CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0014429

Insp Area: 2

Site Address: 1 VIERRA CT SAC
Parcel No: 031-0750-039

Sub-Type: RES
Housing (Y/N): N

CONTRACTOR	OWNER	ARCHITECT
ZIMMERMAN ROOFING, INC	ARAGON MARIA	
3675 R STREET	1 VIERRA CT	
SACRAMENTO, CA 95816	SACRAMENTO CA 95831	

Nature of Work: 27 SQ T/O REROOF W MONIER TILE

CONSTRUCTION LENDING AGENCY : I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C).

Lender's Name _____ Lender'sAddress _____

LICENSED CONTRACTORS DECLARATION: I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with section 7000) of Division 3 of the Business and Professions Code and my license is in full force and effect.

License Class **C39** License Number **557559** Date **12-8-00** Contractor Signature _Alma Gonzalez_

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code; any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 8 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars ($500.00);

_____ I, as a owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he/she did not build or improve for the purpose of sale.)

_____ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code. The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law).

_____ I am exempt under Sec. _____ B & PC for this reason: _____

Date _____ Owner Signature _____

IN ISSUING THIS BUILDING PERMIT, the applicant represents, and the city relies on the representation of the applicant, that the applicant verified all measurements and locations shown on the application or accompanying drawings and that the improvement to be constructed does not violate any law or private agreement relating to permissible or prohibited locations for such improvements. This building permit does not authorize any illegal location of any improvement or the violation of any private agreement relating to location of improvements.

I certify that I have read this application and state that all information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction and herby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date **12-8-00** Applicant/Agent Signature _Alma Gonzalez_

WORKER'S COMPENSATION DECLARATION: I hereby affirm under penalty of perjury one of the following declarations:
_____ I have and will maintain a certificate of consent to self-insure for workers' compensation as provided for by Section 3700 of the Labor Code, for the performance of work for which the permit is issued.

_✓_ I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier   PENNSYLVANIA GENERAL INSU. CO.   Policy Number 713-00-2021   Exp Date   10/01/2001
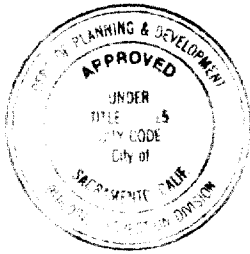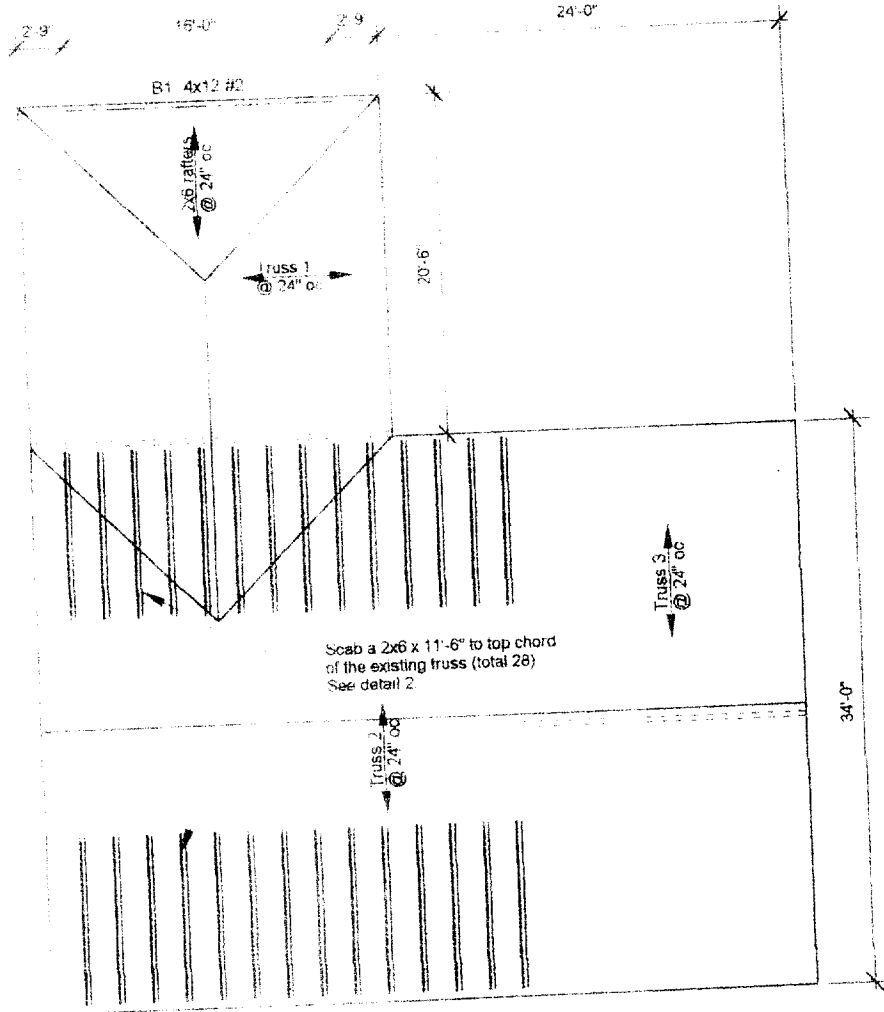
_____ (This section need not be completed if the permit is for $100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date **12-8-00** Applicant Signature _Alma Gonzalez_

WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS ($100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.

THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.

1 VIERRA CT.

B1 4x12 #2

2x6 rafters @ 24" oc

Truss 1 @ 24" oc

20'-6"

16'-0"

24'-0"

2'-9"

2'-9"

34'-0"

Truss 3 @ 24" oc

Truss 2 @ 24" oc

Scab a 2x6 x 11'-6" to top chord
of the existing truss (total 28)
See detail 2.

This set of plans and specifications must be
kept on the job at all times and it is unlawful
to make any changes or alterations from the
same without written permission from the
Building Inspection Division.
    The approval of this plan and specification
SHALL NOT be held to permit or approve the
violation of any City Ordinance or State Law.

REVIEWED BY: [signature] 12/5/00
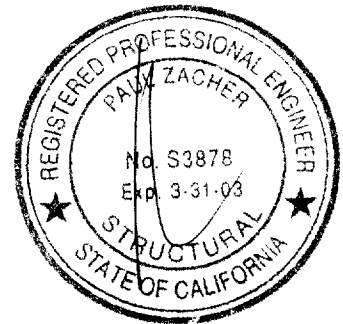
Notes.
1. This is a reroof project. The new roofing material shall be a Light Weight Concrete Tile. The
   tile shall weigh less than or equal to 7.0 psf.
2. All structural wood members that were observed appear to be in sound condition and without
   structural defect.

N

1 ROOF PLAN - ARAGORN

Not to Scale

Scab 2x4 w/ 16d @ 12" oc
staggered to top chord of
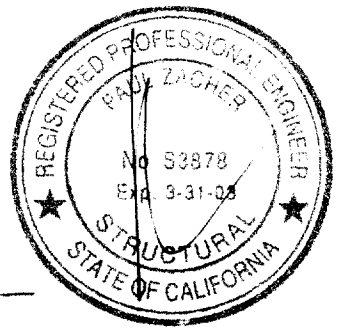existing truss

1'-0"
min.

Existing truss
top chord

Existing truss web

Existing bearing wall

TRUSS REINFORCEMENT DETAIL
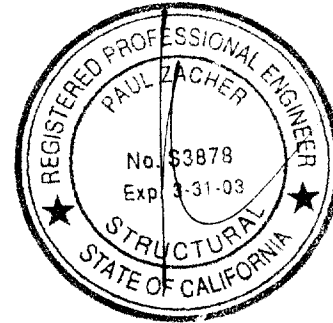
2

scale: 1/2" = 1'-0"

Aragorn

Paul Zacher – Structural Engineers
4701 Lakeside Way
Fair Oaks, CA 95628

TEL: 916.961.3960
FAX: 916.961.6552

November 16, 2000

Zimmerman Roofing
3675 R Street
Sacramento, CA 95816
TEL: 916.454.3667
FAX: 916.455.3784

Attn.: Mr. Jeff Tucker.

re: Job 2000_308 ARAGON

Subject: Structural Investigation Report of the Roof for the Residence located at 1 Vierra Court, Sacramento, CA 95831.

As requested by Mr. Jeff Tucker, this is a report to determine what needs should be addressed to correct any structural deficiencies of the roof. Paul Zacher visited the site September 18, 2000. The investigation was made to determine the existing condition of the structure. All information, data and analysis contained within this report are based on the 1997 Uniform Building Code.

