

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 9808439

Insp Area: 2

Site Address: 6 NOAH CT SAC

Parcel No: 0300770002

Sub-Type: RES

Housing (Y/N): N

CONTRACTOR

ZIMMERMAN ROOFING
3560 RAMONA AV
SACRAMENTO, CA

95826

OWNER

KWONG JIMMY
6 NOAH CT
SACRAMENTO CA

95831

ARCHITECT

Nature of Work: REMOVE OLD ROOF & REROOF W/MONIER TILE 4/12 PITCH SFR 33SQS

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 8-31-98 Contractor Signature [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 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 8-31-98 Applicant/Agent Signature [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 713 97 002021

____ (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 8-31-98 Applicant Signature [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.



DEPARTMENT OF
PLANNING AND DEVELOPMENT

CITY OF SACRAMENTO
CALIFORNIA

1231 I STREET
ROOM 200
SACRAMENTO, CA
95814-2998

Permit Services
916-264-7619
FAX 916-264-7096

Kwong at
6 Noah Court
95831

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 Monier Villa Doradite
2. TILE WEIGHT PER SQUARE 585
3. WEIGHT OF ROOF SYSTEM PER SQUARE 180
4. TOTAL WEIGHT OF ROOF SYSTEM 765
5. DOES TOTAL WEIGHT OF ROOF SYSTEM EXCEED 750# PER SQUARE? YES NO NO
6. ROOF SLOPE 4/12

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

see attached engin report

BEAM DESIGN FOR UNIFORM LOAD: 2x6

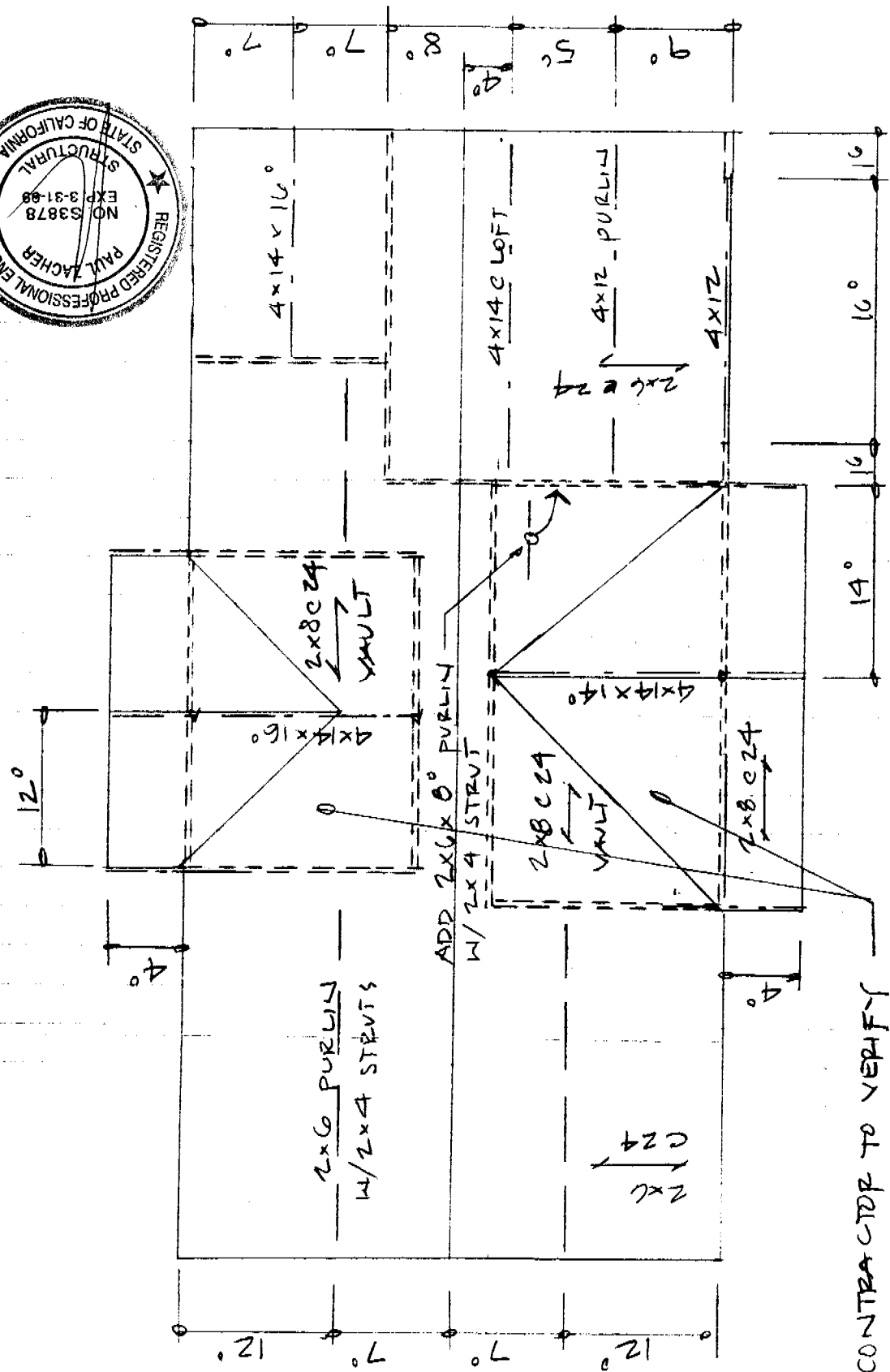
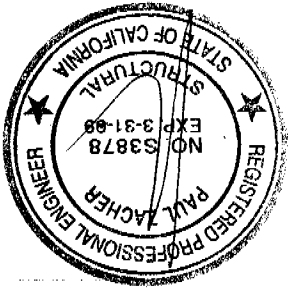
(Values for DF Larch #2)

