

CITY OF SACRAMENTO

Permit No: 0114552

1231 I Street, Sacramento, CA 95814

Insp Area: 2
Thos Bros: 336 J2

Site Address: 15 SANDPOINTE CT SAC

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

Parcel No: 031-0520-034

CONTRACTOR

ZIMMERMAN ROOFING, INC
3675 R STREET
SACRAMENTO, CA 95816

OWNER

DHESI SURINDER S/SUKHVINDE
15 SANDPOINTE CT
SACRAMENTO CA 95831

ARCHITECT

Nature of Work: TEAR OFF SHAKE & REROOF W/PIONEER TILE 26 SQ'S

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 C39 License Number 557559 Date 11-19-01 Contractor Signature Olma 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 hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 11-19-01 Applicant/Agent Signature Olma 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 STATE FUND Policy Number 713-2021-01 Exp Date 10/01/2002

(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 11-19-01 Applicant Signature Olma 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.

Dhesi



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

TEL: 916.961.3960
FAX: 916.961.6552

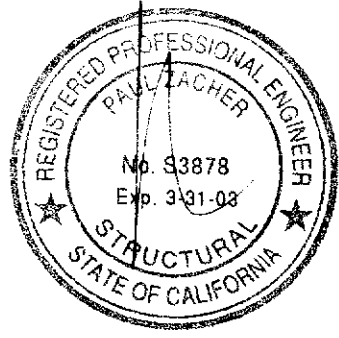
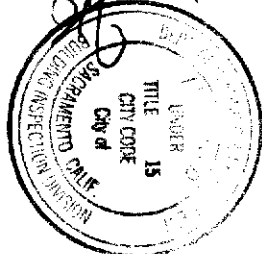
October 29, 2001

Zimmerman Roofing
3675 R Street
Sacramento, CA 95816
TEL: (916) 454-3667
FAX: (916) 392-6853

Attn.: Mr. Jeff Tucker,

re: Job 2001_352: DHESI

Subject: Structural Investigation Report of the Roof of the Residence located at 15 SandPointe Court, Sacramento, CA 95831.



This set of plans and specifications shall be held to conform to the same without written permission of the Building Inspection Division. The approval of this plan and specification shall NOT be held to permit or imply a violation of any City Ordinance or State Building Code.

As requested by Mr. Jeff Tucker, this report is to determine what needs should be addressed to correct any structural deficiencies of the roof. Paul Zacher visited the site October 29, 2001. The investigation was made to determine the existing conditions of the structure. All information, data and analysis contained within this report are based on the 1977 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 roof structure is framed with pre-engineered wood trusses spaced at 24" on center except for the vaulted ceiling areas. The vaulted ceiling is constructed of 2x6 and 2x10 rafters spaced at 16" on center supported mid-span and at the ridge by 4x beams.

CONCLUSIONS:

Roof:
The roof structure has sufficient structural capacity for the applied live and dead loads.

Handwritten mark, possibly 'VIL'

02005-09-03 09:30 AM

Dhesi



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RECOMMENDATIONS:

None.

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
1x4 skip sht'g	1.09	psf
1/2" OSB/ plywood	1.50	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: VAULT

<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	1.00	psf
Batt/blown insul	0.50	psf
1/2" Gypboard	<u>2.50</u>	psf
Load	13.9	psf
Roof Pitch Adjustment	<u>0.75</u>	psf
Total Load	14.6	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>0.64</u>	psf
Load	10.5	psf
Roof Pitch Adjustment	<u>0.57</u>	psf
Total Load	11.1	psf

LOCATION: BOTTOM CHORD

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

13

P.K. Zacher, S.E.

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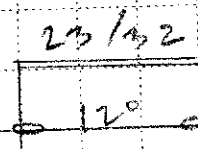
Job #: 01-352

Date: 10/29/01

LOADING

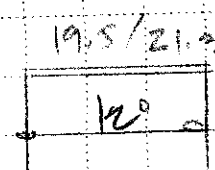
POSTER

DR: 11.5 pcf = 2° 2° 3 pcf 2x6" 2
LP: 16.0 " " " = 32 "



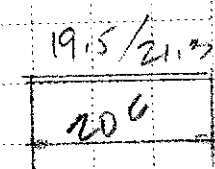
VAULT

DR: 14.6 pcf = 4/3 = 19.5 pcf 2x6" 2
LP: 16.0 " " " = 21.3 "



