitePro1 Part # RMQP-4096-HK) in accordance with manufacture specification and the New Mount Sketch. Contact EOR if these documents are not available.
- Contractor shall install (3) 48" P2.0 STD mount pipes 1'-0" from mount collar on standoff. (3) VZWSMART-MSK6 kit will be required for installation.
- Contractor shall install wire rope guide

Response:

Special Instruction Confirmation:

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

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

☐ Yes ☐ No

Contractor certifies no new damage created during the current installation:

☐ Yes ☐ No

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

☐ Safety Climb in Good Condition ☐ Safety Climb Damaged

Comments:

New Mount Certification:

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

☐ The contractor notes that the New Mount installed is not as specified and engineering approval was received for the New Mount installed.

Contractor to provide measurement from top of the highest equipment/steel to the bottom of the lowest equipment/steel by documenting it using the most appropriate illustration below along with supporting photos:

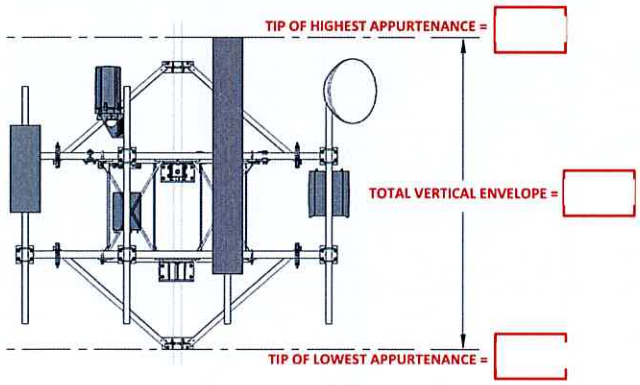


Illustration #1

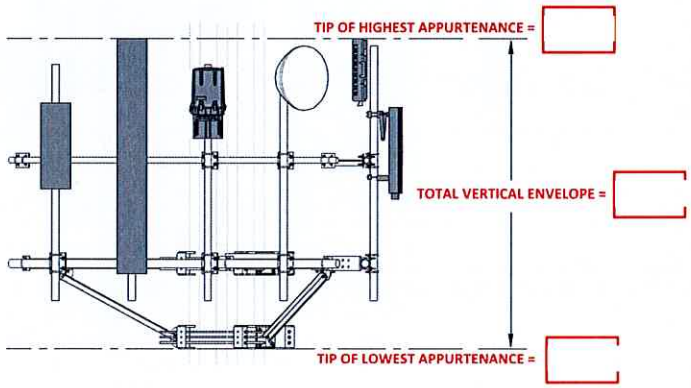
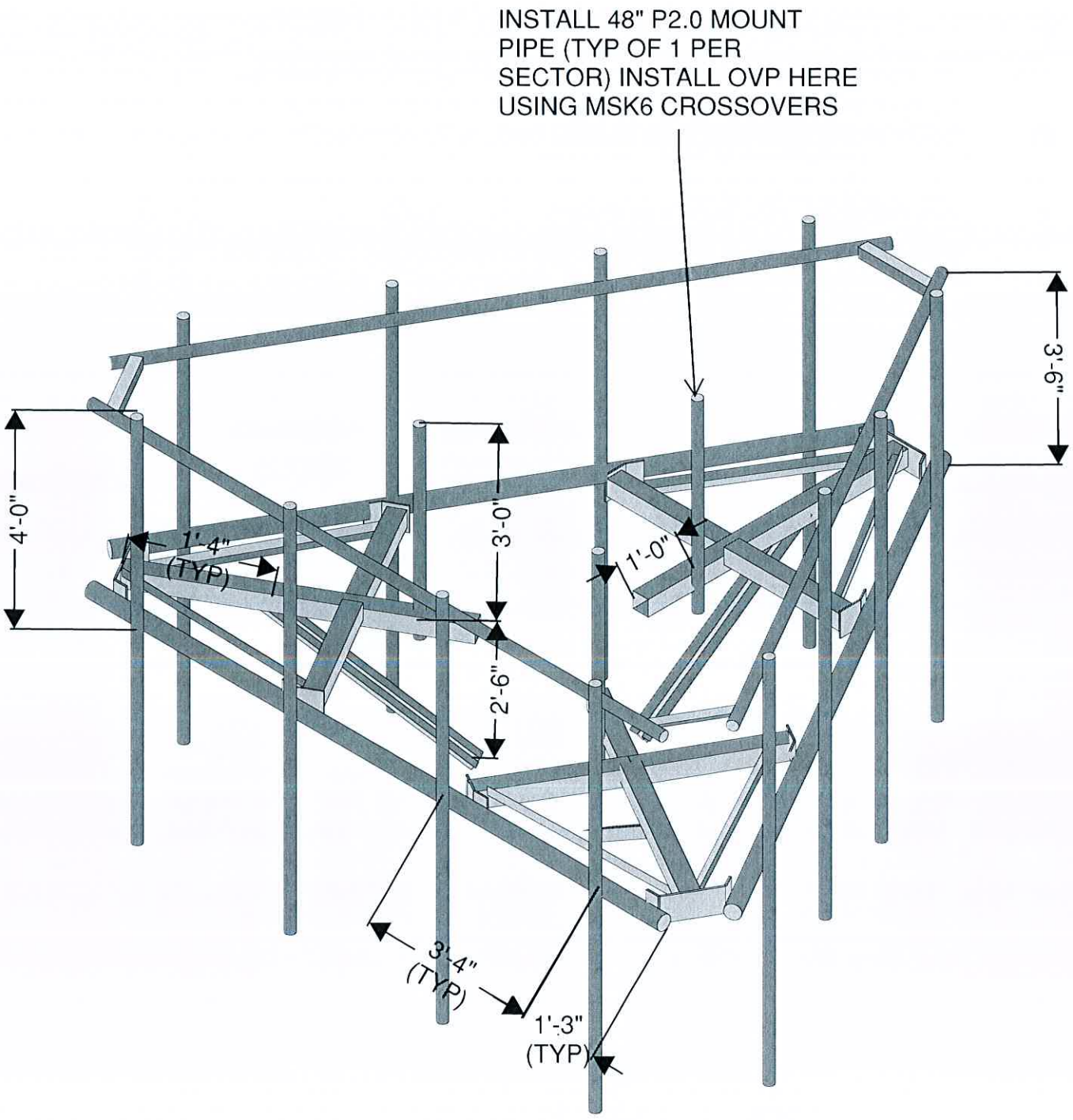


Illustration #2

Certifying Individual:

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

NEW MOUNT SKETCH



MOUNT FRONT ELEVATION VIEW (TYP. ALL SECTORS)

N.T.S.

Sector: A

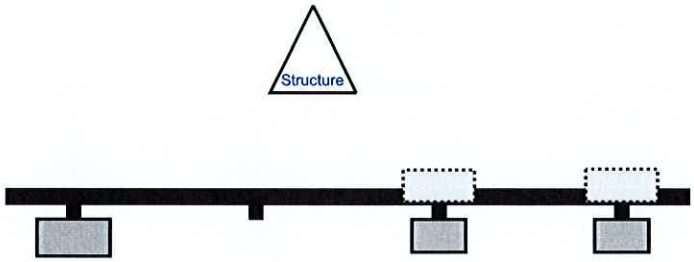
Structure Type: Monopole

Mount Elev: 120.00

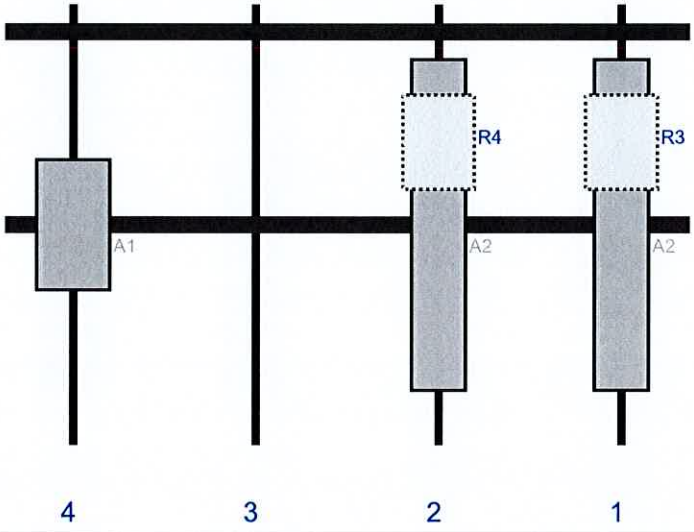
10240076

6/27/2024

Plan View



Front View - Looking at Structure



4 3 2 1

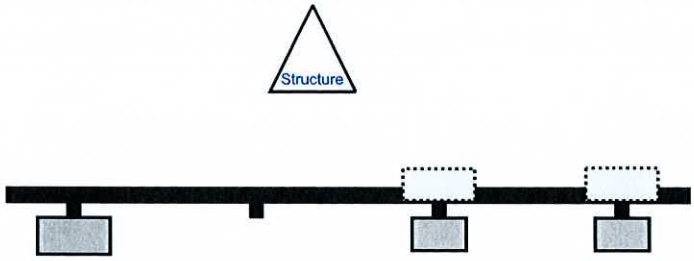
ef#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
2	NHH-65B-R2B	72	11.9	135	1	a	Front	48	0	Added	
3	Radio 4890	20.6	15.7	135	1	a	Behind	30	0	Added	
2	NHH-65B-R2B	72	11.9	95	2	a	Front	48	0	Added	
4	Radio 4490	20.6	15.7	95	2	a	Behind	30	0	Added	
1	AIR 6419 B77	28.3	16.1	15	4	a	Front	48	0	Added	
P5A	RVZDC-3315-PF-48	29.5	16.5		Member					Added	

Sector: B
Structure Type: Monopole
Mount Elev: 120.00

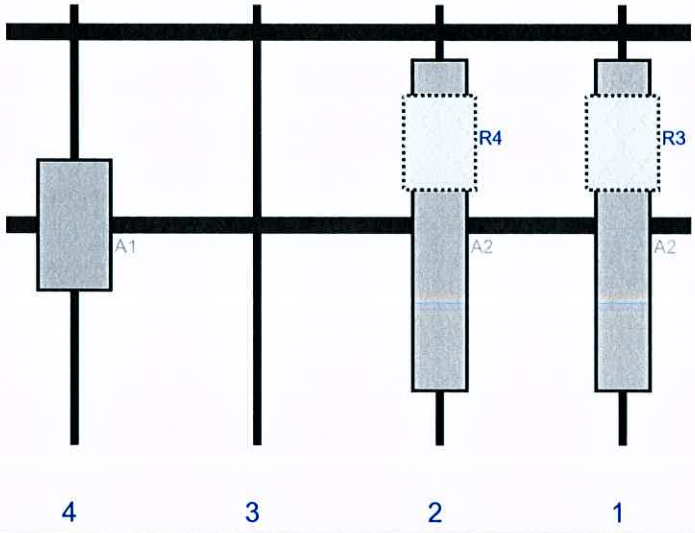
10240076

6/27/2024
Page: 2

Plan View



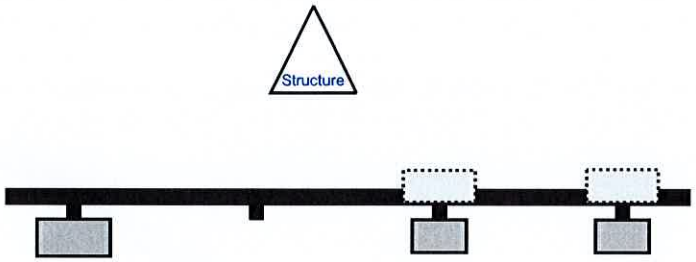
Front View - Looking at Structure



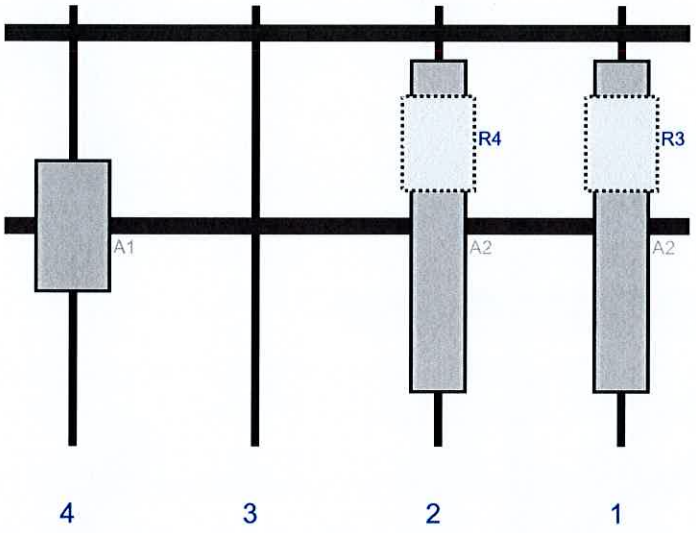
4 3 2 1

Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
R2	NHH-65B-R2B	72	11.9	135	1	a	Front	48	0	Added	
R3	Radio 4890	20.6	15.7	135	1	a	Behind	30	0	Added	
R2	NHH-65B-R2B	72	11.9	95	2	a	Front	48	0	Added	
R4	Radio 4490	20.6	15.7	95	2	a	Behind	30	0	Added	
A1	AIR 6419 B77	28.3	16.1	15	4	a	Front	48	0	Added	
MP5A	RVZDC-3315-PF-48	29.5	16.5		Member					Added	

