

CITY OF SACRAMENTO

Permit No: 0010577

1231 I Street, Sacramento, CA 95814

Insp Area: 2

Site Address: 7305 WINNETT WY SAC

Sub-Type: RES

Parcel No: 049-0390-045

Housing (Y/N): N

CONTRACTOR

ZIMMERMAN ROOFING
3675 R ST
SACRAMENTO CA 95816

OWNER

TRAN
7305 WINNETT WY
SACRAMENTO CA 95823

ARCHITECT

Nature of Work: 27 SQ T/O REROOF W LT WT 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 C31 License Number 557559 Date 9/4/00 Contractor Signature Kelly Coy

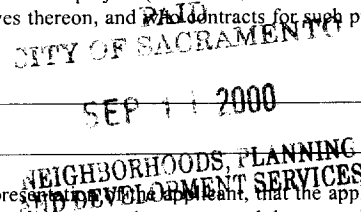
OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code: any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior 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 & 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 hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 9/11/00 Applicant/Agent Signature Kelly 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.

X 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 COMP INS FUND Policy Number 713-99-2021 Exp Date 10/1/2000

(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 9/11/00 Applicant Signature Kelly 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.



DEPARTMENT OF  
PLANNING AND DEVELOPMENT

CITY OF SACRAMENTO  
CALIFORNIA

12311 STREET  
ROOM 200  
SACRAMENTO, CA  
95814-2921

Permit Service  
916-264-7819  
FAX 916-264-7046

Tran

7305 Winnett Wy  
Sacto., CA. 95823

FILE ROOF WORKSHEET

This worksheet must be filled out whenever any type of tile roof is applied for.

If the answer to question #5 is yes, a written engineering report from a registered engineer must be provided with each application.

1. BRAND AND MODEL OF TILE: Liteweight

2. TILE WEIGHT PER SQUARE: 730 lbs

3. WEIGHT OF ROOF SYSTEM PER SQUARE: 180 lbs

4. TOTAL WEIGHT OF ROOF SYSTEM: 910 lbs

5. DOES TOTAL WEIGHT OF ROOF SYSTEM EXCEED 750# PER SQUARE? YES NO

6. ROOF SLOPE: 4/12

PLEASE PROVIDE A SEPARATE WORKSHEET FOR EACH APPLICATION INVOLVING A TILE ROOF.

All attached engin. report

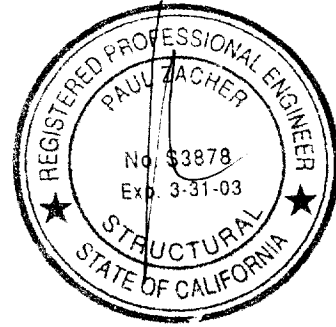
Fran

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

TEL: 916.961.3960  
FAX: 916.961.6552

August 17, 2000

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



Attn: Mr. Dan Peoples,

re: Job 2000\_250: TRAN

Subject: Structural Investigation Report of the Roof for the Residence located at 7305 Winnett Way,  
Sacramento, CA 95823.

As requested by Mr. Dan Peoples, this is a report to determine what needs should be addressed to correct any structural deficiencies of the roof. Paul Zacher visited the site August 17, 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 1970'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 area is framed with pre-engineered wood trusses spaced at 24" on center. The garage area is framed with 2x6 rafters spaced at 24" on center and 2x8 cross ties spaced at 4'-0" on center and with pre-engineered wood trusses spaced at 24" on center.

**CONCLUSIONS:**

Roof

The living and garage areas lack sufficient structural capacity for dead and live loads.



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]*  
9/7/00  
O.K.

1/25

Tran

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. Remove and replace the existing fascia board with a 2x8 DF#2 fascia nailed to each out looker with 2 - 16d's. See detail 1
2. Scab a 2x6 DF#2 x 11'-0" long rafter to the top chord of the existing truss. See details 1 and 2.

#### Garage:

3. Scab a 2x6 rafter to the existing 2x6 rafter with 16d's @ 12" on center where the span is greater than 12'-0" See detail 1.

