

CITY OF SACRAMENTO  
1231 I Street, Sacramento, CA 95814

Permit No: 0106453  
Insp Area: 2

Site Address: 8 ANGEL ISLAND CR SAC  
Parcel No: 031-0690-034

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

**CONTRACTOR**  
ZIMMERMAN ROOFING, INC  
3675 R STREET  
SACRAMENTO, CA 95816

**OWNER**  
GENE SCOTT  
8 ANGEL ISLAND CR  
SACRAMENTO CA 95831

**ARCHITECT**

Nature of Work: TO REROOF WITH 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's Address \_\_\_\_\_

**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 C-39 License Number 557559 Date 5/24/01 Contractor Signature Billy Coy

**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 & P. 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 hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 5/24/01 Applicant/Agent Signature Billy Coy

**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:

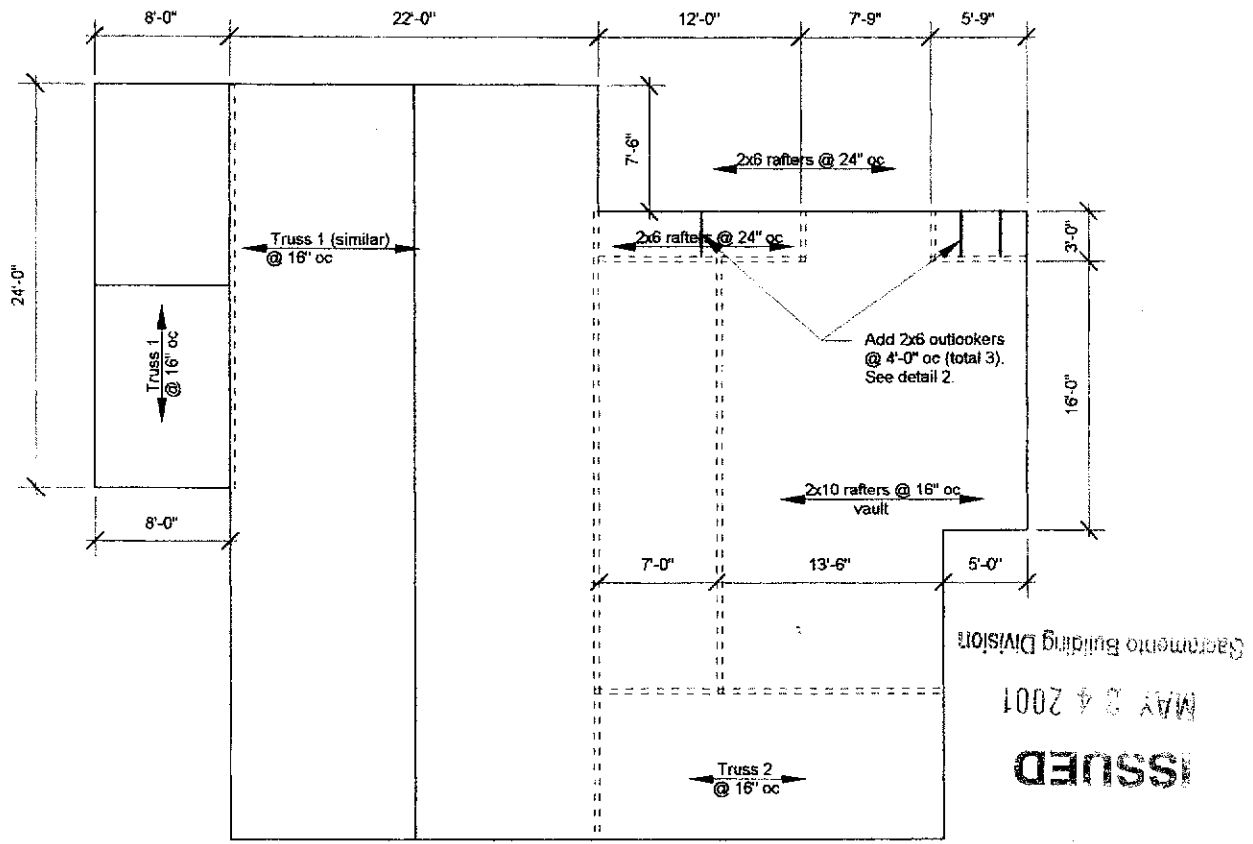
Carrier: STATE FUND Policy Number: 713-00-2021 Exp Date: 10/01/2001

