
MATERIAL SPECIFICATIONS

The following is a list of the different materials used in this building. included are ASTM Specifications and Nominal Strength.

	ASTM Designation -----	Nominal Strength -----
Plate and Bar	A1011-XX, SS A572-XX or A529-XX	Fy = 55 ksi
C-Section	A1011-XX, SS	Fy = 55 ksi
Wind Bracing Cable	A475-XX Extra High Strength	(see cable charts)
Paneling		
CS, AP & LTC	A792-XX, SS	Fy = 80 ksi
MSC & STC	A792-XX, SS, Class 1	Fy = 50 ksi
Structural Bolts	A325-XX	Ft = 90 ksi

Revised 1/12/09

CABLE BRACING LOAD CAPACITIES

Strand Size	Breaking Strength	Working Strength	Eyebolt Size	Eyebolt Force
1/4"	6.65 k	3.33 k	1/2"	3.76 k
3/8"	15.40 k	7.70 k	5/8"	5.87 k
1/2"	26.90 k	13.45 k	7/8"	11.51 k

- (1) Breaking Strength - Values from ASTM A475 for extra high strength strand.
- (2) Working Strength - Calculated from the Breaking Strength 2.0 for a Safety Factor.
- (3) Eyebolt Force - Based on ASTM A36 threaded fasteners.

revised 1/12/09

FRAME DESIGN AND OUTPUT SUMMARY

A. General

The frames are designed as a fully rigid jointed plane frames using a two-dimensional force analysis. All column bases are typically designed as pin supports. Interior columns (when applicable) may be either designed as pinned or fixed at the top connection to the rafter depending on the stiffness and other design requirements for the frame. Lean-to frames (when applicable) have one exterior column and a simply supported rafter beam that is supported at the high side by another frame. Column and rafter beam lateral support is provided by the girts or purlins. The inside flange lateral support is provided at the designated locations by flange braces connected between the member inside flange and the girt or purlin.

B. Analysis

The frame is analyzed using a stiffness matrix method with nonprismatic member stiffness properties. The joint deflections and member cross sectional forces for all loading cases are calculated and are used in the stress analysis. Bending, axial, and shear stress analysis are based on AISC Specifications. The bending and axial load combined stress ratio is normally held below 1.03.

C. Effective Member Lengths

The effective member lengths for Exterior Rigid Frame columns are determined using an effective length factor (K) of 1.5. Rafters and Interior columns (where applicable) are designed using an effective length factor of 1.0. These values have been found to be conservative for cases in which the members are tapered and effective lengths are determined by other more involved methods.

D. Loads

Load combinations are based on the applicable building code and loading indicated on the building order.

The snow and live loads are applied on the horizontal projection. The wind load is applied on the frame in accordance with the applicable building code. Increased tributary loading is applied to the interior frame in two bay buildings with continuous purlins.

FRAME DESIGN AND OUTPUT SUMMARY

(Continued)

E. Moment End-Plate Connection Design

Moment connections are designed in accordance with the AISC/MBMA Steel Design Guide 16 "Flush and Extended Multiple-Row Moment End-Plate Connections" published in 2002 using fully tensioned A325 bolts.

Shear transfer between the plates is based on a bearing type shear connections. Bolt shear is taken as average shear on each bolt used for resisting the shear force. All bolt stress values are in accordance with AISC 9th edition specifications for ASTM A325 bolts in tension, shear, and combined tension and shear.

F. Output

Output include the follow reports.

1. Frame Design Data
2. Loading Summary
3. Frame Reaction and Deflection Report
4. Design Summary Report
5. Flange Brace Locations Report
6. Weld Summary Report
7. Connection Report

Based on the size and type of frame the following reports may be included.

1. Dimensions and Properties Report
2. Forces, Moments and Stresses Report
3. Deflections and Rotations Report

The reports are self-explanatory with the exception of joints and sections. Joints are located at the base and top of exterior and interior columns (when applicable) and where the roof slope changes. Joint numbers start at the base of the left exterior column. Sections occur between joints, with a maximum of 8 sections allowed between joints. Web thickness and flange width and thickness are constant within a section.

CONFIGURATION (NON-SYMMETRIC FRAME)

BUILDING WIDTH = 59.67 FT.
 NUMBER OF SPANS = 2
 SPAN WIDTHS = 38.25 21.42
 DESIGN BAY SIZE = 28.50 FT.
 LEFT EAVE HEIGHT = 16.00 FT.
 RIGHT EAVE HEIGHT = 14.86 FT.
 LEFT RAFTER SLOPE (R/12) = 0.38
 RIGHT RAFTER SLOPE (R/12) = 0.38
 GIRT OUTSET = 10.00 IN.
 PURLIN DEPTH = 10.00 IN.
 STEEL YIELD:
 FLANGES 55. KSI
 WEBS 55. KSI
 LOADINGS ...

DEAD LOAD = 3.891 PSF (Dead Load of Rigid Frame is calculated internally)
 COLLATERAL = 5.000 PSF
 LIVE LOAD = 12.000 PSF
 SNOW LOAD = 49.000 PSF
 WIND LOAD = 13.459 PSF

LOAD CONDITIONS ...

1 = DEAD + LIVE LOAD	100. DL	100. LL	100. COL		
2 = DL + SNOW LOAD	100. DL	100. SL	100. COL		
3 = .6DL+WLL (NASI)	60. DL	100. WLL			
4 = .6DL+WLR (NASI)	60. DL	100. WLR			
5 = .6DL+WL2 (NASI)	60. DL	100. WL2			
6 = .6DL+WR2 (NASI)	60. DL	100. WR2			
7 = .6DL+WLE (NASI)	60. DL	100. WLE			
8 = .6DL+WE2 (NASI)	60. DL	100. WE2			
9 = DL + COL + .75(LL + WLL) (NASI)	100. DL	100. COL	75. LL	75. WLL	
10 = DL + COL + .75(LL + WLR) (NASI)	100. DL	100. COL	75. LL	75. WLR	
11 = DL + COL + .75(SL + WLL) (NASI)	100. DL	100. COL	75. SL	75. WLL	
12 = DL + COL + .75(SL + WLR) (NASI)	100. DL	100. COL	75. SL	75. WLR	
13 = DL + ALT SPAN LL	100. DL	100. LLA	100. COL		
14 = DL + ALT SPAN LL	100. DL	100. LLB	100. COL		
15 = DL+SEISMIC LEFT*0.7	105. DL	105. COL	70. SEI		
16 = DL+SEISMIC RIGHT*0.7	105. DL	105. COL	-70. SEI		
17 = DL+.75(LL+.7SEI)	105. DL	105. COL	53. SEI	75. LL	
18 = DL+.75(LL-.7SEI)	105. DL	105. COL	-53. SEI	75. LL	
19 = .6 DL+SEISMIC LEFT*0.7	55. DL	70. SEI			
20 = .6 DL+SEISMIC RIGHT*0.7	55. DL	-70. SEI			

LOAD CONDITIONS ... (CONTINUED)

21 = DL+ 20% SL+SEI LEFT*0.7
 100. DL 100. COL 20. SL 70. SEI
22 = DL+ 20% SL+SEI RIGHT*0.7
 100. DL 100. COL 20. SL -70. SEI

LOAD CONDITIONS FOR REACTIONS & DEFLECTIONS ...

23 = DL 100. DL
24 = COL 100. COL
25 = LL 100. LL
26 = SL 100. SL
27 = WLL 100. WLL
28 = WLR 100. WLR
29 = WL2 100. WL2
30 = WR2 100. WR2
31 = WLE 100. WLE
32 = WE2 100. WE2
33 = LLA 100. LLA
34 = LLB 100. LLB
35 = SEI 100. SEI

J1	J2	GROUP	SYST	DIR	TYPE	DIST	LOAD	*E or L	LOAD
5	6	SL	GLOB	Y	CONC	0.000	-5.994	0.500	0.000
5	3	SL	GLOB	Y	TRIA	0.000	-4.515	0.000	-1.156
3	2	SL	GLOB	Y	TRIA	0.000	-1.156	7.023	0.000
2	1	SEI	GLOB	X	CONC	0.000	2.416		
5	6	SEI	GLOB	X	CONC	0.000	2.416		
2	3	WLE	MEMB	Y	UNIF	0.000	0.146	11.933	0.146
5	3	WE2	MEMB	Y	UNIF	0.000	-0.146	11.933	-0.146
2	3	WLL	MEMB	Y	UNIF	28.333	-0.123		
2	3	WL2	MEMB	Y	UNIF	28.333	-0.123		
3	5	WLL	MEMB	Y	UNIF	0.000	-0.123		
3	5	WL2	MEMB	Y	UNIF	0.000	-0.123		

(AUTO LOADS)

1	2	DL	GLOB	Y	UNIF	0.000	-0.018		DLWT
1	2	WLL	GLOB	X	UNIF	0.000	0.094		WLLX
1	2	WLR	GLOB	X	UNIF	0.000	-0.201		WLRX
1	2	WL2	GLOB	X	UNIF	0.000	0.248		WL2X
1	2	WR2	GLOB	X	UNIF	0.000	-0.047		WR2X
1	2	WLE	GLOB	X	UNIF	0.000	-0.270		WLEX
1	2	WE2	GLOB	X	UNIF	0.000	-0.270		WE2X
2	3	LL	GLOB	Y	UNIF	0.000	-0.342		LIVE
2	3	LLA	GLOB	Y	UNIF	0.000	-0.342		LLA
2	3	LL	GLOB	Y	CONC	0.000	-0.471		LIVE
2	3	LL	GLOB	Z	MOMT	0.000	0.324		LIVE
2	3	LLA	GLOB	Y	CONC	0.000	-0.235		LLA
2	3	LLA	GLOB	Z	MOMT	0.000	0.324		LLA
2	3	SL	GLOB	Y	UNIF	0.000	-1.396		SNOW
2	3	SL	GLOB	Y	CONC	0.000	-1.923		SNOW
2	3	SL	GLOB	Z	MOMT	0.000	1.324		SNOW
2	3	DL	GLOB	Y	UNIF	0.000	-0.111		DEAD
2	3	DL	GLOB	Y	CONC	0.000	-0.153		DEAD
2	3	DL	GLOB	Z	MOMT	0.000	0.105		DEAD
2	3	DL	GLOB	Y	UNIF	0.000	-0.029		DLWT
2	3	COL	GLOB	Y	UNIF	0.000	-0.142		COLL
2	3	COL	GLOB	Y	CONC	0.000	-0.196		COLL
2	3	COL	GLOB	Z	MOMT	0.000	0.135		COLL
2	3	WLL	GLOB	X	UNIF	0.000	-0.011		WLLX
2	3	WLL	GLOB	Y	UNIF	0.000	0.346		WLLY
2	3	WLR	GLOB	X	UNIF	0.000	-0.007		WLRX
2	3	WLR	GLOB	Y	UNIF	0.000	0.219		WLRX
2	3	WL2	GLOB	X	UNIF	0.000	-0.006		WL2X
2	3	WL2	GLOB	Y	UNIF	0.000	0.203		WL2Y
2	3	WR2	GLOB	X	UNIF	0.000	-0.002		WR2X
2	3	WR2	GLOB	Y	UNIF	0.000	0.076		WR2Y
2	3	WLE	GLOB	X	UNIF	0.000	-0.011		WLEX
2	3	WLE	GLOB	Y	UNIF	0.000	0.346		WLEY
2	3	WE2	GLOB	X	UNIF	0.000	-0.011		WE2X
2	3	WE2	GLOB	Y	UNIF	0.000	0.346		WE2Y
4	3	DL	GLOB	Y	UNIF	0.000	-0.021		DLWT
3	5	LL	GLOB	Y	UNIF	0.000	-0.342		LIVE
3	5	LLB	GLOB	Y	UNIF	0.000	-0.342		LLB
5	3	LL	GLOB	Y	CONC	0.000	-0.338		LIVE
5	3	LL	GLOB	Z	MOMT	0.000	-0.167		LIVE

J1	J2	GROUP	SYST	DIR	TYPE	DIST	LOAD	*E or L	LOAD
5	3	LLB	GLOB	Y	CONC	0.000	-0.169		LLB
5	3	LLB	GLOB	Z	MOMT	0.000	-0.167		LLB
3	5	SL	GLOB	Y	UNIF	0.000	-1.396		SNOW
5	3	SL	GLOB	Y	CONC	0.000	-1.378		SNOW
5	3	SL	GLOB	Z	MOMT	0.000	-0.680		SNOW
3	5	DL	GLOB	Y	UNIF	0.000	-0.111		DEAD
5	3	DL	GLOB	Y	CONC	0.000	-0.109		DEAD
5	3	DL	GLOB	Z	MOMT	0.000	-0.054		DEAD
3	5	DL	GLOB	Y	UNIF	0.000	-0.030		DLWT
3	5	COL	GLOB	Y	UNIF	0.000	-0.142		COLL
5	3	COL	GLOB	Y	CONC	0.000	-0.141		COLL
5	3	COL	GLOB	Z	MOMT	0.000	-0.069		COLL
3	5	WLL	GLOB	X	UNIF	0.000	-0.011		WLLX
3	5	WLL	GLOB	Y	UNIF	0.000	0.350		WLLY
3	5	WLR	GLOB	X	UNIF	0.000	-0.007		WLRX
3	5	WLR	GLOB	Y	UNIF	0.000	0.221		WLRX
3	5	WL2	GLOB	X	UNIF	0.000	-0.006		WL2X
3	5	WL2	GLOB	Y	UNIF	0.000	0.205		WL2Y
3	5	WR2	GLOB	X	UNIF	0.000	-0.002		WR2X
3	5	WR2	GLOB	Y	UNIF	0.000	0.076		WR2Y
3	5	WLE	GLOB	X	UNIF	0.000	-0.011		WLEX
3	5	WLE	GLOB	Y	UNIF	0.000	0.350		WLEY
3	5	WE2	GLOB	X	UNIF	0.000	-0.011		WE2X
3	5	WE2	GLOB	Y	UNIF	0.000	0.350		WE2Y
6	5	DL	GLOB	Y	UNIF	0.000	-0.025		DLWT
6	5	WLL	GLOB	X	UNIF	0.000	0.205		WLLX
6	5	WLR	GLOB	X	UNIF	0.000	-0.096		WLRX
6	5	WL2	GLOB	X	UNIF	0.000	0.048		WL2X
6	5	WR2	GLOB	X	UNIF	0.000	-0.253		WR2X
6	5	WLE	GLOB	X	UNIF	0.000	0.275		WLEX
6	5	WE2	GLOB	X	UNIF	0.000	0.275		WE2X

* E = eccentricity for concentrated loads.
 L = load length for uniform loads.

COEFFICIENTS FOR WLL (WIND FROM THE LEFT)

LEFT WALL COEFFICIENT = 0.2200
 LEFT ROOF COEFFICIENT = -0.8700
 RIGHT ROOF COEFFICIENT = -0.5500
 RIGHT WALL COEFFICIENT = -0.4700

COEFFICIENTS FOR WLR (WIND FROM THE RIGHT)

LEFT WALL COEFFICIENT = -0.4700
 LEFT ROOF COEFFICIENT = -0.5500
 RIGHT ROOF COEFFICIENT = -0.8700
 RIGHT WALL COEFFICIENT = 0.2200

COEFFICIENTS FOR WL2 (WIND FROM THE LEFT CASE 2)

LEFT WALL COEFFICIENT = 0.5800
LEFT ROOF COEFFICIENT = -0.5100
RIGHT ROOF COEFFICIENT = -0.1900
RIGHT WALL COEFFICIENT = -0.1100

COEFFICIENTS FOR WR2 (WIND FROM THE RIGHT CASE 2)

LEFT WALL COEFFICIENT = -0.1100
LEFT ROOF COEFFICIENT = -0.1900
RIGHT ROOF COEFFICIENT = -0.5100
RIGHT WALL COEFFICIENT = 0.5800

COEFFICIENTS FOR WLE (WIND ON THE ENDWALL)

LEFT WALL COEFFICIENT = -0.6300
LEFT ROOF COEFFICIENT = -0.8700
RIGHT ROOF COEFFICIENT = -0.8700
RIGHT WALL COEFFICIENT = -0.6300

COEFFICIENTS FOR WE2 (WIND ON THE ENDWALL CASE 2)

LEFT WALL COEFFICIENT = -0.6300
LEFT ROOF COEFFICIENT = -0.8700
RIGHT ROOF COEFFICIENT = -0.8700
RIGHT WALL COEFFICIENT = -0.6300

 MEMBER NO. 1- 2 LENGTH 14.34 FT ANGLE OF MEMBER 90.00 DEG
 SECTION NO. 1 LENGTH 13.39' OF= 6.00 X 0.2500 WEB=0.1563 IF= 6.00 X 0.3125

ANAL POINT	X (FT)	Y (FT)	DEPTH (IN)	AREA (IN2)	IX (IN4)	SOX (IN3)	SIX (IN3)	RX (IN)	RY (IN)	RTO (IN)	RTI (IN)
1*	0.00	0.00	12.00	5.16	134.5	21.0	24.0	5.10	1.40	1.572	1.618
100	0.00	0.96	12.00	5.16	134.5	21.0	24.0	5.10	1.40	1.572	1.618
101	0.00	2.87	12.00	5.16	134.5	21.0	24.0	5.10	1.40	1.572	1.618
102	0.00	4.78	12.00	5.16	134.5	21.0	24.0	5.10	1.40	1.572	1.618
103	0.00	6.69	12.00	5.16	134.5	21.0	24.0	5.10	1.40	1.572	1.618
104	0.00	8.61	12.00	5.16	134.5	21.0	24.0	5.10	1.40	1.572	1.618
105	0.00	10.52	12.00	5.16	134.5	21.0	24.0	5.10	1.40	1.572	1.618
106	0.00	12.43	12.00	5.16	134.5	21.0	24.0	5.10	1.40	1.572	1.618
107*	0.00	13.39	12.00	5.16	134.5	21.0	24.0	5.10	1.40	1.572	1.618

MEMBER NO.	2- 3	LENGTH	36.89 FT	ANGLE OF MEMBER	1.20 DEG
SECTION NO. 1	LENGTH	10.00'	OF= 6.00 X 0.3125	WEB=0.1875	IF= 6.00 X 0.2500
SECTION NO. 2	LENGTH	7.45'	OF= 6.00 X 0.3125	WEB=0.1875	IF= 6.00 X 0.2500
SECTION NO. 3	LENGTH	10.00'	OF= 6.00 X 0.3125	WEB=0.1875	IF= 6.00 X 0.2500
SECTION NO. 4	LENGTH	9.00'	OF= 6.00 X 0.5000	WEB=0.2500	IF= 6.00 X 0.5000

ANAL POINT	X (FT)	Y (FT)	DEPTH (IN)	AREA (IN2)	IX (IN4)	SOX (IN3)	SIX (IN3)	RX (IN)	RY (IN)	RTO (IN)	RTI (IN)
110*	0.44	14.35	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
111	1.44	14.38	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
112	3.43	14.44	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
113	5.43	14.51	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
114	7.43	14.57	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
115	9.43	14.63	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
116*	10.43	14.66	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
116*	10.43	14.66	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
117	11.36	14.69	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
118	13.23	14.75	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
119	15.09	14.81	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
120	16.95	14.87	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
121*	17.88	14.89	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
121*	17.88	14.89	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
122	18.88	14.92	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
123	20.88	14.98	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
124	22.88	15.04	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
125	24.88	15.10	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
126	26.88	15.16	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
127*	27.88	15.19	22.00	7.39	549.8	52.5	47.7	8.62	1.17	1.497	1.429
127*	27.88	15.19	22.00	11.25	886.4	80.6	80.6	8.88	1.27	1.524	1.524
128	29.00	15.18	23.00	11.50	981.3	85.3	85.3	9.24	1.25	1.516	1.516
129	31.25	15.16	25.00	12.00	1188.5	95.1	95.1	9.95	1.23	1.500	1.500
130	33.50	15.14	27.00	12.50	1419.7	105.2	105.2	10.66	1.20	1.485	1.485
131	35.75	15.12	29.00	13.00	1675.8	115.6	115.6	11.35	1.18	1.470	1.470
3*	36.88	15.11	30.00	13.25	1813.6	120.9	120.9	11.70	1.17	1.463	1.463

CHIEF BUILDINGS FRAME DESIGN V09.01
 DIMENSIONS AND PROPERTIES
 BUILDING A FRAME CO95226A01 LINES J, G.5, AND F

PAGE NO. F - 13
 JOB NO. CO95226
 CH DATE 11-16-09

MEMBER NO. 4- 3 LENGTH 12.11 FT ANGLE OF MEMBER 90.00 DEG
 SECTION NO. 1 LENGTH 12.11' OF= 8.00 X 0.2500 WEB=0.1875 IF= 8.00 X 0.2500

ANAL POINT	X (FT)	Y (FT)	DEPTH (IN)	AREA (IN2)	IX (IN4)	SOX (IN3)	SIX (IN3)	RX (IN)	RY (IN)	RTO (IN)	RTI (IN)
4*	36.88	3.00	12.00	6.16	161.8	27.0	27.0	5.13	1.86	2.126	2.126
132	36.88	3.87	12.00	6.16	161.8	27.0	27.0	5.13	1.86	2.126	2.126
133	36.88	5.60	12.00	6.16	161.8	27.0	27.0	5.13	1.86	2.126	2.126
134	36.88	7.33	12.00	6.16	161.8	27.0	27.0	5.13	1.86	2.126	2.126
135	36.88	9.06	12.00	6.16	161.8	27.0	27.0	5.13	1.86	2.126	2.126
136	36.88	10.79	12.00	6.16	161.8	27.0	27.0	5.13	1.86	2.126	2.126
137	36.88	12.52	12.00	6.16	161.8	27.0	27.0	5.13	1.86	2.126	2.126
138	36.88	14.25	12.00	6.16	161.8	27.0	27.0	5.13	1.86	2.126	2.126
3*	36.88	15.11	12.00	6.16	161.8	27.0	27.0	5.13	1.86	2.126	2.126

MEMBER NO.	3- 5	LENGTH	20.44 FT	ANGLE OF MEMBER	2.73 DEG
SECTION NO. 1	LENGTH	5.00'	OF= 6.00 X 0.5000	WEB=0.2500	IF= 6.00 X 0.5000
SECTION NO. 2	LENGTH	4.74'	OF= 6.00 X 0.2500	WEB=0.2188	IF= 6.00 X 0.2500
SECTION NO. 3	LENGTH	5.00'	OF= 6.00 X 0.2500	WEB=0.2188	IF= 6.00 X 0.2500
SECTION NO. 4	LENGTH	5.00'	OF= 6.00 X 0.2500	WEB=0.2188	IF= 6.00 X 0.2500

ANAL POINT	X (FT)	Y (FT)	DEPTH (IN)	AREA (IN2)	IX (IN4)	SOX (IN3)	SIX (IN3)	RX (IN)	RY (IN)	RTO (IN)	RTI (IN)
3*	36.88	15.11	30.00	13.25	1813.6	120.9	120.9	11.70	1.17	1.463	1.463
139	37.71	15.19	28.67	12.92	1631.4	113.8	113.8	11.24	1.18	1.473	1.473
140	39.37	15.36	26.00	12.25	1301.0	100.1	100.1	10.31	1.21	1.493	1.493
141	41.03	15.52	23.33	11.58	1014.2	86.9	86.9	9.36	1.25	1.514	1.514
142*	41.87	15.60	22.00	11.25	886.4	80.6	80.6	8.88	1.27	1.524	1.524
142*	41.87	15.60	22.00	7.70	536.0	48.7	48.7	8.34	1.08	1.404	1.404
143	42.66	15.63	22.00	7.70	536.0	48.7	48.7	8.34	1.08	1.404	1.404
144	44.24	15.67	22.00	7.70	536.0	48.7	48.7	8.34	1.08	1.404	1.404
145	45.82	15.72	22.00	7.70	536.0	48.7	48.7	8.34	1.08	1.404	1.404
146*	46.61	15.75	22.00	7.70	536.0	48.7	48.7	8.34	1.08	1.404	1.404
146*	46.61	15.75	22.00	7.70	536.0	48.7	48.7	8.34	1.08	1.404	1.404
147	47.45	15.77	22.00	7.70	536.0	48.7	48.7	8.34	1.08	1.404	1.404
148	49.11	15.83	22.00	7.70	536.0	48.7	48.7	8.34	1.08	1.404	1.404
149	50.78	15.88	22.00	7.70	536.0	48.7	48.7	8.34	1.08	1.404	1.404
150*	51.61	15.90	22.00	7.70	536.0	48.7	48.7	8.34	1.08	1.404	1.404
150*	51.61	15.90	22.00	7.70	536.0	48.7	48.7	8.34	1.08	1.404	1.404
151	52.44	15.93	22.00	7.70	536.0	48.7	48.7	8.34	1.08	1.404	1.404
152	54.11	15.98	22.00	7.70	536.0	48.7	48.7	8.34	1.08	1.404	1.404
153	55.77	16.03	22.00	7.70	536.0	48.7	48.7	8.34	1.08	1.404	1.404
154*	56.61	16.06	22.00	7.70	536.0	48.7	48.7	8.34	1.08	1.404	1.404

CHIEF BUILDINGS FRAME DESIGN V09.01
 DIMENSIONS AND PROPERTIES
 BUILDING A FRAME CO95226A01 LINES J, G.5, AND F

PAGE NO. F - 15
 JOB NO. CO95226
 CH DATE 11-16-09

MEMBER NO. 6- 5 LENGTH 13.08 FT ANGLE OF MEMBER 90.00 DEG
 SECTION NO. 1 LENGTH 12.14' OF= 6.00 X 0.3750 WEB=0.1875 IF= 6.00 X 0.3750

