

CITY OF SACRAMENTO

Permit No: 9807615

1231 I Street, Sacramento, CA 95814

Insp Area: 2

Site Address: 740 SKYLAKE WY SAC

Sub-Type: RES

Parcel No: 0300600022

Housing (Y/N): N

CONTRACTOR

YANCEY BROS
8250 ALPINE AV #D
SACRAMENTO CA

OWNER

SCHAAF BILL/DIANE
740 SKYLAKE WY
SACRAMENTO CA

ARCHITECT

95831

Nature of Work: REROOF W/ TILE 29 SQ INCL STRUCTURAL WORK PER ENGINEER'S REPORT

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 License Number 731709 Date 8/7/98 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 hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 8/7/98 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 State Fund Policy Number 1469438 - 97

_____, (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 8/7/98 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.

Paul Zacher-Structural Engineers

4701 Lakeside Way
Fair Oaks, CA 95628

TEL: 916.961.3960
FAX: 916.961.3960
e-mail: pzacher@softcom.net

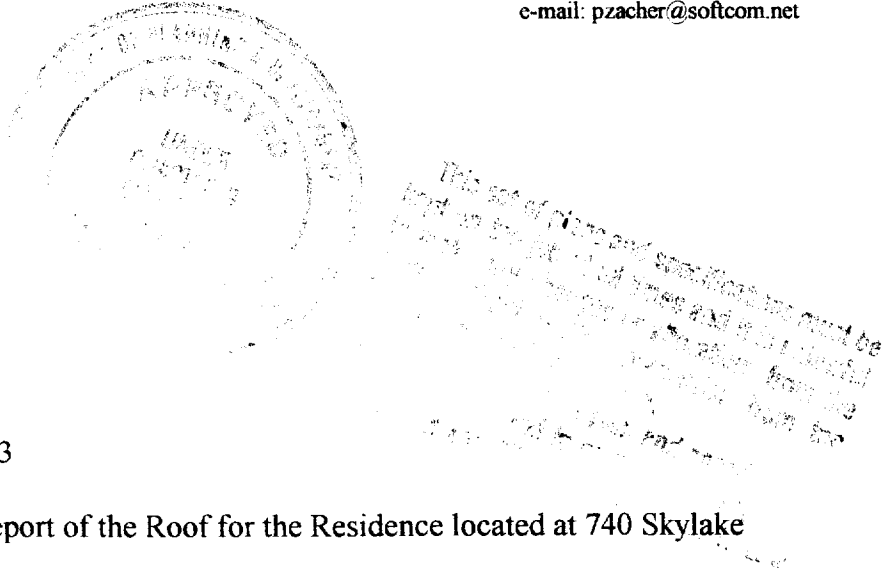
July 22, 1998

Yancey Bros.
8250-D Alpine Avenue
Sacramento, CA 95826
TEL: 916.457.5113
FAX: 916.457.5427

Attn.: Mr. Rob George,

re: Job 98155: SCHAFF: PO#10393

Subject: Structural Investigation Report of the Roof for the Residence located at 740 Skylake Way, Scaramenot, CA 95831.



As requested by Mr. Rob George, this is a report to determine what needs should be addressed to correct any structural deficiencies of the roof. Paul Zacher visited the site July 21, 1998. The investigation was made to determine the existing condition of the structure. All information, data and analysis contained within this report is based on the 1994 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 1800 square feet with a first story plate height of 8 feet.

ISSUED

AUG 07 1998

CITY OF SACRAMENTO
DEVELOPMENT SERVICES DIV.

CONSTRUCTION:

Roof:

The roof covering will consist of Light Weight Concrete Bartile over 1/2" solid sheathing. The living area is conventionally framed with 2x4 rafters spaced at 24" on center with 2x6 purlins supported at no more than 6'-0" on center by 2x4 struts bearing on walls below. The garage area is framed with 2x4 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.

