

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 9808434

Insp Area: 2

Site Address: 6716 BREAKWATER WY SAC

Sub-Type: RES

Parcel No: 0300670022

Housing (Y/N): N

CONTRACTOR

ZIMMERMAN ROOFING
3560 RAMONA AV
SACRAMENTO, CA

95826

OWNER

OSTAPECK GLENN A/HELEN M
6716 BREAKWATER WY
SACRAMENTO CA

95831

ARCHITECT

Nature of Work: REMOVE OLD ROOF & REROOF W/PIONEER LIGHTWEIGHT TILE 4/12 PITCH SFR 40SQS

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 C39 License Number 557559 Date 8-31-98 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 8-31-98 Applicant/Agent Signature [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 Farm Policy Number 713 97 00202/

(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 8-31-98 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.

THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.



DEPARTMENT OF
PLANNING AND DEVELOPMENT

CITY OF SACRAMENTO
CALIFORNIA

1231 I STREET
ROOM 200
SACRAMENTO, CA
95814-2998

Permit Service
916-264-7619
FAX 916-264-7066

O Stapeck at
6716 Breakwater

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.

1. BRAND AND MODEL OF TILE Pioneer Shake
2. TILE WEIGHT PER SQUARE 730
3. WEIGHT OF ROOF SYSTEM PER SQUARE 180
4. TOTAL WEIGHT OF ROOF SYSTEM 910
5. DOES TOTAL WEIGHT OF ROOF SYSTEM EXCEED 750# PER SQUARE? YES NO
6. ROOF SLOPE 4/12

PLEASE PROVIDE A SEPARATE WORKSHEET FOR EACH APPLICATION INVOLVING A TILE ROOF.

See engineering report

Dstopeck

Paul Zacher-Structural Engineers

4701 Lakeside Way
Fair Oaks, CA 95628

TEL: 916.961.3960
FAX: 916.961.3960
e-mail: pzacher@softcom.net

August 25, 1998

Zimmerman Roofing
3560 Ramona Avenue
Sacramento, CA 95826
TEL: 916.454.3667
FAX: 916.455.3784
TEL (Jeff): 916.392.1971
FAX (Jeff): 916.392.6853
FAX (Framer) : 916.383.5308

Attn.: Mr. Jeff Tucker,

re: Job 98165: OSTOPECK

Subject: Structural Investigation Report of the Roof for the Residence located at 6716 Breakwater 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 25, 1998. The investigation was made to determine the existing condition of the structure. All information, data and analysis contained within this report is based on the 1994 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 2500 square feet with a first story plate height of 8 feet.

CONSTRUCTION:

Roof:

The roof covering will consist of Pioneer Light Weight Concrete Shake 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. The vaulted ceiling is constructed of 2x6 rafters spaced at 24" on center. The garage area is framed with 2x6 rafters spaced at 24" on center and 2x6 cross ties spaced at 4'-0" on center.

CONCLUSIONS:

Roof:

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

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 1 3/4" x 11 7/8" x 20'-0" long microlam to the existing 2x12 purlin which spans 20'-0". Attach it with 16d's @ 3" on center. Support the 2x12 to the bearing walls below with 2x4 struts. See details 1 and 3.

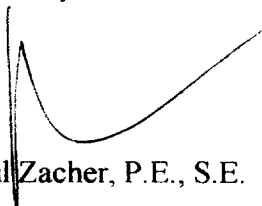
Garage:

2. Scab a 1 3/4" x 11 7/8" microlam beam to the existing 2x6 crosstie and nail together with 16d's @ 12" oc. The support at the walls shall be a 2x8 x 2'-8" long nailer attached to the double top plate with 16d's @ 2" oc staggered. Support the existing purlin to the microlam beam with 2x4 struts spaced at no more than 4'-0" oc. See details 1 and 2.

