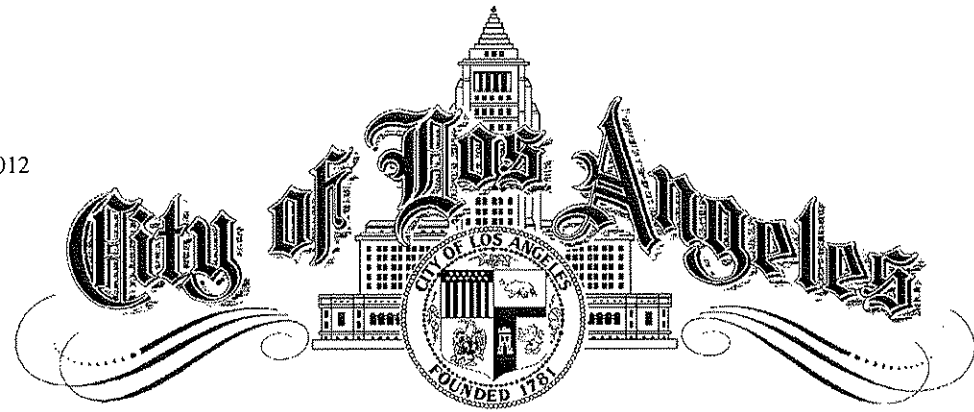


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**CARMEN A. TRUTANICH**  
City Attorney

REPORT NO. R 1 1 - 0 2 1 2  
JUN 0 7 2011

**REPORT RE:**

**DRAFT ORDINANCE AMENDING ARTICLES 1 AND 8  
OF CHAPTER IX OF THE LOS ANGELES MUNICIPAL CODE**

The Honorable City Council  
of the City of Los Angeles  
Room 395, City Hall  
200 North Spring Street  
Los Angeles, California 90012

Council File 10-2335

Honorable Members:

We are transmitting to you for your consideration, approved as to form and legality, a final draft ordinance amending Articles 1 and 8 of Chapter IX of the Los Angeles Municipal Code to incorporate by reference certain portions of the 2009 International Building Code and the 2010 Edition of the California Building Code, and to make local administrative changes.

Summary of Ordinance Provisions

When this matter was presented to the Planning and Land Use Management (PLUM) Committee, the Committee requested that the City Attorney prepare the final ordinance based on the amended proposed ordinance submitted at the Committee meeting by the Department of Building and Safety (DBS) and attached to the Council file. The enclosed draft ordinance would update the Los Angeles Municipal Code to incorporate certain portions of the 2009 International Building Code and the 2010 Edition of the California Building Code. In addition, the final ordinance includes minor amendments to effect local administrative changes to the Los Angeles Municipal Code, Chapter IX, Articles 1 and 8.

CEQA Determination

It appears that the ordinance is not a project subject to environmental review under the California Environmental Quality Act (CEQA). Under State CEQA Guidelines Section 15378(b)(2) and (b)(5), continuing administrative activities and organizational activities that will not result in direct or indirect physical changes in the environment are not CEQA projects. The ordinance makes administrative changes to the LAMC Building Code. These changes make various technical changes to the existing regulations, eliminate obsolete code sections and clarify code sections. These changes will not result in any change to the physical environment.


Council Rule 38 Referral

The draft ordinance was sent, pursuant to Council Rule 38, to the Department of Building and Safety with a request that they provide comments, if any, when this matter is taken up for consideration.

If you have any questions regarding this matter, please contact Deputy City Attorney Adrienne Khorasanee at (213) 978-8246. She or another member of this Office will be present when you consider this matter to answer any questions you may have.

Very truly yours,

CARMEN A. TRUTANICH, City Attorney

By   
PEDRO B. ECHEVERRIA  
Chief Assistant City Attorney

PBE/ASK:pj  
Transmittal

ORDINANCE NO. \_\_\_\_\_

An ordinance amending Articles 1 and 8 of Chapter IX of the Los Angeles Municipal Code to incorporate by reference certain portions of the 2009 International Building Code and the 2010 Edition of the California Building Code, and to make local administrative changes.

**THE PEOPLE OF THE CITY OF LOS ANGELES  
DO ORDAIN AS FOLLOWS:**

Section 1. Section 91.101.1 of the Los Angeles Municipal Code is amended to read as follows:

**91.101.1. Title.** This article shall be known as the Los Angeles Building Code or Building Code or LABC, a portion of the Los Angeles Municipal Code (LAMC), and wherever the word Code is used in this article it shall mean the Los Angeles Building Code. Article 1.5 of Chapter IX of the LAMC shall collectively be known as the Los Angeles Residential Code or LARC. The provisions of the LARC for one- and two-family dwellings shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above grade plane in height with a separate means of egress and their accessory structures. In addition to the LARC, Sections of Chapters 1, 11A, 11B, 17, 31B, 34, 63, 67, 70, 71, 72, 81, 89, 92, 93 and 96 of the LABC shall also be applicable to one- and two-family dwellings and townhouses unless stated otherwise.

The Los Angeles Building Code and the Los Angeles Residential Code adopt by reference portions of the California Building Code (CBC) or the California Residential Code (CRC) respectively.

**EXCEPTION:** Live/work units complying with the requirements of Section 419 of the California Building Code shall be permitted to be built as one- and two-family dwellings or townhouses. Fire suppression required by Section 419.5 of the California Building Code when constructed under the California Residential Code for one- and two-family dwellings shall conform to Section 903.3.1.3 of the California Building Code.

Sec. 2. Section 91.105.5.4 of the Los Angeles Municipal Code is amended to read as follows:

**91.105.5.4. Authority of the Commission.** The commission shall have and exercise the following powers:

1. To hear and determine written appeals brought by any person from actions taken by the Department of Building and Safety (department) in the enforcement of the requirements of Section 19955, et seq., of the California

Health and Safety Code, the provisions of state law dealing with access to public accommodations by physically disabled persons.

2. To hear and determine written appeals brought by any person from the rulings, decisions and determinations of the department granting or denying applications for exceptions pursuant to Health and Safety Code Section 19957.

3. To hear and determine written appeals brought by any persons where it is alleged that there is error or abuse of discretion in any order, requirement, decision, interpretation or other determination made by the department in the enforcement or administration of Section 1.8 et seq., Chapter 1, Division I of California Building Code and any other federal, state or municipal handicapped access and adaptability requirements.

All appeals shall be reviewed by the department. The department may reverse or modify the action appealed from at any time prior to final action by the commission. Any such new action may then be appealed to the commission.

4. To respond to the department's request for advice on any matter within the department's jurisdiction relating to access to public accommodations and housing by the physically disabled.

5. To exercise the authority granted in Section 91.105.6.

Sec. 3. Paragraph 5 of Section 91.106.4.1 of the Los Angeles Municipal Code is amended to read as follows:

5. The department shall have the authority to withhold a demolition or relocation permit for a residential building composed of two or more residential rental units under the following circumstances:

A. When the applicant states that the purpose for demolition or relocation is to construct a condominium, stock cooperative or community apartment project, permits shall be withheld until all necessary tentative tract or preliminary parcel maps for such new subdivision have been approved by the city.

B. This Exception 5 shall not apply if the building is to be demolished and is:

(i) Constructed of unreinforced masonry construction and built pursuant to a building permit issued prior to October 1, 1933, or

(ii) To be demolished pursuant to a demolition order issued by the department under authority set forth in Division 89 of Article I of Chapter IX of the Los Angeles Municipal Code.

C. This Exception 5 shall not apply if the applicant demonstrates to the satisfaction of the department that the site will be developed with housing for low to moderate income households, which housing is to be developed, constructed or acquired with federal, state or local government financial assistance.

D. This Exception 5 shall not apply to two family dwellings or to apartment houses and apartment hotels containing three dwelling units, provided that at least one dwelling unit in each such building is occupied by a record owner of the property.

Sec. 4. Paragraph 11 of Section 91.106.4.1 of the Los Angeles Municipal Code is amended to read as follows:

11. The Department shall have the authority to withhold a building permit for a residential building composed of two or more residential rental units, under the following circumstances:

A. When the applicant states that the purpose for a building permit is to construct a condominium, stock cooperative or community apartment project, permits shall be withheld until all necessary tentative tract or preliminary parcel maps for the new subdivision have been approved by the city.

Sec. 5. Section 91.400 of the Los Angeles Municipal Code is amended to read as follows:

#### **SEC. 91.400. BASIC PROVISIONS.**

Chapter 4 of the California Building Code is hereby adopted by reference, except that Sections 403.1, 403.5.2, 403.6, 403.6.1, and 403.6.2 are not adopted. Instead, Sections 91.403.1, 91.403.5.2 and 91.403.6 are added to Article I, Division 4 of the Los Angeles Municipal Code to read as follows.

**91.403.1. Applicability.** New high-rise buildings and new Group I-2 occupancies having occupied floors located more than 75 feet above the lowest level of fire department vehicle access shall comply with CBC Sections 403.2 through 403.6.

**EXCEPTION:** Except as indicated, the provisions of CBC Section 403.2 through 403.6 shall not apply to the following buildings and structures:

1. Airport control towers in accordance with CBC Section 412.3.
2. Open parking garages in accordance with CBC Section 406.3. Provisions of CBC Sections 403.4.7 and 403.4.8 shall apply.
3. Buildings with Group A-5 occupancy in accordance with CBC Section 303.1. Provisions of CBC Sections 403.4.7 and 403.4.8 shall apply.
4. Special industrial occupancies in accordance with CBC Section 503.1.1. Provisions of CBC Sections 403.4.7 and 403.4.8 shall apply.
5. Buildings such as power plants, lookout towers, steeples, grain houses and similar structures with noncontinuous human occupancy, when so determined by the enforcing agency.

For existing high-rise buildings, see CBC Section 3414 and for existing Group R occupancies, see CBC Section 3413.13.

For the purpose of this Section 91.403.1, in determining the level from which the highest occupied floor is to be measured, the enforcing agency should exercise reasonable judgment, including consideration of overall accessibility to the building by fire department personnel and vehicular equipment. When a building is located on sloping terrain and there is building access on more than one level, the enforcing agency may select the level that provides the most logical and adequate fire department access.

Sec. 6. Sections 91.403.5.2 and 91.403.6 are added to the Los Angeles Municipal Code to read as follows:

**91.403.5.2. Additional Exit Stairway.** For buildings other than Group R-2 that are more than 420 feet (128 m) in building height, one additional exit stairway meeting the requirements of CBC Sections 1009 and 1022 shall be provided in addition to the minimum number of exits required by CBC Section 1021.1. The total width of any combination of remaining exit stairways with one exit stairway removed shall not be less than the total width required by CBC Section 1005.1. Scissor stairs shall not be considered the additional exit stairway required by this Section.

**91.403.6. Elevators.** Elevator installation and operation in high-rise buildings shall comply with CBC Chapter 30.

Sec. 7. Section 91.703.3 of the Los Angeles Municipal Code is amended to read as follows:

**91.703.3. Alternative Methods for Determining Fire Resistance.** The application of any of the alternative methods listed in this Section shall be based on the fire exposure and acceptance criteria specified in ASTM E 119 or UL 263. The required fire resistance of a building element shall be permitted to be established by any of the following methods or procedures:

1. Fire-resistance designs documented in approved sources.
2. Prescriptive designs of fire-resistance-rated building elements, component or assemblies as prescribed in CBC Section 720.
3. Calculations in accordance with CBC Section 721.
4. Engineering analysis based on a comparison of building element, component or assemblies designs having fire-resistance ratings as determined by the test procedures set forth in ASTM E 119 or UL 263.
5. Alternative protection methods as allowed by Section 91.104.2.6 of this Code.

Sec. 8. Section 91.1207.11.3 of the Los Angeles Municipal Code is amended to read as follows:

**91.1207.11.3. Airport Noise Sources.** Residential structures and all other structures identified in Section 91.1207.1 located where the annual  $L_{dn}$  or CNEL (as defined in Title 21, Division 2.5, Chapter 6, Section 5001, California Code of Regulations) exceeds 60 db, shall require an acoustical analysis showing that the proposed design will achieve the prescribed allowable interior level.

**EXCEPTION:** New single family detached dwellings and all non-residential noise sensitive structures located outside the noise impact boundary of 65 db CNEL are exempt from Section 91.1207.

Alterations or additions to all noise sensitive structures, within the 65 db and greater CNEL shall comply with Section 91.1207. If the addition or alteration cost exceeds 75% of the replacement cost of the existing structure, then the entire structure must comply with Section 91.1207.

For public-use airports or heliports, the  $L_{dn}$  or CNEL shall be determined from the Aircraft Noise Impact Area Map prepared by the Airport Authority. For military bases, the  $L_{dn}$  shall be determined from the facility Air Installation Compatible Use Zone (AICUZ) plan. For all other airports or heliports, or public-use airports or heliports for which a land-use plan has not been developed, the  $L_{dn}$  or CNEL shall be determined from the noise element of the general plan of the local jurisdiction.

When aircraft noise is not the only significant source, noise levels from all sources shall be added to determine the composite site noise level.

Sec. 9. Division 13 of Article 1 of Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.1300. GENERAL.**

In order to comply with the purpose of this division, buildings shall be designed to comply with the requirements of Part 6, Title 24 of the California Building Standards Code - California Energy Code, 2008 Edition.

**91.1301. SOLAR ENERGY COLLECTORS.**

Approved collectors which function as building components shall comply with the applicable provisions of the Code.

Approved collectors located above or upon a roof and not functioning as building components shall not reduce the required fire-resistant or fire-retardant classification of the roof-covering materials.

Sec. 10. Section 91.1405 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.1405. INSTALLATION OF WALL COVERINGS.**

Section 1405 of the California Building Code is adopted by reference.

Sec. 11. Table 1507.3.7 of Division 15 of Article 1 of Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

**TABLE 1507.3.7  
CLAY AND CONCRETE TILE ATTACHMENT<sup>a, b, c</sup>**

<b>GENERAL – CLAY OR CONCRETE ROOF TILE</b>			
<b>Maximum basic wind speed (mph)</b>	<b>Mean roof height (feet)</b>	<b>Roof slope up to &lt;3:12</b>	<b>Roof slope 3:12 and over</b>
85	0-60	Two fasteners per tile.	Two fasteners per tile.
100	0-40		
100	>40-60	The head of all tiles shall be nailed. The nose of all eave tiles shall be fastened with approved clips. All rake tiles shall be nailed with two nails. The nose of all ridge, hip and rake tiles shall be set in a bead of roofer's mastic.	



110	0-60	The fastening system shall resist the wind forces in CBC Section 1609.5.3.
120	0-60	The fastening system shall resist the wind forces in CBC Section 1609.5.3.
130	0-60	The fastening system shall resist the wind forces in CBC Section 1609.5.3.
All	>60	The fastening system shall resist the wind forces in CBC Section 1609.5.3.

**TABLE 1507.3.7 (Cont.)**  
**CLAY AND CONCRETE TILE ATTACHMENT** <sup>a, b, c</sup>

INTERLOCKING CLAY OR CONCRETE ROOF TILE WITH PROJECTING ANCHOR LUGS <sup>d, e</sup>				
(Installations on solid sheathing with battens)				
Maximum basic wind speed (mph)	Mean roof height (feet)	Roof slope up to <5:12	Roof slope 5:12 <12:12	Roof slope 12:12 and over
85	0-60	Minimum slope is 4:12. One fastener per tile.	One fastener per tile. Tiles with installed weight less than 9 lbs./sq. ft. require a minimum of one fastener per tile.	One fastener required for every tile. Tiles with installed weight less than 9 lbs./sq. ft. require a minimum of one fastener per tile.
100	0 – 40			
100	>40-60	The head of all tiles shall be nailed. The nose of all eave tiles shall be fastened with approved clips. All rake tiles shall be nailed with two nails. The nose of all ridge, hip and rake tiles shall be set in a bead of roofer's mastic.		
110	0-60	The fastening system shall resist the wind forces in CBC Section 1609.5.3.		
120	0-60	The fastening system shall resist the wind forces in CBC Section 1609.5.3.		
130	0-60	The fastening system shall resist the wind forces in CBC Section 1609.5.3.		
All	>60	The fastening system shall resist the wind forces in CBC Section 1609.5.3.		

**TABLE 1507.3.7 (Cont.)  
CLAY AND CONCRETE TILE ATTACHMENT <sup>a, b, c</sup>**

<b>INTERLOCKING CLAY OR CONCRETE ROOF TILE WITH PROJECTING ANCHOR LUGS</b> <b>(Installations on solid sheathing without battens)</b>		
<b>Maximum basic wind speed (mph)</b>	<b>Mean roof height (feet)</b>	<b>Minimum roof slopes 4 units vertical in 12 units horizontal Maximum slope 7 units vertical in 12 units horizontal</b>
85	0-60	One fastener per tile.
100	0-40	One fastener per tile.
100	>40-60	The head of all tiles shall be nailed. The nose of all eave tiles shall be fastened with approved clips. All rake tiles shall be nailed with two nails. The nose of all ridge, hip and rake tiles shall be set in a bead of roofer's mastic.
110	0-60	The fastening system shall resist the wind forces in CBC Section 1609.5.3.
120	0-60	The fastening system shall resist the wind forces in CBC Section 1609.5.3.
130	0-60	The fastening system shall resist the wind forces in CBC Section 1609.5.3.
All	>60	The fastening system shall resist the wind forces in CBC Section 1609.5.3.

For SI: one inch = 25.4 mm, one foot = 304.8 mm, one mile per hour = 0.447 m/s, one pound per square foot = 4.882 kg/m<sup>2</sup>.

<sup>a</sup> Minimum fastener size. Hot dipped galvanized ring shank or other corrosion-resistant nails not less than No. 11 gage with 5/16-inch head. Fasteners shall be long enough to penetrate into the sheathing 0.75 inch or through the thickness of the sheathing, whichever is less. Attaching wire for clay and concrete tile shall not be smaller than 0.083 inch and shall be copper, brass or stainless steel.

<sup>b</sup> Snow areas. A minimum of two fasteners per tile are required or battens and one fastener.

<sup>c</sup> Roof slopes greater than 24:12. The nose of all tiles shall be securely fastened.

<sup>d</sup> Horizontal battens. Battens shall be not less than one-inch by two-inch nominal. Provisions shall be made for drainage by a minimum of 1/8-inch riser at each nail or by four-foot-long battens with at least a 0.5-inch separation between battens. Horizontal battens are required for slopes over 7:12.

<sup>e</sup> Perimeter fastening areas include three tile courses but not less than 36 inches from either side of hips or ridges and edges of eaves and gable rakes.

Sec. 12. Section 91.1600 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.1600. BASIC PROVISIONS.**

Chapter 16 of the CBC is adopted by reference with the following exceptions, modifications and additions:

## **91.1603. CONSTRUCTION DOCUMENTS**

Section 1603 of the CBC is adopted by reference, except CBC Section 1603.1.9 is not adopted and in lieu Section 91.1603.1.9 is added.

**91.1603.1.9 Systems and Components Requiring Special Inspections for Seismic resistance.** Construction documents or specifications shall be prepared for those systems and components requiring special inspection for seismic resistance as specified in Section 1707.1 by the registered design professional responsible for their design and shall be submitted for approval in accordance with Section 91.106.3.3. Reference to seismic standards in lieu of detailed drawings is acceptable.

Sec. 13. Section 91.1609 of the Los Angeles Municipal Code is amended to read as follows:

### **SEC. 91.1609. WIND LOADS.**

Section 1609 of the CBC is adopted by reference, and Section 91.1609.1.1.3 is added.

**91.1609.1.1.3. High Wind Velocity Areas.** The Superintendent of Building may designate certain areas of the City as “**high wind velocity areas**” when evidence or studies indicate that the wind velocity results in damage to structures conforming to the minimum requirements of this Code. The Superintendent of Building may specify additional requirements over and above those required by this Code with respect to the following:

1. Glazing of openings in exterior walls.
2. Anchorage of post and beam construction.
3. Cantilever overhangs.
4. Roofing and roof framing.

Sec. 14. Section 91.1612 of the Los Angeles Municipal Code is added to read as follows:

### **SEC. 91.1612. FLOOD LOADS.**

Section 1612 of the CBC is adopted by reference, except CBC Section 1612.5 is not adopted and in lieu Section 91.1612.5 is added.

**91.1612.5. Flood Hazard Documentation.** The following documentation shall be prepared and sealed by a registered design professional and submitted to the Department:

1. For construction in flood hazard areas not subject to high-velocity wave action:

1.1. The elevation of the lowest floor, including the basement member.

1.2. For fully enclosed areas below the design flood elevation where provisions to allow for the automatic entry and exit of floodwaters do not meet the minimum requirements in Section 2.6.2.1 of ASCE 24, construction documents shall include a statement that the design will provide for equalization of hydrostatic flood forces in accordance with Section 2.6.2.2 of ASCE 24.

1.3. For dry floodproofed nonresidential buildings, construction documents shall include a statement that the dry floodproofing is designed in accordance with ASCE 24.

2. For construction in flood hazard areas subject to high-velocity wave action:

2.1. The elevation of the bottom of the lowest horizontal structural.

2.2. Construction documents shall include a statement that the building is designed in accordance with ASCE 24, including that the pile or column foundation and building or structure to be attached thereto is designed to be anchored to resist flotation, collapse and lateral movement due to the effects of wind and flood loads acting simultaneously on all building components, and other load requirements of Chapter 16.2.3. For breakaway walls designed to resist a nominal load of less than 10 psf (0.48 kN/m<sup>2</sup>) or more than 20 psf (0.96 kN/m<sup>2</sup>), construction documents shall include a statement that the breakaway wall is designed in accordance with ASCE 24.

Sec. 15. Section 91.1613 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.1613. EARTHQUAKE LOADS.**

Section 1613 of the CBC is adopted by reference, CBC Section 1613.6.7 is not adopted and in lieu of it Section 91.1613.6.7 is added, and Sections 91.1613.8 through 91.1613.8.2, 91.1613.9 through 91.1613.9.10.5 and 91.1613.10 through 91.1613.10.5 are amended or added, respectively, to read as follows.

**91.1613.6.7. Minimum Distance for Building Separation.**

$$\delta_M = C_d \delta_{\max} \quad (\text{Equation 16-44})$$

Where:

$C_d$  = Deflection amplification factor in Table 12.2-1 of ASCE 7.

$\Delta_{\max}$  = Maximum displacement defined in Section 12.8.4.3 of ASCE 7.

**91.1613.8. Additional Seismic Requirements.**

**91.1613.8.1. Suspended Ceilings.** Minimum design and installation standards for suspended ceilings shall be determined in accordance with the requirements of C.B.C. Section 2506.2.1 and this Section.

**91.1613.8.1.1. Scope.** This part contains special requirements for suspended ceilings and lighting systems. The provisions of Section 13.5.6 of ASCE 7 shall apply except as modified here.

**91.1613.8.1.2. General.** The suspended ceilings and lighting systems shall not be located more than six feet (1828 mm) below the structural floor or roof system above unless the entire system is designed by a licensed engineer or architect.

**91.1613.8.1.3. Design and Installation Requirements.**

**91.1613.8.1.3.1. Bracing at Discontinuity.** Positive bracing to the structure shall be provided at changes in the ceiling plane elevation or at discontinuities in the ceiling grid system.

**91.1613.8.1.3.2. Support for Appendages.** Cable trays, electrical conduits and piping shall be independently supported and independently braced from the structure.

**91.1613.8.1.3.3. Sprinkler Heads.** All sprinkler heads (drops) except fire-resistance-rated floor/ceiling or roof/ceiling assemblies, shall be designed to allow for free movement of the sprinkler pipes with oversize rings, sleeves or adaptors through the ceiling tile in accordance with Section 13.5.6.2.2(e) of ASCE 7.

Sprinkler heads penetrating fire-resistance-rated floor/ceiling or roof/ceiling assemblies shall comply with CBC Section 713.

**91.1613.8.1.3.4. Perimeter Members.** A minimum wall angle size of at least a two-inch (51 mm) horizontal leg shall be used at perimeter walls and interior full height partitions. The first ceiling tile shall maintain 3/4-inch (19 mm) clear from the finish wall surface. An equivalent alternative detail that will provide sufficient movement due to

anticipated lateral building displacement may be used in lieu of the long leg angle subject to the approval of the Superintendent of Building.