ANAL POINT	X (FT)	Y (FT)	DEPTH (IN)	AREA (IN2)	IX (IN4)	SOX (IN3)	SIX (IN3)	RX (IN)	RY (IN)	RTO (IN)	RTI (IN)
6*	57.30	3.00	16.00	7.36	330.1	41.3	41.3	6.70	1.35	1.574	1.574
156	57.30	3.87	16.00	7.36	330.1	41.3	41.3	6.70	1.35	1.574	1.574
157	57.30	5.60	16.00	7.36	330.1	41.3	41.3	6.70	1.35	1.574	1.574
158	57.30	7.34	16.00	7.36	330.1	41.3	41.3	6.70	1.35	1.574	1.574
159	57.30	9.07	16.00	7.36	330.1	41.3	41.3	6.70	1.35	1.574	1.574
160	57.30	10.81	16.00	7.36	330.1	41.3	41.3	6.70	1.35	1.574	1.574
161	57.30	12.54	16.00	7.36	330.1	41.3	41.3	6.70	1.35	1.574	1.574
162	57.30	14.28	16.00	7.36	330.1	41.3	41.3	6.70	1.35	1.574	1.574
163*	57.30	15.14	16.00	7.36	330.1	41.3	41.3	6.70	1.35	1.574	1.574

LOAD COND 1 - DEAD + LIVE LOAD

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	10.6	1.1	0.0	0.0	0.000	0.000
2					-0.012	0.388
3					-0.019	0.386
4	24.0	0.0	0.0	0.0	0.000	0.000
5					-0.002	0.384
6	3.5	-1.1	0.0	0.0	0.000	0.000

LOAD COND 2 - DL + SNOW LOAD

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	26.9	3.7	0.0	0.0	0.000	0.000
2					-0.031	0.065
3					-0.077	0.060
4	95.3	0.0	0.0	0.0	0.000	0.000
5					-0.034	0.053
6	46.8	-3.7	0.0	0.0	0.000	0.000

LOAD COND 3 - .6DL+WLL (NASI)

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-3.8	-1.5	0.0	0.0	0.000	0.000
2					0.003	0.129
3					0.004	0.129
4	-8.0	0.0	0.0	0.0	0.000	0.000
5					-0.001	0.130
6	1.0	-2.1	0.0	0.0	0.000	0.000

LOAD COND 4 - .6DL+WLR (NASI)

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-1.7	1.7	0.0	0.0	0.000	0.000
2					0.001	-0.448
3					0.002	-0.446
4	-3.7	0.0	0.0	0.0	0.000	0.000
5					0.001	-0.445
6	-1.7	2.8	0.0	0.0	0.000	0.000

LOAD COND 5 - .6DL+WL2 (NASI)

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-1.6	-2.2	0.0	0.0	0.000	0.000
2					0.001	0.250
3					0.001	0.248
4	-3.0	0.0	0.0	0.0	0.000	0.000
5					-0.001	0.247
6	1.9	-1.7	0.0	0.0	0.000	0.000

LOAD COND 6 - .6DL+WR2 (NASI)

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	0.6	0.9	0.0	0.0	0.000	0.000
2					-0.001	-0.326
3					-0.001	-0.327
4	1.3	0.0	0.0	0.0	0.000	0.000
5					0.000	-0.327
6	-0.8	3.2	0.0	0.0	0.000	0.000

LOAD COND 7 - .6DL+WLE (NASI)

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-5.3	1.3	0.0	0.0	0.000	0.000
2					0.004	-0.265
3					0.005	-0.261
4	-9.5	0.0	0.0	0.0	0.000	0.000
5					0.001	-0.258
6	-1.4	-0.3	0.0	0.0	0.000	0.000

LOAD COND 8 - .6DL+WE2 (NASI)

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-3.9	1.3	0.0	0.0	0.000	0.000
2					0.003	-0.215
3					0.005	-0.211
4	-9.6	0.0	0.0	0.0	0.000	0.000
5					0.001	-0.209
6	-2.6	-0.4	0.0	0.0	0.000	0.000

LOAD COND 9 - DL + COL + .75(LL + WLL) (NASI)

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	5.1	-0.3	0.0	0.0	0.000	0.000
2					-0.007	0.392
3					-0.012	0.391
4	12.2	0.0	0.0	0.0	0.000	0.000
5					-0.002	0.390
6	3.4	-2.4	0.0	0.0	0.000	0.000

LOAD COND 10 - DL + COL + .75(LL + WLR) (NASI)

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	6.7	2.1	0.0	0.0	0.000	0.000
2					-0.008	-0.040
3					-0.014	-0.040
4	15.4	0.0	0.0	0.0	0.000	0.000
5					-0.001	-0.041
6	1.3	1.3	0.0	0.0	0.000	0.000

LOAD COND 11 - DL + COL + .75(SL + WLL) (NASI)

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	17.3	1.7	0.0	0.0	0.000	0.000
2					-0.021	0.150
3					-0.055	0.146
4	65.7	0.0	0.0	0.0	0.000	0.000
5					-0.026	0.142
6	35.9	-4.3	0.0	0.0	0.000	0.000

LOAD COND 12 - DL + COL + .75(SL + WLR) (NASI)

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	18.9	4.0	0.0	0.0	0.000	0.000
2					-0.022	-0.282
3					-0.057	-0.285
4	68.9	0.0	0.0	0.0	0.000	0.000
5					-0.025	-0.289
6	33.9	-0.6	0.0	0.0	0.000	0.000

LOAD COND 13 - DL + ALT SPAN LL

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	10.7	1.0	0.0	0.0	0.000	0.000
2					-0.012	0.505
3					-0.016	0.503
4	20.0	0.0	0.0	0.0	0.000	0.000
5					0.000	0.501
6	0.0	-1.0	0.0	0.0	0.000	0.000

LOAD COND 14 - DL + ALT SPAN LL

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	4.7	0.6	0.0	0.0	0.000	0.000
2					-0.005	0.058
3					-0.012	0.057
4	15.0	0.0	0.0	0.0	0.000	0.000
5					-0.004	0.056
6	5.3	-0.6	0.0	0.0	0.000	0.000

LOAD COND 15 - DL+SEISMIC LEFT*0.7

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	4.9	-0.4	0.0	0.0	0.000	0.000
2					-0.005	0.834
3					-0.008	0.831
4	10.1	0.0	0.0	0.0	0.000	0.000
5					-0.002	0.830
6	3.5	-3.0	0.0	0.0	0.000	0.000

LOAD COND 16 - DL+SEISMIC RIGHT*0.7

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	5.4	1.4	0.0	0.0	0.000	0.000
2					-0.006	-0.465
3					-0.010	-0.464
4	13.0	0.0	0.0	0.0	0.000	0.000
5					0.000	-0.465
6	0.2	2.0	0.0	0.0	0.000	0.000

LOAD COND 17 - DL+.75(LL+.7SEI)

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	9.2	0.3	0.0	0.0	0.000	0.000
2					-0.010	0.831
3					-0.016	0.828
4	20.2	0.0	0.0	0.0	0.000	0.000
5					-0.003	0.826
6	4.4	-2.8	0.0	0.0	0.000	0.000

LOAD COND 18 - DL+.75(LL-.7SEI)

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	9.6	1.6	0.0	0.0	0.000	0.000
2					-0.011	-0.143
3					-0.018	-0.144
4	22.4	0.0	0.0	0.0	0.000	0.000
5					-0.001	-0.145
6	1.9	0.9	0.0	0.0	0.000	0.000

LOAD COND 19 - .6 DL+SEISMIC LEFT*0.7

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	1.1	-0.8	0.0	0.0	0.000	0.000
2					-0.001	0.697
3					-0.001	0.695
4	1.6	0.0	0.0	0.0	0.000	0.000
5					-0.002	0.694
6	2.2	-2.6	0.0	0.0	0.000	0.000

LOAD COND 20 - .6 DL+SEISMIC RIGHT*0.7

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	1.7	1.0	0.0	0.0	0.000	0.000
2					-0.002	-0.602
3					-0.004	-0.601
4	4.5	0.0	0.0	0.0	0.000	0.000
5					0.001	-0.600
6	-1.1	2.4	0.0	0.0	0.000	0.000

LOAD COND 21 - DL+ 20% SL+SEI LEFT*0.7

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	9.0	0.2	0.0	0.0	0.000	0.000
2					-0.010	0.803
3					-0.021	0.799
4	26.4	0.0	0.0	0.0	0.000	0.000
5					-0.009	0.797
6	12.4	-3.6	0.0	0.0	0.000	0.000

LOAD COND 22 - DL+ 20% SL+SEI RIGHT*0.7

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	9.6	2.0	0.0	0.0	0.000	0.000
2					-0.011	-0.496
3					-0.024	-0.496
4	29.3	0.0	0.0	0.0	0.000	0.000
5					-0.007	-0.498
6	9.1	1.4	0.0	0.0	0.000	0.000

LOAD COND 23 - DL - DEAD LOAD

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	2.5	0.2	0.0	0.0	0.000	0.000
2					-0.003	0.087
3					-0.004	0.086
4	5.6	0.0	0.0	0.0	0.000	0.000
5					-0.001	0.086
6	1.0	-0.2	0.0	0.0	0.000	0.000

LOAD COND 24 - COL- COLLATERAL

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	2.4	0.3	0.0	0.0	0.000	0.000
2					-0.003	0.089
3					-0.004	0.088
4	5.4	0.0	0.0	0.0	0.000	0.000
5					-0.001	0.088
6	0.7	-0.3	0.0	0.0	0.000	0.000

LOAD COND 25 - LL - LIVE LOAD

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	5.7	0.6	0.0	0.0	0.000	0.000
2					-0.007	0.212
3					-0.011	0.211
4	13.0	0.0	0.0	0.0	0.000	0.000
5					-0.001	0.210
6	1.7	-0.6	0.0	0.0	0.000	0.000

LOAD COND 26 - SL - SNOW LOAD

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	22.0	3.2	0.0	0.0	0.000	0.000
2					-0.025	-0.110
3					-0.069	-0.115
4	84.3	0.0	0.0	0.0	0.000	0.000
5					-0.033	-0.120
6	45.1	-3.2	0.0	0.0	0.000	0.000

LOAD COND 27 - WLL- WIND FROM LEFT

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-5.4	-1.6	0.0	0.0	0.000	0.000
2					0.005	0.077
3					0.007	0.077
4	-11.4	0.0	0.0	0.0	0.000	0.000
5					0.000	0.078
6	0.4	-1.9	0.0	0.0	0.000	0.000

LOAD COND 28 - WLR- WIND FROM RIGHT

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-3.2	1.5	0.0	0.0	0.000	0.000
2					0.003	-0.500
3					0.004	-0.498
4	-7.1	0.0	0.0	0.0	0.000	0.000
5					0.001	-0.496
6	-2.3	3.0	0.0	0.0	0.000	0.000

LOAD COND 29 - WL2- WIND LT CASE 2

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-3.1	-2.4	0.0	0.0	0.000	0.000
2					0.003	0.198
3					0.004	0.196
4	-6.3	0.0	0.0	0.0	0.000	0.000
5					-0.001	0.196
6	1.3	-1.6	0.0	0.0	0.000	0.000

LOAD COND 30 - WR2- WIND RT CASE 2

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-1.0	0.8	0.0	0.0	0.000	0.000
2					0.001	-0.378
3					0.001	-0.378
4	-2.0	0.0	0.0	0.0	0.000	0.000
5					0.001	-0.378
6	-1.4	3.3	0.0	0.0	0.000	0.000

LOAD COND 31 - WLE- WIND ON ENDWALL

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-6.8	1.1	0.0	0.0	0.000	0.000
2					0.006	-0.317
3					0.008	-0.313
4	-12.8	0.0	0.0	0.0	0.000	0.000
5					0.001	-0.310
6	-2.0	-0.2	0.0	0.0	0.000	0.000

LOAD COND 32 - WE2- EW WIND CASE 2

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-5.4	1.2	0.0	0.0	0.000	0.000
2					0.005	-0.267
3					0.008	-0.263
4	-13.0	0.0	0.0	0.0	0.000	0.000
5					0.002	-0.260
6	-3.3	-0.2	0.0	0.0	0.000	0.000

LOAD COND 33 - LLA

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	5.8	0.5	0.0	0.0	0.000	0.000
2					-0.007	0.330
3					-0.007	0.329
4	9.0	0.0	0.0	0.0	0.000	0.000
5					0.001	0.328
6	-1.8	-0.5	0.0	0.0	0.000	0.000

LOAD COND 34 - LLB

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-0.2	0.1	0.0	0.0	0.000	0.000
2					0.000	-0.117
3					-0.003	-0.117
4	4.0	0.0	0.0	0.0	0.000	0.000
5					-0.003	-0.117
6	3.5	-0.1	0.0	0.0	0.000	0.000

LOAD COND 35 - SEI- SEISMIC LOAD

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-0.4	-1.3	0.0	0.0	0.000	0.000
2					0.000	0.928
3					0.002	0.926
4	-2.0	0.0	0.0	0.0	0.000	0.000
5					-0.002	0.925
6	2.4	-3.6	0.0	0.0	0.000	0.000

MEMBER NO. 1- 2 LENGTH 14.34 FT MEMBER ANGLE 90.00 DEG WEIGHT 252. LB

SECT NO	LENGTH (FT)	START DEPTH	END DEPTH	OUTSIDE FLANGE	WEB THICK	INSIDE FLANGE	COMB. RATIO	AT DIST	LOAD COND
1	13.39	12.00	12.00	6.0 X 1/4	5/32	6.0 X 5/16	0.915	13.4	2

(CONTROLLING ACTIONS)

SECT NO	AXIAL FORCE (KIP)	MOMENT (KIP-FT)	-ALLOW STRESSES-			--MAXIMUM STRESSES--			-UNITY CHECK-		
			FA (KSI)	FBO (KSI)	FBI (KSI)	AXIAL (KSI)	FBO (KSI)	FBI (KSI)	FA	FBO	FBI
1	26.62	-49.11	26.3	33.0	33.0	5.16	-31.76	25.03	0.16	0.96	0.76

MEMBER NO. 2- 3 LENGTH 36.89 FT MEMBER ANGLE 1.20 DEG WEIGHT 1077. LB

SECT NO	LENGTH (FT)	START DEPTH	END DEPTH	OUTSIDE FLANGE	WEB THICK	INSIDE FLANGE	COMB. RATIO	AT DIST	LOAD COND
1	10.00	22.00	22.00	6.0 X 5/16	3/16	6.0 X 1/4	0.881	10.4	2
2	7.45	22.00	22.00	6.0 X 5/16	3/16	6.0 X 1/4	0.990	15.1	2
3	10.00	22.00	22.00	6.0 X 5/16	3/16	6.0 X 1/4	0.910	17.9	2
4	9.00	22.00	30.00	6.0 X 1/2	1/4	6.0 X 1/2	1.023	36.9	2

(CONTROLLING ACTIONS)

SECT NO	AXIAL FORCE (KIP)	MOMENT (KIP-FT)	-ALLOW STRESSES-			--MAXIMUM STRESSES--			-UNITY CHECK-		
			FA (KSI)	FBO (KSI)	FBI (KSI)	AXIAL (KSI)	FBO (KSI)	FBI (KSI)	FA	FBO	FBI
1	3.88	107.11	25.4	31.9	33.0	0.52	25.06	-29.58	0.02	0.78	0.90
2	3.63	120.12	25.4	31.9	33.0	0.49	28.11	-33.18	0.01	0.88	1.01
3	3.50	110.45	25.4	31.9	33.0	0.47	25.84	-30.51	0.01	0.81	0.92
4	4.01	-311.04	27.9	33.0	33.0	0.30	-34.05	31.62	0.01	1.03	0.96

MEMBER NO. 4- 3 LENGTH 12.11 FT MEMBER ANGLE 90.00 DEG WEIGHT 254. LB

SECT NO	LENGTH (FT)	START DEPTH	END DEPTH	OUTSIDE FLANGE	WEB THICK	INSIDE FLANGE	COMB. RATIO	AT DIST	LOAD COND
1	12.11	12.00	12.00	8.0 X 1/4	3/16	8.0 X 1/4	0.756	0.0	2

(CONTROLLING ACTIONS)

SECT NO	AXIAL FORCE (KIP)	MOMENT (KIP-FT)	-ALLOW STRESSES-			--MAXIMUM STRESSES--			-UNITY CHECK-		
			FA (KSI)	FBO (KSI)	FBI (KSI)	AXIAL (KSI)	FBO (KSI)	FBI (KSI)	FA	FBO	FBI
1	95.28	0.00	20.5	33.0	29.2	15.48	0.00	0.00	0.76	0.00	0.00

MEMBER NO. 3- 5 LENGTH 20.44 FT MEMBER ANGLE 2.73 DEG WEIGHT 613. LB

SECT NO	LENGTH (FT)	START DEPTH	END DEPTH	OUTSIDE FLANGE	WEB THICK	INSIDE FLANGE	COMB. RATIO	AT DIST	LOAD COND
1	5.00	30.00	22.00	6.0 X 1/2	1/4	6.0 X 1/2	1.012	0.0	2
2	4.74	22.00	22.00	6.0 X 1/4	7/32	6.0 X 1/4	0.765	5.0	2
3	5.00	22.00	22.00	6.0 X 1/4	7/32	6.0 X 1/4	0.685	13.9	2
4	5.00	22.00	22.00	6.0 X 1/4	7/32	6.0 X 1/4	0.654	14.7	2

(CONTROLLING ACTIONS)

SECT NO	AXIAL FORCE (KIP)	MOMENT (KIP-FT)	-ALLOW STRESSES-			--MAXIMUM STRESSES--			-UNITY CHECK-		
			FA (KSI)	FBO (KSI)	FBI (KSI)	AXIAL (KSI)	FBO (KSI)	FBI (KSI)	FA	FBO	FBI
1	8.86	-311.04	27.9	33.0	33.0	0.67	-34.05	31.62	0.02	1.03	0.96
2	4.83	-85.95	25.4	33.0	29.1	0.63	-23.11	21.68	0.02	0.70	0.75
3	3.60	78.99	26.0	29.7	33.0	0.47	19.93	-21.24	0.01	0.67	0.64
4	3.47	75.39	26.5	29.7	33.0	0.45	19.02	-20.27	0.01	0.64	0.61

MEMBER NO. 6- 5 LENGTH 13.08 FT MEMBER ANGLE 90.00 DEG WEIGHT 328. LB

SECT NO	LENGTH (FT)	START DEPTH	END DEPTH	OUTSIDE FLANGE	WEB THICK	INSIDE FLANGE	COMB. RATIO	AT DIST	LOAD COND
1	12.14	16.00	16.00	6.0 X 3/8	3/16	6.0 X 3/8	0.930	12.1	2

(CONTROLLING ACTIONS)

SECT NO	AXIAL FORCE (KIP)	MOMENT (KIP-FT)	-ALLOW STRESSES-			--MAXIMUM STRESSES--			-UNITY CHECK-		
			FA (KSI)	FBO (KSI)	FBI (KSI)	AXIAL (KSI)	FBO (KSI)	FBI (KSI)	FA	FBO	FBI
1	46.54	-44.54	12.9	33.0	27.0	6.32	-14.63	13.23	0.49	0.44	0.44

TOTAL FRAME WEIGHT IS 2523. LBS.

COLUMN 1 - 2

GIRT AT 7.17 12.33
SIZE T1 T1
SIDES 1 1
CONN. 1-1 1-1
HOLE NO. 1 1
FLG AREA 1.88 1.88
DEPTH 12.00 12.00

RAFTER 2 - 3

PURLIN AT 1.52 4.35 7.19 10.02 12.85 15.68 18.52 21.35 24.18 27.01
SIZE T1 T1 T1
SIDES 1 1 1
CONN. 1-1 1-1 1-1
HOLE NO. 2 2 2
FLG AREA 1.50 1.50 1.50
DEPTH 22.00 22.00 22.00

PURLIN AT 29.85 32.35 36.76
SIZE T1 T1
SIDES 1 1
CONN. 1-1 1-1
HOLE NO. 2 3
FLG AREA 3.00 3.00
DEPTH 23.74 29.88

COLUMN 4 - 3

RT. BRACE 10.86
LT. BRACE 10.86

RAFTER 3 - 5

PURLIN AT 3.87 7.62 11.12 14.46 17.46
SIZE T1 T1 T1
SIDES 1 1 1
CONN. 1-1 1-1 1-1
HOLE NO. 2 2 2
FLG AREA 3.00 1.50 1.50
DEPTH 23.81 22.00 22.00

COLUMN 6 - 5 UNBRACED

HAUNCH CORNER FLANGE BRACE

LEFT COLUMN NO

RIGHT COLUMN NO

STANDARD TUBE FLANGE BRACE SIZES:

- T1 - 1.0" DIAMETER X 16 GAGE (.065")
 - T2 - 1.5" DIAMETER X 15 GAGE (.072")
 - T3 - 2.0" DIAMETER X 14 GAGE (.083")
 - T4 - 2.25" DIAMETER X 13 GAGE (.095")
 - T5 - 2.5" DIAMETER X 12 GAGE (.109")
-

Q = V X A X Y / I

COLUMN 1- 2 SECTION 1 Q MAX = 4030. X 1.88 X 5.44 / 134.47
= 305.6 LBS/IN AT ANALYSIS POINT 1

WELD SIZE FOR THE SECTION =0.1875 INCH, WELD ONE SIDE ONLY

RAFTER 2- 3 SECTION 1 Q MAX = 23470. X 1.88 X 10.32 / 549.79
= 825.8 LBS/IN AT ANALYSIS POINT 110

WELD SIZE FOR THE SECTION =0.1875 INCH, WELD ONE SIDE ONLY

RAFTER 2- 3 SECTION 2 Q MAX = 6695. X 1.88 X 10.32 / 549.79
= 235.6 LBS/IN AT ANALYSIS POINT 116

WELD SIZE FOR THE SECTION =0.1875 INCH, WELD ONE SIDE ONLY

RAFTER 2- 3 SECTION 3 Q MAX = 22578. X 1.88 X 10.32 / 549.79
= 794.4 LBS/IN AT ANALYSIS POINT 127

WELD SIZE FOR THE SECTION =0.1875 INCH, WELD ONE SIDE ONLY

RAFTER 2- 3 SECTION 4 Q MAX = 41613. X 3.00 X 14.75 / 1813.60
= 1015.3 LBS/IN AT ANALYSIS POINT 3

WELD SIZE FOR THE SECTION =0.1875 INCH, WELD ONE SIDE ONLY

MEMBER 4- 3 SECTION 1 Q MAX = 0. X 2.00 X 5.88 / 161.85
= 0.0 LBS/IN AT ANALYSIS POINT 3

WELD SIZE FOR THE SECTION =0.1250 INCH, WELD ONE SIDE ONLY

WELD SUMMARY REPORT

JOB NO. CO95226

BUILDING A FRAME CO95226A01 LINES J, G.5, AND F

CH DATE 11-16-09

RAFTER 3- 5 SECTION 1 Q MAX = 39466. X 3.00 X 11.42 / 1014.24
= 1332.7 LBS/IN AT ANALYSIS POINT 141

WELD SIZE FOR THE SECTION =0.1875 INCH, WELD ONE SIDE ONLY

RAFTER 3- 5 SECTION 2 Q MAX = 36995. X 1.50 X 10.88 / 535.98
= 1126.0 LBS/IN AT ANALYSIS POINT 142

WELD SIZE FOR THE SECTION =0.1250 INCH, WELD ONE SIDE ONLY

RAFTER 3- 5 SECTION 3 Q MAX = 17747. X 1.50 X 10.88 / 535.98
= 540.1 LBS/IN AT ANALYSIS POINT 146

WELD SIZE FOR THE SECTION =0.1250 INCH, WELD ONE SIDE ONLY

RAFTER 3- 5 SECTION 4 Q MAX = 34834. X 1.50 X 10.88 / 535.98
= 1060.2 LBS/IN AT ANALYSIS POINT 154

WELD SIZE FOR THE SECTION =0.1250 INCH, WELD ONE SIDE ONLY

COLUMN 6- 5 SECTION 1 Q MAX = 4317. X 2.25 X 7.81 / 330.13
= 229.9 LBS/IN AT ANALYSIS POINT 6

WELD SIZE FOR THE SECTION =0.1875 INCH, WELD ONE SIDE ONLY

CONNECTION DESIGN DATA FOR MEMBER 2- 3 AT DEPTH 1: KNEE SPLICE (1)

SPLICE DEPTH: 22.0000 INCHES
 WEB DEPTH: 21.4375 INCHES

CONTROLLING ACTIONS

SPLICE DATA	LEFT	RIGHT
SECTION DEPTH	12.0000	22.0000
OS FLANGE WIDTH	6.0000	6.0000
OS FLANGE THICK	0.2500	0.3125
WEB THICKNESS	0.1563	0.1875
IS FLANGE WIDTH	6.0000	6.0000
IS FLANGE THICK	0.3125	0.2500

POS MOMENT	11.11 FT-KIPS
AXIAL LOAD	0.97 KIPS
SHEAR	0.84 KIPS
LOAD CONDITION	19
NEG MOMENT	-43.74 FT-KIPS
AXIAL LOAD	4.40 KIPS
SHEAR	23.47 KIPS
LOAD CONDITION	2
MAX SHEAR	23.47 KIPS
AXIAL LOAD	4.40 KIPS
MOMENT	-43.74 FT-KIPS
LOAD CONDITION	2

LENGTH - 27.500"	DIAM. - 0.625"	TOP ROWS 2	EDGE DIST TOP 1.500"
WIDTH - 6.000"	GAUGE - 3.500"	BOT ROWS 2	EDGE DIST BOT 1.500"
THICK - 0.375"	PITCH - 2.750"	CON TYPE 3	TOP PROJECTION 2.750"

