Introduced by: Councilmember Gordo

ORDINANCE NO. 7234

**AN ORDINANCE OF THE CITY OF PASADENA ADOPTING TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS INCORPORATING THE 2013 CALIFORNIA BUILDING CODE AND APPENDIX CHAPTERS C, D, H, I AND J; THE 2013 CALIFORNIA RESIDENTIAL BUILDING CODE AND APPENDIX E, G AND H; THE 2013 CALIFORNIA MECHANICAL CODE; THE 2013 CALIFORNIA PLUMBING CODE; THE 2013 CALIFORNIA ELECTRICAL CODE, THE 2013 CALIFORNIA FIRE CODE; AND THE 2013 CALIFORNIA GREEN BUILDING STANDARDS CODE**

Whereas the City of Pasadena is adopting the 2013 editions of the California Building Code, Residential Building Code, Fire Code and Green Building Standards Code and is making certain amendments thereto; and

Whereas State law requires that a city must adopt specific findings as to the topographic, geological, and climatic conditions to justify the amendment to these codes;

Now Therefore, the City Council of the City of Pasadena finds as follows:

1.With respect to the amendments to the state code as set forth in Sections 14.04.102, 110, 115, 258, and 315 below,

**Justification: Topographic and Climatic**. Pasadena's hillside areas have narrow and winding access roads, which makes timely response by large fire suppression vehicles difficult. Additionally, long periods of dry, hot weather, combined with unpredictable seasonal winds (Santa Ana wind conditions) result in increased exposure to fire risk. These amendments prohibit the use of wood as exterior wall and roof covering material in very high, high and moderate fire hazard areas and require other exterior wall finishes and roofing materials to have a class A assembly. This will reduce the potential for rapid spread of fire throughout the city during periods of strong seasonal winds.

2. With respect to the amendments to the state codes as set forth in Section 14.04.400 below,

**Justification Climatic:** Because of the risk of delays in fire rescue response time due to traffic congestion and due to the high number of swimming pools within close proximity to small children because of local climate which makes pool ownership desirable, pool barriers are necessary. Additionally, the amendments correct an administrative error in the State's adoption which intended to provide pool barriers. The

amendments are consistent with barrier requirements previously in force in the City of Pasadena.

3. With respect to the amendments to the state codes as set forth in Sections 14.04.120, 130, 140, 145, 147, 150, 155, 160, 170, 175, 180, 205, 210, 215, 216, 220, 225, 235, 260, 267, 275, 282, 285, 290, 295, and 305 below,

**Justification: Geologic.** Pasadena is situated primarily on the Sierra Madre fault near the base of the San Gabriel Mountains. Other faults near or in the city are the Eagle Rock fault (originally termed the San Rafael fault), Verdugo Hills fault, and Elysian Park fault. Said faults are generally considered major Southern California earthquake faults which may experience rupture at any time. Review of damage resulting from the January 17, 1994 Northridge Earthquake revealed significant damage to many buildings throughout the Southern California region. The referenced amendments are necessary to implement improved design standards, to use current recognized standards and referenced recently published, and to reduce the risk of personal injury, loss of life and property damage within structures.

4. With respect to the amendments to the state code as set forth in Sections 14.04.165, 185, 190, 217, 270, and 280 below,

**Justification: Local Climatic and Geological Conditions.** The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. In addition, the region is within a climate system capable of producing major winds, fire and rain related disasters, including but not limited to those caused by the Santa Ana winds and El Nino (or La Nina) subtropical-like weather. This region is especially susceptible to more active termite and wood attacking insects and microorganisms. The proposed modification to prohibit the use of wood foundation systems as well as limit prescriptive design provisions in an effort to mitigate potential problems or deficiencies due to the proliferation of wood-destroying organisms and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Residential Code.

5. With respect to the amendments to the state code as set forth in Sections14.04.500, 501, 502, 504, 506, 508, 510, 512, 514, 516, and 518 below,

**Justification: Local environmental/Climatic Conditions.** The greater Los Angeles region is a densely populated area having residential buildings constructed within a region where environmental resources are scarce due to varying and occasional immoderate temperatures and weather conditions. The proposed modification to require higher efficiencies of energy usage and greater beneficial use of environmental material will be achieved with the proposed expansion of the Mandatory and Voluntary requirements and therefore need to be incorporated into the code to assure that new

residential and non-residential buildings are designed and constructed in accordance with the scope and objectives of the California Green Building Standards Code.

6. With respect to the amendments to the state fire code as set forth in section 14.28.020 items 3, 4, 26, 27, 28, 29 and 31 below, the proposed amendments are required due to ***topographic*** conditions. The increased use of decreased property line setback development and increased development densities increase the community risk from fire or hazardous materials spread and the number of persons potentially endangered. The proposed amendments allow for either increased review and mitigation, or decreased hazard to the community, or both.

7. With respect to the amendments to the state fire code as set forth in section 14.28.020 items 9, 10, 16, 19, and 20 below, the proposed amendments are required due to ***topographic*** and ***climatic*** conditions. Narrow and winding access roads to hillside areas, and hot, dry weather and seasonal winds result in increased exposure to fire risk. The increased use of decreased property line setback development and increased development densities increase the community risk from fire spread and the number of persons potentially endangered. The proposed amendments allow for either increased review and mitigation, or decreased hazard to the community through increased use of automatic fire extinguishing systems and/or the decreased use of combustible exterior materials, or both.

8. With respect to the amendments to the state fire code as set forth in section 14.28.020 items 11and 12 below, the proposed amendments are required due to ***geologic*** conditions. Pasadena is located within a seismically active zone and is near several active fault lines. Residential domestic water supplies are generally not as seismically resilient as fire sprinkler systems. For example, in the event a porcelain fixture broke in an earthquake, a fire suppression system using a combination water supply could be compromised, whereas a fire sprinkler system with a dedicated supply could still be functional. This amendment increases the survivability of fire sprinkler systems. The proposed amendments allow for either increased review and mitigation, decreased hazard to the community by allowing for limited leakage or other water loss in calculations and disallowing a more vulnerable type of system, or both.

9. With respect to the amendments to the state fire code as set forth in section 14.28.020 items 8 and 15 below, the proposed amendments are required due to ***topographic*** conditions. The increased use of decreased property line setback development, increased use of light weight construction, increased intermingling of hazardous occupancies with less hazardous occupancies that have been historically separated, and increased development densities increase the community risk from fire spread and other hazardous conditions and the number of persons potentially endangered. The proposed amendments allow for the increased efficacy and safety of the response to emergencies by ensuring acceptable emergency communications and thereby improving the safety of both the community and emergency responders.

10. With respect to the amendments to the state fire code as set forth in section 14.28.020 item 33 below, the proposed amendments are required due to ***topographic*** conditions. The increased use of decreased property line setback development, increased use of light weight construction, increased intermingling of hazardous occupancies with less hazardous occupancies that have been historically separated, and increased development densities increase the community risk from fire spread and other hazardous conditions and the number of persons potentially endangered. This amendment increases public and firefighter safety by increasing the likelihood that automatic fire extinguishing systems will have sufficient water flow capacity to contain or extinguish significant fires before the fire extends to adjacent areas or structures.

11. With respect to the amendments to the state fire code as set forth in section 14.28.020 item 11 below, the proposed amendment is required due to ***geologic*** conditions. Due to the City's significant use of groundwater, fire suppression systems experience an increased rate of mineral deposition due to dissolved minerals in the groundwater. This amendment mitigates the potential decrease in water flow caused by mineral deposition.

12. With respect to the amendment to the state fire code as set forth in section 14.28.020 items 13 and 17 below, the proposed amendments are required due to ***topographic*** conditions. The increased use of decreased property line setback development and increased development densities increase the community risk from fire spread and increase the number of persons potentially endangered, and limits the space available in which emergency responders may operate effectively. Early and effective evacuation of building occupants increases the efficacy of fire attack and decreases the risk of fire spread. The proposed amendments allow for either increased review and mitigation, or decreased hazard to the community, or both.

13. With respect to the amendment to the state fire code as set forth in section 14.28.020 item 24 below, the proposed amendments are required due to ***topographic*** conditions. The increased use of decreased property line setback development increases the community risk from fire spread. Smaller flammable and combustible liquid tanks are allowed by code to be placed relatively close to buildings and property lines. The installation of overfill prevention decreases the likelihood that spills during the filling process will endanger structures on the same or adjacent properties.

14. With respect to the amendment to the state fire code as set forth in section 14.28.020 item 25 below, the proposed amendments are required due to ***topographic*** conditions. The increased use of decreased property line setback development increases the community risk from fire spread. Smaller flammable and combustible liquid tanks are allowed by code to be placed relatively close to buildings and property lines. Allowing the emergency venting of flammable and combustible vapors within vaults greatly increases the likelihood of vapor explosions within the vault. Allowing the use of long-bolt manhole covers as a means of emergency venting creates a hazard to anyone nearby the manhole should an emergency release occur without warning. Disallowing the practices of in-vault venting and the use of long-bolt manhole covers

increases the public safety by requiring venting to occur at a safe location.

15. For sections not specified above, no express findings are required under the requirements established by sections 17958, 17958.5, and 17958.7 of the California Health and Safety Code as these amendments are administrative in nature, merely provide clarification of existing California Code requirement, or address matters outside the scope of the above sections.

Accordingly, the People of the City of Pasadena ordain as follows:

**SECTION 1.** This ordinance, due to its length and corresponding publication cost will be published by title and summary as permitted by Section 508 of the Charter of the City of Pasadena. The approved summary of this ordinance is as follows:

**"Summary**

Ordinance No. 7234. The ordinance adopts the 2013 California Building Code, the 2013 California Residential Code, the 2013 California Mechanical Code, the 2013 California Plumbing Code, the 2013 California Electrical Code, the 2013 California Fire Code and the 2013 California Green Building Standards Code as required by state law. The ordinance also provides for some amendments to these codes to accommodate special topographic, geological, and climatic conditions found in Pasadena consistent with state law. Ordinance No.7234 shall take effect 30 days after its publication by title and summary. The full text of the ordinance is on file in the City Clerk's Office."