**91.1613.8.1.4. Special Requirements for Means of Egress.** Suspended ceiling assemblies located along means of egress serving an occupant load of 30 or more shall comply with the following provisions:

1. **General.** Ceiling suspension systems shall be connected and braced with vertical hangers attached directly to the structural floor or roof system above and along the means of egress serving an occupant load of 30 or more and at lobbies accessory to Group A Occupancies. Spacing of vertical hangers shall not exceed two feet (610 mm) on center along the entire length of the suspended ceiling assembly located along the means of egress or at the lobby.
2. **Assembly Device.** All lay-in panels shall be secured to the suspension ceiling assembly with two hold-down clips minimum for each tile within a four-foot (1219 mm) radius of the exit lights and exit signs.
3. **Emergency Systems.** Independent supports and braces shall be provided for light fixtures required for exit illumination. Power supply for exit illumination shall comply with the requirements of CBC Section 1006.3.
4. **Supports for Appendage.** Separate support from the structural floor or roof system above shall be provided for all appendages such as light fixtures, air diffusers, exit signs, and similar elements.

**91.1613.8.2. Wood Diaphragms Supporting Concrete or Masonry Walls.** In addition to other requirements of this division for lateral-force-resisting systems, wood diaphragms shall comply with the following provisions:

1. **Continuous Tie Spacing.** The spacing of continuous ties shall not exceed 40 feet. Added chords of diaphragms may be used to form subdiaphragms to transmit the anchorage forces to the main continuous crossties.
2. **Anchorage Force.** The maximum diaphragm shear used to determine the depth of the subdiaphragm shall not exceed 75% of the maximum diaphragm shear.
3. **Horizontal Irregularities.** Chords and drag strut members in diaphragms having horizontal structural irregularities listed in Table 12.3-1 of ASCE 7 shall be designed for forces in Section 12.3.3.4 of ASCE 7.

**91.1613.9.4.2.2. Base Shear.** In developing the base shear for seismic design, the response modification coefficient (R) shall not exceed 5.0 for bearing wall and building

frame systems. The total base shear shall include the forces tributary to the base level diaphragm including forces from the base level diaphragm.

**91.1613.9.8. Primary and Secondary Anchorage and Diaphragm Strut Design.**

Primary and secondary anchors and diaphragm struts shall be designed in accordance with the following provisions:

1. **Fasteners.** All bolted fasteners used to develop connections to wood members shall be provided with square plate washers at all bolt heads and nuts. Washers shall be minimum 3/16 inch (4.8 mm) thick and two-inch (51 mm) square for 1/2-inch (12.7 mm) diameter bolts, and 1/4-inch (6.4 mm) thick and 2-1/2-inch (64 mm) square for 5/8-inch (15.9 mm) diameter or larger bolts. Nuts shall be finger tight with 1/2 wrench turn prior to covering.

6. **Steel Element of Structural Wall Anchorage System.** The strength design forces for steel elements of the structural wall anchorage system, with the exception of anchor bolts and reinforcing steel, shall be increased by 1.4 times the forces otherwise required.

**91.1613.9.9.2. Base Shear.** In developing the base shear for seismic design, the response modification coefficient (R) shall not exceed 5.0 for bearing wall and building frame systems.

**91.1613.9.9.4. Drift Limitations.** The story drift below the base level diaphragm shall not exceed 0.007 times the story height at strength design force level. The total drift from the base level diaphragm to the top of the foundation shall not exceed 3/4 of an inch (19 mm). Where the story height or the height from the base level diaphragm to the top of the foundation varies because of a stepped footing or story offset, the height shall be measured from the average height of the top of the foundation. The story drift shall not be reduced by the effect of horizontal diaphragm stiffness.

**91.1613.10. Earthquake Recording Instrumentation.**

**91.1613.10.1. Applicability.** The requirements of this Section shall apply to buildings for which permits were issued after July 1, 1965.

**91.1613.10.2. General.** Every new building over six stories in height with an aggregate floor area of 60,000 square feet (5574 m<sup>2</sup>) or more and every new building over ten stories in height regardless of the floor area shall be equipped with at least three approved recording accelerographs.

**EXCEPTION:** A building selected by the State of California as part of its Strong Motion Instrumentation Program (Section 2700, Chapter 8, Division 2, California Public Resources Code) need not comply with this Section until it ceases to be part of the program.

All new buildings that are designed using the nonlinear response history procedure of "Seismic Response History Procedures" of Chapter 16 of ASCE 7 shall be equipped with a structural monitoring system in accordance with standards established by the Superintendent of Building.

**91.1613.10.3. Maintenance.** Maintenance and service of the instruments shall be provided by the owner of the building subject to the approval of the Superintendent of Building. Data produced by the instruments shall be made available to the Superintendent of Building on request.

Maintenance and service of the instruments shall be performed annually and shall be performed only by an approved testing agency. The owner shall file with the Department a written report from an approved testing agency certifying that each instrument has been serviced and is in proper working condition. This report shall be submitted when the instruments are installed and annually thereafter. Each instrument shall have affixed to it an externally visible tag specifying the date of the last maintenance or service and the printed name and address of the testing agency performing the service.

**91.1613.10.4. Location.** For new buildings requiring accelerographs per Section 91.1613.10.2, the instruments shall be located in the basement, mid-height and near the top of the building. Each instrument shall be located so that access is maintained at all times and is unobstructed by room contents. A sign stating "MAINTAIN CLEAR ACCESS TO THIS INSTRUMENT" in one-inch block letters shall be posted in a conspicuous location at the instrument.

**91.1613.10.5. Instrumentation of Existing Buildings.** All owners of existing structures selected by the Department shall provide accessible space for the installation of appropriate earthquake-recording instruments. Locations of the instruments shall be determined by the engineer of record and approved by the Department. The owners shall make arrangements with the Department to provide, maintain and service the instruments as required above. Data shall be the property of the Department, but copies of individual records shall be made available to the public on request with the payment of an appropriate fee.

All legally existing instruments shall be maintained and serviced in proper working condition. Each instrument shall be maintained and serviced as specified by Section 91.1613.10.3 and shall be provided with a sign as required by Section 91.1613.10.4.

Sec. 16. Section 91.1614 of the Los Angeles Municipal Code is renumbered as Section 91.1616 and amended to read as follows:



**SEC. 91.1616. MODIFICATIONS TO ASCE 7.**

**91.1616.1. General.** The text of ASCE 7 shall be modified as indicated in this Section. Modify ASCE 7, Section 12.2.3.1 Exception 3 to read as follows:

3. Detached one and two family dwellings up to two stories in height of light frame construction.

**91.1616.2.** The text of ASCE 7 shall be modified as indicated in this Section. Modify ASCE 7, Table 12.8-2 by adding the following:

Structure Type	Ct	x
Eccentrically braced steel frames and buckling-restrained braced frames	0.03 (0.0731) <sup>a</sup>	0.75

**91.1616.3. General.** The text of ASCE 7 shall be modified as indicated in this Section. Modify ASCE 7, Section 12.8.7 by amending Equation 12.8-16 as follows:

$$\square = P_x \square I / V_x h_{sx} C_d \quad (12.8-16)$$

**91.1616.4. General.** The text of ASCE 7, Section 12.11.2.2.3 is modified to read as follows:

**12.11.2.2.3. Wood Diaphragms.** In wood diaphragms, the continuous ties shall be in addition to the diaphragm sheathing. Anchorage shall not be accomplished by use of toe nails or nails subject to withdrawal nor shall wood ledgers or framing be used in cross-grain bending or cross-grain tension. The diaphragm sheathing shall not be considered effective as providing ties or struts required by this Section.

For wood diaphragms supporting concrete or masonry walls, wood diaphragms shall comply with the following when structures assigned to seismic Design Category D, E, or F:

1. The spacing of continuous ties shall not exceed 40 feet. Added chords of diaphragms may be used to form subdiaphragms to transmit the anchorage forces to the main continuous crossties.
2. The maximum diaphragm shear used to determine the depth of the subdiaphragm shall not exceed 75% of the maximum diaphragm shear.

**91.1616.5. General.** The text of ASCE 7, Section 12.12.4 is modified to read as follows:

**12.12.4. Deformation Compatibility for Seismic Design Category D through F.** For structures assigned to Seismic Design Category D, E, or F, every structural component not included in the seismic force-resisting system in the direction under consideration shall be designed to be adequate for the gravity load effects and the seismic forces resulting from displacement to the design story drift (D) as determined in accordance with Section 12.8.6 (see also Section 12.12.1).

**EXCEPTION:** Reinforced concrete frame members not designed as part of the seismic force-resisting system shall comply with Section 21.9 of ACI 318.

Where determining the moments and shears induced in components that are not included in the seismic force-resisting system in the direction under consideration, the stiffening effects of adjoining rigid structural and nonstructural elements shall be considered and a rational value of member and restraint stiffness shall be used.

When designing the diaphragm to comply with the requirements stated above, the return walls and fins/canopies at entrances shall be considered. Seismic compatibility with the diaphragm shall be provided by either seismically isolating the element or by attaching the element and integrating its load into the diaphragm.

Sec. 17. Section 91.1703 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.1703. APPROVALS.**

Section 1703 of the CBC is adopted by reference, except Sections 1703.1, 1703.2, 1703.3, 1703.4, 1703.4.1, 1703.4.2, 1703.6, and 1703.6.2 of the CBC are not adopted and in lieu Sections 91.1703.1, 91.1703.2, 91.1703.3, 91.1703.4, 91.1703.4.1, 91.1703.4.2, 91.1703.6, and 91.1703.6.2 are added.

**91.1703.1. Approved Agency.** An approved agency shall provide all information as necessary for the Superintendent of Building to determine that the agency meets the applicable requirements pursuant to Section 98.0503 of this Code.

**91.1703.2. Written Approval.** Any material, appliance, equipment, system or method of construction meeting the requirements of this Code shall be approved in writing after satisfactory completion of the required tests and submission of required test reports pursuant to Sections 98.0501 and 98.0502 of this Code.

**91.1703.3. Approved Record.** For any material, appliance, equipment, system or method of construction that has been approved, a record of that approval, including the

conditions and limitations of the approval, shall be kept on file in the Department and shall be open to public inspection at appropriate times.

**91.1703.4. Performance.** Specific information consisting of test reports conducted by an approved testing agency in accordance with standards referenced in Division 35 of this Code, or other information as necessary, shall be provided for the Superintendent of Building to determine that the material meets the applicable Code requirements, including Sections 98.0501 and 98.0502 of this Code.

**91.1703.4.1. Research and Investigation.** Sufficient technical data shall be submitted to the Superintendent of Building to substantiate the proposed use of any material or assembly. If it is determined that the evidence submitted is satisfactory proof of performance for the use intended, the Superintendent of Building shall approve the use of the material or assembly subject to the requirements of this Code. The costs, reports and investigations required under these provisions shall be paid by the permit applicant as required by Sections 98.0501, 98.0502 and 98.0503 of this Code.

**91.1703.4.2. Research Reports.** Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this Code, shall consist of valid research reports from approved sources as required in Sections 98.0501 and 98.0502 of this Code.

**91.1703.6. Evaluation and Follow-up Inspection Services.** Where structural components or other items regulated by this Code are not visible for inspection after completion of a prefabricated assembly, the applicant shall submit a report of each prefabricated assembly. The report shall indicate the complete details of the assembly, including a description of the assembly and its components, the basis upon which the assembly is being evaluated, test results and similar information and other data as necessary for the Superintendent of Building to determine conformance to this Code. Such a report shall be approved by the Superintendent of Building.

**91.1703.6.2. Test and Inspection Records.** Copies of necessary test and inspection records shall be filed with the Superintendent of Building.

Sec. 18. Section 91.1704 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.1704. SPECIAL INSPECTIONS.**

Section 1704 of the CBC is adopted by reference, except that Sections 1704.1, 1704.1.1, 1704.1.2, 1704.2.2, 1704.3.1.1, 1704.3.1.2, 1704.3.1.3, 1704.4, 1704.7, 1704.8 and 1704.9 of the CBC are not adopted and in lieu Sections 91.1704.1, 91.1704.1.1, 91.1704.1.2, 91.1704.1.3, 91.1704.1.4, 91.1704.1.4.1, 91.1704.1.4.2, 91.1704.2.2, 91.1704.3.1.1, 91.1704.3.1.2, 91.1704.3.1.3, 91.1704.4, 91.1704.7, 91.1704.7.1, 91.1704.8, 91.1704.9, 91.1704.17, 91.1704.18, 91.1704.19, 91.1704.20, 91.1704.21, 91.1704.21.1, 91.1704.21.2, 91.1704.21.3, 91.1704.21.4, 1704.21.5,

91.1704.22, 91.1704.22.1, and 91.1704.22.2 are added or amended, respectively, to read as follows:

**91.1704.1. General.** Where application is made for construction as described in this Section, the owner or the registered design professional in charge who is acting as the owner's agent shall employ one or more deputy inspectors to provide inspections during construction on the types of work listed in Sections 91.1704 and 91.1707. The Registered Deputy Inspector shall be a qualified person as set forth in Section 91.1704.1.3 and shall demonstrate competence to the satisfaction of the Superintendent of Building for inspection of the particular type of construction or operation requiring special inspection. The Registered Deputy Inspector shall be approved by and shall be responsible to the registered design professional in charge of the design of the structure.

The special inspections shall be in addition to the inspections made by the employees of the Department as set forth in Section 91.108 of this Code.

All special inspections shall be made by a Registered Deputy Inspector. Whenever the term "Special Inspector" is used in this Code, it shall mean "Registered Deputy Inspector" as described in Section 91.1704.1.3.

**EXCEPTIONS:**

1. Special inspections are not required for work of a minor nature or as warranted by conditions in the jurisdiction as approved by the Superintendent of Building.
2. Special inspections are not required for building components unless the design involves the practice of professional engineering or architecture as defined by applicable state statutes and regulations governing the professional registration and certification of engineers or architects.
3. Unless otherwise required by the Superintendent of Building, special inspections are not required for Group U occupancies that are accessory to a residential occupancy including, but not limited to, those listed in Section 312.1.
4. The provisions of Health and Safety Code Part 6, Division 13 and Chapter 3, Division 1 of Title 25 of the California Code of Regulations, commencing with Section 3000, shall apply to the construction and inspection of factory-built housing as defined in Health and Safety Code Section 19971.

**91.1704.1.1. Statement of Special Inspections.** The permit applicant shall in accordance with Section 91.106.3.3 of this Code submit a statement of special

inspections prepared by the registered design professional in responsible charge as a condition for permit issuance. The statement of special inspection shall provide information in accordance with Section 91.1705 of this Code.

**EXCEPTIONS:**

1. A statement of special inspections is not required for structures designed and constructed in accordance with the conventional construction provisions of CBC Section 2308.
2. The statement of special inspections is permitted to be prepared by a qualified person approved by the Superintendent of Building for construction not designed by a registered design professional.

**91.1704.1.2. Report Requirement.** In addition to all the requirements of Section 91.1704.1.4, Registered Deputy Inspectors shall keep records of inspections. The Registered Deputy Inspector shall furnish inspection reports to the Superintendent of Building and to the registered design professional in charge. Reports shall indicate that work inspected was done in conformance with approved construction documents. Discrepancies shall be brought to the immediate attention of the contractor for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the Superintendent of Building and to the registered design professional in responsible charge prior to the completion of that phase of the work. A final report documenting required special inspections and correction of any discrepancies noted in the inspections shall be submitted at a point in time agreed upon by the permit applicant and the Superintendent of Building prior to the start of work.

**91.1704.1.3. Registered Deputy Inspector.** Application for registration as a Registered Deputy Inspector shall be made to the Superintendent of Building on a form furnished by the Department. A separate application shall be made for each type of registration desired. Registration is available for the following types of inspections: Reinforced Concrete (RC), Structural Masonry (SM), Structural Steel/Welding (SSW), Grading (GD), Sprayed Fire resistant Materials (SFRM), Methane Barrier (MB) and Wood (WD).

A committee appointed by the Superintendent of Building shall examine each applicant as to his or her experience and training for performing the duties of an inspector of the type for which application has been made. Additionally, the applicant will be examined on the applicant's knowledge of the Los Angeles Municipal Code and Register Deputy Inspector duties, responsibilities and procedures. When satisfied as to the fitness of the applicant, the Superintendent of Building shall issue a Certificate of Registration. Upon application for renewal of a Certificate of Registration, the applicant shall be reexamined to ascertain the applicant's fitness to perform the duties of inspector of the type for which application has been made.

**EXCEPTION:** If the Department determines that the initial examination (which includes general knowledge, code requirements and plan comprehension)

for the special inspector program under the International Code Council (ICC) is equivalent to the above-described initial or renewal examination, then the Department may accept the results of the ICC examination in lieu of the Department's examination in that category; however, the Department will be examining the applicant's knowledge of the Los Angeles Municipal Code and deputy inspector duties, responsibilities and procedures.

The Superintendent of Building shall issue separate Certificate of Registration for each type of registration requiring special inspection in accordance with Sections 91.1704 and 91.707 of this Code and as determined by the Superintendent of Building for any construction requiring either continuous or periodic special inspection.

Nothing here shall be deemed to prohibit any one person from being qualified for more than one type of special inspection, provided he or she applies, pays the required fees, takes the required examinations and is duly qualified by the Superintendent of Building for each type.

Each Certificate of Registration shall expire three years from the date of issuance, but may be renewed by the Superintendent of Building within a grace period of 30 days thereafter.

The Department shall maintain a list of the names of all Registered Deputy Inspectors, showing the type of work each has been authorized to inspect. This list shall be available to the public.

Upon evidence satisfactory to the Superintendent of Building of incompetence, of willful or negligent failure to observe or report violations of this Code, or of any other failure to perform properly and effectively the duties assumed by a Registered Deputy Inspector, the Superintendent of Building may revoke, suspend or refuse to renew any Certificate of Registration. But prior to that action, the holder shall be given an opportunity to appear before the Superintendent of Building and be heard.

Except where there is an employee of the City of Los Angeles inspecting buildings or structures being erected or repaired by the City, no Registered Deputy Inspector shall receive any compensation whatsoever from the City. A Registered Deputy Inspector shall undertake and perform the duties of inspection solely on the request of the owner or the owner's agent. The designation shall be deemed to indicate that the duties incident to the inspection are within the course and scope of the Registered Deputy Inspector's employment by the owner or agent, and except where the Registered Deputy Inspector is in fact an employee of the City, the Registered Deputy Inspector shall not be deemed an employee of the City, the contractor, a subcontractor or a material vendor for any purpose.

#### **91.1704.1.4. Duties and Responsibilities of the Registered Deputy Inspector.**

1. The Registered Deputy Inspector employed on any work must be present during the execution of all the work the Registered Deputy Inspector has undertaken to inspect. The Registered Deputy Inspector shall notify the Department of the commencement of inspection of a job and shall specify the type of inspection for which the Registered Deputy Inspector has been engaged. This notification shall be made no later than the last working day preceding the commencement of inspection. The Registered Deputy Inspector shall report to the job sufficiently in advance of construction to review the plans and to inspect all materials to be used or concealed within the work; shall inspect the construction, erection, placing or other use of the materials; and shall observe whether there is compliance with the Code as to all of the foregoing. During the execution of the work, the Registered Deputy Inspector shall not undertake or engage in any other task or occupation that will interfere with the proper performance of his or her duties relating to the inspections. The Registered Deputy Inspector shall report, as directed, to the Superintendent of Building, noting all violations of this Code that have occurred and any other information as may be required. At the conclusion of the Registered Deputy Inspector's duties on any project, which has been completed in accordance with this Code, the Registered Deputy Inspector shall submit a report to the Department setting forth the portion of the work inspected. The report shall be made on forms supplied by the Department and shall be filed in the records of the Department.

2. Nothing here shall be deemed to authorize any Registered Deputy Inspector to approve any inspection required by this Code, other than the special inspection for which the Registered Deputy Inspector was hired.

3. Where, in the opinion of the Department, the magnitude or complexity of a job warrants it, additional Registered Deputy Inspectors may be required.

4. Where, in the opinion of the Department, the Registered Deputy Inspector is negligent in the performance of the Deputy Inspector's duties, the job shall be stopped.

5. Nothing herein shall be deemed to authorize any registered deputy inspector to approve the pouring of concrete, the placement of masonry, structural steel or fill prior to the approval of the regular building inspector.

#### **91.1704.1.4.1. Fees for Registered Deputy Inspector.**

1. **New Application.** Before accepting any application for registration as a Registered Deputy Inspector, the Department shall collect a new examination fee of \$528.00. A separate application shall be submitted and a separate examination fee shall be collected for each additional type of

registration desired. When the applicant passes the examination(s), a Certificate(s) of Registration for each type of examination passed shall be issued. If the applicant fails to pass an examination, the applicant may reapply and again pay the examination fees. No refund(s) will be given to the applicant after the Department has administered the examination(s).

2. **Renewal Application.** Before renewing a Certificate of Registration as a Registered Deputy Inspector, the Department shall collect a renewal Registration and examination fee in the amount of \$482.00. A separate application shall be submitted and a separate examination fee shall be collected for each additional type of renewal registration desired. When the applicant passes the examination(s), a Certificate(s) of Registration for each type of examination passed shall be issued. If the applicant fails to pass the examination(s), the applicant may reapply, however the applicant must again pay the renewal Registration and examination fees before the Department can issue the Certificate of Registration(s). No refund(s) will be given to applicant after the Department has administered the examination.

3. **International Code Council (ICC) Certification(s).** International Code Council (ICC) Certification(s) is required prior to taking the Department's new or renewal examination(s). In addition to ICC's certification, the Department's examination will be required for each type of registration and fees collected as specified in this Section.

**EXCEPTION:**

If the ICC does not have an examination for a Department registration, the applicant will be required to take the Department examination only.

The ICC Certification may not be required when the Department registration is utilized by the Department of Public Works for City business only.

**91.1704.1.4.2. Failure to Pass Examination for Registered Deputy Inspector.**

Every applicant who fails to pass a new or renewal examination(s) shall not be eligible for re-examination until 30 days after taking the previous examination.

**91.1704.2.2. Fabricator Approval.** Pursuant to LAMC Section 96.200, special inspections required by this Code are not required where the work is done on the premises of an Approved Fabricator licensed and approved to perform the work without special inspection. Approval shall be based upon review of the fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices by the Department. At completion of fabrication, the approved fabricator shall submit a certificate of compliance to the Superintendent of Building stating that the work was performed in accordance with the approved construction documents.



**91.1704.3.1.1. Structural Steel.** Welding inspection for structural steel shall be in accordance with AWS D1.1.

**91.1704.3.1.2. Cold-Formed Steel.** Welding inspection for cold-formed steel floor and roof decks shall be in accordance with AWS D1.3.

**91.1704.3.1.3. Reinforcing Steel.** Welding inspection for reinforcing steel shall be in accordance with AWS D1.4 and ACI 318.

**91.1704.4. Concrete Construction.** The special inspections and verifications for concrete construction shall be as required by this Section and CBC Table 1704.4.

**EXCEPTIONS:** Special inspection shall not be required for:

1. Isolated spread concrete footings of buildings three stories or less in height that are fully supported on earth or rock, where the structural design of the footing is based on a specified compressive strength,  $f'_c$ , no greater than 2,500 pounds per square inch (psi) (17.2 MPa).

2. Continuous concrete footings supporting walls of buildings three stories or less above the grade plane that are fully supported on earth or rock where:

2.1. The footings support walls of light-frame construction;

2.2. The footings are designed in accordance with CBC Table 1805.4.2; or

2.3. The structural design of the footing is based on a specified compressive strength,  $f'_c$ , no greater than 2,500 pounds per square inch (psi) (17.2 MPa), regardless of the compressive strength specified in the construction documents or used in the footing construction.

3. Nonstructural concrete slabs supported directly on the ground, including prestressed slabs on grade, where the effective prestress in the concrete is less than 150 psi (1.03 MPa).

4. Concrete foundation walls constructed in accordance with CBC Table 1807.1.6.2.

5. Concrete patios, driveways and sidewalks, on grade.

**91.1704.7. Soils.** Special inspections defined per Sections 7008.2 and 7011.3 of this Code for existing site soil conditions, fill placement and load-bearing requirements shall

be as required by this Section and Table 1704.7. The approved geotechnical report, and the construction documents prepared by the registered design professionals shall be used to determine compliance. During fill placement, the special inspector shall determine that proper materials and procedures are used in accordance with the provisions of the approved geotechnical report, as specified in CBC Section 1803.5.

**EXCEPTION:** Special inspection is not required during placement of controlled fill having a total depth of 12 inches (305 mm) or less and where the fill is not used for graded slopes or for support of footings or foundations.