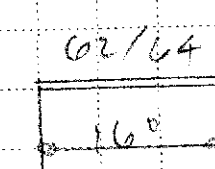
VAULT

DR: 14.6 pcf = 4/3 = 19.5 pcf 2x10" 2
LP: 16.0 " " " = 21.3 "



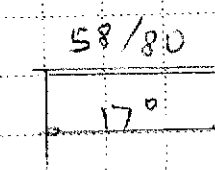
B21

DR: 15.4 pcf = 4° 62 pcf 4x12" 2
LP: 16.0 " " " = 64 "



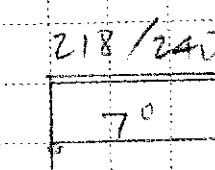
B22

DR: 11.5 pcf = 5° = 58 pcf 4x12" 1
LP: 16.0 " " " = 80 "



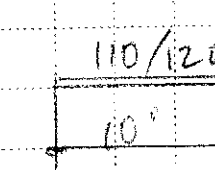
B23

DR: 14.6 pcf = 15° = 218 pcf 4x12" 2
LP: 16.0 " " " = 240 "



B24

DR: 14.6 pcf = 7° = 110 pcf 4x14" 1
LP: 16.0 " " " = 170 "



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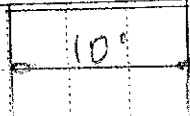
Date: 10/29/01

88/96

BS

DR = 14.6 p.p.f. x 60 = 88 p.p.f.

A = 12" 1



LR = 16.0 p.p.f. x 90 = 144 p.p.f.

Paul Zacher - Structural Engineers
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Title :
 Dsgnr:
 Description :

Job #
 Date: 9:35AM, 29 OCT 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	vault	B1	B2	B3	B4
Timber Section	2x6	2x6	2x10	4x12	4x12	4x12	4x14
Beam Width	in 1.500	1.500	1.500	3.500	3.500	3.500	3.500
Beam Depth	in 5.500	5.500	9.250	11.250	11.250	11.250	13.250
Le: Unbraced Length	ft 0.00	0.00	0.00	0.00	0.00	0.00	0.00
Timber Grade	Douglas Fir - Larch, Douglas Fir - Larch, Douglas Fir - Larch, Douglas Fir - Larch, Douglas Fir - Larch, Douglas Fir - Larch, Douglas Fir - Larch, Douglas Fir - Larch						
Fb - Basic Allow	psi 875.0	875.0	875.0	875.0	1,000.0	875.0	1,000.0
Fv - Basic Allow	psi 95.0	95.0	95.0	95.0	95.0	95.0	95.0
Elastic Modulus	ksi 1,600.0	1,600.0	1,600.0	1,600.0	1,700.0	1,600.0	1,700.0
Load Duration Factor	1.250	1.250	1.250	1.250	1.250	1.250	1.250
Member Type	Sawn	Sawn	Sawn	Sawn	Sawn	Sawn	Sawn
Repetitive Status	Repetitive	Repetitive	No	No	No	No	No

Center Span Data

	ft	ft	ft	ft	ft	ft	ft
Span	12.00	12.00	20.50	16.00	17.00	7.00	10.00
Dead Load	#/ft 23.00	19.50	19.50	62.00	58.00	218.00	110.00
Live Load	#/ft 32.00	21.30	21.30	64.00	80.00	240.00	120.00

Results Ratio = 0.9607 0.7127 0.9994 0.5447 0.5893 0.3790 0.2695

	in-k	ft	psi	psi	psi	psi	psi
Mmax @ Center	11.88	8.81	25.72	48.38	59.82	33.66	34.50
@ X =	6.00	6.00	10.25	8.00	8.50	3.50	5.00
Fb : Actual	psi 1,570.9	1,165.3	1,202.4	655.4	810.3	456.0	336.9
Fb : Allowable	psi 1,635.2	1,635.2	1,203.1	1,203.1	1,375.0	1,203.1	1,250.0
	Bending OK	Bending OK	Bending OK	Bending OK	Bending OK	Bending OK	Bending OK
Fv : Actual	psi 55.7	41.3	42.0	34.1	40.0	44.9	29.2
Fv : Allowable	psi 118.8	118.8	118.8	118.8	118.8	118.8	118.8
	Shear OK	Shear OK	Shear OK	Shear OK	Shear OK	Shear OK	Shear OK