The following is based on visual observations with no subsurface investigation being made.

DESCRIPTION:

Type of Facility	Residence
Year Built.	Estimated 1980's vintage.
Occupancy	Residential
No. of Stories	One.
Dimensions	Approximately 2000 square feet with a first story plate height of 8 feet.

CONSTRUCTION:
Roof:
The roof covering will consist of a Light Weight Concrete Tile over 1/2" solid sheathing. The living and garage areas are framed with wood pre-engineered trusses spaced at 24" on center.

CONCLUSIONS:
Roof:
The living area lacks sufficient structural capacity for the applied live and dead loads. The garage has sufficient structural capacity for the applied live and dead loads.

1/21

Aragorn

Paul Zacher – Structural Engineers
4701 Lakeside Way
Fair Oaks CA 95628

TEL: 916.961.3960
FAX: 916.961.6552

RECOMMENDATIONS:

If any of the following recommendations do not correspond to actual field conditions, the engineer of record shall be notified for further investigation and evaluation before continuing work.

Living Area

1. Scab a 2x6 DF#2 x 11'-6" long rafter to the top chord of the existing truss. See details 1 and 2.

It shall be noted that small hairline cracking may occur at exterior stucco and interior gypboard finished walls that are load bearing or distributing roof strut loads. These cracks are a natural occurrence as the existing structure re-distributes the new roof weight. They are cosmetic in nature and are not an indication of a structural hazard or failure

It shall be noted that some deflection of the rafters may be evident after installation of the tile. The existing roof framing has deflected but this may not be readily evident due to the uneven nature of the existing roofing material Concrete tile is a very consistent and uniform product and when installed in an even plane, even small deflections can become apparent. This is only a cosmetic issue and not a structural concern

The inspection consisted of visual observation only, made solely to determine the structural capacity of the existing roof. Analysis does not determine any effects on the overall structure under lateral forces or effects on the foundation unless specifically noted in the calculations and in this document. No warranties, expressed or implied, are made or intended in conjunction with this report. The inspection was made only to the portions that were accessible. The specific items noted were those that were observable and there may be defects that are not observable, or are hidden by architectural and structural materials.

If you have any questions on the above, do not hesitate to call.

Sincerely,

Paul Zacher, P.E., S.E.
file

DESIGN LOADING:

Roof Pitch	4	in 12
Pitch Adjustment Factor	1.05	

LOCATION: ROOF

MATERIAL	WEIGHT	
Light Weight Tile	7.00	psf
Roofing felt	0.30	psf
1/2" OSB/ plywood	1.50	psf
1x4 skip sht'g	1.09	psf
2x6 rafters @ 24" oc	1.00	psf
Load	10.9	psf
Roof Pitch Adjustment	0.59	psf
Total Load	11.5	psf

LOCATION: TOP CHORD

MATERIAL	WEIGHT	
Light Weight Tile	7.00	psf
Roofing felt	0.30	psf
1/2" OSB/ plywood	1.50	psf
1x4 skip sht'g	1.09	psf
2x4 truss @ 24" oc	0.64	psf
Load	10.5	psf
Roof Pitch Adjustment	0.57	psf
Total Load	11.1	psf

LOCATION: BOTTOM CHORD

MATERIAL	WEIGHT	
Batt/blown insul	0.50	psf
2x4 truss @ 24" oc	1.28	psf
1/2" Gypboard	2.50	psf
Load	4.3	psf

PK Zacher SE

Job #: _____

Date: _____

4701 Lakeside Way
Fair Oaks, CA 95628
TEL: (916) 961-3960
FAX: (916) 961-6552

__Loading__

__RAFTER__

2-6#2

__B1__
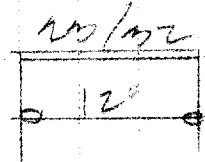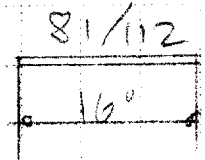
4×12#2

Title :
Dsgnr:
Description :

Job #
Date: 6:26PM, 16 NOV 00

Scope :