**TABLE 1704.7**  
**REQUIRED VERIFICATION AND INSPECTION OF SOILS**

<b>VERIFICATION AND INSPECTION TASK</b>	<b>CONTINUOUS DURING TASK LISTED</b>	<b>PERIODICALLY DURING TASK LISTED</b>
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	—	X
2. Verify excavations are extended to proper depth and have reached proper material.	—	X
3. Perform classification and testing of compacted fill materials.	—	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	X <sup>a</sup>	X <sup>a</sup>
5. Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.	—	X

a. Frequency of special inspections to be determined by the registered design professional responsible for the project.

**91.1704.7.1. Grading.** A registered Grading Inspector is required under all conditions here the site grading or foundation earthwork planned on a project has any of the following:

- 1.1. A contiguous grading area exceeding 60,000 square feet (5574 m<sup>2</sup>).
- 1.2. An excavated or filled slope steeper than 2 horizontal in 1 vertical (50 percent slope).
- 1.3. An excavated slope exceeding 40 feet (12,192 mm) in height and the top of which is within 20 feet (6096 mm) of a property line coterminous with improved private property or a public way.
- 1.4. Foundation excavations below a 1 horizontal in 1 vertical plane inward and down from the property line.

**EXCEPTION:** The department may waive continuous inspection where minor areas or heights are involved and no unusual hazards exist.

**91.1704.8. Driven Deep Foundations and Connecting Grade Beams.** Special inspections shall be performed during installation and testing of driven deep foundation elements as required by CBC Table 1704.8. The approved geotechnical report, required by CBC Section 1803.2, and the construction documents prepared by the registered design professional in responsible charge shall be used to determine compliance. Special inspections for connecting grade beams shall be in accordance with Section 91.1704.4 of this Code.

**91.1704.9. Cast-in-Place Deep Foundations and Connecting Grade Beams.** Special inspections shall be performed during installation and testing of cast-in-place deep foundation elements as required by CBC Table 1704.9. The approved geotechnical report, required by CBC Section 1803.2, and the construction documents prepared by the registered design professional in responsible charge shall be used to determine compliance. Special inspections for connecting grade beams shall be in accordance with Section 91.1704.4 of this Code.

**91.1704.17. Certifications by Architect, Engineer or Geologist.** If a structure or portion of a structure has been designed to utilize higher stresses requiring continuous inspection, the architect or engineer in charge of the design shall certify by signature to the Department that to the best of his or her knowledge, the structure or portion utilizing higher stresses was constructed in conformity with the approved design. If the grading or foundation earthwork has required continuous inspection, the responsible engineering geologist or soils engineer shall certify by signature to the Department that to the best of his or her knowledge the field work was completed in conformity with the technical design data.

**91.1704.18. Department's Responsibility.** The employment of a Registered Deputy Inspector for any work does not deprive the Department of the right to make periodic or called inspections of all or portions of the work. On any work requiring continuous inspection by a Registered Deputy Inspector, the called inspections required by Section 91.108 of this Code may be delegated to the Registered Deputy Inspector by the Superintendent of Building.

**91.1704.19. Structural, Termite and Fungus Damage.** Every building raised from its foundation shall be inspected. If there is any superficial evidence of structural damage, termites or fungus growth, the permittee shall remove and renew the damaged or infested members before reseating the building or moving it from its existing site or into the City.

**91.1704.20. Emergencies or Catastrophes.** In the event of an emergency or of a major catastrophe in the City, the Department may deputize Emergency Building Inspectors for the Department. The inspectors shall receive no compensation from the

City, and they shall be appointed for the periods of time the Department deems advisable.

**91.1704.21. Special Activity Inspection.** In addition to the construction or work inspected as described in Sections 91.108 and 91.1704 through 91.1718 of this Code, there are other construction activities that are sufficiently important to the structural stability of the structure, the occupants of and the fire and life safety of the structure that inspection by a specially qualified inspector of these activities is necessary in order to ensure compliance with the requirements of this Code. These special activity inspections may occur during off-site fabrication or during on-site construction.

Inspections by Department Approved Special Activity Inspectors will be required in accordance with regulations promulgated by the Superintendent of Building where:

1. The structure is more than five stories or 60 feet (18,288 mm) in height.
2. The structure exceeds 50,000 square feet (4645 m<sup>2</sup>) of ground area or 200,000 square feet (18 580 m<sup>2</sup>) of total floor area.
3. Nondestructive structural testing methods are utilized.
4. The quality identification markings of the materials used are not inspectable after installation.
5. The manner of use of materials precludes full inspection after installation.

**EXCEPTION:** The Department may waive continuous or periodic inspection required by this Section where minor quantities are involved and no unusual hazards exist.

In addition to the projects included in the above categories, the Superintendent of Building may require Special Activity inspections if the Superintendent determines that these inspections are needed to ensure compliance with the provisions of this Code and the work involves:

1. Unique, novel or innovative construction;
2. Highly complex or intricate construction;
3. Unique, novel or innovative grading, earth support or foundation procedures; or
4. New methods of construction not yet provided for in the rules and regulations.

Special Activity inspection authority will be determined on a case by case basis and will require Deputy Inspector registration. The Superintendent of Building shall adopt rules and regulations implementing the provisions of this Section. These regulations may establish and set the requirements for different types of Department Approved Special Activity Inspectors.

**91.1704.21.1. Special Activity Inspection Authority.**

**91.1704.21.2. Registration.** The procedures and conditions of registration as a Special Activity Inspector shall be the same as applicable to a Registered Deputy Inspector under Section 91.1704.1.3, except that the extent and duration of special inspection authority shall be as specified in the rules and regulations adopted by the Superintendent of Building.

**91.1704.21.3. Duties.** Except as otherwise indicated by regulations promulgated by the Superintendent of Building, the duties and responsibilities for a Special Activity Inspector shall be the same as specified for a Registered Deputy Inspector under Section 91.1704.1.4 of this Code.

**91.1704.21.4. Fees.** The procedures for the examination, registration and renewal of authority as a Special Activity Inspector shall be the same as specified for Registered Deputy Inspectors under Section 91.1704.1.3 of this Code.

**91.1704.21.5. Renewal Process.** Section 91.1704.1.3 applies to the application, examination and renewal process for registration as a Special Activity Inspector.

**91.1704.22. Certification of Welders.**

**91.1704.22.1.** The Department shall establish procedures, rules and regulations for the issuance of Welder's Certifications.

A fee of \$110.00 shall be paid on each application for certification or renewal. \$50.00 of the fee shall be paid prior to the Department's examination for a new certification and the remaining amount shall be paid after the examination. Certificates shall be issued for a period of three years and may be renewed for additional three-year periods.

**91.1704.22.2.** The Superintendent of Building shall suspend or revoke any certificate upon evidence of failure of the person so certified to conduct welding operations in compliance with any of the conditions upon which it is based, or where quality of workmanship is not equivalent to that required by the code, or for any of the reasons set forth in Article 8, Chapter IX of the Los Angeles Municipal Code. Any action shall be in accordance with the provisions of Article 8, Chapter IX of the Los Angeles Municipal Code.

Sec. 19. Section 91.1705 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.1705. STATEMENT OF SPECIAL INSPECTIONS.**

Section 1705 of the CBC is adopted by reference, except Sections 1705.2 and 1705.3 of the CBC are not adopted and in lieu Sections 91.1705.2 and 91.1705.3 are added.

**91.1705.2. Content of Statement of Special Inspections.** The statement of special inspections shall identify the following:

1. The materials, systems, components, research reports and work required to have special inspection or testing by the Superintendent of Building or by the registered design professional responsible for each portion of the work.
2. The type and extent of each special inspection.
3. The type and extent of each test.
4. Additional requirements for special inspection or testing for seismic or wind resistance as specified in CBC Sections 1705.3, 1705.4 or Sections 91.1707 or 91.1708 of this Code.
5. For each type of special inspection, identification as to whether it will be continuous special inspection or periodic special inspection.

**91.1705.3 Seismic Resistance.** The statement of special inspections shall include seismic requirements for cases covered in CBC Sections 1705.3.1 through 1705.3.5.

**EXCEPTION:** Seismic requirements can be excluded from the statement of special inspections for structures designed and constructed in accordance with the following:

1. The structure consists of light-frame construction; the design spectral response acceleration at short periods, SDS, as determined in Section 1613.5.4, does not exceed 0.5g; and the height of the structure does not exceed 35 feet (10 668 mm) above grade plane; or
2. The structure is constructed using a reinforced masonry structural system or reinforced concrete structural system; the design spectral response acceleration at short periods, SDS, as determined in Section 1613.5.4, does not exceed 0.5g, and the height of the structure does not exceed 25 feet (7620 mm) above grade plane; or

3. Detached one- or two-family dwellings not exceeding two stories above grade plane, provided the structure is not assigned to Seismic Design Category D, E, or F and does not have any of the following plan or vertical irregularities in accordance with Section 12.3.2 of ASCE 7:

- 3.1. Torsional irregularity.
- 3.2. Nonparallel systems.
- 3.3. Stiffness irregularity—extreme soft story and soft story.
- 3.4. Discontinuity in capacity—weak story.

Sec. 20. Section 91.1707 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.1707. SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.**

Section 1707 of the CBC is adopted by reference, except Sections 1707.1, 1707.2 and 1707.8 of the CBC are not adopted and in lieu Sections 91.1707.1, 91.1707.2, 91.1707.2.1, 91.1707.8 and 91.1707.10 are added.

**91.1707.1. Special Inspections for Seismic Resistance.** Special inspections itemized in CBC Sections 1707.3 through 1707.7, and Sections 91.1707.2, 91.1707.8 and 91.1707.10 are required for the following, unless exempted by the exceptions of Section 91.1704.1, 91.1705.3, or CBC Section 1705.3.1:

1. The seismic-force-resisting systems in structures assigned to Seismic Design Category C, D, E or F as determined in CBC Section 1613.
2. Designated seismic systems in structures assigned to Seismic Design Category D, E or F.
3. Architectural, mechanical and electrical components in structures assigned to Seismic Design Category C, D, E or F that are required in CBC Sections 1707.7 and 1707.8.

**91.1707.2. Structural Steel.** Continuous special inspection is required for structural welding in accordance with AISC 341 and during the fabrication and erection of buildings over 160 feet (48,768mm) in height with structural steel moment-resisting frames. A Registered Deputy Inspector under the supervision of the engineer responsible for the structural design shall be present during the performance of all structural welding or the installation of all high-strength bolts whether in a fabricator's shop or at the job site.

**EXCEPTIONS:**

1. Single-pass fillet welds not exceeding 5/16-inch (7.9mm) in size.
2. Floor and roof deck welding.

**91.1707.2.1. Certification.** For buildings exceeding 160 feet (48,768mm) in height, the engineer responsible for the structural design and the general contractor responsible for the construction, or their competent authorized representatives, shall make periodic inspections of the work at the site to verify general compliance with the approved plans, specifications and change orders. The engineer and general contractor shall submit a statement in writing to the Department stating that they know from personal knowledge that the materials installed and the structural work performed is in compliance with the approved plans, specifications and change orders.

The phrase "personal knowledge" as used above in reference to the engineer and general contractor means the knowledge resulting from the general observation by the engineer and the general supervision by the contractor of the work, as required by both in the superintendence of the building's construction, and as distinguished from the continuous personal superintendence of the special inspector and/or deputy inspector who are continuously at the site during the progress of the work. The exercise of reasonable diligence to obtain the facts is required and anyone who intentionally remains unaware may be charged with knowledge. The interpretation of personal knowledge as it applies to the special inspector and/or deputy inspector is that the inspector(s) must have actual personal knowledge that the requirements of the plans and specifications are being carried out, which is obtained by the inspector's continuous observation of the work of construction at the site in all stages of its progress.

**91.1707.8. Designated Seismic System Verifications.** The Registered Deputy Inspector shall examine designated seismic systems requiring seismic qualification in accordance with CBC Section 1708.4 and verify that the label, anchorage, and mounting conforms to the certificate of compliance and any applicable research report.

**91.1707.10. Structural Inspection - Concrete.** During the construction of all buildings over 160 feet (48,768 mm) in height with concrete special moment-resisting space frames, a structural inspector under the supervision of the engineer responsible for the structural design shall be present to inspect the materials and workmanship for conformance with approved plans, specifications and change orders involved in construction of the ductile frames and shear walls. This inspection may be made by one or more structural inspectors, provided that at least one structural inspector is present during the placement of all concrete and reinforcement in the structural frame and shear walls.

The number of structural inspectors to be provided for each structure shall be determined by the engineer responsible for the structural design, provided that more



than one structural inspector shall be provided where the magnitude of a structure prevents a single inspector from adequately performing the inspection.

The owner shall provide for each structural inspector. Each structural inspector shall be paid by the owner directly or through the person responsible for the structural design. Each structural inspector shall be responsible to the person who prepared the structural design.

The inspection by the structural inspector or inspectors shall be in addition to inspections made by Department employees as specified in Section 91.108 of this Code and by Registered Deputy Inspectors as specified for other parts of the work in Section 91.1704.1 this Code.

Prior to the issuance of the Certificate of Occupancy, each structural inspector shall submit a report in writing to the engineer and the Department certifying that the portions of the structural frame inspected by the inspector were constructed in accordance with the approved plans, specifications, change orders and Division 19 of this Code.

Sec. 21. Section 91.1708 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.1708. STRUCTURAL TESTING FOR SEISMIC RESISTANCE.**

Section 1708 of the CBC is adopted by reference, except Section 1708.3 of the CBC is not adopted and in lieu Section 91.1708.3 is added.

**91.1708.3. Structural Steel.** The testing described in the quality assurance plan shall be as required by AISC 341 and the additional requirements in this Section. Nondestructive testing shall be performed by an approved agency and the written report, including the test results, shall be submitted for evaluation by the Superintendent of Building. The acceptance criteria for nondestructive testing shall be as required in AWS D1.1 as specified by the registered design professional.

Base metal thicker than 1.5 inches (38 mm), where subject to through-thickness weld shrinkage strains, shall be ultrasonically tested for discontinuities behind and adjacent to those welds after joint completion. Any material discontinuities shall be accepted or rejected on the basis of ASTM A 435 or ASTM A 898 (Level 1 criteria) and criteria as established by the registered design professional(s) in responsible charge, and the construction documents.

Sec. 22. Section 91.1709 of the Los Angeles Municipal Code is amended to read as follows:

## SEC. 91.1709. CONTRACTORS RESPONSIBILITY.

Section 1709 of the CBC is adopted by reference, and Sections 91.1709.2, 91.1709.2.1, 91.1709.2.2, 91.1709.2.3, 91.1709.2.4, 91.1709.2.5, and 91.1709.2.6 are added.

### 91.1709.2. CERTIFIED LICENSED CONTRACTORS.

**91.1709.2.1. Registration.** Application for registration as a certified licensed contractor shall be made to the Superintendent of Building on a form furnished by the Department and a separate application shall be made for each type of registration desired. Before the application can be accepted, the applicant must furnish proof satisfactory to the Department that the applicant holds a valid active California State Contractor's License in the same specialty as the certification requested.

#### 91.1709.2.2. Application.

1. **Form.** Application for a Certificate of Registration shall be made on a form furnished by the Department.

2. **Information Necessary.** The application shall bear the name and address of the applicant and, if the applicant is employed by a firm, partnership or corporation, the names of the principal officers should also be included. The application shall carry other information deemed necessary by the Department.

3. **Verification.** The applicant shall declare that the information contained in the application is true and correct.

4. **Fee.** The application shall be accompanied by an examination fee of \$188.

#### 91.1709.2.3. Examination.

1. **Examination Required.** Before issuance of a Certificate of Registration, the applicant shall have successfully passed the examination required for the issuance of the Certificate of Registration within 90 days preceding the date of the issuance. To be eligible for the examination for a Certificate of Registration, the applicant shall have a valid California State Contractor's License in an appropriate specialty and a valid City Business Tax Certificate.

2. **Board of Examiners.** The Superintendent of Building and/or Board of Examiners composed of three qualified persons appointed by the

Superintendent shall conduct examinations. The results of every examination shall be subject to the approval of the Superintendent of Building. Each examiner shall serve at the pleasure of the Superintendent of Building and shall serve for a period of one year unless reappointed by the Superintendent.

3. **Scope of Examination.** The examination shall, in the judgment of the Superintendent of Building, fairly determine the ability of the applicant to perform properly the work, which he or she would be authorized to do by the Certificate of Registration requested, and may include the following:

- a. A written test.
- b. Practical tests as may be required.
- c. An oral interview as may be required.
- d. Other tests as may be required by the Board of Examiners.

4. **Time of Examination.** The applicant shall be examined as soon as practicable after filing an application.

5. **Rules and Regulations.** The Department shall have the authority to establish rules and regulations for the conduct of examinations.

6. **Fitness of Applicant.** Any applicant may be required to submit satisfactory proof of his or her fitness to carry out the intent of this Code.

7. **Failure to Pass.** An applicant who fails to pass an examination shall not be eligible for another examination until four weeks after taking the previous examination.

#### 91.1709.2.4. Issuance of Certificates.

1. The Superintendent of Building shall issue separate Certificates of Registration for each of the following categories:

- a. FAU/AC units; evaporative coolers.
- b. Domestic water piping/plumbing fixtures/hot water heaters/solar panels.
- c. Reroofing and roof repair.
- d. Electrical equipment/fixtures/smoke detectors.
- e. Masonry and concrete fences.

- f. Masonry chimney repairs.
- g. Shower pan replacement.

Nothing here prohibits any person from being qualified for more than one type of certification, provided the person makes application, pays the required fees, takes the required examinations and is duly qualified by the Superintendent of Building for each type of certification.

2. Upon payment of a \$45.00 fee, the Department may issue a Certificate of Registration to every applicant who passes the required examination for a Certified Licensed Contractor.

3. Each Certificate of Registration shall expire 12 months from the date of issuance.

4. The Superintendent of Building shall keep on file a list, open to public inspection, of the names of all registered certified licensed contractors, showing the type of work each has been authorized to inspect.

5. **Renewal of Certificates.** Expired Certificates of Registration may be renewed at any time within 30 days following the date of expiration. After a Certificate of Registration has been expired for 30 days, it may not be renewed; rather, a new application for a new certificate must be submitted at that time.

**91.1709.2.5. Exhibition of Certificate.**

1. Every person having a fixed place of business shall keep his or her Certificate of Registration posted in some conspicuous location at his or her place of business during the time the certificate is in force.

2. Every person not having a fixed place of business shall carry his or her Certificate of Registration with him or her at all times while doing any inspections or other work pursuant to this certificate.

**91.1709.2.6. Revocation of Certificate.** The Superintendent of Building may revoke, suspend or refuse to renew any Certificate of Registration upon a showing of incompetence, willful or negligent failure to observe or report violations of this Code, or failure to maintain a valid active California State Contractor's License in the same specialty as the certification. Prior to any action, the holder shall be given an opportunity to appear before the Superintendent of Building and be heard.

Suspension or revocation of any Certificate of Registration issued under this Section shall be in accordance with the provisions of Article 8, Chapter IX of the Los Angeles Municipal Code.

Sec. 23. Section 91.1710 of the Los Angeles Municipal Code is added to read as follows:

**SEC. 91.1710. STRUCTURAL OBSERVATIONS.**

Section 1710 of the CBC is adopted by reference, except that Sections 1710.1 and 1710.2 of the CBC are not adopted and in lieu Sections 91.1710.1 and 91.1710.2 are added.

**91.1710.1. General.** Where required by the provisions of Section 91.1710.2 of this Code or CBC Section 1710.3, the owner shall employ the registered design professional in charge for the structural design, or another registered design professional designated by the registered design professional in charge for the structural design to perform structural observations as defined by CBC Section 1702.

The owner or owner's representative shall coordinate and call a preconstruction meeting between the engineer or architect responsible for the structural design, structural observer, contractor, affected subcontractors and deputy inspectors. The structural observer shall preside over the meeting. The purpose of the meeting shall be to identify the major structural elements and connections that affect the vertical and lateral load systems of the structure and to review scheduling of the required observations. A record of the meeting shall be included in the first report submitted to the Superintendent of Building.

Observed deficiencies shall be reported in writing to the owner's representative, Registered Deputy Inspector, contractor and the Superintendent of Building. Upon the form prescribed by the Superintendent of Building, the structural observer shall submit to the Superintendent of Building a written statement at each significant construction stage stating that the site visits have been made and identifying any reported deficiencies, which, to the best of the structural observer's knowledge, have not been resolved. A final report by the structural observer, which states that all observed deficiencies have been resolved, is required before acceptance of the work by the Superintendent of Building.

**91.1710.2. Structural Observations for Seismic Resistance.** Structural observations shall be provided for those structures included in Seismic Design Category D, E or F, as determined in Section 91.1613 of this Code, where one or more of the following conditions exist:

1. The structure is classified as Occupancy Category III or IV in accordance with CBC Section 1604.5.
2. The height of the structure is greater than 75 feet (22860 mm) above the base.

3. The structure is classified as Occupancy Category I or II in accordance with CBC Section 1604.5 and a lateral design is required for the structure or portion thereof.

**EXCEPTION:** One-story wood framed Group R-3 and Group U Occupancies less than 2000 square feet in area, provided the adjacent grade is not steeper than 1 unit vertical in 10 units horizontal (10% sloped), assigned to Seismic Design Category D.

4. When so designated by the registered design professional in responsible charge of the structural design.

5. When such observation is specifically required by the Department.

Sec. 24. Section 91.1712 of the Los Angeles Municipal Code is added to read as follows:

**SEC. 91.1712. ALTERNATIVE TEST PROCEDURE.**

Section 1712 of the CBC is adopted by reference, except Section 1712.1 of the CBC is not adopted and in lieu Section 91.1712.1 is added.

**91.1712.1.General.** In the absence of approved rules or other approved standards pertaining to new materials or assemblies, the Superintendent of Building shall make, or cause to be made, any necessary tests and investigations; or the Superintendent of Building shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in Section 91.104.2.6 of this Code. The cost of all tests and other investigations required under the provisions of this Code shall be borne by the permit applicant.

Sec. 25. Section 91.1716 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.1716. MATERIAL AND TEST STANDARDS.**

Section 1716 of the CBC is adopted by reference, except Sections 1716.1, 1716.1.1, and 1716.2 of the CBC are not adopted and in lieu Sections 91.1716.1, 91.1716.1.1, and 91.1716.2 are added.

**91. 1716.1. Test Standards for Joist Hangers and Connectors.**

**91. 1716.1.1. Test Standards for Joist Hangers.** The vertical load-bearing capacity, torsional moment capacity, and deflection characteristics of joist hangers shall be determined in accordance with ASTM D 1761 using lumber having a specific gravity of 0.49 or greater, but not greater than 0.55, as determined in accordance with AF&PA

NDS for the joist and headers. Required testing shall be conducted or witnessed by an approved agency.

**EXCEPTION:** The joist length shall not be required to exceed 24 inches (610 mm).

**91.1716.2. Concrete and Clay Roof Tiles.** Required tests for concrete and clay roof tiles shall be conducted or witnessed by an approved testing agency.

Sec. 26. Section 91.1801.1 of the Los Angeles Municipal Code is amended to read as follows:

**91.1801.1. Scope.** The provisions of this division shall apply to building and foundation systems in those areas not subject to scour or water pressure by wind and wave action. Buildings and foundations subject to those scour or water pressure loads shall be designed in accordance with Division 16 of this Code.

Requirements governing grading and earthwork construction, including excavation and fills, are set forth in Division 70 of this Code.

Hillside buildings (buildings constructed on slopes steeper than one unit vertical in three units horizontal [33.3%] slope) shall comply with Section 91.1613.9 of this Code (seismic design provisions for hillside buildings) and this division.

Sec. 27. Section 91.1803 of the Los Angeles Municipal Code is added to read as follows:

#### **SEC. 91.1803. GEOTECHNICAL INVESTIGATION.**

Section 1803 of the CBC is adopted by reference, except Section 1803.5.6 of the CBC is not adopted and in lieu Section 91.1803.5.6 is added.

**91.1803.5.6. Rock Strata.** Where subsurface explorations at the project site indicate variations or doubtful characteristics in the structure of the rock upon which foundations are to be constructed, a sufficient number of borings shall be made to a depth of not less than ten feet (3048 mm) below the level of the foundations and to a depth that would allow investigation of any unsupported bedding planes or any other rock discontinuities that could influence the foundation stability to provide assurance of the soundness of the foundation bed and its load-bearing capacity.