CORNER WEB - 0.156" THICK WITH 0.188" WELD ON 2 SIDES WELD SHEAR - 2.093 K/IN

CONNECTION DESIGN DATA FOR MEMBER 2- 3 AT DEPTH 4: RAFTER SPLICE (2)

SPLICE DEPTH: 22.0000 INCHES
 WEB DEPTH: 21.4375 INCHES

CONTROLLING ACTIONS

SPLICE DATA	LEFT	RIGHT
SECTION DEPTH	22.0000	22.4375
OS FLANGE WIDTH	6.0000	6.0000
OS FLANGE THICK	0.3125	0.5000
WEB THICKNESS	0.1875	0.2500
IS FLANGE WIDTH	6.0000	6.0000
IS FLANGE THICK	0.2500	0.5000

POS MOMENT	10.92 FT-KIPS
AXIAL LOAD	0.80 KIPS
SHEAR	-7.76 KIPS
LOAD CONDITION	13
NEG MOMENT	-31.37 FT-KIPS
AXIAL LOAD	3.01 KIPS
SHEAR	-22.58 KIPS
LOAD CONDITION	2
MAX SHEAR	-22.58 KIPS
AXIAL LOAD	3.01 KIPS
MOMENT	-31.37 FT-KIPS
LOAD CONDITION	2

LENGTH - 27.688"	DIAM. - 0.625"	TOP ROWS 2	EDGE DIST TOP 1.500"
WIDTH - 6.000"	GAUGE - 3.500"	BOT ROWS 2	EDGE DIST BOT 1.500"
THICK - 0.375"	PITCH - 2.750"	CON TYPE 3	TOP PROJECTION 2.813"

CONNECTION DESIGN DATA FOR MEMBER 4- 3 AT DEPTH 9: TOP OF INT. COL. (6)

SPLICE DEPTH: 12.0000 INCHES
 WEB DEPTH: 11.5000 INCHES

CONTROLLING ACTIONS

SPLICE DATA	LEFT	RIGHT
SECTION DEPTH	12.0000	12.0000
OS FLANGE WIDTH	8.0000	8.0000
OS FLANGE THICK	0.2500	0.2500
WEB THICKNESS	0.1875	0.1875
IS FLANGE WIDTH	8.0000	8.0000
IS FLANGE THICK	0.2500	0.2500

POS MOMENT	0.00	FT-KIPS
AXIAL LOAD	-9.80	KIPS
SHEAR	0.00	KIPS
LOAD CONDITION	8	
NEG MOMENT	0.00	FT-KIPS
AXIAL LOAD	-3.14	KIPS
SHEAR	0.00	KIPS
LOAD CONDITION	5	
MAX SHEAR	0.00	KIPS
AXIAL LOAD	4.34	KIPS
MOMENT	0.00	FT-KIPS
LOAD CONDITION	20	

LENGTH - 12.500"	DIAM. - 0.625"	TOP ROWS 1	EDGE DIST TOP 1.563"
WIDTH - 8.000"	GAUGE - 3.500"	BOT ROWS 1	EDGE DIST BOT 1.563"
THICK - 0.375"	PITCH - 2.750"	CON TYPE 3	TOP PROJECTION 0.250"

CONNECTION DESIGN DATA FOR MEMBER 3- 5 AT DEPTH 9: HIGH SIDE KNEE (4)

SPLICE DEPTH: 22.0000 INCHES
 WEB DEPTH: 21.5000 INCHES

CONTROLLING ACTIONS

SPLICE DATA	LEFT	RIGHT
SECTION DEPTH	22.0000	16.0000
OS FLANGE WIDTH	6.0000	6.0000
OS FLANGE THICK	0.2500	0.3750
WEB THICKNESS	0.2188	0.1875
IS FLANGE WIDTH	6.0000	6.0000
IS FLANGE THICK	0.2500	0.3750

POS MOMENT	29.84	FT-KIPS
AXIAL LOAD	-0.62	KIPS
SHEAR	1.43	KIPS
LOAD CONDITION	20	
NEG MOMENT	-41.38	FT-KIPS
AXIAL LOAD	1.64	KIPS
SHEAR	-9.46	KIPS
LOAD CONDITION	21	
MAX SHEAR	-34.83	KIPS
AXIAL LOAD	2.58	KIPS
MOMENT	-26.10	FT-KIPS
LOAD CONDITION	2	

LENGTH - 27.500"	DIAM. - 0.625"	TOP ROWS 2	EDGE DIST TOP 1.500"
WIDTH - 6.000"	GAUGE - 3.500"	BOT ROWS 2	EDGE DIST BOT 1.500"
THICK - 0.375"	PITCH - 2.750"	CON TYPE 3	TOP PROJECTION 2.750"

CORNER WEB - 0.188" THICK WITH 0.188" WELD ON 1 SIDE WELD SHEAR - 1.485 K/IN

SUPPORT JOINT 1 -- EXTERIOR COLUMN
CRITICAL REACTIONS LOAD CONDITION

HORIZONTAL 4.03 KIPS 12
DOWNWARD.. 26.85 KIPS 2
UPWARD.... -5.33 KIPS 7 1.26 KIPS ASSOCIATED SHEAR

COLUMN BASE DETAILS

COLUMN DEPTH - 12.0 IN OUTSIDE FLANGE - 6.0 X 0.2500
WEB THICKNESS- .156 IN INSIDE FLANGE - 6.0 X 0.3125
LENGTH - 12.000" DIAM. - 0.750" NO. BOLTS 4 OS PROJECTION 0.000"
WIDTH - 6.000" GAUGE - 3.500" HOLE PAT. 2 WEB FILLET 0.188"
THICK - 0.375" PITCH - 4.000" OS EDGE 3.000" FLANGE FILLET 0.188"

SUPPORT JOINT 4 -- INTERIOR COLUMN
CRITICAL REACTIONS LOAD CONDITION

HORIZONTAL 0.00 KIPS 2
DOWNWARD.. 95.28 KIPS 2
UPWARD.... -9.65 KIPS 8 0.00 KIPS ASSOCIATED SHEAR

COLUMN BASE DETAILS

COLUMN DEPTH - 12.0 IN OUTSIDE FLANGE - 8.0 X 0.2500
WEB THICKNESS- .188 IN INSIDE FLANGE - 8.0 X 0.2500
*** WELD WEB 2 SIDES ***

*** 160 sq in Pier required for bearing pressure ***

***Base plate length is greater than column depth. ***

LENGTH - 14.000" DIAM. - 0.750" NO. BOLTS 4 OS PROJECTION 1.000"
WIDTH - 8.000" GAUGE - 3.500" HOLE PAT. 2 WEB FILLET 0.188"
THICK - 0.375" PITCH - 4.000" OS EDGE 5.000" FLANGE FILLET 0.188"

CHIEF BUILDINGS FRAME DESIGN V09.01
ANCHOR BOLTS AND BASE PLATES
BUILDING A FRAME CO95226A01 LINES J, G.5, AND F

PAGE NO. F - 34
JOB NO. CO95226
CH DATE 11-16-09

SUPPORT JOINT 6 -- EXTERIOR COLUMN
CRITICAL REACTIONS LOAD CONDITION

HORIZONTAL	4.32 KIPS	11	
DOWNWARD..	46.85 KIPS	2	
UPWARD....	-2.65 KIPS	8	0.36 KIPS ASSOCIATED SHEAR

COLUMN BASE DETAILS

COLUMN DEPTH - 16.0 IN	OUTSIDE FLANGE - 6.0 X 0.3750
WEB THICKNESS- .188 IN	INSIDE FLANGE - 6.0 X 0.3750
LENGTH - 16.000"	DIAM. - 0.750" NO. BOLTS 4 OS PROJECTION 0.000"
WIDTH - 6.000"	GAUGE - 3.500" HOLE PAT. 2 WEB FILLET 0.188"
THICK - 0.375"	PITCH - 4.000" OS EDGE 3.000" FLANGE FILLET 0.188"

CONFIGURATION (NON-SYMMETRIC FRAME)

BUILDING WIDTH = 27.33 FT.
 NUMBER OF SPANS = 1
 SPAN WIDTHS = 27.33
 DESIGN BAY SIZE = 5.00 FT.
 LEFT EAVE HEIGHT = 14.17 FT.
 RIGHT EAVE HEIGHT = 14.17 FT.
 LEFT RAFTER SLOPE (R/12) = 0.00
 RIGHT RAFTER SLOPE (R/12) = 0.00
 GIRT OUTSET = 2.00 IN.
 PURLIN DEPTH = 0.00 IN.
 STEEL YIELD:
 FLANGES 55. KSI
 WEBS 55. KSI
 LOADINGS ...

DEAD LOAD = 0.001 PSF (Dead Load of Rigid Frame is calculated internally)
 LIVE LOAD = 0.001 PSF
 WIND LOAD = 0.001 PSF

LOAD CONDITIONS ...

1 = DL + WLL	100. DL	100. WLL
2 = DL + WLR	100. DL	100. WLR
3 = 0.6 DL+WLL	60. DL	100. WLL
4 = 0.6 DL+WLR	60. DL	100. WLR
5 = DL+SEL	105. DL	70. SEL
6 = DL+SER	105. DL	70. SER
7 = 0.6 DL+SEL	55. DL	70. SEL
8 = 0.6 DL+SER	55. DL	70. SER

LOAD CONDITIONS FOR REACTIONS & DEFLECTIONS ...

9 = DL	100. DL
10 = WLL	100. WLL
11 = WLR	100. WLR
12 = SEL	100. SEL
13 = SER	100. SER

J1	J2	GROUP	SYST	DIR	TYPE	DIST	LOAD	*E or L	LOAD
2	3	SEL	GLOB	X	CONC	0.000	9.080		
3	2	SER	GLOB	X	CONC	0.000	-9.080		
2	3	WLL	GLOB	X	CONC	0.000	2.770		
3	2	WLR	GLOB	X	CONC	0.000	-2.770		

(AUTO LOADS)

1	2	DL	GLOB	Y	UNIF	0.000	-0.024		DLWT
2	3	DL	GLOB	Y	UNIF	0.000	0.000		DEAD
3	2	DL	GLOB	Y	CONC	0.000	0.000		DEAD
3	2	DL	GLOB	Z	MOMT	0.000	0.000		DEAD
2	3	DL	GLOB	Y	CONC	0.000	0.000		DEAD
2	3	DL	GLOB	Z	MOMT	0.000	0.000		DEAD
2	3	DL	GLOB	Y	UNIF	0.000	-0.023		DLWT
4	3	DL	GLOB	Y	UNIF	0.000	-0.024		DLWT

* E = eccentricity for concentrated loads.
 L = load length for uniform loads.

WIND COEFFICIENTS:

WINDWARD WALL COEFFICIENT = 0.6154
 WINDWARD ROOF COEFFICIENT = 0.0000
 LEEWARD ROOF COEFFICIENT = -0.3846
 LEEWARD WALL COEFFICIENT = -0.3846

LOAD COND 1 - DL + WLL

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-0.8	-1.3	0.0	0.0	0.000	0.000
2					0.000	0.537
3					-0.001	0.536
4	2.1	-1.5	0.0	0.0	0.000	0.000

LOAD COND 2 - DL + WLR

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	2.1	1.5	0.0	0.0	0.000	0.000
2					-0.001	-0.536
3					0.000	-0.537
4	-0.8	1.3	0.0	0.0	0.000	0.000

LOAD COND 3 - 0.6 DL+WLL

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-1.1	-1.3	0.0	0.0	0.000	0.000
2					0.001	0.537
3					-0.001	0.536
4	1.8	-1.4	0.0	0.0	0.000	0.000

LOAD COND 4 - 0.6 DL+WLR

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	1.8	1.4	0.0	0.0	0.000	0.000
2					-0.001	-0.536
3					0.001	-0.537
4	-1.1	1.3	0.0	0.0	0.000	0.000

LOAD COND 5 - DL+SEL

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-2.7	-3.1	0.0	0.0	0.000	0.000
2					0.002	1.644
3					-0.003	1.639
4	4.0	-3.2	0.0	0.0	0.000	0.000

LOAD COND 6 - DL+SER

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	4.0	3.2	0.0	0.0	0.000	0.000
2					-0.003	-1.639
3					0.002	-1.644
4	-2.7	3.1	0.0	0.0	0.000	0.000

LOAD COND 7 - 0.6 DL+SEL

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-3.0	-3.1	0.0	0.0	0.000	0.000
2					0.002	1.644
3					-0.003	1.639
4	3.7	-3.2	0.0	0.0	0.000	0.000

LOAD COND 8 - 0.6 DL+SER

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	3.7	3.2	0.0	0.0	0.000	0.000
2					-0.003	-1.639
3					0.002	-1.644
4	-3.0	3.1	0.0	0.0	0.000	0.000

LOAD COND 9 - DL - DEAD LOAD

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	0.6	0.1	0.0	0.0	0.000	0.000
2					0.000	0.000
3					0.000	0.000
4	0.6	-0.1	0.0	0.0	0.000	0.000

LOAD COND 10 - WLL- WIND FROM LEFT

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-1.5	-1.4	0.0	0.0	0.000	0.000
2					0.001	0.537
3					-0.001	0.536
4	1.5	-1.4	0.0	0.0	0.000	0.000

LOAD COND 11 - WLR- WIND FROM RIGHT

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	1.5	1.4	0.0	0.0	0.000	0.000
2					-0.001	-0.536
3					0.001	-0.537
4	-1.5	1.4	0.0	0.0	0.000	0.000

LOAD COND 12 - SEL- SEISMIC LOAD

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-4.8	-4.5	0.0	0.0	0.000	0.000
2					0.004	2.348
3					-0.004	2.341
4	4.8	-4.5	0.0	0.0	0.000	0.000

LOAD COND 13 - SER- SEISMIC LOAD

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	4.8	4.5	0.0	0.0	0.000	0.000
2					-0.004	-2.341
3					0.004	-2.348
4	-4.8	4.5	0.0	0.0	0.000	0.000

MEMBER NO. 1- 2 LENGTH 13.67 FT MEMBER ANGLE 90.00 DEG WEIGHT 332. LB

SECT NO	LENGTH (FT)	START DEPTH	END DEPTH	OUTSIDE FLANGE	WEB THICK	INSIDE FLANGE	COMB. RATIO	AT DIST	LOAD COND
1	13.17	12.00	12.00	8.0 X 5/16	3/16	8.0 X 5/16	0.535	13.2	6

(CONTROLLING ACTIONS)

SECT NO	AXIAL FORCE (KIP)	MOMENT (KIP-FT)	-ALLOW STRESSES-			--MAXIMUM STRESSES--			-UNITY CHECK-		
			FA (KSI)	FBO (KSI)	FBI (KSI)	AXIAL (KSI)	FBO (KSI)	FBI (KSI)	FA	FBO	FBI
1	3.67	-42.79	18.2	33.0	30.6	0.51	-15.90	15.90	0.02	0.48	0.52

MEMBER NO. 2- 3 LENGTH 26.00 FT MEMBER ANGLE 0.00 DEG WEIGHT 600. LB

SECT NO	LENGTH (FT)	START DEPTH	END DEPTH	OUTSIDE FLANGE	WEB THICK	INSIDE FLANGE	COMB. RATIO	AT DIST	LOAD COND
1	25.00	12.00	12.00	8.0 X 5/16	5/32	8.0 X 5/16	0.834	25.5	8

(CONTROLLING ACTIONS)

SECT NO	AXIAL FORCE (KIP)	MOMENT (KIP-FT)	-ALLOW STRESSES-			--MAXIMUM STRESSES--			-UNITY CHECK-		
			FA (KSI)	FBO (KSI)	FBI (KSI)	AXIAL (KSI)	FBO (KSI)	FBI (KSI)	FA	FBO	FBI
1	3.21	41.35	6.5	19.1	33.0	0.47	15.67	-15.67	0.01	0.82	0.47

MEMBER NO. 4- 3 LENGTH 13.67 FT MEMBER ANGLE 90.00 DEG WEIGHT 332. LB

SECT NO	LENGTH (FT)	START DEPTH	END DEPTH	OUTSIDE FLANGE	WEB THICK	INSIDE FLANGE	COMB. RATIO	AT DIST	LOAD COND
1	13.17	12.00	12.00	8.0 X 5/16	3/16	8.0 X 5/16	0.535	13.2	5

(CONTROLLING ACTIONS)

SECT NO	AXIAL FORCE (KIP)	MOMENT (KIP-FT)	-ALLOW STRESSES-			--MAXIMUM STRESSES--			-UNITY CHECK-		
			FA (KSI)	FBO (KSI)	FBI (KSI)	AXIAL (KSI)	FBO (KSI)	FBI (KSI)	FA	FBO	FBI
1	3.67	-42.79	18.2	33.0	30.6	0.51	-15.90	15.90	0.02	0.48	0.52

TOTAL FRAME WEIGHT IS 1263. LBS.

COLUMN 1 - 2 UNBRACED

RAFTER 2 - 3 UNBRACED

COLUMN 4 - 3 UNBRACED

HAUNCH CORNER FLANGE BRACE

LEFT COLUMN NO

RIGHT COLUMN NO

WELD SUMMARY REPORT

PORTAL FRAME AT SIDEWALL (A) 28.00 FT BAY CO95226AA1

CH

DATE 11-12-09

Q = V X A X Y / I

COLUMN 1- 2 SECTION 1 Q MAX = 3250. X 2.50 X 5.84 / 193.78

= 245.0 LBS/IN AT ANALYSIS POINT 1

WELD SIZE FOR THE SECTION =0.1875 INCH, WELD ONE SIDE ONLY

RAFTER 2- 3 SECTION 1 Q MAX = 3644. X 2.50 X 5.84 / 189.95

= 280.3 LBS/IN AT ANALYSIS POINT 110

WELD SIZE FOR THE SECTION =0.1875 INCH, WELD ONE SIDE ONLY

COLUMN 4- 3 SECTION 1 Q MAX = 3250. X 2.50 X 5.84 / 193.78

= 245.0 LBS/IN AT ANALYSIS POINT 4

WELD SIZE FOR THE SECTION =0.1875 INCH, WELD ONE SIDE ONLY

CONNECTION DESIGN DATA FOR MEMBER 2- 3 AT DEPTH 1: KNEE SPLICE (1)

SPLICE DEPTH: 12.0000 INCHES
 WEB DEPTH: 11.3750 INCHES

CONTROLLING ACTIONS

SPLICE DATA	LEFT	RIGHT
SECTION DEPTH	12.0000	12.0000
OS FLANGE WIDTH	8.0000	8.0000
OS FLANGE THICK	0.3125	0.3125
WEB THICKNESS	0.1875	0.1563
IS FLANGE WIDTH	8.0000	8.0000
IS FLANGE THICK	0.3125	0.3125

POS MOMENT	41.35 FT-KIPS
AXIAL LOAD	3.21 KIPS
SHEAR	-3.18 KIPS
LOAD CONDITION	7
NEG MOMENT	-42.59 FT-KIPS
AXIAL LOAD	3.25 KIPS
SHEAR	3.64 KIPS
LOAD CONDITION	6
MAX SHEAR	3.64 KIPS
AXIAL LOAD	3.25 KIPS
MOMENT	-42.59 FT-KIPS
LOAD CONDITION	6

LENGTH - 17.375" DIAM. - 0.625" TOP ROWS 2 EDGE DIST TOP 1.500"
 WIDTH - 8.000" GAUGE - 3.500" BOT ROWS 2 EDGE DIST BOT 1.500"
 THICK - 0.500" PITCH - 2.750" CON TYPE 3 TOP PROJECTION 2.688"

CORNER WEB - 0.188" THICK WITH 0.188" WELD ON 2 SIDES WELD SHEAR - 3.736 K/IN
 *** NOTE STANDARD 0.188 1 SIDE G.M.A.W. IS NOT ADEQUATE (2.784 K/IN) ***
 *** NOTE STANDARD 0.125 2 SIDE G.M.A.W. IS NOT ADEQUATE (3.712 K/IN) ***

CONNECTION DESIGN DATA FOR MEMBER 2- 3 AT DEPTH 9: HIGH SIDE KNEE (4)

SPLICE DEPTH: 12.0000 INCHES
 WEB DEPTH: 11.3750 INCHES

CONTROLLING ACTIONS

SPLICE DATA	LEFT	RIGHT
SECTION DEPTH	12.0000	12.0000
OS FLANGE WIDTH	8.0000	8.0000
OS FLANGE THICK	0.3125	0.3125
WEB THICKNESS	0.1563	0.1875
IS FLANGE WIDTH	8.0000	8.0000
IS FLANGE THICK	0.3125	0.3125

POS MOMENT	41.35 FT-KIPS
AXIAL LOAD	3.21 KIPS
SHEAR	3.18 KIPS
LOAD CONDITION	8
NEG MOMENT	-42.59 FT-KIPS
AXIAL LOAD	3.25 KIPS
SHEAR	-3.64 KIPS
LOAD CONDITION	5
MAX SHEAR	-3.64 KIPS
AXIAL LOAD	3.25 KIPS
MOMENT	-42.59 FT-KIPS
LOAD CONDITION	5

LENGTH - 17.375" DIAM. - 0.625" TOP ROWS 2 EDGE DIST TOP 1.500"
 WIDTH - 8.000" GAUGE - 3.500" BOT ROWS 2 EDGE DIST BOT 1.500"
 THICK - 0.500" PITCH - 2.750" CON TYPE 3 TOP PROJECTION 2.688"

CORNER WEB - 0.188" THICK WITH 0.188" WELD ON 2 SIDES WELD SHEAR - 3.736 K/IN
 *** NOTE STANDARD 0.188 1 SIDE G.M.A.W. IS NOT ADEQUATE (2.784 K/IN) ***
 *** NOTE STANDARD 0.125 2 SIDE G.M.A.W. IS NOT ADEQUATE (3.712 K/IN) ***

SUPPORT JOINT 1 -- EXTERIOR COLUMN
CRITICAL REACTIONS LOAD CONDITION

HORIZONTAL 3.25 KIPS 6
DOWNWARD.. 4.01 KIPS 6
UPWARD.... -2.99 KIPS 7 3.14 KIPS ASSOCIATED SHEAR

COLUMN BASE DETAILS

COLUMN DEPTH - 12.0 IN OUTSIDE FLANGE - 8.0 X 0.3125
WEB THICKNESS- .188 IN INSIDE FLANGE - 8.0 X 0.3125
LENGTH - 12.000" DIAM. - 0.750" NO. BOLTS 4 OS PROJECTION 0.000"
WIDTH - 8.000" GAUGE - 3.500" HOLE PAT. 2 WEB FILLET 0.188"
THICK - 0.375" PITCH - 4.000" OS EDGE 3.000" FLANGE FILLET 0.188"

SUPPORT JOINT 4 -- EXTERIOR COLUMN
CRITICAL REACTIONS LOAD CONDITION

HORIZONTAL 3.25 KIPS 5
DOWNWARD.. 4.01 KIPS 5
UPWARD.... -2.99 KIPS 8 3.14 KIPS ASSOCIATED SHEAR

COLUMN BASE DETAILS

COLUMN DEPTH - 12.0 IN OUTSIDE FLANGE - 8.0 X 0.3125
WEB THICKNESS- .188 IN INSIDE FLANGE - 8.0 X 0.3125
LENGTH - 12.000" DIAM. - 0.750" NO. BOLTS 4 OS PROJECTION 0.000"
WIDTH - 8.000" GAUGE - 3.500" HOLE PAT. 2 WEB FILLET 0.188"
THICK - 0.375" PITCH - 4.000" OS EDGE 3.000" FLANGE FILLET 0.188"

CONFIGURATION (NON-SYMMETRIC FRAME)

BUILDING WIDTH = 27.33 FT.
NUMBER OF SPANS = 1
SPAN WIDTHS = 27.33
DESIGN BAY SIZE = 5.00 FT.
LEFT EAVE HEIGHT = 13.70 FT.
RIGHT EAVE HEIGHT = 13.70 FT.
LEFT RAFTER SLOPE (R/12) = 0.00
RIGHT RAFTER SLOPE (R/12) = 0.00
GIRT OUTSET = 2.00 IN.
PURLIN DEPTH = 0.00 IN.
STEEL YIELD:
 FLANGES 55. KSI
 WEBS 55. KSI
LOADINGS ...

DEAD LOAD = 0.001 PSF (Dead Load of Rigid Frame is calculated internally)
LIVE LOAD = 0.001 PSF
WIND LOAD = 0.001 PSF

LOAD CONDITIONS ...

1 = DL + WLL	100. DL	100. WLL
2 = DL + WLR	100. DL	100. WLR
3 = 0.6 DL+WLL	60. DL	100. WLL
4 = 0.6 DL+WLR	60. DL	100. WLR
5 = DL+SEL	105. DL	70. SEL
6 = DL+SER	105. DL	70. SER
7 = 0.6 DL+SEL	55. DL	70. SEL
8 = 0.6 DL+SER	55. DL	70. SER

LOAD CONDITIONS FOR REACTIONS & DEFLECTIONS ...

9 = DL	100. DL
10 = WLL	100. WLL
11 = WLR	100. WLR
12 = SEL	100. SEL
13 = SER	100. SER

J1	J2	GROUP	SYST	DIR	TYPE	DIST	LOAD	*E or L	LOAD
2	3	SEL	GLOB	X	CONC	0.000	9.290		
3	2	SER	GLOB	X	CONC	0.000	-9.290		
2	3	WLL	GLOB	X	CONC	0.000	4.180		
3	2	WLR	GLOB	X	CONC	0.000	-4.180		
(AUTO LOADS)									
1	2	DL	GLOB	Y	UNIF	0.000	-0.024		DLWT
2	3	DL	GLOB	Y	UNIF	0.000	0.000		DEAD
3	2	DL	GLOB	Y	CONC	0.000	0.000		DEAD
3	2	DL	GLOB	Z	MOMT	0.000	0.000		DEAD
2	3	DL	GLOB	Y	CONC	0.000	0.000		DEAD
2	3	DL	GLOB	Z	MOMT	0.000	0.000		DEAD
2	3	DL	GLOB	Y	UNIF	0.000	-0.023		DLWT
4	3	DL	GLOB	Y	UNIF	0.000	-0.024		DLWT

* E = eccentricity for concentrated loads.
 L = load length for uniform loads.

