

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0506060

Insp Area: 1

Thos Bros: 297F6

Sub-Type: HSG

Housing (Y/N):

Site Address: 2716 S ST SAC

Parcel No: 010-0052-008

Y

PERMIT EXPIRES IN 60 DAYS 7-2-2005

CONTRACTOR

FBH CONSTRUCTION, CA
9657 HORN RD.
SACRAMENTO, CA 95827

OWNER

SEDLAR JAMES A
2716 S ST
SACRAMENTO, CA 95816

ARCHITECT

Nature of Work: H-040037799--FIRE DAMAGE REPAIR; Repair damage on 1st & 2nd floor. Repair damage wiring & repair fire d hvac.

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 _____ License Number 779565 Date 5/2/05 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& 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 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 STATE FUND Policy Number 1668596 Exp Date 12/31/2005

(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 these provisions.

Date 5/2/05 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.

WILLIS J. NAPHAN, P.E.
CONSULTING ENGINEERING SERVICES

October 20, 2005
05-2760.SAC

Mr. Cliff Long
Fite & Company
9857 Horn Road
Sacramento, CA 95827

RE: REVIEW OF ROOF FRAMING
2716 S STREET, SACRAMENTO, CALIFORNIA
HOMEOWNER: JAMES SEDLAR
CITY OF SACRAMENTO BUILDING PERMIT NO. 0506060

Dear Mr. Long:

This letter addresses our observations of repairs to the roof framing of a fire damaged residence that is in the process of being repaired by your company. The address of the site is 2716 S Street, Sacramento, California. Our services were requested by your office on September 28, 2005. We observed the framing on the same day.

The subject building sustained fire damage. Repair measures included reconstruction of the roof. The roof is a gable end structure. The ridge runs down the approximate center in a north-to-south direction. The rafters slope downward towards the east and the west from the ridge. The slope of the roof is 8:12. Each rafter spans a horizontal distance of 10 feet. The rafters are 2" x 6" members that were installed at 16" on center. The ridge is a 2" x 8" member.

The rafters were framed into the ridge with an offset. The rafters were offset the width of one rafter which is 1-1/2". This does not conform to the letter of the California Building Code. Section 2320.12.3 states the following:

"Rafters shall be framed directly opposite each other at the ridge. There shall be a ridge board at least one inch nominal thickness at all ridges and not less in depth than the cut end of the rafter. At all valleys and hips there shall be a single valley or hip rafter not less than 2 inch nominal thickness and not less in depth than the cut end of the rafter."

The purpose of this specification is to allow lateral loads imparted by each rafter to the ridge to offset one another. With construction of this type relatively small (narrow) ridge members can be utilized. If rafters are offset from one another on a relatively narrow ridge loads can be imparted to the ridge that may cause the ridge to fail in shear. However, this does not appear to be the case at the above referenced property.

151 CALLAN AVENUE * SUITE 101 * SAN LEANDRO * CA 94577-4536 * (510) 357-3367 * FAX (510) 357-3994

The 2" x 8" ridge is significantly larger than smaller members that could have been utilized. This member is also significantly stiffer. The stiffer the member the greater its ability to sustain offset loads. We determined that the maximum calculated combined horizontal dead loads and horizontal live loads at the ridge would be 218 pounds per rafter. This only occurs in extraordinary circumstances. In general the maximum horizontal loads imparted by each rafter to the ridge will be between 57 and 70 pounds. These loads are relatively small and are capable of being supported by the 2" x 8" ridge.

It is our professional opinion that the configuration of the framing, while it does not satisfy the letter of the code it does satisfy its intent. If the Municipal Authorities are not satisfied with this then a 2" x 4" block can be installed on one of the offset rafters on the opposite side of the ridge where the offset member is attached. The block can be attached to the rafter with 3-10d nails. The block transmits offset loads to the offset rafter that is on the opposite side. This would bring the framing at the ridge almost into conformance with the letter as well as the intent of the building code. However, it is our opinion that the existing ridge has adequate structural capacity to support the loads that are being transmitted to it by the offset rafters without the blocks.

