CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0008064
Insp Area: 2

Site Address: 72 PAYNE RIVER CR SAC
Parcel No: 031-0440-018

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

CONTRACTOR
ZIMMERMAN ROOFING
3675 R ST
SACRAMENTO CA 95816

OWNER
TOY GARY/DORIS K
72 PAYNE RIVER CR
SACRAMENTO CA 95831

ARCHITECT

Nature of Work: REROOF T/O 39 SQ PIONEER 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'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.

X License Class C39 License Number 557559 Date 7/17/00 Contractor Signature Billy Cory

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 herby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

X Date 7/17/00 Applicant/Agent Signature Billy Cory

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.

X 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 10/01/2000

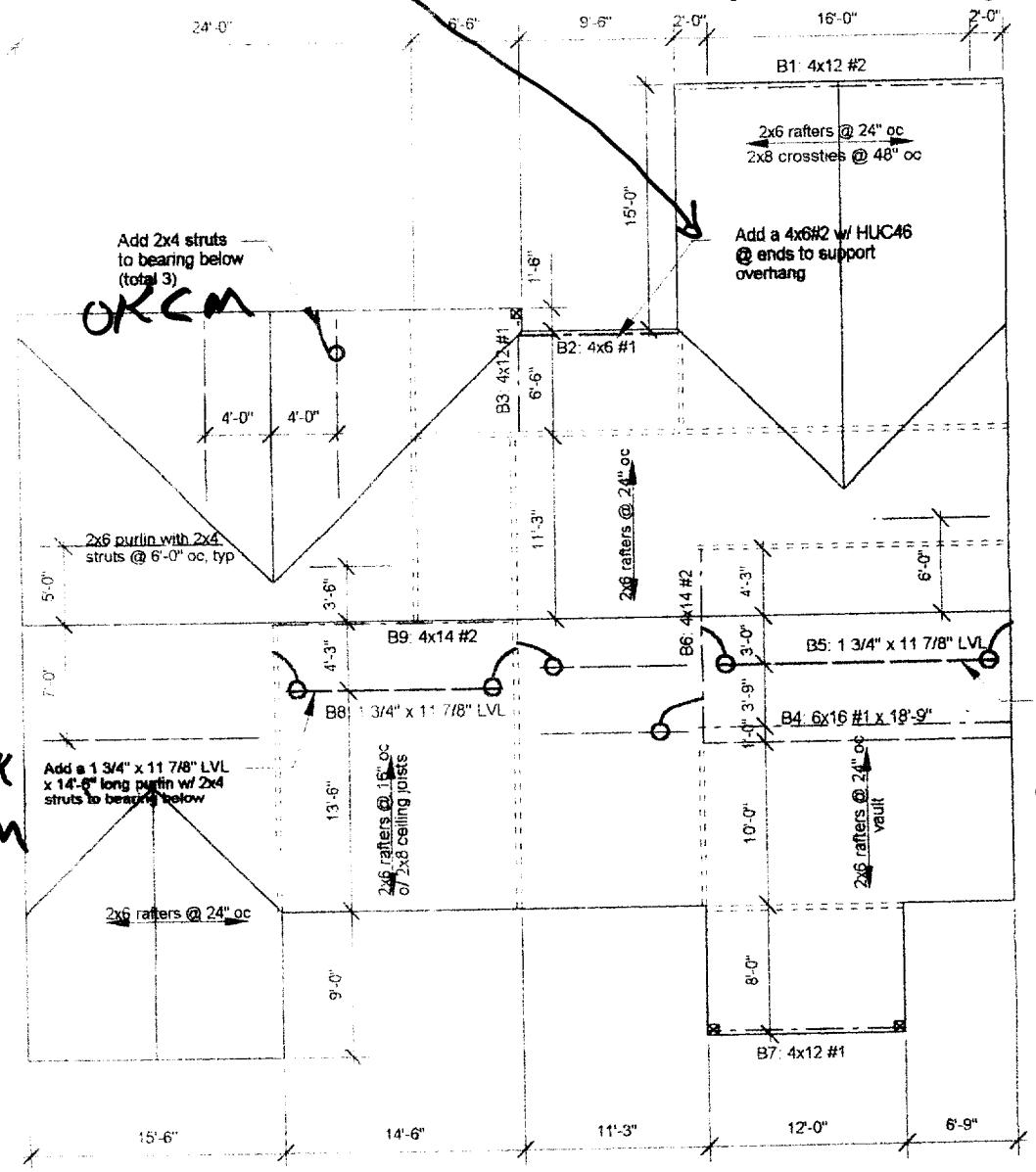
____ (This section need not be completed if the permit is for $100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

X Date 7/17/00 Applicant Signature Billy Cory

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.

was not installed at insp.