Sec. 28. Section 91.1805 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.1805 DAMPPROOFING AND WATERPROOFING.**

Section 1805 of the CBC is adopted by reference, except Section 1805.4.3 of the CBC is not adopted and in lieu Section 91.1805.4.3 is added.

**91.1805.4.3. Drainage Discharge.** The floor base and foundation perimeter drain shall discharge by gravity or mechanical means into an approved drainage system that complies with the Plumbing Code.

Sec. 29. Section 91.1806 of the Los Angeles Municipal Code is added to read as follows:

**SEC. 91.1806. PRESUMPTIVE LOAD BEARING VALUES OF SOILS.**

Section 1806 of the CBC is adopted by reference, except Section 1806.2 of the CBC is not adopted and in lieu Section 91.1806.2 is added.

**91.1806.2. Presumptive Load-bearing Values.** The load-bearing values used in design for supporting soils near the surface shall not exceed the values specified in CBC Table 1806.2 unless data to substantiate the use of higher values are submitted and approved. Where the Department has reason to doubt the classification, strength or compressibility of the soil, the requirements of Section 1803.5.2 shall be satisfied.

Presumptive load-bearing values shall apply to materials with similar physical characteristics and dispositions.

Mud, organic silt, organic clays, peat or uncertified fill shall not be assumed to have a presumptive load-bearing capacity.

Sec. 30. Section 91.1807 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.1807. FOUNDATION WALLS, RETAINING WALLS, AND EMBEDDED POST AND POLES.**

Section 1807 of the CBC is adopted by reference, except Section 1807.1.4 and 1807.1.6 the CBC is not adopted and in lieu Sections 91.1807.1.4 and 91.1807.1.6 are added.

**91.1807.1.4. Permanent Wood Foundation Systems.** Permanent wood foundation systems shall be designed and installed in accordance with AF & PA PWF and as otherwise approved by the Department. Lumber and plywood shall be treated in accordance with AWPA U1 (Commodity Specification A, Use Category 4B and Section 5.2) and shall be identified in accordance with Section 2303.1.8.1. Permanent wood foundation systems shall not be used for structures assigned to Seismic Design Category D, E, F.



**EXCEPTION:** Accessory buildings not used for human occupancy and less than 120 square feet (11.1 m<sup>2</sup>) in area may be supported on treated wood mud sills.

**91.1807.1.6. Prescriptive Design of Concrete and Masonry Foundation Walls.**

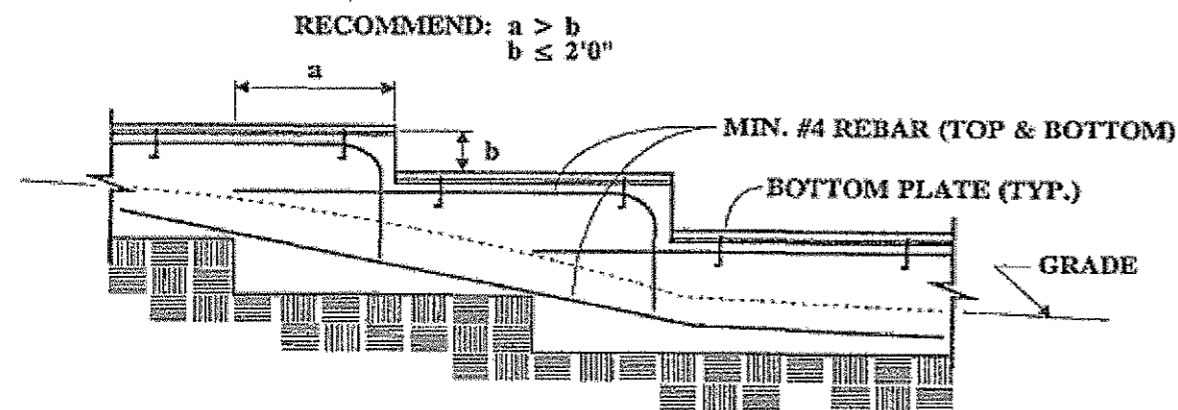
Concrete and masonry foundation walls that are laterally supported at the top and bottom shall be permitted to be designed and constructed in accordance with this Section. Prescriptive design of foundation walls shall not be used for structures assigned to Seismic Design Category D, E, or F.

Sec. 31. Section 91.1809 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.1809. SHALLOW FOUNDATIONS.**

Section 1809 of the CBC is adopted by reference, except Section 1809.3 and 1809.4 are not adopted and in lieu Sections 91.1809.3, 91.1809.4, 91.1809.7 and 91.1809.12 are added.

**91.1809.3. Stepped Footing.** The top surface of footings shall be level. The bottom surface of footings shall be permitted to have a slope not exceeding one unit vertical in 10 units horizontal (10-percent slope). Footings shall be stepped where it is necessary to change the elevation of the top surface of the footing or where the surface of the ground slopes more than one unit vertical in 10 units horizontal (10-percent slope). This stepping requirement shall also apply to the top surface of grade beams supporting walls. Footings shall be reinforced with four ½ inch diameter (12.7 mm) deformed reinforcing bars. Two bars shall be placed at the top and bottom of the footings as shown in Figure 1809.3 of this Code.



**STEPPED FOUNDATIONS  
FIGURE 1809.3**

**91.1809.4. Depth and Width of Footings.** The minimum depth of footings below the surface of undisturbed soil, compacted fill material or CLSM shall be 12 inches (305

mm). Where applicable, the requirements of CBC Section 1809.5 shall also be satisfied. The minimum width of footings shall be 12 inches (305mm).

**91.1809.7. Prescriptive Footings for Light-Frame Construction.** Where a specific design is not provided concrete or masonry-unit footings, supporting walls of light-frame construction shall be permitted to be designed in accordance with Table 1809.7. Prescriptive footings in Table 1809.7 shall not exceed one story above grade for structures assigned to Seismic Design Category D, E, or F.

**TABLE 1809.7  
PRESCRIPTIVE FOOTINGS SUPPORTING WALLS OF  
LIGHT-FRAMED CONSTRUCTION<sup>a, b, c, d, e</sup>**

NUMBER OF FLOORS SUPPORTED BY THE FOOTING <sup>f</sup>	WIDTH OF FOOTING (inches)	THICKNESS OF FOOTING (inches)
1	12	6
2	15	6
3	18	8 <sup>g</sup>

For SI: one inch = 25.4 mm, one foot = 304.8 mm

- a. Depth of footings shall be in accordance with Section 1809.4.
- b. The ground under the floor is permitted to be excavated to the elevation of the top of the footing.
- c. Not Adopted.
- d. See CBC Section 1908 for additional requirements for footings of structures assigned Seismic Design Category C, D, E or F.
- e. For thickness of foundation walls, see Section 91.1807.1.6 of this Code.
- f. Footings are permitted to support a roof in addition to the stipulated number of floors. Footings supporting roof only shall be as required for supporting one floor.

**91.1809.12. Timber Footings.** Timber footings shall be permitted for buildings of Type V construction and as otherwise approved by the Department. Such footings shall be treated in accordance with AWPA U1 (Commodity Specification A, Use Category 4B). Treated timbers are not required where placed entirely below permanent water level, or where used as capping for wood piles that project above the water level over submerged or marsh lands. The compressive stresses perpendicular to grain in untreated timber footings supported upon treated piles shall not exceed 70 percent of the allowable stresses for the species and grade of timber as specified in the AF&PA NDS. Timber footings shall not be used in structures assigned to Seismic Design Category D, E, or F.

Sec. 32. Section 91.1810 of the Los Angeles Municipal Code is added to read as follows:

## **91.1810. DEEP FOUNDATIONS.**

Section 1810 of the CBC is adopted by reference, except Sections 1810.3.1.5, 1810.3.2.4, 1810.3.3.1.4, and 1810.3.10.4 of the CBC are not adopted and in lieu Sections 91.1810.3.1.5, 91.1810.3.2.4, 91.1810.3.3.1.4 and 91.1810.3.10.4 are added.

**91.1810.3.1.5. Helical Piles.** Helical piles shall be designed and manufactured in accordance with accepted engineering practice to resist all stresses induced by installation into the ground and service loads. Helical piles shall not be used for support of new structures. Helical piles may be used to underpin foundations of existing structures or retrofit or remediate deficient foundations of existing structures. Helical piles shall not be used to resist any horizontal loads.

**91.1810.3.2.4. Timber.** Timber deep foundation elements shall be designed as piles or poles in accordance with AF&PA NDS. Round timber elements shall conform to ASTM D 25. Sawn timber elements shall conform to DOC PS-20. Timber deep foundation shall not be used in structures assigned to Seismic Design Category D, E, or F.

**91.1810.3.3.1.4. Allowable Frictional Resistance.** The assumed frictional resistance developed by any uncased cast-in-place deep foundation element shall not exceed one-sixth of the bearing value of the soil material at minimum depth as set forth in CBC Table 1806.2, up to a maximum of 500 psf (24 kPa), unless a greater value is allowed by the Department on the basis of a geotechnical investigation as specified in Section 1803 or a greater value is substantiated by a load test in accordance with CBC Section 1810.3.3.1.2. Frictional resistance and bearing resistance shall not be assumed to act simultaneously.

**91.1810.3.10.4. Seismic Reinforcement.** For structures assigned to Seismic Design Category C, a permanent steel casing shall be provided from the top of the micropile down to the point of zero curvature. For structures assigned to Seismic Design Category D, E or F, the micropile shall be considered as an alternative system in accordance with Section 91.104.2.6 of this Code. The alternative system design, supporting documentation and test data shall be submitted to the Department for review and approval.

Sec. 33. Division 19 of Article 1 of Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

## **SEC. 91.1900. BASIC PROVISIONS.**

Chapter 19 of the CBC is adopted by reference, except that Sections 1908.1, 1908.1.2, 1908.1.8 and 1909.4 of the CBC are not adopted and Sections 91.1908.1, 91.1908.1.2, 91.1908.1.8, 91.1908.1.11, 91.1908.1.12, 91.1908.1.13, 91.1908.1.14 and 91.1909.4 of this Code are added.

**91.1908.1. General.** The text of ACI 318 shall be modified as indicated in CBC Sections 1908.1.1 through 1908.1.14.

**91.1908.1.2. ACI 318, Section 21.1.1.** Modify ACI 318 Sections 21.1.1.3 and 21.1.1.7 to read as follows:

21.1.1.3 – Structures assigned to Seismic Design Category A shall satisfy requirements of Chapters 1 to 19 and 22; Chapter 21 does not apply. Structures assigned to Seismic Design Category B, C, D, E or F also shall satisfy 21.1.1.4 through 21.1.1.8, as applicable. Except for structural elements of plain concrete complying with Section 1908.1.8 of the California Building Code, structural elements of plain concrete are prohibited in structures assigned to Seismic Design Categories C, D, E or F.

21.1.1.7 – Structural systems designated as part of the seismic-force-resisting system shall be restricted to those permitted by ASCE 7. Except for Seismic Design Category A, for which Chapter 21 does not apply, the following provisions shall be satisfied for each structural system designated as part of the seismic-force-resisting system, regardless of the Seismic Design Category:

- (a) Ordinary moment frames shall satisfy 21.2.
- (b) Ordinary reinforced concrete structural walls and ordinary precast structural walls need not satisfy any provisions in Chapter 21.
- (c) Intermediate moment frames shall satisfy 21.3.
- (d) Intermediate precast structural walls shall satisfy 21.4.
- (e) Special moment frames shall satisfy 21.5 through 21.8.
- (f) Special structural walls shall satisfy 21.9.
- (g) Special structural walls constructed using precast concrete shall satisfy 21.10.

All special moment frames and special structural walls shall also satisfy 21.1.3 through 21.1.7. Concrete tilt-up wall panels classified as intermediate precast structural wall system shall satisfy 21.9 in addition to 21.4.2 and 21.4.3 for structures assigned to Seismic Design Category D, E, or F.

**91.1908.1.8. ACI 318, Section 22.10.** Delete ACI 318, Section 22.10, and replace with the following:

22.10 – Plain concrete in structures assigned to Seismic Design Category C, D, E or F.

22.10.1 – Structures assigned to Seismic Design Category C, D, E or F shall not have elements of structural plain concrete, except as follows:

(a) Concrete used for fill with a minimum cement content of two (2) sacks of Portland cement per cubic yard.

(b) Isolated footings of plain concrete supporting pedestals or columns are permitted, provided the projection of the footing beyond the face of the supported member does not exceed the footing thickness.

(c) Plain concrete footings supporting walls are permitted, provided the footings have at least two continuous longitudinal reinforcing bars. Bars shall not be smaller than No. 4 and shall have a total area of not less than 0.002 times the gross cross-sectional area of the footing. For footings that exceed 8 inches (203 mm) in thickness, a minimum of one bar shall be provided at the top and bottom of the footing. Continuity of reinforcement shall be provided at corners and intersections.

**91.1908.1.11. ACI 318, Section 21.6.4.1.** Modify ACI 318, Section 21.6.4.1 to read as follows:

Where the calculated point of contraflexure is not within the middle half of the member clear height, provide transverse reinforcement as specified in ACI 318 Section 21.6.4.1. items (a) through (c), over the full height of the member.

**91.1908.1.12. ACI 318, Section 21.6.4.** Modify ACI 318, Section 21.6.4, by adding Section 21.6.4.8 to read as follows:

21.6.4.8 – At any section where the design strength,  $\phi P_n$ , of the column is less than the sum of the shears  $V_e$  computed in accordance with ACI 318 Sections 21.5.4.1 and 21.6.5.1 for all the beams framing into the column above the level under consideration, transverse reinforcement as specified in ACI 318 Sections 21.6.4.1 through 21.6.4.3 shall be provided. For beams framing into opposite sides of the column, the moment components may be assumed to be of opposite sign. For determination of the design strength,  $\phi P_n$ , of the column, these moments may be assumed to result from the deformation of the frame in any one principal axis.

**91.1908.1.13. ACI 318, Section 21.6.4.** Modify ACI 318, Section 21.9.4, by adding Section 21.9.4.6 to read as follows:

21.9.4.6 – Walls and portions of walls with  $P_u > 0.35P_o$  shall not be considered to contribute to the calculated strength of the structure for resisting earthquake-induced forces. Such walls shall conform to the requirements of ACI 318 Section 21.13.

**91.1908.1.14. ACI 318, Section 21.11.6.** Modify ACI 318, Section 21.11.6, by adding the following:

Collector and boundary elements in topping slabs placed over precast floor and roof elements shall not be less than 3 inches (76 mm) or  $6 d_b$  thick, where  $d_b$  is the diameter of the largest reinforcement in the topping slab.

**91.1909.4. Design.** Structural plain concrete walls, footings and pedestals shall be designed for adequate strength in accordance with ACI 318, Sections 22.4 through 22.8.

**EXCEPTION:** For Group R-3 occupancies and buildings of other occupancies less than two stories above grade plane of light-frame construction, the required edge thickness of ACI 318 is permitted to be reduced to 6 inches (152 mm), provided that the footing does not extend more than 4 inches (102 mm) on either side of the supported wall. This exception shall not apply to structural elements designed to resist seismic lateral forces for structures assigned to Seismic Design Category D, E, or F.

Sec. 34. Division 21 of Article 1 of Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

#### **SEC. 91.2100. BASIC PROVISIONS.**

Chapter 21 of the CBC is adopted by reference with the following exceptions, modifications and additions:

#### **SEC. 91.2113. MASONRY CHIMNEYS.**

Section 2113 of the CBC is adopted by reference, except Section 2113.3 of the CBC is not adopted and in lieu Section 91.2113.3 is added.

**91.2113.3. Seismic Reinforcing.** Masonry or concrete chimneys shall be constructed, anchored, supported and reinforced as required in this division. In Seismic Design Category C or D, masonry and concrete chimneys shall be reinforced and anchored as detailed in CBC Sections 2113.3.1, 2113.3.2 and 2113.4. In Seismic Design Category A or B, reinforcement and seismic anchorage is not required. In Seismic Design Category E or F, masonry and concrete chimneys shall be reinforced in accordance with the requirements of CBC Sections 2101 through 2108.

Notwithstanding any other provisions of this Code, an existing masonry chimney which is altered or repaired more than ten percent of its replacement cost within a 12-month period shall have its entire chimney structure comply with the current requirements of this Code or other standards approved by the Superintendent of Building.

Sec. 35. Division 22 of Article 1 of Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.2200. BASIC PROVISIONS.**

Chapter 22 of the CBC is adopted by reference, except that Section 2204 of the CBC is not adopted and in lieu Sections 91.2204, 91.2204.1, 91.2204.1.1, 91.2204.1.1.1, 91.2204.1.2, 91.2204.2, 91.2204.2.1 and 91.2205.4 are added.

**SEC. 91.2204. CONNECTIONS.**

**91.2204.1. Welding.** The details of design, workmanship and technique for welding, inspection of welding and qualification of welding operators shall conform to the requirements of the specifications listed in CBC Sections 2205, 2206, 2207, 2209 and 2210. Special inspection of welding shall be provided where required by Section 91.1704 of this Code.

All welding, except when performed at the shop of an approved fabricator, shall be done by operators certified by the Department for the type of operation involved in accordance with the provisions of CBC Section 1704.3.1.

Complete details of location, type, size and amount of all welds shall be clearly shown on the plans. Where symbols are used on the plans, they shall be the "Standard Welding Symbols," AWS A 2.4, of the American Welding Society (AWS). When it is necessary to use a special erection sequence of welding to minimize locked-up stresses or distortion, the Department may require the erection sequence of welding to be shown on the plans.

Welding procedures are qualified if they are in accordance with the AWS. Other welding procedures require special qualification approval by the Department. Each application for a special qualification shall be accompanied by a fee of \$50.00.

**91.2204.1.1. Consumables for Welding.**

**91.2204.1.1.1. Seismic Force Resisting System (SFRS) Welds.** All welds used in members and connections in the SFRS shall be made with filler metals meeting the requirements specified in AWS D1.8 Clause 6.3. AWS D1.8 Clauses 6.3.5, 6.3.6, 6.3.7 and 6.3.8 shall apply only to demand critical welds.

**91.2204.1.1.2. Demand Critical Welds.** Where welds are designated as demand critical, they shall be made with filler metals meeting the requirements specified in AWS D1.8 Clause 6.3.

**91.2204.2. Bolting.** Section 2204.2 of the CBC is adopted by reference.

**91.2204.2.1. Anchor Rods.** Section 2204.2.1 of the CBC is adopted by reference.

**91.2205.4. Modifications to AISC 341, Part I, 13, Members, Special Concentrically Braced Frames (SCBF) Modifications.** AISC 341, Part 1, 13, is modified to add a new Section as follows:

**AISC 341, 13.2f - Member Types.** The use of rectangular HSS are not permitted for bracing members, unless filled solid with cement grout having a minimum compressive strength of 3000 psi (20.7 MPa) at 28 days. The effects of composite action in the filled composite brace shall be considered in the sectional properties of the system where it results in the more severe loading condition or detailing.

Sec. 36. Section 91.2304 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.2304. GENERAL CONSTRUCTION REQUIREMENTS.**

Section 2304 of the CBC is adopted by reference, except Section 2304.9.1, Table 2304.9.1, and 2304.11.7 of the CBC are not adopted and in lieu Sections 91.2304.9.1, Table 2304.9.1 and 91.2304.11.7 are added.

**91.2304.9.1. Fastener Requirements.** Connections for wood members shall be designed in accordance with the appropriate methodology in CBC Section 2301.2. The number and size of fasteners connecting wood members shall not be less than that set forth in CBC Table 2304.9.1. Staple fasteners in CBC Table 2304.9.1 shall not be used to resist or transfer seismic forces in structures assigned to Seismic Design Category D, E or F.

**EXCEPTION:** Staples may be used to resist or transfer seismic forces when the allowable shear values are substantiated by cyclic testing and approved by the building official.

**Table 2304.9.1** Add new footnote q to CBC Table 2304.9.1 as follows:

- q. Staples shall not be used to resist or transfer seismic forces in structures assigned to Seismic Design Category D, E or F.

**91.2304.11.7. Wood Used In Retaining Walls and Cribs.** Wood installed in retaining or crib walls shall be preservative treated in accordance with AWPA U1 (Commodity Specifications A or F) for soil and fresh water use. Wood shall not be used in retaining walls or cribs for structures assigned to Seismic Design Category D, E or F.

Sec. 37. Section 91.2305 of the Los Angeles Municipal Code is amended to read as follows:



**SEC. 91.2305. GENERAL DESIGN REQUIREMENTS FOR LATERAL FORCE-RESISTING SYSTEM.**

Section 2305 of the CBC is adopted by reference, except that Sections 91.2305.4 and 91.2305.5 are added.

**91.2305.4. Quality of Nails.** In Seismic Design Category D, E or F, mechanically driven nails used in wood structural panel shear walls shall meet the same dimensions as that required for hand-driven nails, including diameter, minimum length and minimum head diameter. Clipped head or box nails are not permitted in new construction. The allowable design value for clipped head nails in existing construction may be taken at no more than the nail-head-area ratio of that of the same size hand-driven nails.

**91.2305.5. Hold-down Connectors.** In Seismic Design Category D, E or F, hold-down connectors shall be designed to resist shear wall overturning moments using approved cyclic load values or 75 percent of the allowable seismic load values that do not consider cyclic loading of the product. Connector bolts into wood framing shall require steel plate washers on the post on the opposite side of the anchorage device. Plate size shall be a minimum of 0.229 inch by 3 inches by 3 inches (5.82 mm by 76 mm by 76 mm) in size. Hold-down connectors shall be finger tight and ½ turn just prior to covering the wall framing.

Sec. 38. Section 91.2306 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.2306. ALLOWABLE STRESS DESIGN.**

Section 2306 of the CBC is adopted by reference, except that Sections 2306.2.1, 2306.3 and 2306.7 of the CBC are not adopted and in lieu Sections 91.2306.2.1, 91.2306.3, 91.2306.7, and Tables 2306.2.1(3), 2306.2.1(4), 2306.3(1), 2306.3(2) are added.

**91.2306.2.1. Wood Structural Panel Diaphragms.** Wood structural panel diaphragms shall be designed and constructed in accordance with AF&PA SDPWS. Wood structural panel diaphragms are permitted to resist horizontal forces using the allowable shear capacities set forth in CBC Table 2306.2.1(1) or CBC Table 2306.2.1(2). For structures assigned to Seismic Design Category D, E or F, the allowable shear capacities shall be set forth in Table 2306.2.1(3) or 2306.2.1(4). The allowable shear capacities in CBC Table 2306.2.1(1) or CBC 2306.2.1(2) are permitted to be increased 40 percent for wind design.

Wood structural panel diaphragms fastened with staples shall not be used to resist seismic forces in structures assigned to Seismic Design Category D, E or F.

**EXCEPTION:** Staples may be used for wood structural panel diaphragms when the allowable shear values are substantiated by cyclic testing and approved by the building official.

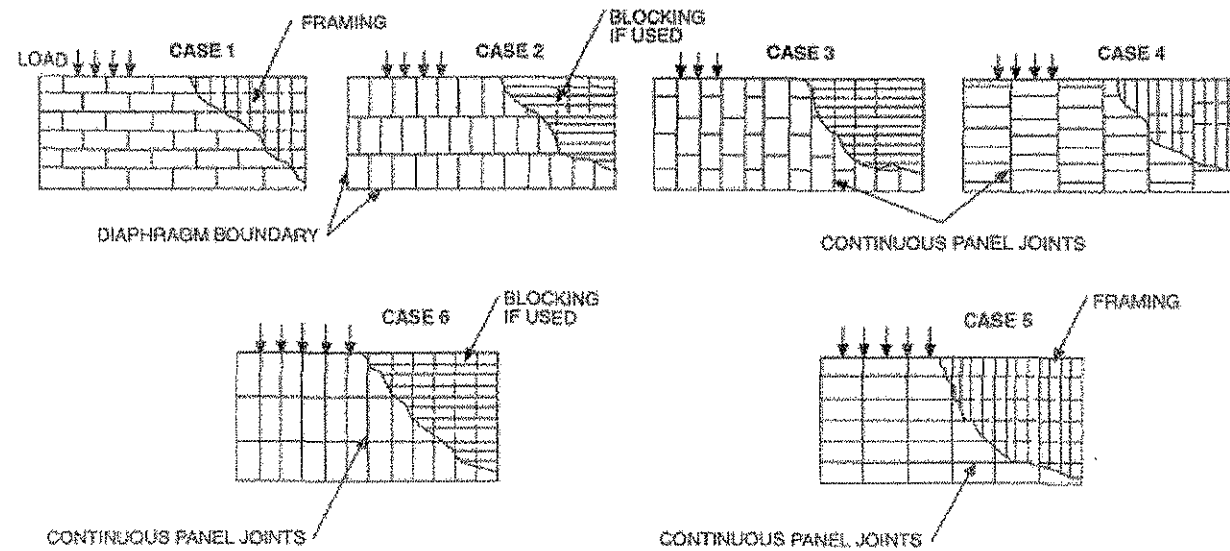
Wood structural panel diaphragms used to resist seismic forces in structures assigned to Seismic Design Category D, E or F shall be applied directly to the framing members.

