

CITY OF SACRAMENTO
1231 I Street, Sacramento, CA 95814

Permit No: 0109521
Insp Area: 2

Site Address: 1618 WENTWORTH AV SAC
Parcel No: 017-0161-009

4

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

CONTRACTOR
ZIMMERMAN ROOFING INC
675 R STREET
SACRAMENTO CA 95831

OWNER
WENTWORTH HOA

ARCHITECT

Nature of Work: 22 SQ T/O SHAKE REROOF W LTWT 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-29 License Number 557559 Date 1-27-01 Contractor Signature Irish Maritz

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 Professions 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 1-27-01 Applicant Agent Signature Irish Maritz

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 1-27-01 Applicant Signature Irish Maritz

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.

Noda

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

TEL: 916.961.3960
FAX: 916.961.6552

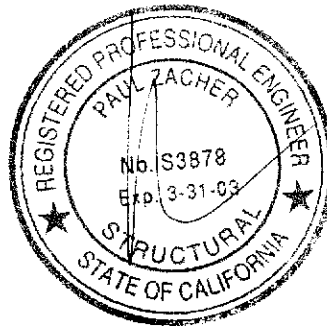
June 8, 2001

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

Attn.: Mr. Dan Peoples,

re: Job 2001_149: NODA

Subject: Structural Investigation Report of the Roof for the Residence located at 1618 Wentworth Ave., #4,
Sacramento, CA 95822.



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 June 8, 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: One.
Dimensions: Approximately 1500 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 pre-engineered wood trusses spaced at 24" on center.

CONCLUSIONS:

Roof:
The living and garage areas have sufficient structural capacity for the applied live and dead loads.

RECOMMENDATIONS:

None.

1/18
The approval of this plan and specification SHALL NOT be held to permit or approve the violation of any City Ordinance or State Law.
7/25/01

RECEIVED FOR THE ENGINEER

Noda



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

TEL: 916.961.3960
FAX: 916.961.6552

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

P.K. Zacher, S.E.

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

Job #: 01-199

Date: 6/8/01

LOADING

B1

OP: 15.4 psf = 4° = 62 psf

4 x 12" 2

62/64

16°

LP: 16.0 " " = 64 "

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

Title :
 Dsgnr:
 Description :

Job #
 Date: 4:03PM, 8 JUN 01

Scope :

Timber Beam & Joist

c:\enercalc\test.ecw\Calculations

Rev: 510304
 User: RW-0602044, Ver 5.1.3, 22-Jun-1999, Win32
 (c) 1983-99 ENERCALC

Description BEAMS

Calculations are designed to 1997 NDS and 1997 UBC Requirements

Timber Member Information

Timber Section		B1
Beam Width	in	4x12 3.500
Beam Depth	in	11.250
Le: Unbraced Length	ft	2.00
Timber Grade		Douglas Fir - Larch
Fb - Basic Allow	psi	875.0
Fv - Basic Allow	psi	95.0
Elastic Modulus	ksi	1,600.0
Load Duration Factor		1.250
Member Type		Sawn
Repetitive Status		No

Center Span Data

Span	ft	16.00
Dead Load	#/ft	62.00
Live Load	#/ft	64.00

Results Ratio = 0.5470

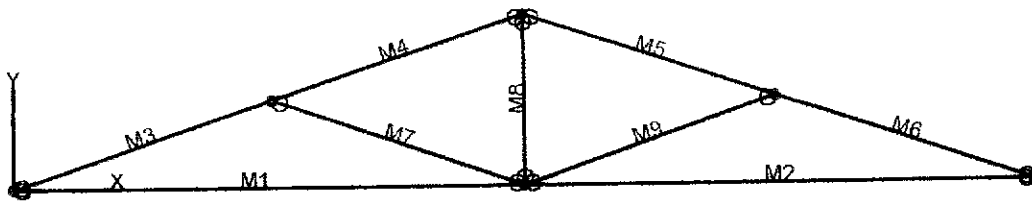
Mmax @ Center	in-k	48.38
@ X =	ft	8.00
fb : Actual	psi	655.4
Fb : Allowable	psi	1,198.1
		Bending OK
fv : Actual	psi	34.1
Fv : Allowable	psi	118.8
		Shear OK

