

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0519406

Insp Area: 2

Thos Bros: 336H1

Site Address: 7334 GLORIA DR SAC

Parcel No: 031-0990-008

Sub-Type: RES

Housing (Y/N): N

CONTRACTOR
ZIMMERMAN REROOFING CO.
3675 R ST
SACRAMENTO CA 95816

OWNER
BROWN MARY LEE/TRA GENE
7334 GLORIA DR
SACRAMENTO, CA 95831

ARCHITECT

Nature of Work: T/O SHAKE, REROOF W/EAGLELITE TILE MALIBU..ROOF PITCH 6/12. 34 SQRS.

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 Number 763169 12/13/05 *Alma 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 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 _____

PAID
CITY OF SACRAMENTO
DEC 13 2005
NEIGHBORHOODS PLANNING
AND 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 hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date _____ Applicant/Agent 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 NATIONAL LIABILITY Policy Number 0000554996 Exp Date 10/01/2006

(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.

12/13/05 *Alma 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.

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PZSE, Inc. - Structural Engineers
4701 Lakeside Way
Fair Oaks, CA 95628

TEL: (916) 961-3960
FAX: (916) 961-6552
e-mail: paul@pzse.com

November 30, 2005

Zimmerman Roofing
3675 R Street
Sacramento, CA 95816
TEL: (916) 454-3667
FAX: (916) 691-1943

Attn.: Mr. Jeff Shulman,

re: Job 2005561: BROWN

Subject: Structural Investigation Report of the Roof for the Residence located at 7334 Gloria Drive, Sacramento, CA 95831.

As requested by Mr. Jeff Shulman, this is a report to determine what needs should be addressed to correct any structural deficiencies of the roof. Paul Zacher visited the site October 10, 2005. 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 with 2001 CBC Title 24 Amendments.

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.

OFFICE / CITY COPY

JK6 12-13-05

CONSTRUCTION:

Roof:

The roof covering will consist of a Light Weight Concrete Tile over 7/16" solid sheathing. The roof structure 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 garage area is framed with 2x6 rafters spaced at 24" on center and 2x8 cross ties spaced at 16" on center.

CONCLUSIONS:

Roof:

The roof structure currently lacks sufficient structural capacity for the applied live and dead loads. See "Recommendations" for location and repair to bring the roof structure up to the required capacity.

- field verify max 7.3 psf
tile weight
- field verify structural
modifications
see pg. 2



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FAX: (916) 961-6552
e-mail: paul@pzse.com

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.

Roof Structure:

1. Scab a 1 3/4" x 11 7/8" LVL beam to the existing 2x8 crosstie and nail together with 16d's @ 6" oc. The ends of the LVL 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 ridge, hip and valley boards to the LVL beam with 2x4 struts. See details 1 and 2.
2. Add a 2x6 DF#2 x 12'-0" long purlin with 2x4 struts to the bearing walls below. The maximum spacing between the struts shall not exceed 6'-0" on center and the minimum slope of the struts shall not be less than 45 degrees from the horizontal. See detail 1.
3. Scab a 2x6 rafter to the existing 2x6 rafters with 16d's @ 12" on center where the span is greater than 12'-0". The rafter to be scabbed to the existing rafter may be held short of the intersecting bearing wall, hip, valley, ridge or purlin by no more than 4". See detail 1.
4. Add a 2x6 DF#2 x 20'-0" long purlin with 2x4 struts to the bearing walls below. The maximum spacing between the struts shall not exceed 6'-0" on center and the minimum slope of the struts shall not be less than 45 degrees from the horizontal. See detail 1.

