



CFS Engineering Group, Inc.
Structural Engineers

**Casa Robles 131
6545 SW 131st Street
Pinecrest, FL**

CFS Project Number 24002.00

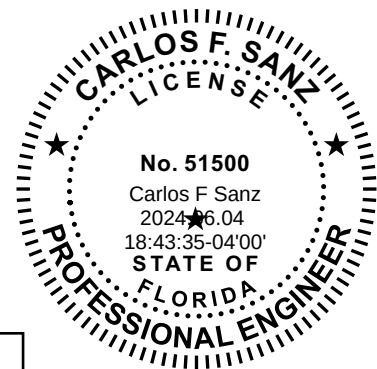
Structural Calculations

Prepared by

CFS Engineering Group, Inc.
Structural Engineers / CA #30725
185 NW 108th Street
Miami Shores, Florida 33168
305.420.6453

June 4, 2024

This item has been digitally signed and sealed
by Carlos F. Sanz, PE, on June 4, 2024.
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Carlos F. Sanz, PE
PE – 51500



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Structural Engineers

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**Structural Calculations
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Design Criteria

Codes
Design Loads



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Design Criteria

Codes

- Florida Building Code 7th Edition (2020), including HVHZ provisions
- ASCE 7-16 Standard, Minimum Design Loads and Associated Criteria for Buildings and Other Structures
- ACI 318-14 Building Code Requirements for Structural Concrete
- TMS 402 Building Code Requirements for Masonry Structures
- AISC 360-16, Specifications for Structural Steel Buildings, 15th Edition



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Design Loads

Live Loads

- First and Second Floors: 40 psf
- Stairs: 40 psf
- Balconies and Terraces: 60 psf
- Roofs: 30 psf

Dead Loads

- Partitions: 15 psf
- Flooring: 15 psf
- Ceiling & Mechanical: 15 psf
- Roofing: 10 psf
- Self-weight of Slabs and Framing Members

Wind Loads

- Based on ASCE 7-16
- Exposure: C
- Basic Wind Speed: 175 mph
- Risk Category: II
- Mean Roof Height: 27'-0" above grade level
- Enclosed Building

MecaWind v2448

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Calculations Prepared by:

CFS Engineering Group, Inc.
185 NW 108th Street
Miami Shores, FL, 33168
Date: Dec 05, 2023
Designer: Carlos F. Sanz, PE

Calculations Prepared For:

Client: FAO Architecture
Project #: 23011.00
Location: Pinecrest, FL
Description: Casa Ohad MWFRS Analysis

File Location: C:\Users\CarlosSanz\OneDrive - Carlos Sanz\Documents\
CFS Engineering Group\Projects\23011.00 - Casa Ohad\Calcs\Wind\Casa Ohad MWFRS Analysis.wnd

General:

Wind Load Standard	= ASCE 7-16	Basic Wind Speed	= 175.0 mph
Exposure Classification	= C	Risk Category	= II
Structure Type	= Building	Design Basis for Wind Pressures	= LRFD
MWFRS Analysis Method	= Ch 27 Pt 1	C&C Analysis Method	= Ch 30 Pt 1
Dynamic Type of Structure	= Rigid	Show Advanced Options	= True
Reset Advanced Options to Default Values	= Defaults	Simple Diaphragm Building	= False
Show Base Reactions in Output	= None	Altitude above Sea Level	= 0.000 ft
Base Elevation Of Structure	= 0.000 ft	MWFRS Pressure Elevations	= Manual
Topographic Effects	= None	Override Directionality Factor K_d	= False
Override the Gust Factor G	= False		

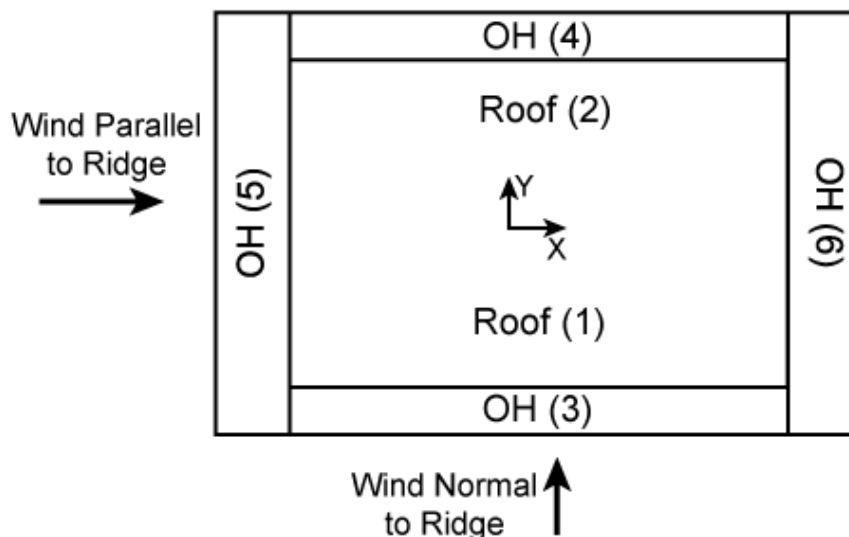
Building:

Roof = Roof Type	= Flat	Encl = Enclosure Classification	= Enclosed
Help = Help on Building Roof Type	= Help	RfHt = Roof Height	= 27.000 ft
W = Building Width	= 42.167 ft	L = Building Length	= 151.500 ft
OH = Type of Overhang	= None	Par = Parapet	= Solid
P _{ht} = Parapet Height	= 1.5 ft	HT _{over} = Override Mean Roof Height	= False
Ht _{man} = Mean Roof Height	= 27.000 ft	RA _{over} = Override Roof Area	= False

Exposure Constants [Tbl 26.11-1]:

α = 3-s Gust-speed exponent	= 9.500	Z_g = Nominal Ht of Boundary Layer	= 900.000 ft
$\hat{\alpha}$ = Reciprocal of α	= 0.105	b = 3 sec gust speed factor	= 1.000
α_m = Mean hourly Wind-Speed Exponent	= 0.154	b_m = Mean hourly Windspeed Exponent	= 0.650
c = Turbulence Intensity Factor	= 0.200	ϵ = Integral Length Scale Exponent	= 0.2000

Main Wind Force Resisting System (MWFRS) Wind Calculations per Ch 27 Pt1



h	= Mean structure height	= 27.000 ft
K_h	= $2.01 \cdot (h/Z_g)^{2/\alpha}$ [Tbl 26.10-1]	= 0.961
K_{zt}	= Topographic: $(1+K_1 \cdot K_2 \cdot K_3)^{1/2}$ [Eq 26.8-1]	= 1.000
K_d	= Wind Directionality Factor per Tbl 26.6-1	= 0.85
+GC _{pi}	= Enclosed Positive Internal Pressure Tbl 26.13-1	= +0.18
-GC _{pi}	= Enclosed Negative Internal Pressure Tbl 26.13-1	= -0.18
LF	= Load Factor based upon STRENGTH Design	= 1.00
K_e	= Ground Elev Factor [Tbl 26.9-1]	= 1.000

Q_h	=	$0.00256 \cdot K_h \cdot K_{zt} \cdot K_d \cdot K_e \cdot V^2 \cdot LF$ [Eq 26.10-1]	=	64.02 psf
RA	=	Roof Area	=	6388.30 ft ²
Q_h	=	$0.00256 \cdot K_h \cdot K_{zt} \cdot K_d \cdot K_e \cdot V^2 \cdot LF$ [Eq 26.10-1]	=	64.02 psf
Q_p	=	$0.00256 \cdot K_z \cdot K_{zt} \cdot K_d \cdot K_e \cdot V^2 \cdot LF$ [Eq 26.10-1]	=	64.75 psf
Q_{in}	=	Negative Internal Pressure: $q_h \cdot LF$	=	64.02 psf
Q_{ip}	=	Positive Internal Pressure: $q_h \cdot LF$	=	64.02 psf

MWFRS Wind Loads [Normal to Ridge]

h	=	Mean Roof Height Of Building	=	27.000 ft
hp	=	Height To the top Of the Parapet	=	28.500 ft
RHt	=	Ridge Height Of Roof	=	27.000 ft
B	=	Horizontal Dimension Of Building Normal To Wind Direction	=	151.500 ft
L	=	Horizontal Dimension Of building Parallel To Wind Direction	=	42.167 ft
L/B	=	Ratio Of L/B used For Cp determination	=	0.278
h/L	=	Ratio Of h/L used For Cp determination	=	0.640
Slope	=	Slope Of Roof	=	0.0 Deg

Gust Factor Calculation for Wind: [Normal to Ridge]

Gust Factor Category I Rigid Structures - Simplified Method

G_1	=	Simplified: For Rigid Structures can use 0.85	=	0.85
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Gust Factor Category II Rigid Structures - Complete Analysis

Z_m	=	Equiv Struc Height: $\text{Max}(0.6 \cdot h, Z_{min})$	=	16.200 ft
I_{zm}	=	Turbulence Intensity: $c \cdot (33/Z_m)^{1/6}$ [Eq 26.11-1]	=	0.225
L_{zm}	=	Turbulence Integral Length Scale: $l \cdot (Z_m/33)^e$ [Eq 26.11-9]	=	433.681 ft
B	=	Building Width Width Normal to Wind Direction	=	151.500 ft
Q	=	$1/(1+0.63 \cdot [(B+h)/L_{zm}]^{0.63})$ [Eq 26.11-8]	=	0.857
G_2	=	Detailed: $0.925 \cdot [(1+1.7 \cdot g_q \cdot I_{zm} \cdot Q) / (1+1.7 \cdot g_v \cdot I_{zm})]$ [Eq 26.11-6]	=	0.850

Gust Factor Used in Analysis

G	=	Gust Factor: $\text{Min}(G_1, G_2)$	=	0.850
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$C_{p_{ww}}$	=	Windward Wall Coefficient (All L/B Values)	=	0.800
$C_{p_{lw}}$	=	Leeward Wall Coefficient using L/B	=	-0.500
$C_{p_{sw}}$	=	Side Wall Coefficient (All L/B values)	=	-0.700
$GC_{p_{n_{ww}}}$	=	Parapet Combined Net Pressure Coefficient (Windward Parapet)	=	1.500
$GC_{p_{n_{lw}}}$	=	Parapet Combined Net Pressure Coefficient (Leeward Parapet)	=	-1.000

Wind Pressures [Normal to Ridge] All wind pressures include a Load Factor (LF) of 1.0

Elev ft	GC_{pi}	q_i psf	K_z	K_{zt}	q_z psf	Windward Press psf	Leeward Press psf	Side Press psf	Total Press psf	Minimum Pressure* psf	N-S and S-N Net Wind Pressures (psf) Windward Leeward	
28.500	Parapet	64.02	0.972	1.000	64.75	97.13	-64.75	0.00	161.89	16.00	97.13	-64.75
27.000	+0.18	64.02	0.961	1.000	64.02	32.01	-38.73	-49.62	70.74	16.00	43.53	-27.21
14.167	+0.18	64.02	0.849	1.000	56.57	26.94	-38.73	-49.62	65.68	16.00	38.47	-27.21
28.500	Parapet	64.02	0.972	1.000	64.75	97.13	-64.75	0.00	161.89	16.00	97.13	-64.75
27.000	-0.18	64.02	0.961	1.000	64.02	55.06	-15.69	-26.57	70.74	16.00	43.53	-27.21
14.167	-0.18	64.02	0.849	1.000	56.57	49.99	-15.69	-26.57	65.68	16.00	38.47	-27.21

K_z	=	$2.01 \cdot (z/Z_g)^{2/\alpha}$ [Tbl 26.10-1]	K_{zt}	=	Topographic: $(1+K_1 \cdot K_2 \cdot K_3)^{-2}$ [Eq 26.8-1]
GC_{pi}	=	Enclosed Internal Pressure Tbl 26.13-1	q_z	=	$0.00256 \cdot K_z \cdot K_{zt} \cdot K_d \cdot K_e \cdot V^2 \cdot LF$ [Eq 26.10-1]
Q_{ip}	=	Positive Internal Pressure: $q_h \cdot LF$	Q_{in}	=	Negative Internal Pressure: $q_h \cdot LF$
Side	=	$q_h \cdot G \cdot C_{p_{sw}} \cdot Q_{ip} \cdot (+GC_{pi})$ [Eq 27.3-1]	Leeward	=	$q_h \cdot G \cdot C_{p_{lw}} \cdot Q_{ip} \cdot (+GC_{pi})$ [Eq 27.3-1]
Windward	=	$q_z \cdot G \cdot C_{p_{ww}} \cdot Q_{ip} \cdot (+GC_{pi})$ [Eq 27.3-1]	Total	=	Windward - Leeward
p_p	=	Windward : $q_p \cdot (GC_{p_{n_{ww}}})$ Eq 27.3-3	p_p	=	Leeward : $q_p \cdot (GC_{p_{n_{lw}}})$ Eq 27.3-3

• Minimum Pressure: § 27.1.5 no less than 16.00 psf (Incl LF) applied to Walls
• Positive Pressures Act TOWARD Surface and Negative Pressures Act AWAY from Surface

MWFRS Wind Loads [Parallel to Ridge]

h	=	Mean Roof Height Of Building	=	27.000 ft
hp	=	Height To the top Of the Parapet	=	28.500 ft
RHt	=	Ridge Height Of Roof	=	27.000 ft
B	=	Horizontal Dimension Of Building Normal To Wind Direction	=	42.167 ft
L	=	Horizontal Dimension Of building Parallel To Wind Direction	=	151.500 ft
L/B	=	Ratio Of L/B used For Cp determination	=	3.593
h/L	=	Ratio Of h/L used For Cp determination	=	0.178
Slope	=	Slope Of Roof	=	0.0 Deg

Gust Factor Calculation for Wind: [Parallel to Ridge]

Gust Factor Category I Rigid Structures - Simplified Method

G_1	=	Simplified: For Rigid Structures can use 0.85	=	0.85
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Gust Factor Category II Rigid Structures - Complete Analysis

Z_m	=	Equiv Struc Height: $\text{Max}(0.6 \cdot h, Z_{min})$	=	16.200 ft
I_{zm}	=	Turbulence Intensity: $c \cdot (33/Z_m)^{1/6}$ [Eq 26.11-1]	=	0.225
L_{zm}	=	Turbulence Integral Length Scale: $l \cdot (Z_m/33)^e$ [Eq 26.11-9]	=	433.681 ft
B	=	Building Width Width Normal to Wind Direction	=	42.167 ft
Q	=	$1/(1+0.63 \cdot [(B+h)/L_{zm}]^{0.63})$ [Eq 26.11-8]	=	0.914
G_2	=	Detailed: $0.925 \cdot [(1+1.7 \cdot g_q \cdot I_{zm} \cdot Q) / (1+1.7 \cdot g_v \cdot I_{zm})]$ [Eq 26.11-6]	=	0.880

Gust Factor Used in Analysis

$$G = \text{Gust Factor: Min}(G_1, G_2) = 0.850$$

$$\begin{aligned} C_{p_{WW}} &= \text{Windward Wall Coefficient (All L/B Values)} &= 0.800 \\ C_{p_{LW}} &= \text{Leeward Wall Coefficient using L/B} &= -0.220 \\ C_{p_{SW}} &= \text{Side Wall Coefficient (All L/B values)} &= -0.700 \\ GC_{pn_{WW}} &= \text{Parapet Combined Net Pressure Coefficient (Windward Parapet)} &= 1.500 \\ GC_{pn_{LW}} &= \text{Parapet Combined Net Pressure Coefficient (Leeward Parapet)} &= -1.000 \end{aligned}$$

Wind Pressures [Parallel to Ridge]
All wind pressures include a Load Factor (LF) of 1.0

Elev ft	GC _{pi}	q _i psf	K _z	K _{zt}	q _z psf	Windward Press psf	Leeward Press psf	Side Press psf	Total Press psf	Minimum Pressure* psf	E-W and W-E Net Wind Pressures (psf) Windward Leeward	
28.500	Parapet	64.02	0.972	1.000	64.75	97.13	-64.75	0.00	161.89	16.00	97.13	-64.75
27.000	+0.18	64.02	0.961	1.000	64.02	32.01	-23.52	-49.62	55.53	16.00	43.53	-11.97
14.167	+0.18	64.02	0.849	1.000	56.57	26.94	-23.52	-49.62	50.46	16.00	38.47	-11.97
28.500	Parapet	64.02	0.972	1.000	64.75	97.13	-64.75	0.00	161.89	16.00	97.13	-64.75
27.000	-0.18	64.02	0.961	1.000	64.02	55.06	-0.47	-26.57	55.53	16.00	43.53	-11.97
14.167	-0.18	64.02	0.849	1.000	56.57	49.99	-0.47	-26.57	50.46	16.00	38.47	-11.97

$$\begin{aligned} K_z &= 2.01 \cdot (z/Z_g)^{2/\alpha} \text{ [Tbl 26.10-1]} & K_{zt} &= \text{Topographic: } (1+K_1 \cdot K_2 \cdot K_3)^{1/2} \text{ [Eq 26.8-1]} \\ GC_{pi} &= \text{Enclosed Internal Pressure Tbl 26.13-1} & q_z &= 0.00256 \cdot K_z \cdot K_{zt} \cdot K_d \cdot K_e \cdot V^2 \cdot LF \text{ [Eq 26.10-1]} \\ q_{ip} &= \text{Positive Internal Pressure: } q_h \cdot LF & q_{in} &= \text{Negative Internal Pressure: } q_h \cdot LF \\ \text{Side} &= q_h \cdot G \cdot C_{p_{SW}} - q_{ip} \cdot (+GC_{pi}) \text{ [Eq 27.3-1]} & \text{Leeward} &= q_h \cdot G \cdot C_{p_{LW}} - q_{ip} \cdot (+GC_{pi}) \text{ [Eq 27.3-1]} \\ \text{Windward} &= q_z \cdot G \cdot C_{p_{WW}} - q_{ip} \cdot (+GC_{pi}) \text{ [Eq 27.3-1]} & \text{Total} &= \text{Windward} - \text{Leeward} \\ p_p &= \text{Windward: } q_p \cdot (GC_{pn_{WW}}) \text{ Eq 27.3-3} & p_p &= \text{Leeward: } q_p \cdot (GC_{pn_{LW}}) \text{ Eq 27.3-3} \end{aligned}$$

- Minimum Pressure: § 27.1.5 no less than 16.00 psf (Incl LF) applied to Walls
- Positive Pressures Act TOWARD Surface and Negative Pressures Act AWAY from Surface

Casa Ohad - Design Wind Pressures

Velocity Pressures

ASCE 7-16

Exposure C

Floor	Elev. (ft)	K _z	K _h	K _{zt}	K _d	K _e	V (mph)	q _z (psf)	q _h (psf)
Main Roof	27.00	0.96	0.96	1.00	0.85	1.00	175	63.97	63.97
Low Roof	14.17	0.85	0.96	1.00	0.85	1.00	175	5.00	63.97
Second Floor	14.17	0.85	0.96	1.00	0.85	1.00	175	56.64	63.97
First Floor	1.33	0.85	0.96	1.00	0.85	1.00	175	56.64	63.97
Grade	0.00	0.85	0.96	1.00	0.85	1.00	175	56.64	63.97

Components and Cladding

Wind Pressures on Walls

ASCE 7-16

$$p = q_h [(GC_p) - (GC_{pi})]$$

Bldg. Height h ≤ 60'

Figure 30.3-1

GC_p reduction:

10%

Tributary Area (sf)	q _h (psf)	GC _p +	GC _p -		GC _{pi}	Positive Pressure (psf)	Negative Pressures	
			Zone 4	Zone 5			Zone 4 (psf)	Zone 5 (psf)
10	63.97	0.90	-0.99	-1.26	0.18	69.1	-74.9	-92.1
20	63.97	0.85	-0.94	-1.16	0.18	66.0	-71.8	-86.0
40	63.97	0.80	-0.89	-1.07	0.18	63.0	-68.7	-79.9
60	63.97	0.78	-0.87	-1.01	0.18	61.2	-66.9	-76.3
80	63.97	0.76	-0.85	-0.97	0.18	59.9	-65.7	-73.8
100	63.97	0.74	-0.83	-0.94	0.18	58.9	-64.7	-71.8

Notes: Values given above are ultimate design pressures
Multiply by 0.6 to convert to service design pressures

Casa Ohad - Design Wind Pressures

Components and Cladding

Wind Pressures on Ext. Doors + Storefronts

ASCE 7-16

$$p = qh [(GCp)-(GCpi)]$$

Bldg. Height h <= 60'

Figure 30.3-1

GCp reduction: 10%

Storefront Label	Width (ft)	Height (ft)	Tributary Area (sf)	qh (psf)	GCp +		GCp -		GCpi	Positive Pressure (psf)	Negative Pressures	
							Zone 4	Zone 5			Zone 4 (psf)	Zone 5 (psf)
01-S1	2.50	10.00	25.00	63.97	0.84		-0.93	-1.13	0.18	65.0	-70.8	-84.0
02-S1	10.83	2.00	21.67	63.97	0.85		-0.94	-1.15	0.18	65.7	-71.4	-85.3
03-S1	2.50	10.00	25.00	63.97	0.84		-0.93	-1.13	0.18	65.0	-70.8	-84.0
04-S1	26.00	10.00	260.00	63.97	0.68		-0.77	-0.81	0.18	54.7	-60.5	-63.4
05-S1	2.67	10.00	26.67	63.97	0.83		-0.92	-1.12	0.18	64.8	-70.5	-83.5
06-S1	2.67	10.00	26.67	63.97	0.83		-0.92	-1.12	0.18	64.8	-70.5	-83.5
07-S1	4.92	7.50	36.88	63.97	0.81		-0.90	-1.08	0.18	63.3	-69.1	-80.6
08-S1	8.58	7.50	64.37	63.97	0.77		-0.86	-1.00	0.18	60.9	-66.6	-75.7
09-S1	16.17	1.67	26.95	63.97	0.83		-0.92	-1.12	0.18	64.7	-70.5	-83.4
10-S1	3.00	10.00	30.00	63.97	0.82		-0.91	-1.11	0.18	64.2	-70.0	-82.4
11-S1	3.00	10.00	30.00	63.97	0.82		-0.91	-1.11	0.18	64.2	-70.0	-82.4
12-S1	3.42	10.00	34.17	63.97	0.82		-0.91	-1.09	0.18	63.7	-69.4	-81.3
13-S1	3.42	10.00	34.17	63.97	0.82		-0.91	-1.09	0.18	63.7	-69.4	-81.3
14-S1	5.42	1.67	9.03	63.97	0.90		-0.99	-1.26	0.18	69.1	-74.9	-92.1
15-S1	5.50	1.67	9.17	63.97	0.90		-0.99	-1.26	0.18	69.1	-74.9	-92.1
16-S1	6.33	1.25	7.92	63.97	0.90		-0.99	-1.26	0.18	69.1	-74.9	-92.1
17-S1	6.25	1.25	7.81	63.97	0.90		-0.99	-1.26	0.18	69.1	-74.9	-92.1
18-S1	6.33	1.25	7.92	63.97	0.90		-0.99	-1.26	0.18	69.1	-74.9	-92.1
19-S1	2.00	10.00	20.00	63.97	0.85		-0.94	-1.16	0.18	66.0	-71.8	-86.0
20-S1	2.00	10.00	20.00	63.97	0.85		-0.94	-1.16	0.18	66.0	-71.8	-86.0
21-S1	2.00	10.00	20.00	63.97	0.85		-0.94	-1.16	0.18	66.0	-71.8	-86.0
22-S1	8.00	10.00	80.00	63.97	0.76		-0.85	-0.97	0.18	59.9	-65.7	-73.8
01-S2	10.83	10.00	108.33	63.97	0.74		-0.83	-0.93	0.18	58.6	-64.3	-71.1
02-S2	26.00	10.00	260.00	63.97	0.68		-0.77	-0.81	0.18	54.7	-60.5	-63.4
03-S2	2.67	10.00	26.67	63.97	0.83		-0.92	-1.12	0.18	64.8	-70.5	-83.5
04-S2	2.67	10.00	26.67	63.97	0.83		-0.92	-1.12	0.18	64.8	-70.5	-83.5
05-S2	4.92	7.50	36.88	63.97	0.81		-0.90	-1.08	0.18	63.3	-69.1	-80.6
06-S2	4.92	7.50	36.88	63.97	0.81		-0.90	-1.08	0.18	63.3	-69.1	-80.6
07-S2	8.58	7.50	64.37	63.97	0.77		-0.86	-1.00	0.18	60.9	-66.6	-75.7

08-S2	8.58	7.50	64.37	63.97	0.77	-0.86	-1.00	0.18	60.9	-66.6	-75.7
09-S2	2.00	6.58	13.17	63.97	0.88	-0.97	-1.22	0.18	67.9	-73.6	-89.7
10-S2	11.42	1.67	19.03	63.97	0.86	-0.95	-1.17	0.18	66.3	-72.0	-86.4
11-S2	12.75	1.67	21.25	63.97	0.85	-0.94	-1.16	0.18	65.8	-71.5	-85.5
12-S2	5.00	10.00	50.00	63.97	0.79	-0.88	-1.04	0.18	62.0	-67.7	-77.9
13-S2	5.83	10.00	58.33	63.97	0.78	-0.87	-1.02	0.18	61.3	-67.1	-76.5
14-S2	3.42	10.00	34.17	63.97	0.82	-0.91	-1.09	0.18	63.7	-69.4	-81.3
15-S2	3.42	10.00	34.17	63.97	0.82	-0.91	-1.09	0.18	63.7	-69.4	-81.3
16-S2	2.00	6.58	13.17	63.97	0.88	-0.97	-1.22	0.18	67.9	-73.6	-89.7
17-S2	2.00	10.00	20.00	63.97	0.85	-0.94	-1.16	0.18	66.0	-71.8	-86.0
18-S2	2.00	10.00	20.00	63.97	0.85	-0.94	-1.16	0.18	66.0	-71.8	-86.0
19-S2	2.00	10.00	20.00	63.97	0.85	-0.94	-1.16	0.18	66.0	-71.8	-86.0
20-S2	8.00	10.00	80.00	63.97	0.76	-0.85	-0.97	0.18	59.9	-65.7	-73.8
21-S2	6.25	7.92	49.48	63.97	0.79	-0.88	-1.04	0.18	62.0	-67.8	-78.0

Door Label	Width (ft)	Height (ft)	Tributary Area (sf)	qh (psf)	GCp +	GCp -		GCpi	Positive Pressure (psf)	Negative Pressures	
						Zone 4	Zone 5			Zone 4 (psf)	Zone 5 (psf)
100	5.50	10.00	55.00	63.97	0.78	-0.87	-1.02	0.18	61.6	-67.3	-77.1
101	4.96	10.00	49.58	63.97	0.79	-0.88	-1.04	0.18	62.0	-67.8	-78.0
102	4.96	10.00	49.58	63.97	0.79	-0.88	-1.04	0.18	62.0	-67.8	-78.0
105	3.00	10.00	30.00	63.97	0.82	-0.91	-1.11	0.18	64.2	-70.0	-82.4
110A	4.97	10.00	49.72	63.97	0.79	-0.88	-1.04	0.18	62.0	-67.8	-78.0
110B	4.97	10.00	49.72	63.97	0.79	-0.88	-1.04	0.18	62.0	-67.8	-78.0
112B	3.94	10.00	39.44	63.97	0.81	-0.90	-1.07	0.18	63.0	-68.8	-80.0
117B	3.94	10.00	39.44	63.97	0.81	-0.90	-1.07	0.18	63.0	-68.8	-80.0
121B	3.89	10.00	38.89	63.97	0.81	-0.90	-1.07	0.18	63.1	-68.9	-80.1
123	2.83	10.00	28.33	63.97	0.83	-0.92	-1.12	0.18	64.5	-70.3	-82.9
126B	3.00	10.00	30.00	63.97	0.82	-0.91	-1.11	0.18	64.2	-70.0	-82.4
127A	9.00	9.00	81.00	63.97	0.76	-0.85	-0.97	0.18	59.9	-65.6	-73.7
127B	9.00	9.00	81.00	63.97	0.76	-0.85	-0.97	0.18	59.9	-65.6	-73.7
200B	4.96	10.00	49.58	63.97	0.79	-0.88	-1.04	0.18	62.0	-67.8	-78.0
203B	4.00	10.00	40.00	63.97	0.80	-0.89	-1.07	0.18	63.0	-68.7	-79.9
207B	4.25	10.00	42.50	63.97	0.80	-0.89	-1.06	0.18	62.7	-68.5	-79.3
208	3.94	10.00	39.44	63.97	0.81	-0.90	-1.07	0.18	63.0	-68.8	-80.0
209B	3.94	10.00	39.44	63.97	0.81	-0.90	-1.07	0.18	63.0	-68.8	-80.0
217B	3.94	10.00	39.44	63.97	0.81	-0.90	-1.07	0.18	63.0	-68.8	-80.0

Casa Ohad - Design Wind Pressures

Components and Cladding

Uplift on Roofing - Main Roof

ASCE 7-16

$$p = q_h [(GC_p) - (GC_{pi})]$$

Bldg. Height $h \leq 60'$

Figure 30.3-2A

$\theta \leq 7^\circ$

Tributary Area (sf)	q_h (psf)	$GC_p +$	$GC_p -$		GC_{pi}	Uplift Pressures		Downward Pressure (psf)
			Zone 2	Zone 3		Zone 2 (psf)	Zone 3 (psf)	
10	63.97	0.30	-2.30	-3.20	0.00	-147.1	-204.7	19.2

