



**CITY OF FORTUNA, CALIFORNIA**  
**Community Development Department**  
**Building and Safety Division**

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Fortuna, California 95540  
Phone: 707-725-7600 - Fax: 707-725-7610

## **BUILDING DESIGN CRITERIA**

01/01/09

### **CURRENT CODES**

2007 California Building Code  
2007 California Plumbing Code  
2007 California Mechanical Code  
2007 California Electrical Code  
2007 California Energy Code  
2007 California Fire Code

The 2007 California Codes are available for purchase from the International Code Council at [www.iccsafe.org](http://www.iccsafe.org)

### **WIND DESIGN**

Per Chapter 16 of the 2007 California Building Code (CBC) and ASCE 7-05:

- **85 mph wind speed** (based on 3 second gust)
- Exposure Category is site specific and based on Surface Roughness Category
- **Most structures in Fortuna are in Exposure Category “C”**

### **SEISMIC DESIGN**

- Permissible structural systems, limitations on height and irregularity, permitted lateral force procedure, and required level of strength and seismic detailing are based on Seismic Design Category (SDC). SDC must be determined in accordance with Chapter 16 of the 2007 California Building Code and ASCE 7-05, Chapter 11. SDC is dependent on ground motion, soil characteristics and occupancy category.
- **All construction projects within the City of Fortuna are assigned to Seismic Design Category “E”.**
- Use Google: [www.batchgeocode.com/lookup](http://www.batchgeocode.com/lookup) or other source to determine site specific longitude and latitude. Use USGS website [www.earthquake.usgs.gov/research/hazmaps/design/](http://www.earthquake.usgs.gov/research/hazmaps/design/) for further information.

## **CLIMATE**

The City of Fortuna is in Climate zone #1

## **SOILS REPORT**

Soils Reports are required as per 2007 California Building Code, Section 1802.2. Soils Reports should be site specific.

## **FOUNDATION DESIGN VALUES**

- The design of footings and foundations (size, depth, thickness, etc.) should be based on the recommendations in the Soils Reports.
- Minimum depth of the footings as per CBC-2007: 12 inches into undisturbed natural grade
- Minimum width of footings – 12 inches for one story, 15 inches for two story buildings
- Minimum width of foundation wall – 7.5 inches
- Allowable Bearing Pressure = 1500 psf
- Allowable Lateral Bearing Pressure (Passive) = 200 psf/ft
- Allowable Friction Coefficient = 0.35

## **FLOOD ZONES**

- Parts of the City of Fortuna are in flood zone areas as outlined by FEMA flood insurance rate maps (FIRMs)
- A request can be made to the Community Development Department for the flood zone area of your construction site
- Flood zones need to be shown on all construction documents and plans
- All required paperwork needs to be filled out and supplied with the submittal package before plan check could start and/or the project to be approved for construction and/or final Certificate of Occupancy to be issued

# CONVENTIONAL LIGHT-FRAME CONSTRUCTION

- An engineered lateral design is required for irregular portions of structures. Irregularities are described in CBC 2308.12.6.
- Conventional construction is limited to one story in SDC “E”, except that detached one and two family dwellings may be 2 stories.
- Cripple walls with studs exceeding 14” are considered a story for the purposes of applying braced wall requirements.
- Professional design is required when bearing wall floor-to-floor height exceeds 10’. (CBC 2308.2)
- Spacing between interior and exterior braced wall lines shall not exceed 25’. (CBC 2308.12.3)
- Braced wall lines must be supported by continuous foundations. (CBC 2308.3.4)

Exception: Structures with a maximum plan dimension of 50’ may be supported with continuous foundations at exterior walls only.

- Openings in floor and roof diaphragms are restricted to not more than 50% of the distance between braced wall lines or an area not more than 25% of the area between orthogonal pairs of braced wall lines. (CBC 2308.12.6)
- Professional design is required when trusses or rafters exceed 40’ between points of vertical support. (CBC 2308.2 #5)
- Professional design is required when combined roof and ceiling dead loads exceed 15 psf. (CBC 2308.2 #3)
- Professional design is required when dead loads of exterior walls, floors and partitions exceed 15 psf. (CBC 2308.2 #5)

Exceptions are provided for stone and masonry veneer. (CBC 2308.2 #3.1)

- Minimum lengths of wall bracing are required per each 25 linear feet of braced wall line in SDC “D” and “E”. (CBC Table 2308.12.4)
- “Alternate” Braced wall panels constructed in accordance with CBC 2308.9.3.1 or CBC 2308.9.3.2 will be credited 4’ for purposes of applying the total length required by 2308.12.4.
- Height to width ratios of braced wall panels in SDC “D” and “E” may not exceed 2:1. (CBC Table 2308.12.4)
- “Alternate” Braced wall panels constructed in accordance with CBC 2308.9.3.1 or CBC 2308.9.3.2 are exempt from the 2:1 h/w ratio requirement.