CITY OF SACRAMENTO

Permit No: 9904936

1231 I Street, Sacramento, CA 95814

Insp Area: 2

Site Address: 329 RIVERGATE WY SAC

Sub-Type: RES

Parcel No: 031-0380-026

Housing (Y/N): N

CONTRACTOR
ZIMMERMAN ROOFING
3560 RAMONA AV
SACRAMENTO CA 95826

OWNER
GIST CHRISTOPHER A/LINDA
329 RIVERGATE WY
SACRAMENTO CA 95831

ARCHITECT

Nature of Work: 31 SQ TEAR OFF AND REROOF WITH PIONEER 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 C39 License Number 557559 Date 00/02 Contractor Signature Alma Delia 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 isexempt 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 abovementioned property for inspection purposes.

Date 5-17-99 Applicant/Agent Signature Alma Delia 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 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 10/01/1999

✓ (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 5-17-99 Applicant Signature Alma Delia 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.

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

Chris Dist
329 Rivergate
95831

TILE ROOF WORKSHEET

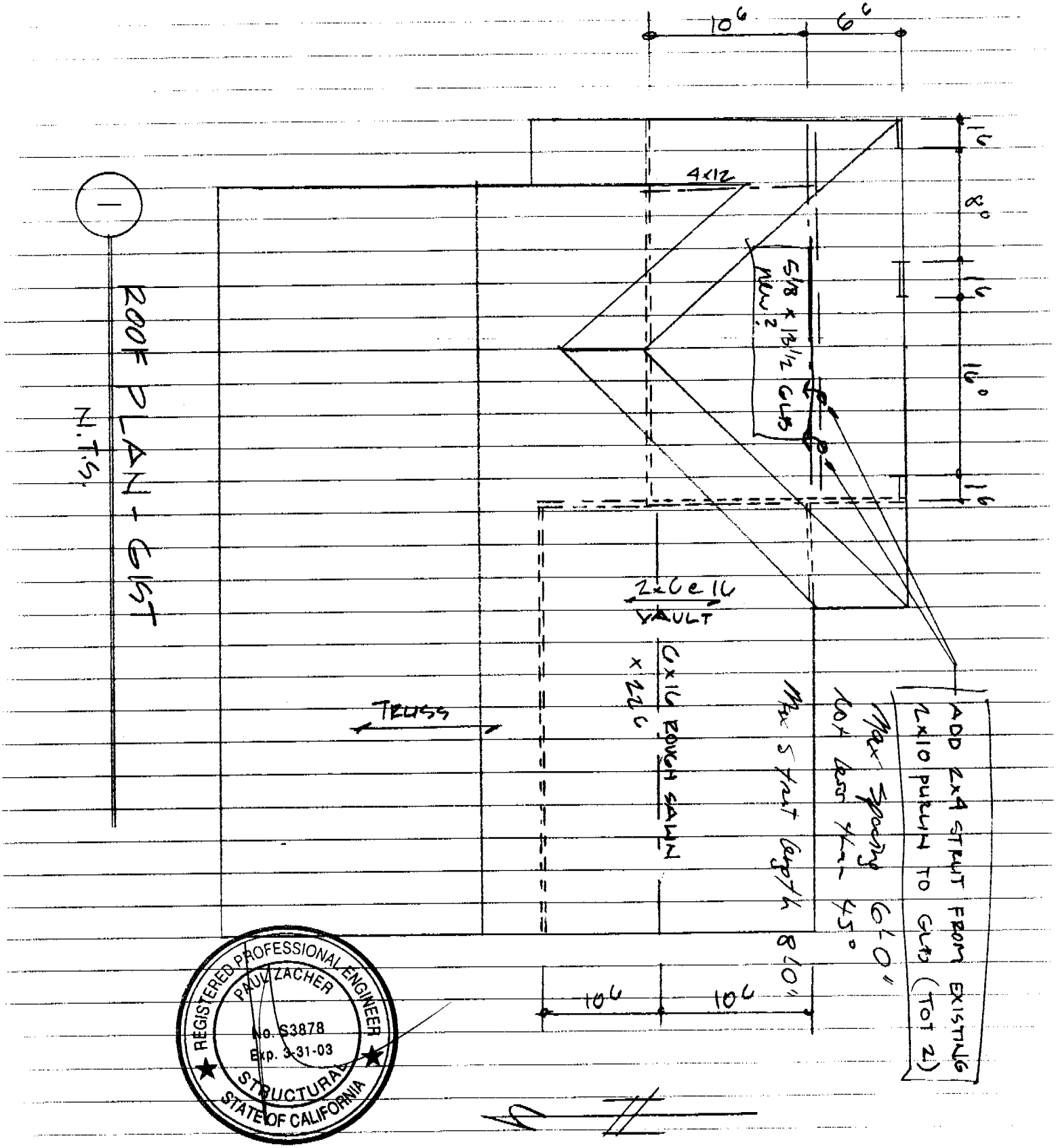
This worksheet must be filled out whenever any type of tile roof is applied for.

