CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0513810
Insp Area: 2
Thos Bros: 337H5

Site Address: 15 KINGHORN CT SAC
Parcel No: 119-0316-004

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

CONTRACTOR
VALLEY CONSTRUCTION
PO BOX 1164
FAIR OAKS, CA 95628

OWNER
PENA JOSE M
15 KINGHORN CT
SACRAMENTO, CA 95823

ARCHITECT

Nature of Work: REROOF T/O RESHEET INSTALL 27 SQRS ESPANA DURALITE TILE (2 STORY) RESTUCCO BACK AND SIDES OF HOUSE

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 674523 Date 9/9/05 Contractor 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 Professions 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 9/9/05 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.

ZV 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 229-0022752 Exp Date 01/01/2006

_____ (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.

Date 9/9/05 Applicant 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.

0513810

ES REPORT™

ER-2656

Reissued June 1, 2001

ICBO Evaluation Service, Inc. • 5360 Workman Mill Road, Whittier, California 90601 • www.icboes.org

Filing Category: ROOF COVERING AND ROOF DECK CONSTRUCTION—Roof Covering (202)

EXTRUDED CONCRETE INTERLOCKING ROOF TILES

MONIER LIFETILE LLC
7575 IRVINE CENTER DRIVE
IRVINE, CALIFORNIA 92618-2930

1.0 SUBJECT

Extruded Concrete Interlocking Roof Tiles: Roma, Classic "100," Homestead, Mission "S," Shake, Slate, Split Shake, Split Slate, Country Shake, Country Slate, Country Split Shake, Country Split Slate, Cedarlite, Espana, Espana Tejas, Capri, Villa, Sentry Classic and Traditions.

2.0 DESCRIPTION

2.1 Materials:

2.1.1 Regular-weight Tiles:

The extruded concrete roof tiles are interlocking elements having the dimensions and configurations shown in the accompanying table and figures. Accessory tile units are available for ridge, hip and gable areas. The regular-weight tiles are composed of portland cement and selected sand aggregates. The mix proportions are accurately maintained to ensure tile production in accordance with the specifications. Anchor lugs, located on the underside of all tiles except Cedarlite, overlap wood battens, purlins or spaced sheathing for anchorage in the plane of the roof. Holes are provided in each tile for fastening where required by the installation. Interlocking ribs are provided on the longitudinal edges of the tiles to restrict lateral movement and provide a water stop. In addition, transverse bars are provided on the underside to serve as weather checks. Mineral coloring oxides are either applied to the exposed surface in a cementitious material or mixed integrally with the tile mix to produce a through-colored product. The tiles are cured to reach required strength before shipment. See Table 1 for product designations, dimensions and installed weights. See Figure 1 for tile profiles.

2.1.2 Lightweight Tiles: Duralite tiles are manufactured in the same manner and size, and with the same profiles, as regular-weight tiles, but the tiles are comprised of portland cement, lightweight aggregate and proprietary ingredients. See Table 1 for product dimensions and installed weights.

2.1.3 Cedarlite: Cedarlite tiles are manufactured in the same manner as regular-weight tiles, except they are comprised of portland cement, lightweight aggregates and proprietary ingredients, and have a wood shake appearance and flat backside.

2.2 Installation—New Construction:

2.2.1 General: Installation shall be in accordance with Tables 15-D-1 and 15-D-2 of the code, except as noted in this report. Care must be taken to ensure both horizontal and vertical alignment on the roof. Foreign particles must be cleaned from all interlocking areas, to ensure correct fit and prevent water damming. Cracked or broken tiles must not be installed or allowed to remain on the roof.

2.2.2 Sheathing: Sheathing must be structurally adequate to support the loads involved. At a minimum, spaced sheathing boards must be nominal 1-by-6 lumber spanning a maximum of 24 inches (610 mm). Solid and spaced sheathing must be fastened in accordance with the code.

2.2.3 Underlayment: Tiles installed on roofs with slopes less than $2^1/_2$:12 (21% slope) are considered decorative only, and must be applied over an approved roof covering, subject to local building official approval.

