

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0113370

Insp Area: 4

Thos Bros: 277 G1

Site Address: 191 BELL AV SAC

Parcel No: 237-0441-039

Sub-Type: RES

Housing (Y/N): N

CONTRACTOR

OWNER

SMITH RICK C
191 BELL AVE
SACRAMENTO CA 95838

ARCHITECT

Nature of Work: REROOF T/O RESHT INSTALL CONCRETE TILE 22 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 License Number Date Contractor Signature

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 10 22 01 Owner Signature Rick Smith

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 10 22 01 Applicant/Agent Signature Rick Smith

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 for insurance as provided 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 Policy Number Exp Date

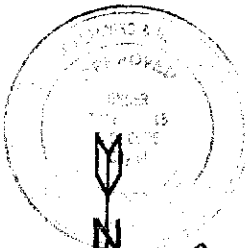
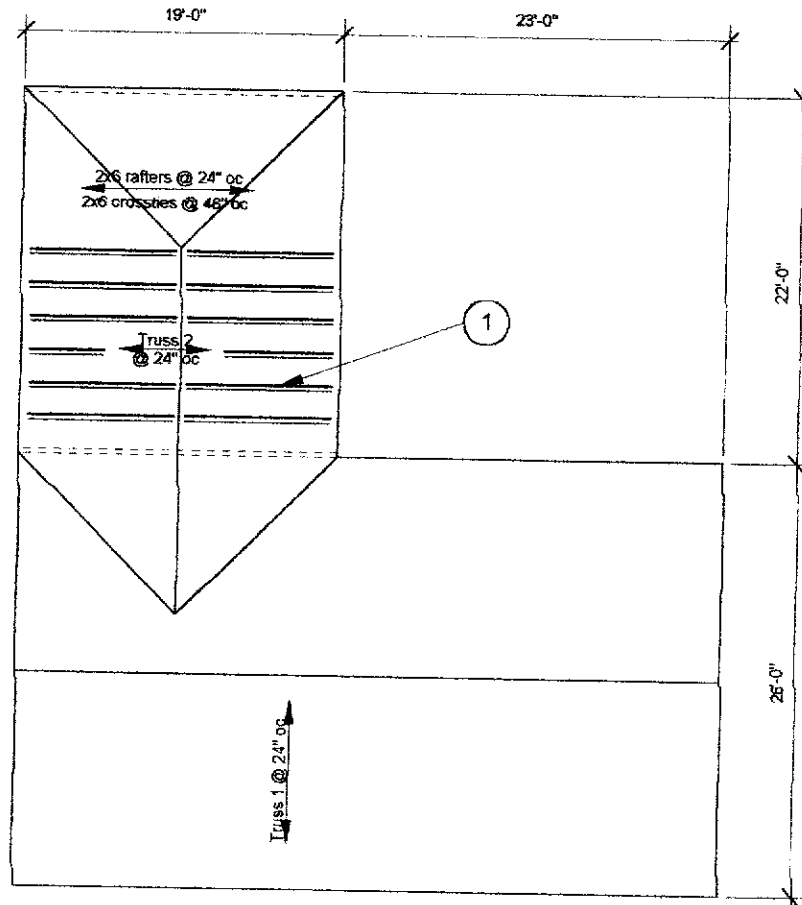
(This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I will forthwith comply with those provisions.

Date 10 22 01 Applicant Signature Rick Smith

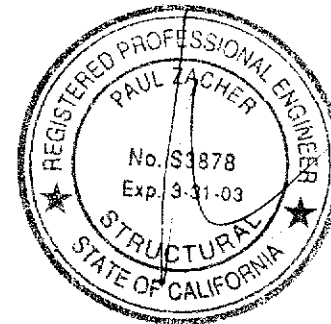
WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S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

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

191 Bell Ave
0113370



Paul Zacher 10/22/01



This set of plans and specifications shall be used in accordance with the provisions of the Building Code of the City of Los Angeles, California, and the State Building Code of California, and shall be subject to the approval of the City Engineer and the State Engineer.