Uplift on Roofing - Low Roof

ASCE 7-16

$$p = q_h [(GC_p) - (GC_{pi})]$$

Bldg. Height $h \leq 60'$

Figure 30.3-2A

$\theta \leq 7^\circ$

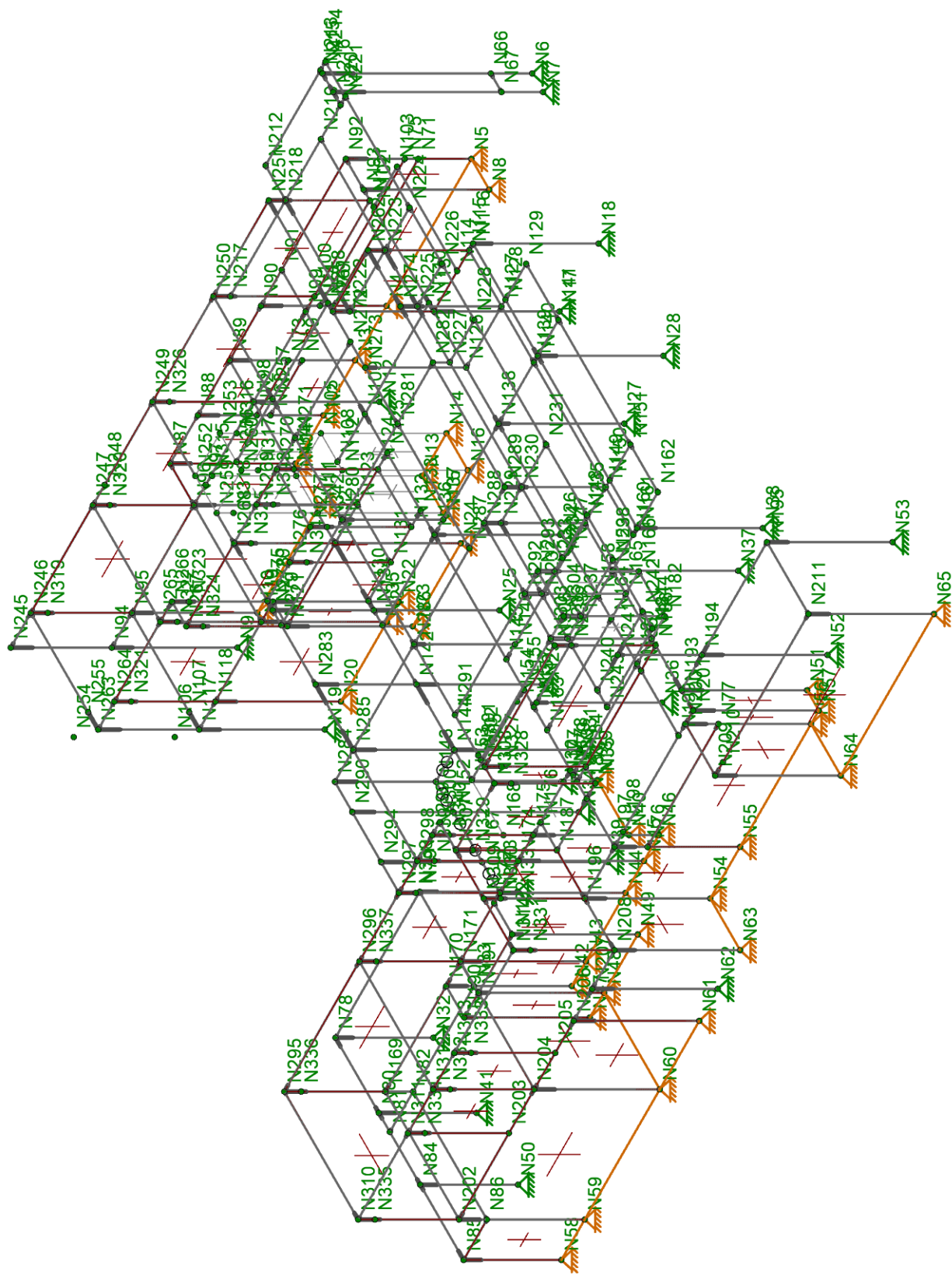
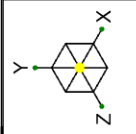
Tributary Area (sf)	q_h (psf)	$GC_p +$	$GC_p -$		GC_{pi}	Uplift Pressures		Downward Pressure (psf)
			Zone 2	Zone 3		Zone 2 (psf)	Zone 3 (psf)	
10	56.64	0.30	-2.30	-3.20	0.00	-130.3	-181.3	17.0

Notes: Values given in tables above are ultimate design pressures
Multiply by 0.6 to convert to service design pressures

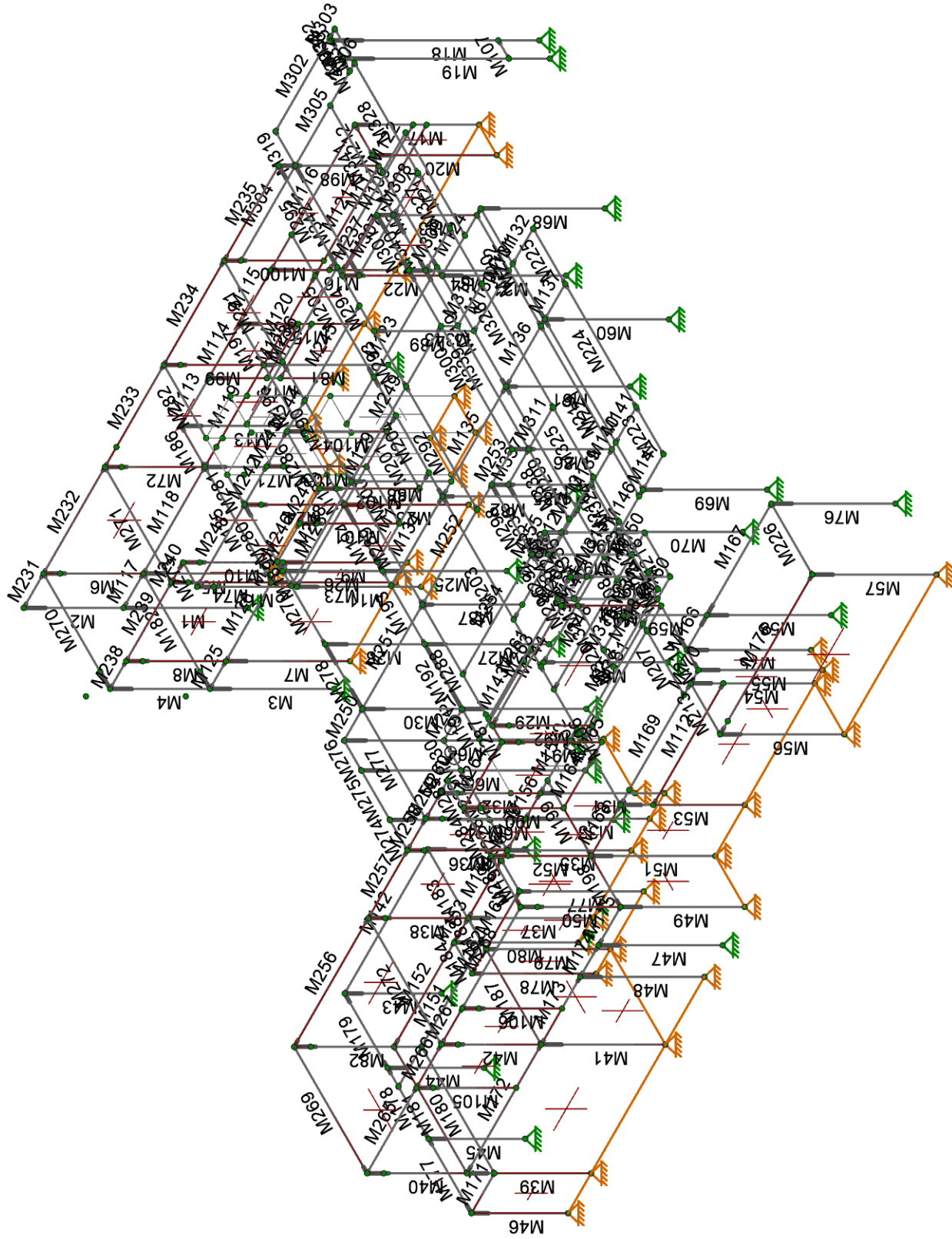
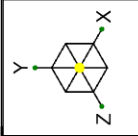


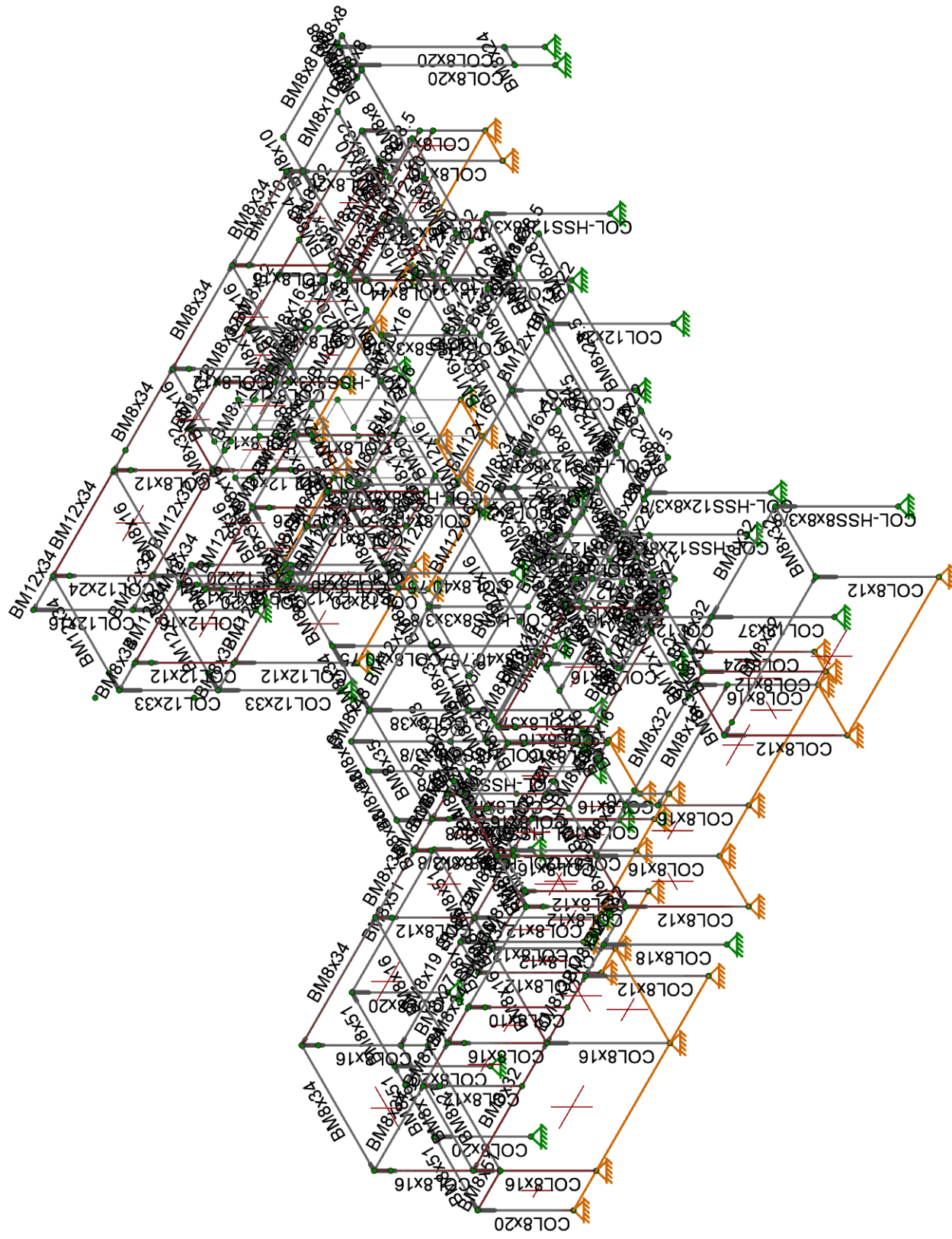
CFS Engineering Group, Inc.
Structural Engineers

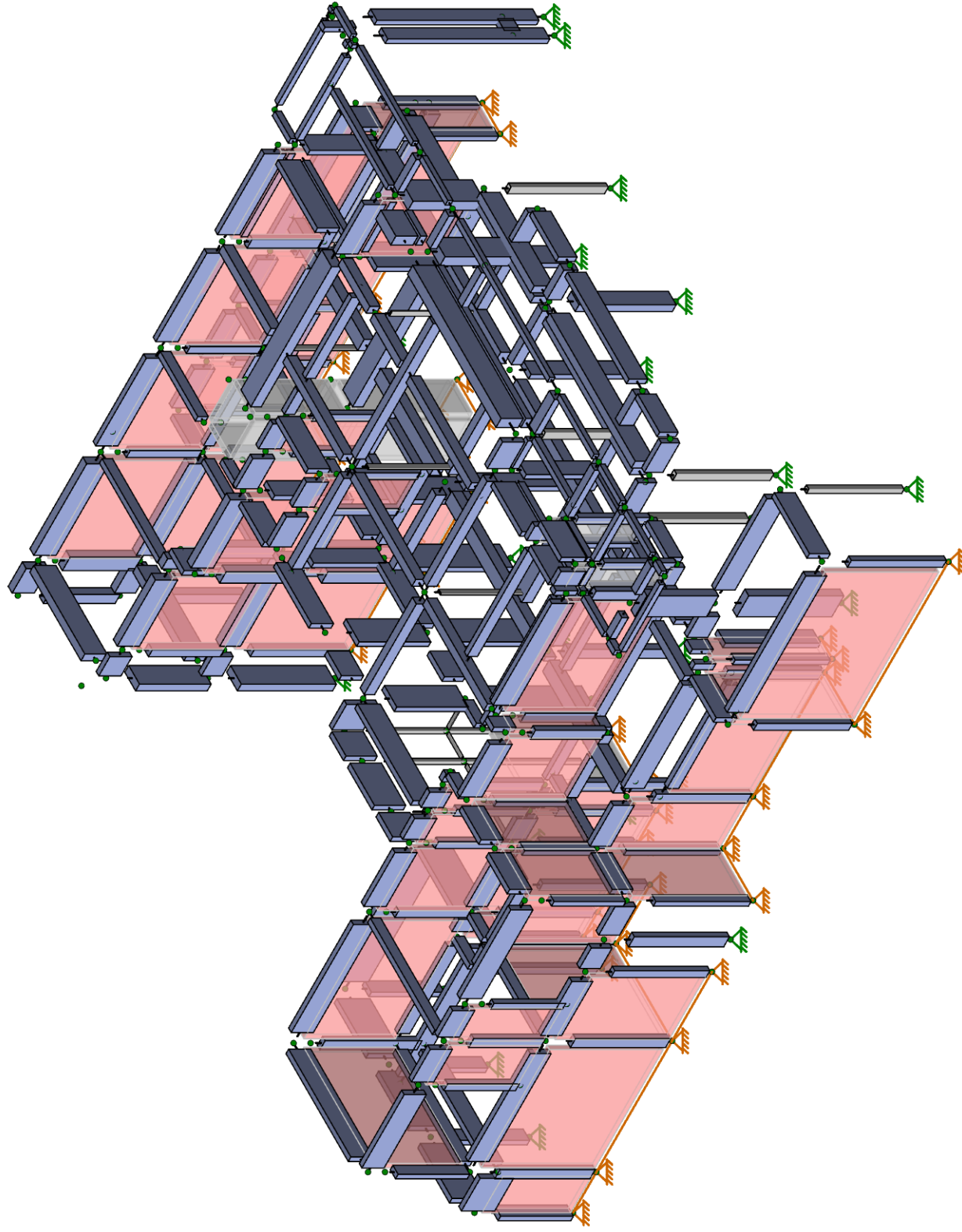
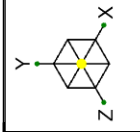
Structural Frames

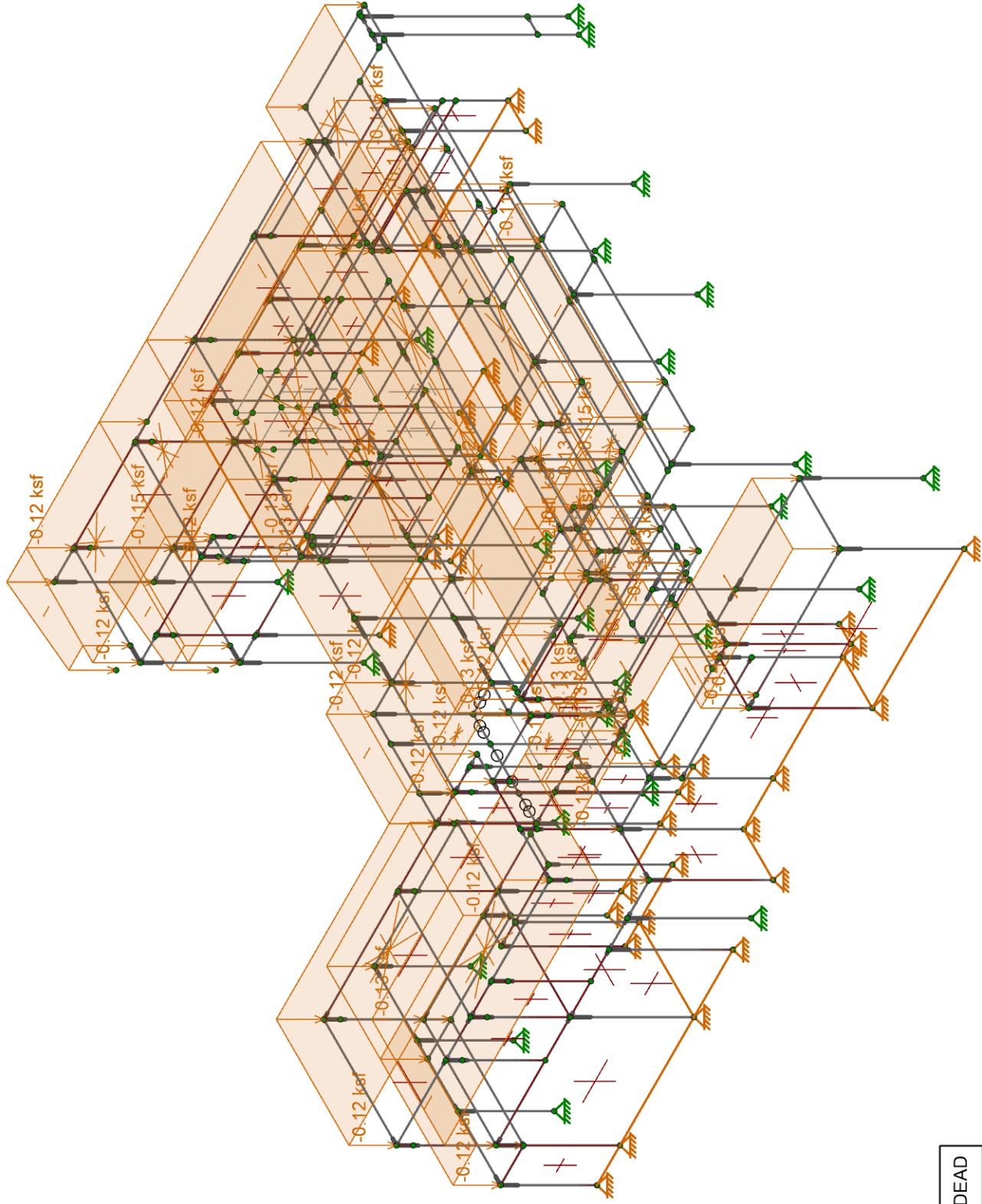
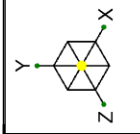


CFS Engineering Group, Inc. Carlos F. Sanz, PE 24002.00	Casa Robles 131 - Structural Frames and Canopy	SK-1	Structural Frames and Canopy.r3d
		Joint Labels	









Loads: BLC 1, DEAD

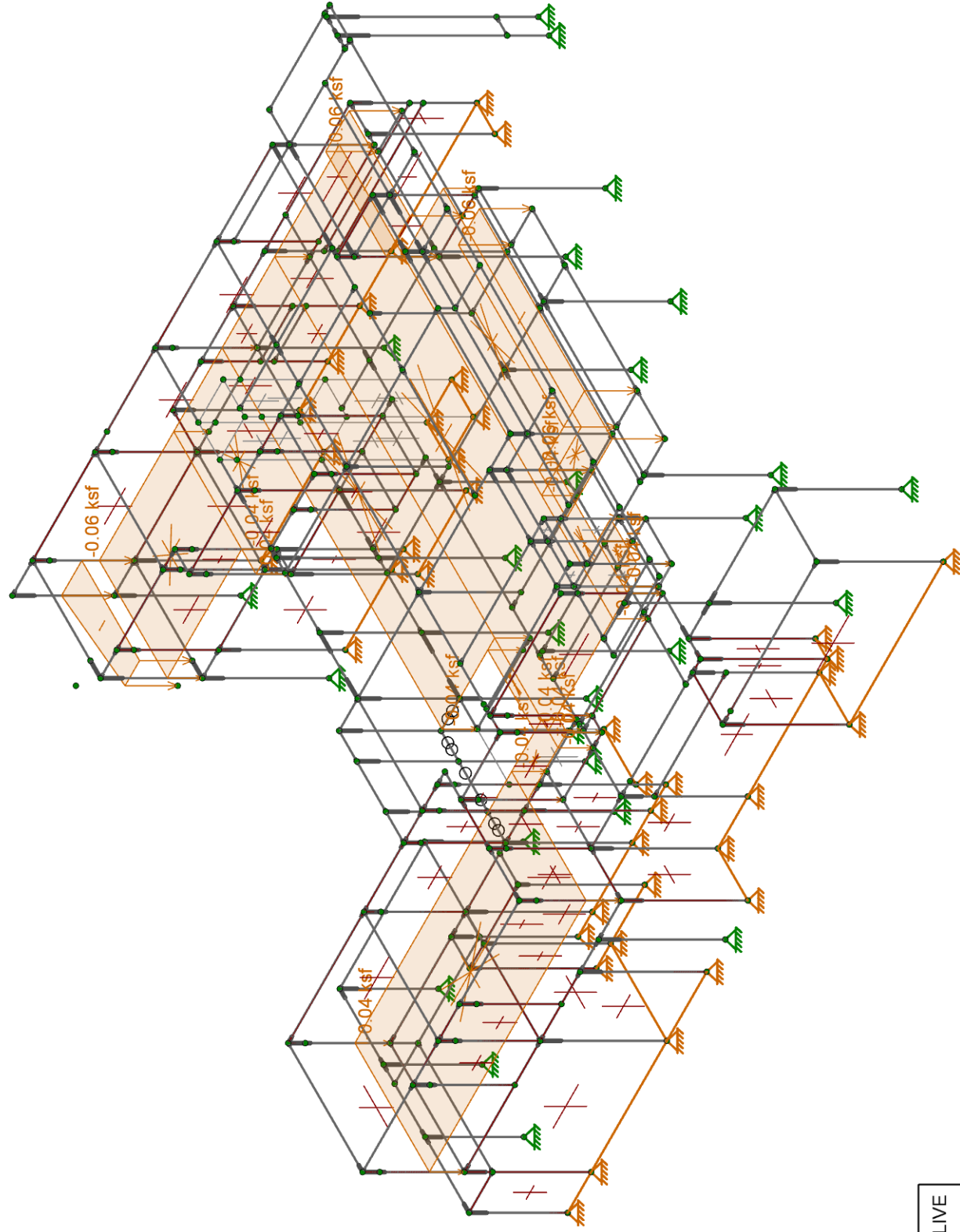
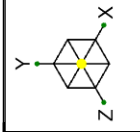
CFS Engineering Group, Inc.
Carlos F. Sanz, PE
24002.00

Casa Robles 131 - Structural Frames and Canopy

SK-5

Structural Frames and Canopy.r3d

Dead Loads



Loads: BLC 2, LIVE

CFS Engineering Group, Inc.

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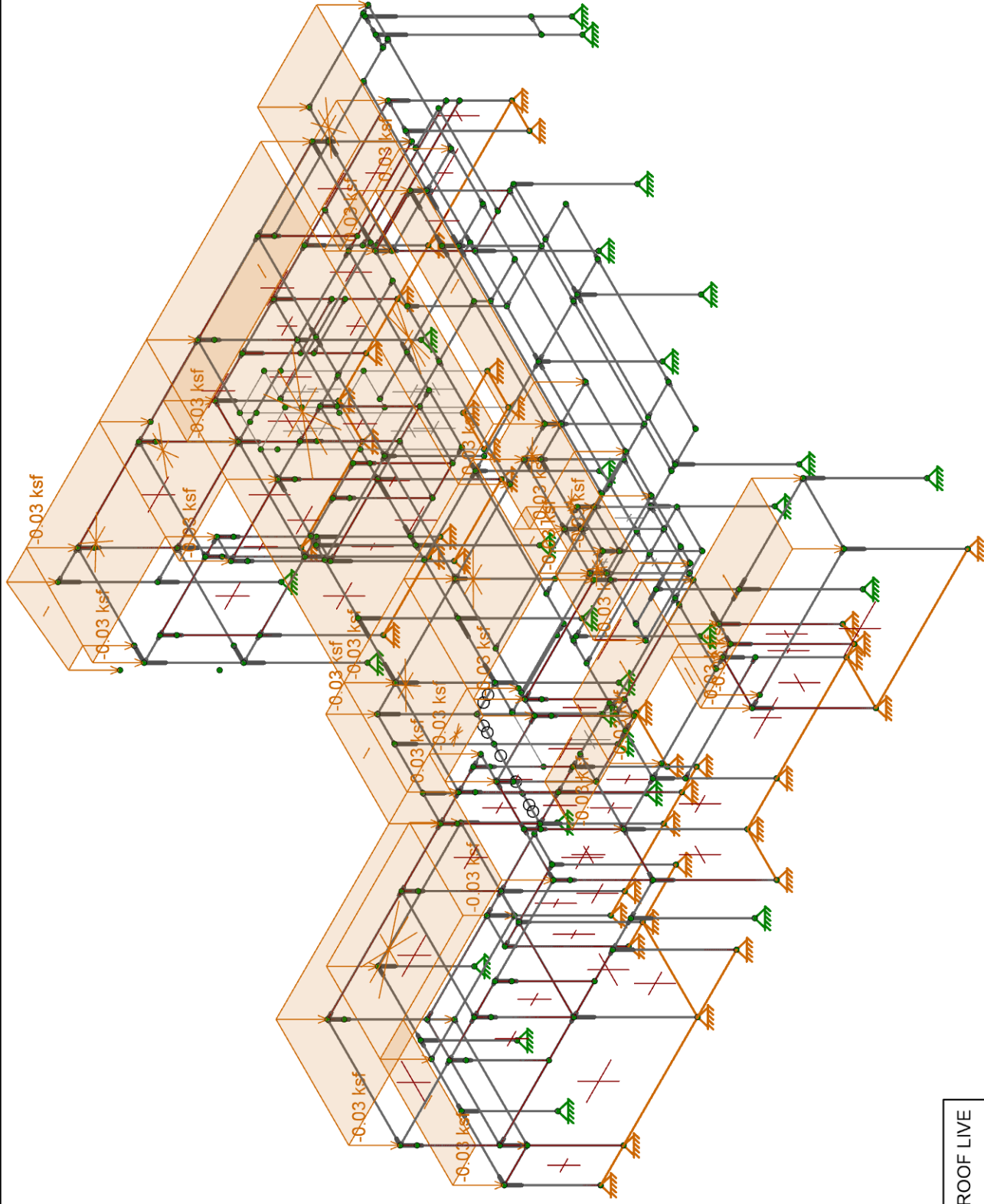
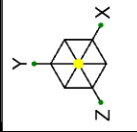
24002.00

Casa Robles 131 - Structural Frames and Canopy

SK-6

Structural Frames and Canopy.r3d

Live Loads



Loads: BLC 3, ROOF LIVE

CFS Engineering Group, Inc.

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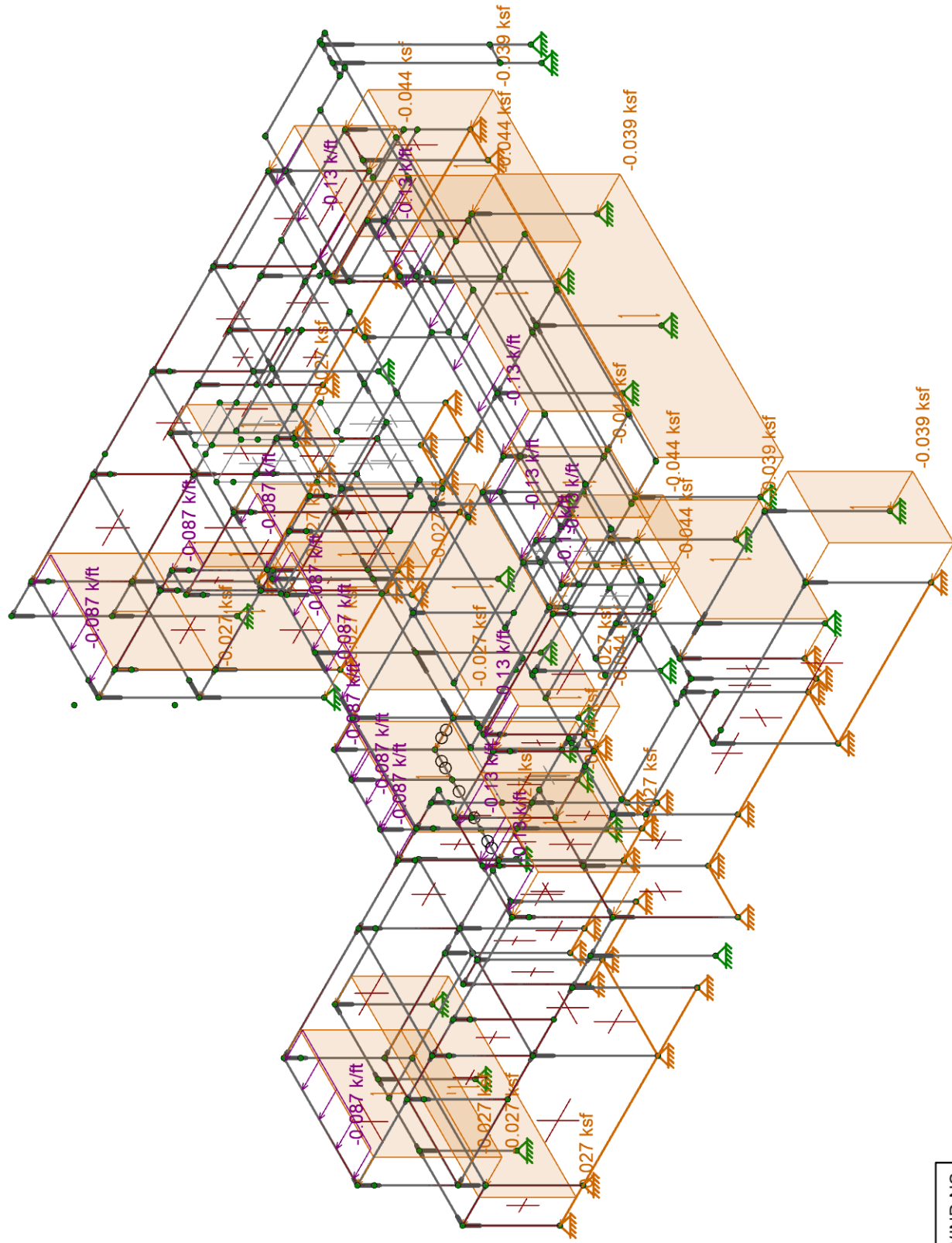
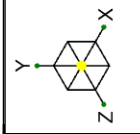
24002.00

Casa Robles 131 - Structural Frames and Canopy

SK-7

Structural Frames and Canopy.r3d

Roof Live Loads



Loads: BLC 4, WIND NS

CFS Engineering Group, Inc.

