

CITY OF SACRAMENTO

Permit No: 9808717

1231 I Street, Sacramento, CA 95814

Insp Area: 2

Site Address: 23 STILLBAY CT SAC

Sub-Type: NSFR

Parcel No: 0311350054

Housing (Y/N): N

CONTRACTOR

OWNER

ARCHITECT

YEP NANCY
P.O. BOX 661632
SACRAMENTO CA 95866

Nature of Work: NEW 2 STORY SFD - 3475 SF - 12 RMS

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 _____ Date _____ 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 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 10/23/98 Owner Signature Nancy Yep

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 10/28/98 Applicant/Agent Signature Nancy Yep

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 _____ Policy Number _____ Exp Date _____

____ (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 10/23/98 Applicant Signature Nancy Yep

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.

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT *Notes*

CERTIFICATION OF COMPLIANCE

SCHOOL DISTRICT DEVELOPMENT FEES

Put this in Inspector's Folder

PART I: To be completed by APPLICANT

PROPERTY OWNER'S NAME _____
 OWNER'S ADDRESS _____
 PROJECT ADDRESS _____
 PARCEL NUMBER _____ LOT NUMBER _____
 SUBDIVISION NAME _____
 NUMBER OF UNITS _____
 APPLICANT'S SIGNATURE _____
 TITLE OF APPLICANT _____
 DATE _____ TELEPHONE NUMBER _____

PART II: To be completed by BUILDING DEPARTMENT

PLAN IDENTIFICATION NUMBER _____
 BUILDING TYPE (CHECK ONE)
 RESIDENTIAL APARTMENT/CONDOMINIUM COMMERCIAL/INDUSTRIAL
 SQUARE FEET OF CHARGEABLE BUILDING AREA _____
 SIGNATURE _____
 TITLE _____ DATE _____

PART III: To be completed by SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

| DISTRICT VERIFICATION NUMBER | | EXEMPT | | COMMENTS | |
|--------------------------------|---------|--------|----|----------|-------------|
| RESIDENTIAL / APARTMENT / ETC. | SQ. FT. | X | \$ | = | \$ |
| COMMERCIAL / INDUSTRIAL | SQ. FT. | X | \$ | = | \$ |
| OTHER FEE TYPE | SQ. FT. | X | \$ | = | \$ |
| TOTAL FEES COLLECTED..... | | | | | \$ <i>0</i> |

This certification covers only the amount of square footage indicated above. Any additions or corrections to the square footage for this project will require an amendment to the Certificate of Compliance.

As the authorized school district official, I hereby certify that the requirements of Government Code section 65900 and any other authorized requirements have been complied with by the above signed applicant.

AUTHORIZED SCHOOL DISTRICT OFFICIAL

SIGNATURE _____
 DATE *11/16/98*

OWNER-BUILDER VERIFICATION

ATTENTION PROPERTY OWNER

An owner-builder building permit has been applied for in your name and bearing your signature.

Please complete and return this information in the envelope provided at your earliest opportunity to avoid unnecessary delay in processing and issuing your building permit. No building permit will be issued until this verification is received.

1. I personally plan to provide the major labor and materials for construction of the proposed improvement (yes or no) _____

2. I (have/have not) _____ signed an application for a building permit for the proposed work.

3. I have contracted with the following person (firm) to provide the proposed construction:

Name _____ Address _____

City _____ Telephone _____

Contractors License No. _____

4. I plan to provide portions of the work, but I have hired the following person to coordinate, supervise, and provide the major work.

Name MIKE LERO Address 3000 ARDEN WAY, # 1

City SACRAMENTO CA 95825 Telephone (916) 482-5550

Contractors License No. 537543

5. I will provide some of the work but I have contracted (hired) the following to provide the work indicated:

| Name | Address | Phone | Type of Work |
|------|---------|-------|--------------|
|------|---------|-------|--------------|

| | | | |
|--|--|--|--|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Signed _____

Job Address _____ Date 9/4/90

Permit No. _____

SACRAMENTO CITY UNIFIED SCHOOL DISTRICT

CERTIFICATION OF COMPLIANCE

SCHOOL DISTRICT DEVELOPMENT FEES

| PART I: To be completed by APPLICANT | |
|---|--|
| PROPERTY OWNER'S NAME | |
| OWNER'S ADDRESS | |
| PROJECT ADDRESS | |
| PARCEL NUMBER | LOT NUMBER |
| SUBDIVISION NAME | |
| NUMBER OF UNITS | |
| APPLICANT'S SIGNATURE | |
| TITLE OF APPLICANT | |
| DATE | TELEPHONE NUMBER |
| PART II: To be completed by BUILDING DEPARTMENT | |
| PLAN IDENTIFICATION NUMBER | |
| BUILDING TYPE (CHECK ONE) | |
| <input checked="" type="checkbox"/> RESIDENTIAL | <input type="checkbox"/> APARTMENT/CONDOMINIUM |
| <input type="checkbox"/> COMMERCIAL/INDUSTRIAL | |
| SQUARE FEET OF CHARGEABLE BUILDING AREA | |
| SIGNATURE | |
| TITLE | DATE |
| PART III: To be completed by SACRAMENTO CITY UNIFIED SCHOOL DISTRICT | |
| DISTRICT CERTIFICATION NUMBER | |
| EXEMPT | COMMENTS |
| RESIDENTIAL / APARTMENT / ETC. | SQ. FT. X \$ _____ = \$ _____ |
| COMMERCIAL / INDUSTRIAL | SQ. FT. X \$ _____ = \$ _____ |
| OTHER FEES TYPE | SQ. FT. X \$ _____ = \$ _____ |
| TOTAL FEES COLLECTED..... \$ _____ | |
| <p><i>This certification covers only the amount of square footage indicated above. Any additions or corrections to the square footage for this project will require an amendment to the Certificate of Compliance.</i></p> <p><i>As the authorized school district official, I hereby certify that the requirements of Government Code Section 59045 and any other authorized requirements have been complied with by the above signed applicant.</i></p> | |
| AUTHORIZED SCHOOL DISTRICT OFFICIAL | |
| SIGNATURE | |
| TITLE | DATE |



**City of Sacramento Development Services Division
Planning and Zoning Information Request**

Project Address: 2441 W. 4th St

Assessor's Parcel Number: 001-155-054

Description of Request: New 2 story SFD
to replace existing 1 story SFD

Zoning Designation: R-1-PD12

Prior Applications for Project Site(P#,Z#,DRPB#): _____

Comments: _____

Are There Any Planning Issues?: (Circle One) YES NO

Planning Review Required? (Circle One) YES NO

Design Review/ Preservation Required?: (Circle One) YES NO

Planning Review by/Date: _____

For a list of items that must be reviewed by Planning, please see reverse side of this form.

