



# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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

E-Mail: [siting.council@ct.gov](mailto:siting.council@ct.gov)

[www.ct.gov/csc](http://www.ct.gov/csc)

### VIA ELECTRONIC MAIL

February 20, 2020

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

RE: **EM-VER-138-200121** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 630 James Farm Road, Stratford, Connecticut.

Dear Attorney Baldwin:

The Connecticut Siting Council (Council) is in receipt of your correspondence of February 13, 2020 submitted in response to the Council's January 24, 2020 notification of an incomplete request for exempt modification with regard to the above-referenced matter.

The submission renders the request for exempt modification complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman  
Executive Director

MAB/IN/emr



## Robidoux, Evan

---

**From:** Dandeneau, Kathleen <KDANDENEAU@RC.com>  
**Sent:** Thursday, February 13, 2020 3:47 PM  
**To:** Bachman, Melanie; CSC-DL Siting Council  
**Cc:** Baldwin, Kenneth; Mayo, Rachel  
**Subject:** EM-VER-138-200121 - 630 James Farm Road, Stratford, CT - Additional Information  
**Attachments:** Stratford\_001.pdf

The original has been mailed to the Siting Council.

**Kathleen M. Dandeneau**  
Legal Administrative Assistant

Robinson & Cole LLP  
280 Trumbull Street  
Hartford, CT 06103  
Direct 860.541.2689 | Fax 860.275.8299  
[kdandeneau@rc.com](mailto:kdandeneau@rc.com) | [www.rc.com](http://www.rc.com)

**Robinson+Cole**  
Celebrating 175 Years

Boston | Hartford | New York | Providence | Miami | Stamford  
Los Angeles | Wilmington | Philadelphia | Albany | New London

This transmittal may be a confidential R+C attorney-client communication or may otherwise be privileged or confidential. If it is not clear that you are the intended recipient, you are hereby notified that you have received this transmittal in error; any review, dissemination, distribution, or copying of this transmittal is strictly prohibited. If you suspect that you have received this communication in error, please notify us immediately by telephone at 1-860-275-8200, or e-mail at [it-admin@rc.com](mailto:it-admin@rc.com), and immediately delete this message and all its attachments.

KENNETH C. BALDWIN

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

Also admitted in Massachusetts

February 13, 2020

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

Re: **EM-VER-138-200121 – Cellco Partnership d/b/a Verizon Wireless Notice of Intent to Modify an Existing Telecommunications Facility Located at 630 James Farm Road, Stratford, Connecticut**

Dear Attorney Bachman:

In response to your January 24, 2020 letter regarding the above-referenced filing, attached is a full and complete copy of the Mount Structural Analysis Report dated February 5, 2020, prepared by Paul J. Ford and Company. Please note, Cellco will be installing new mounts as part of its modifications to the facility.

If you have any questions or need any additional information, please do not hesitate to contact me.

Sincerely,



Kenneth C. Baldwin

Enclosures

20384995-v1

**Report Date:** February 5, 2020

**Client:** On Air Engineering, LLC  
88 Foundry Pond Road  
Cold Spring, NY 10516  
Attn: David Weinpahl, P.E.  
(201) 456-4624

**Structure:** Existing 110-ft Monopole  
**Carrier:** Verizon Wireless  
**Carrier Site Name:** Stratford N CT  
**Mount Type:** (3) SitePro1 VFA12-HD  
**Site Address:** 630 James Farm Rd.  
**City, County, State:** Stratford, Fairfield County, CT  
**Latitude, Longitude:** 41.25333, -73.12

**PJF Project:** A42920-0001.003.8190

Paul J. Ford and Company is pleased to submit this "Mount Structural Analysis Report". The purpose of this analysis is to determine if the mount has sufficient capacity to support the equipment described herein. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point is not part of this document.

**Analysis Criteria:**

Reference Standard: 2018 Connecticut State Building Code with the ANSI/TIA-222-G-2005 Standard, "Structural Standard for Antenna Supporting Structures and Antennas", with ANSI/TIA-222-G-1-2007 and ANSI/TIA-222-G-2-2009 Addenda per Exception #5 of Section 1609.1.1.

Ultimate Wind Speed: 125 mph 3-second gust wind speed without ice  
Nominal Wind Speed: 97 mph 3-second gust wind speed without ice  
Ice Wind Speed: 50 mph 3-second gust wind speed with 0.75" ice  
IBC Site Criteria: Risk Category II, Topographic Category 1, Exposure Category B

**Summary of Analysis Results:**

Antenna Mount: **47.3%** **SUFFICIENT**

We at Paul J. Ford and Company appreciate the opportunity of providing our continuing professional services to you and On Air Engineering, LLC. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully Submitted by:  
Paul J. Ford and Company



Angela Sage, E.I.  
Structural Designer  
[asage@pauljford.com](mailto:asage@pauljford.com)

SP



**Columbus**  
250 E Broad St, Suite 600  
Columbus, OH 43215  
Phone 614.221.6679



[www.PaulJFord.com](http://www.PaulJFord.com)

**Orlando**  
1801 Lee Rd, Suite 230  
Winter Park, FL 32789  
Phone 407.898.9039

**Founded in 1965**

**100% Employee Owned**

## **TABLE OF CONTENTS**

### **1) INTRODUCTION**

### **2) ANALYSIS CRITERIA**

Reference Standard  
Table 1 – Equipment Configuration

### **3) ANALYSIS PROCEDURE**

Table 2 – Documents Provided  
3.1) Analysis Method  
3.2) Assumptions

### **4) ANALYSIS RESULTS**

Table 3 - Mount Component Capacity  
4.1) Recommendations

### **STANDARD CONDITIONS**

### **APPENDIX A – WIRE FRAME AND RENDERED MODELS**

### **APPENDIX B – SOFTWARE INPUT CALCULATIONS**

### **APPENDIX C – SOFTWARE ANALYSIS OUPUT**

### **APPENDIX D – SUPPLEMENTAL MODIFICATION INFORMATION**

### **APPENDIX E – MANUFACTURER DRAWINGS (FOR REFERENCE ONLY)**

### **APPENDIX F – POST MODIFICATION INSPECTION (PMI) REQUIREMENTS FOR DESKTOP REVIEW**

**1) INTRODUCTION**

The mounts under consideration are (3) SitePro1 VFA12-HD installed at the 98’ elevation on a 110’ Monopole.

**2) ANALYSIS CRITERIA**

This analysis has been performed in accordance with the 2018 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 125 mph converted to a nominal 3-second gust wind speed of 97 mph per section 1609.3.1 as required for use in the ANSI/TIA-222-G-2005 Standard, "Structural Standard for Antenna Supporting Structures and Antennas", with ANSI/TIA-222-G-1-2007 and ANSI/TIA-222-G-2-2009 Addenda per Exception #5 of Section 1609.1.1. and 50 mph with 0.75 inch ice thickness. Risk Category II, Exposure Category B and Topographic Category 1 with a maximum Topographic Factor, Kzt, of 1 were used in this analysis.

In addition, the mounts have been analyzed for various live loading conditions consisting of a 250-pound maintenance load applied individually at the midpoint and cantilevered ends of horizontal members as well as a 250-pound maintenance load applied individually at mount pipe locations using a 3-second wind speed of 30 mph.

**Table 1 – Equipment Information**

Mounting Level (feet)	Center Line Elevation (feet)	Quantity	Manufacturer	Model	Status	Mount Type
98	98	3	samsung telecommunications	CBRS Integrated XXDWMM-12.5-65-8T/RRH-RT4401-48A	Proposed	(3) SitePro1 VFA12-HD
		6	rfs celwave	APL868013 w/ Mount Pipe		
		6	commscope	JAHH-65B-R3B w/ Mount Pipe	Existing	
		3	commscope	BSAMNT-SBS-2-2		
		3	samsung telecommunications	B5/13 RRH-BR04C		
		3	samsung telecommunications	B2/B66A RRH-BR049		
		3	commscope	CBC78T-DS-43-2X		
		1	rfs celwave	DB-C1-12C-24AB-0Z		
						Tower Mounted

### 3) ANALYSIS PROCEDURE

**Table 2 – Documents Provided**

Document	Remarks	Reference	Source
Mount Manufacturer Drawings	SitePro1, 6/29/2018	VFA12-HD Rev D	SitePro1
Construction Drawings	OnAir, 11/25/2019	Stratford N CT Rev 0	OnAir

#### 3.1) Analysis Method

RISA-3D (version 17.0.3), a commercially available analysis software package, was used to create a three-dimensional model of the mount and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix C. In addition, this analysis is in accordance with Verizon's NSTD-446 *Antenna Mount Analysis and Modification Process (dated 03/29/19)*.

#### 3.2) Assumptions

- 1) *The analysis of the existing self support tower or the effect of the mount attachment to the tower is not within the current scope of work.*
- 2) *The antenna mounting system was properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications and all bolts are tightened as specified by the manufacturer and AISC requirements.*
- 3) *The configuration of antennas, mounts, and other appurtenances are as specified in Table 1.*
- 4) *All member connections have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report. All U-Bolt connections have been properly tightened. This analysis will be required to be revised if the existing conditions in the field differ from those shown in the above referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.*
- 5) *Steel grades have been assumed as follows:*
  - a) *Channel, Solid Round, Angle, Plate, Unistrut*      *ASTM A36 (GR 36)*
  - b) *Pipe*      *ASTM A53 (GR 35)*
  - c) *HSS (Rectangular)*      *ASTM 500 (GR B-46)*
  - d) *HSS (Round)*      *ASTM 500 (GR B-42)*
  - e) *Connection Bolts*      *ASTM A325*
  - f) *Threaded Rods*      *ASTM F1554 (GR 36)*
  - g) *U-Bolts*      *SAE J429 (GR2)*
- 6) *Proposed equipment is to be installed in the locations specified in Appendix A. Any changes to the proposed equipment locations will render this report invalid.*

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J Ford and Company should be notified to determine the effect on the structural integrity of the tower.

**4) ANALYSIS RESULTS**

**Table 3 – Mount Component Capacity**

Notes	Component	% Capacity	Pass / Fail
1, 2	Mount Pipes	19.4	Pass
1, 2	Face Horizontal	16.9	Pass
1, 2	Standoff Members	16.1	Pass
1, 2	Bracing Members	47.3	Pass
1, 2	Tie Back	4.0	Pass
1, 2	Mount to Tower Connection (bolts/welds)	10.6	Pass

<b>Mount Rating (max from all components) =</b>	<b>47.3%</b>
---	--------------

Notes:

1. See additional documentation in "Appendix C – Software analysis Output" for calculations supporting the % capacity consumed.
2. All sectors are typical.

**4.1) Recommendations**

The SitePro1 VFA12HD is sufficient to support the proposed loading configuration.

**Verizon Mount Rating: M1550R(2800)-4[6]**



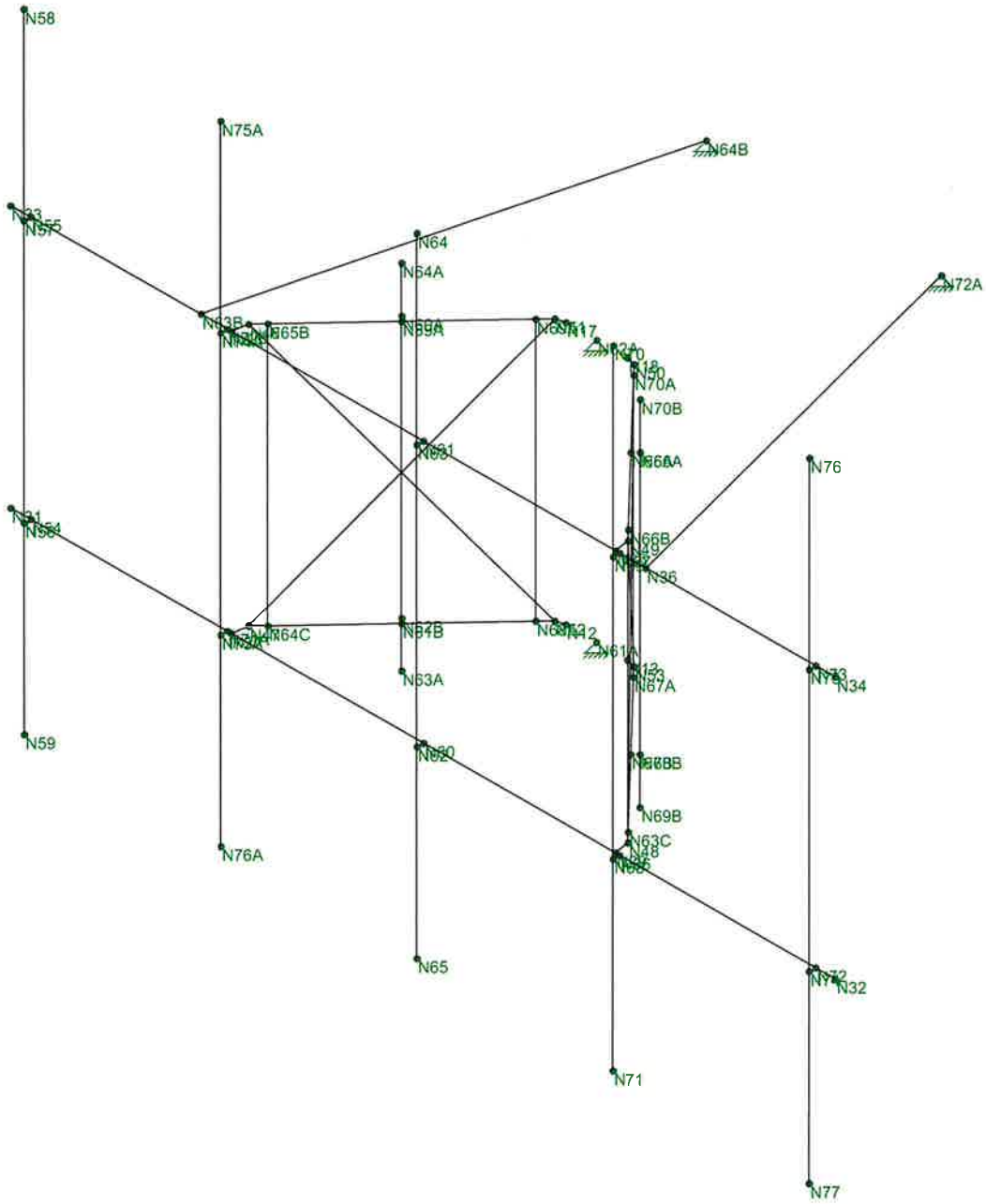
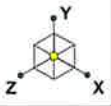
**STANDARD CONDITIONS FOR FURNISHING OF PROFESSIONAL ENGINEERING SERVICES ON EXISTING MOUNTS BY PAUL J. FORD AND COMPANY**

- 1) It is the responsibility of the client to ensure that the information provided to Paul J. Ford and Company is accurate and complete. Paul J. Ford and Company will rely on the accuracy and completeness of such information in performing or furnishing services under this project.
- 2) If the existing conditions are not as represented on the referenced drawings and/or documents, Paul J. Ford and Company should be contacted immediately to evaluate the significance of the deviation.
- 3) The mount has been analyzed according to the minimum design loads recommended by the Reference Standard. If additional design loads are required, Paul J. Ford and Company should be made aware of this prior to the start of the project.
- 4) The standard of care for all Professional Engineering Services performed or furnished by Paul J. Ford and Company under this project will be the skill and care used by members of the Consultant's profession practicing under similar circumstances at the same time and in the same locality.
- 5) 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 conclusions, opinions and/or recommendations made by others based on the information supplied herein.

