

CITY OF SACRAMENTO
1231 I Street, Sacramento, CA 95814

Permit No: 0106966
Insp Area: 4

Site Address: 1737 PEBBLEWOOD DR SAC
Parcel No: 225-0690-019

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

CONTRACTOR
ZIMMERMAN ROOFING INC
3675 R STREET
SACRAMENTO, CA 95816

OWNER
HOLMES STEVEN D/DENISE M
1737 PEBBLEWOOD DR
SACRAMENTO CA 95833

ARCHITECT

Nature of Work: TO REROOF WITH 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, Civil Code)

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-39 License Number 557559 Date 4/4/01 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 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 & P 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 4/4/01 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 STAFF FUND Policy Number 713-00-2021 Exp Date 10/01/2001

_____, (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 way which is subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation laws of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date 4/4/01 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.

Holmes

1737 PEBBLEWOOD DR

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

TEL: 916.961.3960
FAX: 916.961.6552

May 25, 2001

Zimmerman Roofing
3675 R Street
Sacramento, CA 95816
TEL: 916.454.3667
FAX: 916.455.3784



Attn: Mr. Jeff Tucker.

re: Job 2001 140 HOLMES

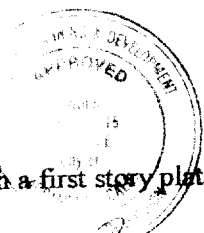
Subject: Structural Investigation Report of the Roof for the Residence located at 1737 Pebblewood Drive, Sacramento, CA 95833.

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 25, 2001. 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 1980's vintage
Occupancy	Residential
No. of Stories	One
Dimensions	Approximately 2000 square feet with a first story plate height of 8 feet



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.

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

Paul Zacher 6/4/01

CONSTRUCTION

Roof:
The roof covering will consist of a Light Weight Concrete Tile over 1/2" solid sheathing. The living and garage areas are framed with pre-engineered wood trusses spaced at 24" on center.

CONCLUSIONS

Roof:
The living and garage areas have sufficient structural capacity for the applied live and dead loads.

Holmes

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

TEL: 916.961.3960
FAX: 916.961.6552

RECOMMENDATIONS

None

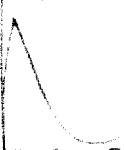
It shall be noted that small hairline cracking may occur at exterior stucco and interior gypboard finished walls that are load bearing or distributing roof strut loads. These cracks are a natural occurrence as the existing structure re-distributes the new roof weight. They are cosmetic in nature and 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 1 in 12
Pitch Adjustment Factor 1.05

LOCATION: ROOF

<u>MATERIAL</u>	<u>WEIGHT</u>	
Light Weight Tile	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	1.00	psf
Load	10.9	psf
Roof Pitch Adjustment	0.59	psf
Total Load	11.5	psf

LOCATION: TOP CHORD

<u>MATERIAL</u>	<u>WEIGHT</u>	
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	0.64	psf
Load	10.5	psf
Roof Pitch Adjustment	0.57	psf
Total Load	11.1	psf

LOCATION: BOTTOM CHORD

<u>MATERIAL</u>	<u>WEIGHT</u>	
Batt/blown insul	0.50	psf
2x4 truss @ 24" oc	1.28	psf
1/2" Gypboard	2.50	psf
Load	4.3	psf

P. K. Zacher S E

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

Job #

Date:

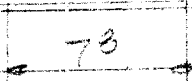
LOADING

RAFTER

2 - 12' x 12' x 12' x 12'
2 - 12' x 12' x 12' x 12'

2 - 4" x 2"

23/02

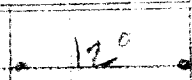


RAFTER

2 - 12' x 12' x 12' x 12'
2 - 12' x 12' x 12' x 12'

2 - 6" x 2"

24/02

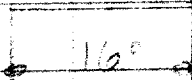


RAFTER

4 - 12' x 12' x 12' x 12'
4 - 12' x 12' x 12' x 12'

4 - 14" x 2"

02/04



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

Title :
 Dsgnr:
 Description :
 Scope :

