

CITY OF SACRAMENTO
1231 I Street, Sacramento, CA 95814

Permit No: 9911657
Insp Area: 2

Site Address: 308 BAY RIVER WY SAC
Parcel No: 031-0380-006

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

CONTRACTOR
ZIMMERMAN ROOFING
3560 RAMONA AV
SACRAMENTO CA 95826

OWNER
HANSON HARVEY N/SHEILAH A
308 BAY RIVER WY
SACRAMENTO CA 95831

ARCHITECT

Nature of Work: TEAR OFF/REROOF WITH PIONEER TILE/30 SQ

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 557559 Date 10-14-99 Contractor Signature Silly Coy

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 10-14-99 Applicant/Agent Signature Silly Coy

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 COMP INS FUND Policy Number 713-98-2021 Exp Date 10/01/2000

(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 10-14-99 Applicant Signature Silly Coy

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.



DEPARTMENT OF
PLANNING AND DEVELOPMENT

CITY OF SACRAMENTO
CALIFORNIA

1231 I STREET
ROOM 200
SACRAMENTO, CA
95814-2978

Neil Hanson at
308 Box River

Permit Services
916-264-7619
FAX 916-264-7066

TILE ROOF WORKSHEET

This worksheet must be filled out whenever any type of tile roof is applied for.

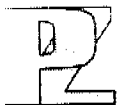
If the answer to question #5 is yes, a written engineering report from a registered engineer must be provided with each application.

1. BRAND AND MODEL OF TILE Pioneer Lightweight
2. TILE WEIGHT PER SQUARE 730 lbs
3. WEIGHT OF ROOF SYSTEM PER SQUARE 180 lbs
4. TOTAL WEIGHT OF ROOF SYSTEM 910 lbs
5. DOES TOTAL WEIGHT OF ROOF SYSTEM EXCEED 750# PER SQUARE? YES NO
6. ROOF SLOPE 4/12

PLEASE PROVIDE A SEPARATE WORKSHEET FOR EACH APPLICATION INVOLVING A TILE ROOF

All attached engin. report

hanson



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

TEL: 916.961.3960
FAX: 916.961.3960

CONCLUSIONS:

Roof:

The living area has sufficient structural capacity for the applied live and dead loads. The garage lacks 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.

Garage:

1. 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 microlam 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 purlin to the microlam beam with 2x4 struts spaced at no more than 4'-0" oc. See details 1 and 2.

It shall be noted that small hairline cracking may occur at exterior stucco and interior gypboard finished walls which 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 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

Timber Beam & Joist

Description RAFTERS AND BEAMS

Timber Member Information

Calculations are designed to 1997 NDS and 1997 UBC Requirements

		rafter	entry	garage LVL	garage
Timber Section		2x6	4x12	LVL:1.750x	4x12
Beam Width	in.	1.500	3.500	1.750	3.500
Beam Depth	in.	5.500	11.250	11.875	11.250
Le: Unbraced Length	ft.	2.00	2.00	2.00	2.00
Timber Grade		Douglas Fir - Larch,	Douglas Fir - Larch,	Truss Joist - MacMil	Douglas Fir - Larch, Douglas Fir - Larch,
Fb - Basic Allow	psi	875.0	1,000.0	2,600.0	875.0
Fv - Basic Allow	psi	95.0	95.0	285.0	95.0
Elastic Modulus	ksi	1,600.0	1,700.0	1,900.0	1,600.0
Load Duration Factor		1.250	1.250	1.250	1.250
Member Type		Sawn	Sawn	Manuf/Pine	Sawn
Repetitive Status		Repetitive	No	No	No

Center Span Data

Span	ft.	11.75	11.00	21.00	16.00
Dead Load	#/ft.	24.40	67.00		49.00
Live Load	#/ft.	32.00	88.00		64.00
Dead Load	#/ft.			85.00	
Live Load	#/ft.			112.00	
Start	ft.			8.000	
End	ft.			18.000	
Point #1 DL	lbs			183.00	
LL	lbs			240.00	
@ X	ft.			8.000	