Reactions

@ Left End	DL	lbs	496.00
	LL	lbs	512.00
	Max. DL+LL	lbs	1,008.00
@ Right End	DL	lbs	496.00
	LL	lbs	512.00
	Max. DL+LL	lbs	1,008.00

Deflections

			Ratio OK
Center DL Defl	in	-0.138	
L/Defl Ratio		1,395.5	
Center LL Defl	in	-0.142	
L/Defl Ratio		1,351.9	
Center Total Defl	in	-0.280	
Location	ft	8.000	
L/Defl Ratio		686.7	



VisualAnalysis 3.50.c Report

06/08/01 15:47:24

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 Fix
N1	0.00	0.00	Yes	Yes	No	
N2	9.88	0.00	No	No	"	
N3	19.75	0.00	"	Yes	"	
N4	5.00	1.67	"	No	"	
N5	14.75	1.67	"	"	"	
N6	9.88	3.29	"	"	"	

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	9.88
M2	"	"	9.88
M3	"	"	5.27
M4	"	"	5.14
M5	"	"	5.14
M6	"	"	5.27
M7	"	"	5.15
M8	"	"	3.29
M9	"	"	5.15

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	649.11	-NA-
N3	"	-NA-	649.11	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	1499.26	-51.11	-85.38	-0.1199
"	1499.26	-22.80	36.0281	-0.1578
"	1499.26	5.5080	64.4884	-0.1372
"	1499.26	33.8163	0.0000	-0.0000
M2	1499.26	-33.82	0.0000	-0.0000
"	1499.26	-5.5080	64.4884	-0.1372
"	1499.26	22.8003	36.0281	-0.1578
"	1499.26	51.1087	-85.38	-0.1199
M3	-1616.96	108.64	0.0000	-0.0000
"	-1586.79	18.3041	111.13	-0.0867
"	-1556.62	-72.03	63.9300	-0.1162
"	-1526.45	-162.36	-141.61	-0.1156
M4	-1106.41	159.67	-141.61	-0.1157
"	-1077.11	71.5995	56.0543	-0.1496
"	-1047.80	-16.48	103.26	-0.1591
"	-1018.50	-104.55	0.0000	-0.1182
M5	-1106.41	-159.67	-141.61	-0.1031
"	-1077.11	-71.60	56.0543	-0.1370
"	-1047.80	16.4755	103.26	-0.1465
"	-1018.50	104.55	0.0000	-0.1056
M6	-1616.96	-108.64	0.0000	0.0126
"	-1586.79	-18.30	111.13	-0.0741
"	-1556.62	72.0293	63.9300	-0.1035
"	-1526.45	162.36	-141.61	-0.1030
M7	-528.36	-0.0000	-0.0000	-0.1070
"	-528.36	-0.0000	-0.0000	-0.1042
"	-528.36	-0.0000	-0.0000	-0.1014
"	-528.36	-0.0000	0.0000	-0.0987
M8	444.68	0.0000	0.0000	-0.0199
"	444.68	0.0000	0.0000	-0.0199
"	444.68	0.0000	0.0000	-0.0199
"	444.68	0.0000	0.0000	-0.0199
M9	-528.36	0.0000	0.0000	-0.1199
"	-528.36	0.0000	0.0000	-0.1171
"	-528.36	0.0000	0.0000	-0.1143
"	-528.36	0.0000	0.0000	-0.1116

BENDING & COMP: TRUSS 1 - MEMBER 3

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

Grading:

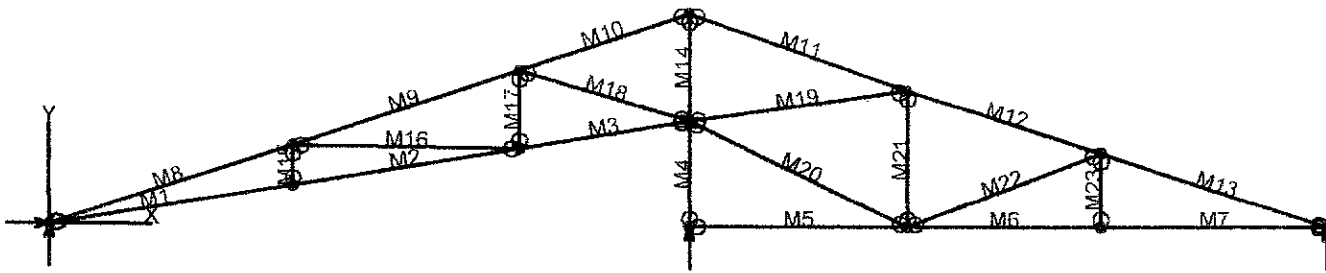
2x or 4x

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	5.27 feet
Max Axial Comp, C	1526 lbs
Max Reaction, R	162 lbs
Max Moment, M	141 ft-lbs
Max LL Deflection	0.05 inches
Max TL Deflection	0.11 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 =	291 psi
Fce=	1789 psi
Fc*=	2084 psi
F'c=	1326 psi
fb=	552 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)) =	0.35 < 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

06/08/01 15:53:50

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	7.50	1.25	No		No		"	
N3	14.50	2.42	"		"		"	
N4	19.75	3.29	"		"		"	
N5	19.75	0.00	"		Yes		"	
N6	26.50	0.00	"		No		"	
N7	32.50	0.00	"		"		"	
N8	39.50	0.00	"		Yes		"	
N9	7.50	2.50	"		No		"	
N10	14.50	4.83	"		"		"	
N11	19.75	6.58	"		"		"	
N12	26.50	4.25	"		"		"	
N13	32.50	2.33	"		"		"	

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	7.60
M2	"	"	7.10
M3	"	"	5.32
M4	"	"	3.29
M5	"	"	6.75
M6	"	"	6.00
M7	"	"	7.00
M8	"	"	7.91
M9	"	"	7.38
M10	"	"	5.53
M11	"	"	7.14
M12	"	"	6.30
M13	"	"	7.38
M14	"	"	3.29
M15	"	"	1.25
M16	"	"	7.00
M17	"	"	2.41
M18	"	"	5.47
M19	"	"	6.82
M20	"	"	7.51
M21	"	"	4.25
M22	"	"	6.44
M23	"	"	2.33

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	406.41	-NA-
N5	"	-NA-	1787.48	-NA-
N8	"	-NA-	404.79	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	1195.22	32.1136	0.0000	-0.0000
"	1198.81	10.6136	54.0096	-0.1245
"	1202.39	-10.89	53.6640	-0.1887
"	1205.97	-32.39	-1.0367	-0.1931
M2	1196.75	23.4750	-1.0367	-0.1931
"	1200.10	3.4083	30.6435	-0.1774
"	1203.45	-16.66	14.9706	-0.1333
"	1206.81	-36.73	-48.06	-0.0775
M3	-329.26	31.6053	-48.06	-0.0774
"	-326.76	16.5553	-5.4070	-0.0541
"	-324.27	1.5053	10.6115	-0.0353
"	-321.78	-13.54	0.0000	-0.0115
M4	-1763.55	7.0624	-23.24	0.0230
"	-1763.55	7.0624	-15.49	0.0209
"	-1763.55	7.0624	-7.7451	0.0154
"	-1763.55	7.0624	-0.0000	0.0081
M5	-7.0624	-34.12	-34.42	-0.0387
"	-7.0624	-14.77	20.4794	-0.0457
"	-7.0624	4.5752	31.9540	-0.0364
"	-7.0624	23.9252	0.0000	-0.0000
M6	638.86	-24.30	-25.42	-0.0550
"	638.86	-7.1000	5.8902	-0.0511
"	638.86	10.1000	2.8901	-0.0449
"	638.86	27.3000	-34.42	-0.0387
M7	638.86	-26.47	0.0000	-0.0000
"	638.86	-6.4014	38.2306	-0.0509
"	638.86	13.6653	29.7560	-0.0663
"	638.86	33.7320	-25.42	-0.0550