WIND COEFFICIENTS:

WINDWARD WALL COEFFICIENT = 0.6154
 WINDWARD ROOF COEFFICIENT = 0.0000
 LEEWARD ROOF COEFFICIENT = -0.3846
 LEEWARD WALL COEFFICIENT = -0.3846

LOAD COND 1 - DL + WLL

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-1.5	-2.0	0.0	0.0	0.000	0.000
2					0.001	0.743
3					-0.002	0.740
4	2.7	-2.2	0.0	0.0	0.000	0.000

LOAD COND 2 - DL + WLR

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	2.7	2.2	0.0	0.0	0.000	0.000
2					-0.002	-0.740
3					0.001	-0.743
4	-1.5	2.0	0.0	0.0	0.000	0.000

LOAD COND 3 - 0.6 DL+WLL

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-1.7	-2.0	0.0	0.0	0.000	0.000
2					0.001	0.743
3					-0.001	0.740
4	2.5	-2.1	0.0	0.0	0.000	0.000

LOAD COND 4 - 0.6 DL+WLR

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	2.5	2.1	0.0	0.0	0.000	0.000
2					-0.001	-0.740
3					0.001	-0.743
4	-1.7	2.0	0.0	0.0	0.000	0.000

LOAD COND 5 - DL+SEL

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-2.6	-3.2	0.0	0.0	0.000	0.000
2					0.002	1.541
3					-0.003	1.536
4	4.0	-3.3	0.0	0.0	0.000	0.000

LOAD COND 6 - DL+SER

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	4.0	3.3	0.0	0.0	0.000	0.000
2					-0.003	-1.536
3					0.002	-1.541
4	-2.6	3.2	0.0	0.0	0.000	0.000

LOAD COND 7 - 0.6 DL+SEL

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-3.0	-3.2	0.0	0.0	0.000	0.000
2					0.002	1.541
3					-0.003	1.536
4	3.6	-3.3	0.0	0.0	0.000	0.000

LOAD COND 8 - 0.6 DL+SER

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	3.6	3.3	0.0	0.0	0.000	0.000
2					-0.003	-1.536
3					0.002	-1.541
4	-3.0	3.2	0.0	0.0	0.000	0.000

LOAD COND 9 - DL - DEAD LOAD

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	0.6	0.1	0.0	0.0	0.000	0.000
2					0.000	0.000
3					0.000	0.000
4	0.6	-0.1	0.0	0.0	0.000	0.000

LOAD COND 10 - WLL- WIND FROM LEFT

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-2.1	-2.1	0.0	0.0	0.000	0.000
2					0.001	0.743
3					-0.001	0.740
4	2.1	-2.1	0.0	0.0	0.000	0.000

LOAD COND 11 - WLR- WIND FROM RIGHT

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	2.1	2.1	0.0	0.0	0.000	0.000
2					-0.001	-0.740
3					0.001	-0.743
4	-2.1	2.1	0.0	0.0	0.000	0.000

LOAD COND 12 - SEL- SEISMIC LOAD

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	-4.7	-4.6	0.0	0.0	0.000	0.000
2					0.004	2.202
3					-0.004	2.194
4	4.7	-4.6	0.0	0.0	0.000	0.000

LOAD COND 13 - SER- SEISMIC LOAD

JOINT NUMBER	VERT REACT (KIP)	X REACT (KIP)	Z REACT (KIP)	MOMENT REACTION (KIP-FT)	VERT DEFL (IN)	HORIZ DEFL (IN)
1	4.7	4.6	0.0	0.0	0.000	0.000
2					-0.004	-2.194
3					0.004	-2.202
4	-4.7	4.6	0.0	0.0	0.000	0.000

MEMBER NO. 1- 2 LENGTH 13.20 FT MEMBER ANGLE 90.00 DEG WEIGHT 320. LB

SECT NO	LENGTH (FT)	START DEPTH	END DEPTH	OUTSIDE FLANGE	WEB THICK	INSIDE FLANGE	COMB. RATIO	AT DIST	LOAD COND
1	12.70	12.00	12.00	8.0 X 5/16	3/16	8.0 X 5/16	0.521	12.7	6

(CONTROLLING ACTIONS)

SECT NO	AXIAL FORCE (KIP)	MOMENT (KIP-FT)	-ALLOW STRESSES-			--MAXIMUM STRESSES--			-UNITY CHECK-		
			FA (KSI)	FBO (KSI)	FBI (KSI)	AXIAL (KSI)	FBO (KSI)	FBI (KSI)	FA	FBO	FBI
1	3.63	-42.24	18.7	33.0	31.0	0.51	-15.69	15.69	0.02	0.48	0.51

MEMBER NO. 2- 3 LENGTH 26.00 FT MEMBER ANGLE 0.00 DEG WEIGHT 600. LB

SECT NO	LENGTH (FT)	START DEPTH	END DEPTH	OUTSIDE FLANGE	WEB THICK	INSIDE FLANGE	COMB. RATIO	AT DIST	LOAD COND
1	25.00	12.00	12.00	8.0 X 5/16	5/32	8.0 X 5/16	0.824	0.5	7

(CONTROLLING ACTIONS)

SECT NO	AXIAL FORCE (KIP)	MOMENT (KIP-FT)	-ALLOW STRESSES-			--MAXIMUM STRESSES--			-UNITY CHECK-		
			FA (KSI)	FBO (KSI)	FBI (KSI)	AXIAL (KSI)	FBO (KSI)	FBI (KSI)	FA	FBO	FBI
1	3.29	40.84	6.5	19.1	33.0	0.49	15.48	-15.48	0.01	0.81	0.47

MEMBER NO. 4- 3 LENGTH 13.20 FT MEMBER ANGLE 90.00 DEG WEIGHT 320. LB

SECT NO	LENGTH (FT)	START DEPTH	END DEPTH	OUTSIDE FLANGE	WEB THICK	INSIDE FLANGE	COMB. RATIO	AT DIST	LOAD COND
1	12.70	12.00	12.00	8.0 X 5/16	3/16	8.0 X 5/16	0.521	12.7	5

(CONTROLLING ACTIONS)

SECT NO	AXIAL FORCE (KIP)	MOMENT (KIP-FT)	-ALLOW STRESSES-			--MAXIMUM STRESSES--			-UNITY CHECK-		
			FA (KSI)	FBO (KSI)	FBI (KSI)	AXIAL (KSI)	FBO (KSI)	FBI (KSI)	FA	FBO	FBI
1	3.63	-42.24	18.7	33.0	31.0	0.51	-15.69	15.69	0.02	0.48	0.51

TOTAL FRAME WEIGHT IS 1240. LBS.

COLUMN 1 - 2 UNBRACED

RAFTER 2 - 3 UNBRACED

COLUMN 4 - 3 UNBRACED

HAUNCH CORNER FLANGE BRACE

LEFT COLUMN NO

RIGHT COLUMN NO

WELD SUMMARY REPORT

PORTAL FRAME AT SIDEWALL (C) 28.00 FT BAY CO95226AC1

CH

DATE 11-13-09

Q = V X A X Y / I

COLUMN 1- 2 SECTION 1 Q MAX = 3326. X 2.50 X 5.84 / 193.78

= 250.8 LBS/IN AT ANALYSIS POINT 1

WELD SIZE FOR THE SECTION =0.1875 INCH, WELD ONE SIDE ONLY

RAFTER 2- 3 SECTION 1 Q MAX = 3604. X 2.50 X 5.84 / 189.95

= 277.2 LBS/IN AT ANALYSIS POINT 110

WELD SIZE FOR THE SECTION =0.1875 INCH, WELD ONE SIDE ONLY

COLUMN 4- 3 SECTION 1 Q MAX = 3326. X 2.50 X 5.84 / 193.78

= 250.8 LBS/IN AT ANALYSIS POINT 4

WELD SIZE FOR THE SECTION =0.1875 INCH, WELD ONE SIDE ONLY

CONNECTION DESIGN DATA FOR MEMBER 2- 3 AT DEPTH 1: KNEE SPLICE (1)

SPLICE DEPTH: 12.0000 INCHES
 WEB DEPTH: 11.3750 INCHES

CONTROLLING ACTIONS

SPLICE DATA	LEFT	RIGHT
SECTION DEPTH	12.0000	12.0000
OS FLANGE WIDTH	8.0000	8.0000
OS FLANGE THICK	0.3125	0.3125
WEB THICKNESS	0.1875	0.1563
IS FLANGE WIDTH	8.0000	8.0000
IS FLANGE THICK	0.3125	0.3125

POS MOMENT	40.84 FT-KIPS
AXIAL LOAD	3.29 KIPS
SHEAR	-3.14 KIPS
LOAD CONDITION	7
NEG MOMENT	-42.10 FT-KIPS
AXIAL LOAD	3.33 KIPS
SHEAR	3.60 KIPS
LOAD CONDITION	6
MAX SHEAR	3.60 KIPS
AXIAL LOAD	3.33 KIPS
MOMENT	-42.10 FT-KIPS
LOAD CONDITION	6

LENGTH - 17.375"	DIAM. - 0.625"	TOP ROWS 2	EDGE DIST TOP 1.500"
WIDTH - 8.000"	GAUGE - 3.500"	BOT ROWS 2	EDGE DIST BOT 1.500"
THICK - 0.500"	PITCH - 2.750"	CON TYPE 3	TOP PROJECTION 2.688"

CORNER WEB - 0.188" THICK WITH 0.188" WELD ON 2 SIDES WELD SHEAR - 3.693 K/IN
 *** NOTE STANDARD 0.188 1 SIDE G.M.A.W. IS NOT ADEQUATE (2.784 K/IN) ***

CONNECTION DESIGN DATA FOR MEMBER 2- 3 AT DEPTH 9: HIGH SIDE KNEE (4)

SPLICE DEPTH: 12.0000 INCHES
 WEB DEPTH: 11.3750 INCHES

CONTROLLING ACTIONS

SPLICE DATA	LEFT	RIGHT
SECTION DEPTH	12.0000	12.0000
OS FLANGE WIDTH	8.0000	8.0000
OS FLANGE THICK	0.3125	0.3125
WEB THICKNESS	0.1563	0.1875
IS FLANGE WIDTH	8.0000	8.0000
IS FLANGE THICK	0.3125	0.3125

POS MOMENT	40.84 FT-KIPS
AXIAL LOAD	3.29 KIPS
SHEAR	3.14 KIPS
LOAD CONDITION	8
NEG MOMENT	-42.10 FT-KIPS
AXIAL LOAD	3.33 KIPS
SHEAR	-3.60 KIPS
LOAD CONDITION	5
MAX SHEAR	-3.60 KIPS
AXIAL LOAD	3.33 KIPS
MOMENT	-42.10 FT-KIPS
LOAD CONDITION	5

LENGTH - 17.375"	DIAM. - 0.625"	TOP ROWS 2	EDGE DIST TOP 1.500"
WIDTH - 8.000"	GAUGE - 3.500"	BOT ROWS 2	EDGE DIST BOT 1.500"
THICK - 0.500"	PITCH - 2.750"	CON TYPE 3	TOP PROJECTION 2.688"

CORNER WEB - 0.188" THICK WITH 0.188" WELD ON 2 SIDES WELD SHEAR - 3.693 K/IN
 *** NOTE STANDARD 0.188 1 SIDE G.M.A.W. IS NOT ADEQUATE (2.784 K/IN) ***

SUPPORT JOINT 1 -- EXTERIOR COLUMN
CRITICAL REACTIONS LOAD CONDITION

HORIZONTAL 3.33 KIPS 6
DOWNWARD.. 3.95 KIPS 6
UPWARD.... -2.96 KIPS 7 3.21 KIPS ASSOCIATED SHEAR

COLUMN BASE DETAILS

COLUMN DEPTH - 12.0 IN OUTSIDE FLANGE - 8.0 X 0.3125
WEB THICKNESS- .188 IN INSIDE FLANGE - 8.0 X 0.3125
LENGTH - 12.000" DIAM. - 0.750" NO. BOLTS 4 OS PROJECTION 0.000"
WIDTH - 8.000" GAUGE - 3.500" HOLE PAT. 2 WEB FILLET 0.188"
THICK - 0.375" PITCH - 4.000" OS EDGE 3.000" FLANGE FILLET 0.188"

SUPPORT JOINT 4 -- EXTERIOR COLUMN
CRITICAL REACTIONS LOAD CONDITION

HORIZONTAL 3.33 KIPS 5
DOWNWARD.. 3.95 KIPS 5
UPWARD.... -2.96 KIPS 8 3.21 KIPS ASSOCIATED SHEAR

COLUMN BASE DETAILS

COLUMN DEPTH - 12.0 IN OUTSIDE FLANGE - 8.0 X 0.3125
WEB THICKNESS- .188 IN INSIDE FLANGE - 8.0 X 0.3125
LENGTH - 12.000" DIAM. - 0.750" NO. BOLTS 4 OS PROJECTION 0.000"
WIDTH - 8.000" GAUGE - 3.500" HOLE PAT. 2 WEB FILLET 0.188"
THICK - 0.375" PITCH - 4.000" OS EDGE 3.000" FLANGE FILLET 0.188"

*** D E T A I L I N P U T E C H O ***

JOINT 1 0.00 0.00 110
JOINT 2 28.00 0.00 10
MEMBERS
MEMB 1 2 000000 10.000 0.000 0.000 0.000 10.000 1 B 0.000 0.000 1.0
BRACO 9.80 18.20 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
BRACI 9.80 18.20 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
SECT 80F WA 80F 0.000 0.000
LOAD CONDITIONS

DL + COL + LL /
LDCN 100. DL 100. COL 100. SL

SL /
LDCN 100. SL

J1	J2	GROUP	SYST	DIR	TYPE	DIST	LOAD	*E or L	LOAD
---	---	---	---	---	---	---	---	---	---
1	2	DL	GLOB	Y	UNIF	0.000	-0.019		
1	2	COL	GLOB	Y	UNIF	0.000	-0.015		
1	2	SL	GLOB	Y	UNIF	0.000	-0.590		

* E = eccentricity for concentrated loads.
L = load length for uniform loads.

LOAD CONDITION DESCRIPTIONS

- 1 DL + COL + LL /
- 2 SL /

LOAD COND 1 - DL + COL + LL /

JOINT NUMBER	VERTICAL REACTION (KIPS)	HORIZ (X) REACTION (KIPS)	HORIZ (Z) REACTION (KIPS)	MOMENT REACTION (KIP-FT)
1	8.736	0.000	0.000	0.000
2	8.736	0.000	0.000	0.000

LOAD COND 2 - SL /

JOINT NUMBER	VERTICAL REACTION (KIPS)	HORIZ (X) REACTION (KIPS)	HORIZ (Z) REACTION (KIPS)	MOMENT REACTION (KIP-FT)
1	8.260	0.000	0.000	0.000
2	8.260	0.000	0.000	0.000

LOAD COND 3 - DL - DEAD LOAD

JOINT NUMBER	VERTICAL REACTION (KIPS)	HORIZ (X) REACTION (KIPS)	HORIZ (Z) REACTION (KIPS)	MOMENT REACTION (KIP-FT)
1	0.266	0.000	0.000	0.000
2	0.266	0.000	0.000	0.000

LOAD COND 4 - COL- COLLATERAL

JOINT NUMBER	VERTICAL REACTION (KIPS)	HORIZ (X) REACTION (KIPS)	HORIZ (Z) REACTION (KIPS)	MOMENT REACTION (KIP-FT)
1	0.210	0.000	0.000	0.000
2	0.210	0.000	0.000	0.000

LOAD COND 5 - SL - SNOW LOAD

JOINT NUMBER	VERTICAL REACTION (KIPS)	HORIZ (X) REACTION (KIPS)	HORIZ (Z) REACTION (KIPS)	MOMENT REACTION (KIP-FT)
1	8.260	0.000	0.000	0.000
2	8.260	0.000	0.000	0.000

MEMBER NO. 1- 2 LENGTH 28.00 FT MEMBER ANGLE 0.00 DEG WEIGHT 709. LB

SECT NO	LENGTH (FT)	START DEPTH	END DEPTH	OUTSIDE FLANGE	WEB THICK	INSIDE FLANGE	COMB. RATIO	AT DIST	LOAD COND
1	28.00	10.00	10.00	8.0 X 3/8	5/32	8.0 X 3/8	0.742	14.0	1

(CONTROLLING ACTIONS)

SECT NO	AXIAL FORCE (KIP)	MOMENT (KIP-FT)	-ALLOW STRESSES-			--MAXIMUM STRESSES--			-UNITY CHECK-		
			FA (KSI)	FBO (KSI)	FBI (KSI)	AXIAL (KSI)	FBO (KSI)	FBI (KSI)	FA	FBO	FBI
1	0.00	61.15	20.4	33.1	33.1	0.00	24.57	-24.57	0.00	0.74	0.74

TOTAL FRAME WEIGHT IS 709. LBS.

CYCLE # 1 FOR LDC # 1 DL + COL + LL /

ANALYSIS POINT	X-DEFL (IN)	Y-DEFL (IN)	Z-ROTATION (DEGREES)	X-COORD (FT)	Y-COORD (FT)	ANGLE (DEGREES)
1*	0.000	0.000	-1.087	0.000	0.000	-1.087
100	0.000	-0.210	-1.077	0.933	-0.018	-1.077
101	0.000	-0.623	-1.024	2.800	-0.052	-1.024
102	0.000	-1.006	-0.924	4.667	-0.084	-0.924
103	0.000	-1.341	-0.785	6.533	-0.112	-0.785
104	0.000	-1.616	-0.615	8.400	-0.135	-0.615
105	0.000	-1.820	-0.423	10.267	-0.152	-0.423
106	0.000	-1.946	-0.214	12.133	-0.162	-0.214
107	0.000	-1.988	0.002	14.000	-0.166	0.002
108	0.000	-1.946	0.218	15.867	-0.162	0.218
109	0.000	-1.821	0.426	17.733	-0.152	0.426
110	0.000	-1.617	0.619	19.600	-0.135	0.619
111	0.000	-1.342	0.788	21.467	-0.112	0.788
112	0.000	-1.006	0.927	23.333	-0.084	0.927
113	0.000	-0.624	1.027	25.200	-0.052	1.027
114	0.000	-0.211	1.080	27.067	-0.018	1.080
2*	0.000	0.000	1.087	28.000	0.000	1.088

CYCLE # 1 FOR LDC # 2 SL /

ANALYSIS POINT	X-DEFL (IN)	Y-DEFL (IN)	Z-ROTATION (DEGREES)	X-COORD (FT)	Y-COORD (FT)	ANGLE (DEGREES)
1*	0.000	0.000	-1.028	0.000	0.000	-1.028
100	0.000	-0.199	-1.018	0.933	-0.017	-1.018
101	0.000	-0.589	-0.968	2.800	-0.049	-0.968
102	0.000	-0.951	-0.873	4.667	-0.079	-0.873
103	0.000	-1.268	-0.742	6.533	-0.106	-0.742
104	0.000	-1.528	-0.582	8.400	-0.127	-0.582
105	0.000	-1.721	-0.400	10.267	-0.143	-0.400
106	0.000	-1.840	-0.203	12.133	-0.153	-0.203
107	0.000	-1.880	0.002	14.000	-0.157	0.002
108	0.000	-1.840	0.206	15.867	-0.153	0.206
109	0.000	-1.721	0.403	17.733	-0.143	0.403
110	0.000	-1.529	0.585	19.600	-0.127	0.585
111	0.000	-1.269	0.745	21.467	-0.106	0.745
112	0.000	-0.951	0.876	23.333	-0.079	0.876
113	0.000	-0.590	0.971	25.200	-0.049	0.971
114	0.000	-0.200	1.022	27.067	-0.017	1.022
2*	0.000	0.000	1.028	28.000	0.000	1.029

CHIEF BUILDINGS FRAME DESIGN V09.01
FLANGE BRACE REPORT
WF PURLINS CO95226WFP

PAGE NO. F - 61
JOB NO. CO95226
CH DATE 11-13-09

MEMBER	1	-	2
OS BRACE	9.80		18.20
IS BRACE	X		X

$$Q = V X A X Y / I$$

MEMBER 1- 2 SECTION 1 Q MAX = 8736. X 3.00 X 4.81 / 149.34

= 844.6 LBS/IN AT ANALYSIS POINT 2

WELD SIZE FOR THE SECTION =0.1875 INCH, WELD ONE SIDE ONLY

*** D E T A I L I N P U T E C H O ***

JOINT	1	0.00	0.00	110									
JOINT	2	29.00	0.00	10									
MEMBERS													
MEMB	1	2	000000	10.000	0.000	0.000	0.000	10.000	1	B	0.000	0.000	1.0
BRACO		9.80	18.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
BRACI		9.80	18.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SECT	80F		WA	80F		0.000	0.000						
LOAD CONDITIONS													

DL + COL + LL /
LDCN 100. DL 100. COL 100. SL

SL /
LDCN 100. SL

J1	J2	GROUP	SYST	DIR	TYPE	DIST	LOAD	*E or L	LOAD
---	---	---	---	---	---	---	---	---	---
1	2	DL	GLOB	Y	UNIF	0.000	-0.019		
1	2	COL	GLOB	Y	UNIF	0.000	-0.015		
1	2	SL	GLOB	Y	UNIF	0.000	-0.206	15.083	-0.206
1	2	SL	GLOB	Y	UNIF	15.083	-0.590		

* E = eccentricity for concentrated loads.
L = load length for uniform loads.

LOAD CONDITION DESCRIPTIONS

- 1 DL + COL + LL /
- 2 SL /

LOAD COND 1 - DL + COL + LL /

JOINT NUMBER	VERTICAL REACTION (KIPS)	HORIZ (X) REACTION (KIPS)	HORIZ (Z) REACTION (KIPS)	MOMENT REACTION (KIP-FT)
1	4.762	0.000	0.000	0.000
2	7.542	0.000	0.000	0.000

LOAD COND 2 - SL /

JOINT NUMBER	VERTICAL REACTION (KIPS)	HORIZ (X) REACTION (KIPS)	HORIZ (Z) REACTION (KIPS)	MOMENT REACTION (KIP-FT)
1	4.269	0.000	0.000	0.000
2	7.049	0.000	0.000	0.000

LOAD COND 3 - DL - DEAD LOAD

JOINT NUMBER	VERTICAL REACTION (KIPS)	HORIZ (X) REACTION (KIPS)	HORIZ (Z) REACTION (KIPS)	MOMENT REACTION (KIP-FT)
1	0.276	0.000	0.000	0.000
2	0.275	0.000	0.000	0.000

LOAD COND 4 - COL- COLLATERAL

JOINT NUMBER	VERTICAL REACTION (KIPS)	HORIZ (X) REACTION (KIPS)	HORIZ (Z) REACTION (KIPS)	MOMENT REACTION (KIP-FT)
1	0.218	0.000	0.000	0.000
2	0.217	0.000	0.000	0.000

LOAD COND 5 - SL - SNOW LOAD

JOINT NUMBER	VERTICAL REACTION (KIPS)	HORIZ (X) REACTION (KIPS)	HORIZ (Z) REACTION (KIPS)	MOMENT REACTION (KIP-FT)
1	4.269	0.000	0.000	0.000
2	7.049	0.000	0.000	0.000

MEMBER NO. 1- 2 LENGTH 29.00 FT MEMBER ANGLE 0.00 DEG WEIGHT 735. LB

SECT NO	LENGTH (FT)	START DEPTH	END DEPTH	OUTSIDE FLANGE	WEB THICK	INSIDE FLANGE	COMB. RATIO	AT DIST	LOAD COND
1	29.00	10.00	10.00	8.0 X 3/8	5/32	8.0 X 3/8	0.573	18.4	1

(CONTROLLING ACTIONS)

SECT NO	AXIAL FORCE (KIP)	MOMENT (KIP-FT)	-ALLOW STRESSES-			--MAXIMUM STRESSES--			-UNITY CHECK-		
			FA (KSI)	FBO (KSI)	FBI (KSI)	AXIAL (KSI)	FBO (KSI)	FBI (KSI)	FA	FBO	FBI
1	0.00	44.92	19.8	31.5	31.5	0.00	18.05	-18.05	0.00	0.57	0.57

TOTAL FRAME WEIGHT IS 735. LBS.