**SECTION 2.** Chapter 14.03 of the Pasadena Municipal Code is amended as follows:

**A.** By amending Section 14.03.010 to read as follows:

**14.03.010 - Adoption and filing**

Except as herein provided by specific changes, the administrative, organizational and enforcement for the technical codes which regulate the site preparation and construction, alteration, moving, demolition, repair, use and occupancy of buildings, structures and building service equipment within the city shall be in accordance with the provisions and in the manner prescribed in administrative provisions of the 2013 Edition of the California Building Code, as published by the California State Building Standards Commission.

**B.** By amending Section 14.03.020 to read as follows:

**14.03.020 - Section 101.1 of Chapter 1 Division II amended Title.**

This ordinance shall be known and cited as the Pasadena Building Code for Building Construction Regulation, and will be referred to herein as this Code.

**C.** By amending Section 14.03.030 to read as follows:

**14.03.030 - Chapter 1 Division II Section 103.1 of the 2013 California Building Code, creation of enforcement agency is amended as follows:**

There has been established heretofore in this jurisdiction a code enforcement agency entitled, The Planning and Community Development Department which employs a Building Official who shall be authorized to enforce the provisions of this code.

**SECTION 3.** Chapter 14.04 of the Pasadena Municipal Code is hereby repealed in its entirety and rewritten as follows:

**A.** Section 14.04.010 to read as follows:

**14.04.010 - Adoption and filing.**

California Building Codes adopted. California Code of Regulation Title 24 part 1-12. The 2013 California Building Code Chapters 1-35 and Appendix Chapters , C, H, I, and J; the 2013 California Residential Code and Appendix Chapters E, G, H, the 2013 California Green Building Standards Code, the 2013 California Electrical Code; The 2013 California Mechanical Code; the 2013 California Plumbing Code, and 2013 California Fire Code all as published by the California Building Standards Commission and as amended by the State Department of Housing And Community Development (HCD), the Division of the State Architect/Access and Compliance (DSA/AC), and the State Office of Statewide Health, Planning and Development (OSHPD), The Office of the State Fire Marshal: all as published by the International Code Council. One copy of all of the above publications is on file for public inspection and is hereby adopted with the same force and affect as though set out herein in full.

**B.** Section 14.04.015 to read as follows:

**14.04.015 - Section 105.2.1 is added to Chapter 1 Division II Section 105.2 of the California Building Code to read as follows:**

A zoning permit may be required for items exempted from building permit requirements under Chapter 1 Division II Section 105.2. Exempted work shall not violate any provisions of this code, Federal, State, Local laws, or regulations.

**C.** Section 14.04.030 to read as follows:

**14.04.030 Violations.**

All sections in the codes referenced in Section 14.04.010 herein pertaining to violations are amended in their entirety to read as follows:

It shall be unlawful for any person, firm or corporation to erect, construct, enlarge, alter, repair, move, improve, remove, convert, or demolish, equip, use, occupy, or maintain

any building or structure in the City, or cause same to be done, contrary to or in violation of any of the provisions of this chapter. Any person, firm, or corporation violating any of the provisions of this Ordinance, shall be deemed guilty of a misdemeanor, and each such person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any violation of any of the provisions of this Ordinance is committed, continued, or permitted, and upon conviction of any such violation such persons shall be punished by a fine of not more than one thousand dollars ($1,000) or by imprisonment for not more than one (1) year, or by both such fine and imprisonment.

In addition to the above penalty provisions, violation of any of the provisions of this chapter may be subject to the administrative proceedings set forth in Chapter 1.25 of this code.

**D.** Section 14.04.040 to read as follows:

**14.04.040 Board of appeals.**

All sections in the respective codes pertaining to the Board of Appeals are hereby amended in their entirety to read as follows:

In order to hear and decide appeals or orders and determine the suitability of alternate materials and methods of construction and to provide for reasonable interpretations of the provisions of these Codes, there shall be and there is hereby created a Board of Appeals, composed of the Mayor and the City Council.

The city clerk shall be the secretary to the Board. The Board may adopt reasonable rules and regulations for conducting its investigations and shall render all its decisions and findings on contested matters, in writing to the building official, with a duplicate copy thereof to any appellant or contestant affected by any such decision of findings, and may recommend to the City Council such new legislation, if any, as is consistent therewith.

The City Council may prescribe by resolution, to employ at the cost and expense of the City, such qualified individuals as the Board, in its discretion, may deem reasonably necessary in order to assist it in its investigations and in making its findings and decisions.

**E.** Section 14.04.050 to read as follows:

**14.04.050 Fees.**

The council shall by resolution adopt a schedule of fees for the permits issued pursuant hereto.

**F.** Section 14.04.080 to read as follows:

**14.04.080 Moved structures.**

Section 3410 of the 2013 edition of the California Building Code is amended by adding the following:

Before a permit is issued, the building-mover shall furnish and file with the City Clerk, a good and sufficient bond in the principal sum of $5,000.00 in favor of the City of Pasadena for the benefit of any person, firm or corporation who may be damaged directly by the moving of said building or structure, provided that any person, firm or corporation engaged in the business of moving buildings may file with the City Clerk a surety bond in the sum of $10,000.00 indemnifying the City for the purposes, and in that event such person, firm or corporation need not file the $5,000.00 bond herein above required for any single moving operation.

**G.** Amendments to the 2013 California Building Code Sections 14.04.100 through 14.04.285 to read as follows:

**14.04.100 - Changes and additions to the adopted codes.**

Pursuant to the Health and Safety Code Sections 17358.5 and 17958.7, the City establishes the following local modifications. The requisite findings if applicable for such requirements are set forth in the ordinance fact sheet accompanying this ordinance.

**14.04.102 - Section 701A.1 of the 2013 edition of the California Building Code is amended to read as follows**:

Scope. This chapter applies to building materials, systems and /or assemblies used in the exterior design and construction of new buildings, additions and alterations located within a Wildland-Urban Interface Fire Area as defined in Section 702A.

**14.04.110 - Section 1505.1 of the 2013 California Building Code is amended to read as follows:**

General. Roof assemblies shall be divided into the classes defined below. Class A, and B and C roof assemblies and roof coverings required to be listed by this section shall be tested in accordance with ASTM E 108 or UL 790. In addition, fire-retardant-treated wood roof coverings shall be tested in accordance with ASTM D 2898. The minimum roof coverings installed on buildings shall comply with Table 1505.1 based on the type of construction of the building. All roof assemblies and roof coverings shall be of not less than Class B. No wood roof covering material shall be installed on any structure located in the very high, high and moderate fire hazard zones as identified by the Pasadena Fire Department.

Exception: - In the moderate fire hazard zone, the fire code official may, upon a showing of good cause and necessity, approved the use of fire-resistive wood as part of class A listed assemblies, and may require additional mitigation as warranted, for the repair or maintenance of existing structures.
- Skylights and sloped glazing that comply with Chapter 24 or Section 2610.

**14.04.115 - Section 1505.6 of the 2013 Edition of the California Building Code is amended to read as follows:**

Fire-retardant-treated wood shingles and shakes. Fire-retardant-treated wood shingles and shakes shall not be installed in the very high, high and moderate fire zones. Fire-retardant-treated wood shakes and shingles are wood shakes and shingles complying with UBC Standard 15-3 or 15-4 which are impregnated by the full-cell vacuum-pressure process with fire-retardant chemicals, and which have been qualified by UBC Standard 15-2 for use on Class A, and B or C roofs.
Fire-retardant-treated wood shakes and shingles shall comply with ICC-ES EG107 and with the weathering requirements contained in Health and Safety Code Section 13132.7(j). Each bundle shall bear labels from an ICC accredited quality control agency identifying their roof-covering classification and indicating their compliance with ICC-ES EGI07 and with the weathering requirements contained in Health and Safety Code Section 13132.7(j).

Health and Safety Code Section 13132.7(j). No wood roof covering materials shall be sold or applied in this state unless both of the following conditions are met:

(1) The materials have been approved and listed by the State Fire Marshal as complying with the requirements of this section.

(2) The materials have passed at least five years of the 10-year natural weathering test. The 10-year natural weathering test required by this subdivision shall be conducted in accordance with standard 15-2 of the 1994 edition of the Uniform Building Code at a testing facility recognized by the State Fire Marshal.

Exception: In the moderate fire hazard zone, the fire code official may, upon a showing of good cause and necessity, approve the use of fire-resistive wood as part of class A listed assemblies, and may require additional mitigation as warranted, for the repair or maintenance of existing structures.

**14.04.120 - Section 1510 of the 2013 California Building Code is amended by adding a section 1510.7 entitled roof sheathing to read as follows:**

When finish roofing material is removed to the existing open space sheathing, a minimum of 3/8-inch thick plywood sheathing shall be installed. The new sheathing shall comply with the requirements of the California Building Code. The sheathing shall be installed such that the edges align over rafters and individual spaced sheathing boards. The sheathing shall be attached to the existing spaced sheathing with 6d common nails

at 6 inches (147mm) on center at supported edges and 6d common nails at 12 inches (294mm) on center at intermediate supports.

**14.04.130 Section 1613.7 is added to Chapter 16 of the 2013 Edition of the California Building Code to read as follows:**

1613.7 ASCE 7, 12.2.3.1, Exception 3. 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.

**14.04.140 Section 1613.8 is added to Chapter 16 of the 2013 Edition of the California Building Code to read as follows:**

1613.8 ASCE 7, Section 12.11.2.2.3. Modify ASCE 7, Section 12.11.2.2.3 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 structures assigned to Seismic Design Category D, E or F, wood diaphragms supporting concrete or masonry walls shall comply with the following:

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.