FRAMING NOTES:

1. Scab a 2x4 DF#2 x 10'-0" long rafter to the top chord of the existing truss #2 (total 12). See detail 2.

Notes:

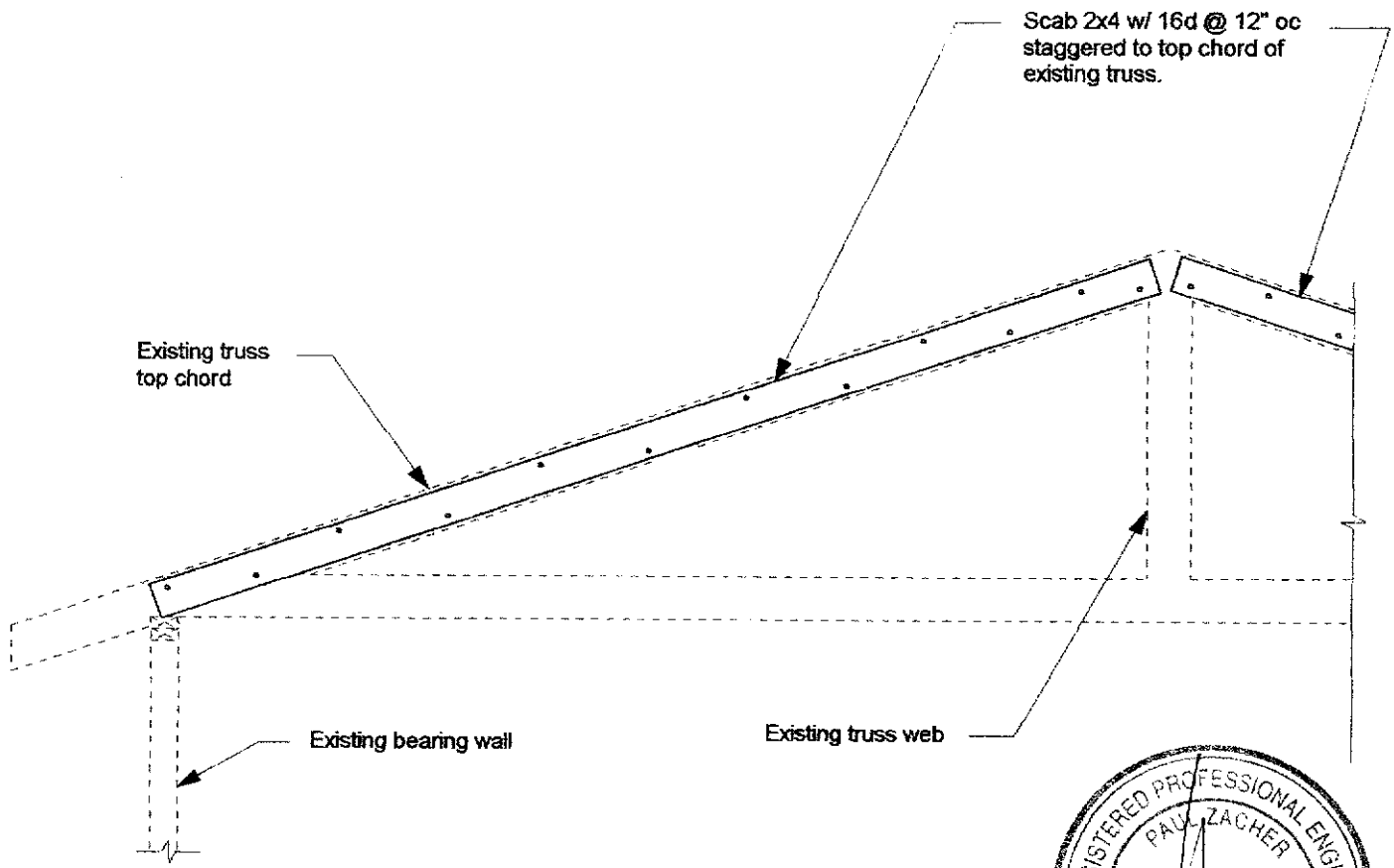
- A. This is a reroof project. The new roofing material shall be a Standard Weight Concrete Tile. The tile shall weigh less than or equal to 10.5 psf.
- B. All structural wood members that were observed appear to be in sound condition and without structural defect.