Width, b	1.5 inches	
Depth, d	5.5 inches	
Length of beam	12.25 feet	
Dead load roof	10.2 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	20.4 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	1600000 psi	
Load duration factor, Cd	1.25	
Size Factor, Cf	1.30	
Repetitive factor, Cr	1.15	
Dead load reaction	125 lbs	
Live load reaction	196 lbs	
Total load reaction	321 lbs	
Allowable shear, Fv'	119 psi	Horizontal Shear OK
Actual shear, fv	54 psi	
Allowable bending, Fb'	1635 psi	Bending OK
Actual bending, fb	1560 psi	
Allowable live load defl	0.61 inches	Live Load Deflection OK
Actual live load defl	0.49 inches	
Allowable total load defl	0.82 inches	Total Load Deflection OK
Actual total load defl	0.80 inches	
Bearing length req'd	0.34 inches	

BEAM DESIGN FOR UNIFORM LOAD: 2x6 vault

(Values for DF Larch #2)

Width, b	1.5 inches	
Depth, d	5.5 inches	
Length of beam	10.67 feet	
Dead load roof	13.4 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	360	
Total load defl ratio	240	
Total dead load	26.8 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	1600000 psi	
Load duration factor, Cd	1.25	
Size Factor, Cf	1.30	
Repetitive factor, Cr	1.15	
Dead load reaction	143 lbs	
Live load reaction	171 lbs	
Total load reaction	314 lbs	
Allowable shear, Fv'	119 psi	Horizontal Shear OK
Actual shear, fv	52 psi	
Allowable bending, Fb'	1635 psi	Bending OK
Actual bending, fb	1328 psi	
Allowable live load defl	0.36 inches	Live Load Deflection OK
Actual live load defl	0.28 inches	
Allowable total load defl	0.53 inches	Total Load Deflection OK
Actual total load defl	0.52 inches	
Bearing length req'd	0.33 inches	



K11026

1 ROOF PLAN - KWONG

N.T.S.

DESIGN LOADING:

Roof Pitch 4 in 12
 Pitch Adjustment Factor 1.05

LOCATION: ROOF

<u>MATERIAL</u>	<u>WEIGHT</u>	
Momier Villa Duralite	5.80	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	9.7	psf
Roof Pitch Adjustment	<u>0.52</u>	psf
Total Load	10.2	psf

LOCATION: VAULT

<u>MATERIAL</u>	<u>WEIGHT</u>	
Momier Villa Duralite	5.80	psf
Roofing felt	0.30	psf
1/2" OSB/ plywood	1.50	psf
1x4 skip sht'g	1.09	psf
2x6 rafters @ 24" oc	1.00	psf
Batt/blown insul	0.50	psf
1/2" Gypboard	<u>2.50</u>	psf
Load	12.7	psf
Roof Pitch Adjustment	<u>0.69</u>	psf
Total Load	13.4	psf

Kwong

Paul Zacher-Structural Engineers

4701 Lakeside Way
Fair Oaks, CA 95628

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

August 10, 1998

Zimmerman Roofing
3560 Ramona Avenue
Sacramento, CA 95826
TEL: 916.454.3667
FAX: 916.455.3784
TEL (Jeff): 916.392.1971
FAX (Jeff): 916.392.6853
FAX (Framer) : 916.383.5308

Attn.: Mr. Jeff Tucker,

re: Job 98169: KWONG

Subject: Structural Investigation Report of the Roof for the Residence located at 6 Noah Court, 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 August 3, 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 2500 square feet with a first story plate height of 8 feet.