**14.04.145 Section 1704.5 of the 2013 Edition of the California Building Code is amended to read as follows:**

**1704.5 Structural Observations.** Where required by the provisions of Section 1704.5.1 or 1704.5.2, the owner shall employ a registered design professional structural observer to perform structural observations as defined in Section 1702.

At the conclusion of the work included in the permit, the structural observer shall submit to the building official a written statement that the site visits have been made and identify any reported deficiencies that, to the best of the structural observer's knowledge, have not been resolved.

The owner or owner's representative shall coordinate and call a preconstruction meeting between the structural observer, contractors, affected subcontractors and special 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 resisting systems of the structure and to review scheduling of the required observations. A record of the meeting shall be included in the report submitted to the building official.

Observed deficiencies shall be reported in writing to the owner or owner's representative, special inspector, contractor and the building official. Upon the form prescribed by the building official, the structural observer shall submit to the building official 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 building official.

**14.04.147 Section 1704.5.1 of the 2013 Edition of the California Building Code is amended to read as follows:**

**1704.5.1 Structural observations for seismic resistance.** Structural observations shall be provided for those structures assigned to Seismic Design Category D, E or F, where one or more of the following conditions exist:

1. The structure is classified as Risk Category III or IV in accordance with Table 1604.5.

2. The height of the structure is greater than 75 feet (22860 mm) above the base.

3. The structure is assigned to Seismic Design Category E, is classified as Risk Category I or II in accordance with Table 1604.5, and is greater than two stories one stories above grade plane–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 2,000 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 responsible for the structural design.

5. When such observation is specifically required by the building official.

**4.04.150 Section 1705.3 of the 2013 Edition of the California Building Code is amended to read as follows:**

**1705.3 Concrete Construction.** The special inspections and verifications for concrete construction shall be as required by this section and Table 1705.3.

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

1. Isolated spread concrete footings of buildings three stories or less above grade plane 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) regardless of the compressive strength specified in the construction or used in the footing construction.

2. Continuous concrete footings supporting walls of buildings three stories or less in height 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 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 Table 1807.1.6.2.

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

**14.04.155 Table 1705.3 of the 2013 Edition of the California Building Code is amended to read as follows:**

//

//

//

//

//

//

**TABLE 1705.3**
**REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION**

| VERIFICATION AND INSPECTION | CONTINOUS | PERIODIC | REFERENCE STANDARD[a] | IBC REFERENCE |
|---|---|---|---|---|
| 3. Inspection of anchors cast in concrete where allowable loads have been increased or where strength design is used. | – | X | ACI 318:_D.9.2 8.1.3, 21.1.8 | 1908.5, 1909.1 |
| 4. Inspection of anchors post-installed in hardened concrete members[b.] | – | X | ACI 318: 3.8.6, 8.1.3, 21.1.8 | 1909.1 |
| a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads. | X | | ACI 318:D.9.2.4 | – |
| a.b. Mechanical anchors and adhesive anchors not defined in 4.a. | | X | ACI 318: D.9.2 | – |

b. Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with ACI 355.2, D.9.2 in ACI 318 or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencement of the work.

*(Portions of table not shown remain unchanged.)*

**14.04.160. Exception 3 of Section 1705.11 of the 2013 Edition of the California Building Code is amended to read as follows:**

**1705.11 Special inspections for seismic resistance.** Special inspections itemized in Sections 1705.11.1 through 1705.11.8, unless exempted by the exceptions of Section 1704.2, are required for the following:

1. The seismic force-resisting systems in structures assigned to Seismic Design Category C, D, E or F in accordance with Sections 1705.11.1 through 1705.11.3, as applicable.

2. Designated seismic systems in structures assigned to Seismic Design Category C, D, E or F in accordance with Section 1705.11.4.

3. Architectural, mechanical and electrical components in accordance with Sections 1705.11.5 and 1705.11.6.

4. Storage racks in structures assigned to Seismic Design Category D, E or F in accordance with Section 1705.11.7.

5. Seismic isolation systems in accordance with Section 1705.11.8.

**Exception:** Special inspections itemized in Sections 1705.11.1 through 1705.11.8 are not required for structures designed and constructed in accordance with one of the following:

1. The structure consists of light-frame construction; the design spectral response acceleration at short periods, $S_{DS}$, as determined in Section 1613.3.4, does not exceed 0.5; and the building height of the structure does not exceed 35 feet (10 668 mm)

2. The seismic force-resisting system of the structure consists of reinforced masonry or reinforced concrete; the design spectral response acceleration at short periods, $S_{DS}$, as determined in Section 1613.3.4, does not exceed 0.5; and the building height of the structure does not exceed 25 feet (7620 mm)

3. The structure is a detached one- or two-family dwelling not exceeding two stories above grade plane is not assigned to Seismic Design Category D, E or F and does not have any of the following horizontal or vertical irregularities in accordance with Section 12.3 of ASCE 7:

   3.1 Torsional or extreme torsional irregularity.

   3.2 Nonparallel systems irregularity.

   3.3 Stiffness-soft story or stiffness-extreme soft story irregularity.

   3.4 Discontinuity in lateral strength-weak story irregularity.

**14.04.165. Section 1807.1.4 of the 2013 Edition of the California Building Code is amended to read as follows:**

**1807.1.4 Permanent wood foundation systems.** Permanent wood foundation systems shall be designed and installed in accordance with AF&PA PWF. 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 or F.

**14.04.170. Section 1807.1.6 of the 2013 Edition of the California Building Code is amended to read as follows:**

**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.

**14.04.175. Section 1809.3 of the 2013 Edition of the California Building Code is amended to read as follows:**

**1809.3 Stepped footings.** 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).

For structures assigned to Seismic Design Category D, E or F, the stepping requirement shall also apply to the top surface of grade beams supporting walls. Footings shall be reinforced with four No. 4 rebar. Two bars shall be place at the top and bottom of the footings as shown in Figure 1809.3.

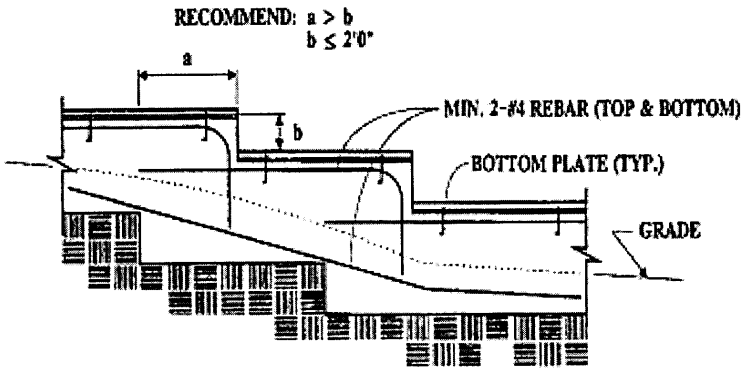


**FIGURE 1809.3**
**STEPPED FOOTING**

**14.04.180. Section 1809.7 and Table 1809.7 of the 2013 Edition of the California Building Code are amended to read as follows:**

**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 plane for structures assigned to Seismic Design Category D, E or F.

//

//

//

TABLE 1809.7
PRESCRIPTIVE FOOTINGS SUPPORTING WALLS OF LIGHT-FRAME CONSTRUCTION [a, b, c, d, e]

| NUMBER OF FLOORS SUPPORTED BY THE FOOTING [f] | WIDTH OF FOOTING (inches) | THICKNESS OF FOOTING (inches) |
|---|---|---|
| 1 | 12 | 6 |
| 2 | 15 | 6 |
| 3 | 18 | 8 [g] |

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

a. Depth of footings shall be in accordance with Section 1809.4.
b. The ground under the floor shall be permitted to be excavated to the elevation of the top of the footing.
c. Interior stud-bearing walls shall be permitted to be supported by isolated footings. The footing width and length shall be twice the width shown in this table, and footings shall be spaced not more than 6 feet on center. Not Adopted.
d. See Section 1908 for additional requirements for concrete footings of structures assigned to Seismic Design Category C, D, E or F.
e. For thickness of foundation walls, see Section 1807.1.6.
f. Footings shall be permitted to support a roof addition to the stipulated number of floors. Footings supporting roof only shall be as required for supporting one floor.
g. Plain concrete footings for Group R-3 occupancies shall be permitted to be 6 inches thick.

## 14.04.185. Section 1809.12 of the 2013 Edition of the California Building Code is amended to read as follows:

**1809.12 Timber footings.** Timber footings shall be permitted for buildings of Type V construction and as otherwise approved by the building official. 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 footing 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.

## 14.04.190. Section 1810.3.2.4 of the 2013 Edition of the California Building Code is amended to read as follows:

**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 shall not be used in structures assigned to Seismic Design Category D, E or F.

## 14.04.205. Section 1905.1.3 of the 2013 Edition of the California Building Code is amended to read as follows:

**1905.1.3** ACI 318, Section 21.4. Modify ACI 318, Section 21.4, by renumbering Section 21.4.3 to become 21.4.4 and adding new Sections 21.4.3, 21.4.5, 21.4.6 and 21.4.7 to read as follows:

21.4.3 – Connections that are designed to yield shall be capable of maintaining 80 percent of their design strength at the deformation induced by the design displacement or shall use Type 2 mechanical splices.
21.4.4 – Elements of the connection that are not designed to yield shall develop at least 1.5 $S_y$.
21.4.5 – Wall piers in Seismic Design Category D, E or F shall comply with Section 1905.1.4 of the International Building Code. In structures assigned to Seismic Design Category D, E or F, intermediate precast wall panels and wall piers shall be designed in accordance with Section 21.9 or 21.13.
21.4.6 – Wall piers not designed as part of a moment frame in buildings assigned to Seismic Design Category C shall have transverse reinforcement designed to resist the shear forces determined from 21.3.3. Spacing of transverse reinforcement shall not exceed 8 inches (203 mm). Transverse reinforcement shall be extended beyond the pier clear height for at least 12 inches (305 mm).
Exceptions:

1. Wall piers that satisfy 21.13.
2. Wall piers along a wall line within a story where other shear wall segments provide lateral support to the wall piers and such segments have a total stiffness of at least six times the sum of the stiffnesses of all the wall piers.