\*\*\*\*\*

# **APPENDIX A**

## **WIRE FRAME AND RENDERED MODELS**



Envelope Only Solution

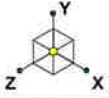
Paul J. Ford and Company  
 AMS  
 42920-0001.003.8190

Stratford N CT

SK - 1

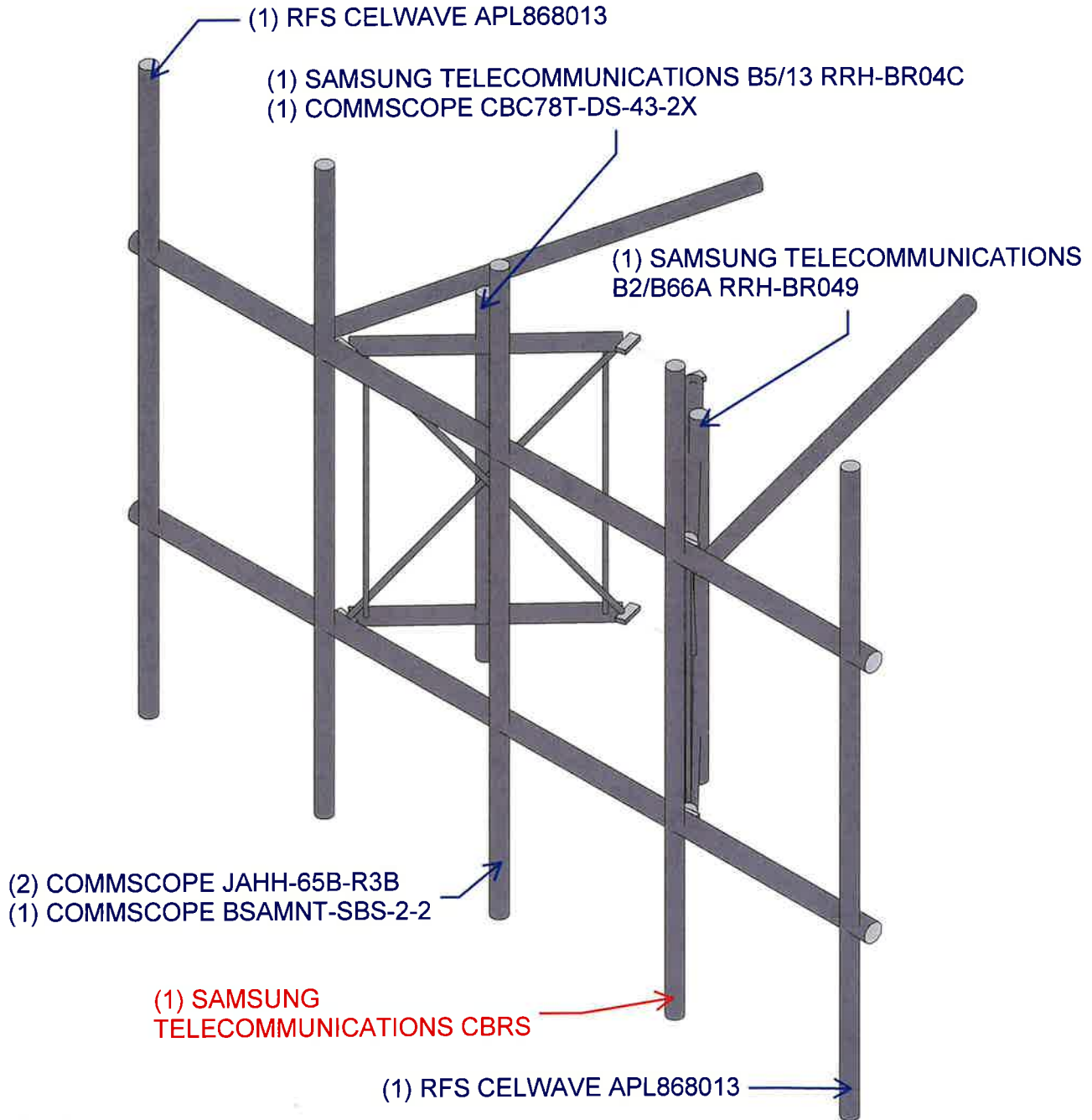
Feb 5, 2020 at 3:25 PM

42920-0001.003.8190\_Wind.r3d



**ALPHA SECTOR ANTENNA AZIMUTH - 15°**

**LEGEND**  
**EXISTING: BLUE**  
**PROPOSED: RED**



**NOTES:**

- 1) A 6" VERTICAL TOLERANCE FOR PROPOSED EQUIPMENT IS ACCEPTABLE.
- 2) CONTRACTOR TO VERIFY LOCATION OF EXISTING EQUIPMENT PRIOR TO INSTALLATION OF PROPOSED EQUIPMENT. NOTIFY EOR FOR ANY DEVIATIONS.
- 3) INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB OR ANY SYSTEM INSTALLED ON THE STRUCTURE.

Envelope Only Solution

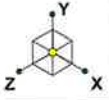
Paul J. Ford and Company  
 AMS  
 42920-0001.003.8190

Stratford N CT

SK - 2

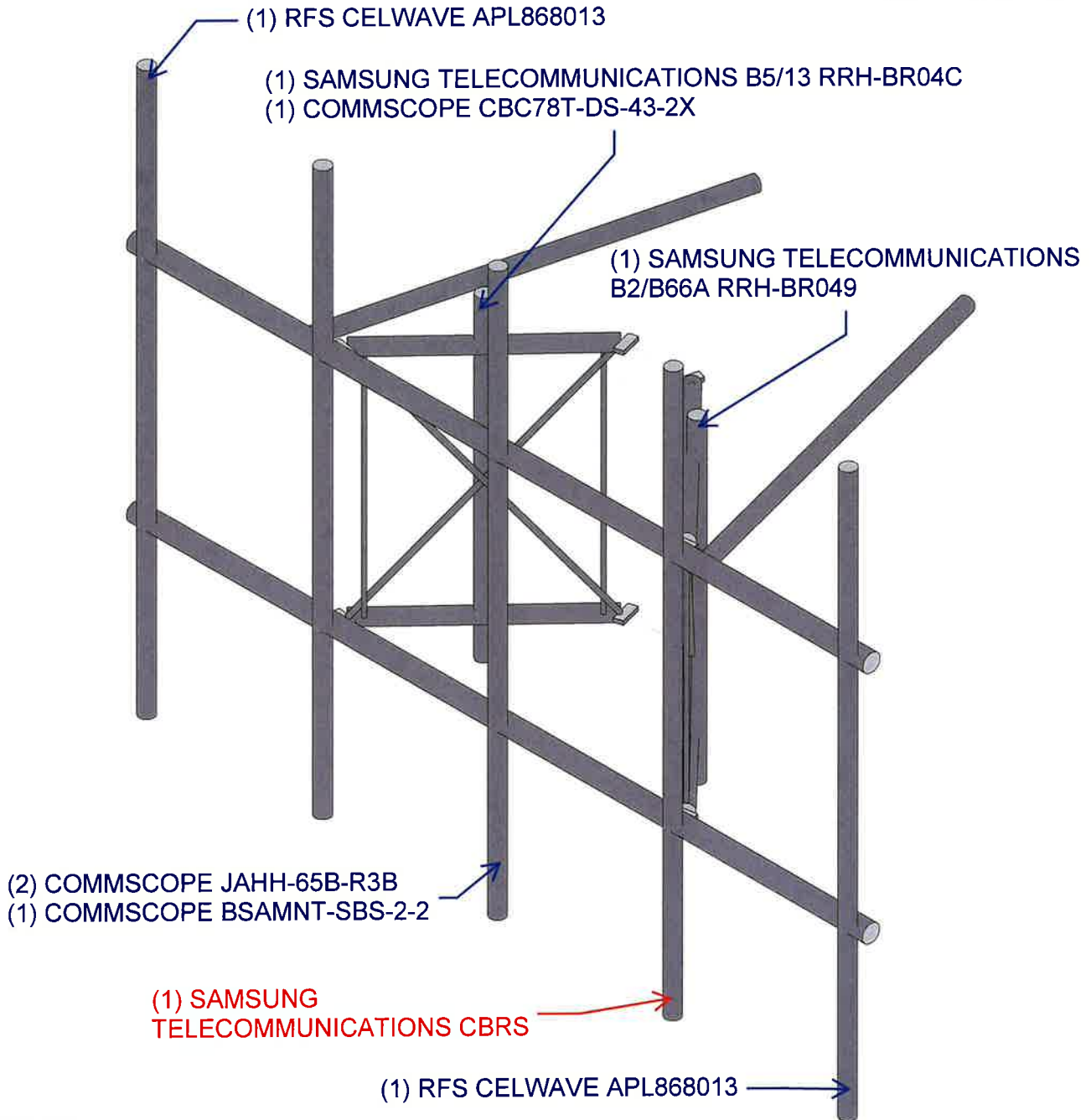
Feb 5, 2020 at 3:25 PM

42920-0001.003.8190\_Wind.r3d



**BETA SECTOR ANTENNA AZIMUTH - 135°**

**LEGEND**  
**EXISTING: BLUE**  
**PROPOSED: RED**



**NOTES:**

- 1) A 6" VERTICAL TOLERANCE FOR PROPOSED EQUIPMENT IS ACCEPTABLE.
- 2) CONTRACTOR TO VERIFY LOCATION OF EXISTING EQUIPMENT PRIOR TO INSTALLATION OF PROPOSED EQUIPMENT. NOTIFY EOR FOR ANY DEVIATIONS.
- 3) INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB OR ANY SYSTEM INSTALLED ON THE STRUCTURE.

Envelope Only Solution

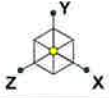
Paul J. Ford and Company  
 AMS  
 42920-0001.003.8190

Stratford N CT

SK - 2

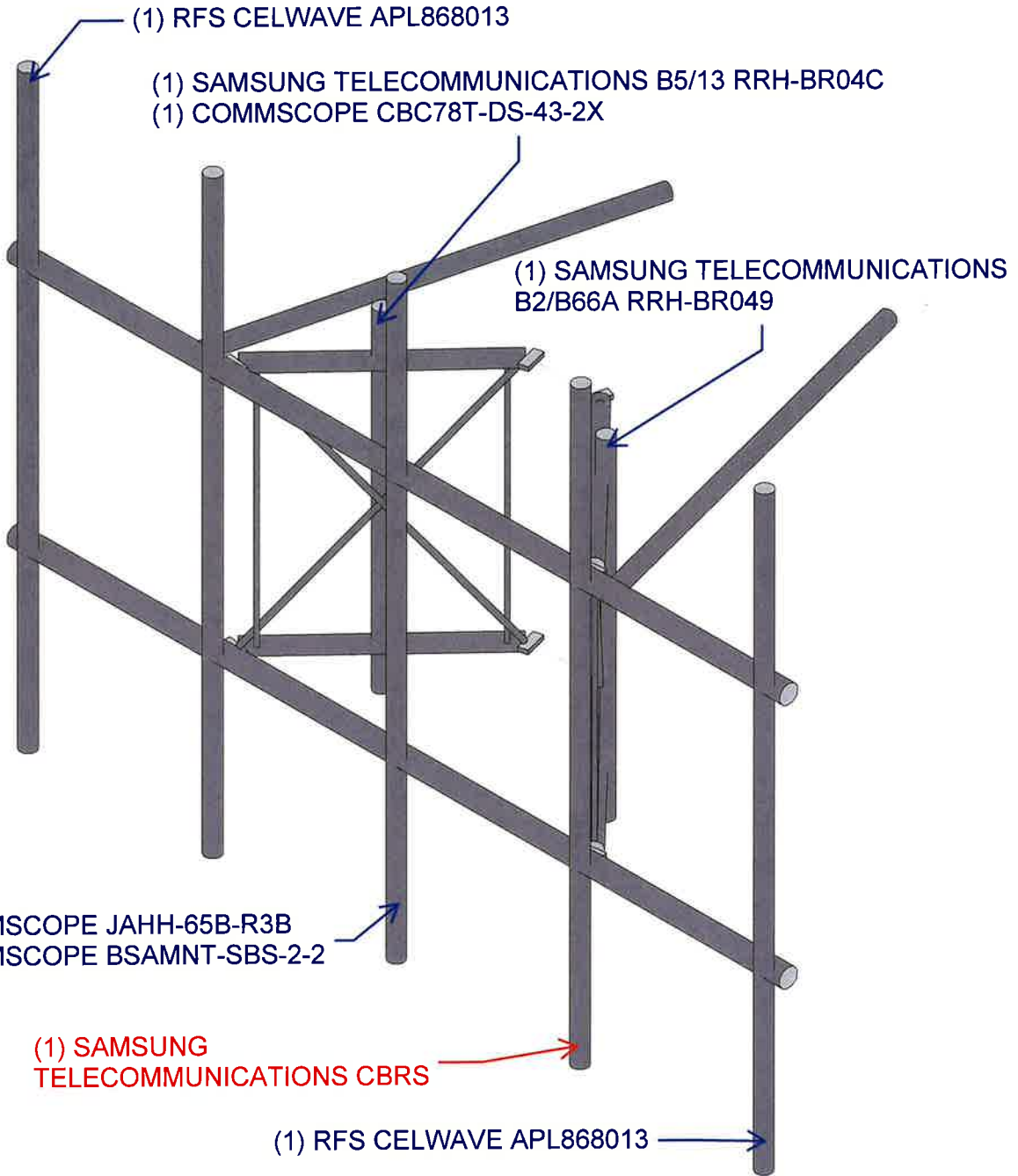
Feb 5, 2020 at 3:25 PM

42920-0001.003.8190\_Wind.r3d



**GAMMA SECTOR ANTENNA AZIMUTH - 255°**

**LEGEND**  
 EXISTING: BLUE  
 PROPOSED: RED



**NOTES:**

- 1) A 6" VERTICAL TOLERANCE FOR PROPOSED EQUIPMENT IS ACCEPTABLE.
- 2) CONTRACTOR TO VERIFY LOCATION OF EXISTING EQUIPMENT PRIOR TO INSTALLATION OF PROPOSED EQUIPMENT. NOTIFY EOR FOR ANY DEVIATIONS.
- 3) INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB OR ANY SYSTEM INSTALLED ON THE STRUCTURE.