Results Ratio = 0.9626 0.2784 0.8484 0.4906

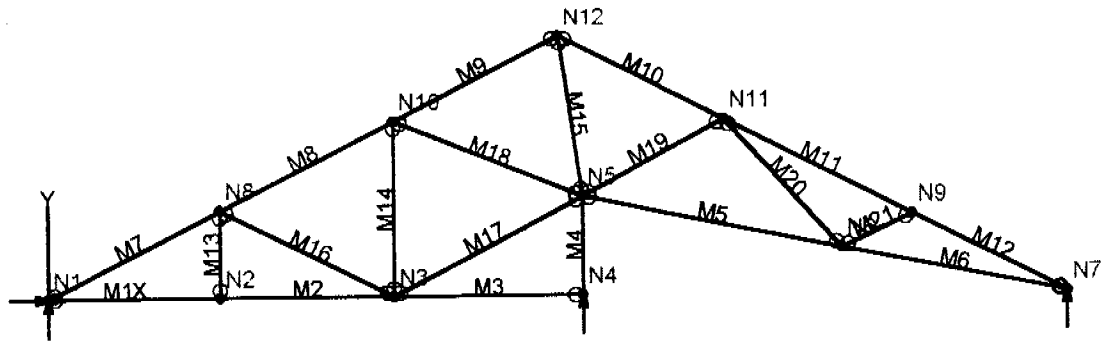
Mmax @ Center	in-k	11.68	28.13	107.76	43.39
@ X =	ft.	5.87	5.50	11.00	8.00
fb : Actual	psi	1,544.5	381.1	2,620.0	587.7
Fb : Allowable	psi	1,604.5	1,368.8	3,088.2	1,198.1
		Bending OK	Bending OK	Bending OK	Bending OK
fv : Actual	psi	55.9	27.0	99.7	30.6
Fv : Allowable	psi	118.8	118.8	356.3	118.8
		Shear OK	Shear OK	Shear OK	Shear OK

Reactions

@ Left End DL	lbs	143.35	368.50	437.10	392.00
LL	lbs	188.00	484.00	575.24	512.00
Max. DL+LL	lbs	331.35	852.50	1,012.33	904.00
@ Right End DL	lbs	143.35	368.50	595.90	392.00
LL	lbs	188.00	484.00	784.76	512.00
Max. DL+LL	lbs	331.35	852.50	1,380.67	904.00

Deflections

Center DL Defl	in.	-0.314	-0.031	-0.632	-0.109
L/Defl Ratio		448.4	4,222.3	398.6	1,765.7
Center LL Defl	in.	-0.412	-0.041	-0.832	-0.142
L/Defl Ratio		341.9	3,214.7	302.8	1,351.9
Center Total Defl	in.	-0.727	-0.072	-1.464	-0.251
Location	ft.	5.875	5.500	10.752	8.000
L/Defl Ratio		194.0	1,825.1	172.1	765.7



VisualAnalysis 3.50.c Report

10/04/99 22:22:49

Project:

File: C:\Program Files\IES\VA35\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	7.25	0.00	No	No	"
N3	14.50	0.00	"	"	"
N4	22.50	0.00	"	Yes	"
N5	22.50	4.10	"	No	"
N6	33.50	1.90	"	"	"
N7	43.00	0.00	"	Yes	"
N8	7.25	3.63	"	No	"
N9	36.50	3.25	"	"	"
N10	14.50	7.25	"	"	"
N11	28.50	7.25	"	"	"
N12	21.50	10.75	"	"	"

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	7.25
M2	"	"	7.25
M3	"	"	8.00
M4	"	"	4.10
M5	"	"	11.22
M6	"	"	9.69
M7	"	"	8.11
M8	"	"	8.11
M9	"	"	7.83
M10	"	"	7.83
M11	"	"	8.94
M12	"	"	7.27
M13	"	"	3.63
M14	"	"	7.25
M15	"	"	6.72
M16	"	"	8.11
M17	"	"	8.99
M18	"	"	8.60
M19	"	"	6.78
M20	"	"	7.32
M21	"	"	3.29