Reactions

	lbs	lbs	lbs	lbs	lbs	lbs	lbs
@ Left End DL	138.00	117.00	199.87	496.00	493.00	763.00	550.00
LL	192.00	127.80	218.32	512.00	680.00	840.00	600.00
Max. DL+LL	330.00	244.80	418.20	1,008.00	1,173.00	1,603.00	1,150.00
@ Right End DL	138.00	117.00	199.87	496.00	493.00	763.00	550.00
LL	192.00	127.80	218.32	512.00	680.00	840.00	600.00
Max. DL+LL	330.00	244.80	418.20	1,008.00	1,173.00	1,603.00	1,150.00

Deflections Ratio OK Deflection OK Deflection OK Deflection OK Deflection OK Deflection OK Deflection OK

	in	in	in	in	in	in	in
Center DL Defl	-0.322	-0.273	-0.490	-0.138	-0.154	-0.018	-0.021
L/Defl Ratio	446.5	526.7	502.5	1,395.5	1,321.4	4,739.4	5,592.4
Center LL Defl	-0.449	-0.299	-0.535	-0.142	-0.213	-0.020	-0.023
L/Defl Ratio	320.9	482.2	460.1	1,351.9	958.0	4,305.0	5,126.4
Center Total Defl	-0.771	-0.572	-1.024	-0.280	-0.367	-0.037	-0.045
Location	ft 6.000	6.000	10.250	8.000	8.500	3.500	5.000
L/Defl Ratio	186.7	251.7	240.2	686.7	555.4	2,255.9	2,674.6

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Title :
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 Date: 9:35AM, 29 OCT 01

Scope :

Timber Beam & Joist

Rev: 510304
 User: KW-0602844, Ver 5.1.3, 22-Jun-1999, Win32
 (c) 1983-99 ENERCALC

c:\enercalc\test.ecw\Calculations

Description BEAMS

Timber Member Information

Calculations are designed to 1997 NDS and 1997 UBC Requirements

Timber Section		B5
		4x12
Beam Width	in	3.500
Beam Depth	in	11.250
Le: Unbraced Length	ft	2.00
Timber Grade		Douglas Fir - Larch
Fb - Basic Allow	psi	1,000.0
Fv - Basic Allow	psi	95.0
Elastic Modulus	ksi	1,700.0
Load Duration Factor		1.250
Member Type		Sawn
Repetitive Status		No

Center Span Data

Span	ft	10.00
Dead Load	#/ft	88.00
Live Load	#/ft	96.00

Results Ratio = 0.2731

Mmax @ Center	in-k	27.60
@ X =	ft	5.00
fb : Actual	psi	373.8
Fb : Allowable	psi	1,368.8
		Bending OK
fv : Actual	psi	28.6
Fv : Allowable	psi	118.8
		Shear OK

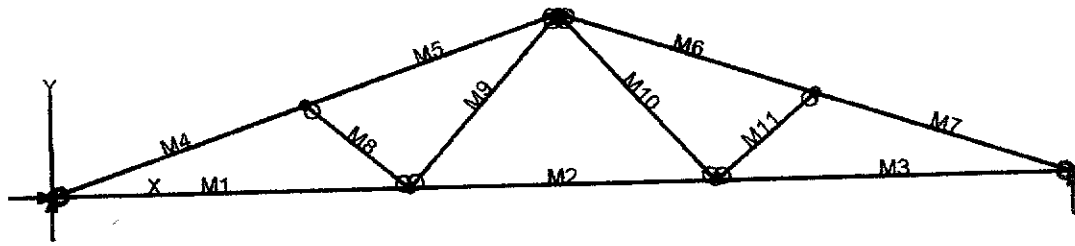
Reactions

@ Left End	DL	lbs	440.00
	LL	lbs	480.00
	Max. DL+LL	lbs	920.00
@ Right End	DL	lbs	440.00
	LL	lbs	480.00
	Max. DL+LL	lbs	920.00

Deflections

Ratio OK

Center DL Defl	in	-0.028
L/Defl Ratio		4,278.8
Center LL Defl	in	-0.031
L/Defl Ratio		3,922.2
Center Total Defl	in	-0.059
Location	ft	5.000
L/Defl Ratio		2,046.4



VisualAnalysis 3.50.c Report

10/29/01 09:39:21

Project: Truss 1

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	7.00	0.00	No		No		"	
N3	13.00	0.00	"		"		"	
N4	20.00	0.00	"		Yes		"	
N5	5.00	1.67	"		No		"	
N6	15.00	1.67	"		"		"	
N7	10.00	3.33	"		"		"	