REVISED PLANS & STRUCTURAL CALCULATIONS

**FOR
YEP RESIDENCE**

23 Still Bay Ct., Sacramento, CA.

TABLE OF CONTENTS

- Exist. Patio Floor Plan _____ 2
- Revised Patio/Family Room Floor Plan _____ 3
- Revised Partial Electrical Plan _____ 4
- Revised East Elevation _____ 5
- Revised Partial Foundation Plan _____ 6
- Revised Partial Second Floor Framing Plan _____ 7
- Revised Partial First Floor Shearwall Plan _____ 8
- Revised Structural Calculations _____ 9,10

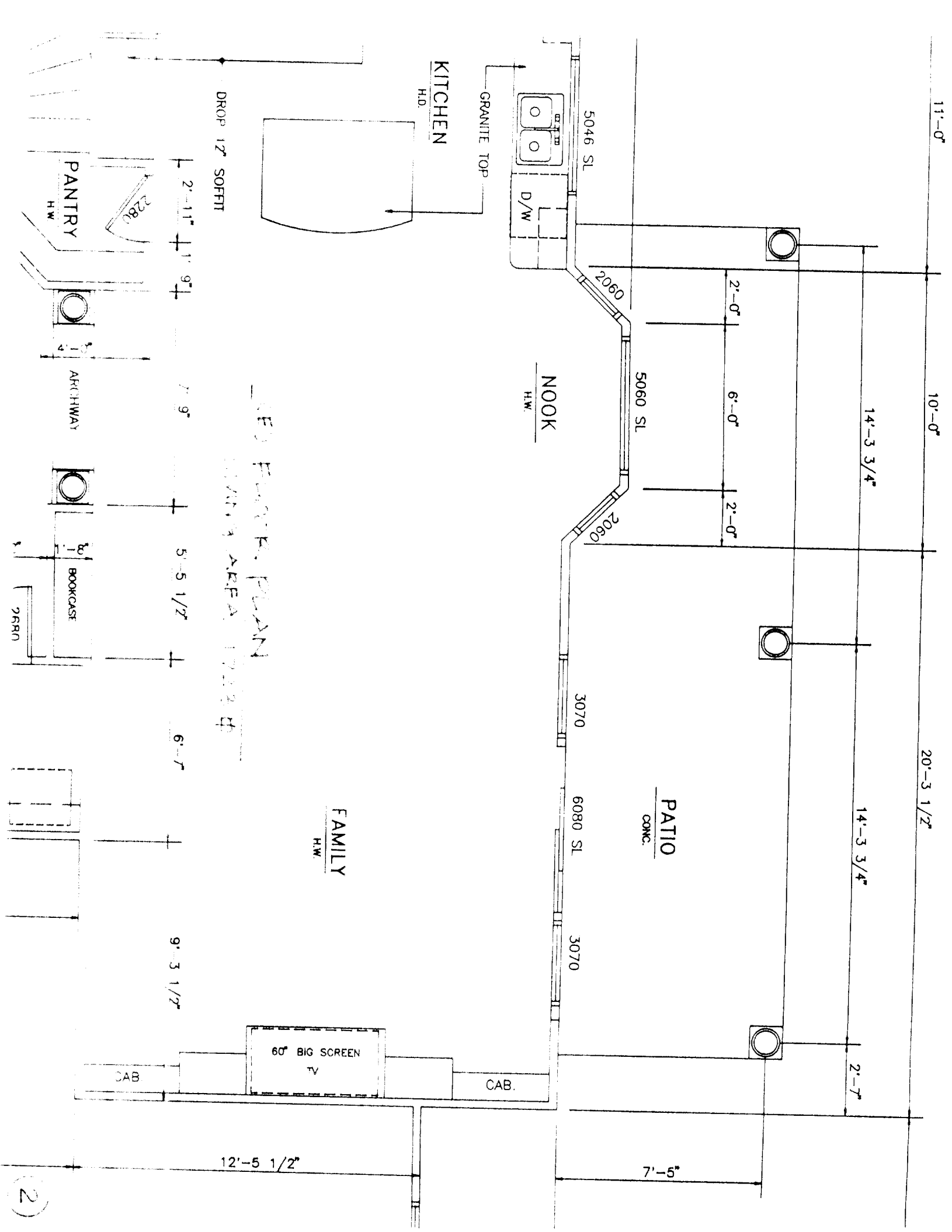
156 add/ 5E MP

PERMIT NUMBER: 98-08717R
A.P.N. 031-1350-054

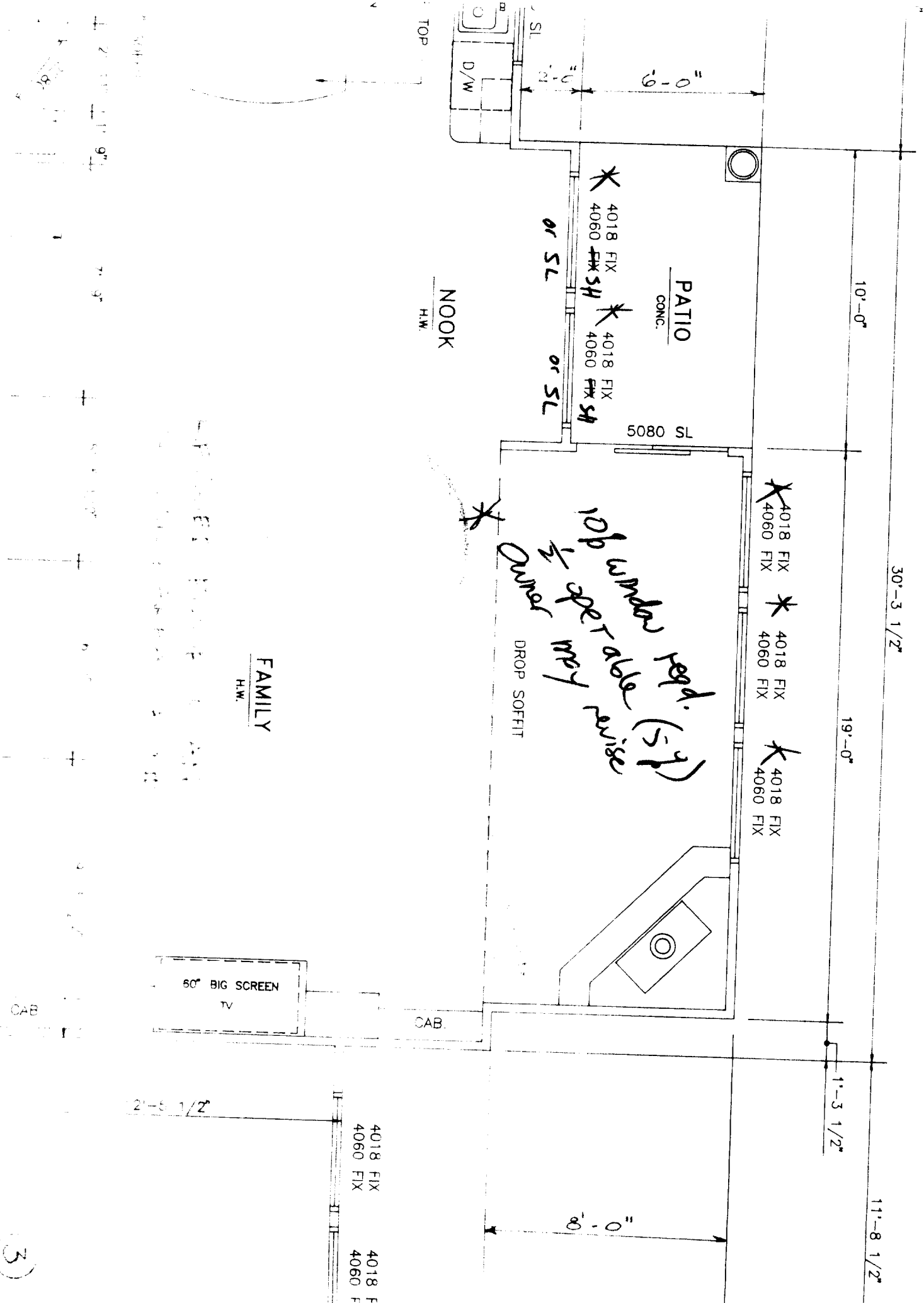
Revised by

MP + 1/11/88

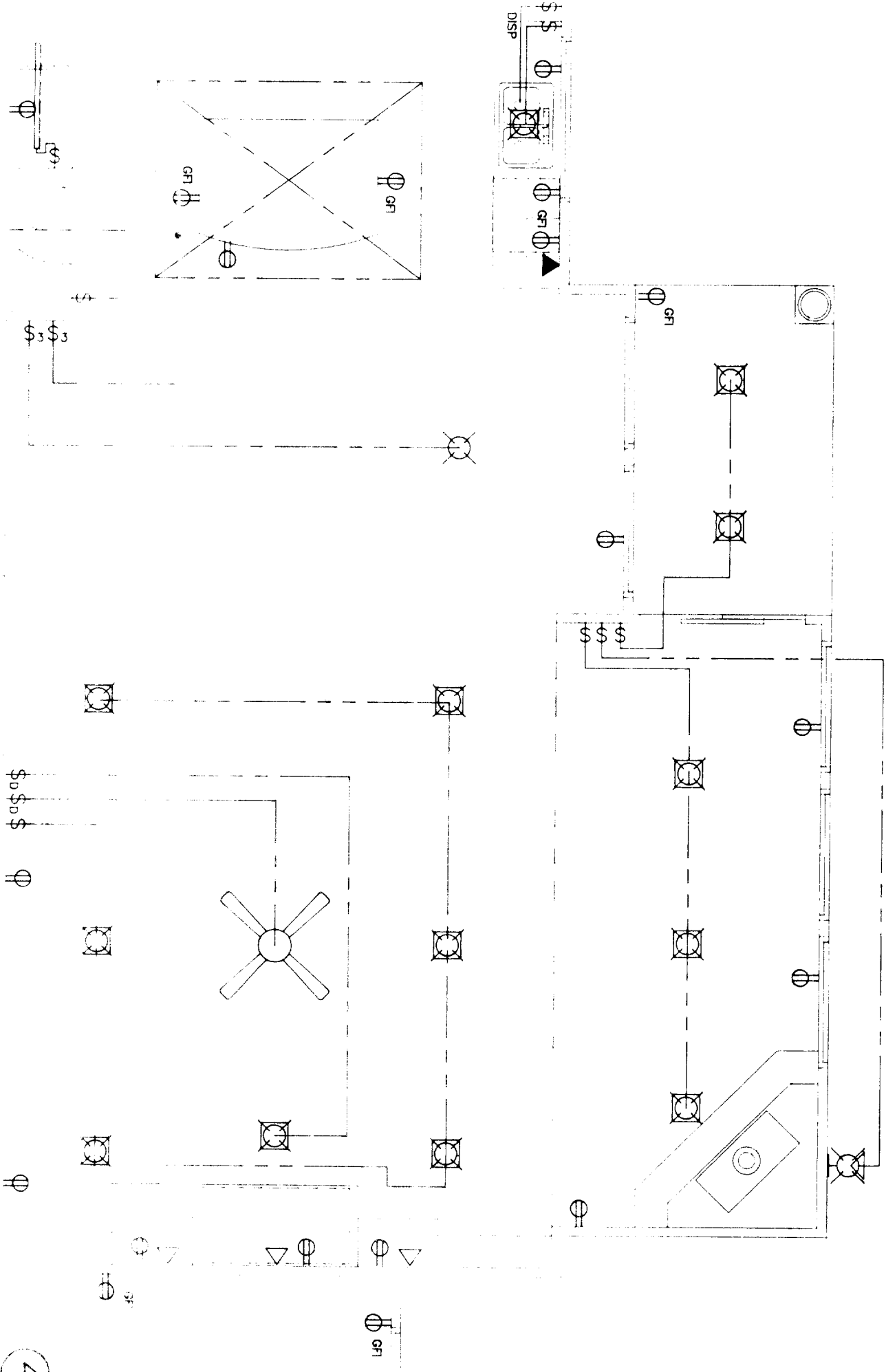
REV. ADDED 156 SF 98-08717R



SEE FLOOR PLAN
 DINING AREA 12' x 8'



REVISED ELECTRICAL PLAN



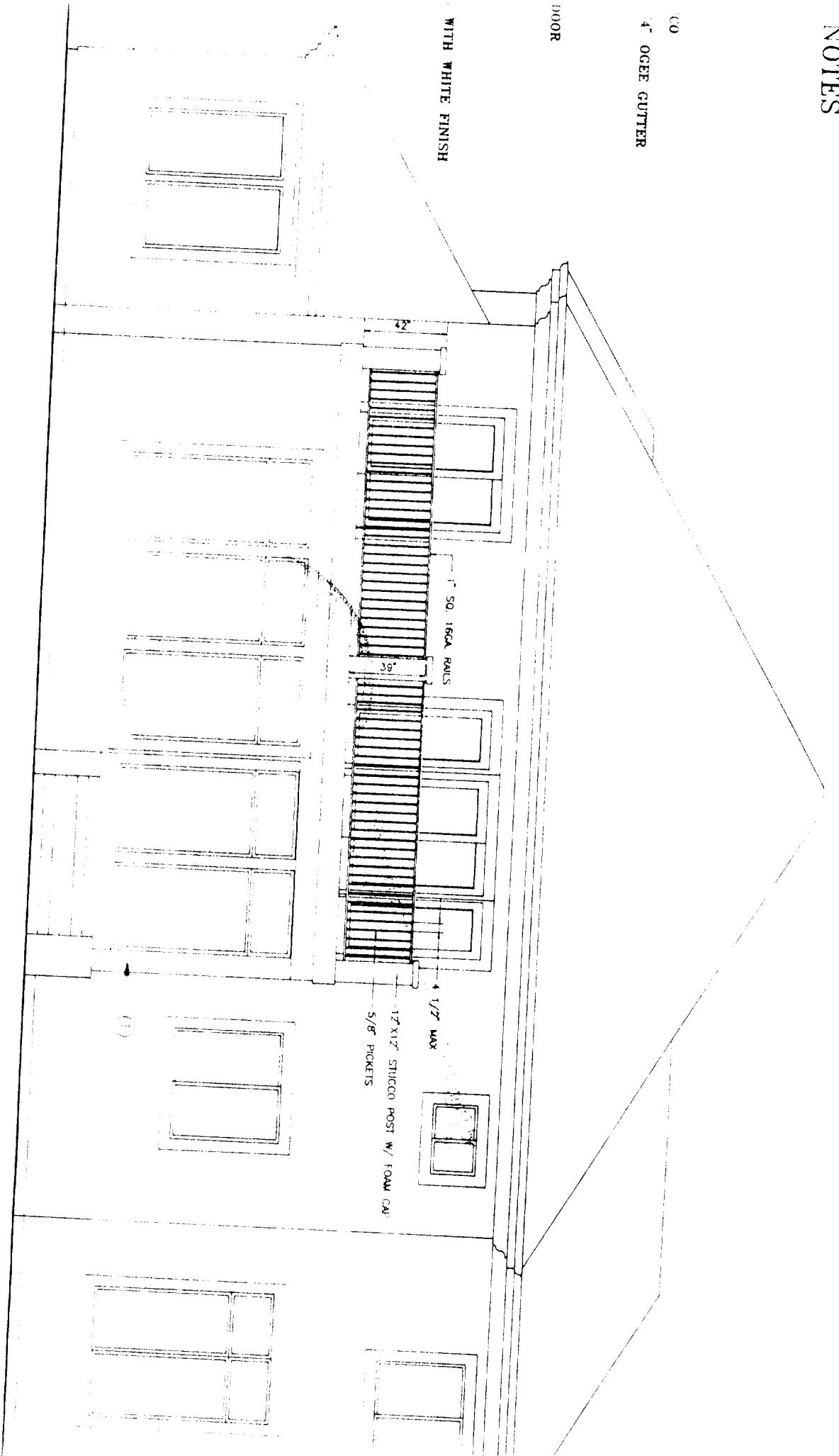
NOTES

C.O.