Envelope Only Solution

Paul J. Ford and Company  
 AMS  
 42920-0001.003.8190

Stratford N CT

SK - 2

Feb 5, 2020 at 3:25 PM

42920-0001.003.8190\_Wind.r3d

# **APPENDIX B**

## **SOFTWARE INPUT CALCULATIONS**



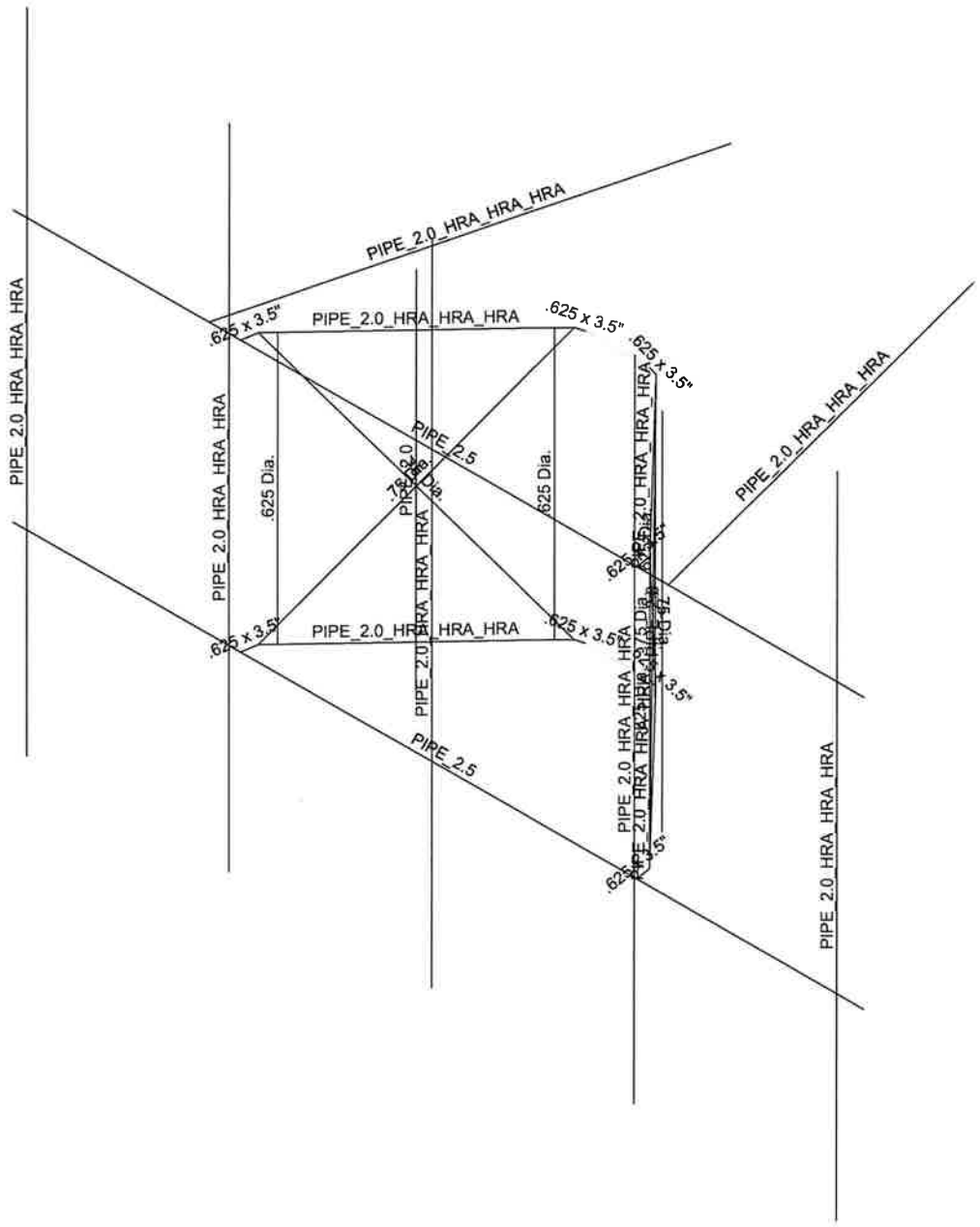
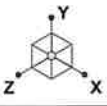


# **APPENDIX C**

## **SOFTWARE ANALYSIS OUTPUT**







Envelope Only Solution

Paul J. Ford and Company

AMS

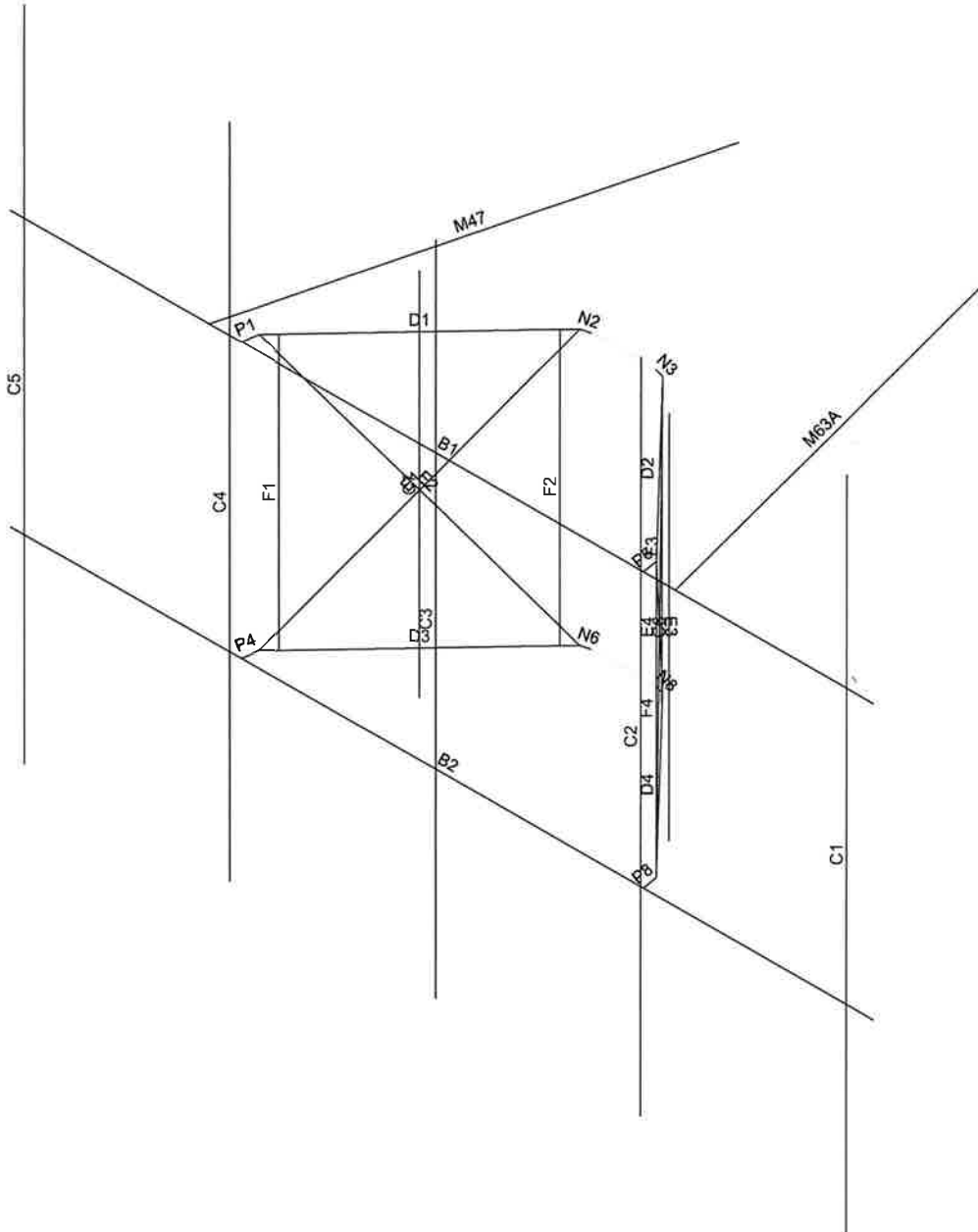
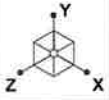
42920-0001.003.8190

Stratford N CT

SK - 5

Feb 5, 2020 at 3:25 PM

42920-0001.003.8190\_Wind.r3d



Envelope Only Solution

Paul J. Ford and Company

AMS

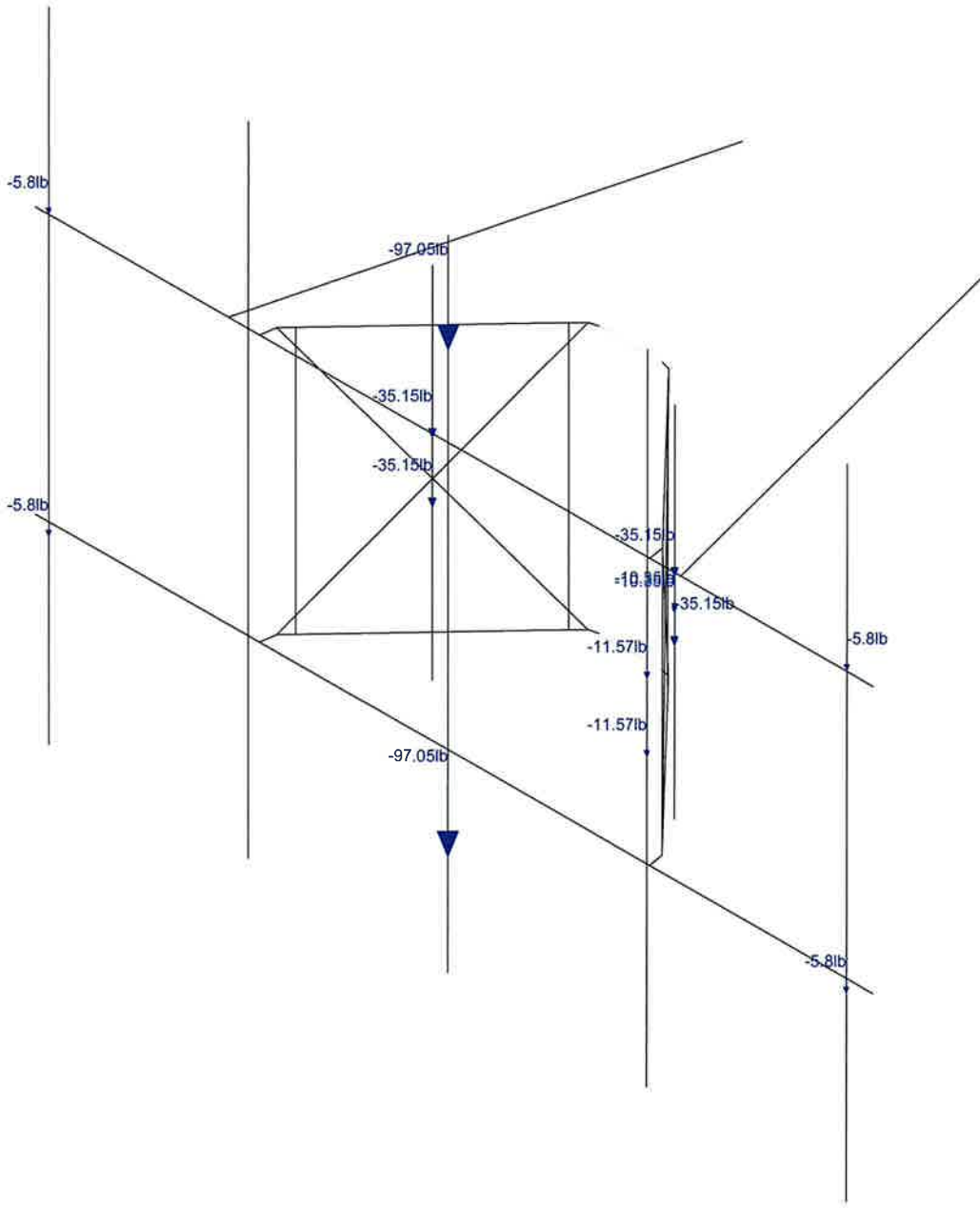
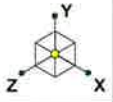
42920-0001.003.8190