Rev 510304
User KW-0602844, Ver 5.1.5 22-Jun-1999 Win32
(c) 1983-99 ENERCALC

Timber Beam & Joist

c:\enercalc\test.ecw:Calculations

Description   RAFTERS AND BEAMS

Timber Member Information

Calculations are designed to 1997 NDS and 1997 UBC Requirements

		rafter	B1
Timber Section		2x6	4x12
Beam Width	in	1.500	3.500
Beam Depth	in	5.500	11.250
Le: Unbraced Length	ft	0.00	0.00
Timber Grade		Douglas Fir - Larch,	Douglas Fir - Larch,
Fb - Basic Allow	psi	875.0	875.0
Fv - Basic Allow	psi	95.0	95.0
Elastic Modulus	ksi	1,600.0	1,600.0
Load Duration Factor		1.250	1.250
Member Type		Sawn	Sawn
Repetitive Status		Repetitive	No

Center Span Data

Span	ft	12.00	16.00
Dead Load	#/ft	23.00	81.00
Live Load	#/ft	32.00	112.00

Results

	Ratio =	0.9607	0.8344
Mmax @ Center	in-k	11.88	74.11
@ X =	ft	6.00	8.00
fb : Actual	psi	1,570.9	1,003.8
Fb Allowable	psi	1,635.2	1,203.1
		Bending OK	Bending OK
fv : Actual	psi	55.7	52.2
Fv Allowable	psi	118.8	118.8
		Shear OK	Shear OK

Reactions

@ Left End	DL	lbs	138.00	648.00
	LL	lbs	192.00	896.00
Max. DL+LL		lbs	330.00	1,544.00
@ Right End	DL	lbs	138.00	648.00
	LL	lbs	192.00	896.00
Max. DL+LL		lbs	330.00	1,544.00

Deflections

		Ratio OK	Deflection OK
Center DL Defl	in	-0.322	-0.180
L/Defl Ratio		446.5	1,068.1
Center LL Defl	in	-0.449	-0.249
L/Defl Ratio		320.9	772.5
Center Total Defl	in	-0.771	-0.428
Location	ft	6.000	8.000
L/Defl Ratio		186.7	448.3

5

VisualAnalysis 3.50.c Report

Nodes

Node	X ft	Y ft	Fix DX	Fix DY	Fix RZ
1	0.00	0.00	Yes	Yes	No
2	10.50	0.00	No	No	
3	21.00	0.00		Yes	
4	5.50	4.83		No	
5	16.00	4.83			
6	10.50	3.58			

Member Elements

Member	Section	Material	Length ft
M	SS2x4	Wood	10.5
M			10.50
M			5.80
M			5.50
M			5.
M			5.27
M			5.
M			3.58
M			5.83
M			

Section Properties

Category	Section	Ax in^2	Iz in^4	Sy+ in^3	Sy- in^3
Wood Sha	SS2x4	5.25	5.4	3.06	3.06

Material Properties

Material	Strength psi	Elasticity psi	Poisson	Density lb/ft^3
Wood	NA	1700000.00	0.15	40.47

Load Combination Summary

Equation Case: **Equation Case 1**
  Combination: +1D+1L+1Lr
  Contributing Cases & Source
  Service Case 1 (Dead loads)
  Service Case 2 (Roof Live Loads)

Member Uniform Loads

Nodal Reactions

Node	Load Case	FX lbs	FY lbs	MZ lb-ft
?	Equation Case 1	0.00	659.40	-NA-
?		-NA-	659.40	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
?	1513.21	54.78	-101.15	-0.1310
	1513.21	-24.68	37.6441	-0.1743
	1513.21	5.9154	71.3655	-0.1598
	1513.21	35.5154	0.0000	0.0000
M	1421.98	35.52	0.0000	-0.0000
	1421.98	-5.4154	71.3656	-0.1599
	1421.98	24.6846	37.6447	0.1742
	1421.98	54.7846	-101.15	0.1310
M	**-1632.78**	114.24	0.0000	-0.0000
	-1601.41	19.9559	**129.19**	-0.1087
	-1570.04	74.33	76.6607	-0.1257
	-1538.67	168.61	-157.58	-0.1263
M	-1109.63	**157.64**	-157.58	-0.1207
	1079.79	72.3785	45.1228	-0.1497
	-1049.94	-12.88	97.6509	-0.1592
	-1020.10	-98.15	0.0000	-0.1185
M	-1098.45	**-169.81**	**-160.30**	-0.0989
	-1068.32	-75.12	74.8512	-0.1564
	1038.19	19.5713	128.28	-0.1717
	1008.06	114.26	0.0000	-0.1077
?	-1549.78	-97.14	-0.0000	**0.0142**
	-1518.73	-12.31	96.7464	-0.0625
	-1487.68	72.5216	43.3135	-0.0890
	-1456.64	157.35	-160.30	-0.0969
	-551.56	0.0000	0.0000	-0.1063
	-551.56	0.0000	0.0000	-0.1049
	-551.56	0.0000	0.0000	-0.1036
	-551.56	0.0000	0.0000	-0.1022
	441.12	-0.0000	0.0000	-0.0214
	441.12	-0.0000	-0.0000	-0.0204
	441.12	0.0000	-0.0000	-0.0194
	441.12	0.0000	-0.0000	-0.0185
?	-449.72	-0.0000	0.0000	-0.1015
	-449.72	-0.0000	-0.0000	-0.1166
	-449.72	-0.0000	-0.0000	-0.1117
	-449.72	-0.0000	-0.0000	-0.1067