4" OGEE GUTTER

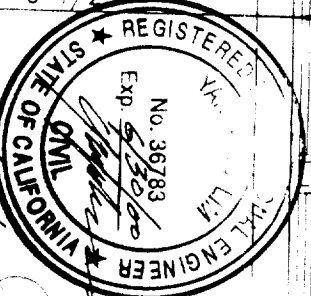
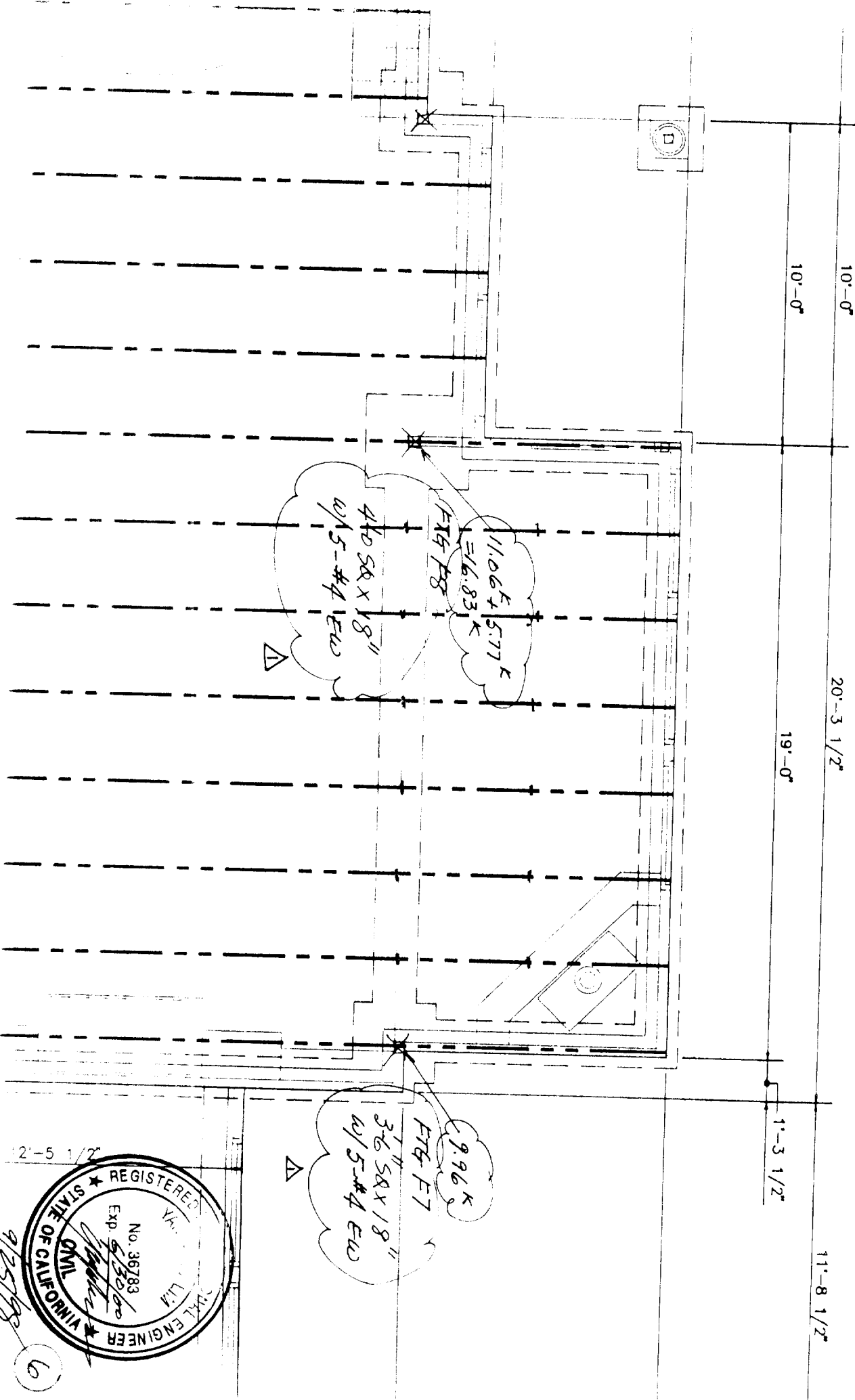
3000R

WITH WHITE FINISH



EAST VALLEY
 CONTRACTORS
 1000 S. 10TH AVENUE
 DENVER, CO 80202

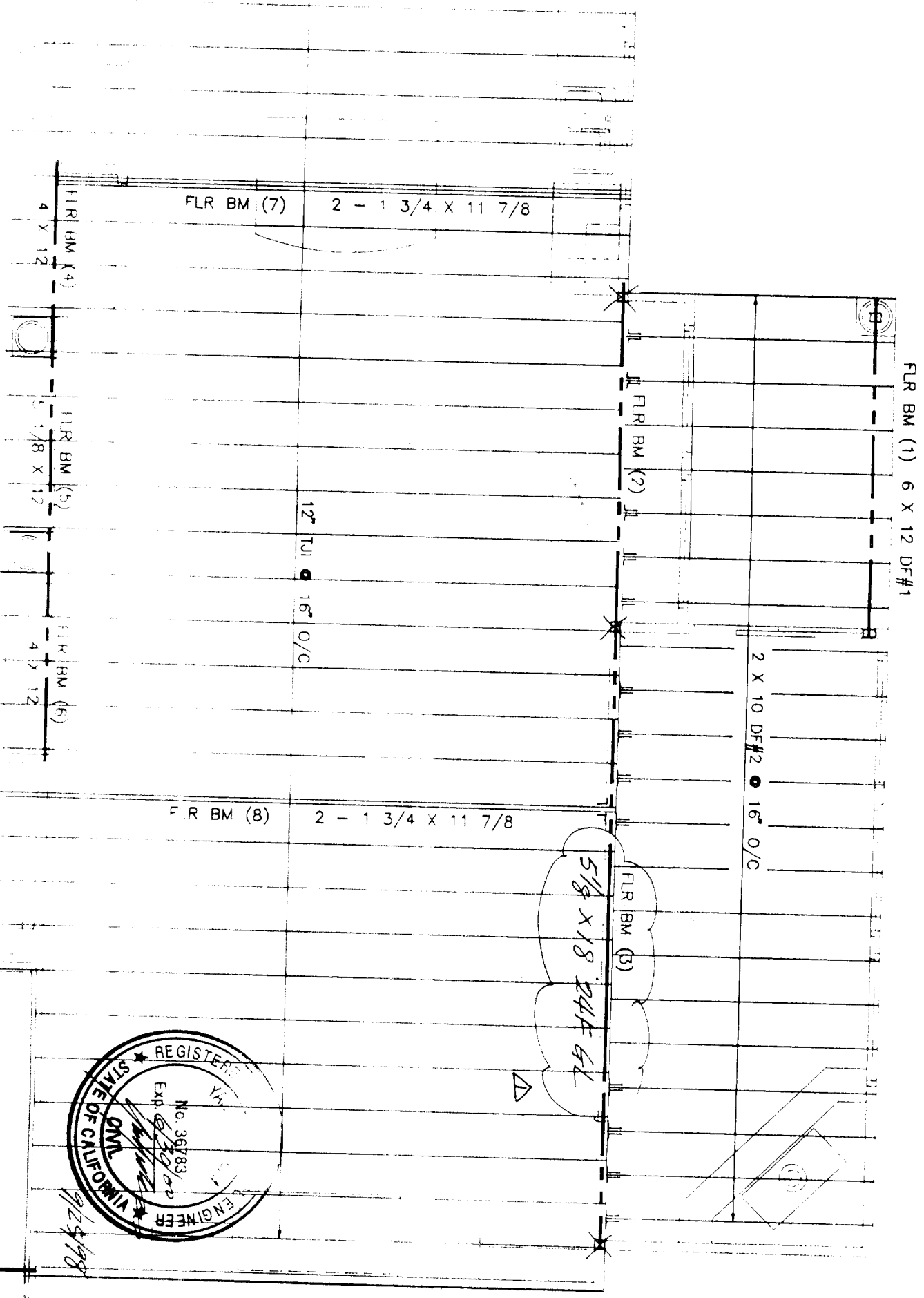
REVISED FOUNDATION PLAN



2'-5 1/2"