\_\_\_\_ (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 5/24/01 Applicant Signature Billy Coy

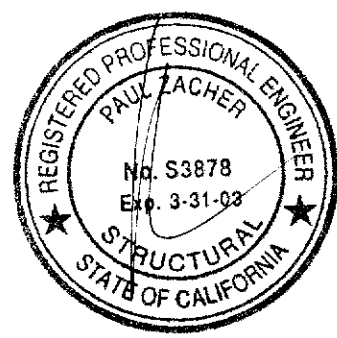
WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S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

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



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 Inspector.

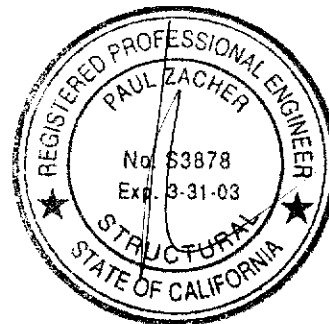
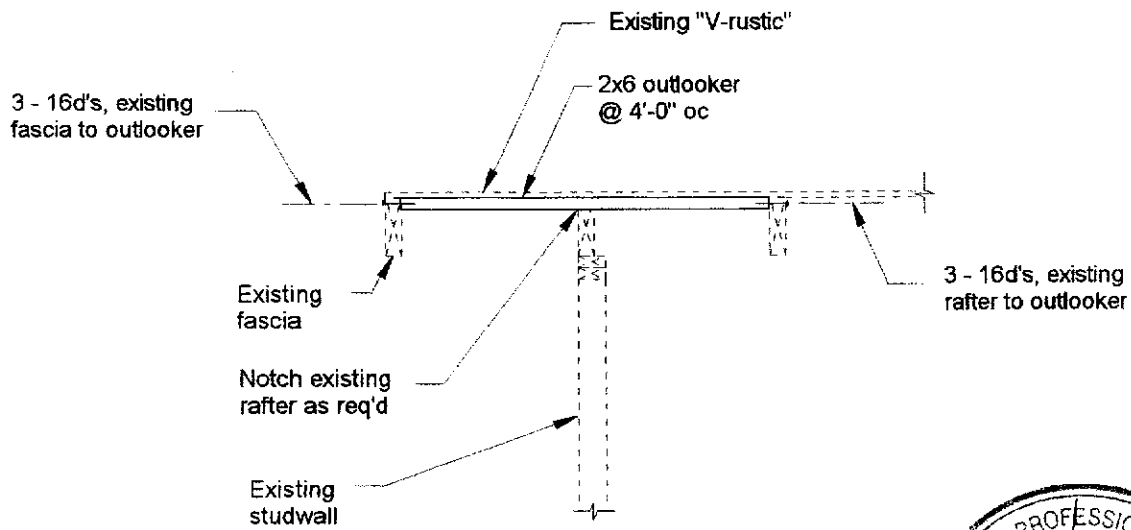
The approval of this project shall not be construed as a warranty of any kind. *Julian* 5/21/01



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.