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. Scab a 2x10 DF#2 x 12'-0" long purlin to the existing 2x10 purlin which spans 12'-0". Attach it with 16d's @ 3" on center. Support the 2x10 to the bearing walls below with 2x4 struts. See details 1 and 3.
2. Scab a 2x12 DF#2 x 17'-0" long purlin to the existing 2-2x12 purlin which spans 17'-0". Attach it with 16d's @ 3" on center. Support the 2x12 to the bearing walls below with 2x4 struts. See details 1 and 3.
3. Add a 1/2" OSB gusset plate adjacent to each existing strut and rafter and attach it with 8d's at 6" on center at the edges. See details 1 and 2.

Garage:

4. Scab a 2x4 rafter to the existing 2x4 rafters with 16d's @ 12" on center where the span is greater than 7'-10".

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 which 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>	
Bartile Ultra Light Wt	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

BEAM DESIGN FOR UNIFORM LOAD: 2x4

(Values for DF Larch #2)

Width, b	1.5 inches
Depth, d	3.5 inches
Length of beam	8 feet
Dead load roof	11.5 psf
Live load roof	16 psf
Contributory width of roof load	2 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	240
Total load defl ratio	180
Total dead load	23 plf
Total live load	32 plf

Base design values:

Shear, Fv	95 psi
Bending, Fb	875 psi
Comp. perp. to grain, Fc	625 psi
Mod of Elasticity, E	1700000 psi
Load duration factor, Cd	1.25
Size Factor, Cf	1.50
Repetitive factor, Cr	1.15

Dead load reaction	92 lbs
Live load reaction	128 lbs
Total load reaction	220 lbs

Allowable shear, Fv'	119 psi
Actual shear, fv	58 psi
Allowable bending, Fb'	1887 psi
Actual bending, fb	1724 psi
Allowable live load defl	0.40 inches
Actual live load defl	0.32 inches
Allowable total load defl	0.53 inches
Actual total load defl	0.56 inches

Bearing length req'd	0.23 inches
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Horizontal Shear OK

Bending OK

Live Load Deflection OK

Beam Fails under Total Load Deflection
OK. Less than 1/32" over

BEAM DESIGN FOR UNIFORM LOAD: 2-2x4

(Values for DF Larch #2)

Width, b	3 inches
Depth, d	3.5 inches
Length of beam	10 feet
Dead load roof	11.5 psf
Live load roof	16 psf
Contributory width of roof load	2 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	240
Total load defl ratio	180
Total dead load	23 plf
Total live load	32 plf

Base design values:

Shear, F_v	95 psi
Bending, F_b	875 psi
Comp. perp. to grain, F_c	625 psi
Mod of Elasticity, E	1700000 psi
Load duration factor, C_d	1.25
Size Factor, C_f	1.50
Repetitive factor, C_r	1.15

Dead load reaction	115 lbs
Live load reaction	160 lbs
Total load reaction	275 lbs

Allowable shear, F_v'	119 psi
Actual shear, f_v	37 psi
Allowable bending, F_b'	1887 psi
Actual bending, f_b	1347 psi
Allowable live load defl	0.50 inches
Actual live load defl	0.40 inches
Allowable total load defl	0.67 inches
Actual total load defl	0.68 inches

Bearing length req'd	0.15 inches
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Horizontal Shear OK

Bending OK

Live Load Deflection OK

Beam Fails under Total Load Deflection
OK. Less than 1/32" over

BEAM DESIGN FOR UNIFORM LOAD: 4x12

(Values for DF Larch #1)

Width, b	3.5 inches
Depth, d	11.25 inches
Length of beam	17 feet
Dead load roof	11.5 psf
Live load roof	16 psf
Contributory width of roof load	6 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	240
Total load defl ratio	180
Total dead load	69 plf
Total live load	96 plf

Base design values:

Shear, Fv	95 psi
Bending, Fb	1000 psi
Comp. perp. to grain, Fc	625 psi
Mod of Elasticity, E	1700000 psi
Load duration factor, Cd	1.25
Size Factor, Cf	1.10

Dead load reaction	587 lbs
Live load reaction	816 lbs
Total load reaction	1403 lbs

Allowable shear, Fv'	119 psi
Actual shear, fv	48 psi
Allowable bending, Fb'	1375 psi
Actual bending, fb	969 psi
Allowable live load defl	0.85 inches
Actual live load defl	0.26 inches
Allowable total load defl	1.13 inches
Actual total load defl	0.44 inches