M8	-1304.11	167.42	0.0000	-0.0000
"	-1258.94	31.9246	261.77	-0.3292
"	-1213.77	-103.58	167.36	-0.3529
"	-1168.61	-239.08	-283.22	-0.1942
M9	270.50	199.50	-283.22	-0.1942
"	312.59	73.0302	51.0966	-0.1923
"	354.69	-53.44	75.1891	-0.1608
"	396.79	-179.90	-210.95	-0.0720
M10	1482.82	180.39	-210.95	-0.0720
"	1514.43	85.5436	33.8971	-0.0807
"	1546.05	-9.3064	104.21	-0.0766
"	1577.67	-104.16	0.0000	-0.0146
M11	1466.42	-216.19	-237.56	-0.0305
"	1508.52	-94.24	131.17	-0.1677
"	1550.61	27.7067	210.36	-0.1892
"	1592.71	149.66	0.0000	-0.0106
M12	-48.32	-162.96	-239.82	-0.0498
"	-13.63	-54.56	-12.01	-0.0184
"	21.0581	53.8422	-11.25	-0.0123
"	55.7461	162.24	-237.56	-0.0310
M13	-725.64	-157.19	0.0000	0.0061
"	-683.55	-30.73	230.29	-0.2166
"	-641.45	95.7395	150.35	-0.2048
"	-599.36	222.21	-239.82	-0.0495
M14	-1258.87	-7.0624	-23.24	0.0230
"	-1258.87	-7.0624	-15.49	0.0203
"	-1258.87	-7.0624	-7.7451	0.0141
"	-1258.87	-7.0624	0.0000	0.0061
M15	56.0698	0.0000	0.0000	0.0439
"	56.0698	0.0000	0.0000	0.0455
"	56.0698	0.0000	0.0000	0.0472
"	56.0698	0.0000	0.0000	0.0489
M16	-1504.00	-0.0000	0.0000	-0.1878
"	-1504.00	-0.0000	-0.0000	-0.1492
"	-1504.00	-0.0000	-0.0000	-0.1107
"	-1504.00	-0.0000	-0.0000	-0.0721
M17	337.37	0.0000	0.0000	-0.0361
"	337.37	0.0000	0.0000	-0.0286
"	337.37	0.0000	0.0000	-0.0210
"	337.37	0.0000	0.0000	-0.0135
M18	-1192.31	0.0000	0.0000	-0.0647
"	-1192.31	0.0000	0.0000	-0.0435
"	-1192.31	0.0000	0.0000	-0.0222
"	-1192.31	0.0000	0.0000	-0.0010
M19	-1467.68	-0.0000	-0.0000	-0.0384
"	-1467.68	-0.0000	-0.0000	-0.0293
"	-1467.68	-0.0000	-0.0000	-0.0201
"	-1467.68	-0.0000	0.0000	-0.0110
M20	3.8000	-0.0000	-0.0000	-0.0312
"	3.8000	-0.0000	-0.0000	-0.0198
"	3.8000	-0.0000	-0.0000	-0.0084
"	3.8000	-0.0000	0.0000	0.0031
M21	309.27	0.0000	0.0000	0.0080
"	309.27	0.0000	0.0000	0.0099
"	309.27	0.0000	0.0000	0.0117
"	309.27	0.0000	0.0000	0.0136
M22	-689.25	0.0000	0.0000	-0.0539
"	-689.25	0.0000	0.0000	-0.0489
"	-689.25	0.0000	0.0000	-0.0439
"	-689.25	0.0000	0.0000	-0.0389
M23	58.0319	-0.0000	0.0000	0.0079
"	58.0319	-0.0000	-0.0000	0.0096
"	58.0319	-0.0000	-0.0000	0.0114
"	58.0319	-0.0000	-0.0000	0.0132

BENDING & COMP: TRUSS 2 - MEMBER 8

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

Grading:

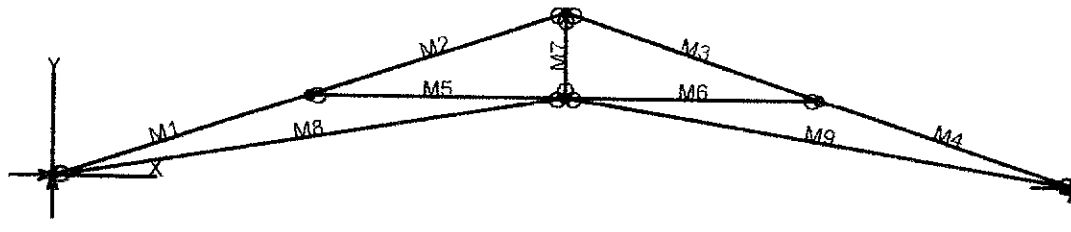
2x or 4x

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	7.91 feet
Max Axial Comp, C	1168 feet
Max Reaction, R	239 feet
Max Moment, M	283 feet
Max LL Deflection	0.1 feet
Max TL Deflection	0.19 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 =	1.22
fc =	222 psi
Fce=	844 psi
Fc*=	2084 psi
F'c=	758 psi
fb=	1109 psi
F'b=Fb*=	2156 psi
Shear D/C ratio	0.58 < 1.0, Member OK
Interaction equation: (fc/F'c) ² +	
fb/ (F'b(1-fc/Fce)) =	0.78 < 1.0, Member OK
Live Load defl ratio	0.25 < 1.0, Member OK
Total Load defl ratio	0.36 < 1.0, Member OK



VisualAnalysis 3.50.c Report

06/08/01 16:01:51

Project: Truss 3

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	7.63	1.27	No		No		"	
N3	15.25	0.00	"		Yes		"	
N4	3.81	1.27	"		No		"	
N5	11.44	1.27	"		"		"	
N6	7.63	2.54	"		"		"	

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	4.02
M2	"	"	4.02
M3	"	"	4.02
M4	"	"	4.02
M5	"	"	3.81
M6	"	"	3.81
M7	"	"	1.27
M8	"	"	7.73
M9	"	"	7.73

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	502.11	-NA-
N3	"	-NA-	502.11	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	-2283.72	107.41	0.0000	-0.0000
"	-2260.77	38.5711	97.4786	-0.1181
"	-2237.83	-30.26	103.04	-0.2057
"	-2214.89	-99.10	16.6833	-0.2609
M2	-1603.09	99.2380	16.6833	-0.2609
"	-1580.11	30.3136	103.28	-0.2978
"	-1557.13	-38.61	97.7224	-0.3022
"	-1534.15	-107.54	0.0000	-0.2759
M3	-1603.09	-99.24	16.6833	-0.2181
"	-1580.11	-30.31	103.28	-0.2550
"	-1557.13	38.6107	97.7224	-0.2594
"	-1534.15	107.54	0.0000	-0.2331
M4	-2283.72	-107.41	0.0000	0.0428
"	-2260.77	-38.57	97.4786	-0.0753
"	-2237.83	30.2629	103.04	-0.1629
"	-2214.89	99.0969	16.6833	-0.2181
M5	-643.17	5.1932	0.0000	-0.2513
"	-643.17	5.1932	6.6040	-0.2601
"	-643.17	5.1932	13.2080	-0.2668
"	-643.17	5.1932	19.8120	-0.2696
M6	-643.17	-5.1932	0.0000	-0.2513
"	-643.17	-5.1932	6.6040	-0.2601
"	-643.17	-5.1932	13.2080	-0.2668
"	-643.17	-5.1932	19.8120	-0.2696
M7	766.48	-0.0000	-0.0000	0.0677
"	766.48	-0.0000	-0.0000	0.0677
"	766.48	-0.0000	0.0000	0.0677
"	766.48	-0.0000	-0.0000	0.0677
M8	2156.48	32.7875	0.0000	-0.0000
"	2160.12	10.9292	56.1811	-0.1572
"	2163.76	-10.93	56.1811	-0.2495
"	2167.40	-32.79	-0.0000	-0.2770
M9	2156.48	-32.79	-0.0000	0.0222
"	2160.12	-10.93	56.1811	-0.1350
"	2163.76	10.9292	56.1811	-0.2273
"	2167.40	32.7875	0.0000	-0.2548