1 ROOF PLAN - SCOTT  
Not to Scale 14



2

**DETAIL**

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

15

Scott

**R**  
Paul Zacher - Structural Engineers  
4701 Lakeside Way  
Fair Oaks, CA 95628

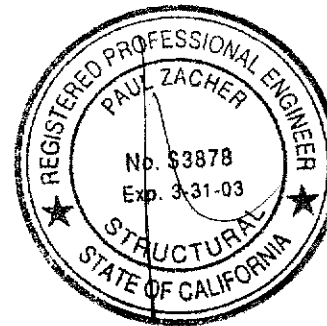
TEL: 916.961.3960  
FAX: 916.961.6552

May 18, 2001

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

Attn.: Mr. Jeff Tucker,

re: Job 2001\_130: SCOTT



Subject: Structural Investigation Report of the Roof for the Residence located at 8 Angel Island, 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 May 18, 2001. 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: Two.  
Dimensions: Approximately 2500 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 area is framed with pre-engineered wood trusses spaced at 24" on center except for the vaulted ceiling areas. The vaulted ceiling is constructed of 2x10 rafters spaced at 16" on center.

**CONCLUSIONS:**

Roof:

The living area currently lacks sufficient structural capacity for the applied live and dead loads. See "Recommendations" for location and repair to bring the living area up to the required capacity.

Scott



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. Add 2x6 out lookers spaced at 4'-0" on center. 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



Job #: 01-130

Date: 5/13/01

LOADING

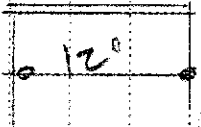
Rafter

$DF = 12.2 \text{ pcf} \times 2' = 24.4 \text{ pcf}$

2x6 #2

$LF = 16.0 \quad \dots = 32'$

24.4/22



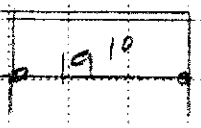
WALL

$DF = 17.3 \text{ pcf} \times 4' = 69.2 \text{ pcf}$

2x10 #2

$LF = 16.0 \quad \dots = 21.7'$

69.2/21.7



Paul Zacher - Structural Engineers  
 4701 Lakeside Way  
 Fair Oaks  
 TEL: (916) 961-3960  
 FAX: (916) 961-6552

Title :  
 Dsgnr:  
 Description :

Job #  
 Date: 10:57AM, 18 MAY 01

Scope :

Rev: 510304  
 User: KW-0602844, Ver 5.1.3, 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	vault
Timber Section		2x6	2x10
Beam Width	in	1.500	1.500
Beam Depth	in	5.500	9.250
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	Repetitive

#### Center Span Data

Span	ft	12.00	19.83
Dead Load	#/ft	24.40	23.10
Live Load	#/ft	32.00	21.30

#### Results

Ratio = 0.9852 0.8849

Mmax @ Center	in-k	12.18	26.19
@ X =	ft	6.00	9.91
fb : Actual	psi	1,610.9	1,224.3
Fb : Allowable	psi	1,635.2	1,383.6
		Bending OK	Bending OK
fv : Actual	psi	57.1	44.2
Fv : Allowable	psi	118.8	118.8
		Shear OK	Shear OK

#### Reactions

@ Left End	DL	lbs	146.40	229.04
	LL	lbs	192.00	211.19
	Max. DL+LL	lbs	338.40	440.23
@ Right End	DL	lbs	146.40	229.04
	LL	lbs	192.00	211.19
	Max. DL+LL	lbs	338.40	440.23