Job #
 Date: 10:38AM, 25 MAY 01

0101 10.201
 0101 KW 0602844, Ver 1.0, 1999 West
 © 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

	rafter	vault	B1
Timber Section	2x4	2x6	4x14
Beam Width	in 1.500	1.500	3.500
Beam Depth	in 3.500	5.500	13.250
Unbraced Length	ft 0.00	0.00	0.00
Timber Grade	Douglas Fir - Larch	Douglas Fir - Larch	Douglas Fir - Larch
Fb - Basic Allow	psi 875.0	875.0	875.0
Fv - Basic Allow	psi 95.0	95.0	95.0
Elastic Modulus	ksi 1,600.0	1,600.0	1,600.0
Load Duration Factor	1.250	1.250	1.250
Member Type	Sawn	Sawn	Sawn
Repetitive Status	Repetitive	Repetitive	No

Center Span Data

	rafter	vault	B1
Span	ft 7.50	12.00	16.00
Dead Load	#/ft 23.00	23.00	62.00
Live Load	#/ft 32.00	32.00	64.00

Results

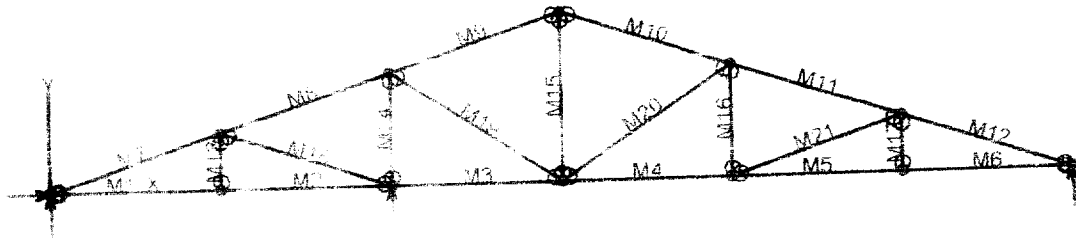
	Ratio =	0.8400	0.9607	0.4320
Mmax @ Center	in-k	4.85	11.88	48.38
@ X =	ft	3.83	6.00	8.00
Fb Actual	psi	1,584.5	1,570.9	472.4
Fb Allowable	psi	1,886.1	1,635.2	1,093.8
		Bending OK	Bending OK	Bending OK
Fv Actual	psi	55.9	55.7	28.2
Fv Allowable	psi	118.5	118.5	118.8
		Shear OK	Shear OK	Shear OK

Reactions

	DL	LL	Max. DL+LL
@ Left End	lbs 86.20	138.00	496.00
	lbs 122.72	192.00	512.00
	lbs 210.92	330.00	1,008.00
@ Right End	lbs 86.20	138.00	496.00
	lbs 122.72	192.00	512.00
	lbs 210.92	330.00	1,008.00

Deflections

	Ratio =	Deflection OK	Deflection OK
Center DL Defl	in -0.209	-0.322	-0.084
L/Defl Ratio	440.1	446.5	2,279.9
Center LL Defl	in -0.293	-0.449	-0.087
L/Defl Ratio	316.1	320.9	2,208.6
Center Total Defl	in -0.499	-0.771	-0.171
Location	ft 3.835	6.000	8.000
L/Defl Ratio	184.0	185.7	1,121.5



VisualAnalysis 3.50.c Report

10/11/88 10:45:00

Project: Truss 1

Program File: VESVMA35.PC (MS-DOS)

Company: PK Associates, Engineers

Engineer: Paul Zacher

Units: Feet, Pounds Degrees: Fahrenheit, Seconds.

