

CITY OF SACRAMENTO

Permit No: 0010578

1231 I Street, Sacramento, CA 95814

Insp Area: 2

Site Address: 725 EL MACERO WY SAC

Sub-Type: RES

Parcel No: 031-0340-027

Housing (Y/N): N

CONTRACTOR

ZIMMERMAN ROOFING
3675 R ST
SACRAMENTO CA 95816

OWNER

NORWOOD
725 EL MACERO WY
SACRAMENTO CA 95831

ARCHITECT

Nature of Work: 37 SQ T/O REROOF W LT WT 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'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-37 License Number 557559 Date 9/11/00 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 _____

**PAYED
CITY OF SACRAMENTO
SEP 11 2000
NEIGHBORHOODS, PLANNING
& DEVELOPMENT SERVICES**

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 9/11/00 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:

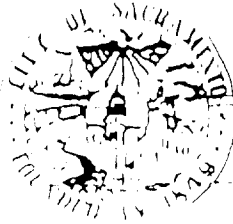
Carrier STATE COMP INS FUND Policy Number 713-99-2021 Exp Date 10/1/2000

_____, (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 9/11/00 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

1201 I STREET
ROOM 200
SACRAMENTO, CA
95814-1994

Human Services
916-264-7011
FAX 916-264-7046

James Norwood
725 E Macera Wy
Sacto., CA 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.

BRAND AND MODEL OF TILE: Pioneer Lite weight

TILE WEIGHT PER SQUARE: 730 lbs

WEIGHT OF ROOF SYSTEM PER SQUARE: 180 lbs

TOTAL WEIGHT OF ROOF SYSTEM: 910 lbs

DID TOTAL WEIGHT OF ROOF SYSTEM EXCEED 750# PER SQUARE? YES YES NO

DATE: 4/17

PLEASE PROVIDE A SEPARATE WORKSHEET FOR EACH APPLICATION INVOLVING A TILE

see attached engin. report

Norwood

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

TEL: 916.961.3960
FAX: 916.961.6552

August 30, 2000

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



Attn: Mr Jeff Tucker,

re: Job 2000_268: NORWOOD

Subject: Structural Investigation Report of the Roof for the Residence located at 725 El Macero 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 August 30, 2000. 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:

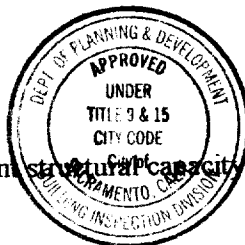
Type of Facility: Residence.
Year Built: Estimated 1980's vintage.
Occupancy: Residential.
No. of Stories: One.
Dimensions: Approximately 3000 square feet with a first story plate height of 8 feet.

CONSTRUCTION:

Roof:
The roof covering will consist of a 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 and with pre-engineered wood trusses spaced at 24" on center. The garage area is framed with 2x6 rafters spaced at 24" on center and 2x8 cross ties spaced at 2'-0" on center.

CONCLUSIONS:

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



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

REVIEWED BY:
[Signature]
9/7/00

1/16

Norwood

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

TEL: 916.961.3960
FAX: 916.961.6552

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 2x6 rafter to the existing 2x6 rafters with 16d's @ 12" on center where the span is greater than 12'-0". See detail 1.

Garage:

2. Scab a 2x6 rafter to the existing 2x6 rafters with 16d's @ 12" on center where the span is greater than 12'-0". Scab a 2x8 rafter to the existing 2x6 rafters with 16d's @ 12" on center where the span is greater than 15'-3". See detail 1.
3. Scab a 2x12 DF#2 to the existing header. See details 1 and 2.

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	4	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	<u>1.00</u>	psf
Load	10.9	psf
Roof Pitch Adjustment	<u>0.59</u>	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	<u>1.28</u>	psf
Load	11.2	psf
Roof Pitch Adjustment	<u>0.60</u>	psf
Total Load	11.8	psf

LOCATION: BOTTOM CHORD

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

Job # 05-1908

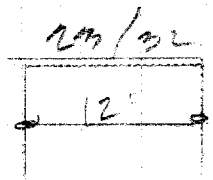
Date: 8/22/00

LOADING

RAIL

OR 115 P.F. = 2' 24" P.V.
LR 115 P.F. = 2' 24"