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**

<u>MATERIAL</u>	<u>WEIGHT</u>	
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	<u>1.00</u>	psf
Load	10.9	psf
Roof Pitch Adjustment	<u>0.59</u>	psf
Total Load	11.5	psf

**LOCATION: TOP CHORD**

<u>MATERIAL</u>	<u>WEIGHT</u>	
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	<u>1.28</u>	psf
Load	11.2	psf
Roof Pitch Adjustment	<u>0.60</u>	psf
Total Load	11.8	psf

**LOCATION: BOTTOM CHORD**

<u>MATERIAL</u>	<u>WEIGHT</u>	
Batt/blown insul	0.50	psf
2x4 truss @ 24" oc	0.64	psf
1/2" Gypboard	<u>2.50</u>	psf
Load	3.6	psf

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

Title :  
 Dsgnr:  
 Description :  
 Scope :

Job #  
 Date: 11:30AM, 17 AUG 00

Rev: 910304  
 User: KW-0602844, Ver: 1.1, 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	rafter	B1
<b>Timber Section</b>		2x6	2-2x6	4x12
Beam Width	in	1.500	3.000	3.500
Beam Depth	in	5.500	5.500	11.250
Le: Unbraced Length	ft	0.00	0.00	0.00
Timber Grade		Douglas Fir - Larch	Douglas Fir - Larch	Douglas Fir - Larch
Fb - Basic Allow	psi	875.0	875.0	875.0
Fv - Basic Allow	psi	95.0	95.0	95.0
Elastic Modulus	ksi	1,600.0	1,600.0	1,600.0
Load Duration Factor		1.250	1.250	1.250
Member Type		Sawn	Sawn	Sawn
Repetitive Status		Repetitive	Repetitive	No

### Center Span Data

Span	ft	12.00	15.25	16.00
Dead Load	#/ft	23.00	23.00	80.00
Live Load	#/ft	32.00	32.00	112.00

### Results Ratio =

		0.9607	0.7758	0.8300
Mmax @ Center	in-k	11.88	19.19	73.73
@ X =	ft	6.00	7.62	8.00
Fb - Actual	psi	1,570.9	1,268.5	998.6
Fb - Allowable	psi	1,635.2	1,635.2	1,203.1
		Bending OK	Bending OK	Bending OK
Fv - Actual	psi	55.7	36.0	52.0
Fv - Allowable	psi	118.8	118.8	118.8
		Shear OK	Shear OK	Shear OK

### Reactions

		lbs	lbs	lbs
@ Left End	DL	138.00	175.37	640.00
	LL	192.00	244.00	896.00
	Max. DL+LL	330.00	419.37	1,536.00
@ Right End	DL	138.00	175.37	640.00
	LL	192.00	244.00	896.00
	Max. DL+LL	330.00	419.37	1,536.00

### Deflections Ratio OK Deflection OK Deflection OK

Center DL Defl	in	-0.322	-0.421	-0.178
L/Defl Ratio		446.5	435.1	1,081.5
Center LL Defl	in	-0.449	-0.585	-0.249
L/Defl Ratio		320.9	312.8	772.5
Center Total Defl	in	-0.771	-1.006	-0.426
Location	ft	6.000	7.625	8.000
L/Defl Ratio		186.7	182.0	450.6

P K Zacher S E.