Plan View

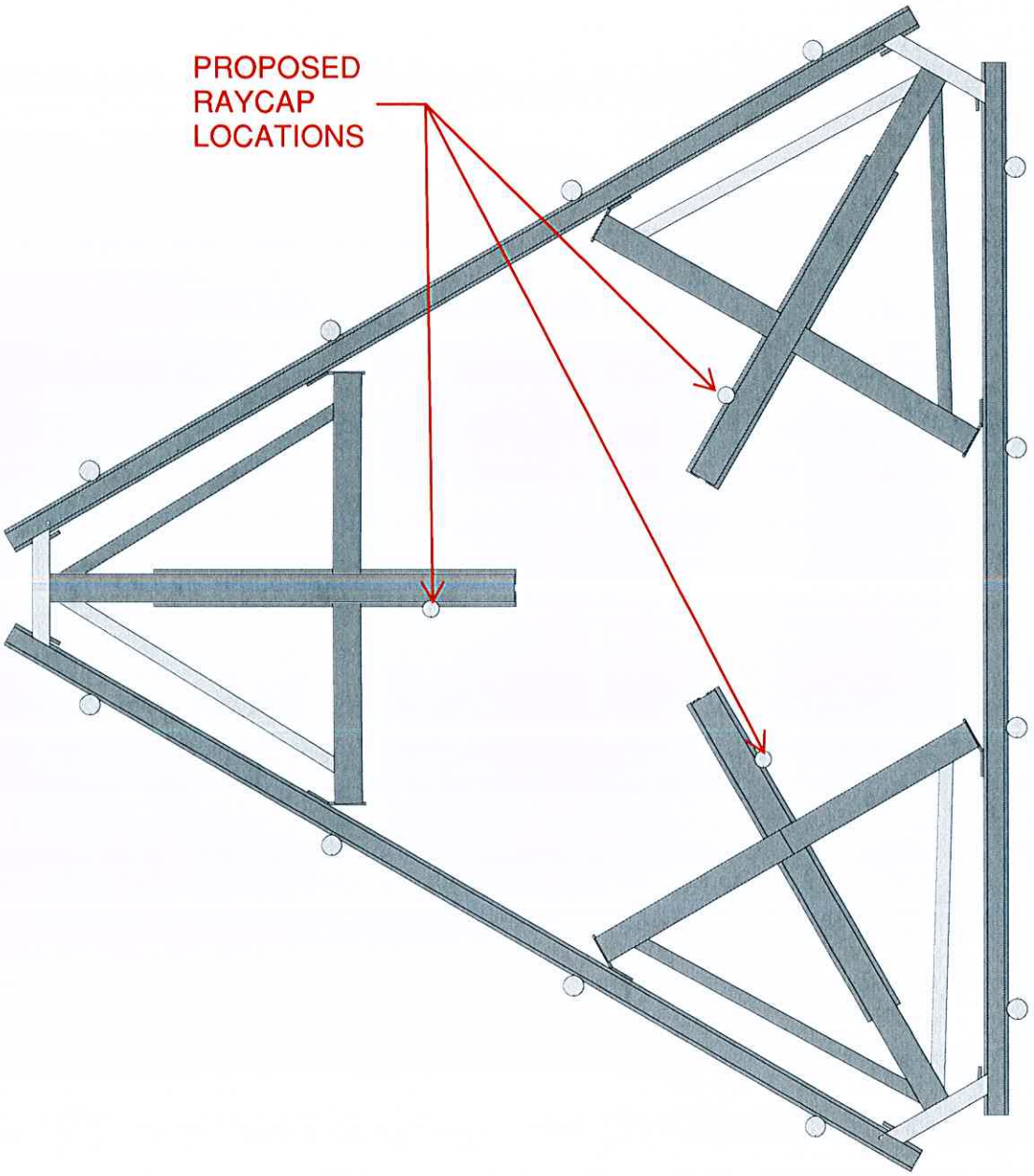


Front View - Looking at Structure



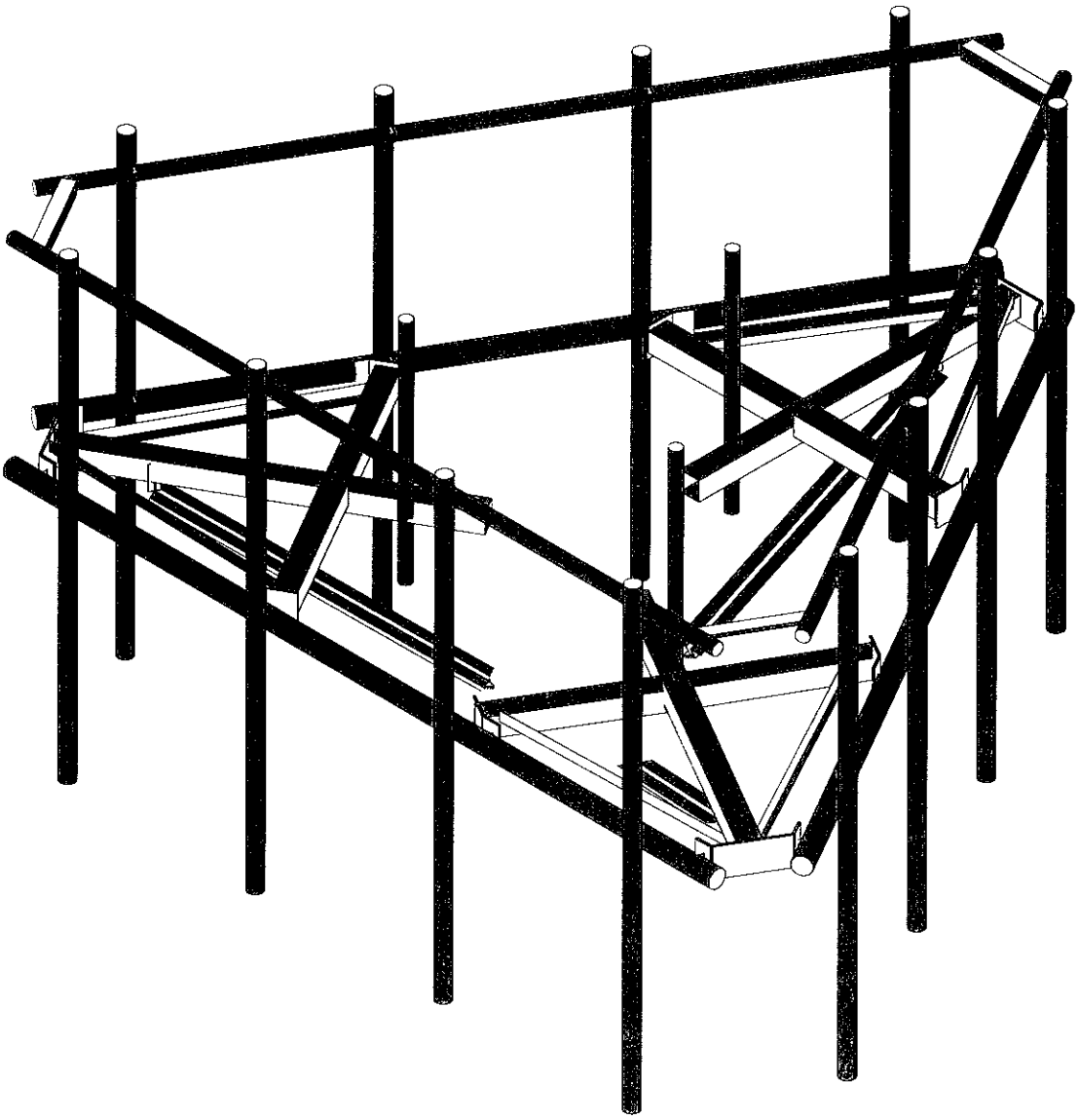
4 3 2 1

ef#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
2	NHH-65B-R2B	72	11.9	135	1	a	Front	48	0	Added	
3	Radio 4890	20.6	15.7	135	1	a	Behind	30	0	Added	
2	NHH-65B-R2B	72	11.9	95	2	a	Front	48	0	Added	
4	Radio 4490	20.6	15.7	95	2	a	Behind	30	0	Added	
1	AIR 6419 B77	28.3	16.1	15	4	a	Front	48	0	Added	
P5A	RVZDC-3315-PF-48	29.5	16.5		Member					Added	