**EXCEPTION:** Wood structural panel diaphragm is permitted to be fastened over solid lumber planking or laminated decking, provided the panel joints and lumber planking or laminated decking joints do not coincide.

**TABLE 2306.2.1(3)**  
**ALLOWABLE SHEAR (POUNDS PER FOOT) FOR WOOD STRUCTURAL PANEL DIAPHRAGMS WITH FRAMING OF DOUGLAS FIR-LARCH OR SOUTHERN PINE<sup>a</sup> FOR SEISMIC LOADING<sup>g</sup> FOR STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY D, E OR F**

PANEL GRADE	COMMON NAIL SIZE	MINIMUM FASTENER PENETRATION IN FRAMING (inches)	MINIMUM NOMINAL PANEL THICKNESS (inch)	MINIMUM NOMINAL WIDTH OF FRAMING MEMBERS AT ADJOINING PANEL EDGES AND BOUNDARIES <sup>f</sup> (inches)	BLOCKED DIAPHRAGMS				UNBLOCKED DIAPHRAGMS	
					Fastener spacing (inches) at diaphragm boundaries (all cases) at continuous panel edges parallel to load (Cases 3,4), and at all panel edges (Cases 5, 6) <sup>b</sup>				Fastener spaced 6" max. at supported edges <sup>b</sup>	
					6	4	2 1/2 <sup>c</sup>	2 <sup>c</sup>	Case 1 (No unblocked edges or continuous joints parallel to load)	All other configurations (Cases 2, 3, 4, 5 and 6)
					Fastener spacing (inches) at other panel edges (Cases 1,2,3 and 4) <sup>b</sup>					
6	6	4	3							
Structural I Grades	8d (2 1/2" x 0.131")	1 3/8	3/8	2	270	360	530	600	240	180
				3	300	400	600	675	265	200
	10d <sup>d</sup> (3" x 0.148")	1 1/2	15/32	2	320	425	640	730	285	215
				3	360	480	720	820	320	240
Sheathing, single floor and other grades covered in DOC PS1 and PS2	6d <sup>e</sup> (2" x 0.113")	1 1/4	3/8	2	185	250	375	420	165	125
				3	210	280	420	475	185	140
	8d (2 1/2" x 0.131")	1 3/8	7/16	2	240	320	480	545	215	160
				3	270	360	540	610	240	180
	8d (2 1/2" x 0.131")	1 3/8	15/32	2	255	340	505	575	230	170
				3	285	380	570	645	255	190
	8d (2 1/2" x 0.131")	1 3/8	19/32	2	270	360	530	600	240	180
				3	300	400	600	675	265	200
	10d <sup>d</sup> (3" x 0.148")	1 1/2		2	290	385	575	655	255	190
				3	324	430	650	735	290	215
10d <sup>d</sup> (3" x 0.148")	1 1/2		2	320	425	640	730	285	215	
			3	360	480	720	820	320	240	

**TABLE 2306.2.1(3)–continued**  
**ALLOWABLE SHEAR (PUNDS PER FOOT) FOR WOOD STRUCTURAL**  
**PANEL DIAPHRAGMS WITH FRAMING OF DOUGLAS FIR-LARCH,**  
**OR SOUTHERN PINE<sup>a</sup> FOR SEISMIC LOADING<sup>b</sup>**  
**FOR STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY D, E OR F**



For SI: 1 inch = 25.4 mm, 1 pound per foot = 14.5939 N/m.

- a. For framing of other species: (1) Find specific gravity for species of lumber in AF&PA NDS. (2) For nails find shear value from table above for nail size for actual grade and multiply value by the following adjustment factor: Specific Gravity Adjustment Factor =  $[1 - (0.5 - SG)]$ , where SG = Specific Gravity of the framing lumber. This adjustment factor shall not be greater than 1.
- b. Space fasteners maximum 12 inches o.c. along intermediate framing members (6 inches o.c. where supports are spaced 48 inches o.c.).
- c. Framing at adjoining panel edges shall be 3 inches nominal or thicker, and nails at all panel edges shall be staggered where panel edge nailing is specified at 2 ½ inches o.c. or less.
- d. Framing at adjoining panel edges shall be 3 inches nominal or thicker, and nails at all panel edges shall be staggered where both of the following conditions are met: (1) 10d nails having penetration into framing of more than 1 ½ inches and (2) panel edge nailing is specified at 3 inches o.c. or less.
- e. 8d is recommended minimum for roofs due to negative pressures of high winds.
- f. The minimum nominal width of framing members not located at boundaries or adjoining panel edges shall be 2 inches.
- g. For shear loads of normal or permanent load duration as defined by the AF&PA NDS, the values in the table above shall be multiplied by 0.63 or 0.56, respectively.

**TABLE 2306.2.1(4)**  
**ALLOWABLE SHEAR (POUNDS PER FOOT) FOR WOOD STRUCTURAL PANEL BLOCKED DIAPHRAGMS**  
**UTILIZING MULTIPLE ROWS OF FASTENERS (HIGH LOAD DIAPHRAGMS) WITH FRAMING OF DOUGLAS**  
**FIR-LARCH OR SOUTHERN PINE<sup>a</sup> FOR SEISMIC LOADING<sup>b,f,g</sup>**  
**FOR STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY D, E OR F**

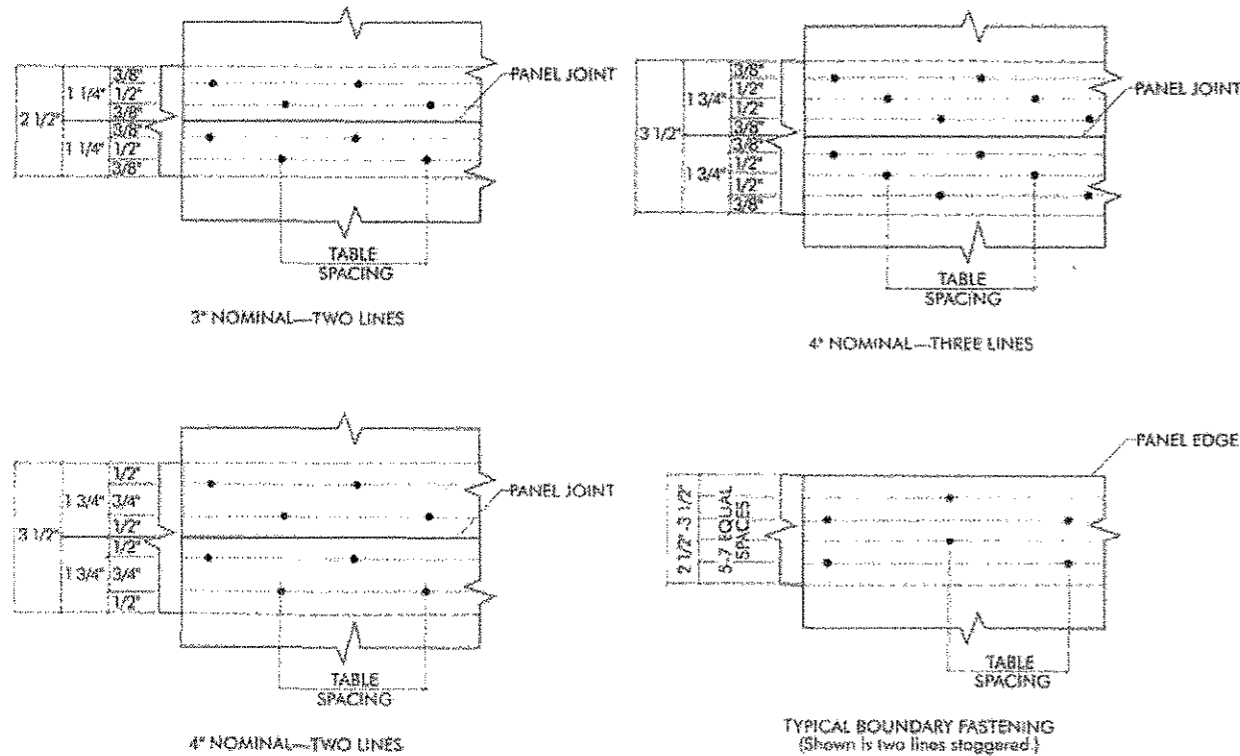
PANEL GRADE <sup>c</sup>	COMMON NAIL SIZE	MINIMUM FASTENER PENETRATION IN FRAMING (inches)	MINIMUM NOMINAL PANEL THICKNESS (inch)	MINIMUM NOMINAL WIDTH OF FRAMING MEMBERS AT ADJOINING PANEL EDGES AND BOUNDARIES <sup>e</sup> (inches)	LINES OF FASTENERS	BLOCKED DIAPHRAGMS			
						Cases 1 and 2 <sup>d</sup>			
						Fastener Spacing Per Line at Boundaries (inches)			
						4		2 1/2	
						Fastener Spacing Per Line at Other Panel Edges (inches)			
6	4	4	3						
Structural I grades	10d common nails	1 1/2	15/32	3	2	605	815	875	1,150
				4	2	700	915	1,005	1,290
				4	3	875	1,220	1,285	1,395
			19/32	3	2	670	880	965	1,255
				4	2	780	990	1,110	1,440
				4	3	965	1,320	1,405	1,790
			23/32	3	2	730	955	1,050	1,365
				4	2	855	1,070	1,210	1,565
				4	3	1,050	1,430	1,525	1,800
Sheathing, single floor and other grades covered in DOC PS1 and PS2	10d common nails	1 1/2	15/32	3	2	525	725	765	1,010
				4	2	605	815	875	1,105
				4	3	765	1,085	1,130	1,195
			19/32	3	2	650	860	935	1,225
				4	2	755	965	1,080	1,370
				4	3	935	1,290	1,365	1,485
			23/32	3	2	710	935	1,020	1,335
				4	2	825	1,050	1,175	1,445
				4	3	1,020	1,400	1,480	1,565

For SI: 1 inch = 25.4 mm, 1 pound per foot = 14.5939 N/m.

- For framing of other species: (1) Find specific gravity for species of lumber in AF&PA NDS. (2) For nails find shear value from table above for nail size for actual grade and multiply value by the following adjustment factor: Specific Gravity Adjustment Factor = [1-(0.5-SG)], where SG = Specific Gravity of the framing lumber. This adjustment factor shall not be greater than 1.
- Fastening along intermediate framing members: Space fasteners a maximum of 12 inches on center, except 6 inches on center for spans greater than 32 inches.
- Panels conforming to PS1 or PS 2.
- This table gives shear values for Cases 1 and 2 as shown in Table 2306.2.1(3). The values shown are applicable to Cases 3, 4, 5 and 6 as shown in Table 2306.2.1(3), providing fasteners at all continuous panels edges are spaced in accordance with the boundary fastener spacing.
- The minimum nominal depth of framing members shall be 3 inches nominal. The minimum nominal width of framing members not located at boundaries or adjoining panel edges shall be 2 inches.
- High load diaphragms shall be subject to special inspection in accordance with CBC Section 1704.6.1.
- For shear loads of normal or permanent load duration as defined by the AF&PA NDS, the values in the table above shall be multiplied by 0.63 or 0.56, respectively.

**TABLE 2306.2.1(4)–continued**

ALLOWABLE SHEAR (POUNDS PER FOOT) FOR WOOD STRUCTURAL PANEL BLOCKED DIAPHRAGMS UTILIZING MULTIPLE ROWS OF FASTENERS (HIGH LOAD DIAPHRAGMS) WITH FRAMING OF DOUGLAS FIR-LARCH OR SOUTHERN PINE<sup>a</sup> FOR SEISMIC LOADING<sup>b,1,9</sup> FOR STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY D, E OR F



NOTE: SPACE PANEL END AND EDGE JOINT 1/8-INCH. REDUCE SPACING BETWEEN LINES OF NAILS AS NECESSARY TO MAINTAIN MINIMUM 3/8-INCH FASTENER EDGE MARGINS, MINIMUM SPACING BETWEEN LINES IS 3/8-INCH

**91.2306.3. Wood Structural Panel Shear Walls.** Wood structural panel shear walls shall be designed and constructed in accordance with AF&PA SDPWS. Wood structural panel shear walls are permitted to resist horizontal forces using the allowable shear capacities set forth in Table 2306.3(1). For structures assigned to Seismic Design Category D, E or F, the allowable shear capacities shall be set forth in Table 2306.3(2). The allowable shear capacities in Table 2306.3(1) are permitted to be increased 40 percent for wind design.

Wood structural panel shear walls used to resist seismic forces in structures assigned to Seismic Design Category D, E or F shall not be less than 4 feet by 8 feet (1219 mm by 2438 mm), except at boundaries and at changes in framing. Wood structural panel thickness for shear walls shall not be less than 3/8 inch thick and studs shall not be spaced at more than 16 inches on center.

The maximum allowable shear value for three-ply plywood resisting seismic forces in structures assigned to Seismic Design Category D, E or F is 200 pounds per foot (2.92 kn/m). Nails shall be placed not less than 1/2 inch (12.7 mm) in from the panel edges and not less than 3/8 inch (9.5mm) from the edge of the connecting

members for shear greater than 350 pounds per foot (5.11kN/m). Nails shall be placed not less than 3/8 inch (9.5 mm) from panel edges and not less than 1/4 inch (6.4 mm) from the edge of the connecting members for shears of 350 pounds per foot (5.11kN/m) or less.

Wood structural panel shear walls fastened with staples shall not used to resist seismic forces in structures assigned to Seismic Design Category D, E or F.

**EXCEPTION:** Staples may be used for wood structural panel shear walls when the allowable shear values are substantiated by cyclic testing and approved by the building official.

Wood structural panel shear walls used to resist seismic forces in structures assigned to Seismic Design Category D, E or F shall be applied directly to the framing members.

**TABLE 2306.3(2)**  
**ALLOWABLE SHEAR (POUNDS PER FOOT) FOR WOOD STRUCTURAL PANEL SHEAR WALLS WITH FRAMING OF DOUGLAS FIR-LARCH OR SOUTHERN PINE<sup>a</sup> FOR SEISMIC LOADING<sup>b, h, j, k, l</sup> FOR STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY D, E OR F**

PANEL GRADE	MINIMUM NOMINAL PANEL THICKNESS (inch)	MINIMUM FASTENER PENETRATION IN FRAMING (inches)	ALLOWABLE SHEAR VALUE FOR SEISMIC FORCES PANELS APPLIED DIRECTLY TO FRAMING				
			COMMON NAIL SIZE	Fastener spacing at panel edges (inches)			
				6	4	3	2 <sup>e</sup>
Structural I sheathing	3/8	1 3/8	8d (2½"x0.131" common)	200	200	200	200
	7/16	1 3/8	8d (2½"x0.131" common)	255	395	505	670
			8d (2½"x0.131" common)	280	430	550	730
	15/32	1 1/2	10d (3"x0.148" common)	340	510	665 <sup>f</sup>	870
8d (2½"x0.113")			160	200	200	200	
Sheathing, plywood siding <sup>g</sup> except Group 5 Species	3/8 <sup>c</sup>	1 3/8	8d (2½"x0.113")	160	200	200	200

For SI: 1 inch = 25.4 mm, 1 foot = 25.4 mm, 1 pound per foot = 14.5939 N/m.

- For framing of other species: (1) Find specific gravity for species of lumber in AF&PA NDS. (2) For nails find shear value from table above for nail size for actual grade and multiply value by the following adjustment factor: Specific Gravity Adjustment Factor = [1-(0.5-SG)], where SG = Specific Gravity of the framing lumber. This adjustment factor shall not be greater than 1.
- Panel edges backed with 2-inch nominal or thicker framing. Install panels either horizontally or vertically. Space fasteners maximum 6 inches on center along intermediate framing members for 3/8-inch and 7/16-inch panels installed on studs spaced 24 inches on center. For other conditions and panel thickness, space fasteners maximum 12 inches on center on intermediate supports.
- 3/8-inch panel thickness or siding with a span rating of 16 inches on center is the minimum recommended where applied direct to framing as exterior siding. For grooved panel siding, the nominal panel thickness is the thickness of the panel measured at the point of nailing.
- Allowable shear values are permitted to be increased to values shown for 15/32-inch sheathing with same nailing provided (a) studs are spaced a maximum of 16 inches on center, or (b) panels are applied with long dimension across studs.
- Framing at adjoining panel edges shall be 3 inches nominal or thicker, and nails shall be staggered where nails are spaced 2 inches on center or less.
- Framing at adjoining panel edges shall be 3 inches nominal or thicker, and nails shall be staggered where both of the following conditions are met: (1) 10d (3"x0.148") nails having penetration into framing of more than 1-1/2 inches and (2) nails are spaced 3 inches on center or less.
- Values apply to all-veneer plywood. Thickness at point of fastening on panel edges governs shear values.

- h. Where panels applied on both faces of a wall and nail spacing is less than 6 inches o.c. on either side, panel joints shall be offset to fall on different framing members. Or framing shall be 3-inch nominal or thicker at adjoining panel edges and nails at all panel edges shall be staggered.
- i. Where shear design values exceed 350 pounds per linear foot, all framing members receiving edge nailing from abutting panels shall not be less than a single 3-inch nominal member, or two 2-inch nominal members fastened together in accordance with CBC Section 2306.1 to transfer the design shear value between framing members. Wood structural panel joint and sill plate nailing shall be staggered at all panel edges. See Section 4.3.6.1 and 4.3.6.4.3 of AF&PA SDPWS for sill plate size and anchorage requirements.
- j. Galvanized nails shall be hot dipped or tumbled.
- k. For shear loads of normal or permanent load duration as defined by the AF&PA NDS, the values in the table above shall be multiplied by 0.63 or 0.56, respectively.
- l. The maximum allowable shear value for three-ply plywood resisting seismic forces is 200 pounds per foot (2.92 kn/m).

**91.2306.7 Shear Walls Sheathed with Other Materials.** Shear walls sheathed with portland cement plaster, gypsum lath, gypsum sheathing or gypsum board shall be designed and constructed in accordance with AF&PA SDPWS. Shear walls sheathed with these materials are permitted to resist horizontal forces using the allowable shear capacities set forth in CBC Table 2306.7. Shear walls sheathed with portland cement plaster, gypsum lath, gypsum sheathing or gypsum board shall not be used to resist seismic forces in structures assigned to Seismic Design Category E or F.

Shear walls sheathed with lath, plaster or gypsum board shall not be used below the top level in a multi-level building for structures assigned to Seismic Design Category D.

Sec. 39. Section 91.2308 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.2308. CONVENTIONAL LIGHT-FRAME CONSTRUCTION.**

Section 2308 of the CBC is adopted by reference, except that Sections 2308.3.4, 2308.12.1, 2308.12.2, 2308.12.4 and 2308.12.5 of the CBC are not adopted and in lieu Sections 91.2308.3.4, 91.2308.12.1, 91.2308.12.2, 91.2308.12.4, 91.2308.12.5 and Table 2308.12.4 are added.

**91.2308.3.4. Braced Wall Line Support.** Braced wall lines shall be supported by continuous foundations.

**EXCEPTION:** For structures with a maximum plan dimension not over 50 feet (15240 mm), continuous foundations are required at exterior walls only for structures not assigned to Seismic Design Category D, E or F.

**91.2308.12.1. Number of Stories.** Structures of conventional light-frame construction shall not exceed one story in height in Seismic Design Category D or E.

**91.2308.12.2. Concrete or Masonry.** Concrete or masonry walls and stone or masonry veneer shall not extend above the basement.

**EXCEPTION:** Stone and masonry veneer is permitted to be used in the first story above grade plane in Seismic Design Category D provided the following criteria are met:

1. The type of brace in accordance with CBC Section 2308.9.3 shall be Method 3 and the allowable shear capacity in accordance with CBC Table 2306.4.1 of this division shall be a minimum of 350 plf (5108 N/m).
2. The bracing of the first story shall be located at each end and at least every 25 feet (7620 mm) on center but not less than 45 percent of the braced wall line.
3. Hold-down connectors shall be provided at the ends of braced walls for the first floor to foundation with an allowable design of 2,100 pounds (9341 N).
4. Cripple walls shall not be permitted.
5. Anchored masonry and stone wall veneer not exceeding five inches (127 mm) in thickness shall conform to the requirements of Division 14 of this Code and shall not extend more than five feet (1524 mm) above the first story finished floor.

**91.2308.12.4. Braced Wall Line Sheathing.** Braced wall lines shall be braced by one of the types of sheathing prescribed by CBC Table 2308.12.4 as shown in CBC Figure 2308.9.3. The sum of lengths of braced wall panels at each braced wall line shall conform to CBC Table 2308.12.4. Braced wall panels shall be distributed along the length of the braced wall line and start at not more than 8 feet (2438 mm) from each end of the braced wall line. Panel sheathing joints shall occur over studs or blocking. Sheathing shall be fastened to studs, top and bottom plates and at panel edges occurring over blocking. Wall framing to which sheathing used for bracing is applied shall be nominal 2 inch wide [actual 1 1/2 inch (38 mm)] or larger members, spaced a maximum of 16 inches on center. Nailing shall be minimum 8d common placed 3/8 inches from panel edges and spaced not more than 6 inches on center, and 12 inches on center along intermediate framing members. Braced wall panel construction types shall not be mixed within a braced wall line. Braced wall panels required by CBC Section 2308.12.4 may be eliminated when all of the following requirements are met:

1. One story detached Group U occupancies not more than 25 feet in depth or length.
2. The roof and three enclosing walls are solid sheathed with 1/2-inch nominal thickness wood structural panels with 8d common nails placed 3/8 inches from panel edges and spaced not more than 6 inches on center along all panel edges and 12 inches on center along intermediate framing members. Wall



openings for doors or windows are permitted provided a minimum 4 foot wide wood structural braced panel with minimum height to length ratio of 2 to 1 is provided at each end of the wall line and that the wall line be sheathed for 50% of its length.

Wood structural panel sheathing shall be minimum of 15/32 inch thick nailed with a 8d common placed 3/8 inches from panel edges and spaced not more than 6 inches on center and 12 inches on center along intermediate framing members.

**TABLE 2308.12.4**  
**WALL BRACING IN SEISMIC DESIGN CATEGORIES D AND E**  
**(Minimum Length of Wall Bracing per each 25 Linear Feet of Braced Wall Line<sup>a</sup>)**

CONDITION	SHEATHING TYPE <sup>b</sup>	$S_{DS} < 0.50$	$0.50 \leq S_{DS} < 0.75$	$0.75 \leq S_{DS} < 1.00$	$S_{DS} > 1.00$
One Story	G-P <sup>c</sup>	10 feet 8 inches	14 feet 8 inches	18 feet 8 inches	25 feet 0 inches
	S-W <sup>d</sup>	5 feet 4 inches	8 feet 0 inches	9 feet 4 inches	12 feet 0 inches

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

- Minimum length of panel bracing of one face of the wall for S-W sheathing shall be at least 4'-0" long or both faces of the wall for G-P sheathing shall be at least 8'-0" long; h/w ratio shall not exceed 2:1. For S-W panel bracing of the same material on two faces of the wall, the minimum length is permitted to be one-half the tabulated value but the h/w ratio shall not exceed 2:1 and design for uplift is required.
- G-P = gypsum board, lath and portland cement plaster or gypsum sheathing boards; S-W = wood structural panels.
- Nailing as specified below shall occur at all panel edges at studs, at top and bottom plates and, where occurring, at blocking: For 1/2-inch gypsum board, 5d (0.113 inch diameter) cooler nails at 7 inches on center; For 5/8-inch gypsum board, No. 11 gage (0.120 inch diameter) at 7 inches on center; For gypsum sheathing board, 1 3/4 inches long by 7/16-inch head, diamond point galvanized nails at 4 inches on center; For gypsum lath, No. 13 gage (0.092 inch) by 1 1/8 inches long, 19/64-inch head, plasterboard at 5 inches on center; For Portland cement plaster, No. 11 gage (0.120 inch) by 1 1/2 inches long, 7/16-inch head at 6 inches on center;
- S-W sheathing shall be a minimum of 15/32" thick nailed with 8d common placed 3/8 inches from panel edges and spaced not more than 6 inches on center and 12 inches on center along intermediate framing members.