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	7.00
M2	"	"	6.00
M3	"	"	7.00
M4	"	"	5.27
M5	"	"	5.27
M6	"	"	5.27
M7	"	"	5.27
M8	"	"	2.61
M9	"	"	4.48
M10	"	"	4.48
M11	"	"	2.61

Section Properties

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

Material Properties

Material	Strength psi	Elasticity psi	Poisson	Density lb/ft ³
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	657.26	-NA-
N4	"	-NA-	657.26	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	1547.72	-33.02	-20.42	-0.1213
"	1547.72	-12.95	33.0887	-0.1134
"	1547.72	7.1155	39.8970	-0.0753
"	1547.72	27.1822	0.0000	-0.0000
M2	981.26	-25.80	-20.42	-0.1213
"	981.26	-8.6000	13.8894	-0.1297
"	981.26	8.6000	13.8894	-0.1297
"	981.26	25.8000	-20.42	-0.1213
M3	1547.72	-27.18	0.0000	-0.0000
"	1547.72	-7.1155	39.8970	-0.0753
"	1547.72	12.9511	33.0887	-0.1134
"	1547.72	33.0178	-20.42	-0.1213
M4	-1667.61	107.31	0.0000	-0.0000
"	-1637.44	16.9790	108.80	-0.0841
"	-1607.27	-73.35	59.2733	-0.1122
"	-1577.10	-163.69	-148.59	-0.1132
M5	-1376.38	163.70	-148.59	-0.1132
"	-1346.39	73.3712	59.1784	-0.1526
"	-1316.40	-16.96	108.71	-0.1648
"	-1286.41	-107.30	-0.0000	-0.1212
M6	-1376.38	-163.70	-148.59	-0.1015
"	-1346.39	-73.37	59.1784	-0.1409
"	-1316.40	16.9621	108.71	-0.1531
"	-1286.41	107.30	0.0000	-0.1095
M7	-1667.61	-107.31	0.0000	0.0117
"	-1637.44	-16.98	108.80	-0.0724
"	-1607.27	73.3543	59.2733	-0.1005
"	-1577.10	163.69	-148.59	-0.1014
M8	-381.76	-0.0000	-0.0000	-0.0838
"	-381.76	-0.0000	-0.0000	-0.0789
"	-381.76	-0.0000	-0.0000	-0.0741
"	-381.76	-0.0000	0.0000	-0.0692
M9	408.50	-0.0000	-0.0000	-0.0951
"	408.50	-0.0000	-0.0000	-0.0941
"	408.50	-0.0000	-0.0000	-0.0931
"	408.50	-0.0000	0.0000	-0.0920
M10	408.50	0.0000	0.0000	-0.0676
"	408.50	0.0000	0.0000	-0.0666
"	408.50	0.0000	0.0000	-0.0655
"	408.50	0.0000	0.0000	-0.0645
M11	-381.76	0.0000	0.0000	-0.1075
"	-381.76	0.0000	0.0000	-0.1027
"	-381.76	0.0000	0.0000	-0.0978
"	-381.76	0.0000	0.0000	-0.0929

BENDING & COMP: TRUSS 1 - MEMBER 4

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

Grading:

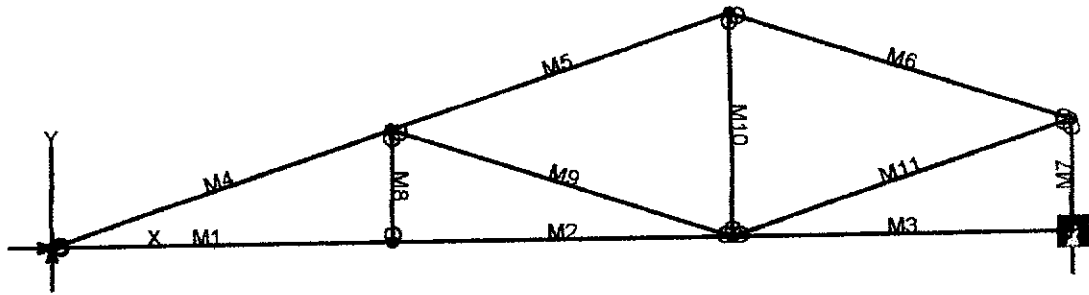
2x or 4x

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	5.27 feet
Max Axial Comp, C	1577 feet
Max Reaction, R	163 feet
Max Moment, M	148 feet
Max LL Deflection	0.05 feet
Max TL Deflection	0.11 feet
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 =	300 psi
Fce=	1789 psi
Fc*=	2084 psi
F'c=	1326 psi
fb=	580 psi
F'b=Fb*=	2156 psi
Shear D/C ratio	0.39 < 1.0, Member OK
Interaction equation:	
(fc/F'c)^2 +	
fb/ (F'b(1-fc/Fce)) =	0.37 < 1.0, Member OK
Live Load defl ratio	0.19 < 1.0, Member OK
Total Load defl ratio	0.31 < 1.0, Member OK