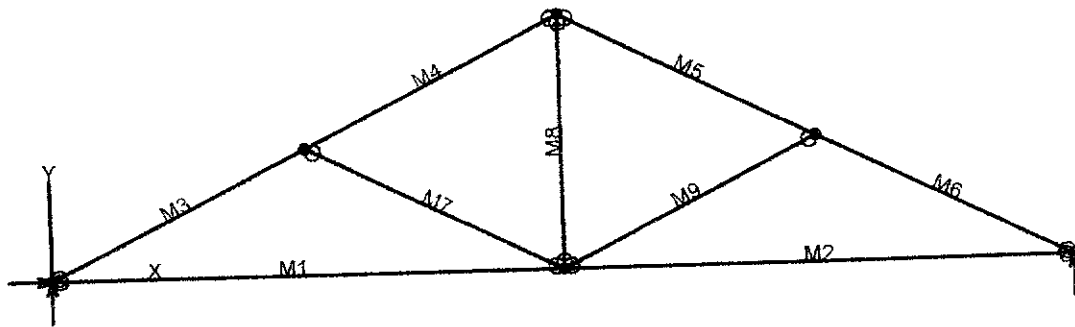
#### Deflections

Ratio OK Deflection OK

Center DL Defl	in	-0.342	-0.508
L/Defl Ratio		420.9	468.7
Center LL Defl	in	-0.449	-0.468
L/Defl Ratio		320.9	508.3
Center Total Defl	in	-0.791	-0.976
Location	ft	6.000	9.915
L/Defl Ratio		182.1	243.8

5





# VisualAnalysis 3.50.c Report

05/18/01 11:03:30

Project: Truss 1

File: C:\Program Files\IES\VA35\truss 1.vap

Company: PK Associates Engineers

Engineer: Paul Zacher

Default Units: Feet, Pounds, Degrees, °Fahrenheit, Seconds.

## Nodes

Node	X ft	Y ft	Fix DX	Fix DY	Fix RZ
N1	0.00	0.00	Yes	Yes	No
N2	12.00	0.00	No	No	"
N3	24.00	0.00	"	Yes	"
N4	6.00	3.00	"	No	"
N5	18.00	3.00	"	"	"
N6	12.00	6.00	"	"	"

## Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	12.00
M2	"	"	12.00
M3	"	"	6.71
M4	"	"	6.71
M5	"	"	6.71
M6	"	"	6.71
M7	"	"	6.71
M8	"	"	6.00
M9	"	"	6.71

## Section Properties

Category	Section	Ax in <sup>2</sup>	Iz in <sup>4</sup>	Sy+ in <sup>3</sup>	Sy- in <sup>3</sup>
Wood Sha	SS2x4	5.25	5.36	3.06	3.06

## Material Properties

Material	Strength psi	Elasticity psi	Poisson	Density lb/ft <sup>3</sup>
Wood	-NA-	1700000.00	0.36	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

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

## Nodal Reactions

Node	Load Case	FX lbs	FY lbs	MZ lb-ft
N1	Equation Case 1	-0.00	849.15	-NA-
N3	"	-NA-	849.15	-NA-

## Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	1333.76	-63.61	-144.09	-0.0975
"	1333.76	-29.21	41.1986	-0.2047
"	1333.76	5.1928	89.2273	-0.2203
"	1333.76	39.5928	0.0000	-0.0000
M2	1333.76	-39.59	0.0000	-0.0000
"	1333.76	-5.1928	89.2273	-0.2203
"	1333.76	29.2072	41.1986	-0.2046
"	1333.76	63.6072	-144.09	-0.0975
M3	-1555.00	127.62	0.0000	-0.0000
"	-1499.40	16.4168	160.41	-0.1365
"	-1443.80	-94.78	72.7964	-0.1404
"	-1388.20	-205.98	-262.85	-0.0943
M4	-1079.22	205.98	-262.85	-0.0943
"	-1023.62	94.7832	72.7964	-0.1713
"	-968.02	-16.42	160.41	-0.1982
"	-912.42	-127.62	0.0000	-0.0926
M5	-1079.22	-205.98	-262.85	-0.0751
"	-1023.62	-94.78	72.7964	-0.1521
"	-968.02	16.4168	160.41	-0.1790
"	-912.42	127.62	0.0000	-0.0734
M6	-1555.00	-127.62	0.0000	0.0192
"	-1499.40	-16.42	160.41	-0.1172
"	-1443.80	94.7832	72.7964	-0.1212
"	-1388.20	205.98	-262.85	-0.0751
M7	-514.96	0.0000	0.0000	-0.0776
"	-514.96	0.0000	0.0000	-0.0742
"	-514.96	0.0000	0.0000	-0.0707
"	-514.96	0.0000	0.0000	-0.0672
M8	587.81	-0.0000	-0.0000	-0.0215
"	587.81	-0.0000	0.0000	-0.0215
"	587.81	-0.0000	-0.0000	-0.0215
"	587.81	-0.0000	-0.0000	-0.0215
M9	-514.96	-0.0000	0.0000	-0.0969
"	-514.96	-0.0000	-0.0000	-0.0934
"	-514.96	-0.0000	-0.0000	-0.0899
"	-514.96	-0.0000	-0.0000	-0.0865

