BUILDING STANDARDS COMMISSION
2525 Natomas Park Drive, Suite 130
Sacramento, California 95833-2936
(916) 263-0916 FAX (916) 263-0959

February 24, 2014

Raymond S. Chan
General Manager
City of Los Angeles
201 North Figueroa Street
Los Angeles, CA 90012

RE: Ordinance #182845, #182847, #182848, #182849, #182850, #182851

Dear Mr. Chan:

This letter is to advise you of our determination regarding the referenced ordinance with express findings received from your agency on January 30, 2014.

Our review finds the submittal to contain six ordinances modifying provisions of the 2013 California Building Standards Code in Title 24, California Code of Regulations (code), and express findings complying with Health and Safety Code §§17958.7 and 18941.5. The code modifications are accepted for filing and are enforceable. This letter attests only to the satisfaction of the cited law for filing of local code amendment supported by an express finding with the Commission. The Commission is not authorized by law to evaluate the merit of the code modification or the express finding.

Local modifications to the code are specific to a particular edition of the code. They must be readopted and filed with the Commission in order to remain in effect when the next triennial edition of the code is published.

On a related matter, should your city receive and ratify Fire Protection District ordinances making modifications to the code, be advised that Health and Safety Code §13869.7(c) requires such ratified ordinances and express findings to be filed with the Department of Housing and Community Development, Division of Codes and Standards, State Housing Law Program, rather than this Commission. Also, ordinances making modifications to the energy efficiency standards of the code may require approval from the California Energy Commission pursuant to Public Resources Code §25402.1(h)(2).

If you have any questions or need any further information, you may contact me at (916) 263-0916.

Sincerely,

Enrique M. Rodriguez
Associate Construction Analyst

cc: Chron
Local Filings

CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

RAYMOND S. CHAN, C.E., S.E.
SUPERINTENDENT OF BUILDING
INTERIM GENERAL MANAGER

January 30, 2014

Council File No. 13-1214

Jim McGowan, Executive Director
California Building Standards Commission
2525 Natomas Park Drive, Suite 130
Sacramento, CA 95833-2936

FILING OF EXPRESS FINDINGS AND DETERMINATION PERSUANT TO SECTION 17958.7 OF THE HEALTH AND SAFETY CODE

On December 17, 2013, the Los Angeles City Council adopted an ordinance to amend the Los Angeles Municipal Code (LAMC) by incorporating portions of the 2013 California Green Building Standards Code (CAL Green Code) and adopt the findings that make the modifications to the CAL Green Code to be reasonably necessary because of local climatic, geological or topographical conditions.

Enclosed with this transmittal is a copy of the findings along with the modifications (the ordinance) to the CAL Green Code. The Department of Building and Safety, City of Los Angeles will consider this as complying with Section 17958.7 of the Health and Safety Code.

If you have any questions regarding this matter, please contact the Code Engineer, Mr. Osama Younan at (213) 482-77407.

RAYMOND S. CHAN, C.E., S.E.
Interim General Manager

Attachments

FINDINGS AND DETERMINATIONS

Findings and Determinations to support the proposed amendments regarding the adoption of the **2013 CALGREEN** and the **California Green Building Standards Code**.

WHEREAS, the City of Los Angeles has **geological conditions**, such as earthquake faults and pockets of methane gas. The City of Los Angeles is bounded on the east by the San Andreas Fault and interlaced with other earthquake faults, which run through, adjacent and under the City; and

WHEREAS, the City is located in Seismic Zone 4, which is considered by experts to be the most seismically active of the four seismic zones in the world; and

WHEREAS, seismic experts predict a massive earthquake on one of these faults within the next 30 years and several earthquakes similar in intensity to the Northridge Earthquake during the same period; and

WHEREAS, the 1994 Northridge Earthquake which was a moderate size (6.8 magnitude) earthquake caused extensive damage to buildings and structures, including damage to more than 115,000 buildings, moderate to major damage to more than 3,000 buildings and the vacating of about 21,000 residential units including 2,000 homes; and

WHEREAS, there were 57 people who lost their lives in the earthquake, but there could have been several thousand fatalities had the earthquake occurred at midday when most buildings were occupied instead of 4:31 in the morning; and

WHEREAS, massive earthquakes pose unusual and extraordinary stresses on buildings and structures requiring more stringent building regulations than would otherwise be required; and

WHEREAS, a major earthquake would break water lines making fire fighting more difficult and would break gas lines and electric lines, making a high risk of fires breaking out in all areas of the City; and

WHEREAS, there was a fire in the Fairfax Area of the City of Los Angeles in 1986, due to the high volume of methane gas seepage through cracks in the concrete floor of a building; and

WHEREAS, in 1999, large pockets of methane gas in the subsurface geological formation was discovered in various areas of Los Angeles; and

WHEREAS, the City of Los Angeles has **topographic conditions**, natural and man-made, such as the natural hills, mountains and the coastal region, as well as the man-made harbors and highly concentrated areas of high-rise buildings.

WHEREAS, the City of Los Angeles is situated in a coastal region of hills and mountains containing dry wild native brush and other native and non-native vegetation; and

WHEREAS, this region of flat land and hillside areas creates a natural basin, which has high strong winds alongside foothills and other areas of the City; and

WHEREAS, in 1982 fires in the flat areas of neighboring Orange County were spread from one wood shake and wood shingle roof covered building to the next wood shake and wood shingle roof covered building by the strong Santa Ana winds, and

WHEREAS, the dry brush areas of the local Santa Monica hillsides and the strong canyon winds or the dry Santa Ana winds contributed to past fires in the Los Angeles area, such as, the 1961 Bel Air and Brentwood Canyon, 1977 Topanga Canyon and 1993 Malibu Canyon fires, and

WHEREAS, widespread fires caused by either earthquakes or brush fires would impact the capabilities of the Fire Department to effectively respond to all the fires; and

WHEREAS, the highly concentrated area of high-rise buildings, traffic congestion and possible gridlock may jeopardize the quick response to fires by the Fire Department that could reduce the amount of damage to buildings and increase the number of lives saved; and

WHEREAS, the mountainous terrain is now identified as the Very High Fire Hazard Severity Zone and the highly concentrated area of high-rise buildings is identified as Fire District 1; and

WHEREAS, the City of Los Angeles has **climatic conditions** that is subject to a mild winter to an extremely hot summer desert-like climate that has hot, dry (Santa Ana) winds that make the temperature rise and the humidity drop, increasing the fire danger to all exposed combustible materials; and

WHEREAS, the City of Los Angeles has a population of more than 3,700,000 people spread over more than 450 square miles; and

WHEREAS, widespread fires caused by either earthquakes or brush fires would limit the capabilities of the Fire Department to effectively respond to all the fires; and

WHEREAS, quick response to fires by the Fire Department will reduce the amount of damage to buildings and increase the number of lives saved; and

WHEREAS, the City of Los Angeles has a population of more than 3,700,000 people spread over more than 450 square miles; and

NOW, THEREFORE, in order to provide adequate protection under the local climatic, geological and topographical conditions set forth above, the City of Los Angeles makes the following findings and determinations:

Section 99.01.101.3.1 is an **administrative amendment** to include an HCD provision into the Los Angeles Municipal Code.

Section 99.02.200 is an **administrative amendment** to add a title to this section of the Los Angeles Municipal Code.

Section 99.02.201.1 is an **administrative amendment** for the purpose of syncing the CALGreen language with the Los Angeles Municipal Code.

Section 99.02.201.2 is an **administrative amendment** for the purpose of syncing the CALGreen language with the Los Angeles Municipal Code.

Section 99.02.201.3 is an **administrative amendment** to refer to the Los Angeles Building Code.

Section 99.02.201.4 is an **administrative amendment** to provide a reference standard for ordinarily accepted meanings.

Section 202 of the CALGreen Code is an **administrative amendment** to remove state code references, to clarify who is the Department, to refer to the Los Angeles Building Code, to define the Los Angeles Building Standards Code, to refer to the Los Angeles Electrical Code, to refer to the Los Angeles Mechanical Code, to refer to the Los Angeles Plumbing Code, to refer to the Los Angeles Residential Code, to refer to the Los Angeles Electrical Code, and to refer to the Los Angeles Plumbing Code.

Section 99.03.300 is an **administrative amendment** to add a title to this section of the Los Angeles Municipal Code.

Section 99.03.301.1 is an **administrative amendment** to change the Table reference of Los Angeles Municipal Code.

Section 99.03.301.1.1 is an **administrative amendment** to include an HCD provision into the Los Angeles Municipal Code.

Section 99.03.301.3 is an **administrative amendment** to include a BSC provision into the Los Angeles Municipal Code

Section 99.03.303.1 is an **administrative amendment** to include a BSC provision into the Los Angeles Municipal Code

Section 99.03.303.1.1 is an **administrative amendment** to reference the applicable code section of the Los Angeles Municipal Code.

The second unnumbered paragraph of section 99.03.304.1.1 is an **administrative amendment** to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

The Title of Division 4 of Article 9 of Chapter IX of the Los Angeles Municipal Code is an **administrative amendment** to sync title name with that of CALGreen.

Section 99.04.100 is an **administrative amendment** to add a title to this section of the Los Angeles Municipal Code.

The first unnumbered paragraph of section 99.04.106.2 is an **administrative amendment** to make the requirement consistent with local city requirements by including sites under an acre.

Sections 99.04.106.4 through 99.04.106.4.2.3 are **local environmental amendments**. Los Angeles has above average vehicle traffic. This amendment will encourage zero-emission vehicles in order to reduce pollution

Sections 99.04.106.5 through 99.04.106.5.2 and table 4.106.5 are **local environmental amendments**. Research has shown that Los Angeles suffers from heat island with the temperature having increased as the city became more urban. The higher temperatures are closely related to air pollution. Additionally, raising temperatures increase the overall and peak energy consumption for cooling creating additional air pollution from the increased power production.

Section 99.04.106.6 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.04.106.7 is a **local environmental amendment**. Research has shown that Los Angeles suffers from heat island with the temperature having increased as the city became more urban. The higher temperatures are closely related to air pollution. Additionally, raising temperatures increase the overall and peak energy consumption for cooling creating additional air pollution from the increased power production.

Sections 99.04.202 through 99.04.210 are **administrative amendments** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Sections 99.04.211 through 99.04.211.5 are **administrative amendments** due to Title 24, Part 6 being delayed until July 1, 2014.

Section 99.04.303.1 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Table 4.303.1 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.04.303.1.2 is an **administrative amendment** to match requirement with the lower flow rates already in place by local ordinance.

Section 99.04.303.2 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Table 4.303.2 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.04.304.1.1 is an **administrative amendment** to further clarify requirement threshold.

Sections 99.04.406 and 99.04.406.1 are **administrative amendments** to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

Items 1 and 10 of section 99.04.410.1 are **administrative amendments** to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

Sections 99.04.504 and 99.04.504.1 are **administrative amendments** to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

Section 99.04.504.2.4 is an **administrative amendment** to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

Section 99.04.504.5.1 is an **administrative amendment** to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

Sections 99.04.505 through 99.04.505.3 are **administrative amendments** to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

The Title of Division 5 of Article 9 of Chapter IX of the Los Angeles Municipal

Code is an **administrative amendment** to sync title with that of CALGreen.

Section 99.05.100 is an **administrative amendment** adds a title to this section of the Los Angeles Municipal Code.

Sections 99.05.106.1 through 99.05.106.1.2 are **administrative amendments** to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

Section 99.05.106.4 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.106.4.1 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.106.4.2 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.106.5.2 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Table 5.106.5.2 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Sections 99.05.106.5.3 through 99.05.106.5.3.4 are **local environmental amendments**. Los Angeles has above average vehicle traffic. This amendment will encourage zero-emission vehicles in order to reduce pollution.

Section 99.05.106.8 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen and reference local building code.

Table 5.106.8[N] is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.106.10 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.106.11 is an **environmental local amendment**. Research has shown that Los Angeles suffers from heat island with the temperature having increased as the city became more urban. The higher temperatures are closely related to air pollution. Additionally, raising temperatures increase the overall and peak energy consumption for cooling creating additional air pollution from the increased power production.

Sections 99.05.202 through 99.05.204 are **administrative amendments** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.210 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.211.1 is an **administrative amendment** to bring awareness to a California Energy Code requirement.

Section 99.05.211.4 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen

Section 99.05.211.4.1 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.302 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Sections 99.05.303.1 through 99.05.303.2.2, Table 5.303.2.2 and Table 5.303.2.3 are **administrative amendments** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.303.3.2 is an **administrative amendment** to match requirement with the lower flow rates already in place by local ordinance.

Section 99.05.303.4 is an **administrative amendment** to reference local plumbing code.

Section 99.05.303.6 is an **administrative amendment** to reference local plumbing code.

Sections 99.05.304 through 99.05.304.3.1 are **administrative amendments** to be consistent with the State's Model Landscape Ordinance.

Section 99.05.408.3 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.408.4 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.410.1 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.410.2.5 is **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

The first unnumbered paragraph of section 99.05.410.2.5.1 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.410.4.5 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.504.3 is an **administrative amendment** to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

Section 99.05.504.4.3.2 is an **administrative amendment** to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

Section 99.05.504.4.5.2 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.504.4.5.3 is an **administrative amendment** to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

Section 99.05.504.4.6 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.504.7 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.505 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.05.507 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Sections 99.05.508 through 99.05.508.2.2 are **administrative amendments** to reference local mechanical code.

Section 99.06.601.1 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.07.100 is an **administrative amendment** to add a title to this section of the Los Angeles Municipal Code.

Sections 99.07.101 through 99.07.101.1 are **administrative amendments** to clarify changes to the CALGreen that are to be incorporated into the Los Angeles Municipal Code.

The first unnumbered paragraph of section 99.07.702.2 is an **administrative amendment** to split the requirements from HCD and BSC and to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

Section 99.07.702.3 is an **administrative amendment** to split the requirements from HCD and BSC and to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

Sections 99.07.703 and 99.07.703.1 are **administrative amendments** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Division 9 of Article 9 of Chapter IX is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Division 10 of Article 9 of Chapter IX is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

The Title of Division 11 of Article 9 of Chapter IX is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.11.101 is an **administrative amendment** to clarify changes to CALGreen that are to be incorporated into the Los Angeles Municipal Code.

Sections 99.11.102 and A4.105.2 are **administrative amendments** to clarify when and where masonry may be reused.

Subsection A4.106.2.3 is an **administrative amendment** to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

Tables A4.106.5.1 (1) through A4.106.5.1 (4) are **environmental amendments** due to local condition. Research has shown that Los Angeles suffers from heat island with the temperature having increased as the city became more urban. The higher temperatures are closely related to air pollution. Additionally, raising temperatures increase the overall and peak energy consumption for cooling creating additional air pollution from the increased power production.

Subsection A4.106.7 is an **environmental amendment** due to local condition. Research has shown that Los Angeles suffers from heat island with the temperature having increased as the city became more urban. The higher temperatures are closely related to air pollution. Additionally, raising temperatures increase the overall and peak energy consumption for cooling creating additional air pollution from the increased power production.

Subsection A4.106.8 through A4.106.8.2.3 are **environmental amendments** – Los Angeles has above average vehicle traffic. This amendment will encourage zero-emission vehicles in order to reduce pollution.

Subsection A4.303.2 is an **administrative amendment** to reference local plumbing code.

Subsection A4.303.4 is an **administrative amendment** to clarify threshold at which credit will be given for compliance.

Subsection A4.304.1 is an **administrative amendment** to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

Subsection A4.304.2 is an **administrative amendment** to reference local plumbing code.

Subsection A4.305.1 is an **administrative amendment** to reference local plumbing code.

Subsection A4.305.2 is an **administrative amendment** to reference local plumbing code.

Subsection A4.403.2 is an **administrative amendment** to reference local building code.

Subsection A4.404.2 is an **administrative amendment** to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

Subsection A4.404.3 is an **administrative amendment** to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

Subsection A4.405.1 is an **administrative amendment** to clarify threshold at which credit will be given for compliance.

Subsection A4.405.2 is an **administrative amendment** to clarify threshold at which credit will be given for compliance.

Subsection A4.405.4 is an **administrative amendment** to clarify threshold at which credit will be given for compliance.

Subsection A4.407.1 is an **administrative amendment** to clarify the requirement when the credit be given for compliance.

Subsection A4.407.6 is an **administrative amendment** to require non-retractable awnings assuring protection against water intrusion in the owner's/tenant's absence. (e.g. vacation and work hours).

Subsection A4.407.7 is an **administrative amendment** to identify the limitations where Zoning and Building Code requirements may prohibit overhangs at all exterior walls.

Subsection A4.408.1. is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.11.602 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

The Title of Division 12 of Article 9 of Chapter IX of the Los Angeles Municipal

Code is an **administrative amendment** to sync with the language in CALGreen.

Section 99.12.101 of the Los Angeles Municipal Code is an **administrative amendment** to clarify changes to the CALGreen that are to be incorporated into the Los Angeles Municipal Code.

Subsection A5.105.1.2 of Section 99.12.101 an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Subsection A5.106.2 of Section 99.12.101 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Subsection A5.106.2.1 of Section 99.12.101 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Subsection A5.106.2.2 of Section 99.12.101 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Subsection A5.106.4.3 of Section 99.12.101 is an **administrative amendment**. This is an elective measure so there is no need for an exemption. The table was revised to allow buildings with up to 10 tenants to use this measure.

Subsection A5.106.5.1.1 of Section 99.12.101 is an **administrative amendment** to add clarification. Also the minimum was changed from 0 to 1 since this is an elective requirement.

Subsection A5.106.5.1.2 of Section 99.12.101 is an **administrative amendment** to add clarification. Also the minimum was changed from 0 to 1 since this is an elective requirement.

Subsection A5.106.5.3.2 of section 99.12.101 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Subsection A5.106.5.3.3 of Section 99.12.101 is an **environmental amendment**. Los Angeles has above average vehicle traffic. This amendment will encourage zero-emission vehicles in order to reduce pollution.

Subsection A5.106.5.3.4 of Section 99.12.101 is an **environmental amendment**. Los Angeles has above average vehicle traffic. This amendment will encourage zero-emission vehicles in order to reduce pollution.

Subsection A5.106.6.1 of Section 99.12.101 is an **administrative amendment** to establish a minimum threshold at which credit will be given and to eliminate the possible list of strategies so as to allow more flexibility in achieving a 20 percent reduction

Subsection A5.106.9 of Section 9.12.101 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Subsection A5.106.11.1.1 of Section 99.12.101 is an **environmental amendment** due to local condition. Research has shown that Los Angeles suffers from heat island with the temperature having increased as the city became more urban. The higher temperatures are closely related to air pollution. Additionally, raising temperatures increase the overall and peak energy consumption for cooling creating additional air pollution from the increased power production.

Subsection A5.106.11.1.2 of Section 99.12.101 is an **environmental amendment** due to local condition. Research has shown that Los Angeles suffers from heat island with the temperature having increased as the city became more urban. The higher temperatures are closely related to air pollution. Additionally, raising temperatures increase the overall and peak energy consumption for cooling creating additional air pollution from the increased power production.

Subsection A5.303.2.3.1 of Section 99.12.101 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Subsection A5.303.2.3.4 of Section 99.12.101 is an **administrative amendment** to reference local plumbing code.

Subsection A5.304.4.2 of Section 99.12.101 is an **administrative amendment** to reference the Los Angeles Municipal Code.

Subsection A5.303.4.4.4 of Section 99.12.101 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Subsection A5.304.8 of Section 99.12.101 is an **administrative amendment** to reference local plumbing code.

Subsection A5.305.1 of Section 99.12.101 is an **administrative amendment** to reference local plumbing code.

Sec. 120. Subsection A5.405.3 of Section 99.12.101 is an **administrative amendment** to reference the Los Angeles Municipal Code.

Subsection A5.405.4 of Section 99.12.101 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Subsection A5.405.5.2 of Section 99.12.101 is an **administrative amendment** to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

Subsection A5.405.5.2.1 of Section 12.101 is an **administrative amendment** to utilize a defined term consistent with all articles under chapter 9 of the Municipal Code.

Subsection A5.408.3.1 of Section 99.12.101 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Subsection A5.410.3 of Section 99.12.101 is an **administrative amendment** to provide an additional elective for the purpose of meeting or exceeding Tier 1 and Tier 2 requirements.

Subsection A5.504.4.8 of Section 99.12.101 is an **administrative amendment to** the Los Angeles Municipal Code to sync with the language in CALGreen.

Subsection A5.504.4.9 of Section 99.12.101 is an **administrative amendment** to reference the local building code.

Subsection A5.504.4.9.1 of Section 99.12.101 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Subsection A5.507.2 of Section 99.12.101 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Table A5.601 of Section 99.12.101 is **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

Section 99.12.508 is an **administrative amendment** to the Los Angeles Municipal Code to sync with the language in CALGreen.

ORDINANCE NO. 182849

An ordinance amending certain provisions of Article 9, Chapter IX of the Los Angeles Municipal Code to reflect local administrative changes and incorporate by reference portions of the 2013 Edition of the California Green Building Standards Code (CALGreen Code).

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

Section 1. Subsection 99.01.101.3.1 of the Los Angeles Municipal Code is added to read as follows:

99.01.101.3.1. The provisions of this Code shall also apply to residential alterations that increase the building's conditioned volume. Conditioned space is defined as an enclosed space provided with mechanical heating that has a capacity exceeding 10 Btu/hr-ft^2, or is provided with mechanical cooling that has a capacity exceeding 5 Btu/hr-ft^2.

Sec. 2. Section 99.02.200 of the Los Angeles Municipal Code is added to read as follows:

SEC. 99.02.200. BASIC PROVISIONS.

Chapter 2 of the 2013 California Green Building Standards Code is adopted by reference except as amended herein.

Sec. 3. Subsection 99.02.201.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 4. Subsection 99.02.201.2 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 5. Subsection 99.02.201.3 of the Los Angeles Municipal Code is amended to read as follows:

99.02.201.3. Terms Defined in Other Documents. Where terms are not defined in this Code and are defined in the Los Angeles Building Code or other referenced document, such terms shall have the meanings ascribed to them as in those publications.

Sec. 6. Subsection 99.02.201.4 of the Los Angeles Municipal Code is amended to read as follows:

99.02.201.4. Terms Not Defined. Where terms are not defined as prescribed in this section, such terms shall have ordinarily accepted meanings such as context applies.

The definitions in Webster's Third New International Dictionary of the English Language, Unabridged shall be considered as providing ordinarily accepted meanings.

Section 202 of the CALGreen Code is adopted by reference with the following amendments:

The following CALGreen Code definitions are not adopted:

CALIFORNIA BUILDING CODE

CALIFORNIA ELECTRICAL CODE

CALIFORNIA MECHANICAL CODE

CALIFORNIA PLUMBING CODE

CALIFORNIA RESIDENTIAL CODE

The following definitions are added:

DEPARTMENT. The Department of Building and Safety of the City of Los Angeles.

LOS ANGELES BUILDING CODE. The current version of the Los Angeles Building Code, Articles 1 and 8 of Chapter IX of the Los Angeles Municipal Code.

LOS ANGELES BUILDING STANDARDS CODE. Articles 1 thru 9 of Chapter IX of the Los Angeles Municipal Code.

LOS ANGELES ELECTRICAL CODE. The current version of the Los Angeles Electrical Code, Article 3 of Chapter IX of the Los Angeles Municipal Code.

LOS ANGELES MECHANICAL CODE. The current version of the Los Angeles Mechanical Code, Article 5 of Chapter IX of the Los Angeles Municipal Code.

LOS ANGELES PLUMBING CODE. The current version of the Los Angeles Plumbing Code, Article 4, Chapter IX of the Los Angeles Municipal Code.

LOS ANGELES RESIDENTIAL CODE. The current version of the Los Angeles Residential, Article 1.5, Chapter IX of the Los Angeles Municipal Code.

The following terms are modified as follows:

ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-in hybrid electric vehicles (PHEV) are considered electric vehicles. For purposes of the Los Angeles Electrical Code, off-road, self-propelled electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not included.

POTABLE WATER. Water that is drinkable and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards. See definition in the Los Angeles Plumbing Code.

Sec. 7. A new Section 99.03.300 is added to the Los Angeles Municipal Code to read as follows:

SEC. 99.03.300. BASIC PROVISIONS.

Chapter 3 of the 2013 California Green Building Standards Code is adopted by reference except as amended herein.

Sec. 8. Subsection 99.03.301.1 of the Los Angeles Municipal Code is amended to read as follows:

99.03.301.1. Scope. Buildings shall be designed to include the green building measures specified as mandatory in this Code. Voluntary green building measures are also included in this Code and may be included in the design and construction of structures covered by this Code, but are not required unless they are part of Tier 1 or Tier 2. The checklists in Table A4.602 and Table A5.602 are for reference only.

Sec. 9. A new Subsection 99.03.301.1.1 is added to the Los Angeles Municipal Code to read as follows:

99.03.301.1.1. Additions and Alterations (HCD). The mandatory provisions of Division 4 shall be applied to additions or alterations of existing residential buildings as specified in Section 99.01.101.3.

EXCEPTION: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local

building Department. See Civil Code Section 1101.1, *et seq.* for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

Sec. 10. Subsection 99.03.301.3 of the Los Angeles Municipal Code is added to read as follows:

99.03.301.3. Nonresidential Additions and Alterations (BSC). The provisions of individual sections of Chapter 5 apply to newly constructed buildings, building additions, and/or building alterations as specified in Section 99.01.101.3. 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.

Sec. 11. Subsection 99.03.303.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 12. Subsection 99.03.303.1.1 of the Los Angeles Municipal Code is amended to read as follows:

99.03.303.1.1. Tenant Improvements. The provisions of this Code shall apply to the initial tenant or occupant improvements to a project and to any future alteration that falls under the scope of 99.01.101.3.

Sec. 13. The second unnumbered paragraph of Subsection 99.03.304.1.1 of the Los Angeles Municipal Code is amended to read as follows:

[BSC & HCD] Where there are practical difficulties involved in complying with the threshold levels of a tier, the Department may grant modifications for individual cases. The Department 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 Department.

Sec. 14. The Title of Division 4 of Article 9 of Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

ARTICLE 9, DIVISION 4

RESIDENTIAL MANDATORY MEASURES

Sec. 15. A new Section 99.04.100 is added to the Los Angeles Municipal Code to read as follows:

SEC. 99.04.100. BASIC PROVISIONS.

Chapter 4 of the 2013 California Green Building Standards Code is adopted by reference except as amended herein.

Sec. 16. The first unnumbered paragraph of Subsection 99.04.106.2 of the Los Angeles Municipal Code is amended to read as follows:

99.04.106.2. Storm Water Drainage and Retention During Construction. Projects which disturb soil shall manage storm water drainage during construction. In order to manage storm water drainage during construction one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site:

Sec. 17. A new Subsection 99.04.106.4 is added to the Los Angeles Municipal Code to read as follows:

99.04.106.4. Electric Vehicle (EV) charging for new construction. New construction shall comply with Section 99.04.106.4.1 and 99.04.106.4.2 to facilitate future installation of electric vehicle supply equipment (EVSE). EVSE and all devices related to EV charging shall be installed in accordance with *California Electrical Code*, Article 625.

Notes:

1. Due to logistics related to EV charging, this section may apply to non-residential occupancies, e.g., garages, which either are accessory to or support residential (R) occupancies.

2. The Society of Automotive Engineers (SAE) International Surface Vehicle Recommended Practice, J1772, "SAE Electric Vehicle and Plug in Hybrid Electric Vehicle Conductive Charge Coupler," Table 5.2 AC Charging Electrical Ratings (North America), October 2012, references the AC Level 2 charge method as 208 to 240-volt AC, single phase, and up to 80 amperes.

99.04.106.4.1. One- and Two-Family Dwellings and Townhouses with Attached Private Garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240 volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or a subpanel and shall terminate in close proximity to the proposed location of the charging system into a listed cabinet, box or other 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. The panel or subpanel shall have sufficient capacity to support at least Level 2 EVSE.

EXCEPTION: Equivalent installation methods approved by the Department.

99.04.106.4.1.1. 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.

99.04.106.4.2. Multifamily Dwellings. At least five (5)% of the total parking spaces provided for all types of parking facilities, but in no case less than one location, shall be capable of supporting future EVSE.

99.04.106.4.2.1. Single Charging Location Required. When only a single charging location is required, install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate 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. The panel or subpanel shall have sufficient capacity to support at least Level 2 EVSE.

EXCEPTION: Equivalent installation methods approved by the Department.

99.04.106.4.2.2. Multiple Charging Locations Required. When multiple charging locations are required, plans shall indicate the proposed type and location of EVSE and also include raceway method(s), wiring schematics and electrical calculations to verify that the electrical system has sufficient capacity to simultaneously charge all electric vehicles at all designated EV charging locations at their full rated amperage. Plan design shall be based upon Level 2 or greater EVSE at its maximum operating ampacity. Only underground raceways and related underground components are required to be installed at the time of construction.

99.04.106.4.2.3. 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.

Notes:

1. The California Department of Transportation adopts and publishes the California Manual on Uniform Traffic Control Devices (California MUTCD) to provide uniform standards and specifications for all official traffic control devices in California. Zero Emission Vehicle Signs and Pavement Markings can be found in the New Policies & Directives under number 13-01. Website: www.dot.ca.gov/hq/traffops/signtech/signdel/policy.htm

2. See California Vehicle Code Section 22511 for EV charging space signage in off-street parking facilities and for use of EV charging spaces.

3. The Governor's Office of Planning and Research published a Zero-Emission Vehicle Community Readiness Guidebook, which provides helpful information for local governments, residents and businesses. Website: http://opr.ca.gov/docs/ZEV_Guidebook.pdf

4. The Governor's Office of Planning and Research (OPR) has developed draft guidelines, "Plug-In Electric Vehicles: Universal Charging Access Guidelines and Best Practices," addressing physical accessibility standards and design guidelines for EVs. Website: http://opr.ca.gov/docs/PEV_Access_Guidelines.

Sec. 18. A new Subsection 99.04.106.5 is added to the Los Angeles Municipal Code to read as follows:

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

99.04.106.5.1. 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.

99.04.106.5.2. 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.

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 photovoltaics (BIPV).

TABLE 4.106.5

ROOF SLOPE	MINIMUM 3-YEAR AGED SOLAR REFLECTANCE	THERMAL EMITTANCE
≤ 2 : 12	0.63	0.75
> 2 : 12	0.20	0.75

Sec. 19. Subsection 99.04.106.6 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 20. A new Subsection 99.04.106.7 is added to the Los Angeles Municipal Code to read as follows:

99.04.106.7. Reduction of Heat Island Effect for Nonroof Areas [N]. Reduce nonroof heat islands for 25% of pathways, patios, driveways or other paved areas by using one or more of the methods listed.

1. Use trees or other plantings to provide shade and that mature within 5 years of planting. Trees shall be suitable in mature size and environmental requirements for the site. Tree selection and placement shall consider location and size of areas to be shaded, location of utilities, views from the structure, distance to sidewalks and foundations, overhangs onto adjacent properties and streets; other infrastructure and adjacent to landscaping. In addition, shading shall not cast a shadow, as specified, on any neighboring solar collectors pursuant to *Public Resources Code* Section 25981, *et seq.* (Solar Shade Control Act);

2. Use high albedo materials with an initial solar reflectance value of at least .30 as determined in accordance with American Society for Testing and Materials (ASTM) Standards E1918 or C1549;

3. Use open grid pavement system or pervious or permeable pavement system;

4. Use solar panel arrays to create a canopy shade system; or

5. Other methods of reducing heat island effects acceptable to the Department.

Sec. 21. Section 99.04.202 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 22. Section 99.04.203 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 23. Section 99.04.204 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 24. Section 99.04.205 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 25. Section 99.04.206 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 26. Section 99.04.207 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 27. Section 99.04.208 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 28. Section 99.04.209 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 29. Section 99.04.210 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 30. Section 99.04.211 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 99.04.211. RENEWABLE ENERGY.

99.04.211.4. Solar Ready Buildings [N]. Buildings for which plans were submitted to the Department for plan check and the plan check fee was paid after the effective date of the 2013 California Energy Code (Title 24, Part 6) shall comply with the following:

1. All one- and two-family dwellings, shall comply with Section 110.10(b)1A, 110.10(b)2, 110.10(b)3, 110.10(b)4, 110.10(c), 110.10(d) and 110.10(e) of the California Energy Code (Title 24, Part 6).

2. All buildings, other than one- and two-family dwellings, shall comply with Section 110.10(b) through 110.10(d) of the California Energy Code (Title 24, Part 6).

99.04.211.5. Space for Future Electrical Solar System Installation [N]. Buildings for which plans were submitted to the Department for plan check and the plan check fee was paid prior to the effective date of the 2013 California Energy Code (Title 24, Part 6), shall provide a minimum of 250 square feet of contiguous unobstructed roof area for the installation of future solar photovoltaic or other electrical solar panels. The location shall be suitable for installing future solar panels as determined by the designer.

EXCEPTION:

1. For roofs with an area of less than 1,000 square feet, the unobstructed area may be reduced to 25% of the total roof.

2. Buildings designed and constructed with a solar photovoltaic system or an alternate system with means of generating electricity at the time of final inspection.

3. Where it is not feasible to provide one contiguous area due to roofing configuration, two unobstructed areas with a minimum combined area of 250 square feet may be provided.

4. Buildings designed with a green roof making it unfeasible to provide this area.

Sec. 31. Subsection 99.04.303.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 32. Table 4.303.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 33. A new Subsection 99.04.303.1.2 is added to the Los Angeles Municipal Code to read as follows:

99.04.303.1.2. Urinals. The effective flush volume of urinals shall not exceed 0.125 gallons per flush.

Sec. 34. Subsection 99.04.303.2 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 35. Table 4.303.2 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 36. Subsection 99.04.304.1.1 of the Los Angeles Municipal Code is amended to read as follows:

99.04.304.1.1. Irrigation Design [N]. Buildings on sites with over 2,500 square feet of cumulative irrigated landscaped areas shall have irrigation controllers, which meet the criteria in Section 99.4.304.1.

Sec. 37. Section 99.04.406 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 99.04.406. ENHANCED DURABILITY AND REDUCED MAINTENANCE.

99.04.406.1. Rodent Proofing. Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the Department.

Sec. 38. Items 1 and 10 of Subsection 99.04.410.1 of the Los Angeles Municipal Code are amended to read as follows:

1. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.

10. A copy of all special inspection verifications required by the Department or this Code.

Sec. 39. Section 99.04.504 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 99.04.504. POLLUTANT CONTROL.

99.04.504.1. Covering of Duct Openings and Protection of Mechanical Equipment During Construction. At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the Department to reduce the amount of water, dust and debris, which may enter the system.

99.04.504.2.4. Verification. Verification of compliance with this section shall be provided at the request of the Department. Documentation may include, but is not limited to, the following:

1. Manufacturer's product specification.

2. Field verification of on-site product containers.

99.04.504.5.1. Documentation. Verification of compliance with this section shall be provided as requested by the Department. Documentation shall include at least one of the following:

1. Product certifications and specifications;

2. Chain of custody certifications;

3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, *et seq.*);

4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269 or European 636 3S standards; or

5. Other methods acceptable to the Department.

Sec. 40. Section 99.04.505 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 99.04.505. INTERIOR MOISTURE CONTROL.

99.04.505.1. General. Buildings shall meet or exceed the provisions of the Los Angeles Municipal Code.

99.04.505.2. Concrete Slab Foundations. Concrete slab foundations required to have a vapor retarder by the Los Angeles Building Code, Chapter 19 or concrete slab-on-ground floors required to have a vapor retarder by the Los Angeles Residential Code, Chapter 5, shall also comply with this section.

99.04.505.2.1. Capillary break. A capillary break shall be installed in compliance with at least one of the following:

1. A 4-inch (101.6 mm) thick base of ½ inch (12.7 mm) or larger clean aggregate shall be provided with a vapor retarder in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06;

2. Other equivalent methods approved by the Department; or

3. A slab design specified by a licensed design professional.

99.04.505.3. Moisture Content of Building Materials. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed until it is inspected and found to be satisfactory by the building inspector. Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.

Sec. 41. The Title of Division 5 of Article 9 of Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

ARTICLE 9, DIVISION 5
NONRESIDENTIAL MANDATORY MEASURES

Sec. 42. A new Section 99.05.100 is added to the Los Angeles Municipal Code to read as follows:

SEC. 99.05.100. BASIC PROVISIONS.

Chapter 5 of the 2013 California Green Building Standards Code is adopted by reference except as provided in this Article.

Sec. 43. Subsection 99.05.106.1 of the Los Angeles Municipal Code is amended to read as follows:

99.05.106.1. Storm Water Pollution Prevention. Newly constructed projects which disturb soil shall prevent the pollution of stormwater runoff from the construction activities through one or more of the following measures:

99.05.106.1.1. Local Ordinance. Comply with a lawfully enacted stormwater management and/or erosion control ordinance.

99.05.106.1.2. Best Management Practices (BMP). Prevent the loss of soil through wind or water erosion by implementing an effective combination of erosion and sediment control and good housekeeping BMP.

1. Soil loss BMP that should be considered for implementation as appropriate for each project include, but are not limited to, the following:

a. Scheduling construction activity;

b. Preservation of natural features, vegetation and soil;

c. Drainage swales or lined ditches to control stormwater flow;

d. Mulching or hydroseeding to stabilize disturbed soils;

e. Erosion control to protect slopes;

f. Protection of storm drain inlets (gravel bags or catch basin inserts);

g. Perimeter sediment control (perimeter silt fence, fiber rolls);

h. Sediment trap or sediment basin to retain sediment on site;

i. Stabilized construction exits;

j. Wind erosion control;

k. Other soil loss BMP acceptable to the Department.

2. Good housekeeping BMP to manage construction equipment, materials and wastes that should be considered for implementation as appropriate for each project include, but are not limited to, the following:

a. Material handling and waste management;

b. Building materials stockpile management;

c. Management of washout areas (concrete, paints, stucco, etc.);

d. Control of vehicle/equipment fueling to contractor's staging area;

e. Vehicle and equipment cleaning performed off site;

f. Spill prevention and control;

g. Other housekeeping BMP acceptable to the Department.

Sec. 44. Subsection 99.05.106.4 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 45. Subsection 99.05.106.4.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 46. Subsection 99.05.106.4.2 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 47. Subsection 99.05.106.5.2 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 48. Table 5.106.5.2 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 49. A new Subsection 99.05.106.5.3 is added to the Los Angeles Municipal Code to read as follows:

99.05.106.5.3. Electric Vehicle (EV) Charging. [N] Provide infrastructure to facilitate future installation of electric vehicle supply equipment (EVSE). EVSE and all devices related to EV charging shall be installed in compliance with the California Building Code Section 406.9, the California Electrical Code Article 625, and as follows:

99.05.106.5.3.1. Charging Locations. [N] Parking facilities shall have five (5) percent of the total parking spaces, but not less than one (1), capable of supporting future EVSE charging locations.

Notes: The Society of Automotive Engineers (SAE) Standard J1772, "Electrical Conductive Charge Couple," released January 2010, defines, in part, AC Level EVSE as 240-volt, single phase, up to 80 amps.

99.05.106.5.3.2. EVSE Infrastructure. [N] Only raceways re required to be installed at the time of construction. The construction plans and specifications shall indicate the proposed type and locations(s) of the EVSE, raceway method(s), wiring schematics and electrical calculations for the electrical charging system. The electrical system shall have sufficient capacity to simultaneously charge all electrical vehicles at their full rated amperage. Plan design shall be based upon Level 2 ESVE or greater at its maximum operating ampacity. The raceway shall not be less than the trade size 1. The raceway shall terminate in close proximity to the proposed location of the charging system into a listed cabinet, box or an enclosure.

EXCEPTION: [N] Other pre-installation methods approved by the Department that provide sufficient conductor sizing and service capacity to install Level 2 EVSE or greater.

99.05.106.5.3.3. [N] 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.

99.05.106.5.3.4. Future charging locations qualify as designated parking as described in Section 99.05.106.5.2.

Notes:

1. The California Department of Transportation adopts and publishes the California Manual on Uniform Traffic Control Devices (California MUTCD) to provide uniform standards and specifications for all official traffic control devices in California. Zero Emission Vehicle Signs and Pavement Markings can be found in the New Policies & Directives number 13-01. www.dot.ca.gov/hq/traffops/signtech/signdel/policy.htm

2. See Vehicle code Section 22511 for EV charging spaces signage in off-street parking facilities and for use for EV charging spaces.

3. The Governor's Office of Planning and Research published a Zero-Emission Vehicle Community Readiness Guidebook which provides helpful information for local governments, residents and business. http://opr.ca.gov/docs/ZEV_Guidebook.pdf

Sec. 50. Subsection 99.05.106.8 of the Los Angeles Municipal Code is amended to read as follows:

99.05.106.8. Light Pollution Reduction [N]. Outdoor lighting systems shall be designed and installed to comply with the following:

1. The minimum requirements in the California Energy Code for Lighting Zones 1-4 as defined in Chapter 10 of the California Administrative Code; and

2. Backlight, Uplight and Glare (BUG) ratings as defined in IESTM-15-11; and

3. Allowable BUG ratings not exceeding those shown in Table 5.106.8, or comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.

EXCEPTIONS [N]:

1. Luminaires that qualify as exceptions in Section 147 of the *California Energy Code*;

2. Emergency lighting.

Note [N]: See also Los Angeles Building Code, Division 12, Subsection 91.1205.6 for college campus lighting requirements for parking facilities and walkways.

Sec. 51. Table 5.106.8[N] of the Los Angeles Municipal Code is added to read as follows:

TABLE 5.106.8 [N]
MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS[1,2]

ALLOWABLE RATING	LIGHTING ZONE 1	LIGHTING ZONE 2	LIGHTING ZONE 3	LIGHTING ZONE 4
Maximum Allowable Backlight Rating [3]				
Luminaire greater than 2 mounting heights (MH) from property line	No limit	No limit	No limit	No limit
Luminaire back hemisphere is 1 -2 MH from property line	B2	B3	B4	B4
Luminaire back hemisphere is 0.5 – 1 MH from property line	B1	B2	B3	B3

Luminaire back hemisphere is less than 0/5 MH from property line	B0	B0	B1	B2
Maximum Allowable Uplight Rating				
For area lighting [4]	U0	U0	U0	U0
For all other outdoor lighting, including decorative luminaries	U1	U2	U3	U4
Maximum Allowable Glare Rating [5]				
Luminaire greater than 2 MH from property line	G1	G2	G3	G4
Luminaire front hemisphere is 1 – 2 MH from property line	G0	G1	G1	G2
Luminaire front hemisphere is 0.5 – 1 MH from property line	G0	G0	G1	G1
Luminaire back hemisphere is less than 0.5 MH from property line	G0	G0	G0	G1

1. IESNA Lighting Zones 0 and 5 are not applicable; refer to Lighting Zones as defined in *the* California Energy Code and Chapter 10 of the California Administrative Code.
2. For property lines that abut public walkways, bikeways, plazas and parking lots, the property line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public transit corridor for the purpose of determining compliance with this section.
3. If the nearest property line is less than or equal to two mounting heights from the back hemisphere of the luminaire distribution, the applicable reduced Backlight rating shall be met.
4. General lighting luminaires in areas such as outdoor parking, sales or storage lots shall meet these reduced ratings. Decorative luminaires located in this area shall meet *U*-value limits for "all other outdoor lighting".
5. If the nearest property line is less than or equal to two mounting heights from the front hemisphere of the luminaire distribution, the applicable reduced Glare rating shall be met.

Sec. 52. Subsection 99.05.106.10 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 53. A new Subsection 99.05.106.11 is added to the Los Angeles Municipal Code to read as follows:

99.05.106.11. Hardscape Alternatives [N]. Use one or a combination of strategies below for 25% of site hardscape.

1. Provide shade (mature within 5 years of occupancy);

2. Use light colored materials with an initial solar reflectance value of at least .30 as determined in accordance with American Society for Testing and Materials (ASTM) Standards E 1918 or C 1549;

3. Use open-grid pavement system or pervious or permeable pavement system; or

4. Use solar panel arrays to create a canopy shade system.

Sec. 54. Section 99.05.202 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 55. Section 99.05.203 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 56. Section 99.05.204 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 57. Section 99.05.210 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 58. A new Subsection 99.05.211.1 is added to the Los Angeles Municipal Code to read as follows:

99.05.211.1. Solar Ready Buildings [N]. Comply with Section 110.10 of the California Energy Code.

EXCEPTION: Buildings for which building plans were submitted to the Department for plan check and the plan check fee was paid prior to the effective date of the 2013 California Energy Code (Title 24, Part 6).

Sec. 59. Subsection 99.05.211.4 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 60. Subsection 99.05.211.4.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 61. Subsection 99.05.302 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 62. Subsection 99.05.303.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 63. Subsection 99.05.303.2 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 64. Subsection 99.05.303.2.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 65. Table 5.303.2.2 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 66. Table 5.303.2.3 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 67. A new Subsection 99.05.303.3.2 is added to the Los Angeles Municipal Code to read as follows:

99.05.303.3.2. Urinals. The effective flush volume of urinals shall not exceed 0.125 gallons per flush.

Sec. 68. Subsection 99.05.303.4 of the Los Angeles Municipal Code is amended to read as follows:

99.05.303.4. Wastewater Reduction [N]. Each building shall reduce by 20% wastewater by one of the following methods:

1. [BSC, DSA-SS] The installation of water-conserving fixtures (water closets, urinals) meeting the criteria established in Section 5.303.2 or 5.303.3.

2. [BSC] Utilizing nonpotable water systems [captured rainwater, graywater, and municipally treated wastewater (recycled water) complying with the current edition of the Los Angeles Plumbing Code or other methods described in Section A5.304.8].

Sec. 69. Subsection 99.05.303.6 of the Los Angeles Municipal Code is added to read as follows:

99.05.303.6. Standards for Plumbing Fixtures and Fittings. Plumbing fixtures and fittings shall be installed in accordance with the Los Angeles Plumbing Code, and shall meet the applicable standards referenced in Table 1401.1 of the Los Angeles Plumbing Code and in Chapter 6 of this Code.

Sec. 70. Section 99.05.304 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 99.05.304. OUTDOOR WATER USE.

99.05.304.2. Outdoor Potable Water Use. For new water service or for addition or alteration requiring upgraded water service for landscaped areas of at least 1,000 square, separate submeters or metering devices shall be installed for outdoor potable water use.

99.05.304.3. Irrigation Design. In new nonresidential construction or building addition or alteration with at least 1,000 square feet of cumulative landscaped area, install irrigation controllers and sensors which include the following criteria, and meet manufacturer's recommendations.

99.05.304.3.1. Irrigation Controllers. Automatic irrigation system controllers installed at the time of final inspection shall comply with the following:

1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.

2. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.

Note: More information regarding irrigation controller function and specifications is available from the Irrigation Association.

Sec. 71. A new Subsection 99.05.408.3 is added to the Los Angeles Municipal Code to read as follows:

99.05.408.3. Excavated Soil And Land Clearing Debris [BSC]. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed.

EXCEPTION: Reuse, either on-or off-site, of vegetation or soil contaminated by disease or pest infestation.

Notes:

1. If contamination by disease or pest infestation is suspected, contact the County Agricultural Commissioner and follow its direction for recycling or disposal of the material.
www.cdfa.ca.gov/exec/ county/county_contacts.html

2. For a map of known pest and/or disease quarantine zones, consult with the California Department of Food and Agriculture.
www.cdfa.ca.gov

3. Contaminated soil shall not be reused and shall be disposed of or remediated in accordance with relevant regulations.

Sec. 72. Subsection 99.05.408.4 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 73. Subsection 99.05.410.1 of the Los Angeles Municipal Code is amended to read as follows:

99.05.410.1. Recycling By Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics and metals or meet a lawfully enacted local recycling ordinance, if more restrictive.

EXCEPTIONS:

1. Additions within a tenant space resulting in less than a 30% increase in the tenant space floor area, or

2. Alterations.

Sec. 74. Subsection 99.05.410.2.5 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 75. The first unnumbered Paragraph of Subsection 99.05.410.2.5.1 of the Los Angeles Municipal Code is amended to read as follows:

99.05.410.2.5.1. Systems Manual [N]. Documentation of the operational aspects of the building shall be completed within the systems manual and delivered to the building owner or representative. The systems manual shall include the following:

Sec. 76. Subsection 99.05.410.4.5 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 77. Subsection 99.05.504.3 of the Los Angeles Municipal Code is amended to read as follows:

99.05.504.3. Covering of Duct Openings and Protection of Mechanical Equipment during Construction. At the time of rough installation and during storage on the construction site until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the Department to reduce the amount of dust, water and debris which may enter the system.

Sec. 78. Subsection 99.05.504.4.3.2 of the Los Angeles Municipal Code is amended to read as follows:

99.05.504.4.3.2. Verification. Verification of compliance with this section shall be provided at the request of the Department. Documentation may include, but is not limited to, the following:

1. Manufacturer's product specification; or

2. Field verification of on-site product containers.

Sec. 79. Subsection 99.05.504.4.5.2 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 80. A new Subsection 99.05.504.4.5.3 is added to the Los Angeles Municipal Code to read as follows:

99.05.504.4.5.3. Documentation. Verification of compliance with this section shall be provided as requested by the Department. Documentation shall include at least one of the following:

1. Product certifications and specifications;

2. Chain of custody certifications;

3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, *et seq.*);

4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269 or European 636 3S standards; or

5. Other methods acceptable to the Department.

Sec. 81. Subsection 99.05.504.4.6 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 82. Subsection 99.05.504.7 of the Los Angeles Municipal Code is amended to read as follows:

99.05.504.7. Environmental Tobacco Smoke (ETS) Control. Where outdoor areas are provided for smoking, prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and within the building as already prohibited by other laws or regulations; or as enforced by ordinances, regulations or policies of the City, whichever are more stringent. When ordinances, regulations or policies are not in place, post signage to inform building occupants of the prohibitions.

Sec. 83. Section 99.05.505 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 84. Section 99.05.507 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 85. A new Section 99.05.508 is added to the Los Angeles Municipal Code to read as follows:

SEC. 99.05.508.
99.05.508.2.1. Refrigerant Piping. Piping compliant with the Los Angeles Mechanical Code shall be installed to be accessible for leak protection and repairs. Piping runs using threaded pipe, copper tubing with an outside diameter (OD) less than ¼", flared tubing connections and short radius elbows shall not be used in refrigerant systems except as noted below.

99.05.508.2.2. Valves. Valves and fittings shall comply with the Los Angeles Mechanical Code and as follows.

Sec. 86. Subsection 99.06.601.1 of the Los Angeles Municipal Code is amended to read as follows:

99.06.601.1. General. Chapter 6 of the 2013 California Green Building Standards Code is adopted in its entirety.

Sec. 87. A new Section 99.07.100 is added to the Los Angeles Municipal Code to read as follows:

SEC. 99.07.100. BASIC PROVISIONS.

Chapter 7 of the 2013 California Green Building Standards Code is adopted by reference except as amended herein.

Sec. 88. A new Section 99.07.101 is added to the Los Angeles Municipal Code to read as follows:

SEC. 99.07.101.

99.07.101.1. General. Chapter 7 of the 2013 California Green Building Standards Code is adopted by reference with the following exceptions: Sections 702.1, 702.2 and 702.3, and in lieu, Subsections 99.07.702.1, 99.07.702.2 and 99.07.702.3 are added as provided in this Article.

Sec. 89. The first unnumbered Paragraph of Subsection 99.07.702.2 of the Los Angeles Municipal Code is amended to read as follows:

99.07.702.2. Special inspection for Residential Buildings. When required by the Department, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or

qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the Department when evaluating the qualifications of a special inspector:

Sec. 90. The first unnumbered Paragraph of Subsection 99.07.702.3 of the Los Angeles Municipal Code is amended to read as follows:

99.07.702.3. Special Inspections for Non-Residential Buildings. When required by the Department, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the Department for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the Department. The area of certification shall be closely related to the primary job function, as determined by the Department.

Sec. 91. Section 99.07.703 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 99.07.703. VERIFICATION.

99.07.703.1. Documentation. Documentation used to show compliance with this Code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the Department which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified in the application checklist.

Sec. 92. Division 9 of Article 9 of Chapter IX of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 93. Division 10 of Article 9 of Chapter IX of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 94. The Title of Division 11 of Article 9 of Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

ARTICLE 9, DIVISION 11
APPENDIX A4
RESIDENTIAL VOLUNTARY MEASURES

Sec. 95. Section 99.11.101 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 99.11.101. SCOPE.

Appendix A4 of the 2013 California Green Building Standards Code is adopted by reference with the following exceptions: Sections A4.105.2, A4.106.2.3, A4.106.5.3, A4.106.7, A4.106.8, A4.106.8.1, A4.106.8.1.1, A4.106.8.2, A4.106.8.2.1, A4.106.8.2.2, A4.106.8.2.3, A4.303.2, A4.303.4, A4.304.2, A4.305.1, A4.305.2, A4.403.1, A4.404.1, A4.404.3, A4.405.1, A4.405.2, A4.405.4, A4.407.1, A4.407.3, A4.407.4, A4.407.5, A4.407.6, A4.407.7, A4.408.1, and, in lieu, Sections 99.11.102.A4.105.2, 99.11.102.A4.106.2.3, 99.11.102.A4.106.7, 99.11.102.A4.106.8, 99.11.102.A4.106.8.2, 99.11.102. A4.106.8.2.1, 99.11.102.A4.106.8.2.2, 99.11.102.A4.106.8.2.3, 99.11.102.A4.303.2, 99.11.102.A4.303.4, 99.11.102.A4.304.2, 99.11.102.A4.305.1, 99.11.102.A4.305.2, 99.11.102.A4.404.3, 99.11.102.A4.405.1, 99.11.102.A4.405.2, 99.11.102.A4.405.4, 99.11.102.A4.407.1, 99.11.102.A4.407.5, 99.11.102.A4.407.6, 99.11.102.A4.407.7, and 99.11.102.A4.408.1 and Tables A4.106.5.1(1), A4.106.5.1(2), A4.106.5.1(3) and A4.106.5.1(4) are added as provided in this Article.

Sec. 96. Section 99.11.102 of the Los Angeles Municipal Code is added to read as follows:

SEC. 99.11.102. GENERAL.

This section shall set forth the Residential Voluntary Measures.

A4.105.2. Reuse of Materials. Use salvaged, refurbished or reused materials for a minimum of 2.5% of the total value, based on estimated cost of materials on the project. Materials which can be easily reused include but are not limited to the following:

1. Light fixtures;
2. Plumbing fixtures;
3. Doors and trim;
4. Masonry (reused masonry may only be used for flatwork);
5. Electrical devices;
6. Appliances;
7. Foundations or portions of foundations.

Note: Reused material must be in compliance with the appropriate Title 24 requirements.

A4.106.2.3. Topsoil Protection. Topsoil shall be protected or saved for reuse as specified in this section.

Tier 1. Displaced topsoil shall be stockpiled for reuse in a designated area and covered or protected from erosion.

Note: Protection from erosion includes covering with tarps, straw, mulch, chipped wood, vegetative cover, or other means acceptable to the Department to protect the topsoil for later use.

Tier 2. The construction area shall be identified and delineated by fencing or flagging to limit construction activity to the construction area. Heavy equipment or vehicle traffic and material storage outside the construction area shall be limited to areas that are planned to be paved.

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	0.28	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

A4.106.7. Reduction of Heat Island Effect for Nonroof Areas. Reduce nonroof heat islands for 50% of sidewalks, patios, driveways or other paved areas by using one or more of the methods listed.

1. Trees or other plantings to provide shade and that mature within 15 years of planting. Trees shall be suitable in mature size and environmental requirements for the site. Tree selection and placement should consider location and size of areas to be shaded; location of utilities; views from the structure; distance to sidewalks and foundations; overhangs onto adjacent properties and streets; other infrastructure and proximity to landscaping. In addition, shading shall not cast a shadow, as specified, on any neighboring solar collectors pursuant to Public Resources Code Section 25981, *et seq.* (Solar Shade Control Act);

2. Use high albedo materials with an initial solar reflectance value of at least .30 as determined in accordance with American Society for Testing and Materials (ASTM) Standards E1918 or C1549;

3. Use open grid pavement system or pervious or permeable pavement system;

4. Use solar panel arrays to create a canopy shade system; or

5. Other methods of reducing heat island effects acceptable to the Department.

A4.106.8. Electric Vehicle (EV) Charging. Dwellings shall comply with the following requirements for the future installation of electric vehicle supply equipment (EVSE).

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

A4.106.8.2.1. 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.

A4.106.8.2.2. 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.

A4.106.8.2.3. 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.

A4.303.2. Alternate Water Sources for Nonpotable Applications. Alternate nonpotable water sources are used for indoor potable water reduction. Alternate nonpotable water sources shall be installed in accordance with the Los Angeles Plumbing Code.

A4.303.4. Nonwater Supplied Urinals and Waterless Toilets. Nonwater supplied urinals or composting toilets are installed throughout.

A4.304.1. Low-water Consumption Irrigation System. Install a low-water consumption irrigation system which minimizes the use of spray type heads. Spray type irrigation may only be used at turf areas. The remaining irrigation systems shall use only the following types of low-volume irrigation systems:

1. Drip irrigation;
2. Bubblers;
3. Drip emitters;
4. Soaker hose;

5. Stream-rotator spray heads;

6. Other systems acceptable to the Department.

A4.304.2. Rainwater Catchment Systems. An approved rainwater catchment system is designed and installed to use rainwater generated by at least 65% of the available roof area. Rainwater catchment systems shall be designed and installed in accordance with the Los Angeles Plumbing Code.

A4.305.1. Graywater. Alternative plumbing piping is installed to permit the discharge from the clothes washer or other fixtures to be used for an irrigation system in compliance with the Los Angeles Plumbing Code.

A4.305.2. Recycled Water Piping. Based on projected availability, dual water piping is installed for future use of recycled water at the following locations:

1. Interior piping for the use of recycled water is installed to serve all water closets, urinals and floor drains.

2. Exterior piping is installed to transport recycled water from the point of connection to the structure. Recycled water systems shall be designed and installed in accordance with the Los Angeles Plumbing Code.

A4.403.2. Reduction In Cement Use. As allowed by the Los Angeles Building Code, cement used in foundation mix design shall be reduced as follows:

Tier 1. Not less than a 20% reduction in cement use.

Tier 2. Not less than a 25% reduction in cement use.