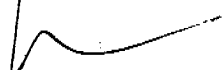
It shall be noted that small hairline cracking may occur at exterior stucco and interior gypboard finished walls that are load bearing or distributing roof strut loads. These cracks are a natural occurrence as the existing structure re-distributes the new roof weight. They are cosmetic in nature and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

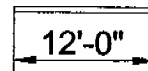
LOADING:

Rafter:

Dr = 12.3 psf x 2'-0" = 24.6 plf
 Lr = 16.0 psf x 2'-0" = 32.0 plf

2x6 #2

24.6 / 32.0

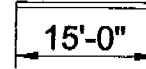


Rafter:

Dr = 12.3 psf x 2'-0" = 24.6 plf
 Lr = 16.0 psf x 2'-0" = 32.0 plf

2-2x6 #2

24.6 / 32.0

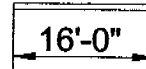


B1:

Dr = 12.3 psf x 7'-0" = 86 plf
 Lr = 16.0 psf x 7'-0" = 112 plf

4x12 #2

86 / 112

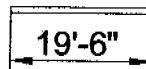


B2:

Dr = 12.3 psf x 7'-0" = 86 plf
 Lr = 16.0 psf x 7'-0" = 112 plf

6x12 #1

86 / 112

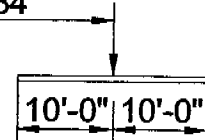


LVL:

Pdr = 12.3 psf x 7' x 7' = 603 lbs
 Plr = 16.0 psf x 7' x 7' = 784 plf

1-3/4"x11 7/8" LVL

603 / 784



Rev: 580006
 User: KW-0602844, Ver 5.8.0, 1-Dec-2003
 (c)1983-2003 ENERCALC Engineering Software

Timber Beam & Joist

Brown.ecw:Calculations

Description RAFTERS AND BEAMS

Timber Member Information Code Ref: 1997/2001 NDS, 2000/2003 IBC, 2003 NFPA 5000. Base allowables are user defined

	rafter	rafter	B1	B2	EVL
Timber Section	2x6	2-2x6	4x12	6x12 MicroLam: 1.75x11.	
Beam Width	in 1.500	3.000	3.500	5.500	1.750
Beam Depth	in 5.500	5.500	11.250	11.500	11.875
Le: Unbraced Length	ft 0.00	0.00	0.00	0.00	0.00
Timber Grade	Douglas Fir - Larch, No.2	Douglas Fir - Larch, No.2	Douglas Fir - Larch, No.2	Douglas Fir - Larch, No.1	Truss Joist - MacMillan,
Fb - Basic Allow	psi 875.0	875.0	875.0	1,350.0	2,600.0
Fv - Basic Allow	psi 95.0	95.0	95.0	85.0	285.0
Elastic Modulus	ksi 1,600.0	1,600.0	1,600.0	1,600.0	1,900.0
Load Duration Factor	1.250	1.250	1.250	1.250	1.250
Member Type	Sawn	Sawn	Sawn	Sawn	Manuf/Pine
Repetitive Status	Repetitive	Repetitive	No	No	No

Center Span Data

		12.00	15.00	16.00	19.50	20.00
Span	ft					
Dead Load	#/ft	24.60	24.60	86.00	86.00	
Live Load	#/ft	32.00	32.00	112.00	112.00	
Point #1 DL	lbs					603.00
LL	lbs					784.00
@ X	ft					10.000