BENDING & COMP: TRUSS 1 - MEMBER 3

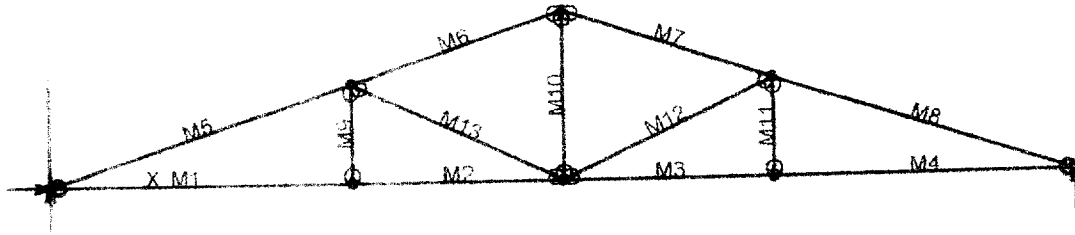Design based on 1997 UBC 2321 Division V and ANSI/TPI 1-1995

Grading:

2x or 4x   Doug-fir larch No. 2

Assumptions:

Solid sheathing on top chord of truss. Therefore,
continuous lateral support is provided along compression face
Maximum center-center spacing = 24"

Width, b	1.5 inches	
Depth, d	3.5 inches	
Length	5.8 feet	
Max Axial Comp. C	1538 lbs	
Max Reaction, R	168 lbs	
Max Moment, M	157 ft-lbs	
Max LL Deflection	0.04 inches	
Max TL Deflection	0.12 inches	
LL Defl Criteria = L/	240	
TL Defl Criteria = L/	180	
Duration factor, Cd	1.25	
Repetitive Factor, Cr	1.15	
Size Factor, Cf bending	1.5	1.5 for 2x4, 1.3 for 2x6
Size Factor, Cf comp	1.15	1.15 for 2x4, 1.1 for 2x6
Buckling Factor, CT	1.16	
fc =	293 psi	
Fce =	1496 psi	
Fc^* =	2084 psi	
$F'c$ =	1184 psi	
fb =	615 psi	
$F'b = Fb^*$ =	2156 psi	
Shear D/C ratio	0.40 < 1.0, Member OK	
Interaction equation:		
$(fc/F'c)^2$ +		
$fb/ (F'b(1-fc/Fce))$ =	0.42 < 1.0, Member OK	
Live Load defl ratio	0.14 < 1.0, Member OK	
Total Load defl ratio	0.31 < 1.0, Member OK	

VisualAnalysis 3.50 c Report

Nodes

Node	X ft	Y ft	Fix DX	Fix DY	Fix RZ
1	0.00	0.00	Yes	Yes	No
2	10.00	0.00	No	No	
3	17.00	0.00			
4	24.00	0.00			
5	34.00	0.00		Yes	
6	10.00	3.33		No	
7	24.00	3.33			
8	17.00	5.57			

Member Elements

Member	Section	Material	Length ft
M	SS2x4	Wood	10.
M			7.00
M			7.00
M			10.00
M			10.54
M			7.
M			7.34
M			10.54
M			
M			5.8
M			
M			7.7
M			7.
M			

Section Properties

Category Section	Ax in^2	Iz in^4	Sy+ in^3	Sy- in^3
Wood Sha SS2x4	5.25	5.	.06	3.06

Material Properties

Material	Strength psi	Elasticity psi	Poisson	Density lb/ft^3
Wood	NA	700000.00	0.36	40.47

Load Combination Summary

Member Uniform Loads

This item is empty. Check the solution state, or report properties.