CYCLE # 1 FOR LDC # 1 DL + COL + LL /

ANALYSIS POINT	X-DEFL (IN)	Y-DEFL (IN)	Z-ROTATION (DEGREES)	X-COORD (FT)	Y-COORD (FT)	ANGLE (DEGREES)
1*	0.000	0.000	-0.768	0.000	0.000	-0.768
100	0.000	-0.154	-0.761	0.967	-0.013	-0.761
101	0.000	-0.457	-0.729	2.900	-0.038	-0.729
102	0.000	-0.742	-0.668	4.833	-0.062	-0.668
103	0.000	-0.996	-0.581	6.767	-0.083	-0.581
104	0.000	-1.210	-0.472	8.700	-0.101	-0.472
105	0.000	-1.377	-0.344	10.633	-0.115	-0.344
106	0.000	-1.488	-0.200	12.567	-0.124	-0.200
107	0.000	-1.539	-0.044	14.500	-0.128	-0.044
108	0.000	-1.524	0.121	16.433	-0.127	0.121
109	0.000	-1.442	0.288	18.367	-0.120	0.288
110	0.000	-1.294	0.449	20.300	-0.108	0.449
111	0.000	-1.083	0.594	22.233	-0.090	0.594
112	0.000	-0.818	0.716	24.167	-0.068	0.716
113	0.000	-0.509	0.805	26.100	-0.042	0.805
114	0.000	-0.173	0.854	28.033	-0.014	0.854
2*	0.000	0.000	0.860	29.000	0.000	0.861

CYCLE # 1 FOR LDC # 2 SL /

ANALYSIS POINT	X-DEFL (IN)	Y-DEFL (IN)	Z-ROTATION (DEGREES)	X-COORD (FT)	Y-COORD (FT)	ANGLE (DEGREES)
1*	0.000	0.000	-0.702	0.000	0.000	-0.702
100	0.000	-0.141	-0.696	0.967	-0.012	-0.696
101	0.000	-0.418	-0.667	2.900	-0.035	-0.667
102	0.000	-0.678	-0.612	4.833	-0.057	-0.612
103	0.000	-0.912	-0.534	6.767	-0.076	-0.534
104	0.000	-1.109	-0.435	8.700	-0.092	-0.435
105	0.000	-1.263	-0.318	10.633	-0.105	-0.318
106	0.000	-1.366	-0.187	12.567	-0.114	-0.187
107	0.000	-1.414	-0.044	14.500	-0.118	-0.044
108	0.000	-1.402	0.108	16.433	-0.117	0.108
109	0.000	-1.328	0.262	18.367	-0.111	0.262
110	0.000	-1.192	0.411	20.300	-0.099	0.411
111	0.000	-0.999	0.546	22.233	-0.083	0.546
112	0.000	-0.755	0.660	24.167	-0.063	0.660
113	0.000	-0.470	0.743	26.100	-0.039	0.743
114	0.000	-0.160	0.788	28.033	-0.013	0.788
2*	0.000	0.000	0.794	29.000	0.000	0.795

CHIEF BUILDINGS FRAME DESIGN V09.01
FLANGE BRACE REPORT
WF PURLINS CO95226WP2 LINE K TO J

PAGE NO. F - 69
JOB NO. CO95226
CH DATE 11-13-09

MEMBER	1	-	2	
OS BRACE		9.80	18.20	
IS BRACE		X	X	

CHIEF BUILDINGS FRAME DESIGN V09.01
WELD SUMMARY REPORT
WF PURLINS CO95226WP2 LINE K TO J

PAGE NO. F - 70
JOB NO. CO95226
CH DATE 11-13-09

			Q	=		V	X		A	X		Y	/		I
MEMBER	1- 2	SECTION 1	Q MAX	=	7542.	X	3.00	X	4.81	/	149.34				
				=	729.1	LBS/IN	AT ANALYSIS	POINT	2						

WELD SIZE FOR THE SECTION =0.1875 INCH, WELD ONE SIDE ONLY

ENDWALL DESIGN
INPUT ECHO

DESIGN DATA

DESIGN BASE ON THE NASPEC 2001 AISI STANDARD AND 9TH EDITION OF AISC-ASD

DEAD LOAD.....	3.89	PSF
COLLATERAL LOAD.....	5.00	PSF
LIVE LOAD.....	20.00	PSF
SNOW LOAD.....	49.00	PSF
WIND LOAD.....	13.46	PSF
RAFTER WIND COEFFICIENT.....	1.1562	
COLUMN WIND COEFFICIENT.....	0.9293	
MAXIMUM UNITY CHECK RATIO.....	1.0300	
MAXIMUM RAFTER DEFLECTION RATIO..	L/180.	
MAXIMUM COLUMN DEFLECTION RATIO..	L/120.	(FOR 10 YEAR WIND MAP)
MAXIMUM COLUMN DEFLECTION.....	3.00	IN. (FOR 10 YEAR WIND MAP)
MAXIMUM COLUMN DEPTH.....	10.00	IN.
MINIMUM COLUMN DEPTH.....	10.00	IN.
MINIMUM RAFTER DEPTH.....	10.00	IN.
UNSUPPORTED COLUMN LENGTH.....	12.33	FT.
UNSUPPORTED COLUMN LENGTH BENDING:	12.33	FT.
CONSTANT PURLIN SPACING.....	4.42	FT.
YEILD OF B.U.P. MEMBERS.....	55.00	KSI
OPTIMIZATION.....	N	

RUN ASCE 7-02 PARTIAL LOADING

LOAD COMBINATIONS: D + (Lr or S)
0.6D + W
D + 0.75(Lr or S) + 0.75W

NO ALLOWABLE STRESS INCREASE FOR WIND

CORNER POST DESIGN DATA

SIDEWALL GIRT DEPTH.....	10"
ENDWALL GIRT DEPTH.....	8"
SIDEWALL GIRT TYPE.....	OUTSET
LEFT AND RIGHT CORNER COLUMNS THE SAME.....	N
SUM OF ALL ENDWALL OPENING WIDTHS.....	59.67 FT.
NUMBER OF OPENING IN FIRST ENDWALL SPACE.....	0
HEIGHT OF OPENING IN FIRST ENDWALL SPACE.....	0.00 FT.
DISTANCE FROM SIDEWALL BL TO ENDWALL OPENING..	0.00 FT.
NUMBER OF OPENING IN SIDEWALL END BAY.....	1
HEIGHT OF OPENING IN SIDEWALL END BAY.....	12.33 FT.
DISTANCE FROM ENDWALL BL TO SIDEWALL OPENING..	6.17 FT.
NUMBER OF OPENING IN LAST ENDWALL SPACE.....	0
HEIGHT OF OPENING IN LAST ENDWALL SPACE.....	0.00 FT.
DISTANCE FROM SIDEWALL BL TO ENDWALL OPENING..	0.00 FT.
NUMBER OF OPENING IN SIDEWALL END BAY.....	1

HEIGHT OF OPENING IN SIDEWALL END BAY.....:	17.86 FT.
DISTANCE FROM ENDWALL BL TO SIDEWALL OPENING.:	0.00 FT.

ENDWALL DESIGN DATA

LOADS:

DEAD LOAD = 3.89 PSF
COLL LOAD = 5.00 PSF
LIVE LOAD = 20.00 PSF
SNOW LOAD = 49.00 PSF
WIND LOAD = 13.46 PSF

UNBALANCED SNOW LOAD DATA CASE 1

LOAD NUM	START DIST (FT)	START LOAD (PSF)	END DIST (FT)	END LOAD (PSF)
1	0.000	49.000	31.231	49.000
2	31.231	49.000	59.667	83.950
3	59.667	36.130	64.458	36.130

ENDWALL GEOMETRY:

ENDWALL TYPE : WIDE FLANGE
LEFT EAVE HEIGHT : 16.00 FEET
RIGHT EAVE HEIGHT : 18.01 FEET
BUILDING WIDTH : 64.46 FEET
DISTANCE TO RIDGE : 29.83 FEET
LEFT ROOF SLOPE : 0.38/12.
RIGHT ROOF SLOPE : -0.38/12.
SIDEWALL BAY SPACE : 29.00 FEET
GABLE EXTENSION : 1.17 FEET

3 ENDWALL SPACES (FT): 17.33 17.33 29.79

 ENDWALL RAFTER BEAM DESIGN SUMMARY

RAFTER SIZE: W16/80H/WB 6E6E/4F 80L plates & 1" bolts

LOAD CONDITION: D + S
 UNIFORMLY DISTRIBUTED LOAD: 0.9438 KLF
 (INCLUDING RAFTER BEAM DEAD LOAD)

JOINT* NUM	* X-AXIS * MOMENT (K-FT)	* Y-AXIS * MOMENT (K-FT)	* UNSUPPORTED * LENGTH (FT)	* ACTUAL * FBX (KSI)	* ALLOW * FBX (KSI)	* ACTUAL * FBY (KSI)	* ALLOW * FBY (KSI)	* COMB. * STRESS * RATIO
2	-16.39	0.00	4.4170	3.22	33.00	0.00	41.25	0.098
3	-76.23	0.00	4.4170	15.00	33.00	0.00	41.25	0.454
0	70.06	0.00	4.4170	13.78	33.00	0.00	41.25	0.418

LOAD CONDITION: .6D + W
 UNIFORMLY DISTRIBUTED LOAD: -0.1851 KLF
 (INCLUDING RAFTER BEAM DEAD LOAD)
 WIND LOAD: 15.56 PSF

JOINT* NUM	* X-AXIS * MOMENT (K-FT)	* Y-AXIS * MOMENT (K-FT)	* UNSUPPORTED * LENGTH (FT)	* ACTUAL * FBX (KSI)	* ALLOW * FBX (KSI)	* ACTUAL * FBY (KSI)	* ALLOW * FBY (KSI)	* COMB. * STRESS * RATIO
2	3.22	1.27	4.4170	0.63	33.00	1.43	41.25	0.054
3	14.95	1.79	4.4170	2.94	33.00	2.01	41.25	0.138
0	-13.74	0.00	13.2510	2.50	26.20	0.00	41.25	0.095

LOAD CONDITION: D + .75(S + W)
 UNIFORMLY DISTRIBUTED LOAD: 0.5690 KLF
 (INCLUDING RAFTER BEAM DEAD LOAD)
 WIND LOAD: 15.56 PSF

JOINT* NUM	* X-AXIS * MOMENT (K-FT)	* Y-AXIS * MOMENT (K-FT)	* UNSUPPORTED * LENGTH (FT)	* ACTUAL * FBX (KSI)	* ALLOW * FBX (KSI)	* ACTUAL * FBY (KSI)	* ALLOW * FBY (KSI)	* COMB. * STRESS * RATIO
2	-9.88	0.96	4.4170	1.94	33.00	1.07	41.25	0.085
3	-45.96	1.34	4.4170	9.04	33.00	1.51	41.25	0.311
0	42.24	0.00	4.4170	8.31	33.00	0.00	41.25	0.252

NOTE: JOINT NUMBER ZERO INDICATES
 LOCATION OF MAXIMUM MID-BAY MOMENT.

 ENDWALL RAFTER BEAM DESIGN SUMMARY

RAFTER SIZE: W16/80H/WB 6E6E/4F 80L plates & 1" bolts

LOAD CONDITION: DL + PARTIAL LL
 LOAD = 0.4894 KLF IN SPANS 1 & 2
 LOAD = 0.1761 KLF IN ALL OTHER SPANS

JOINT* NUM *	* X-AXIS MOMENT (K-FT)	* Y-AXIS MOMENT (K-FT)	* UNSUPPORTED LENGTH (FT)	* ACTUAL FBX (KSI)	* ALLOW FBX (KSI)	* ACTUAL FBY (KSI)	* ALLOW FBY (KSI)	* COMB. STRESS RATIO
2	-11.57	0.00	4.4170	2.28	33.00	0.00	41.25	0.069
3	-27.24	0.00	4.4170	5.36	33.00	0.00	41.25	0.162
0	25.75	0.00	4.4170	5.07	33.00	0.00	41.25	0.154

LOAD CONDITION: DL + PARTIAL LL
 LOAD = 0.4894 KLF IN SPANS 2 & 3
 LOAD = 0.1761 KLF IN ALL OTHER SPANS

JOINT* NUM *	* X-AXIS MOMENT (K-FT)	* Y-AXIS MOMENT (K-FT)	* UNSUPPORTED LENGTH (FT)	* ACTUAL FBX (KSI)	* ALLOW FBX (KSI)	* ACTUAL FBY (KSI)	* ALLOW FBY (KSI)	* COMB. STRESS RATIO
2	-5.62	0.00	4.4170	1.11	33.00	0.00	41.25	0.034
3	-40.06	0.00	4.4170	7.88	33.00	0.00	41.25	0.239
0	36.11	0.00	4.4170	7.10	33.00	0.00	41.25	0.215

LOAD CONDITION: DL + PARTIAL LL
 FULL LOAD ON ODD NUMBER SPANS
 LOAD IN ODD SPANS = 0.4894 KLF
 LOAD IN EVEN SPANS = 0.1761 KLF

JOINT* NUM *	* X-AXIS MOMENT (K-FT)	* Y-AXIS MOMENT (K-FT)	* UNSUPPORTED LENGTH (FT)	* ACTUAL FBX (KSI)	* ALLOW FBX (KSI)	* ACTUAL FBY (KSI)	* ALLOW FBY (KSI)	* COMB. STRESS RATIO
2	-5.74	0.00	4.4170	1.13	33.00	0.00	41.25	0.034
3	-38.02	0.00	4.4170	7.48	33.00	0.00	41.25	0.227
0	36.95	0.00	4.4170	7.27	33.00	0.00	41.25	0.220

NOTE: JOINT NUMBER ZERO INDICATES
 LOCATION OF MAXIMUM MID-BAY MOMENT.

 ENDWALL RAFTER BEAM DESIGN SUMMARY

RAFTER SIZE: W16/80H/WB 6E6E/4F 80L plates & 1" bolts

LOAD CONDITION: DL + PARTIAL LL
 FULL LOAD ON EVEN NUMBER SPANS
 LOAD IN ODD SPANS = 0.1761 KLF
 LOAD IN EVEN SPANS = 0.4894 KLF

JOINT NUM	* X-AXIS * MOMENT * (K-FT)	* Y-AXIS * MOMENT * (K-FT)	* UNSUPPORTED * LENGTH * (FT)	* ACTUAL * FBX * (KSI)	* ALLOW * FBX * (KSI)	* ACTUAL * FBY * (KSI)	* ALLOW * FBY * (KSI)	* COMB. * STRESS * RATIO
2	-8.69	0.00	4.4170	1.71	33.00	0.00	41.25	0.052
3	-27.77	0.00	4.4170	5.46	33.00	0.00	41.25	0.166
0	25.55	0.00	4.4170	5.03	33.00	0.00	41.25	0.152

UNBALANCED SNOW LOAD CASE 1

JOINT NUM	* X-AXIS * MOMENT * (K-FT)	* Y-AXIS * MOMENT * (K-FT)	* UNSUPPORTED * LENGTH * (FT)	* ACTUAL * FBX * (KSI)	* ALLOW * FBX * (KSI)	* ACTUAL * FBY * (KSI)	* ALLOW * FBY * (KSI)	* COMB. * STRESS * RATIO
2	-11.05	0.00	4.4170	2.17	33.00	0.00	41.25	0.066
3	-97.72	0.00	4.4170	19.22	33.00	0.00	41.25	0.583
0	95.36	0.00	4.4170	18.76	33.00	0.00	41.25	0.568

NOTE: JOINT NUMBER ZERO INDICATES
 LOCATION OF MAXIMUM MID-BAY MOMENT.

*** RAFTER FLANGE BRACES ARE REQUIRED ***

STANDARD LOCATIONS OF FLANGE BRACES FOR PURLIN SPACES 3 FEET OR OVER.
 BRACE TWO PURLIN EACH SIDE OF ALL INTERIOR POSTS.
 MAXIMUM DISTANCE BETWEEN FLANGES IS 15. FEET.

SINGLE CEE SECTION COLUMNS

SIZE	DEPTH	FLANGE		CORNER		AREA	Ix	Sxe	rx	Iy	ry
		WIDTH	Thk	RAD							
1014	10.00	3.50	.075	.250		1.347	20.43	3.32	3.89	2.11	1.25
1012	10.00	3.50	.099	.250		1.780	26.85	4.77	3.88	2.80	1.25

BACK-BACK CEE SECTION COLUMNS

SIZE	DEPTH	FLANGE		CORNER		AREA	Ix	Sxe	rx	Iy	ry
		WIDTH	Thk	RAD							
1014	10.00	7.00	.075	.250		2.694	40.86	6.64	3.89	6.71	1.58
1012	10.00	7.00	.099	.250		3.560	53.70	9.53	3.88	9.03	1.59

LIP-LIP CEE SECTION COLUMNS

SIZE	DEPTH	FLANGE		CORNER		AREA	Ix	Sxe	rx	Iy	ry
		WIDTH	Thk	RAD							
1014	10.00	7.00	.075	.250		2.694	40.86	6.64	3.89	21.55	2.83
1012	10.00	7.00	.099	.250		3.560	53.70	9.53	3.88	28.14	2.81

ENDWALL POST SIZES

POST NUMBER	* * * * *	POST SIZE	* * * * *	POST DESCRIPTION FLANGE	WEB THK*	POST LENGTH (FT)	* * * * *	UNBRACED LENGTH (FT)	* * * * *
2		W 10/60D	10	6 x 1/4	1/8	15.96		12.33	
3		W 10/60D	10	6 x 1/4	1/8	16.50		12.33	

 ENDWALL POST DESIGN SUMMARY

LOAD CONDITION : D + (Lr or S)

POST NUM	* * POST * SIZE	* * HORZ * REACT * (KIP)	* * AXIAL * LOAD * (KIP)	* * DESIGN * MOMENT * (K-FT)	* * ACTUAL * FA * (KSI)	* * ALLOW * FA * (KSI)	* * ACTUAL * FBX * (KSI)	* * ALLOW * FBX * (KSI)	* * COMB * STRESS * RATIO
2	W 10/60D	0.00	13.87	0.00	3.31	14.53	0.00	20.50	0.228
3	W 10/60D	0.00	34.14	0.00	8.15	14.47	0.00	20.50	0.563

LOAD CONDITION : .6D + W

POST NUM	* * POST * SIZE	* * HORZ * REACT * (KIP)	* * AXIAL * LOAD * (KIP)	* * DESIGN * MOMENT * (K-FT)	* * ACTUAL * FA * (KSI)	* * ALLOW * FA * (KSI)	* * ACTUAL * FBX * (KSI)	* * ALLOW * FBX * (KSI)	* * COMB * STRESS * RATIO
2	W 10/60D	1.73	-2.71	6.90	-0.76	35.00	5.25	20.50	0.256
3	W 10/60D	2.43	-5.52	10.03	-1.55	35.00	7.63	20.50	0.372

ENDWALL POST DESIGN SUMMARY

LOAD CONDITION : D + .75(Lr or S) + .75W

POST NUM	* * POST * SIZE	* HORZ * REACT * (KIP)	* AXIAL * LOAD * (KIP)	* DESIGN * MOMENT * (K-FT)	* ACTUAL * FA * (KSI)	* ALLOW * FA * (KSI)	* ACTUAL * FBX * (KSI)	* ALLOW * FBX * (KSI)	* COMB * STRESS * RATIO
2	W 10/60D	1.30	8.37	5.18	2.00	14.53	3.94	20.50	0.330
3	W 10/60D	1.82	17.07	7.52	4.08	14.53	5.72	20.50	0.576

CORNER POST DESIGN SUMMARY

SELECTED BY STANDARD SELECTION PROCEDURE

LEFT CORNER POST : WF 10" DEEP***

RIGHT CORNER POST : WF 10" DEEP***

WIDE FLANGE CORNER POSTS HAVE 6.0" X 1/4" FLANGES AND 1/8" WEB.

ENDWALL DESIGN
INPUT ECHO

DESIGN DATA

DESIGN BASE ON THE NASPEC 2001 AISI STANDARD AND 9TH EDITION OF AISC-ASD

DEAD LOAD.....	3.89	PSF	
COLLATERAL LOAD.....	5.00	PSF	
LIVE LOAD.....	20.00	PSF	
SNOW LOAD.....	49.00	PSF	
WIND LOAD.....	13.46	PSF	
RAFTER WIND COEFFICIENT.....	1.1600		
COLUMN WIND COEFFICIENT.....	0.9293		
MAXIMUM UNITY CHECK RATIO.....	1.0300		
MAXIMUM RAFTER DEFLECTION RATIO..	L/180.		
MAXIMUM COLUMN DEFLECTION RATIO..	L/120.		(FOR 10 YEAR WIND MAP)
MAXIMUM COLUMN DEFLECTION.....	3.00	IN.	(FOR 10 YEAR WIND MAP)
MAXIMUM COLUMN DEPTH.....	10.00	IN.	
MINIMUM COLUMN DEPTH.....	10.00	IN.	
MINIMUM RAFTER DEPTH.....	8.00	IN.	
UNSUPPORTED COLUMN LENGTH.....	12.33	FT.	
UNSUPPORTED COLUMN LENGTH BENDING:	12.33	FT.	
CONSTANT PURLIN SPACING.....	4.42	FT.	
YEILD OF B.U.P. MEMBERS.....	55.00	KSI	
OPTIMIZATION.....	Y		

RUN ASCE 7-02 PARTIAL LOADING

LOAD COMBINATIONS: D + (Lr or S)

0.6D + W

D + 0.75(Lr or S) + 0.75W

NO ALLOWABLE STRESS INCREASE FOR WIND

ENDWALL DESIGN DATA

LOADS:

DEAD LOAD = 3.89 PSF
COLL LOAD = 5.00 PSF
LIVE LOAD = 20.00 PSF
SNOW LOAD = 49.00 PSF
WIND LOAD = 13.46 PSF

UNBALANCED SNOW LOAD DATA CASE 1

LOAD NUM	START DIST (FT)	START LOAD (PSF)	END DIST (FT)	END LOAD (PSF)
1	0.000	49.000	31.231	49.000
2	31.231	49.000	59.667	213.216

ENDWALL GEOMETRY:

ENDWALL TYPE : WIDE FLANGE
LEFT EAVE HEIGHT : 16.00 FEET
RIGHT EAVE HEIGHT : 17.86 FEET
BUILDING WIDTH : 59.67 FEET
DISTANCE TO RIDGE : 29.83 FEET
LEFT ROOF SLOPE : 0.38/12.
RIGHT ROOF SLOPE : -0.38/12.
SIDEWALL BAY SPACE : 27.50 FEET
GABLE EXTENSION : 1.17 FEET

3 ENDWALL SPACES (FT): 17.33 17.33 25.00

ENDWALL POST SIZES: W10. W10. W10. W10.

 ENDWALL RAFTER BEAM DESIGN SUMMARY

RAFTER SIZE: W16/80H/WB 6E6E/4F 80L plates & 1" bolts

LOAD CONDITION: D + S
 UNIFORMLY DISTRIBUTED LOAD: 0.9003 KLF
 (INCLUDING RAFTER BEAM DEAD LOAD)

JOINT* NUM	* X-AXIS * MOMENT (K-FT)	* Y-AXIS * MOMENT (K-FT)	* UNSUPPORTED * LENGTH (FT)	* ACTUAL * FBX (KSI)	* ALLOW * FBX (KSI)	* ACTUAL * FBY (KSI)	* ALLOW * FBY (KSI)	* COMB. * STRESS * RATIO
2	-21.05	0.00	4.4160	4.14	33.00	0.00	41.25	0.125
3	-51.09	0.00	4.4160	10.05	33.00	0.00	41.25	0.305
0	47.12	0.00	4.4160	9.27	33.00	0.00	41.25	0.281

LOAD CONDITION: .6D + W
 UNIFORMLY DISTRIBUTED LOAD: -0.1760 KLF
 (INCLUDING RAFTER BEAM DEAD LOAD)
 WIND LOAD: 15.61 PSF

JOINT* NUM	* X-AXIS * MOMENT (K-FT)	* Y-AXIS * MOMENT (K-FT)	* UNSUPPORTED * LENGTH (FT)	* ACTUAL * FBX (KSI)	* ALLOW * FBX (KSI)	* ACTUAL * FBY (KSI)	* ALLOW * FBY (KSI)	* COMB. * STRESS * RATIO
2	4.11	1.27	4.4160	0.81	33.00	1.43	41.25	0.059
3	9.99	1.61	4.4160	1.96	33.00	1.81	41.25	0.103
0	-9.21	0.00	13.2480	1.68	26.20	0.00	41.25	0.064

LOAD CONDITION: D + .75(S + W)
 UNIFORMLY DISTRIBUTED LOAD: 0.5429 KLF
 (INCLUDING RAFTER BEAM DEAD LOAD)
 WIND LOAD: 15.61 PSF

JOINT* NUM	* X-AXIS * MOMENT (K-FT)	* Y-AXIS * MOMENT (K-FT)	* UNSUPPORTED * LENGTH (FT)	* ACTUAL * FBX (KSI)	* ALLOW * FBX (KSI)	* ACTUAL * FBY (KSI)	* ALLOW * FBY (KSI)	* COMB. * STRESS * RATIO
2	-12.69	0.95	4.4160	2.50	33.00	1.07	41.25	0.102
3	-30.81	1.21	4.4160	6.06	33.00	1.36	41.25	0.217
0	28.41	0.00	4.4160	5.59	33.00	0.00	41.25	0.169

NOTE: JOINT NUMBER ZERO INDICATES
 LOCATION OF MAXIMUM MID-BAY MOMENT.

 ENDWALL RAFTER BEAM DESIGN SUMMARY

RAFTER SIZE: W16/80H/WB 6E6E/4F 80L plates & 1" bolts

LOAD CONDITION: DL + PARTIAL LL
 LOAD = 0.4677 KLF IN SPANS 1 & 2
 LOAD = 0.1694 KLF IN ALL OTHER SPANS

JOINT* NUM	* X-AXIS MOMENT (K-FT)	* Y-AXIS MOMENT (K-FT)	* UNSUPPORTED LENGTH (FT)	* ACTUAL FBX (KSI)	* ALLOW FBX (KSI)	* ACTUAL FBY (KSI)	* ALLOW FBY (KSI)	* COMB. STRESS RATIO
2	-12.87	0.00	4.4160	2.53	33.00	0.00	41.25	0.077
3	-18.80	0.00	4.4160	3.70	33.00	0.00	41.25	0.112
0	17.19	0.00	4.4160	3.38	33.00	0.00	41.25	0.102

LOAD CONDITION: DL + PARTIAL LL
 LOAD = 0.4677 KLF IN SPANS 2 & 3
 LOAD = 0.1694 KLF IN ALL OTHER SPANS

JOINT* NUM	* X-AXIS MOMENT (K-FT)	* Y-AXIS MOMENT (K-FT)	* UNSUPPORTED LENGTH (FT)	* ACTUAL FBX (KSI)	* ALLOW FBX (KSI)	* ACTUAL FBY (KSI)	* ALLOW FBY (KSI)	* COMB. STRESS RATIO
2	-8.18	0.00	4.4160	1.61	33.00	0.00	41.25	0.049
3	-27.10	0.00	4.4160	5.33	33.00	0.00	41.25	0.162
0	24.25	0.00	4.4160	4.77	33.00	0.00	41.25	0.145

LOAD CONDITION: DL + PARTIAL LL
 FULL LOAD ON ODD NUMBER SPANS
 LOAD IN ODD SPANS = 0.4677 KLF
 LOAD IN EVEN SPANS = 0.1694 KLF

JOINT* NUM	* X-AXIS MOMENT (K-FT)	* Y-AXIS MOMENT (K-FT)	* UNSUPPORTED LENGTH (FT)	* ACTUAL FBX (KSI)	* ALLOW FBX (KSI)	* ACTUAL FBY (KSI)	* ALLOW FBY (KSI)	* COMB. STRESS RATIO
2	-8.35	0.00	4.4160	1.64	33.00	0.00	41.25	0.050
3	-24.93	0.00	4.4160	4.90	33.00	0.00	41.25	0.149
0	25.14	0.00	4.4160	4.95	33.00	0.00	41.25	0.150

NOTE: JOINT NUMBER ZERO INDICATES
 LOCATION OF MAXIMUM MID-BAY MOMENT.