Note: Products commonly used to replace cement in concrete mix designs include, but are not limited to:

1. Fly ash;

2. Slag;

3. Silica fume;

4. Rice hull ash.

A4.404.2. Building dimensions and layouts are designed to minimize waste by one or more of the following measures in at least 80% of the structure;

1. Building design dimensions in 2 foot increments are used;

2. Windows and doors are located at regular 16" or 24" stud positions;

3. Other methods acceptable to the Department.

A4.404.3. Building Systems. Use premanufactured building systems to eliminate solid sawn lumber whenever possible. One or more of the following premanufactured building systems is used throughout:

1. Composite floor joist or premanufactured floor framing system;

2. Composite roof rafters or premanufactured roof framing system;

3. Panelized (SIPS, ICF or similar) wall framing system;

4. Other methods approved by the Department.

A4.405.1. Prefinished Building Materials. Utilize prefinished building materials which do not require additional painting or staining. One or more of the following building materials that do not require additional resources for finishing are used:

1. Exterior trim not requiring paint or stain;

2. Windows not requiring paint or stain; or

3. Siding or exterior wall coverings which do not require paint or stain.

A4.405.2. Concrete Floors. 75% of all slab-on-grade and structural concrete slab floors that do not require additional coverings are used including but not limited to stained, natural or stamped concrete floors.

Note: Uncovered floors must still remain durable and maintain any acoustical insulation required elsewhere by the Los Angeles Municipal Code.

A4.405.4. Use of Building Materials from Rapidly Renewable Sources. One or more of the following materials manufactured from rapidly renewable sources or agricultural by-products is used for a minimum of 2.5% of the total value, based on estimated cost of materials on the project:

1. Insulation;

2. Bamboo or cork;

3. Engineered products;

4. Agricultural based products;

5. Other products acceptable to the enforcing Department.

Note: The intent of this section is to utilize building materials and products which are typically harvested within a 10-year or shorter cycle.

A4.407.1. Drainage Around Foundations. Where not required by code or ordinance, install foundation and landscape drains which discharge to a dry well, sump, bioswale or other approved on-site location.

A4.407.6. Door Protection. Exterior doors to the dwelling are covered to prevent water intrusion by one or more of the following:

1. A non-retractable awning at least 4 feet in depth is installed;

2. The door is protected by a roof overhang at least 4 feet in depth;
3. The door is recessed at least 4 feet;

4. Other methods which provide equivalent protection.

A4.407.7. Roof Overhangs. When permitted by the Los Angeles Municipal Code, a permanent overhang or non-retractable awning at least 2 feet in depth is provided at all exterior walls.

A4.408.1. Enhanced Construction Waste Reduction. Nonhazardous construction and demolition debris generated at the site is diverted to recycle or salvage in compliance with one of the following:

Tier 1. At least a 65% reduction.

Tier 2. At least a 75% reduction.

Sec. 97. Section 99.11.602 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 99.11.602.

TABLE A4.602
RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST

FEATURE OR MEASURE	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
		Prerequisites and electives[1]		Enforcing Agency	Installer or Designer	Third party
	Mandatory	Tier 1	Tier 2	☐ All	☐ All	☐ All
PLANNING AND DESIGN						
Site Selection						
A4.103.1 A site which complies with at least one of the following characteristics is selected:						
1. An infill site is selected.		☐	☐	☐	☐	☐
2. A greyfield site is selected.		☐	☐	☐	☐	☐
3. An EPA-recognized Brownfield site is selected.		☐	☐	☐	☐	☐
A4.103.2 Facilitate community connectivity by one of the following methods:						
1. Locate project within a ¼-mile true walking distance of at least 4 basic services;		☐	☐	☐	☐	☐
2. Locate project within ½-mile true walking distance of at least 7 basic services;		☐	☐	☐	☐	☐
3. Other methods increasing access to additional resources.		☐	☐	☐	☐	☐
Site Preservation						
A4.104.1 An individual with oversight responsibility for the project has participated in an educational program promoting environmentally friendly design or development and has provided training or instruction to appropriate entities.		☐	☐	☐	☐	☐
Reconstruction or Reuse of Existing Materials						

A4.106.2 Existing buildings are disassembled for reuse or recycling of building materials. The proposed structure utilizes at least one of the following materials which can be easily reused for a minimum of 2.5 percent of the total value, based on estimated cost of materials on the project: 1. Light fixtures 2. Plumbing fixtures 3. Doors and trim 4. Masonry (reused for flatwork) 5. Electrical devices 6. Appliances 7. Foundations or portions of foundations		☐	☐	☐	☐	☐
Site Development						
4.106.2 A plan is developed and implemented to manage storm water drainage during construction.	☒					
4.106.3 Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings.	☒					
4.106.5 Roofing materials shall have a minimum 3-year aged solar reflectance and thermal emittance equal to or greater than the values specified in Table 4.106.5	☒			☐	☐	☐
4.106.7 Reduce nonroof heat islands for 25 percent of pathways, patios, driveways or other paved areas.	☒			☐	☐	☐
4.106.8 Provide capability for the installation of electrical vehicle supply equipment in single-family and multifamily structures.	☒			☐	☐	☐
A4.106.1 Reserved.			☐	☐	☐	☐
A4.106.2.1 Soil analysis is performed by a licensed design professional and the findings utilized in the structural design of the building.			☐	☐	☐	☐

A4.106.2.2 Soil disturbance and erosion are minimized by at least one of the following: 1. Natural drainage patterns are evaluated and erosion controls are implemented to minimize erosion during construction and after occupancy. 2. Site access is accomplished by minimizing the amount of cut and fill needed to install access roads and driveways. 3. Underground construction activities are coordinated to utilize the same trench, minimize the amount of time the disturbed soil is exposed and the soil is replaced using accepted compaction methods.		☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
A4.106.2.3 Topsoil shall be protected or saved for reuse as specified in this section. Tier 1. Displaced topsoil shall be stockpiled for reuse in a designated area and covered or protected from erosion. Tier 2. The construction area shall be identified and delineated by fencing or flagging to limit construction activity to the construction area.		☒[2]	☒[2] ☒[2]	☐	☐	☐

A4.106.3 Postconstruction landscape designs accomplish one or more of the following:						
1. Areas disrupted during construction are restored to be consistent with native vegetation species and patterns.		☐	☐	☐	☐	☐
2. Limit turf areas to the greatest extent possible.						
a. Not more than 50 percent for Tier 1.		☐		☐	☐	☐
b. Not more than 25 percent for Tier 2.			☐	☐	☐	☐
3. Utilize at least 75 percent native California or drought tolerant plant and tree species appropriate for the climate zone region.		☐	☐	☐	☐	☐
4. Hydrozoning irrigation techniques are incorporated into the landscape design.		☐	☐	☐	☐	☐
A4.106.4 Permeable paving is utilized for the parking, walking or patio surfaces in compliance with the following:						
Tier 1. Not less than 20 percent of the total parking, walking or patio surfaces shall be permeable.		☒[2]		☐	☐	☐
Tier 2. Not less than 30 percent of the total parking, walking or patio surfaces shall be permeable.			☒[2]	☐	☐	☐

A4.106.5 Roofing materials shall have a minimum 3-year aged solar reflectance and thermal emittance equal to or greater than the values specified in Tables A4.106.5.1(1) and A4.106.5.1(2) for low-rise residential buildings and Tables A4.106.5.1(3) and A4.106.5.1(4) for high rise residential buildings. **Low-rise Residential** **Tier 1** roof covering shall meet or exceed the values contained in Table A4.106.5.1(1). **Tier 2** roof covering shall meet or exceed the values contained in Table A4.106.5.1(2). **High-rise Residential, Hotels and Motels** Tier 1 roof covering shall meet or exceed the values contained in Table A4.106.5.1(3). Tier 2 roof covering shall meet or exceed the values contained in Table A4.106.5.1(4).		☒[2] ☒[2]	☒[2] ☒[2]			
A4.106.6 Install a vegetated roof for at least 50 percent of the roof area. Vegetated roofs shall comply with requirements for roof gardens and landscaped roofs in the *California Building Code*, Chapters 15 and 16.		☐	☐	☐	☐	☐
A4.106.7 Reduce nonroof heat islands for 50 percent of sidewalks, patios, driveways or other paved areas by using one or more of the methods listed.		☐	☐	☐	☐	☐
A4.106.8.2 At least 10 percent of the total parking spaces provided for a multi-family dwelling, shall be capable of supporting EVSE.		☐	☐	☐	☐	☐

A4.106.9 Provide bicycle parking facilities as noted below or meet a local ordinance, whichever is more stringent. Number of bicycle parking spaces may be reduced, as approved by the enforcing agency, due to building site characteristics, including but not limited to, isolation from other development. 1. Provide short-term bicycle parking, per Section A4.106.9.1. 2. Provide long-term bicycle parking for multifamily buildings, per Section A4.106.9.2. 3. Provide long-term bicycle parking for hotel and motel buildings, per Section A4.106.9.3.		☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
A4.106.10 [HR] Outdoor lighting systems shall be designed and installed to comply with: 1. The minimum requirements in the *California Energy Code* for Lighting Zones 1-4; and 2. Backlight, Uplight and Glare (BUG) ratings as defined in IES TM-15-11; and 3. Allowable BUG ratings not exceeding those shown in Table A4.106.10; or Comply with a lawfully enacted local ordinance, whichever is more stringent.		☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐
Innovative Concepts and Local Environmental Conditions						
A4.107.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						
Item 1		☐	☐	☐	☐	☐
Item 2		☐	☐	☐	☐	☐
Item 3		☐	☐	☐	☐	☐
Energy Efficiency						
General						
4.201.1 Building meets or exceeds the requirements of the *California Building Energy Efficiency Standards*[3].	☒	☒[2]	☒[2]	☐	☐	☐
Performance Approach – New Constructed Building						

A4.203.1.1.1 An Energy Design Rating for the Proposed Design Building is included in the Certificate of Compliance documentation.		☒[2]	☒[2]	☐	☐	☐
A4.203.1.1.2 QII procedures specified in the Building Energy Efficiency Standards Reference Residential Appendix RA3.5 are completed.		☒[2]	☒[2]	☐	☐	☐
A4.203.1.1.3 All permanently installed lighting is high efficiency and has required controls.		☒[2]	☒[2]	☐	☐	☐
A4.203.1.2.1 The Energy Budget is no greater than 85 percent of the Title 24, Part 6, Energy Budget for the Proposed Design Building.		☒[2]		☐	☐	☐
A4.203.1.2.2 The Energy Budget is no greater than 70 percent of the Title 24, Part 6, Energy Budget for the Proposed Design Building.			☒[2]	☐	☐	☐
Performance Approach for Additions and Alterations						
A4.204.1.1.1 All newly installed, permanently installed lighting is high efficacy and has required controls.		☒[2]	☒[2].	☐	☐	☐
A4.204.1.2.1 When one and only one mechanical system is added or modified, the Energy Budget is no greater than 95 percent of the Title 24, Part 6, Energy Budget for the Proposed Design Building. When two or more mechanical systems are added or modified, the Energy Budget is no greater than 90 percent of the Title 24, Part 6, Energy Budget for the Proposed Design Building.		☒[2]		☐	☐	☐

A4.204.1.2.2 When one and only one mechanical system is added or modified, the Energy Budget is no greater than 90 percent of the Title 24, Part 6, Energy Budget for the Proposed Design Building. When two or more mechanical systems are added or modified, the Energy Budget is no greater than 85 percent of the Title 24, Part 6, Energy Budget for the Proposed Design Building.			☒[2]	☐	☐	☐
RENEWABLE ENERGY						
4.211.4 Comply with Section 110.10 of the California Energy Code.	☒			☐	☐	☐
4.211.4.1 Provide an electrical conduit at a suitable location for future connection to a solar system.	☒			☐	☐	☐
WATER EFFICIENCY AND CONSERVATION						
Indoor Water Use						
4.303.1 Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) installed in residential buildings shall comply with the prescriptive requirements of Sections 4.303.1.1 through 4.303.1.4.4.	☒			☐	☐	☐

4.303.2 Plumbing fixtures and fittings required in Section 4.303.1 shall be installed in accordance with the *California Plumbing Code*, and shall meet the applicable referenced standards.	☒			☐	☐	☐
A4.303.1 Kitchen faucets. The maximum flow rate of kitchen faucets shall not exceed 1.5 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.5 gallons per minute at 60 psi. **Note:** Where complying faucets are available, aerators or other means may be used to achieve reduction.		☐	☐	☐	☐	☐
A4.303.2 Alternate water source for nonpotable applications. Alternate nonpotable water sources are used for indoor potable water reduction. Alternate nonpotable water sources shall be installed in accordance with the *Los Angeles Plumbing Code*.		☐	☐	☐	☐	☐
A4.303.3 Appliances. Dishwashers and clothes washers in residential buildings shall comply with the following: Install at least one qualified ENERGY STAR appliance with maximum water use as follows: 1. Standard Dishwashers - 4.25 gallons per cycle. 2. Compact Dishwashers - 3.5 gallons per cycle. 3. Clothes Washers - water factor of 6 gallons per cubic feet of drum capacity.		☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
A4.303.4 Nonwater supplied urinals or waterless toilets are installed.		☐	☐	☐	☐	☐
Outdoor Water Use						

4.304.1 Automatic irrigation systems controllers installed at the time of final inspection shall be weather or soil moisture-based.	☒			☐	☐	☐
4.304.1.1 Buildings on sites with over 2,500 sqft of landscape area shall have irrigation controllers that are either weather or soil moisture-based.	☒			☐	☐	☐

A4.304.1 Install a low-water consumption irrigation system which minimizes the use of spray type heads.		☐	☐	☐	☐	☐
A4.304.2 A rainwater capture, storage and re-use system is designed and installed.		☐	☐	☐	☐	☐
A4.304.3 A water budget shall be developed for landscape irrigation.		☒[2]	☒[2]	☐	☐	☐
A4.304.4 Provide water efficient landscape irrigation design that reduces the use of potable water. Tier 1. Does not exceed 65 percent of *ETo* times the landscape area. Tier 2. Does not exceed 60 percent of *ETo* times the landscape area.		☒[2]	☒[2]	☐	☐	☐
A4.304.5 A landscape design is installed which does not utilize potable water.		☐	☐	☐	☐	☐
A4.304.6 For new water service connections, landscaped irrigated areas more than 2,500 square feet shall be provided with separate submeters or metering devices for outdoor potable water use.		☐	☐	☐	☐	☐
WATER REUSE SYSTEMS						
A4.305.1 Piping is installed to permit future use of a graywater irrigation system served by the clothes washer or other fixtures.		☐	☐	☐	☐	☐
A4.305.2 Recycled water piping is installed.		☐	☐	☐	☐	☐
A4.305.3 Recycled water is used for landscape irrigation.		☐	☐	☐	☐	☐
Innovative Concepts and Local Environmental Conditions						

A4.306.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						
Item 1		☐	☐	☐	☐	☐
Item 2		☐	☐	☐	☐	☐
Item 3		☐	☐	☐	☐	☐
MATERIAL CONSERVATION AND RESOURCE EFFICIENCY						
Foundation Systems						
A4.403.2 Cement use in foundation mix design is reduced. Tier 1. Not less than a 20 percent reduction in cement use. Tier 2. Not less than a 25 percent reduction in cement use.		☒[2]	☒[2]	☐	☐	☐
Efficient Framing Techniques						
A4.404.2 Building dimensions and layouts are designed to minimize waste.		☐	☐	☐	☐	☐
A4.404.3 Use premanufactured building systems to eliminate solid sawn lumber whenever possible.		☐	☐	☐	☐	☐
A4.404.4 Material lists are included in the plans which specify material quantity and provide direction for on-site cuts.		☐	☐	☐	☐	☐
Material Sources						
A4.405.1 One or more of the following building materials, that do not require additional resources for finishing are used at all applicable locations throughout the building: 1. Exterior trim not requiring paint or stain 2. Windows not requiring paint or stain 3. Siding or exterior wall coverings which do not require paint or stain		☐	☐	☐	☐	☐
A4.405.2 75% of all slab-on-grade and structural concrete floors that do not require additional coverings are used including but not limited to stained, natural or stamped concrete floors.		☐	☐	☐	☐	☐

A4.405.3 Postconsumer or preconsumer recycled content value (RCV) materials are used on the project. Tier 1. Not less than a 10-percent recycled content value. Tier 2. Not less than a 15-percent recycled content value.		☒[2]	☒[2]	☐	☐	☐
A4.405.4 Renewable source building products are used.		☐	☐	☐	☐	☐
Enhanced Durability and Reduced Maintenance						
4.406.1 Annular spaces around pipes, electric cables, conduits or other openings in plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or similar method acceptable to the department.	☒			☐	☐	☐
Water Resistance and Moisture Management						
4.407.3 Provide flashing details on the building plans and comply with accepted industry standards or manufacturer's instructions.	☒			☐	☐	☐
4.407.4 Protect building materials delivered to the construction site from rain and other sources of moisture.	☒			☐	☐	☐
A4.407.1 Where not required by code or ordinance, install foundation and landscape drains.		☐	☐	☐	☐	☐
A4.407.2 Install gutter and downspout systems to route water at least 5 feet away from the foundation or connect to landscape drains which discharge to a dry well, sump, bioswale, rainwater capture system or other approved on-site location.		☐	☐	☐	☐	☐

A4.407.6 Exterior doors to the dwelling are protected to prevent water intrusion.		☐	☐	☐	☐	☐
A4.407.7 When permitted by the Los Angeles Municipal Code, a permanent overhang or non-retractable awning at least 2 feet in depth is provided.		☐	☐	☐	☐	☐
Construction Waste Reduction, Disposal and Recycling						
4.408.1 Comply with Section 66.32 *et seq.* of the Los Angeles Municipal Code.	☒			☐	☐	☐
A4.408.1 Construction waste generated at the site is diverted to recycle or salvage in compliance with one of the following: 1. Tier 1 at least a 65 percent reduction. 2. Tier 2 at least a 75 percent reduction. **Exception:** Equivalent waste reduction methods are developed by working with local agencies.		☒[2]	☒[2]	☐ ☐	☐ ☐	☐ ☐
Building Maintenance and Operation						
4.410.1 An operation and maintenance manual shall be provided to the building occupant or owner.	☒			☐	☐	☐
Innovative Concepts and Local Environmental						
A4.411.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						
Item 1		☐	☐	☐	☐	☐
Item 2		☐	☐	☐	☐	☐
Item 3		☐	☐	☐	☐	☐
ENVIRONMENTAL QUALITY						
Fireplaces						

4.503.1 Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with US EPA Phase II emission limits where applicable. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.	☒			☐	☐	☐
Pollutant Control						
4.504.1 Duct openings and other related air distribution component openings shall be covered during construction.	☒			☐	☐	☐
4.504.2.1 Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits.	☒			☐	☐	☐
4.504.2.2 Paints, stains and other coatings shall be compliant with VOC limits.	☒			☐	☐	☐
4.504.2.3 Aerosol paints and coatings shall be compliant with product weighted MIR limits for ROC and other toxic compounds.	☒			☐	☐	☐
4.504.2.4 Documentation shall be provided to verify that compliant VOC limit finish materials have been used.	☒			☐	☐	☐
4.504.3 Carpet and carpet systems shall be compliant with VOC limits.	☒			☐	☐	☐

4.504.4 80 percent of floor area receiving resilient flooring shall comply with the VOC-emission limits defined in the Collaborative for High Performance Schools (CHPS) High Performance Products Database or be certified under the Resilient Floor Covering Institute (RFCI) FloorScore program; or meet California Dept. of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers", Version 1.1, February 2010 (also known as Specification 01350.)	☒					
4.504.5 Particleboard, medium density fiberboard (MDF) and hardwood plywood used in interior finish systems shall comply with low formaldehyde emission standards.	☒			☐	☐	☐
A4.504.1 Use composite wood products made with either California Air Resources Board approved no-added formaldehyde (NAF) resins or ultra-low emitting formaldehyde (ULEF) resins.		☐	☐	☐	☐	☐
A4.504.2 Install VOC compliant resilient flooring systems. Tier 1. At least 90 percent of the resilient flooring installed shall comply. Tier 2. At least 100 percent of the resilient flooring installed shall comply.		☒[2]	☒[2]	☐	☐	☐

A4.504.3 Thermal insulation installed in the building shall meet the following requirements: Tier 1. Install thermal insulation in compliance with the VOC-emission limits defined in Collaborative for High Performance Schools (CHPS) Low-emitting Materials List. Tier 2. Install insulation which contains No-Added Formaldehyde (NAF) and is in compliance with the VOC-emission limits defined in Collaborative for High Performance Schools (CHPS) Low-emitting Materials List.		☒[2]	☒[2]	☐	☐	☐
Interior Moisture Control						
4.505.2 Vapor retarder and capillary break is installed at slab-on-grade foundations.	☒			☐	☐	☐
4.505.3 Moisture content of building materials used in wall and floor framing is checked before enclosure.	☒			☐	☐	☐
Indoor Air Quality and Exhaust						
4.506.1 Return air filters with a value greater than MERV 6 shall be installed on HVAC systems. Pressure drop across the filter shall not exceed 0.1 inches water column.		☐	☐	☐	☐	☐
A4.506.2 [HR] Provide filters on return air openings rated MERV 6 or higher during construction when it is necessary to use HVAC equipment.		☐	☐	☐	☐	☐
A4.506.3 Direct-vent appliances shall be used when equipment is located in conditioned space; or the equipment must be installed in an isolated mechanical room.		☐	☐	☐	☐	☐
Environmental Control						
4.507.1 Reserved.						

4.507.2. Duct systems are sized, designed, and equipment is selected using the following methods: 1. Establish heat loss and heat gain values according to ANSI/ACCA 2 Manual J-2004 or equivalent. 2. Size duct systems according to ANSI/ACCA 1 Manual D-2009 or equivalent. 3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S-2004 or equivalent.	☒			☐	☐	☐
Outdoor Air Quality Reserved						
Innovative Concepts or Local Environmental Conditions						
A4.509.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						
Item 1		☐	☐	☐	☐	☐
Item 2		☐	☐	☐	☐	☐
Item 3		☐	☐	☐	☐	☐
Installer or Special Inspector Qualification						
702.1 HVAC system installers are trained and certified in the proper installation of HVAC systems.	☒			☐	☐	☐
702.2 Special inspectors employed by the enforcing agency must be qualified and able to demonstrate competence in the discipline they are inspecting.	☒			☐	☐	☐
Verification						
703.1 Verification of compliance with this code may include construction documents, plans, specifications builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which show substantial conformance.	☒			☐	☐	☐

1. Green building measures listed in this table may be mandatory if adopted by a city, county, or city and county as specified in Section 101.7.
2. Required prerequisite for this Tier.
3. These measures are currently required elsewhere in statute or in regulation.

Sec. 98. The Title of Division 12 of Article 9 of Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

ARTICLE 9, DIVISION 12
APPENDIX A5
NONRESIDENTIAL VOLUNTARY MEASURES

Sec. 99. Section 99.12.101 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 99.12.101. SCOPE.

Appendix A5 of the 2013 California Green Building Standards Code is adopted by reference with the following exceptions: Sections A5.105.1.1, A5.105.1.2, A5.106.4.3, A5.106.5.3.3, A5.106.5.3.4, A5.106.6.1, A5.106.11.2, A5.211.1, A5.303.2.3.4, A5.304.2.1, A5.304.4.2, A5.304.8, A5.305.1, A5.404.1, A5.404.1.1, A5.405.3, A5.405.5.2, A5.405.5.2.1, A5.406.1, A5.406.1.1, A5.406.1.3, A5.410.3, A5.504.4.9, A5.602 and, in lieu, Sections 99.12.102.A5.105.1.1, 99.12.102.A5.105.1.2, 99.12.102.A5.106.4.3, 99.12.102.A5.106.5.3.3, 99.12.102.A5.106.5.3.4, 99.12.102.A5.106.6.1, 99.12.102.A5.106.11.2, 99.12.102.A5.211.1, 99.12.102.A5.303.2.3.4, 99.12.102.A5.304.2.1, 99.12.102.A5.304.4.2, 99.12.102.A5.304.8, 99.12.102.A5.305.1, 99.12.102.A5.404.1, 99.12.102.A5.404.1.1, 99.12.102.A5.405.3, 99.12.102.A5.405.5.2, 99.12.102.A5.405.5.2.1, 99.12.102.A5.406.1, 99.12.102.A5.410.3, 99.12.102.A5.504.4.9, 99.12.102.A5.602 and Tables A5.106.4.3, A5.106.5.1.1, A5.106.5.1.2, A5.106.11.2.2, A5106.11.2.3, A5.601 and A5.602 are added as provided in this Article.

Sec. 100. Subsection A5.105.1.2 of Section 99.12.101 of the Los Angeles Municipal Code is amended to read as follows:

A5.105.1.2. Existing Non-Structural Elements. Reuse existing interior nonstructural elements (interior walls, doors, floor coverings and ceiling systems) in at least 50% of the area of the completed building (including additions).

Sec. 101. Subsection A5.106.2 of Section 99.12.101 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 102. Subsection A5.106.2.1 of Section 99.12.101 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 103. Subsection A5.106.2.2 of Section 99.12.101 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 104. Subsection A5.106.4.3 of Section 99.12.101 of the Los Angeles Municipal Code is amended to read as follows:

A5.106.4.3. Changing Rooms. Provide changing/shower facilities for tenant-occupants only in accordance with Table A5.106.4.3 or document arrangements with nearby changing/shower facilities.

TABLE A5.106.4.3

NUMBER OF TENANT-OCCUPANT	SHOWER/CHANGING FACILITIES REQUIRED	2-TIER (12" X 15" X 72") PERSONAL EFFECTS LOCKERSREQUIRED
1–10	1 unisex shower	1
11–50	1 unisex shower	2
51–100	1 unisex shower	3
101–200	1 shower stall per gender	4
Over 200	1 shower stall per gender for each 200 additional tenant-occupants	One 2-tier locker for each 50 additional tenant-occupants

Note: Additional information on recommended bicycle accommodations may be obtained from Sacramento Area Bicycle Advocates

Sec. 105. Subsection A5.106.5.1.1 of Section 99.12.101 of the Los Angeles Municipal Code is added to read as follows:

A5.106.5.1.1. Tier 1. Designated parking spaces [BSC]. Provide designated parking spaces for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as follows:

TABLE A5.106.5.1.1

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES
0–9	1
10–25	2
26–50	4
51–75	6
76–100	9
101–150	11
151–200	18
201 and over	At least 10 percent of total

Sec. 106. Subsection A5.106.5.1.2 of Section 99.12.101 of the Los Angeles Municipal Code is added to read as follows:

A5.106.5.1.2. Tier 2. Designated parking spaces. Provide designated parking spaces for any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles as follows:

TABLE A5.106.5.1.2

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES
0–9	1
10–25	2
26–50	5
51–75	7
76–100	9
101–150	13
151–200	19
201 and over	At least 12 percent of total

Sec. 107. Subsection A5.106.5.3.2 of section 99.12.101 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 108. A new Subsection A5.106.5.3.3 is added to Section 99.12.101 of the Los Angeles Municipal Code to read as follows:

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

Sec. 109. A new Subsection A5.106.5.3.4 is added to Section 99.12.101 of the Los Angeles Municipal Code to read as follows:

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

Sec. 110. Subsection A5.106.6.1 of Section 99.12.101 of the Los Angeles Municipal Code is amended to read as follows:

A5.106.6.1. Reduce Parking Capacity. With the approval of the enforcement authority, employ strategies to reduce on-site parking area by 20%.

1. Use of on street parking or compact spaces, illustrated on the site plan; or

2. Implementation and documentation of programs that encourage occupants to carpool, ride share or use alternate transportation.

Note: Strategies for programs may be obtained from local TMAs.

Sec. 111. Subsection A5.106.9 of Section 9.12.101 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 112. A new Subsection A5.106.11.1.1 is added to Section 99.12.101 of the Los Angeles Municipal Code is to read as follows:

A5.106.11.1.1. Hardscape Alternatives. Use one or a combination of strategies 1 through 3 below for 75% of site hardscape.

1. Use light colored materials with an initial solar reflectance value of at least .30 as determined in accordance with American Society for Testing and Materials (ASTM) Standards E 1918 or C 1549.

2. Use open-grid pavement system or pervious or permeable pavement system.

3. Use solar panel arrays to create a canopy shade system.

Sec. 113. A new Subsection A5.106.11.2 is added to Section 99.12.101 of the Los Angeles Municipal Code to read as follows:

A5.106.11.2. Cool Roof for Reduction of Heat Island Effect. Use roofing materials having a minimum aged solar reflectance and thermal emittance complying with Sections A5.106.11.2.1 and A5.106.11.2.2.

EXCEPTIONS:

1. Roof constructions that have thermal mass over the roof membrane, including areas of vegetative (green) roofs, weighing at least 25 pounds per square foot.

2. Roof area covered by building integrated solar photovoltaic and building integrated solar thermal panels.

TABLE A5.106.11.2.2 [BSC]
TIER 1

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

Sec. 114. Subsection A5.303.2.3.1 of Section 99.12.101 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 115. A new Subsection A5.303.2.3.4 is added to Section 99.12.101 of the Los Angeles Municipal Code to read as follows:

A5.303.2.3.4. Nonpotable Water Systems for Indoor Water Use. Utilizing nonpotable water systems (such as captured rainwater, treated graywater, and recycled water) intended to supply water closets, urinals, and other allowed uses, may be used in the calculations demonstrating the 30-, 35-, or 40% reduction. The nonpotable water system shall comply with the current edition of the Los Angeles Plumbing Code.

Sec. 116. Subsection A5.304.4.2 of Section 99.12.101 of the Los Angeles Municipal Code is amended to read as follows:

A5.304.4.2. Tier 2. Reduce the use of potable water to a quantity that does not exceed 55% of ETo times the landscape area.

Note: Methods used to accomplish the requirements of this section must be designed to the requirements of the Los Angeles Municipal Code and shall include, but not be limited to, the following:

1. Plant coefficient;

2. Irrigation efficiency and distribution uniformity;

3. Use of captured rainwater;

4. Use of recycled water;

5. Water treated for irrigation purposes and conveyed by a water district or public entity; or

6. Use of graywater.

Sec. 117. Subsection A5.303.4.4.4 of Section 99.12.101 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 118. Subsection A5.304.8 of Section 99.12.101 of the Los Angeles Municipal Code is amended to read as follows:

A5.304.8. Graywater Irrigation System. Install a graywater collection system for onsite subsurface irrigation using graywater collected from bathtubs, showers, bathroom wash basins and laundry water. See Los Angeles Plumbing Code.

Sec. 119. A new Subsection A5.305.1 is added to Section 99.12.101 of the Los Angeles Municipal Code is to read as follows:

A5.305.1. Nonpotable Water Systems. Nonpotable water systems for indoor and outdoor use shall comply with the current edition of the Los Angeles Plumbing Code.

Sec. 120. Subsection A5.405.3 of Section 99.12.101 of the Los Angeles Municipal Code is amended to read as follows:

A5.405.3. Reused Materials. Use salvaged, refurbished, refinished or reused materials for a minimum of 5% of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values. All materials shall comply with the Los Angeles Municipal Code.

Note: Sources of some reused materials can be found at CalRecycle. See also Appendix A5, Division A5.1, Section A5.105.1 for on-site materials reuse.

Sec. 121. Subsection A5.405.4 of Section 99.12.101 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 122. Subsection A5.405.5.2 of Section 99.12.101 of the Los Angeles Municipal Code is amended to read as follows:

A5.405.5.2. Concrete. Unless otherwise directed by the Engineer of Record, use concrete manufactured with cementitious materials in accordance with Sections A5.405.5.2.1 and A5.405.5.2.1.1, as approved by the Department.

Sec. 123. Subsection A5.405.5.2.1 of Section 99.12.101 of the Los Angeles Municipal Code is amended to read as follows:

A5.405.5.2.1. Supplementary Cementitious Materials (SCM). Use concrete made with one or more supplementary cementitious materials (SCM) conforming to the following standards:

1. Fly ash conforming to ASTM C 618, Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete;

2. Slag cement (GGBFS) conforming to ASTM C 989, Specification for Use in Concrete and Mortars;

3. Silica fume conforming to ASTM C 1240, Specification for Silica Fume Used in Cementitious Mixtures;

4. Natural pozzolan conforming to ASTM C 618, Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete;

5. Blended supplementary cementitious materials conforming to ASTM C 1697, Standard Specification for Blended Supplementary Cementitious Materials. The amount of each SCM in the blend will be used separately in calculating Equation A5.4-1. If Class C fly ash is used in the blend, it will be considered to be "SL" for the purposes of satisfying the equation;

6. Ultra-fine fly ash (UFFA) conforming to ASTM C 618, Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete and the following chemical and physical requirements:

Chemical Requirements	**Percent**
Sulfur Trioxide (SO_3)	1.5 max.
Loss on ignition	1.2 max.
Available Alkalies (as Na_2O) equivalent	1.5 max.
Physical Requirements	**Percent**
Particle size distribution Less than 3.5 microns Less than 9.0 microns	 50 90
Strength Activity Index with portland cement 7 days 28 days	 95 (minimum % of control) 110 (minimum
Expansion at 16 days when testing job materials in conformance with ASTM C 1567*	0.10 max.

* In the test mix, cement shall be replaced with at least 12 % UFFA by weight.

7. Metakaolin conforming to ASTM C 618, Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete, the following chemical and physical requirements:

Chemical Requirements	**Percent**
Silicon Dioxide (SiO_2) + Aluminum Oxide (Al_2O_3)	92.0 min.
Calcium Oxide (CaO)	1.0 max.

Sulfur Trioxide (SO_3)	1.0 max.
Loss on ignition	1.2 max.
Available Alkalies (as Na_2O) equivalent	1.0 max.
Physical Requirements	**Percent**
Particle size distribution Less than 45 microns	95
Strength Activity Index with portland cement 7 days 28 days	100 (minimum percent of control) 100 (minimum percent of control)

8. Other materials with comparable or superior environmental benefits, as approved by the Engineer of Record and Department.

Sec. 124. Subsection A5.408.3.1 of Section 99.12.101 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 125. A new Subsection A5.410.3 is added to Section 99.12.101 of the Los Angeles Municipal Code to read as follows:

A5.410.3. Commissioning. For new buildings under 10,000 square feet, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of comparable size and complexity. Commissioning requirements shall include:

1. Owner's or owner representative's project requirements;

2. Basis of design;

3. Commissioning measures shown in the construction documents;
4. Commissioning plan;

5. Functional performance testing;

6. Documentation and training;

7. Commissioning report.

All building operating systems covered by Title 24, Part 6, as well as process equipment and controls and renewable energy systems shall be included in the scope of the commissioning requirements.

Sec. 126. Subsection A5.504.4.8 of Section 99.12.101 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 127. Subsection A5.504.4.9 of Section 99.12.101 of the Los Angeles Municipal Code is amended to read as follows:

A5.504.4.9. Acoustical Ceilings and Wall Panels. Comply with Chapter 8 in Title 24, Part 2, the Los Angeles Building Code and with the VOC-emission limits defined in the 2009 CHPS criteria and listed on its High Performance Products Database.

Sec. 128. Subsection A5.504.4.9.1 of Section 99.12.101 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 129. Subsection A5.507.2 of Section 99.12.101 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 130. A new Table A5.601 is added to Section 99.12.101 of the Los Angeles Municipal Code to read as follows:

TABLE A5.601 NONRESIDENTIAL BUILDINGS:
Green Building Standards Code Tiers 1 and Tier 2 Reference Table
Note: This table is intended only as an aid in illustrating the nonresidential tier structure

CATEGORY	ENVIRONMENTAL PERFORMANCE GOAL	TIER 1	TIER 2
All	Minimum Mandatory	Meet all of the provisions of Chapter 5	Meet all of the provisions of Chapter 5
Planning and Design	Designated Parking for Fuel Efficient Vehicles	Meet Table A5.106.5.1.1	Meet Table A5.106.5.1.2
	Cool Roof to Reduce Heat Island Effect	Meet Table A5.106.11.2.2	Meet Table A5.106.11.2.3
		1 additional Elective from Division A5.1	3 additional Electives from Division A5.1
Energy Efficiency	Energy Performance[2,3]	Outdoor lighting power 90% of Part 6 allowance	Outdoor lighting power 90% of Part 6 allowance
		If applicable, solar water-heating system with minimum solar savings	If applicable, solar water-heating system with minimum solar savings
		If applicable, certain functional areas comply with residential indoor lighting	If applicable, certain functional areas comply with residential indoor lighting
		Energy Budget 95% or 90% of Part 6 allowance	Energy Budget 90% or 85% of Part 6 allowance

Water Efficiency and Conservation	Indoor Water Use	30% Savings	35% Savings
	Outdoor Water Use	Not exceed 60% of ETo times the landscape area	Not exceed 55% of ETo times the landscape area
		1 additional Elective from Division A5.3	3 additional Electives from Division A5.3
Material Conservation and Resource Efficiency[4]	Construction Waste Reduction	At least 65% reduction	At least 80% reduction
	Recycled Content	Utilize recycled content materials for 10% of total material cost	Utilize recycled content materials for 15% of total material cost
		1 additional Elective from Division A5.4	3 additional Electives from Division A5.4
Environmental Quality	Low-VOC Resilient Flooring	90% of flooring meets VOC limits	100% of flooring meets VOC limits[1]
	Low-VOC Thermal Insulation	Comply with VOC limits	Install no-added formaldehyde insulation and comply VOC limits
		1 additional Elective from Division A5.5	3 additional Electives from Division A5.5
Additional Measures	Added measures shall be achieved across at least 3 categories	1 Additional Elective	3 Additional Electives
Approximate Total Measures		14	24

1. Exception: Allowance may be permitted in Tier 2 for up to 5% specialty purpose flooring.

Exceptions for solar water-heating requirement:

2. Buildings with a natural gas service water heater with a minimum of 95% thermal efficiency.
3. Buildings where greater than 75% of the total roof area has annual solar access that is less than 70%. Solar access is the ratio of solar insolation including shade to the solar insolation without shade. Shading from obstructions located on the roof or any other part of the building shall not be included in the determination of annual solar access.
4. Life cycle assessment compliant with Section A5.409.4 in this code may be substituted for prescriptive measures from Division A5.4.

Sec. 131. Section 99.12.508 of the Los Angeles Municipal Code is amended to read as follows:

TABLE A5.602
NONRESIDENTIAL OCCUPANCIES APPLICATION CHECKLISTS
(For reference only. Refer to Chapter 5 or Appendix A5 for requirement)

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
Requirements			
Project meets all of the requirements of Divisions 5.1 through 5.5.	☒	☐	☐
Planning and Design			
Site Selection			
A5.103.1 Community connectivity. Locate project on a previously developed site within a ½ mile radius of at least ten basic services, listed in Section A5.103.1.		☐	☐
A5.103.2 Brownfield or greyfield site redevelopment or infill area development. Select for development a brownfield in accordance with Section A5.103.2.1 or on a greyfield or infill site as defined in Section A5.102. **A5.103.3.1 Brownfield redevelopment.** Develop a site documented as contaminated and fully remediated or on a site defined as a brownfield.		☐	☐
Site Preservation			
A5.104.1.1 Local zoning requirement in place. Exceed the zoning's open space requirement for vegetated open space on the site by 25%.		☐	☐
A5.104.1.2 No local zoning requirement in place. Provide vegetated open space area adjacent to the building equal to the building footprint area.		☐	☐
A5.104.1.3 No open space required in zoning ordinance. Provide vegetated open space equal to 20% of the total project site area.		☐	☐
Deconstruction and Reuse of Existing Structures			

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
A5.105.1.1 Existing building structure. Maintain at least 75% of existing building structure (including structural floor and roof decking) and envelope (exterior skin and framing) based on surface area. **Exceptions:** 1. Window assemblies and nonstructural roofing material. 2. Hazardous materials that are remediated as a part of the project. 3. A project with an addition of more than two times the square footage of the existing building.		☐	☐
A5.105.1.2 Existing nonstructural elements. Reuse existing interior nonstructural elements (interior walls, doors, floor coverings and ceiling systems) in at least 50% of the area of the completed building (including additions).		☐	☐
A5.105.1.3 Salvage. Salvage additional items in good condition such as light fixtures, plumbing fixtures and doors for reuse on this project in an onsite storage area or for salvage in dedicated collection bins. Document the weight or number of the items salvaged.		☐	☐
Site Development			
5.106.1 Storm water pollution prevention. Newly constructed projects which disturb land shall prevent the pollution of stormwater runoff from the construction activities through best management practices (BMP) in Section 5.106.1.2	☒		
A5.106.2 Storm water design. Design storm water runoff rate and quantity in conformance with Section A5.106.3.1 and storm water runoff quality by Section A5.106.3.2 or by local requirements, whichever are stricter.			
A5.106.2.1 Storm water runoff rate and quantity. Implement a storm water management plan resulting in no net increase in rate and quantity of storm water runoff from existing to developed conditions. **Exception:** If the site is already greater than 50% impervious, implement a storm water management plan resulting in a 25% decrease in rate and quantity.		☐	☐
A5.106.2.2 Storm water runoff quality. Use post construction treatment control best management practices (BMPs) to mitigate (infiltrate, filter or treat) storm water runoff from the 85th percentile 24-hour runoff event (for volume-based BMPs) or the runoff produced by a rain event equal to two times the 85th percentile hourly intensity (for flow-based BMPs).		☐	☐
A5.106.3 Low impact development (LID). Reduce peak runoff in compliance with Section 5.106.3.1. Employ at least two of the following methods or other best management practices to allow rainwater to soak into the ground, evaporate into the air or collect in storage receptacles for irrigation or other beneficial uses. LID strategies include, but are not limited to those listed in Section A5.106.4.		☐	☐

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1] CALGreen Tier 1	VOLUNTARY[1] CALGreen Tier 2
5.106.4 Bicycle parking. Comply with Sections 5.106.4.1 and 5.106.4.2; or meet local ordinance, whichever is stricter.	☒		
5.106.4.1 Short-Term bicycle parking. If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack.	☒		
5.106.4.2 Long-Term bicycle parking. For buildings with over tenant-occupants, provide secure bicycle parking for 5% of tenant-occupied motorized vehicle parking capacity, with a minimum of one space.	☒		
A5.106.4.3 Changing rooms. Provide changing/shower facilities in accordance with Table A5.106.4.3 or document arrangements with nearby changing/shower facilities.		☐	☐
A5.106.5.1 Designated parking for fuel-efficient vehicles. Provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in:			
A5.106.5.1.1. Tier 1 spaces per Table A5.106.5.1.1		☒	
A5.106.5.1.2. Tier 2 spaces per Table A5.106.5.1.2			☒
5.106.5.2 Designated parking. Provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.6.2.	☒		

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
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. 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	☒		
5.106.5.3.2 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 charge simultaneously 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. Provide raceways from the electrical service panel to the designated parking areas that are required to be installed at the time of construction.	☒		
A5.106.5.3.3 Tier 1. At least 7% of the total parking spaces, but not less than one, shall be capable of supporting installation of future EVSE.			
A5.106.5.3.5 Tier 2. At least 10% of the total parking spaces, but not less than two, shall be capable of supporting installation of future EVSE.		☐	
5.106.5.3.5 Labeling requirement. A label stating "EV CHARGE CAPABLE" shall be posted in a conspicuous place at the service panel or subpanel and the EV charging space.			☐
	☒		
A5.106.6 Parking capacity. Design parking capacity to meet but not exceed minimum local zoning requirements.			
A5.106.6.1 Reduce parking capacity. With the approval of the enforcement authority, employ strategies to reduce on-site parking area by 20%			
1. Use of on street parking or compact spaces, illustrated on the site plan or		☐	☐
2. Implementation and documentation of programs that encourage occupants to carpool, ride share or use alternate transportation.		☐	☐

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
A5.106.7 Exterior walls. Meet requirements in the current edition of the *California Energy Code* and comply with either Section A5.106.7.1 or A5.106.7.2 for wall surfaces:			
A5.106.7.1 Fenestration. Provide vegetative or man-made shading devices for all fenestration on east-, south- and west-facing walls.			
A5.106.7.1.1 East and west walls. Shading devices shall have 30% coverage to a height of 20 feet or to the top of the exterior wall, whichever is less.		☐	☐
A5.106.7.1.2 South walls. Shading devices shall have 60% coverage to a height of 20 feet or to the top of the exterior wall, whichever is less.		☐	☐
A5.106.7.2 Opaque wall areas. Use wall surfacing with SRI 25 (aged), for 75% of opaque wall areas.		☐	☐
5.106.8 Light pollution reduction. [N] Outdoor lighting systems shall be designed and installed to comply with the following:			
1. The minimum requirements in the California Energy Code for Lighting Zones 1–4 as defined in Chapter 10 of the California Administrative Code; and			
2. Backlight, Uplight and Glare (BUG) ratings as defined in IES TM-15-11; and	☒		
3. Allowable BUG ratings not exceeding those shown in Table 5.106.8, or	or		
Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.	☒		
Exceptions: [N]			
1. Luminaires that qualify as exceptions in Section 147 of the California Energy Code			
2. Emergency lighting			
5.106.10 Grading and paving. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include those shown in Items 1–5. See exception for additions or alterations.	☒		

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
5.106.11 Heat island effect. Reduce nonroof heat islands and roof heat islands as follows:			
5.106.11.1 Hardscape alternatives. Use one or a combination of strategies 1 through 4 for 25% of site hardscape.	☒		
1. Provide shade (mature within 5 years of occupancy).			
2. Use light colored materials with an initial solar reflectance value of at least .30 as determined in accordance with ASTM Standards E 1918 or C 1549.			
3. Use open-grid pavement system or pervious or permeable pavement system.			
4. Use solar panel arrays to create a canopy shade system.			
A5.106.11.1.1 Hardscape alternatives. Use one or a combination of strategies 1 through 3 for 75% of site hardscape.		☐	☐
1. Use light colored materials with an initial solar reflectance value of at least .30 as determined in accordance with ASTM Standards E 1918 or C 1549.		☐	☐
2. Use open-grid pavement system or pervious or permeable pavement system.		☐	☐
3. Use solar panel arrays to create a canopy shade system.			
A5.106.11.2 Cool roof. Use roofing materials having a minimum 3-year aged solar reflectance and thermal emittance complying with Sections A5.106.11.2.1 and A5.106.11.2.2:			
Table A5.106.11.2.2 – Tier 1 or			
Table A5.106.11.2.3 – Tier 2			
Exceptions:		☒	
1. Roof constructions that have a thermal mass over the roof membrane, including areas of vegetated (green) roofs, weighing at least 25lbs/sf.			☒
2. Roof area covered by building integrated solar photovoltaic and building integrated solar thermal panels.			
Energy Efficiency			
Performance Requirements			
5.201.1 Scope. Building meets or exceeds the requirements of the California Building Energy Efficiency Standards.[3]	☒	☒[2]	☒[2]
A5.203.1 Energy Efficiency. Nonresidential, high-rise residential and hotel/motel buildings that include lighting and/or mechanical systems shall comply with Sections A5.203.1.1 and either A5.203.1.2.1 or A5.203.1.2.2. Newly constructed buildings as well as additions and alterations are included in the scope of these sections. Buildings permitted without lighting or mechanical systems shall comply with Section A5.203.1.1 but are not required to comply with Sections A5.203.1.1.2 or A5.203.1.2.		☐	☐
A5.203.1.1.1 Outdoor Lighting. Newly installed outdoor lighting power is no greater than 90% of the Title 24, Part 6 calculated value of allowed outdoor lighting power.		☒[2]	☒[2]
A5.203.1.1.2 Service Water Heating in Restaurants. Newly constructed restaurants 8,000 square feet or greater and with service water heaters rated 75,000 Btu/h or greater installed a solar water-heating system with a minimum solar savings fraction of 0.15 or meet one of the exceptions.		☒[2]	☒[2]

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
A5.203.1.1.3 Functional Areas where Compliance with Residential Lighting Standards is required. For newly constructed high-rise residential dwelling units and hotel and motel guest rooms, indoor lighting complies with the applicable requirements in Appendix A4 Residential Voluntary Measures, Division A4.2 – Energy Efficiency, Section A4.203.1.1.3. For additions and alterations to high-rise residential dwelling units and hotel and motel guest rooms, indoor lighting complies with the applicable requirements in Appendix A4 Residential Voluntary Measures, Division A4.2 – Energy Efficiency, Section A4.204.1.1.1.		☒[2]	☒[2]
A5.203.1.2.1 Tier 1. For building projects that include indoor lighting or mechanical systems, but not both, the Energy Budget is no greater than 95% of the Title 24, Part 6 Energy Budget for the Proposed Design Building. For building projects that include indoor lighting and mechanical systems, the Energy Budget is no greater than 90% of the Title 24, Part 6 Energy Budget for the Proposed Design Building.		☒[2]	
A5.203.1.2.2 Tier 2. For building projects that include indoor lighting or mechanical systems, but not both, the Energy Budget is no greater than 90% of the Title 24, Part 6 Energy Budget for the Proposed Design Building. For building projects that include indoor lighting and mechanical systems, the Energy Budget is no greater than 85% of the Title 24, Part 6 Energy Budget for the Proposed Design Building.			☒[2]
Renewable Energy			
A5.211.1 On-site renewable energy. Use on-site renewable energy for at least 1% of the electrical service overcurrent protection device rating calculated in accordance with the 2013 Los Angeles Electrical Code or 1KW, whichever is greater, in addition to the electrical demand required to meet 1% of natural gas and propane use calculated in accordance with the 2013 Los Angeles Plumbing Code. **A5.211.1.1 Documentation.** Calculate renewable on-site system to meet the requirements of Section A5.211.1. Factor in net-metering, if offered by local utility, on an annual basis. **A5.211.3 Green power.** Participate in the local utility's renewable energy portfolio program that provides a minimum of 50% electrical power from renewable sources. Maintain documentation through utility billings. **5.211.1 Space for Future Electrical Solar System Installation [N].** Comply with Section 110.10 of the California Energy Code. **5.211.1.1 Prewiring for Future Electrical Solar System [N].** Install conduit from the building roof, eave, or other locations approved by the Department to the electrical service equipment. The conduit shall be labeled as per the Los Angeles Fire Department requirements. **Exception:** Buildings not required to provide a solar zone per Section 110.10 of the California Energy Code.	☒ ☒	☐	☐
Elevators, Escalators and Other Equipment			

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
A5.212.1 Elevators and escalators. In buildings with more than one elevator or two escalators, provide systems and controls to reduce the energy demand of elevators and escalators as follows. Document systems operation and controls in the project specifications and commissioning plan.			
A5.212.1.1 Elevators. Traction elevators shall have a regenerative drive system that feeds electrical power back into the building grid when the elevator is in motion.		☐	☐
A5.212.1.1.1 Car lights and fan. A parked elevator shall turn off its car lights and fan automatically until the elevator is called for use.		☐	☐
A5.212.1.2 Escalators. An escalator shall have a VVVF motor drive system that is fully regenerative when the escalator is in motion.		☐	☐
Energy Efficient Steel Framing			
A5.213.1 Steel framing. Design for and employ techniques to avoid thermal bridging.		☐	☐
Water Efficiency and Conservation			
Indoor Water Use			
5.303.1 Meters. Separate meters shall be installed for the uses described in Sections 5.303.1.1 and 5.303.1.2.			
5.303.1.1 New buildings or additions in excess of 50,000 square feet. Separate submeters shall be installed as follows:			
1. For each individual leased, rented or other tenant space within the building projected to consume more than 100 gal/day.	☒		
2. Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystems:			
a. Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s)	☒		
b. Makeup water for evaporative coolers greater than 6 gpm (0.04 L/s)	☒		
c. Steam and hot-water boilers with energy input more than 500,000 Btu/h (147 kW)	☒		
5.303.1.2 Excess consumption. A separate submeter or metering device shall be provided within a new building or within an addition that is projected to consume more than 1,000 gal/day (3800 L/day).	☒		
5.303.2 Water Reduction. Plumbing fixtures shall meet the maximum flow rate values shown in Table 5.303.2.3 Exception: Buildings that demonstrate 20% overall water use reduction. In this case, a calculation demonstrating a 20% reduction in the building "water use baseline," as established in Table 5.303.2.2 shall be provided.	☒		
5.303.2.1 Areas of additions or alterations. For those occupancies within the authority of the California Building Standards Commission as specified in Section 103, the provisions of Section 5.303.2 and Section 5.303.3 shall apply to new fixtures in additions or areas of alterations to the building.	☒		

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
A5.303.2.3.1 Tier 1 – 30% savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 30% shall be provided.		☒	
A5.303.2.3.2 Tier 2 – 35% savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 35% shall be provided.			☒
A5.303.2.3.3 40% savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 40% shall be provided. (Calculate savings by Water Use Worksheets)		☐	☐
A5.303.2.3.4 Nonpotable water systems for indoor use. Utilizing nonpotable water systems (such as captured rainwater, treated graywater, and recycled water) intended to supply water closets, urinals, and other allowed sues, may be used in the calculations demonstrating the 30, 35 or 40% reduction. The nonpotable water systems shall comply with the current edition of the *Los Angeles Plumbing Code*.		☐	☐
5.303.3 Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:	☒		
5.303.3.1 Water closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S EPA WaterSense Specification for Tank-Type Toilets.	☒		
Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.			
5.303.3.2 Urinals. The effective flush volume of urinals shall not exceed 0.5 gallons per flush.	☒		
5.303.3.3 Showerheads.	☒		
5.303.3.3.1 Single Showerhead. Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S EPA WaterSense Specification for Showerheads.	☒		
5.303.3.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all showeheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons per minute at 80psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time.	☒		
Note: A hand-held shower shall be considered a showerhead.			