Max span for 2x6 rafters @ 24" c-c is 12'-0" per attached calcs.

& 13'-9" for 16" c-c spacing

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 - TOY

Not to Scale

See work, this sheet

Matt P. 7/16/00

Toy

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. Add a 1 ¾" x 11 7/8" LVL x 14'-6" long purlin. Support the LVL to the bearing walls below with 2x4 struts. See detail 1.
2. Add a 1 ¾" x 11 7/8" LVL x 18'-9" long purlin. Support the LVL to the bearing walls below with 2x4 struts. See detail 1.
3. Provide additional 2x4 struts from the existing purlins to the bearing walls below. The maximum spacing between the new and existing struts shall not exceed 6'-0" on center. The unbraced length of the struts shall not exceed 8'-0" and the minimum slope of the struts shall not be less than 45 degrees from the horizontal. See detail 1.
4. Add a 4x6 DF#1 beam with Simpson HUC46 hangers at each end. Shape the top as required to fit the bottom of the rafters. Attach each rafter to the 4x6 with 3-10d toe nails.

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

Toy

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

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FAX: 916.961.6552

July 7, 2000

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

Attn.: Mr. Jeff Tucker,

re: Job 2000_192: TOY

Subject: Structural Investigation Report of the Roof for the Residence located at 72 Payne River Circle, 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 July 7, 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 1970's vintage.
Occupancy:	Residential.
No. of Stories:	One.
Dimensions:	Approximately 2000 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 16" and 24" on center with 2x6 purlins supported at no more than 8'-0" on center by 2x4 struts bearing on walls below except for the vaulted ceiling areas. The vaulted ceiling is constructed of 2x6 rafters spaced at 24" on center supported at the ridge by a 6x beam. The garage area is framed with 2x6 rafters spaced at 24" on center and 2x8 cross ties spaced at 4'-0" on center

CONCLUSIONS:

Roof:

The living area lacks sufficient structural capacity for the applied live and dead loads. The garage has sufficient structural capacity for the applied live and dead loads.

DESIGN LOADING:

Roof Pitch	4	in 12
Pitch Adjustment Factor	1.05	

LOCATION: ROOF

MATERIAL	WEIGHT	
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: VAULT

MATERIAL	WEIGHT	
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
2x6 rafters @ 24" oc	1.00	psf
Batt/blown insul	0.50	psf
1/2" Gypboard	2.50	psf
Load	13.9	psf
Roof Pitch Adjustment	0.75	psf
Total Load	14.6	psf

P K Zacher, S E.
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Fair Oaks, CA 95628
TEL: (916) 961-3960
FAX: (916) 961-6552