 ENDWALL RAFTER BEAM DESIGN SUMMARY

RAFTER SIZE: W16/80H/WB 6E6E/4F 80L plates & 1" bolts

LOAD CONDITION: DL + PARTIAL LL
 FULL LOAD ON EVEN NUMBER SPANS
 LOAD IN ODD SPANS = 0.1694 KLF
 LOAD IN EVEN SPANS = 0.4677 KLF

JOINT* NUM	* X-AXIS * MOMENT * (K-FT)	* Y-AXIS * MOMENT * (K-FT)	* UNSUPPORTED * LENGTH * (FT)	* ACTUAL * FBX * (KSI)	* ALLOW * FBX * (KSI)	* ACTUAL * FBY * (KSI)	* ALLOW * FBY * (KSI)	* COMB. * STRESS * RATIO
2	-10.11	0.00	4.4160	1.99	33.00	0.00	41.25	0.060
3	-19.37	0.00	4.4160	3.81	33.00	0.00	41.25	0.115
0	16.98	0.00	4.4160	3.34	33.00	0.00	41.25	0.101

UNBALANCED SNOW LOAD CASE 1

JOINT* NUM	* X-AXIS * MOMENT * (K-FT)	* Y-AXIS * MOMENT * (K-FT)	* UNSUPPORTED * LENGTH * (FT)	* ACTUAL * FBX * (KSI)	* ALLOW * FBX * (KSI)	* ACTUAL * FBY * (KSI)	* ALLOW * FBY * (KSI)	* COMB. * STRESS * RATIO
2	-5.33	0.00	4.4160	1.05	33.00	0.00	41.25	0.032
3	-114.55	0.00	4.4160	22.53	33.00	0.00	41.25	0.683
0	130.20	0.00	4.4160	25.61	33.00	0.00	41.25	0.776

NOTE: JOINT NUMBER ZERO INDICATES
 LOCATION OF MAXIMUM MID-BAY MOMENT.

*** RAFTER FLANGE BRACES ARE REQUIRED ***

STANDARD LOCATIONS OF FLANGE BRACES FOR PURLIN SPACES 3 FEET OR OVER.
 BRACE TWO PURLIN EACH SIDE OF ALL INTERIOR POSTS.
 MAXIMUM DISTANCE BETWEEN FLANGES IS 15. FEET.

SINGLE CEE SECTION COLUMNS

SIZE	DEPTH	FLANGE		CORNER		AREA	Ix	Sxe	rx	Iy	ry
		WIDTH	Thk	RAD							
1014	10.00	3.50	.075	.250		1.347	20.43	3.32	3.89	2.11	1.25
1012	10.00	3.50	.099	.250		1.780	26.85	4.77	3.88	2.80	1.25

BACK-BACK CEE SECTION COLUMNS

SIZE	DEPTH	FLANGE		CORNER		AREA	Ix	Sxe	rx	Iy	ry
		WIDTH	Thk	RAD							
1014	10.00	7.00	.075	.250		2.694	40.86	6.64	3.89	6.71	1.58
1012	10.00	7.00	.099	.250		3.560	53.70	9.53	3.88	9.03	1.59

LIP-LIP CEE SECTION COLUMNS

SIZE	DEPTH	FLANGE		CORNER		AREA	Ix	Sxe	rx	Iy	ry
		WIDTH	Thk	RAD							
1014	10.00	7.00	.075	.250		2.694	40.86	6.64	3.89	21.55	2.83
1012	10.00	7.00	.099	.250		3.560	53.70	9.53	3.88	28.14	2.81

ENDWALL POST SIZES

POST NUMBER	POST SIZE	* DEPTH	POST DESCRIPTION FLANGE	WEB THK*	POST LENGTH (FT)	* UNBRACED LENGTH (FT)
2	W 10/60D	10	6 x 1/4	1/8	15.96	12.33
3	W 10/60D	10	6 x 1/4	1/8	16.50	12.33

 ENDWALL POST DESIGN SUMMARY

LOAD CONDITION : D + (Lr or S)

POST NUM	POST SIZE	HORZ REACT (KIP)	AXIAL LOAD (KIP)	DESIGN MOMENT (K-FT)	ACTUAL FA (KSI)	ALLOW FA (KSI)	ACTUAL FBX (KSI)	ALLOW FBX (KSI)	COMB STRESS RATIO
2	W 10/60D	0.00	15.11	0.00	3.61	14.59	0.00	20.57	0.247
3	W 10/60D	0.00	43.09	0.00	10.29	14.46	0.00	20.57	0.712

LOAD CONDITION : .6D + W

POST NUM	POST SIZE	HORZ REACT (KIP)	AXIAL LOAD (KIP)	DESIGN MOMENT (K-FT)	ACTUAL FA (KSI)	ALLOW FA (KSI)	ACTUAL FBX (KSI)	ALLOW FBX (KSI)	COMB STRESS RATIO
2	W 10/60D	1.73	-2.94	6.90	-0.82	35.00	5.25	20.57	0.255
3	W 10/60D	2.18	-4.45	9.01	-1.25	35.00	6.85	20.57	0.333

ENDWALL POST DESIGN SUMMARY

LOAD CONDITION : D + .75(Lr or S) + .75W

POST NUM	* * POST * SIZE	* HORZ * REACT * (KIP)	* AXIAL * LOAD * (KIP)	* DESIGN * MOMENT * (K-FT)	* ACTUAL * FA * (KSI)	* ALLOW * FA * (KSI)	* ACTUAL * FBX * (KSI)	* ALLOW * FBX * (KSI)	* COMB * STRESS * RATIO
2	W 10/60D	1.30	9.12	5.18	2.18	14.59	3.94	20.57	0.341
3	W 10/60D	1.64	13.80	6.76	3.30	14.59	5.14	20.57	0.488

CORNER POST DESIGN SUMMARY

SELECTED BY STANDARD SELECTION PROCEDURE

LEFT CORNER POST : WF 10" DEEP

RIGHT CORNER POST : WF 10" DEEP

WIDE FLANGE CORNER POSTS HAVE 6.0" X 1/4" FLANGES AND 1/8" WEB.

ENDWALL DESIGN
INPUT ECHO

DESIGN DATA

DESIGN BASE ON THE NASPEC 2001 AISI STANDARD AND 9TH EDITION OF AISC-ASD

DEAD LOAD.....	3.28	PSF	
COLLATERAL LOAD.....	5.00	PSF	
LIVE LOAD.....	121.98	PSF	
SNOW LOAD.....	49.00	PSF	
WIND LOAD.....	13.46	PSF	
RAFTER WIND COEFFICIENT.....	1.1587		
COLUMN WIND COEFFICIENT.....	1.0017		
MAXIMUM UNITY CHECK RATIO.....	1.0300		
MAXIMUM RAFTER DEFLECTION RATIO..	L/180.		
MAXIMUM COLUMN DEFLECTION RATIO..	L/120.		(FOR 10 YEAR WIND MAP)
MAXIMUM COLUMN DEFLECTION.....	0.00	IN.	(FOR 10 YEAR WIND MAP)
MAXIMUM COLUMN DEPTH.....	10.00	IN.	
MINIMUM COLUMN DEPTH.....	10.00	IN.	
MINIMUM RAFTER DEPTH.....	8.00	IN.	
UNSUPPORTED COLUMN LENGTH.....	15.26	FT.	
UNSUPPORTED COLUMN LENGTH BENDING:	15.26	FT.	
CONSTANT PURLIN SPACING.....	3.17	FT.	
YEILD OF B.U.P. MEMBERS.....	55.00	KSI	
OPTIMIZATION.....	Y		

RUN ASCE 7-02 PARTIAL LOADING

LOAD COMBINATIONS: D + (Lr or S)
0.6D + W

D + 0.75(Lr or S) + 0.75W

NO ALLOWABLE STRESS INCREASE FOR WIND

ENDWALL DESIGN DATA

LOADS:

DEAD LOAD = 3.28 PSF
COLL LOAD = 5.00 PSF
LIVE LOAD = 121.98 PSF
SNOW LOAD = 49.00 PSF
WIND LOAD = 13.46 PSF

ENDWALL GEOMETRY:

ENDWALL TYPE : WIDE FLANGE
LEFT EAVE HEIGHT : 14.86 FEET
RIGHT EAVE HEIGHT : 15.26 FEET
BUILDING WIDTH : 12.58 FEET
DISTANCE TO RIDGE : 6.29 FEET
LEFT ROOF SLOPE : 0.38/12.
RIGHT ROOF SLOPE : -0.38/12.
SIDEWALL BAY SPACE : 14.50 FEET
GABLE EXTENSION : 0.58 FEET

1 ENDWALL SPACES (FT): 12.58

ENDWALL POST SIZES: W10. W10.

 ENDWALL RAFTER BEAM DESIGN SUMMARY

RAFTER SIZE: 8" DEEP - 6.0" X 1/4" FLANGE - 1/8" WEB

LOAD CONDITION: D + Lr
 UNIFORMLY DISTRIBUTED LOAD: 1.0338 KLF
 (INCLUDING RAFTER BEAM DEAD LOAD)

JOINT* NUM	* X-AXIS * MOMENT * (K-FT)	* Y-AXIS * MOMENT * (K-FT)	* UNSUPPORTED * LENGTH * (FT)	* ACTUAL * FBX * (KSI)	* ALLOW * FBX * (KSI)	* ACTUAL * FBY * (KSI)	* ALLOW * FBY * (KSI)	* COMB. * STRESS * RATIO
0	20.46	0.00	3.1667	22.89	33.00	0.00	34.65	0.694

LOAD CONDITION: .6D + W
 UNIFORMLY DISTRIBUTED LOAD: -0.0987 KLF
 (INCLUDING RAFTER BEAM DEAD LOAD)
 WIND LOAD: 15.59 PSF

JOINT* NUM	* X-AXIS * MOMENT * (K-FT)	* Y-AXIS * MOMENT * (K-FT)	* UNSUPPORTED * LENGTH * (FT)	* ACTUAL * FBX * (KSI)	* ALLOW * FBX * (KSI)	* ACTUAL * FBY * (KSI)	* ALLOW * FBY * (KSI)	* COMB. * STRESS * RATIO
0	-1.95	0.00	12.5833	1.93	20.08	0.00	34.65	0.096

LOAD CONDITION: D + .75(Lr + W)
 UNIFORMLY DISTRIBUTED LOAD: 0.7033 KLF
 (INCLUDING RAFTER BEAM DEAD LOAD)
 WIND LOAD: 15.59 PSF

JOINT* NUM	* X-AXIS * MOMENT * (K-FT)	* Y-AXIS * MOMENT * (K-FT)	* UNSUPPORTED * LENGTH * (FT)	* ACTUAL * FBX * (KSI)	* ALLOW * FBX * (KSI)	* ACTUAL * FBY * (KSI)	* ALLOW * FBY * (KSI)	* COMB. * STRESS * RATIO
0	13.92	0.00	3.1667	15.57	33.00	0.00	34.65	0.472

NOTE: JOINT NUMBER ZERO INDICATES
 LOCATION OF MAXIMUM MID-BAY MOMENT.

ENDWALL RAFTER BEAM DESIGN SUMMARY

RAFTER SIZE: 8" DEEP - 6.0" X 1/4" FLANGE - 1/8" WEB

LOAD CONDITION: DL + PARTIAL SL
LOAD = 0.4621 KLF IN SPAN 1
LOAD = 0.0000 KLF IN ALL OTHER SPANS

* JOINT NUM	* X-AXIS MOMENT (K-FT)	* Y-AXIS MOMENT (K-FT)	* UNSUPPORTED LENGTH (FT)	* ACTUAL FBX (KSI)	* ALLOW FBX (KSI)	* ACTUAL FBY (KSI)	* ALLOW FBY (KSI)	* COMB. STRESS RATIO
0	9.15	0.00	3.1667	10.23	33.00	0.00	34.65	0.310

NOTE: JOINT NUMBER ZERO INDICATES
LOCATION OF MAXIMUM MID-BAY MOMENT.

CORNER POST DESIGN SUMMARY

SELECTED BY STANDARD SELECTION PROCEDURE

LEFT CORNER POST : WF 10" DEEP

RIGHT CORNER POST : WF 10" DEEP

WIDE FLANGE CORNER POSTS HAVE 6.0" X 1/4" FLANGES AND 1/8" WEB.

CHIEF INDUSTRIES INC. WEST OLD HWY 30 GRAND ISLAND, NE
BUILDING A SIDEWALL (A) GIRTS
GIRTS DESIGN

PAGE NO. G - 93
JOB NO. CO95226
CH DATE 12-NOV-09

***** INPUT ECHO *****

CALCULATIONS BASED ON THE NASPEC 2001 AISI STANDARD
GIRTS REPORT
DO NOT INCREASE DEPTHS

SECTION TYPE IS C

IND LOAD = 13.45900 PSF
SUCTION = 0.9407621
PRESSURE = 0.8507621

DENSITY = 1.030000
ALLOW = 1.000000
DEFLEC = L/ 120.0000 (10 YEAR MAP DEFLECTION)
WEARING= 5.000000 5.000000 5.000000

END ZONE= 5.966670 SUCT= 0.9851242 PRES= 0.8507621

PANEL TYPE=TFP
INSET/OUTSET/BYPASS GIRTS=0

BAY NO.	1	2	3	4
BAY LENGTH	29.00	28.00	28.00	27.50
SPACING	5.83	5.83	5.83	5.83
SIZES	1014	1014	1014	1014
T SAG ANG	0	0	0	0
B SAG ANG	2	2	2	2
NUM GIRTS	2	2	2	2

SIMPLE SPAN LAPS

EXTENSIONS
LEFT EXTENSION (FT) = 1.166667 RIGHT EXTENSION (FT) = 1.166667
EXTENSION SUCTION COEF. = 0.9851242
EXTENSION PRESSURE COEF. = 0.8507621
FY = 55.00000 KSI
Welded clips N

SIZE	AREA	WEIGHT	DEPTH	FLANGE WIDTH	THICKNESS	LIP LENGTH	LIP ANGLE	CORNER RADIUS	h
C1012	1.780	6.05	10.00	3.50	0.099	0.94	90.	0.250	9.30
C1014	1.347	4.58	10.00	3.50	0.075	0.87	90.	0.250	9.35
C 812	1.483	5.04	8.00	3.00	0.099	0.94	90.	0.250	7.30
C 814	1.122	3.81	8.00	3.00	0.075	0.87	90.	0.250	7.35
C 816	0.896	3.05	8.00	3.00	0.060	0.83	90.	0.250	7.38
C 712	1.334	4.54	7.00	2.75	0.099	0.94	90.	0.250	6.30
C 714	1.009	3.43	7.00	2.75	0.075	0.87	90.	0.250	6.35
C 716	0.806	2.74	7.00	2.75	0.060	0.83	90.	0.250	6.38
C 516	0.641	2.18	5.00	2.25	0.060	0.95	90.	0.250	4.38

SIZE	Ix	Ix (def)	Sf	Sxe	Sxe (holes)	Iy	Iyc	rx	ry	Va
C1012	26.85	26.51	5.37	4.77	3.93	2.80	1.40	3.88	1.25	9.28
C1014	20.43	19.24	4.09	3.32	2.67	2.11	1.05	3.89	1.25	4.02
C 812	14.41	14.41	3.60	3.47	2.96	1.79	0.89	3.12	1.10	10.82
C 814	10.99	10.86	2.75	2.40	2.04	1.35	0.68	3.13	1.10	5.11
C 816	8.83	8.35	2.21	1.82	1.50	1.08	0.54	3.14	1.10	2.61
C 712	9.94	9.94	2.84	2.82	2.52	1.38	0.69	2.73	1.02	10.82
C 714	7.60	7.60	2.17	1.96	1.67	1.05	0.52	2.74	1.02	5.91
C 716	6.11	5.96	1.75	1.50	1.30	0.84	0.42	2.75	1.02	3.01
C 516	2.48	2.42	0.99	0.95	0.95	0.49	0.25	1.97	0.88	3.97

SECTIONS ARE CHECKED FOR THE FOLLOWING CONDITIONS:

A. SHEAR + BENDING

1. S+B 1 - SHEAR + BENDING AT THE LEFT SUPPORT
2. S+B 2 - SHEAR + BENDING AT THE LEFT LAP CUT-OFF
3. S+B 3 - SHEAR + BENDING AT THE RIGHT LAP CUT-OFF
4. S+B 4 - SHEAR + BENDING AT THE RIGHT SUPPORT

B. BENDING

1. BND 1 - BENDING AT THE LEFT SUPPORT
2. BND 2 - BENDING AT THE LEFT LAP CUT-OFF
3. BND 3 - BENDING AT THE MAXIMUM INTERIOR MOMENT
4. BND 4 - BENDING AT THE RIGHT LAP CUT-OFF
5. BND 5 - BENDING AT THE RIGHT SUPPORT

C. SHEAR

1. SHR 1 - SHEAR AT THE LEFT SUPPORT
2. SHR 2 - SHEAR AT THE LEFT LAP CUT-OFF
3. SHR 3 - SHEAR AT THE RIGHT LAP CUT-OFF
4. SHR 4 - SHEAR AT THE RIGHT SUPPORT

D. BEARING

1. BRG L - BEARING AT THE LEFT SUPPORT
2. BRG R - BEARING AT THE RIGHT SUPPORT

E. DEFLECTION - DEF - MAXIMUM DEFLECTION IN THE SPAN.

WIND LOAD (SUCTION)

WIND LOAD = 13.46 PSF X 0.94 (SUCTION) / AT 6.0' END ZONES THE COEF = 0.99

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	-0.07734	1014	0.000				
1	29.00	-0.07386	1014	-2.069	-7.76	14.51	-1.18	0.982 BND 3
2	28.00	-0.07386	1014	-1.800	-7.24	14.00	-2.10	0.899 BND 3
3	28.00	-0.07386	1014	-1.800	-7.24	14.00	-2.07	0.899 BND 3
4	27.50	-0.07386	1014	-1.673	-6.98	13.74	-2.05	0.859 BND 3
EXT	1.17	-0.07734	1014	0.000			-1.12	

THE MAXIMUM UNITY CHECK IS 0.982 IN BAY 1

WIND LOAD (PRESSURE)

WIND LOAD = 13.46 PSF X 0.85 (PRESSURE) / AT 6.0' END ZONES THE COEF = 0.85

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.06679	1014	0.000				
1	29.00	0.06679	1014	1.866	7.00	14.52	1.05	0.768 BND 3
2	28.00	0.06679	1014	1.628	6.55	14.00	1.90	0.718 BND 3
3	28.00	0.06679	1014	1.628	6.55	14.00	1.87	0.718 BND 3
4	27.50	0.06679	1014	1.508	6.29	13.73	1.85	0.690 BND 3
EXT	1.17	0.06679	1014	0.000			1.00	

THE MAXIMUM UNITY CHECK IS 0.768 IN BAY 1

G I R T D E S I G N S U M M A R Y

LOAD CONDITIONS

WIND LOAD (SUCTION)
WIND LOAD (PRESSURE)

LOADS

WIND LOAD = 13.46 PSF

BAY NO.	1	2	3	4
BAY SPACES	29.0	28.0	28.0	27.5
GIRT SIZE	1014	1014	1014	1014
GIRT SPACE	5.83	5.83	5.83	5.83

SAG ANGLES 2 2 2 2

SIMPLE SPAN LAPS

THE MAXIMUM UNITY CHECK IS 0.982 IN BAY 1

TOTAL WEIGHT = 525.91 LBS

CHIEF INDUSTRIES INC. WEST OLD HWY 30 GRAND ISLAND, NE
BUILDING A ENDWALL (B) GIRTS
GIRT DESIGN

PAGE NO. G - 97
JOB NO. CO95226
CH DATE 14-NOV-09

***** INPUT ECHO *****

CALCULATIONS BASED ON THE NASPEC 2001 AISI STANDARD
BRIEF REPORT
DO NOT INCREASE DEPTHS

SECTION TYPE IS C

WIND LOAD = 13.45900 PSF
SUCTION = 0.9914313
PRESSURE = 0.9014313

UNITY = 1.030000
ALLOW = 1.000000
DEFLC = L/ 120.0000 (10 YEAR MAP DEFLECTION)
BEARING= 5.000000 5.000000 5.000000

END ZONE= 5.966670 SUCT= 1.086463 PRES= 0.9014313

PANEL TYPE=TFP
INSET/OUTSET/BYPASS GIRTS=0

BAY NO.	1	2	3
BAY LENGTH	17.33	17.33	28.54
SPACING	5.83	5.83	5.19
SIZES	816	816	812
T SAG ANG	0	0	0
B SAG ANG	0	0	2
NUM GIRTS	1	1	1

SIMPLE SPAN LAPS

FY = 55.00000 KSI
Welded clips N

SIZE	AREA	WEIGHT	DEPTH	FLANGE WIDTH	THICKNESS	LIP LENGTH	LIP ANGLE	CORNER RADIUS	h
C1012	1.780	6.05	10.00	3.50	0.099	0.94	90.	0.250	9.30
C1014	1.347	4.58	10.00	3.50	0.075	0.87	90.	0.250	9.35
C 812	1.483	5.04	8.00	3.00	0.099	0.94	90.	0.250	7.30
C 814	1.122	3.81	8.00	3.00	0.075	0.87	90.	0.250	7.35
C 816	0.896	3.05	8.00	3.00	0.060	0.83	90.	0.250	7.38
C 712	1.334	4.54	7.00	2.75	0.099	0.94	90.	0.250	6.30
C 714	1.009	3.43	7.00	2.75	0.075	0.87	90.	0.250	6.35
C 716	0.806	2.74	7.00	2.75	0.060	0.83	90.	0.250	6.38
C 516	0.641	2.18	5.00	2.25	0.060	0.95	90.	0.250	4.38

SIZE	Ix	Ix (def)	Sf	Sxe	Sxe (holes)	Iy	Iyc	rx	ry	Va
C1012	26.85	26.51	5.37	4.77	3.93	2.80	1.40	3.88	1.25	9.28
C1014	20.43	19.24	4.09	3.32	2.67	2.11	1.05	3.89	1.25	4.02
C 812	14.41	14.41	3.60	3.47	2.96	1.79	0.89	3.12	1.10	10.82
C 814	10.99	10.86	2.75	2.40	2.04	1.35	0.68	3.13	1.10	5.11
C 816	8.83	8.35	2.21	1.82	1.50	1.08	0.54	3.14	1.10	2.61
C 712	9.94	9.94	2.84	2.82	2.52	1.38	0.69	2.73	1.02	10.82
C 714	7.60	7.60	2.17	1.96	1.67	1.05	0.52	2.74	1.02	5.91
C 716	6.11	5.96	1.75	1.50	1.30	0.84	0.42	2.75	1.02	3.01
C 516	2.48	2.42	0.99	0.95	0.95	0.49	0.25	1.97	0.88	3.97

SECTIONS ARE CHECKED FOR THE FOLLOWING CONDITIONS:

- A. SHEAR + BENDING
 - 1. S+B 1 - SHEAR + BENDING AT THE LEFT SUPPORT
 - 2. S+B 2 - SHEAR + BENDING AT THE LEFT LAP CUT-OFF
 - 3. S+B 3 - SHEAR + BENDING AT THE RIGHT LAP CUT-OFF
 - 4. S+B 4 - SHEAR + BENDING AT THE RIGHT SUPPORT
- B. BENDING
 - 1. BND 1 - BENDING AT THE LEFT SUPPORT
 - 2. BND 2 - BENDING AT THE LEFT LAP CUT-OFF
 - 3. BND 3 - BENDING AT THE MAXIMUM INTERIOR MOMENT
 - 4. BND 4 - BENDING AT THE RIGHT LAP CUT-OFF
 - 5. BND 5 - BENDING AT THE RIGHT SUPPORT
- C. SHEAR
 - 1. SHR 1 - SHEAR AT THE LEFT SUPPORT
 - 2. SHR 2 - SHEAR AT THE LEFT LAP CUT-OFF
 - 3. SHR 3 - SHEAR AT THE RIGHT LAP CUT-OFF
 - 4. SHR 4 - SHEAR AT THE RIGHT SUPPORT
- D. BEARING
 - 1. BRG L - BEARING AT THE LEFT SUPPORT
 - 2. BRG R - BEARING AT THE RIGHT SUPPORT
- E. DEFLECTION - DEF - MAXIMUM DEFLECTION IN THE SPAN.