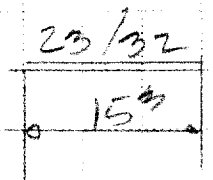
2 x 6" Z



RAIL

OR 115 P.F. = 2' 24" P.V.
LR 115 P.F. = 2' 24"

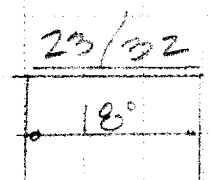
2-2x6" Z



RAIL

OR 115 P.F. = 2' 24" P.V.
LR 115 P.F. = 2' 24"

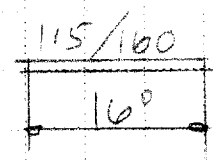
2-8" Z +
2-6" Z



RAIL

OR 115 P.F. x 10" = 115 P.V.
LR 115 P.F. = 10"

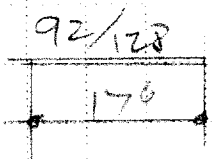
4 x 12" Z +
2 x 12" Z

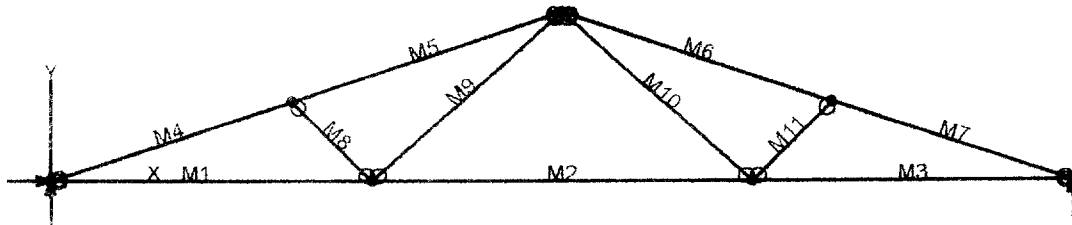


RAIL

OR 115 P.F. = 8" - 92 P.V.
LR 115 P.F. = 8"

4-12"





VisualAnalysis 3.50.c Report

08/30/00 18:30:01

Project: Truss 1

File: C:\Program Files\IES\VA35\truss 1.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	8.00	0.00	No	No	"
N3	17.50	0.00	"	"	"
N4	25.50	0.00	"	Yes	"
N5	6.00	2.00	"	No	"
N6	19.50	2.00	"	"	"
N7	12.75	4.25	"	"	"

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	8.00
M2	"	"	9.50
M3	"	"	8.00
M4	"	"	6.32
M5	"	"	7.12
M6	"	"	7.12
M7	"	"	6.32
M8	"	"	2.83
M9	"	"	6.37
M10	"	"	6.37
M11	"	"	2.83

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

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

Nodal Reactions

Node	Load Case	FX lbs	FY lbs	MZ lb-ft
N1	Equation Case 1	0.00	800.70	-NA-
N4	"	-NA-	800.70	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	1956.73	-33.59	-38.28	-0.1925
"	1956.73	-14.39	25.5493	-0.1629
"	1956.73	4.8145	38.3106	-0.1044
"	1956.73	24.0145	0.0000	-0.0000
M2	1190.95	-34.20	-38.28	-0.1925
"	1190.95	-11.40	33.7354	-0.2454
"	1190.95	11.4000	33.7354	-0.2454
"	1190.95	34.2000	-38.28	-0.1925
M3	1956.73	-24.01	0.0000	-0.0000
"	1956.73	-4.8145	38.3106	-0.1044
"	1956.73	14.3855	25.5493	-0.1629
"	1956.73	33.5855	-38.28	-0.1925
M4	-2101.92	118.06	0.0000	-0.0000
"	-2066.76	12.5635	137.13	-0.1362
"	-2031.59	-92.93	52.4163	-0.1724
"	-1996.43	-198.42	-254.14	-0.1795
M5	-1790.35	213.74	-254.14	-0.1795
"	-1750.79	95.0586	111.34	-0.3082
"	-1711.23	-23.62	196.06	-0.3425
"	-1671.67	-142.30	0.0000	-0.1926
M6	-1790.35	-213.74	-254.14	-0.1614
"	-1750.79	-95.06	111.34	-0.2901
"	-1711.23	23.6216	196.06	-0.3244
"	-1671.67	142.30	0.0000	-0.1744
M7	-2101.92	-118.06	0.0000	0.0181
"	-2066.76	-12.56	137.13	-0.1181
"	-2031.59	92.9301	52.4163	-0.1543
"	-1996.43	198.42	-254.14	-0.1614
M8	-460.81	0.0000	0.0000	-0.1212
"	-460.81	0.0000	0.0000	-0.1128
"	-460.81	0.0000	0.0000	-0.1043
"	-460.81	0.0000	0.0000	-0.0959
M9	590.33	0.0000	0.0000	-0.1633
"	590.33	0.0000	0.0000	-0.1613
"	590.33	0.0000	0.0000	-0.1594
"	590.33	0.0000	0.0000	-0.1575
M10	590.33	0.0000	0.0000	-0.1250
"	590.33	0.0000	0.0000	-0.1231
"	590.33	0.0000	0.0000	-0.1212
"	590.33	0.0000	0.0000	-0.1193
M11	-460.81	-0.0000	0.0000	-0.1618
"	-460.81	-0.0000	-0.0000	-0.1533
"	-460.81	-0.0000	-0.0000	-0.1448
"	-460.81	-0.0000	-0.0000	-0.1364