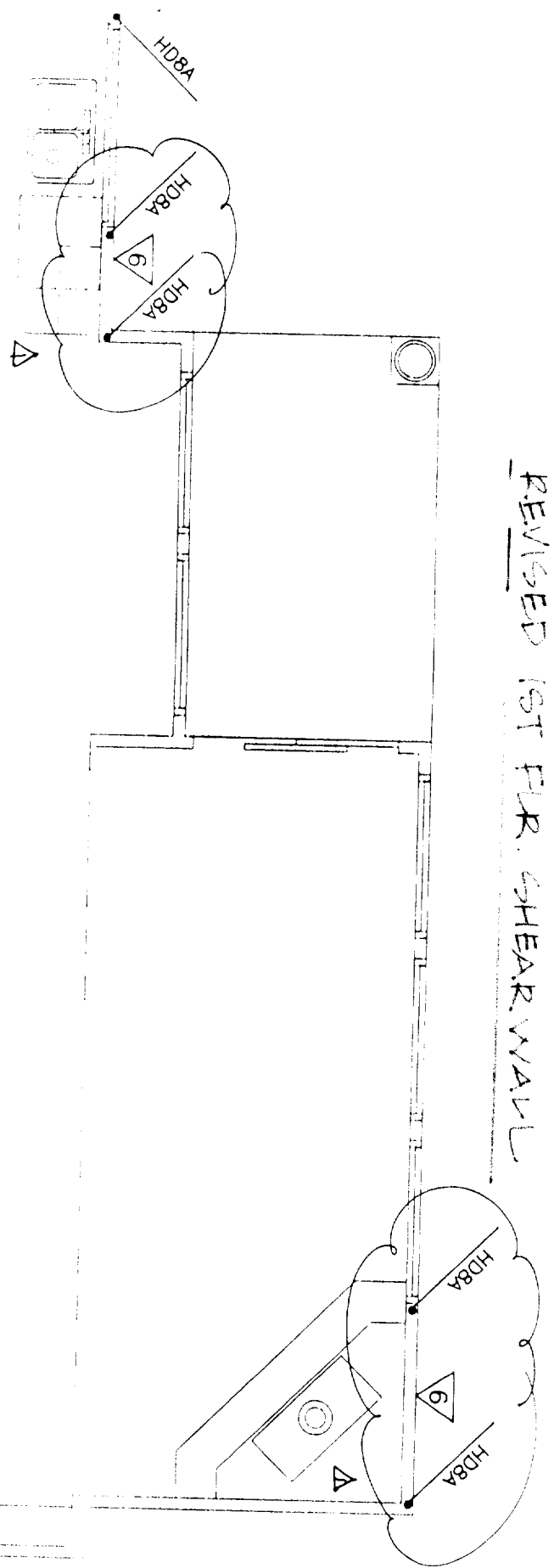
9/25/99
6

REVISED 2ND FLOOR FRAMING



9/24/98

REVISED 1ST FLR. SHEAR WALL



9/25/98
EXP. 6/30/00

HPAND22

DATE 9/25/98

FL BEAM (3) (REVISION)

SPAN 19'-0"

$$w_D = 17 \times 20 \times 20/2 \times 1/2 = 1700 \#$$

$$w_L = 16 \times 20 \times 20/2 \times 1/2 = 1600 \#$$

RF $w_D = \frac{2 \times 1700}{19} = 179 \#'$

$$w_L = \frac{2 \times 1600}{19} = 168 \#'$$

$$w_D = 7 \times 1.5 = 26 \#'$$

$$w_L = 16 \times 1.5 = 24 \#'$$

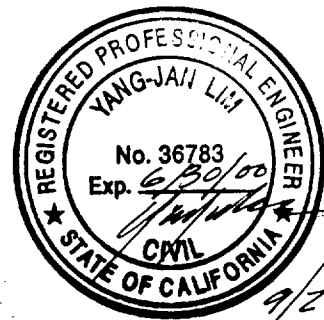
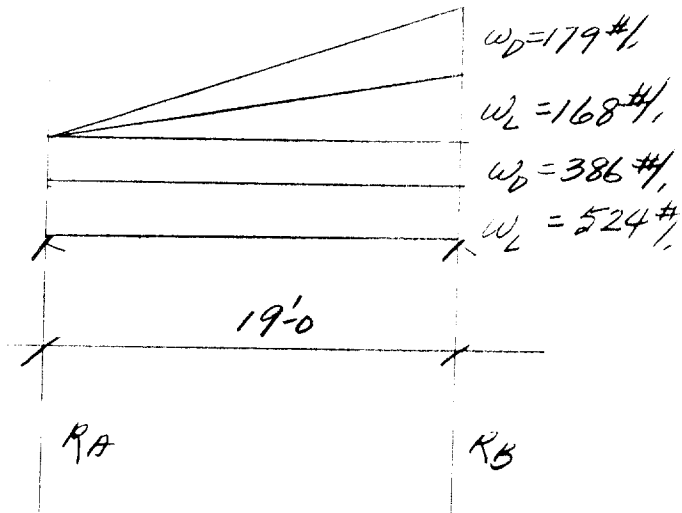
WALL $w_D = 14 \times 9 = 126 \#'$

FLOOR $w_D = 35 \times 8/2 = 140 \#'$

CBAL $w_L = 40 \times 8/2 = 160 \#'$

FLOOR $w_D = 11 \times 17/2 = 94 \#'$

$$w_L = 40 \times 17/2 = 340 \#'$$



9/25/98

GENERAL TIMBER BEAM DESIGN

FOR BEAM 13- REVISION

| BEAM DATA | | | | SPAN DATA | |
|----------------|------------|---------------------------------|---------------|------------------|------------|
| Beam Section | 5:125x18.0 | End Fixity | Pin:Pin | Center Span | = 19.00 ft |
| Beam Depth | = 5.125 in | Elastic Modulus | = 1800000 psi | Left Cantilever | = 0.00 ft |
| Beam Width | = 18.00 in | Beam Density | = 35.0 pcf | Right Cantilever | = 0.00 ft |
| Beam Thickness | = 1.50 in | Load Duration Factor | = 1.00 | UNBRACED LENGTHS | |
| Beam Bending | = 2400 psi | Beam Wt. is Added to Loads | | Le : Center Span | = 0.00 ft |
| Beam Shear | = 165 psi | End Shear Calc'd @ 'd' distance | | Le : Left Cant. | = 0.00 ft |
| Beam Allowable | = 650 psi | | | Le : Right Cant. | = 0.00 ft |

APPLIED LOADS

Uniform Load @ Center Span: DL = 386.0 plf LL = 524.0 plf
 Point Load @ Left: DL = 0.0plf @ 1ft, 179.0plf @ rt, LL = 0.0plf @ 1ft, 168.0plf @ rt from 0.00 ft to 19.00 ft