WIND LOAD (SUCTION)

WIND LOAD = 13.46 PSF X 0.99 (SUCTION) / AT 6.0' END ZONES THE COEF = 1.09

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
1	17.33	-0.07784	816	-0.658	-2.99	8.57	-0.71	0.958 BND 3
2	17.33	-0.07784	816	-0.642	-2.92	8.67	-1.36	0.937 BND 3
3	28.54	-0.06927	812	-2.457	-7.11	14.33	-1.67	0.929 BND 3
RIGHT REACTION =							-1.02	

THE MAXIMUM UNITY CHECK IS 0.958 IN BAY 1

WIND LOAD (PRESSURE)

WIND LOAD = 13.46 PSF X 0.90 (PRESSURE) / AT 6.0' END ZONES THE COEF = 0.90

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
1	17.33	0.07077	816	0.583	2.66	8.67	0.61	0.532 BND 3
2	17.33	0.07077	816	0.583	2.66	8.67	1.23	0.532 BND 3
3	28.54	0.06298	812	2.212	6.41	14.27	1.51	0.674 BND 3
RIGHT REACTION =							0.90	

THE MAXIMUM UNITY CHECK IS 0.674 IN BAY 3

G I R T D E S I G N S U M M A R Y

LOAD CONDITIONS

WIND LOAD (SUCTION)
WIND LOAD (PRESSURE)

LOADS

WIND LOAD = 13.46 PSF

BAY NO.	1	2	3
BAY SPACES	17.3	17.3	28.5
GIRT SIZE	816	816	812
GIRT SPACE	5.83	5.83	5.19

SAG ANGLES 0 0 2

SIMPLE SPAN LAPS

THE MAXIMUM UNITY CHECK IS 0.958 IN BAY 1

TOTAL WEIGHT = 249.52 LBS

CHIEF INDUSTRIES INC. WEST OLD HWY 30 GRAND ISLAND, NE
BUILDING A ENDWALL (D) GIRTS
GIRT DESIGN

PAGE NO. G - 101
JOB NO. CO95226
CH DATE 14-NOV-09

***** INPUT ECHO *****

CALCULATIONS BASED ON THE NASPEC 2001 AISI STANDARD
BRIEF REPORT
DO NOT INCREASE DEPTHS

SECTION TYPE IS C

WIND LOAD = 13.45900 PSF
SUCTION = 0.9914313
PRESSURE = 0.9014313

UNITY = 1.030000
ALLOW = 1.000000
DEFLC = L/ 120.0000 (10 YEAR MAP DEFLECTION)
BEARING= 5.000000 5.000000 5.000000

END ZONE= 5.966670 SUCT= 1.086463 PRES= 0.9014313

PANEL TYPE=TFP
INSET/OUTSET/BYPASS GIRTS=0

BAY NO.	1	2	3
BAY LENGTH	17.33	17.33	24.00
SPACING	5.83	5.83	5.15
SIZES	816	816	814
T SAG ANG	0	0	0
B SAG ANG	0	0	2
NUM GIRTS	2	2	2

SIMPLE SPAN LAPS

FY = 55.00000 KSI
Welded clips N

SIZE	AREA	WEIGHT	DEPTH	FLANGE WIDTH	THICKNESS	LIP LENGTH	LIP ANGLE	CORNER RADIUS	h
C1012	1.780	6.05	10.00	3.50	0.099	0.94	90.	0.250	9.30
C1014	1.347	4.58	10.00	3.50	0.075	0.87	90.	0.250	9.35
C 812	1.483	5.04	8.00	3.00	0.099	0.94	90.	0.250	7.30
C 814	1.122	3.81	8.00	3.00	0.075	0.87	90.	0.250	7.35
C 816	0.896	3.05	8.00	3.00	0.060	0.83	90.	0.250	7.38
C 712	1.334	4.54	7.00	2.75	0.099	0.94	90.	0.250	6.30
C 714	1.009	3.43	7.00	2.75	0.075	0.87	90.	0.250	6.35
C 716	0.806	2.74	7.00	2.75	0.060	0.83	90.	0.250	6.38
C 516	0.641	2.18	5.00	2.25	0.060	0.95	90.	0.250	4.38

SIZE	Ix	Ix (def)	Sf	Sxe	Sxe (holes)	Iy	Iyc	rx	ry	Va
C1012	26.85	26.51	5.37	4.77	3.93	2.80	1.40	3.88	1.25	9.28
C1014	20.43	19.24	4.09	3.32	2.67	2.11	1.05	3.89	1.25	4.02
C 812	14.41	14.41	3.60	3.47	2.96	1.79	0.89	3.12	1.10	10.82
C 814	10.99	10.86	2.75	2.40	2.04	1.35	0.68	3.13	1.10	5.11
C 816	8.83	8.35	2.21	1.82	1.50	1.08	0.54	3.14	1.10	2.61
C 712	9.94	9.94	2.84	2.82	2.52	1.38	0.69	2.73	1.02	10.82
C 714	7.60	7.60	2.17	1.96	1.67	1.05	0.52	2.74	1.02	5.91
C 716	6.11	5.96	1.75	1.50	1.30	0.84	0.42	2.75	1.02	3.01
C 516	2.48	2.42	0.99	0.95	0.95	0.49	0.25	1.97	0.88	3.97

SECTIONS ARE CHECKED FOR THE FOLLOWING CONDITIONS:

A. SHEAR + BENDING

1. S+B 1 - SHEAR + BENDING AT THE LEFT SUPPORT
2. S+B 2 - SHEAR + BENDING AT THE LEFT LAP CUT-OFF
3. S+B 3 - SHEAR + BENDING AT THE RIGHT LAP CUT-OFF
4. S+B 4 - SHEAR + BENDING AT THE RIGHT SUPPORT

B. BENDING

1. BND 1 - BENDING AT THE LEFT SUPPORT
2. BND 2 - BENDING AT THE LEFT LAP CUT-OFF
3. BND 3 - BENDING AT THE MAXIMUM INTERIOR MOMENT
4. BND 4 - BENDING AT THE RIGHT LAP CUT-OFF
5. BND 5 - BENDING AT THE RIGHT SUPPORT

C. SHEAR

1. SHR 1 - SHEAR AT THE LEFT SUPPORT
2. SHR 2 - SHEAR AT THE LEFT LAP CUT-OFF
3. SHR 3 - SHEAR AT THE RIGHT LAP CUT-OFF
4. SHR 4 - SHEAR AT THE RIGHT SUPPORT

D. BEARING

1. BRG L - BEARING AT THE LEFT SUPPORT
2. BRG R - BEARING AT THE RIGHT SUPPORT

E. DEFLECTION - DEF - MAXIMUM DEFLECTION IN THE SPAN.

WIND LOAD (SUCTION)

WIND LOAD = 13.46 PSF X 0.99 (SUCTION) / AT 6.0' END ZONES THE COEF = 1.09

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
1	17.33	-0.07784	816	-0.658	-2.99	8.57	-0.71	0.958 BND 3
2	17.33	-0.07784	816	-0.642	-2.92	8.67	-1.36	0.937 BND 3
3	24.00	-0.06877	814	-1.623	-5.01	12.07	-1.50	0.853 BND 3
RIGHT REACTION =							-0.86	

THE MAXIMUM UNITY CHECK IS 0.958 IN BAY 1

WIND LOAD (PRESSURE)

WIND LOAD = 13.46 PSF X 0.90 (PRESSURE) / AT 6.0' END ZONES THE COEF = 0.90

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
1	17.33	0.07077	816	0.583	2.66	8.67	0.61	0.532 BND 3
2	17.33	0.07077	816	0.583	2.66	8.67	1.23	0.532 BND 3
3	24.00	0.06253	814	1.456	4.50	12.00	1.36	0.684 BND 3
RIGHT REACTION =							0.75	

THE MAXIMUM UNITY CHECK IS 0.684 IN BAY 3

G I R T D E S I G N S U M M A R Y

LOAD CONDITIONS

WIND LOAD (SUCTION)
WIND LOAD (PRESSURE)

LOADS

WIND LOAD = 13.46 PSF

BAY NO.	1	2	3
BAY SPACES	17.3	17.3	24.0
GIRT SIZE	816	816	814
GIRT SPACE	5.83	5.83	5.15
SAG ANGLES	0	0	2

SIMPLE SPAN LAPS

THE MAXIMUM UNITY CHECK IS 0.958 IN BAY 1

TOTAL WEIGHT = 197.16 LBS

***** INPUT ECHO *****

CALCULATIONS BASED ON THE NASPEC 2001 AISI STANDARD
BRIEF REPORT
DO NOT INCREASE DEPTHS

SECTION TYPE IS Z

DEAD LOAD = 1.500000 PSF
COLLATERAL= 5.000000 PSF
LIVE LOAD = 20.000000 PSF
SNOW LOAD = 49.000000 PSF
MIN. SNOW = 49.000000 PSF
WIND LOAD = 13.45900 PSF X 1.280000

UNITY = 1.030000
ALLOW = 1.000000
DEFLC = L/ 150.0000 (LIVE LOAD DEFLECTION)
DEFLC = L/ 180.0000 (SNOW LOAD DEFLECTION)
DEFLC = L/ 180.0000 (10 YEAR MAP DEFLECTION)
BEARING= 5.000000 5.000000 5.000000

END ZONE= 5.966670 SUCT= 1.280000

PANEL TYPE=SSR
ASCE 7 PARTIAL SNOW LOADING & IBC SKIP LIVE LOADING (ISKIP=5)

BAY NO.	1	2	3	4
BAY LENGTH	29.00	28.00	28.00	27.50
SPACING	2.83	2.83	2.83	2.83
SIZES	1012	1012	1012	1012
T SAG ANG	3	2	2	3
B SAG ANG	2	2	2	2
NUM PURLIN		44		
LAP LEFT	0.00	3.00	3.00	3.00
LAP RIGHT	3.00	3.00	3.00	0.00

EXTENSIONS

LEFT EXTENSION (FT) = 1.166667 RIGHT EXTENSION (FT) = 1.166667
LEFT EXT. DL (PSF) = 1.500000 RIGHT EXT. DL (PSF) = 1.500000

EXTENSION SUCTION COEF. = 1.280000

FY = 55.00000 KSI

Welded clips Y

SIZE	AREA	WEIGHT	DEPTH	FLANGE WIDTH	THICKNESS	LIP LENGTH	LIP ANGLE	CORNER RADIUS	h
Z1012	1.662	5.65	10.00	2.75	0.099	0.96	50.	0.250	9.30
Z1014	1.261	4.29	10.00	2.75	0.075	0.91	50.	0.250	9.35
Z 812	1.419	4.82	8.00	2.50	0.099	0.96	50.	0.250	7.30
Z 814	1.073	3.65	8.00	2.50	0.075	0.91	50.	0.250	7.35
Z 816	0.858	2.92	8.00	2.50	0.060	0.87	50.	0.250	7.38
Z 712	1.322	4.49	6.75	2.75	0.099	0.85	50.	0.250	6.05
Z 714	1.002	3.41	6.75	2.75	0.075	0.81	50.	0.250	6.10
Z 716	0.802	2.73	6.75	2.75	0.060	0.78	50.	0.250	6.13
Z 516	0.640	2.18	5.00	2.25	0.060	0.81	50.	0.250	4.38

SIZE	Ix	Ix (def)	Sf	Sxe	Sxe (holes)	Iy	Iyc	rx	ry	Va
Z1012	24.18	24.18	4.84	4.74	3.74	2.89	1.44	3.81	1.32	9.28
Z1014	18.39	18.39	3.68	3.27	2.68	2.15	1.07	3.82	1.30	4.02
Z 812	13.50	13.50	3.38	3.38	3.03	2.30	1.15	3.08	1.27	10.82
Z 814	10.28	10.28	2.57	2.42	2.09	1.71	0.86	3.10	1.26	5.11
Z 816	8.25	8.25	2.06	1.83	1.54	1.35	0.68	3.10	1.26	2.61
Z 712	9.46	9.46	2.80	2.66	2.36	2.84	1.42	2.68	1.46	10.82
Z 714	7.23	7.23	2.14	1.84	1.63	2.12	1.06	2.69	1.45	6.16
Z 716	5.81	5.65	1.72	1.42	1.28	1.68	0.84	2.69	1.45	3.14
Z 516	2.56	2.40	1.03	0.92	0.92	1.00	0.50	2.00	1.25	3.97

SECTIONS ARE CHECKED FOR THE FOLLOWING CONDITIONS:

A. SHEAR + BENDING

1. S+B 1 - SHEAR + BENDING AT THE LEFT SUPPORT
2. S+B 2 - SHEAR + BENDING AT THE LEFT LAP CUT-OFF
3. S+B 3 - SHEAR + BENDING AT THE RIGHT LAP CUT-OFF
4. S+B 4 - SHEAR + BENDING AT THE RIGHT SUPPORT

B. BENDING

1. BND 1 - BENDING AT THE LEFT SUPPORT
2. BND 2 - BENDING AT THE LEFT LAP CUT-OFF
3. BND 3 - BENDING AT THE MAXIMUM INTERIOR MOMENT
4. BND 4 - BENDING AT THE RIGHT LAP CUT-OFF
5. BND 5 - BENDING AT THE RIGHT SUPPORT

C. SHEAR

1. SHR 1 - SHEAR AT THE LEFT SUPPORT
2. SHR 2 - SHEAR AT THE LEFT LAP CUT-OFF
3. SHR 3 - SHEAR AT THE RIGHT LAP CUT-OFF
4. SHR 4 - SHEAR AT THE RIGHT SUPPORT

D. BEARING

1. BRG L - BEARING AT THE LEFT SUPPORT
2. BRG R - BEARING AT THE RIGHT SUPPORT

E. DEFLECTION - DEF - MAXIMUM DEFLECTION IN THE SPAN.

DEAD LOAD + SNOW LOAD
 SNOW LOAD = 49.00 PSF
 DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.14873	1012	0.000				
1	29.00	0.16290	1012	1.398	9.94	11.11	1.98	0.933 BND 3
2	28.00	0.16290	1012	0.183	3.47	15.52	5.44	0.848 BND 2
3	28.00	0.16290	1012	0.277	3.93	12.71	4.10	0.753 BND 4
4	27.50	0.16290	1012	1.076	8.71	17.10	5.28	0.789 BND 3
EXT	1.17	0.14873	1012	0.000			1.87	

THE MAXIMUM UNITY CHECK IS 0.933 IN BAY 1

0.6 DEAD LOAD + WIND LOAD (SUCTION)
 WIND LOAD = 13.46 PSF X 1.28 (SUCTION) / AT 6.0' END ZONES THE COEF = 1.28
 DEAD LOAD = 1.50 PSF

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	-0.04287	1012	0.000				
1	29.00	-0.04287	1012	-0.491	-2.62	11.11	-0.53	0.293 BND 2
2	28.00	-0.04287	1012	-0.064	-0.91	15.51	-1.43	0.223 BND 2
3	28.00	-0.04287	1012	-0.097	-1.03	12.71	-1.08	0.198 BND 4
4	27.50	-0.04287	1012	-0.378	-2.29	17.10	-1.39	0.242 BND 4
EXT	1.17	-0.04287	1012	0.000			-0.50	

THE MAXIMUM UNITY CHECK IS 0.293 IN BAY 1

DEAD LOAD + PARTIAL SNOW LOAD
 DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)
 ASCE 7 PARTIAL LOADING - SL = 49.00 PSF OR 24.50 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.07932	1012	0.000				
1	29.00	0.16290	1012	1.402	9.97	11.09	1.90	0.935 BND 3
2	28.00	0.16290	1012	0.181	3.47	15.52	5.45	0.849 BND 2
3	28.00	0.16290	1012	0.278	3.93	12.71	4.10	0.753 BND 4
4	27.50	0.16290	1012	1.076	8.70	17.10	5.28	0.789 BND 3
EXT	1.17	0.14873	1012	0.000			1.87	

THE MAXIMUM UNITY CHECK IS 0.935 IN BAY 1

DEAD LOAD + PARTIAL SNOW LOAD

DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

ASCE 7 PARTIAL LOADING - SL = 49.00 PSF OR 24.50 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.14873	1012	0.000				
1	29.00	0.16290	1012	1.397	9.94	11.11	1.98	0.933 BND 3
2	28.00	0.16290	1012	0.183	3.47	15.52	5.44	0.848 BND 2
3	28.00	0.16290	1012	0.276	3.92	12.70	4.10	0.754 BND 4
4	27.50	0.16290	1012	1.081	8.73	17.12	5.28	0.791 BND 3
EXT	1.17	0.07932	1012	0.000			1.78	

THE MAXIMUM UNITY CHECK IS 0.933 IN BAY 1

DEAD LOAD + PARTIAL SNOW LOAD

DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

ASCE 7 PARTIAL LOADING - SL = 49.00 PSF OR 24.50 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.14873	1012	0.000				
1	29.00	0.09348	1012	0.695	5.69	11.13	1.21	0.533 BND 3
2	28.00	0.09348	1012	0.092	1.99	15.51	3.12	0.485 BND 2
3	28.00	0.09348	1012	0.138	2.25	12.71	2.36	0.432 BND 4
4	27.50	0.09348	1012	0.539	5.00	17.10	3.03	0.453 BND 3
EXT	1.17	0.07932	1012	0.000			1.06	

THE MAXIMUM UNITY CHECK IS 0.533 IN BAY 1

DEAD LOAD + PARTIAL SNOW LOAD

DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

ASCE 7 PARTIAL LOADING - SL = 49.00 PSF OR 24.50 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.07932	1012	0.000				
1	29.00	0.09348	1012	0.699	5.71	11.10	1.13	0.536 BND 3
2	28.00	0.09348	1012	0.091	1.99	15.51	3.12	0.487 BND 2
3	28.00	0.09348	1012	0.140	2.26	12.72	2.36	0.431 BND 4
4	27.50	0.09348	1012	0.535	4.97	17.08	3.03	0.451 BND 3
EXT	1.17	0.14873	1012	0.000			1.15	

THE MAXIMUM UNITY CHECK IS 0.536 IN BAY 1

DEAD LOAD + PARTIAL SNOW LOAD

DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

ASCE 7 PARTIAL LOADING - SL = 49.00 PSF OR 24.50 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.07932	1012	0.000				
1	29.00	0.09348	1012	0.456	4.87	10.26	1.05	0.807 BND 4
2	28.00	0.16290	1012	0.534	4.87	14.20	4.07	0.514 BND 3
3	28.00	0.16290	1012	0.155	3.35	13.11	4.38	0.735 BND 4
4	27.50	0.16290	1012	1.120	8.86	17.01	5.20	0.802 BND 3
EXT	1.17	0.14873	1012	0.000			1.88	

THE MAXIMUM UNITY CHECK IS 0.807 IN BAY 1

DEAD LOAD + PARTIAL SNOW LOAD

DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

ASCE 7 PARTIAL LOADING - SL = 49.00 PSF OR 24.50 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.14873	1012	0.000				
1	29.00	0.16290	1012	1.439	10.08	11.18	1.99	0.946 BND 3
2	28.00	0.16290	1012	-0.163	2.95	15.17	5.37	0.834 BND 2
3	28.00	0.16290	1012	0.593	5.19	13.86	4.35	0.549 BND 3
4	27.50	0.09348	1012	0.313	4.13	18.04	3.99	0.728 BND 2
EXT	1.17	0.07932	1012	0.000			0.98	

THE MAXIMUM UNITY CHECK IS 0.946 IN BAY 1

DEAD LOAD + PARTIAL SNOW LOAD

DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

ASCE 7 PARTIAL LOADING - SL = 49.00 PSF OR 24.50 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.14873	1012	0.000				
1	29.00	0.16290	1012	1.675	10.84	11.59	2.06	1.017 BND 3
2	28.00	0.09348	1012	-0.403	0.97	17.81	4.50	0.908 BND 2
3	28.00	0.09348	1012	0.264	2.86	12.01	2.08	0.450 BND 4
4	27.50	0.09348	1012	0.499	4.85	17.26	3.11	0.509 BND 2
EXT	1.17	0.07932	1012	0.000			1.05	

THE MAXIMUM UNITY CHECK IS 1.017 IN BAY 1

DEAD LOAD + PARTIAL SNOW LOAD

DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

ASCE 7 PARTIAL LOADING - SL = 49.00 PSF OR 24.50 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.07932	1012	0.000				
1	29.00	0.16290	1012	1.339	9.75	10.97	1.88	0.915 BND 3
2	28.00	0.16290	1012	0.363	4.37	16.09	5.56	0.873 BND 2
3	28.00	0.09348	1012	-0.091	1.51	13.64	3.22	0.409 BND 4
4	27.50	0.09348	1012	0.598	5.20	16.89	2.92	0.471 BND 3
EXT	1.17	0.07932	1012	0.000			1.08	

THE MAXIMUM UNITY CHECK IS 0.915 IN BAY 1

DEAD LOAD + PARTIAL SNOW LOAD

DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

ASCE 7 PARTIAL LOADING - SL = 49.00 PSF OR 24.50 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.07932	1012	0.000				
1	29.00	0.09348	1012	0.491	4.99	10.39	1.06	0.765 BND 4
2	28.00	0.16290	1012	0.431	4.42	13.85	4.00	0.495 BND 4
3	28.00	0.16290	1012	0.477	4.69	14.26	4.63	0.495 BND 3
4	27.50	0.09348	1012	0.349	4.27	17.88	3.91	0.684 BND 2
EXT	1.17	0.07932	1012	0.000			0.99	

THE MAXIMUM UNITY CHECK IS 0.765 IN BAY 1

DEAD LOAD + PARTIAL SNOW LOAD

DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

ASCE 7 PARTIAL LOADING - SL = 49.00 PSF OR 24.50 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.07932	1012	0.000				
1	29.00	0.09348	1012	0.768	5.93	11.31	1.15	0.556 BND 3
2	28.00	0.09348	1012	-0.140	1.16	14.53	3.01	0.463 BND 2
3	28.00	0.16290	1012	0.443	4.74	12.17	3.24	0.778 BND 4
4	27.50	0.16290	1012	1.026	8.53	17.24	5.39	0.871 BND 2
EXT	1.17	0.07932	1012	0.000			1.76	

THE MAXIMUM UNITY CHECK IS 0.871 IN BAY 4

DEAD LOAD + PARTIAL SNOW LOAD

DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

ASCE 7 PARTIAL LOADING - SL = 49.00 PSF OR 24.50 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.07932	1012	0.000				
1	29.00	0.09348	1012	0.662	5.58	10.98	1.12	0.523 BND 3
2	28.00	0.09348	1012	0.202	2.54	16.12	3.19	0.501 BND 2
3	28.00	0.09348	1012	-0.308	1.29	10.70	2.11	0.799 BND 4
4	27.50	0.16290	1012	1.337	9.64	16.56	4.32	0.873 BND 3
EXT	1.17	0.14873	1012	0.000			1.96	

THE MAXIMUM UNITY CHECK IS 0.873 IN BAY 4

DEAD LOAD + SKIP LIVE LOAD

DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

IBC 2000 SKIP LOADING - LL = 20.00 PSF OR 0.00 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.06657	1012	0.000				
1	29.00	0.08073	1012	0.803	5.67	11.90	1.04	0.532 BND 3
2	28.00	0.02407	1012	-0.332	0.12	22.79	1.93	0.479 BND 2
3	28.00	0.02407	1012	0.104	1.11	10.50	0.38	0.126 BND 4
4	27.50	0.02407	1012	-0.024	1.17	17.62	0.85	0.156 BND 2
EXT	1.17	0.00990	1012	0.000			0.25	

THE MAXIMUM UNITY CHECK IS 0.532 IN BAY 1

DEAD LOAD + SKIP LIVE LOAD

DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

IBC 2000 SKIP LOADING - LL = 20.00 PSF OR 0.00 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.00990	1012	0.000				
1	29.00	0.08073	1012	0.525	4.78	10.88	0.89	0.448 BND 3
2	28.00	0.08073	1012	0.223	2.47	16.46	2.79	0.441 BND 2
3	28.00	0.02407	1012	-0.127	0.04	15.65	1.31	0.182 BND 2
4	27.50	0.02407	1012	0.055	1.46	16.45	0.69	0.132 BND 3
EXT	1.17	0.00990	1012	0.000			0.28	

THE MAXIMUM UNITY CHECK IS 0.448 IN BAY 1

DEAD LOAD + SKIP LIVE LOAD

DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

IBC 2000 SKIP LOADING - LL = 20.00 PSF OR 0.00 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.00990	1012	0.000				
1	29.00	0.02407	1012	-0.132	0.93	8.81	0.22	0.260 BND 4
2	28.00	0.08073	1012	0.291	2.62	12.78	1.52	0.298 BND 4
3	28.00	0.08073	1012	0.289	2.67	15.26	2.46	0.297 BND 2
4	27.50	0.02407	1012	-0.136	0.75	19.59	1.50	0.247 BND 2
EXT	1.17	0.00990	1012	0.000			0.20	

THE MAXIMUM UNITY CHECK IS 0.298 IN BAY 2

DEAD LOAD + SKIP LIVE LOAD

DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

IBC 2000 SKIP LOADING - LL = 20.00 PSF OR 0.00 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.00990	1012	0.000				
1	29.00	0.02407	1012	0.064	1.65	11.75	0.29	0.155 BND 3
2	28.00	0.02407	1012	-0.144	-0.08	12.38	0.71	0.195 BND 4
3	28.00	0.08073	1012	0.250	2.62	11.82	1.33	0.394 BND 4
4	27.50	0.08073	1012	0.401	4.17	17.33	2.71	0.451 BND 2
EXT	1.17	0.00990	1012	0.000			0.83	

THE MAXIMUM UNITY CHECK IS 0.451 IN BAY 4

DEAD LOAD + SKIP LIVE LOAD

DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

IBC 2000 SKIP LOADING - LL = 20.00 PSF OR 0.00 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.00990	1012	0.000				
1	29.00	0.02407	1012	-0.023	1.37	10.69	0.27	0.171 BND 4
2	28.00	0.02407	1012	0.091	0.99	17.44	0.86	0.137 BND 2
3	28.00	0.02407	1012	-0.286	0.13	6.32	0.41	0.420 BND 4
4	27.50	0.08073	1012	0.658	5.09	16.22	1.83	0.461 BND 3
EXT	1.17	0.06657	1012	0.000			0.99	