21.4.7 – Wall segments with a horizontal length-to-thickness ratio less than 2.5 shall be designed as columns.

**14.04.210. Section 1905.1.8 of the 2013 Edition of the California Building Code is amended to read as follows:**

**1905.1.8 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) Structural plain concrete basement, foundation or other walls below the base are permitted in detached one- and two-family dwellings three stories or less in height constructed with stud-bearing walls. In dwellings assigned to Seismic Design Category D or E, the height of the wall shall not exceed 8 feet (2438 mm), the thickness shall not be less than 7½ inches (190 mm), and the wall shall retain no more than 4 feet (1219 mm) of unbalanced fill. Walls shall have reinforcement in accordance with 22.6.6.5.-Concrete used for fill with a minimum cement content of two (2) sacks of Portland cement or cementious material 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.

Exception: In detached one- and two-family dwellings three stories or less in height, the projection of the footing beyond the face of the supported member is permitted to 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, aA 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.

Exceptions:

1. In Seismic Design Categories A, B and C,-detached one- and two-family dwellings three stories or less in height and constructed with stud-bearing walls, are permitted to have plain concrete footings without longitudinal reinforcement with at least two continuous longitudinal reinforcing bars not smaller than No. 4 are permitted to have a total area of less than 0.002 times the gross cross-sectional area of the footing.

2. For foundation systems consisting of a plain concrete footing and a plain concrete stemwall, a minimum of one bar shall be provided at the top of the stemwall and at the bottom of the are footing.

3. Where a slab on ground is cast monolithically with the footing, one No. 5 bar is permitted to be located at either the top of the slab or bottom of the footing.

**14.04.215. Section 1905.1 is amended and Sections 1905.1.10 thru 1905.1.12 are added to Chapter 19 of the 2013 Edition of the California Building Code to read as follows:**

**1905.1 General.** The text of ACI 318 shall be modified as indicated in Sections 1905.1.1 through 1908.1.10 1905.1.12.

**1905.1.10 ACI 318, Section 21.6.4**. Modify ACI 318, Section 21.6.4, by adding Section 21.6.4.8 and 12.6.4.9 as follows:

21.6.4.8 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 Sections 21.6.4.1, Items (a) through (c), over the full height of the member.

21.6.4.9 – At any section where the design strength, $\varphi P_n$, 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 are permitted to be assumed to be of opposite sign. For the determination of the design strength, $\varphi P_n$, of the column, these moments are permitted to be assumed to result from the deformation of the frame in any one principal axis.

**1905.1.11 ACI 318, Section 21.9.4**. Modify ACI 318, Section 21.9.4, by adding Section 21.9.4.6 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 shear strength of the structure for resisting earthquake-induced forces. Such walls shall conform to the requirements of ACI 318 Section 21.13.

**1905.1.12 ACI 318, Section 21.11.6.** Modify ACI 318, by adding Section 21.11.6.1as follows:

21.11.6.1 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 $d_b$ in thickness, where $d_b$ is the diameter of the largest reinforcement in the topping slab.

**14.04.216. Section 2304.9.1 of the 2013 Edition of the California Building Code is amended to read as follows:**

**2304.9.1 Fastener requirements.** Connections for wood members shall be designed in accordance with the appropriate methodology in Section 2301.2. The number and size of fasteners connecting wood members shall not be less than that set forth in Table 2304.9.1. 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.

**14.04.217. Section 2304.11.7 of the 2013 Edition of the California Building Code is amended to read as follows:**

**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 or crib walls for structures assigned to Seismic Design Category D, E or F.

**14.04.220. Section 2305.4 is added to Chapter 23 of the 2013 Edition of the California Building Code to read as follows:**

**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.

**14.04.225. Section 2305.5 is added to Chapter 23 of the 2013 Edition of the California Building Code to read as follows:**

**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 tightened to finger tight plus one half (1/2) wrench turn just prior to covering the wall framing.

**14.04.235. Section 2308.9.3.1, Section 2308.9.3.2 and Figure 2308.9.3.2 of the 2013 Edition of the California Building Code are amended to read as follow:**

**2308.9.3.1 Alternative bracing.** Any bracing required by Section 2308.9.3 is permitted to be replaced by the following:

1. In one-story buildings, each panel shall have a length of not less than 2 feet 8 inches (813 mm) and a height of not more than 10 feet (3048 mm). Each panel shall be sheathed on one face with 3/8-inch-minimum-thickness (9.5 mm) wood structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Table 2304.9.1 and blocked at wood structural panel edges. For structures assigned to Seismic Design Category D or E, each panel shall be sheathed on one face with 15/32-inch-minimum-thickness (11.9 mm) wood structural panel sheathing nailed with 8d common nails spaced 3 inches on panel edges, 3 inches at intermediate supports. Two anchor bolts installed in accordance with Section 2308.6 shall be provided in each panel. Anchor bolts shall be placed at each panel outside quarter points. Each panel end stud shall

have a tie-down device fastened to the foundation, capable of providing an approved uplift capacity of not less than 1,800 pounds (8006 N). The tie-down device shall be installed in accordance with the manufacturer's recommendations. The panels shall be supported directly on a foundation or on floor framing supported directly on a foundation that is continuous across the entire length of the braced wall line. This foundation shall be reinforced with not less than one No. 4 bar top and bottom.

Where the continuous foundation is required to have a depth greater than 12 inches (305 mm), a minimum 12-inch by 12-inch (305 mm by 305 mm) continuous footing or turned down slab edge is permitted at door openings in the braced wall line. This continuous footing or turned down slab edge shall be reinforced with not less than one No. 4 bar top and bottom. This reinforcement shall be lapped 15 inches (381 mm) with the reinforcement required in the continuous foundation located directly under the braced wall line.

2. In the first *story* of two-story buildings, each wall panel shall be braced in accordance with Section 2308.9.3.1, Item 1, except that the wood structural panel sheathing shall be provided on both faces, three anchor bolts shall be placed at one-quarter points, and tie-down device uplift capacity shall not be less than 3,000 pounds (13 344 N).

**2308.9.3.2 Alternate bracing wall panel adjacent to a door or window opening.** Any bracing required by Section 2308.9.3 is permitted to be replaced by the following when used adjacent to a door or window opening with a full-length header:

In one-story buildings, each panel shall have a length of not less than 16 inches (406 mm) and a height of not more than 10 feet (3048 mm). Each panel shall be sheathed on one face with a single layer of 3/8 inch (9.5 mm) minimum thickness wood structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Figure 2308.9.3.2. For structures assigned to Seismic Design Category D or E, each panel shall be sheathed on one face with 15/32-inch-minimum-thickness (11.9 mm) wood structural panel sheathing nailed with 8d common nails spaced 3 inches on panel edges, 3 inches at intermediate supports and in accordance with Figure 2308.9.3.2*. The wood structural panel sheathing shall extend up over the solid sawn or glued-laminated header and shall be nailed in accordance with Figure 2308.9.3.2. A built-up header consisting of at least two 2 × 12s and fastened in accordance with Item 24 of Table 2304.9.1 shall be permitted to be used. A spacer, if used, shall be placed on the side of the built-up beam opposite the wood structural panel sheathing. The header shall extend between the inside faces of the first full-length outer studs of each panel. The clear span of the header between the inner studs of each panel shall be not less than 6 feet (1829 mm) and not more than 18 feet (5486 mm) in length. A strap with an uplift capacity of not less than 1,000 pounds (4,400 N) shall fasten the header to the inner studs opposite the sheathing. One anchor bolt not less than 5/8 inch (15.9 mm) diameter and installed in accordance with Section 2308.6 shall be provided in the center of each sill plate. The studs at each end of the panel shall have a tie-down device

fastened to the foundation with an uplift capacity of not less than 4,200 pounds (18 480 N).

Where a panel is located on one side of the opening, the header shall extend between the inside face of the first full-length stud of the panel and the bearing studs at the other end of the opening. A strap with an uplift capacity of not less than 1,000 pounds (4400 N) shall fasten the header to the bearing studs. The bearing studs shall also have a tie-down device fastened to the foundation with an uplift capacity of not less than 1,000 pounds (4400 N).

The tie-down devices shall be an embedded strap type, installed in accordance with the manufacturer's recommendations. The panels shall be supported directly on a foundation that is continuous across the entire length of the braced wall line. This foundation shall be reinforced with not less than one No. 4 bar top and bottom.

Where the continuous foundation is required to have a depth greater than 12 inches (305 mm), a minimum 12-inch by 12-inch (305 mm by 305 mm) continuous footing or turned down slab edge is permitted at door openings in the braced wall line. This continuous footing or turned down slab edge shall be reinforced with not less than one No. 4 bar top and bottom. This reinforcement shall be lapped not less than 15 inches (381 mm) with the reinforcement required in the continuous foundation located directly under the braced wall line.

*Note: For figure 2308.9.3.2, structures assigned to Seismic Category D or E, sheathed on one face with 15/32 inch-minimum thickness wood structural panel sheathing nailed with 8d common nails spaced 6 inches on panel edges, 12 inches at intermediate supports.

**14.04.250. Section 2308.12.5 of the 2013 Edition of the California Building Code is amended to read as follows:**

**2308.12.5 Attachment of sheathing.** Fastening of braced wall panel sheathing shall not be less than that prescribed in Table 2308.12.4 or 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 with four 8d nails per leg (total eight 8d nails per clip). Braced wall panels shall be laterally braced at each top corner and at maximum 24 inches (6096 mm) intervals along the top plate of discontinuous vertical framing.