Results

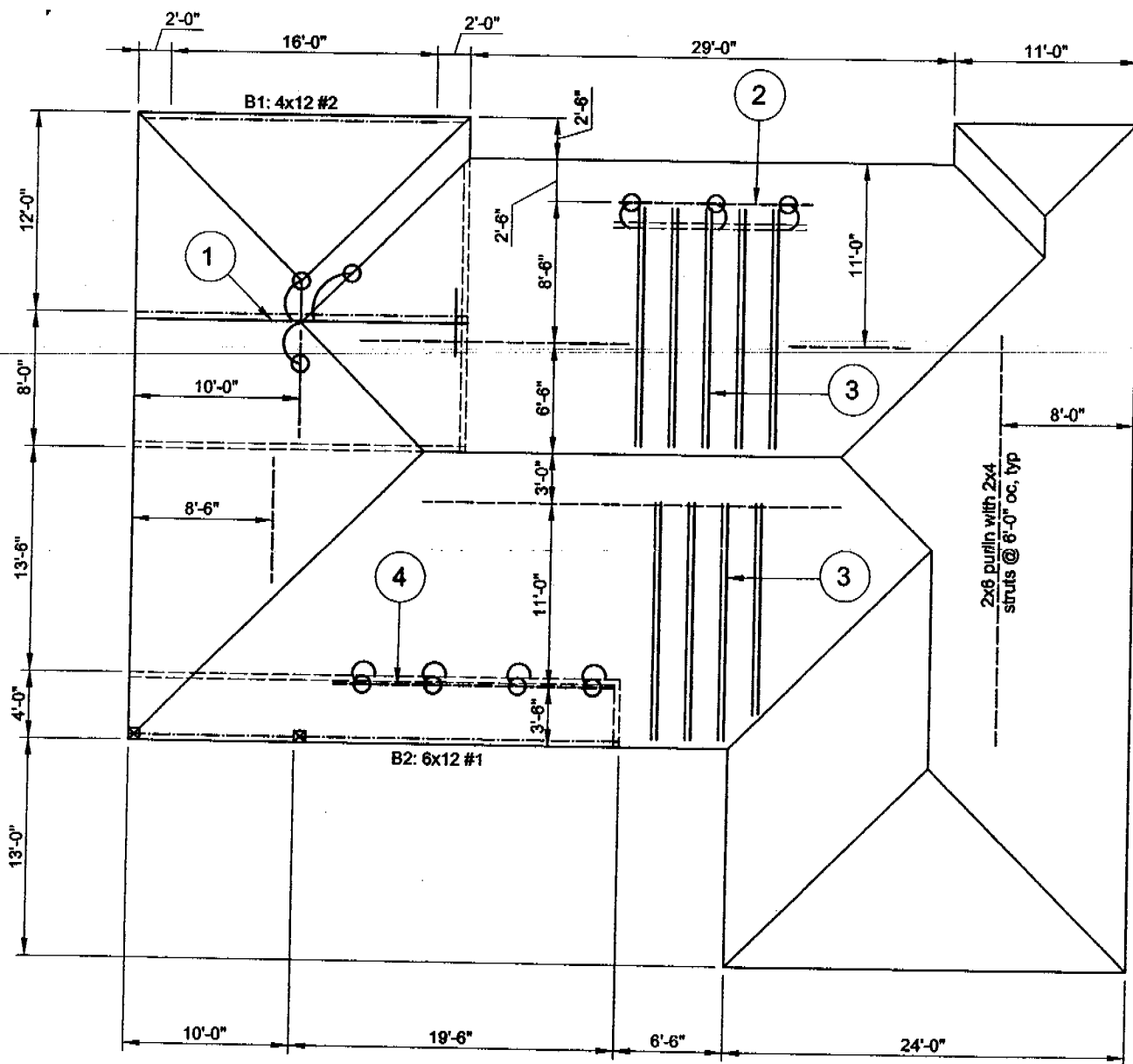
	Ratio =	0.9887	0.7724	0.8560	0.5520	0.6226
Mmax @ Center	in-k	12.23	19.10	76.03	112.93	83.22
@ X =	ft	6.00	7.50	8.00	9.75	10.00
f _b : Actual	psi	1,616.6	1,263.0	1,029.9	931.6	2,023.4
F _b : Allowable	psi	1,635.2	1,635.2	1,203.1	1,687.5	3,250.0
		Bending OK	Bending OK	Bending OK	Bending OK	Bending OK
f _v : Actual	psi	57.3	36.4	53.6	41.4	50.1
F _v : Allowable	psi	118.8	118.8	118.8	106.3	356.3
		Shear OK	Shear OK	Shear OK	Shear OK	Shear OK

Reactions

		147.60	184.50	688.00	838.50	301.50
@ Left End	DL	lbs				
	LL	lbs	192.00	240.00	896.00	1,092.00
	Max. DL+LL	lbs	339.60	424.50	1,584.00	1,930.50
@ Right End	DL	lbs	147.60	184.50	688.00	838.50
	LL	lbs	192.00	240.00	896.00	1,092.00
	Max. DL+LL	lbs	339.60	424.50	1,584.00	1,930.50