Envelope Only Solution

Paul J. Ford		AL - 1



Tower Engineering Solutio...		SK - 1
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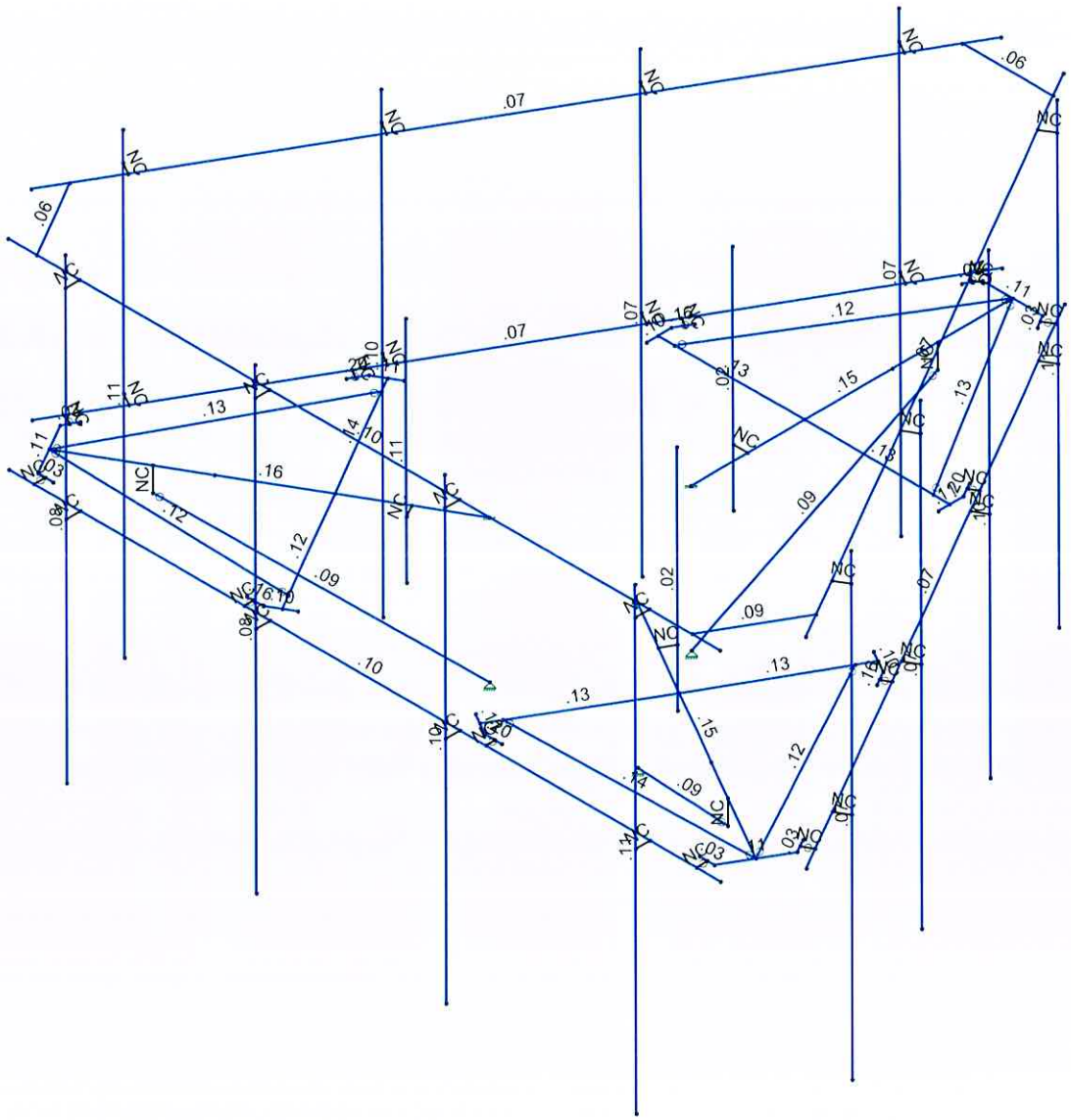
Project No. 10240076		5000954019-VZW_MT_LO_H.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

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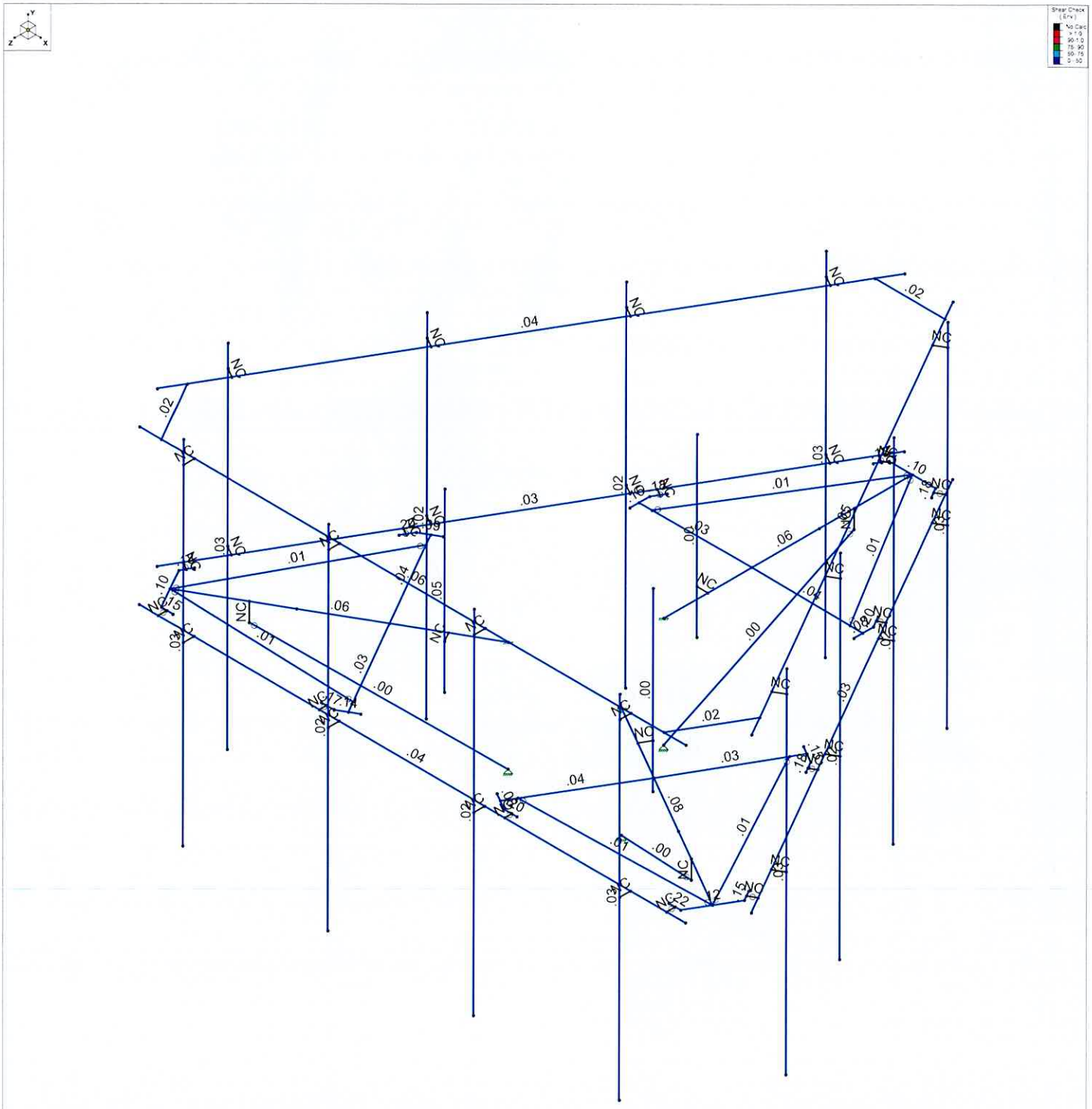
Project No. 10240076		5000954019-VZW_MT_LO_H.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

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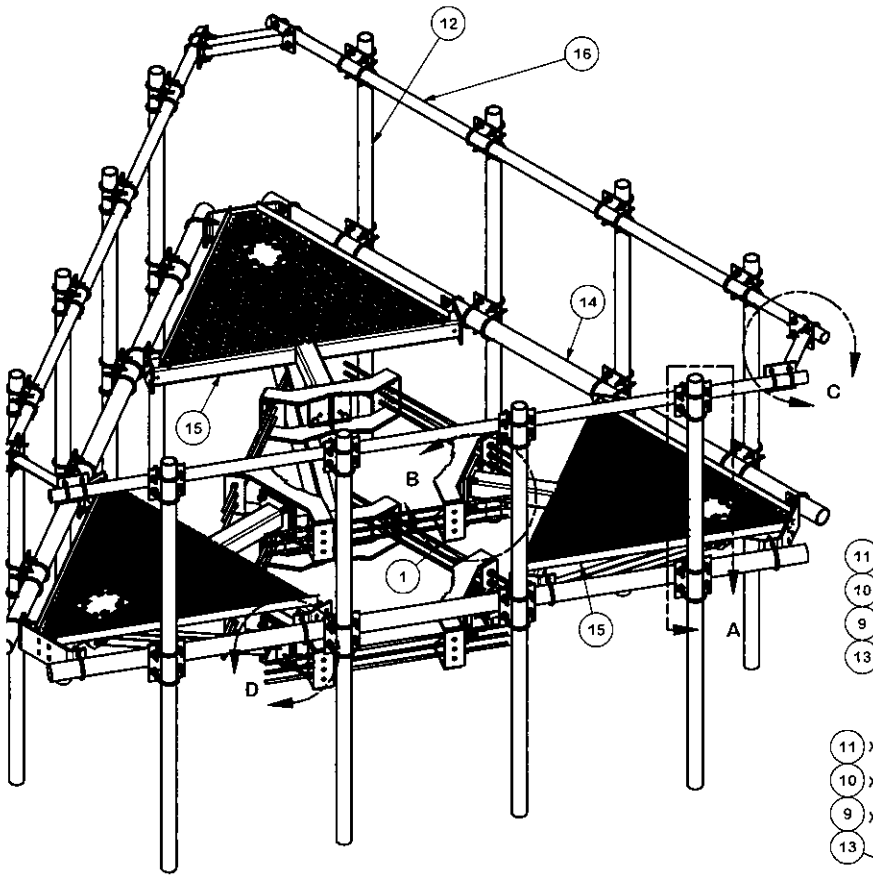
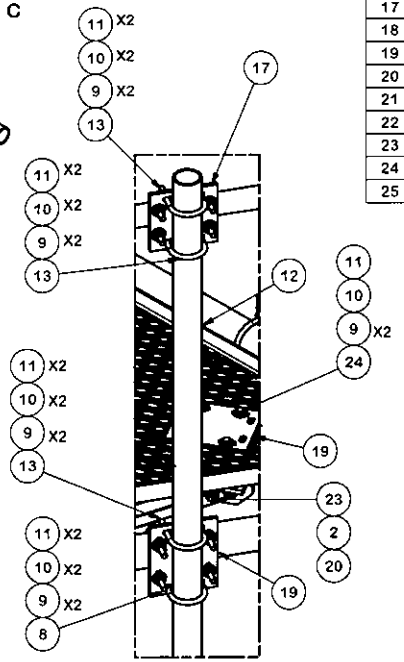
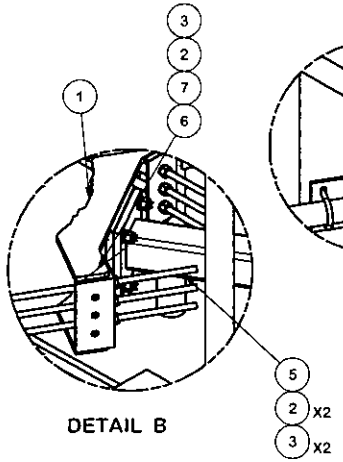
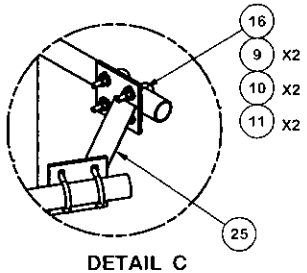




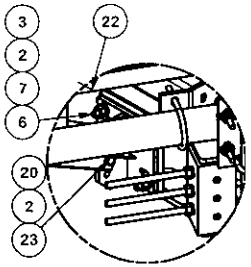
DETAIL A



DETAIL B



DETAIL C



DETAIL D

PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET W
1	6	X-LWRM	RING MOUNT WELDMENT		68.81	412.8
2	66	G58LW	5/8" HDG LOCKWASHER		0.03	1.72
3	60	A58NUT	5/8" HDG A325 HEX NUT		0.13	7.79
4	18	G58R-24	5/8" x 24" THREADED ROD (HDG.)		2.09	37.63
5	18	G58R-48	5/8" x 48" THREADED ROD (HDG.)		4.18	75.27
6	24	A58234	5/8" x 2-3/4" HDG A325 HEX BOLT	2 3/4 in	0.36	8.54
7	24	A58FW	5/8" HDG A325 FLATWASHER		0.03	0.82
8	36	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.83	29.82
9	264	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	9.00
10	252	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	3.50
11	252	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	18.05
12	12	P3096	2-7/8" X 96" (2-1/2" SCH 40) GALVANIZED PIPE	96 in	49.24	590.8
13	48	X-UB1300	1/2" X 3" X 5" X 2" U-BOLT (HDG.)		0.70	33.45
14	3	P3150	3-1/2" X 150" (3" SCH 40) GALVANIZED PIPE	150 in	94.80	284.4
15	3	X-SV196	LOW PROFILE PLATFORM CORNER		212.10	636.3
16	3	P2150	2-3/8" O.D. X 150" SCH 40 GALVANIZED PIPE	150 in	45.77	137.3
17	12	SCX2	CROSSOVER PLATE	7 in	4.80	57.56
18	36	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	22.51
19	15	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	90.32
20	6	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	0.78
21	6	X-253993	PLATFORM REINFORCEMENT KIT ANGLE	52 25/32 in	14.33	85.99
22	6	X-TBW	T-BRACKET WELDMENT		13.60	81.60
23	6	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	1.62
24	12	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	5 1/2 in	0.41	4.91
25	3	X-AHCP	ANGLE HANDRAIL CORNER PLATE		12.92	38.76
					TOTAL WT. #	2669.0