Carlos F. Sanz, PE

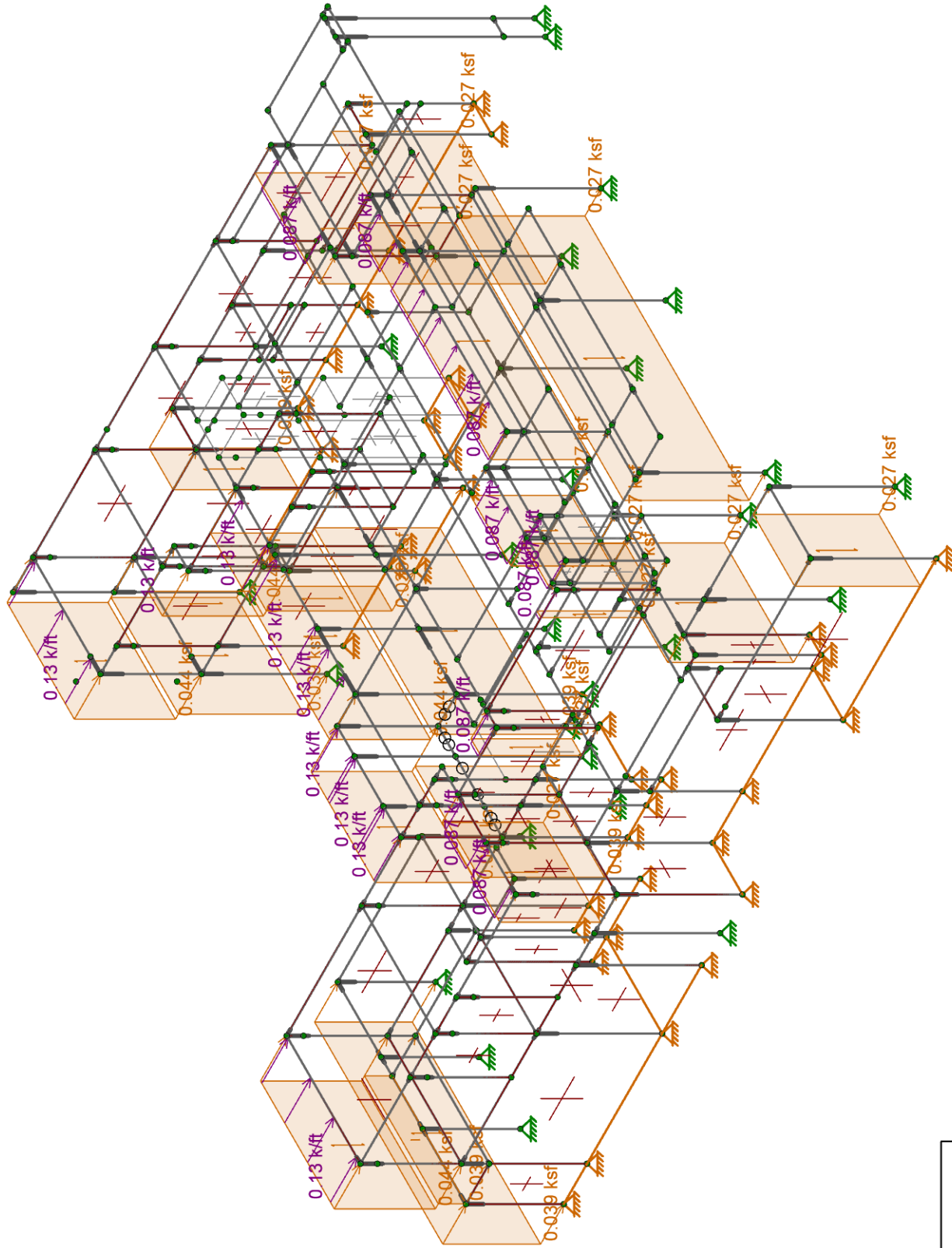
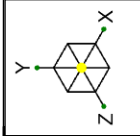
24002.00

Casa Robles 131 - Structural Frames and Canopy

SK-8

Structural Frames and Canopy.r3d

Wind Loads (N-S)



Loads: BLC 5, WIND SN

CFS Engineering Group, Inc.

Carlos F. Sanz, PE

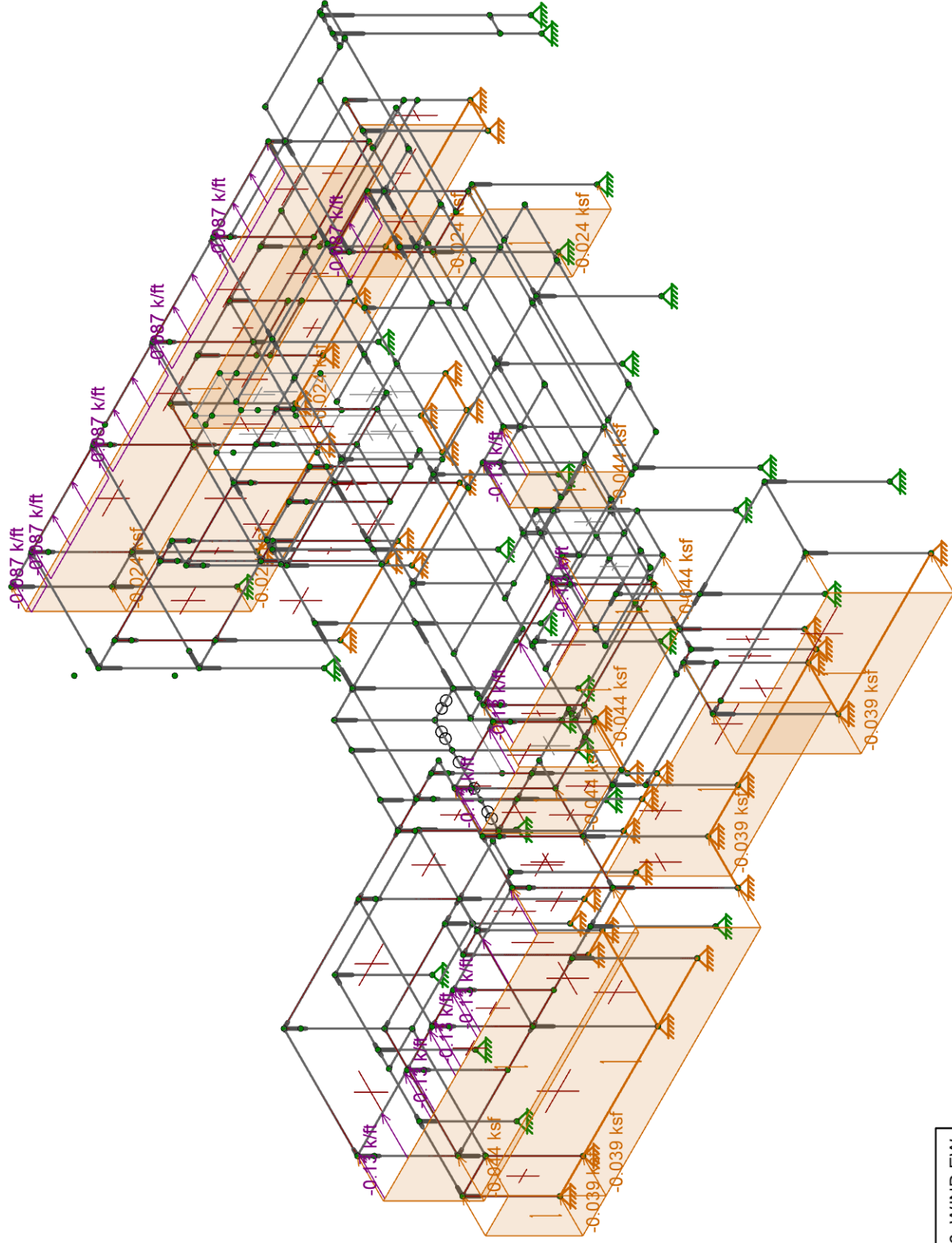
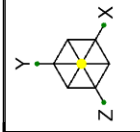
24002.00

Casa Robles 131 - Structural Frames and Canopy

SK-9

Structural Frames and Canopy.r3d

Wind Loads (S-N)



Loads: BLC 6, WIND EW

CFS Engineering Group, Inc.

Carlos F. Sanz, PE

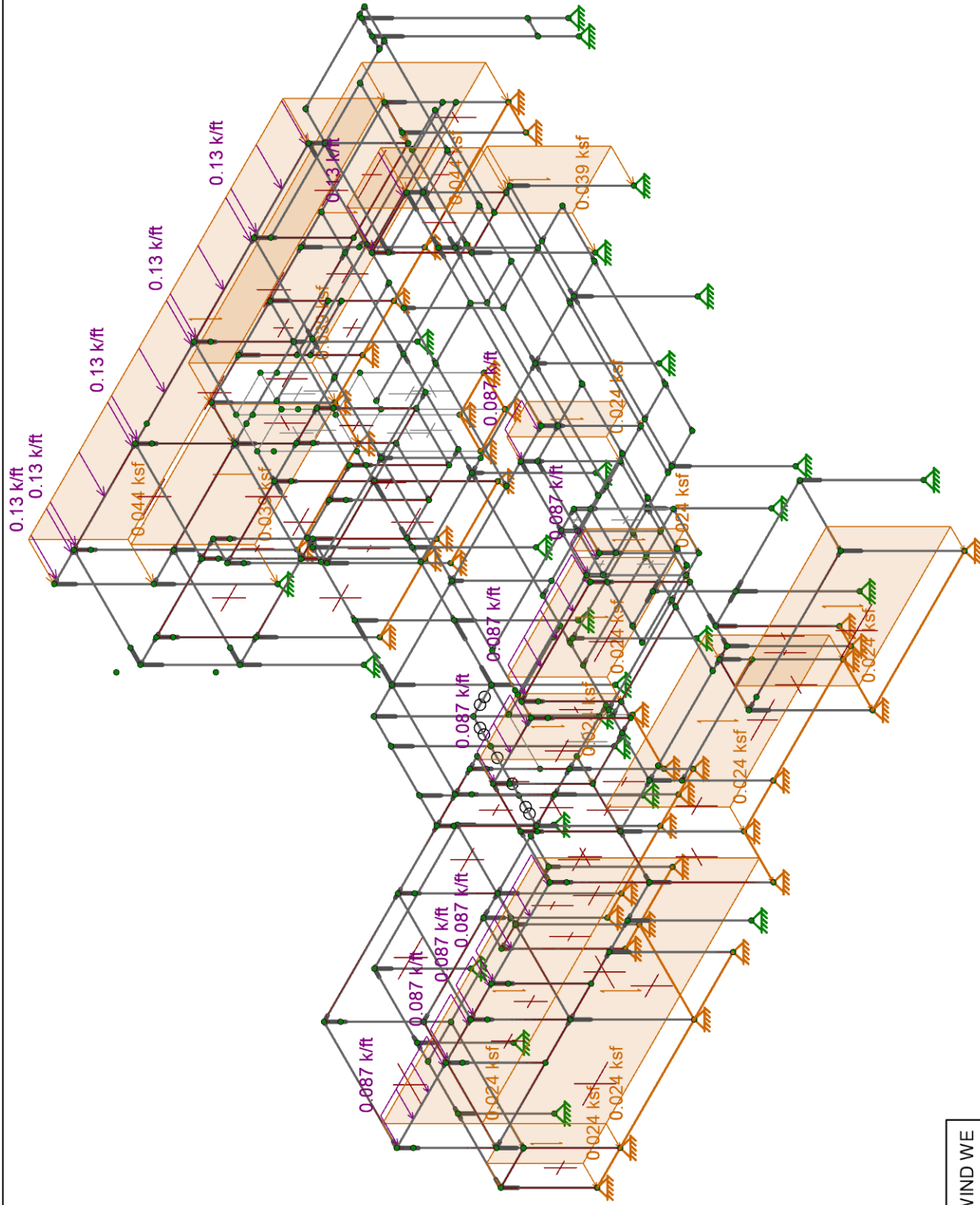
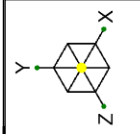
24002.00

Casa Robles 131 - Structural Frames and Canopy

SK-10

Structural Frames and Canopy.r3d

Wind Loads (E-W)



Loads: BLC 7, WIND WE

CFS Engineering Group, Inc.

Carlos F. Sanz, PE

24002.00

Casa Robles 131 - Structural Frames and Canopy

SK-11

Structural Frames and Canopy.r3d

Wind Loads (W-E)

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Model Settings

Number of Reported Sections	5
Number of Internal Sections	100
Member Area Load Mesh Size (in ²)	144
Consider Shear Deformation	Yes
Consider Torsional Warping	Yes
Approximate Mesh Size (in)	24
Transfer Forces Between Intersecting Wood Walls	Yes
Increase Wood Wall Nailing Capacity for Wind Loads	Yes
Include P-Delta for Walls	Yes
Optimize Masonry and Wood Walls	Yes
Maximum Number of Iterations	3
Single	No
Multiple (Optimum)	Yes
Maximum	No
Global Axis corresponding to vertical direction	Y
Convert Existing Data	Yes
Default Global Plane for z-axis	XZ
Plate Local Axis Orientation	Global
Hot Rolled Steel	AISC 15th (360-16): ASD
Stiffness Adjustment	Yes (Iterative)
Notional Annex	None
Connections	AISC 15th (360-16): ASD
Cold Formed Steel	AISI S100-20: ASD
Stiffness Adjustment	Yes (Iterative)
Wood	AWC NDS-18 / SDPWS-21 ASD
Temperature	< 100F
Concrete	ACI 318-19
Masonry	TMS 402-16: ASD
Aluminum	AA ADM1-20: ASD
Structure Type	Building
Stiffness Adjustment	Yes (Iterative)
Stainless	AISC 14th (360-10): ASD
Stiffness Adjustment	Yes (Iterative)
Compression Stress Block	Rectangular Stress Block
Analyze using Cracked Sections	Yes
Leave room for horizontal rebar splices (2*d bar spacing)	Yes
List forces which were ignored for design in the Detail Report	Yes
Column Min Steel	1
Column Max Steel	4
Rebar Material Spec	ASTM A615
Warn if beam-column framing arrangement is not understood	No
Number of Shear Regions	4
Region 2 & 3 Spacing Increase Increment (in)	4
Code	None
Base Elevation (ft)	
Include the weight of the structure in base shear calcs	Yes

Company :CFS Engineering Group, Inc.
Designer :Carlos F. Sanz, PE
Job Number :24002.00
Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Model Settings (Continued)

T Z (sec)	
T X (sec)	
C _Z	0.02
C _X	0.02
R Z	3
R X	3

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [10^{-6}F^{-1}]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3

Concrete Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [10^{-6}F^{-1}]	Density [k/ft ³]	f'c [ksi]	Lambda	Flex Steel [ksi]	Shear Steel [ksi]
1	Conc4000NW	3644	1584	0.15	0.6	0.145	4	1	60	60

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	COL-HSS12x8x3/8	HSS12X8X6	Column	Tube	A500 Gr.B Rect	Typical	13.2	140	262	293
2	COL-HSS8x3x3/8	HSS8X3X6	Column	Tube	A500 Gr.B Rect	Typical	6.88	10	48.5	28.5
3	COL-HSS8x8x3/8	HSS8X8X6	Column	SquareTube	A500 Gr.B Rect	Typical	10.4	100	100	160
4	COL-HSS6x6x3/8	HSS6X6X6	Column	SquareTube	A500 Gr.B Rect	Typical	7.58	39.5	39.5	64.6
5	BM-HSS6x2x3/8	HSS6X2X6	Beam	Tube	A500 Gr.B Rect	Typical	4.78	2.77	17.1	8.42

Concrete Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	COL8x10	CRECT10X8	Column	Rectangular	Conc4000NW	Typical	80	426.667	666.667	846.507
2	COL8x12	CRECT12X8	Column	Rectangular	Conc4000NW	Typical	96	512	1152	1187.84
3	COL8x14	CRECT14X8	Column	Rectangular	Conc4000NW	Typical	112	597.333	1829.333	1529.173
4	COL8x16	CRECT16X8	Column	Rectangular	Conc4000NW	Typical	128	682.667	2730.667	1870.507
5	COL8x18	CRECT18X8	Column	Rectangular	Conc4000NW	Typical	144	768	3888	2211.84
6	COL8x20	CRECT20X8	Column	Rectangular	Conc4000NW	Typical	160	853.333	5333.333	2553.173
7	COL8x24	CRECT24X8	Column	Rectangular	Conc4000NW	Typical	192	1024	9216	3235.84
8	COL8x26	CRECT26X8	Column	Rectangular	Conc4000NW	Typical	208	1109.333	11717.333	3577.173
9	COL8x28	CRECT28X8	Column	Rectangular	Conc4000NW	Typical	224	1194.667	14634.667	3918.507
10	COL8x31	CRECT31X8	Column	Rectangular	Conc4000NW	Typical	248	1322.667	19860.667	4430.507
11	COL8x37	CRECT37X8	Column	Rectangular	Conc4000NW	Typical	296	1578.667	33768.667	5454.507
12	COL8x38	CRECT38X8	Column	Rectangular	Conc4000NW	Typical	304	1621.333	36581.333	5625.173
13	COL8x40.75	CRECT40.75X8	Column	Rectangular	Conc4000NW	Typical	326	1738.667	45111.948	6094.507
14	COL8x44	CRECT44X8	Column	Rectangular	Conc4000NW	Typical	352	1877.333	56789.333	6649.173
15	COL10x16	CRECT16X10	Column	Rectangular	Conc4000NW	Typical	160	1333.333	3413.333	3233.333
16	COL12x12	CRECT12X12	Column	Rectangular	Conc4000NW	Typical	144	1728	1728	2557.44
17	COL12x16	CRECT16X12	Column	Rectangular	Conc4000NW	Typical	192	2304	4096	4861.44
18	COL12x20	CRECT20X12	Column	Rectangular	Conc4000NW	Typical	240	2880	8000	7165.44
19	COL12x24	CRECT24X12	Column	Rectangular	Conc4000NW	Typical	288	3456	13824	9469.44
20	COL12x33	CRECT33X12	Column	Rectangular	Conc4000NW	Typical	396	4752	35937	14653.44
21	COL12x37	CRECT37X12	Column	Rectangular	Conc4000NW	Typical	444	5328	50653	16957.44
22	COL16x34	CRECT34X16	Column	Rectangular	Conc4000NW	Typical	544	11605.333	52405.333	32658.773
23	COL16x38	CRECT38X16	Column	Rectangular	Conc4000NW	Typical	608	12970.667	73162.667	38120.107
24	BM8x8	CRECT8X8	Beam	Rectangular	Conc4000NW	Typical	64	341.333	341.333	505.173
25	BM8x10	CRECT10X8	Beam	Rectangular	Conc4000NW	Typical	80	426.667	666.667	846.507
26	BM8x12.5	CRECT12.5X8	Beam	Rectangular	Conc4000NW	Typical	100	533.333	1302.083	1273.173
27	BM8x14	CRECT14X8	Beam	Rectangular	Conc4000NW	Typical	112	597.333	1829.333	1529.173
28	BM8x14.5	CRECT14.5X8	Beam	Rectangular	Conc4000NW	Typical	116	618.667	2032.417	1614.507
29	BM8x16	CRECT16X8	Beam	Rectangular	Conc4000NW	Typical	128	682.667	2730.667	1870.507
30	BM8x18	CRECT18X8	Beam	Rectangular	Conc4000NW	Typical	144	768	3888	2211.84
31	BM8x19	CRECT19X8	Beam	Rectangular	Conc4000NW	Typical	152	810.667	4572.667	2382.507
32	BM8x22	CRECT22X8	Beam	Rectangular	Conc4000NW	Typical	176	938.667	7098.667	2894.507
33	BM8x24	CRECT24X8	Beam	Rectangular	Conc4000NW	Typical	192	1024	9216	3235.84

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Concrete Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
34	BM8x27	CRECT27X8	Beam	Rectangular	Conc4000NW	Typical	216	1152	13122	3747.84
35	BM8x28.5	CRECT28.5X8	Beam	Rectangular	Conc4000NW	Typical	228	1216	15432.75	4003.84
36	BM8x30	CRECT30X8	Beam	Rectangular	Conc4000NW	Typical	240	1280	18000	4259.84
37	BM8x30.5	CRECT30.5X8	Beam	Rectangular	Conc4000NW	Typical	244	1301.333	18915.083	4345.173
38	BM8x32	CRECT32X8	Beam	Rectangular	Conc4000NW	Typical	256	1365.333	21845.333	4601.173
39	BM8x34	CRECT34X8	Beam	Rectangular	Conc4000NW	Typical	272	1450.667	26202.667	4942.507
40	BM8x35	CRECT35X8	Beam	Rectangular	Conc4000NW	Typical	280	1493.333	28583.333	5113.173
41	BM8x38	CRECT38X8	Beam	Rectangular	Conc4000NW	Typical	304	1621.333	36581.333	5625.173
42	BM8x48	CRECT48X8	Beam	Rectangular	Conc4000NW	Typical	384	2048	73728	7331.84
43	BM8x51	CRECT51X8	Beam	Rectangular	Conc4000NW	Typical	408	2176	88434	7843.84
44	BM12x10	CRECT10X12	Beam	Rectangular	Conc4000NW	Typical	120	1440	1000	1900
45	BM12x14	CRECT14X12	Beam	Rectangular	Conc4000NW	Typical	168	2016	2744	3709.44
46	BM12x16	CRECT16X12	Beam	Rectangular	Conc4000NW	Typical	192	2304	4096	4861.44
47	BM12x22	CRECT22X12	Beam	Rectangular	Conc4000NW	Typical	264	3168	10648	8317.44
48	BM12x24	CRECT24X12	Beam	Rectangular	Conc4000NW	Typical	288	3456	13824	9469.44
49	BM12x28.5	CRECT30.5X12	Beam	Rectangular	Conc4000NW	Typical	366	4392	28372.625	13213.44
50	BM12x30.5	CRECT30.5X12	Beam	Rectangular	Conc4000NW	Typical	366	4392	28372.625	13213.44
51	BM12x32	CRECT32X12	Beam	Rectangular	Conc4000NW	Typical	384	4608	32768	14077.44
52	BM12x34	CRECT34X12	Beam	Rectangular	Conc4000NW	Typical	408	4896	39304	15229.44
53	BM16x10	CRECT10X16	Beam	Rectangular	Conc4000NW	Typical	160	3413.333	1333.333	3233.333
54	BM16x34	CRECT34X16	Beam	Rectangular	Conc4000NW	Typical	544	11605.333	52405.333	32658.773
55	BM20x16	CRECT16X20	Beam	Rectangular	Conc4000NW	Typical	320	10666.667	6826.667	13544.107
56	BM30x16	CRECT16X30	Beam	Rectangular	Conc4000NW	Typical	480	36000	10240	27197.44

Basic Load Cases

	BLC Description	Category	Y Gravity	Distributed	Area(Member)
1	DEAD	DL	-1		38
2	LIVE	LL			15
3	ROOF LIVE	RLL			23
4	WIND NS	WL		18	23
5	WIND SN	WL		18	23
6	WIND EW	WL		14	14
7	WIND WE	WL		14	14

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	DL		Y	1	1						
2	DL+LL		Y	1	1	2	1				
3	DL+RLL		Y	1	1	3	1				
4	DL+0.75LL+0.75RLL		Y	1	1	2	0.75	3	0.75		
5	DL+0.6WL(NS)		Y	1	1	4	0.6				
6	DL+0.6WL(SN)		Y	1	1	5	0.6				
7	DL+0.6WL(EW)		Y	1	1	6	0.6				
8	DL+0.6WL(WE)		Y	1	1	7	0.6				
9	DL+0.75LL+0.75RLL+0.45WL(NS)		Y	1	1	2	0.75	3	0.75	4	0.45
10	DL+0.75LL+0.75RLL+0.45WL(SN)		Y	1	1	2	0.75	3	0.75	5	0.45
11	DL+0.75LL+0.75RLL+0.45WL(EW)		Y	1	1	2	0.75	3	0.75	6	0.45
12	DL+0.75LL+0.75RLL+0.45WL(WE)		Y	1	1	2	0.75	3	0.75	7	0.45
13	0.6DL+0.6WL(NS)		Y	1	0.6	4	0.6				
14	0.6DL+0.6WL(SN)		Y	1	0.6	5	0.6				
15	0.6DL+0.6WL(EW)		Y	1	0.6	6	0.6				
16	0.6DL+0.6WL(WE)		Y	1	0.6	7	0.6				

Service Load Combinations

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
17	1.4DL		Y	1	1.4						
18	1.2DL+1.6LL+0.5RLL		Y	1	1.2	2	1.6	3	0.5		
19	1.2DL+LL+1.6RLL		Y	1	1.2	2	1	3	1.6		
20	1.2DL+1.6RLL+0.5WL(NS)		Y	1	1.2	3	1.6	4	0.5		
21	1.2DL+1.6RLL+0.5WL(SN)		Y	1	1.2	3	1.6	5	0.5		
22	1.2DL+1.6RLL+0.5WL(EW)		Y	1	1.2	3	1.6	6	0.5		
23	1.2DL+1.6RLL+0.5WL(WE)		Y	1	1.2	3	1.6	7	0.5		
24	1.2DL+LL+0.5RLL+WL(NS)		Y	1	1.2	2	1	3	0.5	4	1
25	1.2DL+LL+0.5RLL+WL(SN)		Y	1	1.2	2	1	3	0.5	5	1
26	1.2DL+LL+0.5RLL+WL(EW)		Y	1	1.2	2	1	3	0.5	6	1
27	1.2DL+LL+0.5RLL+WL(WE)		Y	1	1.2	2	1	3	0.5	7	1
28	0.9DL+WL(NS)		Y	1	0.9	4	1				
29	0.9DL+WL(SN)		Y	1	0.9	5	1				
30	0.9DL+WL(EW)		Y	1	0.9	6	1				
31	0.9DL+WL(WE)		Y	1	0.9	7	1				

Factored Load Combinations

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Service Load Analysis Results

Envelope Beam Deflections

	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
1	M107	1	max	1.917	0	NC	16
2		1	min	0	0	NC	1
3	M108	1	max	7.167	0	NC	16
4		1	min	0	0	NC	1
5	M109	1	max	2.397	0.001	NC	4
6		1	min	0	0	NC	1
7	M110	1	max	4.106	-0.001	NC	5
8		1	min	0	0	NC	1
9	M111	1	max	0.436	-0.001	NC	2
10		1	min	0	-0.001	NC	1
11	M112	1	max	15.331	0.001	NC	3
12		1	min	0	0.001	NC	1
13	M113	1	max	6.333	0	NC	16
14		1	min	0	0	NC	1
15	M114	1	max	7.167	0	NC	16
16		1	min	0	0	NC	1
17	M115	1	max	7	0	NC	16
18		1	min	0	0	NC	1
19	M116	1	max	4.576	0	NC	16
20		1	min	0	0	NC	1
21		2	max	19.828	-0.001	NC	11
22		2	min	4.794	0	NC	1
23	M117	1	max	4	0	NC	16
24		1	min	0	0	NC	1
25	M118	1	max	2.031	-0.001	NC	4
26		1	min	0	0	NC	1
27	M119	1	max	13.942	-0.001	NC	10
28		1	min	0	0	NC	1
29	M120	1	max	11.291	-0.001	NC	3
30		1	min	0	0	NC	1
31	M121	1	max	1.278	0.001	NC	15
32		1	min	15.333	0.061	6069	11
33	M122	1	max	4.014	0.001	NC	6
34		1	min	0.059	-0.001	NC	16
35	M123	1	max	22.917	-0.001	NC	3
36		1	min	10.504	-0.233	1178	2
37	M124	1	max	4.528	0.001	NC	5
38		1	min	0	0.001	NC	13
39		2	max	6.07	-0.001	NC	12
40		2	min	5.685	0	NC	1
41	M125	1	max	3.166	0	NC	16
42		1	min	0	0	NC	1
43	M126	1	max	7.787	-0.001	NC	5
44		1	min	0	0	NC	1
45	M127	1	max	1.667	0	NC	16
46		1	min	0	0	NC	1
47	M128	1	max	6.281	-0.001	NC	5
48		1	min	0	0	NC	1
49	M129	1	max	5.998	-0.001	NC	13
50		1	min	10.719	0.026	5580	2
51	M130	1	max	7.662	0.001	NC	14
52		1	min	7.494	0.001	NC	13
53	M131	1	max	0.583	-0.001	NC	1
54		1	min	0	-0.003	7038	12

All beam deflections well within allowable deflections range

Floor beam deflections < L/360 Roof beam deflections < L/240 **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Envelope Beam Deflections (Continued)

	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
55	M132	1	max	2.366	-0.001	NC	14
56		1	min	0	0	NC	1
57	M133	1	max	1.659	-0.001	NC	13
58		1	min	0	-0.001	NC	1
59	M134	1	max	0.638	0.001	NC	11
60		1	min	9.443	0.047	3100	11
61	M135	1	max	14.833	-0.007	NC	16
62		1	min	6.799	-0.179	993	11
63	M136	1	max	8.75	0.002	NC	13
64		1	min	2.734	0.033	3149	2
65	M137	1	max	0	-0.002	NC	13
66		1	min	4.833	-0.049	2387	2
67	M138	1	max	0	-0.013	NC	16
68		1	min	6.799	-0.2	889	9
69	M139	1	max	3.229	0.001	NC	8
70		1	min	7.75	-0.158	1178	12
71	M140	1	max	0.146	-0.001	NC	6
72		1	min	0	-0.001	NC	13
73	M141	1	max	4.179	-0.001	NC	8
74		1	min	0	0.001	NC	1
75	M142	1	max	0	-0.001	NC	15
76		1	min	10.542	-0.038	6685	3
77	M143	1	max	11.995	0.001	NC	2
78		1	min	9.443	-0.001	NC	2
79	M144	1	max	0.236	-0.001	NC	1
80		1	min	0	-0.002	9128	10
81	M145	1	max	18.584	-0.003	NC	16
82		1	min	10.066	-0.171	1307	2
83	M146	1	max	5.328	0.001	NC	2
84		1	min	2.292	0.012	5319	2
85	M147	1	max	1.46	-0.001	NC	16
86		1	min	4.833	-0.018	6341	2
87	M148	1	max	15.167	-0.005	NC	14
88		1	min	8.373	-0.153	1189	2
89	M149	1	max	2.066	-0.001	NC	13
90		1	min	2.917	-0.015	4746	10
91	M150	1	max	3	0	NC	16
92		1	min	0	0	NC	1
93	M151	1	max	20.782	-0.001	NC	14
94		1	min	10.063	-0.07	3617	11
95	M152	1	max	12.542	-0.001	NC	14
96		1	min	0	0.001	NC	1
97	M153	1	max	1.999	0	NC	16
98		1	min	0	0	NC	1
99	M154	1	max	7.913	0	NC	16
100		1	min	0	0	NC	1
101		2	max	8.834	0	NC	16
102		2	min	8.006	0.003	3793	5
103	M155	1	max	3.417	0	NC	16
104		1	min	0	0	NC	1
105	M156	1	max	2.5	0	NC	16
106		1	min	0	0	NC	1
107	M157	1	max	0.842	-0.001	NC	14
108		1	min	8.084	-0.044	4447	9