VisualAnalysis 3.50.c Report

10/29/01 09:42:30

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	6.00	0.00	No		No		No	
N2	12.00	0.00	"		"		"	
N3	18.00	0.00	"		Yes		"	
N4	6.00	2.00	"		No		"	
N5	18.00	2.00	"		"		"	
N6	12.00	4.00	"		"		"	
N7	0.00	0.00	Yes		Yes		"	

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	6.00
M2	"	"	6.00
M3	"	"	6.00
M4	"	"	6.32
M5	"	"	6.32
M6	"	"	6.32
M7	"	"	2.00
M8	"	"	2.00
M9	"	"	6.32
M10	"	"	4.00
M11	"	"	6.32

Section Properties

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

Material Properties

Material	Strength psi	Elasticity psi	Poisson	Density lb/ft ³
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
N3	Equation Case 1	-NA-	591.59	-NA-
N7	"	0.00	591.59	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	1301.40	-26.46	-3.9502	-0.0857
"	1301.40	-9.2584	31.6805	-0.0793
"	1301.40	7.9416	32.9973	-0.0511
"	1301.40	25.1416	0.0000	-0.0000
M2	1301.40	-30.78	-33.83	-0.0517
"	1301.40	-13.58	10.4424	-0.0713
"	1301.40	3.6197	20.4031	-0.0852
"	1301.40	20.8197	-3.9502	-0.0857
M3	-0.0000	-20.16	0.0000	-0.0000
"	-0.0000	-2.9613	23.0366	-0.0297
"	-0.0000	14.2387	11.7591	-0.0441
"	-0.0000	31.4387	-33.83	-0.0517
M4	-1413.74	125.84	0.0000	-0.0000
"	-1377.60	17.4391	150.46	-0.1180
"	-1341.47	-90.96	72.9582	-0.1251
"	-1305.34	-199.36	-232.50	-0.0863
M5	-698.96	199.36	-232.50	-0.0863
"	-662.82	90.9609	72.9582	-0.1412
"	-626.69	-17.44	150.46	-0.1501
"	-590.56	-125.84	0.0000	-0.0482
M6	-686.70	-162.60	-0.0000	0.0017
"	-650.57	-54.20	227.96	-0.1913
"	-614.44	54.2000	227.96	-0.2081
"	-578.30	162.60	0.0000	-0.0488
M7	-571.43	0.0000	0.0000	0.0100
"	-571.43	0.0000	0.0000	0.0136
"	-571.43	0.0000	0.0000	0.0173
"	-571.43	0.0000	0.0000	0.0210
M8	47.2780	-0.0000	-0.0000	-0.0163
"	47.2780	-0.0000	-0.0000	-0.0144
"	47.2780	-0.0000	-0.0000	-0.0124
"	47.2780	-0.0000	0.0000	-0.0105
M9	-739.29	0.0000	0.0000	-0.0760
"	-739.29	0.0000	0.0000	-0.0648
"	-739.29	0.0000	0.0000	-0.0536
"	-739.29	0.0000	0.0000	-0.0424
M10	95.9882	0.0000	0.0000	-0.0210
"	95.9882	0.0000	0.0000	-0.0137
"	95.9882	0.0000	0.0000	-0.0064
"	95.9882	0.0000	0.0000	0.0009
M11	632.50	0.0000	0.0000	-0.0557
"	632.50	0.0000	0.0000	-0.0386
"	632.50	0.0000	0.0000	-0.0216
"	632.50	0.0000	0.0000	-0.0046

BENDING & COMP: TRUSS 2 - MEMBER 4

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

Grading:

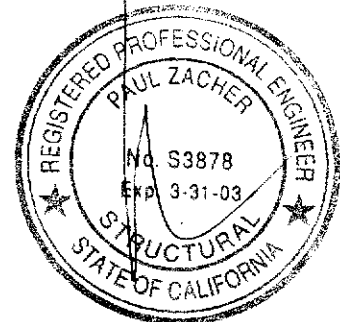
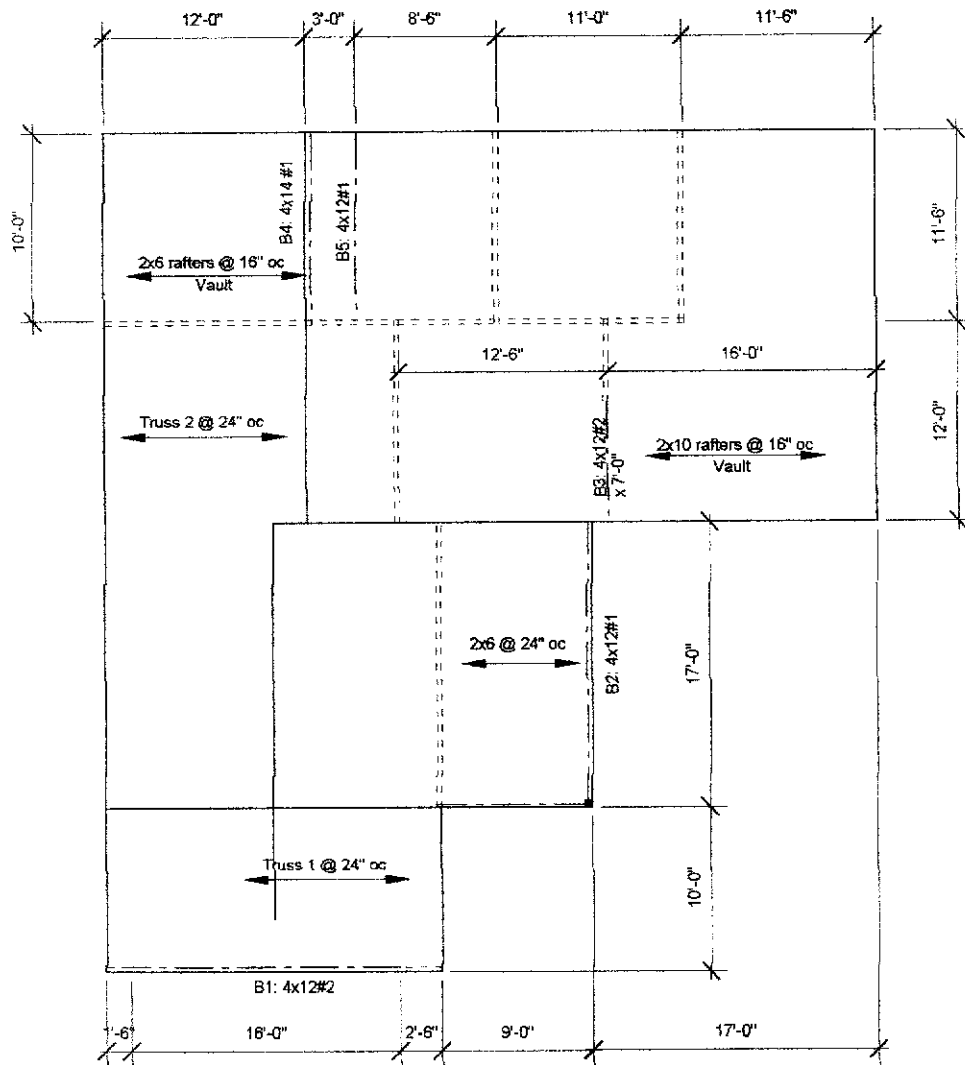
2x or 4x

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	1305 feet
Max Reaction, R	199 feet
Max Moment, M	232 feet
Max LL Deflection	0.04 feet
Max TL Deflection	0.08 feet
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 =	1.17
fc =	249 psi
Fce=	1275 psi
Fc*=	2084 psi
F'c=	1057 psi
fb=	909 psi
F'b=Fb*=	2156 psi
Shear D/C ratio	0.48 < 1.0, Member OK
Interaction equation:	
(fc/F'c)^2 +	
fb/ (F'b(1-fc/Fce)) =	0.58 < 1.0, Member OK
Live Load defl ratio	0.13 < 1.0, Member OK
Total Load defl ratio	0.19 < 1.0, Member OK



Notes:

- A. 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.
- B. All rafters are 2x6 DF#2 and hips and valleys are 2x8 DF#2 unless otherwise noted.
- C. All existing rafter, hips, valleys, rafter ties, and purlins are braced per UBC Section 2320.1 "Roof and Ceiling Framing" unless otherwise shown.
- D. All structural wood members that were observed appear to be in sound condition and without structural defect.

1

ROOF PLAN - DHESI

Not to Scale

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