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
A5.303.3 Appliances. 1. Clothes washers shall have a maximum Water Factor (WF) that will reduce the use of water. 2. Dishwashers shall meet the criteria in Section A5.303.3(2)(a) and (b). 3. Ice makers shall be air cooled. 4. Food steamers shall be connectionless or boilerless. 5. The use and installation of water softeners shall be limited or prohibited by local agencies. 6. Combination ovens shall not consume more than 10 gph (38 L/h) in the full operational mode. 7. Commercial pre-rinse spray valves manufactured on or after January 1, 2006 shall function at equal to or less than 1.6 gpm (0.10 L/s) at 60 psi (414 kPa) and a. Be capable of cleaning 60 plates in an average time of not more than 30 seconds per plate b. Be equipped with an integral automatic shutoff c. Operate at static pressure of at least 30 psi (207 kPa) when designed for a flow rate of 1.3 gpm (0.08 L/s) or less		☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐
5.303.4 Wastewater reduction. Each building shall reduce the generation of wastewater by one of the following methods: 1. The installation of water-conserving fixtures or 2. Utilizing nonpotable water systems.	As applicable ☒ ☒		
A5.303.5 Dual plumbing. New buildings and facilities shall be dual plumbed for potable and recycled water systems.		☐	☐
5.303.6 Standards for plumbing fixtures and fittings. Plumbing fixtures and fittings shall be installed in accordance with the Los Angeles Plumbing Code, and shall meet the applicable standards referenced in Table 1401.1 of the Los Angeles Plumbing Code and in Chapter 6 of this code.	As applicable ☒		
Outdoor Water Use			
5.304.1 Water budget. A water budget shall be developed for landscape irrigation use.[3] Applies to additions and alterations.	☒		
5.304.2 Outdoor potable water use. For new water service or for an addition or alteration requiring upgraded water service, separate meters or submeters shall be installed for indoor and outdoor potable water use for cumulative landscaped areas of at least 1,000 square feet. **A5.304.2.1 Outdoor potable water use.** For new water service not subject to the provisions of Section 304.2, separate meters or submeters shall be installed for outdoor potable water use for landscaped areas of at least 500 square feet but not more than 1,000 square feet (the level at which Section 5.304.2 applies).	☒	☐	☐

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
5.304.3 Irrigation design. In new nonresidential projects with at least 1,000 square feet of landscaped area, install irrigation controllers and sensors which include the following criteria and meet manufacturer's recommendations. Applies to additions and alterations.	☒		
5.304.3.1 Irrigation controllers. Automatic irrigation system controllers installed at the time of final inspection shall comply with the following:	☒		
1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.	As applicable ☒		
2. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.			
A5.304.4 Potable water reduction. Provide water efficient landscape irrigation design that reduces by the use of potable water.			
A5.304.4.1 Tier 1 – Reduce the use of potable water to a quantity that does not exceed 60% of ETo times the landscape area.		☒	
A5.304.4.2 Tier 2 –Reduce the use of potable water to a quantity that does not exceed 55% of ETo times the landscape area.			☒
Methods used to accomplish the requirements of this section shall include, but not be limited to, the items listed in A5.304.4.			
A5.304.4.3 Verification of compliance. A calculation demonstrating the applicable potable water use reduction required by this section shall be provided.		☒	☒
A5.304.5 Potable water elimination. Provide a water efficient landscape irrigation design that eliminates the use of potable water beyond the initial requirements for plant installation and establishment. Methods used to accomplish the requirements of this section shall include, but not be limited to, the items listed in Section A5.304.4.		☐	☐
A5.304.6 Restoration of areas disturbed by construction. Restore all areas disturbed during construction by planting with local native and/or noninvasive vegetation.		☐	☐
A5.104.7 Previously developed sites. On previously developed or graded sites, restore or protect at least 50% of the site area with		☐	☐
A5.304.8 Graywater irrigation system. Install graywater collection system for onsite subsurface irrigation using graywater.		☐	☐
Water Reuse			
A5.305.1 Nonpotable water systems. Nonpotable water systems for indoor and outdoor use shall comply with the current edition of the Los Angeles Plumbing Code.		☐	☐
A5.305.2 Irrigation systems. Irrigation systems regulated by a local water efficient landscape ordinance or by the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO) shall use recycled water.		☐	☐
Material Conservation and Resource Efficiency			

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
Efficient Framing Systems			
A5.404.1 Wood framing. Employ advanced wood framing techniques or OVE, as permitted by the department.		☐	☐
Material Sources			
A5.405.1 Regional materials. Select building materials or products for permanent installation on the project that have been harvested or manufactured in California or within 500 miles of the project site, meeting the criteria listed in Section A5.405.1.		☐	☐
A5.405.2 Bio-based materials. Select bio-based building materials per Section A5.405.2.1 or A5.405.2.2. **A5.405.2.1 Certified wood products.** Certified wood is an important component of green building strategies and the California Building Standards Commission will continue to develop a standard through the next code cycle. **A5.405.2.2 Rapidly renewable materials.** Use materials made from plants harvested within a ten-year cycle for at least 2.5% of total materials value, based on estimated cost.		☐ ☐	☐ ☐
A5.405.3 Reused materials. Use salvaged, refurbished, refinished or reused materials for at least 5% of the total value, based on estimated cost of materials on the project.		☐	☐
A5.405.4 Recycled content. Use materials, equivalent in performance to virgin materials, with a total (combined) recycled content value (RCV) of: **Tier 1.** The RCV shall not be less than 10% of the total material cost of the project. **Tier 2.** The RCV shall not be less than 15% of the total material cost of the project. **Note:** Use the equations in the subsections for calculating total materials cost, recycled content, RCV of materials and assemblies, and total RCV.		☐	☐

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
A5.405.5 Cement and concrete. Use cement and concrete made with recycled products and complying with the following sections:			
A5.405.5.1 Cement. Cement shall comply with one of the following standards: 1. Portland cement shall meet ASTM C 150. 2. Blended hydraulic cement shall meet ASTM C 595. 3. Other Hydraulic Cements shall meet ASTM C 1157.		☐	☐
A5.405.5.2 Concrete. Unless otherwise directed by the Engineer of Record, use concrete manufactured with cementitious materials in accordance with Sections A5.405.5.2.1 and A5.405.5.2.1.1, as approved by the department.		☐	☐
A5.405.5.2.1 Supplementary cementitious materials (SCMs). Use concrete made with one or more of the SCMs listed in Section A5.405.5.2.1.		☐	☐
A5.405.5.2.1.1 Mix design equation. Use any combination of one or more SCMs, satisfying Equation A4.5-14. **Exception:** Minimums in mix designs approved by the Engineer of Record may be lower where high early strength is needed.			
A5.405.5.3 Additional means of compliance. Any of the following measures shall be permitted to be employed for the production of cement or concrete, depending on their availability and suitability, in conjunction with Section A5.405.5.2.			
A5.405.5.3.1 Cement. The following measures may be used in the manufacture of cement.			
A5.405.5.3.1.1 Alternative fuels. Where permitted by state or local air quality standards.		☐	☐
A5.405.5.3.1.2 Alternative power. Alternate electric power generated at the cement plant and/or green power purchased from the utility meeting the requirements of Section A5.211.		☐	☐
A5.405.5.3.2 Concrete. The following measures may be used in the manufacture of concrete,			
A5.405.5.3.2.1 Alternative energy. Renewable or alternative energy meeting the requirements of Section A5.211.		☐	☐
A5.405.5.3.2.2 Recycled aggregates. Concrete made with one or more of the materials listed in Section A5.405.5.3.2.2.		☐	☐
A5.405.5.3.2.3 Mixing water. Water recycled by the local water purveyor or water reclaimed from manufacturing processes and conforming to ASTM C1602.		☐	☐
A5.405.5.3.2.4 High strength concrete. Concrete elements designed to reduce their total size compared to standard 3,000 psi concrete, as approved by the Engineer of Record.			☐
Enhanced Durability and Reduced Maintenance			
A5.406.1 Choice of materials. Compared to other products in a given category, choose materials from the following for a minimum of 5% of the total value, based on estimated cost of materials on the project. **A5.406.1.2 Reduced maintenance.** Select materials that require little, if any, finishing.		☐	☐

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
Weather Resistance and Moisture Management			
5.407.1 Weather protection. Provide a weather-resistant exterior wall and foundation envelope as required by Los Angeles Building Code Section 1403.2 and California Energy Code Section 150, manufacturer's installation instructions or local ordinance, whichever is more stringent.[3]	☒		
5.407.2 Moisture control. Employ moisture control measures by the following methods: **5.407.2.1 Sprinklers.** Prevent irrigation spray on structures. **5.407.2.2 Entries and openings.** Design exterior entries and openings to prevent water intrusion into buildings.	☒ ☒		
Construction Waste Reduction, Disposal and Recycling			
5.408.1 Construction waste management. Comply with Section 66.32 of the Los Angeles Municipal Code.	☒		
5.408.3 Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. **Exception:** Reuse, either on-or off-site, of vegetation or soil contaminated by disease or pest infestation.	☒		
A5.408.3.1 Enhanced construction waste reduction–Tier 1. Divert to recycle or salvage at least 65% of nonhazardous construction and demolition waste generated at the site. **A5.408.3.1.1 Enhanced construction waste reduction–Tier 2.** Divert to recycle or salvage at least 80% of nonhazardous construction and demolition waste generated at the site. **A5.408.3.1.2 Verification of compliance.** A copy of the completed waste management report or documentation of certification of the waste management company utilized shall be provided. **Exceptions:** 1. Excavated soil and land-clearing debris. 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist. 3. Demolition waste meeting local ordinance or calculated in consideration of local recycling facilities and markets.		☒ ☒	 ☒ ☒
Life Cycle Assessment			

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
A5.409.1 General. Life cycle assessment shall be ISO 14044 compliant. The service life of the building and materials assemblies shall not be less than 60 years.		☐	☐
A5.409.2 Whole building life cycle assessment. Conduct a whole building life assessment, including operating energy, showing that the building project achieves at least a 10% improvement for at least three of the impacts listed in Section A5.409.2.2, one of which shall be climate change, compared to a reference building.		☐	☐
A5.409.3 Materials and system assemblies. If whole building analysis of the project is not elected, select a minimum of 50% of materials or assemblies based on life cycle assessment of at least three for the impacts listed in Section A5.409.2.2, one of which shall be climate change.		☐	☐
A5.409.4 Substitution for prescriptive standards. Performance of a life cycle assessment completed in accordance with Section A5.409.2 may be substituted for other prescriptive provisions of Division A5.4, including those made mandatory through local adoption of Tier 1 or Tier 2 in Division A5.6.		☐	☐
A5.409.5 Verification of compliance. Documentation of compliance shall be provided as follows:			
1. The assessment is performed in accordance with ISO 14044.		☐	☐
2. The project meets the requirements of other parts of Title 24.		☐	☐
3. A copy of the analysis shall be made available to the enforcement authority.		☐	☐
4. A copy of the analysis and any maintenance or training recommendations shall be included in the operation and maintenance manual.		☐	☐
See notes for available tools.			
Building Maintenance and Operation			
5.410.1 Recycling by occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling.[3]	☒		
5.410.2 Commissioning. [N] For new buildings 10,000 square feet and over, building commissioning for all building systems covered by Title 24, Part 6, process systems and renewable energy systems shall be included in the design and construction processes of the building project. Commissioning requirements shall include items listed in Section 5.410.2.	☒		
Exceptions:			
1. Dry storage warehouses of any size			
2. Areas under 10,000 square feet used for offices or other conditioned accessory spaces within dry storage warehouses			
3. Tenant improvements under 10,000 square feet as described in Section 303.1.1.			
5.410.2.1 Owner's Project Requirements (OPR). [N] Documented before the design phase of the project begins the OPR shall include items listed in Section 5.410.4.	☒		

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
5.410.2.2 Basis of Design (BOD). [N] A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project to cover the systems listed in Section 5.410.2.2.	☒		
5.410.2.3 Commissioning plan. [N] A commissioning plan describing how the project will be commissioned shall include items listed in Section 5.410.2.3.	☒		
5.410.2.4 [N] Functional performance testing shall demonstrate the correct installation and operation of each component, system and system-to-system interface in accordance with the approved plans and specifications.	☒		
5.410.2.5 Documentation and training. [N] A Systems manual and systems operations training are required.	☒		
5.410.2.5.1 Systems manual. [N] The systems manual shall be delivered to the building owner or representative and facilities operator and shall include the items listed in Section 5.410.2.5.1.	☒		
5.410.2.5.2 Systems operations training. [N] A program for training of the appropriate maintenance staff for each equipment type and/or system shall be developed and shall include items listed in Section 5.410.2.5.2.	☒		
5.410.2.6 Commissioning report. [N] A report of commissioning process activities undertaken through the design and construction phases of the building project shall be completed and provided to the owner or representative.	☒		
A5.410.3 Commissioning. For new buildings under 10,000 square feet building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of comparable size and complexity. Commissioning requirements shall include items 1-7 listed in Section A5.410.3.		☐	☐

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
5.410.4 Testing and adjusting. Testing and adjusting of systems shall be required for buildings less than 10,000 square feet. Applies to new systems serving additions or alterations.	☒		
5.410.4.2 Systems. Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include, as applicable to the project, the systems listed in Section 5.410.4.2.	☒		
5.410.4.3 Procedures. Perform testing and adjusting procedures in accordance with applicable standards on each system as determined by the department.	☒		
5.410.4.3.1 HVAC balancing. Before a new space-conditioning system serving a building or space is operated for normal use, balance in accordance with the procedures defined by national standards listed in Section 5.410.4.3.1 or as approved by the enforcing agency.	☒		
5.410.4.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.	☒		
5.410.4.5 Operation and maintenance manual. Provide the building owner with detailed operating and maintenance instructions and copies of guaranties/warranties for each system prior to final inspection.	☒		
5.410.4.5.1 Inspections and reports. Include a copy of all inspection verifications and reports required by the department.	☒		
Environmental Quality			
Fireplaces			
5.503.1 Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace or a sealed woodstove and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150.	☒ As applicable		
5.503.1.1 Woodstoves. Woodstoves shall comply with US EPA Phase II emission limits.	☒		
Pollutant Control			
A5.504.1 Indoor air quality (IAQ) during construction. Maintain IAQ as provided in Sections A5.504.1.1 and A5.504.1.2.			
A5.504.1.1 Temporary ventilation. Provide temporary ventilation during construction in accordance with Section 121 of the California Energy Code, CCR, Title 24, Part 6 and Chapter 4 of CCR, Title 8 and as listed in Items 1 and 2 in Section A5.504.1.2.		☐	☐
A5.504.1.2 Additional IAQ measures. Employ additional measures as listed in Items 1 through 5 in Section A5.504.1.3.		☐	☐
5.504.1.3 Temporary ventilation. If the HVAC system is used during construction, use return air filters with a MERV of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy. Applies to additions or alterations.	☒		

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
A5.504.2 IAQ postconstruction. Flush out the building per Section A5.504.2 prior to occupancy or if the building is occupied.		☐	☐
A5.504.2.1 IAQ Testing. A testing alternative may be employed after all interior finishes have been installed, using testing protocols recognized by the United State Environmental Protection Agency (U.S. EPA) and in accordance with Section A5.504.2.1.2. Retest as required in Section A5.504.2.1.3.		☐	☐
A5.504.2.1.1 Maximum levels of contaminants. Allowable levels of contaminant concentrations measured by testing shall not exceed the following:		As applicable	As applicable
1. Carbon Monoxide (CO): 9 parts per million, not to exceed outdoor levels by 2 parts per million;		☐	☐
2. Formaldehyde: 27 parts per billion;		☐	☐
3. Particulates (PM10): 50 micrograms per cubic meter;		☐	☐
4. 4-Phenylcyclohexene (4-PCH): 6.5 micrograms per cubic meter; and		☐	☐
5. Total Volatile Organic Compounds (TVOC): 300 micrograms per cubic meter.		☐	☐
A5.504.2.1.2 Test protocols. Testing of indoor air quality should include the elements listed in Items 1 through 4.		☐	☐
A5.504.2.1.3 Noncomplying building areas. For each sampling area of the building exceeding the maximum concentrations specified in Section A5.504.2.1.1, flush out with outside air and retest samples taken from the same area. Repeat the procedures until testing demonstrates compliance.		☐	☐
5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation and during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the department to reduce the amount of dust, water and debris which may enter the system.	☒		
5.504.4 Finish material pollutant control. Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.4.			
5.504.4.1 Adhesives, sealants, caulks. Adhesives and sealants used on the project shall meet the requirements of the following standards:			
1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2.	☒		
2. Aerosol adhesives and smaller unit sizes of adhesives and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.	☒		

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with Table 5.504.4.3 unless more stringent local limits apply.	☒		
5.504.4.3.1 Aerosol paints and coatings. Aerosol paints and coatings shall meet the Product- Weighted MIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances (CCR, Title 17, Section 94520 *et seq*).	☒		
5.504.4.3.2 Verification. Verification of compliance with this section shall be provided at the request of the department.	☒		
5.504.4.4 Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the standards listed in Section 5.504.4.4.	☒		
5.504.4.4.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.	☒		
5.504.4.4.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 5.504.4.1.	☒		
5.504.4.5 Composite wood products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in Table 5.504.4.	☒		
A5.504.4.5.1 No added formaldehyde. Use composite wood products approved by the ARB as no-added formaldehyde (NAF) based resins or ultra-low emitting formaldehyde (ULEF) resins.		☐	☐
5.504.4.5.3 Documentation. Verification of compliance with this section shall be provided as requested by the department. Documentation shall include at least one of the following.	☒ As applicable	☐	☐
1. Product certifications and specifications.	☒		
2. Chain of custody certifications.	☒		
3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, *et seq.*)	☒		
4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269 or European 636 3S standards.	☒		
5. Other methods acceptable to the department.	☒		

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
5.504.4.6 Resilient flooring systems. Comply with the VOC-emission limits defined in the 2009 CHPS criteria and listed on its High Performance Products Database; products compliant with CHPS criteria certified under the Greenguard Children & Schools program; certified under the FloorScore program of the Resilient Floor Covering Institute; or meet California Department of Public Health 2010 Specification 01350.	☒		
A5.504.4.6.1 Verification of compliance. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.	☒		
A5.504.4.7 Resilient flooring systems, Tier 1. For 90% of floor area receiving resilient flooring, install resilient flooring complying with the VOC-emission limits defined in the 2009 CHPS criteria and listed on its High Performance Products Database; products compliant with CHPS criteria certified under the Greenguard Children & Schools program; certified under the FloorScore program of the Resilient Floor Covering Institute; or meet California Department of Public Health 2010 Specification 01350.		☒	
A5.504.4.7.1 Resilient flooring systems, Tier 2. For 100% of floor area to scheduled to receive resilient flooring, install resilient flooring complying with the VOC-emission limits defined in the 2009 CHPS criteria and listed on its High Performance Products Database; products compliant with CHPS criteria certified under the Greenguard Children & Schools program; certified under the FloorScore program of the Resilient Floor Covering Institute; or meet California Department of Public Health 2010 Specification 01350.			☒
A5.504.4.7.2 Verification of compliance. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.		☒	☒
A5.504.4.8 Thermal insulation, Tier 1. Comply with the standards listed in Items 1 through 3.		☒	
A5.504.4.8.1 Thermal insulation, Tier 2. Install thermal insulation which complies with Tier 1 plus does not contain any added formaldehyde.			☒
A5.504.4.8.2 Verification of compliance. Documentation shall be provided verifying that thermal insulation materials meet the pollutant emission limits.		☒	☒
A5.504.4.9 Acoustical ceilings and wall panels. Comply with Chapter 8 in Title 24, Part 2 and with the VOC- emission limits defined in the 2009 CHPS criteria and listed on its High Performance Products Database.		☐	☐
A5.504.4.9.1 Verification of compliance. Documentation shall be provided verifying that acoustical finish materials meet the pollutant emission limits.		☐	☐

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
A5.504.5 Hazardous particulates and chemical pollutants. Minimize and control pollutant entry into buildings and cross-contamination of regularly occupied areas.			
A5.504.5.1 Entryway systems. Install permanent entryway systems measuring at least six feet in the primary direction of travel to capture dirt and particulates at entryways directly connected to the outdoors as listed in Items 1 through 3 in Section A5.504.5.1.		☐	☐
A5.504.5.2 Isolation of pollutant sources. In rooms where activities produce hazardous fumes or chemicals, exhaust them and isolate them from their adjacent rooms as listed in Items 1 through 3 in Section A5.504.5.2.		☐	☐
5.504.5.3 Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a MERV of 8. MERV 8 filters shall be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.	☒		
Exception: 1. An ASHRAE 10% to 15% efficiency filter shall be permitted for an HVAC unit meeting the 2013 California Energy Code having 60,000 Btu/h or less capacity per fan coil, if the energy use of the air delivery system is 0.4 W/cfm or less at design air flow. 2. Existing mechanical equipment			
A5.504.5.3.1 Filters, Tier 1. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a MERV of 11.		☐	
A5.504.5.3.1.1 Filters, Tier 2. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a MERV of 13.			☐
5.504.7 Environmental tobacco smoke (ETS) control. Prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows where outdoor areas are provided for smoking and within the building as already prohibited by other laws or regulations; or as enforced by ordinances, regulations or policies of the City.	☒		
Indoor Moisture and Radon Control			
5.505.1 Indoor moisture control. Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1203 and Chapter 14.1.[3]	☒		
Air Quality and Exhaust			
5.506.1 Outside air delivery. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 121 of the California Energy Code and Chapter 4 of CCR, Title 8 or the applicable local code, whichever is more stringent.[3]	☒		

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
5.506.2 Carbon dioxide (CO_2) monitoring. For buildings equipped with demand control ventilation, CO_2 sensors and ventilation controls shall be specified and installed in accordance with the requirements of the California Energy Code, CCR, Section 121(c).[3]	☒		
Environmental Comfort			
A5.507.1 Lighting and thermal comfort controls. Provide controls in the workplace as described in Sections A5.507.1.1 and A5.507.1.2.			
A5.507.1.1 Single-occupant spaces. Provide individual controls that meet energy use requirements in the 2007 California Energy Code by Sections A5.507.1.1.1 and A5.507.1.1.2.		☐	☐
A5.507.1.1.1 Lighting. Provide individual task lighting and/or daylighting controls for at least 90% of the building occupants.		☐	☐
A5.507.1.1.2 Thermal comfort. Provide individual thermal comfort controls for at least 50% of the building occupants by Items 1 and 2 in Section A5.507.1.1.2.		☐	☐
A5.507.1.2 Multi-occupant spaces. Provide lighting and thermal comfort system controls for all shared multi-occupant spaces.		☐	☐
A5.507.2 Daylight. Provide daylit spaces as required for toplighting and sidelighting in the California Energy Code. In constructing a design, consider Items 1 through 4 in Section A5.507.3.		☐	☐

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
5.507.4 Acoustical control. Employ building assemblies and components with STC values determined in accordance with ASTM E 90 and ASTM E 413 or OITC determined in accordance with ASTM E 1332, using either the prescriptive or performance method in Section 5.507.4.1 or 5.507.4.2.	☒		
5.507.4.1 Exterior noise transmission, prescriptive method. Wall and floor-ceiling assemblies exposed to the noise source making up the building envelope shall have exterior wall and roof ceiling assemblies meeting a composite STC rating of at least 50 or a composite OITC rating of no less than 40 with exterior windows of a minimum STC of 40 or OITC of 30 in the locations described in Items 1 and 2.	☒		
5.507.4.1.1 Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB L_{eq}-1Hr during any hour of operation shall have exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30).	☒ or		
5.507.4.2 Performance method. For buildings located as defined in Sections A5.507.4.1 or A5.507.4.1.1, wall and roof-ceiling assemblies making up the building envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (L_{eq}-1Hr) of 50 dBA in occupied areas during any hour of operation.	☒		
5.507.4.2.1 Site features. Exterior features such as sound walls or earth berms may be utilized as appropriate to the project to mitigate sound migration to the interior.	☒		
5.507.4.2.2 Documentation of compliance. An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.	☒		
5.507.4.3 Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.	☒		
Outdoor Air Quality			

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
5.508.1 Ozone depletion and global warming reductions. Installations of HVAC, refrigeration and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.	As applicable		
5.508.1.1 CFCs. Install HVAC and refrigeration equipment that does not contain CFCs.[3]	☒		
5.508.1.2 Halons. Install fire suppression equipment that does not contain Halons.[1]	☒		
A5.508.1.3 Hydrochlorofluorocarbons (HCFCs). Install HVAC and refrigeration equipment that does not contain HCFCs.		☐	☐
A5.508.1.4 Hydrofluorocarbons (HFCs). Install HVAC complying with either of the following:			
1. Install HVAC, refrigeration and fire suppression equipment that do not contain HFCs or that do not contain HFCs with a global warming potential greater than 150.		☐	☐
2. Install HVAC and refrigeration equipment that limit the use of HFC refrigerant through the use of a secondary heat transfer fluid with a global warming potential no greater than 1.		☐	☐
5.508.2 Supermarket refrigerant leak reduction. New commercial refrigeration systems shall comply with the provisions of this section when installed in retail food stores 8,000 square feet or more conditioned areas, and that utilize either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units. The leak reduction measures apply to refrigeration systems containing high-global-warming potential (high-GWP) refrigerants with a GWP of 150 or greater. New refrigeration systems include both new facilities and the replacement of existing refrigeration systems in existing facilities.	☒ As applicable		
Exception: Refrigeration systems containing low-global warming potential (low-GWP) refrigerant with a GWP value less than 150 are not subject to this section. Low-GWP refrigerants are nonozone-depleting refrigerants that include ammonia, carbon dioxide (CO_2) and potentially other refrigerants.			

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
5.508.2.1 Refrigerant piping. Piping compliant with the Los Angeles Mechanical Code shall be installed to be accessible for leak protection and repairs. Piping runs using threaded pipe, copper tubing with an outside diameter (OD) less than ¼ inch, flared tubing connections and short radius elbows shall not be used in refrigerant systems except as noted below.			
5.508.2.1.1 Threaded pipe. Threaded connections are permitted at the compressor rack.			
5.508.2.1.2 Copper pipe. Copper tubing with an OD less than ¼ inch may be used in system with a refrigerant charge of 5 pounds or less.			
5.508.2.1.2.1 Anchorage. ¼ inch OD tubing shall be securely clamped to a rigid base to keep vibration levels below 8 mils.			
5.508.2.1.3 Flared tubing connections. Double-flared tubing connections may be used for pressure controls, valve pilot lines and oil.			
Exception: Single-flared tubing connections may be used with a multiring seal coated with industrial sealant suitable for use with refrigerants and tightened in accordance with manufacturer's recommendations.			
5.508.2.1.4 Elbows. Short radius elbows are only permitted where space limitations prohibit use of long radius elbows.			
5.508.2.2 Valves. Valves and fittings shall comply with the California Mechanical Code and as follows.			
5.508.2.2.1 Pressure relief valves. For vessels containing high-GWP refrigerant, a rupture disc shall be installed in the space between the rupture disc and the relief valve inlet to indicate a disc rupture or discharge of the relief valve.			
5.508.2.2.1.1 Pressure detection. Pressure gauge, pressure transducer or other device shall be installed in the space between the rupture disc and the relief valve inlet to indicate a disc rupture or discharge of the relief valve.			
5.508.2.2.2 Access valves. Only Schrader access valves with a brass or steel body are permitted for use.			
5.508.2.2.2.1 Valve caps. For systems with a refrigerant charge of 5 pounds or more, valve caps shall be brass or steel and not plastic.			
5.508.2.2.2.2 Seal caps. If designed for it, the cap shall have a neoprene O-ring in place.			
5.508.2.2.2.2.1 Chain tethers. Chain tethers to fit over the stem are required for valves designed to have seal caps.			
Exception: Valves with seal caps that are not removed from the valve during stem operation.			
5.508.2.3 Refrigerated services cases. Refrigerated service cases holding food products containing vinegar and salt shall have evaporator coils or corrosion-resistant material, such as stainless steel; or be coated to prevent corrosion from these substances.			
5.508.2.3.1 Coil coating. Consideration shall be given to the heat transfer efficiency of coil coating to maximize energy efficiency.			

APPLICATION CHECKLIST FOR BSC	MANDATORY	VOLUNTARY[1]	
		CALGreen Tier 1	CALGreen Tier 2
5.508.2.4 Refrigerant receivers. Refrigerant receivers with capacities greater than 200 pounds shall be fitted with a device that indicated the level of refrigerant in the receiver. **5.508.2.5 Pressure testing.** The system shall be pressure tested during installation prior to evacuation and charging. **5.508.2.5.1 Minimum pressure.** The system shall be charged with regulated dry nitrogen and appropriate tracer gas to bring system pressure up to 300psig minimum. **5.508.2.5.2.1 Leaks.** Check the system for leaks, repair any leaks, and retest for pressure using the same gauge. **5.508.2.5.3 Allowable pressure charge.** The system shall stand, unaltered, for 24 hours with no more than +/- one pound pressure change from 300 psig, measure with the same gauge. **5.508.2.3 Evacuation.** The system shall be evacuated after pressure testing and prior to charging. **5.508.2.6.1 First vacuum.** Pull a system vacuum down to at least 1000 microns +/- 50 microns), and hold for 30 minutes. **5.508.2.6.2 Second vacuum.** Pull a second system vacuum to a minimum of 500 microns and hold for 30 minutes. **5.508.2.6.3 Third vacuum.** Pull a third vacuum down to a minimum of 300 microns and hold for 24hours with a maximum drift of 100 microns over a 24-hour period.			

1. Green building measures in this table may be mandatory if adopted by a city, county, or city and county as specified in Section 101.7.
2. Required prerequisite for this Tier.
3. These measures are currently required elsewhere in statute or in regulation.

Sec. 131. **Urgency Clause**. The City Council finds and declares that this Ordinance is required for the immediate protection of the public peace, health and safety for the following reason: In order for the City of Los Angeles to facilitate a seamless transition with the State of California and its Green Code and maintain predictability and streamlined case processing for the benefit of economic development during distressed times, it is necessary to immediately adopt the foregoing exceptions, modifications and additions to the California Green Code. Additionally, the California Green Code becomes effective on January 1, 2014 and the amendments to that code as reflected herein must be adopted by the City Council and become effective as soon as possible. The Council, therefore, with the Mayor's concurrence, adopts this ordinance to become effective upon publication pursuant to Los Angeles City Charter Section 253.

Sec. 132. The City Clerk shall certify to the passage of this ordinance and have it published in accordance with Council policy, either in a daily newspaper circulated in the City of Los Angeles or by posting for ten days in three public places in the City of Los Angeles: one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall; one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall East; and one copy on the bulletin board located at the Temple Street entrance to the Los Angeles County Hall of Records.

I hereby certify that this ordinance was passed by the Council of the City of Los Angeles, **by a vote of not less than three-fourths** of all of its members, at its meeting of DEC 17 2013.

HOLLY L. WOLCOTT, Interim City Clerk

By _____
Deputy

Approved DEC 23 2013

_____
Mayor
ACTING

Approved as to Form and Legality

MICHAEL N. FEUER, City Attorney

By _____
KIM RODGERS WESTHOEF
Deputy City Attorney

Date 12/12/13

File No. CF13-1214

H:\2014 Green Building Ordinance KRW Draft.1.docx

CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

RAYMOND S. CHAN, C.E., S.E.
SUPERINTENDENT OF BUILDING
INTERIM GENERAL MANAGER

January 30, 2014

Council File No. 13-1214

Jim McGowan, Executive Director
California Building Standards Commission
2525 Natomas Park Drive, Suite 130
Sacramento, CA 95833-2936

FILING OF EXPRESS FINDINGS AND DETERMINATION PERSUANT TO SECTION 17958.7 OF THE HEALTH AND SAFETY CODE

On December 17, 2013, the Los Angeles City Council adopted an ordinance to amend the Los Angeles Municipal Code (LAMC) by incorporating portions of the 2011 National Electrical Code and the 2013 California Electrical Code and adopt the findings that make the modifications to the California Building Code to be reasonably necessary because of local climatic, geological or topographical conditions.

Enclosed with this transmittal is a copy of the findings along with the modifications (the ordinance) to the California Electrical Code. The Department of Building and Safety, City of Los Angeles will consider this as complying with Section 17958.7 of the Health and Safety Code.

If you have any questions regarding this matter, please contact the Code Engineer, Mr. Victor Cuevas at (213) 482-0409.

RAYMOND S. CHAN, C.E., S.E.
Interim General Manager

Attachments

FINDINGS AND DETERMINATIONS

Findings and Determinations to support the proposed amendments regarding the adoption of the **2013 California Electrical Code (CEC).**

WHEREAS, the City of Los Angeles has **geological conditions**, such as earthquake faults. The City of Los Angeles is bounded on the east by the San Andreas Fault and interlaced with other earthquake faults, which run through, adjacent and under the City; and

WHEREAS, the City is located in Seismic Zone 4, which is considered by experts to be the most seismically active of the four seismic zones in the world; and

WHEREAS, seismic experts predict a massive earthquake on one of these faults within the next 30 years and several earthquakes similar in intensity to the Northridge Earthquake during the same period; and

WHEREAS, the 1994 Northridge Earthquake which was a moderate size (6.8 magnitude) earthquake caused extensive damage to buildings and structures, including damage to more than 115,000 buildings, moderate to major damage to more than 3,000 buildings and the vacating of about 21,000 residential units including 2,000 homes; and

WHEREAS, there were 57 people who lost their lives in the earthquake, but there could have been several thousand fatalities had the earthquake occurred at midday when most buildings were occupied instead of 4:31 in the morning; and

WHEREAS, massive earthquakes pose unusual and extraordinary stresses on buildings and structures requiring more stringent building regulations than would otherwise be required; and

WHEREAS, a major earthquake would break water lines making fire fighting more difficult and would break gas lines and electric lines, making a high risk of fires breaking out in all areas of the City; and

WHEREAS, there was a fire in the Fairfax Area of the City of Los Angeles in 1986, due to the high volume of methane gas seepage through cracks in the concrete floor of a building; and

WHEREAS, in 1999, large pockets of methane gas in the subsurface geological formation was discovered in various areas of Los Angeles; and

WHEREAS, the City of Los Angeles has **topographic conditions**, natural and man-made, such as the natural hills, mountains and the coastal region, as well as the man-made harbors and highly concentrated areas of high-rise buildings.

WHEREAS, the City of Los Angeles is situated in a coastal region of hills and mountains containing dry wild native brush and other native and non-native vegetation; and

WHEREAS, this region of flat land and hillside areas creates a natural basin, which has high strong winds alongside foothills and other areas of the City; and

WHEREAS, in 1982 fires in the flat areas of neighboring Orange County were spread from one wood shake and wood shingle roof covered building to the next wood shake and wood shingle roof covered building by the strong Santa Ana winds, and

WHEREAS, the dry brush areas of the local Santa Monica hillsides and the strong canyon winds or the dry Santa Ana winds contributed to past fires in the Los Angeles area, such as, the 1961 Bel Air and Brentwood Canyon, 1977 Topanga Canyon and 1993 Malibu Canyon fires, and

WHEREAS, widespread fires caused by either earthquakes or brush fires would impact the capabilities of the Fire Department to effectively respond to all the fires; and

WHEREAS, the highly concentrated area of high-rise buildings, traffic congestion and possible gridlock may jeopardize the quick response to fires by the Fire Department that could reduce the amount of damage to buildings and increase the number of lives saved; and

WHEREAS, the mountainous terrain is now identified as the Very High Fire Hazard Severity Zone and the highly concentrated area of high-rise buildings is identified as Fire District 1; and

WHEREAS, the City of Los Angeles has **climatic conditions** that is subject to a mild winter to an extremely hot summer desert-like climate that has hot, dry (Santa Ana) winds that make the temperature rise and the humidity drop, increasing the fire danger to all exposed combustible materials; and

WHEREAS, the City of Los Angeles has a population of more than 3,700,000 people spread over more than 450 square miles; and

WHEREAS, widespread fires caused by either earthquakes or brush fires would limit the capabilities of the Fire Department to effectively respond to all the fires; and

WHEREAS, quick response to fires by the Fire Department will reduce the amount of damage to buildings and increase the number of lives saved; and

WHEREAS, the City of Los Angeles has a population of more than 3,700,000 people spread over more than 450 square miles; and

NOW, THEREFORE, in order to provide adequate protection under the local climatic, geological and topographical conditions set forth above, the City of Los Angeles makes the following findings and determinations:

Section 93.0101 is an **administrative amendment** necessary to clarify the referenced California code edition.

Section 93.0202 is an **administrative amendment** necessary to improve on the organizing better layout and to eliminate some of numbering confusion in the subsection.

Section 93.0202 is an **administrative amendment** necessary to correlated with the correct code title in the subsection.

Section 93.0202 is an **administrative amendment** necessary to correct the referenced code Section as relates to smoke detector replacement in single family dwellings.

Section 93.0202 is an **administrative amendment** necessary to correlated with the change in the Los Angeles Municipal Code section 98.0102.1(a) as relates to Electrical Wiring in the Harbor District.

Section 93.0206 is an **administrative amendment** necessary to correct the code terms as relates to fire alarm system.

Section 93.0206 is an **administrative amendment** necessary to correct the intent of the code section as it applies to Plan Check expiration instead of Permit.

Section 93.0209 is an **administrative amendment** necessary to correct the referenced code Section as relates to revocation of permits.

Section 93.0217 is an **administrative amendment** necessary to clarify the title, eliminate some of grammatical errors and refer to correct code term in this section as relates to fire alarm system.

Section 93.0313 is an **administrative amendment** necessary to clarify the wiring standards that are not addressed by the code that may be accepted by special permission.

Section 93.0403 is an **administrative amendment** necessary to clarify the unaccepted reuse of certain used equipment.

Section 93.0600 is an **administrative amendment** necessary to provide a new definition for the term "design load" to clarify what it means as this term is not defined in the State of California Title 24, Part 6 Energy Standard.

Section 93.0600 is an **administrative amendment** necessary to update and clarify the existing definition for "Fire Alarm and Signaling System" as this term is not defined in the State of California Electrical Code.

Section 93.0600 is an **administrative amendment** necessary to delete the definition for "Residential" as this term corresponds with Dwelling as defined in the State of California Electrical Code.

Section 93.0700 is an **administrative amendment** necessary to clarify the adopted Chapters, Annexes and edition of the 2013 State of California Electrical Code and the 2011 National Electrical Code as adopted by the State.

[file: Findings and Determinations for Electrical Code - Final]

ORDINANCE NO. 182851

An ordinance amending certain provisions of Article 3, Chapter IX of the Los Angeles Municipal Code to reflect local administrative changes and incorporate by reference portions of the 2013 Edition of the California Electrical Code (CEC).

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

Section 1. Section 93.0101 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 93.0101. TITLE.

This ordinance shall be known as the "Los Angeles Electrical Code," a portion of the "Los Angeles Municipal Code." Wherever the word "Code" is used in this ordinance, it shall mean the "Los Angeles Electrical Code" and whenever "LAMC." is used, it shall refer to the "Los Angeles Municipal Code." References to the "CEC." and the "CBSC" shall mean the 2013 "California Electrical Code" and the 2013 "California Building Standards Codes" respectively.

Sec. 2. Subdivision 13 of Subsection (a) of Section 93.0202 of the Los Angeles Municipal Code is amended to read as follows:

13. The following electrical wiring:

(i) Non-required signaling circuits supplied by an approved Class 2 limited power source, capable of supplying not more than 30 volts and 100 volt-amperes; and

(ii) Non-required communication circuits which have the power limited in accordance with Section 725.121 of the CEC; and

(iii) Non-required amplifier output circuits which are permitted by Section 640.9(C) of the CEC to employ Class 2 or Class 3 wiring; and

(iv) Any non-required circuit which operates at 15 volts or less and does not generate, transmit, transform, utilize or control more than 25 watts or volt-amperes of electric power.

Provided the wiring for any of the above items is not located in any of the following locations:

a. Area classified as "**hazardous**" under Article 500 of the CEC; or

b. Appurtenant to a required fire alarm and signaling system as classified under Article 760 of the CEC.; or

c. Penetrating any fire-resistive wall or floor system; or

d. In a plenum, duct or other space used for environmental air including access floors.

Sec. 3. Subdivision 17 of Subsection (a) of Section 93.0202 of the Los Angeles Municipal Code is amended to read as follows:

17. The replacement of defective smoke detectors in a single-family dwelling when the work is performed by a contractor with a valid Certificate of Registration pursuant to Section 91.1709.2. A Certificate of Compliance pursuant to Section 91.108.12 must be filed with the City in lieu of a permit.

Sec. 4. Subdivision 18 of Subsection (a) of Section 93.0202 of the Los Angeles Municipal Code is added to read as follows:

18. Electric wiring in the Harbor District pursuant to Section 98.0102.1(a) of the Los Angeles Municipal Code.

Sec. 5. Subdivision 8 of Subsection (b) of Section 93.0206 of the Los Angeles Municipal Code is amended to read as follows:

8. Installation of a complicated electrical system as determined by the Department, such as, Emergency, Legally Required Standby, Fire Alarm and Signaling, and Gas Detection Systems, except for the following:

(i) The addition of strobe power supplies and their attached devices connected to any existing fire control unit or panel.

(ii) The installation of special extinguishing, central station monitoring systems, dialers, and their attached devices.

(iii) The addition of any fire alarm and signaling devices connected to an existing addressable fire alarm and signaling system.

Sec. 6. Subsection (i) of Section 93.0206 of the Los Angeles Municipal Code is amended to read as follows:

(i) A Plan Check may be expired within the time limit specified in Section 98.0603 of the LAMC.

Sec. 7. Section 93.0209 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 93.0209. REVOCATION OF PERMITS.

Permits may be revoked as provided for in Section 98.0601.

Sec. 8. The Title of Section 93.0217 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 93.0217. FEES FOR FIRE ALARM AND SIGNALING SYSTEM, COMMUNICATIONS, CONTROL OR SIGNAL SYSTEMS AND SMOKE DETECTORS.

Sec. 9. Subsection (a) of Section 93.0217 of the Los Angeles Municipal Code is amended to read as follows:

(a) The fees for installing, replacing or relocating each fire alarm and signaling system, communication, control or signal system equipment, or portion thereof, shall be as follows:

Number or Devices	Fees
1 to 10 total devices	$48.00
11 to 40 devices	$4.00 each
41 or more devices	$3.00 each
Each control panel, standby power supply panel, annunciator panel or similar main piece of control equipment for one of the above systems	$36.00

For the purpose of this subsection, devices shall include all signaling equipment, stations, power equipment such as damper actuators or door holding devices, communication jacks or outlets, control sensors, or switches or remote indicators, and smoke detectors that are part of fire alarm and signaling systems or process control systems.

EXCEPTION: Communications equipment installed, owned or operated and maintained by a communications public utility and exempt under the provisions of Section 93.0108(c).

Sec. 10. Subsection (g) of Section 93.0233 of the Los Angeles Municipal Code is amended to read as follows:

(g) In addition to the fees charged under Subsection (a) of Section 93.0217 and Subsection (b) of Section 93.0233, when replacing, installing or relocating each fire alarm and signaling system, communication, control or signal system equipment, or portion thereof, the Department may collect a plan check fee as specified in LAMC Section 98.0415(e).

Sec. 11. The Title and Subsection (a) of Section 93.0235 of the Los Angeles Municipal Code are amended to read as follows:

SEC. 93.0235. FEES FOR WITNESSING TESTS OF EMERGENCY SYSTEMS AND FIRE ALARM AND SIGNALING SYSTEMS.

(a) The fees for conducting or witnessing the original test of an Emergency System or Fire Alarm and Signaling System shall be collected as specified in Section 98.0412(f) for each inspector. The fees required by this subsection shall be in addition to the fees required elsewhere in the Code (see Section 93.0307(c) of this Code).

Sec. 12. Section 93.0313 of the Los Angeles Municipal Code is added to read as follows:

SEC. 93.0313. WIRING STANDARDS.

By special permission, premises wiring not covered by this Code may be installed per recognized provisions of wiring standards approved by the Department.

Sec. 13. Paragraph 3 of Subsection (a) of Section 93.0403 of the Los Angeles Municipal Code is added to read as follows:

3. No used, reconditioned, or refurbished molded or electronic trip molded case circuit breakers.

Sec. 14. The first unnumbered paragraph of Section 93.0600 of the Los Angeles Municipal Code is amended to read as follows:

Chapter 1 of the 2013 CEC is adopted by reference for the purpose of providing definitions and requirements for electrical installations with the following additions and amendments and as specifically provided herein.

Sec. 15. Section 93.0600 of the Los Angeles Municipal Code is amended by adding the definition of the terms "DESIGN LOAD" in proper alphabetical sequence to read as follows:

DESIGN LOAD. The maximum connected and expected future loads. This load shall not exceed the branch circuit, feeder or service respective overcurrent protective devices or conductor ratings.

Sec. 16. Section 93.0600 of the Los Angeles Municipal Code is amended by deleting the term "FIRE WARNING SYSTEM," and replacing it with a new term and definition as follows:

FIRE ALARM AND SIGNALING SYSTEM. A system or portion of a system that consists of equipment and circuits arranged to monitor, supervise (or

unsupervised), and annunciate the status of the system by indicating appliances (i.e., bell, horn, speaker, light, or text display, etc.) as a result of the activation of any signal initiation device (i.e., manual pull station, water flow switch, smoke detector, heat detector, etc.); provide emergency communications systems (when installed or required); and to control emergency control functions (i.e., fan control, smoke damper operation, elevator recall, elevator power shutdown, door holder release, shutter release, door unlocking, etc.) when required. These systems may incorporate an approved means (such as a dialer) to inform the status of the system to a remote location.

Sec. 17. Section 93.0600 of the Los Angeles Municipal Code is amended by deleting the term "RESIDENTIAL" in its entirety.

Sec. 18. Paragraph 1 of Section 93.0700 of the Los Angeles Municipal Code is amended to read as follows:

Chapters 1 through 9, Annex C, H, G and I of the 2011 Edition of the National Electrical Code (N.E.C.), as published by the National Fire Protection Association (N.F.P.A. 70-2011), the 2013 California Electrical Code and the California Building Standards Code are adopted by reference as part of the Code. When there is a conflict between the 2011 National Electrical Code, the 2013 California Electrical Code and the Los Angeles Municipal Code, Section 93.0105 shall prevail. Except as specified in Divisions 1 through 6 of Article 3, Chapter IX of the Los Angeles Municipal Code, all electrical installations and materials shall be in conformity with the 2013 California Electrical Code, as adopted by reference to be part of this Code and Sections 93.515.17 and 93.515.18 are added as provided here.

Sec. 19. Subsection 93.515-17 of Section 93.0700 of the Los Angeles Municipal Code is renumbered to read as follows:

93.515.17. OIL AND GAS WELLS.

Sec. 20. Subsection 93.515-18 of Section 93.0700 of the Los Angeles Municipal Code is renumbered to read as follows:

93.515.18. BULK-STORAGE PLANTS-TANKER LOADING DOCKS.

Sec. 21. **Urgency Clause**. The City Council finds and declares that this Ordinance is required for the immediate protection of the public peace, health and safety for the following reason: In order for the City of Los Angeles to facilitate a seamless transition with the State of California and its Electrical Code and maintain predictability and streamlined case processing for the benefit of economic development during distressed times, it is necessary to immediately adopt the foregoing exceptions, modifications and additions to the California Electrical Code. Additionally, the California Electrical Code becomes effective on January 1, 2014 and the amendments to that code as reflected herein must be adopted by the City Council and become effective as

soon as possible. The Council, therefore, with the Mayor's concurrence, adopts this ordinance to become effective upon publication pursuant to Los Angeles City Charter Section 253.

Sec. 22. The City Clerk shall certify to the passage of this ordinance and have it published in accordance with Council policy, either in a daily newspaper circulated in the City of Los Angeles or by posting for ten days in three public places in the City of Los Angeles: one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall; one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall East; and one copy on the bulletin board located at the Temple Street entrance to the Los Angeles County Hall of Records.

I hereby certify that this ordinance was passed by the Council of the City of Los Angeles, by a vote of not less than three-fourths of all of its members, at its meeting of DEC 17 2013.

HOLLY L. WOLCOTT, Interim City Clerk

By _____
Deputy

Approved DEC 23 2013

_____
Mayor
ACTING

Approved as to Form and Legality

MICHAEL N. FEUER, City Attorney

By _____
KIM RODGERS WESTHOFF
Deputy City Attorney

Date 12/10/13

File No. CF 13-1214

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CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

RAYMOND S. CHAN, C.E., S.E.
SUPERINTENDENT OF BUILDING
INTERIM GENERAL MANAGER

January 30, 2014

Council File No. 13-1214

Jim McGowan, Executive Director
California Building Standards Commission
2525 Natomas Park Drive, Suite 130
Sacramento, CA 95833-2936

FILING OF EXPRESS FINDINGS AND DETERMINATION PERSUANT TO SECTION 17958.7 OF THE HEALTH AND SAFETY CODE

On December 17, 2013, the Los Angeles City Council adopted an ordinance to amend the Los Angeles Municipal Code (LAMC) by incorporating portions of the 2012 International Residential Code and the 2013 California Residential Code and adopt the findings that make the modifications to the California Residential Code to be reasonably necessary because of local climatic, geological or topographical conditions.

Enclosed with this transmittal is a copy of the findings along with the modifications (the ordinance) to the California Residential Code. The Department of Building and Safety, City of Los Angeles will consider this as complying with Section 17958.7 of the Health and Safety Code.

If you have any questions regarding this matter, please contact the Code Engineer, Mr. Victor Cuevas at (213) 482-0409.

RAYMOND S. CHAN, C.E., S.E.
Interim General Manager

Attachments

FINDINGS AND DETERMINATIONS

Findings and Determinations to support the proposed amendments regarding the adoption of the **2013 California Building Residential Code (CRC).**

WHEREAS, the City of Los Angeles has **geological conditions**, such as earthquake faults. The City of Los Angeles is bounded on the east by the San Andreas Fault and interlaced with other earthquake faults, which run through, adjacent and under the City; and

WHEREAS, the City is located in Seismic Zone 4, which is considered by experts to be the most seismically active of the four seismic zones in the world; and

WHEREAS, seismic experts predict a massive earthquake on one of these faults within the next 30 years and several earthquakes similar in intensity to the Northridge Earthquake during the same period; and

WHEREAS, the 1994 Northridge Earthquake which was a moderate size (6.8 magnitude) earthquake caused extensive damage to buildings and structures, including damage to more than 115,000 buildings, moderate to major damage to more than 3,000 buildings and the vacating of about 21,000 residential units including 2,000 homes; and

WHEREAS, there were 57 people who lost their lives in the earthquake, but there could have been several thousand fatalities had the earthquake occurred at midday when most buildings were occupied instead of 4:31 in the morning; and

WHEREAS, massive earthquakes pose unusual and extraordinary stresses on buildings and structures requiring more stringent building regulations than would otherwise be required; and

WHEREAS, a major earthquake would break water lines making fire fighting more difficult and would break gas lines and electric lines, making a high risk of fires breaking out in all areas of the City; and

WHEREAS, there was a fire in the Fairfax Area of the City of Los Angeles in 1986, due to the high volume of methane gas seepage through cracks in the concrete floor of a building; and

WHEREAS, in 1999, large pockets of methane gas in the subsurface geological formation was discovered in various areas of Los Angeles; and

WHEREAS, the City of Los Angeles has **topographic conditions**, natural and man-made, such as the natural hills, mountains and the coastal region, as well as the man-made harbors and highly concentrated areas of high-rise buildings.

WHEREAS, the City of Los Angeles is situated in a coastal region of hills and mountains containing dry wild native brush and other native and non-native vegetation; and

WHEREAS, this region of flat land and hillside areas creates a natural basin, which has high strong winds alongside foothills and other areas of the City; and

WHEREAS, in 1982 fires in the flat areas of neighboring Orange County were spread from one wood shake and wood shingle roof covered building to the next wood shake and wood shingle roof covered building by the strong Santa Ana winds, and

WHEREAS, the dry brush areas of the local Santa Monica hillsides and the strong canyon winds or the dry Santa Ana winds contributed to past fires in the Los Angeles area, such as, the 1961 Bel Air and Brentwood Canyon, 1977 Topanga Canyon and 1993 Malibu Canyon fires, and

WHEREAS, widespread fires caused by either earthquakes or brush fires would impact the capabilities of the Fire Department to effectively respond to all the fires; and

WHEREAS, the highly concentrated area of high-rise buildings, traffic congestion and possible gridlock may jeopardize the quick response to fires by the Fire Department that could reduce the amount of damage to buildings and increase the number of lives saved; and

WHEREAS, the mountainous terrain is now identified as the Very High Fire Hazard Severity Zone and the highly concentrated area of high-rise buildings is identified as Fire District 1; and

WHEREAS, the City of Los Angeles has **climatic conditions** that is subject to a mild winter to an extremely hot summer desert-like climate that has hot, dry (Santa Ana) winds that make the temperature rise and the humidity drop, increasing the fire danger to all exposed combustible materials; and

WHEREAS, the City of Los Angeles has a population of more than 3,700,000 people spread over more than 450 square miles; and

WHEREAS, widespread fires caused by either earthquakes or brush fires would limit the capabilities of the Fire Department to effectively respond to all the fires; and

WHEREAS, quick response to fires by the Fire Department will reduce the amount of damage to buildings and increase the number of lives saved; and

WHEREAS, the City of Los Angeles has a population of more than 3,700,000 people spread over more than 450 square miles; and

NOW, THEREFORE, in order to provide adequate protection under the local climatic, geological and topographical conditions set forth above, the City of Los Angeles makes the following findings and determinations:

Section 91.5.101 is an **administrative amendment** necessary to clarify the adoption of the entire Article 1, Division 1 of Chapter IX of the Los Angeles Municipal Code (LAMC), as it appears in the Los Angeles Building Code.

Section 91.5.301.1.4 is a **technical amendment** necessary for buildings constructed on hillsides, due to the local topographical and geological conditions of the sites within the Los Angeles/Long Beach region and their probabilities for earthquakes. This amendment is required to address and clarify special needs for buildings constructed on the hillside locations. A joint Structural Engineers Association of Southern California (SEAOSC), Los Angeles County and Los Angeles City Task Force investigated the performance of hillside building failures after the Northridge earthquake. Numerous hillside failures resulted in loss of life and millions of dollars in damage. This criteria, was developed to minimize the damage to structures which have been in use for several years. This amendment is required to address and clarify special needs for buildings constructed on the hillside locations. A joint Structural Engineers Association of Southern California (SEAOSC), Los Angeles County and Los Angeles City Task Force investigated the performance of hillside building failures after the Northridge earthquake. Numerous hillside failures resulted in loss of life and millions of dollars in damage. These criteria were developed to minimize the damage to these structures and have been in use by the City of LA for several years.

Section 91.5.301.2.2.3.5.1 is an **administrative amendment** necessary clarify that the section has been deleted entirely and the section of the CRC in adopted.

Section 91.5.301.2.2.3.5.1 is an **administrative amendment** necessary clarify that the section has been deleted entirely and the section of the CRC in adopted.

Section 91.5.301.2.2.3.8 is an **administrative amendment** necessary since there is no limitation for weight of mechanical and plumbing fixtures and equipment in the International Residential Code. Requirements from ASCE 7 and the International Building Code would permit equipment weighing up to 400 lbs. when mounted at 4 feet or less above the floor or attic level without engineering design. Where equipment exceeds this requirement, it is the intent of this proposed amendment that a registered design professional be required to analyze if the floor support is adequate and structurally sound.

Section 91.5.401.1 is a **technical amendment** necessary to limit the use of wood foundations. Wood foundations, even those that are preservative-treated, encounter a higher risk of deterioration when contacting the adjacent ground. The required seismic anchorage and transfer of lateral forces into the foundation system for 2-story structures and foundation walls could become compromised at varying states of wood decay. In addition, global structure overturning moment and sliding resistance is reduced when utilizing wood foundations as opposed to conventional concrete or masonry systems. However, non-occupied, single story storage structures pose significantly less risk to human safety and should be able to utilize wood foundation guidelines specified in this chapter. The proposed amendment is consistent with past local code limitations in the use of wood foundations in habitable structures

Section 91.5.501.1 is a **technical amendment** necessary to establish equipment weight limits not found in the CRC. However, requirements of ASCE 7-05 and CBC are necessary to limit equipment weight up to 400lb, mounted at 4 feet or less above the floor or attic level without engineering design.

Tables 91.5.R602.3(1) and 91.5.R602.3(2) are an **technical amendment** necessary to limit the use of Staples due to geological conditions. The Structural Engineers Association of Southern California (SEAOSC) and the Los Angeles City Joint Task Force that investigated the damages to buildings and structures during the 1994 Northridge Earthquake recommended reducing allowable shear values in wood structural panel shear walls or diaphragms that were not substantiated by cyclic testing. That recommendation was consistent with a report to the Governor from the Seismic Safety Commission of the State of California recommending that code requirements be "more thoroughly substantiated with testing." The allowable shear values for wood structural panel shear walls or diaphragms fastened with staples are based on monotonic testing and does not take into consideration that earthquake forces load shear wall or diaphragm in a repeating and fully reversible manner.

Section 91.5.602.3.2 is a **technical amendment** necessary to clarify that in other than Seismic Design Category D_0, D_1, or D_2, a single top plate is permitted in stud walls. Since this region has high seismic activity, only buildings which are located outside of the above noted Seismic Design Categories are exempt from complying with this requirement.

Section 91.5.602.10.2.3 is a **technical amendment** necessary due to the high geologic activities in the Southern California area and the expected higher level of performance on buildings and structures, this local amendment provides a minimum of braced walls with minimum dimensions for wall lengths less than 16 and great than 16 feet in length. The poor performance of buildings with little or no walls sheathed with other

materials in the 1994 Northridge Earthquake was investigated by the Structural Engineers Association of Southern California (SEAOSC) and the Los Angeles City Task Force. The cities and county of the Los Angeles region have taken extra measures to maintain the structural integrity of the framing of the shear walls when designed for high levels of seismic loads. In addition, this proposed amendment is consistent with the conventional framing provisions of the 2009 International Building Code

Figure 91.5.602.10.3.2 is a **technical amendment** necessary due to the high geologic activities in the Southern California area and the expected higher level of performance on buildings and structures, this local amendment requires that a minimum 15/32 inch Structural Panel be provided for shear walls. The poor performance of buildings with 3/8 inch shear wall panels did not perform well during the 1994 Northridge Earthquake. This issue was investigated by the Structural Engineers Association of Southern California (SEAOSC) and the Los Angeles City Task Force. The cities and county of the Los Angeles region have taken extra measures to maintain the structural integrity of the framing of the shear walls when designed for high levels of seismic loads. In addition, this proposed amendment is consistent with the conventional framing provisions of the 2009 International Building Code.

Table 91.5.602.10.3(3) is a **technical amendment** necessary due to the high geologic activities in the Southern California area and the expected higher level of performance on buildings and structures, this proposed local amendment increase the length and limits the location where shear walls sheathed with lath, plaster or gypsum board are used in multi-level buildings. In addition, shear walls sheathed with other materials are prohibited in Seismic Design Category D0, D1 and D2 to be consistent with the design limitation for similar shear walls found in the California Building Code. The poor performance of such shear walls in the 1994 Northridge Earthquake was investigated by the Structural Engineers Association of Southern California (SEAOSC) and the Los Angeles City Task Force and formed the basis for this proposed amendment. Considering that shear walls sheathed with lath, plaster or gypsum board are less ductile than steel moment frames or wood structural panel shear walls, the cities and county of the Los Angeles region has taken the necessary measures to limit the potential structural damage that may be caused by the use of such walls at the lower level of multi-level building that are subject to higher levels of seismic loads. This proposed amendment is a continuation of an amendment adopted during the previous code adoption cycle.

Table 91.5.602.10.4 is a **technical amendment** necessary due to the fact that 3/8" thick 3 ply-plywood shear walls experienced many failures during the Northridge Earthquake. Box nails were observed to cause massive and

multiple failures of the typical 3/8" thick 3-ply plywood during the Northridge Earthquake. This proposed amendment specifies minimum sheathing thickness, nail size and spacing so as to provide a uniform standard of construction for designers and buildings to follow. This is intended to improve the performance level of buildings and structures that are subject to the higher seismic demands and reduce and limit potential damages to property. This proposed amendment reflects the recommendations by the Structural Engineers Association of Southern California (SEAOSC) and the Los Angeles City Joint Task Force that investigated the poor performance observed in 1994 Northridge Earthquake.

In September 2007, limited cyclic testing was conducted by a private engineering firm to determine if wood structural panels fastened with staples would exhibit the same behavior as the wood structural panels fastened with common nails. The test result revealed that wood structural panel fastened with staples appeared to be much lower in strength and stiffness than wood structural panels fastened with common nails. It was recommended that the use of staples as fasteners for wood structural panel shear walls or diaphragms not be permitted to resist seismic forces in structures assigned to Seismic Design Category D0, D1 and D2 unless it can be substantiated by cyclic testing.

This proposed amendment is a continuation of an amendment adopted during the previous code adoption cycle.

Figure 91.5.602.10.6.2 is a **technical amendment** necessary due to the fact that 3/8" thick 3 ply-plywood shear walls experienced many failures during the Northridge Earthquake. Box nails were observed to cause massive and multiple failures of the typical 3/8" thick 3-ply plywood during the Northridge Earthquake. This proposed amendment specifies minimum sheathing thickness, nail size and spacing so as to provide a uniform standard of construction for designers and buildings to follow. This is intended to improve the performance level of buildings and structures that are subject to the higher seismic demands and reduce and limit potential damages to property. This proposed amendment reflects the recommendations by the Structural Engineers Association of Southern California (SEAOSC) and the Los Angeles City Joint Task Force that investigated the poor performance observed in 1994 Northridge Earthquake. This proposed amendment is a continuation of an amendment adopted during the previous code adoption cycle.

Sections 91.5.602.10.3.3 through 91.5.602.10.4.1.1 are an **administrative amendment** to clarify that the previous local amended sections have been eliminated and the CRC sections are now adopted.

Table 91.5.602.10.5 is a **technical amendment** necessary due to the fact that, It was observed by the Structural Engineer Association of Southern California (SEAOSC) and the Los Angeles City Task Force that high aspect ratio shear walls experienced many failures during the 1994 Northridge Earthquake. This proposed amendment provides a uniform standard of construction for designers and buildings to follow. This is intended to improve the performance level of buildings and structures that are subject to the higher seismic demands and reduce and limit potential damages to property. This proposed amendment is consistent with an amendment adopted during the previous code adoption cycle for the California Residential Code.

Figure 91.5.602.104.1.1 is a **technical amendment** necessary to limit the use of 3/8" thick 3 ply-plywood shear walls since they experienced many failures during the Northridge Earthquake. Box nails were observed to cause massive and multiple failures of the typical 3/8" thick 3-ply plywood during the Northridge Earthquake. This proposed amendment specifies minimum sheathing thickness, nail size and spacing so as to provide a uniform standard of construction for designers and buildings to follow. This is intended to improve the performance level of buildings and structures that are subject to the higher seismic demands and reduce and limit potential damages to property. This proposed amendment reflects the recommendations by the Structural Engineers Association of Southern California (SEAOSC) and the Los Angeles City Joint Task Force that investigated the poor performance observed in 1994 Northridge Earthquake. This proposed amendment is a continuation of an amendment adopted during the previous code adoption cycle.