1

ROOF PLAN - SMITH

Not to Scale

15



2

TRUSS REINFORCEMENT DETAIL

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

Smith



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

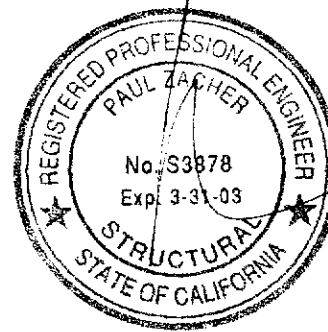
TEL: 916.961.3960
FAX: 916.961.6552

October 22, 2001

Smith
191 Bell Avenue
Sacramento, CA 95838
TEL: (916) 247-7010

Attn.: Mr. Smith,

re: Job 2001_351: SMITH



Subject: Structural Investigation Report of the Roof for the Residence located at 191 Bell Avenue, Sacramento, CA 95838.

As requested by Mr. Smith, this is a report to determine what needs should be addressed to correct any structural deficiencies of the roof. Paul Zacher visited the site October 22, 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 1200 square feet with a first story plate height of 8 feet.

CONSTRUCTION:

Roof:
The roof covering will consist of Standard Weight Concrete Tile over 7/16" solid sheathing over the existing 3/8" solid sheathing. The roof structure is framed with pre-engineered wood trusses spaced at 24" on center.

CONCLUSIONS:

Roof:
The roof structure currently lacks sufficient structural capacity for the applied live and dead loads. See "Recommendations" for location and repair to bring the roof structure up to the required capacity.

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Smith



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.

Roof Structure:

1. Scab a 2x4 DF#2 x 10'-0" long rafter to the top chord of the existing truss. See details 1 and 2.

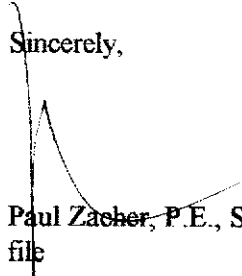
It shall be noted that small hairline cracking may occur at exterior stucco and interior gypboard finished walls that are load bearing or distributing roof strut loads. These cracks are a natural occurrence as the existing structure re-distributes the new roof weight. They are cosmetic in nature and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

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

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

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

Sincerely,


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

P.K. Zacher, S.E.

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

Job #: 01-251

Date: 10/22/01

LOADING

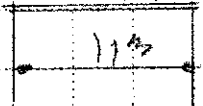
RATIO

O₂: 15.2 wpc 2^o = 30.4 pft

2 x 11 x 2

30.4/32

L₂: 16.0 " " = 32 "



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

Title :
 Dsgnr:
 Description :
 Scope :

Job #
 Date: 9:29AM, 22 OCT 01

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
Timber Section		2x6
Beam Width	in	1.500
Beam Depth	in	5.500
Le: Unbraced Length	ft	0.00
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		Repetitive

Center Span Data

Span	ft	11.25
Dead Load	#/ft	30.40
Live Load	#/ft	32.00

Results

Ratio = 0.9580

Mmax @ Center	in-k	11.85
@ X =	ft	5.62
f _b : Actual	psi	1,566.4
F _b : Allowable	psi	1,635.2
		Bending OK
f _v : Actual	psi	58.7
F _v : Allowable	psi	118.8
		Shear OK

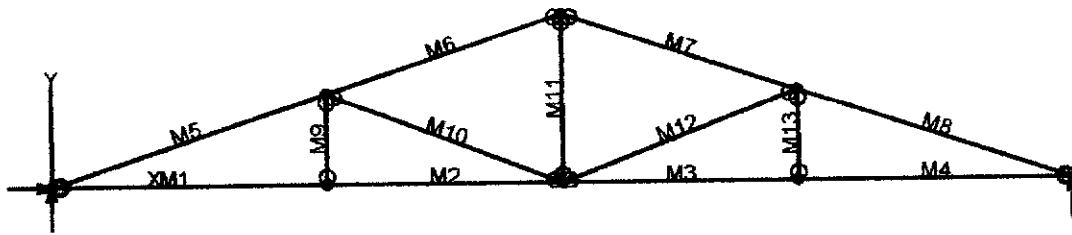
Reactions

@ Left End	DL	lbs	171.00
	LL	lbs	180.00
	Max. DL+LL	lbs	351.00
@ Right End	DL	lbs	171.00
	LL	lbs	180.00
	Max. DL+LL	lbs	351.00