Stratford N CT

SK - 6

Feb 5, 2020 at 3:26 PM

42920-0001.003.8190\_Wind.r3d



Loads: BLC 1, Dead  
Envelope Only Solution

Paul J. Ford and Company  
AMS  
42920-0001.003.8190

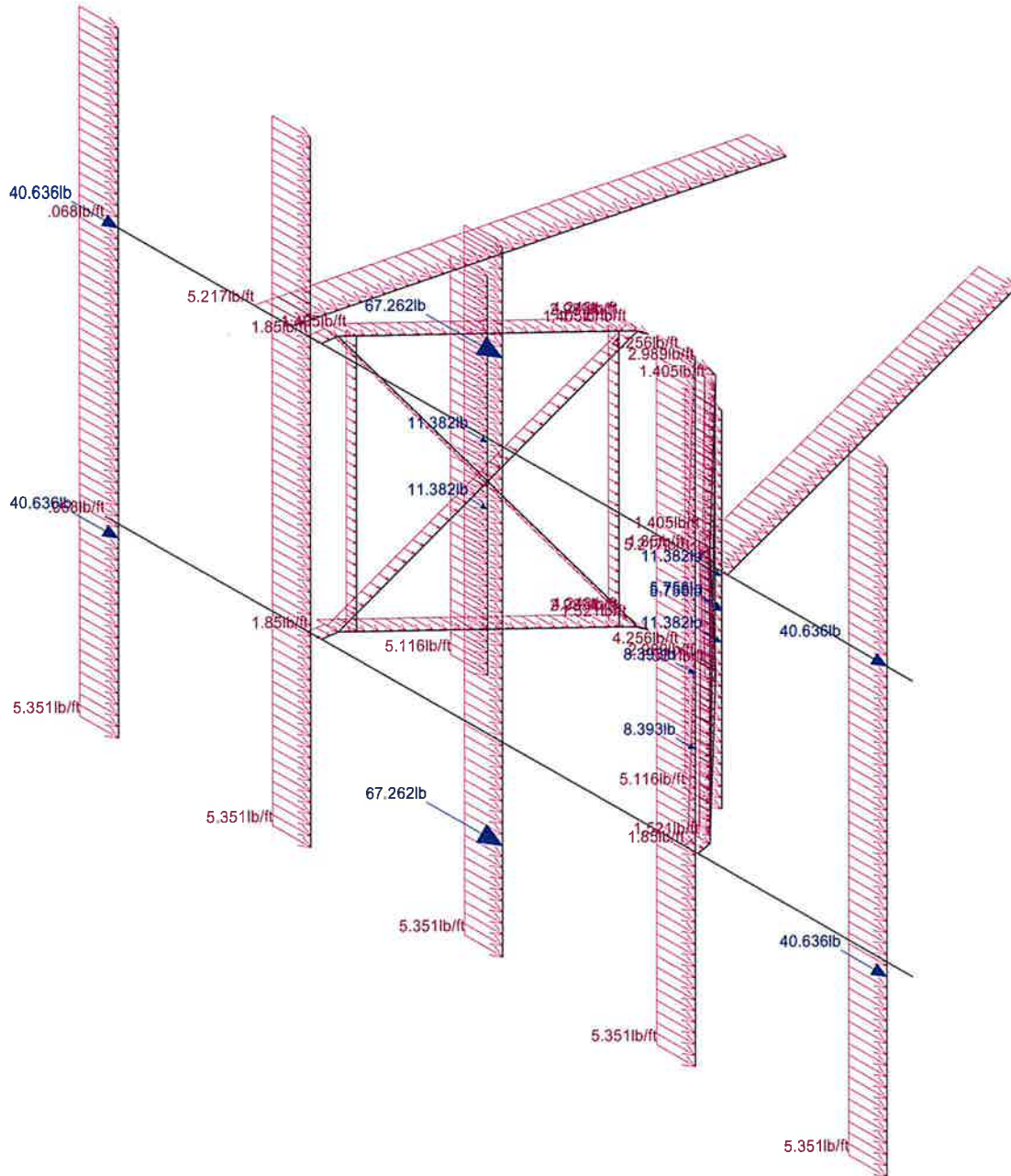
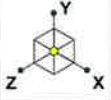
Stratford N CT

SK - 7

Feb 5, 2020 at 3:26 PM

42920-0001.003.8190\_Wind.r3d





Loads: BLC 6, Wind 90  
Envelope Only Solution

Paul J. Ford and Company  
AMS  
42920-0001.003.8190

Stratford N CT

SK - 9

Feb 5, 2020 at 3:27 PM

42920-0001.003.8190\_Wind.r3d





Company : Paul J. Ford and Company  
 Designer : AMS  
 Job Number : 42920-0001.003.8190  
 Model Name : Stratford N CT

Feb 5, 2020  
 3:28 PM  
 Checked By: \_\_\_\_\_

**(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 (in/sec^2)	386.4
Wall Mesh Size (in)	12
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 14th(360-10): 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



Company : Paul J. Ford and Company  
 Designer : AMS  
 Job Number : 42920-0001.003.8190  
 Model Name : Stratford N CT

Feb 5, 2020  
 3:28 PM  
 Checked By: \_\_\_\_\_

**(Global) Model Settings, Continued**

Seismic Code	ASCE 7-10
Seismic Base Elevation (in)	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	F [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	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	58	1.2
3	A992	29000	11154	.3	.65	.49	50	1.1	58	1.2
4	A500 Gr.42	29000	11154	.3	.65	.49	42	1.3	58	1.1
5	A500 Gr.46	29000	11154	.3	.65	.49	46	1.2	58	1.1
6	A53 Gr. B	29000	11154	.3	.65	.49	35	1.5	60	1.2

**Member Primary Data**

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	J2	N13	N61A		90	RIGID	None	None	RIGID	Typical
2	J4	N18	N62A		90	RIGID	None	None	RIGID	Typical
3	M62	N55	N57			RIGID	None	None	RIGID	Typical
4	M63	N54	N56			RIGID	None	None	RIGID	Typical
5	M65	N61	N63			RIGID	None	None	RIGID	Typical
6	M66	N60	N62			RIGID	None	None	RIGID	Typical
7	M68	N67	N69			RIGID	None	None	RIGID	Typical
8	M69	N66	N68			RIGID	None	None	RIGID	Typical
9	M71	N73	N75			RIGID	None	None	RIGID	Typical
10	M72	N72	N74			RIGID	None	None	RIGID	Typical
11	M45	N61A	N12		90	RIGID	None	None	RIGID	Typical
12	M46	N62A	N17		90	RIGID	None	None	RIGID	Typical
13	M41	N59A	N60A			RIGID	None	None	RIGID	Typical
14	M42	N61B	N62B			RIGID	None	None	RIGID	Typical
15	M44	N65A	N66A			RIGID	None	None	RIGID	Typical
16	M45A	N67B	N68B			RIGID	None	None	RIGID	Typical
17	M48	N72B	N74A			RIGID	None	None	RIGID	Typical
18	M49	N71A	N73A			RIGID	None	None	RIGID	Typical
19	D4	N53	N48			PIPE 2.0 HR...	None	None	A53 Gr. B	Typical
20	D3	N52	N47			PIPE 2.0 HR...	None	None	A53 Gr. B	Typical



Company : Paul J. Ford and Company  
 Designer : AMS  
 Job Number : 42920-0001.003.8190  
 Model Name : Stratford N CT

Feb 5, 2020  
 3:28 PM  
 Checked By: \_\_\_\_\_

**Member Primary Data (Continued)**

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
21	D1	N51	N46			PIPE 2.0 HR...	None	None	A53 Gr. B	Typical
22	D2	N50	N49			PIPE 2.0 HR...	None	None	A53 Gr. B	Typical
23	E1	N51	N47			.75 Dia.	None	None	A53 Gr. B	Typical
24	E2	N52	N46			.75 Dia.	None	None	A53 Gr. B	Typical
25	E3	N53	N49			.75 Dia.	None	None	A53 Gr. B	Typical
26	E4	N48	N50			.75 Dia.	None	None	A53 Gr. B	Typical
27	B2	N31	N32			PIPE 2.5	None	None	A53 Gr. B	Typical
28	B1	N33	N34			PIPE 2.5	None	None	A53 Gr. B	Typical
29	C5	N59	N58			PIPE 2.0 HR...	None	None	A53 Gr. B	Typical
30	C3	N65	N64			PIPE 2.0 HR...	None	None	A53 Gr. B	Typical
31	C2	N71	N70			PIPE 2.0 HR...	None	None	A53 Gr. B	Typical
32	C1	N77	N76			PIPE 2.0 HR...	None	None	A53 Gr. B	Typical
33	M63A	N36	N72A			PIPE 2.0 HR...	None	None	A53 Gr. B	Typical
34	M47	N63B	N64B			PIPE 2.0 HR...	None	None	A53 Gr. B	Typical
35	C7	N63A	N64A			PIPE 2.0	None	None	A53 Gr. B	Typical
36	C6	N69B	N70B			PIPE 2.0	None	None	A53 Gr. B	Typical
37	C4	N76A	N75A			PIPE 2.0 HR...	None	None	A53 Gr. B	Typical
38	F2	N69A	N68A			.625 Dia.	None	None	A53 Gr. B	Typical
39	F1	N65B	N64C			.625 Dia.	None	None	A53 Gr. B	Typical
40	F3	N70A	N67A			.625 Dia.	None	None	A53 Gr. B	Typical
41	F4	N66B	N63C			.625 Dia.	None	None	A53 Gr. B	Typical
42	N6	N12	N52		90	.625 x 3.5"	None	None	A36 Gr.36	Typical
43	N8	N13	N53		90	.625 x 3.5"	None	None	A36 Gr.36	Typical
44	N2	N17	N51		90	.625 x 3.5"	None	None	A36 Gr.36	Typical
45	N3	N18	N50		90	.625 x 3.5"	None	None	A36 Gr.36	Typical
46	P1	N23	N46		90	.625 x 3.5"	None	None	A36 Gr.36	Typical
47	P6	N25	N49		90	.625 x 3.5"	None	None	A36 Gr.36	Typical
48	P4	N27	N47		90	.625 x 3.5"	None	None	A36 Gr.36	Typical
49	P8	N29	N48		90	.625 x 3.5"	None	None	A36 Gr.36	Typical

**Member Advanced Data**

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	J2						Yes	** NA **			None
2	J4						Yes	** NA **			None
3	M62	OOOXOX					Yes	** NA **			None
4	M63	OOOXOX					Yes	** NA **			None
5	M65	OOOXOX					Yes	** NA **			None
6	M66	OOOXOX					Yes	** NA **			None
7	M68	OOOXOX					Yes	** NA **			None
8	M69	OOOXOX					Yes	** NA **			None
9	M71	OOOXOX					Yes	** NA **			None
10	M72	OOOXOX					Yes	** NA **			None
11	M45						Yes	** NA **			None
12	M46						Yes	** NA **			None
13	M41	OOOXOX					Yes	** NA **			None
14	M42	OOOXOX					Yes	** NA **			None
15	M44	OOOXOX					Yes	** NA **			None
16	M45A	OOOXOX					Yes	** NA **			None
17	M48	OOOXOX					Yes	** NA **			None
18	M49	OOOXOX					Yes	** NA **			None
19	D4						Yes	** NA **			None
20	D3						Yes	** NA **			None
21	D1						Yes	** NA **			None
22	D2						Yes	** NA **			None
23	E1	BenPIN	BenPIN				Yes	** NA **			None



Company : Paul J. Ford and Company  
 Designer : AMS  
 Job Number : 42920-0001.003.8190  
 Model Name : Stratford N CT

Feb 5, 2020  
 3:28 PM  
 Checked By: \_\_\_\_\_

**Member Advanced Data (Continued)**

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
24	E2	BenPIN	BenPIN			Tension ...	Yes	** NA **			None
25	E3	BenPIN	BenPIN			Tension ...	Yes	** NA **			None
26	E4	BenPIN	BenPIN				Yes	** NA **			None
27	B2						Yes	** NA **			None
28	B1						Yes	** NA **			None
29	C5						Yes	** NA **			None
30	C3						Yes	** NA **			None
31	C2						Yes	** NA **			None
32	C1						Yes	** NA **			None
33	M63A	BenPIN					Yes	** NA **			None
34	M47	BenPIN					Yes	** NA **			None
35	C7						Yes	** NA **			None
36	C6						Yes	** NA **			None
37	C4						Yes	** NA **			None
38	F2	BenPIN	BenPIN				Yes	** NA **			None
39	F1	BenPIN	BenPIN				Yes	** NA **			None
40	F3	BenPIN	BenPIN				Yes	** NA **			None
41	F4	BenPIN	BenPIN				Yes	** NA **			None
42	N6						Yes	** NA **			None
43	N8						Yes	** NA **			None
44	N2						Yes	** NA **			None
45	N3						Yes	** NA **			None
46	P1	BenPIN					Yes	** NA **			None
47	P6	BenPIN					Yes	** NA **			None
48	P4	BenPIN					Yes	** NA **			None
49	P8	BenPIN					Yes	** NA **			None

