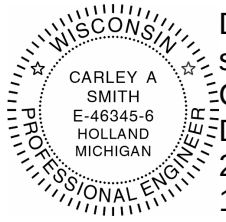
CALCULATIONS FOR:

POLIGON HXE 28
STANDING SEAM OVER STAINED TONGUE AND GROOVE
2015 INTERNATIONAL BUILDING CODE



Digitally signed by Carley Smith
Date: 2024.08.05 10:46:14-04'00'

PREPARED UNDER THE CONTROL AND SUPERVISION OF THE DESIGN PROFESSIONAL ABOVE. THE SEAL APPLIES ONLY TO BUILDING COMPONENTS DETAILED WITHIN THESE CALCULATIONS AND SUPPLIED BY PORTER CORP AS WELL AS THE FOUNDATION DESIGN, IF APPLICABLE.

TABLE OF CONTENTS

DESIGN CRITERIA

GENERAL

Building Code:	See Cover Sheet	Roof Slope (°):	22.62 5:12 Pitch
Design Code:	ASCE 7-10		
Risk Category:	II	Equivalent Roof Height:	15.00 ft

DEAD LOAD

Weight of Roofing System	6.0	psf	
Frame Dead Load	Frame Self-Weight		(See RISA Analysis Report)

LIVE LOAD

Roof Live Load, L_r	20.0	psf	ASCE 7 Table 4-1

SNOW LOAD

Ground Snow Load, p_g	30.0	psf	
Importance Factor, I (Snow Loads)	1.00		ASCE 7 Table 1.5-2
Slope Factor, C_s	1.0		ASCE 7 Figure 7-2
Thermal Factor, C_t	1.2		ASCE 7 Table 7-3
Exposure Factor, C_e	1.0		ASCE 7 Table 7-2
Flat Roof Snow Load, p_f	25.2	psf	ASCE 7 Section 7.3
Leeward Unbalanced Snow Load	30.0	psf	ASCE 7 Section 7.6.1
Drift Surcharge Load, p_d	0.0	psf	ASCE 7 Section 7.7
Width of Snow Drift, w	0.0	ft	ASCE 7 Section 7.7
Sliding Snow Load	0.0	psf	ASCE 7 Section 7.9

WIND LOAD

Basic Wind Speed, V	V_{ult}	115	mph	V_{asd}	89 mph	ASCE 7 Section 26.5
Exposure Category		C		V_T	mph	ASCE 7 Section 26.7
Gust Effect Factor, G		0.85				ASCE 7 Section 26.9.1
Velocity Pressure Exposure Coefficient, K_z		0.85				ASCE 7 Table 27.3.1
Wind Directionality Factor, K_d		0.85		K_{zT}	0.80	ASCE 7 Table 26.6-1
Topographic Factor, K_{zt}		1.00				ASCE 7 Section 26.8.2
Velocity Pressure, q_z		24.46	psf	q_{zi}	0.00 psf	ASCE 7 Section 27.3.2

Main Wind-Force Resisting System *ASCE 7 Section 27.4*

Open Building, Clear Wind Flow (Cn from ASCE 7 Fig. 27.4-4 - 27.4-7)

	Roof	
Load Case	A	B
γ = 0		
Windward Cp =	1.10	-0.10
p (psf):	22.94	-2.08
γ = 180		
Leeward Cp=	0.10	-0.80
p (psf):	2.15	-16.67
γ = 90		
Sideward Cp=	-0.80	0.80
p (psf):	-16.63	16.63

Component and Cladding Elements *ASCE 7 Section 30.8.2*

Open Building, Clear Wind Flow (Cn from ASCE 7 Fig. 30.8-1 - 30.8-3)

	Wind Direction	*Toward Roof*	*Away From Roof*
Zone 3	Cn:	2.40	-2.00
	p (psf):	49.97	-41.52
Zone 2	Cn:	1.85	-1.55
	p (psf):	38.51	-32.18
Zone 1	Cn:	1.20	-1.00
	p (psf):	24.98	-20.76

SEISMIC LOAD

Analysis Procedure	Equivalent Lateral Force Procedure	ASCE 7 Section 12.8
Seismic Site Class	D	ASCE 7 Section 11.4.2
Basic Seismic Force Resisting System	Steel Systems Not Specifically Detailed For Seismic Resistance	ASCE 7 Table 12.2-1
Short Spectral Response Parameter, S_s	0.32	
1-Sec Spectral Response Parameter, S_1	0.08	
Seismic Design Category	B	ASCE 7 Section 11.6
Importance Factor, I	1.00	ASCE 7 Table 11.5-1
Response Modification Coefficient, R	3.00	ASCE 7 Table 12.2-1
Redundancy Factor, ρ	1.00	ASCE 7 Table 12.2-1
Overstrength Factor, Ω_o	3.00	ASCE 7 Table 12.2-1
Design Short Spectral Response Parameter, S_{DS}	0.33	ASCE 7 Section 11.4.4
1-Sec Design Spectral Response Parameter, S_{D1}	0.13	ASCE 7 Section 11.4.4
Seismic Response Coefficient, C_s	0.11	ASCE 7 Section 12.8.1.1
Effective Seismic Weight, W	6.00 psf	ASCE 7 Section 12.7.2
Seismic Base Shear, V	0.66 psf	ASCE 7 Section 12.8.1
Seismic Load, E	0.66 psf	ASCE 7 Section 12.4
Seismic Load with Overstrength Factor, E_m	1.98 psf	ASCE 7 Section 12.4

STRUCTURAL ENGINEERING NOTES

GENERAL NOTES

Loads applied to the structure may be greater than required for the project location.

Actual structure dimensions may be smaller than shown in this document.

The engineering seal for the structure designed in these calculations is only valid if Porter Corp fabricates the steel components. Fabricating the steel components elsewhere voids the engineering provided by Porter Corp.

Porter Corp is responsible only for the structural design of the Steel Structure (and foundation design if applicaple) it sells to the Builder. Porter Corp or their engineer is not the Design Professional or Engineer of Record for the Construction Project. Porter Corp is not responsible for the design of any components or materials not sold by it or their interface and connection with the Steel Structure.

STRUCTURAL ANALYSIS NOTES

RISA-3D structural analysis software was used to model the 3-D space frame.

To reduce the amount of computer printout, the analysis results only show each member's controlling load case.

Unless noted otherwise in the 'RISA Analysis Report', the roof deck was not utilized in the structural analysis to provide lateral support to the members.

From the analysis, all member deflections and structural drift are within allowable limits.

STRUCTURAL DESIGN NOTES

End plates were designed by applying beam end forced to the edges of the plate and calculating the resulting prying moment at the edge of the bolt holes. In determining the prying moment it was assumed that the area of the plate between bolts was fixed.

Light gage members were designed in accordance with the latest edition of the AISC specifications and the AISI Cold-Formed Steel Design Manual.

STRUCTURAL CONNECTION NOTES

Bolt threads were assumed to not be excluded from the connections.

LOAD COMBINATIONS

Key

Abbreviation	Description
DL	Dead Load
Lr	Roof Live Load
S	Snow Load
Su	Unbalanced Snow Load
Ssliding	Sliding Snow
Sdrift	Snow Drift
Wx	Wind Load (X-Direction)
Wz	Wind Load (Z-Direction)
Wx (Min.)	16 psf Minimum Wind Load (X-Direction)
Wz (Min.)	16 psf Minimum Wind Load (Z-Direction)
Ex	Seismic Load (X-Direction)
Ez	Seismic Load (Z-Direction)
Emx	Seismic Load (X-Direction) with Overstrength Factor
Emz	Seismic Load (Z-Direction) with Overstrength Factor
Sds	Design Spectral Acceleration Parameter
LC	Load Case

Service (Unfactored)

Number	Description
1	SERVICE D
2	SERVICE Lr
3	SERVICE S
4	SERVICE Su
5	SERVICE Ssliding
6	SERVICE Sdrift
7	SERVICE Wx (LC A)
8	SERVICE Wx (LC B)
9	SERVICE Wz (LC A)
10	SERVICE Wz (LC B)
11	SERVICE Ex
12	SERVICE Ez

Allowable Stress Design (Factored)

Number	Description
17	D
18	D + Lr
19	D + S
20	D + Su
21	D+Ssliding
22	D+Sdrift
23	D + 0.6Wx (LC A)
24	D + 0.6Wx (LC B)
25	D + 0.6Wz (LC A)
26	D + 0.6Wz (LC B)
27	D + (0.6Wx (Min.))
28	D + (0.6Wz (Min.))
29	D+0.6(0.75Wx(LC A)+0.75Wz(LC A))
30	D+0.6(0.75Wx(LC B)+0.75Wz(LC B))
31	D+0.6(0.75Wx(Min.)+0.75Wz(Min.))
32	D + 0.75(0.6Wx (LC A)) + 0.75Lr
33	D + 0.75(0.6Wx (LC B)) + 0.75Lr
34	D + 0.75(0.6Wz (LC A)) + 0.75Lr
35	D + 0.75(0.6Wz (LC B)) + 0.75Lr
36	D + 0.75(0.6Wx (Min.)) + 0.75Lr
37	D + 0.75(0.6Wz (Min.)) + 0.75Lr
38	D+0.75(0.6(0.75Wx(LC A)+0.75Wz(LC A)))+0.75Lr
39	D+0.75(0.6(0.75Wx(LC B)+0.75Wz(LC B)))+0.75Lr
40	D+0.75(0.6(0.75Wx(Min.)+0.75Wz(Min.)))+0.75Lr
41	D + 0.75(0.6Wx (LC A)) + 0.75S
42	D + 0.75(0.6Wx (LC B)) + 0.75S
43	D + 0.75(0.6Wz (LC A)) + 0.75S
44	D + 0.75(0.6Wz (LC B)) + 0.75S
45	D + 0.75(0.6Wx (Min.)) + 0.75S
46	D + 0.75(0.6Wz (Min.)) + 0.75S
47	D+0.75(0.6(0.75Wx(LC A)+0.75Wz(LC A)))+0.75S
48	D+0.75(0.6(0.75Wx(LC B)+0.75Wz(LC B)))+0.75S
49	D+0.75(0.6(0.75Wx(Min.)+0.75Wz(Min.)))+0.75S
50	0.6D + 0.6Wx (LC A)
51	0.6D + 0.6Wx (LC B)
52	0.6D + 0.6Wz (LC A)
53	0.6D + 0.6Wz (LC B)
54	0.6D + (0.6Wx (Min.))
55	0.6D + (0.6Wz (Min.))
56	0.6D+0.6(0.75Wx(LC A)+0.75Wz(LC A))
57	0.6D+0.6(0.75Wx(LC B)+0.75Wz(LC B))
58	0.6D+0.6(0.75Wx(Min.)+0.75Wz(Min.))
59	(1.0+0.14*Sds)D+ 0.7Ex
60	(1.0+0.105*Sds)D + 0.525Ex + 0.75S
61	(0.6-0.14*Sds)D + 0.7Ex
62	(1.0+0.14*Sds)D + 0.7Ez
63	(1.0+0.105*Sds)D + 0.525Ez + 0.75S
64	(0.6-0.14*Sds)D + 0.7Ez
65	(1.0+0.14*Sds)D+ 0.7Ex + 0.21Ez
66	(1.0+0.105*Sds)D + 0.525Ex + 0.1575Ez + 0.75S
67	(0.6-0.14*Sds)D + 0.7Ex + 0.21Ez
68	(1.0+0.14*Sds)D + 0.7Ez + 0.21Ex
69	(1.0+0.105*Sds)D + 0.525Ez + 0.1575Ex + 0.75S
70	(0.6-0.14*Sds)D + 0.7Ez + 0.21Ex

Notes:

1. Load combinations are effective in all states that have adopted IBC as a base code.
2. See "RISA Analysis Report" for the load combinations that are not listed above.

LOAD COMBINATIONS

Strength Design (Factored)

Number	Description
92	1.4D
93	1.2D + 0.5Lr
94	1.2D + 0.5S
95	1.2D + 1.6Lr + 0.5Wx (LC A)
96	1.2D + 1.6Lr + 0.5Wx (LC B)
97	1.2D + 1.6Lr + 0.5Wz (LC A)
98	1.2D + 1.6Lr + 0.5Wz (LC B)
99	1.2D + 1.6Lr + 0.5Wx (Min.)
100	1.2D + 1.6Lr + 0.5Wz (Min.)
101	1.2D+1.6Lr+0.5(0.75Wx(LC A)+0.75Wz(LC A))
102	1.2D+1.6Lr+0.5(0.75Wx(LC B)+0.75Wz(LC B))
103	1.2D+1.6Lr+0.5(0.75Wx(Min.)+0.75Wz(Min.))
104	1.2D + 1.6S + 0.5Wx (LC A)
105	1.2D + 1.6S + 0.5Wx (LC B)
106	1.2D + 1.6S + 0.5Wz (LC A)
107	1.2D + 1.6S + 0.5Wz (LC B)
108	1.2D + 1.6S + 0.5Wx (Min.)
109	1.2D + 1.6S + 0.5Wz (Min.)
110	1.2D+1.6S+0.5(0.75Wx(LC A)+0.75Wz(LC A))
111	1.2D+1.6S+0.5(0.75Wx(LC B)+0.75Wz(LC B))
112	1.2D+1.6S+0.5(0.75Wx(Min.)+0.75Wz(Min.))
113	1.2D + 1.6Su + 0.5Wx (LC A)
114	1.2D + 1.6Su + 0.5Wx (LC B)
115	1.2D + 1.6Su + 0.5Wz (LC A)
116	1.2D + 1.6Su + 0.5Wz (LC B)
117	1.2D + 1.6Su + 0.5Wx (Min.)
118	1.2D + 1.6Su + 0.5Wz (Min.)
119	1.2D+1.6Su+0.5(0.75Wx(LC A)+0.75Wz(LC A))
120	1.2D+1.6Su+0.5(0.75Wx(LC B)+0.75Wz(LC B))
121	1.2D+1.6Su+0.5(0.75Wx(Min.)+0.75Wz(Min.))
122	1.2D + 1.6Ssliding + 0.5Wx (LC A)
123	1.2D + 1.6Ssliding + 0.5Wx (LC B)
124	1.2D + 1.6Ssliding + 0.5Wz (LC A)
125	1.2D + 1.6Ssliding + 0.5Wz (LC B)
126	1.2D + 1.6Ssliding + 0.5Wx (Min.)
127	1.2D + 1.6Ssliding + 0.5Wz (Min.)
128	1.2D+1.6Ssliding+0.5(0.75Wx(LC A)+0.75Wz(LC A))
129	1.2D+1.6Ssliding+0.5(0.75Wx(LC B)+0.75Wz(LC B))
130	1.2D+1.6Ssliding+0.5(0.75Wx(Min.)+0.75Wz(Min.))
131	1.2D + 1.6Sdrift + 0.5Wx (LC A)
132	1.2D + 1.6Sdrift + 0.5Wx (LC B)
133	1.2D + 1.6Sdrift + 0.5Wz (LC A)
134	1.2D + 1.6Sdrift + 0.5Wz (LC B)
135	1.2D + 1.6Sdrift + 0.5Wx (Min.)
136	1.2D + 1.6Sdrift + 0.5Wz (Min.)
137	1.2D+1.6Sdrift+0.5(0.75Wx(LC A)+0.75Wz(LC A))
138	1.2D+1.6Sdrift+0.5(0.75Wx(LC B)+0.75Wz(LC B))
139	1.2D+1.6Sdrift+0.5(0.75Wx(Min.)+0.75Wz(Min.))
140	1.2D + 1.0Wx (LC A) + 0.5Lr
141	1.2D + 1.0Wx (LC B) + 0.5Lr
142	1.2D + 1.0Wz (LC A) + 0.5Lr
143	1.2D + 1.0Wz (LC B) + 0.5Lr
144	1.2D + 1.0Wx (Min.) + 0.5Lr
145	1.2D + 1.0Wz (Min.) + 0.5Lr
146	1.2D+1.0(0.75Wx(LC A)+0.75Wz(LC A))+0.5Lr
147	1.2D+1.0(0.75Wx(LC B)+0.75Wz(LC B))+0.5Lr
148	1.2D+1.0(0.75Wx(Min.)+0.75Wz(Min.))+0.5Lr
149	1.2D + 1.0Wx (LC A) + 0.5S
150	1.2D + 1.0Wx (LC B) + 0.5S
151	1.2D + 1.0Wz (LC A) + 0.5S
152	1.2D + 1.0Wz (LC B) + 0.5S
153	1.2D + 1.0Wx (Min.) + 0.5S
154	1.2D + 1.0Wz (Min.) + 0.5S
155	1.2D+1.0(0.75Wx(LC A)+0.75Wz(LC A))+0.5S
156	1.2D+1.0(0.75Wx(LC B)+0.75Wz(LC B))+0.5S
157	1.2D+1.0(0.75Wx(Min.)+0.75Wz(Min.))+0.5S
158	0.9D + 1.0Wx (LC A)
159	0.9D + 1.0Wx (LC B)
160	0.9D + 1.0Wz (LC A)
161	0.9D + 1.0Wz (LC B)
162	0.9D + 1.0Wx (Min.)
163	0.9D + 1.0Wz (Min.)
164	0.9D+1.0(0.75Wx(LC A)+0.75Wz(LC A))
165	0.9D+1.0(0.75Wx(LC B)+0.75Wz(LC B))
166	0.9D+1.0(0.75Wx(Min.)+0.75Wz(Min.))
167	(1.2+0.2*Sds)D + 1.0Ex + 0.2S
168	(0.9-0.2*Sds)D + 1.0Ex
169	(1.2+0.2*Sds)D + 1.0Ez + 0.2S
170	(0.9-0.2*Sds)D + 1.0Ez
171	(1.2+0.2*Sds)D + 1.0Ex + 0.3Ez + 0.2S
172	(0.9-0.2*Sds)D + 1.0Ex + 0.3Ez
173	(1.2+0.2*Sds)D + 1.0Ez +0.3Ex + 0.2S
174	(0.9-0.2*Sds)D + 1.0Ez + 0.3Ex

Notes:

1. Load combinations are effective in all states that have adopted IBC as a base code.
2. See "RISA Analysis Report" for the load combinations that are not listed above.

MATERIALS

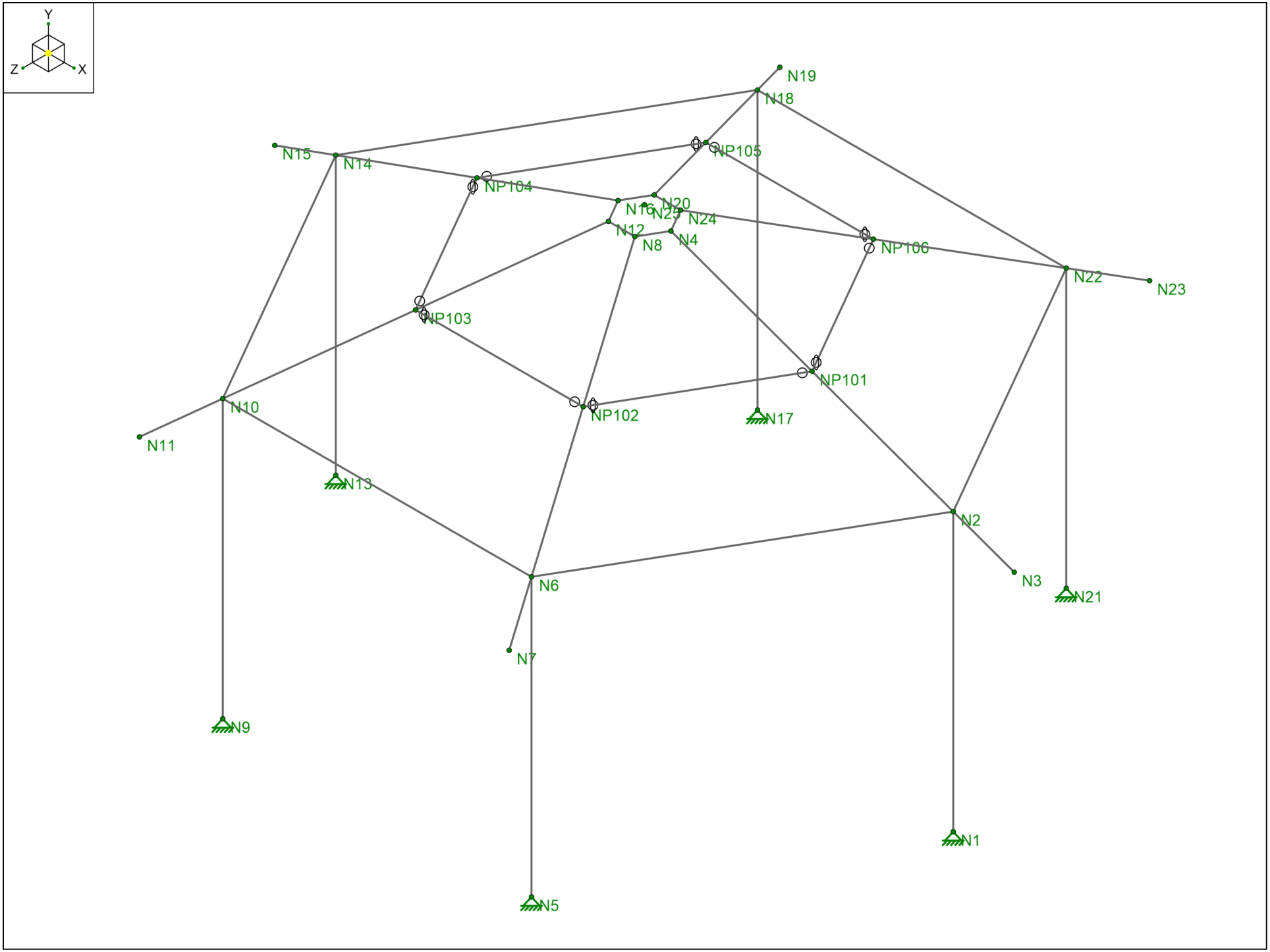
Column	HSS5x5x3/16
Truss	HSS6x4x1/8
Tension	HSS5x3x1/8
Truss Tail	HSS4x4x1/8
Purlin	HSS4x4x1/8
Compression Ring	3/8" Plate*