All beam deflections well within allowable deflections range

Floor beam deflections < L/360 Roof beam deflections < L/240 **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Envelope Beam Deflections (Continued)

	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
109	M158	1	max	15.167	-0.001	NC	16
110		1	min	7.583	-0.094	1940	2
111	M159	1	max	0.911	0.001	NC	13
112		1	min	0.851	0.001	NC	16
113	M160	1	max	3	0	NC	16
114		1	min	0	0	NC	1
115	M161	1	max	14.909	0.001	NC	2
116		1	min	0	0.084	4453	12
117		2	max	17.493	0.001	NC	12
118		2	min	16.897	0.001	NC	14
119	M162	1	max	2.666	0	NC	16
120		1	min	0	0	NC	1
121	M163	1	max	2.236	-0.001	NC	3
122		1	min	0	0	NC	1
123	M164	1	max	3.115	0.001	NC	15
124		1	min	0	0	NC	15
125	M165	1	max	1.269	-0.001	NC	13
126		1	min	0	-0.004	8524	10
127	M166	1	max	2.42	0.001	NC	4
128		1	min	0	0.001	NC	1
129	M167	1	max	14.917	-0.001	NC	4
130		1	min	0	0	NC	1
131	M168	1	max	5.556	0.001	NC	10
132		1	min	0	0	NC	1
133	M169	1	max	16.74	-0.001	NC	15
134		1	min	0	0	NC	1
135	M170	1	max	0.094	0.001	NC	2
136		1	min	0	0.002	7672	9
137	M171	1	max	5.333	0	NC	16
138		1	min	0	0	NC	1
139	M172	1	max	4.969	-0.001	NC	10
140		1	min	0	0	NC	1
141	M173	1	max	1.748	-0.001	NC	16
142		1	min	0	0	NC	1
143	M174	1	max	0.66	0.001	NC	12
144		1	min	0	0.001	NC	1
145	M175	1	max	4.667	0	NC	16
146		1	min	0	0	NC	1
147	M176	1	max	21.635	-0.001	NC	7
148		1	min	0	-0.001	NC	1
149	M177	1	max	3	-0.001	NC	3
150		1	min	0	-0.001	NC	1
151	M178	1	max	9	0	NC	16
152		1	min	0	0	NC	1
153	M179	1	max	9	0	NC	16
154		1	min	0	0	NC	1
155	M180	1	max	0.382	-0.001	NC	16
156		1	min	18.333	0.066	6666	3
157	M181	1	max	0.382	-0.001	NC	9
158		1	min	0	-0.001	NC	1
159	M182	1	max	1.51	-0.001	NC	16
160		1	min	6.797	-0.019	9015	11
161	M183	1	max	12.222	-0.001	NC	14
162		1	min	0	0	NC	1

All beam deflections well within allowable deflections range

Floor beam deflections < L/360 Roof beam deflections < L/240 **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Envelope Beam Deflections (Continued)

	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
163	M184	1	max	4.667	0	NC	16
164		1	min	0	0	NC	1
165	M185	1	max	16.163	-0.001	NC	13
166		1	min	8.167	-0.163	1204	2
167	M186	1	max	2.344	0.001	NC	9
168		1	min	0	0.001	NC	7
169	M187	1	max	11.673	-0.001	NC	10
170		1	min	0	0	NC	1
171	M188	1	max	1.792	0.001	NC	1
172		1	min	0	0	NC	1
173	M189	1	max	2.667	0.001	NC	4
174		1	min	0	0	NC	1
175	M190	1	max	2.625	-0.001	NC	1
176		1	min	0	-0.001	NC	1
177	M191	1	max	0.399	-0.001	NC	7
178		1	min	0	0	NC	7
179	M192	1	max	3.55	0.001	NC	15
180		1	min	0	0	NC	8
181	M193	1	max	2.188	-0.001	NC	15
182		1	min	0	0	NC	1
183	M194	1	max	0.089	-0.001	NC	1
184		1	min	0	-0.001	NC	5
185	M195	1	max	0.75	-0.001	NC	1
186		1	min	0	0	NC	1
187	M196	1	max	0.335	-0.001	NC	13
188		1	min	5.689	-0.055	2336	2
189	M197	1	max	5.542	-0.001	NC	14
190		1	min	0.173	0.001	NC	15
191	M198	1	max	0.187	-0.001	NC	1
192		1	min	0	-0.001	NC	6
193	M199	1	max	0	-0.001	NC	9
194		1	min	6.136	-0.026	9379	12
195	M200	1	max	7.586	-0.001	NC	15
196		1	min	4.041	-0.018	5249	2
197	M201	1	max	7.174	-0.001	NC	9
198		1	min	6.927	-0.001	NC	13
199	M202	1	max	0.207	-0.001	NC	15
200		1	min	4.149	-0.012	6920	12
201		2	max	7.261	0.001	NC	9
202		2	min	18.464	0.241	1303	9
203	M203	1	max	2.509	0.001	NC	14
204		1	min	11.289	-0.471	1226	11
205	M204	1	max	0	0.004	NC	15
206		1	min	10.607	0.033	5763	2
207	M205	1	max	13.222	-0.001	NC	12
208		1	min	5.785	-0.09	1866	2
209		2	max	19.214	0.001	NC	5
210		2	min	15.082	0.019	3732	12
211	M206	1	max	1.833	0	NC	16
212		1	min	0	-0.001	NC	1
213	M207	1	max	0.563	0.001	NC	13
214		1	min	0	-0.001	NC	13
215	M208	1	max	8.221	-0.001	NC	1
216		1	min	3.737	-0.023	5245	10

All beam deflections well within allowable deflections range
 Floor beam deflections < L/360 Roof beam deflections < L/240 **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Envelope Beam Deflections (Continued)

	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
217	M209	1	max	23.833	-0.001	NC	15
218		1	min	11.54	-0.268	1077	11
219	M210	1	max	14.694	-0.001	NC	9
220		1	min	7.666	-0.085	2165	12
221	M211	1	max	1.118	-0.001	NC	16
222		1	min	8.466	-0.031	5885	2
223	M212	1	max	1.53	0.001	NC	1
224		1	min	0.996	0.001	NC	13
225	M213	1	max	5.687	0.001	NC	6
226		1	min	0	0	NC	1
227	M214	1	max	0.712	-0.001	NC	2
228		1	min	0	-0.005	4120	11
229	M215	1	max	15.417	-0.003	NC	13
230		1	min	7.869	-0.095	1953	10
231	M216	1	max	0.326	0.001	NC	15
232		1	min	6.251	-0.175	857	10
233	M217	1	max	7.726	-0.001	NC	4
234		1	min	14.833	0.045	7977	11
235	M218	1	max	6	-0.001	NC	9
236		1	min	0	-0.001	NC	1
237	M219	1	max	24.751	-0.001	NC	8
238		1	min	10.313	-0.17	1752	11
239	M220	1	max	0.165	0.001	NC	3
240		1	min	15.833	-0.081	4680	11
241	M221	1	max	24.251	-0.001	NC	14
242		1	min	9.599	-0.159	1826	11
243	M222	1	max	2.076	0.001	NC	14
244		1	min	8.465	-0.022	8280	12
245	M223	1	max	5.469	0.001	NC	7
246		1	min	1.758	-0.008	9145	10
247	M224	1	max	17.5	-0.002	NC	16
248		1	min	7.109	-0.066	3169	2
249	M225	1	max	7.5	-0.001	NC	9
250		1	min	6.328	0.001	NC	13
251	M226	1	max	1.771	-0.001	NC	11
252		1	min	0	0	NC	1
253	M227	1	max	4.167	0	NC	16
254		1	min	0	0	NC	1
255	M228	1	max	0.208	-0.001	NC	5
256		1	min	2	0.009	5247	6
257	M229	1	max	0.072	-0.001	NC	9
258		1	min	3.459	0.077	1084	14
259	M230	1	max	3.792	-0.001	NC	13
260		1	min	2	0.009	5344	6
261	M231	1	max	4	0	NC	16
262		1	min	0	-0.001	NC	1
263	M232	1	max	4.531	-0.001	NC	2
264		1	min	0	0	NC	1
265	M233	1	max	12.093	-0.001	NC	7
266		1	min	0	0	NC	1
267	M234	1	max	2.115	-0.001	NC	11
268		1	min	0	-0.001	NC	1
269	M235	1	max	7.729	-0.001	NC	11
270		1	min	0	0	NC	1

All beam deflections well within allowable deflections range

Floor beam deflections < L/360 Roof beam deflections < L/240

OK

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Envelope Beam Deflections (Continued)

	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
271	M236	1	max	22.44	-0.001	NC	8
272		1	min	10.026	-0.211	1304	3
273	M237	1	max	8.083	0	NC	16
274		1	min	0	0	NC	1
275	M238	1	max	3.166	0	NC	16
276		1	min	0	0	NC	1
277	M239	1	max	6.771	-0.001	NC	1
278		1	min	0	0	NC	1
279	M240	1	max	1.667	0	NC	16
280		1	min	0	0	NC	1
281	M241	1	max	3.722	0.001	NC	4
282		1	min	0	-0.001	NC	1
283	M242	1	max	3.483	0.001	NC	9
284		1	min	0	-0.001	NC	1
285	M243	1	max	3.913	0.001	NC	16
286		1	min	1.063	-0.001	NC	13
287	M244	1	max	0	-0.001	NC	2
288		1	min	2.037	0.015	3135	3
289	M245	1	max	13.25	-0.005	NC	16
290		1	min	5.935	-0.122	1300	3
291	M246	1	max	2.714	-0.001	NC	16
292		1	min	0	-0.001	NC	13
293	M247	1	max	4.083	0	NC	16
294		1	min	0	-0.001	NC	1
295	M248	1	max	5.563	-0.001	NC	14
296		1	min	12.361	0.033	5330	3
297	M249	1	max	21.474	-0.001	NC	14
298		1	min	10.39	-0.369	721	3
299	M250	1	max	2.951	0.001	NC	14
300		1	min	0	-0.001	NC	1
301	M251	1	max	5.872	-0.001	NC	11
302		1	min	10.198	-0.044	4075	12
303	M252	1	max	15.021	0.001	NC	13
304		1	min	6.616	-0.165	1249	3
305	M253	1	max	4.333	0	NC	16
306		1	min	0	0	NC	1
307	M254	1	max	14.842	-0.001	NC	5
308		1	min	6.795	-0.149	1380	3
309	M255	1	max	2.333	0	NC	16
310		1	min	0	0	NC	1
311	M256	1	max	12.146	-0.001	NC	7
312		1	min	0	0	NC	1
313	M257	1	max	8.834	0	NC	16
314		1	min	0	0	NC	1
315	M258	1	max	3.417	0	NC	16
316		1	min	0	0	NC	1
317	M259	1	max	2.5	0	NC	16
318		1	min	0	0	NC	1
319	M260	1	max	0.625	-0.001	NC	16
320		1	min	1.25	-0.005	5746	11
321	M261	1	max	0.177	-0.001	NC	13
322		1	min	8.146	-0.064	3190	3
323	M262	1	max	2.333	0	NC	16
324		1	min	0	0	NC	1

All beam deflections well within allowable deflections range
 Floor beam deflections < L/360 Roof beam deflections < L/240 **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Envelope Beam Deflections (Continued)

	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
325	M263	1	max	0.174	-0.001	NC	1
326		1	min	0	-0.001	NC	1
327	M264	1	max	5.901	-0.001	NC	11
328		1	min	0	-0.001	NC	1
329	M265	1	max	10.125	-0.001	NC	6
330		1	min	0	0	NC	1
331	M266	1	max	5.333	0	NC	16
332		1	min	0	0	NC	1
333	M267	1	max	4.334	0	NC	16
334		1	min	0	0	NC	1
335	M268	1	max	13.896	-0.001	NC	16
336		1	min	0	0	NC	1
337	M269	1	max	2.576	-0.001	NC	16
338		1	min	0	-0.001	NC	8
339	M270	1	max	14.198	-0.001	NC	10
340		1	min	0	-0.001	NC	16
341	M271	1	max	16.163	-0.001	NC	15
342		1	min	8.167	-0.141	1388	3
343	M272	1	max	0	-0.001	NC	13
344		1	min	9.167	-0.249	881	3
345	M273	1	max	3.667	0	NC	16
346		1	min	0	0	NC	1
347	M274	1	max	4	0	NC	16
348		1	min	0	0	NC	1
349	M275	1	max	3.098	-0.001	NC	8
350		1	min	0	0	NC	1
351	M276	1	max	4	0	NC	16
352		1	min	0	0	NC	1
353	M277	1	max	0.165	-0.001	NC	11
354		1	min	0	-0.001	NC	1
355	M278	1	max	3.368	0.001	NC	6
356		1	min	0	0.001	NC	1
357	M279	1	max	4.792	-0.001	NC	15
358		1	min	0	0	NC	1
359	M280	1	max	6.625	0.001	NC	10
360		1	min	0	-0.001	NC	5
361	M281	1	max	2.167	-0.001	NC	16
362		1	min	0	0	NC	1
363	M282	1	max	10.444	-0.001	NC	16
364		1	min	5.111	-0.035	3635	3
365	M283	1	max	5.312	0.001	NC	3
366		1	min	0	-0.001	NC	8
367	M284	1	max	0.057	-0.001	NC	1
368		1	min	0	-0.001	NC	8
369	M285	1	max	0.802	0.001	NC	14
370		1	min	3.5	0.035	2390	11
371	M286	1	max	4.202	-0.001	NC	11
372		1	min	0	0	NC	1
373	M287	1	max	1.413	0.001	NC	12
374		1	min	0	-0.001	NC	1
375	M288	1	max	2.889	-0.001	NC	15
376		1	min	9.931	-0.121	1720	3
377	M289	1	max	0	-0.002	NC	15
378		1	min	8.021	-0.202	1042	3

All beam deflections well within allowable deflections range

Floor beam deflections < L/360 Roof beam deflections < L/240

OK

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Envelope Beam Deflections (Continued)

	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
379	M290	1	max	16.166	0.004	NC	14
380		1	min	4.378	0.07	2753	3
381	M291	1	max	11.389	0.001	NC	7
382		1	min	4.983	-0.06	2720	3
383	M292	1	max	0	-0.008	NC	16
384		1	min	9.297	-0.276	760	3
385	M293	1	max	7.628	-0.001	NC	15
386		1	min	0	0.018	5013	3
387	M294	1	max	7.793	0.001	NC	11
388		1	min	2.871	0.018	5337	3
389	M295	1	max	10.12	-0.001	NC	6
390		1	min	0	0	NC	1
391	M296	1	max	1	0	NC	16
392		1	min	0	0	NC	1
393	M297	1	max	5.667	0	NC	16
394		1	min	0	0	NC	1
395	M298	1	max	3.658	0.001	NC	10
396		1	min	0	0	NC	1
397	M299	1	max	6	0	NC	16
398		1	min	0	0	NC	1
399	M300	1	max	11.235	0.001	NC	6
400		1	min	0	0	NC	1
401	M301	1	max	2.966	0.001	NC	11
402		1	min	0	0	NC	1
403	M302	1	max	0	-0.003	NC	13
404		1	min	6.328	-0.182	889	3
405	M303	1	max	0.346	-0.001	NC	16
406		1	min	0.583	-0.009	749	3
407	M304	1	max	12.876	0.001	NC	9
408		1	min	0	0	NC	1
409	M305	1	max	13.499	0.001	NC	13
410		1	min	7.593	-0.226	1433	3
411	M306	1	max	0.419	-0.001	NC	16
412		1	min	0	0.011	615	3
413	M307	1	max	8.083	0	NC	16
414		1	min	0	0	NC	1
415	M308	1	max	0.222	-0.001	NC	11
416		1	min	5.333	-0.267	478	3
417	M309	1	max	0.222	-0.001	NC	10
418		1	min	5.333	-0.245	523	3
419	M310	1	max	0.059	0.002	NC	14
420		1	min	2.715	0.086	793	3
421	M311	1	max	0.236	-0.001	NC	6
422		1	min	5.666	-0.368	369	3
423	M312	1	max	3	0	NC	16
424		1	min	0	0	NC	1
425	M313	1	max	0.319	-0.001	NC	16
426		1	min	7.666	-0.523	351	3
427	M314	1	max	3	0	NC	16
428		1	min	0	0	NC	1
429	M315	1	max	0.24	-0.001	NC	10
430		1	min	7.666	-0.404	455	3
431	M316	1	max	3.417	0.001	NC	11
432		1	min	0	-0.039	2100	12

All beam deflections well within allowable deflections range

Floor beam deflections < L/360 Roof beam deflections < L/240

OK

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Envelope Beam Deflections (Continued)

	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
433	M317	1	max	0.048	-0.001	NC	4
434		1	min	4.583	-0.156	706	3
435	M318	1	max	0	0.001	NC	14
436		1	min	7.447	0.038	3504	3
437	M319	1	max	0.328	-0.001	NC	9
438		1	min	4.5	-0.109	995	3
439	M320	1	max	0.21	-0.001	NC	12
440		1	min	1.833	0.003	7424	10
441	M321	1	max	5.5	0.001	NC	4
442		1	min	0	0.071	2015	10
443	M322	1	max	0.21	-0.001	NC	8
444		1	min	1.738	0.006	3495	3
445	M323	1	max	5.177	0.001	NC	14
446		1	min	1.896	0.021	3942	3
447	M324	1	max	6	0.001	NC	8
448		1	min	2.625	-0.035	2031	3
449	M325	1	max	6.658	0.001	NC	13
450		1	min	3.073	-0.027	4405	3
451	M326	1	max	25.729	-0.001	NC	14
452		1	min	9.479	-0.532	586	3
453	M327	1	max	0	0.001	NC	15
454		1	min	5.805	0.011	7667	3
455	M328	1	max	0	-0.003	NC	16
456		1	min	7.507	-0.306	615	3
457	M329	1	max	4.453	0.001	NC	5
458		1	min	1.5	0.03	1814	3
459	M330	1	max	0.586	-0.001	NC	15
460		1	min	0	-0.017	1045	3
461	M331	1	max	0.214	0.001	NC	16
462		1	min	0	0.002	5299	12
463	M332	1	max	0.167	0.001	NC	16
464		1	min	0	0.001	NC	1
465	M333	1	max	1	0	NC	16
466		1	min	0	0	NC	1
467	M334	1	max	5.667	0	NC	16
468		1	min	0	0	NC	1
469	M335	1	max	4.75	-0.001	NC	8
470		1	min	0	0	NC	1
471	M336	1	max	0.17	0.001	NC	3
472		1	min	5.7	-0.01	9565	12
473	M337	1	max	4.5	0	NC	16
474		1	min	0	0	NC	1
475	M338	1	max	9.219	-0.001	NC	2
476		1	min	4.917	-0.031	7732	3
477	M339	1	max	16.722	-0.001	NC	14
478		1	min	8.622	-0.122	2473	3
479	M340	1	max	0.885	-0.001	NC	3
480		1	min	0	0	NC	1
481	M341	1	max	0.33	-0.001	NC	14
482		1	min	9.731	-0.494	768	3
483	M342	1	max	0	-0.001	NC	15
484		1	min	6.253	-0.054	2712	3

All beam deflections well within allowable deflections range

Floor beam deflections < L/360 Roof beam deflections < L/240 **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Envelope AISC 15TH (360-16): ASD Member Steel Code Checks

	Member	Shape	Code	Check	Loc[ft]	LC	Shear	Check	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1	M64	HSS6X6X6	0.063	26.333	11	0.002	26.333	z	11	59.46	208.79	36.267	36.267	3	H1-1b		
2	M65	HSS6X6X6	0.038	26.333	11	0.002	26.333	z	11	59.46	208.79	36.267	36.267	3	H1-1b		
3	M66	HSS6X6X6	0.104	0	11	0.001	26.333	z	11	59.46	208.79	36.267	36.267	3	H1-1b*		
4	M67	HSS8X8X6	0.128	10.333	6	0.007	10.333	y	6	257.254	286.467	67.485	67.485	1.667	H1-1b		
5	M68	HSS12X8X6	0.259	13.791	10	0.001	13.791	y	10	305.617	363.593	86.634	121.657	1.667	H1-1a		
6	M69	HSS12X8X6	0.208	13.791	10	0.01	13.791	z	12	305.617	363.593	86.634	121.657	1.667	H1-1b		
7	M70	HSS12X8X6	0.562	13.791	11	0.007	13.791	z	10	305.617	363.593	86.634	121.657	1.667	H1-1a		
8	M76	HSS8X8X6	0.036	13.499	11	0.001	13.499	z	10	238.422	286.467	67.485	67.485	1.667	H1-1b		
9	M81	HSS8X3X6	0.971	14.833	10	0.001	14.833	y	11	47.444	189.509	18.088	36.956	1.667	H1-1a		
10	M86	HSS12X8X6	0.161	0	3	0.014	10.167	z	12	330.84	363.593	86.634	121.657	2.171	H1-1b		
11	M87	HSS8X3X6	0.794	0	3	0.021	11.667	y	12	76.504	189.509	18.088	36.956	2.195	H1-1a		
12	M88	HSS8X3X6	0.968	11.667	3	0.017	11.667	z	9	76.504	189.509	18.088	36.956	2.21	H1-1a		
13	M89	HSS8X3X6	0.49	11.667	3	0.012	11.667	y	10	76.504	189.509	18.088	36.956	2.222	H1-1a		
14	M227	HSS6X2X6	0.005	2.083	10	0.007	4.167	z	11	98.5	131.665	7.942	18.202	1	H1-1b		
15	M228	HSS6X2X6	0.074	2	6	0.023	4	y	6	100.771	131.665	7.942	18.203	1.136	H1-1b		
16	M229	HSS6X2X6	0.207	3.459	6	0.036	6.917	y	6	59.176	131.665	7.942	18.203	1.136	H1-1b		
17	M230	HSS6X2X6	0.072	2	6	0.023	4	y	6	100.767	131.665	7.942	18.203	1.136	H1-1b		

All steel member code checks < 1.0 **OK**

Envelope X-Direction Story Drift - Service

	Story (Elevation)		Story Drift[in]	Loc (Z,X)	LC	Drift Ratio (%)	Loc (Z,X)	LC	2nd/1st Ratio	Loc (Z,X)	LC
1	Diaph.: 1 (25.833 ft)	max	0.011	27.167, 46	10	0.043	27.167, 46	10	1	27.167, 46	14
2		min	0.005	27.167, 46	13	0.02	27.167, 46	13	1	27.167, 46	5
3	Diaph.: 2 (23.667 ft)	max	0.011	93.333, 46	6	0.009	93.333, 46	6	1.001	6.167, 70.167	10
4		min	-0.006	78.5, 46	5	0.004	6.167, 70.167	15	1	6.167, 70.167	15
5	Diaph.: 3 (12.833 ft)	max	0.011	0, 70.167	6	0.007	0, 70.167	6	1.003	0, 70.167	8
6		min	-0.011	93.333, 95.917	5	0.001	0, 70.167	15	0.999	0, 70.167	15

Negligible story drift in the N-S direction **OK**

Envelope Z-Direction Story Drift - Service

	Story (Elevation)	Story Drift[in]	Loc (Z,X)	LC	LCDrift Ratio (%)	Loc (Z,X)	LC	LC2nd/1st Ratio	Loc (Z,X)	LC	
1	Diaph.: 1 (25.833 ft)	max	0.013	74.333, 25.333	12	0.052	93.333, 25.333	11	1.002	74.333, 25.333	12
2		min	-0.014	93.333, 25.333	11	0.025	93.333, 25.333	14	1.001	93.333, 25.333	13
3	Diaph.: 2 (23.667 ft)	max	0.009	35.75, 51.25	16	0.024	74.333, 25.333	11	1.002	74.333, 25.333	11
4		min	-0.031	74.333, 25.333	11	0.007	35.75, 51.25	16	1.001	74.333, 25.333	8
5	Diaph.: 3 (12.833 ft)	max	0.018	93.333, 95.917	8	0.014	6.167, 3.75	7	1.004	93.333, 95.917	12
6		min	-0.021	6.167, 3.75	7	0.001	6.167, 3.75	14	1	6.167, 3.75	14

Negligible story drift in the E-W direction **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Factored Load Analysis Results

Envelope Concrete Beam Design Results

Member	Shape	UC Max Top	Loc[ft]	UC	LC	UC Max Bot	Loc[ft]	UC	LC	Shear	UC	Loc[ft]	UC	LC	Phi*Mnz Top[k-ft]	Phi*Mnz Bot[k-ft]	Phi*Vny[k]
1	M107CRECT24X8	Warning: No design for spans which qualify as 'Deep Beams'.															
2	M108CRECT16X8	0.051	7.167	25	0.058	0	25	0.054	1.792	25	37.651	37.651	10.969				
3	M109CRECT24X8	0.095	20.917	25	0.099	0	25	0.058	6.101	25	59.74	59.74	16.453				
4	M110CRECT16X8	0.068	7.167	25	0.049	0	25	0.049	5.45	25	37.651	37.651	10.777				
5	M111CRECT24X8	0.115	20.917	25	0.058	0	29	0.072	18.738	25	59.74	59.74	16.623				
6	M112CRECT18X8	0.11	16.917	25	0.055	0	29	0.113	14.978	25	43.173	43.173	11.169				
7	M113CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.															
8	M114CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.															
9	M115CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.															
10	M116CRECT32X8	0.139	20.917	25	0.062	11.766	17	0.093	18.085	21	81.829	81.829	22.866				
11	M117CRECT32X12	Warning: No design for spans which qualify as 'Deep Beams'.															
12	M118CRECT32X12	0.181	15	25	0.043	8.594	26	0.066	5.625	18	82.452	82.452	34.508				
13	M119CRECT16X8	0.436	0	24	0.051	9.652	19	0.339	1.685	24	37.651	37.651	10.859				
14	M120CRECT16X8	0.251	0	19	0.048	12.458	26	0.169	7.008	18	37.651	37.651	10.83				
15	M121CRECT16X8	0.582	15.333	18	0.385	0	18	0.416	15.014	18	37.651	37.651	31.182				
16	M122CRECT28.5X8	Warning: No design for spans which qualify as 'Deep Beams'.															
17	M123CRECT16X30	0.885	22.917	18	0.621	11.697	18	0.492	1.194	18	145.905	109.185	40.556				
18	M124CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.															
19	M125CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.															
20	M126CRECT32X12	Warning: No design for spans which qualify as 'Deep Beams'.															
21	M127CRECT32X12	Warning: No design for spans which qualify as 'Deep Beams'.															
22	M128CRECT32X12	Warning: No design for spans which qualify as 'Deep Beams'.															
23	M129CRECT16X8	0.772	0	19	0.531	5.36	19	0.483	8.422	18	37.651	37.651	10.862				
24	M130CRECT16X8	0.46	8.083	19	0.049	2.358	22	0.487	6.567	18	37.651	37.651	10.862				
25	M131CRECT16X8	Warning: No design for spans less than 1 ft.															
26	M132CRECT28.5X8	Warning: No design for spans which qualify as 'Deep Beams'.															
27	M133CRECT16X8	0.866	12.25	19	0.125	5.36	20	0.265	10.209	19	69.603	37.651	10.766				
28	M134CRECT16X12	0.803	12.25	19	0.209	3.445	18	0.48	7.784	18	71.995	38.273	16.151				
29	M135CRECT16X12	0.942	14.833	18	0.853	6.644	18	0.479	12.825	18	54.076	54.076	36.458				
30	M136CRECT16X12	0.876	0	18	0.144	8.203	20	0.489	2.917	18	54.076	38.273	16.222				
31	M137CRECT22X12	Warning: No design for spans which qualify as 'Deep Beams'.															
32	M138CRECT16X20	0.71	14.833	19	0.841	5.099	19	0.482	10.507	19	57.597	81.501	27.037				
33	M139CRECT16X12	0.934	2.906	18	0.226	7.75	23	0.596	2.906	18	71.995	38.273	36.298				
34	M140CRECT16X12	Warning: No design for spans less than 1 ft.															
35	M141CRECT22X12	Warning: No design for spans which qualify as 'Deep Beams'.															
36	M142CRECT51X8	0.083	21.084	25	0.684	10.322	22	0.305	16.691	21	134.291	134.291	37.348				
37	M143CRECT16X8	0.555	12.25	18	0.166	5.615	18	0.49	9.826	18	37.651	37.651	10.862				
38	M144CRECT16X20	Warning: No design for spans less than 1 ft.															
39	M145CRECT16X20	0.881	18.584	18	0.618	11.615	18	0.743	17.035	18	108.711	81.501	47.066				
40	M146CRECT28.5X8	Warning: No design for spans which qualify as 'Deep Beams'.															
41	M147CRECT28.5X8	Warning: No design for spans which qualify as 'Deep Beams'.															
42	M148CRECT14X8	0.918	0	18	0.576	8.847	18	0.47	5.372	18	32.128	32.128	9.345				
43	M149CRECT14X8	Warning: No design for spans which qualify as 'Deep Beams'.															
44	M150CRECT22X8	Warning: No design for spans which qualify as 'Deep Beams'.															
45	M151CRECT27X8	0.456	21	22	0.446	5.469	26	0.517	6.344	23	68.023	68.023	17.488				
46	M152CRECT19X8	0.611	14.334	26	0.076	10.004	26	0.309	12.393	26	45.934	45.934	13.139				
47	M153CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.															
48	M154CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.															
49	M155CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.															
50	M156CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.															
51	M157CRECT16X8	0.374	0	26	0	0	N/A	0.202	6.063	25	37.651	0	10.862				
52	M158CRECT14X8	0.565	0	18	0.375	7.741	18	0.479	3.476	18	32.128	32.128	9.345				
53	M159CRECT14X8	Warning: No design for spans which qualify as 'Deep Beams'.															
54	M160CRECT22X8	Warning: No design for spans which qualify as 'Deep Beams'.															