Nodes

Node	X ft	Y ft	Fix	DX	FLX	DY	Fix	RZ
N1	0.00	0.00	Yes		Yes		Yes	
N2	7.00	0.00	No		No		No	
N3	14.00	0.00	No		No		No	
N4	21.00	0.00	No		No		No	
N5	28.00	0.00	No		No		No	
N6	35.00	0.00	No		No		No	
N7	42.00	0.00	No		No		No	
N8	7.00	7.33	No		No		No	
N9	35.00	7.33	No		No		No	
N10	14.00	14.67	No		No		No	
N11	28.00	14.67	No		No		No	
N12	11.00	14.67	No		No		No	

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	SS	7.00
M2	"	"	7.00
M3	"	"	7.00
M4	"	"	7.00
M5	"	"	7.00
M6	"	"	7.00
M7	"	"	7.00
M8	"	"	7.00
M9	"	"	7.00
M10	"	"	7.00
M11	"	"	7.00
M12	"	"	7.00
M13	"	"	7.00
M14	"	"	7.00
M15	"	"	7.00
M16	"	"	7.00
M17	"	"	7.00
M18	"	"	7.00
M19	"	"	7.00
M20	"	"	7.00
M21	"	"	7.00
M22	"	"	7.00
M23	"	"	7.00
M24	"	"	7.00
M25	"	"	7.00
M26	"	"	7.00
M27	"	"	7.00
M28	"	"	7.00
M29	"	"	7.00
M30	"	"	7.00
M31	"	"	7.00
M32	"	"	7.00
M33	"	"	7.00
M34	"	"	7.00
M35	"	"	7.00
M36	"	"	7.00
M37	"	"	7.00
M38	"	"	7.00
M39	"	"	7.00
M40	"	"	7.00
M41	"	"	7.00
M42	"	"	7.00
M43	"	"	7.00
M44	"	"	7.00
M45	"	"	7.00
M46	"	"	7.00
M47	"	"	7.00
M48	"	"	7.00
M49	"	"	7.00
M50	"	"	7.00
M51	"	"	7.00
M52	"	"	7.00
M53	"	"	7.00
M54	"	"	7.00
M55	"	"	7.00
M56	"	"	7.00
M57	"	"	7.00
M58	"	"	7.00
M59	"	"	7.00
M60	"	"	7.00
M61	"	"	7.00
M62	"	"	7.00
M63	"	"	7.00
M64	"	"	7.00
M65	"	"	7.00
M66	"	"	7.00
M67	"	"	7.00
M68	"	"	7.00
M69	"	"	7.00
M70	"	"	7.00
M71	"	"	7.00
M72	"	"	7.00
M73	"	"	7.00
M74	"	"	7.00
M75	"	"	7.00
M76	"	"	7.00
M77	"	"	7.00
M78	"	"	7.00
M79	"	"	7.00
M80	"	"	7.00
M81	"	"	7.00
M82	"	"	7.00
M83	"	"	7.00
M84	"	"	7.00
M85	"	"	7.00
M86	"	"	7.00
M87	"	"	7.00
M88	"	"	7.00
M89	"	"	7.00
M90	"	"	7.00
M91	"	"	7.00
M92	"	"	7.00
M93	"	"	7.00
M94	"	"	7.00
M95	"	"	7.00
M96	"	"	7.00
M97	"	"	7.00
M98	"	"	7.00
M99	"	"	7.00
M100	"	"	7.00

Section Properties

Category	Section	Ax in ²	Iz in ⁴	Sy+ in ³	Sy- in ³
Beam	Shs SS2x4	3.25	5.00	1.00	3.00

Material Properties

Material	Strength	Elasticity	Poisson	Density
	psi	psi		lb/cu ft
Alc	-NA-	1.1E+009	0.3	150

Load Combination Summary

Equation Case: Equation Case 1
 Combination: 1,2,3,4,5,6,7,8,9
 Contributing Cases & Source
 Reference Case - Dead loads
 Reference Case - Self-Weight loads

Member Uniform Loads

If member is empty, check the selection state, or report properties.