Deflections

		Ratio OK	Ratio > 240 !	Deflection OK	Deflection OK	Deflection OK
Center DL Defl	in	-0.345	-0.421	-0.191	-0.251	-0.374
L/Defl Ratio		417.5	427.5	1,006.0	932.8	641.2
Center LL Defl	in	-0.449	-0.548	-0.249	-0.327	-0.487
L/Defl Ratio		320.9	328.7	772.5	716.3	493.2
Center Total Defl	in	-0.794	-0.969	-0.439	-0.578	-0.861
Location	ft	6.000	7.500	8.000	9.750	10.000
L/Defl Ratio		181.5	185.8	437.0	405.2	278.8



FRAMING NOTES:

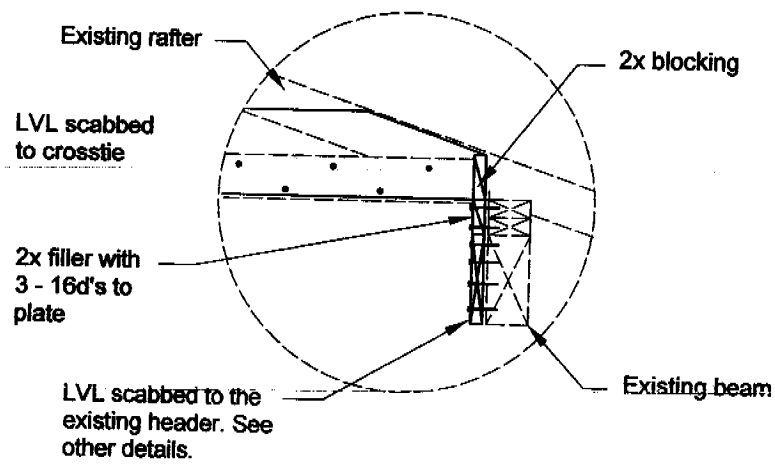
1. Scab a 1-3/4" x 11-7/8" LVL to the existing 2x8 crosstie with 16d's @ 6" oc. The ends of the LVL may be clipped as required to meet the slope of the rafters. The support at the interior wall shall be a 2x8 x 2'-8" long ledger attached to the double top plate with 16d's @ 2" oc staggered. Support the existing ridge, hip and valley rafters to the LVL below with 2x4 struts. See detail 2.
2. Add a 2x6 DF#2 x 12'-0" long purlin with 2x4 struts to bearing below.
3. Scab a 2x6 to existing 2x6 rafters where the span is greater than 12'-0" (total 8) .
4. Add a 2x6 DF#2 x 20'-0" long purlin with 2x4 struts to bearing below.

NOTES:

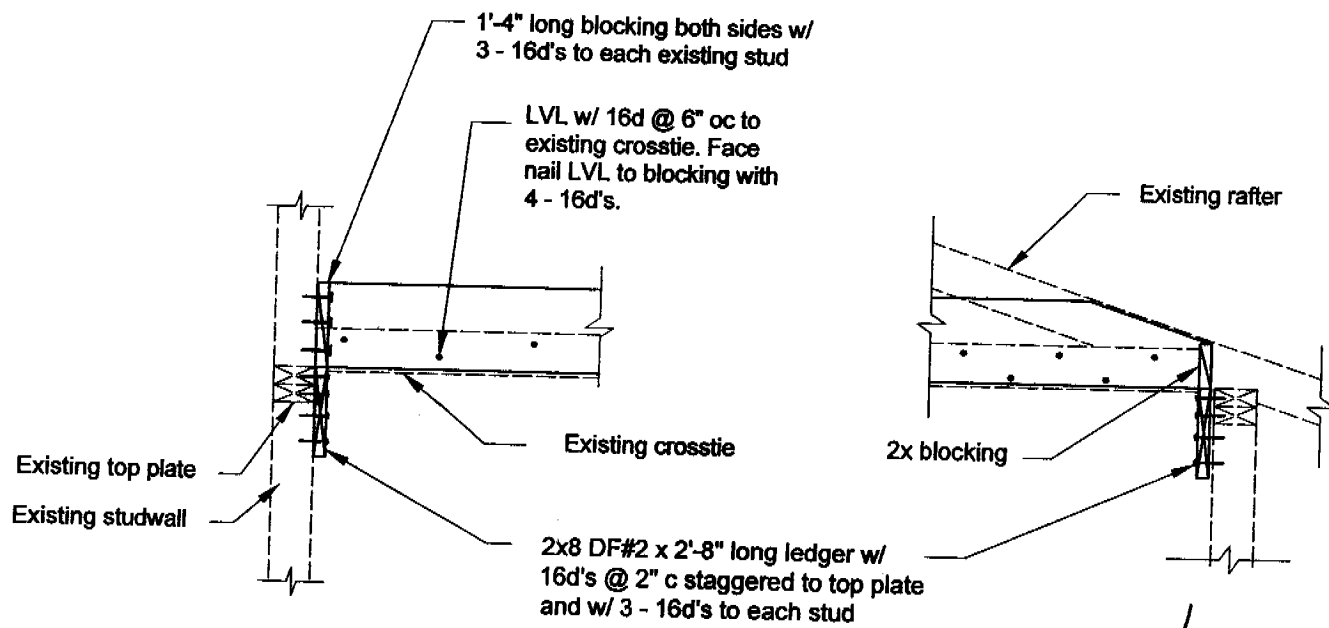
- A. This is a reroof project. The new roofing material shall be a Light Weight Concrete Tile. The tile shall weigh less than or equal to 7.3 psf.
- B. All framing members including rafters, purlins, joists and beams are existing unless otherwise noted in the framing notes above.
- C. All rafters are 2x6 DF#2 and hips and valleys are 2x8 DF#2 unless otherwise noted.
- D. All existing rafter, hips, valleys, rafter ties, and purlins are braced per UBC Section 2320.1 "Roof and Ceiling Framing" unless otherwise shown.
- E. All structural wood members that were observed appear to be in sound condition and without structural defect.

1 **ROOF PLAN - BROWN**
Not to Scale





ALTERNATE CONNECTION AT BEAM



2

LEDGER CONNECTION

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

7





ICC Evaluation Service, Inc.
www.icc-es.org

Business/Regional Office # 5360 Workman Mill Road, Whittier, California 90601 # (562) 699-0543
Regional Office # 900 Montclair Road, Suite A, Birmingham, Alabama 35213 # (205) 599-9800
Regional Office # 4051 West Flossmoor Road, Country Club Hills, Illinois 60478 # (708) 799-2305

Legacy report on the 1997 *Uniform Building Code*™

DIVISION: 07—THERMAL AND MOISTURE PROTECTOR
Section: 07320—Roof Tile

EAGLE AND EAGLELITE INTERLOCKING CONCRETE
ROOFING TILES

EAGLE ROOFING PRODUCTS
3546 NORTH RIVERSIDE AVENUE
RIALTO, CALIFORNIA 92377

1.0 SUBJECT

Eagle and Eaglelite™ Interlocking Concrete Roofing Tiles.

2.0 DESCRIPTION

2.1 General:

2.1.1 Eagle Tiles: Eagle conventional-weight interlocking concrete roofing tiles are produced in high-profile (Capistrano), low-profile (Malibu), and flat-profile styles with either smooth surfaces (Bel Air Standard, Bel Air Estate or Bel Air Double Eagle) or textured surfaces (Ponderosa Standard, Ponderosa Estate, Ponderosa Double Eagle or Ponderosa Golden Eagle). Ridge and rake trim units are produced to match each product.

