

CITY OF SACRAMENTO
1231 I Street, Sacramento, CA 95814

Permit No: 0319605

Insp Area: 2
Thos Bros: 336 J2

Site Address: 923 SUNWOOD WY SAC
Parcel No: 031-0740-007

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

CONTRACTOR
ZIMMERMAN REROOFING CO.
3675 R ST.
SACRAMENTO, CA. 95816

OWNER
FONG LAWRENCE C/NADINE F
923 SUNWOOD WY
SACRAMENTO CA 95831

ARCHITECT

Nature of Work: REROOF - TEAR OFF INSTALL 25 SQ 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 C39 License Number 763169 Date 1/14/04 Contractor Signature Alma 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 1-14-04 Applicant/Agent Signature Alma 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 insurance 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.

AS 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 carrier and policy number are:

Carrier STATE FUND Policy Number 713-0002021 Exp Date 10/01/2004

____ (This section need PAID 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 1-14-04 Applicant Signature Alma 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.

933 Sunwood Way

03 19605

Fong



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

TEL: 916.961.3960
FAX: 916.961.6552

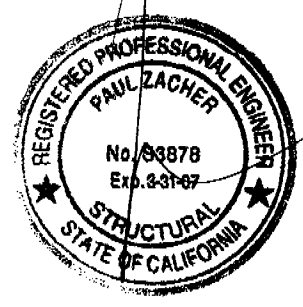
December 2, 2003

Zimmerman Roofing
3675 R Street
Sacramento, CA 95816
TEL: (916) 454-3667
FAX: (916) 691-1943

Attn.: Mr. Jeff Tucker,

re: Job 2003563: FONG

Subject: Structural Investigation Report of the Roof for the Residence located at 923 Sunwood Way, Sacramento, CA 95831.



As requested by Mr. Jeff Tucker, this is a report to determine what needs should be addressed to correct any structural deficiencies of the roof. Paul Zacher visited the site December 2, 2003. 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 with 2001 CBC Title 24 Amendments.

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 3000 square feet.

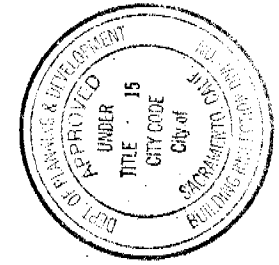
CONSTRUCTION:

Roof:
The roof covering will consist of a Standard Weight Concrete Tile over 7/16" solid sheathing. The roof structure is framed with pre-engineered wood trusses spaced at 24" on center. Several areas have no access and were not inspected.

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. No conclusions are drawn for the areas that are inaccessible and not inspected.

This set of plans is to be kept on the job at all times. No changes shall be made without written approval of the Building Inspector. The approval of this set of plans shall not be held in violation of any City Ordinance.



923 SUNWOOD WAY SACRAMENTO CA 95831

Fong



Paul Zacher - Structural Engineers, Inc
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. After the roofing material has been removed, the contractor shall supply the engineer with diagrams showing the member sizes and span lengths in the inaccessible portion of the structure. The engineer shall then determine if the structure can adequately support the applied dead and live loads and a supplemental report shall be issued. See detail 1.
2. 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

DESIGN LOADING:

Roof Pitch	4	in 12
Pitch Adjustment Factor	1.05	

LOCATION: ROOF

<u>MATERIAL</u>	<u>WEIGHT</u>	
Standard Weight Tile	10.30	psf
Roofing felt	0.30	psf
1x4 skip sht'g	1.09	psf
7/16" OSB/ plywood	1.30	psf
2x12 rafters @ 24" oc	<u>2.05</u>	psf
	Load	15.0 psf
Roof Pitch Adjustment	<u>0.81</u>	psf
Total Load	15.9	psf

The dead and live load on truss top chord is placed along the length of the top chord. Therefore, the live load is as follows:

Live Load on top chord	15.2
------------------------	------

LOCATION: TOP CHORD

<u>MATERIAL</u>	<u>WEIGHT</u>	
Standard Weight Tile	10.30	psf
Roofing felt	0.30	psf
7/16" OSB/ plywood	1.30	psf
1x4 skip sht'g	1.09	psf
2x4 truss @ 24" oc	<u>0.64</u>	psf
Total Load	13.6	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

Job #: 03_563

Date: 12/02/2003

LOADING:

Rafter

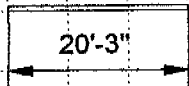
Dr = $15.9 \text{ psf} \times 2'-0" = 31.8 \text{ plf}$