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

Job # 00 255

Date: 8/17/00

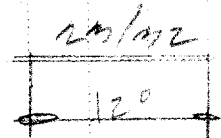
~~2x6~~

~~2x6~~

2x6 @ 2' 0" OC

2x6 @ 2' 0" OC

2x6 #2

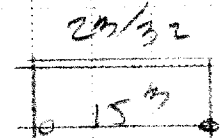


~~2x6~~

2x6 @ 2' 0" OC

2x6 @ 2' 0" OC

2x6 #2

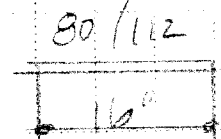


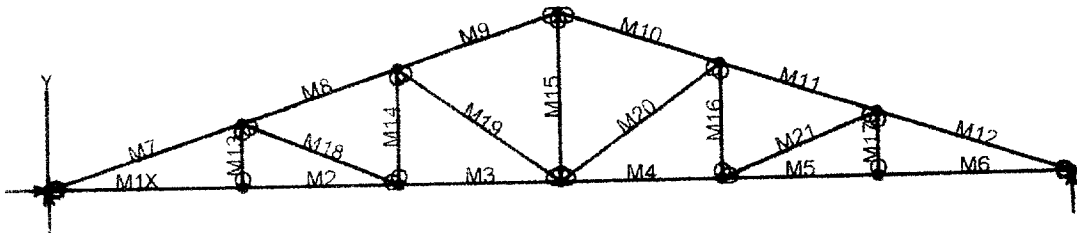
~~2x6~~

2x6 @ 2' 0" OC

2x6 @ 2' 0" OC

4x12 #2







# VisualAnalysis 3.50.c Report

08/17/00 11:06:09

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	9.00	0.00	No		No			"
N3	16.25	0.00	"		"			"
N4	23.75	0.00	"		"			"
N5	31.25	0.00	"		"			"
N6	38.50	0.00	"		"			"
N7	47.50	0.00	"		Yes			"
N8	9.00	3.00	"		No			"
N9	38.50	3.00	"		"			"
N10	16.25	5.42	"		"			"
N11	31.25	5.42	"		"			"
N12	23.75	7.92	"		"			"

## Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	9.00
M2	"	"	7.25
M3	"	"	7.50
M4	"	"	7.50
M5	"	"	7.25
M6	"	"	9.00
M7	"	"	9.49
M8	"	"	7.64
M9	"	"	7.91
M10	"	"	7.91
M11	"	"	7.64
M12	"	"	9.49
M13	"	"	3.00
M14	"	"	5.42
M15	"	"	7.92
M16	"	"	5.42
M17	"	"	3.00
M18	"	"	7.85
M19	"	"	9.25
M20	"	"	9.25
M21	"	"	7.85

## 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	1491.50	-NA-
N7	"	-NA-	1491.50	-NA-

## Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	3752.92	-33.44	-9.3583	-0.5687
"	3752.92	-11.84	58.3991	-0.4714
"	3752.92	9.7602	61.5186	-0.2836
"	<b>3752.92</b>	31.3602	0.0000	-0.0000
M2	3752.92	-28.04	-23.45	-0.6776
"	3752.92	-10.64	23.1893	-0.6649
"	3752.92	6.7557	27.8880	-0.6303
"	3752.92	24.1557	-9.3583	-0.5687
M3	2996.72	-28.58	-35.29	-0.6904
"	2996.72	-10.58	13.5408	-0.6994
"	2996.72	7.4215	17.4870	-0.6966
"	2996.72	25.4215	-23.45	-0.6776
M4	2996.72	-25.42	-23.45	-0.6776
"	2996.72	-7.4215	17.4870	-0.6967
"	2996.72	10.5785	13.5408	-0.6994
"	2996.72	28.5785	-35.29	-0.6904
M5	3752.92	-24.16	-9.3583	-0.5687
"	3752.92	-6.7557	27.8880	-0.6303
"	3752.92	10.6443	23.1893	-0.6649
"	3752.92	28.0443	-23.45	-0.6776
M6	3752.92	-31.36	0.0000	-0.0000
"	3752.92	-9.7602	61.5186	-0.2836
"	3752.92	11.8398	58.3991	-0.4714
"	3752.92	33.4398	-9.3583	-0.5687
M7	-4022.07	198.43	0.0000	-0.0000
"	-3969.33	40.1910	376.04	-0.7511
"	-3916.58	-118.05	252.94	-0.8682
"	-3863.83	<b>-276.29</b>	-369.31	-0.5825
M8	-3227.26	203.72	-369.31	-0.5824
"	-3184.71	76.2704	-13.45	-0.5805
"	-3142.17	-51.18	18.5085	-0.6274
"	-3099.63	-178.64	-273.44	-0.6838