Job #: 00-112

Date: 7/7/00

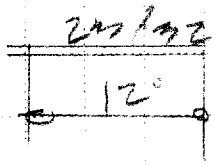
LOADING

ROOF

DL 11.5 psf × 2' = 23 plf

LL 16 psf × 2' = 32 plf

2×6 #2

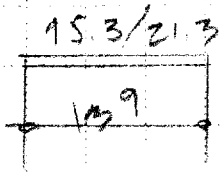


FLOOR

DL 11.5 psf × 4/3 = 15.3 plf

LL 16 psf × 4/3 = 21.3 plf

2×6 #2

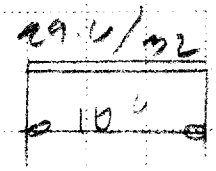


VAULT

DL 14 psf × 2' = 29.6 plf

LL 16 psf × 2' = 32 plf

2×6 #2

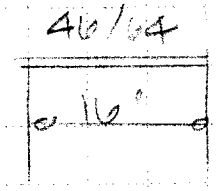


B1

DL 11.5 psf × 4' = 46 plf

LL 16 psf × 4' = 64 plf

4×12 #2



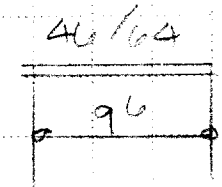
B2

DL 11.5 psf × 4' = 46 plf

LL 16 psf × 4' = 64 plf

4×6 #

R_{B1} = 219/304



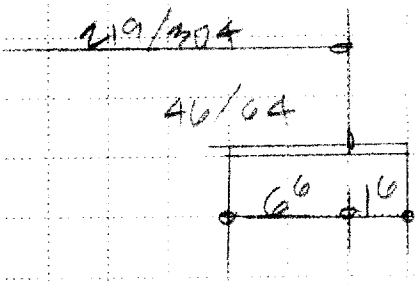
B3

DL 11.5 psf × 4' = 46 plf

LL 16 psf × 4' = 64 plf

P/L = 219/304 ... #2

4×12 #1



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

Title :
Dsgnr:
Description :

Job #
Date: 2:33PM, 7 JUL 00

Scope :

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	rafter	vault	B1	B2	B3	B4
Timber Section		2x6	2x6	2x6	4x12	4x6	4x12	6x16
Beam Width	in	1.500	1.500	1.500	3.500	3.500	3.500	5.500
Beam Depth	in	5.500	5.500	5.500	11.250	5.500	11.250	15.500
Le: Unbraced Length	ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Timber Grade		ouglas Fir - Larch	ouglas Fir - Larch	Douglas Fir - Larch	Douglas Fir - Larch	Douglas Fir - Larch	Douglas Fir - Larch	Douglas Fir - Larch
Fb - Basic Allow	psi	875.0	875.0	875.0	875.0	1,000.0	1,000.0	1,350.0
Fv - Basic Allow	psi	95.0	95.0	95.0	95.0	95.0	95.0	85.0
Elastic Modulus	ksi	1,600.0	1,600.0	1,600.0	1,600.0	1,700.0	1,700.0	1,600.0
Load Duration Factor		1.250	1.250	1.250	1.250	1.250	1.250	1.250
Member Type		Sawn	Sawn	Sawn	Sawn	Sawn	Sawn	Sawn
Repetitive Status		Repetitive	Repetitive	Repetitive	No	No	No	No

Center Span Data

Span	ft	12.00	13.75	10.50	16.00	9.50	8.00	18.75
Dead Load	#/ft	23.00	15.30	29.60	46.00	46.00	46.00	109.00
Live Load	#/ft	32.00	21.30	32.00	64.00	64.00	64.00	120.00
Point #1 DL	lbs						219.00	
LL	lbs						304.00	
@ X	ft						6.500	

Results

		Ratio =	0.9607	0.8394	0.8238	0.4755	0.5193	0.2447	0.3343
Mmax @ Center	in-k		11.88	10.38	10.19	42.24	14.89	15.79	120.76
@ X =	ft		6.00	6.87	5.25	8.00	4.75	4.90	9.37
fb Actual	psi		1,570.9	1,372.5	1,347.1	572.1	843.9	213.9	548.3
Fb Allowable	psi		1,635.2	1,635.2	1,635.2	1,203.1	1,625.0	1,375.0	1,640.2
			Bending OK	Bending OK	Bending OK	Bending OK	Bending OK	Bending OK	Bending OK
fv Actual	psi		55.7	42.8	54.1	29.8	36.8	29.1	32.6
Fv Allowable	psi		118.8	118.8	118.8	118.8	118.8	118.8	106.3
			Shear OK	Shear OK	Shear OK	Shear OK	Shear OK	Shear OK	Shear OK

Reactions

@ Left End DL	lbs	138.00	105.19	155.40	368.00	218.50	225.06	1,021.87
LL	lbs	192.00	146.44	168.00	512.00	304.00	313.00	1,125.00
Max. DL+LL	lbs	330.00	251.62	323.40	880.00	522.50	538.06	2,146.87
@ Right End DL	lbs	138.00	105.19	155.40	368.00	218.50	361.94	1,021.87
LL	lbs	192.00	146.44	168.00	512.00	304.00	503.00	1,125.00
Max. DL+LL	lbs	330.00	251.62	323.40	880.00	522.50	864.94	2,146.87