Nodal Reactions

Node	Load Case	FX lbs	FY lbs	MZ lb-ft
1	Equation Case 1	0.00	134.83	-NA-
2	"	-NA-	1868.30	-NA-
3	"	-NA-	134.83	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
L1	-150.28	111.61	48.15	0.0000
	150.28	111.61	21.0037	0.0000
	-150.28	111.61	38.8541	0.0000
	-150.28	111.61	0.0000	0.0000
	-150.28	111.61	49.11	0.0000
M1	-150.28	111.61	11.75	0.0000
	150.28	111.61	11.75	0.0000
	-150.28	111.61	11.75	0.0000
	-150.28	111.61	11.75	0.0000
	-150.28	111.61	11.75	0.0000
M2	902.87	111.61	11.75	0.0000
	902.87	111.61	11.75	0.0000
	902.87	111.61	11.75	0.0000
	902.87	111.61	11.75	0.0000
	902.87	111.61	11.75	0.0000
M3	959.88	111.61	11.75	0.0000
	959.88	111.61	11.75	0.0000
	959.88	111.61	11.75	0.0000
	959.88	111.61	11.75	0.0000
	959.88	111.61	11.75	0.0000
M4	1699.88	111.61	11.75	0.0000
	1699.88	111.61	11.75	0.0000
	1699.88	111.61	11.75	0.0000
	1699.88	111.61	11.75	0.0000
	1699.88	111.61	11.75	0.0000
M5	107.75	111.61	11.75	0.0000
	107.75	111.61	11.75	0.0000
	107.75	111.61	11.75	0.0000
	107.75	111.61	11.75	0.0000
	107.75	111.61	11.75	0.0000
M6	191.97	111.61	11.75	0.0000
	191.97	111.61	11.75	0.0000
	191.97	111.61	11.75	0.0000
	191.97	111.61	11.75	0.0000
	191.97	111.61	11.75	0.0000
M7	234.08	111.61	11.75	0.0000
	234.08	111.61	11.75	0.0000
	234.08	111.61	11.75	0.0000
	234.08	111.61	11.75	0.0000
	234.08	111.61	11.75	0.0000
M8	888.78	111.61	11.75	0.0000
	888.78	111.61	11.75	0.0000
	888.78	111.61	11.75	0.0000
	888.78	111.61	11.75	0.0000
	888.78	111.61	11.75	0.0000
M9	973.15	111.61	11.75	0.0000
	973.15	111.61	11.75	0.0000
	973.15	111.61	11.75	0.0000
	973.15	111.61	11.75	0.0000
	973.15	111.61	11.75	0.0000

BENDING & COMP: TRUSS 1 - MEMBER 12

Design based on 1997 NDS 2321 (revision V) and ANSITPP1-1-1995

Grading:

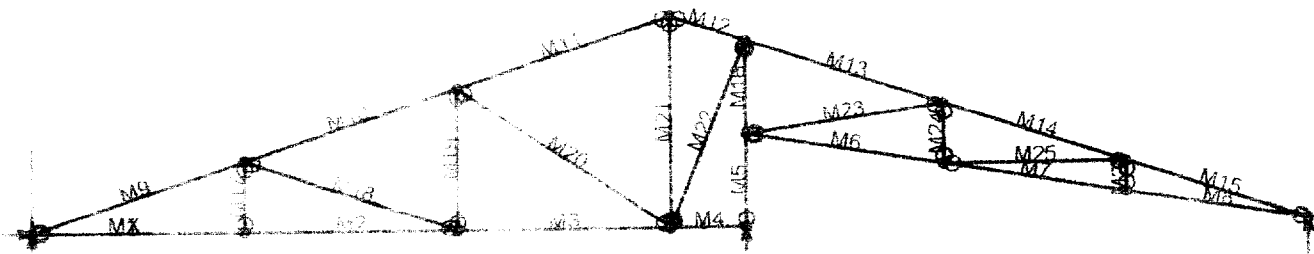
2 - D/F 1.5

Doug-fir (200F) - 1.8

Assumptions:

solid sheathing on top chord of truss. Therefore
continuous lateral support is provided along compression face
maximum center-center spacing = 14"