Deflections

Ratio OK

Center DL Defl	in	-0.329
L/Defl Ratio		410.0
Center LL Defl	in	-0.347
L/Defl Ratio		389.5
Center Total Defl	in	-0.676
Location	ft	5.625
L/Defl Ratio		199.7



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VisualAnalysis 3.50.c Report

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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	19.00	0.00	"		"		"	
N5	26.00	0.00	"		Yes		"	
N6	7.00	2.33	"		No		"	
N7	19.00	2.33	"		"		"	
N8	13.00	4.33	"		"		"	

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	7.00
M2	"	"	6.00
M3	"	"	6.00
M4	"	"	7.00
M5	"	"	7.38
M6	"	"	6.32
M7	"	"	6.32
M8	"	"	7.38
M9	"	"	2.33
M10	"	"	6.44
M11	"	"	4.33
M12	"	"	6.44
M13	"	"	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	818.83	-NA-
N5	"	-NA-	818.83	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	1913.06	-31.10	-6.9699	-0.1939
"	1913.06	-11.03	42.0586	-0.1695
"	1913.06	9.0376	44.3819	-0.1056
"	1913.06	29.1043	0.0000	-0.0000
M2	1913.06	-29.89	-31.51	-0.2023
"	1913.06	-12.69	10.9837	-0.2078
"	1913.06	4.5099	19.1639	-0.2070
"	1913.06	21.7099	-6.9699	-0.1939
M3	1913.06	-21.71	-6.9699	-0.1939
"	1913.06	-4.5099	19.1639	-0.2070
"	1913.06	12.6901	10.9837	-0.2077
"	1913.06	29.8901	-31.51	-0.2023
M4	1913.06	-29.10	0.0000	-0.0000
"	1913.06	-9.0376	44.3819	-0.1056
"	1913.06	11.0290	42.0586	-0.1695
"	1913.06	31.0957	-6.9699	-0.1939
M5	-2064.56	145.12	0.0000	-0.0000
"	-2024.48	24.7227	208.10	-0.2432
"	-1984.41	-95.68	120.86	-0.2759
"	-1944.33	-216.08	-261.74	-0.1975
M6	-1368.79	196.18	-261.74	-0.1975
"	-1334.39	92.9843	42.5294	-0.2436
"	-1299.99	-10.22	129.78	-0.2685
"	-1265.59	-113.42	0.0000	-0.1992
M7	-1368.79	-196.18	-261.74	-0.1764
"	-1334.39	-92.98	42.5294	-0.2224
"	-1299.99	10.2157	129.78	-0.2473
"	-1265.59	113.42	0.0000	-0.1781
M8	-2064.56	-145.12	0.0000	0.0211
"	-2024.48	-24.72	208.10	-0.2221
"	-1984.41	95.6773	120.86	-0.2548
"	-1944.33	216.08	-261.74	-0.1764
M9	52.8056	0.0000	0.0000	0.0180
"	52.8056	0.0000	0.0000	0.0265
"	52.8056	0.0000	0.0000	0.0350
"	52.8056	0.0000	0.0000	0.0435
M10	-725.78	0.0000	0.0000	-0.1765
"	-725.78	0.0000	0.0000	-0.1726
"	-725.78	0.0000	0.0000	-0.1687
"	-725.78	0.0000	0.0000	-0.1648
M11	585.24	-0.0000	-0.0000	-0.0334
"	585.24	-0.0000	-0.0000	-0.0334
"	585.24	-0.0000	0.0000	-0.0334

"	585.24	-0.0000	-0.0000	-0.0334
M12	-725.78	-0.0000	0.0000	-0.2007
"	-725.78	-0.0000	-0.0000	-0.1968
"	-725.78	-0.0000	-0.0000	-0.1929
"	-725.78	-0.0000	-0.0000	-0.1890
M13	52.8056	-0.0000	0.0000	0.0234
"	52.8056	-0.0000	-0.0000	0.0319
"	52.8056	-0.0000	-0.0000	0.0404
"	52.8056	-0.0000	-0.0000	0.0489