On roofs with slopes of $2^1/_2$:12 (21% slope) to less than 3:12 (25% slope), an approved built-up roof applied in accordance with Table 15-D-1 of the code or an approved single-ply roof membrane assembly must be installed prior to installation of the tiles.

On solidly sheathed roofs with slopes of 3:12 (25% slope) to less than 4:12 (33% slope), underlayment may be as described in this section for roof slopes of $2^1/_2$:12 (21% slope) to less than 3:12 (25% slope), or may be a single layer of Type 90, granular-surfaced, asphalt roll roofing, or two layers of Type 30 felt installed shingle fashion, or other approved single-ply systems installed in accordance with the code or an ICBO ES evaluation report.

Over solid sheathing on roofs with slopes of 4:12 (33% slope) or greater, underlayment must be one layer of minimum Type 30 felt either complying with ASTM D 226 or recognized in an ICBO ES evaluation report, and must completely cover the decking.

When the tiles are installed over spaced sheathing, the underlayment must comply with the ICBO ES Acceptance Criteria for Concrete Tile Underlayment on Spaced Sheathing (AC08). The underlayment must be draped over the rafters, with a 4-inch (152 mm) headlap and a 6-inch (152 mm) sidelap.

Underlayment must be lapped over hips and ridges, and lapped or laced through the valleys. Hip and ridge nailers must also be covered.

See Section 2.2.9 for application of underlayment in areas subject to roof ice buildup.

2.2.4 Battens:

2.2.4.1 Cedarlite Tiles: Battens installed for Cedarlite tiles must be nominal 1-by-3 wood. The battens must be fastened as described in Section 2.2.4.3, and spaced at 10 inches (254 mm) on center. The top edge of the Cedarlite tile must be aligned with the top of the batten.

2.2.4.2 All Other Tiles: Battens are required on solidly sheathed roofs with slopes below 3:12 (25% slope) in order to minimize membrane penetration, and above 7:12 (58.3% slope) to provide positive tile anchorage. Battens must be fastened either with corrosion-resistant 8d common or box nails or approved equal, spaced at 24 inches (610 mm) on center; or with $1^1/_2$-inch-long (38 mm), $^7/_{16}$-inch-crown (11.1 mm), No. 16 gage, corrosion-resistant staples spaced a maximum of 12 inches (305 mm) on center.

prior to installation of battens in accordance with Section 2.2.4.

2.3.3 Eave Preparation: Existing roof material shall be cut back to allow installation of a raised fascia board or eave closure material, flush with the end of the roof sheathing in accordance with Section 2.2.5.

2.3.4 Flashing: New pipe flashing and minimum 24-inch-wide (610 mm) metal valley flashing shall be installed over existing flashing. Existing chimney and wall-counter flashing shall be used only if they are in good condition and sufficient height exists to insert new tile flashing. Flexible flashing shall be used with profiled tiles.

2.3.5 Wood Shakes and Shingles: Existing wood shakes and shingles shall be removed and tiles installed as for new construction.

2.4 Roof Classification:

When installed in accordance with Section 2.2 of this report, the roof tiles are noncombustible roof coverings in accordance with Section 1504.1 of the UBC. When installed over minimum $^{15}/_{32}$-inch-thick (11.9 mm) plywood, in accordance with Section 2.2 and in the reroofing applications described in Sections 2.3.1 through 2.3.4 of this report, the tiles are Class A roof coverings, in accordance with Section 1504.2 of the code.

2.5 Identification:

The underside of each field tile is imprinted with the Monier Lifetile LLC logo or the name Monier, Lifetile or Boral Lifetile. Pallets bear a tag with the Monier Lifetile LLC name and address, the evaluation report number (ICBO ES ER-2656) and the installed weight of the product. Cedarlite tiles also have an "M" imprinted on the top side of the tile.

3.0 EVIDENCE SUBMITTED

Reports of tests conducted in accordance with the ICBO ES Acceptance Criteria for Special Roofing Systems (AC07), dated April 1999, and installation and quality control details.