Width, b	5.5 inches
Depth, d	7.5 inches
Length	11.38 feet
Max Axial Comp. C	2717 lbs
Max Reaction, R	2717 lbs
Max Moment, M	1752 ft-lbs
Max LL Deflection	0.06 inches
Max PL Deflection	0.11 inches
Defl Criteria - L	0.40
Defl Criteria - PL	0.80
Adjustment factor, Cd	1.0
Repetitive Factor, Cr	1.15
Size Factor, Cf bending	1.5 = 1.5 for 2x4, 1.3 for 2x6
Size Factor, Cf comp	1.5 = 1.5 for 2x4, 1.1 for 2x6
Buckling Factor, Ct	1.20
F _v	127 psi
F _u	458 psi
F _c	3084 psi
F _t *	844 psi
F _b *	987 psi
F _b *=F _b **	1156 psi
Shear D/C ratio	0.52 < 1.0 Member OK
Interaction equation (fc/F _c) ² +	
F _b / (F _b (1-fc/F _c)) +	0.82 < 1.0 Member OK
Live Load defl ratio	0.19 < 1.0 Member OK
Total Load defl ratio	0.25 < 1.0 Member OK



VisualAnalysis 3.50 c Report

Project: Truss 2
 File: C:\Program Files\VisualAnalysis\Truss 2.vad
 Company: PK Associa of Englewood
 Analyst: Paul Smith
 Units: Feet, Pounds, Degrees, Radians, Seconds

Nodes

Node	X ft	Y ft	FX	DX	FY	DY	FZ	RZ
1	0.00	0.00	Yes	Yes	Yes	Yes	Yes	Yes
2	7.00	0.00	No	No	No	No	No	No
3	21.00	0.00	No	No	No	No	No	No
4	23.50	0.00	No	No	No	No	No	No
5	23.50	0.08	No	No	No	No	No	No
6	30.00	0.00	No	No	No	No	No	No
7	35.00	0.00	No	No	No	No	No	No
8	42.00	0.00	No	No	No	No	No	No
9	7.00	3.5	No	No	No	No	No	No
10	14.00	7.00	No	No	No	No	No	No
11	21.00	10.50	No	No	No	No	No	No
12	23.50	11.75	No	No	No	No	No	No
13	30.00	15.00	No	No	No	No	No	No
14	35.00	15.00	No	No	No	No	No	No
15	42.00	15.00	No	No	No	No	No	No

Member Elements

Member	Section	Material	Length ft
1	2L4x4	A36	7.00
2	"	"	7.00
3	"	"	7.00
4	"	"	7.00
5	"	"	7.00
6	"	"	7.00
7	"	"	7.00
8	"	"	7.00
9	"	"	7.00
10	"	"	7.00
11	"	"	7.00
12	"	"	7.00
13	"	"	7.00
14	"	"	7.00
15	"	"	7.00
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95	"	"	7.00
96	"	"	7.00
97	"	"	7.00
98	"	"	7.00
99	"	"	7.00
100	"	"	7.00

Section Properties

BENDING & COMP: TRUSS 2 - MEMBER 15

Design based on 1989 NDS - 2017 Edition - 2018 NDS - 2018 Edition - 2018 Edition

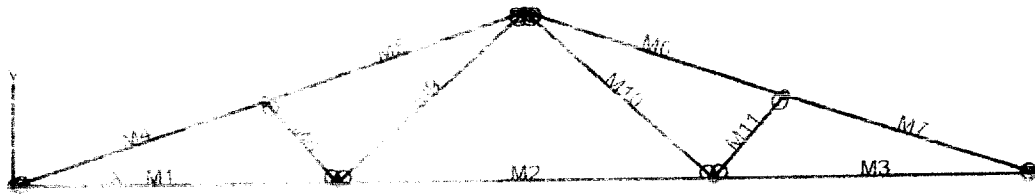
Design:

Designator: Truss-Member 15

ASSUMPTIONS

- Solid sheathing on top chord of truss. Factor for continuous lateral supports is provided above compression face.
- Member center-to-center spacing = 12'