**Hot Rolled Steel Design Parameters**

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
1	D4	PIPE 2.0 ...	33.054			Lbyy						Lateral
2	D3	PIPE 2.0 ...	33.056			Lbyy						Lateral
3	D1	PIPE 2.0 ...	33.056			Lbyy						Lateral
4	D2	PIPE 2.0 ...	33.054			Lbyy						Lateral
5	E1	.75 Dia.	51.891			Lbyy						Lateral
6	E2	.75 Dia.	51.891			Lbyy						Lateral
7	E3	.75 Dia.	51.89			Lbyy						Lateral
8	E4	.75 Dia.	51.89			Lbyy						Lateral
9	B2	PIPE 2.5	126			Lbyy						Lateral
10	B1	PIPE 2.5	126			Lbyy						Lateral
11	C5	PIPE 2.0 ...	96									Lateral
12	C3	PIPE 2.0 ...	96									Lateral
13	C2	PIPE 2.0 ...	96									Lateral
14	C1	PIPE 2.0 ...	96									Lateral
15	M63A	PIPE 2.0 ...	63.209									Lateral
16	M47	PIPE 2.0 ...	63.209									Lateral
17	C7	PIPE 2.0	54									Lateral
18	C6	PIPE 2.0	54									Lateral
19	C4	PIPE 2.0 ...	96									Lateral
20	F2	.625 Dia.	40			Lbyy						Lateral
21	F1	.625 Dia.	40			Lbyy						Lateral
22	F3	.625 Dia.	40			Lbyy						Lateral
23	F4	.625 Dia.	40			Lbyy						Lateral
24	N6	.625 x 3.5"	1.396			Lbyy						Lateral
25	N8	.625 x 3.5"	1.393			Lbyy						Lateral
26	N2	.625 x 3.5"	1.396			Lbyy						Lateral





Company : Paul J. Ford and Company  
 Designer : AMS  
 Job Number : 42920-0001.003.8190  
 Model Name : Stratford N CT

Feb 5, 2020  
 3:28 PM  
 Checked By: \_\_\_\_\_

**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	
27	1.2 D + 1.5 Lm + 1.0 Wm ...	Yes	Y		1	1.2	3	.096	16	1.5																	
28	1.2 D + 1.5 Lm + 1.0 Wm ...	Yes	Y		1	1.2	4	.096	16	1.5																	
29	1.2 D + 1.5 Lm + 1.0 Wm ...	Yes	Y		1	1.2	5	.096	16	1.5																	
30	1.2 D + 1.5 Lm + 1.0 Wm ...	Yes	Y		1	1.2	6	.096	16	1.5																	
31	1.2 D + 1.5 Lm + 1.0 Wm ...	Yes	Y		1	1.2	7	.096	16	1.5																	
32	1.2 D + 1.5 Lm + 1.0 Wm ...	Yes	Y		1	1.2	8	.096	16	1.5																	
33	1.2 D + 1.5 Lm + 1.0 Wm ...	Yes	Y		1	1.2	3	-.096	16	1.5																	
34	1.2 D + 1.5 Lm + 1.0 Wm ...	Yes	Y		1	1.2	4	-.096	16	1.5																	
35	1.2 D + 1.5 Lm + 1.0 Wm ...	Yes	Y		1	1.2	5	-.096	16	1.5																	
36	1.2 D + 1.5 Lm + 1.0 Wm ...	Yes	Y		1	1.2	6	-.096	16	1.5																	
37	1.2 D + 1.5 Lm + 1.0 Wm ...	Yes	Y		1	1.2	7	-.096	16	1.5																	
38	1.2 D + 1.5 Lm + 1.0 Wm ...	Yes	Y		1	1.2	8	-.096	16	1.5																	
39	1.2 D + 1.5 Lv	Yes	Y		1	1.2	17	1.5																			

**Envelope Joint Reactions**

Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-in]	LC	MY [k-in]	LC	MZ [k-in]	LC	
1	N72A	max	213.927	5	33.967	22	899.652	5	0	39	0	39	0	39
2		min	-213.132	11	11.102	5	-899.513	11	0	1	0	1	0	1
3	N62A	max	1055.03	11	2433.556	22	-86.634	3	0	39	0	39	0	39
4		min	-1121.341	5	886.235	4	-1520.302	21	0	1	0	1	0	1
5	N61A	max	734.538	11	190.887	16	1739.01	15	0	39	0	39	0	39
6		min	-670.581	7	55.449	10	-339.673	9	0	1	0	1	0	1
7	N64B	max	202.295	7	33.916	20	858.646	13	0	39	0	39	0	39
8		min	-203.162	13	11.27	13	-858.047	7	0	1	0	1	0	1
9	Totals:	max	1474.169	13	2676.499	23	1785.379	3						
10		min	-1474.167	7	1021.933	5	-1785.381	9						

**Envelope AISC 14th(360-10): LRFD Steel Code Checks**

Member	Shape	Code C	Loc[in]	LC	Shear	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y	phi*Mn z	Cb	Eqn
1	F4	.625 Dia.	.473	24.167	16	.039	0	5	1057.552	9664.074	1.208	1.208	1....	H1-1a
2	F1	.625 Dia.	.444	24.167	26	.040	0	5	1057.552	9664.074	1.208	1.208	1....	H1-1a
3	F2	.625 Dia.	.232	40	39	.051	0	5	1057.552	9664.074	1.208	1.208	1	H1-1a
4	N2	.625 x 3.5"	.219	1.396	39	.139	0	y 39	70651.974	70875	11.074	62.016	1....	H1-1b
5	C3	PIPE 2.0 H...	.194	68	8	.188	68	5	14916.096	32130	22.459	22.459	1....	H1-1b
6	N6	.625 x 3.5"	.184	1.396	39	.064	0	y 39	70651.974	70875	11.074	62.016	1....	H1-1b
7	N3	.625 x 3.5"	.173	0	39	.104	0	y 39	70652.85	70875	11.074	62.016	1....	H1-1b
8	B1	PIPE 2.5	.169	32.813	39	.054	95.813	5	20573.263	50715	43.155	43.155	1....	H1-1b
9	B2	PIPE 2.5	.167	32.813	39	.025	2.625	39	20573.263	50715	43.155	43.155	1....	H1-1b
10	D2	PIPE 2.0 H...	.161	0	5	.050	31.333	16	29336.067	32130	22.459	22.459	1....	H1-1b
11	D1	PIPE 2.0 H...	.153	0	7	.046	31.335	26	29335.75	32130	22.459	22.459	1....	H1-1b
12	P8	.625 x 3.5"	.145	2.284	26	.041	0	y 39	70279.484	70875	11.074	62.016	1....	H1-1b
13	N8	.625 x 3.5"	.135	1.393	23	.091	0	y 39	70652.85	70875	11.074	62.016	2....	H1-1b
14	E4	.75 Dia.	.135	25.945	25	.043	0	11	1303.155	13916.259	2.088	2.088	1....	H1-1b
15	P4	.625 x 3.5"	.133	2.284	39	.042	2.284	z 39	70279.484	70875	11.074	62.016	1....	H1-1b
16	E1	.75 Dia.	.129	25.946	17	.045	51.891	5	1303.092	13916.259	2.088	2.088	1....	H1-1b
17	D3	PIPE 2.0 H...	.124	2.066	39	.094	33.056	25	29335.75	32130	22.459	22.459	1....	H1-1b
18	D4	PIPE 2.0 H...	.107	16.527	13	.105	33.054	17	29336.067	32130	22.459	22.459	1....	H1-1b
19	F3	.625 Dia.	.089	40	16	.051	0	5	1057.552	9664.074	1.208	1.208	1....	H1-1b*
20	P6	.625 x 3.5"	.063	2.284	17	.017	2.284	y 11	70279.484	70875	11.074	62.016	1....	H1-1b
21	P1	.625 x 3.5"	.061	2.284	25	.017	2.284	y 13	70279.484	70875	11.074	62.016	1....	H1-1b
22	C6	PIPE 2.0	.041	27.563	8	.142	46.688	5	25203.832	32130	22.459	22.459	1....	H1-1b
23	M63A	PIPE 2.0 H...	.040	63.209	5	.004	63.209	24	23037.548	32130	22.459	22.459	1....	H1-1b*
24	M47	PIPE 2.0 H...	.038	63.209	13	.004	63.209	24	23037.548	32130	22.459	22.459	1....	H1-1b*
25	C7	PIPE 2.0	.032	31.5	10	.138	7.313	5	25203.832	32130	22.459	22.459	1....	H1-1b



Company : Paul J. Ford and Company  
 Designer : AMS  
 Job Number : 42920-0001.003.8190  
 Model Name : Stratford N CT

Feb 5, 2020  
 3:28 PM  
 Checked By: \_\_\_\_\_

**Envelope AISC 14th(360-10): LFRD Steel Code Checks (Continued)**

Member	Shape	Code C...	Loc[fin]	LC Shear ...	Loc[fin]	Dir	LC phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-...	phi*Mn z-...	Cb	Ean		
26	C2	PIPE 2.0 H...	.027	28	15	.150	28	5	14916.096	32130	22.459	22.459	1...	H1-1b
27	C4	PIPE 2.0 H...	.022	28	15	.139	68	7	14916.096	32130	22.459	22.459	1...	H1-1b
28	C5	PIPE 2.0 H...	.017	68	11	.097	68	7	14916.096	32130	22.459	22.459	1.5	H1-1b
29	C1	PIPE 2.0 H...	.017	68	7	.102	68	5	14916.096	32130	22.459	22.459	1...	H1-1b
30	E2	.75 Dia.	.000	0	39	.000	0	39	1303.092	13916.259	2.088	2.088	1	H1-1a
31	E3	.75 Dia.	.000	0	39	.000	0	39	1303.155	13916.259	2.088	2.088	1	H1-1a

## MOUNT TO TOWER CONNECTION CHECKS

### REACTIONS

Px=	1.121	Kip
Py=	1.52	Kip
(Axial)Pz=	2.434	Kip
Mx=	0	Kip-in
My=	0	Kip-in
(Torque)Mz=	0	Kip-in
Number of Bolts	=	1

### BOLT CHECKS

Tension Reaction	2.43	kip
Shear Reaction	1.89	kip
Bolt Type	A325N	
Bolt Diameter	0.75	in
Tensile Strength	29.8	kips
Shear Strength	17.9	kips
Reduced Tensile Strength	-	kips
Tensile Capacity Used	8.2%	
Shear Capacity Used	10.6%	

**Note: Tension reduction not required if tension or shear capacity < 30%**

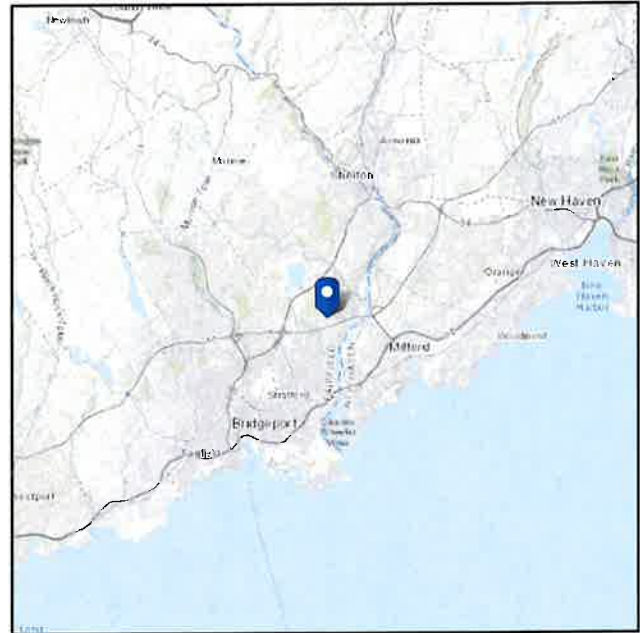


# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-10  
**Risk Category:** II  
**Soil Class:** D - Stiff Soil

**Elevation:** 256.74 ft (NAVD 88)  
**Latitude:** 41.2453  
**Longitude:** -73.1201



## Wind

### Results:

Wind Speed: 123 Vmph  
10-year MRI 77 Vmph  
25-year MRI 87 Vmph  
50-year MRI 93 Vmph  
100-year MRI 100 Vmph

← Jurisdiction requires 125 mph ultimate wind speed (97 mph nominal)

**Data Source:** ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014

**Date Accessed:** Wed Feb 05 2020

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 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

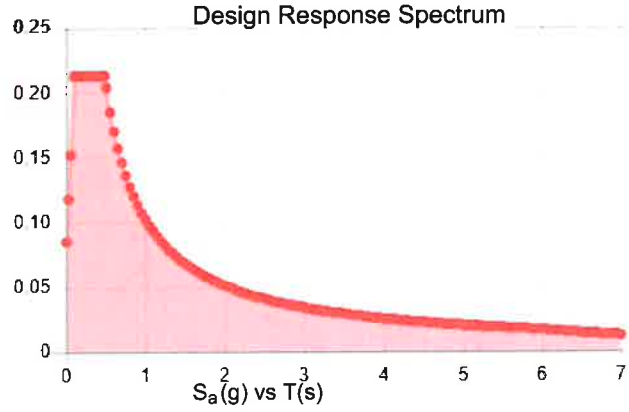
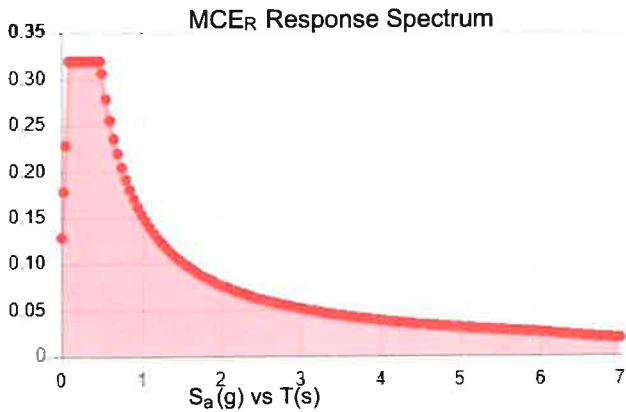
Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

**Site Soil Class:** D - Stiff Soil

**Results:**

$S_S$ :	0.199	$S_{DS}$ :	0.213
$S_1$ :	0.064	$S_{D1}$ :	0.102
$F_a$ :	1.6	$T_L$ :	6
$F_v$ :	2.4	PGA :	0.107
$S_{MS}$ :	0.319	PGA <sub>M</sub> :	0.169
$S_{M1}$ :	0.153	$F_{PGA}$ :	1.587
		$I_e$ :	1

**Seismic Design Category** B



**Data Accessed:**

Wed Feb 05 2020

**Date Source:**

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.