THE MAXIMUM UNITY CHECK IS 0.461 IN BAY 4

DEAD LOAD + SKIP LIVE LOAD

DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

IBC 2000 SKIP LOADING - LL = 20.00 PSF OR 0.00 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.00990	1012	0.000				
1	29.00	0.08073	1012	0.899	6.00	12.20	1.00	0.561 BND 3
2	28.00	0.02407	1012	-0.527	-1.62	17.74	1.78	0.457 BND 2
3	28.00	0.08073	1012	0.601	4.02	13.08	1.30	0.427 BND 3
4	27.50	0.02407	1012	-0.270	0.43	21.18	1.71	0.354 BND 2
EXT	1.17	0.06657	1012	0.000			0.23	

THE MAXIMUM UNITY CHECK IS 0.561 IN BAY 1

DEAD LOAD + SKIP LIVE LOAD

DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

IBC 2000 SKIP LOADING - LL = 20.00 PSF OR 0.00 PSF ON EACH SPAN AS REQUIRED

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT LOC FROM LT. (FT)	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.06657	1012	0.000				
1	29.00	0.02407	1012	-0.269	0.62	7.42	0.26	0.366 BND 4
2	28.00	0.08073	1012	0.594	3.92	14.85	1.72	0.416 BND 3
3	28.00	0.02407	1012	-0.485	-1.47	11.46	1.34	0.394 BND 4
4	27.50	0.08073	1012	0.748	5.43	15.89	1.68	0.491 BND 3
EXT	1.17	0.00990	1012	0.000			0.95	

THE MAXIMUM UNITY CHECK IS 0.491 IN BAY 4

P U R L I N D E S I G N S U M M A R Y

LOAD CONDITIONS

DEAD LOAD + MINIMUM SNOW LOAD
0.6 DEAD LOAD + WIND LOAD (SUCTION)
DEAD LOAD + SKIP LIVE LOAD
DEAD LOAD + PARTIAL SNOW LOAD

LOADS

DEAD LOAD = 1.50 PSF
COLLATERAL LOAD = 5.00 PSF
LIVE LOAD = 20.00 PSF
MINIMUM ROOF SNOW = 49.00 PSF
ROOF SNOW (Pf) = 49.00 PSF
WIND LOAD = 13.46 PSF

BAY NO.	1	2	3	4
BAY SPACES	29.0	28.0	28.0	27.5
PURLIN SIZE	1012	1012	1012	1012
PUR SPACE	2.83	2.83	2.83	2.83
TOP ANGLES	3	2	2	3
BOT ANGLES	2	2	2	2
LAP LENGTHS	3.00	3.00	3.00	

THE MAXIMUM UNITY CHECK IS 1.017 IN BAY 1

TOTAL WEIGHT = 750.61 LBS

P U R L I N R E S T R A I N T F O R C E S

NUMBER OF PURLIN ROWS $N_p = 44$ ROOF SLOPE = 0.4/12

BAY NO.	1	2	3	4	
BAY SPACES	29.0	28.0	28.0	27.5	
PURLIN SIZE	1012	1012	1012	1012	
ROLL FORCES AT THE SUPPORTS:					
	0.6	0.7	0.7	0.7	0.6
NUMBER OF ANTI-ROLL CLIPS REQUIRED:					
	0	0	0	0	0
TOP ANGLES					
	3	2	2	3	
SAG FORCES					
	0.0	2.8	2.8	0.0	

POSITIVE FORCES ARE TO RESIST UPHILL ROLL

***** INPUT ECHO *****

CALCULATIONS BASED ON THE NASPEC 2001 AISI STANDARD
BRIEF REPORT
DO NOT INCREASE DEPTHS

SECTION TYPE IS Z

DEAD LOAD = 1.500000 PSF
COLLATERAL= 5.000000 PSF
LIVE LOAD = 20.000000 PSF
SNOW LOAD = 49.000000 PSF
MIN. SNOW = 49.000000 PSF
WIND LOAD = 13.45900 PSF X 1.318790
SNOW ACC 1 = 8.74 PSF AT -1.17' FROM LEFT SUPPORT TAPERING TO
0.00 PSF AT 15.08' FROM LEFT SUPPORT
SNOW ACC 2 = 0.00 PSF AT -1.17' FROM LEFT SUPPORT INCREASING TO
102.58 PSF AT 15.08' FROM LEFT SUPPORT

UNITY = 1.030000
ALLOW = 1.000000
DEFLC = L/ 150.0000 (LIVE LOAD DEFLECTION)
DEFLC = L/ 180.0000 (SNOW LOAD DEFLECTION)
DEFLC = L/ 180.0000 (10 YEAR MAP DEFLECTION)
BEARING= 5.000000 5.000000 6.000000

END ZONE= 3.000000 SUCT= 1.374205

PANEL TYPE=SSR
ASCE 7 PARTIAL SNOW LOADING & IBC SKIP LIVE LOADING (ISKIP=5)

BAY NO. 1
BAY LENGTH 14.50
SPACING 3.17
SIZES 1012
T SAG ANG 1
B SAG ANG 0
NUM PURLIN 3

SIMPLE SPAN LAPS

EXTENSIONS
LEFT EXTENSION (FT) = 1.166667 RIGHT EXTENSION (FT) = 0.5833333
LEFT EXT. DL (PSF) = 1.500000 RIGHT EXT. DL (PSF) = 1.500000
EXTENSION SUCTION COEF. = 1.318790
FY = 55.00000 KSI
Welded clips Y

SIZE	AREA	WEIGHT	DEPTH	FLANGE WIDTH	THICKNESS	LIP LENGTH	LIP ANGLE	CORNER RADIUS	h
Z1012	1.662	5.65	10.00	2.75	0.099	0.96	50.	0.250	9.30
Z1014	1.261	4.29	10.00	2.75	0.075	0.91	50.	0.250	9.35
Z 812	1.419	4.82	8.00	2.50	0.099	0.96	50.	0.250	7.30
Z 814	1.073	3.65	8.00	2.50	0.075	0.91	50.	0.250	7.35
Z 816	0.858	2.92	8.00	2.50	0.060	0.87	50.	0.250	7.38
Z 712	1.322	4.49	6.75	2.75	0.099	0.85	50.	0.250	6.05
Z 714	1.002	3.41	6.75	2.75	0.075	0.81	50.	0.250	6.10
Z 716	0.802	2.73	6.75	2.75	0.060	0.78	50.	0.250	6.13
Z 516	0.640	2.18	5.00	2.25	0.060	0.81	50.	0.250	4.38

SIZE	Ix	Ix (def)	Sf	Sxe	Sxe (holes)	Iy	Iyc	rx	ry	Va
Z1012	24.18	24.18	4.84	4.74	3.74	2.89	1.44	3.81	1.32	9.28
Z1014	18.39	18.39	3.68	3.27	2.68	2.15	1.07	3.82	1.30	4.02
Z 812	13.50	13.50	3.38	3.38	3.03	2.30	1.15	3.08	1.27	10.82
Z 814	10.28	10.28	2.57	2.42	2.09	1.71	0.86	3.10	1.26	5.11
Z 816	8.25	8.25	2.06	1.83	1.54	1.35	0.68	3.10	1.26	2.61
Z 712	9.46	9.46	2.80	2.66	2.36	2.84	1.42	2.68	1.46	10.82
Z 714	7.23	7.23	2.14	1.84	1.63	2.12	1.06	2.69	1.45	6.16
Z 716	5.81	5.65	1.72	1.42	1.28	1.68	0.84	2.69	1.45	3.14
Z 516	2.56	2.40	1.03	0.92	0.92	1.00	0.50	2.00	1.25	3.97

SECTIONS ARE CHECKED FOR THE FOLLOWING CONDITIONS:

- A. SHEAR + BENDING
 - 1. S+B 1 - SHEAR + BENDING AT THE LEFT SUPPORT
 - 2. S+B 2 - SHEAR + BENDING AT THE LEFT LAP CUT-OFF
 - 3. S+B 3 - SHEAR + BENDING AT THE RIGHT LAP CUT-OFF
 - 4. S+B 4 - SHEAR + BENDING AT THE RIGHT SUPPORT
- B. BENDING
 - 1. BND 1 - BENDING AT THE LEFT SUPPORT
 - 2. BND 2 - BENDING AT THE LEFT LAP CUT-OFF
 - 3. BND 3 - BENDING AT THE MAXIMUM INTERIOR MOMENT
 - 4. BND 4 - BENDING AT THE RIGHT LAP CUT-OFF
 - 5. BND 5 - BENDING AT THE RIGHT SUPPORT
- C. SHEAR
 - 1. SHR 1 - SHEAR AT THE LEFT SUPPORT
 - 2. SHR 2 - SHEAR AT THE LEFT LAP CUT-OFF
 - 3. SHR 3 - SHEAR AT THE RIGHT LAP CUT-OFF
 - 4. SHR 4 - SHEAR AT THE RIGHT SUPPORT
- D. BEARING
 - 1. BRG L - BEARING AT THE LEFT SUPPORT
 - 2. BRG R - BEARING AT THE RIGHT SUPPORT
- E. DEFLECTION - DEF - MAXIMUM DEFLECTION IN THE SPAN.

DEAD LOAD + SNOW LOAD
 SNOW LOAD = 49.00 PSF
 DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT FROM (FT)	LOC LT.	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.16557	1012	0.000					
1	14.50	0.18140	1012	0.212	4.70	7.28		1.51	0.409 BND 3
EXT	0.58	0.16557	1012	0.000				1.41	

THE MAXIMUM UNITY CHECK IS 0.409 IN BAY 1

0.6 DEAD LOAD + WIND LOAD (SUCTION)
 WIND LOAD = 13.46 PSF X 1.32 (SUCTION) / AT 3.0' END ZONES THE COEF = 1.37
 DEAD LOAD = 1.50 PSF

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT FROM (FT)	LOC LT.	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	-0.05233	1012	0.000					
1	14.50	-0.04997	1012	-0.077	-1.30	7.29		-0.43	0.336 BND 3
EXT	0.58	-0.05233	1012	0.000				-0.40	

THE MAXIMUM UNITY CHECK IS 0.336 IN BAY 1

DEAD LOAD + SNOW LOAD
 SNOW LOAD = 49.00 PSF
 DEAD LOAD = 6.50 PSF (INCLUDING COLLATERAL LOAD)
 SNOW ACC 1 = 8.74 PSF AT -1.17' FROM LEFT SUPPORT TAPERING TO
 0.00 PSF AT 15.08' FROM LEFT SUPPORT
 SNOW ACC 2 = 0.00 PSF AT -1.17' FROM LEFT SUPPORT INCREASING TO
 102.58 PSF AT 15.08' FROM LEFT SUPPORT

BAY NO.	BAY LENGTH (FT)	UNIFORM LOAD (KLF)	SECT. SIZE	UNIT DEFLECT (IN)	MOMENT (KFT)	MOMT FROM (FT)	LOC LT.	LEFT END REACTION (KIPS)	MAXIMUM UNITY
EXT	1.17	0.16557	1012	0.000					
1	14.50	0.18140	1012	0.464	9.47	7.70		2.55	0.832 BND 3
EXT	0.58	0.16557	1012	0.000				3.23	

THE MAXIMUM UNITY CHECK IS 0.832 IN BAY 1

P U R L I N D E S I G N S U M M A R Y

LOAD CONDITIONS

DEAD LOAD + MINIMUM SNOW LOAD
0.6 DEAD LOAD + WIND LOAD (SUCTION)
DEAD LOAD + SNOW LOAD

LOADS

DEAD LOAD = 1.50 PSF
COLLATERAL LOAD = 5.00 PSF
LIVE LOAD = 20.00 PSF
MINIMUM ROOF SNOW = 49.00 PSF
ROOF SNOW (Pf) = 49.00 PSF
WIND LOAD = 13.46 PSF
SNOW LD 1 = 8.74 PSF AT -1.17' FROM LEFT END TAPERING TO
0.00 PSF AT 15.08' FROM LEFT END
SNOW LD 2 = 0.00 PSF AT -1.17' FROM LEFT END INCREASING TO
102.58 PSF AT 15.08' FROM LEFT END

BAY NO. 1
BAY SPACES 14.5
PURLIN SIZE 1012
PUR SPACE 3.17

TOP ANGLES 1
BOT ANGLES 0

LAP LENGTHS

THE MAXIMUM UNITY CHECK IS 0.832 IN BAY 1

TOTAL WEIGHT = 91.83 LBS

CHIEF INDUSTRIES INC. WEST OLD HWY 30 GRAND ISLAND, NE
BUILDING B PURLINS
PURLIN DESIGN

PAGE NO. P - 120
JOB NO. CO95226
CH DATE 15-NOV-09

P U R L I N R E S T R A I N T F O R C E S

NUMBER OF PURLIN ROWS $N_p = 3$ ROOF SLOPE = 0.4/12

BAY NO. 1
BAY SPACES 14.5
PURLIN SIZE 1012

ROLL FORCES AT THE SUPPORTS:

1.3 1.7

NUMBER OF ANTI-ROLL CLIPS REQUIRED:

1 1

TOP ANGLES 1

SAG FORCES 1.3

POSITIVE FORCES ARE TO RESIST UPHILL ROLL

INPUT ECHO:

DESIGN BASED ON THE NASPEC 2001 AISI STANDARD
USE ONLY ROD BRACING

ROOF PANEL TYPE = SSR

LOAD COMBINATIONS: D + (Lr or S)

.6D + W

D + .75(Lr or S) + .75W

NO ALLOWABLE STRESS INCREASE FOR WIND.

NUMBER ROOF TRUSS PANEL POINTS = 3

BUILDING WIDTH = 60.21

NUMBER WALL TRUSS PANEL POINTS = 2

EAVE HEIGHT = 16.00

NUMBER OF BAYS IN THE BUILDING = 4

ROOF SLOPE = 0.38

LOADS:

DEAD LOAD = 1.50 PSF

EAVE PURLIN SPACE = 2.86 FT

COLL LOAD = 5.00 PSF

PANEL OVER HANG AT EAVE = 0.50 FT

LIVE LOAD = 20.00 PSF

SNOW LOAD = 49.00 PSF

WIND LOAD = 13.46 PSF

BRACING PRESSURE COEFFICIENT = 1.1202

BRACING SUCTION COEFFICIENT = 0.6798

PURLIN UPLIFT COEFFICIENT = 1.2800

UPLIFT COEFFICIENT ON PURLIN STRUTS = 0.8700

END ZONE WIDTH = 5.97 FEET

END ZONE PURLIN UPLIFT COEFFICIENT = 1.2800

UPLIFT COEFFICIENT ON PURLIN EXTENSIONS = 1.2800

LEFT EXTENSION LENGTH = 1.17 FEET

RIGHT EXTENSION LENGTH = 1.17 FEET

LEFT EXTENSION DEAD LOAD = 1.50 PSF

RIGHT EXTENSION DEAD LOAD = 1.50 PSF

NOMINAL PURLIN LOAD WIDTH = 2.83 FEET

RIDGE PURLIN LOAD WIDTH = 2.33 FEET

PURLIN YIELD = 55.00 KSI

ROOF TRUSS SPACES ADJUSTED TO RAKE DISTANCE

STRUT SPACES: 17.35 12.79

BAY SPACES : 29.00 28.00 28.00 27.50

PUR SIZES : Z1012 Z1012 Z1012 Z1012

LAPS : 3.00 3.00 3.00

3.00 3.00 3.00

SAG ANGLES : 32 22 22 32

BRACED BAY NUMBER(S) : 3

BRACE 1 BAYS HORIZONTAL REACTION IN BRACED BAYS= 6.01 KIPS

STRUT NUMBERS	1	2	3
PRES. LOADS (KIP) -	1.06	1.87	0.81
SUCT. LOADS (KIP) -	0.64	1.14	0.49
TRUSS LOADS (KIP) -	6.01	4.31	1.30
STRUT LOADS (KIP) -	5.37	3.17	0.81
STRUT SPACE (FT) -	16.00	17.35	12.04

BAY NO. 3	ROD	ROD	ROD
DIAMETER (IN) -	0.750	0.625	0.625
MIN WEB THICKNESS -	.1563	.1563	.1250
MIN WITH WEB WASHER	.1250	.1250	.1250

NOTE : THE MIN WEB THICKNESS IS THE MINIMUM FRAME WEB THICKNESS
WHICH DOES NOT NEED TO HAVE A WEB REINFORCING PLATE SUPPLIED.

STRUT NUMBER 1 IS THE EAVE STRUT.
STRUT NUMBERS 2- 3 ARE PURLIN STRUTS.

PURLIN STRUT LOAD CONDITIONS:

- 1) DEAD + UNIFORM SNOW
- 2) .6 DEAD + WIND
- 3) DL + SKIP LOAD
- 4) DL + .75SL + .75WL + .75AXIAL
- 5) .6DL + WL + AXIAL

FOR STRUT ROW NUMBER 2

STRUT SIZES:	Z1012	Z1012	Z1012	Z1012
NBOLTS	:2	2	2	2
AXIAL LOAD :	2.50	2.50	4.23	2.50
UNITY CHECK:	1.017	0.908	0.799	0.873
FOR LC NUM :	3	3	3	3
TOP ANGLES :	3	2	2	3
BOT ANGLES :	2	2	2	2

FOR STRUT ROW NUMBER 3

STRUT SIZES:	Z1012	Z1012	Z1012	Z1012
NBOLTS	:2	2	2	2
AXIAL LOAD :	1.08	1.08	1.08	1.08
UNITY CHECK:	0.843	0.753	0.662	0.724
FOR LC NUM :	3	3	3	3
TOP ANGLES :	3	2	2	3
BOT ANGLES :	2	2	2	2

NUMBER OF BOLTS:

FOR PURLIN STRUTS AT ENDWALLS	=	2
FOR PURLIN STRUTS AT FRAMES	=	2
FOR PURLINS AT ENDWALLS	=	2
FOR PURLINS AT FRAMES	=	2

EAVE STRUT DESIGN

LENGTH (FT)	BAY NO.	STRUT SIZE	GOVERNING LOAD COND	AXIAL LOAD (KIPS)	BENDING (K-FT)	COMBINED STRESS RATIO
29.00	1	ES1012	DL+LL	0.00	11.83	0.791
29.00	1	ES1012	DL+WL	5.37	0.00	0.112
28.00	2	ES1012	DL+LL	0.00	11.03	0.737
28.00	2	ES1012	DL+WL	5.37	0.00	0.112
28.00	3	ES1012	DL+LL	0.00	11.03	0.737
28.00	3	ES1012	DL+WL	5.37	0.00	0.112
27.50	4	ES1012	DL+LL	0.00	10.63	0.711
27.50	4	ES1012	DL+WL	5.37	0.00	0.112

DL = DEAD LOAD LL = LIVE LOAD WL = WIND LOAD
USE (2) 5/8" BOLTS WITH WASHERS AT BOTH ENDS OF EACH EAVE STRUT

INPUT ECHO:

DESIGN BASED ON THE NASPEC 2001 AISI STANDARD
USE ONLY ROD BRACING

ROOF PANEL TYPE = SSR

LOAD COMBINATIONS: D + (Lr or S)

.6D + W

D + .75(Lr or S) + .75W

NO ALLOWABLE STRESS INCREASE FOR WIND.

NUMBER ROOF TRUSS PANEL POINTS = 3 BUILDING WIDTH = 59.12
NUMBER WALL TRUSS PANEL POINTS = 2 EAVE HEIGHT = 17.86
NUMBER OF BAYS IN THE BUILDING = 4 ROOF SLOPE = -0.38

LOADS:

DEAD LOAD = 1.50 PSF EAVE PURLIN SPACE = 2.84 FT
COLL LOAD = 5.00 PSF PANEL OVER HANG AT EAVE = 0.50 FT
LIVE LOAD = 20.00 PSF
SNOW LOAD = 49.00 PSF
WIND LOAD = 13.46 PSF

BRACING PRESSURE COEFFICIENT = 1.1202
BRACING SUCTION COEFFICIENT = 0.6798
PURLIN UPLIFT COEFFICIENT = 1.2800
UPLIFT COEFFICIENT ON PURLIN STRUTS = 0.8700
UPLIFT COEFFICIENT ON EAVE STRUTS = 1.2800

END ZONE WIDTH = 5.97 FEET
END ZONE PURLIN UPLIFT COEFFICIENT = 1.2800
UPLIFT COEFFICIENT ON PURLIN EXTENSIONS = 1.2800
LEFT EXTENSION LENGTH = 1.17 FEET
RIGHT EXTENSION LENGTH = 1.17 FEET
LEFT EXTENSION DEAD LOAD = 1.50 PSF
RIGHT EXTENSION DEAD LOAD = 1.50 PSF
NOMINAL PURLIN LOAD WIDTH = 2.83 FEET
RIDGE PURLIN LOAD WIDTH = 2.33 FEET
PURLIN YIELD = 55.00 KSI

SIDEWALLS ARE OPEN

ALLOWABLE EAVE STRUT DEFLECTION = L/180.

ROOF TRUSS SPACES ADJUSTED TO RAKE DISTANCE

STRUT SPACES: 25.02 4.56

BAY SPACES : 29.00 28.00 28.00 27.50
PUR SIZES : Z1012 Z1012 Z1012 Z1012
LAPS : 3.00 3.00 3.00
 3.00 3.00 3.00
SAG ANGLES : 32 22 22 32

BRACED BAY NUMBER(S) : 3

BRACE 1 BAYS HORIZONTAL REACTION IN BRACED BAYS= 6.23 KIPS

STRUT NUMBERS	1	2	3
PRES. LOADS (KIP) -	1.66	1.92	0.29
SUCT. LOADS (KIP) -	1.01	1.17	0.18
TRUSS LOADS (KIP) -	6.23	3.56	0.47
STRUT LOADS (KIP) -	5.22	2.39	0.29
STRUT SPACE (FT) -	17.86	25.02	3.81

BAY NO. 3	ROD	ROD	ROD
DIAMETER (IN) -	0.750	0.625	0.625
MIN WEB THICKNESS -	.1563	.1563	.1250
MIN WITH WEB WASHER	.1250	.1250	.1250

NOTE : THE MIN WEB THICKNESS IS THE MINIMUM FRAME WEB THICKNESS
WHICH DOES NOT NEED TO HAVE A WEB REINFORCING PLATE SUPPLIED.

STRUT NUMBER 1 IS THE EAVE STRUT.
STRUT NUMBERS 2- 3 ARE PURLIN STRUTS.

PURLIN STRUT LOAD CONDITIONS:

- 1) DEAD + UNIFORM SNOW
- 2) .6 DEAD + WIND
- 3) DL + SKIP LOAD
- 4) DL + .75SL + .75WL + .75AXIAL
- 5) .6DL + WL + AXIAL

FOR STRUT ROW NUMBER 2

STRUT SIZES:	Z1012	Z1012	Z1012	Z1012
NBOLTS	:2	2	2	2
AXIAL LOAD :	2.56	2.56	3.19	2.56
UNITY CHECK:	1.017	0.908	0.799	0.873
FOR LC NUM :	3	3	3	3
TOP ANGLES :	3	2	2	3
BOT ANGLES :	2	2	2	2

FOR STRUT ROW NUMBER 3

STRUT SIZES:	Z1012	Z1012	Z1012	Z1012
NBOLTS	:2	2	2	2
AXIAL LOAD :	0.39	0.39	0.39	0.39
UNITY CHECK:	0.843	0.753	0.662	0.724
FOR LC NUM :	3	3	3	3
TOP ANGLES :	3	2	2	3
BOT ANGLES :	2	2	2	2

NUMBER OF BOLTS:

FOR PURLIN STRUTS AT ENDWALLS	=	2
FOR PURLIN STRUTS AT FRAMES	=	2
FOR PURLINS AT ENDWALLS	=	2
FOR PURLINS AT FRAMES	=	2

EAVE STRUT DESIGN

LENGTH (FT)	BAY NO.	STRUT SIZE	GOVERNING LOAD COND	AXIAL LOAD (KIPS)	BENDING (K-FT)	COMBINED STRESS RATIO
29.00	1	ES1012	DL+LL	0.00	11.75	0.785
29.00	1	ES1012	DL+WLS	0.00	-2.54	0.160
29.00	1	ES1012	DL+WL	5.22	-3.60	0.404
29.00	1	ES1012	DL+LL+WL/2	3.92	5.06	0.370
28.00	2	ES1012	DL+LL	0.00	10.95	0.732
28.00	2	ES1012	DL+WLS	0.00	-2.37	0.146
28.00	2	ES1012	DL+WL	5.22	-3.51	0.388
28.00	2	ES1012	DL+LL+WL/2	3.92	4.60	0.344
28.00	3	ES1012	DL+LL	0.00	10.95	0.732
28.00	3	ES1012	DL+WLS	0.00	-2.37	0.146
28.00	3	ES1012	DL+WL	5.22	-3.51	0.388
28.00	3	ES1012	DL+LL+WL/2	3.92	4.60	0.344
27.50	4	ES1012	DL+LL	0.00	10.56	0.706
27.50	4	ES1012	DL+WLS	0.00	-2.28	0.140
27.50	4	ES1012	DL+WL	5.22	-3.46	0.361
27.50	4	ES1012	DL+LL+WL/2	3.92	4.38	0.331

DL = DEAD LOAD LL = LIVE LOAD WL = WIND LOAD
 WLS= WIND LOAD USING SECONDARY WIND UPLIFT COEFFICIENT
 USE (2) 5/8" BOLTS WITH WASHERS AT BOTH ENDS OF EACH EAVE STRUT