Width, b	5.375 inches		
Height, h	5.375 inches		
Length	12.000 feet		
Design Axial Comp. Load	5447.106 lbs		
Design Reaction, R	11.175 lbs		
Design Moment, M	17.000 ft-lb		
Design LL Deflection	15 inches		
Design Wind Deflection	12.000 inches		
Design Wind Criteria = 1	0		
Design Wind Criteria = 2	80		
Designation factor, C ₁	1		
Designation Factor, C ₂	1		
Design Factor, C _F bending	1.1 for 2x4 1.1 for 2x6		
Design Factor, C _F comp	1.1 for 2x4 1.1 for 2x6		
Design Factor, C _F sliding	1		
Design Factor, C _u	1		
Design Factor, C _z	1		
Design Factor, C _{tr}	1.07 (psi)		
Design Factor, C _{ti}	1.0 (psi)		
Design Factor, C _{br}	1.0 (psi)		
Design Factor, C _{br}	1.0 (psi)		
Design D/C ratio	0.44	1 Member	OK
Designation equation			
Design D/C ratio	0.84	1 Member	OK
Design Load defl ratio	0.00	1 Member	OK
Design Load defl ratio	0.00	1 Member	OK



VisualAnalysis 3.50 c Report

Project:
 User:
 Date:
 Time:
 Location:
 Description:
 Drawing:
 Job No:
 Drawing No:
 Drawing Date:
 Drawing Title:
 Drawing Scale:
 Drawing Units:
 Drawing Orientation:
 Drawing Color:
 Drawing Font:
 Drawing Style:
 Drawing Layer:
 Drawing Plot:
 Drawing Print:
 Drawing Save:
 Drawing Open:
 Drawing Close:
 Drawing Exit:
 Drawing Help:
 Drawing About:
 Drawing Preferences:
 Drawing Settings:
 Drawing Options:
 Drawing Tools:
 Drawing Views:
 Drawing Windows:
 Drawing Menus:
 Drawing Status:
 Drawing Message:
 Drawing Error:
 Drawing Warning:
 Drawing Info:
 Drawing Help:
 Drawing About:
 Drawing Preferences:
 Drawing Settings:
 Drawing Options:
 Drawing Tools:
 Drawing Views:
 Drawing Windows:
 Drawing Menus:
 Drawing Status:
 Drawing Message:
 Drawing Error:
 Drawing Warning:
 Drawing Info:

Notes

Notes
 Node
 Element
 Section
 Material
 Load
 Release
 Support
 Analysis
 Results
 Messages
 Errors
 Warnings
 Info

Member Elements

Member Elements
 Member ID
 Section
 Material
 Length
 Nodes
 Releases
 Supports

Section Properties

Section Properties
 Section Name
 Area
 Moment of Inertia
 Section Modulus
 Torsion Constant
 Centroid Location
 Plastic Section Modulus

Material Properties

Material Properties
 Material Name
 Modulus of Elasticity
 Poisson's Ratio
 Yield Strength
 Tensile Strength
 Ultimate Strength
 Fatigue Strength
 Concrete Strength
 Concrete Modulus
 Concrete Poisson's Ratio

Load Combination Summary

Load Combination Summary
 Combination Name
 Combination Description
 Contributing Load Cases
 Combination Type
 Duration Factor
 Load Factor

BENDING & COMP: TRUSS 3 MEMBER 4

Design based on LRFD 16.3.2.2.2.1. $\phi_c F_c \leq \phi_c F_c + \phi_b F_b \leq 1.00$