CONSTRUCTION:

Roof:

The roof covering will consist of Monier Villa Light Weight Concrete Tile over 1/2" solid sheathing. The living area is conventionally framed with 2x6 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 vaulted ceilings are constructed of either 2x6 or 2x8 rafters spaced at 24" on center. The garage area is framed with 2x6 rafters spaced at 24" on center.

Kwong

CONCLUSIONS:

Roof:

The living area lacks sufficient structural capacity for the applied live and dead loads. The garage area has 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. After the roofing material has been removed, the contractor shall verify that the framing in the non-accessible portion of the structure does not exceed the following:

Vaulted Ceiling Portion:

- a. 2x6 @ 24" oc - max span = 10'-8"
- b. 2-2x6 @ 24" oc - max span = 14'-0"
- c. 2x8 @ 24" oc - max span = 14'-0"

If the framing differs from the above, the contractor shall supply the engineer with diagrams showing the member sizes and span lengths. 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. Add a 2x6 DF#2 x 8'-0" long purlin. Support the 2x6 to the bearing walls below with 2x4 struts. The unbraced length of the struts shall not exceed 8'-0" and the minimum slope of the struts shall not be less than 45 degrees from the horizontal. See detail 1.

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



BEAM DESIGN FOR UNIFORM LOAD: 2-2x6 vault

(Values for DF Larch #2)

Width, b	3 inches
Depth, d	5.5 inches
Length of beam	14 feet
Dead load roof	13.4 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	360
Total load defl ratio	240
Total dead load	26.8 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	1600000 psi
Load duration factor, Cd	1.25
Size Factor, Cf	1.30
Repetitive factor, Cr	1.15

Dead load reaction	188 lbs
Live load reaction	224 lbs
Total load reaction	412 lbs

Allowable shear, Fv'	119 psi
Actual shear, fv	35 psi
Allowable bending, Fb'	1635 psi
Actual bending, fb	1143 psi
Allowable live load defl	0.47 inches
Actual live load defl	0.42 inches
Allowable total load defl	0.70 inches
Actual total load defl	0.76 inches

Bearing length req'd 0.22 inches

Horizontal Shear OK

Bending OK

Live Load Deflection OK

Beam Fails under Total Load Deflection
OK. Less than 1/16 inch over

BEAM DESIGN FOR UNIFORM LOAD: 2x8

(Values for DF Larch #2)

Width, b	1.5 inches	
Depth, d	7.25 inches	
Length of beam	14 feet	
Dead load roof	13.4 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	360	
Total load defl ratio	240	
Total dead load	26.8 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	1600000 psi	
Load duration factor, Cd	1.25	
Size Factor, Cf	1.20	
Repetitive factor, Cr	1.15	
Dead load reaction	188 lbs	
Live load reaction	224 lbs	
Total load reaction	412 lbs	
Allowable shear, Fv'	119 psi	Horizontal Shear OK
Actual shear, fv	52 psi	
Allowable bending, Fb'	1509 psi	Bending OK
Actual bending, fb	1316 psi	
Allowable live load defl	0.47 inches	Live Load Deflection OK
Actual live load defl	0.36 inches	
Allowable total load defl	0.70 inches	Total Load Deflection OK
Actual total load defl	0.67 inches	
Bearing length req'd	0.44 inches	

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BEAM DESIGN FOR UNIFORM LOAD: 4x14

(Values for DF Larch #1)

Width, b	3.5 inches
Depth, d	13.5 inches
Length of beam	14 feet
Dead load roof	13.4 psf
Live load roof	16 psf
Contributory width of roof load	14 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	360
Toal load defl ratio	240
Total dead load	187.6 plf
Total live load	224 plf

Base design values:

Shear, Fv	95 psi
Bending, Fb	1000 psi
Comp. perp. to grain, Fc	625 psi
Mod of Elasticity, E	1600000 psi
Load duration factor, Cd	1.25
Size Factor, Cf	1.00

Dead load reaction	1313 lbs
Live load reaction	1568 lbs
Total load reaction	2881 lbs

Allowable shear, Fv'	119 psi	Horizontal Shear OK
Actual shear, fv	77 psi	
Allowable bending, Fb'	1250 psi	Bending OK
Actual bending, fb	1138 psi	
Allowable live load defl	0.47 inches	Live Load Deflection OK
Actual live load defl	0.17 inches	
Allowable total load defl	0.70 inches	Total Load Deflection OK
Actual total load defl	0.31 inches	

Bearing length req'd	1.32 inches
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BEAM DESIGN FOR UNIFORM LOAD: 4x14

(Values for DF Larch #1)

Width, b	3.5 inches
Depth, d	13.5 inches
Length of beam	16 feet
Dead load roof	13.4 psf
Live load roof	16 psf
Contributory width of roof load	12 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	360
Toal load defl ratio	240
Total dead load	160.8 plf
Total live load	192 plf

Base design values:

Shear, Fv	95 psi
Bending, Fb	1000 psi
Comp. perp. to grain, Fc	625 psi
Mod of Elasticity, E	1600000 psi
Load duration factor, Cd	1.25
Size Factor, Cf	1.00

Dead load reaction	1286 lbs
Live load reaction	1536 lbs
Total load reaction	2822 lbs

Allowable shear, Fv'	119 psi
Actual shear, fv	77 psi
Allowable bending, Fb'	1250 psi
Actual bending, fb	1274 psi
Allowable live load defl	0.53 inches
Actual live load defl	0.25 inches
Allowable total load defl	0.80 inches
Actual total load defl	0.45 inches

Bearing length req'd	1.29 inches
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Horizontal Shear OK

Beam Fails in Bending

OK. Less than 2% over

Live Load Deflection OK

Total Load Deflection OK

BEAM DESIGN FOR UNIFORM LOAD:

(Values for DF Larch #1)

Width, b	3.5 inches
Depth, d	11.25 inches
Length of beam	19 feet
Dead load roof	10.2 psf
Live load roof	16 psf
Contributory width of roof load	7 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	71.4 plf
Total live load	112 plf

Base design values:

Shear, F_v	95 psi
Bending, F_b	1000 psi
Comp. perp. to grain, F_c	625 psi
Mod of Elasticity, E	1600000 psi
Load duration factor, C_d	1.25
Size Factor, C_f	1.10

Dead load reaction	678 lbs
Live load reaction	1064 lbs
Total load reaction	1742 lbs

Allowable shear, F_v'	119 psi	Horizontal Shear	OK
Actual shear, f_v	60 psi		
Allowable bending, F_b'	1375 psi	Bending	OK
Actual bending, f_b	1345 psi		
Allowable live load defl	0.95 inches	Live Load Deflection	OK
Actual live load defl	0.49 inches		
Allowable total load defl	1.27 inches	Total Load Deflection	OK
Actual total load defl	0.81 inches		

Bearing length req'd	0.80 inches
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"	M6	"	0.00	4.12	-0.01 K/ft
"	M7	"	0.00	6.71	-0.02 K/ft
"	M8	"	0.00	6.71	-0.02 K/ft
"	M9	"	0.00	6.71	-0.02 K/ft
"	M10	"	0.00	6.71	-0.02 K/ft
"	M11	"	0.00	4.47	-0.02 K/ft
"	M12	"	0.00	4.47	-0.02 K/ft
"	M13	"	0.00	4.47	-0.02 K/ft
Service Case 2	M7	"	0.00	6.71	-0.03 K/ft
"	M8	"	0.00	6.71	-0.03 K/ft
"	M9	"	0.00	6.71	-0.03 K/ft
"	M10	"	0.00	6.71	-0.03 K/ft
"	M11	"	0.00	4.47	-0.03 K/ft
"	M12	"	0.00	4.47	-0.03 K/ft
"	M13	"	0.00	4.47	-0.03 K/ft

Member Linear Loads

This item is empty. Check the selection state, or report properties.

Member Temperature Changes

This item is empty. Check the selection state, or report properties.

Member Gradient Temperatures

This item is empty. Check the selection state, or report properties.