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 Pioneer Lite weight
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 A PROVIDE A SEPARATE WORKSHEET FOR EACH APPLICATION INVOLVING A TILE ROOF.

All attached engin. report



10 Reviewed by MBH P. 5/17/99

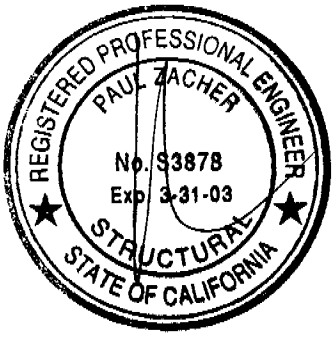
Gist

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

TEL: 916.961.3960
FAX: 916.961.3960

May 6, 1999

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 99090: GIST

Subject: Structural Investigation Report of the Roof for the Residence located at 329 Rivergate 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 May 5, 1999. 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 1970's vintage.
Occupancy:	Residential.
No. of Stories:	Two.
Dimensions:	Approximately 2500 square feet with a first story plate height of 8 feet.

CONSTRUCTION:

Roof:

The roof covering will consist of Pioneer Light Weight Concrete Tile over 1/2" solid sheathing. The living area is framed with pre-engineered wood trusses spaced at 24" on center below except for the vaulted ceiling areas. The vaulted ceiling is constructed of 2x6 rafters spaced at 16" on center supported mid-span by a 6x beam. The garage area is framed with 2x6 rafters spaced at 24" on center and 2x4 cross ties spaced at 4'-0" on center.

Gist

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. Provide additional 2x4 struts from the existing purlins to the glulam beam below. The maximum spacing between the new and existing struts shall not exceed 6'-0" on center. 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.

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

DESIGN LOADING:

Roof Pitch	6	in 12
Pitch Adjustment Factor	1.12	

LOCATION: VAULT

MATERIAL	WEIGHT	
Pioneer Light Weight Tile	7.00	psf
Roofing felt	0.30	psf
1/2" OSB/ plywood	1.50	psf
1x4 skip sht'g	1.09	psf
2x6 rafters @ 16" oc	1.99	psf
Batt/blown insul	0.50	psf
1/2" Gypboard	2.50	psf
Load	14.9	psf
Roof Pitch Adjustment	1.76	psf
Total Load	16.6	psf

LOCATION: TOP CHORD

MATERIAL	WEIGHT	
Pioneer Light Weight Tile	7.00	psf
Roofing felt	0.30	psf
1/2" OSB/ plywood	1.50	psf
1x4 skip sht'g	1.09	psf
2x4 truss @ 24" oc	1.28	psf
Load	11.2	psf
Roof Pitch Adjustment	1.32	psf
Total Load	12.5	psf

LOCATION: BOTTOM CHORD

MATERIAL	WEIGHT	
Batt/blown insul	0.50	psf
2x4 truss @ 24" oc	0.64	psf
1/2" Gypboard	2.50	psf
Load	3.6	psf