REVISION HISTORY

V	DESCRIPTION OF REVISIONS	CPD	BY	DATE
	RELOCATED MOUNT PIPE POSITIONS	4488	JET	5/23/2021
	CHANGED X-253992 TO X-TBW		CEK	9/20/2018
	REPLACED HCP WITH X-AHCP	4488	CEK	7/14/2014

TOLERANCE NOTES

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

DESCRIPTION
12' 6" LOW PROFILE PLATFORM
WITH TWELVE 2-7/8" ANTENNA MOUNTING
PIPES, AND SUPPORT RAIL

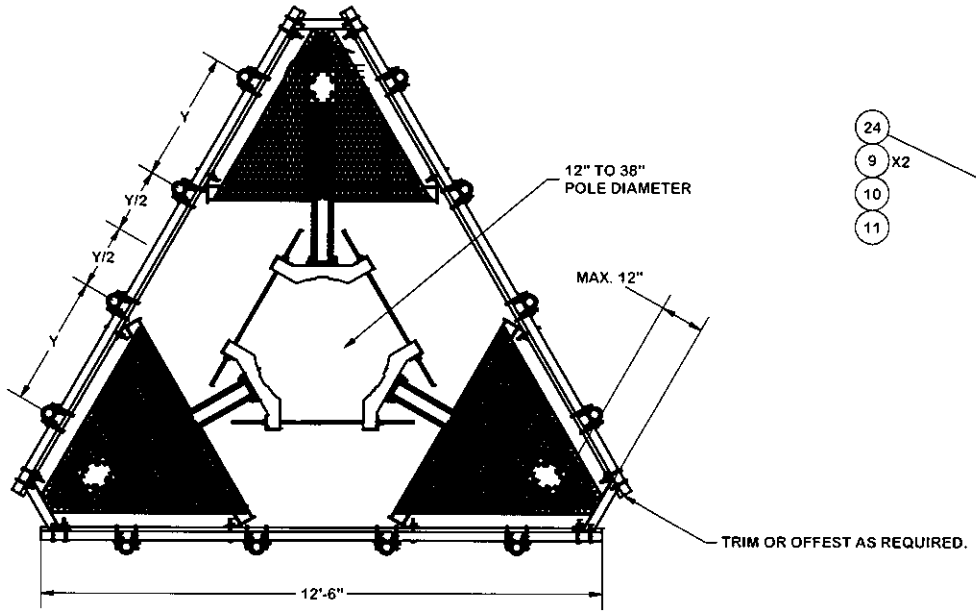
SITE PRO 1
A valmont COMPANY

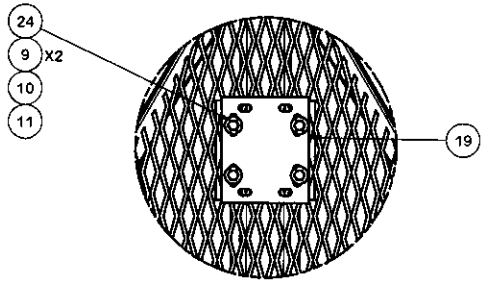
Engineering Support Team:
1-888-753-7446

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

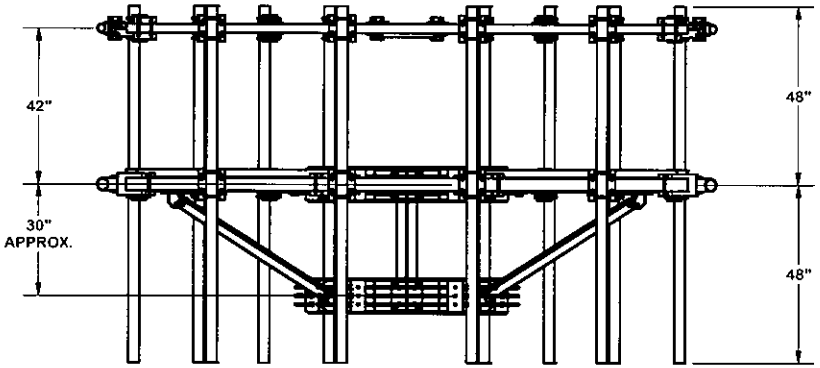
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
4488	CEK 3/24/2014		RMQP-4096-HK

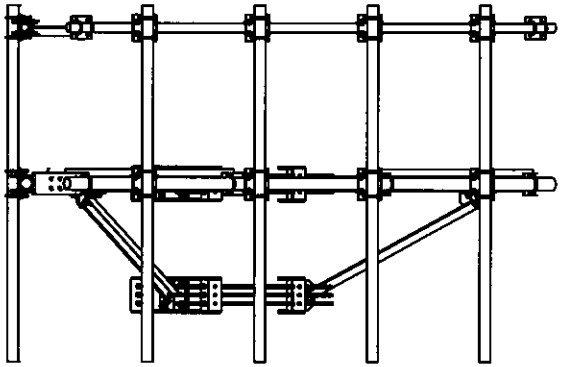
CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	CUSTOMER	BMC 7/14/2014	RMQP-4096-HK





DETAIL E





	RELOCATED MOUNT PIPE POSITIONS	4488	JET	5/23/2021
	CHANGED X-253992 TO X-TBW		CEK	9/20/2018
	REPLACED HCP WITH X-AHCP	4488	CEK	7/14/2014
V	DESCRIPTION OF REVISIONS	CPD	BY	DATE

REVISION HISTORY

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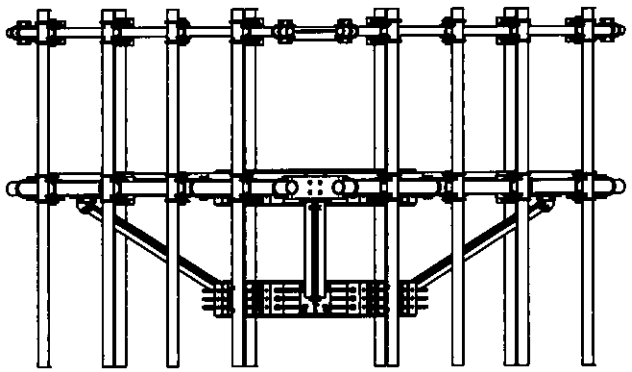
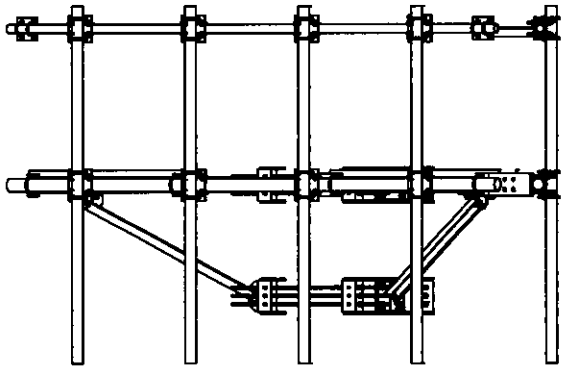
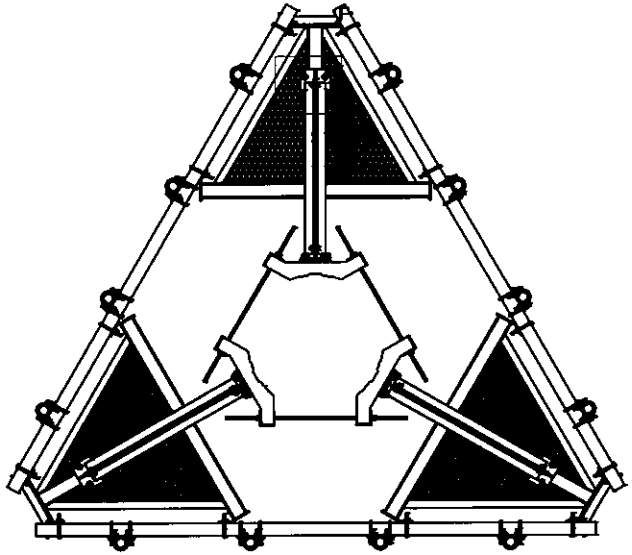
STEPRO 1
A valmont COMPANY
Engineering Support Team: 1-888-753-7446
Locations: New York, NY Atlanta, GA Los Angeles, CA Plymouth, IN Salem, OR Dallas, TX

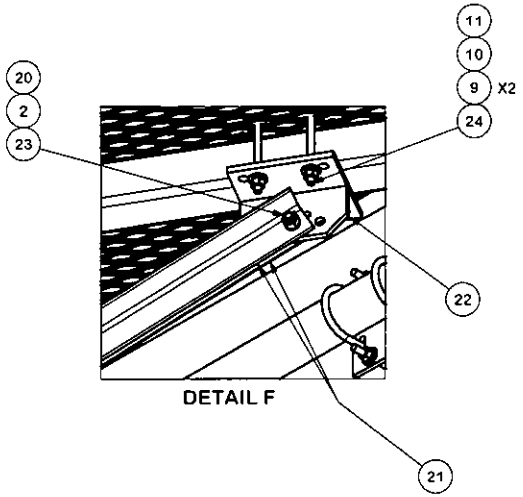
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
4488	CEK 3/24/2014		RMQP-4096-HK

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	CUSTOMER	BMC 7/14/2014	RMQP-4096-HK









DETAIL F

V	DESCRIPTION OF REVISIONS	CPD	BY	DATE
	RELOCATED MOUNT PIPE POSITIONS	4488	JET	5/23/2021
	CHANGED X-253992 TO X-TBW		CEK	9/20/2018
	REPLACED HCP WITH X-AHCP	4488	CEK	7/14/2014

REVISION HISTORY

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CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
4488	CEK 3/24/2014		RMQP-4096-HK
CLASS / SUB: 81 / 02	DRAWING USAGE: CUSTOMER	CHECKED BY: BMC 7/14/2014	DWG. NO.: RMQP-4096-HK

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (ft/sec^2)	32.2
Wall Mesh Size (in)	24
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 15th(360-16): LRFD
Adjust Stiffness?	Yes(Iterative)
RISAConnection Code	None
Cold Formed Steel Code	None
Wood Code	None
Wood Temperature	< 100F
Concrete Code	None
Masonry Code	None
Aluminum Code	None - Building
Stainless Steel Code	None

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	Yes
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

(Global) Model Settings, Continued

Seismic Code	ASCE 7-10
Seismic Base Elevation (ft)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	4
Cd X	4
Rho Z	1
Rho X	1

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	1.6	60	1.2
3	Q235 Gr B	29000	11154	.3	.65	.49	34	1.4	58	1.3
4	Q235 Gr B_1	29000	11154	.3	.65	.49	34	1.4	58	1.3

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	HR1	W10X33	Beam	None	A36 Gr.36	Typical	9.71	36.6	171	.583