**14.04.258. Section 8-408 of the 2013 Edition of the California Building Code entitled 2013 Edition of the California Historical Building Code is amended by adding the following.**

4. The use of wood on the exterior side of exterior walls shall be prohibited in the Extreme, high and moderate fire hazard severity zones as identified by the Pasadena Fire Department.

Exception: In the moderate fire hazard severity zone, the fire code official may, upon a showing of good cause and necessity, approved the use of fire-resistive wood as part of class A listed assemblies, and may require additional mitigation as warranted, for the repair or maintenance of existing structures.

**G.** Amendments to the 2013 California Residential Code - sections 14.04.260 through 14.04.400 to read as follows:

**14.04.260. Section R301.1.3.2 of the 2013 Edition of the California Residential Code is amended to read as follows:**

**R301.1.3.2 Woodframe structures.** The building official shall require construction documents to be approved and stamped by a California licensed architect or engineer for all dwellings of woodframe construction more than two stories and basement in height located in Seismic Design Category A, B or C, notwithstanding other sections of law; the law establishing these provisions is found in Business and Professions Code Section 5537 and 6737.1.

The building official shall require construction documents to be approved and stamped by a California licensed architect or engineer for all dwellings of woodframe construction more than one story in height or with a basement located in Seismic Design Category $D_0$, $D_1$, $D_2$ or E.

**14.04.265. Section R301.1.4 is added to Chapter 3 of the 2013 Edition of the California Residential Code to read as follows:**

R301.1.4 Seismic design provisions for buildings constructed on or into slopes steeper than one unit vertical in three units horizontal (33.3 percent slope). The design and construction of new buildings and additions to existing buildings when constructed on or into slopes steeper than one unit vertical in three units horizontal (33.3 percent slope) shall comply with Section 1613.9 of the Building Code.

**14.04.267. Section R301.2.2.3.8 is added to Chapter 3 of the 2013 Edition of the California Residential Code to read as follows:**

R301.2.2.3.8 Anchorage of Mechanical, Electrical, or Plumbing Components and Equipment. Mechanical, electrical, or plumbing components and equipment shall be anchored to the structure. Anchorage of the components and equipment shall be designed to resist loads in accordance with the International Building Code and ASCE 7, except where the component is positively attached to the structure and flexible connections are provided between the component and associated ductwork, piping, and conduit; and either

1. The component weighs 400 lb (1,780 N) or less and has a center of mass located 4 ft (1.22 m) or less above the supporting structure; or

2. The component weighs 20 lb (89N) or less or, in the case of a distributed system, 5 lb/ft (73 N/m) or less.

**14.04.270. Section R401.1 of the 2013 Edition of the California Residential Code is amended to read as follows:**

**R401.1 Application.** The provisions of this chapter shall control the design and construction of the foundation and foundation spaces for all buildings. In addition to the provisions of this chapter, the design and construction of foundations in areas prone to flooding as established by Table R301.2(1) shall meet the provisions of Section R322. Wood foundations shall be designed and installed in accordance with AF&PA PWF.

**Exception**: The provisions of this chapter shall be permitted to be used for wood foundations only in the following situations:

1. In buildings that have no more than two floors and a roof.

2. When interior basement and foundation walls are constructed at intervals not exceeding 50 feet (15 240 mm).

Wood foundations in Seismic Design Category $D_0$, $D_1$ or $D_2$ not be permitted.

**Exception:** In non-occupied, single-story, detached storage sheds and similar uses other than carport or garage, provided the gross floor area does not exceed 200 square feet, the plate height does not exceed 12 feet in height above the grade plane at any point, and the maximum roof projection does not exceed 24 inches.

**14.04.275. Sections R403.1.2, R403.1.3 and R403.1.5 of the 2013 Edition of the California Residential Code are amended to read as follows:**

**R403.1.2 Continuous footing in Seismic Design Categories $D_0$, $D_1$ and $D_2$.** The braced wall panels at exterior walls of buildings located in Seismic Design Categories $D_0$, $D_1$ and $D_2$ shall be supported by continuous footings. All required interior braced wall panels in buildings shall be supported by continuous footings.

**R403.1.3 Seismic reinforcing.** Concrete footings located in Seismic Design Categories $D_0$, $D_1$ and $D_2$, as established in Table R301.2(1), shall have minimum reinforcement. Bottom reinforcement shall be located a minimum of 3 inches (76 mm) clear from the bottom of the footing.

In Seismic Design Categories $D_0$, $D_1$ and $D_2$ where construction joint is created between a concrete footing and a stem wall, a minimum of one No. 4 bar shall be installed at not more than 4 feet (1219 mm) on center. The vertical bar shall extend to 3 inches (76 mm) clear of the bottom of the footing, have a standard hook and extend a minimum of 14 inches (357 mm) into the stem wall.

In Seismic Design Categories $D_0$, $D_1$ and $D_2$ where a grouted masonry stem wall is supported on a concrete footing and stem wall, a minimum of one No. 4 bar shall be installed at not more than 4 feet (1219 mm) on center. The vertical bar shall extend to 3 inches (76 mm) clear of the bottom of the footing and have a standard hook.

In Seismic Design Categories $D_0$, $D_1$ and $D_2$ masonry stem walls without solid grout and vertical reinforcing are not permitted.

**Exception:** In detached one and two-family dwellings located in Seismic Design Category A, B or C which are three stories or less in height and constructed with stud bearing walls, isolated plain concrete footings, supporting columns or pedestals are permitted.

**R403.1.5 Slope.** 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).

For structures located in Seismic Design Categories $D_0$, $D_1$ or $D_2$, stepped footings shall be reinforced with four No. 4 rebar. Two bars shall be place at the top and bottom of the footings as shown in Figure R403.1.5.

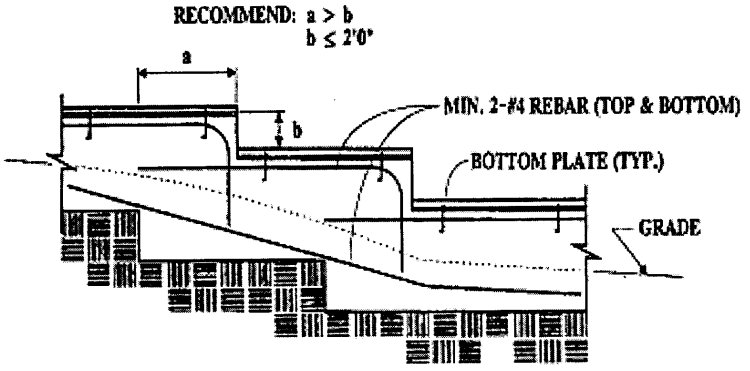


FIGURE R4.3.1.5 – STEPPED FOOTING

**14.04.280. Section R404.2 of the 2013 Edition of the California Residential Code is amended to read as follows:**

**R404.2 Wood foundation walls.** Wood foundation walls shall be constructed in accordance with the provisions of Sections R404.2.1 through R404.2.6 and with the details shown in Figures R403.1(2) and R403.1(3). Wood foundation walls shall not be used for structures located in Seismic Design Category $D_0$, $D_1$ or $D_2$.

**14.04.282. Section R501.1 of the 2013 Edition of the California Residential Code is amended to read as follows:**

**R501.1 Application.** The provisions of this chapter shall control the design and construction of the floors for all buildings including the floors of attic spaces used to house mechanical or plumbing fixtures and equipment. Mechanical or plumbing fixtures and equipment shall be attached (or anchored) to the structure in accordance with Section R301.2.2.3.8

**14.04.285. Lines 37 and 38 of Table R602.3(1) of the 2013 Edition of the California Residential Code are amended to read as follows:**

Staples shall not be used on other wall sheathing as fasteners in table R602.3(1).

**14.04.290. Footnote "b" of Table R602.3(2) of the 2013 Edition of the California Residential Code is amended to read as follows:**

b. Staples shall have a minimum crown width of 7/16-inch on diameter except as noted. Use of staples in roof, floor, subfloor, and braced wall panels shall be prohibited in Seismic Design Category $D_0$, $D_1$, or $D_2$.

**14.04.295. Figure R602.10.6.2 of the 2013 Edition of the California Residential Code is amended to read as follows:**

Minimum 15/32" thick wood structural panel sheathing, portal frame with hold downs at detached garage door openings shall be double portal frame (two braced wall panels) type at both ends. Single portal frame shall not be used. Minimum width of portal frame shall be 24 inches with 15/32" thick wood structural panel sheathing fastened to the frame.

**14.04.305. Section R602.10.9.1 of the 2013 Edition of the California Residential Code is deleted in its entirety.**

**14.04.315. Section R902.1.1.1 is added to the 2013 edition of the California Residential Code to read as follows:**

All roofing material in the very-high and moderate fire hazard severity zone must be class A. No wood roof covering material shall be installed on any structure located in the very high, high and moderate fire hazard zones as identified by the Pasadena Fire Department. All other roof covering materials in other zones shall be class A or B. Exception: In the moderate fire hazard zone, the fire code official may, upon a showing of good cause and necessity, approve the use of fire-resistive wood as part of Class A listed assemblies, and may require additional mitigation as warranted, for the repair or maintenance of existing structure.

**14.04.400. Section AG100.3.1 is added to the 2013 edition of the California Residential Code to read as follows:**

Enclosure (fence) required: In addition to the requirements in the California Residential Code, a barrier/enclosure is required to isolate the pool or any other bodies of water over 18 inches deep from neighboring properties and public ways.

Exception: When the swimming pool or any other bodies of water over 18 inches deep is fully enclosed around its perimeter by an enclosure per section AG100.3 of the California Residential Code.