All concrete beams code check < 1.0 **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Envelope Concrete Beam Design Results (Continued)

Member	Shape	UC Max Top	Loc[ft]	UC LC UC Max Bot Loc[ft]	UC LC Shear UC Loc[ft]	UC LC Phi*Mnz Top[k-ft]	Phi*Mnz Bot[k-ft]	Phi*Vny[k]					
55	M161CRECT16X8	0.02	11.927	18	0.447	1.391	19	0.278	13.915	18	37.651	37.651	31.215
56	M162CRECT16X8	Warning: No design for spans which qualify as 'Deep Beams'.											
57	M163CRECT16X8	0.086	7.667	25	0.065	6.709	24	0.262	3.913	18	37.651	37.651	10.862
58	M164CRECT16X8	0.154	6.5	26	0.036	3.047	19	0.315	0.813	19	37.651	37.651	10.862
59	M165CRECT16X8	Warning: No design for spans less than 1 ft.											
60	M166CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.											
61	M167CRECT32X8	0.494	0	20	0.262	9.012	21	0.319	4.04	20	81.829	81.829	23.006
62	M168CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.											
63	M169CRECT32X8	0.442	0	20	0.215	9.516	20	0.318	3.348	20	81.829	81.829	23.006
64	M170CRECT32X8	Warning: No design for spans less than 1 ft.											
65	M171CRECT51X8	Warning: No design for spans which qualify as 'Deep Beams'.											
66	M172CRECT32X8	0.172	17.666	25	0.104	11.778	24	0.203	9.753	24	81.829	81.829	22.877
67	M173CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.											
68	M174CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.											
69	M175CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.											
70	M176CRECT32X8	0.114	0	24	0.045	20.007	24	0.067	17.215	20	81.829	81.829	23.006
71	M177CRECT51X8	Warning: No design for spans which qualify as 'Deep Beams'.											
72	M178CRECT51X8	Warning: No design for spans which qualify as 'Deep Beams'.											
73	M179CRECT51X8	Warning: No design for spans which qualify as 'Deep Beams'.											
74	M180CRECT27X8	0.32	0	20	0.3	9.549	21	0.384	17.951	21	68.023	68.023	18.642
75	M181CRECT19X8	0.239	0	24	0.039	8.021	18	0.141	2.101	24	45.934	45.934	13.139
76	M182CRECT30.5X12	0.631	0	27	0.467	7.25	18	0.342	3.776	27	78.31	78.31	32.801
77	M183CRECT51X8	Warning: No design for spans which qualify as 'Deep Beams'.											
78	M184CRECT16X8	Warning: No design for spans which qualify as 'Deep Beams'.											
79	M185CRECT16X8	0.819	16.333	18	0.939	7.996	18	0.532	1.701	18	69.603	37.651	30.914
80	M186CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.											
81	M187CRECT16X8	0.164	13.666	26	0.099	0	30	0.209	6.976	18	37.651	37.651	10.862
82	M188CRECT16X8	Warning: No design for spans which qualify as 'Deep Beams'.											
83	M189CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.											
84	M190CRECT16X8	Warning: No design for spans which qualify as 'Deep Beams'.											
85	M191CRECT16X8	Warning: No design for spans which qualify as 'Deep Beams'.											
86	M192CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.											
87	M193CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.											
88	M194CRECT28.5X8	Warning: No design for spans which qualify as 'Deep Beams'.											
89	M195CRECT16X8	Warning: No design for spans which qualify as 'Deep Beams'.											
90	M196CRECT14X8	0.675	0	18	0.435	5.466	18	0.469	7.697	18	32.128	32.128	9.345
91	M197CRECT16X8	Warning: No design for spans which qualify as 'Deep Beams'.											
92	M198CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.											
93	M199CRECT16X8	0.598	0	27	0.613	6.566	26	0.353	1.83	27	37.651	37.651	10.862
94	M200CRECT12.5X8	0.204	0	18	0.184	4.206	18	0.483	0.825	18	27.986	27.986	8.206
95	M201CRECT14.5X8	0.114	7.916	18	0.122	3.876	18	0.335	7.586	18	33.509	33.509	9.724
96	M202CRECT16X20	0	0	19	0.583	9.336	19	0.698	17.842	18	0	81.501	46.646
97	M203CRECT16X20	0.84	24.084	18	0.971	6.523	19	0.927	2.007	19	221.206	171.852	73.269
98	M204CRECT16X20	0.868	0	18	0.338	15.666	18	0.936	2.448	19	138.744	57.597	46.858
99	M205CRECT16X20	0.72	13.636	18	0.534	5.165	18	0.487	10.537	18	57.597	81.501	27.037
100	M206CRECT16X8	Warning: No design for spans which qualify as 'Deep Beams'.											
101	M207CRECT16X12	0.376	0	21	0.069	9	21	0.159	1.5	21	38.273	38.273	16.294
102	M208CRECT14X12	0.811	10.25	19	0.297	0.641	19	0.255	8.435	18	32.751	32.751	34.415
103	M209CRECT16X20	0.965	0	19	0.763	12.544	18	0.543	21.826	18	81.501	81.501	46.858
104	M210CRECT16X20	0.958	0	19	0.899	7.347	19	0.579	2.236	19	108.711	81.501	47.066
105	M211CRECT30.5X8	0.668	0	27	0.539	14.376	19	0.454	4.313	27	77.687	110.437	21.82
106	M212CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.											
107	M213CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.											
108	M214CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.											

All concrete beams code check < 1.0 **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Envelope Concrete Beam Design Results (Continued)

Member	Shape	UC Max Top	Loc[ft]	UC LC UC Max Bot	Loc[ft]	UC LC Shear UC Loc[ft]	UC LC Phi*Mnz Top[k-ft]	Phi*Mnz Bot[k-ft]	Phi*Vny[k]				
109	M215CRECT30X8	0.886	0	19	0.829	12.687	19	0.936	3.372	19	186.558	145.369	56.416
110	M216CRECT16X8	0.809	0	19	0.822	6.251	19	0.632	2.018	19	87.597	52.784	30.778
111	M217CRECT28.5X8	0.264	0	18	0.306	8.962	18	0.318	2.627	18	72.165	72.165	20.349
112	M218CRECT22X8	Warning: No design for spans which qualify as 'Deep Beams'.											
113	M219CRECT24X12	0.8	24.751	18	0.609	6.703	19	0.489	5.156	19	115.29	115.29	25.259
114	M220CRECT24X12	0.721	0	19	0.624	7.751	27	0.42	2.309	27	115.29	85.885	45.309
115	M221CRECT30.5X12	0.99	24.251	19	0.988	6.821	19	0.485	14.399	19	150.468	150.468	32.658
116	M222CRECT30.5X12	0.906	0	19	0.592	7.187	19	0.536	3.354	19	150.468	111.729	53.027
117	M223CRECT28.5X8	Warning: No design for spans which qualify as 'Deep Beams'.											
118	M224CRECT28.5X8	0.6	17.5	18	0.684	3.464	18	0.488	14.036	18	72.165	72.165	20.349
119	M225CRECT28.5X8	Warning: No design for spans which qualify as 'Deep Beams'.											
120	M226CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.											
121	M231CRECT34X12	Warning: No design for spans which qualify as 'Deep Beams'.											
122	M232CRECT34X12	0.094	0	24	0.042	6.563	21	0.069	11.094	21	87.974	87.974	36.785
123	M233CRECT34X8	0.299	0	24	0.084	14.333	24	0.168	3.135	24	87.352	87.352	24.523
124	M234CRECT34X8	0.286	0	24	0.095	14.5	24	0.16	3.172	19	87.352	87.352	24.523
125	M235CRECT34X8	0.646	13.25	19	0.43	0	25	0.335	10.214	19	87.352	87.352	24.523
126	M236CRECT16X30	0.863	22.917	19	0.702	9.071	19	0.477	18.143	19	145.905	109.185	40.378
127	M237CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.											
128	M238CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.											
129	M239CRECT34X12	Warning: No design for spans which qualify as 'Deep Beams'.											
130	M240CRECT34X12	Warning: No design for spans which qualify as 'Deep Beams'.											
131	M241CRECT34X12	Warning: No design for spans which qualify as 'Deep Beams'.											
132	M242CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.											
133	M243CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.											
134	M244CRECT16X8	Warning: No design for spans which qualify as 'Deep Beams'.											
135	M245CRECT16X8	0.726	13.25	21	0.647	5.245	20	0.476	8.281	21	37.651	37.651	10.862
136	M246CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.											
137	M247CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.											
138	M248CRECT16X12	0.989	14.834	23	0.249	5.872	21	0.477	10.507	23	54.076	38.273	16.222
139	M249CRECT16X12	0.87	22.166	19	0.753	13.854	19	0.657	20.319	19	131.396	71.995	36.138
140	M250CRECT48X8	Warning: No design for spans which qualify as 'Deep Beams'.											
141	M251CRECT16X12	0.864	0	19	0.736	10.353	19	0.531	1.545	19	113.246	38.273	35.974
142	M252CRECT16X12	0.846	17.167	19	0.798	5.901	19	0.955	15.557	19	159.957	54.076	36.675
143	M253CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.											
144	M254CRECT16X8	0.947	17.167	19	0.711	6.616	19	0.471	3.398	23	69.603	37.651	10.862
145	M255CRECT38X8	Warning: No design for spans which qualify as 'Deep Beams'.											
146	M256CRECT34X8	0.375	17.666	26	0.244	0	26	0.191	14.538	19	87.352	87.352	24.523
147	M257CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.											
148	M258CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.											
149	M259CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.											
150	M260CRECT16X8	Warning: No design for spans less than 1 ft.											
151	M261CRECT16X8	0.597	17	22	0.315	8.323	23	0.488	2.302	23	37.651	37.651	10.862
152	M262CRECT38X8	Warning: No design for spans which qualify as 'Deep Beams'.											
153	M263CRECT34X8	0.122	0	24	0.062	16.667	27	0.071	3.299	24	87.352	87.352	24.523
154	M264CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.											
155	M265CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.											
156	M266CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.											
157	M267CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.											
158	M268CRECT34X8	0.368	0	20	0.248	7.25	21	0.335	3.172	20	87.352	87.352	24.523
159	M269CRECT34X8	0.331	0	23	0.094	9.385	19	0.183	3.313	19	87.352	87.352	24.523
160	M270CRECT34X12	0.531	14.5	26	0.387	6.495	22	0.305	11.328	22	87.974	87.974	36.784
161	M271CRECT16X8	0.986	0	23	0.815	8.167	21	0.476	1.701	23	52.784	37.651	31.05
162	M272CRECT16X8	0.988	0	23	0.801	9.167	23	0.588	1.528	23	69.603	52.784	30.914

All concrete beams code check < 1.0 **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Envelope Concrete Beam Design Results (Continued)

Member	Shape	UC Max Top	Loc(ft)	UC	LC	UC Max	Bot	Loc(ft)	UC	LC	Shear	UC	Loc(ft)	UC	LC	Phi*Mnz	Top[k-ft]	Phi*Mnz	Bot[k-ft]	Phi*Vny[k]
163	M273	CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
164	M274	CRECT48X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
165	M275	CRECT48X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
166	M276	CRECT48X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
167	M277	CRECT35X8	0.545	15.833	22	0.295	7.422	23	0.37	11.545	22	90.113	90.113	25.282						
168	M278	CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
169	M279	CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
170	M280	CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
171	M281	CRECT16X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
172	M282	CRECT16X8	0.432	10.667	22	0.36	4.889	23	0.47	7.444	22	37.651	37.651	10.862						
173	M283	CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
174	M284	CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
175	M285	CRECT16X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
176	M286	CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
177	M287	CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
178	M288	CRECT16X12	0.863	0	19	0.935	9.931	19	0.663	1.444	19	131.396	38.273	36.138						
179	M289	CRECT16X12	0.875	17.5	19	0.836	7.656	19	0.555	15.859	19	91.68	54.076	36.138						
180	M290	CRECT16X12	0.849	0	19	0.392	16.166	23	0.472	4.21	19	71.995	38.273	16.152						
181	M291	CRECT16X12	0.862	13.667	22	0.682	4.556	22	0.479	7.688	22	71.995	38.273	16.294						
182	M292	CRECT16X12	0.844	0	23	0.93	9.661	23	0.496	1.641	23	71.995	54.076	36.298						
183	M293	CRECT16X12	0.748	7.708	23	0.272	0	23	0.485	4.737	23	54.076	38.273	16.222						
184	M294	CRECT16X12	0.997	0	23	0.005	3.773	23	0.489	2.625	23	38.273	38.273	16.294						
185	M295	CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
186	M296	CRECT34X8	Warning: No design for spans less than 1 ft.																	
187	M297	CRECT32X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
188	M298	CRECT34X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
189	M299	CRECT38X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
190	M300	CRECT34X16	0.983	25.083	19	0.907	18.29	19	0.983	20.902	19	253.217	253.217	70.184						
191	M301	CRECT34X16	Warning: No design for spans which qualify as 'Deep Beams'.																	
192	M302	CRECT8X8	0.468	13.499	19	0.336	6.328	19	0.624	12.656	19	15.561	15.561	4.791						
193	M303	CRECT8X8	Warning: No design for spans less than 1 ft.																	
194	M304	CRECT10X8	0.179	13.583	25	0.115	0	25	0.033	12.593	17	21.084	21.084	6.309						
195	M305	CRECT10X8	0.893	13.499	21	0.898	8.859	22	0.964	3.375	20	21.084	21.084	6.261						
196	M306	CRECT8X8	Warning: No design for spans less than 1 ft.																	
197	M307	CRECT10X8	0.099	0	22	0.076	8.083	22	0.111	3.873	22	21.084	21.084	6.309						
198	M308	CRECT10X12	0.816	0	23	0.105	5.333	23	0.948	1.333	23	49.268	21.706	9.345						
199	M309	CRECT10X12	0.852	0	19	0	0	N/A	0.623	1.333	19	39.524	0	9.321						
200	M310	CRECT10X12	0.932	0	19	0	0	N/A	0.888	1.358	19	49.268	0	9.345						
201	M311	CRECT10X16	0.848	0	21	0	0	N/A	0.883	1.358	21	72.371	0	12.958						
202	M312	CRECT10X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
203	M313	CRECT10X12	0.893	0	19	0.084	7.666	19	0.849	1.757	19	49.268	21.706	9.25						
204	M314	CRECT10X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
205	M315	CRECT10X8	0.89	0	22	0	0	N/A	0.977	1.198	22	28.928	0	6.261						
206	M316	CRECT10X12	Warning: No design for spans which qualify as 'Deep Beams'.																	
207	M317	CRECT10X12	Warning: No design for spans which qualify as 'Deep Beams'.																	
208	M318	CRECT8X8	0.352	10.999	20	0	0	N/A	0.294	10.083	20	15.561	0	4.791						
209	M319	CRECT10X8	0.721	0	20	0.05	4.5	23	0.598	1.875	20	21.084	21.084	6.309						
210	M320	CRECT10X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
211	M321	CRECT10X8	0.281	0	19	0.227	6	25	0.425	1.188	19	21.084	21.084	6.309						
212	M322	CRECT8X8	Warning: No design for spans which qualify as 'Deep Beams'.																	
213	M323	CRECT8X8	0.772	0	19	0.387	7	19	0.779	1.021	19	15.561	15.561	4.791						
214	M324	CRECT8X8	0	0	N/A	0.196	2.813	21	0.261	5	22	0	15.561	4.791						
215	M325	CRECT8X8	0.573	9.833	22	0.176	3.38	22	0.589	8.604	22	15.561	15.561	4.791						
216	M326	CRECT8X8	0.804	0	23	0.607	9.208	19	0.956	1.625	23	20.976	15.561	4.942						

All concrete beams code check < 1.0 **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Envelope Concrete Beam Design Results (Continued)

Member	Shape	UC Max Top	Loc[ft]	UC LC	UC Max Bot	Loc[ft]	UC LC	Shear	UC Loc[ft]	UC LC	Phi*Mnz Top[k-ft]	Phi*Mnz Bot[k-ft]	Phi*Vny[k]
217	M327CRECT8X8	0.291	7.333	20	0.044	3.437	22	0.414	6.34	20	15.561	15.561	4.791
218	M328CRECT8X8	0.76	15.667	22	0.488	7.507	19	0.838	14.851	22	15.561	15.561	4.791
219	M329CRECT8X8	0.668	0	22	0.149	4.5	22	0.646	0.844	22	15.561	15.561	4.791
220	M330CRECT8X8	Warning: No design for spans less than 1 ft.											
221	M331CRECT48X8	Warning: No design for spans which qualify as 'Deep Beams'.											
222	M332CRECT8X8	Warning: No design for spans less than 1 ft.											
223	M333CRECT10X8	Warning: No design for spans less than 1 ft.											
224	M334CRECT10X8	0.03	0	27	0.011	4.191	27	0.047	1.181	27	21.084	21.084	6.309
225	M335CRECT10X8	0.087	6	22	0.043	2.938	22	0.184	1	23	21.084	21.084	6.309
226	M336CRECT10X8	0.382	0	19	0.14	6.295	19	0.444	1.361	19	21.084	21.084	6.309
227	M337CRECT10X8	0.096	4.5	19	0.044	0	26	0.159	3.14	19	21.084	21.084	6.309
228	M338CRECT10X8	0.382	9.833	22	0.226	4.917	19	0.588	8.502	22	21.084	21.084	6.309
229	M339CRECT10X16	0.712	18.028	19	0.326	8.622	19	0.567	18.028	19	32.326	32.326	12.618
230	M340CRECT10X16	Warning: No design for spans which qualify as 'Deep Beams'.											
231	M341CRECT10X8	0.977	0	23	0.83	9.236	23	0.964	14.019	22	37.131	21.084	6.309
232	M342CRECT10X8	0.531	12.25	22	0.251	6.253	23	0.572	10.336	22	21.084	21.084	6.309

All concrete beams code check < 1.0 **OK**

Envelope Concrete Column Design Results

Column	Shape	UC Max	Loc[ft]	UC LCS	Shear	UCLC	Loc[ft]	Dir	Phi used	Pn[k]	Mny[k-ft]	Mnz[k-ft]	Vny[k]	Vnz[k]	
1	M1	CRECT16X12	0.041	13.499	24	0.009	26	12.234	z	0.65	391.08	67.199	108.219	37.205	31.87
2	M2	CRECT16X12	0.03	10.167	26	0.051	26	8.79	z	0.9		57.507	79.941	37.205	31.87
3	M3	CRECT33X12	0.086	13.499	27	0.053	27	12.234	y	0.684	583.884		738.649	81.453	41.624
4	M4	CRECT33X12	0.064	10.167	23	0.139	27	8.79	y	0.9		97.259	297.351	81.453	41.624
5	M5	CRECT24X12	0.104	0	24	0.079	24	12.234	y	0.65	925.611			58.02	34.015
6	M6	CRECT24X12	0.179	10.167	26	0.146	26	8.79	z	0.9	121.307	117.883	17.276	58.02	34.015
7	M7	CRECT12X12	0.093	0	24	0.115	24	12.234	y	0.65	471.696			26.879	26.879
8	M8	CRECT12X12	0.034	9.637	21	0.037	25	8.79	y	0.65	471.696			26.879	26.879
9	M9	CRECT20X12	0.116	0	25	0.026	25	12.234	y	0.65	761.711			47.694	37.024
10	M10	CRECT20X12	0.067	1.377	27	0.068	19	1.694	y	0.65	525.106			47.694	37.024
11	M11	CRECT20X12	0.057	0	24	0.079	24	12.234	y	0.65	761.711			47.694	37.024
12	M12	CRECT20X12	0.022	1.377	17	0.045	26	1.906	y	0.65	724.968			47.694	37.024
13	M13	CRECT12X8	0.134	0	26	0.102	30	12.234	y	0.65	316.687			27.52	20.04
14	M14	CRECT12X8	0.194	6.187	31	0.06	27	12.234	z	0.9		18.596		27.52	20.04
15	M15	CRECT12X8	0.115	6.187	26	0.088	27	12.234	z	0.792	75.779			27.52	20.04
16	M16	CRECT14X8	0.31	13.499	27	0.158	27	12.234	z	0.9	34.57			32.857	21.637
17	M17	CRECT16X8	0.186	0	26	0.06	23	12.234	z	0.65	428.176			38.028	23.003
18	M18	CRECT20X8	0.215	23	22	0.032	26	4.313	y	0.9		27.479	76.356	48.702	26.166
19	M19	CRECT20X8	0.255	23	22	0.03	26	21.083	y	0.756	108.724			48.702	26.166
20	M20	CRECT16X8	0.53	13.624	26	0.498	26	12.347	y	0.65	337.48		93.641	41.401	24.483
21	M21	CRECT31X8	0.347	0	19	0.033	27	12.347	y	0.65	816.811			77.724	34.165
22	M22	CRECT44X8	0.101	2.012	18	0.27	18	1.906	z	0.65	896.936	62.581	461.811	112.75	33.857
23	M23	CRECT40.75X8	0.138	0	25	0.123	24	12.498	z	0.65	1046.753			104.076	32.685
24	M24	CRECT26X8	0.337	10.167	27	0.177	19	8.79	z	0.65	282.12			64.547	30.6
25	M25	CRECT40.75X8	0.068	0	27	0.031	27	12.498	y	0.65	1046.753			104.076	32.685
26	M26	CRECT26X8	0.098	1.377	26	0.08	26	8.79	y	0.65	326.527			64.547	30.6
27	M27	CRECT40.75X8	0.094	0	26	0.025	26	12.234	y	0.65	1046.753			104.076	32.685
28	M28	CRECT40.75X8	0.158	10.167	26	0.176	26	8.79	y	0.845	195.979			104.076	32.685
29	M29	CRECT37X8	0.106	0	27	0.027	27	12.234	y	0.65	947.371			93.736	32.01
30	M30	CRECT38X8	0.173	10.167	26	0.192	26	8.155	y	0.9	38.032	57.144	326.187	96.404	32.402
31	M31	CRECT16X8	0.161	0	25	0.123	24	12.234	y	0.65	428.176			38.028	23.003
32	M32	CRECT16X8	0.164	10.167	26	0.068	26	8.79	y	0.65	229.364	37.914	56.078	38.028	23.003
33	M33	CRECT12X8	0.128	0	25	0.087	24	12.234	y	0.65	316.687			27.52	20.04
34	M34	CRECT12X8	0.086	1.377	22	0.03	25	1.906	y	0.65	312.727	20.703		27.52	20.04

All concrete columns code check < 1.0 **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Envelope Concrete Column Design Results (Continued)

Column	Shape	UC MaxLoc[ft]	UC LCShear	UCLCLoc[ft]	DirPhi used	Pn[k]	Mny[k-ft]	Mnz[k-ft]	Vny[k]	Vnz[k]					
35	M35	CRECT12X8	0.129	0	19	0.032	25	12.234	y	0.65	316.687			27.52	20.04
36	M36	CRECT12X8	0.115	10.167	25	0.04	25	1.694	y	0.65	147.556	17.23	47.599	27.52	20.04
37	M37	CRECT12X8	0.194	12.234	20	0.045	24	12.234	y	0.65	316.687	3.507		27.52	20.04
38	M38	CRECT12X8	0.168	10.167	22	0.083	25	1.906	y	0.9	28.981	24.573	40.016	27.52	20.04
39	M39	CRECT16X8	0.165	8.578	27	0.017	24	10.406	y	0.65	428.176	16.746		38.028	23.003
40	M40	CRECT16X8	0.149	1.377	27	0.085	27	8.79	y	0.65	428.176		28.855	38.028	23.003
41	M41	CRECT16X8	0.169	0	27	0.09	24	12.234	y	0.65	428.176			38.028	23.003
42	M42	CRECT16X8	0.161	10.167	23	0.034	23	7.837	z	0.65	189.928	48.36	15.128	38.028	23.003
43	M43	CRECT20X8	0.226	10.333	24	0.043	24	8.18	z	0.9	79.975	43.407	12.86	48.702	26.166
44	M44	CRECT20X8	0.176	10.333	24	0.032	24	8.18	z	0.699	158.805			48.702	26.166
45	M45	CRECT20X8	0.13	10.333	24	0.023	24	8.18	z	0.688	166.458	51.162	44.424	48.702	26.166
46	M46	CRECT20X8	0.139	10.333	24	0.016	27	4.09	y	0.784	93.621			48.702	26.166
47	M47	CRECT18X8	0.05	0	25	0.006	24	12.234	y	0.65	471.696			43.365	24.585
48	M48	CRECT12X8	0.125	0	25	0.164	25	12.234	y	0.65	316.687			27.52	20.04
49	M49	CRECT12X8	0.216	0	27	0.105	27	12.234	y	0.65	316.687			27.52	20.04
50	M50	CRECT12X8	0.087	10.167	27	0.044	23	1.906	y	0.65	217.901			27.52	20.04
51	M51	CRECT16X8	0.281	12.234	19	0.205	27	12.234	y	0.65	428.176		14.624	38.028	23.003
52	M52	CRECT16X8	0.192	10.167	23	0.127	27	8.79	y	0.65	271.986		110.484	38.028	23.003
53	M53	CRECT16X8	0.157	11.109	27	0.043	24	11.109	y	0.65	206.182	47.771	16.988	38.028	23.003
54	M54	CRECT16X8	0.057	0	26	0.122	30	11.109	z	0.65	428.176			38.028	23.003
55	M55	CRECT12X8	0.499	10.968	27	0.122	26	12.234	y	0.9	-54.28			37.771	26.314
56	M56	CRECT12X8	0.15	2.109	30	0.039	24	12.234	y	0.9	-73.631			27.52	20.04
57	M57	CRECT12X8	0.088	0	25	0.095	25	12.234	y	0.65	316.687			27.52	20.04
58	M58	CRECT37X12	0.067	0	21	0.012	28	12.234	y	0.65	1425.502			92.274	43.242
59	M59	CRECT37X12	0.031	10.167	19	0.05	19	9.744	z	0.9	21.54	125.166	433.923	92.274	43.242
60	M60	CRECT24X12	0.249	13.791	18	0.061	26	12.498	y	0.65	739.894	103.606	169.853	58.02	34.015
61	M61	CRECT24X8	0.298	14.833	18	0.034	26	14.215	y	0.65	464.908	51.025	107.496	59.21	29.035
62	M62	CRECT24X8	0.498	14.833	18	0.062	26	14.215	y	0.65	526.297	39.516	123.667	59.21	29.035
63	M63	CRECT16X10	0.371	0	19	0.086	19	14.215	z	0.65	515.216			36.911	27.631
64	M71	CRECT12X12	0.325	13.499	26	0.098	26	12.234	z	0.65	344.859	77.805	8.382	26.879	26.879
65	M72	CRECT12X8	0.228	10.167	19	0.04	19	7.837	z	0.65	173.423	32.489	18.145	27.52	20.04
66	M73	CRECT12X12	0.165	13.499	25	0.045	18	12.234	z	0.65	236.175	74.274	35.393	26.879	26.879
67	M74	CRECT12X12	0.144	10.167	19	0.068	27	7.837	z	0.768	91.44	59.242	37.03	26.879	26.879
68	M75	CRECT24X8	0.419	13.499	23	0.622	27	12.234	y	0.66	288.348	3.196	278.338	59.21	29.035
69	M77	CRECT12X8	0.111	0	25	0.166	25	14.215	y	0.65	316.687			27.52	20.04
70	M78	CRECT12X8	0.103	0	24	0.108	24	14.215	y	0.65	316.687			27.52	20.04
71	M79	CRECT12X8	0.131	0	26	0.209	27	14.215	y	0.65	316.687			27.52	20.04
72	M80	CRECT12X8	0.23	0	24	0.037	22	10.406	y	0.65	316.687			27.52	20.04
73	M82	CRECT16X8	0.315	1.146	22	0.177	21	2.721	y	0.9	-14.588	23.24	51.002	72.1	40.261
74	M83	CRECT38X16	0.089	1.377	21	0.179	21	1.8	z	0.65	1316.282	329.085	549.286	121.618	58.418
75	M84	CRECT34X16	0.085	0.953	27	0.074	21	10.167	z	0.698	638.389			108.222	55.599
76	M85	CRECT24X8	0.703	0.635	18	0.272	19	10.167	y	0.9	-23.875	39.89	142.881	59.043	28.741
77	M90	CRECT16X8	0.272	10.167	27	0.128	20	1.906	z	0.9	-8.967	24.402	53.971	38.028	23.003
78	M91	CRECT16X8	0.128	10.167	27	0.167	19	1.377	z	0.9	-4.753	25.271	56.19	38.028	23.003
79	M92	CRECT16X8	0.342	10.167	19	0.182	20	1.483	y	0.9	20.009	30.319	69.023	38.028	23.003
80	M93	CRECT16X8	0.248	1.271	27	0.087	27	10.167	z	0.65	330.487	40.69	15.235	38.028	23.003
81	M94	CRECT12X8	0.412	1.694	25	0.139	27	10.167	y	0.9	-28.602			27.52	20.04
82	M95	CRECT12X8	0.032	10.167	27	0.121	25	10.167	y	0.9	-2.258	18.119	28.761	27.52	20.04
83	M96	CRECT12X8	0.188	10.167	26	0.254	24	10.167	y	0.65	204.401	27.51	27.21	27.52	20.04
84	M97	CRECT16X8	0.287	1.8	19	0.242	26	10.167	y	0.65	236.187	5.226	113.667	41.401	24.483
85	M98	CRECT28X8	0.3	1.271	26	0.25	26	10.167	y	0.65	414.112	4.691	340.66	69.885	32.165
86	M99	CRECT12X8	0.22	0.635	19	0.06	24	1.906	y	0.65	231.852	31.336	9.647	27.52	20.04
87	M100	CRECT16X8	0.249	0.635	18	0.138	26	10.167	y	0.9	-14.963	23.163	50.804	38.028	23.003
88	M101	CRECT12X8	0.094	0.635	27	0.061	20	1.906	y	0.9	-4.392	17.669	27.97	27.52	20.04

All concrete columns code check < 1.0 **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Envelope Concrete Column Design Results (Continued)

	Column	Shape	UC	MaxLoc[ft]	UC	LCShear	UCLC	Loc[ft]	Dir	Phi used	Pn[k]	Mny[k-ft]	Mnz[k-ft]	Vny[k]	Vnz[k]
89	M102	CRECT12X8	0.254	10.167	27	0.059	27	8.79	z	0.653	115.701	35.342	10.219	27.52	20.04
90	M103	CRECT12X8	0.785	10.167	18	0.235	18	8.79	y	0.9	-52.533			37.313	25.907
91	M104	CRECT12X8	0.625	0.635	18	0.379	18	1.906	y	0.9	-36.328	17.539	27.842	37.542	26.054
92	M105	CRECT12X8	0.122	10.167	21	0.07	25	8.79	y	0.65	155.514		64.088	27.52	20.04
93	M106	CRECT10X8	0.149	10.167	20	0.057	20	8.79	y	0.65	182.319		40.22	22.183	18.443