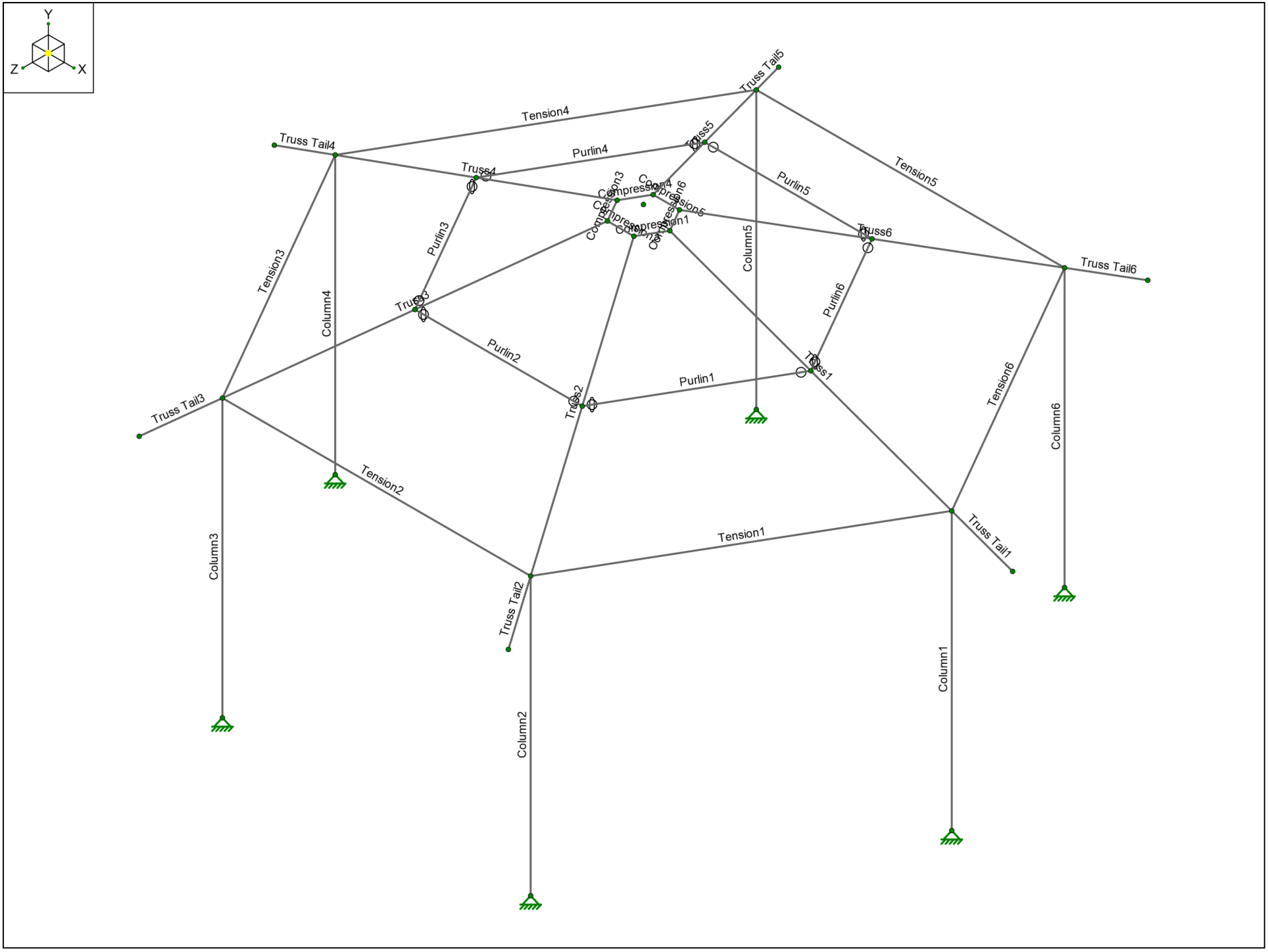
*3/8" Plate Weldment may be substituted with C7x9.8 weldment

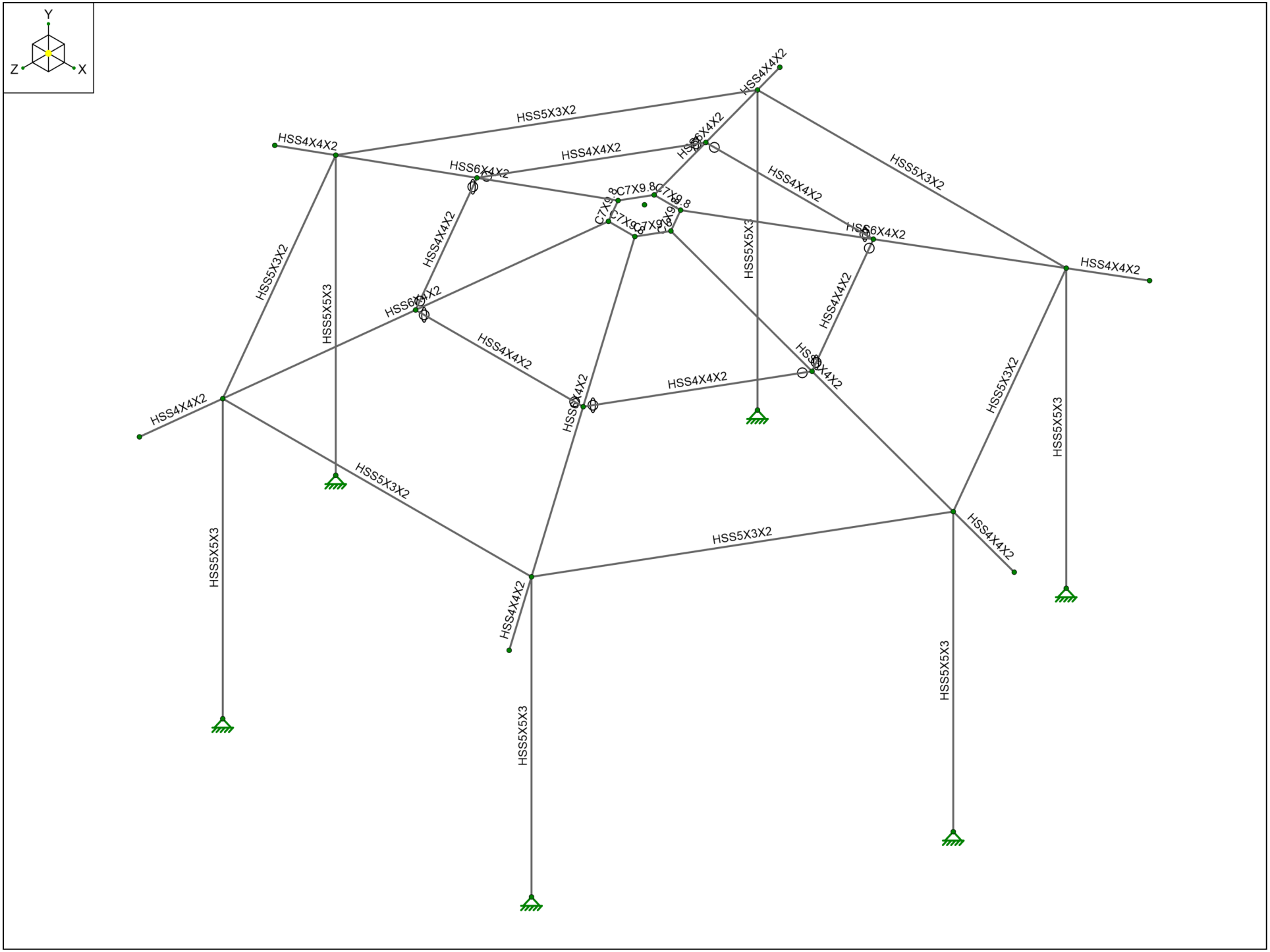
HSS Sections:	ASTM A500 Gr. C
Pipe Sections:	ASTM A53 Gr. B
RMT Sections:	ASTM A519
Channel & Angle Sections:	ASTM A36
Connection Plates:	ASTM A36
Connections Bolts	ASTM A325
Welding Process:	Gas Metal Arc Welding
Welding Electrode:	E70xx

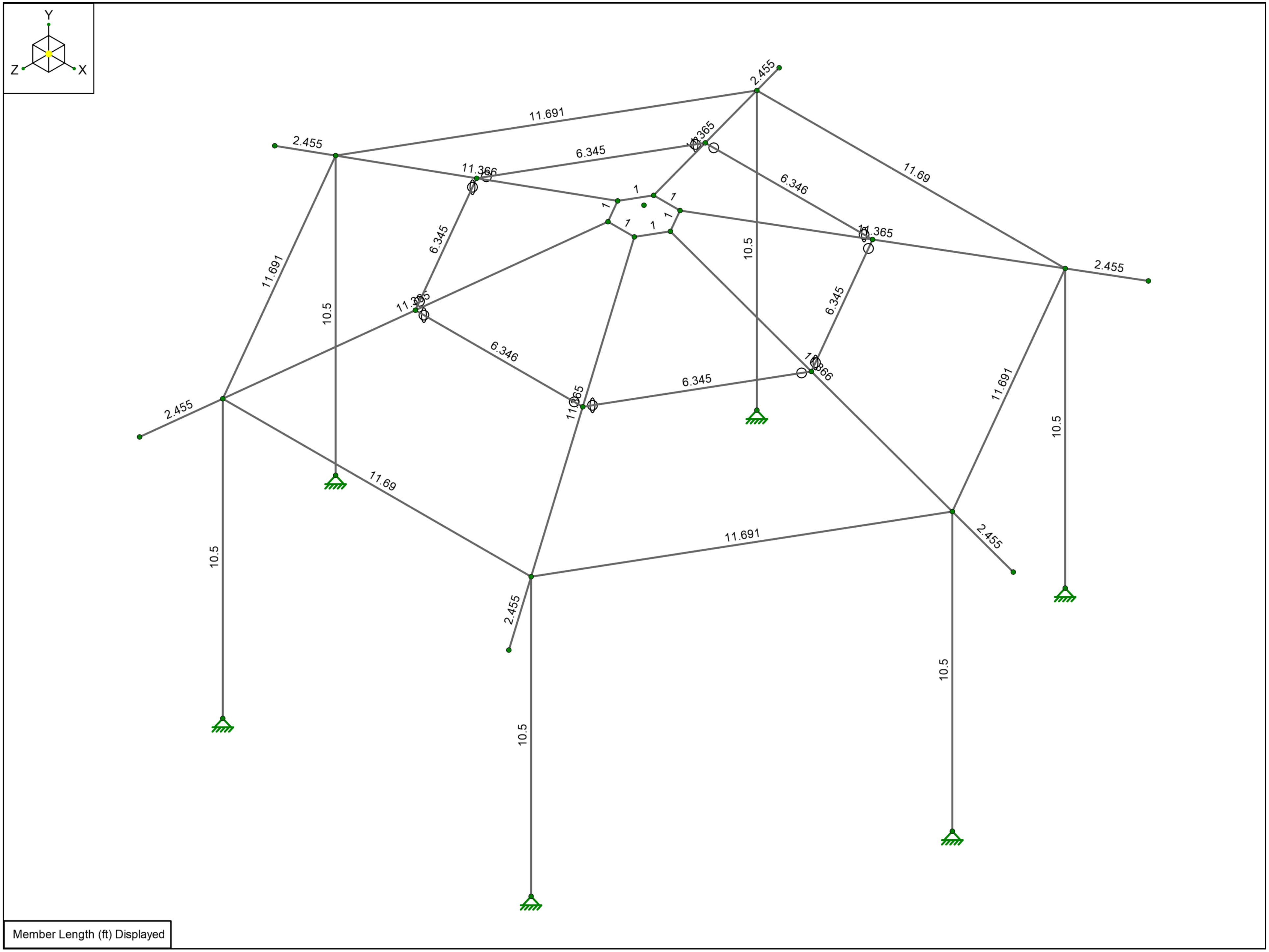
RISA MODEL VIEWS

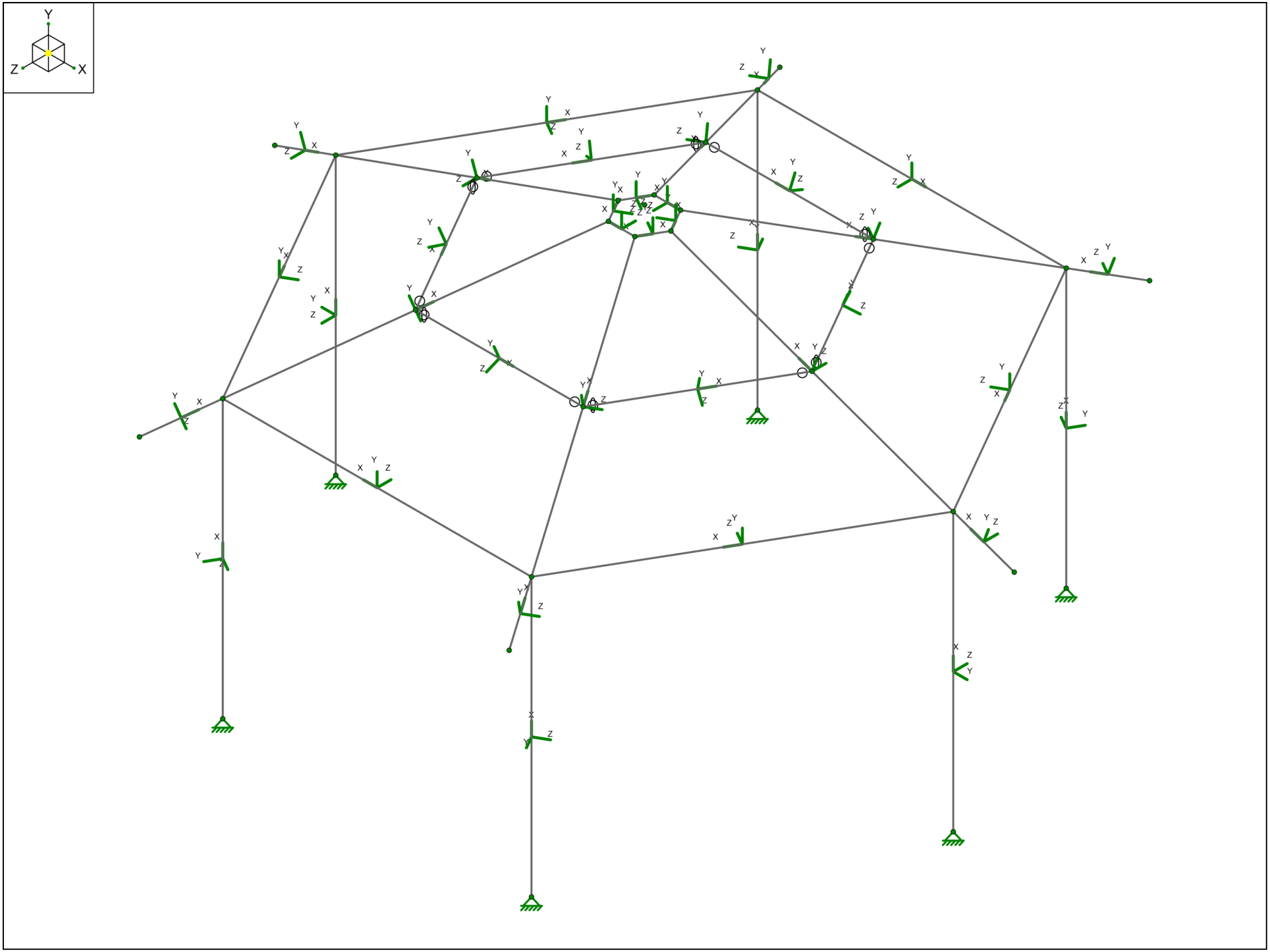
Joint Labels
Member Labels
Member Shapes
Member Lengths
Member Local Axis


Y
Z
X
N19
N18
N15
N14
NP105
NP104
N16
N20
N25
N24
N12
N8
N4
NP106
N22
N23
NP103
NP101
N10
NP102
N17
N11
N13
N2
N3
N6
N21
N7
N9
N1
N5


Y
Z
X
Truss Tail5
Tension4
Truss Tail4
Purlin4
Truss5
Truss4
Tension5
Purlin5
Compression3
Compression4
Compression6
Compression5
Compression1
Compression2
Column5
Truss6
Truss Tail6
Tension3
Purlin3
Column4
Truss3
Purlin6
Purlin2
Truss1
Truss Tail3
Purlin1
Truss2
Tension6
Column6
Tension2
Truss Tail1
Tension1
Column3
Truss Tail2
Column1
Column2


Y
Z
X
HSS4X4X2
HSS5X3X2
HSS6X4X2
C7X9.8
HSS5X5X3
HSS5X3X2
HSS4X4X2
HSS5X5X3

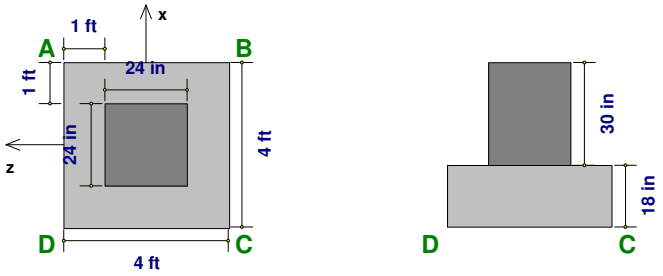

Y
Z
X
11.691
2.455
2.455
6.345
11.365
11.366
6.346
11.69
1
1
1
1
1
1
1
6.345
11.691
10.5
10.5
11.365
2.455
6.345
11.365
6.346
6.345
11.366
11.691
10.5
2.455
11.69
11.691
2.455
10.5
2.455
10.5
10.5
Member Length (ft) Displayed


Y
Z
X

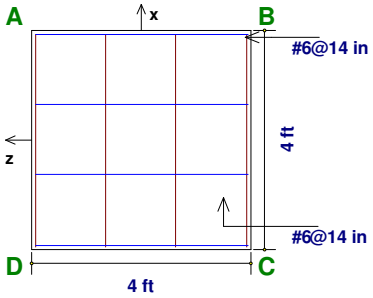
FOUNDATION DESIGN

The foundation design contained herein is site specific, and is based on Sycamore Park Shelter Geotech C19051-18, Sycamore Park, by CGC, Inc.. Dated February 1, 2020. Report No. C19051-18. Proper care must be taken to ensure any and all recommendations of the above mentioned report for site preparation, soil performance, and foundation design are met. If conditions are present that do not allow for these recommendations to be met, the geotechnical engineer must be contacted.

Sketch



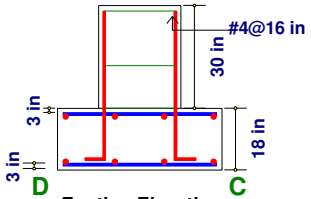
Details



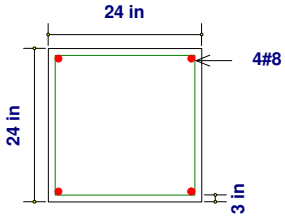
x Dir. Steel: 1.77 in^2 (4 #6)

z Dir. Steel: 1.77 in^2 (4 #6)

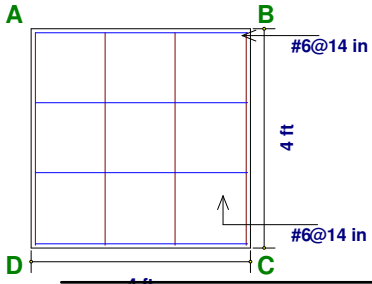
Bottom Rebar Plan



Footing Elevation



Pedestal Rebar Plan



x Dir. Steel: 1.77 in^2 (4 #6)

z Dir. Steel: 1.77 in^2 (4 #6)

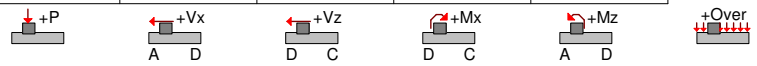
Geometry, Materials and Criteria

Length:	4 ft	eX:	0 in	Net Allowable Bearing:	1000 psf (net)	Steel fy:	60 ksi
Width:	4 ft	eZ:	0 in	Concrete Weight:	145 lb/ft^3	Minimum Steel:	.0018
Thickness:	18 in	pX:	24 in	Concrete f'c:	4.5 ksi	Maximum Steel:	.0075
Height:	30 in	pZ:	24 in	Design Code:	ACI 318-14		
Rot. Angle:	0 deg						

Footing Top Bar Cover:	3 in	Overturning / Sliding SF:	1.5	Φ for Flexure:	0.9
Footing Bottom Bar Cover:	3 in	Coefficient of Friction:	0	Φ for Shear:	0.75
Pedestal Longitudinal Bar Cover:	3 in	Passive Resistance of Soil:	2.08 k	Φ for Bearing:	0.65

Loads

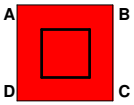
	P (k)	Vx (k)	Vz (k)	Mx (k-in)	Mz (k-in)	Overburden (psf)
DL	0.91					0
SL	2.14		0.07			
RLL	1.7		0.06			
ELX	-0.18		-0.1			
ELZ		-0.11				
WL+X	0.76		-0.1			
WL+Z	-0.82	-0.08	-0.04			
WL-X	-0.34		-0.09			
WL-Z	0.82	-0.06	0.04			
OL3	0.91	0.01	0.01			