**91.2308.12.5. Attachment of Sheathing.** Fastening of braced wall panel sheathing shall not be less than that prescribed in Table 2308.12.4 of this division or CBC Section 2304.9.1. Wall sheathing shall not be attached to framing members by adhesives. Staple fasteners in Table 2304.9.1 shall not be used to resist or transfer seismic forces in structures assigned to Seismic Design Category D, E or F.

**EXCEPTION:** Staples may be used to resist or transfer seismic forces when the allowable shear values are substantiated by cyclic testing and approved by the building official.

All braced wall panels shall extend to the roof sheathing and shall be attached to parallel roof rafters or blocking above with framing clips (18 gauge minimum) spaced at maximum 24 inches (6096 mm) on center four 8d nails per leg (total 8d nails per clip). Braced wall panels shall be laterally braced at each top corner and at maximum 24 inch (6096 mm) intervals along the top plate of discontinuous vertical framing.

Sec. 40. Division 25 of Article 1 of Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.2503. INSPECTIONS.**

Section 2503 of the CBC is adopted by reference, CBC Section 2503.1 is not adopted and in lieu Sections 91.2503.1 is added.

**91.2503.1. Inspection.** Lath and gypsum board shall be inspected in accordance with Section 91.108.5.3.

Sec. 41. Division 27 of Article 1 Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.2700. BASIC PROVISIONS.**

Chapter 27 of the C.B.C. is hereby adopted by reference, except that Sections 91.2702.15.1 and 91.2702.2.18.1 are being added.

**91.2702.2.15.1. Fuel Supply.** An on-premises fuel supply, sufficient for not less than 6-hour full-load operation of the emergency and standby source(s), shall be provided. This fuel supply shall not be less than 8-hour when the load also includes fire pump(s).

**91.2702.2.18.1. Fuel Supply.** An on-premises fuel supply, sufficient for not less than 6-hour full-load operation of the standby power source(s), shall be provided.

Sec. 42. Section 91.3002 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.3002. HOISTWAY ENCLOSURES.**

Section 3002 of the CBC is adopted by reference, except that Sections 3002.1.1, 3002.1.2, 3002.3 exceptions 1 and 2 only, 3002.4.4a, 3002.5, 3002.8, 3002.9 and 3002.9.1 through 3002.9.5 of the CBC are not adopted and in lieu Sections 91.3002.1.1 and 91.3002.3 are added.

**91.3002.1.1. Opening Protectives.** Openings in hoistway enclosures shall be protected as required in Division 7 of this Code.

**91.3002.3. Emergency Signs.** An approved pictorial sign of a standardized design shall be posted adjacent to each elevator call station on all floors instructing occupants to use the exit stairways and not to use the elevators in case of fire. The sign shall read: IN FIRE EMERGENCY, DO NOT USE ELEVATOR. USE EXIT STAIRS.

Sec. 43. Section 91.3007 is added to the Los Angeles Municipal Code to read as follows:

**SEC. 91.3007. FIRE SERVICE ACCESS ELEVATOR.**

Section 3007 of the CBC is not adopted.

Sec. 44. Section 91.3008 is added to the Los Angeles Municipal Code to read as follows:

**SEC. 91.3008. OCCUPANT EVACUATION ELEVATORS.**

Section 3008 of the CBC is not adopted by reference.

Sec. 45. Section 91.3110 of the Los Angeles Municipal Code is deleted, and Section 91.3111 is added to read as follows:

**SEC. 91.3111. PATIO COVERS.**

**91.3111.1. General.** Section I101.1 of Appendix I of the CBC is adopted by reference.

**91.3111.2. Definitions.** Section I101.2 of Appendix I of the CBC is adopted by reference.

**91.3111.3. Exterior Openings.** Section I101.3 of Appendix I of the CBC is adopted by reference.

**91.3111.4. Structural Provisions.** Section I101.4 of Appendix I of the CBC is adopted by reference.

Sec. 46. Division 32 of Article 1 of Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.3200. BASIC PROVISIONS.**

Chapter 32 of the CBC is adopted by reference with the following exceptions, modifications and additions:

**SEC. 91.3201. GENERAL.**

Section 3201 of the CBC is adopted by reference, except Sections 3201.1 and 3201.3 of the CBC are not adopted and in lieu Sections 91.3201.1 and 91.3201.3 are added.

**91.3201.1. Scope.** The provisions of this division shall govern the encroachment of structures into the public right-of-way.

No portion of any projection from any building over any roadway shall be lower than an elevation of 14 feet (4267 mm) above the roadway surface.

**91.3201.3. Other Laws.** The provisions of this division shall not be construed to permit the violation of other laws or ordinances regulating the use and occupancy of public property.

Projections into the public right-of-way shall require the approval of the Department of Public Works.

**SEC. 91.3202. GENERAL.**

Section 3202 of the CBC is adopted by reference, except Sections 3202.3.1 and 3202.3.3 of the CBC is not adopted and in lieu Section 91.3202.3.1 is added.

**91.3202.3.1. Awnings, Canopies, Marquees and Signs.** Awnings, canopies, marquees and signs shall be constructed so as to support applicable loads as specified in Division 16 of this Code. Awnings, canopies, marquees and signs with less than 15 feet (4572 mm) clearance above the sidewalk shall not extend into or occupy more than two-thirds the width of the sidewalk measured from the building. Stanchions or columns that support awnings, canopies, marquees and signs shall be located not less than two feet (610 mm) in from the curb line.

Plans and specifications and the type, design, arrangement and location of every marquee shall be approved by the Board of Cultural Affairs Commissioners of the City of Los Angeles and the Board of Public Works prior to the issuance of a building permit.

Sec. 47. Section 91.3304 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.3304. SITE WORK.**

Section 3304 of the CBC is adopted by reference, except Section 3304.1.4 of the CBC is not adopted and in lieu Section 91.3304.1.4 is added.

**91.3304.1.4. Fill Supporting Foundations.** Fill to be used to support the foundations of any building or structure shall comply with CBC Section 1804.5 and Division 70 of this Code. Special inspections of compacted fill shall be in accordance with CBC Section 1704.7.

Sec. 48. Division 34 of Article 1 of Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.3401. GENERAL.**

Chapter 34 of the California Building Code is adopted by reference, except Sections 3401.1, 3401.2, 3401.3, 3401.4.1, 3403.1.1, 3404.1.1, 3405.1, 3405.1.2, 3405.2.1, 3408.1, 3409.1 and 3410 are not adopted and in lieu Sections 91.3401.1,

91.3401.2, 91.3401.3, 91.3401.4.1, 91.3405.1, 91.3405.1.2, 91.3405.2.1, 91.3408.1, 91.3409.1 and 91.3410 are added.

**91.3401.1. Scope.** In addition of the requirements of Chapter 34 of the CBC, existing buildings and structures shall comply with the applicable regulations of Divisions 81, 82, 83, 84, 85, 86, 88, 89 and 91 of this Code and the voluntary earthquake hazard reduction standards of Divisions 92, 93, 94, 95 and 96 of this Code.

Alteration, repair or additions to existing bleachers, grandstands and folding and telescopic seating shall comply with ICC 300-02.

**91.3401.2. Maintenance.** Buildings and structures, and parts thereof, shall be maintained in a safe and sanitary condition. Devices or safeguards which are required by the CBC shall be maintained in conformance with the code edition under which installed. The owner or the owner's designated agent shall be responsible for the maintenance of buildings and structures. To determine compliance with this subsection, the Department shall have the authority to require a building or structure to be reinspected. The requirements of this chapter shall not provide the basis for removal or abrogation of fire protection and safety systems and devices in existing structures. Maintenance of buildings and structures shall comply with Division 81 and 86 of this Code.

**91.3401.3. Compliance.** Alterations, repairs, additions and changes of occupancy to existing structures shall comply with the provisions for alterations, repairs, additions and changes of occupancy in the California Fire Code, California Mechanical Code, California Plumbing Code, California Residential Code, and California Electrical Code.

[HCD 1] See Chapter CBC 34, Sections 3403.1.4.3, 3403.1.1 and 3404.1.1 and CCR Title 25, Division 1, Chapter 1, Subchapter 1, commencing with Article 1, Section 1 for existing buildings or structures.

Where there are different requirements in this Code, the most restrictive requirement shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

**91.3401.4.1. Existing Materials.** Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the Department to be dangerous to life, health or safety. Where such conditions are determined to be dangerous to life, health or safety, they shall be mitigated or made safe.

**91.3403.1.1. Replacement, Retention and Extension of Original Materials. [HCD1].** The replacement, retention and extension of original materials, and the use of original methods of construction, for any building or accessory structure may remain, provided the aggregate value of work in any 1 year does not exceed 10 percent of the replacement value, and provided further that no hazardous conditions exist and

provided such building or structure complied with the building code provisions in effect at the time of original construction and the building or accessory structure does not become or continue to be a substandard building. For additional information, see Health and Safety Code Sections 17912, 17920.3, 17922(d), 17922.3, 17958.8 and 17958.9.

Alterations, repairs or rehabilitation of the existing portion in excess of 10 percent of the replacement value of building or structure may be made provided all the work conforms to this Code for a new building and that no hazardous conditions or substandard buildings are continued or created in the remainder of the building as a result of such work.

Whenever the aggregate value of the addition, alterations, repairs, or rehabilitation of the existing portion is in excess of 50 percent of the replacement cost of the building or structure, the entire building or structure shall be made to conform to this Code.

**91.3404.1.1. Replacement, Retention and Extension of Original Materials. [HCD1].**

The replacement, retention and extension of original materials, and the use of original methods of construction, for any building or accessory structure may remain, provided the aggregate value of work in any one year does not exceed 10 percent of the replacement value, and provided further that no hazardous conditions and such building or structure complied with the building code provisions in effect at the time of original construction and the building or accessory structure does not become or continue to be a substandard building. For additional information, see Health and Safety Code Sections 17912, 17920.3, 17922(d), 17922.3, 17958.8 and 17958.9.

Alterations, repairs or rehabilitation of the existing portion in excess of 10 percent of the replacement value of building or structure may be made provided all the work conforms to this Code for a new building and that no hazardous conditions or substandard buildings as are continued or created in the remainder of the building as a result of such work.

Whenever the aggregate value of the addition, alterations, repairs, or rehabilitation of the existing portion is in excess of 50 percent of the replacement value of the building or structure, the entire building or structure shall be made to conform to this Code.

**91.3405.1. General.** Buildings and structures, and parts thereof, shall be repaired in compliance with Section 3401.2. Work on nondamaged components that is necessary for the required repair of damaged components shall be considered part of the repair and shall not be subject to the requirements for alterations in this chapter. Routine maintenance required by Section 3401.2, Division 81, and ordinary repairs exempt from a permit in accordance with Section 106, and abatement of wear due to normal service conditions shall not be subject to the requirements for repairs in this Section.

**EXCEPTION:** For state-owned buildings, including those owned by the University of California and the California State University and the Judicial Council, the requirements of CBC Sections 3405.2 through 3405.4 are replaced by the requirements of CBC Sections 3417 through 3423.

**91.3405.1.2. Replacement, Retention and Extension of Original Materials. [HCD1]**

The replacement, retention and extension of original materials, and the use of original methods of construction, for any building or accessory structure may remain, provided the aggregate value of work in any 1 year does not exceed 10 percent of the replacement value, and provided further that no hazardous conditions exists and provided such building or structure complied with the building code provisions in effect at the time of original construction and the building or accessory structure does not become or continue to be a substandard building. For additional information, see Health and Safety Code Sections 17912, 17920.3, 17922(d), 17922.3, 17958.8 and 17958.9.

Alterations, repairs or rehabilitation of the existing portion in excess of 10 percent of the replacement value of building or structure may be made provided all the work conforms to this Code for a new building and that no hazardous conditions or substandard buildings as are continued or created in the remainder of the building as a result of such work.

Whenever the aggregate value of the addition, alterations, repairs, or rehabilitation of the existing portion is in excess of 50 percent of the replacement cost of the building or structure, the entire building or structure shall be made to conform to this Code.

**91.3405.2.1. Evaluation.** The building shall be evaluated by a registered design professional, and the evaluation findings shall be submitted to the code official. The evaluation shall establish whether the damaged building, if repaired to its predamage state, would comply with the provisions of this Code for wind and earthquake loads. Evaluation for earthquake loads shall be required if the substantial structural damage was caused by or related to earthquake effects or if the building is in Seismic Design Category C, D, E or F. Wind loads for this evaluation shall be those prescribed in Section 1609. Earthquake loads for this evaluation, if required, shall be permitted to be 75 percent of those prescribed in Section 1613 or loads required by the code effective at the time of the original construction whichever is greater. Values of  $R$ ,  $W_0$  and  $C_d$  for the existing seismic force-resisting system shall be those specified by this Code for an ordinary system unless it is demonstrated that the existing system will provide performance equivalent to that of an intermediate or special system.

**91.3408.1. Conformance.** No change shall be made in the use or occupancy of any building that would place the building in a different division of the same group of occupancies or in a different group of occupancies, unless such building is made to comply with the requirements of this code for such division or group of occupancies. Subject to the approval of the Department, the use or occupancy of existing buildings

shall be permitted to be changed and the building is allowed to be occupied for purposes in other groups without conforming to all the requirements of this Code for those groups, provided the new or proposed use is less hazardous, based on life and fire risk, than the existing use. Change of occupancy, use and rating classification as prescribed in Division 88 shall also comply with Division 82.

**91.3409.1. Historic Buildings.** Historic buildings or structures shall comply with Section 91.8119 of this Code.

Buildings or structures that are relocated in whole or in part into or within the City of Los Angeles shall comply with the provisions of Division 83 of this Code.

Sec. 49. Section 91.6105 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.6105. SEPARATION FROM OIL WELLS.**

No school, hospital, sanitarium or assembly occupancy shall be within 200 feet from the center of the oil well casing.

No public utility fuel manufacturing plant or public utility electrical generating, receiving or distribution plant shall be located within 200 feet from the center of the oil well casing.

No building more than 400 square feet (37m<sup>2</sup>) in area and taller than 36 feet in height shall be erected within 50 feet from the center of an oil well casing.

A distance separation between the exterior wall of the building and the center of an oil well casing shall be maintained with a horizontal distance equal to 1 ½ times the building's height, provided however, that that distance need not exceed 200 feet. The building height for this provision shall be measured vertically from the adjacent lowest ground elevation to the ceiling of the top story.

**EXCEPTIONS:** The distance separation may be reduced to the following:

1. 35 feet separation if a solid 6 inches thick masonry wall and no shorter than 6 feet tall to be constructed within 50 feet from the building in between the oil well and all portions of the building.
2. 26 feet if any portion of the building exterior walls within 50 feet from the center of an oil well casing shall be constructed with no openings and one hour fire resistive construction with a 3 foot high fire rated parapet.
3. 15 feet if any portion of the building exterior walls within 50 feet from the center of an oil well casing shall be constructed with no



openings and two-hour fire resistive construction with a 3 foot high fire rated parapet.

Sec. 50. Section 91.6215 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.6215. REFERENCED STANDARDS.**

ASTM D 635-03	Test Method for Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position	Section 91.6207.1.1
NFPA 70-08	National Electrical Code	Sections 91.6206.1, 91.6206.2
NFPA 701-99	Methods of Fire Test for Flame Propagation of Textiles and Films	Section 91.6206.1.1

Sec. 51. Section 91.6302.3 of the Los Angeles Municipal Code is amended to read as follows:

**91.6302.3. Special Ventilation.** A mechanical exhaust ventilation system capable of effectively removing cooking odors, smoke, steam, grease and vapors shall be provided at or above cooking equipment such as ranges, griddles, ovens, deep fat fryers, barbecues and rotisseries.

All hoods, ducts, fans and other devices provided to ventilate the cooking areas of commercial food preparation equipment in commercial food establishments shall be installed as required by and in compliance with the provisions of the Los Angeles Mechanical Code. Rooms in which exhaust systems are installed shall be provided with acceptable air inlets to admit at least as much air as is exhausted by these systems.

Ducts penetrating a ceiling or floor shall be enclosed in a shaft enclosure conforming to the requirements of CBC Section 708. Where a shaft enclosure is not required by CBC Section 708, ducts that convey grease vapors shall be enclosed in a one-hour fire-resistive shaft. The shaft shall be separated from the duct by a minimum three-inch air space vented to the outside air.

Sec. 52. Section 91.6302.5 of the Los Angeles Municipal Code is amended to read as follows:

#### **91.6302.5. Dressing Rooms.**

A room enclosure or designated area, separated from toilets, food storage, food preparation areas, and utensil washing areas, shall be provided where employees may change and store clothes. No employee shall store clothing or personal effects in any other area on the premises.

Where there are five or more operators, a room shall be provided where operators may change and store their outer garments. Such room shall be provided with self-closing doors and shall be separated from toilet rooms, food storage rooms or food preparation areas. No person shall dress or undress or store his/her clothing in any room other than as provided herein. Clothes changing rooms shall be maintained in a clean and sanitary conditions.

**EXCEPTION:** Individual lockers to store clothes will be accepted in lieu of dressing facilities where there are fewer than five employees on any shift and provided the plan layout is approved by the Los Angeles County Health Department.

Sec. 53. Section 91.6304.3 of the Los Angeles Municipal Code is amended to read as follows:

**91.6304.3. Additional Requirements for Installation of Bars, Grills, Grates or Similar Devices.** In addition to the requirements of Section 1029, all bars, grills, grates or similar devices shall comply with the following:

1. A permit is obtained from the Department of Building and Safety and a fee is paid as required in Section 91.107.4.5 of this Code. Any permit so issued shall be valid for a period of 90 days from its issuance. The Department may allow a "certified installer" to be used, in lieu of obtaining a permit, in accordance with Section 91.1709.2.

2. Any person who willfully or knowingly, with the intent to deceive, makes a false statement or representation, or knowingly fails to disclose a material fact in any documentation required by the Department to ascertain facts relative to this Section, Section 91.107.4.5 or to Section 91.1709.2 of this Code, including any oral or written evidence presented, shall be guilty of a misdemeanor.

Sec. 54. Section 91.6703 of the Los Angeles Municipal Code is amended to read as follows:

#### **SEC. 91.6703. LIMITATIONS.**

The provisions of this division shall not be applicable to latching or locking devices on exit doors to the extent that the provisions of this division are contrary to the

provisions of Division 10 of this article, nor shall the regulations of this division be construed to waive any other provision of this Code.

No person shall sell, offer for sale, advertise, display for sale or install any metal bars, grilles, grates, security roll-down shutters or similar devices manufactured or installed to preclude human entry through windows and exterior doors without a label attached to each product, printed in at least ten-point type and that reads as follows: "A building permit is required in most cases for the installation of this product. If this product is installed in a sleeping room, unless excepted by the provisions of CBC Section 1029, the device must be equipped with a quick-release latch operable from inside and the dwelling unit provided with an approved smoke detector."

Sec. 55. Section 91.7003 of the Los Angeles Municipal Code is amended to revise the definition of **SOILS ENGINEER (GEOTECHNICAL ENGINEER)** to read as follows:

**SOILS ENGINEER (GEOTECHNICAL ENGINEER)** shall mean a civil engineer duly licensed by the State of California who is experienced in the application of the principles of soil mechanics in the investigation, evaluation and design of civil works involving the use of earth materials.

Sec. 56. Section 91.7005.2 of the Los Angeles Municipal Code is amended to read as follows:

**91.7005.2. Building Foundations.** Building foundations and temporary shoring shall be designed and constructed as specified in Division 18 and Division 33 of this Code.

Sec. 57. Section 91.7005.3 of the Los Angeles Municipal Code is amended to read as follows:

**91.7005.3. Removal of Ground Cover.** The existing vegetative ground cover of any watershed in any hillside area shall not be destroyed, removed or damaged except pursuant to lawful grading, use or occupancy of the property. Except for California native oak, bay, black walnut and sycamore trees regulated by the provisions of Article 7 of Chapter I or Article 6 of Chapter IV of the Los Angeles Municipal Code, removal of trees and shrubbery will be allowed where such work will not disturb the turf, sod or other existing vegetative ground cover. Whenever such ground cover is removed or damaged pursuant to a grading permit, the permittee shall restore and maintain approved ground cover, or shall accomplish such other erosion control protection as is required. Such erosion control shall be completed within 30 days after cessation of the grading work where no valid building permit is in effect for the site.

Sec. 58. Section 91.7006.2 of the Los Angeles Municipal Code is amended to read as follows:

**91.7006.2. Report Requirement.** Reports shall be submitted to the Department for review and approval in, but not limited to, the following circumstances:

1. Soils and/or geological reports are required when they are stipulated in a Grading Preinspection Report prepared in accordance with Section 91.107.3.2 of this Code.
2. Soils and geological reports are required for all grading work in excess of 5,000 cubic yards (3825 m<sup>3</sup>) of cut or fill, or a combination thereof.
3. Soils reports are required when the design of the foundations does not conform to the requirements of Division 18 of this article.
4. Soils and/or geological reports may be required when previously unknown adverse soils or geologic conditions are revealed during construction.
5. Soils and/or geological reports may be required to evaluate liquefaction, slope instability and surface ground rupture resulting from earthquake motions in accordance with CBC Section 1802.

The Superintendent of Building may require a geotechnical investigation in accordance with CBC Section 1802.2 to address the potential of liquefaction when, during the course of an investigation, all of the following conditions are discovered:

1. Shallow ground water, 50 feet (15240 mm) or less.
2. Unconsolidated sandy alluvium.

Sec. 59. Section 91.7012 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.7012. PLANTING AND IRRIGATION OF CUT AND FILL SLOPES IN HILLSIDE AREAS.**

**91.7012.1. General.** All fill and cut slopes in designated hillside areas shall be planted and irrigated to promote the growth of ground cover plants to protect the slopes against erosion, as required in this Section.

The owner shall be responsible for planting and maintaining all slopes where such is required in this Section.

Planting and irrigation shall comply with the provisions of Sections 12.40, 12.41 and 12.42 of Article 2 of Chapter 1 of the Los Angeles Municipal Code.

## **91.7012.2. Minimum Requirements.**

**91.7012.2.1. Low Slopes to 15 Feet (4572 mm) in Vertical Height.** Slopes with vertical height of less than 15 feet (4572 mm) shall comply with the following:

1. Plant with grass or ground cover plants.
2. An irrigation system shall be installed to irrigate these slopes.
3. The owner shall water the slopes which have been planted with grasses and/or ground cover plants at sufficient time intervals to promote growth.

**EXCEPTION:** Where the Department finds the slope is located in such an area as to make hand watering possible, conveniently located hose bibs will be accepted in lieu of the required irrigation system when a hose no longer than 50 feet (15 240 mm) would be necessary.

**91.7012.2.2. Slopes over 15 Feet (4572 mm) in Vertical Height.** Slopes with vertical height over 15 feet (4572 mm) shall comply with the following:

1. Plant with grass or ground cover plants.
2. In addition to grass or ground cover plants, approved shrubs having a one gallon minimum size shall be planted on the slope at 10 feet (3048mm) on center in both directions or trees at 20 feet (6096 mm) on center in both directions. A combination of shrubs and trees may be utilized. The plants and planting pattern may be varied on the recommendation of the landscape architect.
3. Install an adequate irrigation system during grading prior to planting of the shrubs and trees and before grading is approved.

## **91.7012.3. Special Requirements for Sprinkler Systems.**

**91.7012.3.1.** Plans for the sprinkler system shall be submitted to and approved by the Department prior to installation.

**91.7012.3.2.** Irrigation systems shall be designed to provide a uniform water coverage at a rate of precipitation of not more than 3/10 inch (7.6 mm) per hour on the planted slope. In no event shall the duration of sprinkling be permitted such as to create a saturated condition and cause an erosion problem, or allow the discharge of excess water into any public or private street.

**91.7012.3.3.** A check valve and balance cock shall be installed in the system where the drainage from sprinkler heads will create an erosion problem.

**91.7012.3.4.** Adequate backflow protection shall be installed in each irrigation system as required by the Plumbing Code.

