City of San Leandro
Building & Safety Services
835 East 14th Street San Leandro, CA 94577
PH (510) 577-3405 FAX (510) 577-3419
Web site: www.sanleandro.org/depts/cd/bldg

Design Criteria

Informational Handout
Effective 1/1/2011

The City of San Leandro uses the following construction design criteria:

A. **Seismic Design Category** determined by design professional considering construction design and site soil properties as per CBC sec 1613. (light-framed structures will be designed with a **Seismic Design Category** of D or E, except use D_2 designing to 2010 CRC) *(see footnote)

B. Wind Design – V_{3s} = 85 mph; V_{fm} = 71 mph

C. Wind Exposure - "B" in general for most areas, "C" for hillside areas, and "D" for some individual sites along bay or foothills

D. Snow Load - "0 psf"

E. California Energy Commission Climate Zone - "3"

F. Current Construction Codes

1. **2010 San Leandro Building Code based on 2009 International Building Code** (2009 IBC), **2009 International Residential Code, and 2009 International Existing Building Code.** (See San Leandro Municipal Code Title 7, Chapter 7-5, Article 1 @ **http://qcode.us/codes/sanleandro/**)

   a. **Local Amendments**:

      i. Structural systems

      ii. Design methods

      iii. Seismic provisions for steel buildings

      iv. Wood Burning Fireplaces: See Regulation 6, Rule 3 from the Bay Area Air Quality Management Board @ http://www.baaqmd.gov/dst/regulations/rg0603.pdf

      v. Repair and reconstruction of damaged structures

      vi. Brittle structural systems utilizing stucco or drywall are prohibited

2. **2010 Green Building Standards Code** (*CAL*Green) It is not the intent that the California Green Building Code substitute or be identified as meeting the certification requirements of any green building program.

3. **2010 San Leandro Mechanical Code** (SLMC Section 7-5, article 4) **based on 2009 Uniform Mechanical Code (**2009 UMC)

4. **2010 San Leandro Plumbing Code** (SLMC Section 7-5, article 9) **based on 2009 Uniform Plumbing Code (**2009 UPC)

   Deletions: All references to acrylonitrile-butadiene-styrene (**ABS**) and poly vinyl chloride (**PVC**) piping, fittings and valves for use within structures for drain, waste and vent (DWV) are hereby deleted from the Uniform Plumbing Code. **The use of ABS and PVC in drain, waste, and vent systems is expressly disallowed in the City of San Leandro for uses within or under any structures.**

5. **2010 San Leandro Electrical Code** (SLMC Section 7-5, articles 5,6,7) **based on the 2008 National Electrical Code (**2008 NEC)

6. **2010 California Energy Code** (Title 24, Part 6)

Design Criteria Cont'd:

7. **2010 San Leandro Fire Code** (SLMC Section 3-3, article 1) **based on the 2009 International Fire Code** (2009 IFC)

   a. **Adoption:** Provisions in the appendices shall not apply unless specifically adopted.

   b. **Local Amendments:** Contact the City of San Leandro (Alameda County) Fire Department for additional requirements when designing for any of the following:

   - Baled Storage.
   - Aboveground Tanks.
   - Fire Alarm System.
   - Automatic Sprinkler Systems.
   - Automatic Self-Closing Fire Assemblies
   - Weather Protection.

G. Fire Zones – There are "Very High" fire zones in the City of San Leandro. Please reference the map available from the State of California Department of Forestry at ftp://frap.cdf.ca.gov/fhszlocalmaps/alameda/SanLeandro.pdf

H. Structural Observation is required on all buildings greater than two stories in height and most other buildings (except one story wood framed residential structures) See 2010 CBC, Section 1710 for specifics.