4.0 FINDINGS

That the extruded concrete interlocking roof tiles described in this report comply with the 1997 *Uniform Building Code*™, subject to the following conditions:

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

4.2 They are manufactured at plants located in Phoenix, Arizona; French Camp, California; Gilroy, California; Lathrop, California; Rialto, California; San Bernardino, California; Kapolei, Hawaii; Henderson, Nevada; Katy, Texas; and Tacoma, Washington.

This report is subject to re-examination in one year.

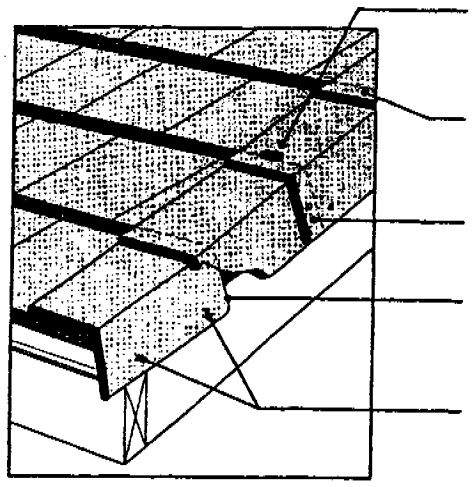
TABLE 1—TILE DIMENSIONS AND WEIGHTS

TILE DESIGNATION	INSTALLED WEIGHT[1] (psf)	LENGTH (inches)	WIDTH (inches)	HEIGHT (inches)
- Duralite	9.0 5.5	17 17	12 3/8 12 3/8	3 3
Espana, Tejas	9.0	16 1/2	13 1/8	2 3/4
Mission "S" - Monier 2000	9.5	16 1/2	13	2 1/2
Capri - Regular weight - Duralite	9.5 5.5	17 17	12 3/8 12 3/8	2 1/8 2 1/8
Sentry Classic	9.5	16 1/2	13	2 1/4
Villa - Monier 2000 - Duralite	9.3 5.8	16 1/2 16 1/2	13 13	2 1/8 2 1/8
Roma	9.3	16 1/2	13	2
Classic "100"	9.5	16 1/2	13	1 3/4
Shake, Country Slate, Country Shake, Colonial Slate, and Split Shake - Regular weight	10.3	17	12 3/8	1 1/4
Shake, Sentry Slate, Country Shake, Country Slate, Country Split Shingle and Country Split Slate (Split Slate—Texas plant only) - Regular weight	10.3	16 1/2	13	1 1/4
Homestead	9.5	16 1/2	13	1 1/4
Split Shake and Slate Flat - Tradition - Premium Duralite	10.3 7.4	16 1/2 16 1/2	13 13	1 11/16 1 11/16
Cedarlite	5.6	13 1/2	13	3/4
Monier 2000 Split Shake and Monier 2000 Slate Duralite Split Shake, Duralite 2000 Shake and Duralite Slate	9.5 5.7	16 1/2 16 1/2	13 13	1 1

For SI: 1 inch = 25.4 mm, 1 psf = 0.0479 kPa.

[1]Installed weight was determined with a 3-inch headlap.

It should be noted that the installation of rake trim tiles, whether flat or profile, is similar. The options for rake trim tiles lie in the various treatments of end condition detailing.



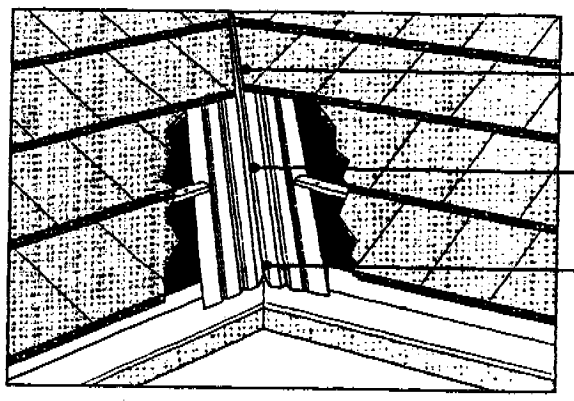
Note: For additional fastening in regions subject to excessively high winds or snow accumulation, a minimum 1" dab of tile adhesive is recommended at overlap.