M9	-2439.44	-232.39	-273.44	-0.6838
"	-2395.48	-100.52	164.34	-0.9011
"	-2351.52	-31.35	255.48	<b>-0.9392</b>
"	-2307.57	-163.21	0.0000	-0.6788
M10	-2439.44	-232.39	-273.44	-0.6128
"	-2395.48	-100.52	164.34	-0.8302
"	-2351.52	31.3456	255.48	-0.8682
"	-2307.57	163.21	0.0000	-0.6079
M11	-3227.26	-203.72	<b>-369.31</b>	-0.5114
"	-3184.71	-76.27	-13.45	-0.5095
"	-3142.17	51.1834	18.5085	-0.5563
"	-3099.63	178.64	-273.44	-0.6127
M12	<b>-4022.07</b>	-198.43	-0.0000	0.0710
"	-3969.33	-40.19	<b>376.04</b>	-0.6803
"	-3916.58	118.05	252.94	-0.7971
"	-3863.83	<b>276.29</b>	-369.31	-0.5115
M13	57.5955	-0.0000	-0.0000	0.0454
"	57.5955	-0.0000	-0.0000	0.0758
"	57.5955	-0.0000	-0.0000	0.1061
"	57.5955	-0.0000	0.0000	0.1365
M14	366.38	0.0000	0.0000	0.0820
"	366.38	0.0000	0.0000	0.1006
"	366.38	0.0000	0.0000	0.1192
"	366.38	0.0000	0.0000	0.1377
M15	1149.76	0.0000	0.0000	0.1122
"	1149.76	0.0000	0.0000	0.1122
"	1149.76	0.0000	0.0000	0.1122
"	1149.76	0.0000	0.0000	0.1122
M16	366.38	-0.0000	0.0000	0.0867
"	366.38	-0.0000	-0.0000	0.1053
"	366.38	-0.0000	-0.0000	0.1239
"	366.38	-0.0000	-0.0000	0.1424
M17	57.5955	0.0000	0.0000	0.0880
"	57.5955	0.0000	0.0000	0.1183
"	57.5955	0.0000	0.0000	0.1487
"	57.5955	0.0000	0.0000	<b>0.1790</b>
M18	-818.39	0.0000	0.0000	-0.5947
"	-818.39	0.0000	0.0000	-0.5542
"	-818.39	0.0000	0.0000	-0.5136
"	-818.39	0.0000	0.0000	-0.4731
M19	-932.69	-0.0000	-0.0000	-0.4938
"	-932.69	-0.0000	-0.0000	-0.4847
"	-932.69	-0.0000	-0.0000	-0.4755
"	-932.69	-0.0000	0.0000	-0.4663
M20	-932.69	0.0000	0.0000	-0.6253
"	-932.69	0.0000	0.0000	-0.6161
"	-932.69	0.0000	0.0000	-0.6070
"	-932.69	0.0000	0.0000	-0.5978
M21	-818.39	0.0000	0.0000	-0.6805
"	-818.39	0.0000	0.0000	-0.6400
"	-818.39	0.0000	0.0000	-0.5995
"	-818.39	0.0000	0.0000	-0.5589

## **BENDING & COMP: TRUSS 1 - MEMBER 7**

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

### Grading:

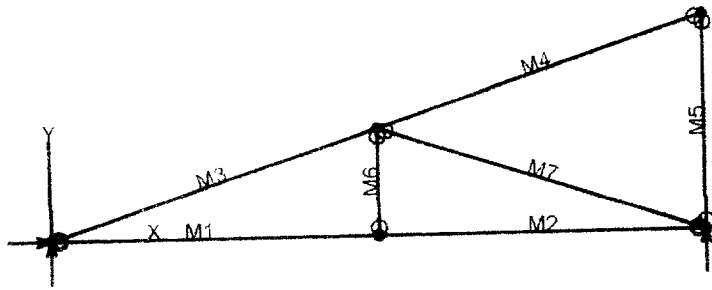
2x or 4x

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	5.5 inches
Length	9.49 feet
Max Axial Comp. C	3863 lbs
Max Reaction, R	276 lbs
Max Moment, M	369 ft-lbs
Max LL Deflection	0.25 inches
Max TL Deflection	0.58 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 =	1.28
fc =	468 psi
Fce=	1430 psi
Fc* =	1869 psi
F'e =	1108 psi
fb =	586 psi
F'b = Fb* =	1887 psi
Shear D/C ratio	0.42 < 1.0, Member OK
Interaction equation:	
(fc/F'e)^2 +	
fb / (F'b(1-fc/Fce)) =	0.64 < 1.0, Member OK
Live Load defl ratio	0.53 < 1.0, Member OK
Total Load defl ratio	0.92 < 1.0, Member OK



