CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0101693

Insp Area: 2

Site Address: 6825 WAVECREST WY SAC

Parcel No: 030-0630-058

Sub-Type: RES

Housing (Y/N): N

CONTRACTOR

FERGUSON GARY DBA JOINT EFFORTS
6729 WALNUT AVE
ORANGEVALLE CA 95662

OWNER

6825 WAVECREST WY
SACRAMENTO CA 95831

ARCHITECT

YAMAMOTO GARY D & KAREN S

Nature of Work: T/O REROOF WITH LITE 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'sAddress_____

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 B License Number 602864 Date 2/21 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_____ 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 herby authorize representative(s) of this city to enter upon the above-mentioned property for inspection purposes.

Date 2/21/01 Applicant/Agent Signature _____

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 Exempt 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 shall forthwith comply with those provisions.

Date 2/21/01 Applicant Signature _____

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.

725 North 1000 West
Centerville, Utah 84014

Bartile

April 19, 2002

City of Sacramento Building Department

RE: Bartile draped counter batten recommendations:

Steps:

1. Existing roof is removed exposing existing skip sheeting.
2. All nails or staples are hammered down flush or removed.
3. All sheathing with dry rot shall be removed and replaced.
4. A starter membrane, 9" wide (ASTM 30 lb. felt or equivalent) shall be installed at the eave edge.
5. A 7/8" 22 gauge galvanized hat channel furring batten shall be installed, vertically, directly over existing skip sheeting and roof rafter starting at eave up to ridge. (see photo #cb-1)
    a. Nailed at 24" on center or less using a #16 d nail through the top of the hat channel through the existing skip sheeting and into the rafter below.
    b. The vertical batten spacing is usually 16" or 24" on center depending on rafter layout. Maximum spacing is 24" on center.
    c. Note: The vertical hat channel is installed below the underlayment, and not subject to moisture.
6. Thermo-ply or Thermosheathing ICBO approved concrete and clay tile underlayment over ship sheathing. (see photo #cb-2)
    a. Underlayment shall be draped between the vertical battens.
    b. Minimum head lap of 3" and side lap of 2". Center of side lap must be at vertical batten. Vertical side lap cannot be in trough.
7. The Horizontal battens hold the thermo-sheeting in place when installed in next step. Draping of the thermo-sheet creates a significant water and airway channel, thus eliminating the possibility of water being trapped behind the horizontal battens. (see photo #cb-3)

8. Valleys

    a. Begin with a thermo-sheet panel centered in the valley from eve to ridge with minimum 6" head lap.

    b. Horizontal thermo-sheeting panels are woven through and past the valleys.

9. Horizontal battens are installed starting at the eave (called the kicker) and continuing to the ridge* at maximum 12" O.C. and yielding a minimum 3" head lap.

    a. Battens are attached with a #10 x 5/16" hex head with a ¾" shank self-tapping corrosion resistant screw at vertical battens.

    b. Fastening of horizontal battens alternate at top flange of horizontal batten to bottom flange of horizontal batten, alternating at each vertical batten.

    *The second horizontal batten is a ½" cold roll galvanized channel attached thru the top of the channel with a #10 x 5/16" hex head with a 3/4" minimum shank, self-tapping corrosion resistant screw at every vertical hat channel. Only the second course horizontal batten is installed with a cold rolled channel. This is to allow the first and second course of tile to lie on approximately the same plane.

10. The tile is to be installed using a 1 5/8" minimum** self-tapping corrosion resistant screw.

    a. Lightweight tiles are installed in the same manner as standard-weight tiles with the exception that each tile is attached as specified in Table 15-D-2 Chapter 15 of the code with a minimum **1.5/8" corrosion resistant screw. **European 2 ½" and Sierra Mission 3 ½" Fasteners required.

    b. Field tile shall have a minimum of a 3" head lap.

11. Hip and Ridge Trim shall be fastened with **1 5/8" minimum self-taping corrosion resistant screw fastened to high profile metal hat channel. Hip and ridge to be fastened with 2 fasteners penetrating ¾" or one fastener and mastic at leading edge with surface compatible mastic meeting or exceeding the holding strength of a fastener.

    a. Rake Tiles shall be fastened to the fascia with minimum 2 3/8" corrosion resistant nail.