Factory-finished butt end exposed—place thick end toward ridge.

Butt rake tiles to course above.

Cut off head end of first rake tiles so factory-finished butt end is flush with eave course tiles.

Two corrosion-resistant nails per rake tile of sufficient length to penetrate the nailer or barge board a minimum of 3/4" (10d minimum).



CLOSED VALLEY

Standard closed valley treatment

Cut tiles not attached to battens or batten extender must be attached by wire and/or adhesive or cut tile clips.

No. 28 gauge (minimum) galvanized ribbed valley flashing

No. 26 gauge G-90 galvanized ribbed valley flashing

Minimum 1" standing seam splash diverter

Remove portion of tile headlug where tile rests on metal flashing to prevent water damming.

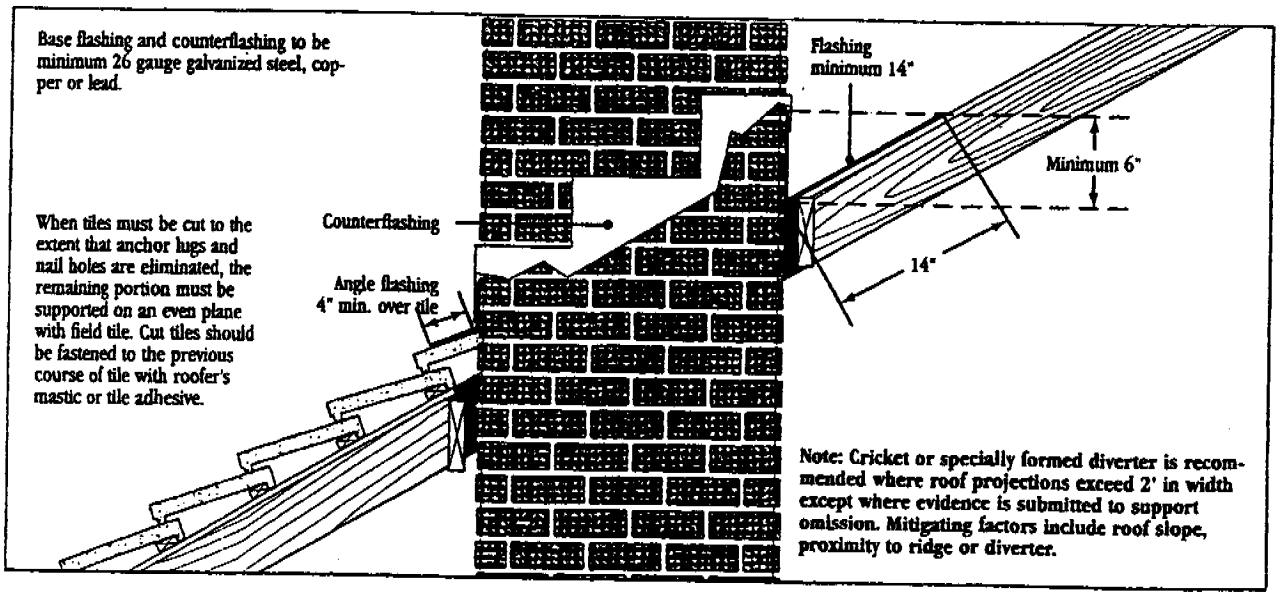


FIGURE 2—TYPICAL INSTALLATION DETAILS—(Continued)

0513810

∞ Infinity Engineering, L.P. ∞

9198 Greenback Lane, Suite 200 ● Orangevale, CA 95662 ● (916) 987-0839 ● Fax: (916) 987-7669

August 26, 2005

. field verify max. 6psf tile weight

REGISTERED PROFESSIONAL ENGINEER JEFFREY E. HOFMANN No. C047407 Exp. 12/31/05 CIVIL STATE OF CALIFORNIA

8-26-05

Valley Construction
Jorge Vasquez

RE: Roof framing inspection for placement of Light Weight Tile (6.0 psf) on the existing framing at the Pena Residence, 15 Kinghorn Ct, Sacramento, CA.
This Inspection and report is Our Job#05-396.