**91.7012.3.5.** A functional test of the irrigation system shall be performed by the installer for every sprinkler system prior to approval.

**91.7012.3.6.** Where PVC pipes are used on slopes, they shall be a minimum of schedule 40 and embedded at least eight inches (203 mm) below grade. Such pipes may be exposed for above ground installations provided they are ASTM rated as resistant to ultraviolet sunlight. All risers, sprinkler heads, valves and fittings shall be brass or galvanized metal, or rated as sunlight resistant.

**91.7012.4. Plants.** All plants required by this Section shall be selected with consideration given to deep-rooted plants needing limited watering, low maintenance and having fire-retardant characteristics.

Sec. 60. Section 91.8101 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.8101. GENERAL PROVISIONS.**

**91.8101.1. Purpose.** The purpose of this division is to establish minimum standards to regulate and encourage the proper maintenance and use of existing buildings, structures and premises in order to safeguard life, limb, health, property and public welfare.

Sec. 61. Section 91.8103.2 of the Los Angeles Municipal Code is amended to read as follows:

**91.8103.2. Repair, Rehabilitation, Alteration, and Addition.** Repair, rehabilitation, alteration, and addition shall comply to Division 34 of this Code.

Sec. 62. Section 91.8103.3 of the Los Angeles Municipal Code is added to read as follows:

**91.8103.3. Group I Occupancy.** Buildings classed in Group I Occupancy because of the use or character of the occupancy that are not more than three stories in height, that were established prior to March 4, 1972, and that have been continuously operated as that use or character since that time shall comply with CBC Section 3415.

Sec. 63. Section 91.8106 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.8106. FIRE DISTRICT REQUIREMENTS.**

**91.8106.1. Fire Sprinklers.** In an existing building in Fire District No. 1, every story which has a floor surface elevation more than four feet lower than the highest elevation of the floor landing or tread of any required exit from the story, and is used for keeping, storing, manufacturing, repairing or processing any combustible material, shall be sprinklered.

**EXCEPTION:** Building that is occupied only as a single-family dwelling.

Sec. 64. Section 91.8203 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 91.8203. CHANGE OF OCCUPANCY GROUP OR GROUP DIVISION.**

Every change of occupancy to one classified in a different group or a different division of the same group, as described in Division 3 of this Code, shall require a new Certificate of Occupancy whether or not any alterations to the building are required by this Code. For the purpose of this subdivision, the occupancy group and division of interconnected assembly rooms shall be based on the total occupant load in such rooms.

If the building or portion thereof does not conform to the requirements of this Code for the proposed occupancy group or division, the building or portion thereof shall be made to conform. The Department may issue a new Certificate of Occupancy without stating therein that all of the requirements of the Code have been met and without requiring compliance with all such requirements if it is found that the change in occupancy group or division will result in no overall increase in hazard to life, limb, health, property or public welfare.

**EXCEPTIONS:** Changes of occupancy group or division may be made without establishing that the building complies with current structural requirements of this Code under any of the following conditions:

1. In buildings constructed on or after October 6, 1933, a change of occupancy group or division may be made to establish any occupancy group or division provided the building is not substantially altered.
2. In buildings which are within the scope of Division 88, a change of occupancy group or division may be made to establish any occupancy group or division, provided the building complies or is made to comply with the requirements of Division 88.
3. Except for the Groups A, E, and I Occupancies, which were constructed prior to October 6, 1933, and are not within the scope of Division 88, a change of occupancy group or division may be made to

another of equal or lesser hazard. A change to a higher hazard occupancy group, or to a Group A, E or I Occupancy, shall not be made in buildings constructed prior to October 6, 1933, except for Type I buildings as provided for in Item 4 of this exception.

4. In Type I buildings constructed prior to October 6, 1933, and not within the scope of Division 88, a change to a higher hazard grouping (as listed in Item 3 of this exception) or to a Group A, E, or I Occupancy will be individually considered, taking into account the general structural requirements in effect at the time the building was constructed, the structural system used in the building, the condition of the structural system, the proposed occupancy group or division, the occupant load and other pertinent conditions.

If the building or portion thereof does not conform to the requirements of this Code for the proposed occupancy group or division, then a building permit is required and the application for change of occupancy shall require a plan submittal. The plan shall be of sufficient clarity to show that it conforms to the requirements of this Code by showing the existing conditions and proposed alterations in detail.

Sec. 65. Section 91.8308.2 of the Los Angeles Municipal Code is amended to read as follows:

**91.8308.2.** In the case of a building located outside the City limits of the City of Los Angeles, an additional fee of \$525.00 shall be paid for each application. In addition to the fee, a mileage charge of 65 cents per mile (1609 m) shall be paid for any inspection which is made 10 miles (16090 m) or more beyond City limits. Mileage shall be measured in a straight line from the point 10 miles (16090 m) beyond the City limits which is nearest to the location of the building to be inspected, to the location of the building, and return to said point of departure.

Sec. 66. Section 91.8502.1.2 of the Los Angeles Municipal Code is amended to read as follows:

**91.8502.1.2. Emergency Escape.** Every room below the fourth story where occupants sleep in Joint Living and Work Quarters shall be provided with an emergency escape or rescue window or door, which complies with the requirements of CBC Section 1026.

**EXCEPTION:** The emergency escape or rescue window or door may open directly into an existing court, provided:

- A. The court is accessible to the Fire Department.
- B. The court is provided with a minimum of one direct exit to a corridor, exit stairway, exit passageway, exterior exit stairway, exterior exit balcony, or exterior exit ramp, or existing fire escape. The existing fire



escape shall be structurally sound and shall not serve as an exit for an assembly use.

C. All openings in walls surrounding the court shall be protected as required by CBC Section 705.3 or be provided with an approved water curtain.

Sec. 67. Section 91.8502.2 of the Los Angeles Municipal Code is amended to read as follows:

**91.8502.2. Exterior Wall and Exterior Opening Protection.** Existing construction of the exterior walls may be maintained without complying with current exterior fire resistive wall construction.

Existing unprotected exterior openings, which are not allowed or are required to be protected due to their proximity to a property line, may be maintained without complying with the requirements of CBC Section 705.8 provided the openings are protected with an approved water curtain. Openings in the exterior walls that are not allowed by CBC Section 705.8 due to their proximity to a property line, may not be used to satisfy other code requirements, such as light and ventilation, smoke control or emergency escape.

Sec. 68. Section 91.8502.3.2 of the Los Angeles Municipal Code is amended to read as follows:

**91.8502.3.2. Smoke Dampers.** If a smoke-control system serves more than one floor, then smoke dampers shall be installed in the main exhaust air ducts and the main supply air ducts serving each floor and shall comply with the activation requirements of C.B.C. Section 716.3.3. The smoke dampers shall be installed in a manner that will prevent the movement of smoke from one floor to another floor when the dampers are closed. The vertical risers of the main exhaust air duct shall be installed in metal ducts complying with the requirements for product-conveying ducts in Chapters 5 and 6 of the Mechanical Code.

In the firefighter's control panel, all smoke dampers within the same smoke-control zone shall be actuated by one On-Auto-Off switch in accordance with CBC Section 909.16.3, except that an alternate actuation method may be allowed when approved by both the Fire Department and the Department.

Combination fire and smoke dampers, and smoke dampers shall be listed to conform to UL 555 and they shall be accessible for inspection, service and repair. Pneumatic tubing to operate these dampers shall be of noncombustible materials.

Sec. 69. Section 91.8502.5 of the Los Angeles Municipal Code is amended to read as follows:

**91.8502.5. Fire Alarm System.** If a fire alarm system is required by CBC Section 907.2.8 or 907.2.12.2 for a new building of the same type of construction and occupancy, or installed at the option of the owner, then the entire building shall have fire alarm systems that are in full compliance with CBC Section 907.2.8. In a high-rise building, the fire alarm systems shall be supplied by a generator used as an emergency system in accordance with CBC Section 403.11. For all other buildings, an alternate source of power may be used provided it is approved by both the Fire Department and the Department.

High-rise buildings shall be provided with a central control station (fire control room) that complies with all the requirements of CBC Section 403.4.5 and Section 57.118.02 of the Fire Code including the minimum room dimensions of ten feet.

Sec. 70. Section 91.8502.7.1 of the Los Angeles Municipal Code is amended to read as follows:

**91.8502.7.1. Corridors.** All public corridors serving the occupants of the Joint Living and Work Quarters shall comply with all the requirements of CBC Section 1018, except as follows:

1. Existing nonconforming fire-resistive walls and ceiling of a corridor constructed of wood lath and plaster, which are in good condition, may be acceptable as equivalent to the required one-hour fire-resistive construction.

2. Existing doors between the corridor and the Joint Living and Work Quarters that are part of the historic fabric of a Qualified Historical Building may be allowed to remain provided approved smoke gaskets and self-closing and latching devices to prevent smoke penetration are installed on the door, or the existing door shall be replaced with a door conforming to the requirements of CBC Section 1018.1.

Sec. 71. Section 91.8502.7.4 of the Los Angeles Municipal Code is amended to read as follows:

**91.8502.7.4. Exit Stairway.** All exit stairways shall be enclosed and shall comply with all the requirements of CBC Section 1022. Existing exit stairway enclosures may be allowed to pass through the first-floor elevator lobby, provided an approved fire-rated smoke-sealed door is placed in front of the elevator door on the first floor or there is another exit stairway enclosure leading directly to the public way.

Sec. 72. Section 91.8602.8.1 of the Los Angeles Municipal Code is amended to read as follows:

**91.8602.8.1.** All requirements of this Code with respect to exits shall be complied with.

**EXCEPTIONS:**

1. The provisions of CBC Section 708 which require shaft enclosures need not be complied with, provided the provisions of this Section are met.
2. Every boiler using liquid or solid fuel shall be housed in a boiler room separated from the remainder of the building by two-hour fire-resistive construction with openings protected by a fire assembly having a one-and-one-half-hour fire-resistive rating.
3. Every boiler using fuel gas shall be housed in a boiler room separated from the rest of the building by one-hour fire-resistive construction with openings protected by a fire assembly having a one-hour fire-resistive rating.
4. Each gas piping system serving a Group E Occupancy shall be provided with a gas shutoff valve designed to close the flow of gas to the piping system and a label designating such valve. The label shall be of corrosion-resistant metal with letters at least three inches high, stating: **"GAS SHUT-OFF VALVE"**.
5. Any fire-warning system required to be installed by the Los Angeles Fire Department pursuant to the provisions of Article 7, Chapter V of the Municipal Code shall meet the requirements of Article 760 of the California Electrical Code adopted by the City of Los Angeles.

Sec. 73. Section 91.8603.1.1 of the Los Angeles Municipal Code is amended to read as follows:

**91.8603.1.1. Existing Residential Building.** Except as otherwise provided in LAMC Section 91.8603.1.2, the provisions of CBC Section 907.2.11 shall apply to every dwelling unit, efficiency dwelling unit, guest room and suite in any building where the original building permit was issued prior to May 18, 1980. The smoke detectors may be battery operated until August 1, 1983, at which time the smoke detectors shall be located and permanently wired as required in CBC Section 907.2.11.

Nothing in this Section shall be construed to waive the requirement for permanently wired smoke detectors, which was in effect at the time the original building permit for the building was issued.

Every permanently wired smoke detector installed in a corridor or area giving access to the sleeping rooms shall be located within 12 feet six inches of the sleeping room. Where the location of the detector is less than 12 feet six inches of an appliance, which produces products of combustion other than a forced-air heating unit, a photoelectric type detector shall be required. There shall be no more than one door

separating that type of detector from any room used for sleeping purposes. A permanently wired smoke detector installed pursuant to a permit issued prior to July 31, 1981, need not comply with this paragraph until replaced.

Sec. 74. Section 91.8603.1.2 of the Los Angeles Municipal Code is amended to read as follows:

**91.8603.1.2. Existing Apartment Hotels and Hotels Over 75 Feet in Height.** Every existing apartment hotel more than 75 feet in height and containing no more than nine dwelling units and every existing hotel more than 75 feet in height, where the original building permit for the building was issued prior to May 18, 1980, shall comply with the provisions of CBC Section 907.2.11 not later than August 1, 1981.

**EXCEPTION:** The operative date for compliance may be delayed until August 1, 1982, if the Department determines that the building complies with either the provisions of CBC Sections 420 and 602.2 or CBC Section 3412.

Notwithstanding any other provision here to the contrary, every guest room in any apartment hotel or hotel described in this Section when used as a light-housekeeping room, as that term is described in Section 91.8116.1 of this Code, shall be provided with smoke detectors in compliance with the provisions of CBC Section 907.2.11 and the provisions of Section 91.8603.2 of this Code pertaining to photoelectric type smoke detectors located in corridors or areas giving access to sleeping rooms. Smoke detectors may be battery operated until August 1, 1982, at which time the smoke detectors shall be located and permanently wired as required by CBC Section 907.2.11.

Sec. 75. Section 91.8603.2.1 of the Los Angeles Municipal Code is amended to read as follows:

**91.8603.2.1. Existing One-Family Dwellings.** After July 31, 1980, existing one-family dwellings shall be provided with smoke detectors, which may be battery operated, located as specified in CBC Section 907.2.11 for Group R, Division 3 Occupancies, if:

1. The dwelling is sold or exchanged and the original building permit was issued prior to May 19, 1980; or
2. Alterations, repairs or additions requiring a permit are made or reroofing or shower pan replacement is performed by a Certified Licensed Contractor pursuant to Section 91.108.12 of this Code with a valuation in excess of \$1,000.00; or
3. One or more sleeping rooms are added or created; or

4. Bars, grilles, grates, roll-down security shutters, or similar devices are installed on all emergency escape windows and exterior doors of any sleeping rooms.

Nothing in this Section shall be construed to waive the requirement to permanently install wired smoke detectors, which were required at the time the original building permit for the building was issued.

For the purposes of this subsection, the term "permit" shall not include permits required for the repair or replacement of electrical, plumbing or mechanical equipment.

Sec. 76. Section 91.8603.2.2 of the Los Angeles Municipal Code is amended to read as follows:

**91.8603.2.2 Existing Two-Family Dwellings.** Every building containing two dwelling units and not more than five guest rooms, where the original building permit was issued prior to May 18, 1980, shall comply with the provisions of CBC Section 907.2.11 and the provisions of LAMC Section 91.8603.2.1 pertaining to photoelectric-type smoke detectors located in corridors or areas giving access to sleeping rooms. Smoke detectors may be battery operated until August 1, 1983, at which time the smoke detectors shall be located and permanently wired as required by CBC Section 907.2.11.

Nothing in this Section shall be construed to waive a requirement to install permanently wired smoke detectors, which were required at the time the original building permit for the building was issued.

Sec. 77. Section 91.8604.2.3 of the Los Angeles Municipal Code is amended to read as follows:

**91.8604.2.3. Shaft Enclosures.** Every opening in a floor shall be enclosed as required by CBC Section 708 for shaft enclosures, provided, however, that existing enclosure walls constructed of wood lath and plaster or equivalent fire-resistive materials and which are in good condition may be accepted in lieu of enclosure wall construction.

Corridor exits, which are interrupted by stairwell enclosures required by this subdivision, shall be provided with exit door fire assemblies, which will close automatically when activated by an approved smoke detector.

**EXCEPTIONS:**

1. The shaft protection required by this paragraph may be omitted if the building is sprinklered throughout.

2. Existing metal elevator doors need not be replaced if they are in good condition. These doors may have openings protected with wire glass.

Sec. 78. Section 91.8605.2 of the Los Angeles Municipal Code is amended to read as follows:

**91.8605.2. General.** Notwithstanding any provisions of this Code to the contrary, the following requirements shall apply to emergency homeless shelters operated during a shelter crisis, as provided for in Government Code Section 8698, et seq. Other than the requirements set forth below, the facilities need not comply with the requirements of this Code for Group R occupancies unless otherwise specified in this Code:

1. The maximum occupant load allowed in these facilities shall be the number determined appropriate by the professional service provider operating the facility and/or the Community Development Department of the City of Los Angeles, but in no event resulting in less than 50 square feet of usable area per occupant.

**2. Fire Safety Requirements.**

A. All exits shall comply with Division 33 of Article 7 of Chapter V of Division 10 of this Code.

B. Smoke detection devices shall be provided in all sleeping areas and shall be installed in accordance with Division 112 of Article 7 of Chapter V of this Code and CBC Section 907.2.11.

C. A fire alarm system capable of arousing occupants shall be installed in accordance with Division 122 of Article 7 of Chapter V of this Code and CBC Section 907.1.

D. The use of any open flames and the possession or storage of any combustibles shall not be permitted.

**EXCEPTION:** The Superintendent of Building may approve the use of open flames and storage of combustibles in these buildings with concurrence of the Fire Department.

E. Sleeping quarters shall be limited to the ground floor only.

**3. Security.**

A. An adequate number of security personnel shall remain on the premises during actual occupancy for the protection of the occupants and property.

B. Adequate lighting for security purposes shall be provided at all times.

4. **Light, Heating, Ventilation and Sanitation.**

A. Exterior openings for natural light and ventilation shall be provided as required for Group R occupancy, CBC Sections 1203 and 1205.

B. All sleeping areas shall be provided with heating facilities capable of maintaining a room temperature of 70°F at a point eight feet above the floor.

C. Every building shall be provided with at least one water closet or at least two separate toilet facilities where both sexes are accommodated. Additional water closets shall be provided for each sex at the rate of one for every 20 beds in excess of 20.

5. **Additional Requirements.**

A. Operating procedures shall be developed by the professional service provider and approved by the Community Development Department of the City of Los Angeles. These procedures shall be designed to maintain order and safety within the Emergency Homeless Shelter.

B. Emergency Homeless Shelters shall be open for occupancy between the hours of 6:00 p.m. and 6:00 a.m. of the following day.

Sec. 79. Section 91.8808.2 of the Los Angeles Municipal Code is amended to read as follows:

**91.8808.2. Lateral Forces on Elements of Structures.** Parts or portions of structures shall be analyzed and designed for lateral loads in accordance with Sections 91.8808.1 of this Code and ASCE 7, but not less than the value from the following formula:

$$F_p = IC_p SW_p \quad (8-2)$$

For the provisions of this Section, the product of IS need not exceed the values as set forth in Table No. 88-E.

**EXCEPTION:** Unreinforced masonry walls in buildings not having a Rating Classification I may be analyzed in accordance with Section 91.8809.

The value of  $C_p$  need not exceed the values set forth in Table No. 88-F.

Sec. 80. Section 91.8808.6.3 of the Los Angeles Municipal Code is amended to read as follows:

**91.8808.6.3. Unreinforced Masonry Walls.** Except as modified here, unreinforced masonry walls shall be analyzed as specified in the applicable parts of CBC Sections 2106 and 2107 to withstand all vertical loads as specified in Division 16 of this Code in addition to the seismic forces required by this Division.

Substantial changes in wall thickness or stiffness shall be considered in the analysis for out-of-plane and in-plane wall stability, and the wall shall be restrained against out-of-plane instability by anchorage and bracing to the roof or floor diaphragm in accordance with Section 91.8808.3 of this Code.

**EXCEPTION:** Variations in wall stiffness caused by nominal openings such as windows and exit doors need not be considered.

No allowable tension stress will be permitted in unreinforced masonry walls. Walls not capable of resisting the required design forces specified in this division shall be strengthened or shall be removed and replaced.

**EXCEPTIONS:**

1. Unreinforced masonry walls in buildings not classified as a Rating Classification I pursuant to Table No. 88-A may be analyzed in accordance with Section 91.8809 of this Code.

2. Unreinforced masonry walls which carry no design loads other than their own weight may be considered as veneer if they are adequately anchored to new supporting elements.

Sec. 81. Section 91.8809.2.2 of the Los Angeles Municipal Code is amended to read as follows:

**91.8809.2.2. Veneer.** Veneer shall be anchored with approved anchor ties conforming to the required design capacity specified in Section 91.1405 of this Code and placed at a maximum spacing of 24 inches (610 mm).

**EXCEPTION:** Existing veneer anchor ties may be acceptable provided the ties are in good condition and conform to the minimum size, maximum spacing and material requirements specified in the provisions of the Los Angeles Building Ordinances in effect prior to October 6, 1933. Said provisions specified that veneer anchor ties shall be corrugated galvanized iron strips not less than one inch (25 mm) in width, eight inches (203 mm) in length and 1/16 inch (1.6 mm) in thickness and shall be located and laid in every alternate course in the vertical height of the wall at a spacing not to exceed 17 inches (432 mm) on center horizontally. As an alternate, said provisions specified that such ties may be laid in every fourth course vertically at a spacing not to exceed nine inches (229 mm) on center horizontally.



The existence and condition of existing veneer anchor ties shall be verified as follows:

1. An approved testing laboratory shall verify the location and spacing of the ties and shall submit a report to the Department for approval as a part of the structural analysis.
2. The veneer in a selected area shall be removed to expose a representative sample of ties (not less than four) for inspection by the Department.

Sec. 82. Section 91.8809.5.3 of the Los Angeles Municipal Code is amended to read as follows:

**91.8809.5.3. In-Place Shear Tests.** The bed joints of the outer wythe of the masonry shall be tested in shear by laterally displacing a single brick relative to the adjacent bricks in that wythe. The mortar in the opposite head joint of the brick to be tested shall be removed and cleaned prior to testing. The minimum quality mortar in 80 percent of the shear tests shall not be less than the total of 30 psi (206.9 kPa) plus the axial stress in the wall at the point of the test. The shear stress shall be based on the gross area of both bed joints and shall be that shear stress at which movement of the masonry is first measured or at which cracking first appears.

An internal caliper, graduated in 0.001 of an inch (0.025 mm) increments shall be used to measure movement of the masonry unit. A hydraulic jack equipped with a pressure gauge graduated in increments of 50 psi (345 kPa) or less shall be used. The jack load shall be applied at a rate not exceeding 5,000 pounds (22 240 N) per minute.

The test shall be conducted by a minimum of two technicians. Load and displacement readings shall be recorded at the following intervals:

1. At a caliper reading of 0.001 inch (0.025 mm);
2. At first visually observed sign of movement or cracking of the mortar or masonry unit;
3. At a caliper reading of 0.02 inch (0.51 mm); and
4. The ultimate load on the unit.

The masonry unit to be tested shall not be located adjacent to a bond course in a brick wall laid in common bond. Tests to evaluate the mortar quality of structural walls shall not be conducted in masonry veneer.

Walls with mortar values which are consistently low and do not meet the minimum quality values specified in this Section shall be entirely pointed per Chapter

A1, Section A103 and A106.3.3.9 of 2007 California Existing Building Code except that the depth of joint penetration shall be 1-1/2 inch (38 mm) in lieu of the 3/4 inch (19 mm) specified.

Sec. 83. Tables 88-H, 88-I and 88-L in Division 88 of Article IX of the Los Angeles Municipal Code are amended to read as follows:

**TABLE NO. 88-H  
VALUES FOR EXISTING MATERIALS**

<b>EXISTING MATERIALS OR CONFIGURATION OF MATERIALS <sup>1</sup></b>	<b>ALLOWABLE VALUES</b>
<b>1. HORIZONTAL DIAPHRAGMS</b>	
(a) Roofs with straight sheathing and roofing applied directly to the sheathing.	100 lbs. per foot for seismic shear.
(b) Roofs with diagonal sheathing and roofing applied directly to the sheathing.	400 lbs. per foot for seismic shear.
(c) Floors with straight tongue-and-groove sheathing.	150 lbs. per foot for seismic shear.
(d) Floors with straight sheathing and finished wood flooring.	300 lbs. per foot for seismic shear.
(e) Floors with diagonal sheathing and finished wood flooring.	450 lbs. per foot for seismic shear.
(f) Floors or roofs with straight sheathing and plaster applied to the joist or rafters. <sup>2</sup>	Add 50 lbs. per foot to the allowable values for items 1(a) and 1(c).
<b>2. SHEAR WALL</b> Wood stud walls with lath and plaster	100 lbs. per foot each side for seismic shear.
<b>3. PLAIN CONCRETE FOOTINGS</b>	$f'_c = 1500$ psi unless otherwise shown by tests
<b>4. DOUGLAS FIR WOOD</b>	Allowable stress same as No. 1 D.F. <sup>3</sup>
<b>5. REINFORCING STEEL</b>	$f_y = 18,000$ lbs. per square inch maximum
<b>6. STRUCTURAL STEEL</b>	$f_y = 20,000$ lbs. per square inch maximum

For SI: 1 pound per foot = 0.0146 N/m, 1 pound per square inch (psi) = 6.895 kPa.