## Ice

---

### Results:

Ice Thickness: 0.75 in.  
Concurrent Temperature: 15 F  
Gust Speed: 50 mph

**Data Source:** Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

**Date Accessed:** Wed Feb 05 2020

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 50-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.

---

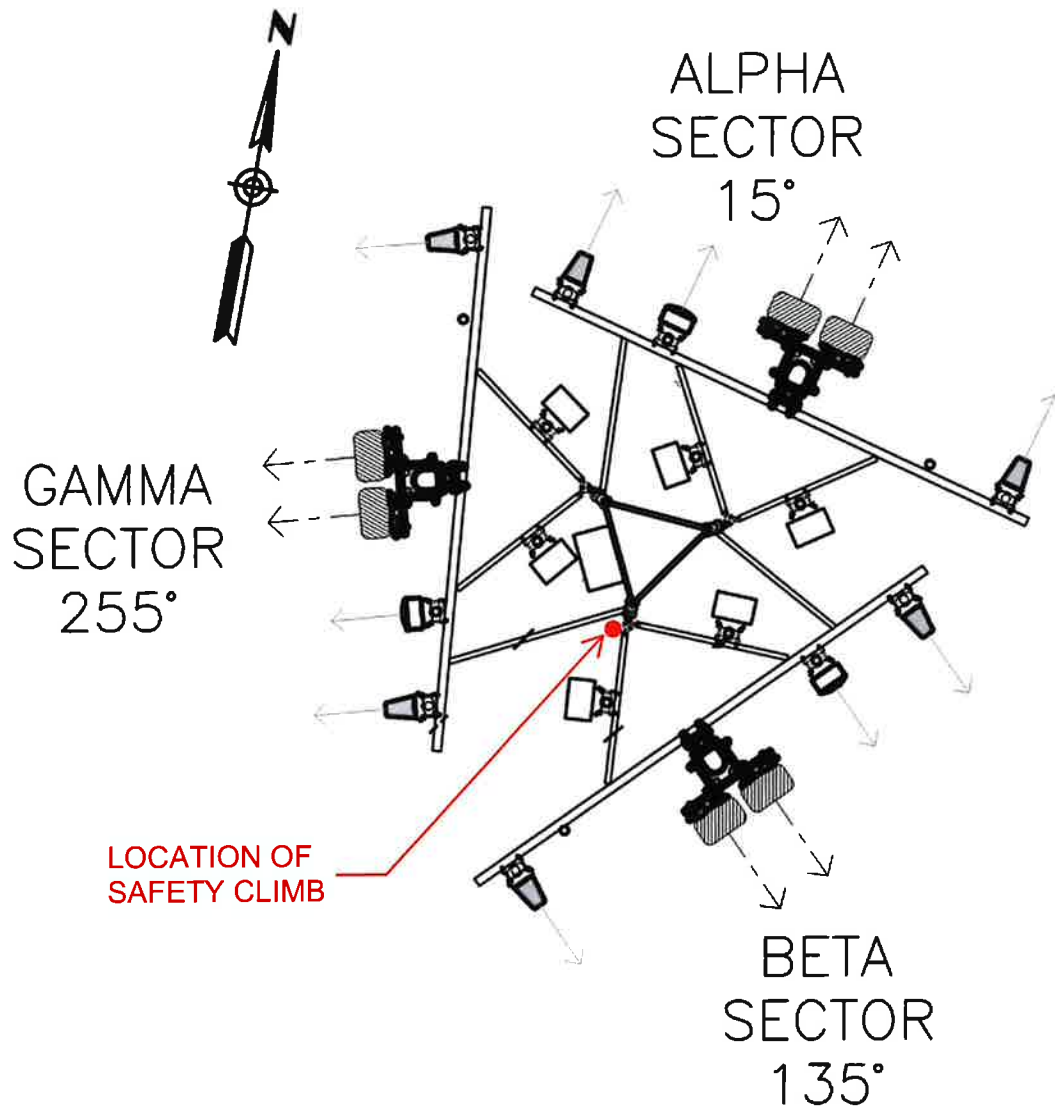
The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

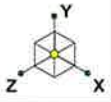
# **APPENDIX D**

## **SUPPLEMENTAL MODIFICATION INFORMATION**

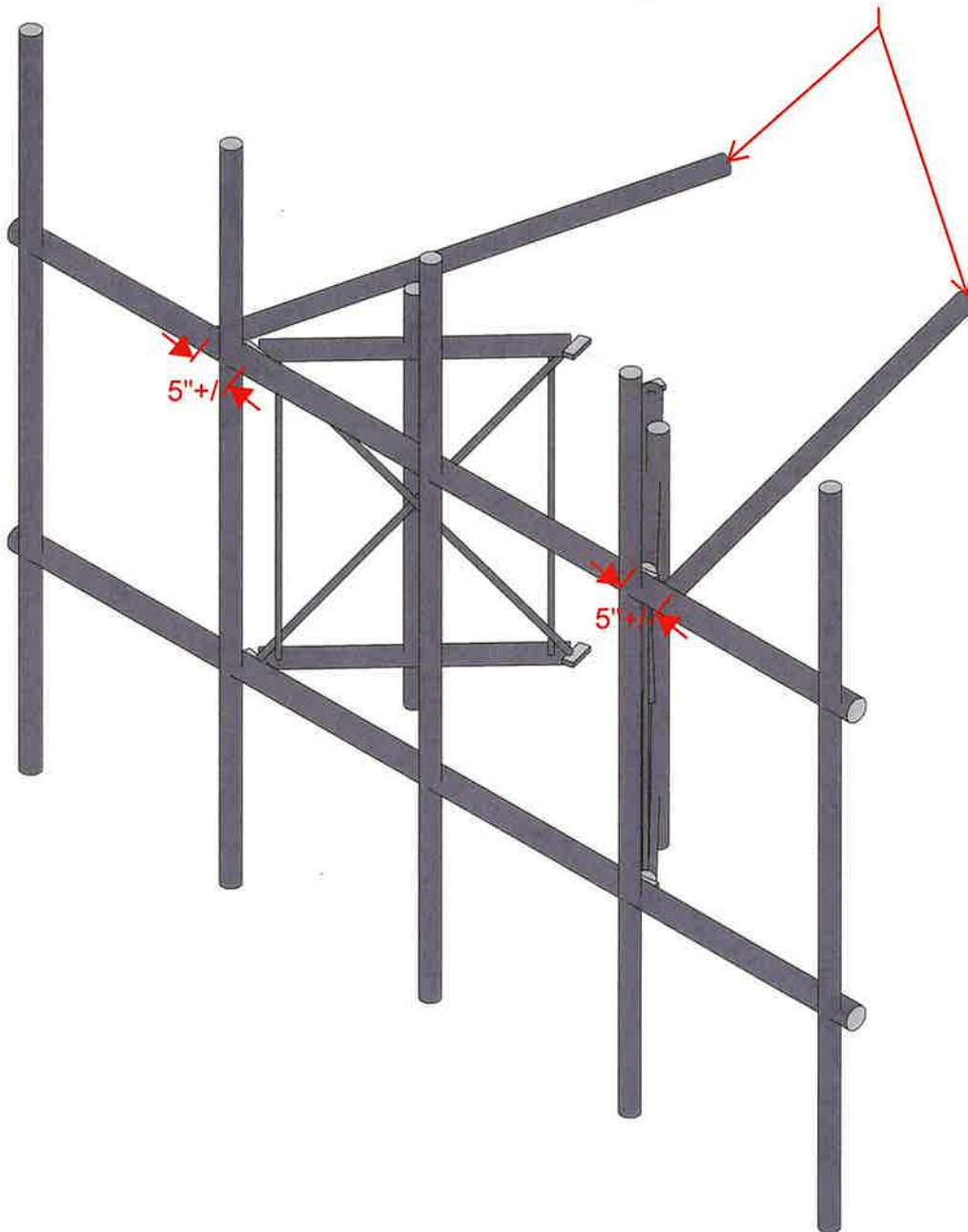


NOTES:

- 1) A 6" VERTICAL TOLERANCE FOR PROPOSED EQUIPMENT IS ACCEPTABLE.
- 2) CONTRACTOR TO VERIFY LOCATION OF EXISTING EQUIPMENT PRIOR TO INSTALLATION OF PROPOSED EQUIPMENT. NOTIFY EOR FOR ANY DEVIATIONS.
- 3) INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB OR ANY SYSTEM INSTALLED ON THE STRUCTURE.



TIEBACKS MUST BE CONNECTED WITHIN 25% OF EITHER END OF THE ADJACENT TOWER LEG MEMBER



Paul J. Ford and Company  
AMS  
42920-0001.003.8190

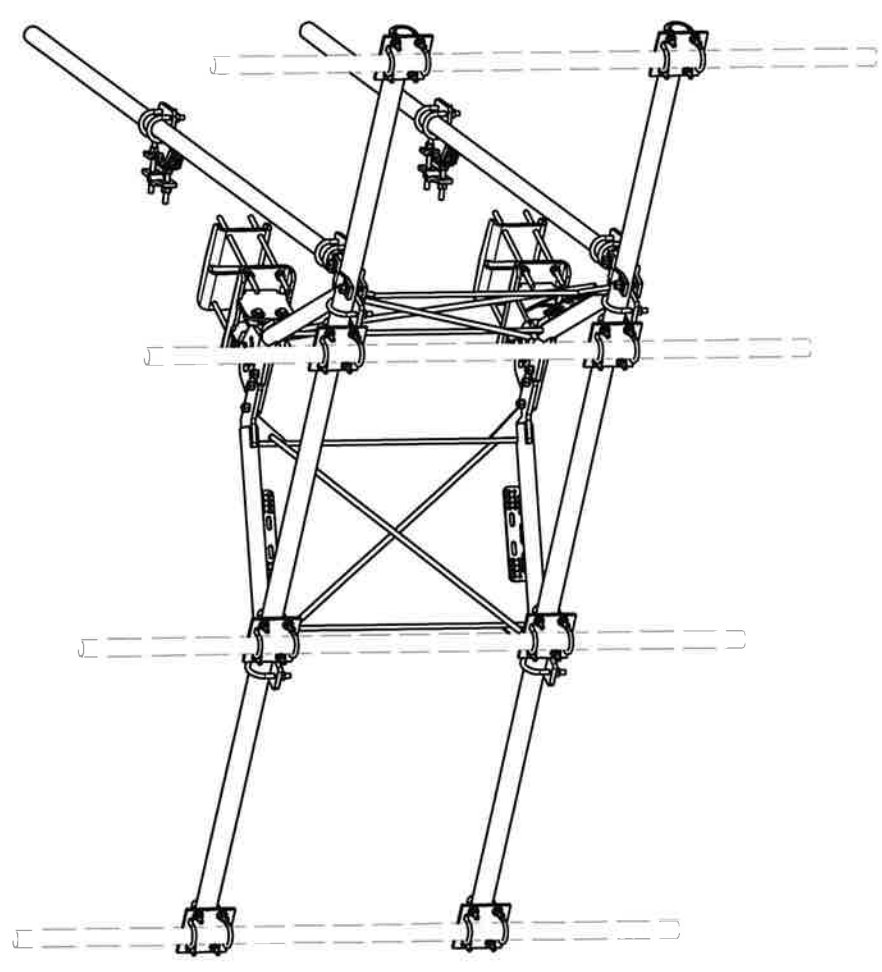
Stratford N CT

SK - 10  
Feb 6, 2020 at 11:42 AM  
42920-0001.003.8190\_Wind.r3d

**APPENDIX E**

**MANUFACTURER DRAWINGS  
(FOR REFERENCE ONLY)**

ITEM		QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-VFAW	SUPPORT ARM			71.41	142.81
2	1	X-HDCAMTBW	CLAMP WELDMENT FOR BCAM-HD			33.86	33.86
3	1	X-MHTPHD	MULTI-HOLE TAPER PLATE WELDMENT			36.24	36.24
4	2	X-VFAPL4	VFA-HD PIVOT PLATE		12 in	15.88	31.77
5	2	X-LCBP4	BENT BACKING PLATE		13 in	19.00	38.01
6	1	X-HDCAMSS	ANGLE ADJUSTMENT WELDMENT FOR BCAM-HD			16.39	16.39
7	4	X-SPTB	SLIDING PIPE TIE BACK PLATE		5 1/2 in	5.87	23.49
8	1	X-HDCAMSP	POSITIONING PLATE WELDMENT FOR BCAM-HD			2.58	2.58
9	4	X-TBCA	TIE BACK CLIP ANGLE			2.01	8.02
10	8	SCX2	CROSSOVER PLATE		7 in	4.80	38.37
11	4	MCP	CLAMP HALF 1/2" THICK, 11-5/8" LONG		12 1/16 in	3.59	14.37
12	8	DCP	1/2" THICK, 5-3/4" CENTER TO CENTER CLAMP HALF		8 1/8 in	2.36	18.90
13	2	P2126	2-3/8" X 126" (2" SCH. 40) GALVANIZED PIPE		126 in	40.75	81.50
14	2	P30150	2-7/8" X 150" (2-1/2" SCH. 40) GALVANIZED PIPE		150 in	76.94	153.87
15	4	A34212	3/4" X 2-1/2" UNC HEX BOLT (A325)		2 1/2 in	0.48	1.92
16	4	G34FW	3/4" HDG USS FLATWASHER			0.06	0.24
17	4	G34LW	3/4" HDG LOCKWASHER			0.04	0.17
18	4	G34NUT	3/4" HDG HEAVY 2H HEX NUT			0.21	0.85
19	8	G58R-18	5/8" X 18" THREADED ROD (HDG.)		18 in	0.40	3.19
20	4	G58R-12	5/8" X 12" THREADED ROD (HDG.)			1.05	4.18
21	4	G58R-8	5/8" X 8" THREADED ROD (HDG.)			0.70	2.79
22	4	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)			1.15	4.60
23	8	X-UB5258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)			1.00	8.00
24	2	G5807	5/8" X 7" HDG HEX BOLT GR5 FULL THREAD		7 in	0.70	1.41
25	1	G5806	5/8" X 6" HDG HEX BOLT GR5 FULL THREAD		6 in	0.62	0.62
26	8	G5804	5/8" X 4" HDG HEX BOLT GR5			0.44	3.55
27	4	G5802	5/8" X 2" HDG HEX BOLT GR5			0.27	1.08
28	8	A582114	5/8" X 2-1/4" HDG A325 HEX BOLT		2 1/4 in	0.31	2.50
29	25	G58FW	5/8" HDG USS FLATWASHER			0.07	1.76
30	66	G58LW	5/8" HDG LOCKWASHER		1/8 in	0.03	1.72
31	71	G58NUT	5/8" HDG HEAVY 2H HEX NUT			0.13	9.22
32	32	X-UB1300	1/2" X 3" X 5" X 2" GALV U-BOLT			0.74	23.64
33	16	X-UB1212	1/2" X 2" X 3" X 1-1/4" U-BOLT (HDG.)			0.60	9.56
34	64	G12FW	1/2" HDG USS FLATWASHER		3/32 in	0.03	2.18
35	64	G12LW	1/2" HDG LOCKWASHER		1/8 in	0.01	0.89
36	64	G12NUT	1/2" HDG HEAVY 2H HEX NUT			0.07	4.56
						TOTAL WT. #	738.06