Rev: 510001

Timber Beam & Joist

Description BEAMS

Timber Member Information

		2x6	4x12	glb	6x16
Timber Section		**2x6**	**4x12**	**5.125x13.5**	**6x16**
Beam Width	in	1.500	3.500	5.125	5.500
Beam Depth	in	5.500	11.250	13.500	15.500
Le: Unbraced Length	ft	2.00	2.00	0.00	0.00
TImber Grade		ouglas Fir - Larch,	ouglas Fir - Larch,	Douglas Fir, 24F-V4	Douglas Fir - Larch,
Fb - Basic Allow	psi	875.0	875.0	2,400.0	1,350.0
Fv - Basic Allow	psi	95.0	95.0	165.0	85.0
Elastic Modulus	ksi	1,600.0	1,600.0	1,800.0	1,600.0
Load Duration Factor		1.250	1.250	1.250	1.250
Member Type		Sawn	Sawn	GluLam	Sawn
Repetitive Status		No	No	No	No

Center Span Data

Span	ft	10.25	10.50	28.50	22.50
Dead Load	#/ft	33.20	116.20		174.00
Live Load	#/ft	32.00	112.00		168.00
Dead Load	#/ft			100.00	
Live Load	#/ft			96.00	
Start	ft			6.500	
End	ft			22.000	
Point #1 DL	lbs			610.00	
LL	lbs			588.00	
@ X	ft			6.500	

Results

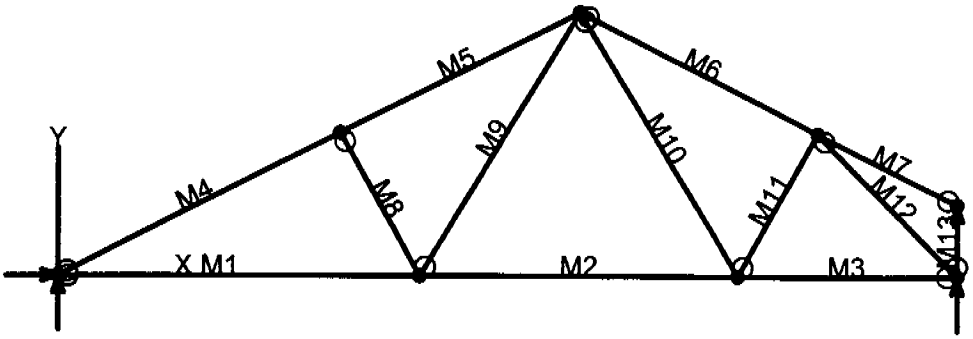
Ratio =		0.9694	0.4273	0.5319	0.7190
Mmax @ Center	in-k	10.28	37.74	238.12	259.71
@ X =	ft	5.12	5.25	12.88	11.25
fb : Actual	psi	1,358.7	511.2	1,529.6	1,179.3
Fb : Allowable	psi	1,401.6	1,196.3	2,875.7	1,640.2
		Bending OK	**Bending OK**	**Bending OK**	**Bending OK**
fv : Actual	psi	55.4	37.6	53.0	60.1
Fv : Allowable	psi	118.8	118.8	206.3	106.3
		Shear OK	**Shear OK**	**Shear OK**	**Shear OK**

Reactions

@ Left End DL	lbs	170.15	610.05	1,245.88	1,957.50
LL	lbs	164.00	588.00	1,197.89	1,890.00
Max. DL+LL	lbs	334.15	1,198.05	2,443.77	3,847.50
@ Right End DL	lbs	170.15	610.05	914.12	1,957.50
LL	lbs	164.00	588.00	878.10	1,890.00
Max. DL+LL	lbs	334.15	1,198.05	1,792.23	3,847.50

Deflections

Center DL Defl	in	-0.248	-0.048	-0.767	-0.367
L/Defl Ratio		496.4	2,634.5	445.6	734.9
Center LL Defl	in	-0.239	-0.046	-0.737	-0.355
L/Defl Ratio		515.0	2,733.3	463.8	761.1
Center Total Defl	in	-0.487	-0.094	-1.505	-0.722
Location	ft	5.125	5.250	13.908	11.250
L/Defl Ratio		252.8	1,341.5	227.3	373.9


Y
X
M1
M2
M3
M4
M5
M6
M7
M8
M9
M10
M11
M12
M13

VisualAnalysis 3.50.c Report

05/07/99 09:06:08
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	9.00	0.00	No	No	"
N3	17.00	0.00	"	"	"
N4	22.50	0.00	"	Yes	"
N5	7.00	3.50	"	No	"
N6	13.00	6.50	"	"	"
N7	19.00	3.50	"	"	"
N8	22.50	1.75	"	Yes	"