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 which 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>	
Pioneer Everwest Light Wt	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: VAULT

<u>MATERIAL</u>	<u>WEIGHT</u>	
Pioneer Everwest Light Wt	7.00	psf
Roofing felt	0.30	psf
1/2" OSB/ plywood	1.50	psf
1x4 skip sht'g	1.09	psf
2x8 rafters @ 24" oc	1.32	psf
Batt/blown insul	0.50	psf
1/2" Gypboard	<u>2.50</u>	psf
Load	14.2	psf
Roof Pitch Adjustment	<u>0.77</u>	psf
Total Load	15.0	psf

BEAM DESIGN FOR UNIFORM LOAD: 2x6

(Values for DF Larch #2)

Width, b	1.5 inches
Depth, d	5.5 inches
Length of beam	12 feet
Dead load roof	11.5 psf
Live load roof	16 psf
Contributory width of roof load	2 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	240
Toal load defl ratio	180
Total dead load	23 plf
Total live load	32 plf

Base design values:

Shear, Fv	95 psi
Bending, Fb	875 psi
Comp. perp. to grain, Fc	625 psi
Mod of Elasticity, E	1600000 psi
Load duration factor, Cd	1.25
Size Factor, Cf	1.30
Repetitive factor, Cr	1.15

Dead load reaction	138 lbs
Live load reaction	192 lbs
Total load reaction	330 lbs

Allowable shear, Fv'	119 psi	Horizontal Shear	OK
Actual shear, fv	55 psi		
Allowable bending, Fb'	1635 psi	Bending	OK
Actual bending, fb	1571 psi		
Allowable live load defl	0.60 inches	Live Load Deflection	OK
Actual live load defl	0.45 inches		
Allowable total load defl	0.80 inches	Total Load Deflection	OK
Actual total load defl	0.77 inches		

Bearing length req'd	0.35 inches
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BEAM DESIGN FOR UNIFORM LOAD: 2x6 vault

(Values for DF Larch #2)

Width, b	1.5 inches
Depth, d	5.5 inches
Length of beam	10.5 feet
Dead load roof	15 psf
Live load roof	16 psf
Contributory width of roof load	2 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	360
Toal load defl ratio	240
Total dead load	30 plf
Total live load	32 plf

Base design values:

Shear, F_v	95 psi
Bending, F_b	875 psi
Comp. perp. to grain, F_c	625 psi
Mod of Elasticity, E	1600000 psi
Load duration factor, C_d	1.25
Size Factor, C_f	1.30
Repetitive factor, C_r	1.15

Dead load reaction	158 lbs
Live load reaction	168 lbs
Total load reaction	326 lbs

Allowable shear, F_v'	119 psi	Horizontal Shear OK
Actual shear, f_v	54 psi	
Allowable bending, F_b'	1635 psi	Bending OK
Actual bending, f_b	1356 psi	
Allowable live load defl	0.35 inches	Live Load Deflection OK
Actual live load defl	0.26 inches	
Allowable total load defl	0.53 inches	Total Load Deflection OK
Actual total load defl	0.51 inches	

Bearing length req'd	0.35 inches
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BEAM DESIGN FOR UNIFORM LOAD:

(Values for DF Larch #1)

Width, b	3.5 inches
Depth, d	11.25 inches
Length of beam	14.5 feet
Dead load roof	15 psf
Live load roof	16 psf
Contributory width of roof load	8 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	360
Toal load defl ratio	240
Total dead load	120 plf
Total live load	128 plf

Base design values:

Shear, Fv	95 psi
Bending, Fb	875 psi
Comp. perp. to grain, Fc	625 psi
Mod of Elasticity, E	1600000 psi
Load duration factor, Cd	1.25
Size Factor, Cf	1.10

Dead load reaction	870 lbs
Live load reaction	928 lbs
Total load reaction	1798 lbs

Allowable shear, Fv'	119 psi	Horizontal Shear OK
Actual shear, fv	60 psi	
Allowable bending, Fb'	1203 psi	Bending OK
Actual bending, fb	1059 psi	
Alilowable live load defl	0.48 inches	Live Load Deflection OK
Actual live load defl	0.19 inches	
Allowable total load defl	0.73 inches	Total Load Deflection OK
Actual total load defl	0.37 inches	
Bearing length req'd	0.82 inches	