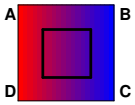
Soil Bearing

Description	Categories and Factors	Gross Allow.(psf)	Max Bearing (psf)	Max/Allowable Ratio
D	1DL	1308.125	365 (A)	0.279
D + Lr	1DL+1RLL	1308.125	493.75 (A)	0.377
D + S	1DL+1SL	1308.125	525 (A)	0.401
D + Su	1DL+1OL3	1308.125	429.375 (A)	0.328
D+Ssliding	1DL+1OL4	1308.125	365 (A)	0.279
D+Sdrift	1DL+1OL5	1308.125	365 (A)	0.279
D + 0.6Wx (LC..	1DL+1WL+X	1308.125	450 (B)	0.344
D + 0.6Wx (LC..	1DL+1WL-X	1308.125	377.5 (B)	0.289
D + 0.6Wz (LC..	1DL+1WL+Z	1308.125	358.75 (C)	0.274
D + 0.6Wz (LC..	1DL+1WL-Z	1308.125	453.75 (D)	0.347
D + (0.6Wx (M..	1DL	1308.125	365 (A)	0.279
D + (0.6Wz (M..	1DL	1308.125	365 (A)	0.279
D+0.6(0.75Wx(..	1DL+0.75WL+X+0.75WL+Z	1308.125	424.062 (C)	0.324
D+0.6(0.75Wx(..	1DL+0.75WL-X+0.75WL-Z	1308.125	418.437 (C)	0.32
D+0.6(0.75Wx(..	1DL	1308.125	365 (A)	0.279
D + 0.75(0.6W..	1DL+0.75WL+X+0.75RLL	1308.125	491.563 (B)	0.376
D + 0.75(0.6W..	1DL+0.75WL-X+0.75RLL	1308.125	437.188 (B)	0.334
D + 0.75(0.6W..	1DL+0.75WL+Z+0.75RLL	1308.125	434.375 (D)	0.332
D + 0.75(0.6W..	1DL+0.75WL-Z+0.75RLL	1308.125	528.125 (D)	0.404
D + 0.75(0.6W..	1DL+0.75RLL	1308.125	461.563 (A)	0.353
D + 0.75(0.6W..	1DL+0.75RLL	1308.125	461.563 (A)	0.353
D+0.75(0.6(0...	1DL+0.5625WL+X+0.5625W..	1308.125	472.109 (C)	0.361
D+0.75(0.6(0...	1DL+0.5625WL-X+0.5625W..	1308.125	480.547 (D)	0.367
D+0.75(0.6(0...	1DL+0.75RLL	1308.125	461.563 (A)	0.353
D + 0.75(0.6W..	1DL+0.75WL+X+0.75SL	1308.125	509.375 (B)	0.389
D + 0.75(0.6W..	1DL+0.75WL-X+0.75SL	1308.125	455 (B)	0.348
D + 0.75(0.6W..	1DL+0.75WL+Z+0.75SL	1308.125	457.813 (D)	0.35
D + 0.75(0.6W..	1DL+0.75WL-Z+0.75SL	1308.125	551.562 (D)	0.422
D + 0.75(0.6W..	1DL+0.75SL	1308.125	485 (A)	0.371
D + 0.75(0.6W..	1DL+0.75SL	1308.125	485 (A)	0.371
D+0.75(0.6(0...	1DL+0.5625WL+X+0.5625W..	1308.125	489.922 (C)	0.375
D+0.75(0.6(0...	1DL+0.5625WL-X+0.5625W..	1308.125	503.984 (D)	0.385
D+0.75(0.6(0...	1DL+0.75SL	1308.125	485 (A)	0.371
0.6D + 0.6Wx ..	0.6DL+1WL+X	1308.125	304 (B)	0.232
0.6D + 0.6Wx ..	0.6DL+1WL-X	1308.125	231.5 (B)	0.177
0.6D + 0.6Wz ..	0.6DL+1WL+Z	1308.125	212.75 (C)	0.163
0.6D + 0.6Wz ..	0.6DL+1WL-Z	1308.125	307.75 (D)	0.235
0.6D + (0.6Wx..	0.6DL	1308.125	219 (A)	0.167
0.6D + (0.6Wz..	0.6DL	1308.125	219 (A)	0.167
0.6D+0.6(0.75..	0.6DL+0.75WL+X+0.75WL+Z	1308.125	278.062 (C)	0.213
0.6D+0.6(0.75..	0.6DL+0.75WL-X+0.75WL-Z	1308.125	272.438 (C)	0.208
0.6D+0.6(0.75..	0.6DL	1308.125	219 (A)	0.167
(1.0+0.14*Sds..	1.04611DL+0.7ELX	1308.125	400.207 (B)	0.306
(1.0+0.105*Sd..	1.03459DL+0.525ELX+0.7..	1308.125	472.03 (A)	0.361
(0.6-0.14*Sds..	0.553886DL+0.7ELX	1308.125	220.543 (B)	0.169
(1.0+0.14*Sds..	1.04611DL+0.7ELZ	1308.125	410.707 (C)	0.314

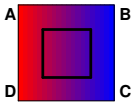
(1.0+0.105*Sd..	1.03459DL+0.525ELZ+0.7..	1308.125	519.28 (D)	0.397
(0.6-0.14*Sds..	0.553886DL+0.7ELZ	1308.125	231.043 (C)	0.177
(1.0+0.14*Sds..	1.04611DL+0.7ELX+0.21ELZ	1308.125	408.869 (C)	0.313
(1.0+0.105*Sd..	1.03459DL+0.525ELX+0.1..	1308.125	478.527 (C)	0.366
(0.6-0.14*Sds..	0.553886DL+0.7ELX+0.21..	1308.125	229.206 (C)	0.175
(1.0+0.14*Sds..	1.04611DL+0.7ELZ+0.21ELX	1308.125	416.219 (C)	0.318
(1.0+0.105*Sd..	1.03459DL+0.525ELZ+0.1..	1308.125	511.602 (D)	0.391
(0.6-0.14*Sds..	0.553886DL+0.7ELZ+0.21..	1308.125	236.556 (C)	0.181



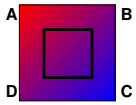
1DL
QA: 365 psf
QB: 365 psf
QC: 365 psf
QD: 365 psf
NAZ: -1 in
NAX: -1 in



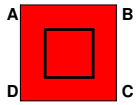
1DL+1RLL
QA: 493.75 psf
QB: 448.75 psf
QC: 448.75 psf
QD: 493.75 psf
NAZ: 526.667 in
NAX: -1 in



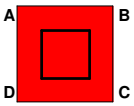
1DL+1SL
QA: 525 psf
QB: 472.5 psf
QC: 472.5 psf
QD: 525 psf
NAZ: 480 in
NAX: -1 in



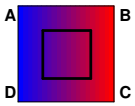
1DL+1OL3
QA: 429.375 psf
QB: 421.875 psf
QC: 414.375 psf
QD: 421.875 psf
NAZ: 2748 in
NAX: 2748 in



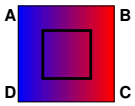
1DL+1OL4
QA: 365 psf
QB: 365 psf
QC: 365 psf
QD: 365 psf
NAZ: -1 in
NAX: -1 in



1DL+1OL5
QA: 365 psf
QB: 365 psf
QC: 365 psf
QD: 365 psf
NAZ: -1 in
NAX: -1 in

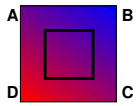


1DL+1WL+X
QA: 375 psf
QB: 450 psf
QC: 450 psf
QD: 375 psf
NAZ: 288 in
NAX: -1 in

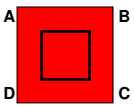


1DL+1WL-X
QA: 310 psf
QB: 377.5 psf
QC: 377.5 psf
QD: 310 psf
NAZ: 268.444 in
NAX: -1 in

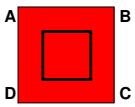
1DL+1WL+Z
QA: 268.75 psf
QB: 298.75 psf
QC: 358.75 psf
QD: 328.75 psf
NAZ: 574 in
NAX: 287 in



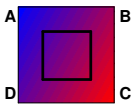
1DL+1WL-Z
QA: 408.75 psf
QB: 378.75 psf
QC: 423.75 psf
QD: 453.75 psf
NAZ: 726 in
NAX: 484 in



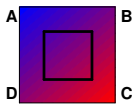
1DL
QA: 365 psf
QB: 365 psf
QC: 365 psf
QD: 365 psf
NAZ: -1 in
NAX: -1 in



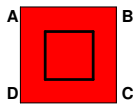
1DL
QA: 365 psf
QB: 365 psf
QC: 365 psf
QD: 365 psf
NAZ: -1 in
NAX: -1 in



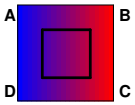
1DL+0.75WL+X+..
QA: 300.312 psf
QB: 379.062 psf
QC: 424.062 psf
QD: 345.312 psf
NAZ: 258.476 in
NAX: 452.333 in



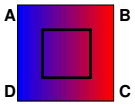
1DL+0.75WL-X+..
QA: 356.562 psf
QB: 384.687 psf
QC: 418.437 psf
QD: 390.312 psf
NAZ: 714.133 in
NAX: 595.111 in



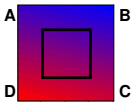
1DL
QA: 365 psf
QB: 365 psf
QC: 365 psf
QD: 365 psf
NAZ: -1 in
NAX: -1 in



1DL+0.75WL+X+..
QA: 469.062 psf
QB: 491.563 psf
QC: 491.563 psf
QD: 469.062 psf
NAZ: 1048.667 in
NAX: -1 in

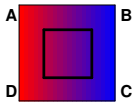


1DL+0.75WL-X+..
QA: 420.312 psf
QB: 437.188 psf
QC: 437.188 psf
QD: 420.312 psf
NAZ: 1243.556 in
NAX: -1 in

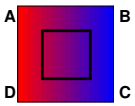


1DL+0.75WL+Z+..
QA: 389.375 psf
QB: 378.125 psf
QC: 423.125 psf
QD: 434.375 psf
NAZ: 1853.333 in
NAX: 463.333 in

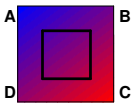
1DL+0.75WL-Z+..
QA: 494.375 psf
QB: 438.125 psf
QC: 471.875 psf
QD: 528.125 psf
NAZ: 450.667 in
NAX: 751.111 in



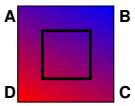
1DL+0.75RLL
QA: 461.563 psf
QB: 427.812 psf
QC: 427.812 psf
QD: 461.563 psf
NAZ: 656.444 in
NAX: -1 in



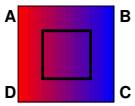
1DL+0.75RLL
QA: 461.563 psf
QB: 427.812 psf
QC: 427.812 psf
QD: 461.563 psf
NAZ: 656.444 in
NAX: -1 in



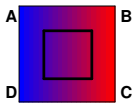
1DL+0.5625WL+..
QA: 413.047 psf
QB: 438.359 psf
QC: 472.109 psf
QD: 446.797 psf
NAZ: 895.259 in
NAX: 671.444 in



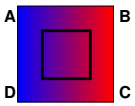
1DL+0.5625WL-..
QA: 455.234 psf
QB: 442.578 psf
QC: 467.891 psf
QD: 480.547 psf
NAZ: 1822.519 in
NAX: 911.259 in



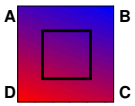
1DL+0.75RLL
QA: 461.563 psf
QB: 427.812 psf
QC: 427.812 psf
QD: 461.563 psf
NAZ: 656.444 in
NAX: -1 in



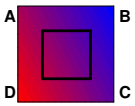
1DL+0.75WL+X+..
QA: 492.5 psf
QB: 509.375 psf
QC: 509.375 psf
QD: 492.5 psf
NAZ: 1448.889 in
NAX: -1 in



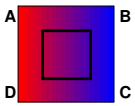
1DL+0.75WL-X+..
QA: 443.75 psf
QB: 455 psf
QC: 455 psf
QD: 443.75 psf
NAZ: 1941.333 in
NAX: -1 in



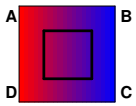
1DL+0.75WL+Z+..
QA: 412.813 psf
QB: 395.938 psf
QC: 440.938 psf
QD: 457.813 psf
NAZ: 1302.222 in
NAX: 488.333 in



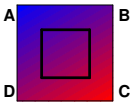
1DL+0.75WL-Z+..
QA: 517.812 psf
QB: 455.937 psf
QC: 489.688 psf
QD: 551.562 psf
NAZ: 427.879 in
NAX: 784.444 in



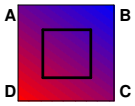
1DL+0.75SL
QA: 485 psf
QB: 445.625 psf
QC: 445.625 psf
QD: 485 psf
NAZ: 591.238 in
NAX: -1 in



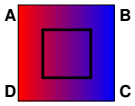
1DL+0.75SL
QA: 485 psf
QB: 445.625 psf
QC: 445.625 psf
QD: 485 psf
NAZ: 591.238 in
NAX: -1 in



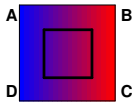
1DL+0.5625WL+..
QA: 436.484 psf
QB: 456.172 psf
QC: 489.922 psf
QD: 470.234 psf
NAZ: 1194.476 in
NAX: 696.778 in



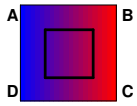
1DL+0.5625WL-..
QA: 478.672 psf
QB: 460.391 psf
QC: 485.703 psf
QD: 503.984 psf
NAZ: 1323.282 in
NAX: 955.704 in



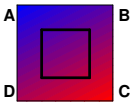
1DL+0.75SL
QA: 485 psf
QB: 445.625 psf
QC: 445.625 psf
QD: 485 psf
NAZ: 591.238 in
NAX: -1 in



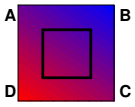
0.6DL+1WL+X
QA: 229 psf
QB: 304 psf
QC: 304 psf
QD: 229 psf
NAZ: 194.56 in
NAX: -1 in



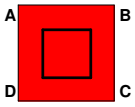
0.6DL+1WL-X
QA: 164 psf
QB: 231.5 psf
QC: 231.5 psf
QD: 164 psf
NAZ: 164.622 in
NAX: -1 in



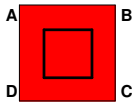
0.6DL+1WL+Z
QA: 122.75 psf
QB: 152.75 psf
QC: 212.75 psf
QD: 182.75 psf
NAZ: 340.4 in
NAX: 170.2 in



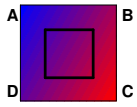
0.6DL+1WL-Z
QA: 262.75 psf
QB: 232.75 psf
QC: 277.75 psf
QD: 307.75 psf
NAZ: 492.4 in
NAX: 328.267 in



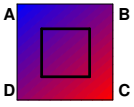
0.6DL
QA: 219 psf
QB: 219 psf
QC: 219 psf
QD: 219 psf
NAZ: -1 in
NAX: -1 in



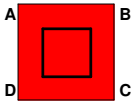
0.6DL
QA: 219 psf
QB: 219 psf
QC: 219 psf
QD: 219 psf
NAZ: -1 in
NAX: -1 in



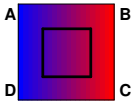
0.6DL+0.75WL+..
QA: 154.312 psf
QB: 233.062 psf
QC: 278.062 psf
QD: 199.312 psf
NAZ: 169.486 in
NAX: 296.6 in



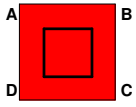
0.6DL+0.75WL-..
QA: 210.562 psf
QB: 238.688 psf
QC: 272.438 psf
QD: 244.313 psf
NAZ: 464.96 in
NAX: 387.467 in



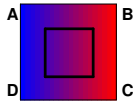
0.6DL
QA: 219 psf
QB: 219 psf
QC: 219 psf
QD: 219 psf
NAZ: -1 in
NAX: -1 in



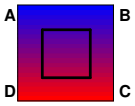
1.04611DL+0.7..
QA: 347.707 psf
QB: 400.207 psf
QC: 400.207 psf
QD: 347.707 psf
NAZ: 365.903 in
NAX: -1 in



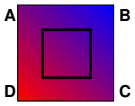
1.03459DL+0.5..
QA: 472.03 psf
QB: 472.03 psf
QC: 472.03 psf
QD: 472.03 psf
NAZ: -1 in
NAX: -1 in



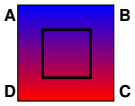
0.553886DL+0...
QA: 168.043 psf
QB: 220.543 psf
QC: 220.543 psf
QD: 168.043 psf
NAZ: 201.64 in
NAX: -1 in



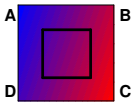
1.04611DL+0.7..
QA: 352.957 psf
QB: 352.957 psf
QC: 410.707 psf
QD: 410.707 psf
NAZ: -1 in
NAX: 341.367 in



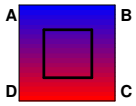
1.03459DL+0.5..
QA: 475.968 psf
QB: 436.593 psf
QC: 479.905 psf
QD: 519.28 psf
NAZ: 633.027 in
NAX: 575.479 in



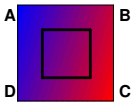
0.553886DL+0...
QA: 173.293 psf
QB: 173.293 psf
QC: 231.043 psf
QD: 231.043 psf
NAZ: -1 in
NAX: 192.036 in



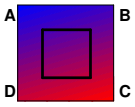
1.04611DL+0.7..
QA: 339.044 psf
QB: 391.544 psf
QC: 408.869 psf
QD: 356.369 psf
NAZ: 373.823 in
NAX: 1132.798 in



1.03459DL+0.5..
QA: 465.533 psf
QB: 465.533 psf
QC: 478.527 psf
QD: 478.527 psf
NAZ: -1 in
NAX: 1767.719 in

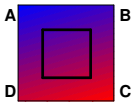


0.553886DL+0...
QA: 159.381 psf
QB: 211.881 psf
QC: 229.206 psf
QD: 176.706 psf
NAZ: 209.56 in
NAX: 635.029 in



1.04611DL+0.7..
QA: 342.719 psf
QB: 358.469 psf
QC: 416.219 psf
QD: 400.469 psf
NAZ: 1268.477 in
NAX: 345.948 in

1.03459DL+0.5..
QA: 468.29 psf
QB: 440.727 psf
QC: 484.04 psf
QD: 511.602 psf
NAZ: 890.953 in
NAX: 566.97 in



0.553886DL+0...
QA: 163.056 psf
QB: 178.806 psf
QC: 236.556 psf
QD: 220.806 psf
NAZ: 720.932 in
NAX: 196.618 in

Footing Flexure Design (Bottom Bars)

As-min x-dir (Top Flexure): **0 in^2**
As-min z-dir (Top Flexure): **0 in^2**
As-min x-dir (Bot Flexure): **1.555 in^2**
As-min z-dir (Bot Flexure): **1.555 in^2**
As-min x-dir (T & S): **1.555 in^2**
As-min z-dir (T & S): **1.555 in^2**

Description	Categories and Factors	Mu-xx UC Max	Mu-xx (k-in)	z-Dir As Required (in^2)	z-Dir As Provided (in^2)	Mu-zz UC Max	Mu-zz (k-in)	x-Dir As Required (in^2)	x-Dir As Provided (in^2)
1.4D	1.4DL	0.00372	4.96	0.006	1.767	0.00372	4.96	0.006	1.767
1.2D + 0.5L..	1.2DL+0.5RLL	0.00431	5.75	0.007	1.767	0.00415	5.52	0.007	1.767
1.2D + 0.5S	1.2DL+0.5SL	0.00459	6.12	0.008	1.767	0.00439	5.85	0.008	1.767
1.2D + 1.6L..	1.2DL+1.6RLL+0.8..	0.00704	9.37	0.012	1.767	0.00696	9.28	0.012	1.767
1.2D + 1.6L..	1.2DL+1.6RLL+0.8..	0.00605	8.06	0.01	1.767	0.00593	7.9	0.01	1.767
1.2D + 1.6L..	1.2DL+1.6RLL+0.8..	0.00583	7.77	0.01	1.767	0.00586	7.8	0.01	1.767
1.2D + 1.6L..	1.2DL+1.6RLL+0.8..	0.00775	10.32	0.013	1.767	0.0073	9.73	0.013	1.767
1.2D + 1.6L..	1.2DL+1.6RLL	0.00679	9.05	0.012	1.767	0.00625	8.33	0.011	1.767
1.2D + 1.6L..	1.2DL+1.6RLL	0.00679	9.05	0.012	1.767	0.00625	8.33	0.011	1.767
1.2D+1.6Lr+..	1.2DL+1.6RLL+0.6..	0.00626	8.34	0.011	1.767	0.00649	8.65	0.011	1.767
1.2D+1.6Lr+..	1.2DL+1.6RLL+0.6..	0.00695	9.26	0.012	1.767	0.0068	9.06	0.012	1.767
1.2D+1.6Lr+..	1.2DL+1.6RLL	0.00679	9.05	0.012	1.767	0.00625	8.33	0.011	1.767
1.2D + 1.6S..	1.2DL+1.6SL+0.83..	0.00792	10.55	0.014	1.767	0.00776	10.33	0.013	1.767
1.2D + 1.6S..	1.2DL+1.6SL+0.83..	0.00693	9.24	0.012	1.767	0.00672	8.96	0.012	1.767
1.2D + 1.6S..	1.2DL+1.6SL+0.83..	0.00672	8.95	0.012	1.767	0.00665	8.86	0.012	1.767
1.2D + 1.6S..	1.2DL+1.6SL+0.83..	0.00863	11.5	0.015	1.767	0.00809	10.78	0.014	1.767
1.2D + 1.6S..	1.2DL+1.6SL	0.00767	10.22	0.013	1.767	0.00704	9.38	0.012	1.767
1.2D + 1.6S..	1.2DL+1.6SL	0.00767	10.22	0.013	1.767	0.00704	9.38	0.012	1.767
1.2D+1.6S+0..	1.2DL+1.6SL+0.62..	0.00714	9.51	0.012	1.767	0.00728	9.7	0.013	1.767
1.2D+1.6S+0..	1.2DL+1.6SL+0.62..	0.00784	10.44	0.014	1.767	0.00759	10.12	0.013	1.767
1.2D+1.6S+0..	1.2DL+1.6SL	0.00767	10.22	0.013	1.767	0.00704	9.38	0.012	1.767
1.2D + 1.6S..	1.2DL+1.6OL3+0.8..	0.00592	7.89	0.01	1.767	0.00563	7.5	0.01	1.767
1.2D + 1.6S..	1.2DL+1.6OL3+0.8..	0.00484	6.45	0.008	1.767	0.0046	6.13	0.008	1.767
1.2D + 1.6S..	1.2DL+1.6OL3+0.8..	0.00416	5.54	0.007	1.767	0.00434	5.79	0.008	1.767
1.2D + 1.6S..	1.2DL+1.6OL3+0.8..	0.00587	7.83	0.01	1.767	0.00579	7.71	0.01	1.767
1.2D + 1.6S..	1.2DL+1.6OL3	0.00492	6.55	0.009	1.767	0.00492	6.55	0.009	1.767
1.2D + 1.6S..	1.2DL+1.6OL3	0.00492	6.55	0.009	1.767	0.00492	6.55	0.009	1.767
1.2D+1.6Su+..	1.2DL+1.6OL3+0.6..	0.00519	6.91	0.009	1.767	0.00498	6.63	0.009	1.767
1.2D+1.6Su+..	1.2DL+1.6OL3+0.6..	0.00525	7	0.009	1.767	0.00529	7.04	0.009	1.767
1.2D+1.6Su+..	1.2DL+1.6OL3	0.00492	6.55	0.009	1.767	0.00492	6.55	0.009	1.767
1.2D + 1.6S..	1.2DL+1.6OL4+0.8..	0.00437	5.82	0.008	1.767	0.0039	5.2	0.007	1.767
1.2D + 1.6S..	1.2DL+1.6OL4+0.8..	0.00329	4.39	0.006	1.767	0.00287	3.82	0.005	1.767
1.2D + 1.6S..	1.2DL+1.6OL4+0.8..	0.00261	3.47	0.005	1.767	0.00279	3.72	0.005	1.767
1.2D + 1.6S..	1.2DL+1.6OL4+0.8..	0.00415	5.52	0.007	1.767	0.00424	5.65	0.007	1.767
1.2D + 1.6S..	1.2DL+1.6OL4	0.00319	4.25	0.006	1.767	0.00319	4.25	0.006	1.767
1.2D + 1.6S..	1.2DL+1.6OL4	0.00319	4.25	0.006	1.767	0.00319	4.25	0.006	1.767
1.2D+1.6Ssl..	1.2DL+1.6OL4+0.6..	0.00364	4.85	0.006	1.767	0.00343	4.57	0.006	1.767
1.2D+1.6Ssl..	1.2DL+1.6OL4+0.6..	0.0037	4.93	0.006	1.767	0.00374	4.98	0.006	1.767
1.2D+1.6Ssl..	1.2DL+1.6OL4	0.00319	4.25	0.006	1.767	0.00319	4.25	0.006	1.767
1.2D + 1.6S..	1.2DL+1.6OL5+0.8..	0.00437	5.82	0.008	1.767	0.0039	5.2	0.007	1.767