Nodal Reactions

Node	Load Case	FX lbs	FY lbs	MZ lb-ft
	Equation Case 1	0.00	1067.60	-NA-
		-NA-	1067.60	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
	2430.63	48.09	-50.90	-0.3299
	2430.63	19.42	61.3853	-0.3447
	2430.63	9.2436	78.3509	-0.2465
	2430.63	37.9103	0.0000	-0.0000
	2430.63	-26.19	-23.55	-0.3413
	2430.63	6.1266	14.0393	-0.3449
	2430.63	13.9400	4.9236	-0.3380
	2430.63	34.0067	-50.90	-0.3299
	2430.63	-34.01	-50.90	-0.3299
	2430.63	-13.94	4.9236	-0.3380
	2430.63	6.1266	14.0391	-0.3449
	2430.63	26.1933	-23.55	-0.3413
	2430.63	37.91	0.0000	0.0000
	2430.63	-9.2436	78.3509	-0.2465
	2430.63	19.4231	61.3853	-0.3446
	2430.63	48.0897	-50.90	-0.3298
	-2631.45	209.01	0.0000	0.0000
	-2574.37	37.5927	**431.68**	-0.8741
	-2517.29	-133.82	262.64	-0.8551
	-2460.21	**-305.23**	**-507.11**	-0.3353
	-1775.00	248.62	-507.11	-0.3353
	-1734.91	128.68	-43.72	-0.3225
	-1694.81	8.7360	125.31	-0.3367
	-1654.71	-111.21	-0.0000	-0.3352
	-1775.00	-248.62	-507.11	-0.3000
	-1734.91	-128.68	-43.72	-0.2873
	-1694.81	-8.7360	125.31	-0.3515
	-1654.71	111.21	0.0000	-0.3000
	-2631.45	-209.01	0.0000	0.0351
	-2574.37	-37.59	431.68	-0.8391
	-2517.29	133.82	262.64	-0.8198
	-2460.21	**305.23**	-507.11	-0.3002
	82.0964	-0.0000	-0.0000	0.0307
	82.0964	-0.0000	-0.0000	0.0457
	82.0964	-0.0000	-0.0000	0.0587
	82.0964	-0.0000	0.0000	0.0717
	838.29	-0.0000	0.0000	0.0556
	838.29	0.0000	-0.0000	0.0556
	838.29	-0.0000	-0.0000	0.0556
	838.29	-0.0000	-0.0000	0.0556
	82.0964	0.0000	0.0000	0.0394
	82.0964	0.0000	0.0000	0.0524
	82.0964	0.0000	0.0000	0.0654
	82.0964	0.0000	0.0000	0.0784

	914.72	0.0000	0.0000	
	914.72	0.0000	0.0000	
	914.72	0.0000	0.0000	
	914.72	0.0000	0.0000	0.3321
	914.72	0.0000	0.0000	
	914.72	0.0000	0.0000	
	914.72	0.0000	0.0000	
	914.72	0.0000	0.0000	

BENDING & COMP: TRUSS 2 - MEMBER 5
Design based on 1997 UBC 2321 Division V and ANSI/TPI 1-1995

Grading:

2 or 4X   Doug-fir larch: No. 2

Assumptions:

Solid sheathing on top chord of truss. Therefore
continuous lateral support is provided along compression face
Maximum center-center spacing = 24"