**TOLERANCE NOTES**

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
 SAWED, SHEARED AND GAS CUT EDGES ( $\pm 0.0307$ )  
 DRILLED AND GAS CUT HOLES ( $\pm 0.0307$ ) - NO CONING OF HOLES  
 LASER CUT EDGES AND HOLES ( $\pm 0.0107$ ) - NO CONING OF HOLES  
 BENDS ARE  $\pm 1/2$  DEGREE  
 ALL OTHER MACHINING ( $\pm 0.0697$ )  
 ALL OTHER ASSEMBLY ( $\pm 0.0697$ )


PROPRIETARY NOTE:  
 THE DATA AND DIMENSIONS CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT  
 AND ARE TO BE KEPT CONFIDENTIAL. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF  
 VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

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

REVISION HISTORY

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

CPD NO.	CEK	1/25/2017	ENG. APPROVAL
CLASS	81	CUSTOMER	BMC 1213/2017
SUB	02	CHECKED BY	



A valmont COMPANY

Locations:  
 New York, NY  
 Atlanta, GA  
 Los Angeles, CA  
 Dallas, TX  
 Houston, TX  
 Phoenix, AZ  
 Portland, OR  
 Raleigh, NC  
 Salt Lake City, UT  
 San Antonio, TX  
 San Diego, CA  
 Tulsa, OK

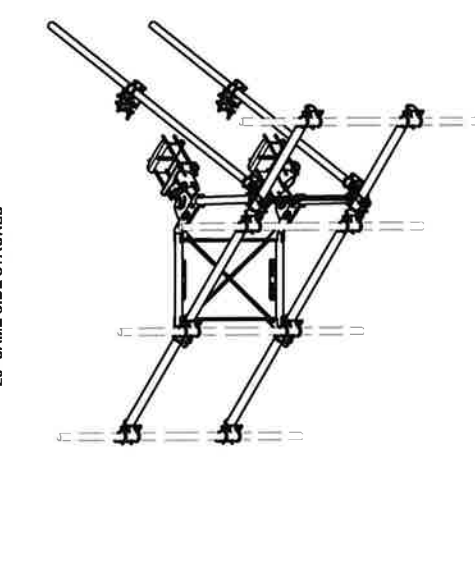
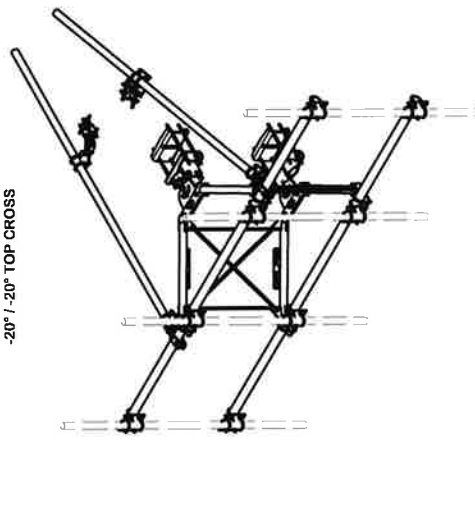
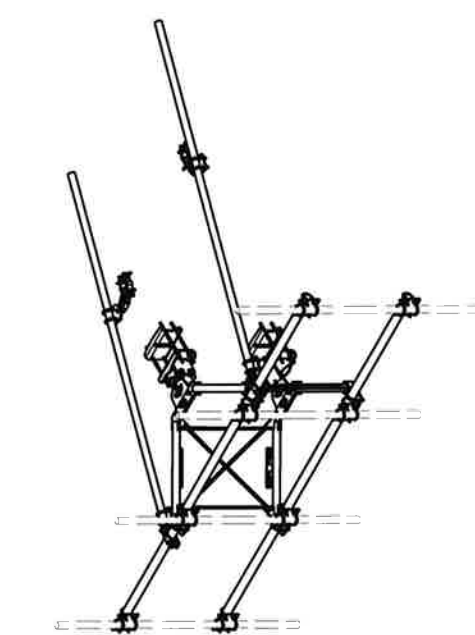
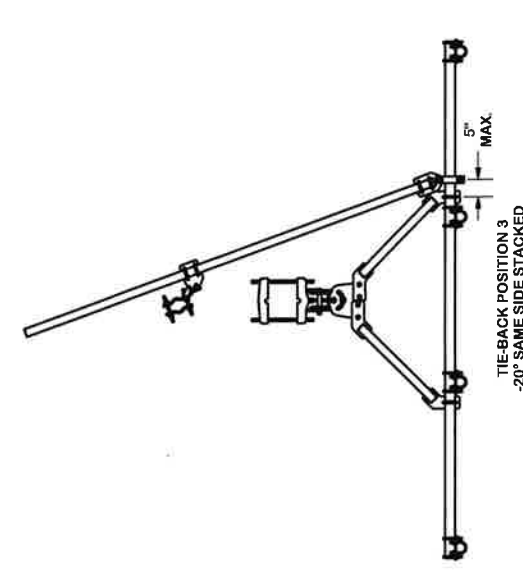
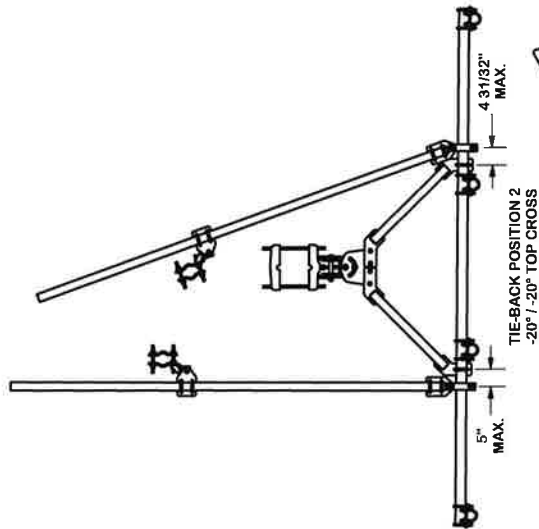
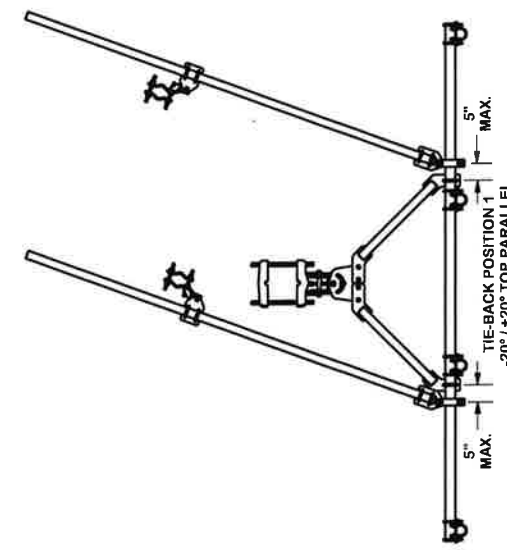
PART NO. **VFA12-HD**

DWG. NO. **VFA12-HD**

PAGE  
**1 OF 5**



# TIE-BACK POSITIONS



## TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
 SAWED, SHEARED AND GAS CUT EDGES ( $\pm 0.0307$ )  
 DRILLED AND GAS CUT HOLES ( $\pm 0.0307$ ) - NO CONING OF HOLES  
 LABERED CUT EDGES AND HOLES ( $\pm 0.0107$ ) - NO CONING OF HOLES  
 ALL OTHER MACHINING ( $\pm 0.0307$ )  
 ALL OTHER ASSEMBLY ( $\pm 0.0607$ )

PROPRIETARY NOTE:  
 THE DATA AND DIMENSIONS CONTAINED IN THIS DRAWING ARE THE SOLE PROPERTY OF VALMONT. ANY USE OR REPRODUCTION WITHOUT THE CONSENT OF VALMONT IS PROHIBITED AND STRICTLY FORBIDDEN.

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

CPD NO.	CLASS	DRAWN BY	ENG. APPROVAL
81	02	CEK	1/25/2017
SUB		CHECKED BY	
02		BMC	12/13/2017

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

Engineering  
 1-888-753-7446

A valmont COMPANY

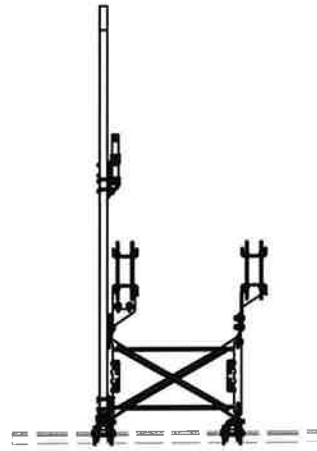
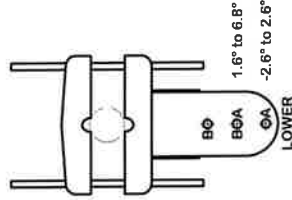
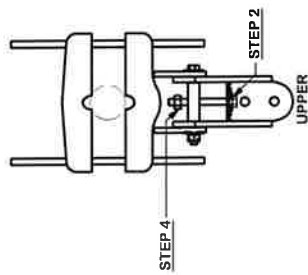
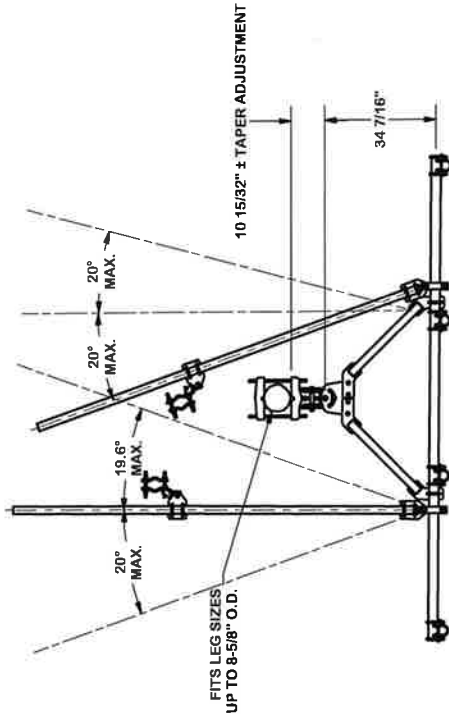
PART NO.	PAGE
VFA12-HD	2 OF 5
DWG. NO.	
VFA12-HD	

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

REVISION HISTORY

**ANGLE CALIBRATING PROCEDURE:**

1. MEASURE TOWER TAPER AND PICK LOWER BRACKET HOLE:
  - HOLE A = -2.6° TO 2.6°
  - HOLE B = 1.6° TO 6.8°
2. USE CALIBRATING BOLT TO ADJUST FRAME TO DESIRED TAPER
3. TORQUE LOCKING BOLTS TO 100 ft.-lbs.
4. ADVANCE LOCKING NUT TO POSITIONING PLATE, THEN TIGHTEN.



**TOLERANCE NOTES**

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
 SAWED, SHEARED AND GAS CUT EDGES ( $\pm 0.0307$ )  
 DRILLED AND GAS CUT HOLES ( $\pm 0.0307$ ) - NO CONING OF HOLES  
 LABER CUT EDGES AND HOLES ( $\pm 0.0707$ ) - NO CONING OF HOLES  
 BENDS ARE  $\pm 1/2$  DEGREE  
 ALL OTHER MACHINING ( $\pm 0.0307$ )  
 ALL OTHER ASSEMBLY ( $\pm 0.0607$ )

PROHIBITIVE NOTE:  
 THE DATA AND TECHNOLOGIES CONTAINED IN THIS DRAWING ARE PROPRIETARY TRADE SECRETS OF VALMONT  
 AND ARE TO BE KEPT CONFIDENTIAL AND NOT TO BE DISCLOSED WITHOUT THE CONSENT OF  
 VALMONT INDUSTRIES OR ITS DIRECTLY AFFILIATED COMPANIES.