1.2D + 1.6S..	1.2DL+1.6OL5+0.8..	0.00329	4.39	0.006	1.767	0.00287	3.82	0.005	1.767
1.2D + 1.6S..	1.2DL+1.6OL5+0.8..	0.00261	3.47	0.005	1.767	0.00279	3.72	0.005	1.767
1.2D + 1.6S..	1.2DL+1.6OL5+0.8..	0.00415	5.52	0.007	1.767	0.00424	5.65	0.007	1.767
1.2D + 1.6S..	1.2DL+1.6OL5	0.00319	4.25	0.006	1.767	0.00319	4.25	0.006	1.767
1.2D + 1.6S..	1.2DL+1.6OL5	0.00319	4.25	0.006	1.767	0.00319	4.25	0.006	1.767
1.2D+1.6Sdr..	1.2DL+1.6OL5+0.6..	0.00364	4.85	0.006	1.767	0.00343	4.57	0.006	1.767
1.2D+1.6Sdr..	1.2DL+1.6OL5+0.6..	0.0037	4.93	0.006	1.767	0.00374	4.98	0.006	1.767
1.2D+1.6Sdr..	1.2DL+1.6OL5	0.00319	4.25	0.006	1.767	0.00319	4.25	0.006	1.767
1.2D + 1.0W..	1.2DL+1.66667WL+..	0.00634	8.45	0.011	1.767	0.00557	7.42	0.01	1.767
1.2D + 1.0W..	1.2DL+1.66667WL-..	0.00418	5.57	0.007	1.767	0.00351	4.67	0.006	1.767
1.2D + 1.0W..	1.2DL+1.66667WL+..	0.00281	3.75	0.005	1.767	0.00336	4.47	0.006	1.767
1.2D + 1.0W..	1.2DL+1.66667WL-..	0.00623	8.3	0.011	1.767	0.00625	8.32	0.011	1.767
1.2D + 1.0W..	1.2DL+0.5RLL	0.00431	5.75	0.007	1.767	0.00415	5.52	0.007	1.767
1.2D + 1.0W..	1.2DL+0.5RLL	0.00431	5.75	0.007	1.767	0.00415	5.52	0.007	1.767
1.2D+1.0(0...	1.2DL+1.25WL+X+1..	0.00488	6.5	0.008	1.767	0.00462	6.16	0.008	1.767
1.2D+1.0(0...	1.2DL+1.25WL-X+1..	0.005	6.67	0.009	1.767	0.00524	6.99	0.009	1.767
1.2D+1.0(0...	1.2DL+0.5RLL	0.00431	5.75	0.007	1.767	0.00415	5.52	0.007	1.767
1.2D + 1.0W..	1.2DL+1.66667WL+..	0.00656	8.74	0.011	1.767	0.00582	7.75	0.01	1.767
1.2D + 1.0W..	1.2DL+1.66667WL-..	0.0044	5.87	0.008	1.767	0.00376	5	0.007	1.767
1.2D + 1.0W..	1.2DL+1.66667WL+..	0.00303	4.04	0.005	1.767	0.00361	4.8	0.006	1.767
1.2D + 1.0W..	1.2DL+1.66667WL-..	0.0065	8.67	0.011	1.767	0.00649	8.65	0.011	1.767
1.2D + 1.0W..	1.2DL+0.5SL	0.00459	6.12	0.008	1.767	0.00439	5.85	0.008	1.767
1.2D + 1.0W..	1.2DL+0.5SL	0.00459	6.12	0.008	1.767	0.00439	5.85	0.008	1.767
1.2D+1.0(0...	1.2DL+1.25WL+X+1..	0.0051	6.79	0.009	1.767	0.00487	6.49	0.008	1.767
1.2D+1.0(0...	1.2DL+1.25WL-X+1..	0.00522	6.96	0.009	1.767	0.00549	7.32	0.01	1.767
1.2D+1.0(0...	1.2DL+0.5SL	0.00459	6.12	0.008	1.767	0.00439	5.85	0.008	1.767
0.9D + 1.0W..	0.9DL+1.66667WL+X	0.00476	6.34	0.008	1.767	0.00382	5.09	0.007	1.767
0.9D + 1.0W..	0.9DL+1.66667WL-X	0.0026	3.46	0.004	1.767	0.00175	2.34	0.003	1.767
0.9D + 1.0W..	0.9DL+1.66667WL+Z	0.00123	1.64	0.002	1.767	0.0016	2.14	0.003	1.767
0.9D + 1.0W..	0.9DL+1.66667WL-Z	0.00431	5.74	0.007	1.767	0.00449	5.99	0.008	1.767
0.9D + 1.0W..	0.9DL	0.00239	3.19	0.004	1.767	0.00239	3.19	0.004	1.767
0.9D + 1.0W..	0.9DL	0.00239	3.19	0.004	1.767	0.00239	3.19	0.004	1.767
0.9D+1.0(0...	0.9DL+1.66667WL+..	0.00359	4.79	0.006	1.767	0.00303	4.04	0.005	1.767
0.9D+1.0(0...	0.9DL+1.66667WL-..	0.00376	5.01	0.007	1.767	0.00386	5.14	0.007	1.767
0.9D+1.0(0...	0.9DL	0.00239	3.19	0.004	1.767	0.00239	3.19	0.004	1.767
(1.2+0.2*Sd..	1.26588DL+1ELX+0..	0.00413	5.5	0.007	1.767	0.00364	4.85	0.006	1.767
(0.9-0.2*Sd..	0.834123DL+1ELX	0.00258	3.43	0.004	1.767	0.00201	2.68	0.003	1.767
(1.2+0.2*Sd..	1.26588DL+1ELZ+0..	0.00392	5.23	0.007	1.767	0.00446	5.95	0.008	1.767
(0.9-0.2*Sd..	0.834123DL+1ELZ	0.00222	2.95	0.004	1.767	0.00284	3.78	0.005	1.767
(1.2+0.2*Sd..	1.26588DL+1ELX+0..	0.00413	5.5	0.007	1.767	0.00383	5.1	0.007	1.767
(0.9-0.2*Sd..	0.834123DL+1ELX+..	0.00258	3.43	0.004	1.767	0.0022	2.93	0.004	1.767
(1.2+0.2*Sd..	1.26588DL+1ELZ+0..	0.00387	5.16	0.007	1.767	0.0044	5.87	0.008	1.767
(0.9-0.2*Sd..	0.834123DL+1ELZ+..	0.00232	3.1	0.004	1.767	0.00277	3.7	0.005	1.767

Footing Flexure Design (Top Bars)

Description	Categories and Factors	Mu-xx (k-in)	z Dir As (in^2)	Mu-zz (k-in)	x Dir As (in^2)
SW+OB	1SW+1OB-(D,0.9D + 1..)	0	0	0.386	0.0005016

Moment Capacity of Plain Concrete Section Along xx and zz= 412.152k-in,412.152k-in Per Chapter 22 of ACI 318.

Footing Shear Check

Two Way (Punching) Vc: **NA** One Way (x Dir. Cut) Vc: **91.768 k** One Way (z Dir. Cut) Vc: **91.768 k**

Description	Categories and Factors	Punching Vu(k)	Punching Vu/(ϕVc)	x Dir. Cut Vu(k)	x Dir. Cut Vu/(ϕVc)	z Dir. Cut Vu(k)	z Dir. Cut Vu/(ϕVc)
1.4D	1.4DL	NA	NA	0.002	0	0.002	0
1.2D + 0.5Lr	1.2DL+0.5RLL	NA	NA	0.002	0	0.002	0
1.2D + 0.5S	1.2DL+0.5SL	NA	NA	0.002	0	0.002	0
1.2D + 1.6Lr ..	1.2DL+1.6RLL+0.833333W..	NA	NA	0.003	0	0.003	0
1.2D + 1.6Lr ..	1.2DL+1.6RLL+0.833333W..	NA	NA	0.003	0	0.003	0
1.2D + 1.6Lr ..	1.2DL+1.6RLL+0.833333W..	NA	NA	0.003	0	0.003	0
1.2D + 1.6Lr ..	1.2DL+1.6RLL+0.833333W..	NA	NA	0.004	0	0.003	0
1.2D + 1.6Lr ..	1.2DL+1.6RLL	NA	NA	0.003	0	0.003	0
1.2D + 1.6Lr ..	1.2DL+1.6RLL	NA	NA	0.003	0	0.003	0
1.2D+1.6Lr+0...	1.2DL+1.6RLL+0.625WL+X..	NA	NA	0.003	0	0.003	0
1.2D+1.6Lr+0...	1.2DL+1.6RLL+0.625WL-X..	NA	NA	0.003	0	0.003	0
1.2D+1.6Lr+0...	1.2DL+1.6RLL	NA	NA	0.003	0	0.003	0
1.2D + 1.6S +..	1.2DL+1.6SL+0.833333WL+X	NA	NA	0.004	0	0.003	0
1.2D + 1.6S +..	1.2DL+1.6SL+0.833333WL-X	NA	NA	0.003	0	0.003	0
1.2D + 1.6S +..	1.2DL+1.6SL+0.833333WL+Z	NA	NA	0.003	0	0.003	0
1.2D + 1.6S +..	1.2DL+1.6SL+0.833333WL-Z	NA	NA	0.004	0	0.004	0
1.2D + 1.6S +..	1.2DL+1.6SL	NA	NA	0.003	0	0.003	0
1.2D + 1.6S +..	1.2DL+1.6SL	NA	NA	0.003	0	0.003	0
1.2D+1.6S+0.5..	1.2DL+1.6SL+0.625WL+X+..	NA	NA	0.003	0	0.003	0
1.2D+1.6S+0.5..	1.2DL+1.6SL+0.625WL-X+..	NA	NA	0.004	0	0.003	0
1.2D+1.6S+0.5..	1.2DL+1.6SL	NA	NA	0.003	0	0.003	0
1.2D + 1.6Su ..	1.2DL+1.6OL3+0.833333W..	NA	NA	0.003	0	0.003	0
1.2D + 1.6Su ..	1.2DL+1.6OL3+0.833333W..	NA	NA	0.002	0	0.002	0
1.2D + 1.6Su ..	1.2DL+1.6OL3+0.833333W..	NA	NA	0.002	0	0.002	0
1.2D + 1.6Su ..	1.2DL+1.6OL3+0.833333W..	NA	NA	0.003	0	0.003	0
1.2D + 1.6Su ..	1.2DL+1.6OL3	NA	NA	0.002	0	0.002	0
1.2D + 1.6Su ..	1.2DL+1.6OL3	NA	NA	0.002	0	0.002	0
1.2D+1.6Su+0...	1.2DL+1.6OL3+0.625WL+X..	NA	NA	0.002	0	0.002	0
1.2D+1.6Su+0...	1.2DL+1.6OL3+0.625WL-X..	NA	NA	0.002	0	0.002	0
1.2D+1.6Su+0...	1.2DL+1.6OL3	NA	NA	0.002	0	0.002	0
1.2D + 1.6Ssl..	1.2DL+1.6OL4+0.833333W..	NA	NA	0.002	0	0.002	0
1.2D + 1.6Ssl..	1.2DL+1.6OL4+0.833333W..	NA	NA	0.001	0	0.001	0
1.2D + 1.6Ssl..	1.2DL+1.6OL4+0.833333W..	NA	NA	0.001	0	0.001	0
1.2D + 1.6Ssl..	1.2DL+1.6OL4+0.833333W..	NA	NA	0.002	0	0.002	0
1.2D + 1.6Ssl..	1.2DL+1.6OL4	NA	NA	0.001	0	0.001	0
1.2D + 1.6Ssl..	1.2DL+1.6OL4	NA	NA	0.001	0	0.001	0
1.2D+1.6Sslid..	1.2DL+1.6OL4+0.625WL+X..	NA	NA	0.002	0	0.002	0
1.2D+1.6Sslid..	1.2DL+1.6OL4+0.625WL-X..	NA	NA	0.002	0	0.002	0
1.2D+1.6Sslid..	1.2DL+1.6OL4	NA	NA	0.001	0	0.001	0
1.2D + 1.6Sdr..	1.2DL+1.6OL5+0.833333W..	NA	NA	0.002	0	0.002	0
1.2D + 1.6Sdr..	1.2DL+1.6OL5+0.833333W..	NA	NA	0.001	0	0.001	0
1.2D + 1.6Sdr..	1.2DL+1.6OL5+0.833333W..	NA	NA	0.001	0	0.001	0
1.2D + 1.6Sdr..	1.2DL+1.6OL5+0.833333W..	NA	NA	0.002	0	0.002	0

1.2D + 1.6Sdr..	1.2DL+1.6OL5	NA	NA	0.001	0	0.001	0
1.2D + 1.6Sdr..	1.2DL+1.6OL5	NA	NA	0.001	0	0.001	0
1.2D+1.6Sdrif..	1.2DL+1.6OL5+0.625WL+X..	NA	NA	0.002	0	0.002	0
1.2D+1.6Sdrif..	1.2DL+1.6OL5+0.625WL-X..	NA	NA	0.002	0	0.002	0
1.2D+1.6Sdrif..	1.2DL+1.6OL5	NA	NA	0.001	0	0.001	0
1.2D + 1.0Wx ..	1.2DL+1.66667WL+X+0.5RLL	NA	NA	0.003	0	0.002	0
1.2D + 1.0Wx ..	1.2DL+1.66667WL-X+0.5RLL	NA	NA	0.002	0	0.002	0
1.2D + 1.0Wz ..	1.2DL+1.66667WL+Z+0.5RLL	NA	NA	0.001	0	0.002	0
1.2D + 1.0Wz ..	1.2DL+1.66667WL-Z+0.5RLL	NA	NA	0.003	0	0.003	0
1.2D + 1.0Wx ..	1.2DL+0.5RLL	NA	NA	0.002	0	0.002	0
1.2D + 1.0Wz ..	1.2DL+0.5RLL	NA	NA	0.002	0	0.002	0
1.2D+1.0(0.75..	1.2DL+1.25WL+X+1.25WL+..	NA	NA	0.002	0	0.002	0
1.2D+1.0(0.75..	1.2DL+1.25WL-X+1.25WL-..	NA	NA	0.002	0	0.002	0
1.2D+1.0(0.75..	1.2DL+0.5RLL	NA	NA	0.002	0	0.002	0
1.2D + 1.0Wx ..	1.2DL+1.66667WL+X+0.5SL	NA	NA	0.003	0	0.003	0
1.2D + 1.0Wx ..	1.2DL+1.66667WL-X+0.5SL	NA	NA	0.002	0	0.002	0
1.2D + 1.0Wz ..	1.2DL+1.66667WL+Z+0.5SL	NA	NA	0.001	0	0.002	0
1.2D + 1.0Wz ..	1.2DL+1.66667WL-Z+0.5SL	NA	NA	0.003	0	0.003	0
1.2D + 1.0Wx ..	1.2DL+0.5SL	NA	NA	0.002	0	0.002	0
1.2D + 1.0Wz ..	1.2DL+0.5SL	NA	NA	0.002	0	0.002	0
1.2D+1.0(0.75..	1.2DL+1.25WL+X+1.25WL+..	NA	NA	0.002	0	0.002	0
1.2D+1.0(0.75..	1.2DL+1.25WL-X+1.25WL-..	NA	NA	0.002	0	0.002	0
1.2D+1.0(0.75..	1.2DL+0.5SL	NA	NA	0.002	0	0.002	0
0.9D + 1.0Wx ..	0.9DL+1.66667WL+X	NA	NA	0.002	0	0.002	0
0.9D + 1.0Wx ..	0.9DL+1.66667WL-X	NA	NA	0.001	0	0.0007787	0
0.9D + 1.0Wz ..	0.9DL+1.66667WL+Z	NA	NA	0.0005786	0	0.0007785	0
0.9D + 1.0Wz ..	0.9DL+1.66667WL-Z	NA	NA	0.002	0	0.002	0
0.9D + 1.0Wx ..	0.9DL	NA	NA	0.001	0	0.001	0
0.9D + 1.0Wz ..	0.9DL	NA	NA	0.001	0	0.001	0
0.9D+1.0(0.75..	0.9DL+1.66667WL+X+1.66..	NA	NA	0.002	0	0.001	0
0.9D+1.0(0.75..	0.9DL+1.66667WL-X+1.66..	NA	NA	0.002	0	0.002	0
0.9D+1.0(0.75..	0.9DL	NA	NA	0.001	0	0.001	0
(1.2+0.2*Sds)..	1.26588DL+1ELX+0.2SL	NA	NA	0.002	0	0.002	0
(0.9-0.2*Sds)..	0.834123DL+1ELX	NA	NA	0.001	0	0.0008943	0
(1.2+0.2*Sds)..	1.26588DL+1ELZ+0.2SL	NA	NA	0.002	0	0.002	0
(0.9-0.2*Sds)..	0.834123DL+1ELZ	NA	NA	0.0009843	0	0.001	0
(1.2+0.2*Sds)..	1.26588DL+1ELX+0.3ELZ+..	NA	NA	0.002	0	0.002	0
(0.9-0.2*Sds)..	0.834123DL+1ELX+0.3ELZ	NA	NA	0.001	0	0.0009932	0
(1.2+0.2*Sds)..	1.26588DL+1ELZ+0.3ELX+..	NA	NA	0.002	0	0.002	0
(0.9-0.2*Sds)..	0.834123DL+1ELZ+0.3ELX	NA	NA	0.001	0	0.001	0

Pedestal Design

Shear Check Results (Envelope):

	Vc (k)	Vs (k)	Vu (k)	Vu/Φ*Vn	Φ	Gov LC
Shear Along x Direction:	64.399	29.452	0.133	0.002	0.75	NC
Shear Along z Direction:	64.399	29.452	0.233	0.003	0.75	NC

Pedestal Ties : **#4 @ 16 in**

Bending Check Results (Envelope): PCA Load Contour Method (for biaxial)

Unity Check:	0.004	Φ	: 0.65	Parme β	: 0.65
Pu	: 5.199 k	Mux	: 0 k-in	Muz	: 0 k-in
Pn	: 1903.743 k	Mnx	: NC	Mnz	: NC
Governing LC	: 91	Mnox	: NC	Mnoz	: NC
Pedestal Bars	: 4 #8	% Steel	: 0.5454		

Company :
Designer :
Job Number :
July 23, 2024
Footing 1 - N1
Checked By:_____

Concrete Bearing Check (Vertical Loads Only)

Bearing Bc : **4406.4 k**

Description	Categories and Factors	Bearing Bu (k)	Bearing Bu/⌀Bc
1.4D	1.4DL	3.304	0.001
1.2D + 0.5Lr	1.2DL+0.5RLL	3.682	0.001
1.2D + 0.5S	1.2DL+0.5SL	3.902	0.001
1.2D + 1.6Lr ..	1.2DL+1.6RLL+0.833333W..	6.185	0.002
1.2D + 1.6Lr ..	1.2DL+1.6RLL+0.833333W..	5.269	0.002
1.2D + 1.6Lr ..	1.2DL+1.6RLL+0.833333W..	4.869	0.002
1.2D + 1.6Lr ..	1.2DL+1.6RLL+0.833333W..	6.235	0.002
1.2D + 1.6Lr ..	1.2DL+1.6RLL	5.552	0.002
1.2D + 1.6Lr ..	1.2DL+1.6RLL	5.552	0.002
1.2D+1.6Lr+0...	1.2DL+1.6RLL+0.625WL+X..	5.514	0.002
1.2D+1.6Lr+0...	1.2DL+1.6RLL+0.625WL-X..	5.852	0.002
1.2D+1.6Lr+0...	1.2DL+1.6RLL	5.552	0.002
1.2D + 1.6S +..	1.2DL+1.6SL+0.833333WL+X	6.889	0.002
1.2D + 1.6S +..	1.2DL+1.6SL+0.833333WL-X	5.973	0.002
1.2D + 1.6S +..	1.2DL+1.6SL+0.833333WL+Z	5.573	0.002
1.2D + 1.6S +..	1.2DL+1.6SL+0.833333WL-Z	6.939	0.002
1.2D + 1.6S +..	1.2DL+1.6SL	6.256	0.002
1.2D + 1.6S +..	1.2DL+1.6SL	6.256	0.002
1.2D+1.6S+0.5..	1.2DL+1.6SL+0.625WL+X+..	6.219	0.002
1.2D+1.6S+0.5..	1.2DL+1.6SL+0.625WL-X+..	6.556	0.002
1.2D+1.6S+0.5..	1.2DL+1.6SL	6.256	0.002
1.2D + 1.6Su ..	1.2DL+1.6OL3+0.833333W..	4.921	0.002
1.2D + 1.6Su ..	1.2DL+1.6OL3+0.833333W..	4.005	0.001
1.2D + 1.6Su ..	1.2DL+1.6OL3+0.833333W..	3.605	0.001
1.2D + 1.6Su ..	1.2DL+1.6OL3+0.833333W..	4.971	0.002
1.2D + 1.6Su ..	1.2DL+1.6OL3	4.288	0.001
1.2D + 1.6Su ..	1.2DL+1.6OL3	4.288	0.001
1.2D+1.6Su+0...	1.2DL+1.6OL3+0.625WL+X..	4.251	0.001
1.2D+1.6Su+0...	1.2DL+1.6OL3+0.625WL-X..	4.588	0.002
1.2D+1.6Su+0...	1.2DL+1.6OL3	4.288	0.001
1.2D + 1.6Ssl..	1.2DL+1.6OL4+0.833333W..	3.465	0.001
1.2D + 1.6Ssl..	1.2DL+1.6OL4+0.833333W..	2.549	0
1.2D + 1.6Ssl..	1.2DL+1.6OL4+0.833333W..	2.149	0
1.2D + 1.6Ssl..	1.2DL+1.6OL4+0.833333W..	3.515	0.001
1.2D + 1.6Ssl..	1.2DL+1.6OL4	2.832	0
1.2D + 1.6Ssl..	1.2DL+1.6OL4	2.832	0
1.2D+1.6Sslid..	1.2DL+1.6OL4+0.625WL+X..	2.795	0
1.2D+1.6Sslid..	1.2DL+1.6OL4+0.625WL-X..	3.132	0.001
1.2D+1.6Sslid..	1.2DL+1.6OL4	2.832	0
1.2D + 1.6Sdr..	1.2DL+1.6OL5+0.833333W..	3.465	0.001
1.2D + 1.6Sdr..	1.2DL+1.6OL5+0.833333W..	2.549	0
1.2D + 1.6Sdr..	1.2DL+1.6OL5+0.833333W..	2.149	0
1.2D + 1.6Sdr..	1.2DL+1.6OL5+0.833333W..	3.515	0.001
1.2D + 1.6Sdr..	1.2DL+1.6OL5	2.832	0