Width, b	1.5 inches
Depth, d	5.5 inches
Length	10.54 feet
Max Axial Comp. C	1460 lbs
Max Reaction, R	305 lbs
Max Moment, M	507 ft-lbs
Max LL Deflection	0.14 inches
Max TL Deflection	0.33 inches
LL Defl Criteria = L/	240
TL Defl Criteria = L/	180
Duration factor, Cd	1.25
Repetitive Factor, Cr	1.15
Size Factor, Cf bending	1.3 1.5 for 2x4, 1.3 for 2x6
Size Factor, Cf comp	1.15 1.15 for 2x4, 1.1 for 2x6
Buckling Factor, CP =	1.29
fc =	298 psi
Fce=	1344 psi
F'c*=	2084 psi
F'c=	1038 psi
fb=	804 psi
F'b=Fb*=	2156 psi
Shear D/C ratio	0.47 < 1.0, Member OK
Interaction equation	
(fc/F'c)^2 +	
fb/(F'b(1-fc/Fce)) =	0.57 < 1.0, Member OK
Live Load defl ratio	0.27 < 1.0, Member OK
Total Load defl ratio	0.47 < 1.0, Member OK
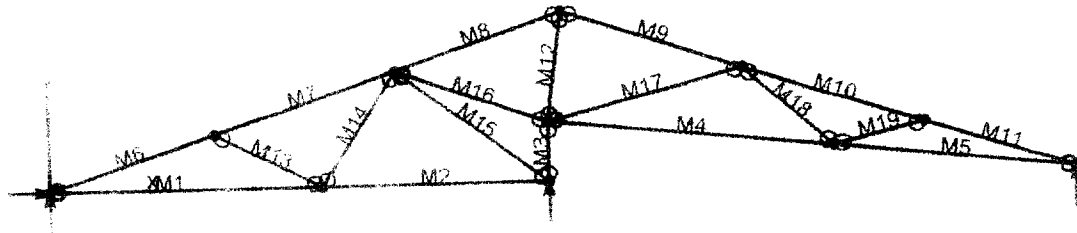
VisualAnalysis 3.50 c Report

Nodes

Node	X ft	Y ft	Fix DX	Fix DY	Fix RZ
1	0.00	0.00	Yes	Yes	No
2	9.00	0.00	No	No	
3	16.50	0.00		Yes	
4	16.50	0.00		No	
5	26.00	0.97			
6	34.00	0.00		Yes	
7	5.50	1.23		No	
8	11.50	1.33			
9	17.00	1.57			
10	23.00	1.57			
11	29.00	1.57			

Member Elements

Member	Section	Material	Length ft
M	SS2x4	Wood	9.00
M	"		7.50
M	"		7.50
M	"		9.50
M	"		9.50
M	"		5.50
M	"		6.00
M	"		5.50
M	"		6.00
M	"		5.00
M	"		5.00
M	"		2.00
M	"		1.05
M	"		4.57
M	"		5.00
M	"		3.00
M	"		3.00
M	"		4.04
M	"		3.00

Section Properties

Category	Section	Ax in^2	Iz in^4	Sy+ in^3	Sy- in^3
Wood Sna	SS2x4	5.25	5.35	3.06	3.06

Material Properties

Material	Strength psi	Elasticity psi	Poisson	Density lb/ft^3

Load Combination Summary

Equation Case: Equation Case 1
   Combination: +1D+1L+1Lr
   Contributing Cases & Source
   Service Case 1 (Dead loads)
   Service Case 2 (Roof Live loads)

Member Uniform Loads

This item is empty. Check the selection state, or report properties.

Nodal Reactions

Node	Load Case	FX lbs	FY lbs	MZ lb-ft
N	Equation Case 1	-0.00	314.04	-NA-
		-NA-	1464.06	-NA-
N		-NA-	357.10	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
	494.74	-46.61	-71.19	-0.0162
	494.74	-20.81	29.7493	-0.0643
	494.74	4.9905	53.4779	-0.0723
	494.74	30.7905	0.0000	-0.0000
	-94.24	-22.76	0.0000	-0.0000
	-94.24	-1.2586	29.8870	-0.0262
	-94.24	20.2414	6.1584	-0.0223
	-94.24	41.7414	-71.19	-0.0162
	-1513.48	0.0000	0.0000	-0.0050
	-1513.48	0.0000	0.0000	-0.0004
	-1513.48	0.0000	0.0000	0.0042
	-1513.48	0.0000	0.0000	0.0089
	121.55	-47.67	-67.41	-0.0832
	124.49	-20.59	41.0807	-0.1370
	127.42	6.4825	63.5520	-0.1252
	130.36	33.5572	0.0000	-0.0050
	1039.82	-25.78	0.0000	0.0007
	1042.58	-3.0178	38.5314	-0.0629
	1045.34	19.7488	16.0601	-0.0807
	1048.10	42.5153	-67.41	-0.0832
	-558.86	112.57	0.0000	-0.0000
	-527.49	18.2857	125.96	-0.0737
	-496.12	-76.00	70.206	-0.0690
	-464.75	170.28	-167.27	-0.0250
	-154.36	151.21	-167.27	-0.0250
	-120.08	48.3722	42.5696	-0.0382
	-85.80	-54.47	36.1473	-0.0304
	-51.52	157.30	-186.53	-0.0069
	970.85	173.51	-186.53	-0.0069
	1002.37	79.2796	57.3614	-0.0535
	1033.90	-14.95	119.54	-0.0698
	1065.42	109.19	0.0000	-0.0121
	843.22	-187.17	-208.18	-0.0615
	877.56	-84.33	77.4741	-1.1135