Section 91.5.603.2.4 is **a technical amendment** necessary to correct the term "one", which conflicts with Table R603.2.4, whereas in the table it states the "thinnest connected steel sheet". The term "one" in the code language can misleadingly be interpreted as though one of the sheets can be 33 mils and the other sheet thicker, but that you still qualify for a reduction factor; this is not the intent of the tables.

Table 91.5.802.5.1(9) is a **technical amendment** necessary to prevent wood splitting. The number of nails required for the heel joint connection per this Table can be excessive depending on the rafter slope, spacing, and roof span. This footnote will help to prevent splitting of connecting wood members when large numbers of nail are required as stated in the National Design Specification for Wood Construction (NDS).

The proposed modification to require connecting members to be of sufficient size will help to prevent splitting 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

[file: Findings and Determinations for Residential Code - Final]

ORDINANCE NO. 182845

An ordinance amending Article 1.5, Chapter IX of the Los Angeles Municipal Code to reflect local administrative changes and incorporate by reference portions of the 2013 Edition of the California Residential Code (CRC).

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

Section 1. Section 91.5.101 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.5.101. TITLE.

Article 1.5 of Chapter IX of the Los Angeles Municipal Code shall collectively be known as the Los Angeles Residential Code or LARC. The provisions of the LARC for one- and two-family dwellings shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of detached one- and two-family dwellings, efficiency dwelling units, and townhouses not more than three stories above grade plane in height with a separate means of egress and their accessory structures. In addition to the LARC, Chapters 1, 11A, 11B, 17, 34, 63, 67, 70, 71, 72, 81, 89, 92, 93 and 96, and Section 3109 of the Los Angeles Building Code or LABC shall also be applicable to one- and two-family dwellings, efficiency dwelling units, and townhouses unless stated otherwise. Wherever the word "Code" is used in this Article, it shall mean the Los Angeles Building Code (LABC).

The LABC and the LARC adopt by reference portions of the 2013 California Building Code (CBC) or the 2013 California Residential Code (CRC) respectively.

EXCEPTION:

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

2. Owner-occupied lodging houses with five or fewer guestrooms shall be permitted to be built in accordance with the California Residential Code for one- and two-family dwellings when equipped with a fire sprinkler system in accordance with Section R313.

Sec. 2. Section 91.5.301.1.4 of the Los Angeles Municipal Code is amended to read as follows:

91.5.301.1.4. 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 91.1613.8 of the Los Angeles Municipal Code.

Sec. 3. Section 91.5.301.2.2.3.5.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 4. Section 91.5.301.2.2.3.8 of the Los Angeles Municipal Code is added to read as follows:

91.5.301.2.2.3.8. 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.

Sec. 5. The first paragraph of Section 91.5.401.1 of the Los Angeles Municipal Code is amended to read as follows:

91.5.401.1. Application. The provisions of this Division shall control the design and construction of the foundation and foundation spaces for all buildings. In addition to the provisions of this Division, the design and construction of foundations in flood hazard areas as established by Table 91.5.301.2(1) shall meet the provisions of Section R322. Wood foundations shall be designed and installed in accordance with AF&PA PWF.

Sec. 6. Section 91.5.501.1 of the Los Angeles Municipal Code is amended to read as follows:

91.5.501.1. Application. The provisions of this Division 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 91.5.301.2.2.3.8.

Sec. 7. Section 91.5.600 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.5.600. BASIC PROVISIONS.

Chapter 6 of the CRC is hereby adopted by reference with the exceptions, modifications and additions set forth below. Additionally, Section R602.10.9.1 from the 2013 California Building Code is not adopted.

Sec. 8. Table 91.5.602.3(1) of the Los Angeles Municipal Code is amended to read as follows:

TABLE 91.5.602.3(1)

Fastener Schedule For Structural Members

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER [a, b, c]	SPACING OF FASTENERS
	Roof		
1	Blocking between joists or rafters to top plate, toe nail	3-8d ($2^1/_2$" × 0.113")	—
2	Ceiling joists to plate, toe nail	3-8d ($2^1/_2$" × 0.113")	—
3	Ceiling joists not attached to parallel rafter, laps over partitions, face nail	3-10d	—
4	Collar tie to rafter, face nail or $1^1/_4$" × 20 gauge ridge strap	3-10d (3" × 0.128")	—
5	Rafter or roof truss to plate, toe nail	3-16d box nails ($3^1/_2$" × 0.135") or 3-10d common nails (3" × 0.148")	2 toe nails on one side and 1 toe nail on opposite side of each rafter or truss[j]
6	Roof rafters to ridge, valley or hip rafters: toe nail face nail	4-16d ($3^1/_2$" × 0.135") 3-16d ($3^1/_2$" × 0.135")	—
	Wall		
7	Built-up studs-face nail	10d (3" × 0.128")	24" o.c.
8	Abutting studs at intersecting wall corners, face nail	16d ($3^1/_2$" × 0.135")	12" o.c.
9	Built-up header, two pieces with $^1/_2$" spacer	16d ($3^1/_2$" × 0.135")	16" o.c. along each edge

10	Continued header, two pieces	16d ($3^1/_2$" × 0.135")	16" o.c. along each edge
11	Continuous header to stud, toe nail	4-8d ($2^1/_2$" × 0.113")	—
12	Double studs, face nail	10d (3" × 0.128")	24" o.c.
13	Double top plates, face nail	10d (3" × 0.128")	24" o.c.
14	Double top plates, minimum 24-inch offset of end joints, face nail in lapped area	8-16d ($3^1/_2$" × 0.135")	—
15	Sole plate to joist or blocking, face nail	16d ($3^1/_2$" × 0.135")	16" o.c.
16	Sole plate to joist or blocking at braced wall panels	3-16d ($3^1/_2$" × 0.135")	16" o.c.
17	Stud to sole plate, toe nail	3-8d ($2^1/_2$" × 0.113") or 2-16d ($3^1/_2$" × 0.135")	—
18	Top or sole plate to stud, end nail	2-16d ($3^1/_2$" × 0.135")	—
19	Top plates, laps at corners and intersections, face nail	2-10d (3" × 0.128")	—
20	1" brace to each stud and plate, face nail	2-8d ($2^1/_2$" × 0.113") 2 staples 1 $^3/_4$" ×	—
21	1" × 6" sheathing to each bearing, face nail	2-8d ($2^1/_2$" × 0.113") 2 staples 1 $^3/_4$"	—
22	1" × 8" sheathing to each bearing, face nail	2-8d ($2^1/_2$" × 0.113") 3 staples 1 $^3/_4$	—
23	Wider than 1" × 8" sheathing to each bearing, face nail	3-8d ($2^1/_2$" × 0.113") 4 staples $1^3/_4$"	—
	Floor		
24	Joist to sill or girder, toe nail	3-8d ($2^1/_2$" × 0.113")	—
25	Rim joist to top plate, toe nail (roof applications also)	8d ($2^1/_2$" × 0.113")	6" o.c.
26	Rim joist or blocking to sill plate, toe nail	8d ($2^1/_2$" × 0.113")	6" o.c.
27	1" × 6" subfloor or less to each joist, face nail	2-8d ($2^1/_2$" × 0.113") 2 staples $1^3/_4$"	—
28	2" subfloor to joist or girder, blind and face nail	2-16d ($3^1/_2$" × 0.135")	—
29	2" planks (plank & beam - floor & roof)	2-16d ($3^1/_2$" × 0.135")	at each bearing

30	Built-up girders and beams, 2-inch lumber layers	10d (3" × 0.128")	Nail each layer as follows: 32" o.c. at top and bottom and staggered. Two nails at ends and at each splice.
31	Ledger strip supporting joists or rafters	3-16d ($3^1/_2$" × 0.135")	At each joist or rafter

TABLE 91.5.602.3(1)

Continued Fastener Schedule For Structural Members

ITEM	DESCRIPTION OF BUILDING MATERIALS	DESCRIPTION OF FASTENER[b, c, e, k]	SPACING OF FASTENERS	
			Edges (inches)[i]	Intermediate supports[c, e] (inches)
Wood structural panels, subfloor, roof and interior wall sheathing to framing and particleboard wall sheathing to framing				
32	$^3/_8$" - ½"	6d common (2" × 0.113") nail (subfloor wall)[j] 8d common ($2^1/_2$" × 0.131") nail (roof)[f]	6	12[g]
33	$^{19}/_{32}$" – 1"	8d common nail ($2^1/_2$" × 0.131")	6	12[g]
34	$1^1/_8$" - $1^1/_4$"	10d common (3" × 0.148") nail or 8d ($2^1/_2$" × 0.131") deformed nail	6	12
Other wall sheathing[h]				
35	$^1/_2$" structural cellulosic fiberboard sheathing	$1^1/_2$" galvanized roofing nail, $^7/_{16}$" crown or 1" crown staple 16 ga., $1^1/_4$" long	3	6
36	$^{25}/_{32}$" structural cellulosic fiberboard sheathing	$1^3/_4$" galvanized roofing nail, $^7/_{16}$" crown or 1" crown staple 16 ga., $1^1/_2$" long	3	6

37	½" gypsum sheathing[d]	1½" galvanized roofing nail; staple galvanized, 1½" long; 1¼ screws, Type W or S	7	7
38	⅝" gypsum sheathing[d]	1¾" galvanized roofing nail; staple galvanized, 1⅝" long; 1⅝" screws, Type W or S	7	7
	Wood structural panels, combination subfloor underlayment to framing			
39	¾" and less	6d deformed (2" × 0.120") nail or 8d common (2½" × 0.131") nail	6	12
40	⅞" - 1"	8d common (2½" × 0.131") nail or 8d deformed (2½" × 0.120") nail	6	12
41	1⅛" - 1¼"	10d common (3" × 0.148") nail or 8d deformed (2½" × 0.120") nail	6	12

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s; 1 Ksi = 6.895 MPa.

a. All nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 80 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameters larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank diameters of 0.142 inch or less.

b. Staples are 16 gauge wire and have a minimum 7/16-inch on diameter crown width.

c. Nails shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater.

d. Four-foot by 8-foot or 4-foot by 9-foot panels shall be applied vertically.

e. Spacing of fasteners not included in this table shall be based on Table 91.5.602.3(2).

f. For regions having basic wind speed of 110 mph or greater, 8d deformed (2½" × 0.120) nails shall be used for attaching plywood and wood structural panel roof sheathing to framing within minimum 48-inch distance from gable end walls, if mean roof height is more than 25 feet, up to 35 feet maximum.

g. For regions having basic wind speed of 100 mph or less, nails for attaching wood structural panel roof sheathing to gable end wall framing shall be spaced 6 inches on center. When basic wind speed is greater than 100 mph, nails for attaching panel roof sheathing to intermediate supports shall be spaced 6 inches on center for minimum 48-inch distance from ridges, eaves and gable end walls; and 4 inches on center to gable end wall framing.

h. Gypsum sheathing shall conform to ASTM C 1396 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to ASTM C 208.

i. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at all floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking.

j. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule, provide two toe nails on one side of the rafter and toe nails from the ceiling joist to top plate in accordance with this schedule. The toe nail on the opposite side of the rafter shall not be required.

k. Use of Staples in braced wall panels shall be prohibited in Seismic Design Category D_0, D_1, or D_2.

Sec. 9. Table 91.5.602.3(2) of the Los Angeles Municipal Code is amended to read as follows:

TABLE 91.5.602.3(2)
Alternate Attachments To Table 91.5.602.3(1)

NOMINAL MATERIAL THICKNESS (inches)	DESCRIPTION[a, b] OF FASTENER AND LENGTH (inches)	SPACING[c] OF FASTENERS	
		Edges (inches)	Intermediate supports (inches)
Wood structural panels subfloor, roof[g] and wall sheathing to framing and particleboard wall sheathing to framing[f]			
Up to ½	0.097 - 0.099 Nail $2^1/_4$	3	6
$^{19}/_{32}$ and $^5/_8$	0.113 Nail 2	3	6
	0.097 - 0.099 Nail $2^1/_4$	4	8
$^{23}/_{32}$ and ¾	0.097 - 0.099 Nail $2^1/_4$	4	8
1	0.113 Nail $2^1/_4$	3	6
	0.097 - 0.099 Nail $2^1/_2$	4	8
NOMINAL MATERIAL THICKNESS (inches)	**DESCRIPTION[a,b] OF FASTENER AND LENGTH (inches)**	**SPACING[c] OF FASTENERS**	
		Edges (inches)	**Body of panel[d] (inches)**
Floor underlayment; plywood-hardboard-particleboard[f]			
Plywood			
¼ and $^5/_{16}$	$1^1/_4$ ring or screw shank nail-minimum $12^1/_2$ ga. (0.099") shank diameter	3	6
	Staple 18 ga., $^7/_8$, $^3/_{16}$ crown width	2	5
$^{11}/_{32}$, $^3/_8$, $^{15}/_{32}$, and ½	$1^1/_4$ ring or screw shank nail-minimum $12^1/_2$ ga. (0.099") shank diameter	6	8[e]

19/32, 5/8, 23/32 and 3/4	1 1/2 ring or screw shank nail-minimum 12 1/2 ga. (0.099") shank diameter	6	8
	Staple 16 ga. 1 1/2	6	8
Hardboard[f]			
0.200	1 1/2 long ring-grooved underlayment nail	6	6
	4d cement-coated sinker nail	6	6
	Staple 18 ga., 7/8 long (plastic coated)	3	6
Particleboard			
1/4	4d ring-grooved underlayment nail	3	6
	Staple 18 ga., 7/8 long, 3/16 crown	3	6
3/8	6d ring-grooved underlayment nail	6	10
	Staple 16 ga., 1 1/8 long, 3/8 crown	3	6
1/2, 5/8	6d ring-grooved underlayment nail	6	10
	Staple 16 ga., 1 5/8 long, 3/8 crown	3	6

For SI: 1 inch = 25.4 mm.

a. Nail is a general description and may be T-head, modified round head or round head.

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.

c. Nails or staples shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater. Nails or staples shall be spaced at not more than 12 inches on center at intermediate supports for floors.

d. Fasteners shall be placed in a grid pattern throughout the body of the panel.

e. For 5-ply panels, intermediate nails shall be spaced not more than 12 inches on center each way.

f. Hardboard underlayment shall conform to CPA/ANSI A135.4.

g. Specified alternate attachments for roof sheathing shall be permitted for wind speeds less than 100 mph. Fasteners attaching wood structural panel roof sheathing to gable end wall framing shall be installed using the spacing listed for panel edges.

Sec. 10. Section 91.5.602.3.2 of the Los Angeles Municipal Code is added to read as follows.

91.5.602.3.2. Top Plate. Wood stud walls shall be capped with a double top plate installed to provide overlapping at corners and intersections with bearing partitions. End joints in top plates shall be offset at least 24 inches (610 mm). Joints in plates need not occur over studs. Plates shall be not less than 2 inches (51 mm) nominal thickness and have a width at least equal to the width of the studs.

EXCEPTION: In other than Seismic Design Category D_0, D_1 or D_2, a single top plate may be installed in stud walls, provided the plate is adequately tied at joints, corners and interesting walls by a minimum 3 inch by 6 inch by 0.036 inch thick (76 mm by 152 mm by 0.914 mm) galvanized steel plate that is nailed to each wall or segment of wall by six 8d nails on each side, provided the rafters or joists are centered over the studs with a tolerance of no more than 1 inch (25 mm). The top plate may be omitted over lintels that are adequately tied to adjacent wall sections with steel plates or equivalent as previously described.

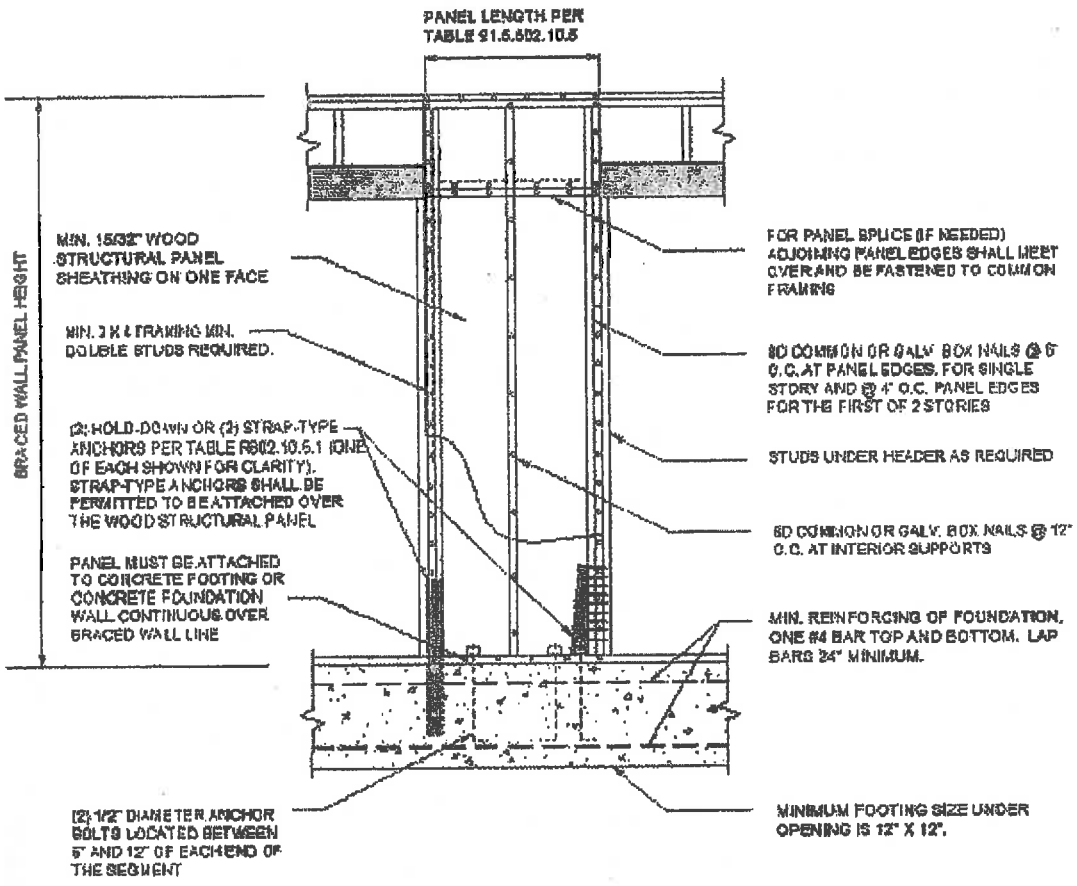
Sec. 11. Table 91.5.602.10.1.2(2) of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 12. Table 91.5.602.10.2 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 13. Section 91.5.602.10.2.3 of the Los Angeles Municipal Code is added to read as follows:

91.5.602.10.2.3. Minimum Number of Braced Wall Panels. Braced wall lines with a length of 16 feet (4877 mm) or less shall have a minimum of two braced wall panels of any length or one braced wall panel equal to 48 inches (1219 mm) or more. Braced wall lines greater than 16 feet (4877 mm) shall have a minimum of two braced wall panels. No braced wall panel shall be less than 48 inches in length in Seismic Design Category D_0, D_1, or D_2.

Sec. 14. Figure 91.5.602.10.3.2 of the Los Angeles Municipal Code is amended to read as follows:



For SI: 1 inch = 25.4 mm.

FIGURE 91.5.602.10.3.2
METHOD ABW – ALTERNATE BRACED WALL PANEL

Sec. 15. Table 91.5.602.10.3(3) of the Los Angeles Municipal Code is added to read as follows:

TABLE 91.5.602.10.3(3)
Bracing Requirements Based On Seismic Design Category

• SOIL CLASS D[b] • WALL HEIGHT = 10 FEET • 10 PSF FLOOR DEAD LOAD • 15 PSF ROOF/CEILING DEAD LOAD • BRACED WALL LINE SPACING ≤ 25 FEET			MINIMUM TOTAL LENGTH (FEET) OF BRACED WALL PANELS REQUIRED ALONG EACH BRACED WALL LINE[a]				
Seismic Design Category	**Story Location**	**Braced Wall Line Length (feet)**	**Method LIB[c]**	**Method GB[e]**	**Methods DWB, SFB, PBS, PCP[e], HPS, CS-SFB[d]**	**Method WSP**	**Methods CS-WSP, CS-G**
C (townhouses only)		10	2.5	2.5	2.5	1.6	1.4
		20	5.0	5.0	5.0	3.2	2.7
		30	7.5	7.5	7.5	4.8	4.1
		40	10.0	10.0	10.0	6.4	5.4
		50	12.5	12.5	12.5	8.0	6.8
		10	NP	4.5	4.5	3.0	2.6
		20	NP	9.0	9.0	6.0	5.1
		30	NP	13.5	13.5	9.0	7.7
		40	NP	18.0	18.0	12.0	10.2
		50	NP	22.5	22.5	15.0	12.8
		10	NP	6.0	6.0	4.5	3.8
		20	NP	12.0	12.0	9.0	7.7
		30	NP	18.0	18.0	13.5	11.5
		40	NP	24.0	24.0	18.0	15.3
		50	NP	30.0	30.0	22.5	19.1

D_0		10	NP	5.6	5.6	1.8	1.6
		20	NP	11.0	11.0	3.6	3.1
		30	NP	16.6	16.6	5.4	4.6
		40	NP	22.0	22.0	7.2	6.1
		50	NP	27.6	27.6	9.0	7.7
		10	NP	NP	NP	3.8	3.2
		20	NP	NP	NP	7.5	6.4
		30	NP	NP	NP	11.3	9.6
		40	NP	NP	NP	15.0	12.8
		50	NP	NP	NP	18.8	16.0
		10	NP	NP	NP	5.3	4.5
		20	NP	NP	NP	10.5	9.0
		30	NP	NP	NP	15.8	13.4
		40	NP	NP	NP	21.0	17.9
		50	NP	NP	NP	26.3	22.3

(continued)

TABLE 91.5.602.10.3(3)

Continued Bracing Requirements Based On Seismic Design Category

• SOIL CLASS D[b] • WALL HEIGHT = 10 FEET • 10 PSF FLOOR DEAD LOAD • 15 PSF ROOF/CEILING DEAD LOAD • BRACED WALL LINE SPACING ≤ 25 FEET			MINIMUM TOTAL LENGTH (FEET) OF BRACED WALL PANELS REQUIRED ALONG EACH BRACED WALL LINE[a]				
Seismic Design Category	**Story Location**	**Braced Wall Line Length (feet)**	**Method LIB[c]**	**Method GB[e]**	**Methods DWB, SFB, PBS, PCP[e], HPS, CS-SFB[d]**	**Method WSP**	**Methods CS-WSP, CS-G**
D_1		10	NP	6.0	6.0	2.0	1.7
		20	NP	12.0	12.0	4.0	3.4
		30	NP	18.0	18.0	6.0	5.1
		40	NP	24.0	24.0	8.0	6.8

		50	NP	30.0	30.0	10.0	8.5
		10	NP	NP	NP	4.5	3.8
		20	NP	NP	NP	9.0	7.7
		30	NP	NP	NP	13.5	11.5
		40	NP	NP	NP	18.0	15.3
		50	NP	NP	NP	22.5	19.1
		10	NP	NP	NP	6.0	5.1
		20	NP	NP	NP	12.0	10.2
		30	NP	NP	NP	18.0	15.3
		40	NP	NP	NP	24.0	20.4
		50	NP	NP	NP	30.0	25.5
D_2		10	NP	8.0	8.0	2.5	2.1
		20	NP	16.0	16.0	5.0	4.3
		30	NP	24.0	24.0	7.5	6.4
		40	NP	32.0	32.0	10.0	8.5
		50	NP	40.0	40.0	12.5	10.6
		10	NP	NP	NP	5.5	4.7
		20	NP	NP	NP	11.0	9.4
		30	NP	NP	NP	16.5	14.0
		40	NP	NP	NP	22.0	18.7
		50	NP	NP	NP	27.5	23.4
		10	NP	NP	NP	NP	NP
		20	NP	NP	NP	NP	NP
		30	NP	NP	NP	NP	NP
		40	NP	NP	NP	NP	NP
		50	NP	NP	NP	NP	NP
	Cripple wall below one- or two-story dwelling	10	NP	NP	NP	7.5	6.4
		20	NP	NP	NP	15.0	12.8
		30	NP	NP	NP	22.5	19.1
		40	NP	NP	NP	30.0	25.5
		50	NP	NP	NP	37.5	31.9

For SI: 1 inch = 25.4 mm, 1 footÂ = 305 mm, 1 pound per square foot = 0.0479 kPa.

a. Linear interpolation shall be permitted.

b. Wall bracing lengths are based on a soil site class "D."Â Interpolation of bracing length between the S_{ds} values associated with the Seismic Design Categories shall be permitted when a site-specific S_{ds} value is determined in accordance with Section 1613.3 of the *International Building Code*.

c. Method LIB shall have gypsum board fastened to at least one side with nails or screws per Table R602.3(1) for exterior sheathing or Table R702.3.5 for interior gypsum board. Spacing of fasteners at

panel edges shall not exceed 8 inches.

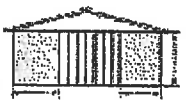
d. Method CS-SFB applies in SDC C only.

e. Methods GB and PCP braced wall panel h/w ratio shall not exceed 1:1 in SDC D_0, D_1, and D_2. Methods DWB, SFB, PBS, and HPS are not permitted in SDC D_0, D_1, and D_2.

Sec. 16. Table 91.5.602.10.4 of the Los Angeles Municipal Code is added to read as follows:

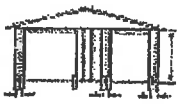
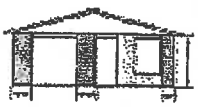
TABLE 91.5.602.10.4
Bracing Methods [f]

METHODS, MATERIAL		MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA[a]	
				Fasteners	Spacing
Intermittent Bracing Method	**LIB** Let-in-bracing	1 × 4 wood or approved metal straps at 45° to 60° angles for maximum 16" stud spacing		Wood: 2-8d common nails or 3-8d ($2^1/_2$" long x 0.113" dia.) nails	Wood: per stud and top and bottom plates
				Metal strap: per manufacturer	Metal: per manufacturer
	DWB Diagonal wood boards	$^3/_4$"(1" nominal) for maximum 24" stud spacing		2-8d ($2^1/_2$" long × 0.113" dia.) nails or 2 - $1^3/_4$" long staples	Per stud
	WSP Wood structural panel (See Section R604)	15/32"		Exterior sheathing using 8d common nails (2.5"x 0.131") per Table R602.3(3)	6" edges 12" field
				Interior sheathing per Table 91.5.602.3(1) or 91.5.602.3(2)	Varies by fastener

	BV-WSP [e] Wood Structural Panels with Stone or Masonry Veneer (See Section R602.10.6.5)	15/32"	See Figure R602.10.6.5	8d common ($2^1/_2$" × 0.131") nails	4" at panel edges 12"at intermediate supports 4"at braced wall panel end posts
	SFB Structural fiberboard sheathing	$^1/_2$" or $^{25}/_{32}$" for maximum 16" stud spacing		$1^1/_2$" long × 0.12" dia. (for $^1/_2$" thick sheathing) $1^3/_4$" long × 0.12" dia. (for $^{25}/_{32}$" thick sheathing) galvanized roofing nails or 8d common ($2^1/_2$" long × 0.131" dia.) nails	3" edges 6" field
	GB Gypsum board	$^1/_2$"		Nails or screws per Table 91.5.602.3(1) for exterior locations Nails or screws per Table R702.3.5 for interior locations	For all braced wall panel locations: 7" edges (including top and bottom plates) 7" field
	PBS Particleboard sheathing (See Section R605)	$^3/_8$" or $^1/_2$" for maximum 16 stud spacing		For $^3/_8$", 6d common (2" long × 0.113" dia.) nails For $^1/_2$", 8d common ($2^1/_2$" long × 0.131" dia.) nails	3" edges 6" field

	PCP Portland cement plaster	See Section R703.6 for maximum 16 stud spacing		$1^1/_2$" long, 11 gage, $^7/_{16}$" dia. head nails	6"o.c. on all framing members
	HPS Hardboard panel siding	$^7/_{16}$" for maximum 16" stud spacing		0.092" dia., 0.225" dia. head nails with length to accommodate $1^1/_2$" penetration into studs	4" edges 8" field
	ABW Alternate braced wall	15/32"		See Section R602.10.6.1	See Section R602.10.6.1

TABLE 91.5.602.10.4
Continued Bracing Methods [f]

METHODS, MATERIAL		MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA[a]	
				Fasteners	Spacing
Intermittent Bracing Methods	**PFH** Portal frame with hold-downs	15/32"		See Section R602.10.6.2	See Section R602.10.6.2
	PFG Portal frame at garage	15/32"		See Section R602.10.6.3	See Section R602.10.6.3
Continuous Sheathing Methods	**CS-WSP** Continuously sheathed wood structuralÂ panel	15/32"		Exterior sheathing per Table R602.3(3)	6" edges 12" field
				Interior sheathing per Table 91.5.602.3(1) or 91.5.602.3(2)	Varies by fastener

	CS-G[b, c] Continuously sheathed wood structural panel adjacent to garage openings	15/32"		See Method CS-WSP	See Method CS-WSP
	CS-PF Continuously sheathed portal frame	15/32"		See Section R602.10.6.4	See Section R602.10.6.4
	CS-SFB[d] Continuously sheathed structural fiberboard	$^1/_2$" or $^{25}/_{32}$" for maximum 16" stud spacing		$1^1/_2$" long × 0.12" dia. (for $^1/_2$" thick sheathing) $1^3/_4$" long × 0.12" dia. (for $^{25}/_{32}$" thick sheathing) galvanized roofing nails or 8d common ($2^1/_2$" long × 0.131" dia.) nails	3" edges 6" field

For SI: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 degree = 0.0175 rad, 1 pound per square foot = 47.8 N/m^2, 1 mile per hour = 0.447 m/s.

a. Adhesive attachment of wall sheathing, including Method GB, shall not be permitted in Seismic Design Categories C, D_0, D_1 and D_2.

b. Applies to panels next to garage door opening when supporting gable end wall or roof load only. May only be used on one wall of the garage. In Seismic Design Categories D_0, D_1 and D_2, roof covering dead load may not exceed 3 psf.

c. Garage openings adjacent to a Method CS-G panel shall be provided with a header in accordance with Table R502.5(1). A full height clear opening shall not be permitted adjacent to a Method CS-G panel.

d. Method CS-SFB does not apply in Seismic Design Categories D_0, D_1 and D_2 and in areas where the wind speed exceeds 100 mph.

e. Method applies to detached one- and two-family dwellings in Seismic Design Categories D_0 through D_2 only.

f. Methods GB and PCP braced wall panel h/d ratio shall not exceed 1:1 in SDC D_0, D_1, and, D_2. Methods LIB, DWB, SFB, PBS, HPS, and PFG are not permitted in SDC D_0, D_1, and, D_2.

Sec. 17. Figure 91.5.602.10.3.3 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 18. Figure 91.5.602.10.6.2 of the Los Angeles Municipal Code is added to read as follows:

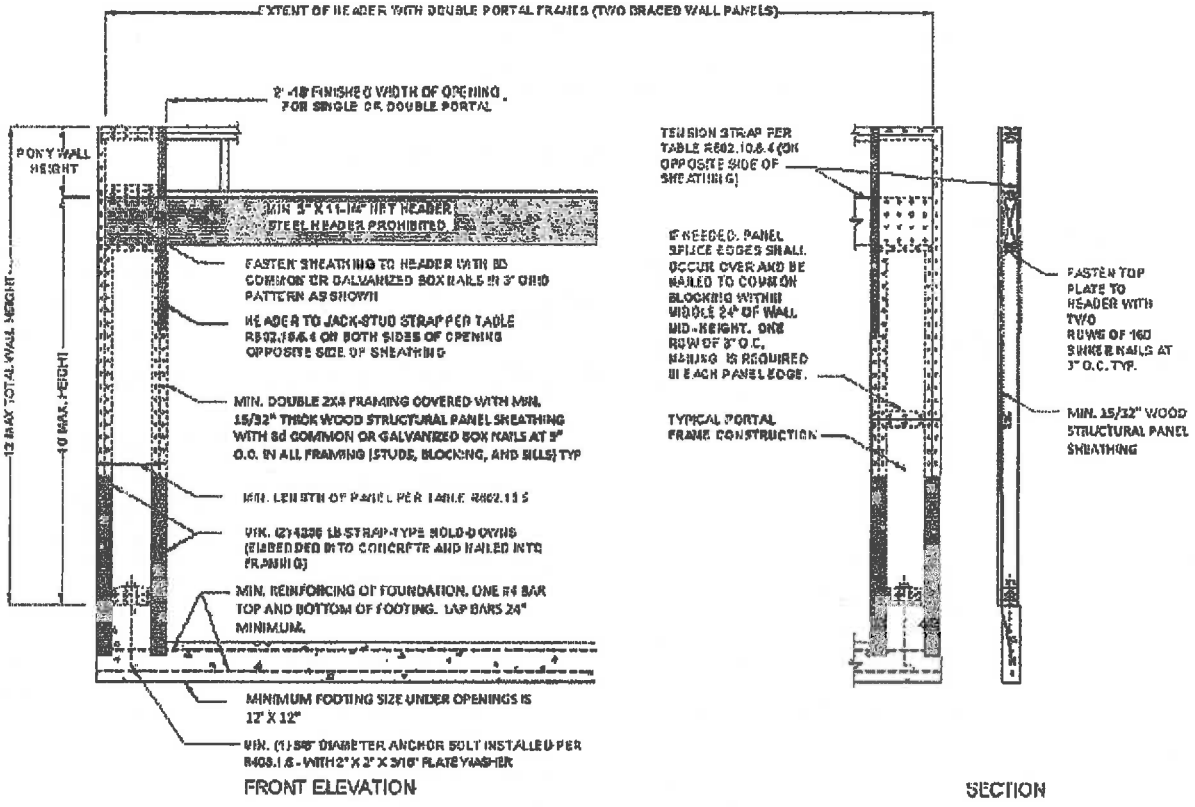


FIGURE 91.5.602.10.6.2
METHOD PFH – PORTAL FRAME WITH HOLD-DOWNS AT GARAGE DOOR OPENINGS

Sec. 19. Section 91.5.602.10.3.3 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 20. Table 91.5.602.10.4.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 21. Figure 91.5.602.10.4.1.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 22. Table 91.5.602.10.5 of the Los Angeles Municipal Code is added to read as follows:

TABLE 91.5.602.10.5

Minimum Length Of Braced Wall Panels

METHOD (See Table R602.10.4)		MINIMUM LENGTH[a] (inches)					CONTRIBUTING LENGTH (inches)
		Wall Height					
		8 feet	9 feet	10 feet	11 feet	12 feet	
DWB, WSP, SFB, PBS, PCP, HPS, BV-WSP		48	48	48	53	58	Actual[b]
GB		48	48	48	53	58	Double sided = Actual Single sided = 0.5 × Actual
LIB		55	62	69	NP	NP	Actual[b]
ABW	SDC A, B and C, wind speed < 110 mph	28	32	34	38	42	48
	SDC D_0, D_1 and D_2, wind speed < 110 mph	32	32	34	NP	NP	
PFH	Supporting roof only	24	24	24	24[c]	24[c]	48
	Supporting one story and roof	24	24	24	27[c]	29[c]	48
PFG		24	27	30	33[d]	36[d]	1.5 × Actual[b]
CS-G		24	27	30	33	36	Actual[b]
CS-PF		24	24	24	24[e]	24[e]	Actual[b]

CS-WSP, CS-SFB	Adjacent clear opening height (inches)						
	≤ 64	24	27	30	33	36	Actual[b]
	68	26	27	30	33	36	
	72	27	27	30	33	36	
	76	30	29	30	33	36	
	80	32	30	30	33	36	
	84	35	32	32	33	36	
	88	38	35	33	33	36	
	92	43	37	35	35	36	
	96	48	41	38	36	36	
	100	—	44	40	38	38	
	104	—	49	43	40	39	
	108	—	54	46	43	41	
	112	—	—	50	45	43	
	116	—	—	55	48	45	
	120	—	—	60	52	48	
	124	—	—	—	56	51	
	128	—	—	—	61	54	
	132	—	—	—	66	58	
	136	—	—	—	—	62	
	140	—	—	—	—	66	
	144	—	—	—	—	72	

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s.

NP = Not Permitted.

a. Linear interpolation shall be permitted.

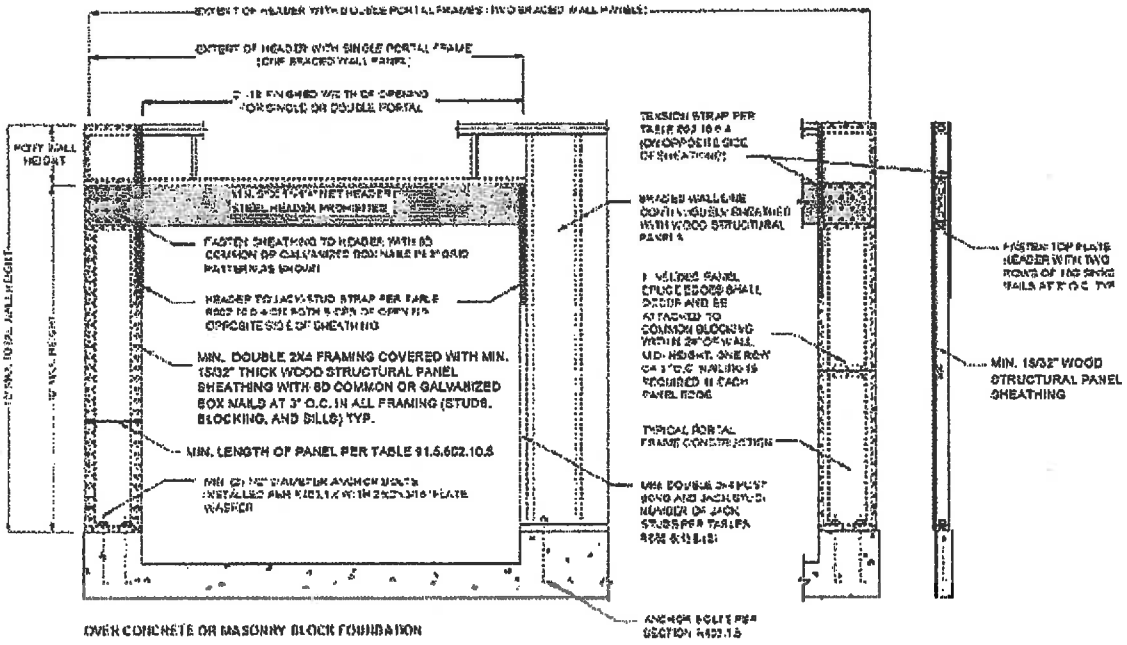
b. Use the actual length when it is greater than or equal to the minimum length.

c. Maximum header height for PFH is 10 feet in accordance with Figure R602.10.6.2, but wall height may be increased to 12 feet with pony wall.

d. Maximum opening height for PFG is 10 feet in accordance with Figure R602.10.6.3, but wall height may be increased to 12 feet with pony wall.

e. Maximum opening height for CS-PF is 10 feet in accordance with Figure R602.10.6.4, but wall height may be increased to 12 feet with pony wall.

Sec. 23. Figure 91.5.602.10.6.4 of the Los Angeles Municipal Code is added to read as follows:



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

FIGURE 91.5.602.10.6.4
METHOD CS-PF – CONTINUOUSLY SHEATHED PORTAL FRAME CONSTRUCTION

Sec. 24. The second unnumbered paragraph of Section 91.5.603.2.4 of the Los Angeles Municipal Code is amended to read as follows:

Where No. 8 screws are specified in a steel-to-steel connection, the required number of screws in the connection is permitted to be reduced in accordance with the reduction factors in Table R603.2.4, when larger screws are used or when one of the sheets of steel being connected is thicker than 33 mils (0.84 mm). When applying the reduction factor, the resulting number of screws shall be rounded up.

Sec. 25. Table 91.5.802.5.1(9) of the Los Angeles Municipal Code is amended to read as follows:

TABLE 91.5.802.5.1(9)

RAFTER/CEILING JOIST HEEL JOINT CONNECTIONS[a, b, c, d, e, f, h]

RAFTER SLOPE	RAFTER SPACING (inches)	GROUND SNOW LOAD (psf)															
		20[g]				30				50				70			
		Roof span (feet)															
		12	20	28	36	12	20	28	36	12	20	28	36	12	20	28	36
		Required number of 16d common nails[a, b] per heel joint splices[c, d, e, f]															
3:12	12	4	6	8	10	4	6	8	11	5	8	12	15	6	11	15	20
	16	5	8	10	13	5	8	11	14	6	11	15	20	8	14	20	26
	24	7	11	15	19	7	11	16	21	9	16	23	30	12	21	30	39
4:12	12	3	5	6	8	3	5	6	8	4	6	9	11	5	8	12	15
	16	4	6	8	10	4	6	8	11	5	8	12	15	6	11	15	20
	24	5	8	12	15	5	9	12	16	7	12	17	22	9	16	23	29
5:12	12	3	4	5	6	3	4	5	7	3	5	7	9	4	7	9	12
	16	3	5	6	8	3	5	7	9	4	7	9	12	5	9	12	16
	24	4	7	9	12	4	7	10	13	6	10	14	18	7	13	18	23
7:12	12	3	4	4	5	3	3	4	5	3	4	5	7	3	5	7	9
	16	3	4	5	6	3	4	5	6	3	5	7	9	4	6	9	11
	24	3	5	7	9	3	5	7	9	4	7	10	13	5	9	13	17
9:12	12	3	3	4	4	3	3	3	4	3	3	4	5	3	4	5	7
	16	3	4	4	5	3	3	4	5	3	4	5	7	3	5	7	9
	24	3	4	6	7	3	4	6	7	3	6	8	10	4	7	10	13
12:12	12	3	3	3	3	3	3	3	3	3	3	3	4	3	3	4	5
	16	3	3	4	4	3	3	3	4	3	3	4	5	3	4	5	7
	24	3	4	4	5	3	3	4	6	3	4	6	8	3	6	8	10

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa.

a. 40d box nails shall be permitted to be substituted for 16d common nails.

b. Nailing requirements shall be permitted to be reduced 25 percent if nails are clinched.

c. Heel joint connections are not required when the ridge is supported by a load-bearing wall, header or ridge beam.

d. When intermediate support of the rafter is provided by vertical struts or purlins to a load-bearing wall, the tabulated heel joint connection requirements shall be permitted to be reduced proportionally to the reduction in span.

e. Equivalent nailing patterns are required for ceiling joist to ceiling joist lap splices.

f. When rafter ties are substituted for ceiling joists, the heel joint connection requirement shall be taken as the tabulated heel joint connection requirement for two-thirds of the actual rafter slope.

g. Applies to roof live load of 20 psf or less.

h. Tabulated heel joint connection requirements assume that ceiling joists or rafter ties are located at the bottom of the attic space. When ceiling joists or rafter ties are located higher in the attic, heel joint connection requirements shall be increased by the following factors:

H_C / H_R	**Heel Joint Connection Adjustment Factor**
1/3	1.5
1/4	1.33
1/5	1.25
1/6	1.2
1/10 or less	1.11

where:

H_C = Height of ceiling joists or rafter ties measured vertically above the top of the rafter support walls.

H_R = Height of roof ridge measured vertically above the top of the rafter support walls.

i. Edge Distances, end distances and spacing for nails shall be sufficient to prevent splitting of the wood.

Sec. 26. **Urgency Clause.** The City Council finds and declares that this Ordinance is required for the immediate protection of the public peace, health and safety for the following reason: In order for the City of Los Angeles to facilitate a seamless transition with the State of California and its Residential Code and maintain predictability and streamlined case processing for the benefit of economic development during distressed times, it is necessary to immediately adopt the foregoing exceptions, modifications and additions to the California Residential Code. Additionally, the California Residential Code becomes effective on January 1, 2014 and the amendments to that code as reflected herein must be adopted by the City Council and become effective as soon as possible. The Council, therefore, with the Mayor's concurrence, adopts this ordinance to become effective upon publication pursuant to Los Angeles City Charter Section 253.

Sec. 27. The City Clerk shall certify to the passage of this ordinance and have it published in accordance with Council policy, either in a daily newspaper circulated in the City of Los Angeles or by posting for ten days in three public places in the City of Los Angeles: one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall; one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall East; and one copy on the bulletin board located at the Temple Street entrance to the Los Angeles County Hall of Records.

I hereby certify that this ordinance was passed by the Council of the City of Los Angeles, **by a vote of not less than three-fourths** of all of its members, at its meeting of DEC. 17 2013.

HOLLY L. WOLCOTT, Interim City Clerk

By _____
Deputy

Approved DEC 23 2013

_____
Mayor
ACTING

Approved as to Form and Legality

MICHAEL N. FEUER, City Attorney

By _____
KIM RODGERS WESTHOFF
Deputy City Attorney

Date 12/10/13

File No. CF13-1214

M:\Real Prop_Env_Land Use\Land Use\Kim Westhoff\DBS--2013 Code Amendment\2014 Residential Master Ordinance KRW Draft.docx

CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

RAYMOND S. CHAN, C.E., S.E.
SUPERINTENDENT OF BUILDING
INTERIM GENERAL MANAGER

January 30, 2014

Council File No. 13-1214

Jim McGowan, Executive Director
California Building Standards Commission
2525 Natomas Park Drive, Suite 130
Sacramento, CA 95833-2936

FILING OF EXPRESS FINDINGS AND DETERMINATION PERSUANT TO SECTION 17958.7 OF THE HEALTH AND SAFETY CODE

On December 17, 2013, the Los Angeles City Council adopted an ordinance to amend the Los Angeles Municipal Code (LAMC) by incorporating portions of the 2012 Uniform Mechanical Code and the 2013 California Mechanical Code and adopt the findings that make the modifications to the California Mechanical Code to be reasonably necessary because of local climatic, geological or topographical conditions.

Enclosed with this transmittal is a copy of the findings along with the modifications (the ordinance) to the California Mechanical Code. The Department of Building and Safety, City of Los Angeles will consider this as complying with Section 17958.7 of the Health and Safety Code.

If you have any questions regarding this matter, please contact the Code Engineer, Mr. Victor Cuevas at (213) 482-0409.

RAYMOND S. CHAN, C.E., S.E.
Interim General Manager

Attachments

FINDINGS AND DETERMINATIONS

Findings and Determinations to support the proposed amendments regarding the adoption of the **2013 California Mechanical Code (CMC).**

WHEREAS, the City of Los Angeles has **geological conditions**, such as earthquake faults. The City of Los Angeles is bounded on the east by the San Andreas Fault and interlaced with other earthquake faults, which run through, adjacent and under the City; and

WHEREAS, the City is located in Seismic Zone 4, which is considered by experts to be the most seismically active of the four seismic zones in the world; and

WHEREAS, seismic experts predict a massive earthquake on one of these faults within the next 30 years and several earthquakes similar in intensity to the Northridge Earthquake during the same period; and

WHEREAS, the 1994 Northridge Earthquake which was a moderate size (6.8 magnitude) earthquake caused extensive damage to buildings and structures, including damage to more than 115,000 buildings, moderate to major damage to more than 3,000 buildings and the vacating of about 21,000 residential units including 2,000 homes; and

WHEREAS, there were 57 people who lost their lives in the earthquake, but there could have been several thousand fatalities had the earthquake occurred at midday when most buildings were occupied instead of 4:31 in the morning; and

WHEREAS, massive earthquakes pose unusual and extraordinary stresses on buildings and structures requiring more stringent building regulations than would otherwise be required; and

WHEREAS, a major earthquake would break water lines making fire fighting more difficult and would break gas lines and electric lines, making a high risk of fires breaking out in all areas of the City; and

WHEREAS, there was a fire in the Fairfax Area of the City of Los Angeles in 1986, due to the high volume of methane gas seepage through cracks in the concrete floor of a building; and

WHEREAS, in 1999, large pockets of methane gas in the subsurface geological formation was discovered in various areas of Los Angeles; and

WHEREAS, the City of Los Angeles has **topographic conditions**, natural and man-made, such as the natural hills, mountains and the coastal region, as well as the man-made harbors and highly concentrated areas of high-rise buildings.

WHEREAS, the City of Los Angeles is situated in a coastal region of hills and mountains containing dry wild native brush and other native and non-native vegetation; and

WHEREAS, this region of flat land and hillside areas creates a natural basin, which has high strong winds alongside foothills and other areas of the City; and

WHEREAS, in 1982 fires in the flat areas of neighboring Orange County were spread from one wood shake and wood shingle roof covered building to the next wood shake and wood shingle roof covered building by the strong Santa Ana winds, and

WHEREAS, the dry brush areas of the local Santa Monica hillsides and the strong canyon winds or the dry Santa Ana winds contributed to past fires in the Los Angeles area, such as, the 1961 Bel Air and Brentwood Canyon, 1977 Topanga Canyon and 1993 Malibu Canyon fires, and

WHEREAS, widespread fires caused by either earthquakes or brush fires would impact the capabilities of the Fire Department to effectively respond to all the fires; and

WHEREAS, the highly concentrated area of high-rise buildings, traffic congestion and possible gridlock may jeopardize the quick response to fires by the Fire Department that could reduce the amount of damage to buildings and increase the number of lives saved; and

WHEREAS, the mountainous terrain is now identified as the Very High Fire Hazard Severity Zone and the highly concentrated area of high-rise buildings is identified as Fire District 1; and

WHEREAS, the City of Los Angeles has **climatic conditions** that is subject to a mild winter to an extremely hot summer desert-like climate that has hot, dry (Santa Ana) winds that make the temperature rise and the humidity drop, increasing the fire danger to all exposed combustible materials; and

WHEREAS, the City of Los Angeles has a population of more than 3,700,000 people spread over more than 450 square miles; and

WHEREAS, widespread fires caused by either earthquakes or brush fires would limit the capabilities of the Fire Department to effectively respond to all the fires; and

WHEREAS, quick response to fires by the Fire Department will reduce the amount of damage to buildings and increase the number of lives saved; and

NOW, THEREFORE, in order to provide adequate protection under the local climatic, geological and topographical conditions set forth above, the City of Los Angeles makes the following findings and determinations:

Sections 94.203.0 through 94.223.0

Local Administrative Finding - These amendments are necessary to provide clarification on the definition of terms.

Section 95.315.1

Local Administrative Finding - This amendment is necessary to make reference to the Los Angeles Plumbing Code and not the California Plumbing Code with regards to water supply and backflow protection requirements.

ORDINANCE NO. 182848

An ordinance amending Article 5, Chapter IX of the Los Angeles Municipal Code to make local administrative changes and incorporate by reference portions of the 2013 Edition of the California Mechanical Code (C.M.C.)

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

Section 1. Section 95.101.0 of the Los Angeles Municipal Code is added to read as follows:

SEC. 95.101. TITLE, SCOPE, AND GENERAL.

Sec. 2. Section 95.101 of the Los Angeles Municipal Code is renumbered as Subsection 95.101.1 and amended to read as follows:

95.101.1. TITLE. This article is a portion of the Los Angeles Municipal Code and shall be known as the Los Angeles Mechanical Code. Whenever the word "Code" is used in this article, it shall mean the Los Angeles Mechanical Code unless it is apparent from the context that another code is intended and applicable.

Section number references are to the Los Angeles Municipal Code unless otherwise indicated.

Sec. 3. Section 95.102 of the Los Angeles Municipal Code is renumbered as Subsection 95.101.2.

Sec. 4. The third unnumbered paragraph of Section 95.101.2 of the Los Angeles Municipal Code is amended to read as follows:

The provisions of Chapter 1, Division II, Appendices A and D, and Chapters 2 through 17 of the 2013 Edition of the California Mechanical Code prepared by the International Association of Plumbing and Mechanical Officials and amended by the California Building Standards Commission, are adopted by reference as part of the Los Angeles Municipal Code with amendments in the form of exceptions, modifications, deletions, supplements and additions, which have been added to Article 5, Chapter IX of the Los Angeles Municipal Code. Chapter references are to chapters of the California Mechanical Code. The abbreviation "CMC" shall mean and refer to the 2013 Edition of the California Mechanical Code. References to "LAMC" or "Code" shall mean the Los Angeles Municipal Code.

Sec. 5. Section 95.103 of the Los Angeles Municipal Code is renumbered as Subsection 95.101.3.

Sec. 6. Section 95.104 of the Los Angeles Municipal Code is renumbered as Section 95.102.

Sec. 7. Subsection 95.104.5 of the Los Angeles Municipal Code is renumbered as Subsection 95.102.5.

Sec. 8. Section 95.105 of the Los Angeles Municipal Code is renumbered as Section 95.103.

Sec. 9. Section 95.106 of the Los Angeles Municipal Code is renumbered as Section 95.104.

Sec. 10. Section 95.107 of the Los Angeles Municipal Code is renumbered as Section 95.105 and amended to read as follows:

SEC. 95.105. TESTING.

Sections 105.0 through 105.3 of Chapter 1, Division II of the CMC are adopted by reference.

Sec. 11. Section 95.108 of the Los Angeles Municipal Code is renumbered as Section 95.106.

Sec. 12. Subsection 95.108.1 of the Los Angeles Municipal Code is renumbered as Subsection 95.106.1.

Sec. 13. Subsection 95.108.2 of the Los Angeles Municipal Code is renumbered as Subsection 95.106.2.

Sec. 14. Subsection 95.108.3 of the Los Angeles Municipal Code is renumbered as Subsection 95.106.3.

Sec. 15. Subsection 95.108.4 of the Los Angeles Municipal Code is renumbered as Subsection 95.106.4.

Sec. 16. Subsection 95.108.5 of the Los Angeles Municipal Code is renumbered as Subsection 95.106.5.

Sec. 17. Subsection 95.108.6 of the Los Angeles Municipal Code is renumbered as Subsection 95.106.6.

Sec. 18. Subsection 95.108.7 of the Los Angeles Municipal Code is renumbered as Subsection 95.106.7.

Sec. 19. Subsection 95.108.8 of the Los Angeles Municipal Code is renumbered as Subsection 95.106.8.

Sec. 20. Subsection 95.108.9 of the Los Angeles Municipal Code is renumbered as Subsection 95.106.9.

Sec. 21. Section 95.109 of the Los Angeles Municipal Code is renumbered as Section 95.107 and amended to read as follows:

SEC. 95.107. UNSAFE EQUIPMENT.

Sections 107.0 and 107.1 of Chapter 1, Division II of the C.M.C. are adopted by reference.

Sec. 22. Section 95.110 of the Los Angeles Municipal Code is renumbered as Section 95.108.

Sec. 23. Section 95.111 of the Los Angeles Municipal Code is renumbered as Section 95.109.

Sec. 24. Section 95.112 of the Los Angeles Municipal Code is renumbered as Section 95.111.

Sec. 25. Subsection 95.112.1 of the Los Angeles Municipal Code is renumbered as Subsection 95.111.1.

Sec. 26. Subsection 95.112.2 of the Los Angeles Municipal Code is renumbered as Subsection 95.111.2.

Sec. 27. Subsection 95.112.3 of the Los Angeles Municipal Code is renumbered as Subsection 95.111.3.

Sec. 28. Subsection 95.112.4 of the Los Angeles Municipal Code is renumbered as Subsection 95.111.4.

Sec. 29. Section 95.113 of the Los Angeles Municipal Code is renumbered as Section 95.112.

Sec. 30. Subsection 95.113.1 of the Los Angeles Municipal Code is renumbered as Subsection 95.112.1.

Sec. 31. Subsection 95.113.1 of the Los Angeles Municipal Code is renumbered as Subsection 95.112.1.

Sec. 32. Subsection 95.113.2 of the Los Angeles Municipal Code is renumbered as Subsection 95.112.2.

Sec. 33. Subsection 95.113.3 of the Los Angeles Municipal Code is renumbered as Subsection 95.112.3.

Sec. 34. Subsection 95.113.4 of the Los Angeles Municipal Code is renumbered as Subsection 95.112.4.

Sec. 35. Section 95.114 of the Los Angeles Municipal Code is renumbered as Section 95.113.

Sec. 36. Subsection 95.114.1 of the Los Angeles Municipal Code is renumbered as Subsection 95.113.1.

Sec. 37. Subsection 95.114.2 of the Los Angeles Municipal Code is renumbered as Subsection 95.113.2.

Sec. 38. Subsection 95.114.3 of the Los Angeles Municipal Code is renumbered as Subsection 95.113.3.

Sec. 39. Subsection 95.114.4 of the Los Angeles Municipal Code is renumbered as Subsection 95.113.4.

Sec. 40. Section 95.115 of the Los Angeles Municipal Code is renumbered as Section 95.114.

Sec. 41. Subsection 95.115.1 of the Los Angeles Municipal Code is renumbered as Subsection 95.114.1.

Sec. 42. Subsection 95.115.2 of the Los Angeles Municipal Code is renumbered as Subsection 95.114.2.

Sec. 43. Subsection 95.115.3 of the Los Angeles Municipal Code is renumbered as Subsection 95.114.3.

Sec. 44. Subsection 95.115.4 of the Los Angeles Municipal Code is renumbered as Subsection 95.114.4.

Sec. 45. Subsection 95.115.5 of the Los Angeles Municipal Code is renumbered as Subsection 95.114.5.

Sec. 46. Subsection 95.115.6 of the Los Angeles Municipal Code is renumbered as Subsection 95.114.6.

Sec. 47. Subsection 95.115.7 of the Los Angeles Municipal Code is renumbered as Subsection 95.114.7.

Sec. 48. Subsection 95.115.8 of the Los Angeles Municipal Code is renumbered as Subsection 95.114.8.

Sec. 49. Subsection 95.115.9 of the Los Angeles Municipal Code is renumbered as Subsection 95.114.9.

Sec. 50. Subsection 95.115.10 of the Los Angeles Municipal Code is renumbered as Subsection 95.114.10.

Sec. 51. Section 95.116 of the Los Angeles Municipal Code is renumbered as Section 95.115.

Sec. 52. Subsection 95.116.1 of the Los Angeles Municipal Code is renumbered as Subsection 95.115.1.

Sec. 53. Subsection 95.116.2 of the Los Angeles Municipal Code is renumbered as Subsection 95.115.2.

Sec. 54. Section 95.117 of the Los Angeles Municipal Code is renumbered as Section 95.116.

Sec. 55. Subsection 95.117.1 of the Los Angeles Municipal Code is renumbered as Subsection 95.116.1.

Sec. 56. Subsection 95.117.2 of the Los Angeles Municipal Code is renumbered as Subsection 95.116.2.