12. Ridge vent to be a minimum of 26 gauge galvanized or greater louvered vent fastened at a maximum of 32" OC with a 5/16" self tapping corrosion resistant screw.

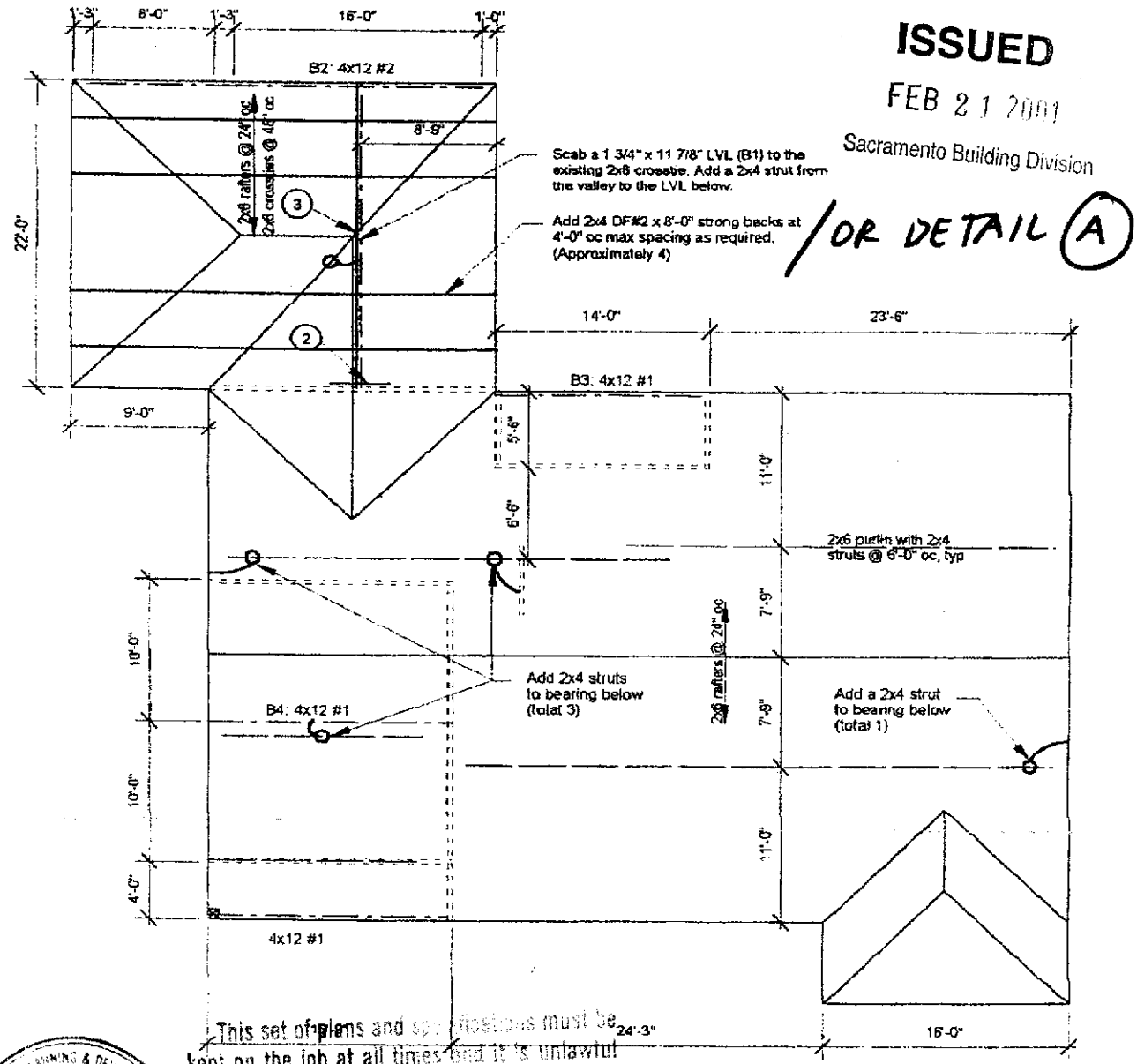
13. Roof jacks to be double flashed and a diverter installed under the Thermoply channeling water away from the penetration/ jack.