Horizontal Shear OK

Bending OK

Live Load Deflection OK

Total Load Deflection OK

Bearing length req'd 0.64 inches

BEAM DESIGN FOR UNIFORM LOAD: 2-2x10 purlin

(Values for DF Larch #1)

Width, b	3 inches
Depth, d	9.25 inches
Length of beam	12 feet
Dead load roof	11.5 psf
Live load roof	16 psf
Contributory width of roof load	8 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	240
Total load defl ratio	180
Total dead load	92 plf
Total live load	128 plf
Base design values:	
Shear, Fv	95 psi
Bending, Fb	875 psi
Comp. perp. to grain, Fc	625 psi
Mod of Elasticity, E	1700000 psi
Load duration factor, Cd	1.25
Size Factor, Cf	1.20
Dead load reaction	552 lbs
Live load reaction	768 lbs
Total load reaction	1320 lbs
Allowable shear, Fv	119 psi
Actual shear, Fv	62 psi
Allowable bending, Fb'	1313 psi
Actual bending, fb	1111 psi
Allowable live load defl	0.60 inches
Actual live load defl	0.18 inches
Allowable total load defl	0.80 inches
Actual total load defl	0.31 inches
Bearing length req'd	0.70 inches

Horizontal Shear OK

Bending OK

Live Load Deflection OK

Total Load Deflection OK

BEAM DESIGN FOR UNIFORM LOAD: 3-2x12 purlin

(Values for DF Larch #1)

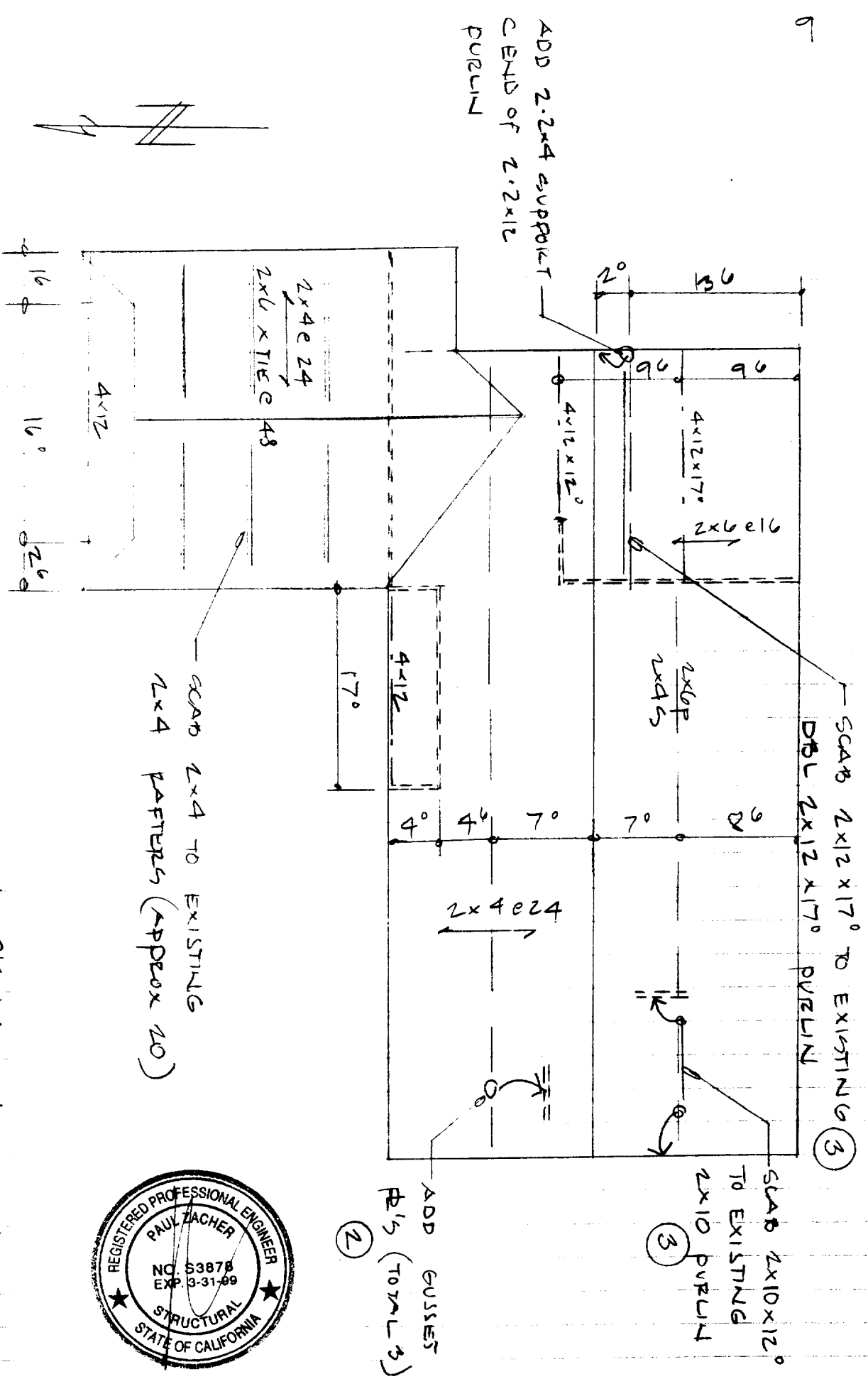
Width, b	4.5 inches
Depth, d	11.25 inches
Length of beam	17 feet
Dead load roof	11.5 psf
Live load roof	16 psf
Contributory width of roof load	8 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	240
Total load defl ratio	180
Total dead load	92 plf
Total live load	128 plf