If you have any questions or comments regarding the content of this letter or the referenced documents, please do not hesitate to notify us.

Respectfully submitted,



Willis J. Naphan, P. E.
Consulting Engineer

Enclosures: Rafter Calculations
Excerpt from 2001 CBC



tion shall be reinforced with not less than one No. 4 bar top and bottom.

2. In the first story of two-story buildings, each braced wall panel shall be in accordance with Section 2320.11.4, Item 1, except that the plywood sheathing shall be provided on both faces, three anchor bolts shall be placed at one-fifth points, and tie-down device uplift capacity shall not be less than 3,000 pounds (1360.8 kg).

2320.11.5 Cripple walls. Foundation cripple walls shall be framed of studs not less in size than the studding above with a minimum length of 14 inches (356 mm), or shall be framed of solid blocking. When exceeding 4 feet (1219 mm) in height, such walls shall be framed of studs having the size required for an additional story.

Cripple walls having a stud height exceeding 14 inches (356 mm) shall be braced in accordance with Table 23-IV-C-2. Solid blocking or wood structural panel sheathing may be used to brace cripple walls having a stud height of 14 inches (356 mm) or less. In Seismic Zone 4, Method 7 is not permitted for bracing any cripple wall studs.

Spacing of boundary nailing for required wall bracing shall not exceed 6 inches (152 mm) on center along the foundation plate and the top plate of the cripple wall. Nail size, nail spacing for field nailing and more restrictive boundary nailing requirements shall be as required elsewhere in the code for the specific bracing material used.

2320.11.6 Headers. Headers and lintels shall conform to the requirements set forth in this paragraph and together with their supporting systems shall be designed to support the loads specified in this code. All openings 4 feet (1219 mm) wide or less in bearing walls shall be provided with headers consisting of either two pieces of 2-inch (51 mm) framing lumber placed on edge and securely fastened together or 4-inch (102 mm) lumber of equivalent cross section. All openings more than 4 feet (1219 mm) wide shall be provided with headers or lintels. Each end of a lintel or header shall have a length of bearing of not less than 1½ inches (38 mm) for the full width of the lintel.

2320.11.7 Pipes in walls. Stud partitions containing plumbing, heating, or other pipes shall be so framed and the joists underneath so spaced as to give proper clearance for the piping. Where a partition containing such piping runs parallel to the floor joists, the joists underneath such partitions shall be doubled and spaced to permit the passage of such pipes and shall be bridged. Where plumbing, heating or other pipes are placed in or partly in a partition, necessitating the cutting of the soles or plates, a metal tie not less than 0.058 inch (1.47 mm) (16 galvanized gage) and 1½ inches (38 mm) wide shall be fastened to each plate across and to each side of the opening with not less than six 16d nails.

2320.11.8 Bridging. Unless covered by interior or exterior wall coverings or sheathing meeting the minimum requirements of this code, all stud partitions or walls with studs having a height-to-least-thickness ratio exceeding 50 shall have bridging not less than 2 inches (51 mm) in thickness and of the same width as the studs fitted snugly and nailed thereto to provide adequate lateral support.

2320.11.9 Cutting and notching. In exterior walls and bearing partitions, any wood stud may be cut or notched to a depth not exceeding 25 percent of its width. Cutting or notching of studs to a depth not greater than 40 percent of the width of the stud is permitted in nonbearing partitions supporting no loads other than the weight of the partition.

2320.11.10 Bored holes. A hole not greater in diameter than 40 percent of the stud width may be bored in any wood stud. Bored holes not greater than 60 percent of the width of the stud are permitted in nonbearing partitions or in any wall where each bored stud is doubled, provided not more than two such successive doubled studs are so bored.

In no case shall the edge of the bored hole be nearer than 5/8 inch (16 mm) to the edge of the stud. Bored holes shall not be located at the same section of stud as a cut or notch.