Sec. 57. A new Section 95.117 of the Los Angeles Municipal Code is added to read as follows:

SEC. 95.117. UNCONSTITUTIONAL.

Sections 117.0 through 117.1 of Chapter 1, Division II of the CMC are adopted by reference.

Sec. 58. A new Section 95.118 of the Los Angeles Municipal Code is added to read as follows:

SEC. 95.118. VALIDITY.

Sections 118.0 through 118.1 of Chapter 1, Division II of the CMC are adopted by reference.

Sec. 59. Section 95.118 of the Los Angeles Municipal Code is renumbered as Section 95.119.

Sec. 60. Subsection 95.118.1 of the Los Angeles Municipal Code is renumbered as Subsection 95.119.1.

Sec. 61. Subsection 95.118.2 of the Los Angeles Municipal Code is renumbered as Subsection 95.119.2.

Sec. 62. Subsection 95.118.3 of the Los Angeles Municipal Code is renumbered as Subsection 95.119.3.

Sec. 63. Subsection 95.118.4 of the Los Angeles Municipal Code is renumbered as Subsection 95.119.4.

Sec. 64. Subsection 95.118.5 of the Los Angeles Municipal Code is renumbered as Subsection 95.119.5.

Sec. 65. Subsection 95.118.6 of the Los Angeles Municipal Code is renumbered as Subsection 95.119.6.

Sec. 66. Subsection 95.118.7 of the Los Angeles Municipal Code is renumbered as Subsection 95.119.7.

Sec. 67. Subsection 95.118.8 of the Los Angeles Municipal Code is renumbered as Subsection 95.119.8.

Sec. 68. Subsection 95.118.9 of the Los Angeles Municipal Code is renumbered as Subsection 95.119.9.

Sec.69. Section 95.203.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 95.203.0. A.

Section 203.0 of the CMC is adopted by reference, except that the CMC definitions of the following terms are not adopted:

AUTHORITY HAVING JURISDICTION

The following definitions are adopted:

ADMINISTRATIVE AUTHORITY is the Superintendent of Building or an authorized agent.

APPLICANT is the person signing the application and paying the fees.

APPRENTICE is a person who is enrolled in an apprenticeship program approved by the Department of Industrial Relations of the State of California.

AUTHORITY HAVING JURISDICTION is the City of Los Angeles Department of Building and Safety.

Sec. 70. Section 95.204.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 95.204.0. B.

Section 204.0 of the CMC is adopted by reference, except that the CMC definition of the following terms are not adopted:

BUILDING CODE

The following definitions are adopted:

BOARD is the Board of Building and Safety Commissioners of the City of Los Angeles.

BUILDING CODE is the City of Los Angeles Building Code, set forth in Article 1 of Chapter IX of the Los Angeles Municipal Code.

Sec. 71. Section 95.206.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 95.206.0. D.

Section 206.0 of the CMC is adopted by reference, except that the CMC definition of the following term is not adopted:

DEPARTMENT

The following definition is adopted:

DEPARTMENT is the Department of Building and Safety of the City of Los Angeles.

Sec. 72. Section 95.208.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 95.208.0. F.

Section 208.0 of the CMC is adopted by reference, except that the CMC definition of the following term is not adopted:

FIRE CODE

The following definition is adopted:

FIRE CODE is the City of Los Angeles Fire Code, set forth in Article 7 Chapter V of the Los Angeles Municipal Code.

Sec. 73. Section 95.215.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 95.215.0. M.

Section 215.0 of the CMC is adopted by reference with the following additions:

MAINTENANCE CERTIFICATE OF REGISTRATION is a certificate issued to the owner or occupant of specified premises for the sole purpose of adding to, altering, maintaining or repairing existing heating, ventilating, air-conditioning, or refrigeration equipment on the premises.

MAINTENANCE SUPERVISOR is comfort heating and cooling Maintenance Supervisor or a refrigeration Maintenance Supervisor.

Sec. 74. Section 95.218.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 95.218.0. P.

Section 218.0 of the CMC is adopted by reference.

Sec. 75. Section 95.219.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 95.219.0. Q.

Section 219.0 of the CMC is adopted by reference with the following addition:

QUALIFIED INSTALLER is:

(A) A person who holds a valid contractor's license in the proper classification issued by the State of California; or

(B) A person who holds a valid Maintenance Certificate of Registration issued pursuant to the provisions of this Code; or

(C) A person who is the owner of a single-family dwelling and has demonstrated to the satisfaction of the Department his or her qualifications to satisfactorily perform plumbing work in the dwelling which is occupied by the owner, and their accessory buildings, provided that all of the following conditions are met:

(1) The work is performed prior to sale of the dwelling.

(2) The homeowner has actually resided in the residence for the 12 months prior to completion of the work.

(3) The homeowner has not availed himself or herself of this exemption on more than two structures during any three year period; or

(D) A person who is employed by a governmental agency that is required to comply with the provisions of this Code, and who is

qualified, as determined by the Department, to supervise or control any work regulated by this Code.

Sec. 76. Section 95.221.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 95.221.0. S.

Section 221.0 of the C.M.C. is adopted by reference with the following additions:

SUPERINTENDENT OF BUILDING is the General Manager of the Department of Building and Safety.

Sec. 77. Subsection 95.315.1 of the Los Angeles Municipal Code is added to read as follows:

95.315.1. General. Water supply and backflow protection shall be in accordance with the Los Angeles Plumbing Code.

Sec. 78. Division 4 of Article 5, Chapter IX of the Los Angeles Municipal Code is amended by deleting the following notation in its entirety:

* The following sections in Division 4 are deleted in entirety by Ord. No. 172,595:

95.401 thru 95.404.

Sec. 79. Subsection 95.507.1.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 80. Division 6 of Article 5, Chapter IX of the Los Angeles Municipal Code is amended by deleting the following notation in its entirety:

* The following sections in Division 6 are deleted in entirety by Ord. Ord. No. 172,595:

95.601 thru 95.609.

Sec. 81. Division 7 of Article 5, Chapter IX of the Los Angeles Municipal Code is amended by deleting the following notation in its entirety:

* The following sections in Division 7 are deleted in entirety by Ord. Ord. No. 172,595:

95.701 thru 95.707.

Sec. 82. Division 8 of Article 5, Chapter IX of the Los Angeles Municipal Code is amended by deleting the following notation in its entirety:

* The following sections in Division 8 are deleted in entirety by Ord. Ord. No. 172,595:

95.801 thru 95.818.

Sec. 83. The Title of Division 9 of Article 5, Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

INSTALLATION OF SPECIFIC APPLIANCES

Sec. 84. The Title of Division 16 of Article 5, Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

STATIONARY POWER PLANTS

Sec. 85. The Title of Division 17 of Article 5, Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

REFERENCED STANDARDS

Sec. 86. **Urgency Clause.** The City Council finds and declares that this Ordinance is required for the immediate protection of the public peace, health and safety for the following reason: In order for the City of Los Angeles to facilitate a seamless transition with the State of California and its Mechanical Code and maintain predictability and streamlined case processing for the benefit of economic development during distressed times, it is necessary to immediately adopt the foregoing exceptions, modifications and additions to the California Mechanical Code. Additionally, the California Mechanical Code becomes effective on January 1, 2014 and the amendments to that code as reflected herein must be adopted by the City Council and become effective as soon as possible. The Council, therefore, with the Mayor's concurrence, adopts this ordinance to become effective upon publication pursuant to Los Angeles City Charter Section 253.

Sec. 87. The City Clerk shall certify to the passage of this ordinance and have it published in accordance with Council policy, either in a daily newspaper circulated in the City of Los Angeles or by posting for ten days in three public places in the City of Los Angeles: one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall; one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall East; and one copy on the bulletin board located at the Temple Street entrance to the Los Angeles County Hall of Records.

I hereby certify that this ordinance was passed by the Council of the City of Los Angeles, **by a vote of not less than three-fourths** of all of its members, at its meeting of DEC 17 2013.

HOLLY L. WOLCOTT, Interim City Clerk

By _____
Deputy

Approved DEC 23 2013

_____
Mayor
ACTING

Approved as to Form and Legality

MICHAEL N. FEUER, City Attorney

By _____
KIM RODGERS WESTHOFF
Deputy City Attorney

Date 12/10/13

File No. CF 13-1214

M:\Real Prop_Env_Land Use\Land Use\Kim Westhoff\DBS–2013 Code Amendment\2014 Mechanical\Code Ordinance KRW Draft.docx

CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

RAYMOND S. CHAN, C.E., S.E.
SUPERINTENDENT OF BUILDING
INTERIM GENERAL MANAGER

January 30, 2014

Council File No. 13-1214

Jim McGowan, Executive Director
California Building Standards Commission
2525 Natomas Park Drive, Suite 130
Sacramento, CA 95833-2936

FILING OF EXPRESS FINDINGS AND DETERMINATION PERSUANT TO SECTION 17958.7 OF THE HEALTH AND SAFETY CODE

On December 17, 2013, the Los Angeles City Council adopted an ordinance to amend the Los Angeles Municipal Code (LAMC) by incorporating portions of the 2012 Uniform Plumbing Code and the 2013 California Plumbing Code and adopt the findings that make the modifications to the California Plumbing Code to be reasonably necessary because of local climatic, geological or topographical conditions.

Enclosed with this transmittal is a copy of the findings along with the modifications (the ordinance) to the California Plumbing Code. The Department of Building and Safety, City of Los Angeles will consider this as complying with Section 17958.7 of the Health and Safety Code.

If you have any questions regarding this matter, please contact the Code Engineer, Mr. Victor Cuevas at (213) 482-0409.

RAYMOND S. CHAN, C.E., S.E.
Interim General Manager

Attachments

FINDINGS AND DETERMINATIONS

Findings and Determinations to support the proposed amendments regarding the adoption of the **2013 California Plumbing Code (CPC).**

WHEREAS, the City of Los Angeles has **geological conditions**, such as earthquake faults. The City of Los Angeles is bounded on the east by the San Andreas Fault and interlaced with other earthquake faults, which run through, adjacent and under the City; and

WHEREAS, the City is located in Seismic Zone 4, which is considered by experts to be the most seismically active of the four seismic zones in the world; and

WHEREAS, seismic experts predict a massive earthquake on one of these faults within the next 30 years and several earthquakes similar in intensity to the Northridge Earthquake during the same period; and

WHEREAS, the 1994 Northridge Earthquake which was a moderate size (6.8 magnitude) earthquake caused extensive damage to buildings and structures, including damage to more than 115,000 buildings, moderate to major damage to more than 3,000 buildings and the vacating of about 21,000 residential units including 2,000 homes; and

WHEREAS, there were 57 people who lost their lives in the earthquake, but there could have been several thousand fatalities had the earthquake occurred at midday when most buildings were occupied instead of 4:31 in the morning; and

WHEREAS, massive earthquakes pose unusual and extraordinary stresses on buildings and structures requiring more stringent building regulations than would otherwise be required; and

WHEREAS, a major earthquake would break water lines making fire fighting more difficult and would break gas lines and electric lines, making a high risk of fires breaking out in all areas of the City; and

WHEREAS, there was a fire in the Fairfax Area of the City of Los Angeles in 1986, due to the high volume of methane gas seepage through cracks in the concrete floor of a building; and

WHEREAS, in 1999, large pockets of methane gas in the subsurface geological formation was discovered in various areas of Los Angeles; and

WHEREAS, the City of Los Angeles has **topographic conditions**, natural and man-made, such as the natural hills, mountains and the coastal region, as well as the man-made harbors and highly concentrated areas of high-rise buildings.

WHEREAS, the City of Los Angeles is situated in a coastal region of hills and mountains containing dry wild native brush and other native and non-native vegetation; and

WHEREAS, this region of flat land and hillside areas creates a natural basin, which has high strong winds alongside foothills and other areas of the City; and

WHEREAS, in 1982 fires in the flat areas of neighboring Orange County were spread from one wood shake and wood shingle roof covered building to the next wood shake and wood shingle roof covered building by the strong Santa Ana winds, and

WHEREAS, the dry brush areas of the local Santa Monica hillsides and the strong canyon winds or the dry Santa Ana winds contributed to past fires in the Los Angeles area, such as, the 1961 Bel Air and Brentwood Canyon, 1977 Topanga Canyon and 1993 Malibu Canyon fires, and

WHEREAS, widespread fires caused by either earthquakes or brush fires would impact the capabilities of the Fire Department to effectively respond to all the fires; and

WHEREAS, the highly concentrated area of high-rise buildings, traffic congestion and possible gridlock may jeopardize the quick response to fires by the Fire Department that could reduce the amount of damage to buildings and increase the number of lives saved; and

WHEREAS, the mountainous terrain is now identified as the Very High Fire Hazard Severity Zone and the highly concentrated area of high-rise buildings is identified as Fire District 1; and

WHEREAS, the City of Los Angeles has **climatic conditions** that is subject to a mild winter to an extremely hot summer desert-like climate that has hot, dry (Santa Ana) winds that make the temperature rise and the humidity drop, increasing the fire danger to all exposed combustible materials; and

WHEREAS, the City of Los Angeles has a population of more than 3,700,000 people spread over more than 450 square miles; and

WHEREAS, widespread fires caused by either earthquakes or brush fires would limit the capabilities of the Fire Department to effectively respond to all the fires; and

WHEREAS, quick response to fires by the Fire Department will reduce the amount of damage to buildings and increase the number of lives saved; and

NOW, THEREFORE, in order to provide adequate protection under the local climatic, geological and topographical conditions set forth above, the City of Los Angeles makes the following findings and determinations:

Sections 94.203.0 through 94.223.0

Local Administrative Finding - These amendments are necessary to provide clarification on the definition of terms.

Sections 94.403.2, 94.403.3 94.403.4 and 94.403.9

Local Climatic Conditions - The City of Los Angeles has desert-like climate with long periods of draught which necessitates water conservation.

Section 94.1101.11.2.2

Local Climatic Conditions - The City of Los Angeles is a draught prone area, therefore a roof drainage system subject to extended periods of non-use will have the potential to accumulate debris inside of the pipe which can cause clogging of the pipe and as a result can lead to flooding and potentially collapse of the roof due to the weight of the water. The intent is to provide a redundant means for draining roof areas at all times, thus the primary and secondary roof drains cannot be combined into a single roof drainage system.

Section 94.1101.13

Local Climatic Conditions - The City of Los Angeles is a draught prone area and as a result the pumps can experience extended periods of time of non-operation increasing the probability of failure. Having redundancy is necessary to ensure proper operation of sump system.

Section 94.1217.0, 94.1217.1, 94.1217.2, 94.12.17.2.1, 94.1217.2.2, 94.1217.2.2.1, 94.1217.2.2.2, 94.1217.2.2.3, 94.1217.2.2.4, 94.1217.2.3, 94.1217.3, 94.1217.3.1, 94.1217.3.2, 94.1217.3.3, 94.1217.3.4, 94.1217.3.5, 94.1217.3.6, 94.1217.3.7 and 94.1217.3.8

Local Geological Conditions – The City of Los Angeles is located in Seismic Zone 4, which is the most seismically active of the four seismic zones, and is densely populated with buildings and structures constructed near several earthquake faults. Therefore, the installation of a seismic gas shut-off valve in the gas piping system is a critical and essential component for the protection of life and property in the event of a severe seismic disturbance.

Section 94.1800.0

Local Climatic Conditions – Due to high insolation, the use of solar energy units has become increasingly popular and very common in the City of Los Angeles. In order to regulate and enforce requirements for solar energy systems, it is necessary to adopt the 2012 Uniform Solar Energy Code. This publication is highly relevant to plumbing systems and applications.

Section 94.1900.0

Local Administrative Finding – This amendment is necessary to adopt the 2012 Uniform Swimming Pool, Spa, and Hot Tub Code since there are no guidelines found in the California Plumbing Code. The referenced publication is highly relevant to plumbing systems and applications.

Section 94.2002.0, 94.2003.0, and 94.2004.0

Local Administrative Finding – This amendment is necessary to maintain the current Los Angeles Plumbing Code format and numbering sequence.

Section 94.2005.0

Local Administrative Finding – This amendment is necessary to clarify that fire protection systems shall be located on the same site of the building for which it serves because this is not addressed in the NFPA standards.

Section 94.2006.0

Local Administrative Finding – This amendment is necessary to clarify that all fire protection systems shall be protected from mechanical damage, which is not addressed in every NFPA standard.

Section 94.2007.0

Local Administrative Finding – This amendment is necessary to maintain the current Los Angeles Plumbing Code format and numbering sequence.

Section 94.2010.2

Local Administrative Finding – This amendment is necessary to provide clarification and a definition for "water curtain" which is not defined in NFPA 13.

Section 94.2010.4

Local Administrative Finding – This amendment is necessary to direct the user to the Los Angeles Fire Code for electrically operated fire alarm systems.

Section 94.2010.10

Local Administrative Finding – This amendment is necessary to provide clarification on how water curtains must be installed because it is not adequately addressed in NFPA 13.

Section 94.2010.19

Local Administrative Finding – This amendment is necessary to provide clarification regarding the location of floor control valves consistent with the Los Angeles Fire Departments operational practices.

Section 94.2010.32

Local Administrative Finding – This amendment is necessary to provide clarification and avoid confusion with sprinklers in prosceniums and horizontal openings.

Section 94.2010.34

Local Administrative Finding – This amendment is necessary to provide clarification on the fact that all meters are provided and regulated by the local utility.

Section 94.2011.0 and 94.2012.0

Local Administrative Finding – This amendment is necessary to maintain the current Los Angeles Plumbing Code format and numbering sequence.

Section 94.2014.2 and 94.2014.8

Local Topographic Conditions – Homes with 10,000 ft^2 of habitable space are commonly located in the hillside areas where roads may be substandard causing a delay in Fire Department arrival time. Additionally, in order to help reduce the risk of brush fire, it necessary to have a higher level of fire protection in these large size single-family dwellings.

Section 94.2020.1

Local Administrative Finding – This amendment is necessary to refer the user to the Los Angeles Building Code for standpipe systems.

Section 94.2020.2

Local Administrative Finding – This amendment is necessary due to the fact that the City of Los Angeles does not have a fire brigade.

Section 94.2020.3

Local Administrative Finding – This amendment is necessary to clarify to the user that a separate hose station is not required for a Class III standpipe system.

Section 94.2020.4

Local Administrative Finding – This amendment is necessary to maintain the current Los Angeles Plumbing Code format and numbering sequence.

Section 94.2020.5

Local Geological Conditions – The City of Los Angeles is located in Seismic Zone 4, which is the most seismically active of the four seismic zones, therefore it is necessary to refer the user to NFPA 13 for guidelines regarding the protection of standpipe systems due to seismic loads because it is not addressed in NFPA 14.

Section 94.2020.7

Local Administrative Finding – This amendment is necessary to provide clarification on how the code applies to buildings with multiple zones.

Section 94.2020.8

Local Administrative Finding – This amendment is necessary to refer the user to the Los Angeles Building Code for the location of Class I standpipe hose connections.

Section 94.2020.9 and 94.2020.10

Local Administrative Finding – Section 4.12.2.1 of NFPA 20 gives authority to the local fire department to approve the location of the fire pump room, and thus the location of the pumps themselves. This amendment provides information regarding the Los Angeles Fire Departments requirements.

Section 94.2020.11

Local Topographic Conditions – The City of Los Angeles is a densely populated city. The resulting traffic congestion may increase the response time. Additionally, access can be a challenge in high-rise and very large buildings; therefore it is imperative that automatically operated pumps be installed instead of manually operated pumps.

Section 94.2020.13

Local Administrative Finding – This amendment is necessary to give the user guidelines for flushing the system riser. NFPA 14 requires flushing of the standpipe but it does not provide information on how to perform the flush.

Section 94.2020.14

Local Climatic Conditions – The City of Los Angeles has desert-like climate with long periods of draught, and to save water is a necessity, therefore returning the water that is used for testing back into the tank is essential in order to conserve water. In addition, this section provides the user with information on how to test pressure regulating valves.

Section 94.2020.15

Local Administrative Finding – This amendment is necessary to be consistent with the Los Angeles Building Code.

Sections 94.2030.1

Local Administrative Finding – This amendment is necessary to avoid conflict with Chapter 1 of the Los Angeles Plumbing Code, which addresses the applicability of the current code to existing construction.

Sections 94.2030.2

Local Administrative Finding – This amendment is necessary to provide clarification regarding the information that must be provided for fire pumps and essential equipment.

Sections 94.2030.3

Local Administrative Finding – This amendment is necessary to provide the user with alternate locations for disposal of the fire pump relief valve discharge.

Sections 94.2030.4

Local Administrative Finding – This amendment is necessary to refer the user to NFPA 24 for guidelines pertaining to the installation of underground suction piping and NFPA 13 for guidelines pertaining to the installation of aboveground suction piping.

Sections 94.2030.5

Local Administrative Finding – This amendment is necessary to clarify that a check valve is necessary on the pump bypass.

Sections 94.2030.6

Local Administrative Finding – This amendment is necessary to clarify the location of the Fire Department connection with respect to the fire pump piping.

Sections 94.2030.7

Local Administrative Finding – This amendment is necessary to provide clarification on the fact that all meters are provided and regulated by the local utility.

Section 94.2030.8

Local Climatic Conditions – The City of Los Angeles has desert-like climate with long periods of draught, and to save water is a necessity, therefore returning the water that is used for testing back into the tank is essential in order to conserve water.

Sections 94.2030.9

Local Administrative Finding – This amendment is necessary to provide guidelines for the proper labeling of the test header hose valves because they are not addressed in NFPA 14.

Sections 94.2030.10

Local Administrative Finding – This amendment is necessary to provide clarification and guidance in regards to maintaining system pressure in high-rise buildings.

Section 94.2030.11

Local Administrative Finding – This amendment is necessary to due to the fact that backflow prevention requirements are provided in the California Plumbing Code.

Sections 94.2030.12, 94.2030.13 and 94.2030.14

Local Administrative Finding – This amendment is necessary to clarify that electric drives for pumps are reviewed by the Electrical Engineering Section.

Sections 94.2030.15 and 94.2030.16

Local Administrative Finding – This amendment is necessary to direct the user to the Los Angeles Fire Code for fuel supply to diesel engine drives for fire pumps.

Sections 94.2040.5

Local Administrative Finding – This amendment is necessary to provide clarification that a fire pump installed in accordance with NFPA 20 and local amendments is an acceptable water supply source.

Sections 94.2040.6

Local Administrative Finding – This amendment is necessary to clarify that tanks shall be installed in accordance with NFPA 22 and local amendments.

Section 94.2040.7 and 94.2040.9

Local Administrative Finding – This amendment is necessary to make an editorial change to maintain the proper numbering sequence in accordance with Sections of the Los Angeles Plumbing Code.

Sections 94.2040.11

Local Administrative Finding – This amendment is necessary to avoid conflict with Section 6.7.1.3 of NFPA 13 which requires all valves controlling sprinklers to be indicating valves.

Sections 94.2040.12

Local Administrative Finding – This amendment is necessary to avoid conflict with Section 2040.16 which prohibits the use of non-indicating valves for the purpose of isolating connections to private fire service mains.

Sections 94.2040.13

Local Administrative Finding – This amendment is necessary to make an editorial change to maintain the proper numbering sequence in accordance with Sections of the Los Angeles Plumbing Code.

Sections 94.2040.14

Local Administrative Finding – This amendment is necessary to clarify that valve pits shall be designed in accordance with NFPA 22 and local amendments.

Section 94.2040.17

Local Administrative Finding – This amendment is necessary to make an editorial change to maintain the proper numbering sequence in accordance with Sections of the Los Angeles Plumbing Code.

Section 94.2040.18

Local Administrative Finding – This amendment is necessary to give the user requirements for hydrant valves that are not adequately addressed in NFPA 24.

Section 94.2040.19

Local Administrative Finding – This amendment is necessary to be consistent with the Los Angeles Fire Department and their operational practices.

Section 94.2040.22

Local Administrative Finding – This amendment is necessary to provide clarification and to avoid conflict with Section 103.5.3 of the Los Angeles Plumbing Code pertaining to the testing of system.

Sections 94.2040.23

Local Administrative Finding – This amendment is necessary to clarify that aboveground pipe and fittings shall comply with NFPA 13 and local amendments.

Sections 94.2040.24

Local Geological Conditions – The City of Los Angeles is located in Seismic Zone 4, which is the most seismically active of the four seismic zones, therefore it is necessary to refer the user to NFPA 13 for guidelines regarding the protection of standpipe systems due to seismic loads because it is not addressed in NFPA 24.

Sections 94.2040.25

Local Administrative Finding – This amendment is necessary to clarify that aboveground pipe and fittings shall comply with NFPA 13 and local amendments.

Section 94.2041.0 through 94.2049.0

Local Administrative Finding – This amendment is necessary to maintain the current Los Angeles Plumbing Code format and numbering sequence.

Sections 94.2050.0

Local Administrative Finding – This amendment is necessary for the following reasons:
(1) to provide clarification regarding the design of the water storage tank,
(2) to provide clarification regarding the proper labeling of the minimum required air pressure of the tank which is not addressed in NFPA 22,
(3) to be consistent with the requirements of other Sections of the Los Angeles Plumbing Code,
(4) to provide a basic requirement for isolating the tank,
(5) to provide clarification regarding the tank fill rate and minimum pipe size,
(6) to provide clarification due to the fact that item (5) addresses the requirements for tank filling means, and
(7) **Local Topographic Conditions** – The City of Los Angeles is located in a Very High Fire Hazard Severity Zone and is a highly concentrated area of high-rise buildings. High-rise buildings require a large volume of water for effective fire protection which must be available at all times. Therefore, the use of a tank high-level and low-level water monitoring alarm with audible and visual signaling means at a permanently supervised location is critical. The high-level alarm is necessary to warn of potential overflow which can cause significant damage to the building or structure, and the low-level alarm is needed to warn staff when the volume of water in the tank is below the minimum required volume so that it can be adjusted to the required volume.

Section 94.2060.1.2

Local Administrative Finding – This amendment is necessary to make an editorial change to reference the correct Table in NFPA 13.

Section 94.2100.0

Local Administrative Finding – This amendment is necessary to be consistent with the requirements of other Sections of the Los Angeles Plumbing Code and to avoid conflict.

ORDINANCE NO. 182847

An ordinance amending certain provisions of Article 4 of Chapter IX of the Los Angeles Municipal Code and incorporating by reference the 2013 Edition of the California Plumbing Code (CPC) with certain exceptions.

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

Section 1. Section 94.100.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.100.0. BASIC PROVISIONS.

Chapter 1, Division II of the 2013 California Plumbing Code (CPC) is adopted by reference with the following exceptions: Sections 101.0, 101.1, 101.3, 101.5, 103.0, 103.1, 103.3.3, 103.3.4, 103.4 and Table 103.4 of the California Plumbing Code are not adopted; and, in lieu, Sections 94.101.0 and 94.103.0 and Subsections 94.101.1, 94.101.3, 94.101.5, 94.101.6, 94.101.7, 94.103.1, 94.103.3.3, 94.103.3.4, 94.103.4, 94.103.5, 94.103.5.7.3, 94.103.9 through 94.103.20 and Table 103.4 are added as provided in this Article.

Sec. 2. Subsection 94.101.2 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.3.

Sec. 3. Subsection 94.101.3 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.5.

Sec. 4. Subsection 94.101.3.1 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.5.1.

Sec. 5. Subsection 94.101.3.2 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.5.2.

Sec. 6. Subsection 94.101.3.3 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.5.3.

Sec. 7. Subsection 94.101.3.4 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.5.4.

Sec. 8. Subsection 94.101.3.5 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.5.5.

Sec. 9. Subsection 94.101.3.6 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.5.6 and amended to read as follows:

1. Paragraph a of Subdivision 1 is amended to read as follows:

a. Drainage and vent systems involving fixtures that discharge 217 or more fixture units.

2. The Exception to Paragraph d of Subdivision 4 is amended to read as follows:

EXCEPTION: Plan Check is not required for existing systems that are added to or altered, with branch lines that serve fewer than 20 fixture units and sized by Table 610.4.

Sec. 10. Subsection 94.101.4 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 11. Subsection 94.101.5 of the Los Angeles Municipal Code, existing prior to the amendment in Section 3 above, is deleted in its entirety.

Sec. 12. Subsection 94.101.6 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.11.6.

Sec. 13. Subsection 94.101.6.1 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.11.6.1.

Sec. 14. Subsection 94.101.6.2 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.11.6.2.

Sec. 15. Subsection 94.101.6.3 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.11.6.3.

Sec. 16. Subsection 94.101.6.4 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.11.6.4.

Sec. 17. Subsection 94.101.7 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.11.7.

Sec. 18. Subsection 94.101.7.1 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.11.7.1.

Sec. 19. Subsection 94.101.7.2 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.11.7.2.

Sec. 20. Subsection 94.101.7.3 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.11.7.3.

Sec. 21. Subsection 94.101.7.4 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.11.7.4.

Sec. 22. Subsection 94.101.7.5 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.11.7.5.

Sec. 23. Subsection 94.101.7.6 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.11.7.6.

Sec. 24. Subsection 94.101.7.7 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.11.7.7.

Sec. 25. Subsection 94.101.8 of the Los Angeles Municipal Code is renumbered as Subsection 94.101.12.

Sec. 26. Section 94.102.0 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 27. Subsection 94.103.1.2.5 of the Los Angeles Municipal Code is amended to read as follows:

94.103.1.2.5. A separate plumbing permit shall not be required for the installation of any plumbing system for which a combined building-mechanical permit has been obtained pursuant to Section 91.107.2.2.

Sec. 28. The first and last unnumbered Paragraphs of Subsection 94.103.1.2.12 of the Los Angeles Municipal Code are amended to read as follows:

94.103.1.2.12. Certified Licensed Contractors. No permit shall be required for the replacement of the following items when the work is done on a detached, single-family dwelling and the work is performed by a contractor with a valid Certificate of Registration as a Certified Licensed Contractor pursuant to Subsection 91.108.12.3:

A Certificate of Compliance pursuant to Subsection 91.108.12.3 must be filed with the City in lieu of a permit.

Sec. 29. Subsection 94.103.2 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 30. Subsection 94.103.3 of the Los Angeles Municipal Code is amended to read as follows:

94.103.3. Permit Issuance. Section 103.3 of the CPC is hereby adopted by reference with the following additions and amendments.

Sec. 31. Subsection 94.103.3.4 of the Los Angeles Municipal Code is renumbered as Subsection 94.103.3.3.

Sec. 32. Subsection 94.103.3.5 of the Los Angeles Municipal Code is renumbered as Subsection 94.103.3.4.

Sec. 33. Table 1-A following Subsection 94.103.4.1 of the Los Angeles Municipal Code is renumbered as Table 103.4.

Sec. 34. Subsections 94.103.5.1 through 94.103.5.4.2 of the Los Angeles Municipal Code are deleted in their entirety.

Sec. 35. Subsection 94.103.5.4.3 of the Los Angeles Municipal Code is renumbered as Subsection 94.103.5.7.3.

Sec. 36. Subsections 94.103.5.5 through 94.103.8 of the Los Angeles Municipal Code are deleted in their entirety.

Sec. 37. Subsection 94.103.9 of the Los Angeles Municipal Code is amended to read as follows:

94.103.9. Reserved.

Sec. 38. The Title of Division 2 of Article 4, Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

ARTICLE 4, DIVISION 2

DEFINITIONS

Sec.39. A new Section 94.200 is added to the Los Angeles Municipal Code to read as follows:

SEC. 94.200. BASIC PROVISIONS.

Chapter 2 of the 2013 California Plumbing Code is adopted by reference with the following exceptions: Sections 203, 204, 205, 206, 207, 208. 210, 212, 215, 218, 219, 220 and 221 of the California Plumbing Code are not adopted; and, in lieu, Sections 94. 203.0, 94.204.0, 94.205.0, 94.206.0, 94.207.0, 94.208.0, 94.210.0, 94.212.0, 94.215.0, 94.218.0, 94.219.0, 94.220.0 and 94.221.0 are added as provided in this Article.

Sec. 40. Section 94.204.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.204.0. B.

Section 204 of the CPC is adopted by reference with the following addition and amendment.

Board. The Board of Building and Safety Commissioners of the City of Los Angeles.

Sec. 41. The definition of Department in Section 94.206.0 of the Los Angeles Municipal Code is amended to read as follows:

Department. The Department of Building and Safety of the City of Los Angeles.

Sec. 42. Section 94.206.0 of the Los Angeles Municipal Code is amended by deleting the term "**Dual Flush Toilet**" in its entirety.

Sec. 43. Section 94.207.0 of the Los Angeles Municipal Code is amended by deleting the term "**Energy Star**" in its entirety.

Sec. 44. Section 94.210.0 of the Los Angeles Municipal Code is amended by adding the definition of the term "**Handwashing Sink**" in proper alphabetical sequence to read as follows:

Handwashing Sink. A lavatory for hand and arm washing in commercial food preparation areas. A handwashing sink shall be considered Private or Private Use as defined in this Code.

Sec. 45. Section 94.215.0 of the Los Angeles Municipal Code is amended by deleting the term "**Monitor Nozzle**" in its entirety.

Sec. 46. Section 94.220.0 of the Los Angeles Municipal Code is amended by deleting the term "**Reclaimed Water**" in its entirety.

Sec. 47. Section 94.223.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.223.0. U.

Section 223 of the CPC is hereby adopted by reference.

Sec. 48. Division 3 of Article 4, Chapter IX of the Los Angels Municipal Code is amended by deleting the following notation in its entirety:

* The following sections in Division 3 are deleted in entirety by Ord No. 172,594:

94.301.0 thru 94.317.0.

Sec. 49. Section 94.300.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.300.0. BASIC PROVISIONS.

Chapter 3 of the 2013 CPC is adopted by reference.

Sec. 50. The Title of Division 4 of Article 4, Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

ARTICLE 4, DIVISION 4

PLUMBING FIXTURES AND FIXTURE FITTINGS

Sec. 51. Section 94.400.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.400.0 BASIC PROVISIONS.

Chapter 4 of the 2013 CPC is adopted by reference, except Subsections 94.403.2, 94.403.3, 94.403.3.1.1, 94.403.4 and 94.403.9 are added.

Sec. 52. Subsection 94.402.1.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 53. A new Subsection 94.403.2 is added to the Los Angeles Municipal Code to read as follows:

94.403.2. Water Closets. Water closets, either flush tank, Flushometer tank, or Flushometer valve operated, shall have an average consumption not to exceed 1.28 gallons (4.8L) of water per flush.

Sec. 54. A new Subsection 94.403.3 is added to the Los Angeles Municipal Code to read as follows:

94.403.3. Urinals. Urinal shall have an average consumption not to exceed 0.125 gallon (0.5 L) per flush.

94.403.3.1.1. Non-Water Urinal Drainage Connections. Where non-water urinals are installed, not less than one water-supplied fixture rated at not less than 1 drainage fixture unit shall be installed upstream on the same drain line to facilitate drain line flow and rinsing.

Sec. 55. A new Subsection 94.403.4 is added to the Los Angeles Municipal Code to read as follows:

94.403.4. Metered Faucets. All faucets in public restrooms shall be self-closing or self-closing metering faucets.

Sec. 56. A new Subsection 94.403.9 is added to the Los Angeles Municipal Code to read as follows:

94.403.9 Dishwashers.

94.403.9.1 Commercial Dishwashers. Water use for commercial dishwashers shall meet the following requirements:

Type	High-Temperature Maximum gallons per rack	Chemical Maximum gallons per rack
Conveyer	0.7	0.62
Door	0.95	1.16
Under-counter	0.90	0.98
Note: All installed dishwashers shall be Energy Star® rated		

94.403.9.2 Domestic Dishwashers. The maximum water use per washing cycle for domestic dishwasher shall be 5.8 gallons.

Sec. 57. Division 5 of Article 4, Chapter IX of the Los Angels Municipal Code is amended by deleting the following notation in its entirety:

* The following sections in Division 5 are deleted in entirety by Ord No. 172,594:

94.501.0 thru 94.526.0.

Sec. 58. Section 94.500.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.500.0. BASIC PROVISIONS.

Chapter 5 of the 2013 CPC is adopted by reference.

Sec. 59. Section 94.600.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.600.0. BASIC PROVISIONS.

Chapter 6 of the 2013 CPC is adopted by reference.

Sec. 60. Division 7 of Article 4, Chapter IX of the Los Angels Municipal Code is amended by deleting the following notation in its entirety:

* The following sections in Division 7 are deleted in entirety by Ord No. 172,594:

94.701.0 thru 94.722.0.

Sec. 61. Section 94.700.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.700.0. BASIC PROVISIONS.

Chapter 7 of the 2013 CPC is adopted by reference.

Sec. 62. The Title of Division 8 of Article 4, Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

ARTICLE 4, DIVISION 8

INDIRECT WASTES

Sec. 63. Division 8 of Article 4, Chapter IX of the Los Angels Municipal Code is amended by deleting the following notation in its entirety:

* The following sections in Division 8 are deleted in entirety by Ord No. 172,594:

94.801.0 thru 94.812.0.

Sec. 64. Section 94.800.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.800.0. BASIC PROVISIONS.

Chapter 8 of the 2013 CPC is adopted by reference.

Sec. 65. Section 94.900.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.900.0. BASIC PROVISIONS.

Chapter 9 of the 2013 CPC is adopted by reference.

Sec. 66. Section 94.1000.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1000.0. BASIC PROVISIONS.

Chapter 10 of the 2013 CPC is adopted by reference.

Sec. 67. Section 94.1100.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1100.0. BASIC PROVISIONS.

Chapter 11 of the 2013 CPC is adopted by reference, except Sections 1101.11.2.2(B), 1101.13 and 1104.3 are not adopted; and, in lieu, Subsections 94.1101.11.2.2 and 94.1101.13 are added.

Sec. 68. A new Subsection 94.1101.11.2.2 is added to the Los Angeles Municipal Code to read as follows:

94.1101.11.2.2. Secondary Roof Drain. Secondary roof drains shall be provided. The secondary roof drains shall be located not less than 2 inches (51mm) above the roof surface. The maximum height of the roof drains shall be a height to prevent the depth of ponding from exceeding that for which the roof was designed as determined by Section 1101.11.1. The secondary roof drains shall connect to a piping system in accordance with Section 1101.11.2.2(A).

Sec. 69. Subsection 94.1101.13 of the Los Angeles Municipal Code is amended to read as follows:

94.1101.13. Rainwater Sumps. All rainwater shall drain by gravity to a place of disposal satisfactory to the Department. If the rainwater cannot be drained by gravity, discharge into a sump may be permitted. Roof drainage shall not have a direct connection to a sump having an airtight cover. Rainwater sumps serving "public use" occupancy buildings shall be provided with dual pumps arranged to function alternately in case of overload or mechanical failure. The pumps shall have an audio and visual alarm, readily accessible, that signals pump failure or an overload condition. The lowest inlet shall have a minimum clearance of 2 inches (51mm) from the high-water or "starting" level of the sump.

Sec. 70. The Title of Division 12 of Article 4, Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

ARTICLE 4, DIVISION 12

FUEL GAS PIPING

Sec. 71. A new Section 94.1200.0 is added to the Los Angeles Municipal Code to read as follows:

SEC. 94.1200.0. BASIC PROVISIONS.

Chapter 12 of the 2013 CPC is adopted by reference and Section 94.1217 is added.

Sec. 72. The Title of Section 94.1201.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1201.0. SCOPE OF GAS PIPING.

Sec. 73. The Title of Section 94.1202.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1202.0. GENERAL.

Sec. 74. The Title of Section 94.1203.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1203.0. INSPECTION.

Sec. 75. The Title of Section 94.1204.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1204.0. CERTIFICATE OF INSPECTION.

Sec. 76. The Title of Section 94.1205.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1205.0. AUTHORITY TO RENDER GAS SERVICE.

Sec. 77. The Title of Section 94.1206.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1206.0. AUTHORITY TO DISCONNECT.

Sec. 78. The Title of Section 94.1207.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1207.0. TEMPORARY USE OF GAS.

Sec. 79. The Title of Section 94.1208.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1208.0. GAS PIPING SYSTEM DESIGN, MATERIALS, AND COMPONENTS.

Sec. 80. The Title of Section 94.1209.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1209.0. EXCESS FLOW VALVE.

Sec. 81. The Title of Section 94.1210.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1210.0. GAS PIPING INSTALLATION.

Sec. 82. The Title of Section 94.1211.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1211.0. APPLIANCE CONNECTIONS TO BUILDING PIPING.

Sec. 83. The Title of Section 94.1212.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1212.0. LIQUEFIED PETROLEUM GAS FACILITIES AND PIPING.

Sec. 84. The Title of Section 94.1213.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1213.0. PRESSURE TESTING AND INSPECTION.

Sec. 85. The Title of Section 94.1214.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1214.0. INTERCONNECTIONS BETWEEN GAS PIPING SYSTEMS.

Sec. 86. The Title of Section 94.1215.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1215.0. REQUIRED GAS SUPPLY.

Sec. 87. The Title of Section 94.1216.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1216.0. REQUIRED GAS PIPING SIZE.

Sec. 88. The Title of Section 94.1217.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1217.0. SEISMIC GAS SHUTOFF VALVES.

Sec. 89. Section 94.1218.0 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 90. Section 94.1219.0 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 91. Subsection 94.1219.1 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.1 and amended to read as follows:

94.1217.1. Definitions. For purposes of this section, certain terms shall be defined as follows:

Downstream of the Gas Utility Meter shall refer to all customer owned gas piping, downstream of the bypass valve, as specified by the public gas utility company.

Excess Flow Shutoff Valve shall mean a shutoff system activated by significant gas leaks or overpressure surges downstream of the valves.

Residential Building shall mean any single-family dwelling, duplex, apartment building, condominium, townhouse, lodging house, congregate residence, hotel or motel.

Seismic Gas Shutoff Valve shall mean a system consisting of a seismic sensing means and actuating means designed to automatically actuate a companion gas shutoff means installed in a gas piping system in order to shutoff the gas downstream of the location of the gas shutoff means in the event of a severe seismic disturbance. The system may consist of separable components or may incorporate all functions in a single body. The terms "Seismically Activated Gas Shutoff Valves" and "Earthquake Sensitive Gas Shutoff Valves" are synonymous.

Upstream of the Gas Utility Meter shall refer to all gas piping installed by the utility up to and including the meter and the utility's bypass tee at the connection to the customer owned piping.

Sec. 92. Subsection 94.1219.2 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.2 and amended to read as follows:

94.1217.2. Scope. An approved seismic gas shutoff valve or excess flow shutoff valve shall be installed downstream of the gas utility meter on each fuel gas line where the gas line serves the following buildings or structures:

Sec. 93. Subsection 94.1219.2.1 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.2.1.

Sec. 94. Subsection 94.1219.2.2 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.2.2.

Sec. 95. Subsection 94.1219.2.2.1 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.2.2.1.

Sec. 96. Subsection 94.1219.2.2.2 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.2.2.2 and amended to read as follows:

94.1217.2.2.2. The alteration or addition is valued at more than $10,000 and a building permit for the work in commercial buildings was first issued on or after September 1, 1995. Alterations or additions to individual units or tenant spaces shall require a seismic gas shutoff valve or excess flow shutoff valve to be installed for all gas piping serving that individual unit or tenant space; or

Sec. 97. Subsection 94.1219.2.2.3 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.2.2.3 and amended to read as follows:

94.1217.2.2.3. The alteration or addition is valued at more than $10,000 and a building permit for the work in residential buildings, including condominium units, is first issued on or after January 10, 1998. Alterations or additions to an individual condominium unit shall require a seismic gas shutoff valve or excess flow shutoff valve to be installed for all gas piping serving that individual condominium unit; or

Sec. 98. Subsection 94.1219.2.2.4 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.2.2.4.

Sec. 99. Subsection 94.1219.2.3 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.2.3 and amended to read as follows:

94.1217.2.3. Prior to entering into an agreement of sale, or prior to the close of escrow when an escrow agreement has been executed in connection with the sale,

1. Buildings or structures which contain fuel gas piping shall have a seismic gas shutoff valve or excess flow shutoff valve installed.

2. The sale of an individual condominium unit in a building shall require the installation of a seismic gas shutoff valve or excess flow shutoff valve for all gas piping serving that individual unit.

EXCEPTIONS:

(a) Seismic gas shutoff valves or excess flow shutoff valve may be installed upstream of a gas utility meter provided they meet the requirements of this section.

(b) Seismic gas shutoff valves or excess flow shutoff valve installed on a building or structure prior to September 1, 1995, are exempt from the requirements of this section provided they remain installed on the building or structure and are maintained for the life of the building or structure.

(c) Notwithstanding Subsections 1217.2.1, 1217.2.2 and 1217.2.3 above, these provisions shall not apply to a building or structure if the Department determines that a building or structure satisfies all three of the following criteria:

(i) That the building or structure is owned, operated, and maintained by a governmental entity or public utility; or that the building or structure is owned by a private concern and provides a public benefit, such as a co-generation facility which shares its excess power with a public utility or with a large industrial facility which has governmental contracts;

(ii) That the building or structure has available 24-hour, year round maintenance staffing; and

(iii) That the gas piping system contained in the building or structure is designed to withstand seismic effects of earthquakes.

(d) A single seismic gas shutoff valve or excess flow shutoff valve may be installed upstream of the gas utility meter at the discretion of the gas utility.

Sec. 100. Subsection 94.1219.3 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.3 and amended to read as follows:

94.1217.3. General Requirements. Seismic gas shutoff valves or excess flow shutoff valve installed either in compliance with Section 1217.2, et seq., or voluntarily with a permit issued on or after September 1, 1995, shall comply with the following requirements:

Sec. 101. Subsection 94.1219.3.1 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.3.1 and amended to read as follows:

94.1217.3.1. Seismic gas shutoff valves or excess flow shutoff valve shall be installed by a contractor licensed in the appropriate classification by the State of California.

EXCEPTIONS:

(a) A person who has been determined by the Department to meet the qualification of a Qualified Installer pursuant to the definition of a Qualified Installer set forth in Chapter 2 of this Code may install a seismic gas shutoff valve or excess flow shutoff valve to a single-family dwelling which is or is intended to be occupied by the Qualified Installer.

(b) Seismic gas shutoff valves or excess flow shutoff valve may be installed, without a permit, by a gas utility or a contractor authorized by the gas utility when the valves are installed upstream of the gas utility meter and the valves are installed and approved in accordance with this section.

Sec. 102. Subsection 94.1219.3.2 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.3.2 and amended to read as follows:

94.1217.3.2. Seismic gas shutoff valves or excess flow shutoff valve shall be mounted rigidly to the exterior, or other approved location, of the building or structure containing the fuel gas piping.

EXCEPTION: If the Department determines that the seismic gas shutoff valve or excess flow shutoff valve has been tested and listed for an alternate method of installation, then a seismic gas shutoff valve or excess flow shutoff valve need not be mounted rigidly to the exterior of the building or structure containing the fuel gas piping.

Sec. 103. Subsection 94.1219.3.3 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.3.3 and amended to read as follows:

94.1217.3.3. Be certified by the Office of the State Architect.

Sec. 104. Subsection 94.1219.3.4 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.3.4 and amended to read as follows:

94.1217.3.4. Be approved by the Department of Building and Safety, Mechanical Testing Laboratory.

Sec. 105. Subsection 94.1219.3.5 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.3.5 and amended to read as follows:
94.1217.3.5. Have a thirty (30) year warranty which warrants that the valve is free from defects and will continue to properly operate for thirty (30) years from the date of installation.

Sec. 106. Subsection 94.1219.3.6 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.3.6 and amended to read as follows:

94.1217.3.6. Where seismic gas shutoff valves or excess flow shutoff valve are installed as required by this section, they shall be maintained for the life of the building or structure or be replaced with a valve complying with the requirements of this section.

Sec. 107. Subsection 94.1219.3.7 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.3.7 and amended to read as follows:

94.1217.3.7. Seismic gas shutoff valves must be in compliance with all requirements of California Referenced Standard 12-16-1.

Sec. 108. Subsection 94.1219.3.8 of the Los Angeles Municipal Code is renumbered as Subsection 94.1217.3.8 and amended to read as follows:

94.1217.3.8. Excess flow shutoff valves must be in compliance with all requirements of California Referenced Standard 12-16-12.

Sec. 109. Section 94.1300.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1300.0. BASIC PROVISIONS.

Chapter 13 of the 2013 CPC is not adopted.

Sec. 110. The Title of Division 14 of Article 4, Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

ARTICLE 4, DIVISION 14

REFERENCED STANDARDS

Sec. 111. Section 94.1400.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1400.0. BASIC PROVISIONS.

Chapter 14 of the 2013 CPC is adopted by reference.

Sec. 112. Section 94.1500.0 of the Los Angles Municipal Code is amended to read as follows:

SEC. 94.1500.0. GENERAL.

Chapter 15 of the 2013 CPC is not adopted.

Sec. 113. The Title of Division 16 of Article 4, Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

ARTICLE 4, DIVISION 16

ALTERNATE WATER SOURCES FOR NONPOTABLE APPLICATIONS

Sec. 114. Section 94.1600.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1600.0. BASIC PROVISIONS.

Chapter 16 of the 2013 CPC is adopted by reference. Chapter 16A of the 2013 CPC is not adopted.

Sec. 115. Subsection 94.1600.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 116. The Title of Division 17 of Article 4, Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

ARTICLE 4, DIVISION 17

NONPOTABLE RAINWATER CATCHMENT SYSTEMS

Sec. 117. Section 94.1700.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1700.0. BASIC PROVISIONS.

Chapter 17 of the 2013 CPC is adopted.

Sec. 118. Section 94.1800.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.1800.0. BASIC PROVISIONS.

The 2012 Uniform Solar Energy Code, Chapters 2 through 8, is adopted by reference.

Sec. 119. The Title of Division 19 of Article 4, Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

ARTICLE 4, DIVISION 19

UNIFORM SWIMMING POOL, SPA AND HOT TUB CODE

Sec. 120. Section 94.1900.0 of the Los Angeles Municipal Code is added to read as follows:

SEC. 94.1900.0. BASIC PROVISIONS.

The 2012 Uniform Swimming Pool, Spa, and Hot Tub Code is adopted by reference.

Sec. 121. Section 94.2002.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.2002.0. Reserved.

Sec. 122. Section 94.2003.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.2003.0. Reserved.

Sec. 123. Section 94.2004.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.2004.0. Reserved.

Sec. 124. Section 94.2007.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.2007.0. Reserved.

Sec. 125. Section 94.2010.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.2010.0. NFPA-13.

NFPA 13-2013 is adopted by reference with the following exceptions and modifications.

94.2010.1. NFPA Section 2.2 is amended as follows:

2.2 NFPA Publications.

National Fire Protection Association, 1 Battery March Park, Quincy, MA 02169-7471.

NFPA 11, *Standard for Low-, Medium-, and High-Expansion Foam,* 2013 edition.

NFPA 14, *Standard for the Installation of Standpipes and Hose Systems,* 2013 edition.

NFPA 15, *Standard for Water Spray Fixed Systems for Fire Protection,* 2012 edition.

NFPA 16, *Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems,* 2011 edition.

NFPA 17, *Standard for Dry Chemical Extinguishing Systems,* 2009 edition.

NFPA 20, *Standard for the Installation of Stationary Pumps for Fire Protection,* 2013 edition.

NFPA 22, *Standard for Water Tanks for Private Fire Protection,* 2013 edition.

NFPA 24, *Standard for the Installation of Private Fire Service Mains and Their Appurtenances,* 2013 edition.

NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems,* 2006 California edition.

NFPA 30, *Flammable and Combustible Liquids Code,* 2012 edition.

NFPA 30B, *Code for the Manufacture and Storage of Aerosol Products,* 2011 edition.

NFPA 33, *Standard for Spray Application Using Flammable or Combustible Materials,* 2011 edition.

NFPA 40, *Standard for the Storage and Handling of Cellulose Nitrate Film,* 2011 edition.

NFPA 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work,* 2009 edition.

NFPA 70®, National Electrical Code®, 2011 edition.

NFPA72®, National Fire Alarm and Signaling Code, 2013 edition.

NFPA 82, *Standard on Incinerators and Waste and Linen Handling Systems and Equipment,* 2009 edition.

NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations,* 2011 edition.

NFPA *101®, Life Safety Code®,* 2012 edition.

NFPA 120, *Standard for Fire Prevention and Control In Coal Mines,* 2010 edition.

NFPA170, *Standard for Fire Safety and Emergency Symbols,* 2009 edition.

NFPA 214, *Standard on Water-Cooling Towers,* 2011 edition.

NFPA 259, *Standard Test Method for Potential Heat of Building Materials,* 2008 edition.

NFPA 400, *Hazardous Materials Code,* 2013 edition.

NFPA 409, *Standard on Aircraft Hangars,* 2011 edition.

NFPA 703, *Standard for Fire Retardant–Treated Wood and Fire Retardant Coatings for Building Materials,* 2012 edition.

NFPA 750, *Standard on Water Mist Fire Protection Systems,* 2010 edition.

NFPA 780, *Standard for the Installation of Lightning Protection Systems,* 2011 edition.

NFPA 804, *Standard for Fire Protection for Advanced Light Water Reactor Electric Generating Plants,* 2010 edition.

NFPA 909, *Code for the Protection of Cultural Resource Properties — Museums, Libraries, and Places of Worship,* 2010 edition.

NFPA 1963, *Standard for Fire Hose Connections,* 2009 edition.

94.2010.2. NFPA 13-2013 Section 3.3.25 is amended to read as follows:

3.3.25. Water Curtain is a line of closely spaced fire sprinklers (or a single sprinkler) aligned adjacent to openings to keep fire from penetrating those openings.

94.2010.3. NFPA13-2013 Section 3.4.1.1 is amended to read as follows:

3.4.1.1. Pre-mixed Antifreeze Solution. A mixture of an antifreeze material with water that is prepared by the manufacturer with a quality control procedure in place that ensures that the antifreeze solution remains.

94.2010.4. NFPA 13-2013 Section 6.9.4.1 is amended to read as follows:

6.9.4.1. Electrically operated alarm attachments forming part of an auxiliary, proprietary, remote station or local signaling system shall be installed in accordance with the Los Angeles Fire Code.

94.2010.5. NFPA 13-2013 Section 7.6.2.1 is amended to read as follows:

7.6.2.1. Antifreeze solutions shall be limited to pre-mixed antifreeze solutions of glycerin (chemically pure or United States Pharmacopoeia 96.5%) at a maximum concentration of 50% by volume, or propylene glycol at a maximum concentration of 40% by volume.

94.2010.6. NFPA 13-2013 Section 7.6.2.1.1 is added to read as follows:

7.6.2.1.1. Pre-mixed antifreeze solutions of propylene glycol exceeding 40% concentration by volume shall be permitted for use with ESFR sprinklers where the ESFR sprinklers are listed for such use in a specific application.

94.2010.7. NFPA 13-2013 Section 7.6.2.1.2 is added to read as follows:

7.6.2.1.2. Pre-mixed antifreeze solutions other than those described in 7.6.2.1 that are listed for use in sprinkler systems shall be permitted to be used.

94.2010.8. NFPA 13-2013 Section 7.6.2.1.3 is added to read as follows:

7.6.2.1.3. All pre-mixed antifreeze solutions shall be provided with a certificate from the manufacturer indicating the type of antifreeze, concentration by volume, and freezing point.

Table 7.6.2.2 is deleted in its entirety.

94.2010.9. NFPA 13-2013 Section 8.15.1.2.15 is amended to read as follows:

8.15.1.2.15. Exterior columns under 10 ft^2 (0.93 m^2) in total area, formed by studs or wood joist, with no sources of ignition within the column, supporting exterior canopies that are fully protected with a sprinkler system, shall not require sprinkler protection.

94.2010.10. NFPA 13-2013 Section 8.15.4.5 is added to read as follows:

8.15.4.5. Water curtains shall consist of closely spaced sprinklers in combination with draft stops. The draft stops shall be located immediately

adjacent to the opening, shall be at least 18 inches deep and shall be of noncombustible or limited-combustible material. Sprinklers shall be spaced not more than 6 feet apart and placed 6 to 12 inches from the draft stop on the side away from the opening. Where sprinklers are closer than 6 feet, cross baffles shall be provided in accordance with Section 8.6.3.4.2 of NFPA-13.

94.2010.11. NFPA13-2013 Section 8.15.5.7.2 is amended to read as follows:

8.15.5.7.2. The sprinkler required at the top and bottom of the elevator hoistway by 8.15.5.7.1 shall not be required where permitted by Chapter 30 of the Los Angeles Building Code.

94.2010.12. NFPA 13-2013 Section 8.15.7.1 is amended to read as follows:

8.15.7.1. Unless the requirements of 8.15.7.2 or 8.15.7.3 are met, sprinklers shall be installed under exterior roofs, canopies, porte-cochere, balconies, decks, or similar projections exceeding 4 ft (1.2 m) in width.

94.2010.13. NFPA 13-2013 Section 8.15.7.2 is amended to read as follows:

8.15.7.2. Sprinklers shall be permitted to be omitted where the canopies, roofs, balconies, decks or similar projections are constructed with materials that are noncombustible, limited-combustible or fire retardant treated wood as defined in NFPA 703, *Standard for Fire Retardant-Treated Wood and Fire-Retardant Coatings for Building Materials.*

94.2010.14. NFPA 13-2013 Section 8.15.7.3 is amended to read as follows:

8.15.7.3. Sprinklers shall be permitted to be omitted from below the canopies, roofs, balconies, decks or similar projections of combustible construction, provided the exposed finish material on the roof or canopy is noncombustible, limited-combustible or fire retardant treated wood as defined in NFPA 703, *Standard for Fire Retardant-Treated Wood and Fire-Retardant Coatings for Building Materials,* and the roofs or canopies contain only sprinklered concealed spaces or any of the following unsprinklered combustible concealed spaces:

1. Combustible concealed spaces filled entirely with noncombustible insulation;

2. Light or ordinary hazard occupancies where noncombustible or limited-combustible ceilings are directly attached to the bottom of solid wood joists so as to create enclosed joist spaces 160 ft^3 (4.5 m^3) or less in volume, including space below insulation that is laid directly on top or within the ceiling joists in an otherwise sprinklered attic *[see 11.2.3.1.4(4)(d)];* or

3. Concealed spaces over isolated small roofs or canopies not exceeding 55 ft^2 (5.1 m^2) in area.

94.2010.15. NFPA 13-2013 Section 8.15.7.4 is not adopted.

94.2010.16. NFPA 13-2013 Section 8.15.7.6 is added to read as follows:

8.15.7.6. Sprinklers may be omitted for the following structures:

1. Solar photovoltaic structures with no use underneath. Signs may be provided, as determined by the enforcing agency prohibiting any use underneath including storage.