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	CBA1	N1	N2			PIPE_3.0	None	None	A53 Gr.B	Typical
2	CBA2	N124	N125			PIPE_2.0	None	None	A53 Gr.B	Typical
3	CBB1	N45	N46			PIPE_3.0	None	None	A53 Gr.B	Typical
4	CBB2	N128	N129			PIPE_2.0	None	None	A53 Gr.B	Typical
5	CBC1	N20	N21			PIPE_3.0	None	None	A53 Gr.B	Typical
6	CBC2	N126	N127			PIPE_2.0	None	None	A53 Gr.B	Typical
7	M2	N16	N4		270	L2x2x3	None	None	A53 Gr.B	Typical
8	M3	N16	N6			L2x2x3	None	None	A53 Gr.B	Typical
9	M4	N41	N8		270	L2x2x3	None	None	A53 Gr.B	Typical
10	M5	N41	N10			L2x2x3	None	None	A53 Gr.B	Typical
11	M6	N66	N12		270	L2x2x3	None	None	A53 Gr.B	Typical
12	M7	N66	N14			L2x2x3	None	None	A53 Gr.B	Typical
13	M9	N17	N22			PL1/2x6	None	None	Q235 Gr B	Typical
14	M10	N18	N19			RIGID	None	None	RIGID	Typical
15	M12	N24	N22			PL1/2x6	None	None	Q235 Gr B	Typical
16	M13	N23	N24			PL1/2x6	None	None	Q235 Gr B	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
17	M14	N25	N26			RIGID	None	None	RIGID	Typical
18	M15	N29	N27			PL3/8x6	None	None	Q235 Gr B	Typical
19	M16	N28	N29			PL3/8x6	None	None	Q235 Gr B	Typical
20	M17	N30	N35			HSS4X4X4	None	None	Q235 Gr B	Typical
21	M18	N33	N31			PL3/8x6	None	None	Q235 Gr B	Typical
22	M19	N32	N33			PL3/8x6	None	None	Q235 Gr B	Typical
23	M20	N34	N35			HSS4X4X4	None	None	Q235 Gr B	Typical
24	M21	N36	N37			RIGID	None	None	RIGID	Typical
25	M22	N39	N38			RIGID	None	None	RIGID	Typical
26	M24	N42	N47			PL1/2x6	None	None	Q235 Gr B	Typical
27	M25	N43	N44			RIGID	None	None	RIGID	Typical
28	M27	N49	N47			PL1/2x6	None	None	Q235 Gr B	Typical
29	M28	N48	N49			PL1/2x6	None	None	Q235 Gr B	Typical
30	M29	N50	N51			RIGID	None	None	RIGID	Typical
31	M30	N54	N52			PL3/8x6	None	None	Q235 Gr B	Typical
32	M31	N53	N54			PL3/8x6	None	None	Q235 Gr B	Typical
33	M32	N55	N60			HSS4X4X4	None	None	Q235 Gr B	Typical
34	M33	N58	N56			PL3/8x6	None	None	Q235 Gr B	Typical
35	M34	N57	N58			PL3/8x6	None	None	Q235 Gr B	Typical
36	M35	N59	N60			HSS4X4X4	None	None	Q235 Gr B	Typical
37	M36	N62	N61			RIGID	None	None	RIGID	Typical
38	M37	N64	N63			RIGID	None	None	RIGID	Typical
39	M38	N65	N66			HSS4X4X4	None	None	Q235 Gr B	Typical
40	M39	N67	N70			PL1/2x6	None	None	Q235 Gr B	Typical
41	M40	N68	N69			RIGID	None	None	RIGID	Typical
42	M41	N72	N70			PL1/2x6	None	None	Q235 Gr B	Typical
43	M42	N71	N72			PL1/2x6	None	None	Q235 Gr B	Typical
44	M43	N73	N74			RIGID	None	None	RIGID	Typical
45	M44	N77	N75			PL3/8x6	None	None	Q235 Gr B	Typical
46	M45	N76	N77			PL3/8x6	None	None	Q235 Gr B	Typical
47	M47	N81	N79			PL3/8x6	None	None	Q235 Gr B	Typical
48	M48	N80	N81			PL3/8x6	None	None	Q235 Gr B	Typical
49	M50	N85	N84			RIGID	None	None	RIGID	Typical
50	M51	N86	N87			RIGID	None	None	RIGID	Typical
51	M52	N89	N88			RIGID	None	None	RIGID	Typical
52	M64	N114	N113			RIGID	None	None	RIGID	Typical
53	M65	N116	N115			RIGID	None	None	RIGID	Typical
54	M67	N120	N119			RIGID	None	None	RIGID	Typical
55	M68	N122	N121			RIGID	None	None	RIGID	Typical
56	M70A	N126A	N125A			RIGID	None	None	RIGID	Typical
57	M71A	N128A	N127A			RIGID	None	None	RIGID	Typical
58	M73	N131	N130		90	L2.5x2.5x4	None	None	A53 Gr.B	Typical
59	M73A	N132A	N131A			RIGID	None	None	RIGID	Typical
60	M74	N133	N132		90	L2.5x2.5x4	None	None	A53 Gr.B	Typical
61	M74A	N134A	N133A			RIGID	None	None	RIGID	Typical
62	M75	N135	N134		90	L2.5x2.5x4	None	None	A53 Gr.B	Typical
63	M76	N137	N136			RIGID	None	None	RIGID	Typical
64	M76A	N138	N137A			RIGID	None	None	RIGID	Typical
65	M77	N140	N139			RIGID	None	None	RIGID	Typical
66	M79	N144	N143			RIGID	None	None	RIGID	Typical
67	M80	N146	N145			RIGID	None	None	RIGID	Typical
68	M82	N150	N149			RIGID	None	None	RIGID	Typical
69	M83	N152	N151			RIGID	None	None	RIGID	Typical
70	M85A	N156A	N155A			RIGID	None	None	RIGID	Typical
71	M86A	N158A	N157			RIGID	None	None	RIGID	Typical
72	M88	N162	N161			RIGID	None	None	RIGID	Typical
73	M89	N164	N163			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
74	M91	N168	N167			RIGID	None	None	RIGID	Typical
75	M92	N170	N169			RIGID	None	None	RIGID	Typical
76	M93	N172A	N16			HSS4X4X4	None	None	Q235 Gr B	Typical
77	M94	N174	N173			RIGID	None	None	RIGID	Typical
78	M95	N176	N175			RIGID	None	None	RIGID	Typical
79	M95A	N176A	N41			HSS4X4X4	None	None	Q235 Gr B	Typical
80	M95C	N78	N171B			HSS4X4X4	None	None	Q235 Gr B	Typical
81	M96A	N82	N171B			HSS4X4X4	None	None	Q235 Gr B	Typical
82	MP1A	N177	N178			PIPE_2.5	None	None	A53 Gr.B	Typical
83	MP1B	N153	N154A			PIPE_2.5	None	None	A53 Gr.B	Typical
84	MP1C	N129A	N130A			PIPE_2.5	None	None	A53 Gr.B	Typical
85	MP2A	N171	N172			PIPE_2.5	None	None	A53 Gr.B	Typical
86	MP2B	N147	N148			PIPE_2.5	None	None	A53 Gr.B	Typical
87	MP2C	N123	N124A			PIPE_2.5	None	None	A53 Gr.B	Typical
88	MP3A	N165	N166			PIPE_2.5	None	None	A53 Gr.B	Typical
89	MP3B	N141	N142			PIPE_2.5	None	None	A53 Gr.B	Typical
90	MP3C	N117	N118			PIPE_2.5	None	None	A53 Gr.B	Typical
91	MP4A	N159B	N160A			PIPE_2.5	None	None	A53 Gr.B	Typical
92	MP4B	N135A	N136A			PIPE_2.5	None	None	A53 Gr.B	Typical
93	MP4C	N111	N112			PIPE_2.5	None	None	A53 Gr.B	Typical
94	M97	N172B	N173A			RIGID	None	None	RIGID	Typical
95	MP5B	N174A	N175A			PIPE_2.0	None	None	A53 Gr.B	Typical
96	M99	N176B	N177A			RIGID	None	None	RIGID	Typical
97	MP5A	N178A	N179			PIPE_2.0	None	None	A53 Gr.B	Typical
98	M101	N180	N181			RIGID	None	None	RIGID	Typical
99	MP5C	N182	N183			PIPE_2.0	None	None	A53 Gr.B	Typical
100	M98	N173A_1	N172C			LL2.5x2.5x3x3	None	None	A53 Gr.B	Typical
101	M99_1	N174A_1	N173A_1		120	RIGID	None	None	RIGID	Typical
102	M3_1	N5	N4_1			LL2.5x2.5x3x3	None	None	A53 Gr.B	Typical
103	M4_1	N6_1	N5		120	RIGID	None	None	RIGID	Typical
104	M5_1	N8_1	N7			LL2.5x2.5x3x3	None	None	A53 Gr.B	Typical
105	M6_1	N9	N8_1		120	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	CBA1						Yes	** NA **			None
2	CBA2						Yes	** NA **			None
3	CBB1						Yes	** NA **			None
4	CBB2						Yes	** NA **			None
5	CBC1						Yes	** NA **			None
6	CBC2						Yes	** NA **			None
7	M2	BenPIN	BenPIN				Yes	** NA **			None
8	M3	BenPIN	BenPIN				Yes	** NA **			None
9	M4	BenPIN	BenPIN				Yes	** NA **			None
10	M5	BenPIN	BenPIN				Yes	** NA **			None
11	M6	BenPIN	BenPIN				Yes	** NA **			None
12	M7	BenPIN	BenPIN				Yes	** NA **			None
13	M9						Yes	** NA **			None
14	M10	BenPIN					Yes	** NA **			None
15	M12						Yes	** NA **			None
16	M13						Yes	** NA **			None
17	M14	BenPIN					Yes	** NA **			None
18	M15						Yes	** NA **			None
19	M16						Yes	** NA **			None
20	M17						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...
21	M18						Yes	** NA **			None
22	M19						Yes	** NA **			None
23	M20						Yes	** NA **			None
24	M21		BenPIN				Yes	** NA **			None
25	M22	BenPIN					Yes	** NA **			None
26	M24						Yes	** NA **			None
27	M25	BenPIN					Yes	** NA **			None
28	M27						Yes	** NA **			None
29	M28						Yes	** NA **			None
30	M29	BenPIN					Yes	** NA **			None
31	M30						Yes	** NA **			None
32	M31						Yes	** NA **			None
33	M32						Yes	** NA **			None
34	M33						Yes	** NA **			None
35	M34						Yes	** NA **			None
36	M35						Yes	** NA **			None
37	M36	BenPIN					Yes	** NA **			None
38	M37	BenPIN					Yes	** NA **			None
39	M38						Yes	** NA **			None
40	M39						Yes	** NA **			None
41	M40	BenPIN					Yes	** NA **			None
42	M41						Yes	** NA **			None
43	M42						Yes	** NA **			None
44	M43	BenPIN					Yes	** NA **			None
45	M44						Yes	** NA **			None
46	M45						Yes	** NA **			None
47	M47						Yes	** NA **			None
48	M48						Yes	** NA **			None
49	M50	BenPIN					Yes	** NA **			None
50	M51		BenPIN				Yes	** NA **			None
51	M52						Yes	** NA **			None
52	M64						Yes	** NA **			None
53	M65						Yes	** NA **			None
54	M67						Yes	** NA **			None
55	M68						Yes	** NA **			None
56	M70A						Yes	** NA **			None
57	M71A						Yes	** NA **			None
58	M73						Yes	** NA **			None
59	M73A						Yes	** NA **			None
60	M74						Yes	** NA **			None
61	M74A						Yes	** NA **			None
62	M75						Yes	** NA **			None
63	M76						Yes	** NA **			None
64	M76A						Yes	** NA **			None
65	M77						Yes	** NA **			None
66	M79						Yes	** NA **			None
67	M80						Yes	** NA **			None
68	M82						Yes	** NA **			None
69	M83						Yes	** NA **			None
70	M85A						Yes	** NA **			None
71	M86A						Yes	** NA **			None
72	M88						Yes	** NA **			None
73	M89						Yes	** NA **			None
74	M91						Yes	** NA **			None
75	M92						Yes	** NA **			None
76	M93						Yes	** NA **			None
77	M94						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...
78	M95						Yes	** NA **			None
79	M95A						Yes	** NA **			None
80	M95C						Yes	** NA **			None
81	M96A						Yes	** NA **			None
82	MP1A						Yes	** NA **			None
83	MP1B						Yes	** NA **			None
84	MP1C						Yes	** NA **			None
85	MP2A						Yes	** NA **			None
86	MP2B						Yes	** NA **			None
87	MP2C						Yes	** NA **			None
88	MP3A						Yes	** NA **			None
89	MP3B						Yes	** NA **			None
90	MP3C						Yes	** NA **			None
91	MP4A						Yes	** NA **			None
92	MP4B						Yes	** NA **			None
93	MP4C						Yes	** NA **			None
94	M97						Yes	** NA **			None
95	MP5B						Yes	** NA **			None
96	M99						Yes	** NA **			None
97	MP5A						Yes	** NA **			None
98	M101						Yes	** NA **			None
99	MP5C						Yes	** NA **			None
100	M98	BenPIN					Yes	** NA **			None
101	M99_1						Yes	** NA **			None
102	M3_1	BenPIN					Yes	** NA **			None
103	M4_1						Yes	** NA **			None
104	M5_1	BenPIN					Yes	** NA **			None
105	M6_1						Yes	** NA **			None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
1	CBA1	PIPE_3.0	12.5			Lbyy						Lateral
2	CBA2	PIPE_2.0	12.5			Lbyy						Lateral
3	CBB1	PIPE_3.0	12.5			Lbyy						Lateral
4	CBB2	PIPE_2.0	12.5			Lbyy						Lateral
5	CBC1	PIPE_3.0	12.5			Lbyy						Lateral
6	CBC2	PIPE_2.0	12.5			Lbyy						Lateral
7	M2	L2x2x3	4.32			Lbyy						Lateral
8	M3	L2x2x3	4.32			Lbyy						Lateral
9	M4	L2x2x3	4.32			Lbyy						Lateral
10	M5	L2x2x3	4.32			Lbyy						Lateral
11	M6	L2x2x3	4.323			Lbyy						Lateral
12	M7	L2x2x3	4.323			Lbyy						Lateral
13	M9	PL1/2x6	.265			Lbyy						Lateral
14	M12	PL1/2x6	1.059			Lbyy						Lateral
15	M13	PL1/2x6	.265			Lbyy						Lateral
16	M15	PL3/8x6	.447			Lbyy						Lateral
17	M16	PL3/8x6	.292			Lbyy						Lateral
18	M17	HSS4X4X4	2.559			Lbyy						Lateral
19	M18	PL3/8x6	.447			Lbyy						Lateral
20	M19	PL3/8x6	.292			Lbyy						Lateral
21	M20	HSS4X4X4	2.559			Lbyy						Lateral
22	M24	PL1/2x6	.265			Lbyy						Lateral
23	M27	PL1/2x6	1.059			Lbyy						Lateral
24	M28	PL1/2x6	.265			Lbyy						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
25	M30	PL3/8x6	.447			Lbyy						Lateral
26	M31	PL3/8x6	.292			Lbyy						Lateral
27	M32	HSS4X4X4	2.559			Lbyy						Lateral
28	M33	PL3/8x6	.447			Lbyy						Lateral
29	M34	PL3/8x6	.292			Lbyy						Lateral
30	M35	HSS4X4X4	2.559			Lbyy						Lateral
31	M38	HSS4X4X4	5.668			Lbyy						Lateral
32	M39	PL1/2x6	.265			Lbyy						Lateral
33	M41	PL1/2x6	1.059			Lbyy						Lateral
34	M42	PL1/2x6	.265			Lbyy						Lateral
35	M44	PL3/8x6	.447			Lbyy						Lateral
36	M45	PL3/8x6	.292			Lbyy						Lateral
37	M47	PL3/8x6	.447			Lbyy						Lateral
38	M48	PL3/8x6	.292			Lbyy						Lateral
39	M73	L2.5x2.5x4	1.598									Lateral
40	M74	L2.5x2.5x4	1.598									Lateral
41	M75	L2.5x2.5x4	1.598									Lateral
42	M93	HSS4X4X4	5.668			Lbyy						Lateral
43	M95A	HSS4X4X4	5.668			Lbyy						Lateral
44	M95C	HSS4X4X4	2.559									Lateral
45	M96A	HSS4X4X4	2.559									Lateral
46	MP1A	PIPE_2.5	8									Lateral
47	MP1B	PIPE_2.5	8									Lateral
48	MP1C	PIPE_2.5	8									Lateral
49	MP2A	PIPE_2.5	8									Lateral
50	MP2B	PIPE_2.5	8									Lateral
51	MP2C	PIPE_2.5	8									Lateral
52	MP3A	PIPE_2.5	8									Lateral
53	MP3B	PIPE_2.5	8									Lateral
54	MP3C	PIPE_2.5	8									Lateral
55	MP4A	PIPE_2.5	8									Lateral
56	MP4B	PIPE_2.5	8									Lateral
57	MP4C	PIPE_2.5	8									Lateral
58	MP5B	PIPE_2.0	4									Lateral
59	MP5A	PIPE_2.0	4									Lateral
60	MP5C	PIPE_2.0	4									Lateral
61	M98	LL2.5x2.5x3...	4.809									Lateral
62	M3_1	LL2.5x2.5x3...	4.809									Lateral
63	M5_1	LL2.5x2.5x3...	4.809									Lateral