# VisualAnalysis 3.50.c Report

08/17/00 11:12:18

Project: truss 2

File: C:\Program Files\IES\VA35\truss 2.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	6.50	0.00	No		No		"	
N3	13.00	0.00	"		Yes		"	
N4	6.50	2.17	"		No		"	
N5	13.00	4.33	"		"		"	

## Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	6.50
M2	"	"	6.50
M3	"	"	6.85
M4	"	"	6.85
M5	"	"	4.33
M6	"	"	2.17
M7	"	"	6.85

## 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	408.20	-NA-
N3	"	-NA-	408.20	-NA-

## Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	750.15	26.80	-22.08	-0.0426
"	750.15	-11.20	18.9988	-0.0450
"	750.15	4.4038	26.3572	-0.0330
"	<b>750.15</b>	20.0038	0.0000	-0.0000
M2	750.15	-10.00	0.0000	-0.0000
"	750.15	-4.4038	26.3572	-0.0330
"	750.15	11.1962	18.9988	-0.0450
"	750.15	26.7962	-22.08	-0.0426
M3	<b>-834.47</b>	130.67	0.0000	-0.0000
"	-796.33	16.4050	<b>167.33</b>	<b>-0.1277</b>
"	-758.18	-97.86	74.2929	-0.1114
"	-720.03	<b>-212.13</b>	<b>-279.10</b>	-0.0424
M4	-70.52	<b>212.23</b>	-279.10	-0.0424
"	-32.54	97.9072	74.2929	-0.1108
"	5.4540	-16.41	167.33	-0.1266
"	43.4434	-130.73	-0.0000	0.0016
M5	-137.76	-0.0000	0.0000	-0.0073
"	-137.76	-0.0000	-0.0000	-0.0005
"	-137.76	-0.0000	-0.0000	0.0063
"	-137.76	-0.0000	-0.0000	<b>0.0131</b>
M6	53.5923	0.0000	0.0000	0.0066
"	53.5923	0.0000	0.0000	0.0066
"	53.5923	0.0000	0.0000	0.0066
"	53.5923	0.0000	0.0000	0.0066
M7	-790.85	0.0000	0.0000	-0.0382
"	-790.85	0.0000	0.0000	-0.0241
"	-790.85	0.0000	0.0000	-0.0100
"	-790.85	0.0000	0.0000	0.0042

### **BENDING & COMP: TRUSS 2 - MEMBER 3**

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

#### Grading:

2x or 4x

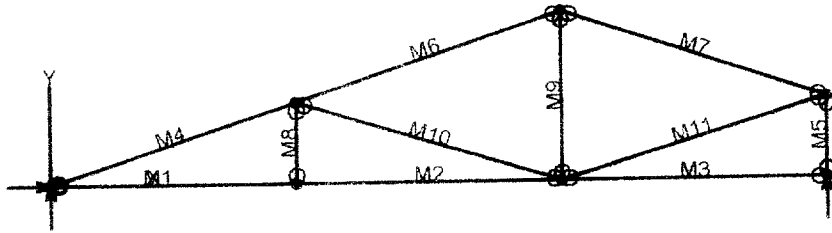
Doug-fir larch: No. 2

#### 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	6.85 feet
Max Axial Comp, C	720 lbs
Max Reaction, R	212 lbs
Max Moment, M	279 ft-lbs
Max LL Deflection	0.02 inches
Max TL Deflection	0.04 inches
LL Defl Criteria = $L/240$	240
TL Defl Criteria = $L/180$	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
$f_c =$	137 psi
$F_{ce} =$	1045 psi
$F_c^* =$	1869 psi
$F'_c =$	885 psi
$f_b =$	1093 psi
$F'_b = F_b^* =$	1887 psi
Shear D/C ratio	0.51 < 1.0, Member OK
Interaction equation:	
$(f_c/F'_c)^2 +$	
$f_b/(F'_b(1-f_c/F_{ce})) =$	0.69 < 1.0, Member OK
Live Load defl ratio	0.06 < 1.0, Member OK
Total Load defl ratio	0.09 < 1.0, Member OK