Please contact Rob George at 916-761-0356 if you have any questions, or I can be reached at 800-933-5038 ext # 104

Lewis Evans, President

LME/jd

CC Rob George
Gary Ferguson
File



ISSUED

FEB 21 2001

Sacramento Building Division

/OR DETAIL (A)

This set of plans and specifications must be kept on the job at all times and it is unlawful to make any changes or alterations from the same without written permission from the Building Inspection Division.

The approval of this plan and specification SHALL NOT be held to permit or approve the violation of any City Ordinance or State law.

PLANNING & DEVELOPMENT APPROVED UNDER TITLE 15 CITY CODE City of SACRAMENTO, CALIF.

REVIEWED BY: 2/21/01

FAX SIGNATURE O.K. 2/21/01

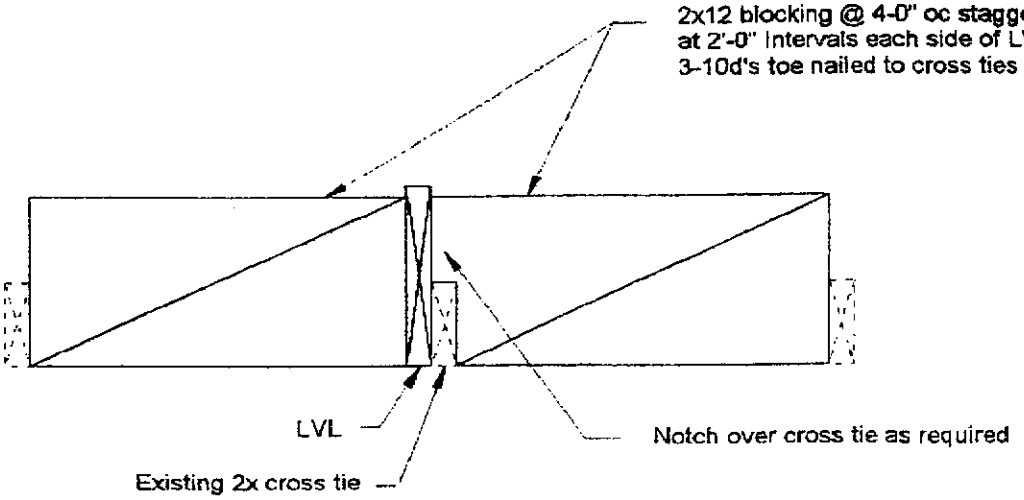
REGISTERED PROFESSIONAL ENGINEER PAUL ZACHER No. S3878 Exp. 3-31-03 STRUCTURAL STATE OF CALIFORNIA

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 rafters are 2x6 DF#2 and hips and valleys are 2x8 DF#2 unless otherwise noted.
3. All existing rafter, hips, valleys, rafter ties, and purlins are braced per UBC Section 2320.12 "Roof and Ceiling Framing" unless otherwise shown.
4. All structural wood members that were observed appear to be in sound condition and without structural defect.