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Antenna D	None					96			
2	Antenna Di	None					96			
3	Antenna Wo (0 Deg)	None					96			
4	Antenna Wo (30 Deg)	None					96			
5	Antenna Wo (60 Deg)	None					96			
6	Antenna Wo (90 Deg)	None					96			
7	Antenna Wo (120 Deg)	None					96			
8	Antenna Wo (150 Deg)	None					96			
9	Antenna Wo (180 Deg)	None					96			
10	Antenna Wo (210 Deg)	None					96			
11	Antenna Wo (240 Deg)	None					96			
12	Antenna Wo (270 Deg)	None					96			
13	Antenna Wo (300 Deg)	None					96			

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
14	Antenna Wo (330 Deg)	None					96			
15	Antenna Wi (0 Deg)	None					96			
16	Antenna Wi (30 Deg)	None					96			
17	Antenna Wi (60 Deg)	None					96			
18	Antenna Wi (90 Deg)	None					96			
19	Antenna Wi (120 Deg)	None					96			
20	Antenna Wi (150 Deg)	None					96			
21	Antenna Wi (180 Deg)	None					96			
22	Antenna Wi (210 Deg)	None					96			
23	Antenna Wi (240 Deg)	None					96			
24	Antenna Wi (270 Deg)	None					96			
25	Antenna Wi (300 Deg)	None					96			
26	Antenna Wi (330 Deg)	None					96			
27	Antenna Wm (0 Deg)	None					96			
28	Antenna Wm (30 Deg)	None					96			
29	Antenna Wm (60 Deg)	None					96			
30	Antenna Wm (90 Deg)	None					96			
31	Antenna Wm (120 Deg)	None					96			
32	Antenna Wm (150 Deg)	None					96			
33	Antenna Wm (180 Deg)	None					96			
34	Antenna Wm (210 Deg)	None					96			
35	Antenna Wm (240 Deg)	None					96			
36	Antenna Wm (270 Deg)	None					96			
37	Antenna Wm (300 Deg)	None					96			
38	Antenna Wm (330 Deg)	None					96			
39	Structure D	None		-1					3	
40	Structure Di	None						63	3	
41	Structure Wo (0 Deg)	None						126		
42	Structure Wo (30 Deg)	None						126		
43	Structure Wo (60 Deg)	None						126		
44	Structure Wo (90 Deg)	None						126		
45	Structure Wo (120 D...	None						126		
46	Structure Wo (150 D...	None						126		
47	Structure Wo (180 D...	None						126		
48	Structure Wo (210 D...	None						126		
49	Structure Wo (240 D...	None						126		
50	Structure Wo (270 D...	None						126		
51	Structure Wo (300 D...	None						126		
52	Structure Wo (330 D...	None						126		
53	Structure Wi (0 Deg)	None						126		
54	Structure Wi (30 Deg)	None						126		
55	Structure Wi (60 Deg)	None						126		
56	Structure Wi (90 Deg)	None						126		
57	Structure Wi (120 De...	None						126		
58	Structure Wi (150 De...	None						126		
59	Structure Wi (180 De...	None						126		
60	Structure Wi (210 De...	None						126		
61	Structure Wi (240 De...	None						126		
62	Structure Wi (270 De...	None						126		
63	Structure Wi (300 De...	None						126		
64	Structure Wi (330 De...	None						126		
65	Structure Wm (0 Deg)	None						126		
66	Structure Wm (30 De...	None						126		
67	Structure Wm (60 De...	None						126		
68	Structure Wm (90 De...	None						126		
69	Structure Wm (120 D...	None						126		
70	Structure Wm (150 D...	None						126		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
71	Structure Wm (180 D...	None						126		
72	Structure Wm (210 D...	None						126		
73	Structure Wm (240 D...	None						126		
74	Structure Wm (270 D...	None						126		
75	Structure Wm (300 D...	None						126		
76	Structure Wm (330 D...	None						126		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					96			
82	Antenna Eh (0 Deg)	None					64			
83	Antenna Eh (90 Deg)	None					64			
84	Structure Ev	ELY		-.013					3	
85	Structure Eh (0 Deg)	ELZ			-.032				3	
86	Structure Eh (90 Deg)	ELX	.032						3	
87	BLC 39 Transient Are...	None						21		
88	BLC 40 Transient Are...	None						21		
89	BLC 84 Transient Are...	None						21		
90	BLC 85 Transient Are...	None						21		
91	BLC 86 Transient Are...	None						21		

Load Combinations

	Description	Sol...	PD...	SR...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
1	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	3	1	41	1												
2	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	4	1	42	1												
3	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	5	1	43	1												
4	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	6	1	44	1												
5	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	7	1	45	1												
6	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	8	1	46	1												
7	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	9	1	47	1												
8	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	10	1	48	1												
9	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	11	1	49	1												
10	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	12	1	50	1												
11	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	13	1	51	1												
12	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	14	1	52	1												
13	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1	53	1								
14	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1								
15	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1								
16	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1								
17	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1								
18	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1								
19	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1								
20	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1								
21	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1								
22	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1								
23	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1								
24	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1								
25	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1										
26	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1										
27	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1										
28	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1										
29	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1										
30	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1										
31	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1										

Load Combinations (Continued)