2x12 #2

31.8 / 32.0

Lr = $16.0 \text{ psf} \times 2'-0" = 32.0 \text{ plf}$

20'-3"



B1

Dr = $17.9 \text{ psf} \times 4'-0" = 72 \text{ plf}$

4 x 12 #2

72 / 64

188 / 168

Lr = $16.0 \text{ psf} \times 4'-0" = 64 \text{ plf}$

Dr = $17.9 \text{ psf} \times 10'-6" = 188 \text{ plf}$

Lr = $16.0 \text{ psf} \times 10'-6" = 168 \text{ plf}$

10'-6"

5'-6"



Paul Zacher - Structural Engr's
 4701 Lakeside Way
 Fair Oaks, CA 95628
 TEL: (916) 961-3960
 FAX: (916) 961-8552

Title :
 Dsgnr:
 Description :

Job #
 Date: 8:06PM, 2 DEC 03

Scope :

Rev: 560100
 User: KW-0602844, Ver 5.8.1, 25-Oct-2002
 (c)1983-2002 ENERCALC Engineering Software

Timber Beam & Joist

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Description RAFTERS AND BEAMS

Timber Member Information

Calculations are designed to 1997 NDS and 1997 UBC Requirements

Timber Section		rafter	
		2x12	B1 4x12
Beam Width	in	1.500	3.500
Beam Depth	in	11.250	11.250
Le: Unbraced Length	ft	0.00	0.00
Timber Grade		Douglas Fir - Larch, Douglas Fir - Larch,	
Fb - Basic Allow	psi	875.0	875.0
Fv - Basic Allow	psi	95.0	95.0
Elastic Modulus	ksi	1,600.0	1,600.0
Load Duration Factor		1.250	1.250
Member Type		Sawn	Sawn
Repetitive Status		Repetitive	No

Center Span Data

Span	ft	20.25	16.00
Dead Load	#/ft	31.80	72.00
Live Load	#/ft	32.00	64.00
Dead Load	#/ft		166.00
Live Load	#/ft		104.00
Start	ft		10.500
End	ft		16.000

Results

Ratio = 0.9861 0.8962

Mmax @ Center	in-k	39.24	79.60
@ X =	ft	10.12	9.86
fb : Actual	psi	1,240.3	1,078.2
Fb : Allowable	psi	1,257.8	1,203.1
		Bending OK	Bending OK
fv : Actual	psi	52.4	74.4
Fv : Allowable	psi	118.8	118.8
		Shear OK	Shear OK

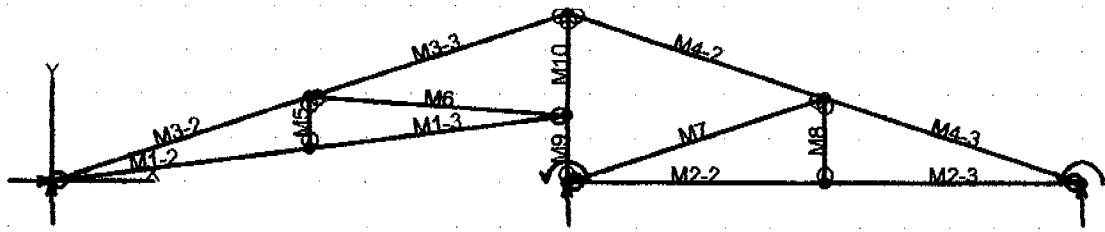
Reactions

@ Left End	DL	lbs	321.97	732.92
	LL	lbs	324.00	610.31
	Max. DL+LL	lbs	645.97	1,343.23
@ Right End	DL	lbs	321.97	1,332.08
	LL	lbs	324.00	985.69
	Max. DL+LL	lbs	645.97	2,317.76

Deflections

Ratio OK Deflection OK

Center DL Defl	in	-0.422	-0.257
L/Defl Ratio		575.2	748.2
Center LL Defl	in	-0.425	-0.203
L/Defl Ratio		571.6	947.6
Center Total Defl	in	-0.848	-0.459
Location	ft	10.125	8.320
L/Defl Ratio		286.7	418.1