**Notes:**

- <sup>1</sup> Material must be sound and in good condition.
- <sup>2</sup> The wood lath and plaster must be reattached to existing joists or rafters in a manner approved by the Department.
- <sup>3</sup> Stresses given may be increased for combinations of loads as specified in Section 91.8808.7.2 of this Code.

**TABLE NO. 88-I**  
**ALLOWABLE VALUES OF NEW MATERIALS USED**  
**IN CONJUNCTION WITH EXISTING CONSTRUCTION**

NEW MATERIALS OR CONFIGURATION OF MATERIALS <sup>1</sup>	ALLOWABLE VALUES
1. HORIZONTAL DIAPHRAGMS	
Plywood sheathing applied directly over existing straight sheathing with ends of plywood sheets bearing on joists or rafters and edges of plywood located on center of individual sheathing boards.	Same as specified in CBC Table 2306.2.1.(1) and 2306.2.1.(2) for blocked diaphragms.
2. SHEAR WALLS	
a. Plywood sheathing applied directly over existing wood studs. No value shall be given to plywood applied over existing plaster or wood sheathing.	Same as values specified in CBC Table 2306.3 for shear walls.
b. Dry wall or plaster applied directly over existing wood studs.	75 percent of the values specified in CBC Table 2306.7.
c. Dry wall or plaster applied to plywood sheathing over existing wood studs.	33 1/3 percent of the values specified in CBC Table 2306.7.
3. SHEAR BOLTS	
Shear bolts and shear dowels embedded a minimum of eight inches into unreinforced masonry walls. Bolt centered in a 2-1/2 inch-diameter hole with drypack or an approved non-shrink grout around circumference of bolt or dowel. <sup>1,3</sup>	133 percent of the values for plain solid masonry specified in Table No. 88-M. No values larger than those given for 3/4 inch bolts shall be used.
4. TENSION BOLTS	
Tension bolts and tension dowels extending entirely through unreinforced masonry secured with bearing plates on far side of wall with at least 30 square inches of area. <sup>2,3,4</sup>	1200 lbs. per bolt or dowel.
5. COMBINATION SHEAR AND TENSION WALL ANCHORS	
a. Bolts extending to the exterior face of the wall with a 2-1/2 inch round plate under the head. Install as specified for shear bolts. Spaced not closer than 12 inches on centers. <sup>1,2,3</sup>	600 lbs. per bolt for tension. <sup>4</sup> See Item 3 (SHEAR BOLTS) for shear values.
b. Bolts or dowels extending to the exterior face of the wall with a 2-1/2 inch round plate under the head and drill at an angle of 22-1/2 degrees to the horizontal. Installed as specified for shear bolts. <sup>1,2,3</sup>	1200 lbs per bolt or dowel for tension. <sup>4</sup> See Item 3 (SHEAR BOLTS) for shear values.
c. Through bolt with bearing plate for	See Item 4 (TENSION BOLTS) for

tension per Item 4. Combined with minimum eight-inch grouted section for shear per Item 3.	tension values. <sup>4</sup> See Item 3 (SHEAR BOLTS) for shear values.
6. INFILLED WALLS	
Reinforced masonry infilled openings in existing unreinforced masonry walls with keys or dowels to match reinforcing.	Same as values specified for unreinforced masonry walls.
7. REINFORCED MASONRY	
Masonry piers and walls reinforced per CBC Section 2106 and Section 91.2107 of this Code.	Same as values determined per CBC Section 2106.
8. REINFORCED CONCRETE	
Concrete footings, walls and piers reinforced as specified in Division 19 of this Code and designed for tributary loads.	Same as values specified in Division 19 of this Code.
9. EXISTING FOUNDATION LOADS	
Foundation loads for structures exhibiting no evidence of settlement.	Calculated existing foundation loads due to maximum dead load plus live load may be increased 25 percent for deadload, and may be increased 50 percent for dead load plus seismic load required by this division.

For SI: 1 inch = 25.4 mm, 1 square inch = 645.16 mm<sup>2</sup>, 1 pound = 4.45 N.

<sup>1.</sup> Bolts and dowels to be tested as specified in Section 91.8809.6 of this Code.

<sup>2.</sup> Bolts and dowels to be 1/2-inch minimum in diameter.

<sup>3.</sup> Drilling for bolts and dowels shall be done with an electric rotary drill. Impact tools shall not be used for drilling holes or tightening anchor and shear bolt nuts.

<sup>4.</sup> Allowable bolt and dowel values specified are for installations in minimum three wythe walls. For installations in two wythe walls, use 50 percent of the value specified, except that no value shall be given to tension bolts that do not extend entirely through the wall and are secured with bearing plates on the far side.

**TABLE NO. 88-L**  
**ALLOWABLE VALUES OF NEW MATERIALS USED**  
**IN CONJUNCTION WITH EXISTING CONSTRUCTION**

NEW MATERIALS OR CONFIGURATION OF ALLOWABLE VALUES	NEW AND EXISTING MATERIALS <sup>1</sup>
1. HORIZONTAL DIAPHRAGMS	
Plywood sheathing applied directly over existing straight sheathing with ends of plywood sheets bearing on joists or rafters and edges of plywood located on center of individual sheathing boards.	225 lbs. per foot for seismic shear.
2. CROSS WALLS <sup>2,3</sup>	
a. Plywood sheathing applied directly over existing wood studs. No value shall be given to plywood applied over existing plaster or wood sheathing.	1.33 times the values specified in CBC Table 2306.3 for shear walls.
b. Drywall or plaster applied directly over existing wood studs.	100 percent of the values specified in CBC Table 2306.7.

<sup>1.</sup> Materials must be sound and in good condition.

<sup>2.</sup> For cross walls, values of all materials may be combined, except the total combined value shall not exceed 300 lbs. per foot for seismic shear.

<sup>3.</sup> The cross wall aspect ratio for drywall, plaster and gypsum wall board shall be a maximum height to width ratio of 1:1, and for plywood shall be a maximum height to width ratio of 2:1.

Sec. 84. Section 91.8903.1.6 of the Los Angeles Municipal Code is amended to read as follows:

**91.8903.1.6. Removal of Utilities.** Utility connections of electricity and gas shall be removed from buildings within the scope of Section 91.8903.1.4 by the appropriate utility agency and shall not be reconnected until clearance is obtained from the department.

Sec. 85. Section 91.8903.1.7 of the Los Angeles Municipal Code is amended to read as follows:

**91.8903.1.7. Recordation.** At the time that the Department serves the order described in Section 91.8903.1 of this Code, the Department shall file with the Office of the County Recorder a certificate stating that the subject building has been determined to be either a hazardous building, a substandard residential building, or a nuisance, that it has been ordered repaired or demolished, and that the owner thereof has been so notified.

After the building has been repaired or demolished, the Department shall file with the Office of the County Recorder a certificate terminating the above recorded status of the subject building.

Sec. 86. Section 91.8903.1.8 is added to the Los Angeles Municipal Code to read as follows:

**91.8903.1.8. Manner of Giving Notice.** The orders described in this Section shall be given in writing and may be given either by personal delivery thereof to the person to be notified or by deposit in the United States mail in a sealed envelope, postage prepaid, addressed to such person to be notified at the address as shown on the last equalized assessment roll. Service by mail shall be deemed to have been completed at the time of deposit in the post office. The failure of any owner or other person to receive such notice shall not affect in any manner the validity of any of the proceedings taken thereunder. Proof of giving any notice may be made by an affidavit of any employee of the City which shows service in conformity with this Section.

Sec. 87. Section 91.8903.2.4 of the Los Angeles Municipal Code is amended to read as follows:

**91.8903.2.4.** No person shall enter, occupy or be present in a building which has been posted by the Department pursuant to this Section. Any person who enters, occupies or is present in a building which has been posted by the Department pursuant to this Section shall be guilty of a misdemeanor. This prohibition shall not apply to public officers or public employees acting within the course and scope of their employment or in the performance of their official duties; or owners, persons acting with the consent of the building owner, the owner's agent, or person in lawful possession acting in the course of complying with an order issued pursuant to the provisions of this Chapter.

Notwithstanding any other provision of the Los Angeles Municipal Code to the contrary, a police officer with the Los Angeles Police Department shall have the authority to enter any building posted by the Department pursuant to this Section, and arrest anyone present in violation of this Section.

Sec. 88. Section 91.8906.2 of the Los Angeles Municipal Code is amended to read as follows:

**91.8906.2. Collection of Repair and Demolition Costs.** Whenever the Department has caused the repair, securing, cleaning or demolition of any building, structure, or portion of a building, structure or any premises, all costs incurred under the provisions of this division of this Code shall be a personal obligation against the property owner or responsible interested parties in charge or control of the property, recoverable by the City in an action before any court of competent jurisdiction. These costs shall include an amount equal to 40 percent of the cost to perform the actual work to cover the City's costs for administering any contract and supervising the work required. In addition to this personal obligation and all other remedies provided by law, the City may collect any judgment, fee, cost, or charge, including any permit fees, fines, late charges, or interest, incurred in relation to the provisions of this Section as provided in Los Angeles Administrative Code Sections 7.35.1 through 7.35.8.

Sec. 89. Section 91.9108.2 of the Los Angeles Municipal Code is amended to read as follows:

**91.9108.2. Special Requirements for Wall Anchors and Continuity Ties.** The steel elements of the wall anchorage systems and continuity ties shall be designed by the allowable stress design method using a load factor of 1.7. The 1/3 stress increase permitted by CBC Section 1605.3.1.1 shall not be permitted for materials using allowable stress design methods.

The strength design specified in CBC Section 1912, using a load factor of 2.0 in lieu of 1.4 for earthquake loading, shall be used for design of embedment in concrete.

Wall anchors shall be provided to resist out-of-plane forces, independent of existing shear anchors.

**EXCEPTION:** Existing cast-in-place shear anchors may be used as wall anchors if the tie element can be readily attached to the anchors and if the engineer or architect can establish tension values for the existing anchors through the use of approved as-built plans or testing, and through analysis showing that the bolts are capable of resisting the total shear load while being acted upon by the maximum tension force due to earthquake. Criteria for analysis and testing shall be determined by the Superintendent.

Expansion anchors are not allowed without special approval of the Superintendent. Attaching the edge of plywood sheathing to steel ledgers is not considered as complying with the positive anchoring requirements of the Code; and attaching the edge of steel decks to steel ledgers is not considered as providing the positive anchorage of this Code unless testing and/or analysis are performed, which establish shear values for the attachment perpendicular to the edge of the deck.

Sec. 90. Section 91.9108.3 of the Los Angeles Municipal Code is amended to read as follows:

**91.9108.3. Development of Anchor Loads into the Diaphragm.** Development of anchor loads into roof and floor diaphragms shall comply with Section 91.1615.4 and Section 12.11 of ASCE 7.

**EXCEPTION:** If continuously tied girders are present, then the maximum spacing of the continuity ties is the greater of the girder spacing or 24 feet (7315 mm).

In wood diaphragms, anchorage shall not be accomplished by use of toe nails or nails subject to withdrawal, nor shall wood ledgers, top plates or framing be used in cross-grain bending or cross-grain tension. The continuous ties required by Section 91.1615.4 and Section 12.11 of ASCE 7 shall be in addition to the diaphragm sheathing.

Lengths of development of anchor loads in wood diaphragms shall be based on existing field nailing of the sheathing unless existing edge nailing is positively identified on the original construction plans or at the site.

At reentrant corners, continuity collectors may be required for existing return walls not designed as shear walls, to develop into the diaphragm a force equal to the lesser of the rocking or shear capacity of the return wall, or the tributary shear, but not exceeding the capacity of the diaphragm. Shear anchors for the return wall shall be commensurate with the collector force. If a truss or beam, other than rafters or purlins, is supported by the return wall or by a column integral with the return wall, an independent secondary column, is required to support the roof or floor members whenever rocking or shear capacity of the return wall is governing.

Seismic deflection shall be determined at the return walls, and fins/canopies at entrances, to ensure deflection compatibility with the diaphragm, by either seismically isolating the element or attaching the element and integrating its load into the diaphragm.

Sec. 91. Section 91.9408.3 of the Los Angeles Municipal Code is amended to read as follows:

**91.9408.3. Structural Observation by the Engineer or Architect of Record.** The owner shall employ the engineer or architect of record, or other engineer or architect designated by the engineer or architect of record, to perform structural observations as required by CBC Section 1710.

Sec. 92. Section 91.9510.2 of the Los Angeles Municipal Code is amended to read as follows:

**91.9510.2. Base Shear for Analysis.** The base shear used to determine story drifts shall be determined using 75 percent of that currently required by Section 12.8.1 of the ASCE 7.

**WHERE:**

R = 1.4 for concrete frame buildings with masonry infill and all other reinforced concrete buildings.

**EXCEPTION:** R = 1.0 for single story buildings.

The R value in Table 12.2-1 of ASCE 7 of this Code for new building design shall not be used for story drift determination.

Sec. 93. Section 91.9510.4 of the Los Angeles Municipal Code is amended to read as follows:



**91.9510.4. Vertical Distribution of Forces.** The base shear shall be distributed over the height of the structure in conformance with Formula (10-1).

$$C_{vx} = \frac{w_x h_x^k}{\sum_{i=1}^n w_i h_i^k} \quad (10-1)$$

**WHERE:**

$C_{vx}$  = vertical distribution factor to be applied to V to obtain the story force at level x.

K = an exponent related to building period as follows:

For buildings having a period of 0.5 seconds or less,  $k = 1.0$

For buildings having a period of 2.5 seconds or more,  $k = 2.0$

For buildings having a period between 0.5 and 2.5 seconds, k may be taken as two or determined by linear interpolation between one and two.

Sec. 94. The definition of **REINFORCED MASONRY WALL** in Section 91.9603 of the Los Angeles Municipal Code is amended to read as follows:

**REINFORCED MASONRY WALL** is a masonry wall that has 50 percent or more of the reinforcing steel required by Section 2.3 or Section 3.3 of ACI 530-05/ASCE 5-05/TMS 402-05 (MSJC).

Sec. 95. Section 91.9604.1 of the Los Angeles Municipal Code is amended to read as follows:

**91.9604.1. Wall Panel Anchorage.** Concrete and masonry walls shall be anchored to all floors and roofs which provide lateral support for the wall. The anchorage shall provide a positive direct connection between the wall and floor or roof construction capable of resisting a horizontal force equal to 30 percent of the tributary wall weight for all buildings, and 45 percent of the tributary wall weight for essential buildings, or a minimum force of 250 pounds per linear foot of wall, whichever is greater.

**EXCEPTION:** Using 75 percent of the design force as specified in Section 12.11 of ASCE 7 and completely in compliance with all the requirements as specified in that Section is considered equivalent to the requirements specified in this Section and Section 91.9604.2 of this Code.

The required anchorage shall be based on the tributary wall panel assuming simple supports at floors and roof.

**EXCEPTION:** An alternate design may be approved by the Superintendent of Building when justified by well established principles of mechanics.

Sec. 96. Section 91.9604.2 of the Los Angeles Municipal Code is amended to read as follows:

**91.9604.2. Special Requirements for Wall Anchors and Continuity Ties.** The steel elements of the wall anchorage systems and continuity ties shall be designed by the allowable stress design method using a load factor of 1.7. The 1/3 stress increase permitted by CBC Section 1605.3.1.1 shall not be permitted for materials using allowable stress design methods.

The strength design specified in CBC Section 1912, using a load factor of 2.0 in lieu of 1.4 for earthquake loading, shall be used for the design of embedment in concrete.

Wall anchors shall be provided to resist out-of-plane forces, independent of existing shear anchors.

**EXCEPTION:** Existing cast-in-place shear anchors may be used as wall anchors if the tie element can be readily attached to the anchors and if the engineer or architect can establish tension values for the existing anchors through the use of approved as-built plans or testing, and through analysis showing that the bolts are capable of resisting the total shear load while being acted upon by the maximum tension force due to seismic loading. Criteria for analysis and testing shall be determined by the Superintendent of Building.

Expansion anchors are not allowed without special approval of the Superintendent of Building. Attaching the edge of plywood sheathing to steel ledgers is not considered as complying with the positive anchoring requirements of the Code; and attaching the edge of steel decks to steel ledgers is not considered as providing the positive anchorage of this Code unless testing and analysis are performed, which establish shear values for the attachment perpendicular to the edge of the deck.

Sec. 97. Section 91.9604.3 of the Los Angeles Municipal Code is amended to read as follows:

**91.9604.3. Development of Anchor Loads into the Diaphragm.** Development of anchor loads into roof and floor diaphragms shall comply with Section 91.1615.4 and Section 12.11 of ASCE 7.

**EXCEPTION:** If continuously tied girders are present, then the maximum spacing of the continuity ties is the greater of the girder spacing or 24 feet (7315 mm).

In wood diaphragms, anchorage shall not be accomplished by use of toe nails or nails subject to withdrawal, nor shall wood ledgers, top plates or framing be used in cross-grain bending or cross-grain tension. The continuous ties required by Section 91.1615.4 and Section 12.11 of ASCE 7 shall be in addition to the diaphragm sheathing.

Lengths of development of anchor loads in wood diaphragms shall be based on existing field nailing of the sheathing unless existing edge nailing is positively identified on the original construction plans or at the site.

At reentrant corners, continuity collectors may be required for existing return walls not designed as shear walls, to develop into the diaphragm a force equal to the lesser of the rocking or shear capacity of the return wall, or the tributary shear but not exceeding the capacity of the diaphragm. Shear anchors for the return wall shall be commensurate with the collector force. If a truss or beam other than rafters or purlins is supported by the return wall or by a column integral with the return wall, an independent secondary column is required to support the roof or floor members whenever rocking or shear capacity of the return wall is governing.

Sec. 98. Section 98.0403.2 of the Los Angeles Municipal Code is amended to read as follows:

**SEC. 98.0403.2. PROCEDURES FOR APPEALS TO THE DEPARTMENT AND TO THE BOARD.**

**(a) Appeals to the Department under Power Granted in Section 98.0403.1.**

1. Such appeals shall be made in writing, upon appropriate forms provided therefor by the Department.

2. An appeal processing fee of \$130.00 for the first item and \$39.00 for each additional item shall be paid by the appellant prior to the Department processing the appeal and making a determination.

In addition to the appeal processing fee required by this subdivision, an inspection fee of \$84.00 per inspection shall be paid by the appellant when, in the opinion of the Department, the appeal requires field inspections to verify site conditions. Miscellaneous Fees as provided for in Section 98.0415 (f) may be collected to prepare a written report.

An additional inspection fee as described in Section 98.0412(a) may be charged by the Department for each inspection necessary to verify compliance with the conditions established by the determination of the Department.

**EXCEPTIONS:**

A. No appeal fee shall be required on any appeal from an order arising from an area-wide survey, conducted by the Department, of buildings used for one family housing, if the work required to bring the unit into compliance with the Los Angeles Municipal Code is the same as specified in the order.

B. No appeal fee shall be required for any appeal on a child-care facility if the owner or operator is a nonprofit child-care organization that has filed a notarized affidavit to that effect with the Department.

3. If the Superintendent determines that an item of request involves a material, device or method of construction appropriate for a General Approval under Section 98.0501 of the Los Angeles Municipal Code, such request shall be accompanied by a filing fee of \$165.00 for each request submitted which includes such item.

A supplemental fee as specified in Section 98.0501(b)4 shall be charged to cover processing time in excess of one hour. If the Department determines that the material submitted with the appeal request substantiates the claim made therein, and no request to hold a hearing is pending, the Department may grant a conditional approval of such request.

4. In any appeal the appellant making the request shall cause to be made, at the appellant's own expense, any tests required by the Department to substantiate the claims therein.

5. The Department may hold any hearings it deems appropriate to consider the appeal.

**(b) Appeals to the Board under the Power Granted by Section 98.0403.1(b).**

1. Such appeals shall be made in writing, upon appropriate forms provided therefor by the Department.

2. Appeals shall be accompanied by a filing fee based upon the subject of the request as set forth in Tables 4-A or 4-B of this division.

**EXCEPTIONS:**

A. No filing fee shall be required on any appeal from an order arising from an area-wide survey, conducted by the Department, of buildings used for one family housing, if the work

required to bring the unit into compliance with the Los Angeles Municipal Code is the same as specified in the order.

B. No filing fee shall be required for any appeal on a child care facility if the owner or operator is a nonprofit child care organization that has filed a notarized affidavit to that effect with the Department.

3. If the Board determines that evidence is required to be taken or that further investigation is necessary to decide any such appeal, the Board may refer the matter to a hearing examiner for hearing and report in accordance with provisions of Charter Section 217 or to an ordinance-established advisory board, or may refer the matter to the Department for further investigation and report, whichever the Board deems most appropriate.

4. In any appeal, the appellant or person making such request shall cause to be made, at the appellant's own expense, any tests required by the Board to substantiate the claims therein.

5. In addition to any other appeal fees required by this subsection, each appeal shall be accompanied by an inspection fee of \$84.00 per inspection when, in the opinion of the Department, the appeal requires field inspections to verify site conditions. The Department may charge an additional inspection fee as specified in Section 98.0412(a) for each inspection necessary to verify compliance with the conditions established by the Board in any approval or conditional approval.

6. Miscellaneous Fees as provided for in Section 98.0415 (f) may be collected to prepare a written report.

**TABLE NO. 4-A  
FILING FEES\* FOR APPEALS**

Group Occupancy	FIRST ITEM FOR SINGLE BUILDING TYPE OF BUILDING**				Each Additional Item
	V	IV	III	I & II	
R-3 & U	\$215.00	\$215.00	\$215.00	\$215.00	\$76.00
All Others	354.00	354.00	354.00	632.00	215.00
All other filing fees not covered in the above schedule including appeals pursuant to Los Angeles Municipal Code Section 12.26, shall be \$500.00 for the first item and \$150.00 for each additional item.					

\* See Section 91.105.4 for fees for referral to the Sign Advisory Committee.

\*\* Accessory building, structures or appendages will be considered the same as main building and occupancy.

**TABLE NO 4-B  
FILING FEES\* FOR APPEALS GRADING AND SOIL REQUIREMENTS**

<b>Number of Lots</b>	<b>Construction Requirements</b>	<b>Unstable Soil of Geology</b>	<b>Each Additional Item</b>
1-5 Lots	\$280	\$480	\$115
6 or more lots	580	880	280

\* See Section 91.105.3 for fees for referrals to the Engineering Geology Advisory Committee.

Sec. 99. Section 98.0415 of the Los Angeles Municipal Code is amended to read as follows:

**98.0415. CLERICAL, ISSUING OR RESEARCH FEES AND MISCELLANEOUS FEES.**

The Department may collect a fee from the applicant or appellant for the following types of services:

- (a) Correction of address for permit \$ 34.00
- (b) Transfer of name of permittee to any other person 48.00
- (c) Permit issuing fee for:
  - Electrical, plumbing, mechanical and elevator permits 23.00
  - Building permits 27.00
- (d) Supplementary permit issuing fee 19.00
- (e) Supplementary or preliminary plan check or study fee \$104.00 per staff hour or portion thereof
- (f) Fee for report\* \$104.00 per staff hour or portion thereof

\* A minimum fee of \$104.00 shall be payable when a request for a written report on a property or code item is made and any balance shall be due prior to the release of the report. Written reports for which this fee is applicable shall include, but not limited to, interpretation of the public records for the property (document research), termination of covenants and agreements, written interpretation or request for modification of the codes (municipal and/or other codes and regulations), and issuance of reports seeking the status of code violations, permitted use, etc. of a property or other similar purposes.

Sec. 100. The City Clerk shall certify to the passage of this ordinance and have it published in accordance with Council policy, either in a daily newspaper circulated in the City of Los Angeles or by posting for ten days in three public places in the City of Los Angeles: one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall; one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall East; and one copy on the bulletin board located at the Temple Street entrance to the Los Angeles County Hall of Records.

I hereby certify that this ordinance was passed by the Council of the City of Los Angeles, at its meeting of \_\_\_\_\_.

JUNE A. LAGMAY, City Clerk

By \_\_\_\_\_  
Deputy

Approved \_\_\_\_\_

\_\_\_\_\_  
Mayor

Approved as to Form and Legality

CARMEN A. TRUTANICH, City Attorney

By Adrienne S. Khorasanee (TBE)  
ADRIENNE S. KHORASANEE  
Deputy City Attorney

Date June 7, 2011

File No. CF 10-2335