The tiles are composed of Type II portland cement, washed sand, and proprietary additives. Mineral coloring oxides are added to or are mixed with portland cement and water for surface application following extrusion. Units are cured under controlled temperature and humidity conditions. Tiles are 17 inches (432 mm) long, 12³/₁₆ inches (315 mm) wide, and nominally 1/2 inch (12.7 mm) thick. They are manufactured in either flat or profile style with 3/4-inch-wide (19 mm) interlocking sidelaps designed to resist surface water penetration and maintain proper alignment. All tiles have protruding head lugs on the underside, which provide for mechanical attachment over wooden battens, or provide a stable foundation for nail attachment to solid decking. Two nail holes are provided in each tile for use where half tiles are needed at roof edges, chimneys, skylights, etc. Approximate installed dry weights with 3-inch (76 mm) head laps are 9.5 psf (46 kg/m²) for Capistrano tiles, 9.5 psf (46 kg/m²) for Malibu tiles and 10.0 psf (49 kg/m²) for Ponderosa and Bel Air tiles.

2.1.2 Eaglelite Tiles: Eaglelite tiles are produced in the same size, manner and shapes as the conventional-weight Eagle tiles described in Section 2.1.1, except for substitution of lightweight aggregates and additives for sand. Approximate installed dry weights with 3-inch (76 mm) head laps are 5.7 psf (28 kg/m²) for Capistrano tiles, 5.5 psf (27 kg/m²) for

Malibu tiles and 7.0 psf (34 kg/m²) for Ponderosa and Bel Air tiles.

2.2 Installation:

2.2.1 New Construction: Installation shall be in accordance with the Concrete and Clay Roof Tile Installation Manual for Moderate Climate Regions. See evaluation report ER-6034P.

2.2.2 Reroofing: Eagle tiles, as described in Section 2.1.1, provide a Class A roof when installed over existing asphalt shingle roofs. Care should be taken to ensure both horizontal and vertical alignment on the roof. Foreign matter must be cleaned from all interlocking areas. Cracked or broken tiles must be removed from the roof. Damaged or rusted flashing should be replaced. Existing framing must be adequate for the additional load. Structural data verifying adequacy should be submitted to the building official. The existing roof must be inspected in accordance with Appendix Chapter 15, Section 1515, of the 1997 *Uniform Building Code*™ (UBC). When reroofing wood shake roofs, existing shakes must be removed and solid decking and tile must be installed, as with new construction. When installed over existing spaced sheathing boards, underlayment complying with the UBC or an underlayment recognized specifically for this type of use in an ICC-ES evaluation report, installed with or without battens, may be used. One layer of No. 30 felt or approved equal underlayment must be installed on the roof prior to application of tile. In lieu of this underlayment's being provided, the building official may determine that the existing roof covering provides the required underlayment protection.

Details not covered under this section are identical to those described in Section 2.2.1.

2.3 Roof Classification:

When installed over solid sheathing in accordance with this report, Eagle and Eaglelite roofing tiles are Class A roof coverings in accordance with Section 1504.1 of the UBC. When installed over spaced or solid sheathing in accordance with this report, the tiles are noncombustible roof coverings in accordance with Section 1504.2 of the UBC. The tiles are Class A roof coverings when installed over existing asphalt shingles in accordance with Section 2.2.2 of this report.

2.4 Identification:

The name EAGLE and the evaluation report number (ER-4660) are imprinted on each tile. A tag on each shipping pallet indicates the producing plant location, product identification and the installed weight. Each Eaglelite tile is identified by the product name "Eaglelite" on a tag and a light-colored strip across the headlap area.

ICC-ES Legacy reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, Inc., express or implied, as to any finding or other matter in this report, or as to any product covered by the report.



3.0 EVIDENCE SUBMITTED

Results of tests in accordance with the ICC-ES Interim Criteria for Clay and Concrete Roof Tiles (AC180), dated January 2002, and a quality control manual.