Truss 1

VisualAnalysis 4.00 Report

Company: Paul Zacher - Structural Engineers Engineer: Paul Zacher

File: C:\Documents and Settings\Paul Zacher\Desktop\Fong03_563\Truss 1.vap

Nodes

Node	X ft	Y ft	Fix DX	Fix DY	Fix RZ
N1	0.00	0.00	Yes	Yes	No
N2	23.00	0.00	No	"	Yes
N3	11.50	3.83	"	No	No
N4	11.50	1.50	"	"	"
N5	11.50	0.00	"	Yes	Yes
N6	5.75	0.75	"	No	No
N7	17.25	0.00	"	"	"
N8	5.75	1.92	"	"	"
N9	17.25	1.92	"	"	"

Member Elements

Member	Section	Material	Length ft
M1-2	SS2x4	Wood	5.80
M1-3	"	"	5.80
M2-2	"	"	5.75
M2-3	"	"	5.75
M3-2	"	"	6.06
M3-3	"	"	6.06
M4-2	"	"	6.06
M4-3	"	"	6.06
M5	"	"	1.17
M6	"	"	5.76
M7	"	"	6.06
M8	"	"	1.92
M9	"	"	1.50
M10	"	"	2.33

Section Properties

Category	Section	Ax in ²	Iz in ⁴	Sz(+y) in ³	Sz(-y) 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: UBC97 12.8a

Combination: 1D+1Lr

Contributing Cases & Source

Dead Load (Dead loads)
Roof Live Load (Roof Live loads)

Nodal Reactions

Node	Load Case	FX lb	FY lb	MZ lb-ft
N1	UBC97 12.8a	0.00	350.36	-NA-
N2	"	-NA-	350.36	0.00
N5	"	-NA-	821.87	0.00

Member Results

Member	Fx lb	Vy lb	Mz lb-ft	Dx in	Dy in
M1-2	966.44	24.96	0.00	0.00	0.00
"	968.57	8.61	32.43	0.00	-0.05
"	970.70	-7.73	33.28	0.01	-0.08
"	972.83	-24.08	2.56	0.01	-0.08
M1-3	966.55	24.08	2.56	0.01	-0.08
"	968.69	7.73	33.28	0.01	-0.08
"	970.82	-8.61	32.43	0.01	-0.05
"	972.95	-24.96	0.00	0.02	-0.00
M2-2	608.39	-28.25	-20.29	-0.02	-0.03
"	608.39	-11.77	18.05	-0.02	-0.03
"	608.39	4.71	24.82	-0.02	-0.02
"	608.39	21.20	0.00	-0.02	0.00
M2-3	608.39	-21.20	0.00	-0.01	0.00
"	608.39	-4.71	24.82	-0.01	-0.02
"	608.39	11.77	18.05	-0.01	-0.03
"	608.39	28.25	-20.29	-0.02	-0.03
M3-2	-1054.6	123.70	0.00	0.00	0.00
"	-1019.7	18.95	144.00	-0.00	-0.11
"	-984.90	-85.79	76.49	-0.01	-0.12
"	-950.02	-190.54	-202.54	-0.01	-0.08
M3-3	94.10	190.54	-202.54	-0.01	-0.08
"	128.99	85.79	76.49	-0.01	-0.12
"	163.87	-18.95	144.00	-0.01	-0.11
"	198.75	-123.70	0.00	-0.01	0.00
M4-2	31.18	-194.17	-224.56	-0.00	-0.04
"	66.07	-89.43	61.81	-0.01	-0.08
"	100.95	15.32	136.66	-0.01	-0.09
"	135.84	120.06	0.00	-0.01	-0.00
M4-3	-681.23	-120.06	0.00	-0.01	-0.00
"	-646.35	-15.32	136.66	-0.01	-0.09
"	-611.46	89.43	61.81	-0.01	-0.08
"	-576.58	194.17	-224.56	-0.00	-0.04
M5	48.56	0.00	0.00	0.08	0.02
"	48.56	0.00	0.00	0.08	0.02
"	48.56	0.00	0.00	0.08	0.02
"	48.56	0.00	0.00	0.08	0.02
M6	-1113.9	0.00	0.00	0.02	-0.08
"	-1113.9	0.00	0.00	0.02	-0.05
"	-1113.9	0.00	0.00	0.02	-0.03
"	-1113.9	0.00	0.00	0.02	-0.00
M7	-737.10	0.00	0.00	-0.02	-0.03
"	-737.10	0.00	0.00	-0.02	-0.01
"	-737.10	0.00	0.00	-0.02	-0.00
"	-737.10	0.00	0.00	-0.02	0.01
M8	56.51	0.00	0.00	0.03	-0.02