Base design values:

Shear, F_v	95 psi
Bending, F_b	875 psi
Comp. perp. to grain, F_c	625 psi
Mod of Elasticity, E	1700000 psi
Load duration factor, C_d	1.25
Size Factor, C_f	1.00

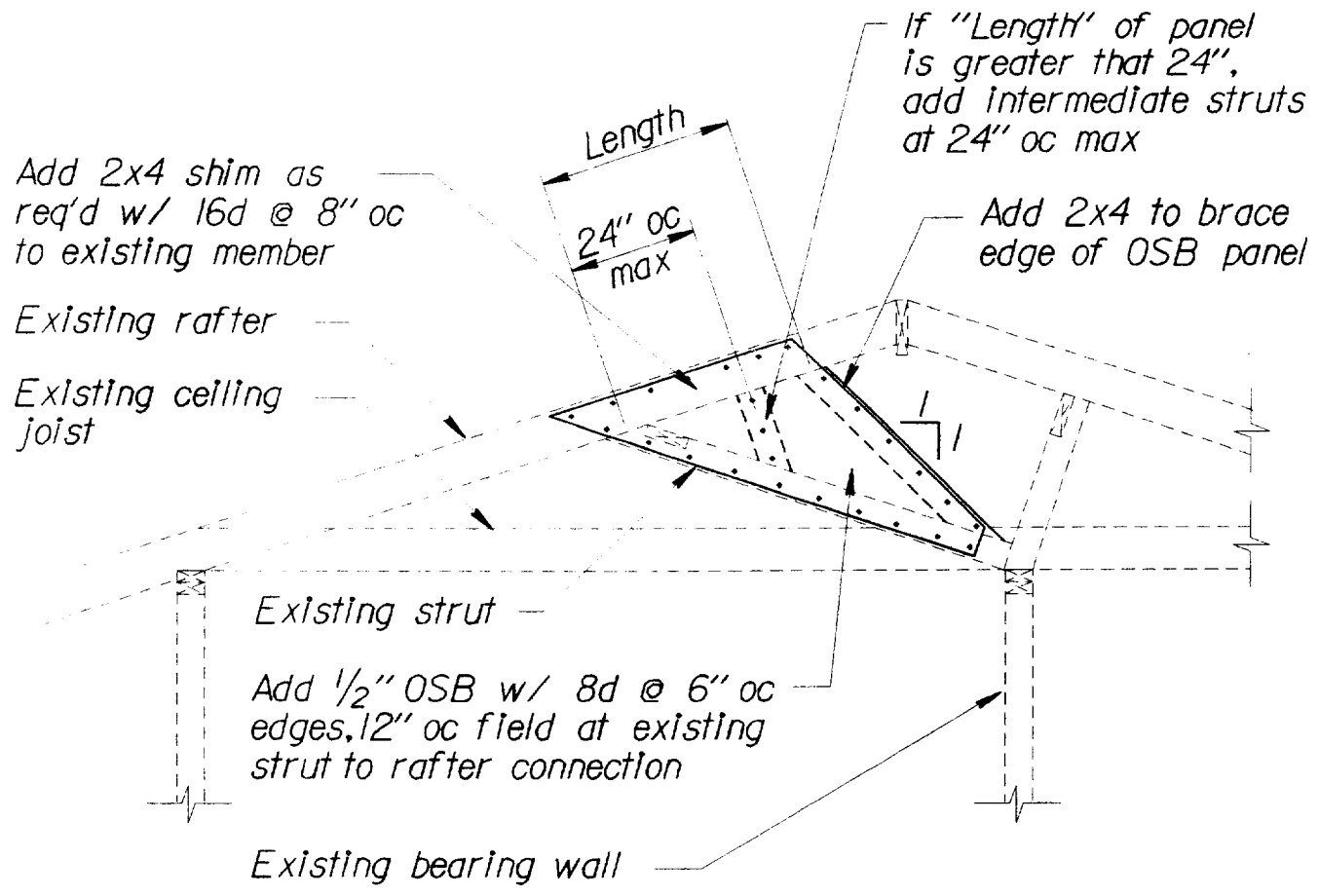
Dead load reaction	782 lbs
Live load reaction	1088 lbs
Total load reaction	1870 lbs