2320.12 Roof and Ceiling Framing.

2320.12.1 General. The framing details required in this section apply to roofs having a minimum slope of 3 units vertical in 12 units horizontal (25% slope) or greater. When the roof slope is less than 3 units vertical in 12 units horizontal (25% slope), members supporting rafters and ceiling joists such as ridge board, hips and valleys shall be designed as beams.

2320.12.2 Spans. Allowable spans for ceiling joists shall be in accordance with Tables 23-IV-J-3 and 23-IV-J-4. Allowable spans for rafters shall be in accordance with Tables 23-IV-R-1 through 23-IV-R-12, where applicable.

2320.12.3 Framing. Rafters shall be framed directly opposite each other at the ridge. There shall be a ridge board at least 1-inch (25 mm) nominal thickness at all ridges and not less in depth than the cut end of the rafter. At all valleys and hips there shall be a single valley or hip rafter not less than 2-inch (51 mm) nominal thickness and not less in depth than the cut end of the rafter.

2320.12.4 Notches and holes. Notching at the ends of rafters or ceiling joists shall not exceed one fourth the depth. Notches in the top or bottom of the rafter or ceiling joist shall not exceed one sixth the depth and shall not be located in the middle one third of the span, except that a notch not exceeding one third of the depth is permitted in the top of the rafter or ceiling joist not further from the face of the support than the depth of the member.

Holes bored in rafters or ceiling joists shall not be within 2 inches (51 mm) of the top and bottom and their diameter shall not exceed one third the depth of the member.

2320.12.5 Framing around openings. Trimmer and header rafters shall be doubled, or of lumber of equivalent cross section, when the span of the header exceeds 4 feet (1219 mm). The ends of header rafters more than 6 feet (1829 mm) long shall be supported by framing anchors or rafter hangers unless bearing on a beam, partition or wall.

2320.12.6 Rafter ties. Rafters shall be nailed to adjacent ceiling joists to form a continuous tie between exterior walls when such joists are parallel to the rafters. Where not parallel, rafters shall be tied to 1-inch by 4-inch (25 mm by 102 mm) (nominal) minimum-size crossties. Rafter ties shall be spaced not more than 4 feet (1219 mm) on center.

2320.12.7 Purlins. Purlins to support roof loads may be installed to reduce the span of rafters within allowable limits and shall be supported by struts to bearing walls. The maximum span of 2-inch by 4-inch (51 mm by 102 mm) purlins shall be 4 feet (1219 mm). The maximum span of the 2-inch by 6-inch (51 mm by 152 mm) purlin shall be 6 feet (1829 mm) but in no case shall the purlin be smaller than the supported rafter. Struts shall not be smaller than 2-inch by 4-inch (51 mm by 102 mm) members. The unbraced length of struts shall not exceed 8 feet (2438 mm) and the minimum slope of the struts shall not be less than 45 degrees from the horizontal.

2320.12.8 Blocking. Roof rafters and ceiling joists shall be supported laterally to prevent rotation and lateral displacement when

Project: 05-2760 - Location: Offset Rafters

Summary:

1.5 IN x 5.5 IN x 12.0 FT (10 + 2) @ 16 O.C. / #2 - Douglas Fir-Larch - Dry Use
 Section Adequate By: 187.1% Controlling Factor: Moment of Inertia / Depth Required 3.87 In

Interior Span Deflections:

Dead Load: DLD-Interior= 0.07 IN
 Live Load: LLD-Interior= 0.21 IN = L/692
 Total Load: TLD-Interior= 0.28 IN = L/517

Eave Deflections (Positive Deflections used for design):

Dead Load: DLD-Eave= 0.00 IN
 Live Load: LLD-Eave= 0.02 IN = 2L/2351
 Total Load: TLD-Eave= 0.00 IN = 2L/57688820

Rafter End Loads and Reactions:

LOADS: RXNS:
 Upper Live Load: 80 PLF 107 LB
 Upper Dead Load: 29 PLF 38 LB
 Upper Total Load: 109 PLF 145 LB
 Lower Live Load: 115 PLF 154 LB
 Lower Dead Load: 43 PLF 58 LB
 Lower Total Load: 158 PLF 211 LB
 Upper Equiv. Tributary Width: UTWeq= 5.0 FT
 Lower Equiv. Tributary Width: LTWeq= 7.2 FT

Rafter Data:

Interior Span: L= 10.0 FT
 Eave Span: L-Eave= 2.0 FT
 Rafter Spacing: Spacing= 16.0 IN O.C.
 Rafter Pitch: RP= 8.0 : 12
 Roof sheathing applied to top of joists-Top of rafters fully braced.
 Live Load Deflect. Criteria: L/ 240
 Total Load Deflect. Criteria: L/ 180

Non-Snow Live Load:

Roof Loaded Area: RLA= 16.0 SF
 Live Load Method: Method = One

Rafter Loads:

Roof Live Load: LL= 16.0 PSF
 Roof Dead Load: DL= 5.0 PSF
 Roof Duration Factor: Cd= 1.25

Slope Adjusted Spans And Loads:

Interior Span: L-adj= 12.02 FT
 Eave Span: L-Eave-adj= 2.4 FT
 Rafter Live Load: wL-adj= 15 PLF
 Rafter Dead Load: wD-adj= 6 PLF
 Rafter Total Load: wT-adj= 20 PLF

Properties For: #2- Douglas Fir-Larch

Bending Stress: Fb= 900 PSI
 Shear Stress: Fv= 180 PSI
 Modulus of Elasticity: E= 1600000 PSI
 Stress Perpendicular to Grain: Fc-perp= 625 PSI

Adjusted Properties

Fb' (Tension): Fb'= 1682 PSI
 Adjustment Factors: Cd=1.25 Cf=1.30 Cr=1.15
 Fv': Fv'= 225 PSI
 Adjustment Factors: Cd=1.25

Design Requirements:

Controlling Moment: M= 359 FT-LB
 5.889 Ft from left support of span 2 (Center Span)
 Critical moment created by combining all dead loads and live loads on span(s) 2
 Controlling Shear: V= 120 LB
 At a distance d from right support of span 2 (Center Span)
 Critical shear created by combining all dead loads and live loads on span(s) 2, 3

Comparisons With Required Sections:

Section Modulus (Moment): Sreq= 2.56 IN3
 S= 7.56 IN3
 Area (Shear): Areq= 0.80 IN2
 A= 8.25 IN2
 Moment of Inertia (Deflection): Ireq= 7.24 IN4
 I= 20.80 IN4

CITY OF SACRAMENTO

CERTIFICATE OF OCCUPANCY

For Information Contact (916) 808-5716

Building Address: 2716 S ST Permit No.: 0506060
Building Use: 4 UNIT APT HOUSE Occupancy: R3
Building Owner: JAMES SEDLAR Construction Type: _____
Owner Address: SACRAMENTO, CA Sprinkled? Yes No
Portion of Building Occupied: FIRE REPAIR/1ST & 2ND FL Area: _____ Sq. Ft.
4/11/06 Carolyn Cooper **CARL HEFNER**
Date By: (Print) Sign ASSISTANT BUILDING OFFICIAL

[Finaled By: LAD,MJS,AAC]

This Certificate, issued pursuant to the requirements of Section 109 of the Uniform Building Code, certifies that at time of issuance the described portion of the building has been inspected for compliance with the Uniform Building Code, as adopted per Title 15 of the Sacramento City Code for the group and division of occupancy and use for which the proposed occupancy is classified. Issuance of this certificate shall not be construed as an approval of a violation of any Codes, or Federal, State and City Laws or Ordinances. Certificates presuming to give authority to such violation shall not be valid. This certificate shall be posted in a conspicuous place on the premises and shall not be removed except by the Chief Building Official. No changes shall be made in the character of occupancy or use without approval of the Chief Building Official.

POST IN A CONSPICUOUS PLACE