Loading

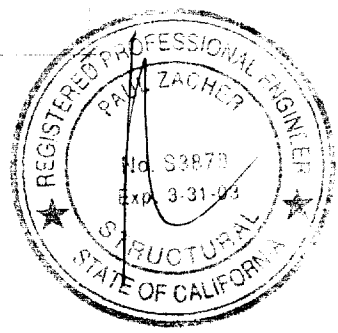
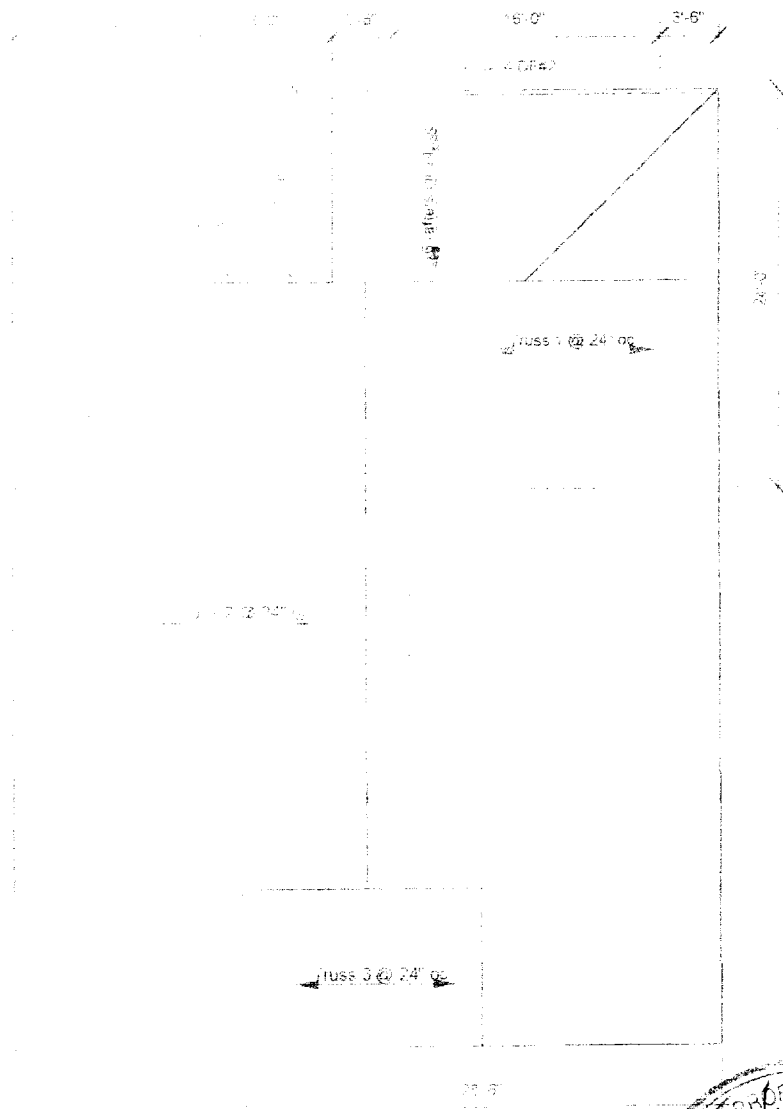
Dead = 1.2D + 1.6L + 0.5(L_s or S) = 1.2(10) + 1.6(10) + 0.5(10) = 33 k

Assumptions

Wind sheathing on top chord of truss. Full width

Continuous lateral support is provided along entire length of truss
Main center-to-center spacing = 14'

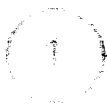
Width, b	14 inches
Depth, d	12 inches
Area, A _g	21 in ²
Min Axial Comp. σ_c	1.47 ksi
Max Deflection, R	0.18 in
Max Moment, M	12.25 k-ft
Max LL Deflection	0.08 inches
Max TL Deflection	0.03 inches
Defl Criteria - LL	OK
Defl Criteria - TL	OK
Reduction factor, ϕ_c	0.85
Reduction Factor, ϕ_b	0.85
Size Factor, Cf bending	1.0 for 2x4, 1.1 for 2x6
Size factor, Cf comp	1.0 for 2x4, 1.1 for 2x6
Loading Factor, ϕ	0.90
$\phi_c F_c$	10.26 k
$\phi_b F_b$	10.26 k
$\phi_c F_c + \phi_b F_b$	20.52 k
$\phi_c F_c + \phi_b F_b \geq 1.00$	844 psf
$\phi_c F_c + \phi_b F_b \geq 1.00$	1000 psf
$\phi_c F_c + \phi_b F_b \geq 1.00$	1200 psf
Slenderness ratio D/C ratio	4.2 < 4.7 Member OK
Interaction equation	
$\phi_c (F_b(1-f_c/F_c)) + \phi_b F_b$	10.88 > 1.0 Member OK
Service load defl ratio	0.18 < 0.3 Member OK
Dead Load defl ratio	0.08 < 0.15 Member OK



Notes:

1. The roof/ceiling project shall use existing material shall be a Light Weight Concrete Tile. The tile shall weigh less than or equal to 70 psf
2. All structural work must be that which observed appear to be in sound condition and without significant defect.

MAY 14 2003



ROOF PLAN HOLMES

PLANS