	811.	.021	146.8?	. .5
M	946.0	1.34	0.000?	0.0079
	565.5	40.81	123.	0.1462
	-531.3	7.99	64.716	. 3
	-497.0	44.8506	36.399	0.043
	462.	67.69	-208.18	
K	1126.71	105.15	0.000	0.018
	-1098.0	-19.46	109.	-0.0775
	-1069.4	6.2159	48.02	-0.002
	1040.86	151.90	-123.	-0.0905
M	863.75	.0000	0.000	0.0083
	-863.75	.0000	0.0000	0.0028
	-863.75	.0000	0.0000	0.0027
	-863.75	.0000	0.0000	0.0081
M	-446.99	0.0000	0.0000	-0.0202
	-446.99	0.0000	0.0000	0.01
	-446.99	0.0000	0.0000	0.0145
	-446.99	0.0000	0.0000	0.0116
M	352.84	-0.0000	0.0000	-0.0139
	352.84	-0.0000	-0.0000	-0.0100
	352.84	0.0000	-0.0000	-0.0062
	352.84	0.0000	-0.0000	0.0024
M	118.71	0.0000	0.0000	-0.0079
	118.71	0.0000	0.0000	-0.0043
	118.71	0.0000	0.0000	-0.0006
	118.71	0.0000	0.0000	0.0031
M	-1039.04	0.0000	0.000	-0.0085
	-1039.04	0.0000	0.0000	-0.0079
	-1039.04	0.0000	0.0000	-0.0074
	-1039.04	0.0000	0.0000	-0.0069
M	-1017.1	0.0000	0.0000	-0.0611
	-1017.1	0.0000	0.0000	-0.0413
	-1017.1	0.0000	0.0000	-0.0215
	-1017.1	0.0000	0.0000	-0.0017
M	492.45	0.0000	0.0000	-0.0714
	492.45	0.0000	0.0000	-0.0641
	492.45	0.0000	0.0000	-0.0568
	492.45	0.0000	0.0000	-0.0495
M	557.94	0.0000	-0.0000	-0.0837
	557.94	-0.0000	0.0000	-0.0812
	-557.94	0.0000	-0.0000	-0.0787
	-557.94	0.0000	0.0000	-0.0762

BENDING & COMP: TRUSS 3 - MEMBER 11

Design based on 1997 UBC 2321 Division V and ANSI/TPI 1-1995

Grading:

3x or 4x   Doug-fir larch   No. 2

Assumptions:

Solid sheathing on top chord of truss. Therefore,
continuous lateral support is provided along compression face
Maximum center-center spacing = 24"

Width, b	1.5 inches
Depth, d	3.5 inches
Length	5.27 feet
Max Axial Comp, C	1040 lbs
Max Reaction, R	151 lbs
Max Moment, M	123 ft-lbs
Max LL Deflection	0.04 inches
Max TL Deflection	0.09 inches
LL Defl Criteria = L/	240
TL Defl Criteria = L/	180
Duration factor, Cd	1.25
Repetitive Factor, Cr	1.15
Size Factor, Cf bending	1.5 1.5 for 2x4, 1.3 for 2x6
Size Factor, Cf comp	1.15 1.15 for 2x4, 1.1 for 2x6
Buckling Factor, CT =	1.15
fc =	198 psi
Fce=	1789 psi
Fc*=	2084 psi
F'c=	1326 psi
fb=	482 psi
F'b=Fb*=	2156 psi
Shear D/C ratio	0.36 < 1.0, Member OK
Interaction equation	
(fc/F'c)^2 +	
fb/ (F'b(1-fc/Fce)) =	0.27 < 1.0, Member OK
Live Load defl ratio	0.15 < 1.0, Member OK
Total Load defl ratio	0.20 < 1.0, Member OK