Member	Fx lb	Vy lb	Mz lb-ft	Dx in	Dy in
"	56.51	0.00	0.00	0.03	-0.02
"	56.51	0.00	0.00	0.03	-0.02
"	56.51	0.00	0.00	0.03	-0.02
M9	-567.77	90.94	-136.41	0.00	0.02
"	-567.77	90.94	-90.94	0.00	0.01
"	-567.77	90.94	-45.47	0.00	-0.01
"	-567.77	90.94	0.00	0.00	-0.02
M10	-336.99	-58.55	0.00	-0.00	0.01
"	-336.99	-58.55	45.47	-0.00	-0.01
"	-336.99	-58.55	90.94	-0.00	-0.02
"	-336.99	-58.55	136.41	-0.00	-0.02

BENDING & COMP: TRUSS 1 - MEMBER 3-2

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

Grading:

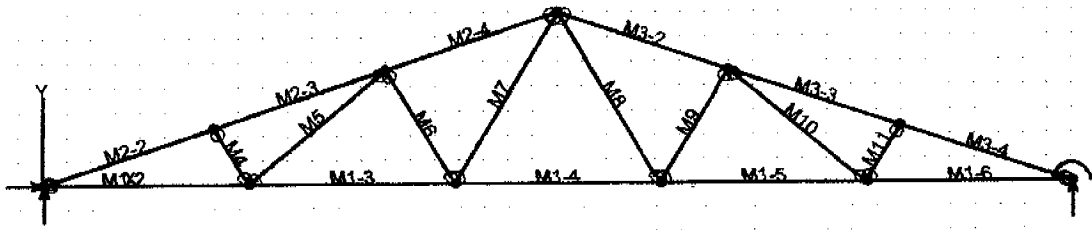
2x or 4x

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	6.06 feet
Max Axial Comp, C	950 lbs
Max Reaction, R	190 lbs
Max Moment, M	202 ft-lbs
Max LL Deflection	0.04 inches
Max TL Deflection	0.08 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 =	1.17
fc =	181 psi
Fce =	1378 psi
Fc* =	2084 psi
F'c =	1119 psi
fb =	792 psi
F'b = Fb* =	2156 psi
Shear D/C ratio	0.46 < 1.0, Member OK
Interaction equation:	
(fc/F'c) ² +	
fb / (F'b(1-fc/Fce)) =	0.45 < 1.0, Member OK
Live Load defl ratio	0.13 < 1.0, Member OK
Total Load defl ratio	0.20 < 1.0, Member OK



Truss 2

VisualAnalysis 4.00 Report

Company: Paul Zacher - Structural Engineers Engineer: Paul Zacher

File: C:\Documents and Settings\Paul Zacher\Desktop\Fong03_563\Truss 2.vap

Nodes

Node	X ft	Y ft	Fix	DX	Fix	DY	Fix	RZ
N1	0.00	0.00	Yes		Yes		No	
N2	42.00	0.00	No		"		Yes	
N3	21.00	7.00	"		No		No	
N4	8.40	0.00	"		"		"	
N5	16.80	0.00	"		"		"	
N6	25.20	0.00	"		"		"	
N7	33.60	0.00	"		"		"	
N8	7.00	2.33	"		"		"	
N9	14.00	4.67	"		"		"	
N10	28.00	4.67	"		"		"	
N11	35.00	2.33	"		"		"	

Member Elements

Member	Section	Material	Length ft
M1-2	SS2x4	Wood	8.40
M1-3	"	"	8.40
M1-4	"	"	8.40
M1-5	"	"	8.40
M1-6	"	"	8.40
M2-2	"	"	7.38
M2-3	"	"	7.38
M2-4	"	"	7.38
M3-2	"	"	7.38
M3-3	"	"	7.38
M3-4	"	"	7.38
M4	"	"	2.72
M5	"	"	7.29
M6	"	"	5.44
M7	"	"	8.16
M8	"	"	8.16
M9	"	"	5.44
M10	"	"	7.29
M11	"	"	2.72

Section Properties

Category	Section	Ax in ²	Iz in ⁴	Sz(+y) in ³	Sz(-y) 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

12

Material	Strength psi	Elasticity psi	Poisson	Density lb/ft ³
Wood	-NA-	1700000.00	0.36	40.47

Load Combination Summary

Equation Case: UBC97 12.8a

Combination: 1D+1Lr

Contributing Cases & Source

Dead Load (Dead loads)