Member Elements

Member	Section	Material	Length ft	Weight lbs	Theta deg
M1	SS2x4	Wood	9.00	13.28	0.00
M2	"	"	8.00	11.80	0.00
M3	"	"	5.50	8.11	0.00
M4	"	"	7.83	11.55	0.00
M5	"	"	6.71	9.90	0.00
M6	"	"	6.71	9.90	0.00
M7	"	"	3.91	5.77	0.00
M8	"	"	4.03	5.95	0.00
M9	"	"	7.63	11.26	0.00
M10	"	"	7.63	11.26	0.00
M11	"	"	4.03	5.95	0.00
M12	"	"	4.95	7.30	0.00
M13	"	"	1.75	2.58	0.00

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 ksi	Elasticity ksi	Poisson	Density lb/ft^3	Therm. /F
Wood	-NA-	1700.00	0.36	40.47	0.00

VisualAnalysis 3.50.c Report

05/07/99 09:06:13
Project:
File: C:\Program Files\IES\VA35\Untitled.vap
Company: PK Associates Engineers
Engineer: Paul Zacher
Default Units: Feet, Pounds, Degrees, °Fahrenheit, Seconds.

Load Cases

Load Case	Strength	Service	Results
(1)Service Case 1	No	No	None
(2)Service Case 2	"	"	"
(3)Equation Case 1	"	"	1st Ord

Service Load Cases

Load Case	Load Source	Self Weight	Loads
Service Case 1	Dead loads	None	
Service Case 2	Roof Live l	"	

Load Combination Summary

Equation Case: Equation Case 1
Combination: +1D+1L+1Lr+1R+1W+1S+1E+1H+1F+1TS+1T+1TC+1I+1U+1LE
Contributing Cases & Source
Service Case 1 (Dead loads)
Service Case 2 (Roof Live loads)

Equation Case Combinations

Load Case	Cases	Equation
Equation Case 1	0.00	0.00

Member Uniform Loads

Load Case	Member	Direction	Offset *ft*	End Off *ft*	Magnitude
Service Case 1	M1	DY proj.	0.00	9.00	-0.01 K/ft
"	M2	"	0.00	8.00	-0.01 K/ft
"	M3	"	0.00	5.50	-0.01 K/ft
"	M4	"	0.00	7.83	-0.03 K/ft
"	M5	"	0.00	6.71	-0.03 K/ft
"	M6	"	0.00	6.71	-0.03 K/ft
"	M7	"	0.00	3.91	-0.03 K/ft
Service Case 2	M4	"	0.00	7.83	-0.03 K/ft
"	M5	"	0.00	6.71	-0.03 K/ft
"	M6	"	0.00	6.71	-0.03 K/ft
"	M7	"	0.00	3.91	-0.03 K/ft

VisualAnalysis 3.50.c Report

05/07/99 09:06:19
Project:
File: C:\Program Files\IES\VA35\Untitled.vap
Company: PK Associates Engineers
Engineer: Paul Zacher
Default Units: Feet, Pounds, Degrees, °Fahrenheit, Seconds.

Load Cases

Load Case	Strength	Service	Results
(1)Service Case 1	No	No	None
(2)Service Case 2	"	"	"
(3)Equation Case 1	"	"	1st Ord