1.2D + 1.6Sdr..	1.2DL+1.6OL5	2.832	0
1.2D+1.6Sdrif..	1.2DL+1.6OL5+0.625WL+X..	2.795	0
1.2D+1.6Sdrif..	1.2DL+1.6OL5+0.625WL-X..	3.132	0.001
1.2D+1.6Sdrif..	1.2DL+1.6OL5	2.832	0
1.2D + 1.0Wx ..	1.2DL+1.66667WL+X+0.5RLL	4.949	0.002
1.2D + 1.0Wx ..	1.2DL+1.66667WL-X+0.5RLL	3.115	0.001
1.2D + 1.0Wz ..	1.2DL+1.66667WL+Z+0.5RLL	2.315	0
1.2D + 1.0Wz ..	1.2DL+1.66667WL-Z+0.5RLL	5.049	0.002
1.2D + 1.0Wx ..	1.2DL+0.5RLL	3.682	0.001
1.2D + 1.0Wz ..	1.2DL+0.5RLL	3.682	0.001
1.2D+1.0(0.75..	1.2DL+1.25WL+X+1.25WL+..	3.607	0.001
1.2D+1.0(0.75..	1.2DL+1.25WL-X+1.25WL-..	4.282	0.001
1.2D+1.0(0.75..	1.2DL+0.5RLL	3.682	0.001
1.2D + 1.0Wx ..	1.2DL+1.66667WL+X+0.5SL	5.169	0.002
1.2D + 1.0Wx ..	1.2DL+1.66667WL-X+0.5SL	3.335	0.001
1.2D + 1.0Wz ..	1.2DL+1.66667WL+Z+0.5SL	2.535	0
1.2D + 1.0Wz ..	1.2DL+1.66667WL-Z+0.5SL	5.269	0.002
1.2D + 1.0Wx ..	1.2DL+0.5SL	3.902	0.001
1.2D + 1.0Wz ..	1.2DL+0.5SL	3.902	0.001
1.2D+1.0(0.75..	1.2DL+1.25WL+X+1.25WL+..	3.827	0.001
1.2D+1.0(0.75..	1.2DL+1.25WL-X+1.25WL-..	4.502	0.002
1.2D+1.0(0.75..	1.2DL+0.5SL	3.902	0.001
0.9D + 1.0Wx ..	0.9DL+1.66667WL+X	3.391	0.001
0.9D + 1.0Wx ..	0.9DL+1.66667WL-X	1.557	0
0.9D + 1.0Wz ..	0.9DL+1.66667WL+Z	0.757	0
0.9D + 1.0Wz ..	0.9DL+1.66667WL-Z	3.491	0.001
0.9D + 1.0Wx ..	0.9DL	2.124	0
0.9D + 1.0Wz ..	0.9DL	2.124	0
0.9D+1.0(0.75..	0.9DL+1.66667WL+X+1.66..	2.024	0
0.9D+1.0(0.75..	0.9DL+1.66667WL-X+1.66..	2.924	0.001
0.9D+1.0(0.75..	0.9DL	2.124	0
(1.2+0.2*Sds)..	1.26588DL+1ELX+0.2SL	3.235	0.001
(0.9-0.2*Sds)..	0.834123DL+1ELX	1.789	0
(1.2+0.2*Sds)..	1.26588DL+1ELZ+0.2SL	3.415	0.001
(0.9-0.2*Sds)..	0.834123DL+1ELZ	1.969	0
(1.2+0.2*Sds)..	1.26588DL+1ELX+0.3ELZ+..	3.235	0.001
(0.9-0.2*Sds)..	0.834123DL+1ELX+0.3ELZ	1.789	0
(1.2+0.2*Sds)..	1.26588DL+1ELZ+0.3ELX+..	3.361	0.001
(0.9-0.2*Sds)..	0.834123DL+1ELZ+0.3ELX	1.915	0

Overturning Check (Service)

Description	Categories and Factors	Mo-xx (k-in)	Ms-xx (k-in)	Mo-zz (k-in)	Ms-zz (k-in)	OSF-xx	OSF-zz
D	1DL	0	140.16	0	140.16	NA	NA
D + Lr	1DL+1RLL	2.88	180.96	0	180.96	62.833	NA
D + S	1DL+1SL	3.36	191.52	0	191.52	57	NA
D + Su	1DL+1OL3	0.48	162	0.48	162	337.5	337.5
D+Ssliding	1DL+1OL4	0	140.16	0	140.16	NA	NA
D+Sdrift	1DL+1OL5	0	140.16	0	140.16	NA	NA
D + 0.6Wx (LC..	1DL+1WL+X	4.8	158.4	0	158.4	33	NA
D + 0.6Wx (LC..	1DL+1WL-X	12.48	140.16	8.16	140.16	11.231	17.176
D + 0.6Wz (LC..	1DL+1WL+Z	21.6	140.16	23.52	140.16	6.489	5.959
D + 0.6Wz (LC..	1DL+1WL-Z	1.92	159.84	2.88	159.84	83.25	55.5
D + (0.6Wx (M..	1DL	0	140.16	0	140.16	NA	NA
D + (0.6Wz (M..	1DL	0	140.16	0	140.16	NA	NA
D+0.6(0.75Wx(..	1DL+0.75WL+X+0.7..	19.8	153.84	17.64	153.84	7.77	8.721
D+0.6(0.75Wx(..	1DL+0.75WL-X+0.7..	9.36	156.36	8.28	154.92	16.705	18.71
D+0.6(0.75Wx(..	1DL	0	140.16	0	140.16	NA	NA
D + 0.75(0.6W..	1DL+0.75WL+X+0.7..	3.6	186.6	0	184.44	51.833	NA
D + 0.75(0.6W..	1DL+0.75WL-X+0.7..	9.36	172.92	6.12	170.76	18.474	27.902
D + 0.75(0.6W..	1DL+0.75WL+Z+0.7..	16.92	172.2	17.64	170.76	10.177	9.68
D + 0.75(0.6W..	1DL+0.75WL-Z+0.7..	3.6	185.52	2.16	185.52	51.533	85.889
D + 0.75(0.6W..	1DL+0.75RLL	2.16	170.76	0	170.76	79.056	NA
D + 0.75(0.6W..	1DL+0.75RLL	2.16	170.76	0	170.76	79.056	NA
D+0.75(0.6(0...	1DL+0.5625WL+X+0..	14.85	183.18	13.23	181.02	12.335	13.683
D+0.75(0.6(0...	1DL+0.5625WL-X+0..	7.83	184.26	6.21	181.83	23.533	29.28
D+0.75(0.6(0...	1DL+0.75RLL	2.16	170.76	0	170.76	79.056	NA
D + 0.75(0.6W..	1DL+0.75WL+X+0.7..	3.6	194.88	0	192.36	54.133	NA
D + 0.75(0.6W..	1DL+0.75WL-X+0.7..	9.36	181.2	6.12	178.68	19.359	29.196
D + 0.75(0.6W..	1DL+0.75WL+Z+0.7..	17.28	180.12	17.64	178.68	10.424	10.129
D + 0.75(0.6W..	1DL+0.75WL-Z+0.7..	3.96	193.44	2.16	193.44	48.848	89.556
D + 0.75(0.6W..	1DL+0.75SL	2.52	178.68	0	178.68	70.905	NA
D + 0.75(0.6W..	1DL+0.75SL	2.52	178.68	0	178.68	70.905	NA
D+0.75(0.6(0...	1DL+0.5625WL+X+0..	14.85	191.46	13.23	188.94	12.893	14.281
D+0.75(0.6(0...	1DL+0.5625WL-X+0..	8.19	192.18	6.21	189.75	23.465	30.556
D+0.75(0.6(0...	1DL+0.75SL	2.52	178.68	0	178.68	70.905	NA
0.6D + 0.6Wx ..	0.6DL+1WL+X	4.8	102.336	0	102.336	21.32	NA
0.6D + 0.6Wx ..	0.6DL+1WL-X	12.48	84.096	8.16	84.096	6.738	10.306
0.6D + 0.6Wz ..	0.6DL+1WL+Z	21.6	84.096	23.52	84.096	3.893	3.576
0.6D + 0.6Wz ..	0.6DL+1WL-Z	1.92	103.776	2.88	103.776	54.05	36.033
0.6D + (0.6Wx..	0.6DL	0	84.096	0	84.096	NA	NA
0.6D + (0.6Wz..	0.6DL	0	84.096	0	84.096	NA	NA
0.6D+0.6(0.75..	0.6DL+0.75WL+X+0..	19.8	97.776	17.64	97.776	4.938	5.543
0.6D+0.6(0.75..	0.6DL+0.75WL-X+0..	9.36	100.296	8.28	98.856	10.715	11.939
0.6D+0.6(0.75..	0.6DL	0	84.096	0	84.096	NA	NA
(1.0+0.14*Sds..	1.04611DL+0.7ELX	6.384	146.623	3.024	146.623	22.967	48.487
(1.0+0.105*Sd..	1.03459DL+0.525E..	4.788	186.048	2.268	183.528	38.857	80.92
(0.6-0.14*Sds..	0.553886DL+0.7ELX	6.384	77.633	3.024	77.633	12.161	25.672
(1.0+0.14*Sds..	1.04611DL+0.7ELZ	0	146.623	3.696	146.623	NA	39.671

(1.0+0.105*Sd..	1.03459DL+0.525E..	2.52	183.528	2.772	183.528	72.828	66.208
(0.6-0.14*Sds..	0.553886DL+0.7ELZ	0	77.633	3.696	77.633	NA	21.005
(1.0+0.14*Sds..	1.04611DL+0.7ELX..	6.384	146.623	4.133	146.623	22.967	35.478
(1.0+0.105*Sd..	1.03459DL+0.525E..	4.788	186.048	3.1	183.528	38.857	59.21
(0.6-0.14*Sds..	0.553886DL+0.7EL..	6.384	77.633	4.133	77.633	12.161	18.785
(1.0+0.14*Sds..	1.04611DL+0.7ELZ..	1.915	146.623	4.603	146.623	76.558	31.852
(1.0+0.105*Sd..	1.03459DL+0.525E..	3.2	184.284	3.452	183.528	57.581	53.159
(0.6-0.14*Sds..	0.553886DL+0.7EL..	1.915	77.633	4.603	77.633	40.535	16.865

Mo-xx: Governing Overturning Moment about AD or BC
Ms-xx: Governing Stablizing Moment about AD or BC
OSF-xx: Ratio of Ms-xx to Mo-xx

Sliding Check (Service)

Description	Categories and Factors	Va-xx (k)	Vr-xx (k)	Va-zz (k)	Vr-zz (k)	SR-xx	SR-zz
D	1DL	0	2.08	0	2.08	NA	NA
D + Lr	1DL+1RLL	0	2.08	0.06	2.08	NA	34.667
D + S	1DL+1SL	0	2.08	0.07	2.08	NA	29.714
D + Su	1DL+1OL3	0.01	2.08	0.01	2.08	208	208
D+Ssliding	1DL+1OL4	0	2.08	0	2.08	NA	NA
D+Sdrift	1DL+1OL5	0	2.08	0	2.08	NA	NA
D + 0.6Wx (LC..	1DL+1WL+X	0	2.08	0.1	2.08	NA	20.8
D + 0.6Wx (LC..	1DL+1WL-X	0	2.08	0.09	2.08	NA	23.111
D + 0.6Wz (LC..	1DL+1WL+Z	0.08	2.08	0.04	2.08	26	52
D + 0.6Wz (LC..	1DL+1WL-Z	0.06	2.08	0.04	2.08	34.667	52
D + (0.6Wx (M..	1DL	0	2.08	0	2.08	NA	NA
D + (0.6Wz (M..	1DL	0	2.08	0	2.08	NA	NA
D+0.6(0.75Wx(..	1DL+0.75WL+X+0.7..	0.06	2.08	0.105	2.08	34.667	19.81
D+0.6(0.75Wx(..	1DL+0.75WL-X+0.7..	0.045	2.08	0.038	2.08	46.222	55.467
D+0.6(0.75Wx(..	1DL	0	2.08	0	2.08	NA	NA
D + 0.75(0.6W..	1DL+0.75WL+X+0.7..	0	2.08	0.03	2.08	NA	69.333
D + 0.75(0.6W..	1DL+0.75WL-X+0.7..	0	2.08	0.023	2.08	NA	92.444
D + 0.75(0.6W..	1DL+0.75WL+Z+0.7..	0.06	2.08	0.015	2.08	34.667	138.667
D + 0.75(0.6W..	1DL+0.75WL-Z+0.7..	0.045	2.08	0.075	2.08	46.222	27.733
D + 0.75(0.6W..	1DL+0.75RLL	0	2.08	0.045	2.08	NA	46.222
D + 0.75(0.6W..	1DL+0.75RLL	0	2.08	0.045	2.08	NA	46.222
D+0.75(0.6(0...	1DL+0.5625WL+X+0..	0.045	2.08	0.034	2.08	46.222	61.63
D+0.75(0.6(0...	1DL+0.5625WL-X+0..	0.034	2.08	0.017	2.08	61.63	123.259
D+0.75(0.6(0...	1DL+0.75RLL	0	2.08	0.045	2.08	NA	46.222
D + 0.75(0.6W..	1DL+0.75WL+X+0.7..	0	2.08	0.023	2.08	NA	92.444
D + 0.75(0.6W..	1DL+0.75WL-X+0.7..	0	2.08	0.015	2.08	NA	138.667
D + 0.75(0.6W..	1DL+0.75WL+Z+0.7..	0.06	2.08	0.023	2.08	34.667	92.444
D + 0.75(0.6W..	1DL+0.75WL-Z+0.7..	0.045	2.08	0.083	2.08	46.222	25.212
D + 0.75(0.6W..	1DL+0.75SL	0	2.08	0.053	2.08	NA	39.619
D + 0.75(0.6W..	1DL+0.75SL	0	2.08	0.053	2.08	NA	39.619
D+0.75(0.6(0...	1DL+0.5625WL+X+0..	0.045	2.08	0.026	2.08	46.222	79.238
D+0.75(0.6(0...	1DL+0.5625WL-X+0..	0.034	2.08	0.024	2.08	61.63	85.333
D+0.75(0.6(0...	1DL+0.75SL	0	2.08	0.053	2.08	NA	39.619
0.6D + 0.6Wx ..	0.6DL+1WL+X	0	2.08	0.1	2.08	NA	20.8
0.6D + 0.6Wx ..	0.6DL+1WL-X	0	2.08	0.09	2.08	NA	23.111
0.6D + 0.6Wz ..	0.6DL+1WL+Z	0.08	2.08	0.04	2.08	26	52
0.6D + 0.6Wz ..	0.6DL+1WL-Z	0.06	2.08	0.04	2.08	34.667	52
0.6D + (0.6Wx..	0.6DL	0	2.08	0	2.08	NA	NA
0.6D + (0.6Wz..	0.6DL	0	2.08	0	2.08	NA	NA
0.6D+0.6(0.75..	0.6DL+0.75WL+X+0..	0.06	2.08	0.105	2.08	34.667	19.81
0.6D+0.6(0.75..	0.6DL+0.75WL-X+0..	0.045	2.08	0.038	2.08	46.222	55.467
0.6D+0.6(0.75..	0.6DL	0	2.08	0	2.08	NA	NA
(1.0+0.14*Sds..	1.04611DL+0.7ELX	0	2.08	0.07	2.08	NA	29.714
(1.0+0.105*Sd..	1.03459DL+0.525E..	0	2.08	0	2.08	NA	NA
(0.6-0.14*Sds..	0.553886DL+0.7ELX	0	2.08	0.07	2.08	NA	29.714
(1.0+0.14*Sds..	1.04611DL+0.7ELZ	0.077	2.08	0	2.08	27.013	NA

(1.0+0.105*Sd..	1.03459DL+0.525E..	0.058	2.08	0.053	2.08	36.017	39.619
(0.6-0.14*Sds..	0.553886DL+0.7ELZ	0.077	2.08	0	2.08	27.013	NA
(1.0+0.14*Sds..	1.04611DL+0.7ELX..	0.023	2.08	0.07	2.08	90.043	29.714
(1.0+0.105*Sd..	1.03459DL+0.525E..	0.017	2.08	0	2.08	120.058	NA
(0.6-0.14*Sds..	0.553886DL+0.7EL..	0.023	2.08	0.07	2.08	90.043	29.714
(1.0+0.14*Sds..	1.04611DL+0.7ELZ..	0.077	2.08	0.021	2.08	27.013	99.048
(1.0+0.105*Sd..	1.03459DL+0.525E..	0.058	2.08	0.037	2.08	36.017	56.599
(0.6-0.14*Sds..	0.553886DL+0.7EL..	0.077	2.08	0.021	2.08	27.013	99.048

Va-xx: Applied Lateral Force to Cause Sliding Along xx Axis
Vr-xx: Resisting Lateral Force Against Sliding Along xx Axis
SR-xx: Ratio of Vr-xx to Va-xx

SERVICE LOAD COLUMN BASE REACTION SUMMARY

Refer to RISA model views for column local axis
Wind values are based on Vasd and should be factored accordingly for LRFD analysis
Negative axial values represent uplift

Service Loads (Unfactored)

LC	Member Label	Sec	Axial [k]	y Shear [k]	z Shear [k]	Torque [k-in]	y-y Moment [k-in]	z-z Moment [k-in]	LC Description
1	Column1	1	0.913	-0.024	0.000	0.000	0.000	0.000	SERVICE D
1	Column2	1	0.914	-0.024	0.000	0.000	0.000	0.000	SERVICE D
1	Column3	1	0.913	-0.024	0.000	0.000	0.000	0.000	SERVICE D
1	Column4	1	0.913	-0.024	0.000	0.000	0.000	0.000	SERVICE D
1	Column5	1	0.914	-0.024	0.000	0.000	0.000	0.000	SERVICE D
1	Column6	1	0.913	-0.024	0.000	0.000	0.000	0.000	SERVICE D
2	Column1	1	1.696	-0.056	0.000	0.000	0.000	0.000	SERVICE Lr
2	Column2	1	1.699	-0.056	0.000	0.000	0.000	0.000	SERVICE Lr
2	Column3	1	1.696	-0.056	0.000	0.000	0.000	0.000	SERVICE Lr
2	Column4	1	1.696	-0.056	0.000	0.000	0.000	0.000	SERVICE Lr
2	Column5	1	1.699	-0.056	0.000	0.000	0.000	0.000	SERVICE Lr
2	Column6	1	1.696	-0.056	0.000	0.000	0.000	0.000	SERVICE Lr
3	Column1	1	2.137	-0.070	0.000	0.000	0.000	0.000	SERVICE S
3	Column2	1	2.141	-0.071	0.000	0.000	0.000	0.000	SERVICE S
3	Column3	1	2.138	-0.070	0.000	0.000	0.000	0.000	SERVICE S
3	Column4	1	2.137	-0.070	0.000	0.000	0.000	0.000	SERVICE S
3	Column5	1	2.141	-0.071	0.000	0.000	0.000	0.000	SERVICE S
3	Column6	1	2.138	-0.070	0.000	0.000	0.000	0.000	SERVICE S
4	Column1	1	0.910	-0.009	0.011	0.000	0.000	0.000	SERVICE Su
4	Column2	1	0.911	-0.009	-0.011	0.000	0.000	0.000	SERVICE Su
4	Column3	1	1.538	-0.050	-0.064	0.000	0.000	0.000	SERVICE Su
4	Column4	1	2.157	-0.089	-0.011	0.000	0.000	0.000	SERVICE Su
4	Column5	1	2.162	-0.090	0.011	0.000	0.000	0.000	SERVICE Su
4	Column6	1	1.532	-0.049	0.064	0.000	0.000	0.000	SERVICE Su
5	Column1	1	0.000	0.000	0.000	0.000	0.000	0.000	SERVICE Ssliding
5	Column2	1	0.000	0.000	0.000	0.000	0.000	0.000	SERVICE Ssliding
5	Column3	1	0.000	0.000	0.000	0.000	0.000	0.000	SERVICE Ssliding
5	Column4	1	0.000	0.000	0.000	0.000	0.000	0.000	SERVICE Ssliding
5	Column5	1	0.000	0.000	0.000	0.000	0.000	0.000	SERVICE Ssliding
5	Column6	1	0.000	0.000	0.000	0.000	0.000	0.000	SERVICE Ssliding
6	Column1	1	0.000	0.000	0.000	0.000	0.000	0.000	SERVICE Sdrift
6	Column2	1	0.000	0.000	0.000	0.000	0.000	0.000	SERVICE Sdrift
6	Column3	1	0.000	0.000	0.000	0.000	0.000	0.000	SERVICE Sdrift
6	Column4	1	0.000	0.000	0.000	0.000	0.000	0.000	SERVICE Sdrift
6	Column5	1	0.000	0.000	0.000	0.000	0.000	0.000	SERVICE Sdrift
6	Column6	1	0.000	0.000	0.000	0.000	0.000	0.000	SERVICE Sdrift
7	Column1	1	0.763	0.062	0.000	0.000	0.000	0.000	SERVICE Wx (LC A)
7	Column2	1	-0.015	0.058	0.183	0.000	0.000	0.000	SERVICE Wx (LC A)
7	Column3	1	-0.164	-0.038	0.096	0.000	0.000	0.000	SERVICE Wx (LC A)
7	Column4	1	0.453	-0.129	0.000	0.000	0.000	0.000	SERVICE Wx (LC A)
7	Column5	1	-0.168	-0.037	-0.096	0.000	0.000	0.000	SERVICE Wx (LC A)
7	Column6	1	-0.008	0.057	-0.183	0.000	0.000	0.000	SERVICE Wx (LC A)
8	Column1	1	-0.340	0.093	0.000	0.000	0.000	0.000	SERVICE Wx (LC B)
8	Column2	1	0.229	0.021	0.058	0.000	0.000	0.000	SERVICE Wx (LC B)
8	Column3	1	0.112	-0.044	0.136	0.000	0.000	0.000	SERVICE Wx (LC B)
8	Column4	1	-0.559	-0.039	0.000	0.000	0.000	0.000	SERVICE Wx (LC B)
8	Column5	1	0.118	-0.045	-0.136	0.000	0.000	0.000	SERVICE Wx (LC B)
8	Column6	1	0.224	0.021	-0.058	0.000	0.000	0.000	SERVICE Wx (LC B)
9	Column1	1	-0.815	0.040	-0.080	0.000	0.000	0.000	SERVICE Wz (LC A)
9	Column2	1	-0.036	0.042	-0.100	0.000	0.000	0.000	SERVICE Wz (LC A)
9	Column3	1	-0.043	0.043	0.100	0.000	0.000	0.000	SERVICE Wz (LC A)
9	Column4	1	-0.816	0.040	0.080	0.000	0.000	0.000	SERVICE Wz (LC A)
9	Column5	1	-0.199	-0.050	0.013	0.000	0.000	0.000	SERVICE Wz (LC A)
9	Column6	1	-0.202	-0.049	-0.013	0.000	0.000	0.000	SERVICE Wz (LC A)
10	Column1	1	0.819	-0.039	-0.058	0.000	0.000	0.000	SERVICE Wz (LC B)
10	Column2	1	0.250	0.034	-0.002	0.000	0.000	0.000	SERVICE Wz (LC B)
10	Column3	1	0.253	0.034	0.002	0.000	0.000	0.000	SERVICE Wz (LC B)
10	Column4	1	0.819	-0.039	0.058	0.000	0.000	0.000	SERVICE Wz (LC B)
10	Column5	1	0.143	-0.034	0.079	0.000	0.000	0.000	SERVICE Wz (LC B)
10	Column6	1	0.149	-0.034	-0.080	0.000	0.000	0.000	SERVICE Wz (LC B)
11	Column1	1	-0.184	0.095	0.000	0.000	0.000	0.000	SERVICE Ex
11	Column2	1	-0.092	0.048	0.091	0.000	0.000	0.000	SERVICE Ex
11	Column3	1	0.092	-0.048	0.091	0.000	0.000	0.000	SERVICE Ex
11	Column4	1	0.183	-0.095	0.000	0.000	0.000	0.000	SERVICE Ex
11	Column5	1	0.092	-0.048	-0.091	0.000	0.000	0.000	SERVICE Ex
11	Column6	1	-0.092	0.048	-0.091	0.000	0.000	0.000	SERVICE Ex
12	Column1	1	0.000	0.000	-0.106	0.000	0.000	0.000	SERVICE Ez
12	Column2	1	-0.159	0.082	-0.053	0.000	0.000	0.000	SERVICE Ez
12	Column3	1	-0.159	0.082	0.053	0.000	0.000	0.000	SERVICE Ez
12	Column4	1	0.000	0.000	0.106	0.000	0.000	0.000	SERVICE Ez
12	Column5	1	0.159	-0.082	0.053	0.000	0.000	0.000	SERVICE Ez
12	Column6	1	0.159	-0.082	-0.053	0.000	0.000	0.000	SERVICE Ez