All concrete columns code check < 1.0 **OK**

Concrete Beam Bending Reinforcement

	Member	Shape	Span	Left Top	Left Bot	Mid Top	Mid Bot	Right Top	Right Bot
1	M107	CRECT24X8	1						
2	M108	CRECT16X8	1	2 #5	2 #5	2 #5	2 #5	2 #5	2 #5
3	M109	CRECT24X8	1	2 #5	2 #5	2 #5	2 #5	2 #5	2 #5
4	M110	CRECT16X8	1	2 #5	2 #5	2 #5	2 #5	2 #5	2 #5
5	M111	CRECT24X8	1	2 #5	2 #5	2 #5	2 #5	2 #5	2 #5
6	M112	CRECT18X8	1	2 #5	2 #5	2 #5	2 #5	2 #5	2 #5
7	M113	CRECT32X8	1						
8	M114	CRECT32X8	1						
9	M115	CRECT32X8	1						
10	M116	CRECT32X8	1						
11			2		2 #5		2 #5	2 #5	
12	M117	CRECT32X12	1						
13	M118	CRECT32X12	1	2 #5	2 #5		2 #5	2 #5	
14	M119	CRECT16X8	1	2 #5			2 #5	2 #5	
15	M120	CRECT16X8	1	2 #5			2 #5		2 #5
16	M121	CRECT16X8	1		2 #5			2 #5	
17	M122	CRECT28.5X8	1						
18	M123	CRECT16X30	1	4 #5			4 #6	4 #7	
19	M124	CRECT32X8	1						
20			2						
21	M125	CRECT32X8	1						
22	M126	CRECT32X12	1						
23	M127	CRECT32X12	1						
24	M128	CRECT32X12	1						
25	M129	CRECT16X8	1	2 #5		2 #5	2 #5	2 #5	
26	M130	CRECT16X8	1	2 #5			2 #5	2 #5	
27	M131	CRECT16X8	1						
28	M132	CRECT28.5X8	1						
29	M133	CRECT16X8	1	2 #5		2 #5	2 #5	2 #7	
30	M134	CRECT16X12	1		2 #5		2 #5	2 #7	
31	M135	CRECT16X12	1	2 #9			2 #6	2 #6	
32	M136	CRECT16X12	1	2 #6			2 #5	2 #5	
33	M137	CRECT22X12	1						
34	M138	CRECT16X20	1	3 #5			3 #6	3 #5	
35	M139	CRECT16X12	1	2 #7		2 #7			2 #5
36	M140	CRECT16X12	1						
37	M141	CRECT22X12	1						
38	M142	CRECT51X8	1	2 #5			2 #5	2 #5	
39	M143	CRECT16X8	1	2 #5			2 #5	2 #5	
40	M144	CRECT16X20	1						
41	M145	CRECT16X20	1	3 #6			3 #6	3 #7	
42	M146	CRECT28.5X8	1						
43	M147	CRECT28.5X8	1						
44	M148	CRECT14X8	1	2 #5			2 #5	2 #5	
45	M149	CRECT14X8	1						

Beams reinforcing required <= reinforcing provided **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Concrete Beam Bending Reinforcement (Continued)

	Member	Shape	Span	Left Top	Left Bot	Mid Top	Mid Bot	Right Top	Right Bot
46	M150	CRECT22X8	1						
47	M151	CRECT27X8	1	2 #5		2 #5	2 #5	2 #5	
48	M152	CRECT19X8	1	2 #5	2 #5	2 #5	2 #5	2 #5	
49	M153	CRECT32X8	1						
50	M154	CRECT32X8	1						
51			2						
52	M155	CRECT32X8	1						
53	M156	CRECT32X8	1						
54	M157	CRECT16X8	1	2 #5				2 #5	
55	M158	CRECT14X8	1	2 #5			2 #5	2 #5	
56	M159	CRECT14X8	1						
57	M160	CRECT22X8	1						
58	M161	CRECT16X8	1		2 #5	2 #5	2 #5		2 #5
59			2						
60	M162	CRECT16X8	1						
61	M163	CRECT16X8	1	2 #5	2 #5	2 #5	2 #5	2 #5	
62	M164	CRECT16X8	1	2 #5			2 #5	2 #5	
63	M165	CRECT16X8	1						
64	M166	CRECT32X8	1						
65	M167	CRECT32X8	1	2 #5			2 #5	2 #5	
66	M168	CRECT32X8	1						
67	M169	CRECT32X8	1	2 #5			2 #5	2 #5	
68	M170	CRECT32X8	1						
69	M171	CRECT51X8	1						
70	M172	CRECT32X8	1	2 #5	2 #5	2 #5	2 #5	2 #5	
71	M173	CRECT32X8	1						
72	M174	CRECT32X8	1						
73	M175	CRECT32X8	1						
74	M176	CRECT32X8	1	2 #5	2 #5		2 #5	2 #5	2 #5
75	M177	CRECT51X8	1						
76	M178	CRECT51X8	1						
77	M179	CRECT51X8	1						
78	M180	CRECT27X8	1	2 #5			2 #5	2 #5	
79	M181	CRECT19X8	1	2 #5			2 #5	2 #5	
80	M182	CRECT30.5X12	1	2 #5			2 #5	2 #5	
81	M183	CRECT51X8	1						
82	M184	CRECT16X8	1						
83	M185	CRECT16X8	1	2 #7			2 #5	2 #7	
84	M186	CRECT32X8	1						
85	M187	CRECT16X8	1	2 #5	2 #5	2 #5		2 #5	
86	M188	CRECT16X8	1						
87	M189	CRECT32X8	1						
88	M190	CRECT16X8	1						
89	M191	CRECT16X8	1						
90	M192	CRECT32X8	1						
91	M193	CRECT32X8	1						
92	M194	CRECT28.5X8	1						
93	M195	CRECT16X8	1						
94	M196	CRECT14X8	1	2 #5			2 #5	2 #5	
95	M197	CRECT16X8	1						
96	M198	CRECT32X8	1						
97	M199	CRECT16X8	1	2 #5			2 #5	2 #5	
98	M200	CRECT12.5X8	1	2 #5			2 #5	2 #5	
99	M201	CRECT14.5X8	1	2 #5			2 #5	2 #5	

Beams reinforcing required <= reinforcing provided **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Concrete Beam Bending Reinforcement (Continued)

	Member	Shape	Span	Left Top	Left Bot	Mid Top	Mid Bot	Right Top	Right Bot
100	M202	CRECT16X20	1	3 #5					3 #6
101			2		3 #6		3 #6	3 #9	
102	M203	CRECT16X20	1	5 #9		3 #7	3 #9	4 #9	
103	M204	CRECT16X20	1	3 #8					3 #5
104	M205	CRECT16X20	1		3 #6		3 #6	3 #5	
105			2	3 #5					3 #5
106	M206	CRECT16X8	1						
107	M207	CRECT16X12	1	2 #5					2 #5
108	M208	CRECT14X12	1		2 #5		2 #5	2 #5	
109	M209	CRECT16X20	1	3 #6			3 #6	3 #8	
110	M210	CRECT16X20	1	3 #7			3 #6	3 #7	
111	M211	CRECT30.5X8	1	2 #5		2 #5	2 #6	2 #6	
112	M212	CRECT32X8	1						
113	M213	CRECT32X8	1						
114	M214	CRECT32X8	1						
115	M215	CRECT30X8	1	2 #8			2 #7	2 #8	
116	M216	CRECT16X8	1	2 #8					2 #6
117	M217	CRECT28.5X8	1	2 #5			2 #5		2 #5
118	M218	CRECT22X8	1						
119	M219	CRECT24X12	1	2 #5			2 #7	2 #7	
120	M220	CRECT24X12	1	2 #7			2 #6	2 #5	
121	M221	CRECT30.5X12	1	2 #5			2 #7	2 #7	
122	M222	CRECT30.5X12	1	2 #7			2 #6	2 #5	
123	M223	CRECT28.5X8	1						
124	M224	CRECT28.5X8	1		2 #5		2 #5	2 #5	
125	M225	CRECT28.5X8	1						
126	M226	CRECT32X8	1						
127	M231	CRECT34X12	1						
128	M232	CRECT34X12	1	2 #5			2 #5	2 #5	
129	M233	CRECT34X8	1	2 #5				2 #5	2 #5
130	M234	CRECT34X8	1	2 #5				2 #5	2 #5
131	M235	CRECT34X8	1		2 #5			2 #5	
132	M236	CRECT16X30	1	4 #5			4 #6	4 #7	
133	M237	CRECT34X8	1						
134	M238	CRECT34X8	1						
135	M239	CRECT34X12	1						
136	M240	CRECT34X12	1						
137	M241	CRECT34X12	1						
138	M242	CRECT34X8	1						
139	M243	CRECT34X8	1						
140	M244	CRECT16X8	1						
141	M245	CRECT16X8	1		2 #5		2 #5	2 #5	
142	M246	CRECT34X8	1						
143	M247	CRECT34X8	1						
144	M248	CRECT16X12	1	2 #5			2 #5	2 #6	
145	M249	CRECT16X12	1	2 #7			2 #7	3 #8	
146	M250	CRECT48X8	1						
147	M251	CRECT16X12	1	2 #9			2 #5		2 #5
148	M252	CRECT16X12	1		2 #6		2 #6	3 #9	
149	M253	CRECT34X8	1						
150	M254	CRECT16X8	1	2 #5			2 #5	2 #7	
151	M255	CRECT38X8	1						
152	M256	CRECT34X8	1		2 #5			2 #5	
153	M257	CRECT34X8	1						

Beams reinforcing required <= reinforcing provided **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Concrete Beam Bending Reinforcement (Continued)

	Member	Shape	Span	Left Top	Left Bot	Mid Top	Mid Bot	Right Top	Right Bot
154	M258	CRECT34X8	1						
155	M259	CRECT34X8	1						
156	M260	CRECT16X8	1						
157	M261	CRECT16X8	1	2 #5			2 #5	2 #5	
158	M262	CRECT38X8	1						
159	M263	CRECT34X8	1	2 #5				2 #5	2 #5
160	M264	CRECT34X8	1						
161	M265	CRECT34X8	1						
162	M266	CRECT34X8	1						
163	M267	CRECT34X8	1						
164	M268	CRECT34X8	1	2 #5			2 #5	2 #5	
165	M269	CRECT34X8	1	2 #5			2 #5	2 #5	2 #5
166	M270	CRECT34X12	1	2 #5			2 #5	2 #5	
167	M271	CRECT16X8	1	2 #6			2 #5	2 #6	
168	M272	CRECT16X8	1	2 #7			2 #6	2 #7	
169	M273	CRECT34X8	1						
170	M274	CRECT48X8	1						
171	M275	CRECT48X8	1						
172	M276	CRECT48X8	1						
173	M277	CRECT35X8	1	2 #5			2 #5	2 #5	
174	M278	CRECT34X8	1						
175	M279	CRECT34X8	1						
176	M280	CRECT34X8	1						
177	M281	CRECT16X8	1						
178	M282	CRECT16X8	1	2 #5			2 #5	2 #5	
179	M283	CRECT34X8	1						
180	M284	CRECT34X8	1						
181	M285	CRECT16X8	1						
182	M286	CRECT34X8	1						
183	M287	CRECT34X8	1						
184	M288	CRECT16X12	1	3 #8			2 #5	2 #5	
185	M289	CRECT16X12	1	2 #5			2 #6	2 #8	
186	M290	CRECT16X12	1	2 #7					2 #5
187	M291	CRECT16X12	1		2 #5		2 #5	2 #7	
188	M292	CRECT16X12	1	2 #7			2 #6	2 #5	
189	M293	CRECT16X12	1		2 #5			2 #6	
190	M294	CRECT16X12	1	2 #5			2 #5	2 #5	
191	M295	CRECT34X8	1						
192	M296	CRECT34X8	1						
193	M297	CRECT32X8	1						
194	M298	CRECT34X8	1						
195	M299	CRECT38X8	1						
196	M300	CRECT34X16	1		3 #5		3 #7	3 #7	
197	M301	CRECT34X16	1						
198	M302	CRECT8X8	1	2 #5			2 #5	2 #5	
199	M303	CRECT8X8	1						
200	M304	CRECT10X8	1		2 #5			2 #5	
201	M305	CRECT10X8	1	2 #6			2 #5	2 #5	
202	M306	CRECT8X8	1						
203	M307	CRECT10X8	1	2 #5					2 #5
204	M308	CRECT10X12	1	2 #8					2 #5
205	M309	CRECT10X12	1	2 #7					
206	M310	CRECT10X12	1	2 #8					
207	M311	CRECT10X16	1	3 #8					

Beams reinforcing required <= reinforcing provided **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Concrete Beam Bending Reinforcement (Continued)

	Member	Shape	Span	Left Top	Left Bot	Mid Top	Mid Bot	Right Top	Right Bot
208	M312	CRECT10X8	1						
209	M313	CRECT10X12	1	2 #8					2 #5
210	M314	CRECT10X8	1						
211	M315	CRECT10X8	1	2 #6				2 #5	
212	M316	CRECT10X12	1						
213	M317	CRECT10X12	1						
214	M318	CRECT8X8	1	2 #5				2 #5	
215	M319	CRECT10X8	1	2 #5					2 #5
216	M320	CRECT10X8	1						
217	M321	CRECT10X8	1	2 #5					2 #5
218	M322	CRECT8X8	1						
219	M323	CRECT8X8	1	2 #5					2 #5
220	M324	CRECT8X8	1				2 #5		
221	M325	CRECT8X8	1		2 #5		2 #5	2 #5	
222	M326	CRECT8X8	1	2 #6		2 #6	2 #5	2 #5	
223	M327	CRECT8X8	1	2 #5			2 #5	2 #5	
224	M328	CRECT8X8	1	2 #5			2 #5	2 #5	
225	M329	CRECT8X8	1	2 #5					2 #5
226	M330	CRECT8X8	1						
227	M331	CRECT48X8	1						
228	M332	CRECT8X8	1						
229	M333	CRECT10X8	1						
230	M334	CRECT10X8	1	2 #5	2 #5		2 #5	2 #5	2 #5
231	M335	CRECT10X8	1	2 #5			2 #5	2 #5	
232	M336	CRECT10X8	1	2 #5			2 #5		2 #5
233	M337	CRECT10X8	1		2 #5			2 #5	
234	M338	CRECT10X8	1	2 #5			2 #5	2 #5	
235	M339	CRECT10X16	1	3 #5		3 #5	3 #5	3 #5	
236	M340	CRECT10X16	1						
237	M341	CRECT10X8	1	2 #7			2 #5	2 #5	
238	M342	CRECT10X8	1	2 #5			2 #5	2 #5	

Beams reinforcing required <= reinforcing provided **OK**

Concrete Column Bending Reinforcement

	Column	Shape	Span	Perim Bars
1	M1	CRECT16X12	1	4 #7
2	M2	CRECT16X12	1	4 #7
3	M3	CRECT33X12	1	4 #9
4	M4	CRECT33X12	1	4 #9
5	M5	CRECT24X12	1	4 #8
6	M6	CRECT24X12	1	4 #8
7	M7	CRECT12X12	1	4 #6
8	M8	CRECT12X12	1	4 #6
9	M9	CRECT20X12	1	4 #7
10	M10	CRECT20X12	1	4 #7
11	M11	CRECT20X12	1	4 #7
12	M12	CRECT20X12	1	4 #7
13	M13	CRECT12X8	1	4 #5
14	M14	CRECT12X8	1	4 #5
15			2	
16			3	4 #5
17	M15	CRECT12X8	1	4 #5
18			2	
19			3	4 #5

Columns reinforcing required <= reinforcing provided **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Concrete Column Bending Reinforcement (Continued)

	Column	Shape	Span	Perim Bars
20	M16	CRECT14X8	1	4 #5
21			2	
22			3	4 #5
23	M17	CRECT16X8	1	4 #6
24			2	
25			3	4 #6
26	M18	CRECT20X8	1	4 #6
27			2	4 #6
28	M19	CRECT20X8	1	4 #6
29			2	4 #6
30	M20	CRECT16X8	1	4 #6
31	M21	CRECT31X8	1	4 #8
32	M22	CRECT44X8	1	8 #6
33			2	
34	M23	CRECT40.75X8	1	8 #6
35	M24	CRECT26X8	1	4 #7
36	M25	CRECT40.75X8	1	8 #6
37	M26	CRECT26X8	1	4 #7
38	M27	CRECT40.75X8	1	8 #6
39	M28	CRECT40.75X8	1	8 #6
40	M29	CRECT37X8	1	4 #8
41	M30	CRECT38X8	1	4 #8
42	M31	CRECT16X8	1	4 #6
43	M32	CRECT16X8	1	4 #6
44	M33	CRECT12X8	1	4 #5
45	M34	CRECT12X8	1	4 #5
46	M35	CRECT12X8	1	4 #5
47	M36	CRECT12X8	1	4 #5
48	M37	CRECT12X8	1	4 #5
49	M38	CRECT12X8	1	4 #5
50	M39	CRECT16X8	1	4 #6
51			2	
52	M40	CRECT16X8	1	4 #6
53	M41	CRECT16X8	1	4 #6
54	M42	CRECT16X8	1	4 #6
55	M43	CRECT20X8	1	4 #6
56	M44	CRECT20X8	1	4 #6
57	M45	CRECT20X8	1	4 #6
58	M46	CRECT20X8	1	4 #6
59	M47	CRECT18X8	1	4 #6
60	M48	CRECT12X8	1	4 #5
61	M49	CRECT12X8	1	4 #5
62	M50	CRECT12X8	1	4 #5
63	M51	CRECT16X8	1	4 #6
64	M52	CRECT16X8	1	4 #6
65	M53	CRECT16X8	1	4 #6
66			2	
67	M54	CRECT16X8	1	4 #6
68			2	
69	M55	CRECT12X8	1	4 #5
70	M56	CRECT12X8	1	4 #5
71	M57	CRECT12X8	1	4 #5
72	M58	CRECT37X12	1	8 #7
73	M59	CRECT37X12	1	8 #7

Columns reinforcing required <= reinforcing provided **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Concrete Column Bending Reinforcement (Continued)

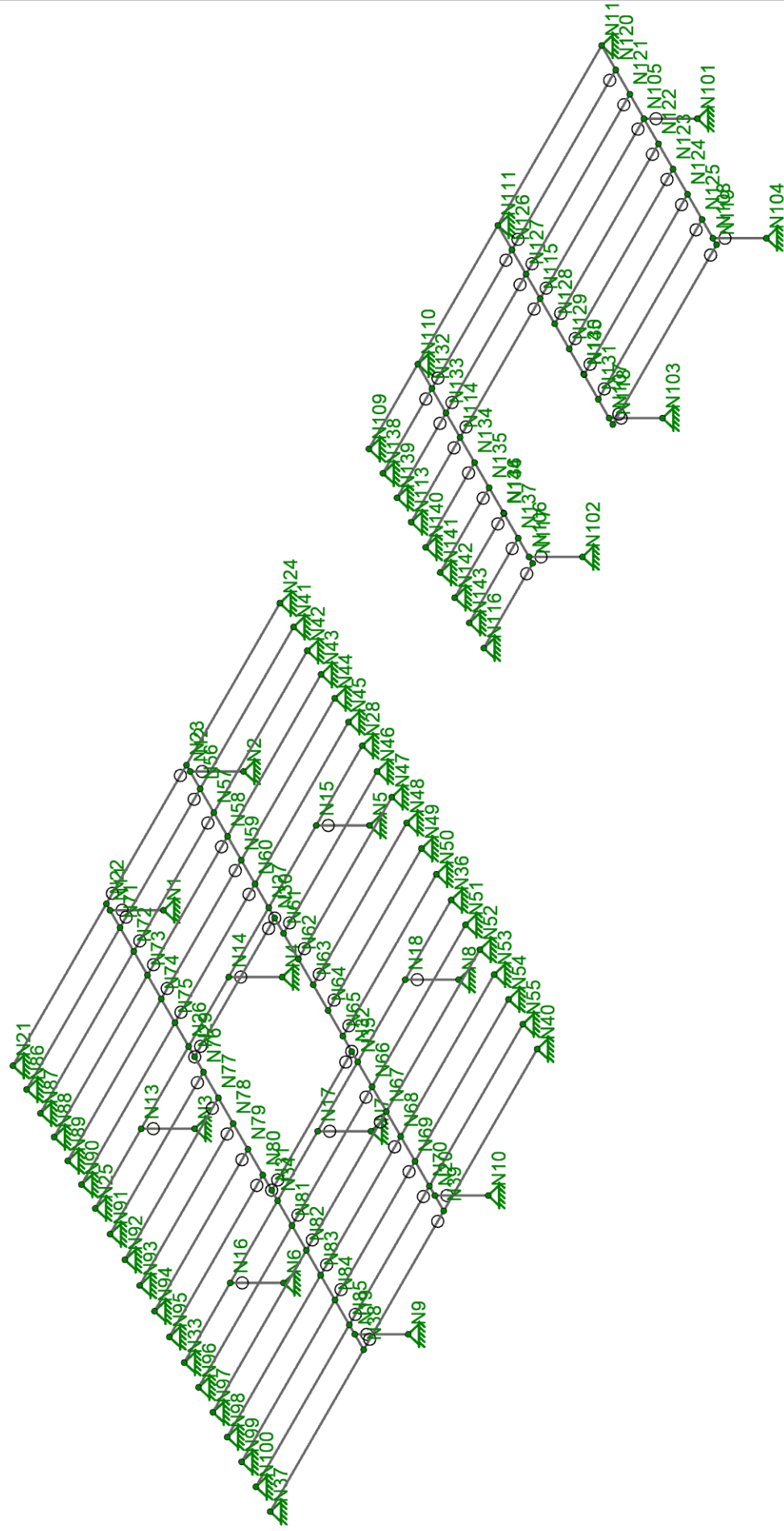
	Column	Shape	Span	Perim Bars
74	M60	CRECT24X12	1	4 #8
75	M61	CRECT24X8	1	4 #7
76	M62	CRECT24X8	1	4 #7
77	M63	CRECT16X10	1	4 #6
78	M71	CRECT12X12	1	4 #6
79	M72	CRECT12X8	1	4 #5
80	M73	CRECT12X12	1	4 #6
81	M74	CRECT12X12	1	4 #6
82	M75	CRECT24X8	1	4 #7
83	M77	CRECT12X8	1	4 #5
84	M78	CRECT12X8	1	4 #5
85	M79	CRECT12X8	1	4 #5
86	M80	CRECT12X8	1	4 #5
87			2	
88	M82	CRECT16X8	1	4 #6
89			2	4 #6
90	M83	CRECT38X16	1	20 #5
91			2	
92	M84	CRECT34X16	1	20 #5
93			2	
94	M85	CRECT24X8	1	4 #8
95			2	
96	M90	CRECT16X8	1	4 #6
97	M91	CRECT16X8	1	4 #6
98	M92	CRECT16X8	1	4 #6
99	M93	CRECT16X8	1	4 #6
100			2	
101	M94	CRECT12X8	1	4 #5
102			2	
103	M95	CRECT12X8	1	4 #5
104			2	
105	M96	CRECT12X8	1	4 #5
106			2	
107	M97	CRECT16X8	1	4 #6
108			2	
109	M98	CRECT28X8	1	4 #7
110			2	
111	M99	CRECT12X8	1	4 #5
112	M100	CRECT16X8	1	4 #6
113			2	
114	M101	CRECT12X8	1	4 #5
115	M102	CRECT12X8	1	4 #5
116	M103	CRECT12X8	1	4 #7
117	M104	CRECT12X8	1	4 #6
118	M105	CRECT12X8	1	4 #5
119	M106	CRECT10X8	1	4 #5

Columns reinforcing required <= reinforcing provided **OK**

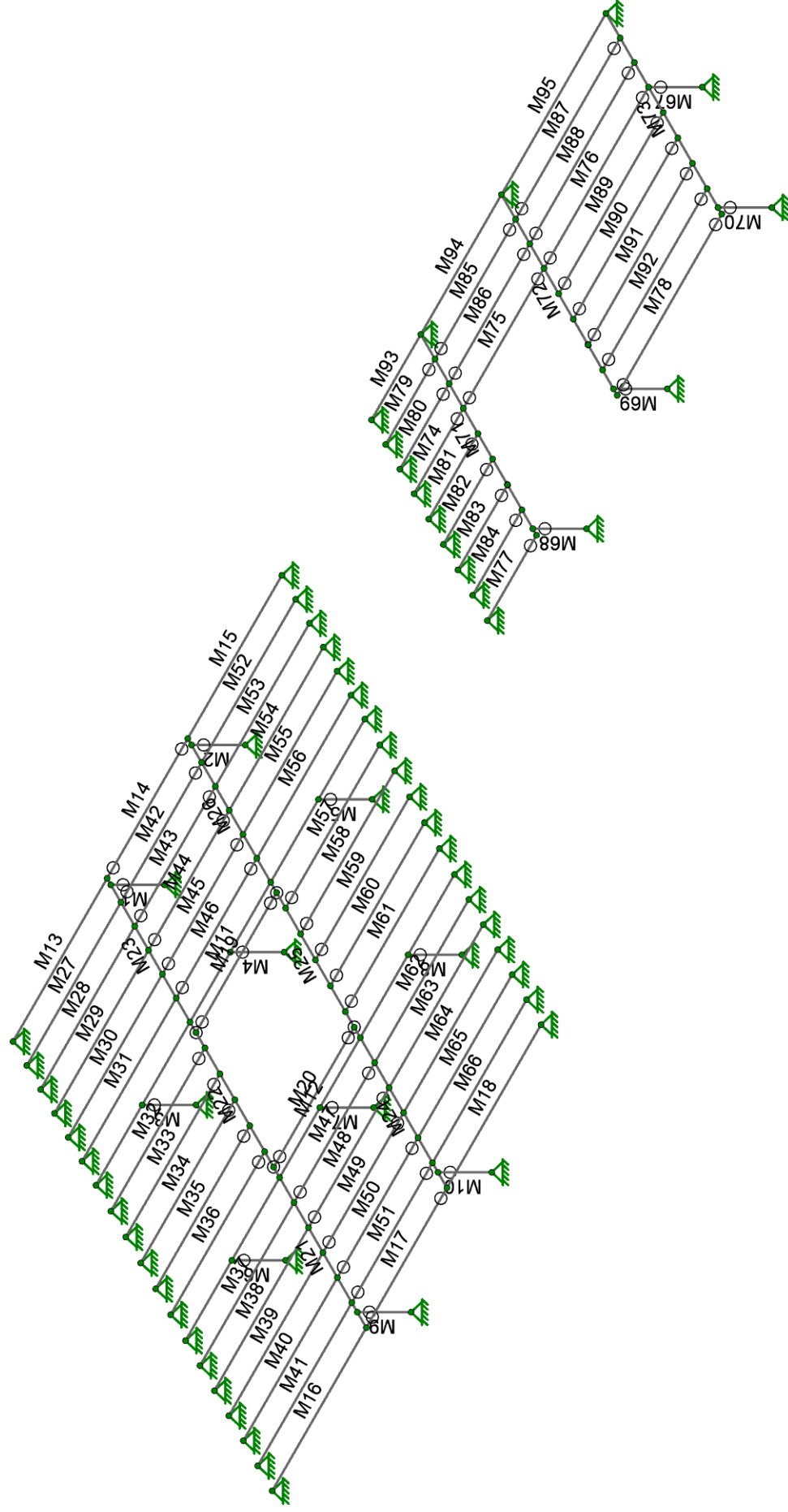
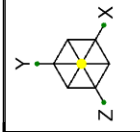


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Structural Engineers

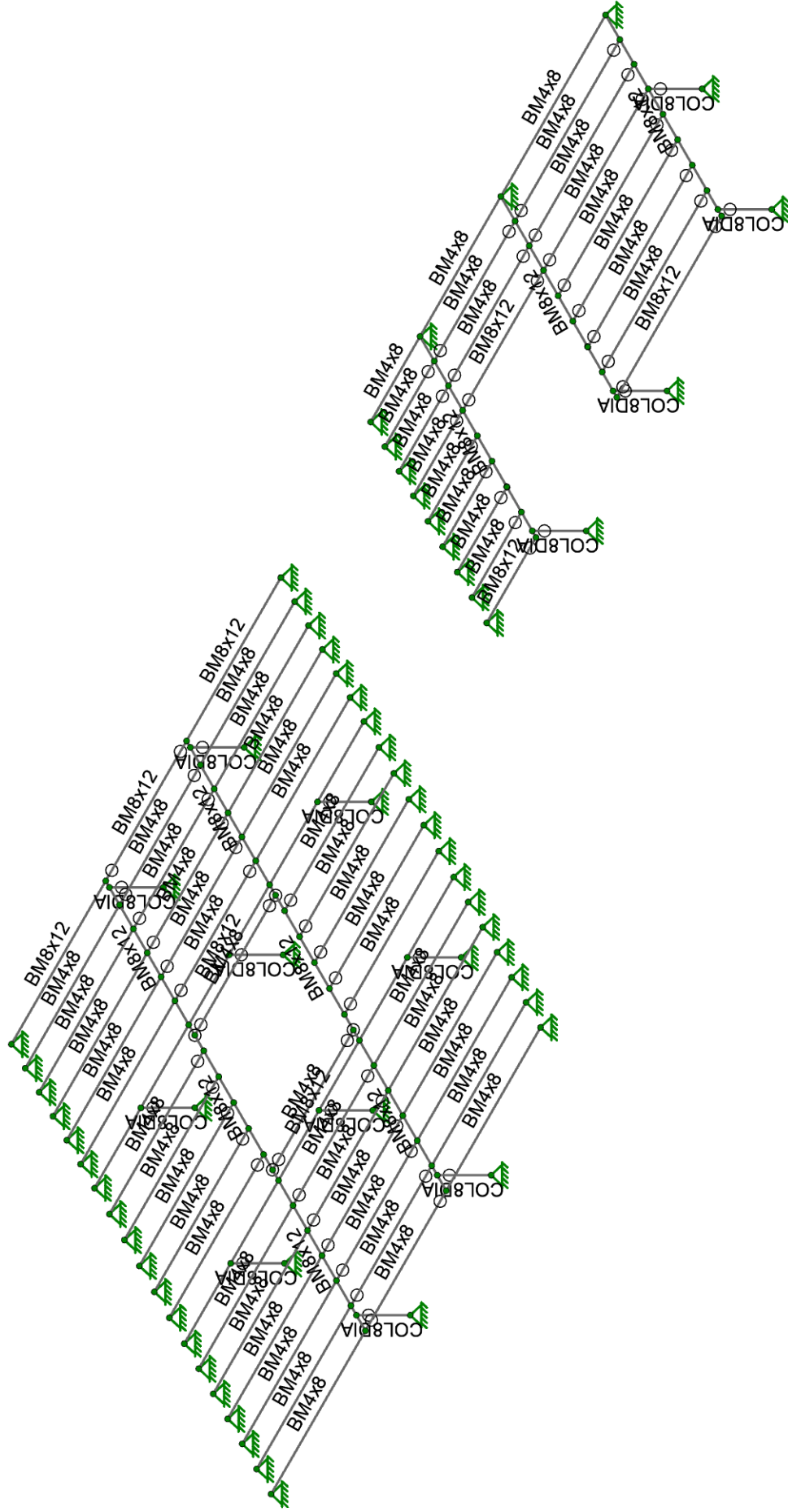
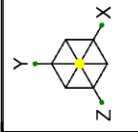
Pool Decks Wood Framing