# VisualAnalysis 3.50.c Report

08/17/00 11:18:19

Project: truss 3

File: C:\Program Files\IES\VA35\truss 3.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	6.00	0.00	No		No		"	
N3	12.50	0.00	"		"		"	
N4	19.00	0.00	"		Yes		"	
N6	6.00	2.00	"		No		"	
N7	19.00	2.00	"		"		"	
N8	12.50	4.17	"		"		"	

## Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	6.00
M2	"	"	6.50
M3	"	"	6.50
M4	"	"	6.32
M5	"	"	2.00
M6	"	"	6.85
M7	"	"	6.85
M8	"	"	2.00
M9	"	"	4.17
M10	"	"	6.80
M11	"	"	6.80

## 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
M1	Equation Case 1	-0.00	596.60	-NA-
M4	"	-NA-	596.60	-NA-

## Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	1348.09	-31.50	0.5849	0.0939
"	1348.08	-7.1025	29.1179	-0.0828
"	1348.08	7.2975	28.9230	-0.0515
"	<b>1348.08</b>	31.6975	0.0000	-0.0000
M2	1348.08	-28.78	-34.38	-0.0571
"	1348.08	-13.18	10.9926	-0.0802
"	1348.08	2.4213	22.6465	-0.0959
"	1348.08	18.0213	0.5849	-0.0939
M3	0.0000	-18.11	-0.0000	-0.0000
"	0.0000	-2.5113	22.2566	-0.0330
"	0.0000	13.0887	10.7976	-0.0486
"	0.0000	28.6887	-34.38	-0.0571
M4	<b>-1460.70</b>	119.10	0.0000	-0.0000
"	-1425.54	13.6058	139.33	-0.1105
"	-1390.37	-91.89	56.8112	-0.1191
"	-1355.21	<b>-197.38</b>	<b>-247.55</b>	-0.0949
M5	-578.49	0.0000	0.0000	0.0118
"	-578.49	0.0000	0.0000	0.0154
"	-578.49	0.0000	0.0000	0.0190
"	-578.49	0.0000	0.0000	<b>0.0227</b>
M6	-722.98	<b>207.53</b>	-247.55	-0.0949
"	-684.83	93.2581	95.3258	-0.1816
"	-646.68	-21.01	177.84	-0.1949
"	-608.53	-135.28	0.0000	-0.0536
M7	-710.92	-171.40	0.0000	0.0023
"	-672.77	-57.13	260.36	-0.2526
"	-634.62	57.1336	<b>260.36</b>	<b>-0.2712</b>
"	-596.47	171.40	0.0000	-0.0537
M8	39.5238	-0.0000	-0.0000	0.0109
"	39.5238	-0.0000	-0.0000	0.0135
"	39.5238	-0.0000	-0.0000	0.0161
"	39.5238	-0.0000	0.0000	0.0186
M9	90.6900	-0.0000	0.0000	-0.0002
"	90.6900	-0.0000	-0.0000	-0.0074
"	90.6900	-0.0000	-0.0000	0.0150
"	90.6900	-0.0000	-0.0000	<b>0.0227</b>
M10	-761.71	0.0000	0.0000	-0.0842
"	-761.71	0.0000	0.0000	-0.0721
"	-761.71	0.0000	0.0000	-0.0600
"	-761.71	0.0000	0.0000	-0.0479
M11	648.74	0.0000	0.0000	-0.0612
"	648.74	0.0000	0.0000	-0.0425
"	648.74	0.0000	0.0000	-0.0237
"	648.74	0.0000	0.0000	-0.0049