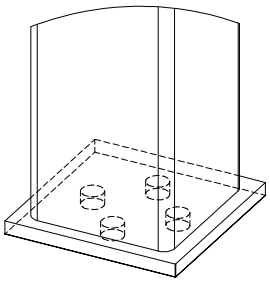
COLUMN BASE PLATE CONNECTION

PINNED CONNECTION (INTERNAL BOLTS)

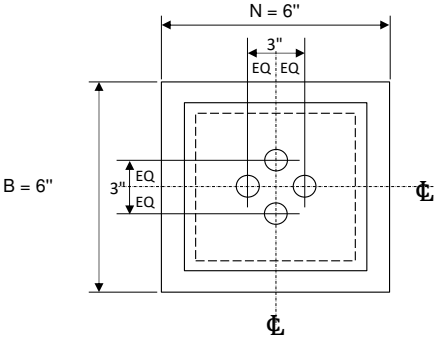
	Base Plate Check: 6"x6"x1/2"			**Allowable**	**Actual**	**Load Combination / Member**	
1	Plate Size	(AISC J8-1)		1.4 in^2	36.0 in^2	44 / Column1	**OK**
2	Plate Thickness	(AISC PART 14)		0.08 in	0.50 in	52 / Column1	**OK**
3	Concrete Bearing	(AISC J8-1)		1530 psi	87 psi	44 / Column1	**OK**
4	Weld Check	(AISC J2-3)		2.78 k/in	0.02 k/in	23 / Column2	**OK**
	Anchor Bolt Check: (4) 1/2" Anchors		**Post-Installed Allowable**	**Cast-in-Place Allowable**	**Actual**	**Load Combination / Member**	
5	Tension	(ACI D5.1)	23.6 kip	24.7 kip	0.5 kip	160 / Column4	**OK**
6	Concrete Breakout	(ACI D5.2)	16.6 kip	27.3 kip	0.5 kip	160 / Column4	**OK**
7	Concrete Bond/Pullout	(ACI D5.3)	29.2 kip	54.0 kip	0.5 kip	160 / Column4	**OK**
8	Sideface Blowout	(ACI D5.4)	N/A	N/A	N/A	Not Considered Per RD5.4	**OK**
9	Shear	(ACI D6.1)	11.6 kip	10.6 kip	0.3 kip	149 / Column2	**OK**
10	Shear Breakout	(ACI D6.2)	9.7 kip	11.5 kip	0.3 kip	149 / Column2	**OK**
11	Shear Pryout	(ACI D6.3)	33.3 kip	38.2 kip	0.3 kip	149 / Column2	**OK**
	Interaction Check		**Post-Installed Actual**	**Cast-in-Place Actual**	**Allowable**	**Load Combination / Member**	
12	Cast-In-Place Interaction	(ACI RD.7)		0.0	1.00	149 / Column2	**OK**
13	Post-Installed Interaction	(ACI RD.7)	0.0		1.00	160 / Column4	**OK**

Design Forces / Moments

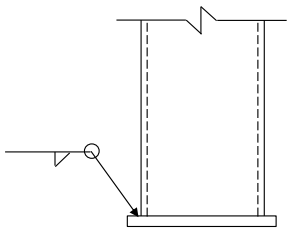
Check	Load Combination	Member	Fx (Axial) [k]	Fy [k]	Fz [k]	Mx [k-in]	My [k-in]	Mz [k-in]
1	44	Column1	3.13	-0.11	-0.05	0.00	0.00	0.00
2	52	Column1	-0.27	0.03	-0.08	0.00	0.00	0.00
3	44	Column1	3.13	-0.11	-0.05	0.00	0.00	0.00
4	23	Column2	0.89	0.04	0.19	0.00	0.00	0.00
5	160	Column4	-0.54	0.05	0.14	0.00	0.00	0.00
6	160	Column4	-0.54	0.05	0.14	0.00	0.00	0.00
7	160	Column4	-0.54	0.05	0.14	0.00	0.00	0.00
8	x	x	x	x	x	x	x	x
9	149	Column2	2.11	0.05	0.33	0.00	0.00	0.00
10	149	Column2	2.11	0.05	0.33	0.00	0.00	0.00
11	149	Column2	2.11	0.05	0.33	0.00	0.00	0.00
12	149	Column2	2.11	0.05	0.33	0.00	0.00	0.00
13	160	Column4	-0.54	0.05	0.14	0.00	0.00	0.00



Base Plate Isometric



Base Plate Plan



Base Plate Elevation

Anchor Bolt Diameter (in):	1/2
Min. C.I.P. Effective Embedment Depth (in):	8.0
Min. P.I. Effective Embedment Depth (in):	6.0
Concrete Cover From ℄ of Bolt (in):	10.5
f'c (psi):	4500

Column Size:	HSS5X5X3
Min. Base Plate Size:	6"x6"x1/2"
Weld Size (in):	0.188

TENSION MEMBER TO COLUMN

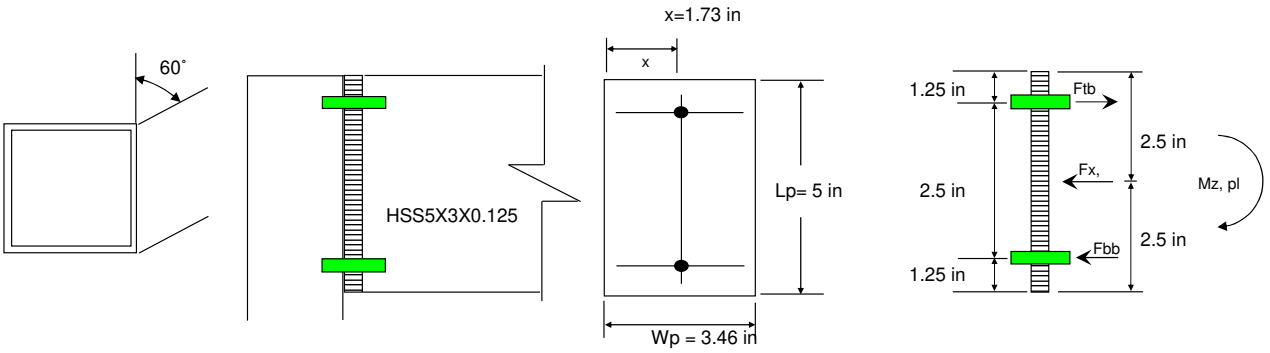
2 BOLTS

Bolt Check: (2) 0.625" Diameter, A325 Bolts				**Allowable**		**Actual**	**Load Combination / Member**	
1	Shear		AISC (J3-1)	R_N/Ω	8.3 kip	5.5 kip	42 / Tension2	**OK**
2	Tension	*allowable per J3.7*	AISC (J3-2)	R_N/Ω	8.8 kip	7.4 kip	42 / Tension2	**OK**
3	Bearing		AISC (J3-6b)	R_N/Ω	19.7 kip	5.5 kip	42 / Tension2	**OK**

End Plate Check: 0.5" Thick				**Allowable**		**Actual**	**Load Combination / Member**	
4	Shear Yielding		AISC (J4-3)	R_N/Ω	24.9 kip	1.7 kip	19 / Tension1	**OK**
5	Shear Rupture		AISC (J4-4)	R_N/Ω	24.2 kip	1.7 kip	19 / Tension1	**OK**
6	Weld Check	*w = 0.125"*	AISC (J2-3)	R_N/Ω	1.9 kip/in	1.1 kip/in	42 / Tension2	**OK**
7	Plate Thickness (t_P)			$\sqrt{\frac{4M_{PL}}{22W_P}}$	0.41 in	0.50 in	42 / Tension2	**OK**

Design Forces / Moments

Check	Load Combination	Member	Fx (Axial) [k]	Fy [k]	Fz [k]	Mx [k-in]	My [k-in]	Mz [k-in]
1	42	Tension2	-2.8	-0.8	0.1	0.3	0.9	23.1
2	42	Tension2	-2.8	-0.8	0.1	0.3	0.9	23.1
3	42	Tension2	-2.8	-0.8	0.1	0.3	0.9	23.1
4	19	Tension1	-3.5	-0.7	0.0	0.0	0.0	17.1
5	19	Tension1	-3.5	-0.7	0.0	0.0	0.0	17.1
6	42	Tension2	-2.8	-0.8	0.1	0.3	0.9	23.1
7	42	Tension2	-2.8	-0.8	0.1	0.3	0.9	23.1



Plan View | Connection Elevation | End Plate Elevation | End Plate Section

Member Height (in):	5	Number of Bolts:	2
Member Width (in):	3	Bolt Diameter (in):	0.625
Member Thickness (in):	0.125	End Plate Thickness (in):	0.500
End Plate Weld Size (in):	0.125	Flange Plate Thickness (in):	0.500

TRUSS TO COLUMN

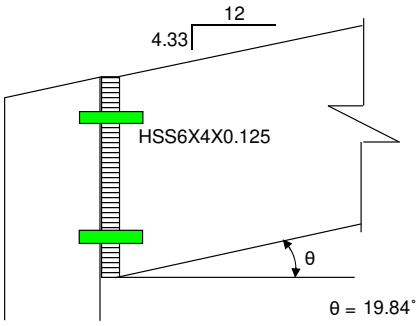
2 BOLTS

Bolt Check: (2) 0.625" Diameter, A325 Bolts				**Allowable**	**Actual**	**Load Combination / Member**	
1	Shear	AISC (J3-1)	R_N/Ω	8.3 kip	1.4 kip	20 / Truss5	**OK**
2	Tension	AISC (J3-1)	R_N/Ω	13.8 kip	1.9 kip	55 / Truss3	**OK**
3	Bearing	AISC (J3-6b)	R_N/Ω	18.9 kip	1.4 kip	20 / Truss5	**OK**

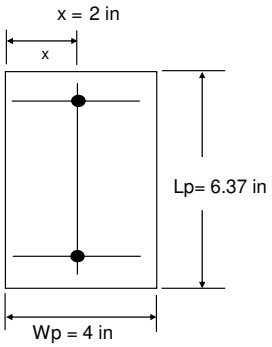
End Plate Check: 0.375" Thick				**Allowable**	**Actual**	**Load Combination / Member**	
4	Shear Yielding	AISC (J4-3)	R_N/Ω	34.4 kip	1.4 kip	20 / Truss5	**OK**
5	Shear Rupture	AISC (J4-4)	R_N/Ω	32.6 kip	1.4 kip	20 / Truss5	**OK**
6	Weld Check *w = 0.125"*	AISC (J2-3)	R_N/Ω	1.9 kip/in	0.3 kip/in	46 / Truss3	**OK**
7	Plate Thickness (t_P)		$\sqrt{\frac{4M_{PL}}{22W_P}}$	0.24 in	0.38 in	50 / Truss4	**OK**

Design Forces / Moments

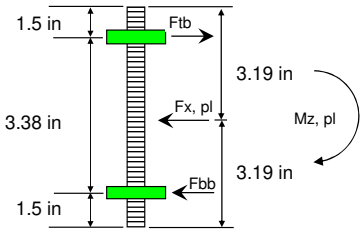
Check	Load Combination	Member	Fx (Axial) [k]	Fy [k]	Fz [k]	Mx [k-in]	My [k-in]	Mz [k-in]
1	20	Truss5	3.4	0.3	0.0	-0.9	-0.6	0.0
2	55	Truss3	0.5	0.0	0.0	-1.0	1.6	-8.2
3	20	Truss5	3.4	0.3	0.0	-0.9	-0.6	0.0
4	20	Truss5	3.4	0.3	0.0	-0.9	-0.6	0.0
5	20	Truss5	3.4	0.3	0.0	-0.9	-0.6	0.0
6	46	Truss3	3.1	0.0	0.0	-0.8	1.2	-10.0
7	50	Truss4	1.1	0.1	0.0	0.0	0.0	10.1



Connection Elevation



End Plate Elevation



End Plate Section

Member Height (in):	6	Number of Bolts:	2
Member Width (in):	4	Bolt Diameter (in):	0.625
Member Thickness (in):	0.125	End Plate Thickness (in):	0.375
End Plate Weld Size (in):	0.125	Flange Plate Thickness (in):	0.250

TRUSS TO COMPRESSION MEMBER

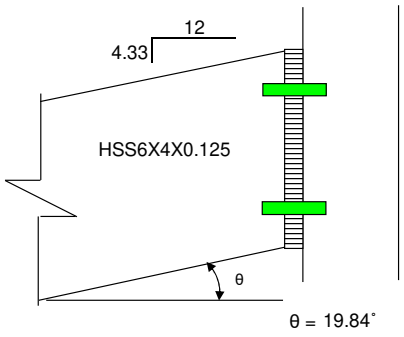
2 BOLTS

Bolt Check: (2) 0.625" Diameter, A325 Bolts				**Allowable**	**Actual**	**Load Combination / Member**	
1	Shear	AISC (J3-1)	R_N/Ω	8.3 kip	1.0 kip	23 / Truss5	**OK**
2	Tension	AISC (J3-1)	R_N/Ω	13.8 kip	0.8 kip	20 / Truss1	**OK**
3	Bearing	AISC (J3-6b)	R_N/Ω	18.9 kip	1.0 kip	23 / Truss5	**OK**

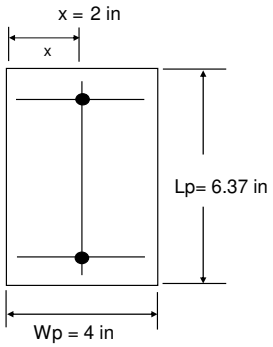
End Plate Check: 0.375" Thick				**Allowable**	**Actual**	**Load Combination / Member**	
4	Shear Yielding	AISC (J4-3)	R_N/Ω	34.4 kip	0.3 kip	20 / Truss1	**OK**
5	Shear Rupture	AISC (J4-4)	R_N/Ω	32.6 kip	0.3 kip	20 / Truss1	**OK**
6	Weld Check *w = 0.125"*	AISC (J2-3)	R_N/Ω	1.9 kip/in	0.2 kip/in	20 / Truss1	**OK**
7	Plate Thickness (t_P)		$\sqrt{\frac{4M_{PL}}{22W_P}}$	0.17 in	0.38 in	20 / Truss1	**OK**

Design Forces / Moments

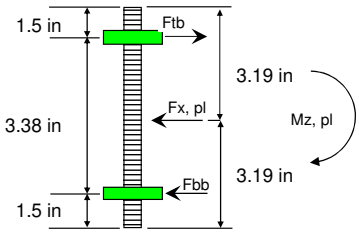
Check	Load Combination	Member	Fx (Axial) [k]	Fy [k]	Fz [k]	Mx [k-in]	My [k-in]	Mz [k-in]
1	23	Truss5	0.3	0.1	0.0	3.2	-0.9	0.9
2	20	Truss1	1.1	-0.1	0.0	-0.9	0.3	5.8
3	23	Truss5	0.3	0.1	0.0	3.2	-0.9	0.9
4	20	Truss1	1.1	-0.1	0.0	-0.9	0.3	5.8
5	20	Truss1	1.1	-0.1	0.0	-0.9	0.3	5.8
6	20	Truss1	1.1	-0.1	0.0	-0.9	0.3	5.8
7	20	Truss1	1.1	-0.1	0.0	-0.9	0.3	5.8



Connection Elevation



End Plate Elevation



End Plate Section

Member Height (in):	6	Number of Bolts:	2
Member Width (in):	4	Bolt Diameter (in):	0.625
Member Thickness (in):	0.125	End Plate Thickness (in):	0.375
End Plate Weld Size (in):	0.125	Flange Plate Thickness (in):	NONE

PURLIN CONNECTION

ONE-SIDED

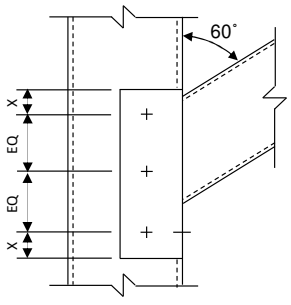
Top Flange Checks: (4) 12-24 Screws				**Allowable**	**Actual**	**Load Combination / Member**	
1	Shear (4 of the screws)			3227 lb	2251 lb	19 / Purlin1	**OK**
2	Tension (none of the screws)			0 lb	0 lb	n/a	**OK**
3	Shear Yielding (plate)	AISC (J4-3)	R_N/Ω	12819 lb	2251 lb	19 / Purlin1	**OK**
4	Shear Rupture (plate)	AISC (J4-4)	R_N/Ω	13150 lb	2251 lb	19 / Purlin1	**OK**

Side Flange Checks: (3) 12-24 Screws				**Allowable**	**Actual**	**Load Combination / Member**	
5	Shear (3 of the screws)			2420 lb	1754 lb	19 / Purlin2	**OK**
6	Tension (none of the screws)			0 lb	0 lb	n/a	**OK**
7	Shear Yielding (plate)	AISC (J4-3)	R_N/Ω	7747 lb	1754 lb	19 / Purlin2	**OK**
8	Shear Rupture (plate)	AISC (J4-4)	R_N/Ω	7606 lb	1754 lb	19 / Purlin2	**OK**

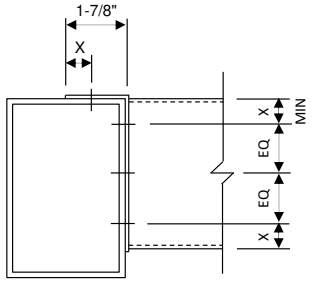
Weld Check: 0.125" Fillet Weld				**Allowable**	**Actual**	**Load Combination / Member**	
9	Weld Check	AISC (J2-3)	R_N/Ω	1.94 kip/in	0.23 kip/in	19 / Purlin2	**OK**

Design Forces / Moments

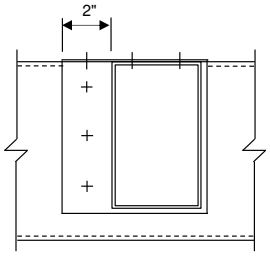
Check	Load Combination	Member	Fx (Axial) [k]	Fy [k]	Fz [k]	Mx [k-in]	My [k-in]	Mz [k-in]
1	19	Purlin1	2.5	0.4	-0.2	0.0	0.0	0.0
2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
3	19	Purlin1	2.5	0.4	-0.2	0.0	0.0	0.0
4	19	Purlin1	2.5	0.4	-0.2	0.0	0.0	0.0
5	19	Purlin2	2.5	0.4	-0.1	0.0	0.0	0.0
6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
7	19	Purlin2	2.5	0.4	-0.1	0.0	0.0	0.0
8	19	Purlin2	2.5	0.4	-0.1	0.0	0.0	0.0
9	19	Purlin2	2.5	0.4	-0.1	0.0	0.0	0.0



Plan View



Connection Elevation



End Plate Elevation

x = 3/4"

** Purlin on opposite side of truss not shown for clarity*

** Screw quantity in sketches above may not reflect actual requirements*

Member Height (in):	4	Sheet Metal Thickness:	10 gage *0.1345 in*
Member Width (in):	4	Screw Size:	12-24 *# 1P2905*
Member Thickness (in):	0.125	Screw Quantity (Top):	4
End Plate Weld Size (in):	1/8	Screw Quantity (Side):	3

TAIL CONNECTION

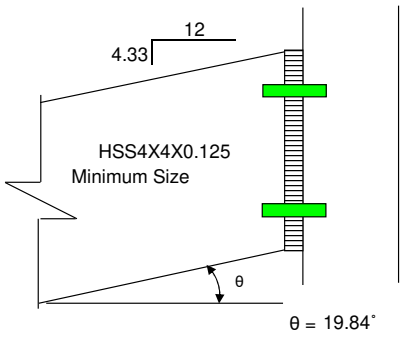
2 BOLTS

Bolt Check: (2) 0.625" Diameter, A325 Bolts			**Allowable**		**Actual**	**Load Combination / Member**	
1	Shear	AISC (J3-1)	R_N/Ω	8.3 kip	0.1 kip	19 / Truss Tail1	**OK**
2	Tension	AISC (J3-1)	R_N/Ω	13.8 kip	0.3 kip	41 / Truss Tail1	**OK**
3	Bearing	AISC (J3-6b)	R_N/Ω	14.8 kip	0.1 kip	19 / Truss Tail1	**OK**

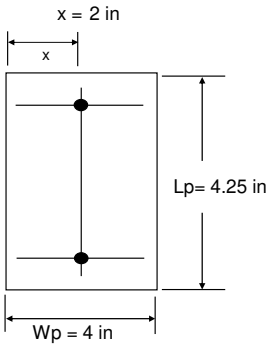
End Plate Check: 0.375" Thick				**Allowable**		**Actual**	**Load Combination / Member**	
4	Shear Yielding		AISC (J4-3)	R_N/Ω	23.0 kip	0.1 kip	41 / Truss Tail1	**OK**
5	Shear Rupture		AISC (J4-4)	R_N/Ω	18.8 kip	0.1 kip	41 / Truss Tail1	**OK**
6	Weld Check	*w = 0.125"*	AISC (J2-3)	R_N/Ω	1.9 kip/in	0.0 kip/in	41 / Truss Tail1	**OK**
7	Plate Thickness (t_P)			$\sqrt{\frac{4M_{PL}}{22W_P}}$	0.08 in	0.38 in	41 / Truss Tail1	**OK**