BENDING & COMP: TRUSS 1 - MEMBER 3

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

Grading:

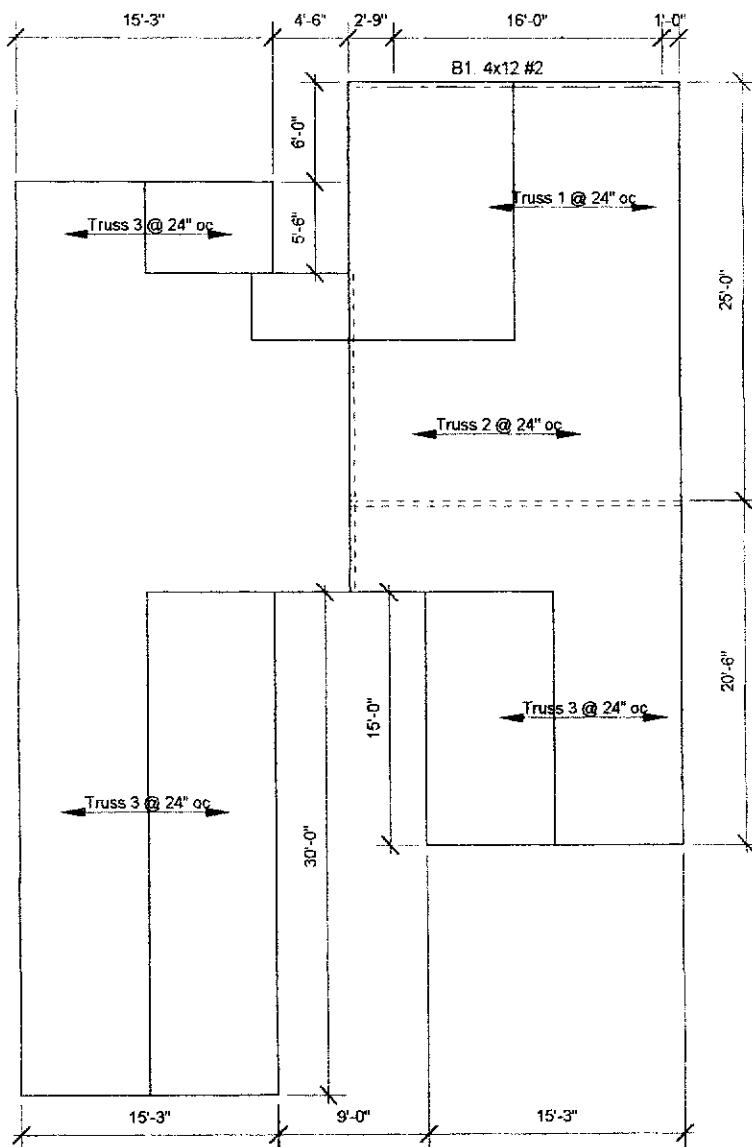
2x or 4x

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	4.02 feet
Max Axial Comp, C	2214 feet
Max Reaction, R	99 feet
Max Moment, M	16 feet
Max LL Deflection	0.13 feet
Max TL Deflection	0.26 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 =	1.11
fc =	422 psi
Fce =	2982 psi
Fc* =	2084 psi
F'c =	1664 psi
fb =	63 psi
F'b = Fb* =	2156 psi
Shear D/C ratio	0.24 < 1.0, Member OK
Interaction equation:	
(fc/F'c) ² +	
fb / (F'b(1-fc/Fce)) =	0.10 < 1.0, Member OK
Live Load defl ratio	0.65 < 1.0, Member OK
Total Load defl ratio	0.97 < 1.0, Member OK



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.



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ROOF PLAN - NODA

Not to Scale

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