### BENDING & COMP: TRUSS 1 - MEMBER 3

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

#### Grading:

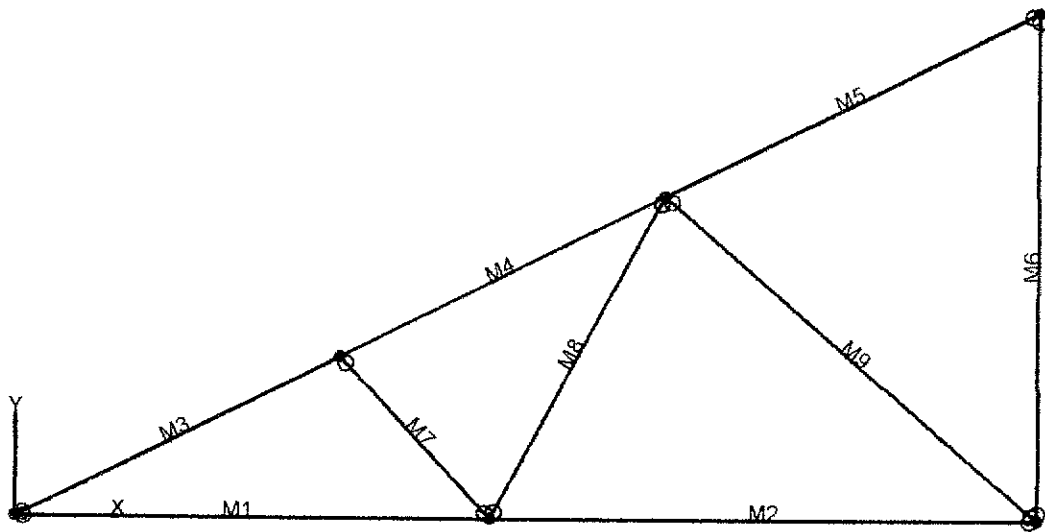
2x or 4x

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	6.71 feet
Max Axial Comp, C	1388 lbs
Max Reaction, R	205 lbs
Max Moment, M	262 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 =	1.18
fc =	264 psi
Fce =	1142 psi
Fc* =	2084 psi
F'c =	972 psi
fb =	1027 psi
F*b = Fb* =	2156 psi
Shear D/C ratio	0.49 < 1.0, Member OK
Interaction equation:	
(fc/F'c)^2 +	
fb/ (F*b(1-fc/Fce)) =	0.69 < 1.0, Member OK
Live Load defl ratio	0.12 < 1.0, Member OK
Total Load defl ratio	0.20 < 1.0, Member OK



# VisualAnalysis 3.50.c Report

05/18/01 11:07:03

Project: Truss 2

File: Untitled.Vap

Company: PK Associates Engineers

Engineer: Paul Zacher

Default Units: Feet, Pounds, Degrees, °Fahrenheit, Seconds.