2. Solar photovoltaic (PV) panels supported by framing that have sufficient uniformly distributed and unobstructed openings throughout the top of the array (horizontal plane) to allow heat and gasses to escape, as determined by the enforcing agency.

94.2010.17. NFPA 13-2013 Section 8.16.1.1.1.4 is added to read as follows:

8.16.1.1.1.4. Where a system includes floor control valves, a hydraulic design information sign containing information for the floor shall be provided at each floor control valve. A hydraulic design information sign shall be provided for each area calculated. The installing contractor shall identify a hydraulically designed sprinkler system with a permanently marked weatherproof metal or rigid plastic sign secured with corrosion resistant wire, chain or other approved means. Such signs shall be placed at the alarm valve, dry pipe valve, preaction valve or deluge valve supplying the corresponding hydraulically designed area.

94.2010.18. NFPA 13-2013 Section 8.16.1.1.1.5 is added to read as follows:

8.16.1.1.1.5. Control valves, check valves, drain valves, antifreeze valves shall be readily accessible for inspection, testing and maintenance. Valves located more than 7 feet above the finished floor shall be provided with a means of opening and closing the valve from the floor level.

94.2010.19. NFPA 13-2013 Section 8.16.1.5.4 is added to read as follows:

Locations. Floor control valves shall be within a stairway enclosure or within the vestibule or on the access balcony of a smoke proof enclosure.

EXCEPTIONS:

1. In buildings with three or fewer stories or where there is no stairway that serves a floor, control valves may be located elsewhere on the floor level.

2. Unenclosed stairways in parking garages.

94.2010.20. NFPA 13-2013 Section 9.1.3.9.1.1 is added to read as follows:

9.1.3.9.1.1. Powder-driven studs used for attaching hangers to the building structure are prohibited in Seismic design Categories C, D, E and F.

94.2010.21. NFPA 13-2013 Section 9.3.5.11.4 is amended to read as follows:

9.3.5.11.4. Where threaded pipe is used for sway bracing, it shall have a wall thickness of not less than Schedule 40.

94.2010.22. NFPA 13-2013 Section 9.3.5.12.4 is amended to read as follows:

9.3.5.12.4. Lag screws or power-driven fasteners shall not be used to attach braces to the building structure.

94.2010.23. NFPA 13-2013 Section 9.3.5.12.6 is amended to read as follows:

9.3.5.12.6. Fastening methods other than those identified in 9.3.5.12 shall not apply to other fastening methods, which shall be acceptable for use if certified by a registered professional engineer to support the loads determined in accordance with the criteria in 9.3.5.9. Calculations shall be submitted to the authority having jurisdiction.

94.2010.24. NFPA 13-2013 Section 9.3.5.12.7.2 is amended to read as follows:

9.3.5.12.7.2. Concrete anchors other than those shown in Figure 9.3.5.12.1 and identified in 9.3.5.11.11 shall be acceptable for use where designed in accordance with the requirements of the building code and certified by a registered professional engineer.

94.2010.25. NFPA 13-2013 Section 9.3.6.1(3) is amended to read as follows:

9.3.6.1(3). No. 12, 440 lb (200Kg) wire installed at least 45 degrees from the vertical plane and anchored on both sides of the pipe. Powder-driven fasteners for attaching restraint are allowed to be used provided that the restraint component does not support the dead load.

94.2010.26. NFPA 13-2013 Section 9.3.7.7 is not adopted.

94.2010.27. NFPA 13-2013 Section 10.6.4 is amended to read as follows:

10.6.4. Pipe joints shall not be located under foundation footings. The pipe under the building or building foundation shall not contain mechanical joints.

EXCEPTIONS:

1. Where allowed in accordance with 10.6.2.

2. Alternate designs may be utilized where designed by a registered professional engineer and approved by the enforcing agency.

94.2010.28. NFPA 13-2013 Section 10.9.1 is amended to read as follows:

10.9.1. Backfill shall be well tamped in layers or puddle under and around pipes to prevent settlement or lateral movement. Backfill shall consist of clean fill sand or pea gravel to a minimum of 6" below and to a minimum of 12" above the pipe and shall contain no ashes cinders, refuse, organic matter or other corrosive materials. Other backfill materials and methods are permitted where designed by a registered professional engineer and approved by the enforcing agency.

94.2010.29. NFPA 13-2013 Section 11.2.3.1.4 (4) (i) is amended as follows:

11.2.3.1.4 (4) (i). Exterior columns under 10 ft^2 (0.93m^2) in total area formed by studs or wood joists, with no sources of ignition within the column, supporting exterior canopies that are fully protected with a sprinkler system.

94.2010.30. NFPA 13-2013 Section 11.2.3.2.3.1 is amended to read as follows:

11.2.3.2.3.1. Where listed quick-response sprinklers, excluding extended coverage quick-response sprinklers, are used throughout a system or portion of a system having the same hydraulic design basis, the system area of operation shall be permitted to be reduced without revising the density as indicated in Figure 11.2.3.2.3.1 when all of the following conditions are satisfied:

1. Wet pipe system;

2. Light hazard occupancy;

3. 20 ft (6.1 m) maximum ceiling height; and

4. There are no unprotected ceiling pockets as allowed by 8.6.7 and 8.8.7 exceeding 32 ft^2 (3 m^2).

94.2010.31. NFPA 13-2013 Section 11.2.3.2.3.2 is amended to read as follows:

11.2.3.2.3.2. The number of sprinklers in the design area shall never be less than seven.

94.2010.32. NFPA 13-2013 Section 11.3.3.5 is added to read:

11.3.3.5. Water curtains shall be hydraulically calculated in accordance with Section 11.3.

94.2010.33. NFPA 13-2013 Section 12.1.1.2 is amended to read as follows:

12.1.1.2. Early suppression fast-response (ESFR) sprinklers shall not be used in buildings with automatic heat or smoke vents unless the vents use a standard response operating mechanism with a minimum temperature rating of 360°F (182°C) or 100°F (56°C) above the operating temperature of the sprinklers, whichever is higher.

94.2010.34. NFPA 13-2013 Section 24.1.7 is not adopted.

94.2010.35. NFPA 13-2013 Section 25.1 is amended to read as follows:

25.1. Approval of Sprinkler Systems and Private Fire Service Mains. The installing contractor shall do the following:

1. Notify the authority having jurisdiction and the property owner or property owner's authorized representative of the time and date testing will be performed;

2. Perform all required testing (see Section 25.2);

3. Complete and sign the appropriate contractor's material and test certificate(s) (see Figure 25.1);

4. Remove all caps and straps prior to placing the sprinkler system in service; and

5. Upon system acceptance by the authority having jurisdiction a label prescribed by Title 19 California Code of Regulations, Chapter 5 shall be affixed to each system riser.

94.2010.36. NFPA 13-2013 Section 25.4 is amended to read as follows:

25.4. Instructions. The installing contractor shall provide the property owner or the property owner's authorized representative with the following:

1. All literature and instructions provided by the manufacturer describing proper operation and maintenance of any equipment and devices installed;

2. NFPA 25, Standard for the Inspection, testing and maintenance of Water-Based Fire Protection Systems, 2006 California Edition;

3. Title 19, California Code of Regulations, Chapter 5, "Fire Extinguishing Systems."

94.2010.37. NFPA 13-2013 Section 25.5.1 is amended to read as follows:

25.5.1. The installing contractor shall identify a hydraulically designed sprinkler system with a permanently marked weatherproof metal or rigid plastic sign secured with corrosion resistant wire, chain or other approved means. Such signs shall be placed at the alarm valve, dry pipe valve, preaction valve or deluge valve supplying the corresponding hydraulically designed area. Pipe schedule systems shall be provided with a sign indicating that the system was designed and installed as a pipe schedule system and the hazard classification(s) included in the design.

94.2010.38. NFPA 13-2013 Section 25.5.2 is amended to read as follows:

25.5.2. The sign shall include the following information:

1. Location of the design area or areas;

2. Discharge densities over the design area or areas;

3. Required flow and pressure of the system at the base of the riser;

4. Presence of high piled storage;

5. Maximum height of storage planned;

6. Aisle width planned;

7. Required flow and pressure of the system at the water supply source;

8. Required flow and pressure of the system at the discharge side of the fire pump where a fire pump is installed;

9. Type or types and number of sprinklers or nozzles installed including the orifice size, temperature rating, orientation, K-Factor, Sprinkler Identification Number (SIN) for sprinkler heads when applicable and response type;

10. The minimum discharge flow rate and pressure required from the hydraulically most demanding sprinkler;

11. The required pressure settings for pressure reducing valves;

12. For deluge sprinkler systems, the required flow and pressure at the hydraulically most demanding sprinkler or nozzle;

13. The protection area per sprinkler based on the hydraulic calculations;

14. The edition of NFPA 13 to which the system was designed and installed.

94.2010.39. NFPA 13-2013 Section 25.6.1 is amended to read as follows:

25.6.1. California Edition NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems.

Sec. 126. Subsections 94.2010.39 through 94.2010.61 of the Los Angeles Municipal Code are deleted in their entirety.

Sec. 127. Section 94.2011.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.2011.0. Reserved.

Sec. 128. Section 94.2012.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.2012.0. Reserved.

Sec. 129. Section 94.2013.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.2013.0. NFPA 13R.

NFPA 13R-2013 is adopted by reference with the following exceptions, additions and modifications:

94.2013.1. NFPA 13R-2013 Section 2.2 is amended to read as follows:

2.2. NFPA Publications. NFPA 25, Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems, 2006 California edition.

94.2013.2. NFPA 13R-2013 Section 6.3.1 is added to read as follow as follows:

6.3.1. Instructions. The installing contractor shall provide the property owner or the property owner's authorized representative with the following:

1. All literature and instructions provided by the manufacturer describing proper operation and maintenance of any equipment and devices installed;

2. NFPA 25, Standard for the Inspection, Testing and Maintenance of water-Based Fire Protection Systems 2006 California edition and Title 19, California Code of regulations, Chapter 5; and

3. Once the system is accepted by the authority having jurisdiction, a label as prescribed by Title 19, California Code of regulations, Chapter 5, shall be affixed to each system riser.

94.2013.3. NFPA 13R-2013 Section 6.6.7.1 is added to read as follow as follows:

6.6.7.1. Sprinklers shall be permitted to be omitted for the following structures:

1. Solar photovoltaic structures with no use underneath. Signs may be provided, as determined by the enforcing agency prohibiting any use underneath including storage.

2. Solar photovoltaic (PV) panels supported by framing that have sufficient uniformly distributed and unobstructed openings throughout the top of the array (horizontal plane) to allow heat and gasses to escape, as determined by the enforcing agency.

Sec. 130. Subsections 94.2013.4 through 94.2013.27 of the Los Angeles Municipal Code are deleted in their entirety.

Sec. 131. Section 94.2014.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.2014.0. NFPA 13D.

NFPA 13D-2013 is adopted by reference with the following exceptions, modifications and additions:

94.2014.1. NFPA 13D-2013 Section 3.3.6 is modified to read as follows:

3.3.6. Pre-mixed Antifreeze Solution. A mixture of an antifreeze material with water that is prepared and factory-mixed by the manufacturer with a quality control procedure in place that ensures that the antifreeze solution remains homogeneous.

94.2014.2. NFPA 13D-2013 Section 5.1.4 is added to read as follows:

5.1.4. Fire Department Connections. A Fire Department connection shall be provided for any system protecting over 10,000 square feet of habitable space and shall meet the following requirements:

1. A single Fire Department connection pipe may be as small as the sprinkler riser, provided the riser is 3 inches or smaller; and

2. The hose inlet fitting may be 1-1/2 inches with 1.5-9 N.H. thread of 2.5-7.5 N.H. standard threads.

94.2014.3. NFPA 13D-2013 Section 6.2 is amended to read as follows:

6.2. Water Supply Sources. The following water supply sources shall be considered to be acceptable by this standard:

1. A connection to a reliable waterworks system with or without an automatically operated pump;

2. An elevated tank;

3. A pressure tank designed to American Society of Mechanical Engineers (ASME) standards for a pressure vessel with a reliable pressure source;

4. A stored water source with an automatically operated pump; or

5. A well with a pump of sufficient capacity and pressure to meet the sprinkler system demand. The stored water requirement of 6.1.2 or 6.1.3 shall be permitted to be a combination of the water in the well (including the refill rate) plus the water in the holding tank if such tank can supply the sprinkler system.

94.2014.4. NFPA 13D-2013 Section 6.2.2 is modified to read as follows:

6.2.2. Where a well, pump, tank or combination thereof is the source of supply for a fire sprinkler system the water supply shall serve both domestic and fire sprinkler systems, and the following shall be met:

1. The test connection shall be provided downstream of the pump that creates a flow of water equal to the smallest sprinkler on the system. The connection shall return water to the tank;

2. Any disconnecting means for the pump shall be approved;

3. A method for refilling the tank shall be piped to the tank;

4. A method of seeing the water level in the tank shall be provided without having to open the tank; and

5. The pump shall not be permitted to sit directly on the floor.

94.2014.5. NFPA 13D-2013 Section 6.2.2.1 is added to read as follows:

6.2.2.1. Where a fire sprinkler system is supplied by a stored water source with an automatically operated means of pressurizing the system other than an electric pump, the water supply may serve the sprinkler system only.

94.2014.6. NFPA 13D-2013 Section 6.2.4 is added to read as follows:

6.2.4. Where a water supply serves both domestic and fire sprinkler systems, 5 gpm (19 L/min) shall be added to the sprinkler system demand at the point where the systems are connected, to determine the size of common piping and the size of the total water supply requirements where no provision is made to prevent flow into the domestic water system upon operation of a sprinkler.

94.2014.7. NFPA 13D-2013 Section 8.3.4 is amended to read as follows:

8.3.4. Sprinklers shall not be required in detached garages, open attached porches, carports with no habitable space above, and similar structures.

94.2014.8. NFPA 13D-2013 Section 10.2.1(6) is added to read as follows:

6. Single family dwellings having more than 10,000 square feet of habitable space shall follow the design requirements of Section 94.2013 of this Chapter.

Sec. 132. Subsections 94.2014.9 through 94.2014.13 of the Los Angeles Municipal Code are deleted in their entirety.

Sec. 133. Section 94.2020.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.2020.0. NFPA 14.

NFPA 14-2013 is adopted by reference with the following exceptions, modifications and additions:

94.2020.1. NFPA 14-2013 Section 5.1.3 is modified to read as follows:

5.1.3. The spacing and location of standpipes and hose connections shall be in accordance with Section 905 of the 2013 Los Angeles Building Code.

94.2020.2. NFPA 14-2013 Section 5.1.4 is not adopted.

94.2020.3. NFPA 14-2013 Section 5.3.3 is modified to read as follows:

5.3.3. Class III Systems. A Class III standpipe system shall provide 1-1/2 in. (40 mm) hose stations to supply water for use by trained personnel and 2-1/2 in. (65 mm) hose connections to supply a larger volume of water for use by fire departments and those trained in handling heavy fire streams. Hose connections for Class III systems may be made through 2 1/2 hose valves with easily removable 2-1/2 inch by 1 1/2 inch reducers.

94.2020.4. Reserved.

94.2020.5. NFPA 14-2013 Section 6.1.2.5 is modified to read as follows:

6.1.2.5. To minimize or prevent pipe breakage where, subject to earthquakes, standpipe systems shall be protected in accordance with Section 94.2010 of this Article.

94.2020.6. NFPA 14-2013 Section 6.3.7.1 is modified to read as follows:

6.3.7.1. System water supply valves, isolation control valves, and other valves in fire mains shall be supervised in an approved manner in the open position by one of the following methods:

1. Where a building has a fire alarm system or a sprinkler monitoring system installed, the valve shall be supervised by:

   a. A central station, proprietary, or remote supervising station; or

   b. A local signaling service that initiates an audible signal at a constantly attended location.

2. Where a building does not have a fire alarm system or a sprinkler monitoring system installed, the valve shall be supervised by:

   a. Locking the valves in the open position; or

   b. Sealing of valves and an approved weekly recorded inspection where valves are located within fenced enclosures under the control of the owner.

94.2020.7. NFPA 14-2013 Section 6.4.5.3.1 is added to read as follows:

6.4.5.3.1. Fire Department inlets shall supply all Class I and Class III standpipes:

1. In buildings which have multiple zones, each zone shall be provided with separate inlet connections.

2. Where the Fire Department inlet connection does not serve the entire building, the portions served shall be suitably identified.

3. The Fire Department connection shall be adequate to supply the required flow and pressure.

94.2020.8. NFPA 14-2013 Sections 7.3.2.2 and 7.3.2.3 are not adopted. Location of Class I standpipe hose connections shall comply with Section 905.4 of the 2013 City of Los Angeles Building Code.

94.2020.9. NFPA 14-2013 Section 7.9.1.2 is amended to read as follows:

7.9.1.2. Pumps that are arranged in series shall be on the same level.

94.2020.10. NFPA 14-2013 Section 7.9.3 is not adopted.

94.2020.11. NFPA 14-2013 Section 9.1.5 is amended to read:

9.1.5. Water supplies from the following sources shall be permitted:

1. A public waterworks system where pressure and flow rate are adequate;

2. Automatic fire pumps connected to an approved water source in accordance with NFPA 20, *Standard for the Installation of Stationary Pumps for Fire Protection;*

3. Pressure tanks installed in accordance with NFPA22, *Standard for Water Tanks for Private Fire Protection;* or

4. Gravity tanks installed in accordance with NFPA 22, *Standard for Water Tanks for Private Fire Protection.*

94.2020.12. NFPA 14-2013 Section 9.2.1 is added to read as follows:

9.2.1. Buildings Over 200 Feet High.

1. **Redundancy.** The system shall be adequate when either one pump, one pump driver, one riser or zone pressure regulator is out of operation.

2. **Power.** Pumps shall be either diesel engine or electric motor driven. Electric fire pump motors shall be supplied from normal and the emergency standby power system. At least half of the required water flow shall be supplied by an electric motor driven pump.

The normal and emergency power system shall have adequate capacity and rating to simultaneously operate all pumps, including redundant pumps, serving any two adjacent zones.

94.2020.13. NFPA 14-2013 Section 11.2.3 is added to read as follows:

11.2.3. Flushing the System Riser. Water shall flow from the topmost outlet of each riser until the system is clear of debris.

11.2.3.1. Roof Outlets. Standpipe risers going through the last floor of the building, through a floor under a roof, or adjacent to a roof shall be designed so that they can be flushed through outlets located on the roof.

11.2.3.2. Flow. All standpipes shall be flushed individually through the roof, or in the absence of roof outlets, through the topmost outlet at a residual pressure of at least 65 psi. The flow for Class I and III standpipes shall be at least 500 g.p.m. through each riser.

94.2020.14. NFPA 14-2013 Sections 11.5.7.3.1 through 11.5.7.3.5 are added to read as follows:

11.5.7.3. Pressure Regulator Valve Test.

11.5.7.3.1. Test Required. When required by the Department, 2-1/2 inch pressure regulator valves installed on standpipe outlets shall be tested for proper operation at a flow of 300 g.p.m. with a minimum residual pressure of 125 psi in the presence of a representative of the Department.

11.5.7.3.2. Safety. Test nozzles and other equipment shall be adequately secured so as to eliminate danger to personnel.

11.5.7.3.3. Opening. An accessible 2-1/2 inch capped or plugged test opening shall be installed adjacent to each pressure regulator valve.

11.5.7.3.4. Drain. The test openings shall drain to a minimum 3-inch drain line constructed and installed as required for fire sprinkler drains. The drains shall not discharge where they may cause damage. Where available, drains shall terminate to the fire water storage tank.

11.5.7.3.5. Interconnection. The test drain shall either be separate or connect to a fire sprinkler drain.

94.2020.15. NFPA 14-2013 Section 12.1 is amended to read as follows:

A standpipe system, either temporary or permanent, shall be provided in accordance with this chapter in buildings under construction.

Sec. 134. Subsections 94.2020.16 through 94.2020.26 of the Los Angeles Municipal Code are deleted in their entirety.

Sec. 135. Section 94.2030.0 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 94.2030.0. NFPA 20 FIRE PUMP AND DRIVERS.

FIRE PUMPS AND DRIVERS. Fire pumps, their drivers and associated piping and equipment shall conform to the requirements set forth in NFPA 20-2013 with the following exceptions and modifications:

94.2030.1. NFPA 20-2013 Sections 1.4 through 1.4.3 are not adopted.

94.2030.2. NFPA 20-2013 Section 4.7.1 is modified to read as follows:

4.7.1. Fire pumps, equipment used with fire pumping systems, devices and attachments shall be dedicated to and listed for fire protection service. A copy of the manufacturer's certified pump test characteristic curve shall be available for comparison of results of field acceptance tests. The fire pump as installed shall equal the performance as indicated on the manufacturer's certified shop test characteristic curve within the accuracy limits of the test equipment.

94.2030.3. NFPA 20-2013 Section 4.11.1.4 is modified to read as follows:

4.11.1.4. The relief valve shall discharge to an approved location.

94.2030.4. NFPA 20-2013 Section 4.14.2 is modified to read as follows:

4.14.2. Installation. Suction pipe shall be installed and tested in accordance with section 94.2040 of this chapter. The installation of above-ground suction piping shall conform to Section 94.2010 of this chapter.

94.2030.5. NFPA 20-2013 Section 4.14.4.1 is modified to read as follows:

4.14.4.1. Where the suction supply is of sufficient pressure to be of material value without the pump, the pump shall be installed with a bypass having a check valve. *(See Figure A.5.14.4.)*

94.2030.6. NFPA 20-2013 Section 4.14.11 is added to read as follows:

4.14.11. Fire Department Connections. Fire Department connections shall not be connected on the suction side of the fire pump.

Sec. 136. Subsection 94.2030.7 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 137. Subsection 94.2030.8 of the Los Angeles Municipal Code is amended to read as follows:

94.2030.7. NFPA 20-2013 Sections 4.20.2.2 through 4.20.2.4 are not adopted.

Sec. 138. Subsection 94.2030.9 of the Los Angeles Municipal Code is amended to read as follows:

94.2030.8. NFPA 20-2013 Section 4.20.3.1.4 is added to read as follows:

4.20.3.1.4. The discharge from the test header shall terminate to the fire storage tank where available.

Sec. 139. Subsection 94.2030.10 of the Los Angeles Municipal Code is amended to read as follows:

94.2030.9. NFPA 20-2013 Section 4.20.3.5 is added to read as follows:

4.20.3.5. Label. The discharge from test headers hose valves shall be labeled "TEST CONNECTIONS."

EXCEPTION: Temporary Fire Pumps and Outlets.

Sec. 140. Subsection 94.2030.11 of the Los Angeles Municipal Code is amended to read as follows:

94.2030.10. NFPA 20-2013 Section 4.25.9 is added to read as follows:

4.25.9. Pressure Maintenance (Jockey or Makeup) Pumps. A pressure maintenance (jockey or makeup) pump shall be installed with each fire pump system.

EXCEPTION: Fire pump serving class II standpipes, temporary standpipes and fire pumps serving fire systems in one- and two-family dwellings.

Sec. 141. Subsection 94.2030.11 of the Los Angeles Municipal Code is amended to read as follows:

94.2030.11. NFPA 20-2013 Section 4.31.1(1) is not adopted.

Sec. 142. Subsection 94.2030.12 of the Los Angeles Municipal Code is amended to read as follows:

94.2030.12. NFPA 20-2013 Chapter 9 is not adopted.

Sec. 143. Subsection 94.2030.13 of the Los Angeles Municipal Code is amended to read as follows:

94.2030.13. NFPA 20-2013 Sections 10.1 through 10.4.8 are not adopted.

Sec. 144. Subsection 94.2030.14 of the Los Angeles Municipal Code is amended to read as follows:

94.2030.14. NFPA 20-2013 Sections 10.6 through 10.10.12.5 are not adopted.

Sec. 145. Subsection 94.2030.15 of the Los Angeles Municipal Code is amended to read as follows:

94.2030.15. NFPA 20-2013 Section 11.4 is added and modified to read as follows:

11.4. Fuel Supply and Arrangement. Fuel supply and arrangement shall be installed as required by the Los Angeles Fire Code.

Sec. 146. Subsection 94.2030.16 of the Los Angeles Municipal Code is amended to read as follows:

94.2030.16. NFPA 20-2013 Sections 11.4.1 through 11.4.6.4 are not adopted.

Sec. 147. Section 94.2040.0 of the Los Angeles Municipal Code is amended to read as follows:

94.2040.0. NFPA 24 Underground Fire Protection Piping.

This section regulates underground fire protection piping between the City main or other sources of supply and fire hydrants, fire sprinkler risers, and monitor nozzles. Above ground standpipe piping and water spray systems shall conform to applicable code requirements for fire sprinkler piping and to the requirements set forth in NFPA 24 2013 with following exceptions and modifications:

94.2040.1. NFPA 24-2013 Chapter 2 is not adopted.

94.2040.2. NFPA 24-2013 Section 4.2.1 is modified to read as follows:

4.2.1. Installation work shall be done by fully experienced and responsible contractors. Contractors shall be appropriately licensed in the State of California to install private fire service mains and their appurtenances.

94.2040.3. NFPA 24-2013 Section 4.2.2 is modified to read as follows:

4.2.2. Installation or modification of private fire service mains shall not begin until plans are approved and appropriate permits secured from the authority having jurisdiction.

94.2040.4. NFPA 24-2013 Section 4.2.2.1 is added to read as follows:

4.2.2.1. As approved by the authority having jurisdiction, emergency repair of existing system may start immediately, with plans being submitted to the authority having jurisdiction within 96 hours from the start of the repair work.

94.2040.5. NFPA 24-2013 Section 5.6 is modified to read as follows:

5.6. Pumps. A single automatically controlled fire pump installed in accordance with Section 94.2030 of this chapter shall be an acceptable water supply source.

94.2040.6. NFPA 24-2013 Section 5.7 is added and modified to read as follows:

5.7. Tanks shall be installed in accordance with Section 94.2050 of this Article.

94.2040.7. Reserved.

94.2040.8. NFPA 24-2013 Section 5.9.1.2 is amended to read as follows:

5.9.1.2. Fire department connections shall be properly supported and protected from mechanical damage.

94.2040.9. Reserved.

94.2040.10. NFPA 24-2013 Section 5.9.5.1 is added to read as follows:

5.9.5.1. Fire department connections shall be located at the nearest point of the department apparatus accessibility or at a location approved by the authority having jurisdiction.

94.2040.11. NFPA 24-2013 Section 6.1.5 is modified to read as follows:

6.1.5. A non-indicating valve such as an underground gate valve with approved roadway box, complete with T wrench, and accepted by the authority having jurisdiction shall be permitted to be used as sectional isolation valves in private service mains that do not supply fire sprinklers.

94.2040.12. NFPA 24-2013 Section 6.2.11 (5) is not adopted.

94.2040.13. Reserved.

94.2040.14. NFPA 24-2013 Section 6.4.1 is modified by changing the reference "NFPA 13" to "Section 94.2050 of this Article."

94.2040.15. NFPA 24-2013 Section 6.6.2 is added to read as follows:

6.6.2. A sectional valve shall be provided at the following locations:

1. On each bank where a main crosses a body of water; and

2. Outside the building foundation(s) where a main or a section of a main runs under a building.

94.2040.16. NFPA 24-2013 Sections 6.6.2.1 through 6.6.2.4 are added to read as follows:

6.6.2.1. Sectional control valves are not required when the fire service main system serves less than six fire appurtenances.

6.6.2.2. Sectional control valves shall be indicating valves in accordance with Section 94.2010 of this Article.

6.6.2.3. Sectional control valves on looped systems shall be located so that no more than five fire appurtenances are affected by shut-down of any single portion of the fire service main. Each fire hydrant, fire sprinkler system riser, and standpipe riser shall be considered a separate fire appurtenance. In-rack sprinkler systems shall not be considered as a separate appurtenance.

6.6.2.4. The number of fire appurtenances between sectional control valves is allowed to be modified by the authority having jurisdiction.

94.2040.17. Reserved.

94.2040.18. NFPA 24-2013 Section 7.1.1.1 is added and modified to read as follows:

7.1.1.1. Hydrant Valves. Each fire hydrant shall be isolated by listed key-type gate valve located at least four feet and not more than ten feet from the fire hydrant. The valve shall not be located in a parking space. No fire sprinkler riser valve shall control any fire hydrant.

94.2040.19. NFPA 24-2013 Section 7.1.4 is modified to read as follows:

7.1.4. Water Supplies. Water supplies for fire hydrant, monitoring nozzle and water spray systems shall be approved by the Fire Department.

94.2040.20. NFPA 24-2013 Section 10.6.4 is modified to read as follows:

10.6.4. Pipe joints shall not be located under foundation footings. The pipe under the building or building foundation shall not contain mechanical joints.

EXCEPTIONS:

I. Where allowed in accordance with 10.6.2.

II. Alternate designs may be utilized where designed by a registered professional engineer and approved by the enforcing agency.

94.2040.21. NFPA 24-2013 Section 10.9.1 is modified to read as follows:

10.9.1. Backfill shall be well tamped in layers or puddled under and around pipes to prevent settlement or lateral movement. Backfill shall consist of clean fill sand or pea gravel to a minimum of 6" below and to a minimum of 12" above the pipe and shall contain no ashes cinders, refuse, organic matter, or other corrosive materials. Other backfill materials and methods are permitted where designed by a registered professional engineer and approved by the enforcing agency.

94.2040.22. NFPA 24-2013 Section 10.10.2.2.5 is modified to read as follows:

10.10.2.2.5. When permitted by the authority Having Jurisdiction and required for safety measures presented by the hazards of open trenches, the pipe and joints shall be permitted to be backfilled, provided the installing contractor takes the responsibility for locating and correcting leakage.

94.2040.23. NFPA 24-2013 Section 12.1 is modified to read as follows:

12.1. General. Above ground pipe and fittings shall comply with the applicable Section-94.2010 of this Article that address pipe, fittings, joining methods, hangers and installation.

94.2040.24. NFPA 24-2013 Section 12.2.5 is added to read as follows:

12.2.5. To minimize or prevent breakage where subject to earthquakes, above ground pipe shall be protected in accordance with the seismic requirements of Section 2010 of this Article.

94.2040.25. NFPA 24-2013 Section 12.2.6 is added to read as follows:

12.2.6. Mains that pass through walls, floors and ceilings shall be provided with clearances in accordance with Section 2010 of this Article.

Sec. 148. The first unnumbered paragraph and Subsections 3, 4, 5, 6 and 7 of Section 94.2050.0 of the Los Angeles Municipal Code are amended to read as follows:

94.2050.0. NFPA 22 Fire Protection Tanks.

Tanks for water storage for fire protection systems and associated piping shall conform to the requirements of NFPA 22-2013 with the following exceptions, modifications and additions:

3. Section 14.2.3 is modified to read:

14.2.3.1. Underground Pipe Material. Piping shall be in accordance with section 94.2040.0 of this chapter.

14.2.3.2. Aboveground Pipe Material. Aboveground pipe material shall be in accordance with sections 94.2010.0 and 94.2030.0 of this Article.

4. Section 14.2.12.4 is added to read:

14.2.12.4. Valve. A readily accessible indicating-type control valve shall be installed in the water filling piping so as to isolate each tank.

5. Section 14.4.5 is modified to read:

14.4.5. Tank Fill. Each tank shall be equipped with an automatic tank fill line that shall be sized to fill the tank in eight hours, but shall not be smaller than 2 inches in diameter.

For high-rise buildings see Section 94.2060.0 of this Article.

6. Sections 14.4.5.1 through 14.4.5.4 are not adopted.

7. Section 14.9.3 is added to read:

14.9.3. Monitor. High and low level alarms shall be closed circuit electric alarms that sound an alarm and turn on an indication light at a permanently staffed location when the water level is not within ten percent of the design volume.

Sec. 149. Subsection 94.2060.1.2 of the Los Angeles Municipal Code is amended to read as follows:

94.2060.1.2. The capacity of the tank shall be based on the required standpipe demand capacity for the duration as specified in Table 11.2.3.1.2 of NFPA 13, but not less than 30,000 gallons.

Sec. 150. Subsection 94.2060.1.4 of the Los Angeles Municipal Code is amended to read as follows:

94.2060.1.4. In buildings over 420 feet high, fire sprinklers serving each floor shall be supplied from two standpipe risers. The supply shall be adequate with one connection shutoff. Each connection to a riser shall have a shutoff valve and a check valve.

Sec. 151. Division 21 of Article 4, Chapter IX of the Los Angeles Municipal Code is added to read as follows:

ARTICLE 4, DIVISION 21

APPENDICES

SEC. 94.2100.0. BASIC PROVISIONS.

Appendix A of the 2013 California Plumbing Code is adopted by reference with the following amendment:

> **A 3.1. Residual Pressures.** Decide what is the desirable minimum residual pressure that shall be maintained at the highest fixture in the supply system. The available residual pressure shall be not less than 15 (psi) (103 kPa). Where fixtures, fixture fittings or both are installed that require residual pressure exceeding 15 psi (103 kPa), that minimum residual pressure shall be provided.

Appendices B, D, G, H, I and J of the 2013 California Plumbing Code are adopted by reference.

Sec. 152. **Urgency Clause.** The City Council finds and declares that this Ordinance is required for the immediate protection of the public peace, health and safety for the following reason: In order for the City of Los Angeles to facilitate a seamless transition with the State of California and its Plumbing Code and maintain predictability and streamlined case processing for the benefit of economic development during distressed times, it is necessary to immediately adopt the foregoing exceptions, modifications and additions to the California Plumbing Code. Additionally, the California Plumbing Code becomes effective on January 1, 2011, and the amendments to that code as reflected herein must be adopted by the City Council and become effective as soon as possible. The Council, therefore, with the Mayor's concurrence, adopts this ordinance to become effective upon publication pursuant to Los Angeles City Charter Section 253.

Sec. 153. The City Clerk shall certify to the passage of this ordinance and have it published in accordance with Council policy, either in a daily newspaper circulated in the City of Los Angeles or by posting for ten days in three public places in the City of Los Angeles: one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall; one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall East; and one copy on the bulletin board located at the Temple Street entrance to the Los Angeles County Hall of Records.

I hereby certify that this ordinance was passed by the Council of the City of Los Angeles, by a vote of not less than three-fourths of all of its members, at its meeting of DEC 17 2013.

HOLLY L. WOLCOTT, Interim City Clerk

By _____
Deputy

Approved DEC 23 2013

_____
Mayor
ACTING

Approved as to Form and Legality

MICHAEL N. FEUER, City Attorney

By _____
KIM RODGERS WESTHOFF
Deputy City Attorney

Date 12/10/13

File No(s). CF 13-1214

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CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

RAYMOND S. CHAN, C.E., S.E.
SUPERINTENDENT OF BUILDING
INTERIM GENERAL MANAGER

January 30, 2014

Council File No. 13-1214

Jim McGowan, Executive Director
California Building Standards Commission
2525 Natomas Park Drive, Suite 130
Sacramento, CA 95833-2936

FILING OF EXPRESS FINDINGS AND DETERMINATION PERSUANT TO SECTION 17958.7 OF THE HEALTH AND SAFETY CODE

On December 17, 2013, the Los Angeles City Council adopted an ordinance to amend the Los Angeles Municipal Code (LAMC) by incorporating portions of the 2012 International Building Code and the 2013 California Building Code and adopt the findings that make the modifications to the California Building Code to be reasonably necessary because of local climatic, geological or topographical conditions.

Enclosed with this transmittal is a copy of the findings along with the modifications (the ordinance) to the California Building Code. The Department of Building and Safety, City of Los Angeles will consider this as complying with Section 17958.7 of the Health and Safety Code.

If you have any questions regarding this matter, please contact the Code Engineer, Mr. Victor Cuevas at (213) 482-0409.

RAYMOND S. CHAN, C.E., S.E.
Interim General Manager

Attachments

FINDINGS AND DETERMINATIONS

Findings and Determinations to support the proposed amendments regarding the adoption of the **2013 California Building Code (CBC).**

WHEREAS, the City of Los Angeles has **geological conditions**, such as earthquake faults. The City of Los Angeles is bounded on the east by the San Andreas Fault and interlaced with other earthquake faults, which run through, adjacent and under the City; and

WHEREAS, the City is located in Seismic Zone 4, which is considered by experts to be the most seismically active of the four seismic zones in the world; and

WHEREAS, seismic experts predict a massive earthquake on one of these faults within the next 30 years and several earthquakes similar in intensity to the Northridge Earthquake during the same period; and

WHEREAS, the 1994 Northridge Earthquake which was a moderate size (6.8 magnitude) earthquake caused extensive damage to buildings and structures, including damage to more than 115,000 buildings, moderate to major damage to more than 3,000 buildings and the vacating of about 21,000 residential units including 2,000 homes; and

WHEREAS, there were 57 people who lost their lives in the earthquake, but there could have been several thousand fatalities had the earthquake occurred at midday when most buildings were occupied instead of 4:31 in the morning; and

WHEREAS, massive earthquakes pose unusual and extraordinary stresses on buildings and structures requiring more stringent building regulations than would otherwise be required; and

WHEREAS, a major earthquake would break water lines making fire fighting more difficult and would break gas lines and electric lines, making a high risk of fires breaking out in all areas of the City; and

WHEREAS, there was a fire in the Fairfax Area of the City of Los Angeles in 1986, due to the high volume of methane gas seepage through cracks in the concrete floor of a building; and

WHEREAS, in 1999, large pockets of methane gas in the subsurface geological formation was discovered in various areas of Los Angeles; and

WHEREAS, the City of Los Angeles has **topographic conditions**, natural and man-made, such as the natural hills, mountains and the coastal region, as well as the man-made harbors and highly concentrated areas of high-rise buildings.

WHEREAS, the City of Los Angeles is situated in a coastal region of hills and mountains containing dry wild native brush and other native and non-native vegetation; and

WHEREAS, this region of flat land and hillside areas creates a natural basin, which has high strong winds alongside foothills and other areas of the City; and

WHEREAS, in 1982 fires in the flat areas of neighboring Orange County were spread from one wood shake and wood shingle roof covered building to the next wood shake and wood shingle roof covered building by the strong Santa Ana winds, and

WHEREAS, the dry brush areas of the local Santa Monica hillsides and the strong canyon winds or the dry Santa Ana winds contributed to past fires in the Los Angeles area, such as, the 1961 Bel Air and Brentwood Canyon, 1977 Topanga Canyon and 1993 Malibu Canyon fires, and

WHEREAS, widespread fires caused by either earthquakes or brush fires would impact the capabilities of the Fire Department to effectively respond to all the fires; and

WHEREAS, the highly concentrated area of high-rise buildings, traffic congestion and possible gridlock may jeopardize the quick response to fires by the Fire Department that could reduce the amount of damage to buildings and increase the number of lives saved; and

WHEREAS, the mountainous terrain is now identified as the Very High Fire Hazard Severity Zone and the highly concentrated area of high-rise buildings is identified as Fire District 1; and

WHEREAS, the City of Los Angeles has **climatic conditions** that is subject to a mild winter to an extremely hot summer desert-like climate that has hot, dry (Santa Ana) winds that make the temperature rise and the humidity drop, increasing the fire danger to all exposed combustible materials; and

WHEREAS, the City of Los Angeles has a population of more than 3,700,000 people spread over more than 450 square miles; and

WHEREAS, widespread fires caused by either earthquakes or brush fires would limit the capabilities of the Fire Department to effectively respond to all the fires; and

WHEREAS, quick response to fires by the Fire Department will reduce the amount of damage to buildings and increase the number of lives saved; and

WHEREAS, the City of Los Angeles has a population of more than 3,700,000 people spread over more than 450 square miles; and

NOW, THEREFORE, in order to provide adequate protection under the local climatic, geological and topographical conditions set forth above, the City of Los Angeles makes the following findings and determinations:

Section 91.101.1 is an **administrative amendment** necessary to clarify applicability of the Los Angeles Municipal Code (LAMC), the Los Angeles Building Code and the Los Angeles Residential Code.

Section 91.101.5 is an **administrative amendment** necessary to be consistent with the State code and correct a referenced section to the Los Angeles Municipal Code (LAMC).

Section 91.106.3.2.1 is an **administrative amendment** necessary to be update the term to say "Plot Plan", which is more commonly, used then "Plat Plan".

Section 91.106.3.3.3 is an **administrative amendment** necessary to further clarify that a structural engineer is required to stamp and sign plans when work is done on a building with a building height of 160 feet.

Section 91.106.3.3.4 is an **administrative amendment** necessary to add a referenced code section which also requires compliance when dealing with open space requirements.

Section 91.106.4.1 is an **administrative amendment** necessary to add parenthesis on the exceptions to provide clarity to the exceptions noted.

Section 91.107.7 is an **administrative amendment** necessary to correct a noted referenced code section.

Section 91.112 is an **administrative amendment** necessary to eliminate an outdated "Grading Certificate" which is no longer processed.

Section 91.113 is an **administrative amendment** necessary to add a Section title for where the department fees are located within the code.

Section 91.201 is an **administrative amendment** necessary to note that the City of Los Angeles has made changes to the 2013 CBC.

Section 91.202 is an **administrative amendment** necessary to add the following terms to the definitions section of the CBC:
Approved Agency or Approved Testing Agency and Approved Fabricator.

Section 91.300 is an **administrative amendment** necessary to clarify that the City of Los Angeles no longer amends this section of the CBC. Therefore, this section of the CBC is adopted in its entirety.

Section 91.400 is an **administrative amendment** necessary to clarify that this section of the CBC is adopted in its entirety.

Section 91.403.1 91.403.6 is an **administrative amendment** necessary to note That the City of Los Angeles has eliminated amendments previously found in these sections. Therefore, the City adopts these sections of the CBC in its entirety.

Section 91.601 through 91.603 is an **administrative amendment** necessary to clarify that the City of Los Angeles no longer amends these sections of the CBC and adopts these sections of the CB in its entirety.

Section 91.700 is an **administrative amendment** necessary to note that the City of Los Angeles does not amend this section of the CBC and in turn adopts this section of the CBC in its entirety.

Section 91.800 is an **administrative amendment** necessary to note that the City of Los Angeles does not need this note on this section since it adopts the CBC in its entirety.

Section 91.1207.2 is an **administrative amendment** necessary to correct add definitions which HCD has moved to the State Health and Safety Code.

Sections 91.1207.3 through 1207.13 are an **administrative amendment** necessary to correct and add definitions and sections which HCD has moved to the State Health and Safety Code. However, the City of Los Angeles will re-print in its code along with the other sound provisions which were already existing and required due to proximity of dwellings to airports with the City.

Section 91.1300 is an **administrative amendment** necessary to correct the most current referenced California Energy standard.

Section 91.1507 is an **administrative amendment** necessary to correct sections on the Los Angeles Municipal code of the Sections adopted and of the Sections amended on the CBC.

Section 91.1603.1.9 is an **administrative amendment** necessary to update a referenced code section.

Section 91.1609.1.1.2 is an **administrative amendment** necessary to renumber existing section previously found in 91.1609.1.1.3.

Section 91.1613.5.3 is a **technical amendment** necessary to modify exception #3 on ASCE 7 Section 12.2.23.1 to be in sync with a previously established limit in stories on a one and two- family dwellings.

Section 91.1613.5.4 is a **technical amendment** necessary to clarify the wall anchorage requirements for wood diaphragms due to the high seismic activity in this region due to numerous failures observed in the 1994 Northridge earthquake.

Section 91.1613.5.5 is a **technical amendment** necessary to add equation 12.2-1 of ASCE 7, which addresses limitation to structures related to seismic separation, necessary in this region due to the high seismic activity.

Section 91.1613.5.6 is a **technical amendment** necessary to add wood diaphragms to the other structural systems elements which must maintain deformation compatibility.

Sections 91.1613.6 through 91.1613.7 is an **administrative amendment** necessary relocate Suspended Ceiling amendments to synchronize with the CBC, but at the same time to eliminate amendments which are found in Section 13.5.6 of ASCE 7.

Sections 91.1613.8 through 91.1613.8.1.3.4 are an **administrative amendment** necessary to accommodate the relocation of existing LA City provisions for suspended ceilings due to changes in the 2010 California Building Code and to correct the referenced sections.

Sections 91.1613.9 through 91.1613.9.10.5 are an **administrative amendment** necessary due to the reformatting of the 2013 CBC, existing LA City provisions for Hillside Construction Requirements currently found in another section of the code will have to be relocated.

Section 91.161.16 is an **administrative amendment** necessary to eliminate all of the previous amendments to ASCE 7 found in this section, since the 2013 CBC has been reformatted and the amendments are now found elsewhere.

Section 91.1702.1 is an **administrative amendment** necessary to remove the terms being define and moved to Chapter 2 to be consistent with the 2012 IBC and 2013 CBC format.

Section 91.1703.6.1 is an **administrative amendment** necessary to correct the referenced code section noted.

Sections 91.1704.1 through 91.1704.1.4.2 are an **administrative amendment** necessary to relocate these sections since the 2013 CBC has changed the formatting of various sections.

Section 91.1704.2 is an **administrative amendment** necessary to relocate the existing amended requirements for "Special Inspections" due to the reformatting of the 2013 CBC.

Section 91.1704.2.1 is an **administrative amendment** necessary to relocate the existing amended requirements for "Registered Deputy Inspector Qualifications" due to reformatting of the 2013 CBC.

Section 91.1704.2.1.1 is an **administrative amendment** necessary to relocate the existing amended requirements for the "Duties and Responsibilities and of the Registered Deputy Inspector" due to reformatting of the 2013 CBC.

Section 91.1704.2.1.2 is an **administrative amendment** necessary to relocate the existing amended requirements for the "Fees for Registered Deputy Inspector" due to the reformatting of the 2013 CBC.

Section 91.1704.2.1.3 is an **administrative amendment** necessary to relocate the existing amended requirements for the "Failure to pass Examination for Registered Deputy Inspector" due to the reformatting of the 2013 CBC.

Section 91.1704.2.3 is an **administrative amendment** necessary to relocate the existing amended requirements for "Statement of Special Inspections" due to the reformatting of the 2013 CBC.

Section 91.1704.2.4 is an **administrative amendment** necessary to clarify the proper report requirements and record keeping for deputy inspectors, to maintain records and correction process when necessary.

Section 91.1704.2.5.1 is an **administrative amendment** necessary to outline the proper procedures for a deputy inspector to follow when inspecting and implementing procedures for fabrication.

Section 91.1704.2.5.2 is an **administrative amendment** necessary to clarify that a deputy inspector is not required on the premises of a facility when the facility is registered and certified as a licensed fabricator shop.

Section 91.1704.3 is an **administrative amendment** necessary to clarify that a statement of special inspection is necessary when a deputy inspector performs inspection for special inspection or testing on a site or facility.

Section 91.1704.3.1 is an **administrative amendment** necessary to clarify and specify the requirements of a report for when "Special Inspection" is required.

Section 91.1704.4 is an **administrative amendment** necessary to clarify and specify that the contractor acknowledges and understands what and when "Special Inspections" are required for the proposed work being performed.

Section 91.1704.4.1 and 91.1704.4.1.1 is an **administrative amendment** necessary to outline the registration and filing process for the certification of "Certified Licensed Contractors

Section 91.1704.4.1.2 is an **administrative amendment** necessary to outline the application process, the necessary information on the application, and the fee required to file for the license and certification of "Certified Licensed Contractors".

Section 91.1704.4.1.3 is an **administrative amendment** necessary to outline the examination, Board Examiners, scope of examination, time, rules fitness of applicant and failure to pass, when applying for "Certified Licensed Contractors".

Section 91.1704.4.1.4 is an **administrative amendment** necessary to outline the issuance and renewal of the Certificates for "Certified Licensed Contractors".

Section 91.1704.4.1.5 is an **administrative amendment** necessary to outline exhibition of certificate of the license for "Certified Licensed Contractors".

Section 91.1704.4.1.6 is an **administrative amendment** necessary to outline possibility of revocation due to incompetence, neglect or failure to observe or report violations of the Building Code for "Certified Licensed Contractors".

Section 91.1704.5 is an **administrative amendment** necessary to relocate existing requirements due to the change in format of the 2013 CBC related to Structural Observations.

Section 91.1704.5.1 is an **administrative amendment** necessary to relocate existing requirements due to the change in format of the 2013 CBC related to Structural Observations for "Seismic Resistance".

Section 91.1704.5.2 is an **administrative amendment** necessary to relocate existing requirements due to the change in format of the 2013 CBC related to Structural Observations for "Wind Requirements".

Section 91.1705.1.1 is an **administrative amendment** necessary to relocate existing requirements due to the change in format of the 2013 CBC related to Special Inspection being required for unusual type of construction.

Section 91.1705.1.2 is an **administrative amendment** necessary to outline the required certification from the architect, engineer or geologist of the fact that a structure or portion of a structure has been built in conformance with their design and when special inspection is required. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.1.3 is an **administrative amendment** necessary to clarify that even when a deputy inspector is performing his or her work, the department may still come in and perform inspections. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.1.4 is an **administrative amendment** necessary to clarify the requirements for when a deputy inspector finds termites or termite damage on a building with a raised floor foundation. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.1.5 is an **administrative amendment** necessary to clarify that during an emergency the department may deputize Emergency Building Inspectors without any compensation from the City. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.1.6 is an **administrative amendment** necessary to outline the requirements for Special Activity Inspection. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.1.7 is an **administrative amendment** necessary to outline the Section number and Title regarding the Special Activity Inspection Authority. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.1.8 is an **administrative amendment** necessary to outline the registration requirements for Special Activity Inspection. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.1.9 is an **administrative amendment** necessary to outline the duties for Special Activity Inspection. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.1.10 is an **administrative amendment** necessary to outline the fees for Special Activity Inspection. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.1.11 is an **administrative amendment** necessary to outline the renewal process for Special Activity Inspection. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.2.2.1.1 is an **administrative amendment** necessary to clarify that welding for Cold-formed Steel requires a qualified deputy inspector. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.2.2.1.2 is an **administrative amendment** necessary to clarify that welding inspection shall be performed by a registered deputy inspector qualified by the department for reinforcing steel. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Sections 91.1705.2.2.1.3 and 91.1705.2.2.1.3.1 are **administrative amendments** necessary to clarify outline the welder's certification requirements fees and time limits for renewal. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.2.2.1.3.2 is an **administrative amendment** necessary to outline the authority of the Superintendent of Building to revoke a license when the workmanship is not meeting the minimum code requirements. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.2.2.2 is an **administrative amendment** necessary to outline the inspection requirements for a deputy inspector inspecting a steel truss system which spans more than 60 feet. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.3 is an **administrative amendment** necessary to outline the requirements for a deputy inspector when inspecting concrete construction and the exceptions for when special inspection is not required. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Table 91.1705.3 is an **administrative amendment** necessary to provide clarification for footnotes related to the definition of Building

Superintendent. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.3.1 is a **technical amendment** necessary to clarify that when a building exceeds a height of 160 feet, continuous inspection of the reinforcement and placement of the concrete, and the engineer and contractor will need to acknowledge in writing that the materials used and the structural work performed, is in compliance with the approved plans. Due to the high seismic activity in the LA region, higher levels of safety must be enforced to maintain quality assurance levels. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.3.2 is a **technical amendment** necessary to replace the term Building Official with the term "Superintendent of Building" which is a more common term in the City of Los Angeles Municipal Code (LAMC).

Section 91.1705.6 is a **technical amendment** necessary to clarify the exception to require special inspection only for fill material deeper than 12 and for when the fill material supports footing or when used on graded slopes.

Table 91.1705.6 is an **administrative amendment** necessary to add a footnote which clarifies that the frequency in conducting the deputy inspection trips will be determined by the registered licensed professional of record.

Section 91.1705.6.1 is an **administrative amendment** necessary to carry forward existing requirements for when a deputy inspector is required due to the need for special inspection as required by the grading work.

Section 91.1705.7 is an **administrative amendment** necessary to reference the section which specifies the procedures for compliance when conduction special inspections related deep foundations.

Section 91.1705.8 is an **administrative amendment** necessary to reference the section which specifies the procedures for compliance when conduction special inspections related Cast-in Place deep foundations.

Section 91.1705.11.1 is a **technical amendment** necessary to clarify that structural steel welding requires continuous inspection and all other welding requirements per AISC for structural steel. Also, a registered deputy inspector is required during the fabrication of steel moment frames used in buildings exceeding a building height of 160 feet. Due to the high seismic activity in the LA region, higher levels of safety must be enforced to maintain quality assurance levels.

Section 91.1705.11.1.1 is a **technical amendment** necessary to clarify that when a building exceeds a height of 160 feet, the engineer and contractor will need to acknowledge in writing that the materials used and the structural work performed, is in compliance with the approved plans. Due to the high seismic activity in the LA region, higher levels of safety must be enforced to maintain quality assurance levels. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.11.1.1 is an **administrative amendment** necessary to clarify that in the City of LA special inspectors are known as "deputy inspectors" and other approved structural systems, may be categorized as alternate methods of constructions through the research report process. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.12.2 is a **technical amendment** necessary to clarify that Non-destructive testing by an approved Testing Agency, in addition to the steel testing as required per AISC. Also, base metal thicker than 1.5 inches subject to through-thickness weld shrinkage strains, shall be ultrasonically tested for discontinuity behind and adjacent to those welds after joint completion. Any material discontinuities shall be accepted or rejected on the basis of ASTM 435 or ASTM A 898. Due to the high seismic activity in the LA region, higher levels of safety must be enforced to maintain quality assurance levels. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.16.2 is an **administrative amendment** necessary to clarify that in the City of LA special inspectors are known as "deputy inspectors" and other approved structural systems, may be categorized as alternate methods of constructions through the research report process. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1705.17 is an **administrative amendment** necessary to add the term deputy inspection and remove "Special Inspection". This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1706.1 is an **administrative amendment** necessary to add the term Superintendent of Building and remove the term "Building Official". This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC

Section 91.1707.1 is an **administrative amendment** necessary to add the term Superintendent of Building and remove the term "Building Official". This is

an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1708.1 is an **administrative amendment** necessary to add the term Superintendent of Building and remove the term "Building Official". This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.1712 through 91.1712.8 is an **administrative amendment** necessary to relocate current standards for "Certified Security Bar Installer" due to the reformatting of the 2013 CBC.

Section 91.1713.1 is an **administrative amendment** necessary to outline the purpose to regulate materials and methods of construction related to prefabricated systems.

Section 91.1713.2 is an **administrative amendment** necessary to outline the scope to regulate materials and methods of construction related to prefabricated systems.

Section 91.1713.3 is an **administrative amendment** necessary to define "Prefabricated Assembly".

Section 91.1713.4 is an **administrative amendment** necessary to clarify connections compliance with CBC Section 1611.11.1.

Section 91.1713.5 is an **administrative amendment** necessary to clarify pipes and Conduits compliance with CBC Section 1611.11.2.

Section 91.1713.6.1 is an **administrative amendment** necessary to clarify materials compliance with the CBC.

Section 91.1713.6.2 is an **administrative amendment** necessary to outline the compliance with the certification procedures required with every prefabricated assembly.

Section 91.1713.6.3 is an **administrative amendment** necessary to outline the certification process for and agency.

Section 91.1713.6.4 is an **administrative amendment** necessary to outline the requirements for placement of prefabricated assemblies and the need for code compliance for the assembly.

Section 91.1713.6.5 is an **administrative amendment** necessary to clarify that continuous inspection may be required for certain material when construction takes place onsite.

Sections 91.1715 through 91.1804 are **administrative amendment** necessary to clarify that the City of Los Angeles now adopts the CBC by reference.

Section 91.1807.1.4 is a **technical amendment** necessary to clarify that wood foundations are permitted only for accessory buildings not used for human occupancy. Due to the high seismic activity in the southern California region, a solid foundation is required on all buildings used for human occupancy.

Section 91.1807.1.6 is an **administrative amendment** necessary to clarify that the prescriptive design standards are not permitted for structures located in Seismic Design category D, E or F. Due to the high seismic activity in the southern California region, a higher construction standard will be required in this region.

Section 91.1809.3 is an **administrative amendment** necessary due to Local 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 1994 Northridge Earthquake. The proposed modification to prohibit prescriptive design provisions for foundation walls as plain concrete have performed poorly in withstanding the cyclic forces resulting from seismic events and to require the walls to be designed by a registered design professional to ensure that the proper analysis of the structure takes into account the surrounding condition 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 Building Code.

Section 91.1809.4 is a **technical amendment** necessary to clarify the depth and width of footings below the surface of undisturbed soil and the compacted fill material. Being that throughout the City, the topographic and soil conditions require more stable footings with a proper depth from the top surface of undisturbed soil and not just the top surface

Section 91.1809.7 is a **technical amendment** necessary to provide an option for prescriptive foundation construction limited light frame construction and for one story buildings.

Table 91.1809.7 is a **technical amendment** necessary due to Local Geological Conditions – No substantiating data has been provided to show that under-reinforced footings are effective in resisting seismic loads and may potentially lead to a higher risk of failure. Therefore, this proposed amendment requires minimum reinforcement in continuous footings to

address the problem of poor performance of plain or under-reinforced footings during a seismic event. With the higher seismic demand placed on buildings and structures in this region, precautionary steps are proposed to reduce or eliminate potential problems that may result by following prescriptive design provisions for footing that does not take into consideration the surrounding environment. It was important that the benefit and expertise of a registered design professional be obtained to properly analyze the structure and take these issues into consideration. This amendment reflects the recommendations by the Structural Engineers Association of Southern California (SEAOSC) and the Los Angeles City Task Force that investigated the poor performance observed in the 1994 Northridge Earthquake. This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles

Section 91.1809.12 is a **technical amendment** necessary due to Local Climatic and Geological Conditions – No substantiating data has been provided to show that timber footings are effective in supporting buildings and structures during a seismic event, especially while being subjected to deterioration caused by the combined detrimental effects of moisture in the soil and wood-destroying organisms. Timber footings, when they are not properly treated and protected against deterioration, have performed very poorly. Most contractors are typically accustomed to construction in dry and temperate weather in the Southern California region and are not generally familiar with the necessary precautions and treatment of wood that makes it suitable for both seismic event and wet applications. The proposed amendment takes the precautionary steps to reduce or eliminate potential problems that may result by using timber footings that experience relatively rapid decay due to the face that the region does not experience temperatures cold enough to destroy or retard the growth and proliferation of wood-destroying organisms. This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

Section 91.1809.3.2.4 is a **technical amendment** necessary due to Local Climatic and Geological Conditions – No substantiating data has been provided to show that timber deep foundation is effective in supporting buildings and structures during a seismic event while being subject to deterioration caused by the combined detrimental effect of constant moisture in the soil and wood-destroying organisms. Timber deep foundation, when they are not properly treated and protected against deterioration, has performed very poorly. Most contractors are typically accustomed to construction in dry and temperate weather in the Southern California region and are not generally familiar with the necessary precautions and treatment of wood that makes it suitable for both seismic event and wet applications. The proposed amendment takes the

precautionary steps to reduce or eliminate potential problems that may result by using timber deep foundation that experience relatively rapid decay due to the face that the region does not experience temperatures cold enough to destroy or retard the growth and proliferation of wood-destroying organisms. This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

Section 91.1809.3.3.1.4 is a **technical amendment** necessary due to Local Geological Conditions – References made to sections within the LAMC which have other existing amendments.