### **BENDING & COMP: TRUSS 3 - MEMBER 4**

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

#### Grading:

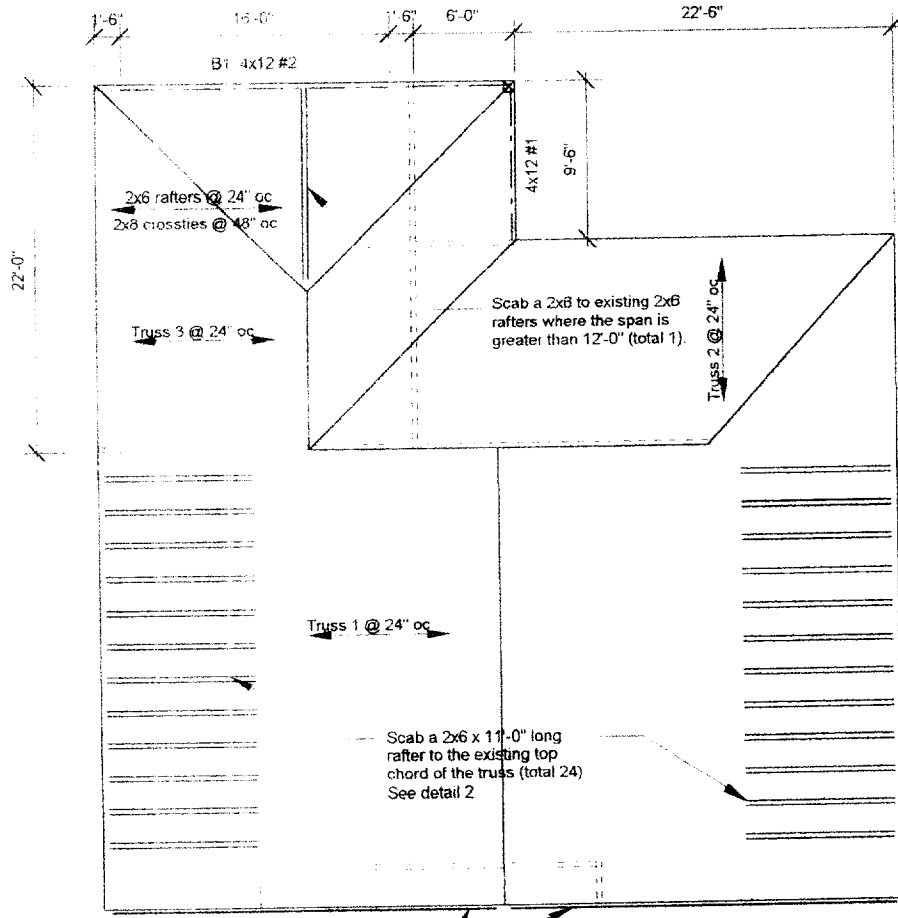
2x or 4x

Doug-fir larch: No. 2

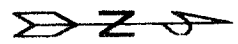
#### Assumptions:

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	6.32 feet
Max Axial Comp, C	1355 lbs
Max Reaction, R	197 lbs
Max Moment, M	247 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 =	258 psi
Fce =	1211 psi
Fc* =	1869 psi
F'c =	989 psi
fb =	968 psi
F'b = Fb* =	1887 psi
Shear D/C ratio	0.47 < 1.0, Member OK
interaction equation:	
(fc/F'c)^2 +	
fb / (F'b(1-fc/Fce)) =	0.72 < 1.0, Member OK
Live Load defl ratio	0.13 < 1.0, Member OK
Total Load defl ratio	0.21 < 1.0, Member OK



Remove and replace existing fascia board with a 2x8 fascia nailed to each outlooker with 2 - 16d's (Total 2)



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 - TRAN**

Not to Scale

1/21

Scab 2x6w/ 16d @ 12" oc  
staggered to top chord of  
existing truss

Existing truss  
top chord

1-0"  
min.

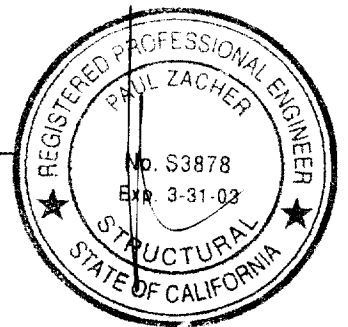
Existing bearing wall

Existing truss web

2

### TRUSS REINFORCEMENT DETAIL

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



20