BENDING & COMP: TRUSS 1 - MEMBER 4

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

Grading:

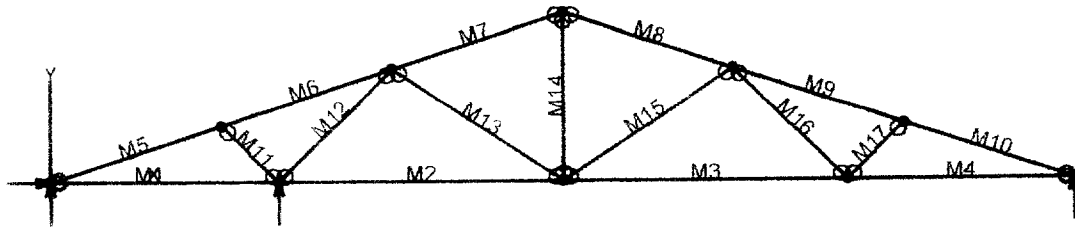
2x or 4x

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	6.32 feet
Max Axial Comp. C	1996 lbs
Max Reaction, R	198 lbs
Max Moment, M	254 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 =	1.18
fc =	380 psi
Fce =	1211 psi
Fc* =	1869 psi
F'c =	989 psi
fb =	995 psi
F'b = Fb* =	1887 psi
Shear D/C ratio	0.48 < 1.0, Member OK
Interaction equation:	
(fc/F'c)^2 +	
fb / (F'b(1-fc/Fce)) =	0.92 < 1.0, Member OK
Live Load defl ratio	0.22 < 1.0, Member OK
Total Load defl ratio	0.40 < 1.0, Member OK



VisualAnalysis 3.50.c Report

08/30/00 19:05:10

Project: Truss 2

File: C:\Program Files\IES\VA35\truss 2.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	8.00	0.00	No	"	"
N3	18.00	0.00	"	No	"
N4	28.00	0.00	"	"	"
N5	36.00	0.00	"	Yes	"
N6	6.00	2.00	"	No	"
N7	30.00	2.00	"	"	"
N8	12.00	4.00	"	"	"
N9	24.00	4.00	"	"	"
N10	18.00	6.00	"	"	"

Member Elements

Member	Section	Material	Length ft
M1	SS2x4	Wood	8.00
M2	"	"	10.00
M3	"	"	10.00
M4	"	"	8.00
M5	"	"	6.32
M6	"	"	6.32
M7	"	"	6.32
M8	"	"	6.32
M9	"	"	6.32
M10	"	"	6.32
M11	"	"	2.83
M12	"	"	5.66
M13	"	"	7.21
M14	"	"	6.00
M15	"	"	7.21
M16	"	"	5.66
M17	"	"	2.83

Section Properties

Category	Section	Ax in ²	Iz in ⁴	Sy+ in ³	Sy- in ³
Wood Sha	SS2x4	5.25	5.35	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

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

Nodal Reactions

Node	Load Case	FX lbs	FY lbs	MZ lb-ft
N1	Equation Case 1	0.00	-23.95	-NA-
N2	"	-NA-	1484.16	-NA-
N5	"	-NA-	800.59	-NA-