JKG 9.9.05

Purpose of Inspection:
As requested, on August 26, 2005, I performed a visual inspection of the existing roof framing at the aforementioned residence. The purpose of the inspection was to determine if the existing roof framing was structurally acceptable for the placement of a light weight tile (6.0 psf max. installed weight) to replace the existing wood shake.

ISSUED
City of Sacramento
SEP 0 8 2005
NORTH PERMIT CENTER

Observations & Comments:
The existing residence is a 2 story single family dwelling with the standard living areas and an attached garage. Attached is a sketch of the roof plan showing the dimensions of the exterior walls (Attachment 1 of 3).

In general the existing roof framing on the structure was in good condition and consisted of wood shake over 1x skip sheathing over trusses at 24" c.c.. At the vaulted ceiling area, there were exposed 4x6 #1DF @ 48" c.c. spanning 12'. The ceiling in this area was rough sawn lumber. The 2x4 top chords had a maximum horizontal span of 6'-0". Attached calculations (see Attachments 2 and 3 of 3) show the new dead load to the roof and check the allowable spans of the truss top chords and the 4x6 rafters at the vaulted ceiling area along with the beams with significant loads.

Recommendations:
1) Remove all layers of existing roof covering.
2) Place 7/16" (min) APA Rated 24/16 sheathing over the 1x skip sheathing. Note: 15/32" sheathing is not required at the area with the 2x T&G Sheathing.
3) Place new felt and install the light weight tile per the manufactures recommendations.

Conclusion:
Assuming that the aforementioned recommendations are completed, it is my professional opinion that

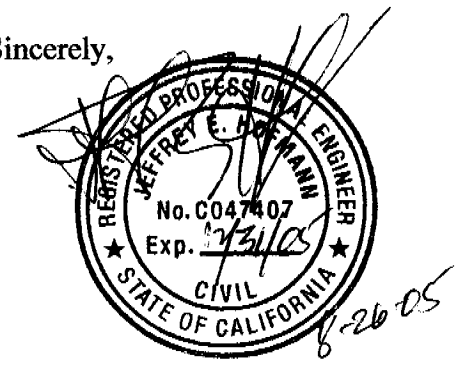
15 KINGHORN CT CITY COPY

the placement of a light weight tile (6.0 psf max. installed weight) and 7/16" (min) sheathing, over the 1x skip sheathing, 4x6 rafters, and trusses is structurally acceptable.

Please note that additional settlement of the roof framing and cosmetic cracking in the wall and ceiling areas, especially in the vaulted ceiling areas, may occur due to the work being performed on the roof and the additional weight of the new tile roof covering. It is the owners responsibility to determine if the possibility of these occurring is acceptable to them.

If you have any questions or need further clarification on these matters please feel free to contact me at (916) 987-0839.