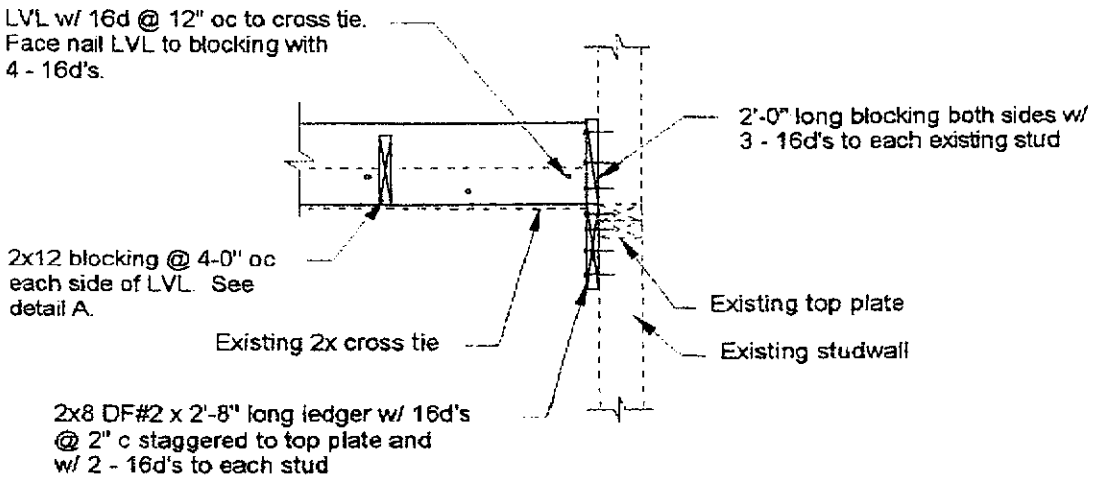
1 ROOF PLAN - YAMAMOTO

Not to Scale

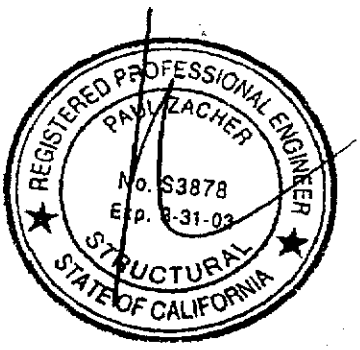


A **LEDGER BLOCKING**

scale: 1" = 1'-0"



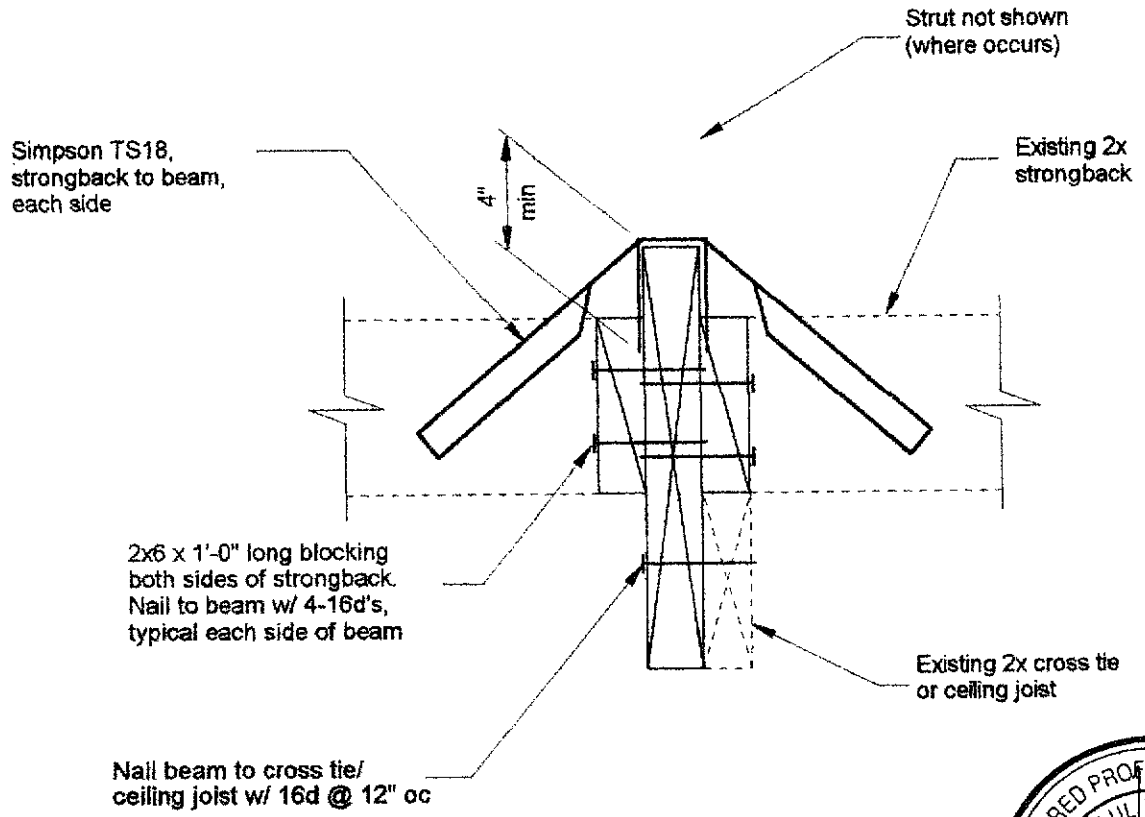
Note:
Blocking and ledger shall be applied directly to wood members. Remove and replace 5/8" Type "X" gypboard as required