SUMMARY

| | | | | | |
|---|--------------|-----------------------|-------------------------|----------------|------------|
| Line 13-13-1 x 18.000 Beam, Bending = 96.90% Shear = 89.99% | | | | | |
| Max. Pos. Mom. @ 7.73 ft | = 49.94 k ft | Shear Max. @ Left | = 9.96 k | Reactions... | DL |
| Max. Neg. Mom. @ 19.00 ft | = 0.00 k ft | used for dsgr | = 12.78 k | Left | = 4.45 k |
| Max. @ Left | = 0.00 k ft | Area Req'd | = 77.44 in ² | Right | = 5.01 k |
| Max. @ Right | = 0.00 k ft | Max. @ Right | = 11.06 k | Deflections... | |
| Max. Allow. Moment | = 51.54 k ft | used for dsgr | = 13.70 k | Center | = -0.33 in |
| Max. Max. Actual | = 2165.4 psi | Area Req'd | = 83.02 in ² | ...Dist | = 9.58 ft |
| Max. Allowable | = 2234.7 psi | Max. Actual | = 148.49 psi | ...L/Defl | = 700 |
| | | Fv Allowable | = 165.0 psi | Left | = 0.00 in |
| E = 517.1 E _b 10.1 | = 22.21 | Bearing Req'd @ Left | = 2.99 in | ...L/Defl | = 0 |
| E = 517.1 E _b 210.2 | = 0.90 | Bearing Req'd @ Right | = 3.32 in | Right | = 0.00 in |
| Super. DR = 7312.4.5 | = 0.93 | | | ...L/Defl | = 0 |



9/25/98

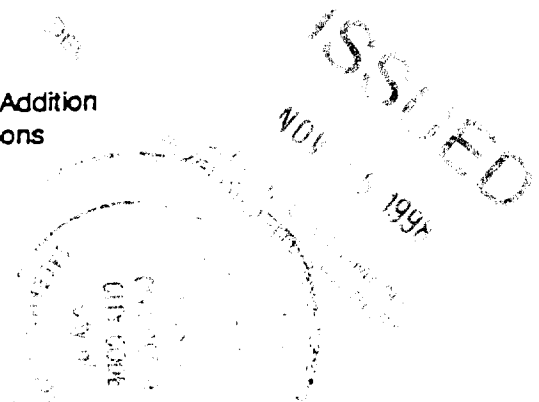
Certificate of Compliance: Residential

Project Title: REP RESIDENCE
 Project Address: ST 72, STILLWATER @ RIVERLAKE
 Documentation Author: MIKE CHE Telephone: 482-5550
 Compliance Method (Package, Point System or Computer): POINT SYSTEM Climate Zone: 12

Date: 11-16-98
 Building Permit # _____
 Plan Check / Date _____
 Field Check / Date _____
 Enforcement Agency Use Only _____

GENERAL INFORMATION

Total Conditioned Floor Area: 3631 ft²
 Building Type: Single Family Multi-Family Addition Existing-Plus-Addition
 Front Orientation: _____ North / East / South / West / All Orientations
 (Input orientation in degrees and circle one.)
 Number of Dwelling Units: _____
 Floor Construction Type: Slab / Raised Floor (circle one or both)



BUILDING SHELL INSULATION

| Component Type | Insulation R-Value | Construction Assembly U-Value | Location/Comments (attic, to garage, typical, etc.) |
|----------------|--------------------|-------------------------------|---|
| Wall | <u>R-2</u> | | <u>EXT. WALL - TYP. (SEE ATTACHED SHT.)</u> |
| Floor | <u>R-30</u> | | <u>ATTIC - TYP.</u> |
| Floor | <u>R-19</u> | | <u>FLR. - TYP.</u> |
| Slab Edge | | | |

FENESTRATION

Shading Devices

| Fenestration Orientation | Area (sf) | Fenestration U-Value | Interior (roller blind, etc.) | Exterior (shadescreen, etc.) | Overhang (yes/no) | Framing Type (metal/wood/vinyl) |
|--------------------------|------------|----------------------|-------------------------------|------------------------------|-------------------|---------------------------------|
| Front | <u>46</u> | <u>0.50</u> | <u>DRAPERY</u> | <u>N/A</u> | <u>YES</u> | <u>VINYL</u> |
| Left | <u>52</u> | <u>0.50</u> | <u>DRAPERY</u> | <u>N/A</u> | <u>YES</u> | <u>VINYL</u> |
| Rear | <u>362</u> | <u>0.50</u> | <u>DRAPERY</u> | <u>N/A</u> | <u>YES</u> | <u>VINYL</u> |
| Right | <u>5</u> | <u>0.50</u> | <u>DRAPERY</u> | <u>N/A</u> | <u>YES</u> | <u>VINYL</u> |
| Skylight | | | | | | |

THERMAL MASS

| Type/Covering (slab/exposed, tile, etc.) | Area (sf) | Thickness (inches) | Location/Description (kitchen, bath, etc.) |
|--|------------|--------------------|--|
| <u>14 T.E. 1/2" M.B.</u> | <u>260</u> | <u>2"</u> | <u>FLR. @ ENTRY, HALL, BATH 4, LAUNDRY</u> |
| <u>14 T.E. 1/2" M.B.</u> | <u>484</u> | <u>1"</u> | <u>FLR. @ ALL 2FLR. BATHS</u> |
| | | | <u>SHWR. WALLS @ ALL BATHS</u> |
| | | | <u>COUNTER TOP @ ALL BATHS</u> |

REV ADDED 156 SF

VEP RESIDENCE

11-16-98

Project Title

Date

HVAC SYSTEMS

Note: Input hydronic or combined hydronic data under Water Heating Systems, except Design Heating Load.

| Heating Equipment Type (furnace, heat pump, etc.) | Minimum Efficiency (AFUE/HSPF) | Distribution Type and Location (ducts/attic, etc.) | Duct or Piping R-Value | Thermostat Type | Heat Pump Configuration (split or package) |
|--|--------------------------------|--|------------------------|------------------------|--|
| <u>FURNACE (1FL)</u> | <u>80+</u> | <u>DUCT/CRAWL</u> | <u>4.25</u> | <u>NIGHT TIME S.B.</u> | <u>PACKAGE</u> |
| <u>FURNACE (2FL)</u> | <u>80+</u> | <u>DUCT/ATTIC</u> | <u>4.25</u> | <u>NIGHT TIME S.B.</u> | <u>SPLIT</u> |
| Cooling Equipment Type (air conditioner, heat pump, evap. cooling) | Minimum Efficiency (SEER) | Duct Location (attic, etc.) | Duct R-Value | Thermostat Type | Configuration (split or package) |
| <u>AIR COND. (1FL)</u> | <u>12</u> | <u>DUCT/CRAWL</u> | <u>4.25</u> | <u>NIGHT TIME S.B.</u> | <u>PACKAGE</u> |
| <u>AIR COND. (2FL)</u> | <u>12</u> | <u>DUCT/ATTIC</u> | <u>4.25</u> | <u>NIGHT TIME S.B.</u> | <u>SPLIT</u> |

WATER HEATING SYSTEMS

| Water Heater Type | Distribution Type | Number in System | Rated ¹ Input (kW or Btu/hr) | Tank Capacity (gallons) | Energy ¹ Factor or Recovery Efficiency | Standby ¹ Loss (%) | External Tank Insulation R-Value |
|-------------------|-------------------|------------------|---|-------------------------|---|-------------------------------|----------------------------------|
| <u>GC</u> | <u>STD</u> | | <u>75100</u> | <u>75</u> | <u>0.52</u> | <u>3.10</u> | <u>R-12</u> |

¹ For small gas storage (rated input ≤ 75,000 Btu/hr), electric resistance and heat pump water heaters, list Energy Factor. For large gas storage water heaters (rated input ≥ 75,000 Btu/hr), list Rated Input, Recovery Efficiency and Standby Loss. For instantaneous gas water heaters, list Rated Input and Recovery Efficiency.