	Description	Sol..	PD..	SR..	BLC	Fact..	BLC	Fact..	BLC	Fact..	BLC	Fact..	BLC	Fact..	BLC	Fact..	BLC	Fact..	BLC	Fact..	BLC	Fact..	BLC	Fact..
32	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1										
33	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1										
34	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1										
35	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1										
36	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1										
37	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1										
38	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1										
39	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1										
40	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1										
41	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1										
42	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1										
43	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1										
44	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1										
45	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1										
46	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1										
47	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1										
48	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	38	1	76	1										
49	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	79	1.5														
50	1.2D + 1.5..	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 + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	1	83		ELZ	1	ELX					
53	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.866	83	.5	ELZ	.866	ELX	.5				
54	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.5	83	.866	ELZ	.5	ELX	.866				
55	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82		83	1	ELZ		ELX	1				
56	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.5	83	.866	ELZ	-.5	ELX	.866				
57	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.866	83	.5	ELZ	-.866	ELX	.5				
58	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-1	83		ELZ	-1	ELX					
59	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.866	83	-.5	ELZ	-.866	ELX	-.5				
60	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.5	83	-.866	ELZ	-.5	ELX	-.866				
61	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82		83	-1	ELZ		ELX	-1				
62	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.5	83	-.866	ELZ	.5	ELX	-.866				
63	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.866	83	-.5	ELZ	.866	ELX	-.5				
64	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	1	83		ELZ	1	ELX					
65	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	.5	ELZ	.866	ELX	.5				
66	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	.866	ELZ	.5	ELX	.866				
67	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	1	ELZ		ELX	1				
68	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	.866	ELZ	-.5	ELX	.866				
69	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.866	83	.5	ELZ	-.866	ELX	.5				
70	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-1	83		ELZ	-1	ELX					
71	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.866	83	-.5	ELZ	-.866	ELX	-.5				
72	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	-.866	ELZ	-.5	ELX	-.866				
73	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	-1	ELZ		ELX	-1				
74	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	-.866	ELZ	.5	ELX	-.866				
75	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	-.5	ELZ	.866	ELX	-.5				

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	N65	max	3412.514	22	1168.507	20	230.442	2	-.184	75	.969	11	-.348	66
2		min	-488.251	4	301.932	65	-1972.383	20	-.72	17	-.958	5	-1.287	21
3	N172A	max	253.946	11	998.379	16	446.926	12	-.214	12	.898	7	1.131	15
4		min	-3371.318	17	274.696	73	-2009.625	18	-.972	30	-.887	1	.311	73
5	N176A	max	579.28	9	988.566	24	3886.664	13	1.385	24	.879	3	.187	15
6		min	-570.973	3	273.165	69	-326.363	7	.378	70	-.868	9	-.035	9
7	N166A	max	0	75	0	75	0	75	0	75	0	75	0	75
8		min	0	1	0	1	0	1	0	1	0	1	0	1

Envelope Joint Reactions (Continued)

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
9	N168A	max	0	75	0	75	0	75	0	75	0	75	0	75
10		min	0	1	0	1	0	1	0	1	0	1	0	1
11	N170A	max	0	75	0	75	0	75	0	75	0	75	0	75
12		min	0	1	0	1	0	1	0	1	0	1	0	1
13	N172C	max	3135.772	18	1792.95	18	1810.024	17	0	75	0	75	0	75
14		min	866.056	74	493.389	74	500.015	74	0	1	0	1	0	1
15	N4_1	max	30.169	10	1787.937	14	-998.248	70	0	75	0	75	0	75
16		min	-30.158	4	492.53	70	-3609.653	13	0	1	0	1	0	1
17	N7	max	-865.78	66	1789.639	22	1808.004	22	0	75	0	75	0	75
18		min	-3129.131	21	493.236	66	499.859	66	0	1	0	1	0	1
19	Totals:	max	3251.773	10	8431.387	17	3239.787	1						
20		min	-3251.773	4	2339.926	74	-3239.789	7						

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc ...	phi*Pnt [...	phi*Mn y...	phi*Mn z...	Cb	Eqn
1	M48	PL3/8x6	.202	.118	4	.202	.292	y	20	65364.6...	68850	.538	8.606	2....	H1-1b
2	M19	PL3/8x6	.201	.118	12	.200	.292	y	16	65364.6...	68850	.538	8.606	2....	H1-1b
3	M34	PL3/8x6	.201	.118	8	.197	.292	y	24	65364.6...	68850	.538	8.606	2....	H1-1b
4	M38	HSS4X4X4	.161	0	24	.057	1.004	y	23	93367.2...	103122	11.96	11.96	3....	H1-1b
5	M31	PL3/8x6	.159	.118	6	.178	.292	y	22	65364.6...	68850	.538	8.606	1....	H1-1b
6	M16	PL3/8x6	.159	.118	10	.180	.292	y	14	65364.6...	68850	.538	8.606	1....	H1-1b
7	M45	PL3/8x6	.158	.118	2	.174	.292	y	18	65364.6...	68850	.538	8.606	1....	H1-1b
8	M93	HSS4X4X4	.154	0	14	.081	0	y	30	93367.2...	103122	11.96	11.96	3....	H1-1b
9	M95A	HSS4X4X4	.152	0	16	.055	4.369	y	15	93367.2...	103122	11.96	11.96	3....	H1-1b
10	M96A	HSS4X4X4	.136	2.559	22	.044	2.559	y	21	101054....	103122	11.96	11.96	1....	H1-1b
11	M3	L2x2x3	.135	2.16	6	.010	4.32	y	15	9165.131	22743	.542	1.066	1....	H2-1
12	M7	L2x2x3	.135	2.161	10	.010	4.323	y	19	9153.553	22743	.542	1.067	1....	H2-1
13	M5	L2x2x3	.135	2.16	2	.010	4.32	y	23	9165.131	22743	.542	1.066	1....	H2-1
14	M20	HSS4X4X4	.134	2.559	18	.044	2.559	y	17	101053....	103122	11.96	11.96	1....	H1-1b
15	M35	HSS4X4X4	.133	2.559	14	.044	2.559	y	13	101053....	103122	11.96	11.96	1.7	H1-1b
16	M17	HSS4X4X4	.127	2.559	15	.035	2.559	y	15	101053....	103122	11.96	11.96	1....	H1-1b
17	M32	HSS4X4X4	.126	2.559	23	.035	2.559	y	22	101053....	103122	11.96	11.96	1....	H1-1b
18	M95C	HSS4X4X4	.124	2.559	19	.034	2.559	y	19	101054....	103122	11.96	11.96	1....	H1-1b
19	M6	L2x2x3	.119	2.296	20	.011	4.323	z	13	9153.553	22743	.542	1.042	1....	H2-1
20	M2	L2x2x3	.118	2.295	16	.011	4.32	z	21	9165.131	22743	.542	1.042	1....	H2-1
21	M4	L2x2x3	.118	2.295	24	.011	4.32	z	17	9165.131	22743	.542	1.042	1....	H2-1
22	MP1B	PIPE_2.5	.115	4	9	.035	4		10	30038.4...	50715	3.596	3.596	1....	H1-1b
23	MP1A	PIPE_2.5	.109	4	28	.035	4		6	30038.4...	50715	3.596	3.596	1....	H1-1b
24	MP5A	PIPE_2.0	.108	3	23	.054	3		8	26521.4...	32130	1.872	1.872	2....	H1-1b
25	M12	PL1/2x6	.108	.529	11	.119	.529	y	42	62633.4...	91800	.956	11.475	1....	H1-1b
26	M41	PL1/2x6	.108	.529	3	.104	.529	y	20	62633.4...	91800	.956	11.475	1....	H1-1b
27	MP1C	PIPE_2.5	.108	4	1	.035	4		2	30038.4...	50715	3.596	3.596	1....	H1-1b
28	M27	PL1/2x6	.108	.529	7	.105	.529	y	14	62633.4...	91800	.956	11.475	1....	H1-1b
29	M18	PL3/8x6	.107	.237	11	.084	.237	y	14	60939.9...	68850	.538	8.606	1....	H1-1b
30	M33	PL3/8x6	.106	.237	7	.081	.237	y	22	60939.9...	68850	.538	8.606	1....	H1-1b
31	M47	PL3/8x6	.106	.237	3	.088	.237	y	18	60939.9...	68850	.538	8.606	1....	H1-1b
32	M15	PL3/8x6	.105	.237	12	.149	.237	y	21	60939.9...	68850	.538	8.606	1....	H1-1b
33	M44	PL3/8x6	.104	.237	4	.145	.237	y	17	60939.9...	68850	.538	8.606	1....	H1-1b
34	M30	PL3/8x6	.104	.237	6	.146	.237	y	17	60939.9...	68850	.538	8.606	1....	H1-1b
35	CBA2	PIPE_2.0	.103	7.943	29	.057	11.979		38	6295.422	32130	1.872	1.872	3....	H1-1b
36	MP2C	PIPE_2.5	.100	4	1	.022	4		8	30038.4...	50715	3.596	3.596	2....	H1-1b
37	MP2B	PIPE_2.5	.100	4	9	.022	4		4	30038.4...	50715	3.596	3.596	1....	H1-1b
38	MP2A	PIPE_2.5	.100	4	5	.022	4		10	30038.4...	50715	3.596	3.596	1....	H1-1b
39	CBA1	PIPE_3.0	.098	7.943	35	.038	11.979		43	28250.5...	65205	5.749	5.749	2....	H1-1b
40	M98	LL2.5x2.5x...	.095	4.809	17	.003	4.809	y	19	42564.3...	56700	3.844	2.479	1	H1-1b*

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc ...	phi*Pnt [...	phi*Mn y...	phi*Mn z...	Cb	Eqn
41	M5_1	LL2.5x2.5x...	.095	4.809	21	.003	0	y	23	42564.3...	56700	3.844	2.479	1	H1-1b*
42	M3_1	LL2.5x2.5x...	.095	4.809	13	.003	4.809	y	23	42564.3...	56700	3.844	2.479	1	H1-1b*
43	M75	L2.5x2.5x4	.090	0	37	.016	1.598	z	1	34569.0...	37485	1.083	2.467	2....	H2-1
44	MP3A	PIPE_2.5	.083	4	34	.019	4		7	30038.4...	50715	3.596	3.596	1....	H1-1b
45	MP4A	PIPE_2.5	.075	4	23	.029	.5		7	30038.4...	50715	3.596	3.596	1....	H1-1b
46	MP4C	PIPE_2.5	.075	4	6	.029	.5		3	30038.4...	50715	3.596	3.596	1....	H1-1b
47	MP4B	PIPE_2.5	.075	4	2	.029	.5		11	30038.4...	50715	3.596	3.596	1....	H1-1b
48	MP3C	PIPE_2.5	.074	4	19	.019	4		3	30038.4...	50715	3.596	3.596	2....	H1-1b
49	MP3B	PIPE_2.5	.073	4	15	.019	4		11	30038.4...	50715	3.596	3.596	1....	H1-1b
50	CBC2	PIPE_2.0	.066	4.688	18	.048	1.172		38	6295.422	32130	1.872	1.872	3....	H1-1b
51	CBC1	PIPE_3.0	.066	11.328	15	.031	11.979		15	28250.5...	65205	5.749	5.749	2....	H1-1b
52	CBB1	PIPE_3.0	.065	11.328	23	.031	11.979		23	28250.5...	65205	5.749	5.749	2....	H1-1b
53	CBB2	PIPE_2.0	.065	11.198	9	.043	11.979		6	6295.422	32130	1.872	1.872	4....	H1-1b
54	M73	L2.5x2.5x4	.061	1.598	2	.016	1.598	z	9	34569.0...	37485	1.083	2.467	2....	H2-1
55	M74	L2.5x2.5x4	.060	1.598	10	.016	1.598	z	5	34569.0...	37485	1.083	2.467	2....	H2-1
56	M13	PL1/2x6	.032	.138	4	.224	.265	y	43	89622.19	91800	.956	11.475	2....	H1-1b
57	M9	PL1/2x6	.032	.138	6	.146	.265	y	16	89622.19	91800	.956	11.475	2....	H1-1b
58	M42	PL1/2x6	.032	.138	8	.184	.265	y	23	89622.19	91800	.956	11.475	2....	H1-1b
59	M24	PL1/2x6	.032	.138	2	.145	.265	y	24	89622.19	91800	.956	11.475	2....	H1-1b
60	M39	PL1/2x6	.032	.138	10	.147	.265	y	20	89622.19	91800	.956	11.475	2....	H1-1b
61	M28	PL1/2x6	.032	.138	12	.184	.265	y	15	89622.19	91800	.956	11.475	2....	H1-1b
62	MP5B	PIPE_2.0	.017	3	2	.002	3		2	26521.4...	32130	1.872	1.872	1....	H1-1b
63	MP5C	PIPE_2.0	.017	3	6	.002	3		6	26521.4...	32130	1.872	1.872	1....	H1-1b