**I.** Amendments to the 2013 California Green Building Standards Code – section 14.04.500 through 14.04.526 to read as follows:

**14.04.500. Section 101.3 of the 2013 edition of the California Green Buildings Standards Code is amended to read as follows:**

Scope. The provisions of this code shall apply to the planning, design, operation, construction, use and occupancy of every newly constructed building or structure, additions or alterations to existing buildings, unless otherwise indicated in this code, throughout the State of California.

It is not the intent that this code substitute or be identified as meeting the certification requirement of any green building program.

**14.04.501. Section 301.1.1 of the 2013 edition of the California Green Buildings Standards Code is amended to read as follows:**

301.1.1 Additions and alterations. The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings Code sections relevant to additions and alterations shall only apply to the portions of the building being added or altered within the scope of permitted work.

**14.04.502. Section 301.3 of the 2013 edition of the California Green Buildings Standards Code is amended to read as follows:**

Nonresidential additions and alterations. The provisions of individual sections of Chapter 5 apply to newly constructed buildings, building additions and/or building alterations (for occupancies within the authority of California Building Standards Commission). Code sections relevant to additions and alterations shall only apply to the portions of the building being added or altered within the scope of the permitted work.

A code section will be designated by a banner to indicate where the code section only applies to newly constructed buildings {N} or to additions and alterations {AA}. When the code section applies to both, no banner will be used.

**14.04.504. Section 307.1 and section 307.2 is added to the 2013 edition of the California Green Buildings Standards Code to read as follows:**

307.1 Buildings required to comply with Tier 1 include the following:

1. Municipal buildings of 5,000 square feet or more of new construction,
2. Nonresidential buildings with 25,000 square feet or more of new construction,
3. Tenant improvements of 25,000 square feet or more,
4. Mixed use and multi-family residential buildings of four stories in height or more.

307.2 Buildings required to comply with Tier 2 include the following:

1. New Municipal buildings,
2. Municipal building renovations of 15,000 square feet or more,
3. New commercial type buildings of over 50,000 square feet or more.

Note: Where there are practical difficulties involved in complying with the threshold levels of a Tier, the enforcing agency may grant modifications for individual cases. The enforcing agency shall first find that a special individual reason makes the strict letter of the Tier impractical and that modification is in conformance with the intent and purpose of the measure. The details of any action granting modification shall be recorded and entered in the files of the enforcing agency.

**14.04.506. Sections 4.106.5.1 through 4.106.5.4 are added to the 2013 edition of the California Green Buildings Standards Code to read as follows:**

**4.106.5.1. Cool Roof.** For new buildings and additions or alterations to existing roof framing, roofing materials must comply with sections 4.106.5.2 – 4.106.4 and table 4.106.5.

**4.106.5.2. Cool Roof for Reduction of Heat Island Effect**. Roofing material shall comply with the following:

**4.106.5.3. Solar Reflectance.** Roofing material shall have a minimum 3-year aged solar reflectance equal to or greater than the values specified in Table 4.106.5.

**4.106.5.4. Thermal Emittance.** Roofing materials shall have a Cool Roof Rating Council (CRRC) initial or aged thermal emittance equal to or greater than those specified in Table 4.106.5.

Solar reflectance values shall be based on the aged reflectance value of the roofing product or the equation in Section A4.106.5.1 if the CRRC certified aged solar reflectance are not available. Certified thermal emittance used in the Solar Reflectance Index Calculation Worksheet (SRI-WS) developed by the Energy Commission may be either the initial value or the aged value listed by the CRRC.

**EXCEPTIONS:**

1. Roof repair;
2. Roof replacement when the roof area being replaced is equal to or less than 50% of the total roof area; or
3. Building-integrated photovoltaic (BIPV).

TABLE 4.106.5

| ROOF SLOPE | MINIMUM 3-YEAR AGED SOLAR REFLECTANCE | THERMAL EMITTANCE |
|---|---|---|
| ≤ 2:12 | 0.65 | 0.75 |
| > 2:12 | 0.23 | 0.75 |

**14.04.508. Section 4.106.6 – 4.106.6.2.3 is added to the 2013 edition of the California Green Buildings Standards Code to read as follows:**

**4.106.6. Electric Vehicle (EV) Charging [N].** New residential buildings shall comply with the following requirements for the future installation of electric vehicle supply equipment (EVSE).

**4.106.6.1. One-and Two-Family Dwellings and Townhomes.** Install a listed raceway to accommodate a dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1 inch inside diameter). The raceway shall be securely fastened at the main service or subpanel and shall terminate in close proximity to the proposed location of the charging system into a listed cabinet, box or enclosure. Raceways are required to

be continuous at enclosed or concealed areas and spaces. A raceway may terminate in an attic or other approved location when it can be demonstrated that the area is accessible and no removal of materials is necessary to complete the final installation. Sufficient conductor sizing and service capacity to install Level 2 EVSE shall be provided.

**4.106.6.1.1. Labeling Requirement.** A label stating "EV CAPABLE" shall be posted in a conspicuous place at the service panel or subpanel and next to the raceway termination point.

**4.106.6.2. Multifamily Dwellings.** At least 5 percent of the total parking spaces, but not less than one, shall be capable of supporting future electric vehicle supply equipment (EVSE).

**4.106.6.2.1. Single Charging Space Required.** When only a single charging space is required, install a listed raceway capable of accommodating a dedicated branch circuit. The raceway shall not be less than trade size 1(nominal 1 inch inside diameter). The raceway shall be securely fastened at the main service or subpanel and shall terminate in close proximity to the proposed location of the charging system into a listed cabinet, box or enclosure. Sufficient conductor sizing and service capacity to install Level 2 EVSE shall be provided.

**4.106.6.2.2. Multiple Charging Spaces Required.** When multiple charging spaces are required, plans shall include the location(s) and type of the EVSE, raceway method(s), wiring schematics and electrical calculations to verify that the electrical system has sufficient capacity to simultaneously charge all the electrical vehicles at all designated EV charging spaces at their full rated amperage. Plan design shall be based upon Level 2 EVSE at its maximum operating ampacity. Only underground raceways and related underground equipment are required to be installed at the time of construction.
**4.106.6.2.3. Labeling Requirement.** A label stating "EV CAPABLE" shall be posted in a conspicuous place at the service panel or subpanel and the EV charging space.

**14.04.510. Sections 4.202 – 4.202.1.1 are added to the 2013 edition of the California Green Buildings Standards Code to read as follows:**

**Section 4.202 Renewable Energy.** Sections 4.202.1 and 4.202.1.1 shall apply to residential, multifamily, mixed use buildings.

**4.202.1. Space for Future Electrical Solar System Installation [N].** Comply with Section 110.10 of the California Energy Code.

**4.202.1.1. Future Access for Electrical Solar System [N].** For new buildings or when an existing service is relocated to new construction area, a minimum of one inch electrical conduit shall be provided from the electrical service equipment to an accessible location in the attic or other location suitable for future connection to a solar system. The conduit shall be labeled as future access for electrical solar system. The

electrical panel shall be sized to accommodate the installation of a future electrical solar system.

**Exception**: Buildings not required to provide a solar zone per Section 110.10 of the California Energy Code.

**14.04.512. Section 5.106.5.3 is added to the 2013 edition of the California Green Buildings Standards Code to read as follows:**

**5.106.5.3. Electric Vehicle Charging [N].** At least 5 percent of the total parking spaces, but not less than one, shall be capable of supporting installation of future electric vehicle supply equipment (EVSE).

**14.04.514. Section 5.106.5.3.1 is added to the 2013 edition of the California Green Buildings Standards Code to read as follows:**

**5.106.5.3.1. Single Charging Space Requirements.** When only a single charging space is required, install a listed raceway capable of accommodating a dedicated branch circuit. The raceway shall not be less than trade size 1 inch. The raceway shall be securely fastened at the main service or subpanel and shall terminate in close proximity to the proposed location of the charging system into a listed cabinet, box or enclosure. Sufficient conductor sizing and service capacity to install Level 2 EVSE shall be provided.

**14.04.516. Section A4.106.53 of the 2013 edition of the California Green Building s Standards Code is deleted and Tables A4.106.5.1(1) through A4.106.5.1(4) of the 2013 California Green Buildings Standards Code are amended to read as follows:**

**A4.106.5.3 Solar Reflectance index alternative.** Solar Reflectance index (SRI) equal to or greater than the values

**TABLE A4.106.5.1 (1)**
**TIER 1-LOW RISE RESIDENTIAL**

| ROOF SLOPE | | MINIMUM 3-YEAR AGED SOLAR REFLECTANCE | THERMAL EMITTANCE | |
|---|---|---|---|---|
| ≤ 2 : 12 | | 0.68 | 0.85 | |
| > 2 : 12 | | 0.28 | 0.85 | |

**TABLE A4.106.5.1 (2)**
**TIER 2-LOW-RISE RESIDENTIAL**

| ROOF SLOPE | | MINIMUM 3-YEAR AGED SOLAR REFLECTANCE | THERMAL EMITTANCE | |
|---|---|---|---|---|
| ≤ 2 : 12 | | 0.70 | 0.85 | |
| > 2 : 12 | | 0.34 | 0.85 | |

**TABLE A4.106.5.1(3)**
**TIER 1 - HIGH-RISE RESIDENTIAL BUILDINGS, HOTELS, AND MOTELS**

| ROOF SLOPE | | MINIMUM 3-YEAR AGED SOLAR REFLECTANCE | THERMAL EMITTANCE | |
|---|---|---|---|---|
| ≤ 2 : 12 | | 0.68 | 0.85 | |
| >2 : 12 | | 00.28 | 0.85 | |

**TABLE A4.106.5.1(4)**
**TIER 2 - HIGH-RISE RESIDENTIAL BUILDINGS, HOTELS, AND MOTELS**

| ROOF SLOPE | | MINIMUM 3-YEAR AGED SOLAR REFLECTANCE | THERMAL EMITTANCE | |
|---|---|---|---|---|
| ≤ 2 : 12 | | 0.70 | 0.85 | |
| >2 : 12 | | 0.34 | 0.85 | |

**14.04.518 Section A4.106.8.2 of the 2013 edition of the California Green Buildings Standards Code is amended to read as follows:**

**A4.106.8.2. Multifamily Dwellings.** At least 10 percent of the total parking spaces, but not less than one, shall be capable of supporting future electric vehicle supply equipment (EVSE).

