



MARIN COUNTY  
COMMUNITY DEVELOPMENT AGENCY  
ALEX HINDS, DIRECTOR

## **Marin County Single Family Dwelling Energy Efficiency Ordinance**

The Marin County Single Family Dwelling Energy Efficiency Ordinance was originally adopted by the Board of Supervisors on October 22, 2002. The revised Ordinance was adopted on September 27, 2005 to comply with updates to Title 24 the California Building Energy Efficiency Standards. The goal of the Ordinance is to reduce the annual and peak energy consumption of large homes in Marin County. Homes exceeding 3,500 square feet use about 40 percent more energy than those between 2,000 and 2,500 square feet, according to the Energy Information Administration.

### **Buildings Covered by the Ordinance**

The Ordinance applies to single family homes in the County's **unincorporated** areas and includes:

1. **New single family homes larger than 3,500 square feet** of total conditioned floor area (excluding a second residential unit up to 750 sf).

#### **AND**

2. **Additions** to single family homes where:

- The Addition is 500 square feet or larger, **and:**
- The Existing Building plus the Addition is larger than 3,500 sf (excluding a second residential unit up to 750 sf).

### **Compliance Requirements**

1. **New single family dwellings** covered by the Ordinance shall meet the Adjusted Standard Design Total energy budget, in TDV Kbtu/sf-yr, using the Performance Compliance Approach.
2. **Additions** covered by the Ordinance shall use the Performance Compliance Approach for **either**:
  - A. **The Addition only.** Calculated using the Adjusted Standard Design Total energy budget, in TDV Kbtu/sf-yr.

#### **OR**

- B. **The Existing Building plus the Addition.** Calculated using the Adjusted Standard Design Total energy budget, in TDV Kbtu/sf-yr, as applied to the Standard Design Total for the Existing-plus-Addition generated by a state approved Alternative Calculation Method (ACM). (Note: The Title 24 Existing-plus-Addition calculation method has changed significantly in 2005.)

### **Submittal Requirements**

For any single family home permit application covered by the Ordinance, all applicants must:

1. Submit the standard **Title 24 Report** with the building permit application.
  2. Submit the "*Marin County Single Family Dwelling Energy Efficiency Form*" and "*Worksheet*" **with the building permit application, signed by the Title 24 Report Author.**
  3. Submit the "*Marin County Single Family Dwelling Energy Efficiency Form*" and "*Worksheet*" **prior to Final Inspection, signed by the General Contractor, Owner Builder, or Project Architect.**
  4. Include the "*Marin County Single Family Dwelling Energy Efficiency Form*" **in the submitted Architectural Plans on the same page as the Title 24 CF-1R.**
-

### **Energy Plan Review Procedures**

1. The building department will review all drawings and specifications and the Title 24 energy report in the usual manner; and confirm that the house meets all the state's energy code requirements *without the benefit of PV CREDIT or ALTERNATIVE PROPOSED DESIGN CREDIT*.
2. The building department will review the "Marin County Single Family Dwelling Energy Efficiency Form" and "Worksheet" for compliance. **All energy measures needed to comply with the Ordinance must be listed on the CF-1R or on the Addendum to the CF-1R.**
3. If the PV CREDIT is used, the building department will verify the nominal KW of the solar photovoltaic system.
4. If ALTERNATIVE PROPOSED DESIGN CREDIT is used, the application will be forwarded to the Green Building Program Coordinator of the Marin County Community Development Agency for further evaluation and review.

### **Energy Field Inspection**

1. Building inspectors will look for all energy measures listed on the CF-1R form in the usual manner; and all HERS energy measures must be verified by a certified HERS Rater in the usual manner.
2. If a solar photovoltaic system is specified, the building inspector will look for a PV system installed with the minimum nominal KW capacity listed on the CF-1R; and will check that there is a reversible electric utility meter installed which can feed power back to the grid.
3. If the ALTERNATIVE PROPOSED DESIGN CREDIT is claimed for measures not covered by Title 24, the building inspector will verify the installation of those measures in the field.

### **Additional Information**

**Ordinance Text:** The full text of the Marin County SFDEEO is available online at:

[http://www.co.marin.ca.us/depts/CD/main/pdf/BEST\\_pdf/Ordinance\\_3432.pdf](http://www.co.marin.ca.us/depts/CD/main/pdf/BEST_pdf/Ordinance_3432.pdf)

**Energy Consultants:** Qualified building energy consultants can assist permit applicants. A list of Certified Residential Energy Analysts is available on the California Association of Building Energy Consultants (CABEC) website at: <http://www.cabec.org/searchtheceadirectory.php>

**Title 24:** Detailed information on the Residential Title 24 Standards is available in the state's **Residential Manual**, which can be viewed online and downloaded at:

[http://www.energy.ca.gov/title24/2005standards/residential\\_manual.html](http://www.energy.ca.gov/title24/2005standards/residential_manual.html)

### **Special Cases & Questions:**

For questions regarding the scope, application or enforcement of the Ordinance, please contact:

Alec Hoffmann  
Green Building Program Coordinator  
Marin County Community Development Agency  
3501 Civic Center Dr., Room 308  
San Rafael, CA 94903  
Ph: 415-507-2659  
Fax: 415-499-7880  
[ahoffmann@co.marin.ca.us](mailto:ahoffmann@co.marin.ca.us)  
[www.maringreenbuilding.org](http://www.maringreenbuilding.org)

# Marin County Single Family Dwelling Energy Efficiency Form

This form and worksheet, along with all required Title 24 documentation, must be completed and submitted to the Building Department with the building permit application and they **MUST** be included in the Architectural Plans with the Title 24 CF-1R. This form and worksheet must also be posted at the building site and easily visible at the time of Final Inspection.