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

Load Case	Member	Direction	Offset ft	End Offset ft	Magnitude
Service Case 1	M1	DY proj.	0.00	7.25	-7.20 lbs/ft
"	M2	"	0.00	7.25	-7.20 lbs/ft
"	M3	"	0.00	8.00	-7.20 lbs/ft
"	M5	"	0.00	11.22	-7.20 lbs/ft
"	M6	"	0.00	9.69	-7.20 lbs/ft
"	M7	"	0.00	8.11	-25.00 lbs/ft
"	M8	"	0.00	8.11	-25.00 lbs/ft
"	M9	"	0.00	7.83	-25.00 lbs/ft
"	M10	"	0.00	7.83	-25.00 lbs/ft
"	M11	"	0.00	8.94	-25.00 lbs/ft
"	M12	"	0.00	7.27	-25.00 lbs/ft
Service Case 2	M7	"	0.00	8.11	-32.00 lbs/ft
"	M8	"	0.00	8.11	-32.00 lbs/ft
"	M9	"	0.00	7.83	-32.00 lbs/ft
"	M10	"	0.00	7.83	-32.00 lbs/ft
"	M11	"	0.00	8.94	-32.00 lbs/ft
"	M12	"	0.00	7.27	-32.00 lbs/ft

Nodal Reactions

Node	Load Case	FX lbs	FY lbs	MZ lb-ft
N1	Equation Case 1	-0.00	498.89	-NA-
"	Service Case 1	-NA-	-NA-	-NA-
"	Service Case 2	-NA-	-NA-	-NA-
N4	Equation Case 1	-NA-	1848.82	-NA-
"	Service Case 1	-NA-	-NA-	-NA-
"	Service Case 2	-NA-	-NA-	-NA-
N7	Equation Case 1	-NA-	412.89	-NA-
"	Service Case 1	-NA-	-NA-	-NA-
"	Service Case 2	-NA-	-NA-	-NA-

Member Extreme Results

Member	Axial (lc) lbs	Vy (lc) lbs	Mz (lc) lb-ft	Dx (lc) in	Dy (lc) in
M1	621.53 (3)	-29.98 (3)	-28.15 (3)	0.00 (3)	-0.06 (3)
"	621.53 (3)	22.22 (3)	34.16 (3)	0.01 (3)	-0.00 (3)
M2	621.53 (3)	-28.21 (3)	-43.44 (3)	0.01 (3)	-0.04 (3)
"	621.53 (3)	23.99 (3)	11.80 (3)	0.01 (3)	-0.03 (3)
M3	0.00 (3)	-23.37 (3)	-43.44 (3)	0.01 (3)	-0.06 (3)

"	0.00(3)	34.23(3)	37.92(3)	0.01(3)	-0.00(3)
M4	-1825.45(3)	0.00(3)	-0.00(3)	-0.01(3)	-0.01(3)
"	-1825.45(3)	0.00(3)	0.00(3)	-0.00(3)	-0.00(3)
M5	-124.11(3)	-46.56(3)	-86.68(3)	0.00(3)	-0.18(3)
"	-108.58(3)	31.10(3)	69.87(3)	0.00(3)	-0.01(3)
M6	830.44(3)	-24.59(3)	-86.68(3)	0.00(3)	-0.09(3)
"	843.85(3)	42.48(3)	43.58(3)	0.01(3)	0.00(3)
M7	-769.08(3)	-221.23(3)	-295.22(3)	-0.01(3)	-0.28(3)
"	-584.27(3)	148.39(3)	241.44(3)	-0.00(3)	-0.00(3)
M8	-218.71(3)	-183.90(3)	-295.22(3)	-0.01(3)	-0.07(3)
"	-33.90(3)	185.72(3)	82.97(3)	-0.01(3)	-0.02(3)
M9	649.03(3)	-141.66(3)	-287.85(3)	-0.01(3)	-0.24(3)
"	827.47(3)	215.22(3)	220.02(3)	-0.00(3)	-0.02(3)
M10	825.58(3)	-221.00(3)	-333.11(3)	0.02(3)	-0.21(3)
"	1004.02(3)	135.88(3)	201.92(3)	0.03(3)	-0.01(3)
M11	-485.42(3)	-198.06(3)	-333.11(3)	0.02(3)	-0.19(3)
"	-281.49(3)	209.80(3)	149.14(3)	0.03(3)	-0.03(3)
M12	-979.36(3)	-127.08(3)	-280.62(3)	0.01(3)	-0.17(3)
"	-813.66(3)	204.31(3)	176.74(3)	0.02(3)	0.01(3)
M13	53.97(3)	0.00(3)	0.00(3)	0.04(3)	0.01(3)
"	53.97(3)	0.00(3)	0.00(3)	0.04(3)	0.01(3)
M14	259.23(3)	0.00(3)	0.00(3)	0.03(3)	0.01(3)
"	259.23(3)	0.00(3)	0.00(3)	0.03(3)	0.01(3)
M15	-1079.30(3)	-0.00(3)	-0.00(3)	0.01(3)	0.00(3)
"	-1079.30(3)	-0.00(3)	0.00(3)	0.02(3)	0.01(3)
M16	-569.04(3)	-0.00(3)	-0.00(3)	0.03(3)	-0.03(3)
"	-569.04(3)	-0.00(3)	0.00(3)	0.03(3)	-0.02(3)
M17	126.49(3)	-0.00(3)	-0.00(3)	0.00(3)	0.01(3)
"	126.49(3)	-0.00(3)	0.00(3)	0.00(3)	0.03(3)
M18	-848.31(3)	0.00(3)	0.00(3)	-0.02(3)	0.01(3)
"	-848.31(3)	0.00(3)	0.00(3)	-0.01(3)	0.03(3)
M19	-818.48(3)	0.00(3)	0.00(3)	-0.01(3)	-0.04(3)
"	-818.48(3)	0.00(3)	0.00(3)	-0.00(3)	-0.01(3)
M20	671.01(3)	-0.00(3)	-0.00(3)	0.03(3)	-0.05(3)
"	671.01(3)	-0.00(3)	0.00(3)	0.04(3)	-0.02(3)
M21	-519.27(3)	0.00(3)	0.00(3)	-0.04(3)	-0.06(3)
"	-519.27(3)	0.00(3)	0.00(3)	-0.04(3)	-0.06(3)