MICROLAM BEAM DESIGN FOR UNIFORM LOAD:

Width	1.75 inches
Depth	14 inches
Length of beam	20 feet
Dead load roof	11.5 psf
Live load roof	16 psf
Contributory width of roof load	9 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	240
Toal load defl ratio	180
Total dead load	103.5 plf
Total live load	144 plf

Base design values:

Shear, Fv	285 psi
Bending, Fb	2600 psi
Comp. perp. to grain, Fc	750 psi
Mod of Elasticity, E	1800000 psi
Load duration factor, Cd	1.25
Volume factor, Cv	1.00

Dead load reaction	1035 lbs
Live load reaction	1440 lbs
Total load reaction	2475 lbs

Allowable shear, Fv'	356 psi	Horizontal Shear OK
Actual shear, fv	134 psi	
Allowable bending, Fb'	3250 psi	Bending OK
Actual bending, fb	2598 psi	
Allowable live load defl	1.00 inches	Live Load Deflection OK
Actual live load defl	0.72 inches	
Allowable total load defl	1.33 inches	Total Load Deflection OK
Actual total load defl	1.24 inches	

Bearing length req'd	1.89 inches
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LEDGER DESIGN:

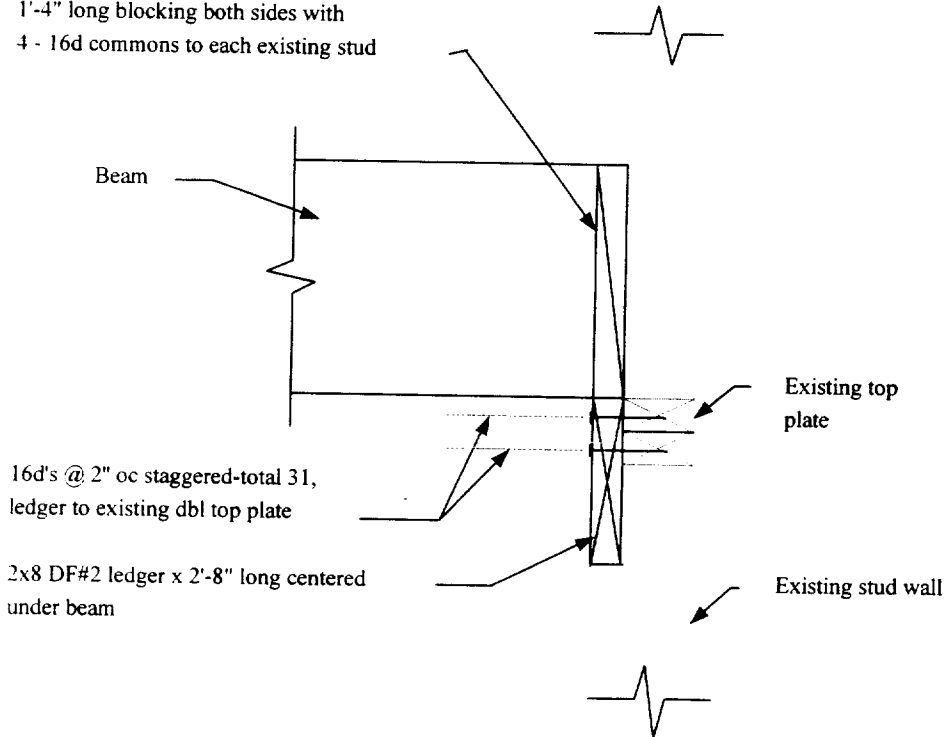
WOOD TO WOOD CONNECTION: Ledger to double top plate

Assumptions:

1. Point load from beam is equally distributed to each supporting stud.
2. Allowable foundation pressure is 1000 plf.

Ledger width, b	1.5 inches	
Ledger depth, d	7.25 inches	
Maximum reaction	2475 lbs	
Base design values:		
Shear, Fv	95 psi	
Bending, Fb	875 psi	
Comp. perp. to grain, Fc	625 psi	
Mod of elasticity, E	1600000 psi	
Load duration factor, Cd	1.25	
Size factor, Cf	1.20	
Allowable shear, Fv'	119 psi	Horizontal Shear OK
Actual shear, fv	91 psi	
Allowable bending, Fb'	1313 psi	Bending OK
Actual bending, fb	187 psi	
Length of ledger required	2.475 feet	
Length of ledger used	2.67 feet	
Number of nails required	31 16d sinkers ledger to top plate	

1'-4" long blocking both sides with
4 - 16d commons to each existing stud



2

LEDGER DETAIL

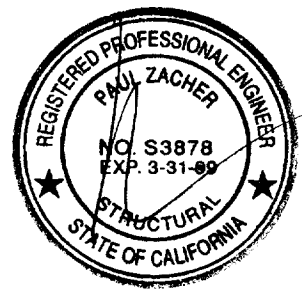
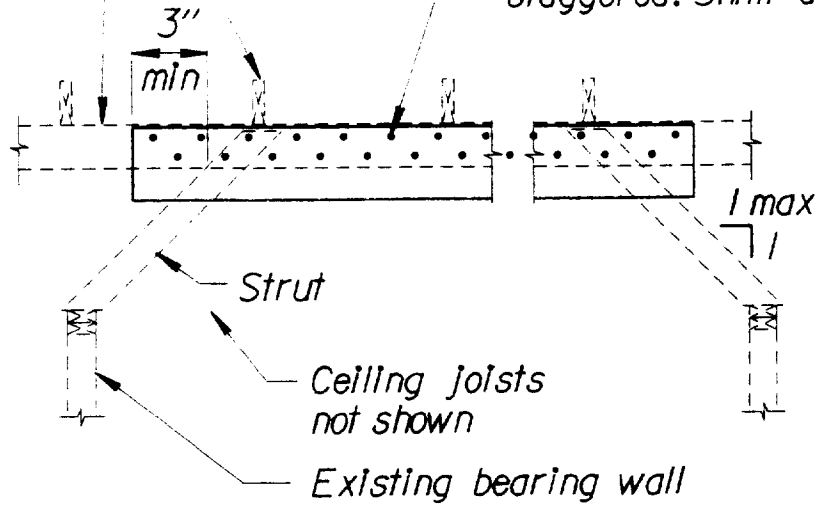
Not to Scale



Existing rafters

Existing purlin

Purlin. Nail to existing purlin w/ 16d @ 3" oc, staggered. Shim as required.