Section 91.1809.3.3.10.4 is a **technical amendment** necessary due to Local Geological Conditions – References made to sections within the LAMC which have other existing amendments.

Section 91.1809.3.3.10.4.8 is a **technical amendment** necessary due to Local Geological Conditions – and also to clarify, that certain exploratory requirements for soils investigations must be followed when investigating soils conditions a site being developed.

Section 91.1905.1 is a **technical amendment** necessary due to Local Geological Conditions to modify changes which the CBC has already made to ACI 318.

Section 91.1905.1.8 is a **technical amendment** necessary due to Local Geological Conditions to make amendments which require minimum reinforcement in continuous footings to address the problem of poor performance of plain or under-reinforced footings during a seismic event. This amendment reflects the recommendations by the Structural Engineers Association of Southern California (SEAOSC) and the Los Angeles City Joint Task Force that investigated the poor performance observed in 1994 Northridge Earthquake. This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

Section 91.1905.1.10 is a **technical amendment** necessary due to Local Geological Conditions. This amendment is intended to carry over critical provisions for the design of concrete columns in moment frames from the legacy 1997 Uniform Building Code. Increased confinement is critical to the integrity of such columns and these modifications ensure that it is provided when certain thresholds are exceeded.

In addition, this amendment carries over from the legacy 1997 Uniform Building Code a critical provision for the design of concrete shear walls. It essentially limits the use of very highly gravity-loaded walls in being

included in the seismic load resisting system, since their failure could have catastrophic effect on the building.

Furthermore, this amendment was incorporated in the code based on observations from the 1994 Northridge Earthquake. Rebar placed in very thin concrete topping slabs have been observed in some instances to have popped out of the slab due to insufficient concrete coverage. This modification ensures that critical boundary and collector rebars are placed in sufficiently thick topping slab to prevent buckling of such reinforcements.

This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

Section 91.1905.1.11 is a **technical amendment** necessary due to Local Geological Conditions. This amendment is intended to carry over critical provisions for the design of concrete columns in moment frames from the legacy 1997 Uniform Building Code. Increased confinement is critical to the integrity of such columns and these modifications ensure that it is provided when certain thresholds are exceeded.

In addition, this amendment carries over from the legacy 1997 Uniform Building Code a critical provision for the design of concrete shear walls. It essentially limits the use of very highly gravity-loaded walls in being included in the seismic load resisting system, since their failure could have catastrophic effect on the building.

Furthermore, this amendment was incorporated in the code based on observations from the 1994 Northridge Earthquake. Rebar placed in very thin concrete topping slabs have been observed in some instances to have popped out of the slab due to insufficient concrete coverage. This modification ensures that critical boundary and collector rebars are placed in sufficiently thick topping slab to prevent buckling of such reinforcements.

This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

Section 91.1905.1.12 is a **technical amendment** necessary due to Local Geological Conditions. This amendment is intended to carry over critical provisions for the design of concrete wall in moment frames from the legacy 1997 Uniform Building Code. Increased confinement is critical to the integrity of such columns and these modifications ensure that it is provided when certain thresholds are exceeded.

In addition, this amendment carries over from the legacy 1997 Uniform Building Code a critical provision for the design of concrete shear walls. It essentially limits the use of very highly gravity-loaded walls in being included in the seismic load resisting system, since their failure could have catastrophic effect on the building.

Furthermore, this amendment was incorporated in the code based on observations from the 1994 Northridge Earthquake. Rebar placed in very thin concrete topping slabs have been observed in some instances to have popped out of the slab due to insufficient concrete coverage. This modification ensures that critical boundary and collector rebars are placed in sufficiently thick topping slab to prevent buckling of such reinforcements.

This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

Section 91.1905.1.13 is a **technical amendment** necessary due to Local Geological Conditions. This amendment is intended to carry over critical provisions for the design of collector and boundary elements on in topping slabs from the legacy 1997 Uniform Building Code. Increased confinement is critical to the integrity of such columns and these modifications ensure that it is provided when certain thresholds are exceeded.

In addition, this amendment carries over from the legacy 1997 Uniform Building Code a critical provision for the design of concrete shear walls. It essentially limits the use of very highly gravity-loaded walls in being included in the seismic load resisting system, since their failure could have catastrophic effect on the building.

Furthermore, this amendment was incorporated in the code based on observations from the 1994 Northridge Earthquake. Rebar placed in very thin concrete topping slabs have been observed in some instances to have popped out of the slab due to insufficient concrete coverage. This modification ensures that critical boundary and collector rebars are placed in sufficiently thick topping slab to prevent buckling of such reinforcements.

This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

Section 91.1906.1 is an **administrative amendment** necessary due to the need to update the new code reference sections and revise exception verbiage to reflect portion of exception already covered by 2012 IBC sec 1906.

Section 91.2113.3 is an **administrative amendment** to make the first paragraph of the Section consistent with the CBC and carry forward the second paragraph with what was originally required for the repair of chimneys as previously required under the original amendment.

Section 91.2204.1 is an **administrative amendment** to make carry forward existing local amendments related to the approval of licensed fabricator shops and welding procedures.

Sections 91.2205.4 is **technical amendment** necessary modifications recommended by both SEAOSC Seismology and Steel Committee due to recent test results on braces used in steel concentrically braces frames (SCBF) which indicate that many commonly used sections and brace configurations do not meet seismic performance expectations.

Section 91.2306.2 is an **administrative amendment** necessary to due to a technical change previously made to not allow staples unless proper testing is conducted and only in structures assigned to Seismic Design Category A, B or C.

Section 91.2306.3 and Table 91.2306.3 are **technical amendments** necessary to clarify that Staples are not allowed to be used to resist or transfer seismic forces. This is substantiated by cyclic testing. This is due to geological conditions. The poor performance (strength and drift control) in the cyclic testing of using staple fasteners in resisting or transferring seismic forces, and due to the geological reason. These amendments are a continuation of adoptions.

Section 91.2306.4 is an **administrative amendment** necessary to relocate an existing limitation to plaster, gypsum or gypsum board cover shear walls in Seismic Design Category E or F. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.2308.9.3.1 is an **administrative amendment** necessary to clarify that the minimum shear wall thickness is 15/32 inch and not 3/8 inch due to existing limitations due to geologic conditions in the region. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.2308.9.3.2 is an **administrative amendment** necessary to clarify that the minimum shear wall thickness is 15/32 inch and not 3/8 inch due to existing limitations due to geologic conditions in the region. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.2308.12.4 and Table 2308.12.4 are an **administrative amendment** necessary to clarify and carry forward an existing amendment related to the braced wall requirements. This is an existing amendment which is being relocated due to the reformatting of the 2013 CBC.

Section 91.3001.2 is an **administrative amendment** necessary to update the CBC to be in line with the State Elevator Code.

Section 91.3001.4 is an **administrative amendment** necessary to update the CBC to be in line with the State Elevator Code.

Section 91.3001.5 is an **administrative amendment** necessary to clarify that the CBC is being adopted by reference.

Section 91.3002.1.1 is an **administrative amendment** necessary to clarify that the exception is not needed since all requirements must meet the State Elevator Code Requirements.

Section 91.3002.3 is an **administrative amendment** necessary to remove exception #1 since it conflicts with the State Elevator Code Requirements.

Section 91.3002.8 is an **administrative amendment** necessary remove reference to compliance with Chapter 24 and in lieu, compliance with the State Elevator Code must be maintained.

Section 91.3003.2 is an **administrative amendment** necessary remove reference to other standards in and in lieu, compliance with the State Elevator Code must be maintained.

Section 91.3007.1 is an **administrative amendment** necessary remove reference to other standards in and in lieu, compliance with the State Elevator Code must be maintained.

Section 91.3007.2 is an **administrative amendment** necessary remove reference to other standards in and in lieu, compliance with the State Elevator Code must be maintained.

Section 91.3007.9.1 is an **administrative amendment** necessary clarify that all wiring related to the operation of the Fire Service Access Elevator located outside of the elevator hoistway shall be protected by construction having a fire resistance rating of not less than 2 hours, to be in compliance with the State Elevator Code.

Section 91.3008.2 is an **administrative amendment** necessary remove reference to other standards in and in lieu, compliance with the State Elevator Code must be maintained.

Section 91.3008.2.1 is an **administrative amendment** necessary remove reference to other standards in and in lieu, compliance with the State Elevator Code must be maintained.

Section 91.3008.7.6 is an **administrative amendment** necessary remove reference to other standards in and in lieu, compliance with the State Elevator Code must be maintained.

Section 91.3008.8.1 is an **administrative amendment** necessary remove reference to other standards in and in lieu, compliance with the State Elevator Code must be maintained.

Section 91.3008.9.1 is an **administrative amendment** necessary clarify that all wiring related to the operation of the Fire Service Access Elevator located outside of the elevator hoistway shall be protected by construction having a fire resistance rating of not less than 2 hours, to be in compliance with the State Elevator Code.

Section 91.3111 is an **administrative amendment** necessary to relocate existing amendments due to the reformatting of the 2013 CBC.

Section 91.3112 is an **administrative amendment** necessary to add existing amendments previously found in Section 3111 due to the reformatting of the 2013 CBC.

Section 91.3401.1 is an **administrative amendment** necessary to clarify that the other LA City chapters which are not found in the 2013 CBC also apply to existing buildings.

Section 91.3401.1 is an **administrative amendment** necessary to clarify that the other LA City chapters which are not found in the 2013 CBC also apply to existing buildings.

Section 91.3401.3 is an **administrative amendment** necessary to add reference to the local Fire, Electrical, Mechanical and Plumbing code in lieu of just compliance with the California Codes.

Section 91.3401.4.4 is a **technical amendment** necessary to clarify that the 10 percent limitation in the CBC for replacement and repair of any original material is accepted with the exception to unreinforced masonry (URM) buildings. Due to the safety concern for occupants in these buildings and the high seismic activity in the region, repair, replacement and retention of these buildings must comply with Appendix Chapter A1 for work not to exceed 10 of the replacement value. When work exceeds 10 percent of

the replacement value, the building and building structural elements must comply with requirements of chapter 16 of the CBC.

Section 91.3403.4 is a **technical amendment** necessary to clarify that the 10 percent limitation in the CBC for the repair of structural elements carrying lateral loads may be done with the exception to unreinforced masonry (URM) buildings. Due to the safety concern for occupants in these buildings and the high seismic activity in the region, repair of lateral carrying lateral loads, replacement and retention of these buildings must comply with Appendix Chapter A1 for work not to exceed 10 of the replacement value. When work exceeds 10 percent of the replacement value, the building and building structural elements must comply with requirements of chapter 16 of the CBC.

Section 91.3404.4 is a **technical amendment** necessary to clarify that the 10 in percent limitation in the CBC for the repair of structural elements carrying lateral loads may be done with the exception to unreinforced masonry (URM) buildings. Due to the safety concern for occupants in these buildings and the high seismic activity in the region, repair of lateral carrying lateral loads, replacement and retention of these buildings must comply with Appendix Chapter A1 for work not to exceed 10 of the replacement value. When work exceeds 10 percent of the replacement value, the building and building structural elements must comply with requirements of chapter 16 of the CBC.

Section 91.3405.1 is a **technical amendment** necessary to clarify that the other LA City chapters which are not found in the 2013 CBC, and Appendix Chapters A1 and A3 which are found in the CBC.

Section 91.3408.4 is a **technical amendment** necessary to clarify that changes are made to a URM building which changes the Risk Category, compliance with Chapter 16 will be necessary. The high seismic activity in the region requires that buildings which may pose a danger to occupants must be considered with a higher level of scrutiny due to the low level of reliance given to the structural capacity to resist seismic forces on URM buildings.

Section 91.6109 is a local **administrative amendment,** necessary reformat existing requirements for pool enclosure. No change in content or requirements.

Section 91.6202 is a local **administrative amendment,** necessary clarify the term "Code". However, there is no change in enforcement or requirements.

Section 91.6302.3 is a local **administrative amendment,** necessary update the ventilation requirement and to be consistent with the California Mechanical Code, by increasing the vent diameter from 3 to 6 inches.

Section 91.6302.4 is an **administrative amendment** necessary to add an exception #3 for providing a view screen.

Section 91.6302.5 is an **administrative amendment** necessary clarify that this requirement has been deleted.

Section 91.6304.3 is an **administrative amendment** necessary reinstate requirements for installation of bars, grilles and gates which had been removed inadvertently from the code.

Section 91.7005.2 is an **administrative amendment** necessary to include another local LABC code Section to the compliance requirements.

Section 91.7006.7.4 is an **administrative amendment** necessary to add conditions related to "Baseline Hillside Ordinance Conditions to be consistent with the City of LA Zoning Code.

Section 91.7006.7.5 is an **administrative amendment** necessary to renumber the section due to the addition of the previous code section.

Section 91.7015.7 is an **administrative amendment** necessary to correct the title of a diverter terrace.

Section 91.7200 is an **administrative amendment** necessary to correct the reference of Chapter 61.

Section 91.7208 is an **administrative amendment** necessary to remove reference to Fire District 2, which no longer exists.

Section 91.8101.2 is an **administrative amendment** necessary to clarify the parameters of the scope of this section which affects exiting buildings.

Section 91.8107 is an **administrative amendment** necessary to show that this section has been eliminated in its entirety.

Section 91.8110 is an **administrative amendment** necessary to clarify that existing URM buildings must comply with Chapter 88 for full retrofit compliance, but must also comply with the requirements of Chapter 34 and 16 of the CBC.

Section 91.8201 is an **administrative amendment** necessary to clarify that change in occupancy, use and rating classification must comply with CBC chapters 34, and LABC chapter 82.

Section 91.8202 is an **administrative amendment** necessary to clarify that change in occupancy, use and rating classification must comply with CBC chapters 34, and LABC chapter 82 and 88.

Section 91.8203 is an **administrative amendment** necessary to clarify that exceptions 1 through 4 have been eliminated.

Section 91.8204 is an **administrative amendment** necessary to clarify that Chapter 88 has been eliminated from this requirement.

Section 91.8501.2 is an **administrative amendment** necessary to clarify that this section has been eliminated due to the changes in use and repair of URM buildings limitations.

Section 91.8501.3 is an **administrative amendment** necessary to clarify that the definition for FEAM 351 has been eliminated to the fact that this is an outdated system.

Section 91.8502.1.2 is an **administrative amendment** necessary to update the requirements with the current 2013 CBC.

Section 91.8502.3.2 is an **administrative amendment** necessary to update the referenced test standards with the most current one found in the 2013 CBC.

Section 91.8502.5 is an **administrative amendment** necessary to correct the referenced sections with the 2013 CBC.

Section 91.8502.7.1 is an **administrative amendment** necessary to correct the referenced CBC code Sections.

Section 91.8502.12 is an **administrative amendment** necessary to clarify that more stringent requirements have been implemented and must be complied with related the sections dealing with the existing buildings.

Section 91.8502.12.1 is an **administrative amendment** necessary to clarify that this section has been deleted from the code since masonry infill must comply with the other structural chapters of the code.

Section 91.8502.12.3 is an **administrative amendment** necessary to renumber this section since the elimination of other section.

Section 91.9305.2 is an **administrative amendment** necessary to clarify and update referenced code section to match the most current sections of the 2013 CBC.

Section 91.9305.3 is an **administrative amendment** necessary to clarify and update referenced code section to match the most current sections of ASCE 7 related to Base Shear.

Section 91.9305.6 is an **administrative amendment** necessary to clarify and add the requirements of Drift Limitation since they now are found in the CBC and no longer in ASCE 7.

Section 91.9305.7 is an **administrative amendment** necessary to clarify P-Delta Effect requirements in the CBC which are no longer in ASCE 7.

Section 91.9305.8 is an **administrative amendment** necessary to clarify that Cs is now a factor instead of number in ASCE 7.

Section 91.9305.9 is an **administrative amendment** necessary to update code referenced to the most current version of the CBC.

Section 91.9305.11 is an **administrative amendment** necessary to update requirements for wood-framed walls with the most current standards for wood.

Section 91.9305.11.2.1 is an **administrative amendment** necessary to update code referenced to the most current version of the CBC.

Section 91.9305.11.2.2 is an **administrative amendment** necessary to update code referenced to the most current version of the CBC.

Section 91.9305.11.2.3 is an **administrative amendment** necessary to update requirements for wood-framed walls with the most current standards for wood and to include other wood species of lumber available.

Section 91.9306.2 is an **administrative amendment** necessary to update code referenced to the most current version of the CBC.

Section 91.9406.1.2 is an **administrative amendment** necessary to clarify language which requires use of not less than 75 percent of the current base shear required by ASCE 7. This corrects a typing error.

Section 91.9406.5.8 is an **administrative amendment** necessary to correct the sections referenced to the most version of the 2013 CBC.

Section 91.9406.7.2 is an **administrative amendment** necessary to correct the sections referenced to the most version of the 2013 CBC.

Section 91.9408.3 is an **administrative amendment** necessary to correct the sections referenced to the most version of the 2014 Los Angeles Building Code (LABC).

Section 91.9516.3 is an **administrative amendment** necessary to correct the sections referenced to the most version of the 2013 CBC.

Section 91.9603 is an **administrative amendment** necessary to correct the sections referenced to the most version of the 2013 CBC.

Section 91.9604.3 is an **administrative amendment** necessary to correct the sections referenced to the most version of the 2013 CBC.

[file: Findings and Determinations for Building Code - Final]

ORDINANCE NO. 182850

An ordinance amending certain provisions of Articles 1 and 8 of Chapter IX of the Los Angeles Municipal Code, to make local administrative changes and incorporate by reference certain portions of the 2012 International Building Code and the 2013 Edition of the California Building Code (CBC).

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

Section 1. The first and second unnumbered paragraphs of Section 91.101 of the Los Angeles Municipal Code are amended to read as follows:

SEC. 91.101. TITLE, PURPOSE AND SCOPE.

91.101.1. Title. This article shall be known as the Los Angeles Building Code or Building Code or LABC, a portion of the Los Angeles Municipal Code (LAMC), and wherever the word Code is used in this article, it shall mean the Los Angeles Building Code. Sections of Article 1.5 of Chapter 9 of LAMC shall collectively be known as the Los Angeles Residential Code or LARC. The provisions of the LARC for one- and two-family Dwellings shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above grade plane in height with a separate means of egress and their accessory structures. In addition to the LARC, appropriate Sections of Chapters 1, 11A, 11B, 17, 31, 31B, 33, 34, 63, 67, 70, 71, 72, 81, 89, 92, 93 and 96 of the L.A.B.C. shall also be applicable to one- and two-family dwellings and townhouses unless stated otherwise.

The Los Angeles Building Code and the Los Angeles Residential Code adopt by reference portions of the 2013 California Building Code (CBC.) or the 2013 California Residential Code (CRC).

Sec. 2. Paragraphs 1 and 13 of Subsection 91.101.5 of the Los Angeles Municipal Code are amended to read as follows:

1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area is not greater than 120 square feet, not located in Fire District 1 and does not contain any heating, plumbing or electrical installation, and is located as permitted by the Los Angeles Zoning Code.

13. The depositing of rubbish or other material at any dump operated by the City of Los Angeles or by any person pursuant to the provisions of Section 66.25 of the Municipal Code.

Sec. 3. Subsection 91.106.3.2.1 of the Los Angeles Municipal Code is amended to read as follows:

91.106.3.2.1. Site Plan. A plot of the site shall be filed with each application for a permit.

EXCEPTION: The Superintendent of Building may grant the omission of a site plot when the proposed work is of such a nature that no information is needed to determine compliance with all laws relating to the location of buildings or occupancies.

With respect to the site, the plot shall show the boundaries, lot lines, existing and proposed buildings and structures, neighboring public ways, and sufficient dimensions and other data to enable the Department to determine compliance with all laws relating to the location of buildings or occupancies.

Sec. 4. Subsection 91.106.3.3.3 of the Los Angeles Municipal Code is amended to read as follows:

91.106.3.3.3. For buildings exceeding 160 feet in height, each sheet of the structural calculations and structural plans shall be prepared under the supervision of, and shall bear the signature or approved stamp of, a person authorized to practice structural engineering (Licensed Structural Engineer, S.E.) by the State of California. In addition, all architectural sheets shall bear the signature or approved stamp of an architect licensed by the state of California.

Sec. 5. Subsection 91.106.3.3.4 of the Los Angeles Municipal Code is amended to read as follows:

91.106.3.3.4. Yard Restriction. The increase in area permitted by CBC. Section 506.2 and Section 507 shall not be allowed unless or until the owner of the required yard and open space files with the Department an agreement binding the owner, heirs and assignees, to set aside the required yard as an unobstructed space having no improvements. This agreement shall be recorded in the Los Angeles County Recorder's Office.

Sec. 6. Subparagraphs B, C and D of Paragraph 5 of the Exceptions to Subsection 91.106.4.1 of the Los Angeles Municipal Code are amended to read as follows:

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

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

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

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

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

Sec. 7. The second unnumbered paragraph of Subsection 91.107.7 of the Los Angeles Municipal Code is amended to read as follows:

Certified security bar installers shall file Security Bar Certificates of Compliance in accordance with provisions of Paragraph 2 of Subsection 91.108.12.1 of this Code.

Sec. 8. Section 91.112 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 9. A new Section 91.113 is added to the Los Angeles Municipal Code immediately preceeding Table No. 1-A to read as follows:

SEC. 91.113. PERMIT FEES.

Sec. 10. Section 91.200 of the Los Angeles Municipal Code is renumbered as Section 91.201 and amended to read as follows:

SEC. 91.201. GENERAL.

Chapter 2 of the CBC is adopted by reference with the following exceptions, modifications and additions:

Sec. 11. Section 91.202 of the Los Angeles Municipal Code is amended by adding the following definitions in alphabetical order to read as follows:

APPROVED AGENCY or APPROVED TESTING AGENCY. An established and recognized agency regularly engaged in conducting tests or furnishing inspection services which has been approved.

APPROVED FABRICATOR. An established and qualified person, firm or corporation approved by the Superintendent of Building pursuant to Division 17 of this Code and LAMC Section 96.200.

Sec. 12. Division 3 of Article 1, Chapter IX of the Los Angels Municipal Code is amended by deleting the following notation in its entirety:

* The following sections in Division 3 are deleted in entirety by Ord. No. 172,592:

91.301; 9.303; 91.305; 91.307; 91.308, 91.310 thru 91.312.

Sec. 13. Section 91.400 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.400. BASIC PROVISIONS.

Chapter 4 of the California Building Code is hereby adopted by reference.

Sec. 14. Subsections 91.403.1 through 91.403.6 of the Los Angeles Municipal Code are deleted in their entirety.

Sec. 15. Division 6 of Article 1, Chapter IX of the Los Angeles Municipal Code is amended by deleting the following notation in its entirety:

* The following sections in Division 6 are deleted in entirety by Ord. No. 172,592:

91.601 thru 91.603.

Sec. 16. Division 7 of Article 1, Chapter IX of the Los Angeles Municipal Code is amended by deleting the following notation in its entirety:

* The following sections in Division 7 are deleted in entirety by Ord. No. 172,592:

91.709; 91.710; 91.713

Sec. 17. Division 8 of Article 1, Chapter IX of the Los Angeles Municipal Code is amended by deleting the following notation in its entirety:

* The following sections in Division 8 are deleted in entirety by Ord. No. 172,592:

91.802; 91.804.

Sec. 18. Section 91.1207 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.1207. SOUND TRANSMISSION.

Section 1207 of the CBC is adopted by reference, except Sections 1207.1, 1207.11.1, 1207.11.3, 1207.11.4, and 1207.12 of the CBC are not adopted, and in lieu, Subsections 91.1207.1, 91.1207.3, 91.1207.4, 91.1207.5, 91.1207.6, 91.1207.7, 91.1207.8, 91.1207.9, 91.1207.10, 91.1207.11.1, 91.1207.11.2, 91.1207.11.3, 91.1207.11.4, 91.1207.12 and 91.1207.13 are added.

Sec. 19. A new Subsection 91.1207.2 is added to the Los Angeles Municipal Code to read as follows:

91.1207.2. Definitions. The following special definitions shall apply to this section:

SOUND TRANSMISSION CLASS (STC) is a single-number rating used to compare walls, floor-ceiling assemblies and doors for their sound-insulating properties with respect to speech and small household appliance noise. The STC is derived from laboratory measurements of sound transmission loss across a series of 16 test bands. Laboratory STC ratings should be used to the greatest extent possible in determining that the design complies with this section.

FIELD SOUND TRANSMISSION CLASS (FSTC) is a single-number rating similar to STC, except that the transmission loss values used to derive the FSTC are measured in the field. All sound transmitted from the source room to the receiving room is assumed to be through the separating wall or floor-ceiling assembly. This section does not require determination of the FSTC, and field-measured values of noise reduction should not be reported as transmission loss.

IMPACT INSULATION CLASS (IIC) is a single-number rating used to compare the effectiveness of floor-ceiling assemblies in providing reduction of impact-generated sounds such as footsteps. The IIC is derived from laboratory measurements of impact sound pressure level across a series of 16 test bands using a standardized tapping machine. Laboratory IIC ratings should be used to the greatest extent possible in determining that the design complies with this section.

FIELD IMPACT INSULATION CLASS (FIIC) is a single-number rating similar to the IIC, except that the impact sound pressure levels are measured in the field.

NOISE ISOLATION CLASS (NIC) is a single-number rating derived from measured values of noise reduction between two enclosed spaces that are connected by one or more paths. The NIC is not adjusted or normalized to a standard reverberation time.

NORMALIZED NOISE ISOLATION CLASS (NNIC) is a single-number rating similar to the NIC, except that the measured noise reduction values are normalized to a reverberation time of one-half second.

NORMALIZED A-WEIGHTED SOUND LEVEL DIFFERENCE (Dn) means for a specified source room sound spectrum, Dn is the difference, in decibels, between the average sound levels produced in two rooms after adjustment to the expected acoustical conditions when the receiving room under test is normally furnished.

DAY-NIGHT AVERAGE SOUND LEVEL (Ldn) is the A-weighted equivalent continuous sound exposure level for a 24-hour period with a 10 db adjustment added to sound levels occurring during nighttime hours (10 p.m. to 7 a.m.).

COMMUNITY NOISE EQUIVALENT LEVEL (CNEL) is a metric similar to the Ldn, except that a 5 db adjustment is added to the equivalent continuous sound exposure level for evening hours (7 p.m. to 10 p.m.) in addition to the 10 db nighttime adjustment used in the Ldn.

Sec. 20. A new Subsection 91.1207.3 is added to the Los Angeles Municipal Code to read as follows:

91.1207.3. Relevant Standards. The current edition of the following standards is generally applicable for determining compliance with this section, copies may be obtained from the American Society for Testing and Materials (ASTM) at 100 Barr Harbor Drive, West Conshohocken, PA, 19428-2959: ASTM C 634, Standard Terminology Relating to Building and Environmental Acoustics; ASTME 90, Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; ASTM E 336, Standard Test Method for Measurement of Airborne Sound Attenuation Between Rooms in Buildings; ASTM E 413, Classification for Rating Sound Insulation; ASTM E 492, Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine; ASTM E 497, Standard Recommended Practice for Installation of Fixed Partitions of Light Frame Type for the Purpose of Conserving Their Sound Insulation Efficiency; ASTM E 597, Recommended Practice for Determining a Single-Number Rating of Airborne Sound Isolation in Multi-unit Building Specifications; ASTM E 966, Standard Guide for Field Measurements of Airborne Sound Insulation of Building Facades and Façade Elements; ASTM E 989, Standard Classification for Determination of Impact Insulation Class (IIC); ASTM E 1007, Standard Test Method for Field Measurement of Tapping Machine Impact Sound Transmission Through Floor-Ceiling Assemblies and Associated Support Structures; and ASTM E 1014, Standard Guide for Measurement of Outdoor A-Weighted Sound Levels.

Sec. 21. A new Subsection 91.1207.4 is added to the Los Angeles Municipal Code to read as follows:

91.1207.4. Complaints. Where a complaint as to noncompliance with this chapter requires a field test, the complainant shall post a bond or adequate funds in escrow for the cost of said testing. Such costs shall be chargeable to the complainant if the field tests show compliance with this chapter. If the tests show noncompliance, testing costs shall be borne to the owner or builder.

Sec. 22. A new Subsection 91.1207.5 is added to the Los Angeles Municipal Code to read as follows:

91.1207.5. Local Modification. The governing body of any city or county or city and county may, by ordinance, adopt changes or modifications to the requirements of this section as set forth in Section 17922.7 of the Health and Safety Code.

Sec. 23. A new Subsection 91.1207.6 is added to the Los Angeles Municipal Code to read as follows:

91.1207.6. Interdwelling Sound Transmission Control.

91.1207.6.1. Wall and Floor-Ceiling Assemblies. Wall and floor-ceiling assemblies separating dwelling units or guest rooms from each other and from public or service areas such as interior corridors, garages and mechanical spaces shall provide airborne sound insulation for walls, and both airborne and impact sound insulation for floor-ceiling assemblies.

> **EXCEPTION:** Impact sound insulation is not required for floor-ceiling assemblies over nonhabitable rooms or spaces not designed to be occupied, such as garages, mechanical rooms or storage areas.

Sec. 24. A new Subsection 91.1207.7 is added to the Los Angeles Municipal Code to read as follows:

91.1207.7. Airborne Sound Insulation. All such acoustically rated separating wall and floor-ceiling assemblies shall provide airborne sound insulation equal to that required to meet a sound transmission class (STC) rating of 50 based on laboratory tests as defined in ASTM E 90 and E 413. Field-tested assemblies shall meet a noise isolation class (NIC) rating of 45 for occupied units and a normalized noise isolation class (NINIC) rating of 45 for unoccupied units as defined in ASTM E 336 and E 413. ASTM E 597 may be used as simplified procedure for field tests of the airborne sound isolation between rooms in unoccupied buildings. In such tests, the minimum value of Dn is 45 db for compliance. Entrance doors from interior corridors together with their perimeter seals shall have STC ratings not less than 26. Such tested doors shall operate normally with commercially available seals. Solid-core wood-slab doors 13/8 inches (35 mm) thick minimum or 18 gauge insulated steel-slab doors with compression

seals all around, including the threshold, may be considered adequate without other substantiating information. Field tests of corridor walls should not include segments with doors. If such tests are impractical, however, the NIC or NNIC rating for the composite wall-door assembly shall not be less than 30. Penetrations or openings in construction assemblies for piping, electrical devices, recessed cabinets, bathtubs, soffits or heating, ventilating or exhaust ducts shall be sealed, lined, insulated or otherwise treated to maintain the required ratings.

Sec. 25. A new Subsection 91.1207.8 is added to the Los Angeles Municipal Code to read as follows:

91.1207.8. Impact Sound Insulation. All acoustically rated separating floor-ceiling assemblies shall provide impact sound insulation equal to that required to meet a IIC rating of 50 based on laboratory tests as defined in ASTM E 492 and E 989. Field-tested assemblies shall meet a field impact insulation class (FIIC) rating of 45 for both occupied and unoccupied units as defined in ASTM E 1007 and E 989, with the exception that the measured impact sound pressure levels shall not be normalized to a standard amount of absorption in the receiving room. Floor coverings may be included in the assembly to obtain the required ratings. These coverings must be retained as a permanent part of the assembly and may be replaced only by other floor coverings that provide the required impact sound insulation.

Sec. 26. A new Subsection 91.1207.9 is added to the Los Angeles Municipal Code to read as follows:

91.1207.9. Tested Assemblies. Laboratory-tested wall or floor-ceiling designs having STC or IIC ratings of 50 or more may be used by the Building Official to determine compliance with this section during plan review phase. Field tests shall be required by the Building Official when evidence of sound leaks or flanking paths is noted, or when the separating assembly is not built according to the approved design. Generic sound transmission control systems as listed in the Catalog of STC and IIC Ratings for Wall and Floor-Ceiling Assemblies, as published by the Office of Noise Control, California Department of Health Services, or the Fire Resistance Design Manual, as published by the Gypsum Association, may be used to evaluate construction assemblies for their sound transmission properties. Other tests from recognized laboratories may also be used. When ratings for essentially similar assemblies differ, and when ratings are below STC or IIC 50, field testing may be used to demonstrate that the building complies with this section. For field testing, rooms should ideally be large and reverberant for reliable measurements to be made in all test bands. This is often not possible for bathrooms, kitchens, hallways or rooms with large amounts of sound-absorptive materials. Field test results should, however, report the measured values in all bands, noting those which do not meet relevant ASTM criteria for diffusion. It should be noted that STC ratings do not adequately characterize the sound insulation of construction assemblies when the intruding noise is predominantly low-pitched, as is often produced by amplified music or by large pieces of mechanical equipment. It should also be noted that the transmission of impact sound from a standardized tapping

machine may vary considerably for a given design due to differences in specimen size, flanking transmission through associated structure and the acoustical response of the room below. Laboratory IIC values should therefore be used with caution when estimating the performance of hard-surfaced floors in the field. Additionally, IIC ratings may not always be adequate to characterize the subjectively annoying creak or boom generated by footfalls on a lumber floor.

Sec. 27. A new Subsection 91.1207.10 is added to the Los Angeles Municipal Code to read as follows:

91.1207.10. Certification. Field testing, when required, shall be done under the supervision of a person experienced in the field of acoustical testing and engineering, who shall forward test results to the Building Official showing that the sound isolation requirements stated above have been met. Documentation of field test results should generally follow the requirements outlined in relevant ASTM standards.

Sec. 28. A new Subsection 91.1207.11 is added to the Los Angeles Municipal Code to read as follows:

91.1207.11. Exterior Sound Transmission Control.

Sec. 29. A new Subsection 91.1207.11.2 is added to the Los Angeles Municipal Code to read as follows:

91.1207.11.2. Allowable Interior Noise Levels. Interior noise levels attributable to exterior sources shall not exceed 45 db in any habitable room. The noise metric shall be either the day-night average sound level (Ldn) or the community noise equivalent level (CNEL), consistent with the noise element of the local general plan.

Note: Ldn is the preferred metric for implementing these standards. Worst-case noise levels, either existing or future, shall be used as the basis for determining compliance with this section. Future noise levels shall be predicted for a period of at least ten (10) years from the time of building permit application.

Sec. 30. A new Subsection 91.1207.13 is added to the Los Angeles Municipal Code to read as follows:

91.1207.13. Field Testing. When inspection indicates that the construction is not in accordance with the approved design, or that the noise reduction is compromised due to sound leaks or flanking paths, field testing may be required. A test report showing compliance or noncompliance with prescribed interior allowable levels shall be submitted to the building official. Measurements of outdoor sound levels shall generally follow the guidelines in ASTM E 1014. Field measurements of the A-weighted airborne sound insulation of buildings from exterior sources shall generally follow the guidelines in ASTM E 966. For the purpose of this standard, sound level differences measured in unoccupied units shall be normalized to a receiving room reverberation time of one-half

second. Sound level differences measured in occupied units shall not be normalized to a standard reverberation time.

Sec. 31. Section 91.1300 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.1300. GENERAL.

In order to comply with the purpose of this division, buildings shall be designed to comply with the requirements of Part 6, Title 24 of the California Building Standards Code – California Energy Code, 2013 Edition.

Sec. 32. Section 91.1507 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.1507. REQUIREMENTS FOR ROOF COVERINGS.

Section 1507 of the CBC is adopted by reference, except Sections 1507.3.1, and Table 1507.3.7 of the CBC are not adopted and in lieu, Subsection 91.1507.3.1 and Table 1507.3.7 of this Code are added.

Sec. 33. The Title of Division 16 of Article 1 of Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

ARTICLE 1, DIVISION 16

STRUCTURAL DESIGN

Sec. 34. Subsection 91.1603.1.9 of the Los Angeles Municipal Code is amended to read as follows:

91.1603.1.9. Systems and Components Requiring Special Inspections for Seismic Resistance. Construction documents or specifications shall be prepared for those systems and components requiring special inspection for seismic resistance as specified in Section 91.1705.11 by the registered design professional responsible for their design and shall be submitted for approval in accordance with Section 91.106.3.3. Reference to seismic standards in lieu of detailed drawings is acceptable.

Sec. 35. Section 91.1609 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.1609. WIND LOADS.

Section 1609 of the CBC is adopted by reference, and Subsection 91.1609.1.1.2 is added as follows:

91.1609.1.1.2. High Wind Velocity Areas. The Superintendent of Building may designate certain areas of the City as **"high wind velocity areas"** when evidence or studies indicate that the wind velocity results in damage to structures conforming to the minimum requirements of this Code. The Superintendent of Building may specify additional requirements over and above those required by this Code with respect to the following:

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

Sec. 36. Section 91.1613 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.1613. EARTHQUAKE LOADS.

Section 1613 of the CBC is adopted by reference, CBC Section 1613.6.7 is not adopted and, in lieu, Subsections 91.1613.5.3 through 91.1613.10.5 are added or amended to read as follows.

91.1613.5.3. ASCE 7, Section 12.2.3.1, Exception 3 is modified to read as follows:

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

91.1613.5.4. General. The text of ASCE 7, Section 12.11.2.2.3 is modified to read as follows:

12.11.2.2.3. Wood Diaphragms. In wood diaphragms, the continuous ties shall be in addition to the diaphragm sheathing. Anchorage shall not be accomplished by use of tow 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.

91.1613.5.5. The Equation 12.2-1 of ASCE 7, Section 12.12.3 is modified to read as follows:

$$\delta_M = \frac{C_d \delta_{max}}{I}$$

91.1613.5.6. General. The text of ASCE 7, Section 12.12.5 is modified to read as follows:

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

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

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

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

91.1613.6. Reserved.

91.1613.7. Reserved.

91.1613.8. Additional Seismic Requirements.

91.1613.8.1. Scope. This part contains special requirements for suspended ceilings and lighting systems. The provisions of Section 13.5.6 of ASCE 7 shall apply except as modified here.

91.1613.8.1.2. Design and Installation Requirements.

91.1613.8.1.2.1. Bracing at Discontinuity. Positive bracing to the structure shall be provided at changes in the ceiling plane elevation or at discontinuities in the ceiling grid system.

91.1613.8.1.2.2. Support for Appendages. Cable trays, electrical conduits and piping shall be independently supported and independently braced from the structure.

91.1613.8.1.2.3. Sprinkler Heads. All sprinkler heads (drops) except fire-resistance-rated floor/ceiling or roof/ceiling assemblies, shall be designed to allow for free movement of the sprinkler pipes with oversize rings, sleeves or adaptors through the ceiling tile in accordance with Section 13.5.6.2.2(e) of ASCE 7.

Sprinkler heads penetrating fire-resistance-rated floor/ceiling or roof/ceiling assemblies shall comply with CBC Section 713. Sprinkler heads and other penetrations shall have a 2 in. (50mm) oversize ring, sleeve or adapter through the ceiling tile to allow for free movement of at least 1 in. (25mm) in all horizontal directions. Alternatively, a swing joint that can accommodate 1 in. (25 mm) of ceiling movement in all horizontal directions is permitted to be provided at the top of the sprinkler head extension.

91.1613.8.1.3. Special Requirements for Means of Egress. Suspended ceiling assemblies located along means of egress serving an occupant load of 30 or more shall comply with the following provisions:

91.1613.8.1.3.1. General. Ceiling suspension systems shall be connected and braced with vertical hangers attached directly to the structural floor or roof system above and along the means of egress serving an occupant load of 30 or more and at lobbies accessory to Group A Occupancies. Spacing of vertical hangers shall not exceed 2 feet (610 mm) on center along the entire length of the suspended ceiling assembly located along the means of egress or at the lobby.

91.1613.8.1.3.2. Assembly Device. All lay-in panels shall be secured to the suspension ceiling assembly with two hold-down clips minimum for each tile within a 4-foot (1219 mm) radius of the exit lights and exit signs.

91.1613.8.1.3.3. Emergency Systems. Independent supports and braces shall be provided for light fixtures required for exit illumination. Power supply for exit illumination shall comply with the requirements of CBC Section 1006.3.

91.1613.8.1.3.4. Supports for Appendage. Separate support from the structural floor or roof system above shall be provided for all appendages such as light fixtures, air diffusers, exit signs and similar elements.

91.1613.9. Seismic Design Provisions for Hillside Buildings.

91.1613.9.1. Purpose. The purpose of this section is to establish minimum regulations for the design and construction of new buildings and additions to existing buildings when constructing such buildings on or into slopes steeper than one unit vertical in three units horizontal (33.3%). These regulations establish minimum standards for seismic force resistance to reduce the risk of injury or loss of life in the event of earthquakes.

91.1613.9.2. Scope. The provisions of this section shall apply to the design of the lateral-force-resisting system for hillside buildings at and below the base level diaphragm. The design of the lateral-force-resisting system above the base level diaphragm shall be in accordance with the provisions for seismic and wind design as required elsewhere in this division.

> **EXCEPTION:** Non-habitable accessory buildings and decks not supporting or supported from the main building are exempt from these regulations.

91.1613.9.3. Definitions. For the purposes of this section, certain terms are defined as follows:

> **BASE LEVEL DIAPHRAGM** is the floor at, or closest to, the top of the highest level of the foundation.
>
> **DIAPHRAGM ANCHORS** are assemblies that connect a diaphragm to the adjacent foundation at the uphill diaphragm edge.
>
> **DOWNHILL DIRECTION** is the descending direction of the slope approximately perpendicular to the slope contours.
>
> **FOUNDATION** is concrete or masonry, which supports a building, including footings, stem walls, retaining walls, and grade beams.
>
> **FOUNDATION EXTENDING IN THE DOWNHILL DIRECTION** is a foundation running downhill and approximately perpendicular to the uphill foundation.

HILLSIDE BUILDING is any building or portion thereof constructed on or into a slope steeper than one unit vertical in three units horizontal (33.3%). If only a portion of the building is supported on or into the slope, these regulations apply to the entire building.

PRIMARY ANCHORS are diaphragm anchors designed for and providing a direct connection as described in Sections 1613.7.5.and 1613.7.7.3 between the diaphragm and the uphill foundation.

SECONDARY ANCHORS are diaphragm anchors designed for and providing a redundant diaphragm to foundation connection, as described in Sections 1613.7.6 and 1613.7.7.4.

UPHILL DIAPHRAGM EDGE is the edge of the diaphragm adjacent and closest to the highest ground level at the perimeter of the diaphragm.

UPHILL FOUNDATION is the foundation parallel and closest to the uphill diaphragm edge.

91.1613.9.4. Analysis and Design.

91.1613.9.4.1. General. Every hillside building within the scope of this section shall be analyzed, designed and constructed in accordance with the provisions of this division. When the code-prescribed wind design produces greater effects, the wind design shall govern, but detailing requirements and limitations prescribed in this and referenced sections shall be followed.

91.1613.9.4.2. Base Level Diaphragm-Downhill Direction. The following provisions shall apply to the seismic analysis and design of the connections for the base level diaphragm in the downhill direction.

91.1613.9.4.2.1. Base for Lateral Force Design Defined. For seismic forces acting in the downhill direction, the base of the building shall be the floor at, or closest to, the top of the highest level of the foundation.

91.1613.9.4.2.2. Base Shear. In developing the base shear for seismic design, the response modification coefficient (R) shall not exceed 5 for bearing wall and building frame systems. The total base shear shall include the forces tributary to the base level diaphragm including forces from the base level diaphragm.

91.1613.9.5. Base Shear Resistance-Primary Anchors.

91.1613.9.5.1. General. The base shear in the downhill direction shall be resisted through primary anchors from diaphragm struts provided in the base level diaphragm to the foundation.

91.1613.9.5.2. Location of Primary Anchors. A primary anchor and diaphragm strut shall be provided in line with each foundation extending in the downhill direction. Primary anchors and diaphragm struts shall also be provided where interior vertical lateral-force-resisting elements occur above and in contact with the base level diaphragm. The spacing of primary anchors and diaphragm struts or collectors shall in no case exceed 30 feet (9144 mm).

91.1613.9.5.3. Design of Primary Anchors and Diaphragm Struts. Primary anchors and diaphragm struts shall be designed in accordance with the requirements of Section 1613.7.8.

91.1613.9.5.4. Limitations. The following lateral-force-resisting elements shall not be designed to resist seismic forces below the base level diaphragm in the downhill direction:

1. Wood structural panel wall sheathing,
2. Cement plaster and lath,
3. Gypsum wallboard, and
4. Tension only braced frames.

Braced frames designed in accordance with the requirements of Section 2205.2.2 may be used to transfer forces from the primary anchors and diaphragm struts to the foundation provided lateral forces do not induce flexural stresses in any member of the frame or in the diaphragm struts. Deflections of frames shall account for the variation in slope of diagonal members when the frame is not rectangular.

91.1613.9.6. Base Shear Resistance-Secondary Anchors.

91.1613.9.6.1. General. In addition to the primary anchors required by Section 91.1613.7.5, the base shear in the downhill direction shall be resisted through secondary anchors in the uphill foundation connected to diaphragm struts in the base level diaphragm.

EXCEPTION: Secondary anchors are not required where foundations extending in the downhill direction spaced at not more than 30 feet (9144 mm) on center extend up to and are directly connected to the base level diaphragm for at least 70% of the diaphragm depth.

91.1613.9.6.2. Secondary Anchor Capacity and Spacing. Secondary anchors at the base level diaphragm shall be designed for a minimum force equal to the base shear, including forces tributary to the base level diaphragm, but not less than 600 pounds per lineal foot (8.76 kN/m). The secondary anchors shall be uniformly distributed along the

uphill diaphragm edge and shall be spaced a maximum of four feet (1219 mm) on center.

91.1613.9.6.3. Design. Secondary anchors and diaphragm struts shall be designed in accordance with Section 91.1613.9.8.

91.1613.9.7. Diaphragms Below the Base Level-Downhill Direction. The following provisions shall apply to the lateral analysis and design of the connections for all diaphragms below the base level diaphragm in the downhill direction.

91.1613.9.7.1. Diaphragm Defined. Every floor level below the base level diaphragm shall be designed as a diaphragm.

91.1613.9.7.2. Design Force. Each diaphragm below the base level diaphragm shall be designed for all tributary loads at that level using a minimum seismic force factor not less than the base shear coefficient.

91.1613.9.7.3. Design Force Resistance-Primary Anchors. The design force described in Section 91.1613.9.7.2 shall be resisted through primary anchors from diaphragm struts provided in each diaphragm to the foundation. Primary anchors shall be provided and designed in accordance with the requirements and limitations of Section 91.1613.8.5.

91.1613.9.7.4. Design Force Resistance-Secondary Anchors.

91.1613.9.7.4.1. General. In addition to the primary anchors required in Section 91.1613.8.7.3, the design force in the downhill direction shall be resisted through secondary anchors in the uphill foundation connected to diaphragm struts in each diaphragm below the base level.

> **EXCEPTION:** Secondary anchors are not required where foundations extending in the downhill direction, spaced at not more than 30 feet (9144 mm) on center, extend up to and are directly connected to each diaphragm below the base level for at least 70% of the diaphragm depth.

91.1613.9.7.4.2. Secondary Anchor Capacity. Secondary anchors at each diaphragm below the base level diaphragm shall be designed for a minimum force equal to the design force but not less than 300 pounds per lineal foot (4.38 kN/m). The secondary anchors shall be uniformly distributed along the uphill diaphragm edge and shall be spaced a maximum of four feet (1219 mm) on center.

91.1613.9.7.4.3. Design. Secondary anchors and diaphragm struts shall be designed in accordance with Section 91.1613.9.8.

91.1613.9.8. Primary and Secondary Anchorage and Diaphragm Strut Design. Primary and secondary anchors and diaphragm struts shall be designed in accordance with the following provisions:

1. **Fasteners.** All bolted fasteners used to develop connections to wood members shall be provided with square plate washers at all bolt heads and nuts. Washers shall be a minimum 0.229 inch by 3 inches by 3 inches (5.82 mm by 76 mm by 76 mm) in size. Nuts shall be tightened to finger tight plus one-half (1/2) wrench turn prior to covering the framing.

2. **Fastening.** The diaphragm to foundation anchorage shall not be accomplished by the use of toenailing, nails subject to withdrawal, or wood in cross-grain bending or cross-grain tension.

3. **Size of Wood Members.** Wood diaphragm struts collectors, and other wood members connected to primary anchors shall not be less than three-inch (76 mm) nominal width. The effects of eccentricity on wood members shall be evaluated as required per Item 9.

4. **Design.** Primary and secondary anchorage, including diaphragm struts, splices, and collectors shall be designed for 125% of the tributary force.

5. **Allowable Stress Increase.** The allowable stress increase permitted under Section 1605.3.2 shall not be taken when the working (allowable) stress design method is used.

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

7. **Primary Anchors.** The load path for primary anchors and diaphragm struts shall be fully developed into the diaphragm and into the foundation. The foundation must be shown to be adequate to resist the concentrated loads from the primary anchors.

8. **Secondary Anchors.** The load path for secondary anchors and diaphragm struts shall be fully developed in the diaphragm but need not be developed beyond the connection to the foundation.

9. **Symmetry.** All lateral force foundation anchorage and diaphragm strut connections shall be symmetrical. Eccentric connections may be permitted when demonstrated by calculation or tests that all components of force have been provided for in the structural analysis or tests.

10. **Wood Ledgers.** Wood ledgers shall not be used to resist cross-grain bending or cross-grain tension.

91.1613.9.9. Lateral-Force-Resisting Elements Normal to the Downhill Direction.

91.1613.9.9.1. General. In the direction normal to the downhill direction, lateral-force-resisting elements shall be designed in accordance with the requirements of this section.

91.1613.9.9.2. Base Shear. In developing the base shear for seismic design, the response modification coefficient (R) shall not exceed 5 for bearing wall and building frame systems.

91.1613.9.9.3. Vertical Distribution of Seismic Forces. For seismic forces acting normal to the downhill direction, the distribution of seismic forces over the height of the building using Section 12.8.3 of ASCE 7 shall be determined using the height measured from the top of the lowest level of the building foundation.

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

91.1613.9.9.5. Distribution of Lateral Forces.

91.1613.9.9.5.1. General. The design lateral force shall be distributed to lateral-force-resisting elements of varying heights in accordance with the stiffness of each individual element.

91.1613.9.9.5.2. Wood Structural Panel Sheathed Walls. The stiffness of a stepped wood structural panel shear wall may be determined by dividing the wall into adjacent rectangular elements, subject to the same top of wall deflection. Deflections of shear walls may be estimated by AF&PA SDPWS Section 4.3.2. Sheathing and fastening requirements for the stiffest section shall be used for the entire wall. Each section of wall shall be anchored for shear and uplift at each step. The minimum horizontal length of a step shall be 8 feet (2438 mm) and the maximum vertical height of a step shall be 2 feet, 8 inches (813 mm).

91.1613.9.9.5.3. Reinforced Concrete or Masonry Shear Walls. Reinforced concrete or masonry shear walls shall have forces distributed in proportion to the rigidity of each section of the wall.

91.1613.9.9.6. Limitations. The following lateral force-resisting-elements shall not be designed to resist lateral forces below the base level diaphragm in the direction normal to the downhill direction:

1. Cement plaster and lath;

2. Gypsum wallboard; and

3. Tension-only braced frames.

Braced frames designed in accordance with the requirements of Section 2205.2.2 of this Code may be designed as lateral-force-resisting elements in the direction normal to the downhill direction, provided lateral forces do not induce flexural stresses in any member of the frame. Deflections of frames shall account for the variation in slope of diagonal members when the frame is not rectangular.

91.1613.9.10. Specific Design Provisions.

91.1613.9.10.1. Footings and Grade Beams. All footings and grade beams shall comply with the following:

1. Grade beams shall extend at least 12 inches (305 mm) below the lowest adjacent grade and provide a minimum 24-inch (610 mm) distance horizontally from the bottom outside face of the grade beam to the face of the descending slope.

2. Continuous footings shall be reinforced with at least two No. 4 reinforcing bars at the top and two No. 4 reinforcing bars at the bottom.

3. All main footing and grade beam reinforcement steel shall be bent into the intersecting footing and fully developed around each corner and intersection.

4. All concrete stem walls shall extend from the foundation and reinforced as required for concrete or masonry walls.

91.1613.9.10.2. Protection Against Decay and Termites. All wood to earth separation shall comply with the following:

1. Where a footing or grade beam extends across a descending slope, the stem wall, grade beam, or footing shall extend up to a minimum 18 inches (457 mm) above the highest adjacent grade.

EXCEPTION: At paved garage and doorway entrances to the building, the stem wall need only extend to the finished concrete slab, provided the wood framing is protected with a moisture proof barrier.

2. Wood ledgers supporting a vertical load of more than 100 pounds per lineal foot (1.46 kN/m) and located within 48 inches (1219 mm) of adjacent grade are prohibited. Galvanized steel ledgers and anchor bolts, with or without wood nailers, or treated or decay resistant sill plates supported on a concrete or masonry seat, may be used.

91.1613.9.10.3. Sill Plates. All sill plates and anchorage shall comply with the following:

1. All wood framed walls, including nonbearing walls, when resting on a footing, foundation, or grade beam stem wall, shall be supported on wood sill plates bearing on a level surface.

2. Power-driven fasteners shall not be used to anchor sill plates except at interior nonbearing walls not designed as shear walls.

91.1613.9.10.4. Column Base Plate Anchorage. The base of isolated wood posts (not framed into a stud wall) supporting a vertical load of 4,000 pounds (17.8 kN) or more and the base plate for a steel column shall comply with the following:

1. When the post or column is supported on a pedestal extending above the top of a footing or grade beam, the pedestal shall be designed and reinforced as required for concrete or masonry columns. The pedestal shall be reinforced with a minimum of four No. 4 bars extending to the bottom of the footing or grade beam. The top of exterior pedestals shall be sloped for positive drainage.

2. The base plate anchor bolts or the embedded portion of the post base, and the vertical reinforcing bars for the pedestal, shall be confined with two No. 4 or three No. 3 ties within the top 5 inches (127 mm) of the concrete or masonry pedestal. The base plate anchor bolts shall be embedded a minimum of 20-bolt diameters into the concrete or masonry pedestal. The base plate anchor bolts and post bases shall be galvanized and each anchor bolt shall have at least two galvanized nuts above the base plate.

91.1613.9.10.5. Steel Beam to Column Supports. All steel beam to column supports shall be positively braced in each direction. Steel beams shall have stiffener plates installed on each side of the beam web at the column. The stiffener plates shall be welded to each beam flange and the beam web. Each brace connection or structural member shall consist of at least two 5/8 inch (15.9 mm) diameter machine bolts.

Sec. 37. Section 91.1616 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 38. The Title of Division 17 of Article 1, Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

ARTICLE 1, DIVISION 17

STRUCTURAL TESTS AND SPECIAL INSPECTIONS

Sec. 39. Subsection 91.1702.1 of the Los Angeles Municipal Code is amended to read as follows:

91.1702.1. Reserved.

Sec. 40. A new Subsection 91.1703.6.1 is added to the Los Angeles Municipal Code to read as follows:

91.1703.6.1. Follow-up Inspection. The applicant shall provide for special inspections of fabricated items in accordance with Section 1704.2.5.

Sec. 41. Section 91.1704 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.1704. SPECIAL INSPECTIONS.

Section 1704 of the CBC is adopted by reference, except that Sections 1704.2, 1704.2.1, 1704.2.3, 1704.2.4, 1704.2.5.1, 1704.2.5.2, 1704.3,1704.3.1, 1704.4, 1704.5, 1704.5.1, 1704.5.2, 1704.7, 1704.8 and 1704.9 of the CBC are not adopted; and, in lieu, Subsections 91.1704.2, 91.1704.2.1, 91.1704.2.1.1, 91.1704.2.1.1.2, 91.1704.2.1.3, 91.1704.2.3, 91.1704.2.4, 91.1704.3, 91.1704.3.1, 91.1704.4, 91.1704.4.1.1, 91.1704.4.1.2, 91.1704.4.1.3, 91.1704.4.1.4, 91.1704.4.1.5, 91.1704.4.1.6, 91.1704.5, 91.1704.5.1 and 91.1704.5.1.2 are added or amended, respectively, to read as follows:

Sec. 42. Subsections 91.1704.1 through and including 91.1704.1.4.2 of the Los Angeles Municipal Code are deleted in their entirety.

Sec. 43. A new Subsection 91.1704.2 of the Los Angeles Municipal Code is added to read as follows:

91.1704.2. Special Inspections. Where application is made for construction as described in this section, the owner or the registered design professional in responsible charge acting as the owner's agent shall employ one or more Deputy Inspectors to perform inspections during construction on the types of work listed under Section 1705. The Registered Deputy Inspector shall be a qualified person as set forth in Section 91.1704.1.3 and shall demonstrate competence to the satisfaction of the Superintendent of Building for inspection of the particular type of construction or operation requiring special inspection. The Registered Deputy Inspector shall be

approved by and shall be responsible, to the registered design professional in charge of the design of the structure.

The special inspections shall be in addition to the inspections made by the employees of the department as set forth in Section 110 of this Code.

All special inspections shall be made by a Registered Deputy Inspector. Whenever the term "Special Inspector" is used in this Code, it shall mean "Registered Deputy Inspector" as described in Section 1704.2.1 of this Code.

EXCEPTIONS:

1. Special inspections are not required for construction of a minor nature or as warranted by conditions in the jurisdiction as approved by the Superintendent of Building.

2. Unless otherwise required by the Superintendent of Building, special inspections are not required for Group U occupancies that are accessory to a residential occupancy including, but not limited to, those listed in Section 312.1.

3. Special inspections are not required for portions of structures designed and constructed in accordance with the cold-formed steel light-frame construction provisions of Section 2211.7 or the conventional light-frame construction provisions of Section 2308.