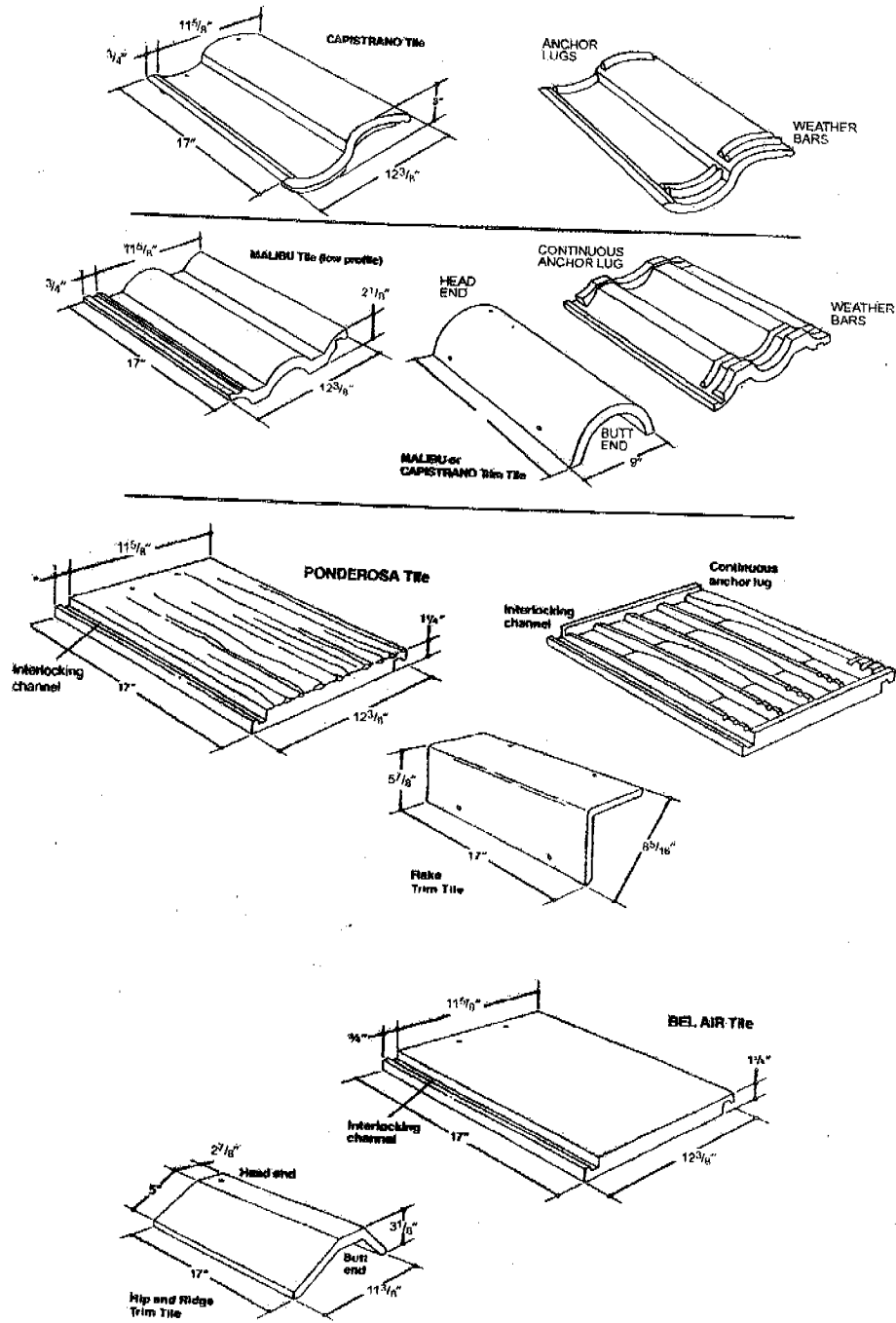
4.0 FINDINGS

That the Eagle Concrete Roofing Tiles described in this report comply with the 1997 *Uniform Building Code*™, subject to the following conditions:

4.1 Tiles are manufactured, identified and installed in accordance with this report and the manufacturer's instructions.

4.2 Tiles are manufactured at Eagle Roofing Products facilities located in Rialto, California, and Phoenix, Arizona.

This report is subject to re-examination in two years.



FIELD AND TRIM SPECIFICATIONS