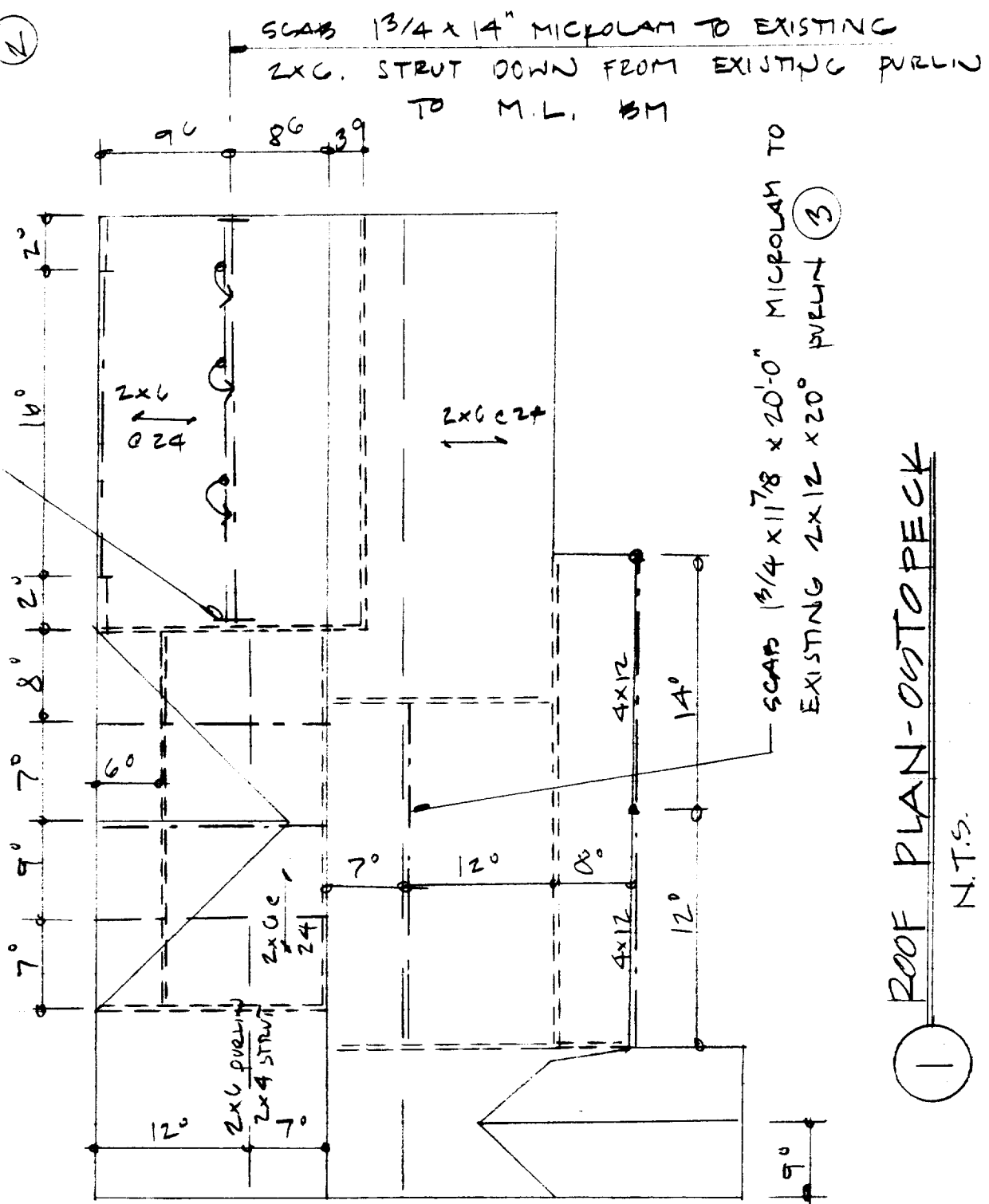


3

PURLIN DETAIL

T - 1-0"

LEDGER, TIP EA END (2)



1 ROOF PLAN - OUTSPECK
N.T.S.



8

9

MICROLAM BEAM DESIGN FOR UNIFORM LOAD:

Width	1.75 inches
Depth	11.875 inches
Length of beam	20 feet
Dead load roof	11.5 psf
Live load roof	16 psf
Contributory width of roof load	5.5 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	240
Toal load defl ratio	180
Total dead load	63.25 plf
Total live load	88 plf

Base design values:

Shear, F_v	285 psi
Bending, F_b	2600 psi
Comp. perp. to grain, F_c	750 psi
Mod of Elasticity, E	1800000 psi
Load duration factor, C_d	1.25
Volume factor, C_v	1.00

Dead load reaction	633 lbs
Live load reaction	880 lbs
Total load reaction	1513 lbs

Allowable shear, F_v'	356 psi	Horizontal Shear OK
Actual shear, f_v	98 psi	
Allowable bending, F_b'	3250 psi	Bending OK
Actual bending, f_b	2206 psi	
Allowable live load defl	1.00 inches	Live Load Deflection OK
Actual live load defl	0.72 inches	
Allowable total load defl	1.33 inches	Total Load Deflection OK
Actual total load defl	1.24 inches	

Bearing length req'd	1.15 inches
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