SPECIAL FEATURES/REMARKS (Add extra sheets if necessary)

COMPLIANCE STATEMENT

This certificate of compliance lists the building features and performance specifications needed to comply with Title 24, Parts 1 and 6, of the California Code of Regulations, and the administrative regulations to implement them. This certificate has been signed by the individual with overall design responsibility. When this certificate of compliance is submitted for a single building plan to be built in multiple orientations, any shading feature that is varied is indicated in the Special Features/Remarks section.

Designer or Owner (per Business & Professions Code)

Name: MIKE CHEN
 Title/Firm: MIKE CHEN DESIGNER & BLDG.
 Address: 3000 ARDEN WAY #1
SACRAMENTO, CA 95825
 Telephone: (916) 482-5550
 Lic. # _____

Documentation Author

Name: MIKE CHEN
 Title/Firm: MIKE CHEN DESIGNER & BLDG.
 Address: 3000 ARDEN WAY #1
SACRAMENTO, CA 95825
 Telephone: (916) 482-5550

(signature)

(date)

(signature)

(date)

Enforcement Agency

Name: _____
 Title: _____
 Agency: _____
 Telephone: _____

(signature stamp)

(date)

Project Title YEP RESIDENCE Date 11-16-98

BUILDING DATA

Conditioned Floor Area 363 Number of Stories 2
 Slab Raised Floor RAISED

| Fenestration | | |
|--------------|------------|-------------|
| | Area | % |
| North | <u>52</u> | <u>1.4</u> |
| East | <u>363</u> | <u>10.0</u> |
| South | <u>15</u> | <u>0.4</u> |
| West | <u>146</u> | <u>4.2</u> |
| Skylight | <u>-</u> | <u>-</u> |
| Total | <u>576</u> | <u>16.0</u> |

Check all applicable Unit Type condition(s):

- Single Family Detached (SFD) Addition Alone
 Single Family Attached (SFA) Existing Building
 Multi-Family (MF) Existing-Plus-Addition

SCORE CARD

Measures

Point Scores

| | | | | | | |
|----------------------------|---|----------------------|---|------------------------|------------------------------|-----------|
| 1. Ceiling Insulation | <u>38</u> | or | | | <u>0</u> | |
| | R-value [38] | | U-value [0.028] | | | |
| 2. Wall Insulation | <u>21</u> | or | | | <u>+1</u> | |
| | R-value [19] | | U-value [0.065] | | | |
| 3. Raised Floor Insulation | <u>19</u> | or | | | <u>0</u> | |
| | R-value [19] | | U-value [0.037] | | | |
| 4. Slab Edge Insulation | <u>-</u> | or | | | <u>-</u> | |
| | R-value [0] | | F2 factor [0.75] | | | |
| 5. Infiltration | Any Ducts in Unconditioned Space? (Y/N) [Y] | | | | <u>0</u> | |
| 6. Fenestration Heat Loss | <u>VINYL</u> | <u>0.50</u> | <u>16.0</u> | | <u>+3</u> | <u>+4</u> |
| | Type | U-value [0.65] | Total % Fenes. [16] | | | Sum 1-6 |
| 7. Fenestration Heat Gain | | | | | | |
| | % Fenestration | SCShade Open | Eff. % Fenes. | Shade Eff. Ratio | | |
| North | <u>1.4</u> × | <u>0.68</u> = | <u>0.95</u> | <u>0.86</u> | <u>+1</u> | |
| East | <u>10.1</u> × | <u>0.68</u> = | <u>6.87</u> | <u>0.86</u> | <u>-4</u> | |
| South | <u>0.4</u> × | <u>0.68</u> = | <u>0.27</u> | <u>0.86</u> | <u>-2</u> | |
| West | <u>4.2</u> × | <u>0.68</u> = | <u>2.86</u> | <u>0.86</u> | <u>-2</u> | |
| Skylight | × | = | | | | |
| Overhangs? (Y/N) | | | | | | |
| 8. Interior Thermal Mass | | or | <u>0.46</u> | | <u>+2</u> | |
| | % Exp Slab [20] | | Int. Mass/CFA | | | |
| 9. Exterior Wall Mass | | | | | | |
| | Ext. Wall Mass | | | | | |
| 10. Heating System | <u>80</u> | × | <u>0.88</u> = | <u>70.4</u> | <u>N/A</u> | <u>-5</u> |
| | AFUE or HSPF [78% or 6.8] | | Duct Effic. [1 story: 0.83; 2+ story: 0.88] | Effective AFUE or HSPF | Zonal Control Adjustment [0] | Sum 7-9 |
| 11. Cooling System | <u>12.0</u> | × | <u>0.87</u> = | <u>10.4</u> | <u>+3</u> | |
| | SEER [10.0] | | Duct Effic. [1 story: 0.81; 2+ story: 0.87] | Effective SEER | Zonal Control Adjustment [0] | |
| 12. Water Heating | | | | | | |
| System 1 | <u>SG75</u> | <u>0.52</u> | <u>12</u> | <u>N/A</u> | <u>STD</u> | |
| | Heater Type [SG50] | Energy Factor [0.53] | Ext. Ins. R-value [12] | Auxiliary Input [None] | Distribution [STD] | |
| System 2 | | | | | | <u>-2</u> |
| | Heater Type [None] | Energy Factor | Ext. Ins. R-value | Auxiliary Input | Distribution | |
| Point Total: | | | | | <u>+1</u> | |
| Point Goal: | | | | | <u>0</u> | |

Proposed Construction Assembly: Residential

Form 3R

R-21 WALL WITH STYROFOAM* BLUE* BRAND INSULATION
 (CA REGISTERED R-VALUE 5.0 AT 75°F MEAN TEMP.) AND
R-13 BATTS

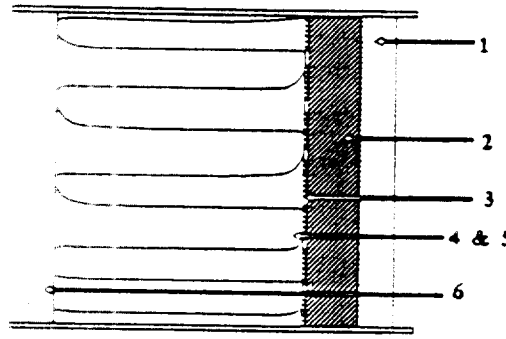
Project Title _____
 Project Address _____
 Documentation Author _____ Telephone _____
 Assembly Name _____

Date _____

Building Permit # _____

Checked By / Date _____

Enforcement Agency Use Only



Sketch of Construction Assembly

Assembly Type: (check one) Floor
 X Wall
 Ceiling/Roof

Framing Material: Wood

Framing Size: 2 x 4

Framing Spacing: 16 " o.c.

Framing Percentage: (check one) Wall: X 15% (16" o.c.)
 12% (24" o.c.)
 Floor/Ceiling: 10% (16" o.c.)
 7% (24" o.c.)

Wall Weight / sf: _____
 (Packages only)

List of Construction Components

| | R-Value | |
|-----------------------------------|-------------------------|------------------------|
| | Cavity(R _c) | Frame(R _f) |
| Outside Surface Air Film | .17 | .17 |
| 3/8" Stucco | .08 | .08 |
| 2. STYROFOAM Insulation | 5.00 | 5.00 |
| 3 Weather Barrier | .06 | .06 |
| 4 R-13 Batt | 13.00 | - - |
| 5. 2 X 4 Framing | - - | 3.47 |
| 6. 1/2" Gypsum Board | .45 | .45 |
| Inside Surface Air Film | .68 | .68 |
| Total Unadjusted R-Values: | 19.44 | 9.91 |
| | R_c | R_f |

Framing Adjustment Calculation (if applicable):

$$\left(\frac{1/19.44}{1/R_c} \times \frac{.85}{1-(Fr\%/100)} \right) + \left(\frac{1/9.91}{1/R_f} \times \frac{.15}{Fr\%/100} \right) = \frac{.059}{\text{Total U-Value}}$$

$$= \frac{16.95}{\text{Total R-Value}}$$

Thermal Mass Worksheet

WS-1R

Project Title YEP RESIDENCE

Date 9-1-98

INTERIOR THERMAL MASS: METHOD B

Method B is one of the two possible options for calculating interior mass as explained in Section 4.2 of the Residential Manual (RM). The other option, Method A, is a simplified method to take thermal mass credit for concrete slab-on-grade only. This worksheet is not required for Method A. Method B must be used to take thermal mass credit for any mass elements other than concrete slab-on-grade.