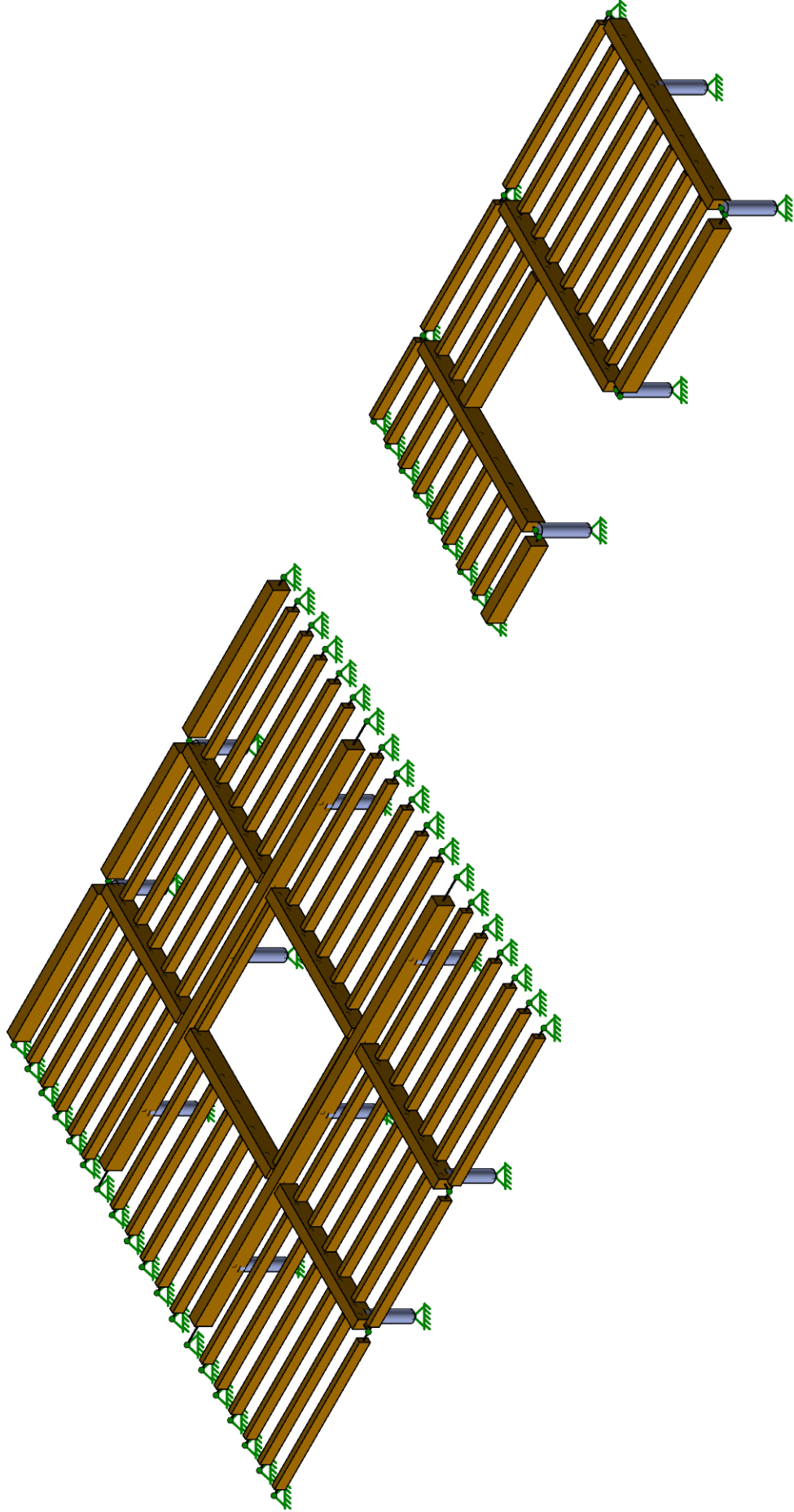
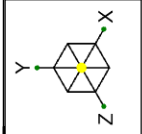
CFS Engineering Group, Inc.	Casa Robles 131 - Pool Decks Wood Framing	SK-1
Carlos F. Sanz, PE		
24002.00		
Joint Labels		Pool Decks Wood Framing.r3d



CFS Engineering Group, Inc.	Casa Robles 131 - Pool Decks Wood Framing	SK-2
Carlos F. Sanz, PE		
24002.00		
Member Labels		Pool Decks Wood Framing.r3d



CFS Engineering Group, Inc.	Casa Robles 131 - Pool Decks Wood Framing	SK-3
Carlos F. Sanz, PE		
24002.00		
Member Sizes		Pool Decks Wood Framing.r3d



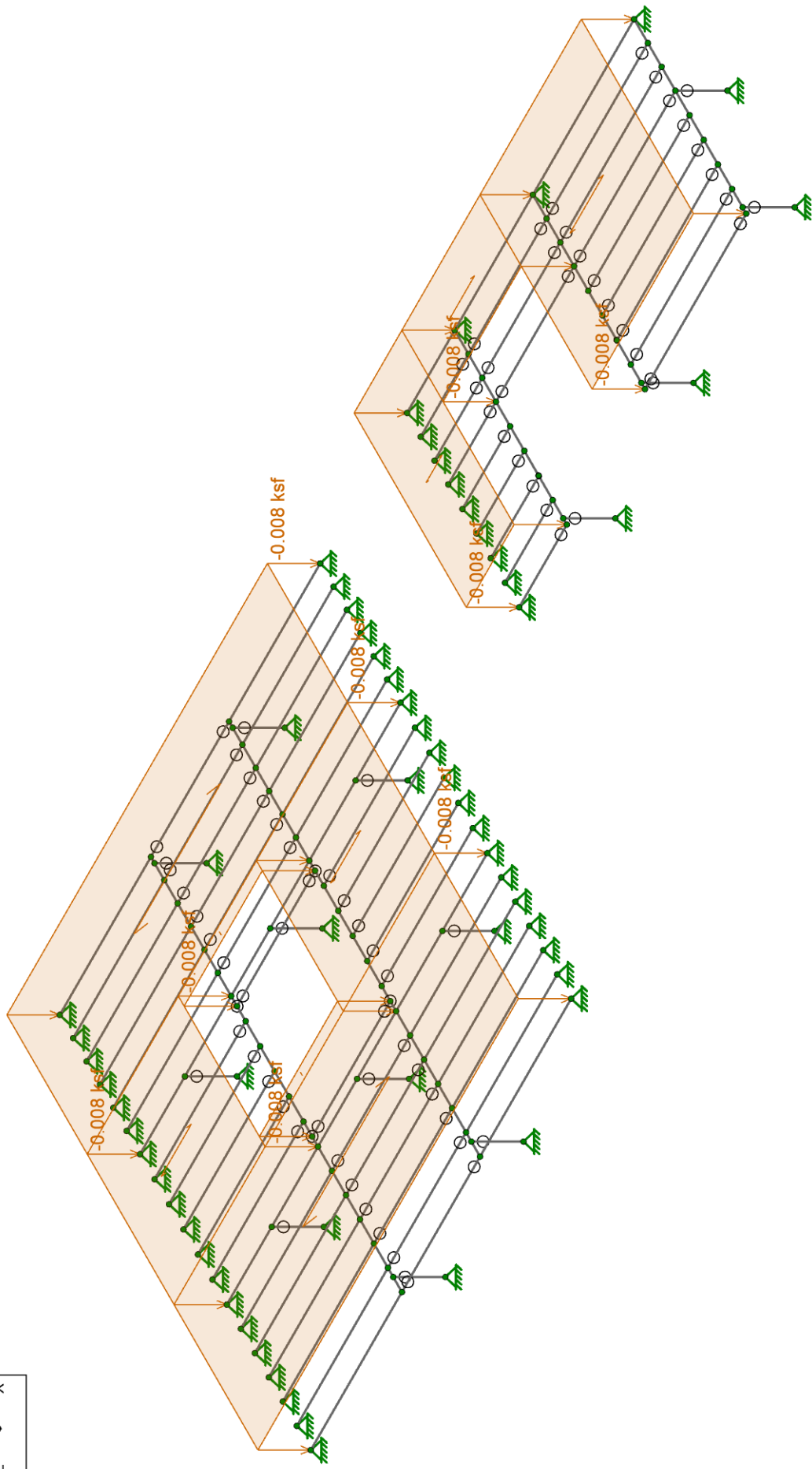
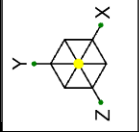
CFS Engineering Group, Inc.
Carlos F. Sanz, PE
24002.00

Casa Robles 131 - Pool Decks Wood Framing

SK-4

3D Rendering

Pool Decks Wood Framing.r3d



Loads: BLC 1, DEAD

CFS Engineering Group, Inc.

Carlos F. Sanz, PE

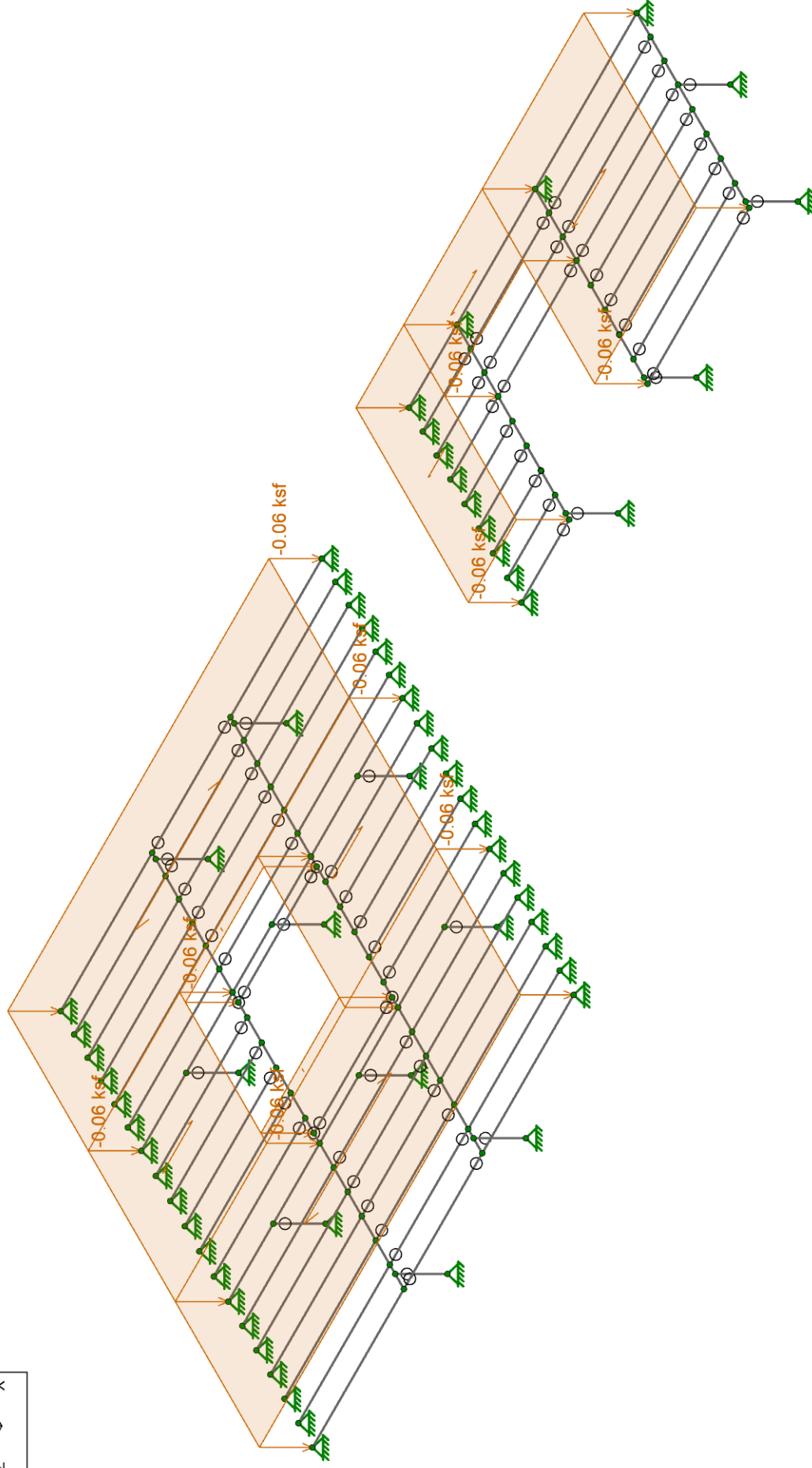
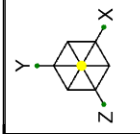
24002.00

Casa Robles 131 - Pool Decks Wood Framing

SK-5

Pool Decks Wood Framing.r3d

Dead Loads



Loads: BLC 2, LIVE

CFS Engineering Group, Inc.

Carlos F. Sanz, PE

24002.00

Casa Robles 131 - Pool Decks Wood Framing

SK-6

Pool Decks Wood Framing.r3d

Live Loads

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Pool Decks Woo...

Checked By : _____

Model Settings

Number of Reported Sections	5
Number of Internal Sections	100
Member Area Load Mesh Size (in ²)	144
Consider Shear Deformation	Yes
Consider Torsional Warping	Yes
Approximate Mesh Size (in)	24
Transfer Forces Between Intersecting Wood Walls	Yes
Increase Wood Wall Nailing Capacity for Wind Loads	Yes
Include P-Delta for Walls	Yes
Optimize Masonry and Wood Walls	Yes
Maximum Number of Iterations	3
Single	No
Multiple (Optimum)	Yes
Maximum	No
Global Axis corresponding to vertical direction	Y
Convert Existing Data	Yes
Default Global Plane for z-axis	XZ
Plate Local Axis Orientation	Global
Hot Rolled Steel	AISC 15th (360-16): ASD
Stiffness Adjustment	Yes (Iterative)
Notional Annex	None
Connections	AISC 15th (360-16): ASD
Cold Formed Steel	AISI S100-20: ASD
Stiffness Adjustment	Yes (Iterative)
Wood	AWC NDS-18 / SDPWS-21 ASD
Temperature	< 100F
Concrete	ACI 318-19
Masonry	TMS 402-16: ASD
Aluminum	AA ADM1-20: ASD
Structure Type	Building
Stiffness Adjustment	Yes (Iterative)
Stainless	AISC 14th (360-10): ASD
Stiffness Adjustment	Yes (Iterative)
Compression Stress Block	Rectangular Stress Block
Analyze using Cracked Sections	Yes
Leave room for horizontal rebar splices (2*d bar spacing)	Yes
List forces which were ignored for design in the Detail Report	Yes
Column Min Steel	1
Column Max Steel	4
Rebar Material Spec	ASTM A615
Warn if beam-column framing arrangement is not understood	No
Number of Shear Regions	4
Region 2 & 3 Spacing Increase Increment (in)	4
Code	None
Base Elevation (ft)	
Include the weight of the structure in base shear calcs	Yes

Company :CFS Engineering Group, Inc.
Designer :Carlos F. Sanz, PE
Job Number :24002.00
Model Name:Casa Robles 131 - Pool Decks Woo...

Checked By : _____

Model Settings (Continued)

T Z (sec)	
T X (sec)	
C Z	0.02
C X	0.02
R Z	3
R X	3

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Pool Decks Woo...

Checked By : _____

Wood Properties

	Label	Type	Database	Species	Grade	Cm	Ci	Emod	Nu	Therm. Coeff. [1e ⁵ °F ⁻¹]	Density [k/ft ³]
1	SP	Solid Sawn	Visually Graded	Southern Pine	No.1			1	0.3	0.3	0.035

Concrete Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e ⁵ °F ⁻¹]	Density [k/ft ³]	f'c [ksi]	Lambda	Flex Steel [ksi]	Shear Steel [ksi]
1	Conc4000NW	3644	1584	0.15	0.6	0.145	4	1	60	60

Wood Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	BM4x8	4X8	Beam	Rectangular	SP	Typical	25.375	25.904	111.148	72.244
2	BM8x12	8X12	Beam	Rectangular	SP	Typical	86.25	404.297	950.547	962.751

Concrete Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	COL8DIA	CRND8	Column	Round	Conc4000NW	Typical	50.265	201.062	201.062	402.124

Basic Load Cases

	BLC Description	Category	Y Gravity	Area(Member)
1	DEAD	DL	-1	9
2	LIVE	LL		9

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor
1	DL		Y	1	1		
2	DL+LL		Y	1	1	2	1
3	1.4DL		Y	1	1.4		
4	1.2DL+1.6LL		Y	1	1.2	2	1.6

Load Combination Design

	Description	CD	Service	Hot Rolled	Cold Formed	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
1	DL	0.9	Yes			Yes	Yes				
2	DL+LL		Yes			Yes	Yes				
3	1.4DL						Yes				
4	1.2DL+1.6LL						Yes				

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Pool Decks Woo...

Checked By : _____

Service Load Analysis Results

Envelope AWC NDS-18 / SDPWS-21 ASD Member Wood Code Checks

	Member	Shape	Code	Check	Loc[ft]	LC	Shear	Check	Loc[ft]	Dir	LC	Fc' [ksi]	Ft' [ksi]	Fb1' [ksi]	Fb2' [ksi]	Fv' [ksi]	RB	CL	CP	Eqn
1	M11	8X12		0.737	15	2	0.601	15	y	2	0.728	0.9	1.338	1.35	0.165	8.579	0.991	0.882	3.9-3	
2	M12	8X12		0.725	15	2	0.591	15	y	2	0.728	0.9	1.338	1.35	0.165	8.579	0.991	0.882	3.9-3	
3	M13	8X12		0.017	10.5	2	0.015	10.5	y	2	0.711	0.9	1.346	1.35	0.165	5.075	0.997	0.862	3.9-3	
4	M14	8X12		0.013	4.5	1	0.011	9	y	1	0.68	0.81	1.215	1.215	0.149	1.566	1	0.916	3.9-3	
5	M15	8X12		0.017	0	2	0.015	0	y	2	0.711	0.9	1.346	1.35	0.165	5.075	0.997	0.862	3.9-3	
6	M16	4X8		0.05	10.5	2	0.017	10.5	y	2	0.349	0.8	1.363	1.375	0.175	8.635	0.992	0.233	3.9-3	
7	M17	4X8		0.02	4.5	1	0.01	9	y	1	0.458	0.72	1.237	1.238	0.158	2.665	0.999	0.339	3.9-3	
8	M18	4X8		0.05	0	2	0.017	0	y	2	0.349	0.8	1.363	1.375	0.175	8.635	0.992	0.233	3.9-3	
9	M19	4X8		0.081	4.5	2	0.044	0	y	2	0.463	0.8	1.374	1.375	0.175	2.665	0.999	0.309	3.9-3	
10	M20	4X8		0.081	4.5	2	0.044	0	y	2	0.463	0.8	1.374	1.375	0.175	2.665	0.999	0.309	3.9-3	
11	M21	8X12		0.522	5.337	2	0.813	9.667	y	2	0.798	0.9	1.35	1.35	0.165	1.566	1	0.967	3.9-3	
12	M22	8X12		0.512	5	2	0.41	10	y	2	0.788	0.9	1.35	1.35	0.165	1.566	1	0.955	3.9-3	
13	M23	8X12		0.554	4.432	2	0.851	0	y	2	0.797	0.9	1.35	1.35	0.165	1.566	1	0.966	3.9-3	
14	M24	8X12		0.522	5.337	2	0.813	9.667	y	2	0.798	0.9	1.35	1.35	0.165	1.566	1	0.967	3.9-3	
15	M25	8X12		0.512	5	2	0.41	10	y	2	0.788	0.9	1.35	1.35	0.165	1.566	1	0.955	3.9-3	
16	M26	8X12		0.554	4.432	2	0.851	0	y	2	0.797	0.9	1.35	1.35	0.165	1.566	1	0.966	3.9-3	
17	M27	4X8		0.033	6.125	2	0.013	10.5	y	1	0.349	0.8	1.374	1.375	0.158	2.665	0.999	0.233	3.9-3	
18	M28	4X8		0.057	7.984	2	0.017	0	y	2	0.349	0.8	1.374	1.375	0.175	2.665	0.999	0.233	3.9-3	
19	M29	4X8		0.074	9.188	2	0.019	0	y	2	0.349	0.8	1.374	1.375	0.175	2.665	0.999	0.233	3.9-3	
20	M30	4X8		0.082	9.625	2	0.02	0	y	2	0.349	0.8	1.374	1.375	0.175	2.665	0.999	0.233	3.9-3	
21	M31	4X8		0.08	9.516	2	0.02	0	y	2	0.349	0.8	1.374	1.375	0.175	2.665	0.999	0.233	3.9-3	
22	M32	4X8		0.027	5.25	1	0.012	10.5	y	1	0.347	0.72	1.237	1.238	0.158	2.665	0.999	0.257	3.9-3	
23	M33	4X8		0.027	5.25	1	0.012	10.5	y	1	0.347	0.72	1.237	1.238	0.158	2.665	0.999	0.257	3.9-3	
24	M34	4X8		0.027	5.25	1	0.012	10.5	y	1	0.347	0.72	1.237	1.238	0.158	2.665	0.999	0.257	3.9-3	
25	M35	4X8		0.027	5.25	1	0.012	10.5	y	1	0.347	0.72	1.237	1.238	0.158	2.665	0.999	0.257	3.9-3	
26	M36	4X8		0.027	5.25	1	0.012	10.5	y	1	0.347	0.72	1.237	1.238	0.158	2.665	0.999	0.257	3.9-3	
27	M37	4X8		0.078	9.406	2	0.02	0	y	2	0.349	0.8	1.374	1.375	0.175	2.665	0.999	0.233	3.9-3	
28	M38	4X8		0.077	9.406	2	0.019	0	y	2	0.349	0.8	1.374	1.375	0.175	2.665	0.999	0.233	3.9-3	
29	M39	4X8		0.066	8.641	2	0.018	0	y	2	0.349	0.8	1.374	1.375	0.175	2.665	0.999	0.233	3.9-3	
30	M40	4X8		0.045	7.219	2	0.015	0	y	2	0.349	0.8	1.374	1.375	0.175	2.665	0.999	0.233	3.9-3	
31	M41	4X8		0.025	5.031	1	0.013	10.5	y	1	0.347	0.72	1.237	1.238	0.158	2.665	0.999	0.257	3.9-3	
32	M42	4X8		0.02	4.5	1	0.01	9	y	1	0.458	0.72	1.237	1.238	0.158	2.665	0.999	0.339	3.9-3	
33	M43	4X8		0.02	4.5	1	0.01	9	y	1	0.458	0.72	1.237	1.238	0.158	2.665	0.999	0.339	3.9-3	
34	M44	4X8		0.02	4.5	1	0.01	9	y	1	0.458	0.72	1.237	1.238	0.158	2.665	0.999	0.339	3.9-3	
35	M45	4X8		0.02	4.5	1	0.01	9	y	1	0.458	0.72	1.237	1.238	0.158	2.665	0.999	0.339	3.9-3	
36	M46	4X8		0.02	4.5	1	0.01	9	y	1	0.458	0.72	1.237	1.238	0.158	2.665	0.999	0.339	3.9-3	
37	M47	4X8		0.02	4.5	1	0.01	9	y	1	0.458	0.72	1.237	1.238	0.158	2.665	0.999	0.339	3.9-3	
38	M48	4X8		0.02	4.5	1	0.01	9	y	1	0.458	0.72	1.237	1.238	0.158	2.665	0.999	0.339	3.9-3	
39	M49	4X8		0.02	4.5	1	0.01	9	y	1	0.458	0.72	1.237	1.238	0.158	2.665	0.999	0.339	3.9-3	
40	M50	4X8		0.02	4.5	1	0.01	9	y	1	0.458	0.72	1.237	1.238	0.158	2.665	0.999	0.339	3.9-3	
41	M51	4X8		0.02	4.5	1	0.01	9	y	1	0.458	0.72	1.237	1.238	0.158	2.665	0.999	0.339	3.9-3	
42	M52	4X8		0.033	4.375	2	0.013	0	y	1	0.349	0.8	1.374	1.375	0.158	2.665	0.999	0.233	3.9-3	
43	M53	4X8		0.057	2.516	2	0.017	10.5	y	2	0.349	0.8	1.374	1.375	0.175	2.665	0.999	0.233	3.9-3	
44	M54	4X8		0.074	1.313	2	0.019	10.5	y	2	0.349	0.8	1.374	1.375	0.175	2.665	0.999	0.233	3.9-3	
45	M55	4X8		0.082	0.875	2	0.02	10.5	y	2	0.349	0.8	1.374	1.375	0.175	2.665	0.999	0.233	3.9-3	
46	M56	4X8		0.08	0.984	2	0.02	10.5	y	2	0.349	0.8	1.374	1.375	0.175	2.665	0.999	0.233	3.9-3	
47	M57	4X8		0.027	5.25	1	0.012	10.5	y	1	0.347	0.72	1.237	1.238	0.158	2.665	0.999	0.257	3.9-3	
48	M58	4X8		0.027	5.25	1	0.012	10.5	y	1	0.347	0.72	1.237	1.238	0.158	2.665	0.999	0.257	3.9-3	
49	M59	4X8		0.027	5.25	1	0.012	10.5	y	1	0.347	0.72	1.237	1.238	0.158	2.665	0.999	0.257	3.9-3	
50	M60	4X8		0.027	5.25	1	0.012	10.5	y	1	0.347	0.72	1.237	1.238	0.158	2.665	0.999	0.257	3.9-3	
51	M61	4X8		0.027	5.25	1	0.012	10.5	y	1	0.347	0.72	1.237	1.238	0.158	2.665	0.999	0.257	3.9-3	
52	M62	4X8		0.078	1.094	2	0.02	10.5	y	2	0.349	0.8	1.374	1.375	0.175	2.665	0.999	0.233	3.9-3	
53	M63	4X8		0.077	1.094	2	0.019	10.5	y	2	0.349	0.8	1.374	1.375	0.175	2.665	0.999	0.233	3.9-3	
54	M64	4X8		0.066	1.859	2	0.018	10.5	y	2	0.349	0.8	1.374	1.375	0.175	2.665	0.999	0.233	3.9-3	

All wood member code checks < 1.0 **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Pool Decks Woo...

Checked By : _____

Envelope AWC NDS-18 / SDPWS-21 ASD Member Wood Code Checks (Continued)

	Member	Shape	Code	Check	Loc[ft]	LC	Shear	Check	Loc[ft]	Dir	LC	Fc' [ksi]	Ft' [ksi]	Fb1' [ksi]	Fb2' [ksi]	Fv' [ksi]	RB	CL	CP	Eqn
55	M65	4X8	0.045	3.281	2	0.015	10.5	y	2	0.349	0.8	1.374	1.375	0.175	2.665	0.999	0.233	3.9-3		
56	M66	4X8	0.025	5.469	1	0.013	0	y	1	0.347	0.72	1.237	1.238	0.158	2.665	0.999	0.257	3.9-3		
57	M71	8X12	0.529	7.4	2	0.399	12.917	y	2	0.763	0.9	1.35	1.35	0.165	1.566	1	0.925	3.9-3		
58	M72	8X12	0.527	7.535	2	0.413	12.917	y	2	0.763	0.9	1.35	1.35	0.165	1.566	1	0.925	3.9-3		
59	M73	8X12	0.145	8.208	2	0.226	8.073	y	2	0.804	0.9	1.345	1.35	0.165	5.629	0.997	0.974	3.9-3		
60	M74	4X8	0.007	2.75	1	0.006	5.5	y	1	0.933	0.72	1.237	1.238	0.158	2.665	0.999	0.691	3.9-3		
61	M75	8X12	0.013	4.5	1	0.02	9	y	2	0.68	0.81	1.215	1.215	0.165	1.566	1	0.916	3.9-3		
62	M76	4X8	0.033	5.834	1	0.098	11.667	y	2	0.285	0.72	1.237	1.238	0.175	2.665	0.999	0.211	3.9-3		
63	M77	8X12	0.005	2.75	1	0.007	5.5	y	1	0.722	0.81	1.215	1.215	0.149	1.566	1	0.972	3.9-3		
64	M78	8X12	0.021	5.834	1	0.481	11.667	y	2	0.625	0.81	1.215	1.215	0.165	1.566	1	0.842	3.9-3		
65	M79	4X8	0.007	2.75	1	0.006	5.5	y	1	0.933	0.72	1.237	1.238	0.158	2.665	0.999	0.691	3.9-3		
66	M80	4X8	0.007	2.75	1	0.006	5.5	y	1	0.933	0.72	1.237	1.238	0.158	2.665	0.999	0.691	3.9-3		
67	M81	4X8	0.007	2.75	1	0.006	5.5	y	1	0.933	0.72	1.237	1.238	0.158	2.665	0.999	0.691	3.9-3		
68	M82	4X8	0.007	2.75	1	0.006	5.5	y	1	0.933	0.72	1.237	1.238	0.158	2.665	0.999	0.691	3.9-3		
69	M83	4X8	0.007	2.75	1	0.006	5.5	y	1	0.933	0.72	1.237	1.238	0.158	2.665	0.999	0.691	3.9-3		
70	M84	4X8	0.007	2.75	1	0.006	5.5	y	1	0.933	0.72	1.237	1.238	0.158	2.665	0.999	0.691	3.9-3		
71	M85	4X8	0.02	4.5	1	0.015	9	y	1	0.458	0.72	1.237	1.238	0.158	2.665	0.999	0.339	3.9-3		
72	M86	4X8	0.02	4.5	1	0.015	9	y	2	0.458	0.72	1.237	1.238	0.175	2.665	0.999	0.339	3.9-3		
73	M87	4X8	0.033	5.834	1	0.331	11.667	y	2	0.285	0.72	1.237	1.238	0.175	2.665	0.999	0.211	3.9-3		
74	M88	4X8	0.033	5.834	1	0.239	11.667	y	2	0.285	0.72	1.237	1.238	0.175	2.665	0.999	0.211	3.9-3		
75	M89	4X8	0.033	5.834	1	0.075	11.667	y	2	0.285	0.72	1.237	1.238	0.175	2.665	0.999	0.211	3.9-3		
76	M90	4X8	0.033	5.834	1	0.18	11.667	y	2	0.285	0.72	1.237	1.238	0.175	2.665	0.999	0.211	3.9-3		
77	M91	4X8	0.033	5.834	1	0.246	11.667	y	2	0.285	0.72	1.237	1.238	0.175	2.665	0.999	0.211	3.9-3		
78	M92	4X8	0.033	5.834	1	0.268	11.667	y	2	0.285	0.72	1.237	1.238	0.175	2.665	0.999	0.211	3.9-3		
79	M93	4X8	0.007	5.5	1	0.008	5.5	y	1	0.933	0.72	1.233	1.238	0.158	6.25	0.996	0.691	3.9-3		
80	M94	4X8	0.026	9	1	0.018	9	y	1	0.458	0.72	1.23	1.238	0.158	7.995	0.994	0.339	3.9-3		
81	M95	4X8	0.026	0	1	0.365	0	y	2	0.285	0.72	1.227	1.238	0.175	9.103	0.992	0.211	3.9-3		

All wood member code checks < 1.0 **OK**

Envelope Beam Deflections

	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
1	M11	1	max	1.25	0.001	NC	1
2		1	min	3.125	0.012	5383	2
3		2	max	5.625	-0.001	NC	1
4		2	min	10.313	-0.071	1659	2
5		3	max	24.375	-0.001	NC	1
6		3	min	19.688	-0.071	1658	2
7		4	max	28.75	0.001	NC	1
8		4	min	26.875	0.011	5398	2
9	M12	1	max	1.25	0.001	NC	1
10		1	min	3.125	0.011	5464	2
11		2	max	5.625	-0.001	NC	1
12		2	min	10.313	-0.07	1684	2
13		3	max	24.375	-0.001	NC	1
14		3	min	20	-0.07	1684	2
15		4	max	28.75	0.001	NC	1
16		4	min	26.875	0.011	5479	2
17	M13	1	max	3.828	0.001	NC	1
18		1	min	0	0	NC	1
19	M14	1	max	7.594	-0.001	NC	2
20		1	min	0	0	NC	1
21	M15	1	max	6.672	0.001	NC	1
22		1	min	6.125	0.001	NC	2
23	M16	1	max	2.953	0.001	NC	1

All beam deflections < L/360 **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Pool Decks Woo...