I. Flood Zone - Varies, call the Building and Safety Division (510) 577-3405

J. Rain Water - 2 inches per hour

K. Storm Drain Retention - Engineering/Transportation -- (510) 577-3428

L. Grading, Public right-of-way, Land Subdivision Issues - Engineering/Transportation – (510) 577-3428

M. Sewer District

   Sewer District - Call (510) 577-3420 to find out who services your area.

   a. City of San Leandro -- (510) 577-3434

   b. Oro Loma Sanitary District (southwest area) -- (510) 276-4700 (www.oraloma.org)

City of San Leandro: (www.sanleandro.org)

Building & Safety Services -- (510) 577-3405

Building Inspections Requests -- (510) 577-3426

Office of Business Development/Redevelopment -- (510) 577-3311

Planning Services -- (510) 577-3325

Housing Division -- (510) 577-6004

Engineering / Transportation -- (510) 577-3428

Environmental Services -- (510) 577-3401

A/C Fire Department -- (510) 618-3468

Hazardous Material Coordinator. -- (510) 577-3331

Police Department -- (510) 577-3253

Refuse Services -- (510) 577-3452

San Leandro Unified School District -- (510) 667-3500 (www.sanleandro.k12.ca.us)

San Lorenzo Unified School District -- (510) 317-4600 (www.slzusd.org)

Design Criteria Cont'd:

Regional:

Assoc. of Bay Area Governments (ABAG) -- (510) 464-7900 (www.abag.ca.gov)

Bay Area Air Quality Management District -- (415) 771-6000 (www.baaqmd.gov)

Bay Area Rapid Transit (BART) -- (510) 464-6000 (www.bart.gov)

Gas & Electric - Pacific Gas & Electric -- (800) 743-5000 (www.pge.com)

Metropolitan Transportation Commission (MTC) -- (510) 464-7700 (www.mtc.ca.gov)

Water - East Bay Municipal Utility District -- (510) 287-1380 (www.ebmud.com)

AT&T -- (800)-288-2020 (www.att.com)

Alameda County: (www.acgov.org)

Agricultural Commissioner -- (510) 670-5232

Assessor's Office -- (510) 272-3783

Environmental Health - Environmental Protection Division -- (510) 567-6700

Flood Control and Water Conservation -- (510) 670-5480

Housing and Community Development -- (510) 670-5404

Office of the Recorder -- (510) 272-6363

Planning/Redevelopment Department -- (510) 670-5400

State of California: (www.ca.gov)

Alcoholic Beverage Control (ABC) -- (415) 557-3660

Bay Conservation & Development Commission (BCDC) -- (415) 352-3600

California Department of Transportation (CALTRANS) -- (510) 286-4444

Cal/OSHA -- (510) 622-2916

Contractor's License Board -- (800) 321-2752 (www.cslb.ca.gov)

Public Utilities Commission (PUC) -- (415) 703-2782/ (415) 703-1170

United States Environmental Protection Agency (EPA) -- (866) EPA-WEST (1-866-372-9378) (www.epa.gov)

Business Assistance Organizations:

Alameda County Economic Development Alliance for Business -- (510) 272-3897 (www.edab.org)

Alameda County Small Business Development Center -- (510) 208-0410 (www.acsbdc.org)

San Leandro Chamber of Commerce -- (510) 351-1481 (www.sanleandrochamber.com)

San Leandro Downtown Business Association -- (510) 357-3442 (www.sanleandrodowntownassociation.org)

*The procedure for finding the SDC and base shear has three basic steps: First, use the longitude and latitude of the building site to determine the Ss and S1 map parameters from the USGS website. Next, multiply these parameters respectively by the site coefficients Fa and Fv (refer to ASCE 7-05 Table 11.4-1 and 11.4-2) which consider the effect of soft or stiff soils. Combining the formulas in ASCE 7-05 11.4, the resultant base shear for short period structures can be expressed as V=[2/3(Fa)(Ss)I/R]W. Note that the building period cannot exceed Ts=Sd1/Sds for this expression to be valid. Also, there are several other detailed prescriptive modifications (e.g. IBC 1613.5.6.1, ASCE 7-05 12.8.1.3, 12.8.2.1) that can be used for less conservative results in certain cases.

It is a good idea to experiment with the values. You will find that where the Ss and S1 values are high, they will trigger a higher SDC. Where they are moderate, the soil type alone can trigger a higher SDC. For example, in moderate seismic areas such as New York, soft soil can trigger SDCD. Finally, note that SDC E is only triggered by the S1 parameter exceeding 0.75 and SDC F only applies to essential facilities. Therefore most light-frame "high-seismic" designs will be in SDC C, D and occasionally E.