Project Name: \_\_\_\_\_ Date of Title 24 Report: \_\_\_\_\_  
Project Address: \_\_\_\_\_ Total Conditioned Floor Area: \_\_\_\_\_  
\_\_\_\_\_  
Climate Zone: \_\_\_\_\_  
PV system size in KW: \_\_\_\_\_  
(if applicable)

## **Compliance Formula**

Please use the **Worksheet** on the next page to calculate the following Totals:

1) Adjusted Standard Design Total:  
(KBtu/sf-yr)

**MUST BE**

2) Adjusted Proposed Design Total  
(KBtu/sf-yr):

**> OR =**

\_\_\_\_\_  
From **Calculation #1** on **Worksheet**

\_\_\_\_\_  
From **Calculation #3** on **Worksheet**

**As Designed Certification:** (MUST be signed at time of building permit application submittal.)

Title 24 Report Author:

I certify that the Title 24 report completed for this project accurately corresponds to the drawings and specifications dated \_\_\_\_\_ as submitted to the County of Marin with the building permit application.

Name (print): \_\_\_\_\_

Signature: \_\_\_\_\_

Company: \_\_\_\_\_

Professional License #: \_\_\_\_\_

Telephone #: \_\_\_\_\_

Date: \_\_\_\_\_

**As Built Certification:** (MUST be signed prior to final inspection.)

Circle One: **General Contractor / Owner Builder / Licensed Architect**

I certify that the above energy measures have been properly installed according to the requirements of the Title 24 Certificate of Compliance (CF-1R) and the Mandatory Measures (MF-1R).

Name (print): \_\_\_\_\_

Signature: \_\_\_\_\_

Company: \_\_\_\_\_

Professional License #: \_\_\_\_\_

Telephone #: \_\_\_\_\_

Date: \_\_\_\_\_

**Staff Use Only:**

Reviewed by: \_\_\_\_\_

Building Permit #: \_\_\_\_\_

Date: \_\_\_\_\_

# Worksheet

**\*Note: This worksheet MUST accompany the form on the previous page.**

In general, the overall energy efficiency of the house must increasingly go beyond Title 24 requirements as the house size increases from 3,500 sf to over 11,500 sf. Based on the climate zone (i.e., Zone 2 or Zone 3) and the total conditioned floor area of the house, the building must exceed the Title 24 energy budget by the amount specified in the Standard Design Adjustment Factor table (Table A.) using any combination of the following credits:

1. Any building or appliance energy efficiency measures that receive credit within the Title 24 energy code; and/or
2. A solar photovoltaic system defined in the Ordinance under "PV CREDIT"; and/or,
3. Renewable and other energy credits defined in the Ordinance under "ALTERNATIVE PROPOSED DESIGN CREDIT"

## Calculations

### #1 Calculation of Marin County Energy Ordinance Adjusted Standard Design:

Standard Design Total (KBtu/sf-yr):	X	Climate Zone Adjustment Factor:	=	Adjusted Standard Design Total: (KBtu/sf-yr)
From CF-1R		From Table A.		Use in Compliance Formula

### #2 Calculation of Credit for Solar Photovoltaic (PV) Systems in the Proposed Design:

Nominal KW of PV System		Total Conditioned Floor Area (sq. ft.)	=	Proposed Design Credit (KBtu/sf-yr)
( _____ )	X 13,262 ) /	From CF-1R		Use in # 3
From PV Manufacturer				

### #3 Calculation of Adjusted Proposed Design Total

Proposed Design Total (KBtu/sf-yr)	-	Proposed Design Credit (KBtu/sf-yr)	=	Adjusted Proposed Design Total: (KBtu/sf-yr)
From CF-1R		From # 2		Use in Compliance Formula

Note: The Proposed Design Total (KBtu/sf-yr) must be equal to or less than the Standard Design Total as shown on the CF-1R form submitted in the Title 24 report.

**Table A. Standard Design Adjustment Factor**

House Size (Conditioned Sq.Ft.)	Climate Zone 2 Adjustment Factor	Climate Zone 3 Adjustment Factor
3,501 – 4,499	<i>0.918</i>	<i>0.930</i>
4,500 – 5,499	<i>0.826</i>	<i>0.850</i>
5,500 – 6,499	<i>0.700</i>	<i>0.732</i>
6,500 – 7,499	<i>0.629</i>	<i>0.663</i>
7,500 – 8,499	<i>0.572</i>	<i>0.607</i>
8,500 – 9,499	<i>0.525</i>	<i>0.561</i>
9,500 – 10,499	<i>0.486</i>	<i>0.521</i>
10,500 – 11,499	<i>0.452</i>	<i>0.487</i>
11,500+	<i>0.423</i>	<i>0.458</i>