Checked By : _____

Envelope Beam Deflections (Continued)

	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
24		1	min	0	0	NC	1
25	M17	1	max	0.563	-0.001	NC	2
26		1	min	0	0	NC	1
27	M18	1	max	7.547	0.001	NC	1
28		1	min	0	-0.001	NC	2
29	M19	1	max	8.531	-0.001	NC	1
30		1	min	4.5	-0.023	4621	2
31	M20	1	max	8.531	-0.001	NC	1
32		1	min	4.5	-0.023	4621	2
33	M21	1	max	7.452	0.001	NC	1
34		1	min	0	0.361	642	2
35	M22	1	max	9.792	-0.001	NC	1
36		1	min	5	-0.123	975	2
37	M23	1	max	1.445	0.001	NC	2
38		1	min	9.25	0.355	625	2
39	M24	1	max	7.452	0.001	NC	1
40		1	min	0	0.361	642	2
41	M25	1	max	0.208	-0.001	NC	1
42		1	min	5	-0.123	975	2
43	M26	1	max	1.445	0.001	NC	2
44		1	min	9.25	0.355	625	2
45	M27	1	max	2.953	0.001	NC	1
46		1	min	10.5	0.041	6179	2
47	M28	1	max	2.844	0.001	NC	1
48		1	min	10.5	0.062	4049	2
49	M29	1	max	2.844	0.001	NC	1
50		1	min	10.5	0.076	3325	2
51	M30	1	max	2.297	0.001	NC	2
52		1	min	10.5	0.081	3111	2
53	M31	1	max	2.297	0.001	NC	2
54		1	min	10.5	0.08	3155	2
55	M32	1	max	10.063	-0.001	NC	2
56		1	min	0	0	NC	1
57	M33	1	max	0.438	-0.001	NC	1
58		1	min	0	0	NC	1
59	M34	1	max	10.063	-0.001	NC	1
60		1	min	0	0	NC	1
61	M35	1	max	10.063	-0.001	NC	2
62		1	min	0	0	NC	1
63	M36	1	max	10.063	-0.001	NC	2
64		1	min	0	0	NC	1
65	M37	1	max	2.297	0.001	NC	2
66		1	min	10.5	0.078	3226	2
67	M38	1	max	2.297	0.001	NC	2
68		1	min	10.5	0.078	3248	2
69	M39	1	max	2.406	0.001	NC	2
70		1	min	10.5	0.07	3614	2
71	M40	1	max	2.516	0.001	NC	2
72		1	min	10.5	0.053	4779	2
73	M41	1	max	2.953	0.001	NC	1
74		1	min	10.5	0.028	9083	2
75	M42	1	max	0.563	-0.001	NC	2
76		1	min	0	0	NC	1
77	M43	1	max	0.563	-0.001	NC	2

All beam deflections < L/360 **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Pool Decks Woo...

Checked By : _____

Envelope Beam Deflections (Continued)

	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
78		1	min	0	0	NC	1
79	M44	1	max	8.438	-0.001	NC	2
80		1	min	0	0	NC	1
81	M45	1	max	8.438	-0.001	NC	2
82		1	min	0	0	NC	1
83	M46	1	max	8.438	-0.001	NC	2
84		1	min	0	0	NC	1
85	M47	1	max	8.438	-0.001	NC	2
86		1	min	0	0	NC	1
87	M48	1	max	8.438	-0.001	NC	2
88		1	min	0	0	NC	1
89	M49	1	max	8.438	-0.001	NC	2
90		1	min	0	0	NC	1
91	M50	1	max	0.563	-0.001	NC	2
92		1	min	0	0	NC	1
93	M51	1	max	0.563	-0.001	NC	1
94		1	min	0	0	NC	1
95	M52	1	max	7.547	0.001	NC	1
96		1	min	0	0.041	6179	2
97	M53	1	max	7.656	0.001	NC	1
98		1	min	0	0.062	4049	2
99	M54	1	max	7.656	0.001	NC	1
100		1	min	0	0.076	3325	2
101	M55	1	max	8.203	0.001	NC	2
102		1	min	0	0.081	3111	2
103	M56	1	max	8.203	0.001	NC	2
104		1	min	0	0.08	3155	2
105	M57	1	max	0.438	-0.001	NC	2
106		1	min	0	0	NC	1
107	M58	1	max	10.063	-0.001	NC	2
108		1	min	0	0	NC	1
109	M59	1	max	0.438	-0.001	NC	2
110		1	min	0	0	NC	1
111	M60	1	max	0.438	-0.001	NC	2
112		1	min	0	0	NC	1
113	M61	1	max	0.438	-0.001	NC	2
114		1	min	0	0	NC	1
115	M62	1	max	8.203	0.001	NC	2
116		1	min	0	0.078	3226	2
117	M63	1	max	8.203	0.001	NC	2
118		1	min	0	0.078	3248	2
119	M64	1	max	8.094	0.001	NC	2
120		1	min	0	0.07	3614	2
121	M65	1	max	7.984	0.001	NC	2
122		1	min	0	0.053	4779	2
123	M66	1	max	7.547	0.001	NC	1
124		1	min	0	0.028	9083	2
125	M71	1	max	0.404	0.001	NC	2
126		1	min	0	0.02	501	2
127		2	max	0.538	-0.001	NC	1
128		2	min	6.862	-0.197	762	2
129	M72	1	max	0.404	0.001	NC	2
130		1	min	0	0.019	535	2
131		2	max	0.538	-0.001	NC	1

All beam deflections < L/360 **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Pool Decks Woo...

Checked By : _____

Envelope Beam Deflections (Continued)

	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
132		2	min	6.862	-0.193	775	2
133	M73	1	max	0.404	0	NC	2
134		1	min	0	0.004	2576	2
135		2	max	7.131	-0.001	NC	1
136		2	min	3.902	-0.018	5120	2
137		3	max	9.822	0.001	NC	2
138		3	min	8.208	0	NC	1
139	M74	1	max	3.839	0.001	NC	1
140		1	min	0	0	NC	1
141	M75	1	max	7.594	-0.001	NC	1
142		1	min	0	0	NC	1
143	M76	1	max	11.302	-0.001	NC	2
144		1	min	5.834	-0.014	9683	2
145	M77	1	max	5.5	0.001	NC	2
146		1	min	0	0	NC	1
147	M78	1	max	11.059	-0.001	NC	2
148		1	min	0	0	NC	1
149	M79	1	max	3.839	0.001	NC	1
150		1	min	0	0	NC	1
151	M80	1	max	3.839	0.001	NC	1
152		1	min	0	0	NC	1
153	M81	1	max	3.839	0.001	NC	1
154		1	min	0	0	NC	1
155	M82	1	max	3.839	0.001	NC	1
156		1	min	0	0	NC	1
157	M83	1	max	3.839	0.001	NC	2
158		1	min	0	0	NC	1
159	M84	1	max	3.839	0.001	NC	1
160		1	min	0	0	NC	1
161	M85	1	max	8.438	-0.001	NC	2
162		1	min	0	0	NC	1
163	M86	1	max	0.563	-0.001	NC	2
164		1	min	0	0	NC	1
165	M87	1	max	11.302	-0.001	NC	2
166		1	min	5.834	-0.014	9683	2
167	M88	1	max	11.302	-0.001	NC	2
168		1	min	5.834	-0.014	9683	1
169	M89	1	max	11.302	-0.001	NC	2
170		1	min	5.834	-0.014	9683	1
171	M90	1	max	11.302	-0.001	NC	2
172		1	min	5.834	-0.014	9683	1
173	M91	1	max	11.302	-0.001	NC	2
174		1	min	5.834	-0.014	9683	2
175	M92	1	max	11.302	-0.001	NC	2
176		1	min	5.834	-0.014	9683	2
177	M93	1	max	5.5	0	NC	2
178		1	min	0	0	NC	1
179	M94	1	max	9	0	NC	2
180		1	min	0	0	NC	1
181	M95	1	max	0.851	-0.001	NC	1
182		1	min	0	0	NC	1

All beam deflections < L/360 **OK**

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Pool Decks Woo...

Checked By : _____

Factored Load Analysis Results

Envelope Concrete Column Design Results

	Column	Shape	UC Max	Loc[ft]	UC	LC Shear UC	LC	Loc[ft]	Dir	Phi used	Pn[k]	Vny[k]	Vnz[k]
1	M1	CRND8	0.059	0	4	0	4	2.531	y	0.65	220.072	17.079	17.079
2	M2	CRND8	0.059	0	4	0	4	2.531	y	0.65	220.072	17.079	17.079
3	M3	CRND8	0.047	0	4	0	4	2.531	y	0.65	220.072	17.079	17.079
4	M4	CRND8	0.123	0	4	0	4	2.531	y	0.65	220.072	17.079	17.079
5	M5	CRND8	0.047	0	4	0	4	2.531	y	0.65	220.072	17.079	17.079
6	M6	CRND8	0.046	0	4	0	4	2.531	y	0.65	220.072	17.079	17.079
7	M7	CRND8	0.121	0	4	0	4	2.531	y	0.65	220.072	17.079	17.079
8	M8	CRND8	0.046	0	4	0	4	2.531	y	0.65	220.072	17.079	17.079
9	M9	CRND8	0.064	0	4	0	4	2.531	y	0.65	220.072	17.079	17.079
10	M10	CRND8	0.064	0	4	0	4	2.531	y	0.65	220.072	17.079	17.079
11	M67	CRND8	0.043	0	4	0	4	2.531	y	0.65	220.072	17.079	17.079
12	M68	CRND8	0.034	0	4	0	4	2.531	y	0.65	220.072	17.079	17.079
13	M69	CRND8	0.038	0	4	0	4	2.531	y	0.65	220.072	17.079	17.079
14	M70	CRND8	0.017	0	4	0	4	2.531	y	0.65	220.072	17.079	17.079

All concrete columns code check < 1.0 **OK**

Concrete Column Bending Reinforcement

	Column	Shape	Span	Perim Bars
1	M1	CRND8	1	5 #5
2	M2	CRND8	1	5 #5
3	M3	CRND8	1	5 #5
4	M4	CRND8	1	5 #5
5	M5	CRND8	1	5 #5
6	M6	CRND8	1	5 #5
7	M7	CRND8	1	5 #5
8	M8	CRND8	1	5 #5
9	M9	CRND8	1	5 #5
10	M10	CRND8	1	5 #5
11	M67	CRND8	1	5 #5
12	M68	CRND8	1	5 #5
13	M69	CRND8	1	5 #5
14	M70	CRND8	1	5 #5

Columns reinforcing required <= reinforcing provided **OK**



CFS Engineering Group, Inc.
Structural Engineers

Foundations

Envelope Service Load Reactions

Envelope Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N1	max	0.42	5	21.149	7	2.036	11	0	16	0	16	0	16
2		min	-0.323	14	-0.411	16	0.19	16	0	1	0	1	0	1
3	N2	max	0.521	13	8.702	11	0.314	7	0	16	0	16	0	16
4		min	-0.973	6	3.315	16	-0.327	16	0	1	0	1	0	1
5	N3	max	0.639	13	8.553	12	0.541	7	0	16	0	16	0	16
6		min	-0.822	6	4.157	14	-0.726	16	0	1	0	1	0	1
7	N4	max	0.37	13	14.964	10	0.697	7	0	16	0	16	0	16
8		min	-0.942	6	6.115	13	-0.905	16	0	1	0	1	0	1
9	N5	max	0.714	16	45.411	11	4.788	11	0	16	0	16	0	16
10		min	-0.712	7	11.355	16	1.714	16	0	1	0	1	0	1
11	N6	max	-0.136	15	12.742	7	0.921	11	0	16	0	16	0	16
12		min	-0.288	3	1.633	16	0.184	16	0	1	0	1	0	1
13	N7	max	-0.13	16	16.226	12	0.799	11	0	16	0	16	0	16
14		min	-0.275	3	3.365	15	0.151	16	0	1	0	1	0	1
15	N8	max	0.529	8	71.388	12	3.387	11	0	16	0	16	0	16
16		min	-0.323	7	27.143	15	0.021	16	0	1	0	1	0	1
17	N9	max	0.171	5	10.933	5	0.114	11	0	16	0	16	0	16
18		min	-0.033	14	1.726	14	-0.001	16	0	1	0	1	0	1
19	N10	max	1.826	9	49.306	9	0.466	11	0	16	0	16	0	16
20		min	0.301	14	15.963	14	0.07	16	0	1	0	1	0	1
21	N11	max	0.003	13	52.917	12	1.096	7	0	16	0	16	0	16
22		min	-1.464	6	17.185	15	-0.214	16	0	1	0	1	0	1
23	N12	max	0.006	10	44.897	10	0.09	12	0	16	0	16	0	16
24		min	0.001	13	22.831	16	0.043	14	0	1	0	1	0	1
25	N13	max	3.346	5	38.272	7	5.817	15	0	16	0	16	0	16
26		min	-1.299	14	-18.939	16	-6.323	8	0	1	0	1	0	1
27	N14	max	1.261	13	44.216	7	6.272	7	0	16	0	16	0	16
28		min	-3.256	6	-13.743	16	-5.646	16	0	1	0	1	0	1
29	N15	max	3.099	5	36.375	8	4.92	15	0	16	0	16	0	16
30		min	-1.448	14	-18.308	15	-7.593	8	0	1	0	1	0	1
31	N16	max	2.024	13	41	8	4.448	15	0	16	0	16	0	16
32		min	-2.352	6	-16.524	15	-8.357	8	0	1	0	1	0	1
33	N17	max	-0.09	13	148.005	9	-0.335	15	0	16	0	16	0	16
34		min	-0.23	2	75.953	14	-1.417	12	0	1	0	1	0	1
35	N18	max	-0.043	13	72.949	10	0.07	11	0	16	0	16	0	16
36		min	-0.13	10	36.44	13	0.023	16	0	1	0	1	0	1
37	N19	max	0.129	5	36.464	9	-0.619	15	0	16	0	16	0	16
38		min	-0.09	14	13.781	14	-2.413	12	0	1	0	1	0	1
39	N20	max	0.963	5	21.334	5	-0.033	15	0	16	0	16	0	16
40		min	-0.394	14	2.636	14	-0.109	12	0	1	0	1	0	1
41	N21	max	0.652	13	23.982	11	-0.006	15	0	16	0	16	0	16
42		min	-1.172	6	11.685	16	-0.147	12	0	1	0	1	0	1
43	N22	max	-0.025	13	43.073	10	-0.079	15	0	16	0	16	0	16
44		min	-1.015	6	12.992	13	-0.38	12	0	1	0	1	0	1
45	N23	max	1.292	5	22.383	5	0.066	15	0	16	0	16	0	16
46		min	-0.07	14	1.84	14	-0.143	8	0	1	0	1	0	1
47	N24	max	0.361	13	71.665	10	1.182	15	0	16	0	16	0	16
48		min	-0.926	6	26.673	13	-1.261	8	0	1	0	1	0	1
49	N25	max	0.126	2	39.762	12	1.039	15	0	16	0	16	0	16
50		min	0.043	14	17.474	15	-1.646	8	0	1	0	1	0	1
51	N26	max	0.794	9	139.746	10	2.573	11	0	16	0	16	0	16
52		min	0.388	14	71.147	13	1.029	16	0	1	0	1	0	1
53	N27	max	-0.259	13	73.777	12	1.202	2	0	16	0	16	0	16
54		min	-0.549	10	37.659	15	0.29	16	0	1	0	1	0	1

Company :CFS Engineering Group, Inc.
 Designer :Carlos F. Sanz, PE
 Job Number :24002.00
 Model Name:Casa Robles 131 - Structural Frame...

Checked By : _____

Envelope Node Reactions (Continued)

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
55	N28	max	1.056	2	103.559	12	1.7	11	0	16	0	16	0	16
56		min	0.428	14	51.443	15	0.106	16	0	1	0	1	0	1
57	N29	max	-0.019	13	49.554	11	1.323	7	0	16	0	16	0	16
58		min	-0.057	3	17.683	16	-0.939	16	0	1	0	1	0	1
59	N30	max	-0.006	15	-2.627	13	-0.007	16	0	16	0	16	0	16
60		min	-0.012	12	-5.756	10	-0.015	11	0	1	0	1	0	1
61	N31	max	-0.013	13	50.417	12	0.656	15	0	16	0	16	0	16
62		min	-0.04	3	16.835	15	-1.266	8	0	1	0	1	0	1
63	N32	max	0.581	5	16.444	3	0.371	7	0	16	0	16	0	16
64		min	-0.282	14	8.328	16	-0.213	16	0	1	0	1	0	1
65	N33	max	0.097	13	19.214	3	0.117	7	0	16	0	16	0	16
66		min	-0.557	6	9.827	13	-0.026	16	0	1	0	1	0	1
67	N34	max	-0.003	15	0.609	5	-0.006	16	0	16	0	16	0	16
68		min	-0.007	12	0.196	10	-0.015	11	0	1	0	1	0	1
69	N35	max	0.152	12	23.104	7	4.039	7	0	16	0	16	0	16
70		min	0.071	15	-16.15	16	-2.919	16	0	1	0	1	0	1
71	N36	max	1.579	9	98.917	11	-0.704	15	0	16	0	16	0	16
72		min	0.764	14	50.897	16	-1.482	12	0	1	0	1	0	1
73	N37	max	-0.257	13	129.121	11	0.656	11	0	16	0	16	0	16
74		min	-0.525	10	66.121	16	0.273	16	0	1	0	1	0	1
75	N38	max	-0.014	13	42.429	10	-0.39	15	0	16	0	16	0	16
76		min	-0.119	3	21.342	13	-0.822	12	0	1	0	1	0	1
77	N39	max	0	16	6.193	11	-0.003	16	0	16	0	16	0	16
78		min	-0.001	11	3.109	16	-0.011	11	0	1	0	1	0	1
79	N40	max	-0.023	15	18.637	16	3.544	7	0	16	0	16	0	16
80		min	-0.049	12	-19.769	7	-3.293	16	0	1	0	1	0	1
81	N41	max	0.549	9	19.179	9	0.318	15	0	16	0	16	0	16
82		min	0.1	14	9.474	14	-0.31	8	0	1	0	1	0	1
83	N42	max	1.13	5	38.978	9	0.074	14	0	16	0	16	0	16
84		min	-0.144	14	12.443	14	-0.061	5	0	1	0	1	0	1
85	N43	max	0.777	13	34.521	9	0.062	6	0	16	0	16	0	16
86		min	-0.919	6	15.48	14	-0.031	13	0	1	0	1	0	1
87	N44	max	0.794	13	24.534	11	0.09	11	0	16	0	16	0	16
88		min	-1.355	6	12.54	16	0.023	16	0	1	0	1	0	1
89	N45	max	0.751	13	24.834	10	0.083	11	0	16	0	16	0	16
90		min	-1.376	6	10.867	13	0.013	16	0	1	0	1	0	1
91	N46	max	0.063	13	35.727	10	0.106	11	0	16	0	16	0	16
92		min	-1.21	6	9.142	13	0.028	16	0	1	0	1	0	1
93	N47	max	0.729	5	15.756	9	-0.008	15	0	16	0	16	0	16
94		min	-0.164	14	0.665	14	-0.064	12	0	1	0	1	0	1
95	N48	max	0.901	5	21.436	11	1.374	7	0	16	0	16	0	16
96		min	-0.569	14	1.505	16	-0.387	16	0	1	0	1	0	1
97	N49	max	0.306	13	17.108	10	-0.002	15	0	16	0	16	0	16
98		min	-0.768	6	0.964	13	-0.066	8	0	1	0	1	0	1
99	N50	max	0.342	9	14.779	11	0.28	15	0	16	0	16	0	16
100		min	-0.014	14	7.392	16	-0.317	8	0	1	0	1	0	1
101	N51	max	0.066	12	44.975	11	-1.227	15	0	16	0	16	0	16
102		min	0.007	15	11.796	16	-3.829	12	0	1	0	1	0	1
103	N52	max	0.506	13	51.483	10	-0.038	15	0	16	0	16	0	16
104		min	-0.774	6	23.967	13	-0.21	12	0	1	0	1	0	1
105	N53	max	-0.023	13	7.805	3	0.033	7	0	16	0	16	0	16
106		min	-0.092	10	3.965	13	-0.021	16	0	1	0	1	0	1
107	N54	max	0.602	5	53.285	11	1.016	7	0	16	0	16	0	16
108		min	-0.242	14	18.605	16	-0.51	16	0	1	0	1	0	1

Company :CFS Engineering Group, Inc.

Designer :Carlos F. Sanz, PE

Job Number :24002.00

Checked By : _____

Model Name:Casa Robles 131 - Structural Frame...

Envelope Node Reactions (Continued)

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
109	N55	max	0.102	13	25.112	10	0.087	15	0	16	0	16	0	16
110		min	-1.743	6	11.495	13	-0.339	8	0	1	0	1	0	1
111	N56	max	0.101	13	11.315	7	0.471	15	0	16	0	16	0	16
112		min	-0.728	7	-0.816	16	-0.758	8	0	1	0	1	0	1
113	N57	max	0.294	5	20.956	12	-0.779	15	0	16	0	16	0	16
114		min	-0.099	14	5.319	15	-3.334	12	0	1	0	1	0	1
115	N58	max	2.116	5	21.744	5	0.526	14	0	16	0	16	0	16
116		min	-0.093	14	0.425	14	-0.559	5	0	1	0	1	0	1
117	N59	max	2.723	5	38.154	12	0.353	14	0	16	0	16	0	16
118		min	-0.47	14	17.23	15	-0.341	5	0	1	0	1	0	1
119	N60	max	0.68	13	39.191	12	0.628	15	0	16	0	16	0	16
120		min	-1.173	6	9.364	15	-1.049	8	0	1	0	1	0	1
121	N61	max	0.126	13	19.793	10	-0.002	15	0	16	0	16	0	16
122		min	-1.049	6	2.136	13	-0.012	9	0	1	0	1	0	1
123	N62	max	0.17	5	12.615	10	-0.003	15	0	16	0	16	0	16
124		min	-0.099	14	4.658	13	-0.02	12	0	1	0	1	0	1
125	N63	max	0.025	5	32.01	8	0.141	15	0	16	0	16	0	16
126		min	-0.011	14	1.23	15	-1.792	8	0	1	0	1	0	1
127	N64	max	0.901	5	16.466	8	0.974	15	0	16	0	16	0	16
128		min	-0.249	14	-4.946	15	-1.423	8	0	1	0	1	0	1
129	N65	max	0.301	13	14.206	6	0.015	15	0	16	0	16	0	16
130		min	-0.843	6	-1.593	13	-0.04	8	0	1	0	1	0	1

Casa Robles 131 - Spread Footings

Footings Sizes

Allowable soil bearing pressure (PSF) = 3000

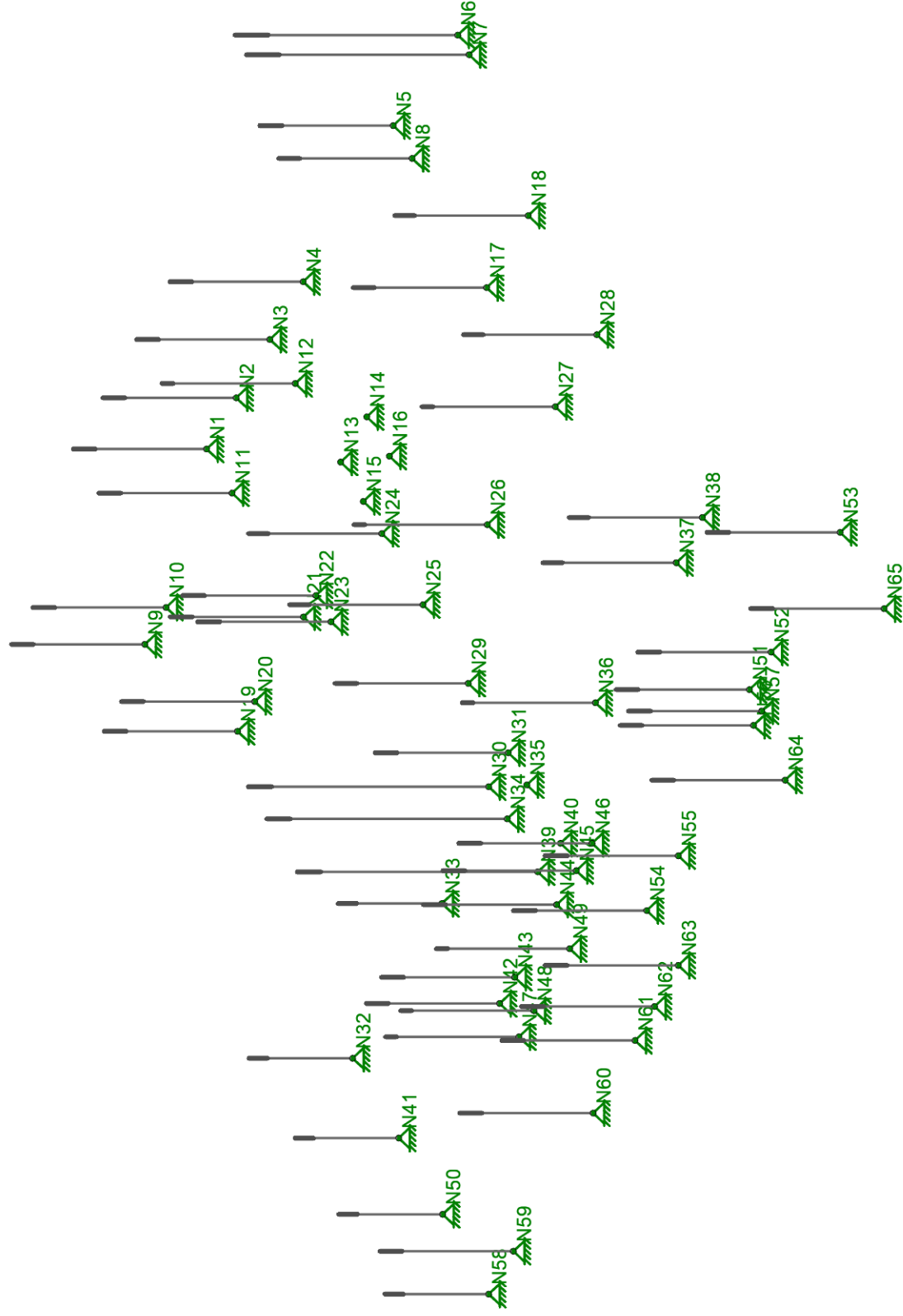
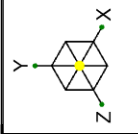
Joint #	Node Reactions (kips)	Square Footing Size Needed (ft)	Footings Label	Footings Used
N1	21.15	2.78	F3.0	F3.0
N2	8.70	1.79	F3.0	F3.0
N3	8.55	1.77	F3.0	F3.0
N4	14.96	2.34	F3.0	F3.5
N5	45.41	6.42	F6.5	F5.0x8.5
N8	71.39			
N6	12.74	3.26	F3.5	F3.5x6.0
N7	16.23			
N9	10.93	2.00	F3.0	WF2.0
N10	49.31	4.25	F4.5	F4.5
N11	52.92	4.40	F4.5	F4.5
N12	44.90	4.06	F4.5	F4.5
N13	38.27	7.66	F8.0	F8.0x9.0
N14	44.22			
N15	36.38			
N16	41.00			
N17	148.01	7.37	F7.5	F7.5
N18	72.95	5.17	F5.5	F5.5
N19	36.46	3.66	F4.0	F4.0
N20	21.33	2.80	F3.0	F3.0
N21	23.98	4.89	F5.0	F3.5x7.0
N22	43.07			
N23	22.38	2.86	F3.0	F3.0
N24	71.67	5.13	F5.5	F5.5
N25	39.76	3.82	F4.0	F5.0
N26	139.75	7.16	F7.5	F7.5
N27	73.78	5.20	F5.5	F5.5
N28	103.56	6.16	F6.5	F6.5
N29	49.55	4.26	F4.5	F5.0
N30	2.63	0.98	F3.0	WF2.0
N31	50.42	4.30	F4.5	F4.5
N32	16.44	2.46	F3.0	F3.0
N33	19.21	2.65	F3.0	F3.0
N34	0.61	0.47	F3.0	WF2.0
N35	23.10	2.91	F3.0	WF3.0

Casa Robles 131 - Spread Footings

Footings Sizes

Allowable soil bearing pressure (PSF) = 3000

Joint #	Node Reactions (kips)	Square Footing Size Needed (ft)	Footings Label	Footings Used
N36	98.92	6.02	F6.5	F6.5
N37	129.12	6.88	F7.0	F7.0
N38	42.43	3.94	F4.0	F4.0
N39	6.19	1.51	F3.0	WF2.0
N40	18.64	2.61	F3.0	WF3.0
N41	19.18	2.65	F3.0	F3.0
N42	38.98	5.19	F5.5	F3.5x8.0
N43	34.52			
N44	24.53	3.00	F3.0	F3.0
N45	24.83	4.71	F5.0	F3.5x6.0
N46	35.73			
N47	15.76	3.69	F4.0	F3.5x6.0
N48	21.44			
N49	17.11	2.50	F3.0	F3.0
N50	14.78	2.33	F3.0	F3.0
N51	44.98	5.22	F5.5	F4.0x8.0
N56	11.32			
N57	20.96			
N52	51.48	4.34	F4.5	F4.5
N53	7.81	1.69	F3.0	F3.0
N54	53.29	4.42	F4.5	F4.5
N55	25.11	2.99	F3.0	F3.0
N58	21.74	2.82	F3.0	F3.0
N59	38.15	3.74	F4.0	F4.0
N60	39.19	3.79	F4.0	F4.0
N61	19.79	2.69	F3.0	F3.0
N62	12.62	2.15	F3.0	F3.0
N63	32.01	3.43	F3.5	F3.5
N64	16.47	2.46	F3.0	F3.0
N65	14.21	2.28	F3.0	F3.0



CFS Engineering Group, Inc.
Carlos F. Sanz, PE
24002.00

Casa Robles 131 - Structural Frames and Canopy

Foundation Node Labels

SK-1

Structural Frames and Canopy.r3d