Member Extreme Results

Member	Fx(lc) K	Fy(lc) K	Mz(lc) K-ft	fc max(lc) ksi	fc min(lc) ksi	Dx(lc) in	Dy(lc) in
M1	**1.07(3)**	-0.04(3)	-0.06(3)	0.20(3)	-0.01(3)	0.00(3)	-0.09(3)
"	1.07(3)	0.03(3)	0.05(3)	0.42(3)	**0.20(3)**	0.01(3)	-0.00(3)
M2	0.61(3)	-0.03(3)	-0.04(3)	0.13(3)	-0.05(3)	0.01(3)	-0.07(3)
"	0.61(3)	0.03(3)	0.02(3)	0.28(3)	0.11(3)	0.02(3)	-0.04(3)
M3	0.65(3)	-0.02(3)	-0.02(3)	0.12(3)	0.03(3)	0.02(3)	-0.04(3)
"	0.65(3)	0.02(3)	0.02(3)	0.22(3)	0.12(3)	0.02(3)	-0.00(3)
M4	**-1.27(3)**	**-0.21(3)**	**-0.28(3)**	**-0.24(3)**	**-1.31(3)**	-0.01(3)	**-0.25(3)**
"	-1.09(3)	0.14(3)	**0.22(3)**	**0.90(3)**	-0.22(3)	-0.00(3)	-0.00(3)
M5	-1.07(3)	-0.12(3)	-0.28(3)	-0.19(3)	-1.31(3)	-0.02(3)	-0.11(3)
"	-0.91(3)	**0.19(3)**	0.10(3)	0.90(3)	-0.20(3)	-0.01(3)	-0.04(3)
M6	-0.82(3)	-0.18(3)	-0.21(3)	-0.13(3)	-0.98(3)	0.02(3)	-0.15(3)
"	-0.67(3)	0.12(3)	0.16(3)	0.67(3)	-0.13(3)	0.02(3)	-0.03(3)
M7	-0.03(3)	-0.05(3)	-0.14(3)	-0.01(3)	-0.55(3)	0.02(3)	-0.03(3)
"	0.06(3)	0.13(3)	0.03(3)	0.57(3)	-0.00(3)	0.02(3)	0.01(3)
M8	-0.40(3)	0.00(3)	0.00(3)	-0.08(3)	-0.13(3)	**0.06(3)**	-0.02(3)
"	-0.40(3)	0.00(3)	0.01(3)	-0.02(3)	-0.08(3)	0.06(3)	-0.02(3)
M9	0.49(3)	0.01(3)	0.00(3)	0.09(3)	-0.12(3)	**-0.05(3)**	-0.07(3)
"	0.49(3)	0.01(3)	0.05(3)	0.31(3)	0.09(3)	-0.04(3)	-0.03(3)
M10	0.09(3)	0.00(3)	0.00(3)	0.02(3)	-0.01(3)	0.04(3)	-0.03(3)
"	0.09(3)	0.00(3)	0.01(3)	0.04(3)	0.02(3)	0.04(3)	-0.00(3)
M11	-0.02(3)	0.02(3)	0.00(3)	-0.00(3)	-0.27(3)	-0.02(3)	-0.04(3)
"	-0.02(3)	0.02(3)	0.07(3)	0.26(3)	-0.00(3)	-0.02(3)	-0.02(3)
M12	-0.92(3)	0.00(3)	0.00(3)	-0.17(3)	-0.17(3)	0.02(3)	-0.02(3)
"	-0.92(3)	0.00(3)	0.00(3)	-0.17(3)	-0.17(3)	0.02(3)	**0.02(3)**
M13	0.00(3)	0.00(3)	0.00(3)	0.00(3)	0.00(3)	-0.00(3)	-0.02(3)
"	0.00(3)	0.00(3)	0.00(3)	0.00(3)	0.00(3)	-0.00(3)	-0.02(3)

BENDING & COMP: TRUSS 1; MEMBER 4

Buckling Factor, CT is
negelected due to small contribution

Grading:

2x or 4x Doug-fir larch: No. 2

Assumptions:

Lateral support at points of bearing
SPS or gypboard attached to compression face
Maximum center-center spacing = 24"

Width, b	1.5	inches
Depth, d	3.5	inches
Length	7.83	feet
Max Axial Comp, C	1270	lbs
Max Reaction, R	210	lbs
Max Moment, M	280	ft-lbs
Max LL Deflection	0.11	inches
Max TL Deflection	0.25	inches
LL Defl Criteria = L/	240	
TL Defl Criteria = L/	180	
Duration factor, Cd	1.25	
Repetitive Factor, Cr	1.15	
fc =	242	psi
Fce=	1041	psi
Fc*=	1094	psi
F'c=	737	psi
fb=	91	psi
F'b=	1258	psi

Shear D/C ratio	0.51 < 1.0, Member	OK
Interaction equation:		
(fc/F'c)^2 +		
fb/ (F'b(1-fc/Fce)) =	0.20 < 1.0, Member	OK
Live Load defl ratio	0.28 < 1.0, Member	OK
Total Load defl ratio	0.48 < 1.0, Member	OK