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

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

CPD NO. DRAWN BY  
**CEK** 1/25/2017  
 SUB DRAWING USAGE  
**02** CUSTOMER  
 CLASS  
**81**  
 ENG. APPROVAL  
 CHECKED BY  
**BMC** 12/13/2017

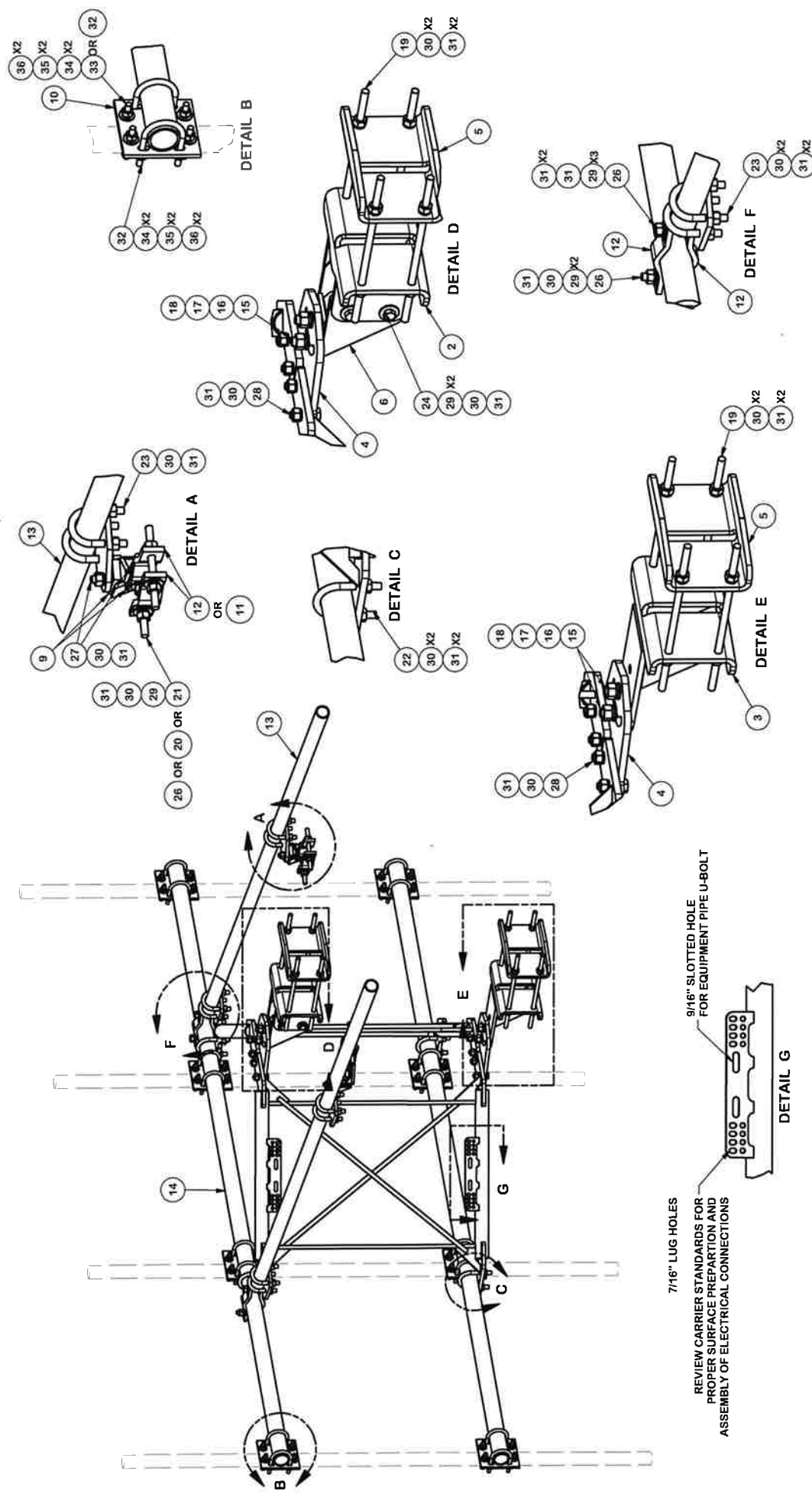
Locations:  
 New York, NY  
 Atlanta, GA  
 Plymouth, IN  
 Salem, OR  
 Dallas, TX

Engineering  
 1-888-753-7446

**SITE PRO 1**  
 A valmont COMPANY

PART NO. **VFA12-HD**  
 DWG. NO. **VFA12-HD**

PAGE  
**3 OF 5**



**SITE PRO**  
A valmont COMPANY

Locations:  
New York, NY  
Atlanta, GA  
Plymouth, IN  
Salom, OR  
Dallas, TX

Engineering  
Sales  
1-888-753-7446

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

ENG. APPROVAL  
CHECKED BY  
**BMC** 12/13/2017

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

DRAWING USAGE  
**CUSTOMER**

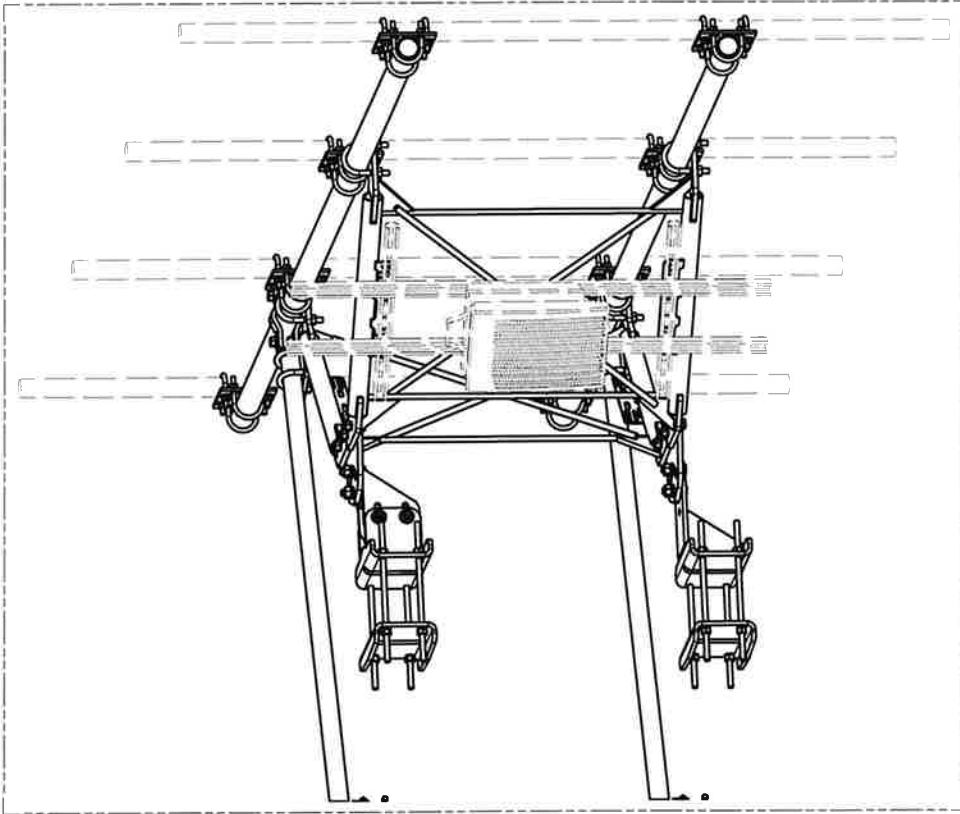
CPD NO. SUB CLASS  
**81 02**

PART NO. DWG. NO.  
**VFA12-HD VFA12-HD**

**TOLERANCE NOTES**  
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
SAWED, SHEARED AND GAS CUT EDGES ( $\pm 0.0397$ )  
DRILLED AND GAS CUT HOLES ( $\pm 0.0397$ ) - NO CONING OF HOLES  
LASER CUT EDGES AND HOLES ( $\pm 0.0107$ ) - NO CONING OF HOLES  
BENES ARE  $\pm 1/2$  DEGREE  
ALL OTHER MACHINING ( $\pm 0.0397$ )  
ALL OTHER ASSEMBLY ( $\pm 0.0667$ )

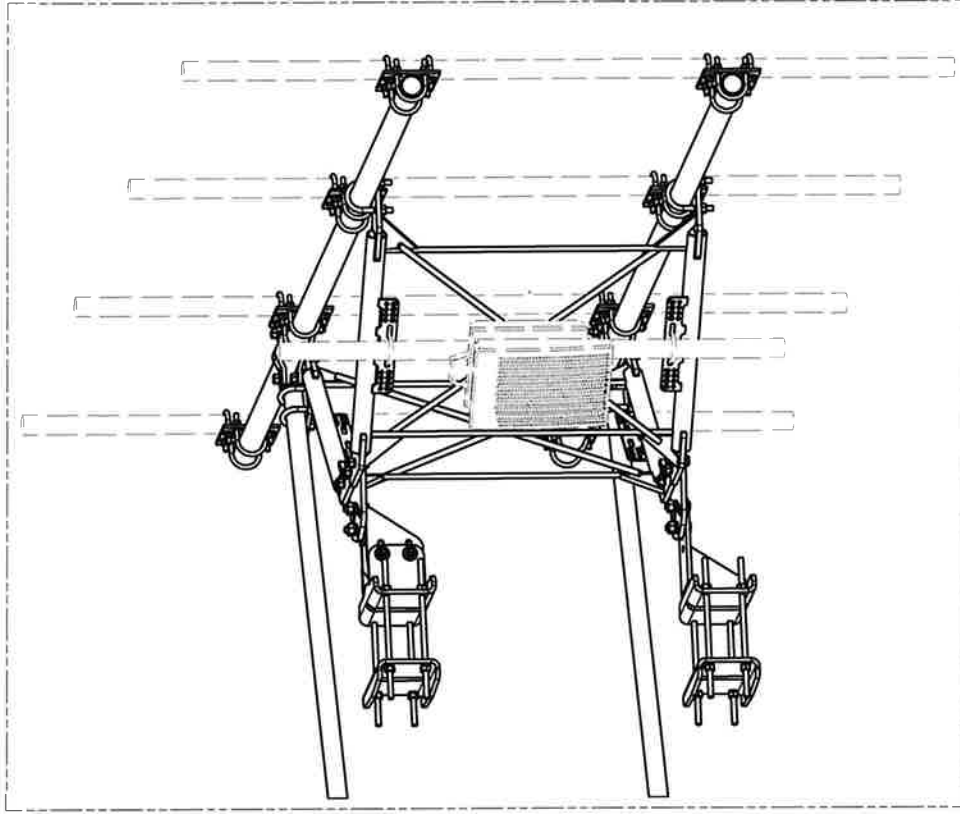
INDUSTRY NOTE:  
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED. ALL DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE UNLESS OTHERWISE SPECIFIED. ALL DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE UNLESS OTHERWISE SPECIFIED. ALL DIMENSIONS ARE TO BE TAKEN TO THE CENTERLINE UNLESS OTHERWISE SPECIFIED.

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



UNISTRUT AND HARDWARE  
SOLD SEPARATELY.

REQUIRES 3/8" HARDWARE



EQUIPMENT PIPE AND HARDWARE  
SOLD SEPARATELY.

REQUIRES 1/2" HARDWARE  
AND 2-3/8" TO 4-1/2" O.D. PIPE

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

TOLERANCE NOTES	
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE: DRILLED, SHEARED AND GAS CUT EDGES (± 0.0307) MILLED AND GAS CUT EDGES AND HOLES (± 0.0307) - NO COMING OF HOLES BEYOND THE ± 1/2 DEGREE ALL OTHER MACHINING (± 0.0307) ALL OTHER ASSEMBLY (± 0.0607)	
<small>PROPRIETARY NOTE: THIS DRAWING IS THE PROPERTY OF SITE PRO I. ALL RIGHTS ARE RESERVED. ANY USE OF THIS DRAWING WITHOUT THE CONSENT OF SITE PRO I IS PROHIBITED. ANY USE OF THIS DRAWING WITHOUT THE CONSENT OF SITE PRO I IS PROHIBITED.</small>	

DESCRIPTION	CLASS	SUB	CPD NO.	DRAWN BY	DRAWING USAGE	ENG. APPROVAL
12" 6" HEAVY DUTY V-FRAME ASSEMBLY WITH TWO STIFF ARMS	81	02		CEK	1/25/2017	BMC 12/13/2017

PART NO.		DWS. NO.	
VFA12-HD		VFA12-HD	
VFA12-HD		VFA12-HD	

Engineering		Locations:	
1-888-753-7446	1-888-753-7446	New York, NY	Atlanta, GA
		Phoenix, AZ	Portland, OR
		Salem, OR	Dallas, TX

SITE PRO I	
A Valmont COMPANY	

PAGE	
5	OF 5

**APPENDIX F**

**POST MODIFICATION INSPECTION (PMI) REQUIREMENTS  
FOR DESKTOP REVIEW**

## Post Modification Inspection (PMI) Report Requirements

### Documents & Photos Required from Contractor

**Purpose** – to provide PJF 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 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:**

- Provide “as built drawings” showing contractor’s name, preparer’s signature, and date. Any deviations from the drawing (proposed modification) must be shown.
- Notation that all hardware was properly installed, and the existing hardware was inspected for any issues.
- Verification that loading is as communicated in the modification drawings. NOTE if loading is different than what is conveyed in the modification drawing contact PJF immediately.
- Each photo should be time and date stamped.
- Photos should be high resolution and submitted in a Zip File and should be organized in the file structure as depicted in Schedule A attached.
- Any special photos outside of the standard requirements will be indicated on the drawings.
- 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.
- The photos in the file structure should be uploaded to [pjfmount@pauljford.com](mailto:pjfmount@pauljford.com) as depicted on the drawings.

#### **Photo Requirements:**

- **Base and “During Installation Photos”**
  - Base pictures include
    - Photo of Gate Signs showing the tower owner, site name, and number.
    - Photo of carrier shelter showing the carrier site name and number if available.
    - Photos of the galvanizing compound and/or paint used (if applicable), clearly showing the label and name.
  - “During Installation” Photos if provided – must be placed only in this folder
- **Photos taken at ground level**
  - Overall tower structure before and after installation of the modifications
  - Photos of the appropriate mount before and 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 each individual sector before and after installation of modifications. Each entire sector must be in one photo to show in the inter-connection of members.
  - Close-up photos of each installed modification per the modification drawings; pictures should also include connection hardware (U-bolts, bolts, nuts, all-threaded rods, etc.)



**Schedule A – Photo & Document File Structure**

- VzW Site Number / Name
  - Base & "During Installation" Photos
  - Pre-Installation Photos
    - Alpha
    - Beta
    - Gamma
    - Ground Level
    - Tape Drop
  - Post-Installation Photos
    - Alpha
    - Beta
    - Gamma
    - Ground Level
    - Tape Drop
  - Material Certification – Submission of this document including executed certification on Page 2
  - Specific Required Additional Photos
  - Required Additional Photos

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

**Issue:**

---

---

---

---

**Response:**

---

---

---