Roof Live Load (Roof Live loads)

Nodal Reactions

Node	Load Case	FX lb	FY lb	MZ lb-ft
N1	UBC97 12.8a	0.00	1390.20	-NA-
N2	"	-NA-	1390.20	0.00

Member Results

Member	Fx lb	Vy lb	Mz lb-ft	Dx in	Dy in
M1-2	3563.76	-38.42	-19.35	0.04	-0.48
"	3563.76	-14.34	54.50	0.03	-0.40
"	3563.76	9.74	60.95	0.01	-0.24
"	3563.76	33.82	0.00	0.00	0.00
M1-3	2834.45	-39.67	-49.14	0.07	-0.57
"	2834.45	-15.59	28.18	0.06	-0.58
"	2834.45	8.49	38.12	0.05	-0.55
"	2834.45	32.57	-19.35	0.04	-0.48
M1-4	2081.48	-36.12	-49.14	0.10	-0.57
"	2081.48	-12.04	18.25	0.09	-0.58
"	2081.48	12.04	18.25	0.08	-0.58
"	2081.48	36.12	-49.14	0.07	-0.57
M1-5	2834.45	-32.57	-19.35	0.13	-0.48
"	2834.45	-8.49	38.12	0.12	-0.55
"	2834.45	15.59	28.18	0.11	-0.58
"	2834.45	39.67	-49.14	0.10	-0.57
M1-6	3563.76	-33.82	0.00	0.17	0.00
"	3563.76	-9.74	60.95	0.15	-0.24
"	3563.76	14.34	54.50	0.14	-0.40
"	3563.76	38.42	-19.35	0.13	-0.48
M2-2	-3809.8	159.82	0.00	0.00	0.00
"	-3767.3	32.32	236.16	-0.01	-0.36
"	-3724.8	-95.19	158.84	-0.02	-0.48
"	-3682.3	-222.69	-231.95	-0.04	-0.45
M2-3	-3591.7	184.68	-231.95	-0.04	-0.45
"	-3549.2	57.18	65.37	-0.05	-0.53
"	-3506.7	-70.32	49.21	-0.06	-0.55
"	-3464.2	-197.82	-280.43	-0.07	-0.56
M2-4	-2691.3	229.26	-280.43	-0.07	-0.56
"	-2648.8	101.76	126.52	-0.08	-0.71
"	-2606.3	-25.75	220.00	-0.09	-0.75
"	-2563.8	-153.25	0.00	-0.10	-0.56
M3-2	-2691.3	-229.26	-280.43	0.23	-0.50
"	-2648.8	-101.76	126.52	0.24	-0.66
"	-2606.3	25.75	220.00	0.25	-0.69
"	-2563.8	153.25	0.00	0.26	-0.51

Member	Fx lb	Vy lb	Mz lb-ft	Dx in	Dy in
M3-3	-3591.7	-184.68	-231.95	0.20	-0.40
"	-3549.2	-57.18	65.37	0.21	-0.47
"	-3506.7	70.32	49.21	0.22	-0.50
"	-3464.2	197.82	-280.43	0.23	-0.50
M3-4	-3809.8	-159.82	0.00	0.16	0.05
"	-3767.3	-32.32	236.16	0.17	-0.31
"	-3724.8	95.19	158.84	0.18	-0.43
"	-3682.3	222.69	-231.95	0.20	-0.40
M4	-417.31	0.00	0.00	0.43	-0.21
"	-417.31	0.00	0.00	0.43	-0.19
"	-417.31	0.00	0.00	0.43	-0.16
"	-417.31	0.00	0.00	0.43	-0.13
M5	669.87	0.00	0.00	-0.28	-0.39
"	669.87	0.00	0.00	-0.27	-0.49
"	669.87	0.00	0.00	-0.27	-0.46
"	669.87	0.00	0.00	-0.27	-0.43
M6	-687.56	0.00	0.00	0.52	-0.23
"	-687.56	0.00	0.00	0.52	-0.22
"	-687.56	0.00	0.00	0.53	-0.20
"	-687.56	0.00	0.00	0.53	-0.19
M7	775.94	0.00	0.00	-0.45	-0.35
"	775.94	0.00	0.00	-0.44	-0.36
"	775.94	0.00	0.00	-0.44	-0.36
"	775.94	0.00	0.00	-0.44	-0.36
M8	775.94	0.00	0.00	0.53	-0.22
"	775.94	0.00	0.00	0.53	-0.21
"	775.94	0.00	0.00	0.53	-0.21
"	775.94	0.00	0.00	0.53	-0.21
M9	-687.56	0.00	0.00	-0.44	-0.37
"	-687.56	0.00	0.00	-0.44	-0.36
"	-687.56	0.00	0.00	-0.44	-0.35
"	-687.56	0.00	0.00	-0.44	-0.34
M10	669.87	0.00	0.00	0.40	-0.38
"	669.87	0.00	0.00	0.40	-0.35
"	669.87	0.00	0.00	0.40	-0.32
"	669.87	0.00	0.00	0.41	-0.29
M11	-417.31	0.00	0.00	-0.35	-0.36
"	-417.31	0.00	0.00	-0.35	-0.33
"	-417.31	0.00	0.00	-0.35	-0.30
"	-417.31	0.00	0.00	-0.35	-0.28