BENDING & COMP: TRUSS 1; MEMBER 7

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

Grading:2x or 4x³

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	8.11 feet
Max Axial Comp, C	769 lbs
Max Reaction, R	221 lbs
Max Moment, M	295 ft-lbs
Max LL Deflection	0.11 inches
Max TL Deflection	0.28 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 =	1.24
fc =	146 psi
Fce =	768 psi
Fc* =	1869 psi
F'c =	688 psi
fb =	1156 psi
F'b = Fb* =	1887 psi
Shear D/C ratio	0.53 < 1.0, Member OK
Interaction equation:	
(fc/F'c) ² +	
fb / (F'b(1-fc/Fce)) =	0.80 < 1.0, Member OK
Live Load defl ratio	0.27 < 1.0, Member OK
Total Load defl ratio	0.52 < 1.0, Member OK

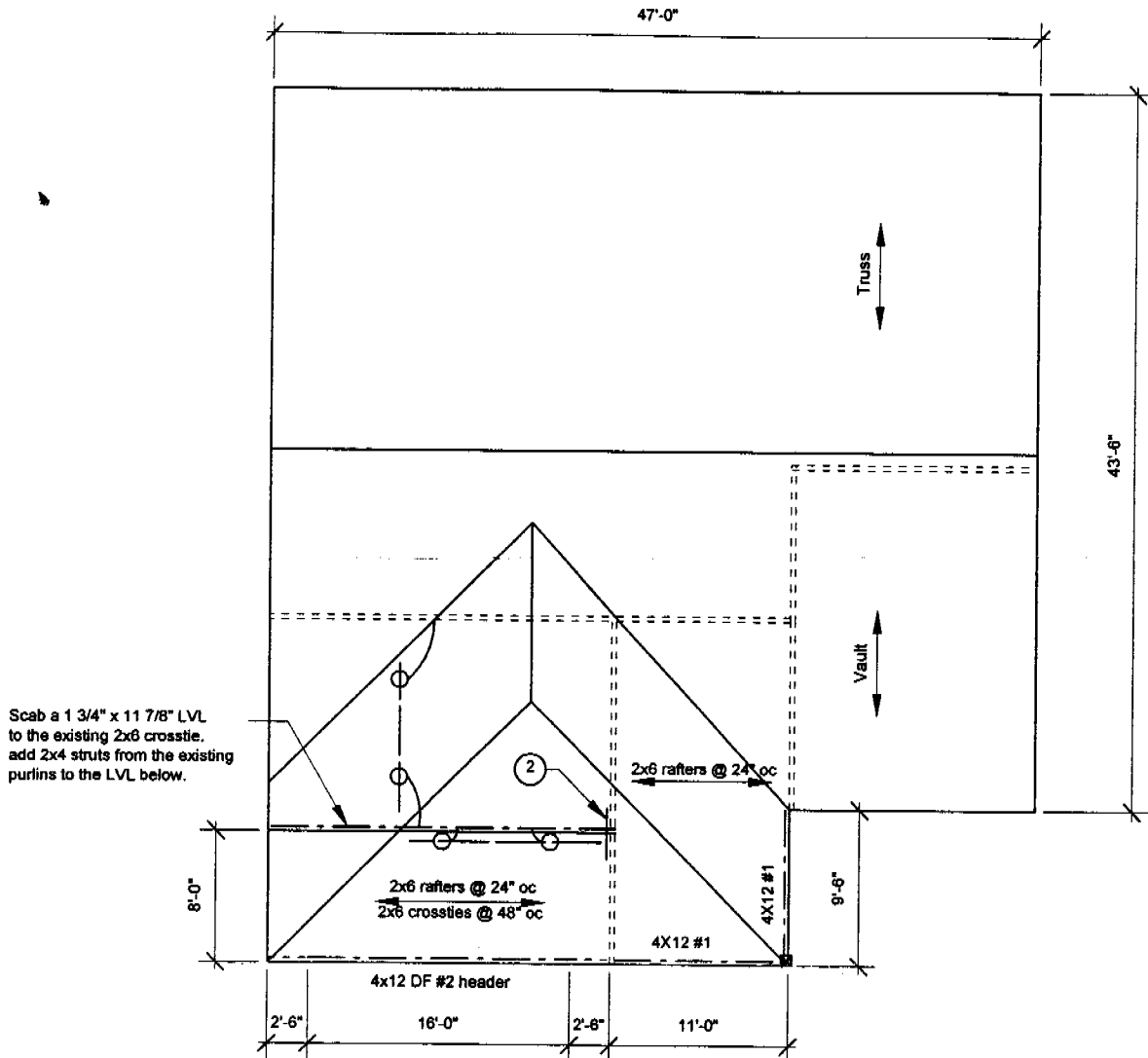
BENDING & COMP: TRUSS 1; MEMBER 12

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

Grading:2x or 4x^{*} Doug-fir larch: No. 2Assumptions:

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	7.27 feet
Max Axial Comp, C	979 lbs
Max Reaction, R	127 lbs
Max Moment, M	280 ft-lbs
Max LL Deflection	0.07 inches
Max TL Deflection	0.17 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 =	1.21
fc =	186 psi
Fce=	937 psi
Fc*=	1869 psi
F'c=	812 psi
fb=	1097 psi
F'b=Fb*=	1887 psi
Shear D/C ratio	0.31 < 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	0.19 < 1.0, Member OK
Total Load defl ratio	0.35 < 1.0, Member OK



Notes:

1. This is a reroof project. The new roofing material shall be a Light Weight Concrete Tile.
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.

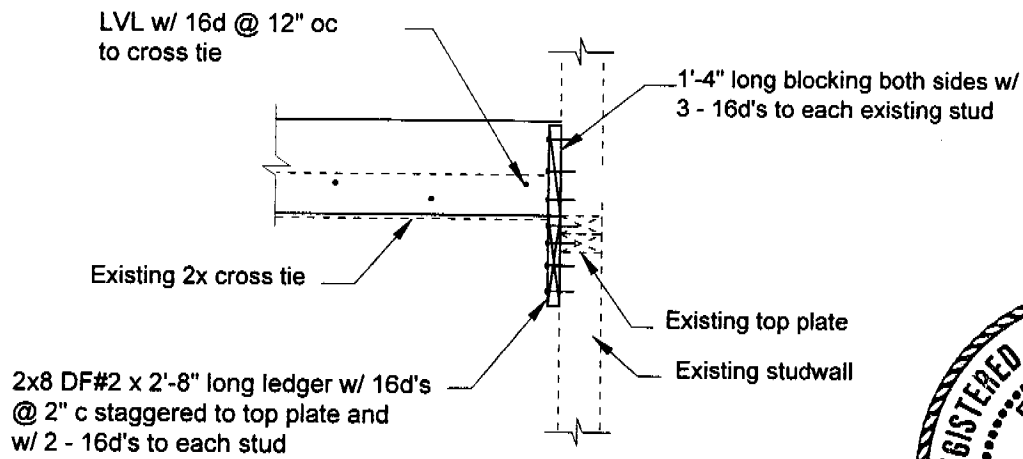
1

ROOF PLAN - HANSON

Not to Scale

11





2

LEDGER CONNECTION

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