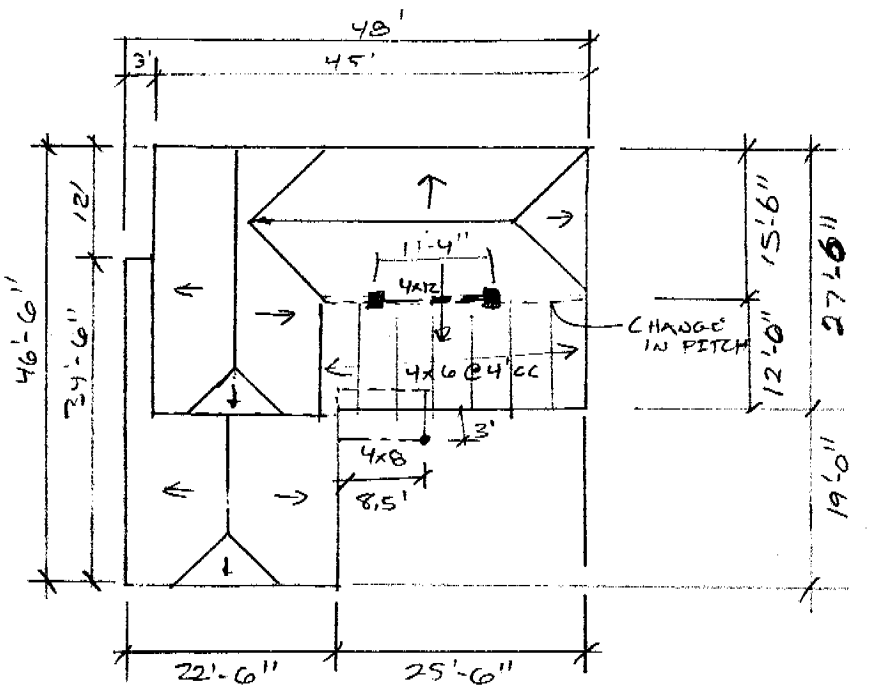
Sincerely,



Jeffrey E. Hofmann, P.E.
President of General Partner, Hofmann Management Inc.

JEH 8/26/05 VALLEY CONST
PLUMA RD · ROOF 05-396

ATTACH 3



SKETCH OF ROOF PLAN (~ 1" = 20')

EXISTING ROOF

WOOD SHAKE over 1X SKIP SHEATHING over TRUSSES @ 24" cc & 4X6 EXPOSED @ 11' cc.

NEW ROOF LT WT TILE over 15/32" SHEATHING over EXISTING 1X SKIP SHEATHING

INFINITY ENGINEERING, L.P.
9198 GREENBACK LANE, #200
ORANGEVALE, CA 95662

JEH 8/26/05 | REROOF @ PENA RESIDENCE | 05396 | ATTACH 2/3

DETERMINE NEW DEAD LOAD TO TRUSS TOP CHORDS/RAFTER

10.0 PSF = TOTAL DEAD LOAD

6.0 PSF = LIGHT WT TILE, (6 PSF INSTALLED! LIST)
0.3 PSF = 30# FELT
1.3 PSF = 7/16" SHTG - NEW
1.25 PSF = (E) 1x SKIP SHTG OR 3/8" SHTG
0.65 PSF = 2x4 (TOP CHORD) @ 24" CC
0.5 PSF = MISC

∴ WT OF NEW ROOF CONFIGURATION IS W/IN NORMAL DESIGN WEIGHT FOR ROOF - EXISTING FRAMING IS ACCEPTABLE

CHECK MAX SPAN OF (E) 2x4 TRUSS TOP CHORD

NOTE: HOUSE BUILT PRIOR TO 1994 UBC THUS OLDER WOOD ALLOWABLE STRESSES APPLICABLE.

#2DF → $f_v = 95$ PSI $f_b = 1450$ PSI (Rep). $E = 1.7 \times 10^6$ PSI

2x4 → $A = 5.25\ in^2$ $S_x = 3.06\ in^3$ $I = 5.36\ in^4$

ACTUAL MAX SPAN OF TOP CHORD = 6'-0"

$W_{DL} = 2'(16+10\ PSF) = 52$ PLF

SHEAR $V_{ALL} = \frac{5.25\ in^2\ (95)(1.25)}{1.5} = 416^{\#}$ (1.25 ← LDF)

$\ell_{MAX} = \frac{2(416)}{2'(16+10)} = 16' = \ell_{MAX\ (SHR)}$

BENDING $M_{ALL} = \frac{3.06\ in^3 (1450\ PSI)(1.25)}{12} = 462^{1-\#}$

$\ell_{MAX} = \sqrt{\frac{8(462)}{52}} = 8'-5" = \ell_{MAX\ (BEND)}$

DEFLECTION: $\Delta_{ALL\ TL} = \frac{L}{180}$ $\Delta_{ALL\ LL} = \frac{L}{240}$ (NO CEILING ATTACHED)