B **LEDGER CONNECTION**

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

2 **LEDGER CONNECTION**



3 STRONGBACK DETAIL

No scale

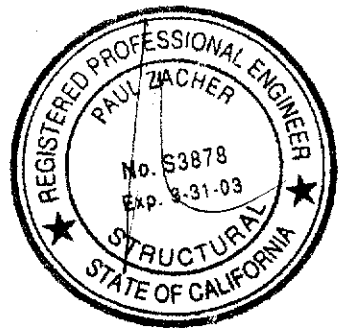
REGISTERED PROFESSIONAL ENGINEER
PAUL ZACHER
No. S3878
Exp. 3-31-03
STRUCTURAL
STATE OF CALIFORNIA

Yamamoto

Paul Zacher – Structural Engineers
4701 Lakeside Way
Fair Oaks, CA 95628
TEL: 916.961.3960
FAX: 916.961.3960

Paul Zacher - Structural Engineers

November 8, 2000



Ventilated Roofing Systems
P.O. Box 607
Orangevale, CA 95662
TEL: (916) 988-4139
FAX: (916) 987-1078

Attn.: Mr. Gary Ferguson,

re: Job 2000_385: YAMAMOTO

Subject: Structural Investigation Report of the Roof for the Residence located at 6825 Wavecrest Way, Sacramento, CA 95831.

As requested by Mr. Gary Ferguson, this is a report to determine what needs should be addressed to correct any structural deficiencies of the roof. Paul Zacher visited the site November 8, 2000. The investigation was made to determine the existing condition of the structure. All information, data and analysis contained within this report are based on the 1997 Uniform Building Code.

The following is based on visual observations with no subsurface investigation being made.

DESCRIPTION:

Type of Facility:	Residence.
Year Built:	Estimated 1970's vintage.
Occupancy:	Residential.
No. of Stories:	One.
Dimensions:	Approximately 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 a batten system. The living area is conventionally framed with 2x6 rafters spaced at 24" on center with 2x6 purlins supported at no more than 8'-0" on center by 2x4 struts bearing on walls below except for the vaulted ceiling areas. The vaulted ceiling is constructed of 2x6 rafters spaced at 24" on center supported at the ridge by a 4x beam. The garage area is framed with 2x6 rafters spaced at 24" on center and 2x6 cross ties spaced at 4'-0" on center.

CONCLUSIONS:

Roof:

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

Paul Zacher – Structural Engineers
4701 Lakeside Way
Fair Oaks, CA 95628
TEL: 916.961.3960
FAX: 916.961.3960

RECOMMENDATIONS:

If any of the following recommendations do not correspond to actual field conditions, the engineer of record shall be notified for further investigation and evaluation before continuing work.

Living Area:

1. Provide additional 2x4 struts from the existing purlins to the bearing walls below. The maximum spacing between the new and existing struts shall not exceed 6'-0" on center and the minimum slope of the struts shall not be less than 45 degrees from the horizontal. See detail 1.

Garage:

2. Scab a 1 3/4" x 11 7/8" LVL beam to the existing 2x6 crosstie and nail together with 16d's @ 12 " oc. The ends of the LVL may be clipped as required to meet the slope of the rafters. The support at the interior wall shall be a 2x8 x 2'-8" long ledger attached to the double top plate with 16d's @ 2" oc staggered. Support the existing valley to the LVL beam below with a 2x4 strut. See details 1, 2 and 3.

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 BATTEN SYTEM

MATERIAL	WEIGHT	
Light Weight Tile	7.00	psf
Roofing felt	0.30	psf
1x4 skip sht'g	1.09	psf
Batten system	1.00	psf
2x6 rafters @ 24" oc	1.00	psf
Load	10.4	psf
Roof Pitch Adjustment	0.56	psf
Total Load	11.0	psf

LOCATION: VAULT BATTEN SYSTEM

MATERIAL	WEIGHT	
Light Weight Tile	7.00	psf
Roofing felt	0.30	psf
Batten system	1.00	psf
1x4 skip sht'g	1.09	psf
2x6 rafters @ 24" oc	1.00	psf
Batt/blown insul	0.50	psf
1/2" Gypboard	2.50	psf
Load	13.4	psf
Roof Pitch Adjustment	0.72	psf
Total Load	14.1	psf