**14.04.522. Section A5.106.5.3.3 of the 2013 edition of the California Green Building Standards Code is amended to read as follows:**

**A5.106.5.3.3 Tier 1.** At least 7 percent of the total parking spaces, but not less than one, shall be capable of supporting installation of future electric vehicle supply equipment (EVSE).

**14.04.524 Section A 5.106.5.3.4 of the 2013 edition of the California Green Building Standards Code is amended to read as follows:**

**A5.106.5.3.4. Tier 2.** At least 10 percent of the total parking spaces, but not less than two, shall be capable of supporting installation of future EVSE.

**14.04.526 Section A5.106.11.2.3 of the 2013 edition of the California Green Building Standards Cods is deleted and Tables A5.106.11.2.2 {BSC} and A5.106.11.2.3 of the 2013 edition of the California Green Building Standards Code are amended to read as follows:**

**TABLE A5.106.11.2.2 [BSC]**
**TIER 1**

| ROOF SLOPE | | MINIMUM 3-YEAR AGED SOLAR REFLECTANCE | THERMAL EMITTANCE | SRI |
|---|---|---|---|---|
| < 2 : 12 | | 0.68 | 0.85 | |
| >2 : 12 | | 0.28 | 0.85 | |

**TABLE A5.106.11.2.3**

| TIER 2 ROOF SLOPE | | MINIMUM 3-YEAR AGED SOLAR REFLECTANCE | THERMAL EMITTANCE | SRI |
|---|---|---|---|---|
| < 2 : 12 | | 0.70 | 0.85 | |
| >2 : 12 | | 0.34 | 0.85 | |

**SECTION 4.** Chapter 14.28 of the Pasadena Municipal Code is amended as follows:

**A.** By amending section 14.28.010 to read as follows:

**14.28.010** - California Fire Code adopted.

Except as is otherwise provided for in this chapter by specific provision, the minimum standards, provisions and requirements for the safe construction and maintenance of property, facilities, conditions, materials, equipment, fire prevention and alarm systems, and the general supervision thereof for the purpose of combating and control of fire and fire hazards and abatement of same, within the corporate limits of the city, shall be in accordance with the provisions and in the manner prescribed by the California Fire Code, 2013 Edition ("California Fire Code") in its entirety, as published by the International Code Council and including Appendix Chapter 4 and Appendices B through D, and I, all as compiled, adopted, and subsequently amended by the International Code Council, California State Fire Marshal's Office, California Building Standards Commission, or City of Pasadena. One copy of the above publications is on file for public inspection and they are adopted and incorporated herein as if fully set forth in this chapter.

B. By adding section 14.28.015 to read as follows:

**14.28.015 Fees.**

The council shall by resolution adopt a schedule of fees for the permits issued pursuant hereto.

A. Work commencing before permit issuance

Any person who commences any work requiring a permit under this Code before obtaining the necessary permits, unless otherwise approved by the fire code official in writing or as part of an approved phased permit approval process, shall be subject to double the permit and inspection fees adopted pursuant to section 14.28.015.

**C.** By amending Section 14.28.020 to read as follows:

**14.28.020 - Changes and additions to the adopted code.**

1. Section 101.1 of Chapter 1 of the California Fire Code is amended to read as follows:

These regulations shall be known as the Fire Code of the City of Pasadena, herein referred to as "this code."

2. Section 104 of Chapter 1 of the California Fire Code is amended by adding Section 104.12, entitled "Cost Recovery," to read as follows:

Where an emergency situation is caused or exacerbated by a willful act, a negligent act, or a violation of the Fire Code, Building Code, or any other applicable law, ordinance or regulation, the cost of mitigating and securing any emergency that is within the responsibility of the Fire Chief is a charge against the person who caused the emergency or who caused the circumstances leading to the creation of the emergency. Damages and expenses incurred by any public agency providing mutual aid shall constitute a debt of such person and shall be collectible by the Fire Chief for proper distribution in the same manner as in the case of an obligation under contract expressed or implied. Expenses as stated above shall include, but not be limited to, equipment and personnel committed and any payments required by the public agency to outside business firms requested by the public agency to mitigate or secure the emergency, monitor remediation, and clean up.

3. The exception in Section 105.6.27, item 1, of Chapter 1 of the California Fire Code is amended to read as follows:

Exception: A permit is not required for individual containers with a 20-gallon (45.5 L) water capacity or less, or 40 gallons (75.7 L) cumulatively, serving occupancies in Group R-3.

4. Section 105 of Chapter 1 of the California Fire Code is amended by changing Section 105.7.4, entitled "Cryogenic Fluids," to read as follows:

A construction permit is required for installation, alteration or closure of cryogenic fluid storage systems where the system capacity exceeds the amounts listed in Table 105.6.1 0. Maintenance performed in accordance with this code is not considered an alteration and does not require a permit.

5. Section 108 of Chapter 1 of the California Fire Code is deleted in its entirety.

6. Section 109.4 of Chapter 1 of the California Fire Code is amended to read as follows:

All sections in the codes referenced in Section 14.28.010 herein pertaining to violations are amended in their entirety to read as follows:

It shall be unlawful for any person, firm or corporation to erect,

construct, enlarge, alter, repair, move, improve, remove, convert, or demolish, equip, use, occupy, or maintain any building, occupancy, premises, system or structure in the City, or cause same to be done, contrary to or in violation of any of the provisions of this chapter. Any person, firm, or corporation violating any of the provisions of this Ordinance, shall be deemed guilty of a misdemeanor, and each such person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any violation of any of the provisions of this Ordinance is committed, continued, or permitted, and upon conviction of any such violation such persons shall be punished by a fine of not more than one thousand dollars ($1,000) or by imprisonment for not more than one (1) year, or by both such fine and imprisonment.

In addition to the above penalty provisions, violation of any of the provisions of this chapter may be subject to the administrative proceedings set forth in Chapter 1.25 of this code.

7. Section 111.4 of Chapter 1 of the California Fire Code is amended to read as follows:

Any person who continues any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be guilty of a misdemeanor and subject to the penalties specified in Section 109.4 of this code.

8. Section 510 of the California Fire Code is amended by adding Section 510.1.1, entitled "Disruption of Radio Communications," to read as follows:

The intentional installation or use of materials, devices or other building design features which disrupt or otherwise decreases the effectiveness of radio communications shall be prohibited.

9. Section 903 of the California Fire Code is amended by adding Section 903.1.2, entitled "Minimum Fire Suppression Protection for New Construction," to read as follows:

All new construction shall be provided with an approved automatic fire suppression system throughout the building, without regard to the criteria listed in section 903.2 et seq.

Exception: The following types of construction may be exempt from this section when approved by the fire code official:

1. Garages, carports and similar structures provided no portion of the structure is located more than 150 feet (45720 mm) from approved fire department access;
2. Utility sheds, gazebos, and similar structures of less than 120 square feet (11.15 $m^2$) provided no portion of the structure is located more than 150 feet (45720 mm) from approved fire department access;
3. Fences and open trellises; and,
4. Other similar structures as deemed appropriate by the fire code official.

10. Section 903 of the California Fire Code is amended by adding Section 903.1.3, entitled "Partial Automatic Fire Suppression Systems Prohibited," to read as follows:

Whenever an automatic fire suppression system is installed for any portion of any building or structure, an automatic fire suppression system shall be installed for the entire building or structure.

11. Section 903 of the California Fire Code is amended by adding a sentence at the end of Section 903.3.5, entitled "Water supplies", to read as follows:

Hydraulic calculations shall include a 10% reduction from the source.

12. Section 903.3.5.1.2 of the California Fire Code, entitled "Residential combination services", is amended to read as follows:

Combination services are not allowed for NFPA 13R systems.

13. Section 907 of the California Fire Code is amended by changing the first paragraph of Section 907.2, entitled "When required—new buildings and structures," to read as follows:

For new construction of 10,000 square feet (929 $m^2$) or more, an approved automatic fire alarm system shall be installed in compliance with this code and NFPA 72. At a minimum, smoke detectors, or other listed and approved detection devices, shall be installed in all electrical, mechanical, storage, conference or similar rooms. Listed and approved alarm notification appliances providing both audible and visual notification shall be installed throughout the building in compliance with this code and NFPA 72.

14. Section 908 of the California Fire Code is amended by adding section 908.8, entitled "Requirements", to read as follows:

All emergency alarm control panels shall be UL 201 7 or UL 864 Listed. All sensors shall be UL 2075 Listed. All Detection and Alarm systems shall be powered and supervised as required for fire alarm systems NFPA 72. Secondary power supplies shall be calculated for 24-hours equipment standby time plus emergency standby duration calculated for the longest modeled release rate or 5-minutes, whichever is the longest duration. Visual alarms shall be blue.

15. Section 1103.2 of the California Fire code, entitled "Emergency responder radio coverage in existing buildings," is amended by changing Item 2 and adding Items 3 through 6 to read as follows:

Existing occupancies shall comply with section 510.1 where one of the following conditions exist:

1. Wherever existing wired communication system cannot be repaired or is being replaced, or where not approved in accordance with Section 510.1, Exception 1
2. Whenever the fire code official determines that compliance is required

for the protection of the health and safety of the public or emergency responders.