Calculate the Interior Mass/CFA value using the worksheet space below. Look up the Unit Interior Mass Capacity (UIMC) for each interior mass surface in RM Tables 4-9a, 4-9b and 4-10. Include the interior surfaces of exterior mass walls. For interior mass walls exposed on both (two) sides to conditioned space, enter the surface area of only one side. Include the inside surfaces of exterior mass walls as explained in Section 4.2 of the RM.

| Description | Mass Area | | Unit Interior Mass Capacity | = | Interior Mass Capacity |
|-------------------------------|------------|---|-----------------------------|---|------------------------|
| <u>1/4" TILE ON 3/4" M.B.</u> | <u>780</u> | x | <u>3.0</u> | = | <u>780</u> |
| <u>1/4" TILE ON 3/4" M.B.</u> | <u>484</u> | x | <u>1.7</u> | = | <u>823</u> |
| _____ | _____ | x | _____ | = | _____ |
| _____ | _____ | x | _____ | = | _____ |
| _____ | _____ | x | _____ | = | _____ |
| _____ | _____ | x | _____ | = | _____ |
| _____ | _____ | x | _____ | = | _____ |
| _____ | _____ | x | _____ | = | _____ |
| _____ | _____ | x | _____ | = | _____ |
| _____ | _____ | x | _____ | = | _____ |
| <u>1603</u> | | | | | |
| Total | | | | | |
| | | | | | <u>3475</u> |
| | | | | | CFA |
| | | | | | = |
| | | | | | <u>0.46</u> |
| | | | | | Interior Mass/CFA |

EXTERIOR WALL THERMAL MASS

Calculate the Exterior Wall Mass of all exterior walls. Look up the Exterior Mass Factor for each opaque wall element from RM Table 4-10. Only exterior mass wall surfaces may be included in this calculation.

| Description | Opaque Wall Area | | Exterior Mass Factor | = | |
|---------------------------|------------------|---|----------------------|---|------------------------|
| _____ | _____ | x | _____ | = | _____ |
| _____ | _____ | x | _____ | = | _____ |
| _____ | _____ | x | _____ | = | _____ |
| _____ | _____ | x | _____ | = | _____ |
| _____ | _____ | x | _____ | = | _____ |
| _____ | _____ | x | _____ | = | _____ |
| <u>Conventional Walls</u> | _____ | x | <u>0</u> | = | _____ |
| Total | | | | | / |
| | | | | | <u>_____</u> |
| | | | | | Total Opaque Wall Area |
| | | | | | = |
| | | | | | <u>_____</u> |
| | | | | | Exterior Wall Mass |

Mandatory Measures Checklist: Residential

MF-1R

NOTE: Lowrise residential buildings subject to the Standards must contain these measures regardless of the compliance approach used. Items marked with an asterisk (*) may be superseded by more stringent compliance requirements listed on the Certificate of Compliance. When this checklist is incorporated into the permit documents, the features noted shall be considered by all parties as binding minimum component performance specifications for the mandatory measures whether they are shown elsewhere in the documents or on this checklist only.

| DESCRIPTION | DESIGNER | ENFORCEMENT |
|--|----------|-------------|
| Building Envelope Measures | ✓ | |
| * §150(a): Minimum R-19 ceiling insulation. | ✓ | |
| §150(b): Loose fill insulation manufacturer's labeled R-Value. | ✓ | |
| * §150(c): Minimum R-13 wall insulation in framed walls (does not apply to exterior mass walls). | ✓ | |
| * §150(d): Minimum R-13 raised floor insulation in framed floors; minimum R-8 in concrete raised floors. | ✓ | |
| §150(l): Slab edge insulation - water absorption rate no greater than 0.3%, water vapor transmission rate no greater than 2.0 perm/inch. | - | |
| §118: Insulation specified or installed meets California Energy Commission quality standards. Indicate type and form. | ✓ | |
| §116-17: Fenestration Products, Exterior Doors and Infiltration/Exfiltration Controls | | |
| a. Doors and windows between conditioned and unconditioned spaces designed to limit air leakage. | | |
| b. Manufactured fenestration products have label with certified U-value, and infiltration certification. | ✓ | |
| c. Exterior doors and windows weatherstripped; all joints and penetrations caulked and sealed. | | |
| §150(g): Vapor barriers mandatory in Climate Zones 14 and 16 only. | - | |
| §150(f): Special infiltration barrier installed to comply with §151 meets Commission quality standards. | ✓ | |
| §150(e): Installation of Fireplaces, Decorative Gas Appliances and Gas Logs | | |
| 1. Masonry and factory-built fireplaces have: | | |
| a. Closeable metal or glass door | | |
| b. Outside air intake with damper and control | | |
| c. Flue damper and control | | |
| 2. No continuous burning gas pilots allowed. | ✓ | |
| Space Conditioning, Water Heating and Plumbing System Measures | | |
| §110-13: HVAC equipment, water heaters, showerheads and faucets certified by the Commission. | ✓ | |
| §150(i): Setback thermostat on all applicable heating systems. | ✓ | |
| §150(j): Pipe and Tank Insulation | | |
| 1. Indirect hot water tanks (e.g., unfired storage tanks or backup solar hot water tanks) have insulation blanket (R-12 or greater) or combined interior/exterior insulation (R-16 or greater). | | |
| 2. First 5 feet of pipes closest to water heater tank, non-recirculating systems, insulated (R-4 or greater). | | |
| 3. All buried or exposed piping insulated in recirculating sections of hot water system. | ✓ | |
| 4. Cooling system piping below 55°F insulated. | | |
| 5. Piping insulated between heating source and indirect hot water tank. | | |
| * §150(m): Ducts and Fans | | |
| 1. Ducts constructed, installed and sealed to comply with UMC Sections 1002 and 1004; ducts insulated to a minimum installed value of R-4.2 or ducts enclosed entirely within conditioned space. | | |
| 2. Exhaust fan systems have backdraft or automatic dampers | ✓ | |
| 3. Gravity ventilating systems serving conditioned space have either automatic or readily accessible, manually operated dampers.. | | |
| §114: Pool and Spa Heating Systems and Equipment | | |
| 1. System is certified with 78% thermal efficiency, on-off switch, weatherproof operating instructions, no electric resistance heating and no pilot light. | - | |
| 2. System is installed with: | | |
| a. At least 36" pipe between filter and heater for future solar heating. | | |
| b. Cover for outdoor pools or outdoor spa. | - | |
| 3. Pool system has directional inlets and a circulation pump time switch. | | |
| §115: Gas-fired central furnace, pool heater, spa heater or household cooking appliance have no continuously burning pilot light. (Exception: Non-electrical cooking appliance with pilot < 150 Btu/hr.) | ✓ | |
| Lighting Measures | | |
| §150(k): 40 lumens/watt or greater for general lighting in kitchens and rooms with water closets; and recessed ceiling fixtures IC (insulation cover) approved. | ✓ | |