BENDING & COMP: TRUSS 1 - MEMBER 5

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

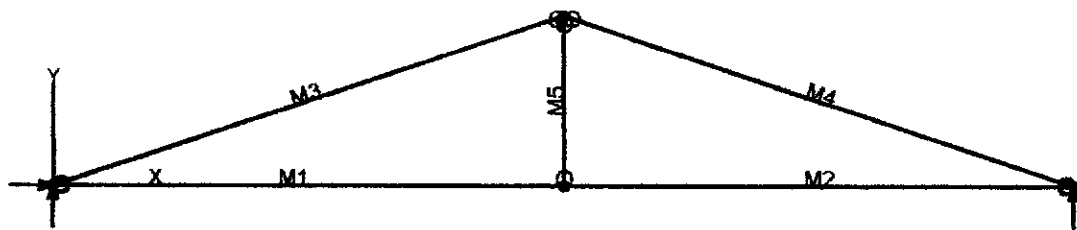
Grading:

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	7.38 feet
Max Axial Comp, C	1944 feet
Max Reaction, R	216 feet
Max Moment, M	261 feet
Max LL Deflection	0.09 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 =	1.20
fc =	370 psi
Fce=	958 psi
Fc*=	2084 psi
F'c=	844 psi
fb=	1023 psi
F*b=Fb*=	2156 psi
Shear D/C ratio	0.52 < 1.0, Member OK
Interaction equation: (fc/F'c)^2 +	
fb/ (F*b(1-fc/Fce)) =	0.97 < 1.0, Member OK
Live Load defl ratio	0.24 < 1.0, Member OK
Total Load defl ratio	0.39 < 1.0, Member OK



VisualAnalysis 3.50.c Report

10/22/01 09:27:52

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	19.00	0.00	"		Yes		"	
N4	9.50	3.17	"		No		"	

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	9.50
M2	"	"	9.50
M3	SS2-2x4	"	10.01
M4	"	"	10.01
M5	SS2x4	"	3.17

Section Properties

Category	Section	Ax in ²	Iz in ⁴	Sy+ in ³	Sy- in ³
Wood Sha	SS2-2x4	10.50	10.72	6.13	6.13
"	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
M1	Equation Case 1	-0.00	698.62	-NA-
N3	"	-NA-	698.62	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	1073.81	-49.85	-85.52	-0.0656
"	1073.81	-22.62	29.0094	-0.1036
"	1073.81	4.6145	57.5163	-0.0997
"	1073.81	31.8478	0.0000	-0.0000
M2	1073.81	-31.85	-0.0000	-0.0000
"	1073.81	-4.6145	57.5163	-0.0997
"	1073.81	22.6189	29.0094	-0.1036
"	1073.81	49.8522	-85.52	-0.0656
M3	-1229.65	292.60	0.0000	-0.0000
"	-1164.56	97.5333	649.57	-0.6512
"	-1099.46	-97.53	649.57	-0.6733
"	-1034.37	-292.60	-0.0000	-0.0662
M4	-1229.65	-292.60	-0.0000	0.0087
"	-1164.56	-97.53	649.57	-0.6426
"	-1099.46	97.5333	649.57	-0.6646
"	-1034.37	292.60	0.0000	-0.0575
M5	99.7044	-0.0000	-0.0000	0.0137
"	99.7044	-0.0000	-0.0000	0.0137
"	99.7044	-0.0000	-0.0000	0.0137
"	99.7044	-0.0000	0.0000	0.0137

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	3 inches
Depth, d	3.5 inches
Length	10.01 feet
Max Axial Comp, C	1164 feet
Max Reaction, R	97 feet
Max Moment, M	649 feet
Max LL Deflection	0.32 feet
Max TL Deflection	0.65 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 =	1.28
fc =	111 psi
Fce =	552 psi
Fc* =	2084 psi
F'c =	518 psi
fb =	1272 psi
F*b = Fb* =	2156 psi
Shear D/C ratio	0.12 < 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	0.64 < 1.0, Member OK
Total Load defl ratio	0.97 < 1.0, Member OK