Design Forces / Moments

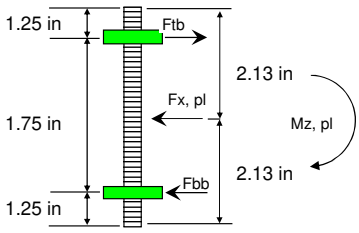
Check	Load Combination	Member	Fx (Axial) [k]	Fy [k]	Fz [k]	Mx [k-in]	My [k-in]	Mz [k-in]
1	19	Truss Tail1	0.0	-0.1	0.0	0.0	0.0	0.8
2	41	Truss Tail1	0.0	-0.1	0.0	0.0	0.0	0.9
3	19	Truss Tail1	0.0	-0.1	0.0	0.0	0.0	0.8
4	41	Truss Tail1	0.0	-0.1	0.0	0.0	0.0	0.9
5	41	Truss Tail1	0.0	-0.1	0.0	0.0	0.0	0.9
6	41	Truss Tail1	0.0	-0.1	0.0	0.0	0.0	0.9
7	41	Truss Tail1	0.0	-0.1	0.0	0.0	0.0	0.9



Connection Elevation



End Plate Elevation



End Plate Section

Member Height (in):	4	Number of Bolts:	2
Member Width (in):	4	Bolt Diameter (in):	0.625
Member Thickness (in):	0.125	End Plate Thickness (in):	0.375
End Plate Weld Size (in):	0.125	Flange Plate Thickness (in):	NONE

WELDED CONNECTION IS PERMITTED

RISA ANALYSIS REPORT

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Distributed	Area(Member)
1	FRAMEWEIGHT	DL		-1			
2	DL	DL					6
3	LL	LL					6
4	SL	SL					6
5	SLU	SL					9
6	SLsliding	SL					
7	SLdrift	SL					
8	X WINDWARD LOW	WL					6
9	X LEEWARD LOW	WL					6
10	X SIDEWARD LOW	WL					6
11	X WINDWARD UPPER	WL					
12	X LEEWARD UPPER	WL					
13	X SIDEWARD UPPER	WL					
14	X10MINWIND	WL					2
15	Z WINDWARD LOW	WL					3
16	Z LEEWARD LOW	WL					3
17	Z SIDEWARD LOW	WL					12
18	Z WINDWARD UPPER	WL					
19	Z LEEWARD UPPER	WL					
20	Z SIDEWARD UPPER	WL					
21	Z10MINWIND	WL					3
22	EX FRAME	EL	-1				
23	EX ROOF	EL					6
24	EZ FRAME	EL			-1		
25	EZ ROOF	EL					6
26	BLC 2 Transient Area Loads	None				206	
27	BLC 3 Transient Area Loads	None				206	
28	BLC 4 Transient Area Loads	None				206	
29	BLC 5 Transient Area Loads	None				230	
30	BLC 8 Transient Area Loads	None				243	
31	BLC 9 Transient Area Loads	None				243	
32	BLC 10 Transient Area Loads	None				192	
33	BLC 14 Transient Area Loads	None				81	
34	BLC 15 Transient Area Loads	None				96	
35	BLC 16 Transient Area Loads	None				96	
36	BLC 17 Transient Area Loads	None				486	
37	BLC 21 Transient Area Loads	None				116	
38	BLC 23 Transient Area Loads	None				206	
39	BLC 25 Transient Area Loads	None				206	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	BLC
1	SERVICE D			1	1	2	6						
2	SERVICE Lr			3	20								
3	SERVICE S			4	25.2								
4	SERVICE Su			5	41.785								
5	SERVICE Ssliding			6									
6	SERVICE Sdrift			7									
7	SERVICE Wx (LC A)			8	13.762	9	1.287	10	-9.98	11		12	13
8	SERVICE Wx (LC B)			8	-1.25	9	-10	10	9.98	11		12	13
9	SERVICE Wz (LC A)			15	13.762	16	1.287	17	-9.98	18		19	20
10	SERVICE Wz (LC B)			15	-1.248	16	-10	17	9.98	18		19	20
11	SERVICE Ex			22	0.11	23	0.659						
12	SERVICE Ez			24	0.11	25	0.659						
13													
14													
15													
16													
17	D	Yes	Y	L1	1								
18	D + Lr	Yes	Y	L1	1	L2	1						
19	D + S	Yes	Y	L1	1	L3	1						
20	D + Su	Yes	Y	L1	1	L4	1						
21	D+Ssliding	Yes	Y	L1	1	L5	1						
22	D+Sdrift	Yes	Y	L1	1	L6	1						
23	D + 0.6Wx (LC A)	Yes	Y	L1	1	L7	1						
24	D + 0.6Wx (LC B)	Yes	Y	L1	1	L8	1						
25	D + 0.6Wz (LC A)	Yes	Y	L1	1	L9	1						

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	BLC
26	D + 0.6Wz (LC B)	Yes	Y	L1	1	L10	1						
27	D + (0.6Wx (Min.))	Yes	Y	L1	1	14	9.6						
28	D + (0.6Wz (Min.))	Yes	Y	L1	1	21	9.6						
29	D+0.6(0.75Wx(LC A)+0.75Wz(LC A))	Yes	Y	L1	1	L7	0.75	L9	0.75				
30	D+0.6(0.75Wx(LC B)+0.75Wz(LC B))	Yes	Y	L1	1	L8	0.75	L10	0.75				
31	D+0.6(0.75Wx(Min.)+0.75Wz(Min.))	Yes	Y	L1	1	14	7.2	21	7.2				
32	D + 0.75(0.6Wx (LC A)) + 0.75Lr	Yes	Y	L1	1	L7	0.75	L2	0.75				
33	D + 0.75(0.6Wx (LC B)) + 0.75Lr	Yes	Y	L1	1	L8	0.75	L2	0.75				
34	D + 0.75(0.6Wz (LC A)) + 0.75Lr	Yes	Y	L1	1	L9	0.75	L2	0.75				
35	D + 0.75(0.6Wz (LC B)) + 0.75Lr	Yes	Y	L1	1	L10	0.75	L2	0.75				
36	D + 0.75(0.6Wx (Min.)) + 0.75Lr	Yes	Y	L1	1	14	7.2	L2	0.75				
37	D + 0.75(0.6Wz (Min.)) + 0.75Lr	Yes	Y	L1	1	21	7.2	L2	0.75				
38	D+0.75(0.6(0.75Wx(LC A)+0.75Wz(LC A)))+0.75Lr	Yes	Y	L1	1	L7	0.563	L9	0.563	L2	0.75		
39	D+0.75(0.6(0.75Wx(LC B)+0.75Wz(LC B)))+0.75Lr	Yes	Y	L1	1	L8	0.563	L10	0.563	L2	0.75		
40	D+0.75(0.6(0.75Wx(Min.)+0.75Wz(Min.)))+0.75Lr	Yes	Y	L1	1	14	5.4	21	5.4	L2	0.75		
41	D + 0.75(0.6Wx (LC A)) + 0.75S	Yes	Y	L1	1	L7	0.75	L3	0.75				
42	D + 0.75(0.6Wx (LC B)) + 0.75S	Yes	Y	L1	1	L8	0.75	L3	0.75				
43	D + 0.75(0.6Wz (LC A)) + 0.75S	Yes	Y	L1	1	L9	0.75	L3	0.75				
44	D + 0.75(0.6Wz (LC B)) + 0.75S	Yes	Y	L1	1	L10	0.75	L3	0.75				
45	D + 0.75(0.6Wx (Min.)) + 0.75S	Yes	Y	L1	1	14	7.2	L3	0.75				
46	D + 0.75(0.6Wz (Min.)) + 0.75S	Yes	Y	L1	1	21	7.2	L3	0.75				
47	D+0.75(0.6(0.75Wx(LC A)+0.75Wz(LC A)))+0.75S	Yes	Y	L1	1	L7	0.563	L9	0.563	L3	0.75		
48	D+0.75(0.6(0.75Wx(LC B)+0.75Wz(LC B)))+0.75S	Yes	Y	L1	1	L8	0.563	L10	0.563	L3	0.75		
49	D+0.75(0.6(0.75Wx(Min.)+0.75Wz(Min.)))+0.75S	Yes	Y	L1	1	14	5.4	21	5.4	L3	0.75		
50	0.6D + 0.6Wx (LC A)	Yes	Y	L1	0.6	L7	1						
51	0.6D + 0.6Wx (LC B)	Yes	Y	L1	0.6	L8	1						
52	0.6D + 0.6Wz (LC A)	Yes	Y	L1	0.6	L9	1						
53	0.6D + 0.6Wz (LC B)	Yes	Y	L1	0.6	L10	1						
54	0.6D + (0.6Wx (Min.))	Yes	Y	L1	0.6	14	9.6						
55	0.6D + (0.6Wz (Min.))	Yes	Y	L1	0.6	21	9.6						
56	0.6D+0.6(0.75Wx(LC A)+0.75Wz(LC A))	Yes	Y	L1	0.6	L7	0.75	L9	0.75				
57	0.6D+0.6(0.75Wx(LC B)+0.75Wz(LC B))	Yes	Y	L1	0.6	L8	0.75	L10	0.75				
58	0.6D+0.6(0.75Wx(Min.)+0.75Wz(Min.))	Yes	Y	L1	0.6	14	7.2	21	7.2				
59	(1.0+0.14*Sds)D+ 0.7Ex	Yes	Y	L1	1.046	L11	0.7						
60	(1.0+0.105*Sds)D + 0.525Ex + 0.75S	Yes	Y	L1	1.035	L11	0.525	L3	0.75				
61	(0.6-0.14*Sds)D + 0.7Ex	Yes	Y	L1	0.554	L11	0.7						
62	(1.0+0.14*Sds)D + 0.7Ez	Yes	Y	L1	1.046	L12	0.7						
63	(1.0+0.105*Sds)D + 0.525Ez + 0.75S	Yes	Y	L1	1.035	L12	0.525	L3	0.75				
64	(0.6-0.14*Sds)D + 0.7Ez	Yes	Y	L1	0.554	L12	0.7						
65	(1.0+0.14*Sds)D+ 0.7Ex + 0.21Ez	Yes	Y	L1	1.046	L11	0.7	L12	0.21				
66	(1.0+0.105*Sds)D + 0.525Ex + 0.1575Ez + 0.75S	Yes	Y	L1	1.035	L11	0.525	L12	0.158	L3	0.75		
67	(0.6-0.14*Sds)D + 0.7Ex + 0.21Ez	Yes	Y	L1	0.554	L11	0.7	L12	0.21				
68	(1.0+0.14*Sds)D + 0.7Ez + 0.21Ex	Yes	Y	L1	1.046	L12	0.7	L11	0.21				
69	(1.0+0.105*Sds)D + 0.525Ez + 0.1575Ex + 0.75S	Yes	Y	L1	1.035	L12	0.525	L11	0.158	L3	0.75		
70	(0.6-0.14*Sds)D + 0.7Ez + 0.21Ex	Yes	Y	L1	0.554	L12	0.7	L11	0.21				
71													
72													
73													
74													
75													
76													
77													
78													
79													
80													
81													
82													
83													
84													
85													
86													
87													
88													
89													
90													
91													
92	1.4D			L1	1.4								
93	1.2D + 0.5Lr			L1	1.2	L2	0.5						

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	BLC
94	1.2D + 0.5S			L1	1.2	L3	0.5						
95	1.2D + 1.6Lr + 0.5Wx (LC A)			L1	1.2	L2	1.6	L7	0.833				
96	1.2D + 1.6Lr + 0.5Wx (LC B)			L1	1.2	L2	1.6	L8	0.833				
97	1.2D + 1.6Lr + 0.5Wz (LC A)			L1	1.2	L2	1.6	L9	0.833				
98	1.2D + 1.6Lr + 0.5Wz (LC B)			L1	1.2	L2	1.6	L10	0.833				
99	1.2D + 1.6Lr + 0.5Wx (Min.)			L1	1.2	L2	1.6	14	8				
100	1.2D + 1.6Lr + 0.5Wz (Min.)			L1	1.2	L2	1.6	21	8				
101	1.2D+1.6Lr+0.5(0.75Wx(LC A)+0.75Wz(LC A))			L1	1.2	L2	1.6	L7	0.625	L9	0.63		
102	1.2D+1.6Lr+0.5(0.75Wx(LC B)+0.75Wz(LC B))			L1	1.2	L2	1.6	L8	0.625	L10	0.63		
103	1.2D+1.6Lr+0.5(0.75Wx(Min.)+0.75Wz(Min.))			L1	1.2	L2	1.6	14	6	21	6		
104	1.2D + 1.6S + 0.5Wx (LC A)			L1	1.2	L3	1.6	L7	0.833				
105	1.2D + 1.6S + 0.5Wx (LC B)			L1	1.2	L3	1.6	L8	0.833				
106	1.2D + 1.6S + 0.5Wz (LC A)			L1	1.2	L3	1.6	L9	0.833				
107	1.2D + 1.6S + 0.5Wz (LC B)			L1	1.2	L3	1.6	L10	0.833				
108	1.2D + 1.6S + 0.5Wx (Min.)			L1	1.2	L3	1.6	14	8				
109	1.2D + 1.6S + 0.5Wz (Min.)			L1	1.2	L3	1.6	21	8				
110	1.2D+1.6S+0.5(0.75Wx(LC A)+0.75Wz(LC A))			L1	1.2	L3	1.6	L7	0.625	L9	0.63		
111	1.2D+1.6S+0.5(0.75Wx(LC B)+0.75Wz(LC B))			L1	1.2	L3	1.6	L8	0.625	L10	0.63		
112	1.2D+1.6S+0.5(0.75Wx(Min.)+0.75Wz(Min.))			L1	1.2	L3	1.6	14	6	21	6		
113	1.2D + 1.6Su + 0.5Wx (LC A)			L1	1.2	L4	1.6	L7	0.833				
114	1.2D + 1.6Su + 0.5Wx (LC B)			L1	1.2	L4	1.6	L8	0.833				
115	1.2D + 1.6Su + 0.5Wz (LC A)			L1	1.2	L4	1.6	L9	0.833				
116	1.2D + 1.6Su + 0.5Wz (LC B)			L1	1.2	L4	1.6	L10	0.833				
117	1.2D + 1.6Su + 0.5Wx (Min.)			L1	1.2	L4	1.6	14	8				
118	1.2D + 1.6Su + 0.5Wz (Min.)			L1	1.2	L4	1.6	21	8				
119	1.2D+1.6Su+0.5(0.75Wx(LC A)+0.75Wz(LC A))			L1	1.2	L4	1.6	L7	0.625	L9	0.63		
120	1.2D+1.6Su+0.5(0.75Wx(LC B)+0.75Wz(LC B))			L1	1.2	L4	1.6	L8	0.625	L10	0.63		
121	1.2D+1.6Su+0.5(0.75Wx(Min.)+0.75Wz(Min.))			L1	1.2	L4	1.6	14	6	21	6		
122	1.2D + 1.6Ssliding + 0.5Wx (LC A)			L1	1.2	L5	1.6	L7	0.833				
123	1.2D + 1.6Ssliding + 0.5Wx (LC B)			L1	1.2	L5	1.6	L8	0.833				
124	1.2D + 1.6Ssliding + 0.5Wz (LC A)			L1	1.2	L5	1.6	L9	0.833				
125	1.2D + 1.6Ssliding + 0.5Wz (LC B)			L1	1.2	L5	1.6	L10	0.833				
126	1.2D + 1.6Ssliding + 0.5Wx (Min.)			L1	1.2	L5	1.6	14	8				
127	1.2D + 1.6Ssliding + 0.5Wz (Min.)			L1	1.2	L5	1.6	21	8				
128	1.2D+1.6Ssliding+0.5(0.75Wx(LC A)+0.75Wz(LC A))			L1	1.2	L5	1.6	L7	0.625	L9	0.63		
129	1.2D+1.6Ssliding+0.5(0.75Wx(LC B)+0.75Wz(LC B))			L1	1.2	L5	1.6	L8	0.625	L10	0.63		
130	1.2D+1.6Ssliding+0.5(0.75Wx(Min.)+0.75Wz(Min.))			L1	1.2	L5	1.6	14	6	21	6		
131	1.2D + 1.6Sdrift + 0.5Wx (LC A)			L1	1.2	L6	1.6	L7	0.833				
132	1.2D + 1.6Sdrift + 0.5Wx (LC B)			L1	1.2	L6	1.6	L8	0.833				
133	1.2D + 1.6Sdrift + 0.5Wz (LC A)			L1	1.2	L6	1.6	L9	0.833				
134	1.2D + 1.6Sdrift + 0.5Wz (LC B)			L1	1.2	L6	1.6	L10	0.833				
135	1.2D + 1.6Sdrift + 0.5Wx (Min.)			L1	1.2	L6	1.6	14	8				
136	1.2D + 1.6Sdrift + 0.5Wz (Min.)			L1	1.2	L6	1.6	21	8				
137	1.2D+1.6Sdrift+0.5(0.75Wx(LC A)+0.75Wz(LC A))			L1	1.2	L6	1.6	L7	0.625	L9	0.63		
138	1.2D+1.6Sdrift+0.5(0.75Wx(LC B)+0.75Wz(LC B))			L1	1.2	L6	1.6	L8	0.625	L10	0.63		
139	1.2D+1.6Sdrift+0.5(0.75Wx(Min.)+0.75Wz(Min.))			L1	1.2	L6	1.6	14	6	21	6		
140	1.2D + 1.0Wx (LC A) + 0.5Lr			L1	1.2	L7	1.667	L2	0.5				
141	1.2D + 1.0Wx (LC B) + 0.5Lr			L1	1.2	L8	1.667	L2	0.5				
142	1.2D + 1.0Wz (LC A) + 0.5Lr			L1	1.2	L9	1.667	L2	0.5				
143	1.2D + 1.0Wz (LC B) + 0.5Lr			L1	1.2	L10	1.667	L2	0.5				
144	1.2D + 1.0Wx (Min.) + 0.5Lr			L1	1.2	14	16	L2	0.5				
145	1.2D + 1.0Wz (Min.) + 0.5Lr			L1	1.2	21	16	L2	0.5				
146	1.2D+1.0(0.75Wx(LC A)+0.75Wz(LC A))+0.5Lr			L1	1.2	L7	1.25	L9	1.25	L2	0.5		
147	1.2D+1.0(0.75Wx(LC B)+0.75Wz(LC B))+0.5Lr			L1	1.2	L8	1.25	L10	1.25	L2	0.5		
148	1.2D+1.0(0.75Wx(Min.)+0.75Wz(Min.))+0.5Lr			L1	1.2	14	12	21	12	L2	0.5		
149	1.2D + 1.0Wx (LC A) + 0.5S			L1	1.2	L7	1.667	L3	0.5				
150	1.2D + 1.0Wx (LC B) + 0.5S			L1	1.2	L8	1.667	L3	0.5				
151	1.2D + 1.0Wz (LC A) + 0.5S			L1	1.2	L9	1.667	L3	0.5				
152	1.2D + 1.0Wz (LC B) + 0.5S			L1	1.2	L10	1.667	L3	0.5				
153	1.2D + 1.0Wx (Min.) + 0.5S			L1	1.2	14	16	L3	0.5				
154	1.2D + 1.0Wz (Min.) + 0.5S			L1	1.2	21	16	L3	0.5				
155	1.2D+1.0(0.75Wx(LC A)+0.75Wz(LC A))+0.5S			L1	1.2	L7	1.25	L9	1.25	L3	0.5		
156	1.2D+1.0(0.75Wx(LC B)+0.75Wz(LC B))+0.5S			L1	1.2	L8	1.25	L10	1.25	L3	0.5		
157	1.2D+1.0(0.75Wx(Min.)+0.75Wz(Min.))+0.5S			L1	1.2	14	12	21	12	L3	0.5		
158	0.9D + 1.0Wx (LC A)			L1	0.9	L7	1.667						
159	0.9D + 1.0Wx (LC B)			L1	0.9	L8	1.667						
160	0.9D + 1.0Wz (LC A)			L1	0.9	L9	1.667						
161	0.9D + 1.0Wz (LC B)			L1	0.9	L10	1.667						

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	BLC
162	0.9D + 1.0Wx (Min.)			L1	0.9	14	16						
163	0.9D + 1.0Wz (Min.)			L1	0.9	21	16						
164	0.9D+1.0(0.75Wx(LC A)+0.75Wz(LC A))			L1	0.9	L7	1.667	L9	1.667				
165	0.9D+1.0(0.75Wx(LC B)+0.75Wz(LC B))			L1	0.9	L8	1.667	L10	1.667				
166	0.9D+1.0(0.75Wx(Min.)+0.75Wz(Min.))			L1	0.9	14	12	21	12				
167	(1.2+0.2*Sds)D + 1.0Ex + 0.2S			L1	1.266	L11	1	L3	0.2				
168	(0.9-0.2*Sds)D + 1.0Ex			L1	0.834	L11	1						
169	(1.2+0.2*Sds)D + 1.0Ez + 0.2S			L1	1.266	L12	1	L3	0.2				
170	(0.9-0.2*Sds)D + 1.0Ez			L1	0.834	L12	1						
171	(1.2+0.2*Sds)D + 1.0Ex + 0.3Ez + 0.2S			L1	1.266	L11	1	L12	0.3	L3	0.2		
172	(0.9-0.2*Sds)D + 1.0Ex + 0.3Ez			L1	0.834	L11	1	L12	0.3				
173	(1.2+0.2*Sds)D + 1.0Ez +0.3Ex + 0.2S			L1	1.266	L12	1	L11	0.3	L3	0.2		
174	(0.9-0.2*Sds)D + 1.0Ez + 0.3Ex			L1	0.834	L12	1	L11	0.3				
175													
176													
177													
178													
179													
180													
181													
182													
183													
184													
185													
186													
187													
188													
189													
190													
191													
192													
193													
194													
195													
196													
197													
198													
199													
200													
201													
202													
203													
204													
205													
206													
207													
208	SERVICE Emx			22	0.329	23	1.976						
209	SERVICE Emz			24	0.329	25	1.976						
210													
211	(1.0+0.14*Sds)D + 0.7Emx			L1	1.046	L208	0.7						
212	(1.0+0.105*Sds)D + 0.525Emx + 0.75S			L1	1.035	L208	0.525	L3	0.75				
213	(0.6-0.14*Sds)D + 0.7Emx			L1	0.554	L208	0.7						
214	(1.0+0.14*Sds)D + 0.7Emz			L1	1.046	L209	0.7						
215	(1.0+0.105*Sds)D + 0.525Emz + 0.75S			L1	1.035	L209	0.525	L3	0.75				
216	(0.6-0.14*Sds)D + 0.7Emz			L1	0.554	L209	0.7						
217													
218													
219													
220													
221	(1.2+0.2*Sds)D + 1.0Emx + 0.2S			L1	1.266	L208	1	L3	0.2				
222	(0.9-0.2*Sds)D + 1.0Emx			L1	0.834	L208	1						
223	(1.2+0.2*Sds)D + 1.0Emz + 0.2S			L1	1.266	L209	1	L3	0.2				
224	(0.9-0.2*Sds)D + 1.0Emz			L1	0.834	L209	1						
225													
226													
227													
228													
229													