3. Whenever additions result in an additional level above or below grade, or a total increase of more than 1000 square feet (92.9 $m^2$) or an increase of more than fifty percent (50%) in the total floor area including mezzanines and additional stories, whichever is less, regardless of ownership. Additions shall be cumulative with each application for building permit from January 1, 2008;

4. Whenever the value of alterations exceed fifty percent (50%) of the replacement value of the structure, excluding the value of property and contents. Alteration values shall be cumulative with each application for a building permit from January 1, 2008. Expenditures for maintenance and repairs such as interior and exterior painting, carpeting, interior window coverings, drapes, movable partitions, surface re-roofing or plumbing, mechanical and electrical repairs shall not be considered when calculating the percentage of alterations;

5. Whenever there is an occupancy classification change to a more hazardous use, as determined by the fire code official; or,

6. Whenever any existing Group R Division 1 occupancy is subdivided to condominium or any non-residential occupancy is converted, in part or whole, to a residential occupancy.

16. Section 1103.5 of the California Fire Code is amended by adding Section 1103.5.3, entitled "Existing Occupancies," to read as follows:

Existing occupancies, with the exception of R-3.1 and R-4 occupancies, shall comply with section 903.1.2 where one of the following conditions exists:

1. Whenever additions result in an additional level above or below grade, or a total increase of more than 1000 square feet (92.9 $m^2$) or an increase of more than fifty percent (50%) in the total floor area including mezzanines and additional stories, whichever is less, regardless of ownership. Additions shall be cumulative with each application for building permit from January 1, 2008. R-3 occupancies shall not be required to comply with this condition solely due to the addition of an additional level, unless one of the criteria for an increase of total floor area is also exceeded;

2. Whenever the value of alterations exceed fifty percent (50%) of the replacement value of the structure, excluding the value of property and contents, as determined by the Building Official. Alteration values shall be cumulative with each application for a building permit from January 1, 2008. Expenditures for maintenance and repairs such as interior and exterior painting, carpeting, interior window coverings, drapes, movable partitions, surface re-roofing or plumbing, mechanical and electrical repairs shall not be considered when calculating the percentage of alterations;

3. Whenever there is an occupancy classification change to a more

hazardous use, as determined by the fire code official; or,
4. Whenever any existing Group R Division 1 occupancy is subdivided to condominium or any non-residential occupancy is converted, in part or whole, to a residential occupancy.

17. Section 1103 of the California Fire Code is amended by adding Section 1103.7.0.1, entitled "Existing Occupancies," to read as follows:

Existing occupancies shall comply with section 907.2 where one of the following conditions exists:
1. Whenever additions result in an additional level above or below grade, or a total increase of more than 1000 square feet (92.9 $m^2$) or an increase of more than fifty percent (50%) in the total floor area including mezzanines and additional stories, whichever is less, regardless of ownership. Additions shall be cumulative with each application for building permit from January 1, 2008;
2. Whenever the value of alterations exceed fifty percent (50%) of the replacement value of the structure, excluding the value of property and contents, as determined by the Building Official. Alteration values shall be cumulative with each application for a building permit from January 1, 2008. Expenditures for maintenance and repairs such as interior and exterior painting, carpeting, interior window coverings, drapes, movable partitions, surface re-roofing or plumbing, mechanical and electrical repairs shall not be considered when calculating the percentage of alterations;
3. Whenever there is an occupancy classification change to a more hazardous use, as determined by the fire code official; or,
4. Whenever any existing Group R Division 1 occupancy is subdivided to condominium or any non-residential occupancy is converted, in part or whole, to a residential occupancy.
5. Where required by Chapter 11.

18. Section 4901 of the California Fire Code is amended by adding Section 4901.1.1, entitled "Referenced standard," to read as follows:

The International Wildland-Urban Interface Code, 2012 edition, is adopted as a referenced standard for the enforcement of this chapter and other related sections of the Fire Code. Where conflicts occur between the provisions of adopted codes and the referenced standard, the provisions of adopted codes shall apply.

19. Section 4905 of the California Fire Code is amended by adding Section 4905.2.1 entitled "Wood Roof Covering Prohibited," to read as follows:

No wood roof covering material shall be installed on any structure located in the Extreme Hazard, High Hazard, or Moderate Hazard Fire Severity Zones as identified by the Pasadena Fire Department.

20. Section 4906.2 is amended by changing Item 2 to read as follows:

Land designated as Moderate, High and Very-High Fire Hazard Severity Zone by cities and other local agencies.

21. Section 5001 is amended by adding Section 5001.6.1.1, entitled "Temporary Facility Closure," to read as follows:

Unless otherwise specified, a temporary facility closure shall last not more than 180 calendar days. The fire code official may authorize one 180 calendar day extension.

22. Section 5003 of the California Fire Code is amended by adding Section 5003.2.9.3, entitled "Minimum Testing," to read as follows:

At a minimum, all tanks, primary storage, secondary containment, monitoring systems, release prevention and mitigation systems, and other safety equipment or systems for the storage, use or handling of any hazardous material shall be tested for proper function as described by manufacturer's or design specification, whichever is more stringent, prior to the introduction of a hazardous material.

23. The first paragraph of Section 5704.2.7.4 of the California Fire Code is amended to read as follows:

Stationary, above-ground tanks shall be equipped with additional venting that will relieve excessive internal pressure caused by exposure to fires. This requirement shall also apply to each compartment of a compartmentalized tank, the interstitial space (annulus) of a secondary containment-type tank and the enclosed space of tanks of closed-top dike construction. Emergency venting devices shall be listed and approved. Emergency vents for Class I, II and IIIA liquids shall not discharge inside buildings. Additionally, this requirement shall apply to spaces or enclosed volumes, such as those intended for insulation, membranes or weather shields that can contain liquid because of a leak from the primary vessel or can inhibit venting during fire exposure. The insulation, membrane or weather shield shall not interfere with emergency venting. The venting shall be installed and maintained in accordance with Section 22.7 of NFPA 30.

24. Section 5704.2.7.5.8 of the California Fire Code is amended, by deleting the exception.

25. Section 5704.2.8.14 of the California Fire Code is amended to read as follows:

Emergency vents shall be vapor tight and shall not be allowed to discharge inside the vault. Long-bolt manhole covers shall not be allowed for this purpose.

26. Section 5704.2.9.6.1 of the California Fire Code is amended to read as follows:

Storage of Class I and II liquids in above-ground storage tanks outside of buildings is prohibited within the City of Pasadena.

27. Section 5706.2.4.4 of the California Fire Code is amended to read as follows:

The storage of Class I and II liquids in above-ground storage tanks outside of buildings is prohibited within the City of Pasadena.

28. Section 5806.2 of the California Fire Code is amended to read as follows:

Storage of flammable cryogenic fluids in stationary containers outside of buildings is prohibited within the City of Pasadena.

29. Section 6101.3 of the California Fire Code is amended to read as follows:

Where a single container is more than 20 gallons (75.7 L) in water capacity, or the aggregate water capacity of LP-gas containers is more than 40 gallons (151 L), the installer shall submit construction documents for such installation.

30. Section 6101 of the California Fire Code is amended by adding Section 6101.4, entitled "Minimum Testing," to read as follows:

At a minimum, all tanks, primary storage, secondary containment, monitoring systems, release prevention and mitigation systems, and other safety equipment or systems for the storage, use or handling of any hazardous material shall be tested for proper function as described by manufacturer's or design specification, whichever is more stringent, prior to the introduction of a hazardous material.

31. Section 6104.2 of the California Fire Code is amended to read as follows:

Within the City of Pasadena, the aggregate capacity of any one installation shall not exceed a water capacity of 2,000 gallons (7570 L).

32. Appendix A of the California Fire Code is deleted in its entirety.

33. Exception 1 in Section B105.2 of Appendix B of the California Fire Code is amended to read as follows:

1. A reduction in required fire-flow of up to 50 percent, as approved, is allowed when the building is provided with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. The resulting fire flow shall not be less than 1,500 gallons per hour (5678 L/min) for the prescribed duration as specified in Table B105.1.

34. Section D103.6 of Appendix D of the California Fire Code is amended to read as follows:

Where required by the fire code official, fire apparatus access roads shall

be marked with permanent NO PARKING-FIRE LANE signs complying with the current specifications maintained by the Pasadena Department of Public Works.

35. Appendix J is deleted in its entirety.

**D.** By adding section 14.28.040 to read as follows:

**14.28.040 Board of appeals.**

All sections in the respective codes pertaining to the Board of Appeals are hereby amended in their entirety to read as follows:
In order to hear and decide appeals or orders and determine the suitability of alternate materials and methods of construction and to provide for reasonable interpretations of the provisions of these Codes, there shall be and there is hereby created a Board of Appeals, composed of the Mayor and the City Council. The city clerk shall be the secretary to the Board. The Board may adopt reasonable rules and regulations for conducting its investigations and shall render all its decisions and findings on contested matters, in writing to the building official, with a duplicate copy thereof to any appellant or contestant affected by any such decision of findings, and may recommend to the City Council such new legislation, if any, as is consistent therewith.

The City Council may prescribe by resolution, to employ at the cost and expense of the City, such qualified individuals as the Board, in its discretion, may deem reasonably necessary in order to assist it in its investigations and in making its findings and decisions.

**SECTION 5.** This ordinance shall take effect 30 days after its publication.

Signed and approved this 9th day of December, 2013.

Bill Bogaard
Mayor of the City of Pasadena

I HEREBY CERTIFY that the foregoing ordinance was adopted by the City Council of the City of Pasadena at its meeting held this 9th day of December, 2013, by the following vote:

Ayes: Councilmembers Gordo, Kennedy, Madison, Masuda, McAustin, Vice Mayor Robinson, Mayor Bogaard

Noes: None

Absent: Councilmember Tornek

Abstain: None

Date Published: December 12, 2013
Pasadena Journal

Mark Jomsky, CMC
City Clerk

Approved as to form:

Frank L. Rhemrev
Assistant City Attorney