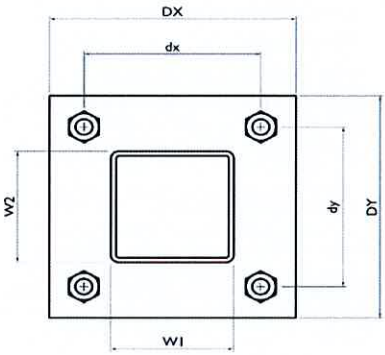
VzW SMART Tool© Vendor

Client:	VERIZON WIRELESS	Date:	6/27/2024
Site Name:	0		
MDG #:	0		
Fuze ID #:	0	Page:	1

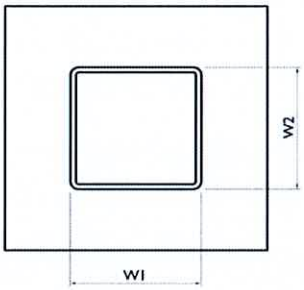
Version 2.00

I. Mount-to-Tower Connection Check

Custom Orientation Required	No
Tower Connection Bolt Checks	Yes
Bolt Orientation	Parallel
Bolt Quantity per Reaction:	4
d_x (in) *(Delta X of typ. bolt config. sketch)* :	6
d_y (in) *(Delta Y of typ. bolt config. sketch)* :	6
Bolt Type:	A325N
Bolt Diameter (in):	0.625
Required Tensile Strength / bolt (kips):	2.6
Required Shear Strength / bolt (kips):	0.3
Tensile Capacity / bolt (kips):	20.7
Shear Capacity / bolt (kips):	12.4
Bolt Overall Utilization:	**12.7%**



Tower Connection Baseplate Checks	Yes
Connecting Standoff Member Shape:	Rect Tube
Weld Stiffener Configuration:	No Stiffeners
Plate Width, D_x (in):	8
Plate Height, D_y (in):	8
W1(in):	4
W2 (in):	4
Member Thickness (in):	0.25
Stiffener location a_1 (in):	
Stiffener location b_1 (in):	
Stiffener location a_2 (in):	
Stiffener location b_2 (in):	
F_y (ksi, plate):	35
Plate Thickness (in):	0.75
Length of Yield Line, L_y (in):	5.85
Bolt Eccentricity, e (in):	1.65
M_u (kip-in):	4.33
Phi*M_n (kip-in):	25.91
Plate Bending Utilization:	**16.7%**

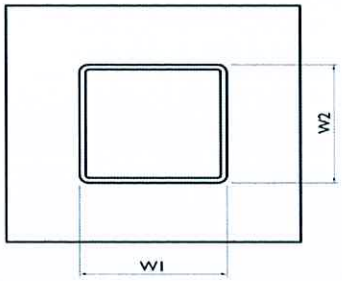


VzW SMART Tool© Vendor

Client:	VERIZON WIRELESS	Date:	6/27/2024
Site Name:	0		
MDG #:	0		
Fuze ID #:	0	Page:	2

Version 2.00

Tower Connection Weld Checks	Yes
Weld Shape:	Rectangle
Weld Stiffener Configuration:	None
Stiffener Notch Length, n (in):	
Weld Size (1/16 in):	6
W1 (in):	4
W2 (in):	4
Weld Total Length (in):	16.00
Z_x (in^3/in):	21.33
Z_y (in^3/in):	21.33
J_p (in^4/in):	85.33
c_x (in)	2.25
c_y (in)	2.25
Required combined strength (kip/in):	0.80
Weld Capacity (kip/in):	8.35
Weld Utilization:	**9.5%**

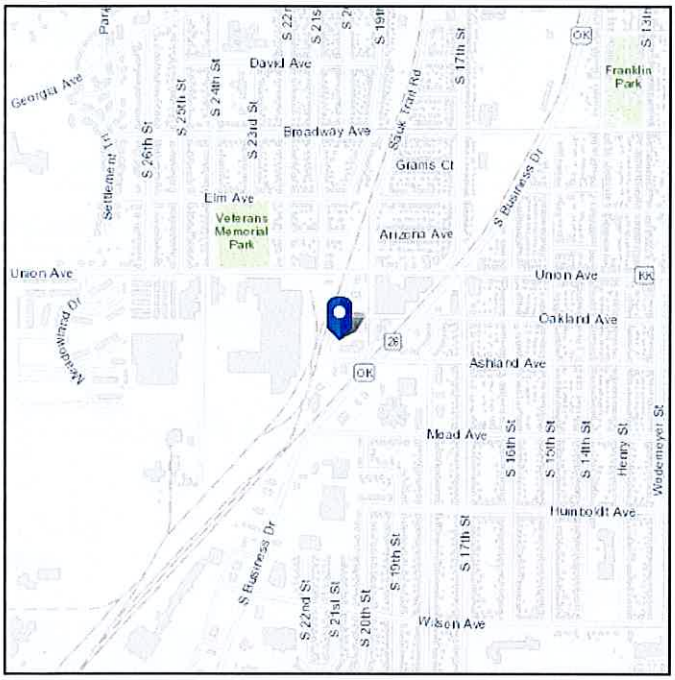


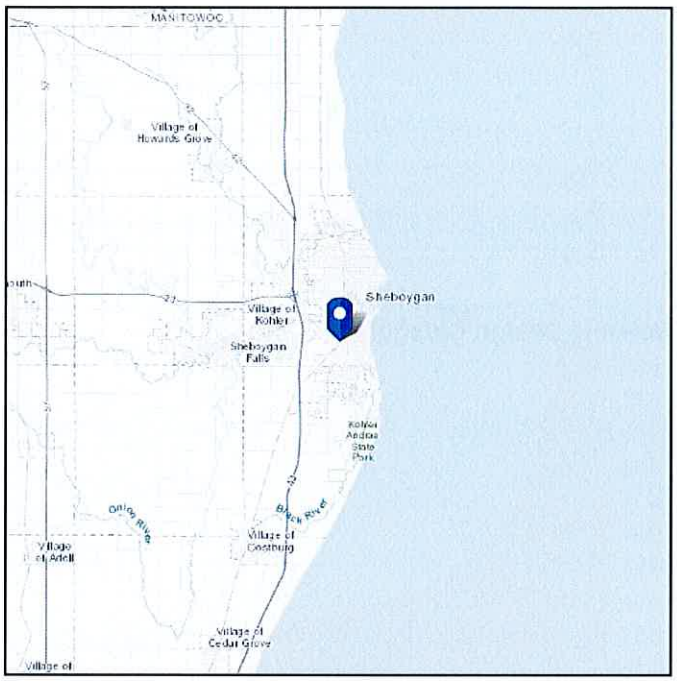
ASCE Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Latitude: 43.730365
Longitude: -87.732356
Elevation: 640.4581550222194 ft (NAVD 88)





Wind

Results:

Wind Speed	106 Vmph
10-year MRI	72 Vmph
25-year MRI	80 Vmph
50-year MRI	85 Vmph
100-year MRI	90 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Thu Jun 27 2024

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2.

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

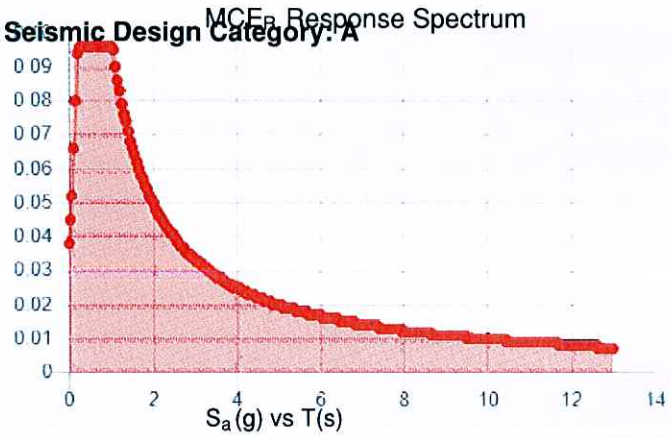
Seismic

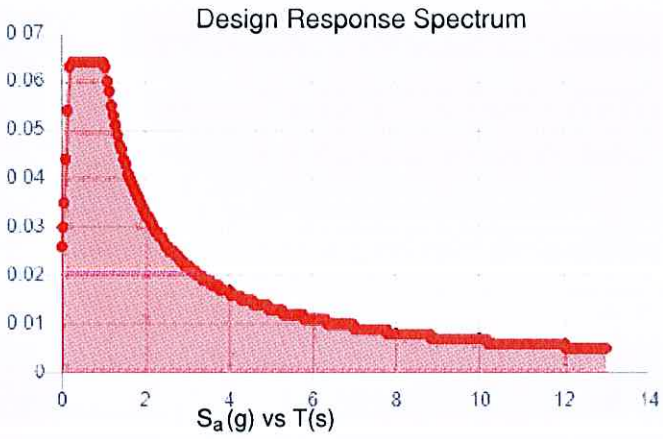
Site Soil Class: D - Default (see Section 11.4.3)

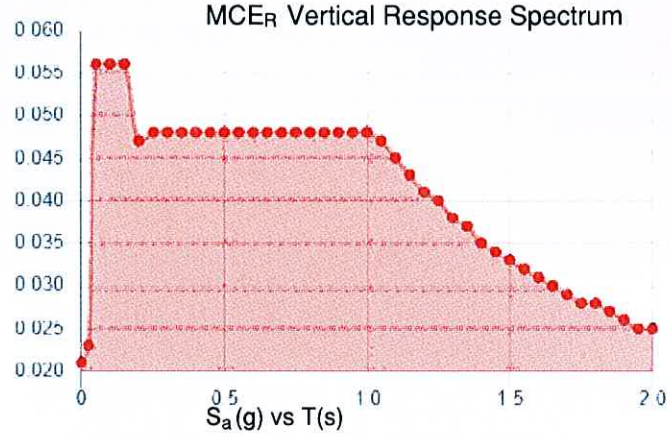
Results:

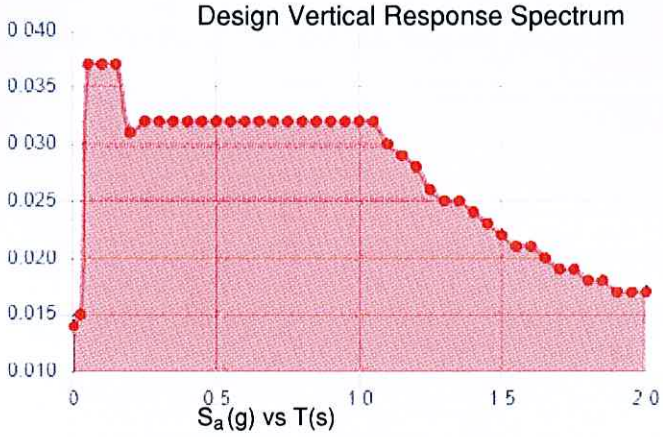
S_S :	0.06	S_{D1} :	0.066
S_1 :	0.041	T_L :	12
F_a :	1.6	PGA :	0.029
F_v :	2.4	PGA_M :	0.046
S_{MS} :	0.096	F_{PGA} :	1.6
S_{M1} :	0.099	I_e :	1
S_{DS} :	0.064	C_v :	0.7

Seismic Design Category: A









Data Accessed: **Thu Jun 27 2024**

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.50 in.
Concurrent Temperature:	-5 F
Gust Speed	40 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Thu Jun 27 2024

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.