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	BLC
230													
231													
232													
233													
234													
235													
236													
237													
238													
239													
240													
241													
242													
243													
244													
245													
246													
247													
248													
249													
250													

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]
1	N1	Reaction	Reaction	Reaction
2	N5	Reaction	Reaction	Reaction
3	N9	Reaction	Reaction	Reaction
4	N13	Reaction	Reaction	Reaction
5	N17	Reaction	Reaction	Reaction
6	N21	Reaction	Reaction	Reaction

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	Column	HSS5X5X3	Column	Tube	A500 Gr.C Rect	Typical	3.28	12.6	12.6	19.9
2	Truss	HSS6X4X2	Beam	Tube	A500 Gr.C Rect	Typical	2.23	6.15	11.4	12.6
3	Tension	HSS5X3X2	Beam	Tube	A500 Gr.C Rect	Typical	1.77	2.75	6.03	6.02
4	Truss Tail	HSS4X4X2	Beam	Tube	A500 Gr.C Rect	Typical	1.77	4.4	4.4	6.91
5	Purlin	HSS4X4X2	Beam	Tube	A500 Gr.C Rect	Typical	1.77	4.4	4.4	6.91
6	Compression Ring	C7X9.8	Beam	Channel	A36 Gr.36	Typical	2.87	0.957	21.2	0.1

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	Column1	N1	N2	180	Column	Column	Tube	A500 Gr.C Rect	Typical
2	Column2	N5	N6	120	Column	Column	Tube	A500 Gr.C Rect	Typical
3	Column3	N9	N10	60	Column	Column	Tube	A500 Gr.C Rect	Typical
4	Column4	N13	N14		Column	Column	Tube	A500 Gr.C Rect	Typical
5	Column5	N17	N18	300	Column	Column	Tube	A500 Gr.C Rect	Typical
6	Column6	N21	N22	240	Column	Column	Tube	A500 Gr.C Rect	Typical
7	Truss1	N2	N4		Truss	Beam	Tube	A500 Gr.C Rect	Typical
8	Truss2	N6	N8		Truss	Beam	Tube	A500 Gr.C Rect	Typical
9	Truss3	N10	N12		Truss	Beam	Tube	A500 Gr.C Rect	Typical
10	Truss4	N14	N16		Truss	Beam	Tube	A500 Gr.C Rect	Typical
11	Truss5	N18	N20		Truss	Beam	Tube	A500 Gr.C Rect	Typical
12	Truss6	N22	N24		Truss	Beam	Tube	A500 Gr.C Rect	Typical
13	Truss Tail1	N3	N2		Truss Tail	Beam	Tube	A500 Gr.C Rect	Typical
14	Truss Tail2	N7	N6		Truss Tail	Beam	Tube	A500 Gr.C Rect	Typical
15	Truss Tail3	N11	N10		Truss Tail	Beam	Tube	A500 Gr.C Rect	Typical
16	Truss Tail4	N15	N14		Truss Tail	Beam	Tube	A500 Gr.C Rect	Typical
17	Truss Tail5	N19	N18		Truss Tail	Beam	Tube	A500 Gr.C Rect	Typical
18	Truss Tail6	N23	N22		Truss Tail	Beam	Tube	A500 Gr.C Rect	Typical
19	Tension1	N2	N6		Tension	Beam	Tube	A500 Gr.C Rect	Typical
20	Tension2	N6	N10		Tension	Beam	Tube	A500 Gr.C Rect	Typical
21	Tension3	N10	N14		Tension	Beam	Tube	A500 Gr.C Rect	Typical
22	Tension4	N14	N18		Tension	Beam	Tube	A500 Gr.C Rect	Typical
23	Tension5	N18	N22		Tension	Beam	Tube	A500 Gr.C Rect	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
24	Tension6	N22	N2		Tension	Beam	Tube	A500 Gr.C Rect	Typical
25	Compression1	N4	N8		Compression Ring	Beam	Channel	A36 Gr.36	Typical
26	Compression2	N8	N12		Compression Ring	Beam	Channel	A36 Gr.36	Typical
27	Compression3	N12	N16		Compression Ring	Beam	Channel	A36 Gr.36	Typical
28	Compression4	N16	N20		Compression Ring	Beam	Channel	A36 Gr.36	Typical
29	Compression5	N20	N24		Compression Ring	Beam	Channel	A36 Gr.36	Typical
30	Compression6	N24	N4		Compression Ring	Beam	Channel	A36 Gr.36	Typical
31	Purlin1	NP102	NP101	22.62	Purlin	Beam	Tube	A500 Gr.C Rect	Typical
32	Purlin2	NP103	NP102	22.62	Purlin	Beam	Tube	A500 Gr.C Rect	Typical
33	Purlin3	NP104	NP103	22.62	Purlin	Beam	Tube	A500 Gr.C Rect	Typical
34	Purlin4	NP105	NP104	22.62	Purlin	Beam	Tube	A500 Gr.C Rect	Typical
35	Purlin5	NP106	NP105	22.62	Purlin	Beam	Tube	A500 Gr.C Rect	Typical
36	Purlin6	NP101	NP106	22.62	Purlin	Beam	Tube	A500 Gr.C Rect	Typical

Member Advanced Data

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
1	Column1			Yes	** NA **	None
2	Column2			Yes	** NA **	None
3	Column3			Yes	** NA **	None
4	Column4			Yes	** NA **	None
5	Column5			Yes	** NA **	None
6	Column6			Yes	** NA **	None
7	Truss1			Yes	Default	None
8	Truss2			Yes	Default	None
9	Truss3			Yes	Default	None
10	Truss4			Yes	Default	None
11	Truss5			Yes	Default	None
12	Truss6			Yes	Default	None
13	Truss Tail1			Yes	Default	None
14	Truss Tail2			Yes	Default	None
15	Truss Tail3			Yes	Default	None
16	Truss Tail4			Yes	Default	None
17	Truss Tail5			Yes	Default	None
18	Truss Tail6			Yes	Default	None
19	Tension1			Yes	Default	None
20	Tension2			Yes	Default	None
21	Tension3			Yes	Default	None
22	Tension4			Yes	Default	None
23	Tension5			Yes	Default	None
24	Tension6			Yes	Default	None
25	Compression1			Yes	Default	None
26	Compression2			Yes	Default	None
27	Compression3			Yes	Default	None
28	Compression4			Yes	Default	None
29	Compression5			Yes	Default	None
30	Compression6			Yes	Default	None
31	Purlin1	AllPIN	BenPIN	Yes	Default	None
32	Purlin2	AllPIN	BenPIN	Yes	Default	None
33	Purlin3	AllPIN	BenPIN	Yes	Default	None
34	Purlin4	AllPIN	BenPIN	Yes	Default	None
35	Purlin5	AllPIN	BenPIN	Yes	Default	None
36	Purlin6	AllPIN	BenPIN	Yes	Default	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lb y-y [ft]	K y-y	K z-z	Channel Conn.	a [ft]	Function
1	Column1	Column	10.5		2	2	N/A	N/A	Lateral
2	Column2	Column	10.5		2	2	N/A	N/A	Lateral
3	Column3	Column	10.5		2	2	N/A	N/A	Lateral
4	Column4	Column	10.5		2	2	N/A	N/A	Lateral
5	Column5	Column	10.5		2	2	N/A	N/A	Lateral
6	Column6	Column	10.5		2	2	N/A	N/A	Lateral
7	Truss1	Truss	11.366	Segment	0.65	0.65	N/A	N/A	Lateral
8	Truss2	Truss	11.365	Segment	0.65	0.65	N/A	N/A	Lateral
9	Truss3	Truss	11.365	Segment	0.65	0.65	N/A	N/A	Lateral
10	Truss4	Truss	11.366	Segment	0.65	0.65	N/A	N/A	Lateral
11	Truss5	Truss	11.365	Segment	0.65	0.65	N/A	N/A	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lb y-y [ft]	K y-y	K z-z	Channel Conn.	a [ft]	Function
12	Truss6	Truss	11.365	Segment	0.65	0.65	N/A	N/A	Lateral
13	Truss Tail1	Truss Tail	2.455		2.1	2.1	N/A	N/A	Lateral
14	Truss Tail2	Truss Tail	2.455		2.1	2.1	N/A	N/A	Lateral
15	Truss Tail3	Truss Tail	2.455		2.1	2.1	N/A	N/A	Lateral
16	Truss Tail4	Truss Tail	2.455		2.1	2.1	N/A	N/A	Lateral
17	Truss Tail5	Truss Tail	2.455		2.1	2.1	N/A	N/A	Lateral
18	Truss Tail6	Truss Tail	2.455		2.1	2.1	N/A	N/A	Lateral
19	Tension1	Tension	11.691		0.65	0.65	N/A	N/A	Lateral
20	Tension2	Tension	11.69		0.65	0.65	N/A	N/A	Lateral
21	Tension3	Tension	11.691		0.65	0.65	N/A	N/A	Lateral
22	Tension4	Tension	11.691		0.65	0.65	N/A	N/A	Lateral
23	Tension5	Tension	11.69		0.65	0.65	N/A	N/A	Lateral
24	Tension6	Tension	11.691		0.65	0.65	N/A	N/A	Lateral
25	Compression1	Compression Ring	1		0.65	0.65	N/A	N/A	Lateral
26	Compression2	Compression Ring	1		0.65	0.65	N/A	N/A	Lateral
27	Compression3	Compression Ring	1		0.65	0.65	N/A	N/A	Lateral
28	Compression4	Compression Ring	1		0.65	0.65	N/A	N/A	Lateral
29	Compression5	Compression Ring	1		0.65	0.65	N/A	N/A	Lateral
30	Compression6	Compression Ring	1		0.65	0.65	N/A	N/A	Lateral
31	Purlin1	Purlin	6.345		1	1	N/A	N/A	Lateral
32	Purlin2	Purlin	6.346		1	1	N/A	N/A	Lateral
33	Purlin3	Purlin	6.345		1	1	N/A	N/A	Lateral
34	Purlin4	Purlin	6.345		1	1	N/A	N/A	Lateral
35	Purlin5	Purlin	6.346		1	1	N/A	N/A	Lateral
36	Purlin6	Purlin	6.345		1	1	N/A	N/A	Lateral

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e^{5}°F^{-1}]	Density [lb/ft^{3}]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	490	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	490	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	490	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	490	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	490	50	1.25	65	1.15
8	A913 Gr.65	29000	11154	0.3	0.65	490	65	1.1	80	1.1
9	A500 Gr.C Rect	29000	11154	0.3	0.65	527	50	1.4	62	1.3
10	A500 Gr.C RND	29000	11154	0.3	0.65	527	46	1.4	62	1.3

Envelope AISC 14TH (360-10): ASD Member Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-in]	Mnzz/om [k-in]	Cb	Eqn
0	Column1	HSS5X5X3	0.167	10.5	46	0.004	10.5	z	28	29.823	98.204	176.347	176.347	1.678	H1-1b
1	Column2	HSS5X5X3	0.174	10.5	23	0.007	10.5	z	23	29.823	98.204	176.347	176.347	1.678	H1-1b
2	Column3	HSS5X5X3	0.203	10.5	42	0.005	10.5	z	29	29.823	98.204	176.347	176.347	1.678	H1-1b
3	Column4	HSS5X5X3	0.194	10.5	49	0.007	10.5	y	41	29.823	98.204	176.347	176.347	1.678	H1-1b
4	Column5	HSS5X5X3	0.204	10.5	42	0.006	10.5	y	49	29.823	98.204	176.347	176.347	1.678	H1-1b
5	Column6	HSS5X5X3	0.191	10.5	46	0.007	10.5	z	23	29.823	98.204	176.347	176.347	1.678	H1-1b
6	Truss1	HSS6X4X2	0.17	4.707	41	0.027	11.366	y	46	52.413	66.766	78.098	121.352	1.173	H1-1b
7	Truss2	HSS6X4X2	0.13	1.492	41	0.034	11.365	y	24	52.414	66.766	78.098	121.352	1.334	H1-1b
8	Truss3	HSS6X4X2	0.127	0.689	46	0.039	5.74	y	23	52.414	66.766	78.098	121.352	1.358	H1-1b
9	Truss4	HSS6X4X2	0.16	5.626	20	0.028	11.366	y	20	52.413	66.766	78.098	121.352	1.215	H1-1b
10	Truss5	HSS6X4X2	0.162	5.625	20	0.039	5.74	y	23	52.414	66.766	78.098	121.352	1.216	H1-1b
11	Truss6	HSS6X4X2	0.13	1.607	41	0.034	11.365	y	24	52.414	66.766	78.098	121.352	1.326	H1-1b
12	Truss Tail1	HSS4X4X2	0.013	2.455	41	0.007	2.455	y	41	47.353	52.994	69.459	69.459	3	H1-1b
13	Truss Tail2	HSS4X4X2	0.011	2.455	19	0.006	2.455	y	19	47.351	52.994	69.459	69.459	3	H1-1b
14	Truss Tail3	HSS4X4X2	0.011	2.455	19	0.006	2.455	y	19	47.351	52.994	69.459	69.459	3	H1-1b
15	Truss Tail4	HSS4X4X2	0.012	2.455	44	0.006	2.455	y	44	47.353	52.994	69.459	69.459	3	H1-1b
16	Truss Tail5	HSS4X4X2	0.011	2.455	20	0.006	2.455	y	20	47.351	52.994	69.459	69.459	3	H1-1b
17	Truss Tail6	HSS4X4X2	0.011	2.455	19	0.006	2.455	y	19	47.351	52.994	69.459	69.459	3	H1-1b
18	Tension1	HSS5X3X2	0.308	0	44	0.055	11.691	y	41	34.317	52.994	50.729	87.725	2.084	H1-1b
19	Tension2	HSS5X3X2	0.308	11.69	42	0.048	11.69	y	42	34.318	52.994	50.729	87.725	2.123	H1-1b
20	Tension3	HSS5X3X2	0.308	11.691	44	0.049	0	y	20	34.317	52.994	50.729	87.725	2.071	H1-1b
21	Tension4	HSS5X3X2	0.27	11.691	44	0.049	11.691	y	44	34.317	52.994	50.729	87.725	2.006	H1-1b
22	Tension5	HSS5X3X2	0.307	0	42	0.05	11.69	y	20	34.318	52.994	50.729	87.725	2.139	H1-1b
23	Tension6	HSS5X3X2	0.301	0	41	0.055	0	y	41	34.317	52.994	50.729	87.725	1.974	H1-1b
24	Compression1	C7X9.8	0.183	0	25	0.061	0.505	z	25	60.613	61.868	21.309	154.994	1.37	H1-1b

Envelope AISC 14TH (360-10): ASD Member Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-in]	Mnzz/om [k-in]	Cb	Eqn
25	Compression2	C7X9.8	0.079	1	41	0.015	0.061	y	20	60.612	61.868	21.309	154.994	1.197	H1-1b
26	Compression3	C7X9.8	0.179	1	25	0.059	0.495	z	25	60.613	61.868	21.309	154.994	1.369	H1-1b
27	Compression4	C7X9.8	0.156	0	24	0.056	0.505	z	50	60.613	61.868	21.309	154.994	1.337	H1-1b
28	Compression5	C7X9.8	0.08	0	41	0.017	1	y	20	60.612	61.868	21.309	154.994	1.191	H1-1b
29	Compression6	C7X9.8	0.161	1	23	0.059	0.495	z	23	60.613	61.868	21.309	154.994	1.459	H1-1b
30	Purlin1	HSS4X4X2	0.189	3.204	41	0.028	6.345	y	41	44.687	52.994	69.459	69.459	1.152	H1-1b
31	Purlin2	HSS4X4X2	0.184	3.141	43	0.029	6.346	y	43	44.684	52.994	69.459	69.459	1.152	H1-1b
32	Purlin3	HSS4X4X2	0.21	3.14	20	0.029	6.345	y	20	44.687	52.994	69.459	69.459	1.155	H1-1b
33	Purlin4	HSS4X4X2	0.211	3.204	20	0.029	6.345	y	20	44.687	52.994	69.459	69.459	1.155	H1-1b
34	Purlin5	HSS4X4X2	0.21	3.141	20	0.029	6.346	y	20	44.684	52.994	69.459	69.459	1.155	H1-1b
35	Purlin6	HSS4X4X2	0.189	3.14	41	0.029	6.345	y	41	44.687	52.994	69.459	69.459	1.152	H1-1b

Material Take-Off

	Material	Size	Pieces	Length[ft]	Weight[LB]
0	Hot Rolled Steel				
1	A36 Gr.36	C7X9.8	6	6	58.595
2	A500 Gr.C Rect	HSS4X4X2	12	52.8	342.031
3	A500 Gr.C Rect	HSS5X3X2	6	70.1	454.363
4	A500 Gr.C Rect	HSS5X5X3	6	63	756.245
5	A500 Gr.C Rect	HSS6X4X2	6	68.2	556.525
6	Total HR Steel		36	260.1	2167.759

PANEL DATA

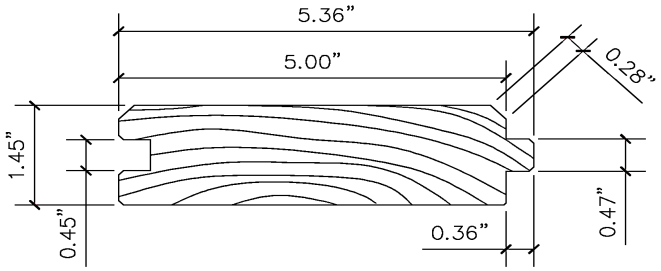
2 x 6 Tongue and Groove Panels

Allowable Loads

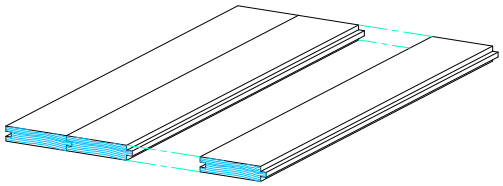
Hem Fir No. 1

Factory Stained

Section / Isometric View of Panel Cross-Section



Section View of Typical Panel



Isometric View of Panels

Section Properties (Out of Plane Bending)

Member Size	Weight (psf)	F_b (ksi)	I_x (in^4)	S_e (in^3)	M_a (in-kips)
2" X 6"	3.15	0.979	1.251	1.734	1.698

Allowable Loads

Span Type	Span Lengths (ft)	Allowable Load (psf)
Single Span	4	160
	5	102
	6	71
	7	52
	8	40
Two Span	4	106
	5	68
	6	47
	7	35
	8	27
Three Span	4	133
	5	85
	6	59
	7	43
	8	33

Load Duration Factors (C_D)

Typical Design Loads	C_D
Dead Load	0.9
Live Load	1.0
Snow Load	1.15
Wind Load	1.6
Earthquake Load	1.6

Notes

1. All calculations for properties of panels are calculated in accordance with the National Design Specification (NDS) for Wood Construction, 2018 Edition. Allowable loads are based on at least two sections of the tongue and groove decking in place, with tongue and groove in contact.
2. The spans shown assume equal spacing between the multi-span conditions.
3. Weight of panels and roof covering material must be deducted from values to obtain net allowable load.
4. Per NDS 2018 Section 2.3.2, reference design values shall be multiplied by the appropriate load duration factor, C_D.

Medallion-Lok 16"

Bare & Painted

SECTION PROPERTIES						TOP IN COMPRESSION			BOTTOM IN COMPRESSION		
GAUGE	FY (KSI)	WEIGHT (PSF)	V_a kip/ft.	P_{a_end} lbs/ft.	P_{a_int} lbs/ft.	I_x ($in.^4$/ft.)	S_e ($in.^3$/ft.)	M_a kip-in./ft.	I_x ($in.^4$/ft.)	S_e ($in.^3$/ft.)	M_a kip-in./ft.
24	50.0	1.30	0.7920	125.03	371.48	0.0848	0.0565	1.4115	0.0390	0.0476	1.0305

1. Section properties are calculated in accordance with the 2016 AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
2. Va is the allowable shear.
3. Pa is the allowable load for web crippling on end & interior supports.
4. Ix is for deflection determination.
5. Se is for bending.
6. Ma is the allowable bending moment.
7. All values are for one foot of panel width.

Allowable Uniform Loads (PSF)

		Span in Feet															
Span Type	Load Type	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50
Single	Positive Wind	500	418	235	150	104	76	58	46	37	31	26	22	19	16	14	13
	Live	500	418	235	150	104	76	58	46	37	31	26	22	19	16	14	13
	Deflection (L/180)	500	500	500	474	274	172	115	81	59	44	34	26	21	17	14	12
	Deflection (L/240)	500	500	500	355	205	129	86	60	44	33	25	20	16	13	10	9
2 Span	Positive Wind	500	287	165	107	75	55	42	33	27	22	19	16	13	12	10	9
	Live	500	287	165	107	75	55	42	33	27	22	19	16	13	12	10	9
	Deflection (L/180)	500	500	500	500	482	303	203	142	104	78	60	47	37	30	25	21
	Deflection (L/240)	500	500	500	500	361	227	152	107	78	58	45	35	28	23	19	15
3 Span	Positive Wind	500	350	204	132	93	68	52	41	34	28	23	20	17	15	13	11
	Live	500	350	204	132	93	68	52	41	34	28	23	20	17	15	13	11
	Deflection (L/180)	500	500	500	500	377	238	159	111	81	61	47	37	29	24	19	16
	Deflection (L/240)	500	500	500	489	283	178	119	83	61	46	35	27	22	18	14	12
4 Span	Positive Wind	500	329	191	124	87	64	49	39	31	26	22	18	16	14	12	11
	Live	500	329	191	124	87	64	49	39	31	26	22	18	16	14	12	11
	Deflection (L/180)	500	500	500	500	401	252	169	118	86	65	50	39	31	25	21	17
	Deflection (L/240)	500	500	500	500	300	189	126	89	65	48	37	29	23	19	15	13
ASTM E1592 Uplift Testing		75.7	66.4	57.0	53.2	49.4	45.6	41.8	38.0	34.2							

Notes:

1. Allowable uniform loads are based upon equal span lengths.
2. Live is the allowable live or snow load.
3. Deflection (L/180) is the allowable load that limits the panel's deflection to L/180 while under positive or live load.
4. Deflection (L/240) is the allowable load that limits the panel's deflection to L/240 while under positive or live load.
5. The weight of the panel has **NOT** been deducted from the allowable loads.
6. Positive wind and Live load values are limited to combined shear & bending using Eq. H2-1 of the AISI Specification.
7. Values of ASTM E1592 Wind Uplift Testing include a factor of safety of 1.67. Shaded areas are outside of test range. Contact McElroy Metal for more information.
8. Positive Wind and Live Load values are limited by web crippling using a bearing length of 2".
9. Web crippling values are determined using a ratio of the uniform load **actually** supported by the top flanges of the section.
10. Load Tables are limited to a maximum allowable load of 500 psf.