(TOTAL LOAD CONTROLS)

$\Delta_{ALL} = \frac{L(12)}{180} = \frac{5(52)(L)^4(1728)}{384(1.7\times10^6)(5.36)}$

$\ell_{MAX} = \sqrt[3]{\frac{12(384)(1.7\times10^6)(5.36)}{180(5)(52)(1728)}} = 8.03' = \ell_{MAX\ (DEFL)}$

∴ ALLOWABLE MAX SPAN OF 8' EXCEEDS (OR MEETS) MAXIMUM ACTUAL SPAN OF 6'-0"

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9198 GREENBACK LANE, #200
ORANGEVALE, CA 95662

JEH 8/26/05 | VALLEY – PENA RE-ROOF | 05-396 | ATTACH 3/3

CHECK 4x6 @ 48" cc @ VAULTED CEILING – NON PLASTER OR GYP BD CEILING

$\Delta_{ALL_{TL}} = \frac{L}{180} =$

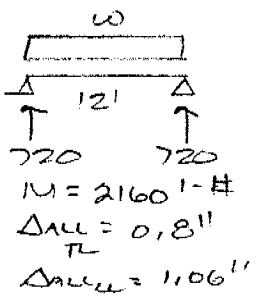
$\Delta_{ALL_{LL}} = \frac{L}{240} =$

DL @ VAULTED CEILING W/ LT. WT. TILE

6.0 PSF	– TILE
0.5 PSF	– FELT + BATTS
0.75 PSF	– INSUL
5.0 PSF	– 2x T+G SHTG
1.25 PSF	– 4x6 @ 48
0.5 PSF	– MISC
14.0 PSF	– TOTAL DL @ VAULTED CLG

LL = 16 PSF (PITCH > 4:12)

$W_{TL} = (16+14)(4') = 120$ PLF $\quad W_L = 64$ PLF



$M = 2160$ '-#

$\Delta_{ALL_{TL}} = 0.81"$

$\Delta_{ALL_{LL}} = 1.06"$

$\text{REQ'D } A = 1.5(720 - \frac{6}{12}(120))/95(1.25) = 8.33 \text{ IN}^2$

$\text{REQ'D } S = \frac{12(2160)}{1250(1.25)} = 16.6 \text{ IN}^3$

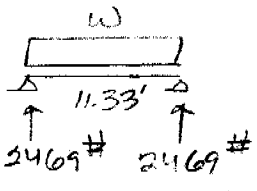
TL CONTROLS DEFL ⇒ $\text{REQ'D } I_{TL} = \frac{5(120)(12)^4(1728)}{384(1 \times 10^6)(1.06)} = 31.01 \text{ IN}^4$

∴ USE OF (E) 4x6 #2 DF @ 48" cc OK @ VAULTED CEILING.

CHECK 4x12 BM @ FLAT TO VAULTED CEILING TRANSITION

SPAN = 11'-4"

$W_{TL} = \frac{12}{2}(16+14) + \frac{15.5}{2}(16+10+7) = 436$ PLF



$M = 6996$ '-#

$\Delta_{ALL} = 0.56" = \frac{L}{240}$

$\text{REQ'D } A = 1.5(2469 - 436)/95(1.25) = 25.7 \text{ IN}^2$

$\text{REQ'D } S = 12(6996)/1250(1.25) = 53.7 \text{ IN}^3$

$\text{REQ'D } I = \frac{5(436)(11.33)^4(1728)}{384(1.7 \times 10^6)(1.56)} = 170 \text{ IN}^4$

∴ EXISTING 4x12 #2 DF IS ACCEPTABLE

FLOOR FORCE BEAM

SPAN = 8.5'

$W_{TL} = \frac{5}{2}(16+10+7) = 63$ PLF

FROM WWPA BM CALC.

(E) 4x6 #2 DF IS OK

INFINITY ENGINEERING, L.P.
9198 GREENBACK LANE, #200
ORANGEVALE, CA 95662