## Nodes

Node	X ft	Y ft	Fix DX	Fix DY	Fix RZ
N1	0.00	0.00	Yes	Yes	No
N2	9.50	0.00	No	No	"
N3	20.50	0.00	"	Yes	"
N4	6.50	3.25	"	No	"
N5	13.00	6.50	"	"	"
N6	20.50	10.25	"	"	"

## Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	9.50
M2	"	"	11.00
M3	"	"	7.27
M4	"	"	7.27
M5	"	"	8.39
M6	"	"	10.25
M7	"	"	4.42
M8	"	"	7.38
M9	"	"	9.92

## Section Properties

Category	Section	Ax in <sup>2</sup>	Iz in <sup>4</sup>	Sy+ in <sup>3</sup>	Sy- in <sup>3</sup>
Wood Sha	SS2x4	5.25	5.36	3.06	3.06

## Material Properties

Material	Strength psi	Elasticity psi	Poisson	Density lb/ft <sup>3</sup>
Wood	-NA-	1700000.00	0.36	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

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

## Nodal Reactions

Node	Load Case	FX lbs	FY lbs	MZ lb-ft
N1	Equation Case 1	-0.00	725.32	-NA-
N3	"	-NA-	725.32	-NA-

## Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	1059.33	-52.05	-106.38	-0.0554
"	1059.33	-24.81	15.1054	-0.0748
"	1059.33	2.4191	50.5643	-0.0787
"	<b>1059.33</b>	29.6524	0.0000	-0.0000
M2	575.23	-37.63	0.0000	-0.0000
"	575.23	-6.0960	79.8742	-0.1677
"	575.23	25.4373	44.4153	-0.1562
"	575.23	56.9706	-106.38	-0.0554
M3	<b>-1258.61</b>	148.47	0.0000	-0.0000
"	-1198.37	28.0069	213.02	-0.2005
"	-1138.14	-92.46	134.96	-0.1910
"	-1077.91	<b>-212.93</b>	-234.20	-0.0577
M4	-967.77	167.56	-234.20	-0.0577
"	-907.53	47.0953	25.0674	-0.0407
"	-847.30	-73.37	-6.7582	-0.0222
"	-787.07	-193.84	<b>-329.67</b>	-0.0373
M5	-123.91	<b>247.82</b>	-329.67	-0.0373
"	-54.41	108.82	167.76	-0.2782
"	15.0921	-30.18	<b>277.65</b>	<b>-0.3173</b>
"	84.5921	-169.18	0.0000	0.0072
M6	-189.15	-0.0000	0.0000	-0.0213
"	-189.15	-0.0000	-0.0000	-0.0068
"	-189.15	-0.0000	-0.0000	0.0076
"	-189.15	-0.0000	-0.0000	<b>0.0220</b>
M7	-396.11	0.0000	0.0000	-0.0276
"	-396.11	0.0000	0.0000	-0.0274
"	-396.11	0.0000	0.0000	-0.0272
"	-396.11	0.0000	0.0000	-0.0270
M8	454.39	-0.0000	0.0000	-0.0382
"	454.39	-0.0000	-0.0000	-0.0318
"	454.39	-0.0000	-0.0000	-0.0254
"	454.39	-0.0000	-0.0000	-0.0190
M9	-761.20	-0.0000	0.0000	-0.0328
"	-761.20	-0.0000	-0.0000	-0.0170
"	-761.20	-0.0000	-0.0000	-0.0013
"	-761.20	-0.0000	-0.0000	0.0144

**BENDING & COMP: TRUSS 2 - 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	7.27 feet
Max Axial Comp, C	1077 lbs
Max Reaction, R	212 lbs
Max Moment, M	234 ft-lbs
Max LL Deflection	0.02 inches
Max TL Deflection	0.05 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 =	1.20
fc =	205 psi
Fce =	985 psi
Fc* =	2084 psi
F'c =	863 psi
fb =	917 psi
F'b = Fb* =	2156 psi
Shear D/C ratio	0.51 < 1.0, Member OK
Interaction equation: (fc/F'c)^2 +	
fb / (F'b(1-fc/Fce)) =	0.59 < 1.0, Member OK
Live Load defl ratio	0.06 < 1.0, Member OK
Total Load defl ratio	0.10 < 1.0, Member OK