Deflections

		Ratio OK	Deflection OK	Deflection OK	Deflection OK	Deflection OK	Deflection OK	Deflection OK
Center DL Defl	in	-0.322	-0.370	-0.243	-0.102	-0.102	-0.009	-0.111
L/Defl Ratio		446.5	446.2	517.9	1,880.9	1,115.6	10,560.7	2,027.1
Center LL Defl	in	-0.449	-0.515	-0.263	-0.142	-0.142	-0.013	-0.122
L/Defl Ratio		320.9	320.5	479.1	1,351.9	801.8	7,596.4	1,841.3
Center Total Defl	in	-0.771	-0.885	-0.506	-0.244	-0.244	-0.022	-0.233
Location	ft	6.000	6.875	5.250	8.000	4.750	4.160	9.375
L/Defl Ratio		186.7	186.5	248.9	786.5	466.5	4,418.3	964.9

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Title :
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Description :

Job #
Date: 2:45PM, 7 JUL 00

Scope :

Timber Beam & Joist

Description BEAMS

Timber Member Information

Calculations are designed to 1997 NDS and 1997 UBC Requirements

		B5	B6	B7	B8	B9
Timber Section		LVL:1.750x	4x14	4x12	LVL:1.750x	4x14
Beam Width	in	1.750	3.500	3.500	1.750	3.500
Beam Depth	in	11.875	13.250	11.250	11.875	13.250
Le: Unbraced Length	ft	0.00	0.00	0.00	0.00	0.00
Timber Grade		Joist - MacMil	Douglas Fir - Larch	Douglas Fir - Larch	Truss Joist - MacMil	Douglas Fir - Larch
Fb - Basic Allow	psi	2,600.0	875.0	1,000.0	2,600.0	875.0
Fv - Basic Allow	psi	285.0	95.0	95.0	285.0	95.0
Elastic Modulus	ksi	1,900.0	1,600.0	1,700.0	1,900.0	1,600.0
Load Duration Factor		1.250	1.250	1.250	1.250	1.250
Member Type		Manuf/Pine	Sawn	Sawn	Manuf/Pine	Sawn
Repetitive Status		No	No	No	No	No

Center Span Data

Span	ft	18.75	11.00	12.00	14.50	14.50
Dead Load	#/ft	40.00		46.00	92.00	112.00
Live Load	#/ft	56.00		64.00	128.00	124.00
Point #1 DL	lbs		1,022.00			
LL	lbs		1,125.00			
@ X	ft		1.000			
Point #2 DL	lbs		375.00			
LL	lbs		525.00			
@ X	ft		4.750			

Results

		Ratio =	0.3787	0.3908	0.2341	0.5191	0.6645
Mmax @ Center	in-k		50.62	43.77	23.76	69.38	74.43
@ X =	ft		9.37	4.75	6.00	7.25	7.25
fb : Actual	psi		1,230.9	427.4	321.8	1,686.9	726.8
Fb : Allowable	psi		3,250.0	1,093.8	1,375.0	3,250.0	1,093.8
			Bending OK	Bending OK	Bending OK	Bending OK	Bending OK
fv : Actual	psi		58.2	18.9	21.3	99.5	46.9
Fv : Allowable	psi		356.3	118.8	118.8	356.3	118.8
			Shear OK	Shear OK	Shear OK	Shear OK	Shear OK

Reactions

@ Left End DL	lbs	375.00	1,142.16	276.00	667.00	812.00
LL	lbs	525.00	1,321.02	384.00	928.00	899.00
Max. DL+LL	lbs	900.00	2,463.18	660.00	1,595.00	1,711.00
@ Right End DL	lbs	375.00	254.84	276.00	667.00	812.00
LL	lbs	525.00	328.98	384.00	928.00	899.00
Max. DL+LL	lbs	900.00	583.82	660.00	1,595.00	1,711.00

Deflections

		Ratio OK	Deflection OK	Deflection OK	Deflection OK	Deflection OK
Center DL Defl	in	-0.240	-0.029	-0.030	-0.197	-0.103
L/Defl Ratio		938.6	4,628.5	4,737.0	882.3	1,695.7
Center LL Defl	in	-0.336	-0.036	-0.042	-0.274	-0.114
L/Defl Ratio		670.4	3,644.9	3,404.7	634.2	1,531.6
Center Total Defl	in	-0.575	-0.065	-0.073	-0.472	-0.216
Location	ft	9.375	5.060	6.000	7.250	7.250
L/Defl Ratio		391.1	2,039.1	1,980.9	369.0	804.7