Member Results

Member	Axial lbs	Vy lbs	Mz lb-ft	Dy in
M1	-525.07	-37.40	-68.77	-0.0000
"	-525.07	-18.20	5.2280	-0.0118
"	-525.07	1.0043	28.1500	-0.0220
"	-525.07	20.2043	0.0000	0.0000
M2	325.10	-35.03	-59.07	-0.1090
"	325.10	-11.03	17.4948	-0.0936
"	325.10	12.9691	14.2644	-0.0550
"	325.10	36.9691	-68.77	-0.0000
M3	1310.85	-33.79	-36.93	-0.1610
"	1310.85	-9.7854	35.4890	-0.1995
"	1310.85	14.2146	28.1071	-0.1770
"	1310.85	38.2146	-59.07	-0.1090
M4	1913.56	-24.18	0.0000	-0.0000
"	1913.56	-4.9839	38.7623	-0.0947
"	1913.56	14.2161	26.4527	-0.1429
"	1913.56	33.4161	-36.93	-0.1610
M5	512.09	124.15	0.0000	0.0000
"	547.25	18.6606	149.98	-0.0891
"	582.41	-86.83	78.1241	-0.0673
"	617.58	-192.33	-215.58	0.0052
M6	794.55	161.62	-215.58	0.0052
"	829.72	56.1228	13.3815	-0.0147
"	864.88	-49.37	20.4988	-0.0385
"	900.04	-154.86	-194.23	-0.0601
M7	-817.72	188.95	-194.23	-0.0601
"	-782.55	83.4569	92.3588	-0.1591
"	-747.39	-22.04	157.10	-0.1954
"	-712.22	-127.53	0.0000	-0.1149
M8	-817.95	-189.64	-198.59	-0.1387
"	-782.78	-84.15	89.4515	-0.2007
"	-747.62	21.3472	155.65	-0.2025
"	-712.45	126.84	0.0000	-0.0886
M9	-1786.04	-153.64	-169.50	-0.1420
"	-1750.88	-48.15	42.6487	-0.1589
"	-1715.72	57.3463	32.9520	-0.1551
"	-1680.55	162.84	-198.59	-0.1387
M10	-2060.88	-131.44	0.0000	0.0117

"	-2025.71	-25.95	165.34	-0.1476
"	-1990.55	79.5469	108.84	-0.1831
"	-1955.39	185.04	-169.50	-0.1420
M11	-395.72	0.0000	0.0000	-0.0040
"	395.72	0.0000	0.0000	-0.0005
"	-395.72	0.0000	0.0000	0.0031
"	-395.72	0.0000	0.0000	0.0066
M12	-1598.03	0.0000	0.0000	-0.0591
"	-1598.03	0.0000	0.0000	-0.0381
"	-1598.03	0.0000	0.0000	-0.0171
"	-1598.03	0.0000	0.0000	0.0040
M13	469.81	0.0000	0.0000	-0.0914
"	469.81	0.0000	0.0000	-0.0701
"	469.81	0.0000	0.0000	-0.0488
"	469.81	0.0000	0.0000	-0.0274
M14	209.21	-0.0000	-0.0000	-0.0416
"	209.21	-0.0000	-0.0000	-0.0273
"	209.21	-0.0000	-0.0000	-0.0130
"	209.21	-0.0000	0.0000	0.0013
M15	-714.92	0.0000	0.0000	-0.1379
"	-714.92	0.0000	0.0000	-0.1219
"	-714.92	0.0000	0.0000	-0.1060
"	-714.92	0.0000	0.0000	-0.0900
M16	473.69	0.0000	0.0000	-0.1023
"	473.69	0.0000	0.0000	-0.0996
"	473.69	0.0000	0.0000	-0.0969
"	473.69	0.0000	0.0000	-0.0942
M17	-378.66	-0.0000	0.0000	-0.1254
"	-378.66	-0.0000	-0.0000	-0.1203
"	-378.66	-0.0000	-0.0000	-0.1152
"	-378.66	-0.0000	-0.0000	-0.1101

BENDING & COMP: TRUSS 1 - MEMBER 10

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

Grading:

2x or 4x

Doug-fir larch: No. 2

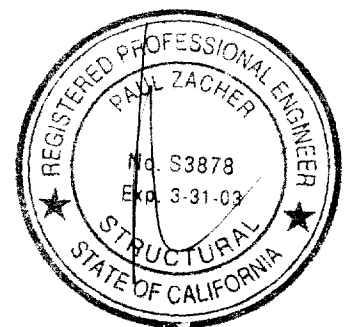
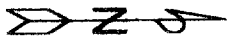
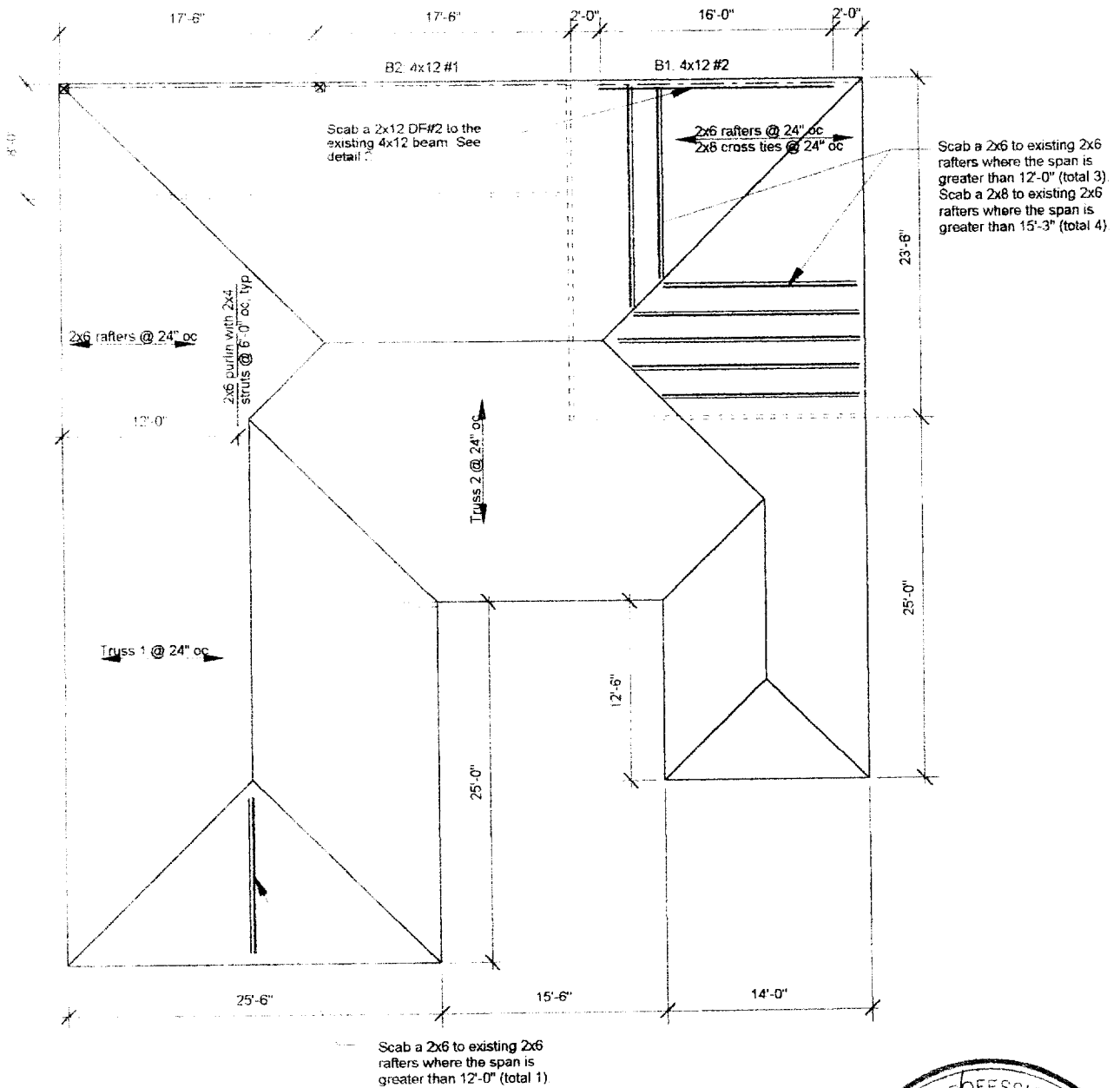
Assumptions:

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	6.32 feet
Max Axial Comp. C	1955 lbs
Max Reaction, R	185 lbs
Max Moment, M	169 ft-lbs
Max LL Deflection	0.06 inches
Max TL Deflection	0.14 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 =	1.18
fc =	372 psi
Fce =	1211 psi
Fc* =	1869 psi
F'c =	989 psi
fb =	662 psi
F'b = Fb* =	1887 psi
Shear D/C ratio	0.45 < 1.0, Member OK
Interaction equation:	
(fc/F'c)^2 +	
fb / (F'b(1-fc/Fce)) =	0.65 < 1.0, Member OK
Live Load defl ratio	0.19 < 1.0, Member OK
Total Load defl ratio	0.33 < 1.0, Member OK



Notes:

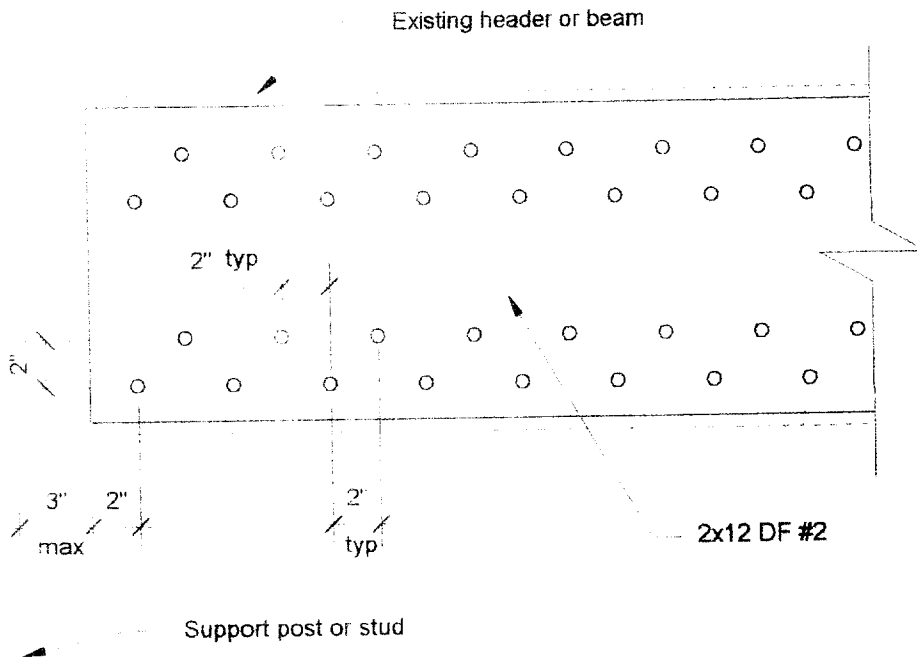
1. This is a reroof project. The new roofing material shall be a Light Weight Concrete Tile. The tile shall weigh less than or equal to 7.0 psf.
2. All rafters are 2x6 DF#2 and hips and valleys are 2x8 DF#2 unless otherwise noted.
3. All existing rafter, hips, valleys, rafter ties, and purlins are braced 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

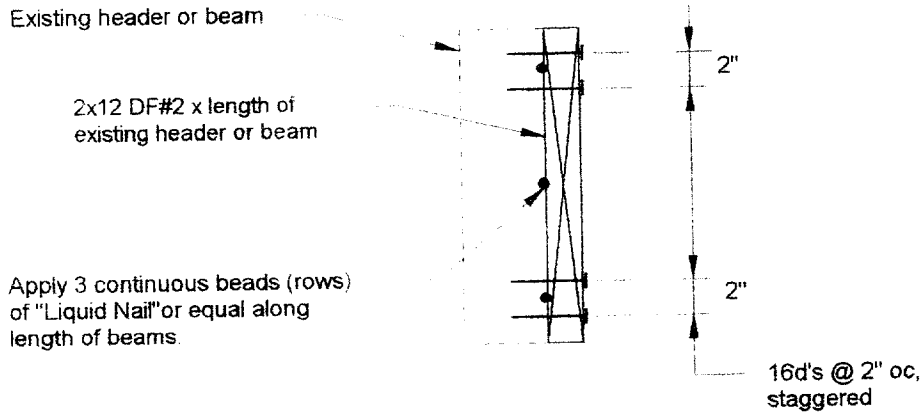
ROOF PLAN - NORWOOD

Not to Scale

15



ELEVATION



SECTION

2

HEADER DETAIL

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