BENDING & COMP: TRUSS 2 - MEMBER 2-2

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

Grading:

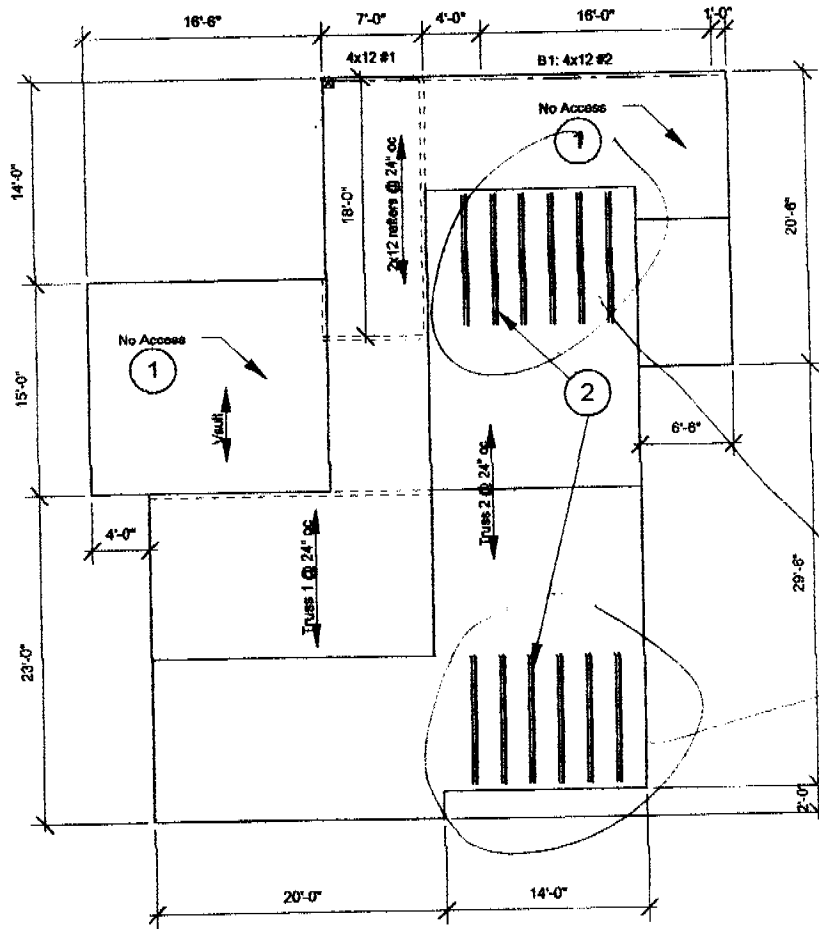
2x or 4x

Doug-fir larch: No. 2

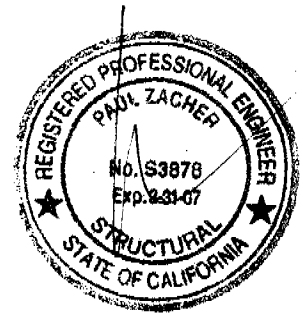
Assumptions:

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	7.38 feet
Max Axial Comp, C	3682 lbs
Max Reaction, R	222 lbs
Max Moment, M	231 ft-lbs
Max LL Deflection	0.22 inches
Max TL Deflection	0.45 inches
LL Defl Criteria = L/	240
TL Defl Criteria = L/	180
Duration factor, Cd	1.25
Repetitive Factor, Cr	1.15
Size Factor, Cf bending	1.5 1.5 for 2x4, 1.3 for 2x6
Size Factor, Cf comp	1.15 1.15 for 2x4, 1.1 for 2x6
Buckling Factor, CT =	1.20
fc =	351 psi
Fce=	958 psi
Fc*=	2084 psi
F'c=	844 psi
fb=	453 psi
F'b=Fb*=	2156 psi
Shear D/C ratio	0.27 < 1.0, Member OK
Interaction equation:	
(fc/F'c)^2 +	
fb/ (F'b(1-fc/Fce)) =	0.50 < 1.0, Member OK
Live Load defl ratio	0.60 < 1.0, Member OK
Total Load defl ratio	0.91 < 1.0, Member OK



Done
BPB
1-15-04



FRAMING NOTES:

1. No Access, see "Recommendations".
2. 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:

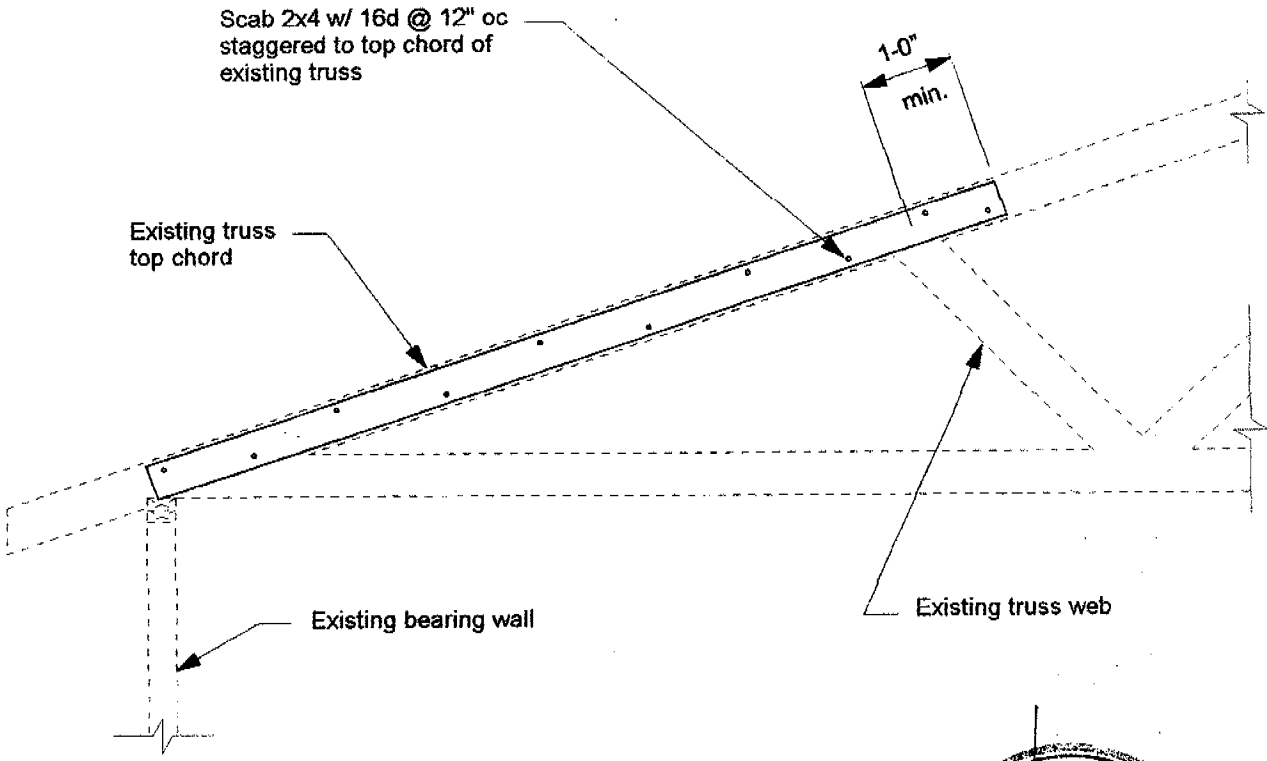
- A. This is a reroof project. The new roofing material shall be a Standard Weight Concrete Tile. The tile shall weigh less than or equal to 10.3 psf.
- B. All structural wood members that were observed appear to be in sound condition and without structural defect.

1

ROOF PLAN - FONG

Not to Scale

16



2 TRUSS REINFORCEMENT DETAIL

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