P.K. Zacher, S.E.
Job #: 00-385
Date: 11/8/00

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

LOADING

RAFTER

D_R = 11.0 psf × 2' = 22 plf
L_R = 16.0 × 2' = 32 plf

2x6 #2

22/32
12'

#1

P_{DR} = 11.0 psf × 6' × 6' = 396#
L_R = 16.0 × 6' × 6' = 576#

596/576
11' 11'
1 3/4 x 11 7/8 PSL
R_L = 198/288

#2

D_R = 11.0 psf × 6' = 66 plf
L_R = 16.0 × 6' = 96 plf
P_{DL} = 198/288 - #1

198/288
66/96
4x12 #2
8' 8'

#3:

D_R = 11.0 psf × 4' = 44 plf
L_R = 16.0 × 4' = 64 plf

44/64
4x12 #1
14'

#4:

D_R = 14.1 psf × 7' = 106 plf
L_R = 16.0 × 7' = 120 plf

106/120
4x12 #1
15'

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

Title :
Dsgnr:
Description :
Scope :
Job #
Date: 5:07PM, 8 NOV 00

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

Timber Section		rafter 2x6	B1 LVL:1.750x	B2 4x12	B3 4x12	B4 4x12
Beam Width	in	1.500	1.750	3.500	3.500	3.500
Beam Depth	in	5.500	11.875	11.250	11.250	11.250
Le: Unbraced Length	ft	0.00	0.00	0.00	0.00	0.00
Timber Grade		ouglas Fir - Larch, ass Joist - Mac	Mi	Douglas Fir - Larch,	Douglas Fir - Larch	Douglas Fir - Larch,
Fb - Basic Allow	psi	875.0	2,600.0	875.0	875.0	1,000.0
Fv - Basic Allow	psi	95.0	285.0	95.0	95.0	95.0
Elastic Modulus	ksi	1,600.0	1,900.0	1,600.0	1,600.0	1,700.0
Load Duration Factor		1.250	1.250	1.250	1.250	1.250
Member Type		Sawn	Manuf/Pine	Sawn	Sawn	Sawn
Repetitive Status		Repetitive	No	No	No	No

Center Span Data

Span	ft	12.00	22.00	14.00	14.00	15.75
Dead Load	#/ft	22.00		66.00	44.00	106.00
Live Load	#/ft	32.00		96.00	64.00	120.00
Point #1 DL	lbs		396.00	198.00		
LL	lbs		576.00	288.00		
@ X	ft		11.000	8.000		

Results

		Ratio =	0.9432	0.4799	0.7500	0.3575	0.8284
Mmax @ Center	in-k		11.66	64.15	66.62	31.75	84.09
@ X =	ft		6.00	11.00	7.95	7.00	7.87
fb : Actual	psi		1,542.3	1,559.8	902.4	430.1	1,139.0
Fb : Allowable	psi		1,635.2	3,250.0	1,203.1	1,203.1	1,375.0
			Bending OK	Bending OK	Bending OK	Bending OK	Bending OK
fv : Actual	psi		54.7	35.1	48.2	25.1	60.2
Fv : Allowable	psi		118.8	356.3	118.8	118.8	118.8
			Shear OK	Shear OK	Shear OK	Shear OK	Shear OK

Reactions

@ Left End DL	lbs	132.00	198.00	546.86	308.00	834.75
LL	lbs	192.00	288.00	795.43	448.00	945.00
Max. DL+LL	lbs	324.00	486.00	1,342.29	756.00	1,779.75
@ Right End DL	lbs	132.00	198.00	575.14	308.00	834.75
LL	lbs	192.00	288.00	836.57	448.00	945.00
Max. DL+LL	lbs	324.00	486.00	1,411.71	756.00	1,779.75

Deflections

		Ratio OK	Deflection OK	Deflection OK	Deflection OK	Deflection OK
Center DL Defl	in	-0.308	-0.327	-0.114	-0.057	-0.208
L/Defl Ratio		466.8	807.0	1,467.9	2,935.2	909.2
Center LL Defl	in	-0.449	-0.476	-0.166	-0.083	-0.235
L/Defl Ratio		320.9	554.8	1,009.2	2,017.9	803.1
Center Total Defl	in	-0.757	-0.803	-0.281	-0.140	-0.443
Location	ft	6.000	11.000	7.056	7.000	7.875
L/Defl Ratio		190.2	328.8	598.0	1,195.8	426.4