Allowable shear, F_v'	119 psi	Horizontal Shear	OK
Actual shear, f_v	49 psi		
Allowable bending, F_b'	1094 psi	Bending	OK
Actual bending, f_b	1005 psi		
Allowable live load defl	0.85 inches	Live Load Deflection	OK
Actual live load defl	0.27 inches		
Allowable total load defl	1.13 inches	Total Load Deflection	OK
Actual total load defl	0.46 inches		
Bearing length req'd	0.66 inches		



① ROOF PLAN - SCHAFF
 N.T.S.





2

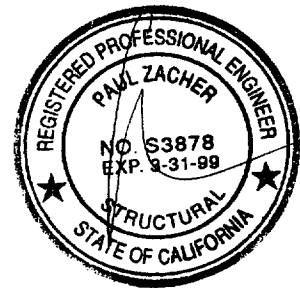
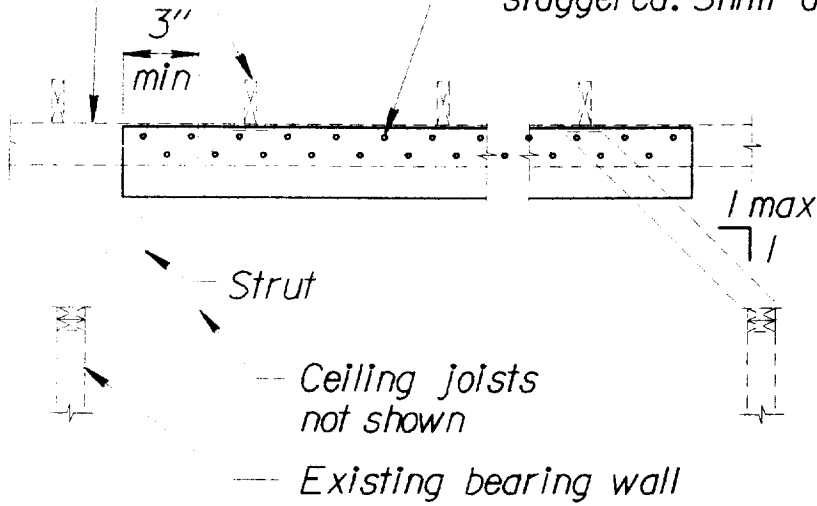
GUSSET PLATE DETAIL

1/2" = 1'-0"

Existing rafters

Existing purlin

Purlin. Nail to existing purlin w/ 16d @ 3" oc, staggered. Shim as required.



3

PURLIN DETAIL

1/4" = 1'-0"