91.1704.2.1. Registered Deputy Inspector Qualifications. An applicant for Deputy Inspector shall provide written documentation to the Superintendent of Building demonstrating his or her competence and relevant experience or training. Experience or training shall be considered relevant when the documented experience or training is related in complexity to the same type of special inspection activities for projects of similar complexity and material qualities. These qualifications are in addition to qualifications specified in other sections of this Code.

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

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

the fitness of the applicant, the Superintendent of Building shall issue a Certificate of Registration. Upon application for renewal of a Certificate of Registration, the applicant shall be re-examined to ascertain the applicant's fitness to perform the duties of inspector of the type for which application has been made.

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

The Superintendent of Building shall issue a separate Certificate of Registration for each type of registration requiring special inspection in accordance with Sections 91.1704 and 91.1707 of this Code and as determined by the Superintendent of Building for any construction requiring either continuous or periodic special inspection.

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

Each Certificate of Registration shall expire three (3) years from the date of issuance, but may be renewed by the Superintendent of Building within a grace period of thirty (30) days thereafter.

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

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

Except where there is an employee of the City of Los Angeles inspecting buildings or structures being erected or repaired by the City, no Registered Deputy Inspector shall receive any compensation whatsoever from the City. A Registered Deputy Inspector shall undertake and perform the duties of inspection solely on the request of the owner or the owner's agent. The designation shall be deemed to indicate that the duties incident to the inspection are within the course and scope of the Registered Deputy Inspector's employment by the owner or agent, and except where

the Registered Deputy Inspector is in fact an employee of the City, the Registered Deputy Inspector shall not be deemed an employee of the City, the contractor, a subcontractor or a material vendor for any purpose.

The registered design professional in responsible charge and engineers of record involved in the design of the project are permitted to act as the supervising agency and their personnel are permitted to act as the deputy inspector for the work designed by them, provided they qualify as deputy inspectors.

91.1704.2.1.1. Duties and Responsibilities of the Registered Deputy Inspector.

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

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

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

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

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

91.1704.2.1.2. Fees for Registered Deputy Inspector.

1. **New Application.** Before accepting any application for registration as a Registered Deputy Inspector, the Department shall collect a new examination fee of $528. A separate application shall be submitted and a separate examination fee shall be collected for each additional type of registration desired. When the applicant passes the examination(s), a Certificate(s) of Registration for each type of examination passed shall be issued. If the applicant fails to pass an examination, the applicant may reapply and again pay the examination fees. No refund(s) will be given to the applicant after the Department has administered the examination(s).

2. **Renewal Application.** Before renewing a Certificate of Registration as a Registered Deputy Inspector, the Department shall collect a renewal Registration and examination fee in the amount of $482. A separate application shall be submitted and a separate examination fee shall be collected for each additional type of renewal registration desired. When the applicant passes the examination(s), a Certificate(s) of Registration for each type of examination passed shall be issued. If the applicant fails to pass the examination(s), the applicant may reapply; however, the applicant must again pay the renewal Registration and examination fees before the Department can issue the Certificate of Registration(s). No refund(s) will be given to applicant after the Department has administered the examination.

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

EXCEPTIONS:

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

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

91.1704.2.1.3. Failure to Pass Examination for Registered Deputy Inspector. Every applicant who fails to pass a new or renewal examination(s) shall not be eligible for re-examination until 30 days after taking the previous examination.

Sec. 44. Subsection 91.1704.2.2 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 45. A new Subsection 91.1704.2.3 is added to the Los Angeles Municipal Code to read as follows:

91.1704.2.3. Statement of Special Inspections. The permit applicant shall submit a statement of special inspections in accordance with Section 107.1 of this Code. The statement of special inspections shall be prepared by the registered design professional in responsible charge as a condition for permit issuance. This statement shall be in accordance with Section 1704.3.

EXCEPTIONS:

1. A statement of special inspections is not required for portions of structures designed and constructed in accordance with the cold-formed steel light-frame construction provisions of Section 2211.7 or the conventional light-frame construction provisions of Section 2308.

2. The statement of special inspections is permitted to be prepared by a qualified person approved by the Superintendent of Building for construction, not designed by a registered design professional.

Sec. 46. A new Subsection 91.1704.2.4 is added to the Los Angeles Municipal Code to read as follows:

91.1704.2.4. Report Requirement. In addition to all the requirements of Section 91.1704.1.4, Registered Deputy Inspectors shall keep records of inspections. The Registered Deputy Inspector shall furnish inspection reports to the Superintendent of Building, and to the registered design professional in responsible charge. Reports shall indicate that work inspected was or was not completed in conformance to approved construction documents. Discrepancies shall be brought to the immediate attention of the contractor for correction. If they are not corrected, the discrepancies shall be brought to the attention of the Superintendent of Building and to the registered design professional in responsible charge prior to the completion of that phase of the work. A final report documenting required special inspections and correction of any discrepancies noted in the inspections shall be submitted at a point in time agreed upon prior to the start of work by the permit applicant and the Superintendent of Building prior to the start of work.

Sec. 47. A new Subsection 91.1704.2.5.1 is added to the Los Angeles Municipal Code to read as follows:

91.1704.2.5.1. Fabrication and Implementation Procedures. The deputy inspector shall verify that the fabricator maintains detailed fabrication and quality control procedures that provide a basis for inspection control of the workmanship and the

fabricator's ability to conform to approved construction documents and referenced standards. The deputy inspector shall review the procedures for completeness and adequacy relative to the Code requirements for the fabricator's scope of work.

EXCEPTION: Special inspections as required by Section 1704.2.5 shall not be required where the fabricator is approved in accordance with Section 1704.2.5.2.

Sec. 48. A new Subsection 91.1704.2.5.2 is added to the Los Angeles Municipal Code to read as follows:

91.1704.2.5.2. Fabricator Approval. Pursuant to LAMC Section 96.200, special inspections required by Section 1705 are not required where the work is done on the premises of a fabricator registered and approved to perform such work without special inspection. The Department shall base approval upon review of the fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices. At completion of fabrication, the approved fabricator shall submit a certificate of compliance to the Superintendent of Building stating that the work was performed in accordance with the approved construction documents.

Sec. 49. A new Subsection 91.1704.3 is added to the Los Angeles Municipal Code to read as follows:

91.1704.3. Statement of Special Inspections. Where special inspection or testing is required by Section 1705, the registered design professional in responsible charge shall prepare a statement of special inspections in accordance with Section 1704.3.1 for submittal by the applicant in accordance with Section 1704.2.3.

EXCEPTION: The statement of special inspections is permitted to be prepared by a qualified person approved by the Superintendent of Building for construction not designed by a registered design professional.

91.1704.3.1. Content of Statement of Special Inspections. The statement of special inspections shall identify the following:

1. The materials, systems, components and work required to have special inspection or testing by the Superintendent of Building or by the registered design professional responsible for each portion of the work.

2. The type and extent of each special inspection.

3. The type and extent of each test.

4. Additional requirements for special inspection or testing for seismic or wind resistance as specified in Sections 1705.10, 1705.11 and 1705.12.

5. For each type of special inspection, identification as to whether it will be continuous special inspection or periodic special inspection.

Sec. 50. Subsections 91.1704.3.1.1 through and including 91.1704.3.1.3 of the Los Angeles Municipal Code are deleted in their entirety.

Sec. 51. Subsection 91.1704.4 of the Los Angeles Municipal Code is amended to read as follows:

91.1704.4. Contractor Responsibility. Each contractor responsible for the construction of a main wind- or seismic force-resisting system, designated seismic system or a wind- or seismic-resisting component listed in the statement of special inspections shall submit a written statement of responsibility to the Superintendent of Building and the owner prior to the commencement of work on the system or component. The contractor's statement of responsibility shall contain acknowledgement of awareness of the special requirements contained in the statement of special inspection.

Sec. 52. A new Subsection 91.1704.4.1 is added to the Los Angeles Municipal Code to read as follows:

91.1704.4.1. Certified Licensed Contractors.

91.1704.4.1.1. Registration. Application for registration as a certified licensed contractor shall be made to the Superintendent of Building on a form furnished by the Department and a separate application shall be made for each type of registration desired. Before the application can be accepted, the applicant must furnish proof satisfactory to the Department that the applicant holds a valid active California State Contractor's License in the same specialty as the certification requested.

91.1704.4.1.2. Application.

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

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

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

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

91.1704.4.1.3. Examination.

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

2. **Board of Examiners.** The Superintendent of Building and/or Board of Examiners composed of three qualified persons appointed by the Superintendent shall conduct examinations. The results of every examination shall be subject to the approval of the Superintendent of Building. Each examiner shall serve at the pleasure of the Superintendent of Building and shall serve for a period of one year unless re-appointed by the Superintendent.

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

   a. A written test.

   b. Practical tests as may be required.

   c. An oral interview as may be required.

   d. Other tests as may be required by the Board of Examiners.

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

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

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

7. **Failure to Pass.** An applicant who fails to pass an examination shall not be eligible for another examination until four (4) weeks after taking the previous examination.

91.1704.4.1.4. Issuance of Certificates.

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

a. FAU/AC units; evaporative coolers.

b. Domestic water piping/plumbing fixtures/hot water heaters/solar panels.

c. Reroofing and roof repair.

d. Electrical equipment/fixtures/smoke detectors.

e. Masonry and concrete fences.

f. Masonry chimney repairs.

g. Shower pan replacement.

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

2. Upon payment of a $45 fee, the Department may issue a Certificate of Registration to every applicant who passes the required examination for a Certified Licensed Contractor.

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

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

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

91.1704.4.1.5. Exhibition of Certificate.

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

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

91.1704.4.1.6. Revocation of Certificate. The Superintendent of Building may revoke, suspend or refuse to renew any Certificate of Registration upon a showing of incompetence, willful or negligent failure to observe or report violations of this Code, or failure to maintain a valid active California State Contractor's License in the same specialty as the certification. Prior to any action, the holder shall be given an opportunity to appear before the Superintendent of Building and be heard.

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

Sec. 53. A new Subsection 91.1704.5 is added to the Los Angeles Municipal Code to read as follows:

91.1704.5. Structural Observations. Where required by the provisions of Section 1704.5.1 or 1704.5.2, the owner shall employ the registered design professional in responsible charge for the structural design, or another registered design professional designated by the registered design professional in responsible charge for the structural design to perform structural observations as defined in Section 1702.

Prior to the commencement of observations, the structural observer shall submit to the Superintendent of Building a written statement identifying the frequency and extent of structural observations.

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

Observed deficiencies shall be reported, in writing, to the owner's representative, Registered Deputy Inspector, contractor and the Superintendent of Building. Upon the form prescribed by the Superintendent of Building, the structural observer shall submit

to the Superintendent of Building a written statement at each significant construction stage stating that the site visits have been made and identify any reported deficiencies which, to the best of the structural observer's knowledge, have not been resolved. A final report by the structural observer, which states that all observed deficiencies have been resolved, is required before acceptance of the work by the Superintendent of Building.

91.1704.5.1. 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 (22 860 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 above grade plane and a lateral design is required for the structure or portion thereof.

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

4. When so designated by the registered design professional responsible for the structural design.

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

91.1704.5.2. Structural Observations for Wind Requirements. Structural observations shall be provided for those structures sited where V_{asd} as determined in accordance with Section 1609.3.1 exceeds 110 mph (49 m/sec), 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 building height of the structure is greater than 75 feet (22 860 mm).

3. When so designated by the registered design professional responsible for the structural design.

4. When such observation is specifically required by the Superintendent of Building.

Sec. 54. Subsections 91.1704.7 through and including 91.1704.22.2 of the Los Angeles Municipal Code are deleted in their entirety.

Sec. 55. Section 91.1705 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.1705. REQUIRED VERIFICATION AND INSPECTION.

Section 1705 of the CBC is adopted by reference, except Sections 1705.1.1, 1705.2.2.1.1, 1705.2.2.2, 1705.3, 1705.3.1, 1705.6, 1705.7, 1705.8, 1705.11, 1705.11.1, 1705.11.4, 1705.12.2, 1705.16.2,1705.17 of the CBC are not adopted; and, in lieu, Subsections 91.1705.1.1, 91.1705.1.2, 91.1705.1.3, 91.1705.1.4, 91.1705.1.5, 91.1705.1.6, 91.1705.1.7, 91.1705.1.8, 91.1705.1.9, 91.1705.1.10, 91.1705.1.11, 91.1705.2.2.1.1, 91.1705.2.2.1.2, 91.1705.2.2.1.3, 91.1705.2.2.1.3.1, 91.1705.2.2.1.3.2, 91.1705.2.2.2, 91.1705.3, 91.1705.3.1, 91.1705.3.2, 91.1705.6, 91.1705.6.1, 91.1705.7, 91.1705.8, 91.1705.11, 91.1705.11.1, 91.1705.11.4, 91.1705.12.2, 91.1705.16.2 and 91.1705.17 are added.

91.1705.1.1. Special Cases. Special inspections shall be required for proposed work that is, in the opinion of the Superintendent of Building, unusual in its nature, such as, but not limited to, the following examples:

1. Construction materials and systems that are alternatives to materials and systems prescribed by this Code.

2. Unusual design applications of materials described in this Code.

3. Materials and systems required to be installed in accordance with additional manufacturer's instructions that prescribe requirements not contained in this Code or in standards referenced by this Code.

91.1705.1.2. Certifications by Architect, Engineer or Geologist. If a structure or portion of a structure has been designed to utilize higher stresses requiring continuous inspection, the architect or engineer in charge of the design shall certify by signature to the Department that to the best of his or her knowledge, the structure or portion utilizing higher stresses was constructed in conformity with the approved design. If the grading or foundation earthwork has required continuous inspection, the responsible engineering geologist or soils engineer shall certify by signature to the Department that to the best of his or her knowledge the field work was completed in conformity with the technical design data.

91.1705.1.3. Department's Responsibility. The employment of a Registered Deputy Inspector for any work does not deprive the Department of the right to make periodic or

called inspections of all or portions of the work. On any work requiring continuous inspection by a Registered Deputy Inspector, the called inspections required by Section 91.108 of this Code may be delegated to the Registered Deputy Inspector by the Superintendent of Building.

91.1705.1.4. Structural, Termite and Fungus Damage. Every building raised from its foundation shall be inspected. If there is any superficial evidence of structural damage, termites or fungus growth, the permittee shall remove and renew the damaged or infested members before reseating the building or moving it from its existing site or into the City.

91.1705.1.5. Emergencies or Catastrophes. In the event of an emergency or of a major catastrophe in the City, the Department may deputize Emergency Building Inspectors for the Department. The inspectors shall receive no compensation from the City, and they shall be appointed for the periods of time the Department deems advisable.

91.1705.1.6. Special Activity Inspection. In addition to the construction or work inspected as described in Sections 91.108 and 91.1704 through 91.1705 of this Code, there are other construction activities that are sufficiently important to the structural stability of the structure, the occupants of and the fire and life safety of the structure that inspection by a specially qualified inspector of these activities is necessary in order to ensure compliance with the requirements of this Code. These special activity inspections may occur during off-site fabrication or during on-site construction.

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

1. The structure is more than five stories or 60 feet (18,288 mm) in height.

2. The structure exceeds 50,000 square feet (4645 m^2) of ground area or 200,000 square feet (18 580 m^2) of total floor area.

3. Nondestructive structural testing methods are utilized.

4. The quality identification markings of the materials used are not inspectable after installation.

5. The manner of use of materials precludes full inspection after installation.

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

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

6. Unique, novel or innovative construction;

7. Highly complex or intricate construction;

8. Unique, novel or innovative grading, earth support or foundation procedures; or

9. New methods of construction not yet provided for in the rules and regulations.

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

91.1705.1.7. Special Activity Inspection Authority.

91.1705.1.1.8. Registration. The procedures and conditions of registration as a Special Activity Inspector shall be the same as applicable to a Registered Deputy Inspector under Section 91.1704.2.1.2., except that the extent and duration of special inspection authority shall be as specified in the rules and regulations adopted by the Superintendent of Building.

91.1705.1.9. Duties. Except as otherwise indicated by regulations promulgated by the Superintendent of Building, the duties and responsibilities for a Special Activity Inspector shall be the same as specified for a Registered Deputy Inspector under Subsection 91.1704.2.1.1 of this Code.

91.1705.1.10. Fees. The procedures for the examination, registration and renewal of authority as a Special Activity Inspector shall be the same as specified for Registered Deputy Inspectors under Subsection 91.1704.1.3 of this Code.

91.1705.1.11. Renewal Process. Subsection 91.1704.1.3 applies to the application, examination and renewal process for registration as a Special Activity Inspector.

Sec. 56. Subsection 91.1705.2 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 57. Subsection 91.1705.2.2.1.1 of the Los Angeles Municipal Code is added to read as follows:

91.1705.2.2.1.1. Cold-formed Steel. Welding inspection shall be performed by a registered deputy inspector qualified by the Department for cold-formed steel floor and roof decks. Welding shall be in accordance with AWS D1.3.

91.1705.2.2.1.2. Reinforcing Steel. Welding inspection shall be performed by a registered deputy inspector qualified by the Department for reinforcing steel. Welding shall be in accordance with AWS D1.4 and ACI 318.

91.1705.2.2.1.3. Certification of Welders.

91.1705.2.2.1.3.1. The Department shall establish procedures, rules and regulations for the issuance of Welder's Certifications.

A fee of $110 shall be paid on each application for certification or renewal. $50 of the fee shall be paid prior to the Department's examination for a new certification and the remaining amount shall be paid after the examination. Certificates shall be issued for a period of three (3) years and may be renewed for an additional three (3) year period.

91.1705.2.2.1.3.2. The Superintendent of Building shall suspend or revoke any certificate upon evidence of failure of the person so certified to conduct welding operations in compliance with any of the conditions upon which it is based, or where quality of workmanship is not equivalent to that required by the Code, or for any of the reasons set forth in Article 8, Chapter IX of the Los Angeles Municipal Code. Any action shall be in accordance with the provisions of Article 8, Chapter IX of the Los Angeles Municipal Code.

91.1705.2.2.2. Cold-formed Steel Trusses Spanning 60 Feet or Greater. Where a cold-formed steel truss clear span is 60 feet (18 288 mm) or greater, the deputy inspector shall verify that the temporary installation restraint/bracing and the permanent individual truss member restraint/bracing are installed in accordance with the approved truss submittal package.

Sec. 58. Subsection 91.1705.3 of the Los Angeles Municipal Code is amended to read as follows:

91.1705.3. Concrete Construction. The special inspections and verifications for concrete construction shall be as required by this section and Table 1705.3.

EXCEPTION: Special inspections 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).

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

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

2.2. The footings are designed in accordance with Table 1809.7; 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.

TABLE 1705.3 REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD[a]	IBC REFERENCE
1. Inspection of reinforcing steel, including prestressing tendons, and placement.	—	X	ACI 318: 3.5, 7.1-7.7	1910.4
2. Inspection of reinforcing steel welding in accordance with Table 1705.2.2, Item 2b.	—	—	AWS D1.4 ACI 318: 3.5.2	—

3. Inspection of anchors cast in concrete where allowable loads have been increased or where strength design is used.	—	X	ACI 318: 8.1.3, 21.2.8	1908.5, 1909.1
4. Inspection of anchors post-installed in hardened concrete members[b].	—	X	ACI 318: 3.8.6, 8.1.3, 21.2.8	1909.1
5. Verifying use of required design mix.	—	X	ACI 318: Ch. 4, 5.2-5.4	1904.2, 1910.2, 1910.3
6. At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	—	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	1910.10
7. Inspection of concrete and shotcrete placement for proper application techniques.	X	—	ACI 318: 5.9, 5.10	1910.6, 1910.7, 1910.8
8. Inspection for maintenance of specified curing temperature and techniques.	—	X	ACI 318: 5.11-5.13	1910.9

9. Inspection of prestressed concrete: a.Application of prestressing forces. b.Grouting of bonded prestressing tendons in the seismic force-resisting system.	X X	—	ACI 318: 18.20 ACI 318: 18.18.4	—
10. Erection of precast concrete members.	—	X	ACI 318: Ch. 16	—
11. Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	—	X	ACI 318: 6.2	—
12. Inspect formwork for shape, location and dimensions of the concrete member being formed.	—	X	ACI 318: 6.1.1	—

For SI: 1 inch = 25.4 mm.

a. Where applicable, see also Section 1705.11, Special inspections for seismic resistance.

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 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 Superintendent of Building prior to the commencement of the work.

91.1705.3.1. Structural Inspection - Concrete. During the construction of all buildings over 160 feet (48,768 mm) in height with concrete special moment-resisting space frames, a structural inspector under the supervision of the engineer responsible for the structural design shall be present to inspect the materials and workmanship for conformance with approved plans, specifications and change orders involved in construction of the ductile frames and shear walls. This inspection may be made by one or more structural inspectors, provided that at least one structural inspector is present during the placement of all concrete and reinforcement in the structural frame and shear walls.

The number of structural inspectors to be provided for each structure shall be determined by the engineer responsible for the structural design, provided that more than one structural inspector shall be provided where the magnitude of a structure prevents a single inspector from adequately performing the inspection.

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

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

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

91.1705.3.2. Materials. In the absence of sufficient data or documentation providing evidence of conformance to quality standards for materials in Chapter 3 of ACI 318, the Superintendent of Building shall require testing of materials in accordance with the appropriate standards and criteria for the material in Chapter 3 of ACI 318. Weldability of reinforcement, except that which conforms to ASTM A 706, shall be determined in accordance with the requirements of Section 3.5.2 of ACI 318.

91.1705.6. Soils. Special inspections defined per Sections 7008.2 and 7011.3 of this Code for existing site soil conditions, fill placement and load-bearing requirements shall be as required by this section and Table 1705.6. The approved geotechnical report, and the construction documents prepared by the registered design professionals shall

be used to determine compliance. During fill placement, the special inspector shall determine that proper materials and procedures are used in accordance with the provisions of the approved geotechnical report, as specified in CBC Section 1803.5.

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

91.1705.6.1. Grading. A registered Grading Inspector is required under all conditions where the site grading or foundation earthwork planned on a project has any of the following:

1.1. A contiguous grading area exceeding 60,000 square feet (5574 m^2).

1.2. An excavated or filled slope steeper than 2 horizontal in 1 vertical (50 percent slope).

1.3. An excavated slope exceeding 40 feet (12,192 mm) in height and the top of which is within 20 feet (6096 mm) of a property line coterminous with improved private property or a public way.

1.4. Foundation excavations below a 1 horizontal in 1 vertical plane inward and down from the property line.

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

TABLE 1705.6 REQUIRED VERIFICATION AND INSPECTION OF SOILS

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	—	X

2. Verify excavations are extended to proper depth and have reached proper material.	—	X
3. Perform classification and testing of compacted fill materials.	—	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	X[a]	—
5. Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.	—	X

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

91.1705.7. Driven Deep Foundations and Connecting Grade Beams. Special inspections shall be performed during installation and testing of driven deep foundation elements as required by Table 1705.7. The *approved* geotechnical report, required by CBC Section 1803.2, and the construction documents prepared by the registered design professionals in responsible charge, shall be used to determine compliance. Special inspections for connecting grade beams shall be in accordance with Section 91.1705.4 of this Code.

91.1705.8. Cast-in-Place Deep Foundations and Connecting Grade Beams. Special inspections shall be performed during installation and testing of cast-in-place deep foundation elements as required by Table 1705.8. The approved geotechnical report, required by Section 1803.3 and the construction documents prepared by the registered design professionals in responsible charge, shall be used to determine compliance. Special inspections for connecting grade beams shall be in accordance with Section 91.1705.4 of this Code.

91.1705.11.1. Structural Steel. Special inspection for structural steel shall be in accordance with the quality assurance requirements of AISC 341 and during the fabrication and erection of buildings over 160 feet (48,768 mm) in height with structural steel moment-resisting frames. A Registered Deputy Inspector under the supervision of the engineer responsible for the structural design shall be present during the performance of all structural welding or the installation of all high-strength bolts whether in a fabricator's shop or at the job site.

EXCEPTIONS:

1. Single-pass fillet welds not exceeding 5/16-inch (7.9 mm) in size.

2. Floor and roof deck welding.

91.1705.11.1.1. Certification. For buildings exceeding 160 feet (48,768 mm) in height, the engineer responsible for the structural design and the general contractor responsible for the construction, or their competent authorized representatives, shall make periodic inspections of the work at the site to verify general compliance with the approved plans, specifications and change orders. The engineer and general contractor shall submit a statement in writing to the Department stating that they know from personal knowledge that the materials installed and the structural work performed is in compliance with the approved plans, specifications and change orders.

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

EXCEPTION: Special inspections of structural steel in structures assigned to Seismic Design Category C that are not specifically detailed for seismic resistance, with a response modification coefficient, *R*, of 3 or less, excluding cantilever column systems.

91.1705.11.4. Designated Seismic Systems Verifications. The deputy inspector shall examine designated seismic systems requiring seismic qualification in accordance with Section 1705.12.3 and verify that the label, anchorage or mounting conforms to the certificate of compliance and any applicable research report.

91.1705.12.2. Structural Steel. Testing for structural steel shall be in accordance with the quality assurance requirements of AISC 341 and the additional requirements in this Section. Nondestructive testing shall be performed by an approved agency and the written report, including the test results, shall be submitted for evaluation by the Superintendent of Building. The acceptance criteria for nondestructive testing shall be as required in AWS D1.1 as specified by the registered design professional.

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

EXCEPTION: Testing for structural steel in structures assigned to Seismic Design Category C that are not specifically detailed for seismic resistance, with a response modification coefficient, *R*, of 3 or less, excluding cantilever column systems.

91.1705.16.2. Fire-Resistant Joint Systems. Inspection of fire-resistant joint systems that are tested and listed in accordance with Sections 715.3 and 715.4 shall be conducted by an approved deputy inspector in accordance with ASTM E 2393.

91.1705.17. Special Inspection for Smoke Control. Smoke control systems shall be tested by a deputy inspector.

Sec. 58. A new Section 91.1706 is added to the Los Angeles Municipal Code to read as follows:

SEC. 91.1706. DESIGN STRENGTHS OF MATERIALS

Section 1706 of the CBC is adopted by reference, except Section 1706.1 of the CBC is not adopted and in lieu, Subsection 91.1706.1 is added.

91.1706.1. Conformance to Standards.

The design strengths and permissible stresses of any structural material that are identified by a manufacturer's designation as to manufacture and grade by mill tests, or the strength and stress grade is otherwise confirmed to the satisfaction of the Superintendent of Building shall conform to the specifications and methods of design of accepted engineering practice or the approved rules in the absence of applicable standards.

Sec. 59. Section 91.1707 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.1707. SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.

Section 1707 of the CBC is adopted by reference, except Sections 1707.1 of the CBC is not adopted and in lieu Subsection 91.1707.1 is added.

91.1707.1. General. In the absence of approved rules or other approved standards, the Superintendent of Building shall make, or cause to be made, any necessary tests and investigations; or the Superintendent of Building shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in Section 104.11. The cost of all tests and other investigations required under the provisions of this Code shall be borne by the applicant.

Sec. 60. Subsections 91.1707.2 through and including 91.1707.10 of the Los Angeles Municipal Code are deleted in their entirety.

Sec. 61. Section 91.1708 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.1708. STRUCTURAL TESTING FOR SEISMIC RESISTANCE.

Section 1708 of the CBC is adopted by reference, except Section 1708.1 of the CBC is not adopted; and, in lieu, Subsection 91.1708.1 is added.

91.1708.1. Where Required. Where proposed construction is not capable of being designed by approved engineering analysis, or where proposed construction design method does not comply with the applicable material design standard, the system of construction or the structural unit and the connections shall be subjected to the tests prescribed in Section 1710. The Superintendent of Building shall accept certified reports of such tests conducted by an approved testing agency, provided that such tests meet the requirements of this Code and approved procedures.

Sec. 62. Subsection 91.1708.3 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 63. Section 91.1709 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 64. Section 91.1710 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 65. Section 91.1711 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 66. Section 91.1712 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.1712. CERTIFIED SECURITY BAR INSTALLER.

91.1712.1. General. A certified security bar installer may certify to the Department of Building and Safety that any bars, grilles, grates, security rolldown shutters, or similar devices installed on required emergency escape windows or doors meet the requirements of Section 91.6304.3 of this Code.

The Department may allow the use of a certified installer if:

1. The certified installer obtains a Certificate of Registration in accordance with the provisions of this section.

2. The certified installer files with the Department a Certificate of Compliance for each dwelling unit for which certification is being made. The Certificate of Compliance shall be on a form provided by the Department and shall be signed by the property owner and the certified installer.

3. The Certificate of Compliance processing fee is paid in accordance with Subsection 91.107.7 of this Code.

4. The certified installer files the Certificate of Compliance with the Department within 15 days after completion of the installation.

91.1712.2. Registration. A certified installer shall obtain a Certificate of Registration from the Department of Building and Safety.

91.1712.3. Application.

91.1712.3.1. Forms. Application for a certified security bar installer Certificate of Registration shall be made on a form furnished by the Department.

91.1712.3.2. Information Necessary. The application shall bear the name and address of the applicant and, if a firm, partnership or corporation, the names of the

principal officers. The application shall carry other information deemed necessary by the Department.

91.1712.3.3. Verification. The applicant shall declare that the information contained in the application is true and correct.

91.1712.3.4. Fees. The application shall be accompanied by an examination fee of $125.00.

91.1712.4. Examination.

91.1712.4.1. Examination Required. Before any person shall be issued a Certificate of Registration, the applicant, who must be an officer in the case of a firm, partnership or corporation, shall have successfully passed the examination required for the issuance of the certificate within ninety (90) days preceding the date of the issuance.

91.1712.4.2. Experience Required. To be eligible for the examination for a Registration Certificate, the applicant shall have a valid California State Contractor's License in an appropriate specialty and a valid City Business Tax Certificate.

91.1712.4.3. Board of Examiners. The Superintendent of Building or a Board of Examiners composed of qualified person(s) appointed by the Superintendent shall conduct examinations.

The results of every examination shall be subject to the approval of the Superintendent.

Each examiner shall serve at the pleasure of the Superintendent of Building and shall serve for a period of one year unless reappointed by the Superintendent.

91.1712.4.4. Scope of Examination. The examination shall, in the judgment of the board, fairly determine the ability of the applicant to perform properly the work, which he or she would be authorized to do by the certificate requested, and may include the following:

1. A written test.
2. Practical tests as may be required.
3. An oral interview as may be required.
4. Other tests as may be required by the Board of Examiners.

91.1712.4.5. Time of Examination. The applicant shall be examined as soon as practicable after filing an application.

91.1712.4.6. Rules and Regulations. The Department shall have the authority to establish rules and regulations for the conduct of examinations.

91.1712.4.7. Fitness of Applicant. Any applicant for a certificate may be required to submit satisfactory proof of his or her fitness to carry out the intent of this Code.

91.1712.4.8. Failure to Pass. Every applicant who fails to pass an examination shall not be eligible for another examination until four (4) weeks after taking the previous examination. Any applicant who fails to pass on the third try shall not be eligible again until six (6) months after taking the previous examination.

91.1712.5. Issuance of Certificates.

91.1712.5.1. Upon the payment of a $90 fee, the Department may issue a Certificate of Registration to every applicant who passes the required examination for a certified security bar installer.

91.1712.5.2. Renewal of Certificates. Expired certificates may be renewed at any time within twelve (12) months following the date of expiration. However, after the first month, the renewal fee shall be increased by 10 percent for each subsequent month. After a certificate has been expired for one year, it may not be renewed; however, an applicant may apply for a new certificate at that time.

91.1712.6. Exhibition of Certificate.

91.1712.6.1. Every person having a fixed place of business shall keep his or her Certificate of Registration posted in some conspicuous location at his or her place of business during the time the certificate is in force.

91.1712.6.2. Every person not having a fixed place of business shall carry his or her Certificate of Registration with him or her at all times while doing any work pursuant to this certificate.

91.1712.7. Revocation of Certificate. Any certificate may be suspended or revoked in accordance with the provisions of Article 8, Chapter IX of the Los Angeles Municipal Code.

91.1712.8. Transfer of Certificate. No certificate shall be transferable. A Certificate of Registration issued to a firm, partnership or corporation may not be transferred. The dissolution of a firm, partnership or corporation renders the certificate void.

Sec. 67. Section 91.1713 of the Los Angeles Municipal Code is added to read as follows:

SEC. 91.1713. PREFABRICATED CONSTRUCTION.

91.1713.1. General.

91.1713.1.1. Purpose. The purpose of this section is to regulate materials and establish methods of safe construction where any structure or portion of the structure is wholly or partially prefabricated.

91.1713.1.2. Scope. Unless otherwise specifically stated in this section, all prefabricated construction and all materials used in the construction shall conform to all the requirements of this Code. (See Subsection 91.104.2.6.)

91.1713.1.3. Definition.

PREFABRICATED ASSEMBLY is a structural unit, the integral parts of which have been built up or assembled prior to incorporation in the building.

91.1713.2. Tests of Materials. Every approval of a material not specifically mentioned in this Code shall incorporate as a proviso, the kind and number of tests to be made during prefabrication.

91.1713.3. Tests of Assemblies. The Superintendent of Building may require special tests to be made on assemblies to determine their durability and weather resistance.

91.1713.4. Connections. See CBC Section 1611.11.1 for design requirements of connections for prefabricated assemblies.

91.1713.5. Pipes and Conduits. See CBC Section 1611.11.2 for design requirements for removal of material for pipes, conduits and other equipment.

91.1713.6. Certificate and Inspection.

91.1713.6.1. Materials. Materials and the assembly of materials shall be inspected to determine compliance with this Code. Every material shall be graded, marked or labeled where required elsewhere in this Code.

91.1713.6.2. Certificate. A Certificate of Approval shall be furnished with every prefabricated assembly, except where the assembly is readily accessible to inspection at the site. The Certificate of Approval shall certify that the assembly in question has been inspected and meets all the requirements of this Code. When mechanical equipment is installed so that it cannot be inspected at the site, the Certificate of Approval shall certify that the equipment complies with all applicable laws and regulations.

91.1713.6.3. Certifying Agency. To be acceptable under this Code, every Certificate of Approval shall be made by an approved agency.

91.1713.6.4. Field Erection. Placement of prefabricated assemblies at the building site shall be inspected by the Department to determine compliance with this Code.

91.1713.6.5. Continuous Inspection. If continuous inspection is required for certain materials where construction takes place on the site, it shall also be required where the same materials are used in prefabricated construction.

EXCEPTION: Continuous inspection will not be required during prefabrication if the approved agency certifies to the construction and furnishes evidence of compliance.

Sec. 67. Section 91.1715 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 68. Section 91.1716 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 69. Section 91.1717 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 70. Section 91.1718 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 71. Section 91.1802 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.1802. DEFINITIONS.

Section 1802 of the CBC is adopted by reference.

Sec. 72. Section 91.1804 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.1804. EXCAVATION, GRADING AND FILL.

Section 1804 of the CBC is adopted by reference.

Sec. 73. Section 91.1807 of the Los Angeles Municipal Code is amended to read as follows:

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

Section 1807 of the CBC is adopted by reference, except Sections1807.1.4 and 1807.1.6 the CBC are not adopted and, in lieu, Subsections 91.1807.1.4 and 91.1807.1.6 are added.

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

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

91.1807.1.6. Prescriptive Design of Concrete and Masonry Foundation Walls. Concrete and masonry foundation walls that are laterally supported at the top and bottom shall be permitted to be designed and constructed in accordance with this Section. Prescriptive design of foundation walls shall not be used for structures assigned to Seismic Design Category D, E or F.

Sec. 74. Section 91.1808 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.1808. FOUNDATIONS.

Section 1808 of the CBC is adopted by reference.

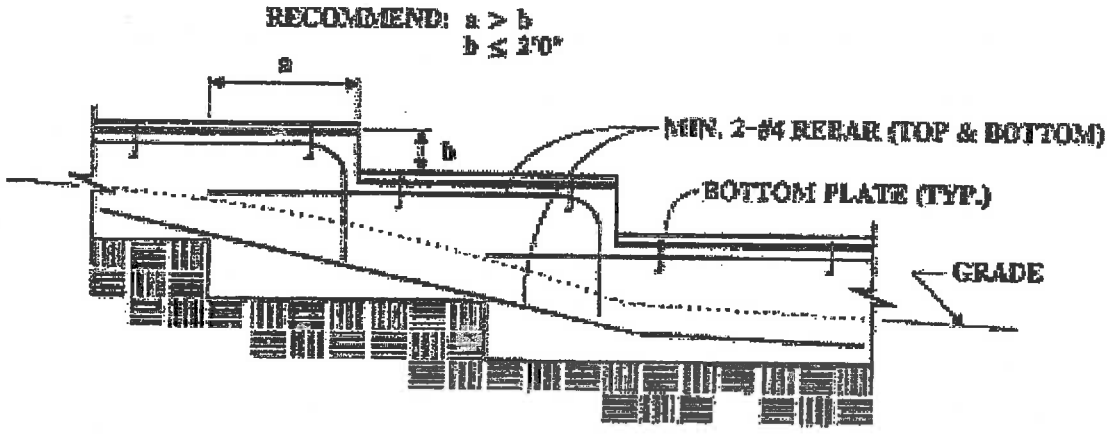
Sec. 75. Section 91.1809 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.1809. SHALLOW FOUNDATIONS.

Section 1809 of the CBC is adopted by reference, except Section 1809.3, 1809.4 and 1809.12 are not adopted; and, in lieu, Subsections 91.1809.3, 91.1809.4, 91.1809.7 and 91.1809.12 are added.

91.1809.3. Stepped Footing. The top surface of footings shall be level. The bottom surface of footings shall be permitted to have a slope not exceeding one unit vertical in

10 units horizontal (10-percent slope). Footings shall be stepped where it is necessary to change the elevation of the top surface of the footing or where the surface of the ground slopes more than one unit vertical in 10 units horizontal (10-percent slope). 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 ½ inch diameter (12.7 mm) deformed reinforcing bars. Two bars shall be placed at the top and bottom of the footings as shown in Figure 1809.3 of this Code.



STEPPED FOUNDATIONS

91.1809.4. Depth and Width of Footings. The minimum depth of footings below the surface of undisturbed soil, compacted fill material or CLSM shall be 12 inches (305 mm). Where applicable, the requirements of CBC Section 1809.5 shall also be satisfied. The minimum width of footings shall be 12 inches (305 mm).

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

TABLE 1809.7
PRESCRIPTIVE FOOTINGS SUPPORTING WALLS OF LIGHT-FRAMED 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: one inch = 25.4 mm, one foot = 304.8 mm

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

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

Sec. 76. Subsection 91.1810.3.2.4 of the Los Angeles Municipal Code is amended to read as follows:

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

Sec. 77. Subsection 91.1810.3.3.1.4 of the Los Angeles Municipal Code is amended to read as follows:

91.1810.3.3.1.4. Allowable Frictional Resistance. The assumed frictional resistance developed by any uncased cast-in-place deep foundation element shall not exceed one-sixth (1/6) of the bearing value of the soil material at minimum depth as set forth in CBC Table 1806.2, up to a maximum of 500 psf (24 kPa), unless a greater value is allowed by the Department on the basis of a geotechnical investigation as specified in Section 1803 or a greater value is substantiated by a load test in accordance with CBC Section 1810.3.3.1.2. Frictional resistance and bearing resistance shall not be assumed to act simultaneously.

Sec. 78. Subsection 91.1810.3.10.4 of the Los Angeles Municipal Code is amended to read as follows:

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

Sec. 79. Subsection 91.1810.4.8 of the Los Angeles Municipal Code is added to read as follows:

91.1810.4.8. Hollow-stem Augered, Cast-in-Place Elements. An indicator pile program shall be performed to confirm the installation procedure and to determine the pile capacity by static load testing. Upon completion of the pile load testing, at least one test pile shall be entirely exhumed to examine the pile integrity. Prior to the installation of production piles, the results of the testing, and confirmation or revision to the pile capacity shall be determined. Where concrete or grout is placed by pumping through a hollow-stem auger, the auger shall be permitted to rotate in a clockwise direction during withdrawal. As the auger is withdrawn at a steady rate or in increments not to exceed 1 foot (305mm), concreting or grouting pumping pressures shall be measured and maintained high enough at all times to offset hydrostatic and lateral earth pressures. Concrete or grout volumes shall be measured to ensure that the volume of concrete or grout placed in each element is equal to or greater than the theoretical volume of the hole created by the auger. Where the installation process of any element is interrupted or a loss of concreting or grouting pressure occurs, the element shall be redrilled to 5 feet (1524 mm) below the elevation of the tip of the auger when the installation was interrupted or concrete or grout pressure was lost and reformed. Augered cast-in-place elements shall not be installed within six diameters center to center of an element filled with concrete or grout less than 12 hours old, unless approved by the building official. If the concrete or grout level in any completed element drops due to installation of an adjacent element, the element shall be replaced.

Sec. 80. Division 19 of Article 1 of Chapter IX of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.1900. BASIC PROVISIONS.

Chapter 19 of the CBC is adopted by reference, except that Sections 1908.1, 1908.1.2, 1908.1.8 and 1909.4 of the CBC are not adopted; and Subsections 91.1905.1, 91.1905.1.8, 91.1905.1.11, 91.1905.1.12, 91.1905.1.13 and 91.1906.1 of this Code are added.

91.1905.1. General. The text of ACI 318 shall be modified as indicated in CBC Sections 1905.1.1 through 1905.1.13.

91.1905.1.8. 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) Concrete used for fill with a minimum cement content of two (2) sacks of Portland cement per cubic yard.

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

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

In detached one- and two-family dwellings three stories or less in height and constructed with stud-bearing walls, plain concrete footings with at least two continuous longitudinal reinforcement bars not smaller than No. 4 are permitted to have a total area of less than .002 times the gross cross-sectional area of the footing.

91.1905.1.10. ACI 318, Section 21.6.4. Modify ACI 318, Section 21.6.4 by adding Section 21.6.4.8 to read as:

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 Section 21.6.4.1 items (a) through (c), over the full height of the member.

91.1905.1.11. ACI 318, Section 21.6.4. Modify ACI 318, Section 21.6.4, by adding Section 21.6.4.9 to read as follows:

21.6.4. 9 – At any section where the design strength, $\square P_n$, of the column is less than the sum of the shears V_e computed in accordance with ACI 318 Sections 21.5.4.1 and 21.6.5.1 for all the beams framing into the column above the level under consideration, transverse reinforcement as specified in ACI 318 Sections 21.6.4.1 through 21.6.4.3 shall be provided. For beams framing into opposite sides of the column, the moment components may be assumed to be of opposite sign. For determination of the design strength, P_n, of the column, these moments may be assumed to result from the deformation of the frame in any one principal axis.

91.1905.1.12. ACI 318, Section 21.9.4. Modify ACI 318, Section 21.9.4, by adding Section 21.9.4.6 to read as follows:

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

91.1905.1.13. ACI 318, Section 21.11.6. Modify ACI 318, Section 21.11.6. by adding Section 21.11.6.1 as 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 thick, where d_b is the diameter of the largest reinforcement in the topping slab. [CBC Section 1913.3.6]

91.1906.1. STRUCTURAL PLAIN CONCRETE.

Scope. The design and construction of structural plain concrete, both cast-in-place and precast, shall comply with the minimum requirements of ACI 318, as modified in Section 1905.

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

Sec. 81. Subsections 91.1908.1 through and including 91.1909.4 of the Los Angeles Municipal Code are deleted in their entirety.

Sec. 82. Subsection 91.2113.3 of the Los Angeles Municipal Code is amended to read as follows:

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

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

Sec. 83. Section 91.2200 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.2200. BASIC PROVISIONS.

Chapter 22 of the CBC is adopted by reference, except that Section 2204.1 of the CBC is modified, and Subsections 91.2204.1 and 91.2205. 3 are added.

Sec. 84. Section 91.2204 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.2204. CONNECTIONS.

91.2204.1. Welding. The details of design, workmanship and technique for welding, inspection of welding and qualification of welding operators shall conform to the requirements of the specifications listed in Sections 2205, 2206, 2207, 2208, 2209, 2210 and 2211. Special inspection of welding shall be provided where required by Section 91.1705.

All welding, except when performed at the shop of an approved fabricator, shall be done by operators certified by the Department for the type of operation involved in accordance with the provisions of CBC Section 1705.2.2.1.

Complete details of location, type, size and amount of all welds shall be clearly shown on the plans. Where symbols are used on the plans, they shall be the

"**Standard Welding Symbols**," AWS A 2.4, of the American Welding Society (AWS). When it is necessary to use a special erection sequence of welding to minimize locked-up stresses or distortion, the Department may require the erection sequence of welding to be shown on the plans.

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

Sec. 85. Subsection 91.2205.4 of the Los Angeles Municipal Code is renumbered as Subsection 91.2205.3 and amended to read as follows:

91.2205.3. Modifications to AISC 341, Section F2.5, Members, Special Concentrically Braced Frames (SCBF) Modifications. AISC 341, Section F2.5b. is modified to add a new requirement as follows:

Section F2.5b(4) - The use of rectangular HSS are not permitted for bracing members, unless filled solid with cement grout having a minimum compressive strength of 3000 psi (20.7 MPa) at 28 days. The effects of composite action in the filled composite brace shall be considered in the sectional properties of the system where it results in the more severe loading condition or detailing.

Sec. 86. Subsection 91.2306.2 of the Los Angeles Municipal Code is amended to read as follows:

91.2306.2. Wood-Frame Diaphragms. Wood-frame diaphragms shall be designed and constructed in accordance with AF&PA SDPWS. Where panels are fastened to framing members with staples, requirements and limitations of AF&PA SDPWS shall be met and the allowable shear values set forth in CBC Table 2306.2(1) or 2306.2(2) shall only be permitted for structures assigned to Seismic Design Category A, B, or C.

EXCEPTION: Allowable shear values where panels are fastened to framing members with staples may be used if such values are substantiated by cyclic testing and approved by the building official.

The allowable shear values in Tables 2306.2(1) and 2306.2(2) are permitted to be increased 40 percent for wind design.

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

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

Sec. 87. Subsection 91.2306.2.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 88. Subsection 91.2306.3 of the Los Angeles Municipal Code is amended to read as follows:

91.2306.3. Wood-Frame Shear Walls. Wood-frame shear walls shall be designed and constructed in accordance with AF&PA SDPWS. For structures assigned to Seismic Design Category D, E, or F, application of Tables 4.3A and 4.3B of AF&PA SDPWS shall include the following:

1. Wood structural panel thickness for shear walls shall not be less than 3/8-inch thick and studs shall not be spaced at more than 16 inches on center.

2. The maximum nominal unit shear capacities for three-ply plywood resisting seismic forces in structures assigned to Seismic Design Category D, E or F is 400 pounds per linear foot (plf).

3. Where shear design values using allow stress design (ASD) exceed 350 plf or load and resistance factor design (LRFD) exceed 500 plf, all framing members receiving edge nailing from abutting panels shall not be less than a single 3-inch nominal member, or two 2-inch nominal members fastened together in accordance with Section 2306.1 to transfer the design shear value between framing members. Wood structural panel joint and sill plate nailing shall be staggered at all panel edges. See Section 4.3.6.1 and 4.3.6.4.3 of AF&PA SDPWS for sill plate size and anchorage requirements.

4. Nails shall be placed not less than 1/2 inch in from the panel edges and not less than 3/8 inch from the edge of the connecting members for shear greater than 350 plf using ASD or 500 plf using LRFD. Nails shall be placed not less than 3/8 inch from panel edges and not less than 1/4 inch from the edge of the connecting members for shears of 350 plf or less using ASD or 500 plf or less using LRFD.

5. Table 4.3B application is not allowed for structures assigned to Seismic Design Category D, E or F.

For structures assigned to Seismic Design Category D, application of Table 4.3C of AF&PA SDPWS shall not be used below the top level in a multi-level building for structures.

Where panels are fastened to framing members with staples, requirements and limitations of AF&PA SDPWS shall be met and the allowable shear values set forth in Table 2306.3(1), 2306.3(2) or 2306.3(3) shall only be permitted for structures assigned to Seismic Design Category A, B, or C.

EXCEPTION: Allowable shear values where panels are fastened to framing members with staples may be used if such values are substantiated by cyclic testing and approved by the building official.

The allowable shear values in Tables 2306.3(1) and 2306.3(2) are permitted to be increased 40 percent for wind design. Panels complying with ANSI/APA PRP-210 shall be permitted to use design values for Plywood Siding in the AF&PA SDPWS.

Sec. 89. Subsection 91.2306.7 of the Los Angeles Municipal Code is renumbered as Subsection 91.2306.4 and amended to read as follows:

91.2306.4. Shear Walls Sheathed with Other Materials. Shear walls sheathed with Portland cement plaster, gypsum lath, gypsum sheathing or gypsum board shall be designed and constructed in accordance with AF&PA SDPWA. Shear walls sheathed with these materials are permitted to resist horizontal forces using the allowable shear capacities set forth in CBC Table 2306.3(3). Shear walls sheathed with Portland cement plaster, gypsum lath, gypsum sheathing or gypsum board shall not be used to resist seismic forces in structures assigned to Seismic Design Category E or F.

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

Sec. 90. Section 91.2308 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.2308. CONVENTIONAL LIGHT-FRAME CONSTRUCTION.

Section 2308 of the CBC is adopted by reference, except that Sections 2308.3.4, 2308.9.3.1, 2308.12.1, 2308.12.2, 2308.12.4 and 2308.5 of the CBC are not adopted and, in lieu, Subsections 91.2308.3.4, 91.2309.3.1, 91.2308.9.3.2, 91.2308.12.1, 91.2308.12.2, 91.2308.12.4, 91.2308.12.5, and Table 2308.4 are added.

Sec. 91. A new Subsection 91.2308.9.3.1 is added to the Los Angeles Municipal Code to read as follows:

91.2308.9.3.1. 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 15/32-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. 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).

Sec. 92. A new Subsection 91.2308.9.3.2 is added to the Los Angeles Municipal Code to read as follows:

91.2308.9.3.2. 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:

1. 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 15/32 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. 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.

2. In the first story of two-story buildings, each wall panel shall be braced in accordance with Item 1 above, except that each panel shall have a length of not less than 24 inches (610 mm).

Sec. 93. Subsection 91.2308.12.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 94. The first unnumbered paragraph of Subsection 91.2308.12.4 of the Los Angeles Municipal Code is amended to read as follows:

91.2308.12.4. Braced Wall Line Sheathing. Braced wall lines shall be braced by one of the types of sheathing prescribed by Table 2308.12.4 as shown in Figure 2308.9.3. The sum of lengths of braced wall panels at each braced wall line shall conform to the required percentage of wall length required to be braced per braced wall line in Table 2308.12.4. Braced wall panels shall be distributed along the length of the braced wall line and start at not more than 8 feet (2438 mm) from each end of the braced wall line. Panel sheathing joints shall occur over studs or blocking. Sheathing shall be fastened to studs, top and bottom plates and at panel edges occurring over blocking. Wall framing to which sheathing used for bracing is applied shall be nominal 2-inch-wide [actual 1 1/2 inch (38 mm)] or larger members. Braced wall panel construction types shall not be mixed within a braced wall line. Braced wall panels required by

CBC Section 2308.12.4 may be eliminated when all of the following requirements are met:

Sec. 95. Two unnumbered paragraphs are added at the end of Subsection 91.2308.12.4 of the Los Angeles Municipal Code to read as follows:

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

Cripple walls having a stud height exceeding 14 inches (356 mm) shall be considered a story for the purpose of this section and shall be braced as required for braced wall lines in accordance with the required percentage of wall length required to be braced per braced wall line in Table 2308.12.4. Where interior braced wall lines occur without a continuous foundation below, the length of parallel exterior cripple wall bracing shall be one and one-half times the lengths required by Table 2308.12.4. Where the cripple wall sheathing type used is Type S-W and this additional length of bracing cannot be provided, the capacity of Type S-W sheathing shall be increased by reducing the spacing of fasteners along the perimeter of each piece of sheathing to 4 inches (102 mm) o.c.

Sec. 96. Table 2308.12.4 of the Los Angeles Municipal Code is amended to read as follows:

TABLE 2308.12.4

WALL BRACING IN SEISMIC DESIGN CATEGORIES D AND E

(Minimum Percentage of Wall Bracing per each Braced Wall Line[a])

CONDITION	SHEATHING TYPE[b]	$S_{DS}<0.50$	$0.5\leq S_{DS}<0.75$	$0.75\leq S_{DS}\leq 1.00$	$S_{DS}>1.00$
One story	G-P[c]	43	59	75	100
	S-W	21	32	37	48

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

a. Minimum length of panel bracing of one face of the wall for S-W sheathing shall be at least 4'-0" long or both faces of the wall for G-P sheathing shall be at least 8'-0" long; h/w ratio shall not exceed 2:1. For SW panel bracing of the same material on two faces of the wall, the minimum length is permitted to be one-half the tabulated value but the h/w ratio shall not exceed 2:1 and design for uplift is required. The 2:1 h/w ratio limitation does not apply to alternate braced wall panels constructed in accordance with Section 2308.9.3.1 or 2308.9.3.2. Wall framing to which sheathing used for bracing is applied shall be nominal 2 inch wide [actual 1 1/2 inch (38 mm)] or larger members and spaced a maximum of 16 inches on center. Braced wall panel construction types shall not be mixed within a braced wall line.

b. G-P = gypsum board, Portland cement plaster or gypsum sheathing boards; S-W = wood structural panels.

c. Nailing as specified below shall occur at all panel edges at studs, at top and bottom plates and, where occurring, at blocking:
For 1/2-inch gypsum board, 5d (0.113 inch diameter) cooler nails at 7 inches on center;
For 5/8-inch gypsum board, No. 11 gage (0.120 inch diameter) at 7 inches on center;
For gypsum sheathing board, 13/4 inches long by 7/16-inch head, diamond point galvanized nails at 4 inches on center;
For gypsum lath, No. 13 gage (0.092 inch) by 1 1/8 inches long, 19/64-inch head, plasterboard at 5 inches on center;
For Portland cement plaster, No. 11 gage (0.120 inch) by 1 1/2 inches long, 7/16-inch head at 6 inches on center;

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

Sec. 97. Division 26 of Article 1, Chapter IX of the Los Angeles Municipal Code is amended by deleting the following footnote in its entirety.

* The following sections of Division 26 are deleted in entirety by Ord. No. 172,592:

91.2602; 91.2603; 91.2604

Sec. 98. Division 28 of Article 1, Chapter IX of the Los Angeles Municipal Code is amended by deleting the following footnote in its entirety.

* The following sections of Division 28 are deleted in entirety by Ord. No. 172,592:

91.2801; 91.2802

Sec. 99. Division 29 of Article 1, Chapter IX of the Los Angeles Municipal Code is amended by deleting the following footnote in its entirety.

* The following sections of Division 29 are deleted in entirety by Ord. No. 172,592:

91.2901; 91.2902

Sec. 100. Section 91.3001 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.3001. GENERAL.

Section 3001 of the CBC is adopted by reference, except that Sections 3001.1, 3001.2, 3001.4 and 3001.5 of the CBC are not adopted; and, in lieu, Subsections 91.3001.1, 91.3001.2, 91.3001.4 and 91.3001.5 are added.

Sec. 101. Subsections 91.3001.2 of the Los Angeles Municipal Code is amended to read as follows:

91.3001.2. Referenced Standards. Except as otherwise provided for in this Code, the design, construction, installation, alteration, repair and maintenance of elevators and conveying systems and their components shall conform to California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders, ASME A90.1, ASME B20.1, ALI ALCTV, and ASCE 24 for construction in flood hazard areas established in Section 1612.3.

Sec. 102. Subsection 91.3001.4 of the Los Angeles Municipal Code is amended to read as follows:

91.3001.4. Change in Use. A change in use of an elevator from freight to passenger, passenger to freight, or from one freight class to another freight class shall comply with California Code of Regulations, Title 8, Division 1, Chapter 4, Subchapter 6, Elevator Safety Orders.

Sec. 103. Subsection 91.3001.5 of the Los Angeles Municipal Code is added to read as follows:

91.3001.5. Section 3001.5 of the CBC is adopted by reference.

Sec. 104. Section 91. 3002 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.3002. HOISTWAY ENCLOSURES.

Section 3002 of the CBC is adopted by reference, except that Sections 3002.1.1, 3002.3, 3002.5, 3002.6, 3002.8, 3003.2, 3005.4, 3007.1, 3007.2, 3007.9.1, 3008.2, 3008.2.1, 3008.7.6, 3008.8.1, and 3008.9.1 of the CBC are not adopted; and, in lieu, Subsections 91.3002.1.1, 91.3002.3, 91.3002.8, 91.3003.2, 91.3007.1, 91.3007.2, 91.3007.9.1, 91.3008.2, 91.3008.2.1, 91.3008.7.6, 91.3008.8.1, and 91.3008.9.1 are added.

Sec. 105. Subsection 91.3002.1.1 of the Los Angeles Municipal Code is amended to read as follows:

91.3002.1.1. Opening Protectives. Openings in hoistway enclosures shall be protected as required in Chapter 7.

Sec. 106. Subsection 91.3002.3 of the Los Angeles Municipal Code is amended to read as follows:

91.3002.3. Emergency Signs. An approved pictorial sign of a standardized design shall be posted adjacent to each elevator call station on all floors instructing occupants

to use the exit stairways and not to use the elevators in case of fire. The sign shall read: IN CASE OF FIRE, ELEVATORS ARE OUT OF SERVICE. USE EXIT STAIRS.

EXCEPTION: The emergency sign shall not be required for elevators that are used for occupant self-evacuation in accordance with Section 3008.

Sec. 107. A new Subsection 91.3002.8 is added to the Los Angeles Municipal Code to read as follows:

91.3002.8. Glass in Elevator Enclosures. Glass in elevator enclosures shall comply with the Elevator Code.

Sec. 108. A new Subsection 91.3003.2 is added to the Los Angeles Municipal Code to read as follows:

91.3003.2. Fire-Fighter's Emergency Operation. Elevators shall be provided with Phase I emergency recall operation and Phase II emergency in-car operation in accordance with the Elevator Code.

Sec. 109. A new Section 91.3007 is added to the Los Angeles Municipal Code to read as follows:

SEC. 91.3007. FIRE SERVICE ACCESS ELEVATOR.

91.3007.1. General. Where required by Section 403.6.1, every floor of the building shall be served by fire service access elevators complying with Sections 3007.1 through 3007.10. Except as modified in this section, fire service access elevators shall be installed in accordance with this Chapter and the Elevator Code.

91.3007.2. Phase I Emergency Recall Operation. Actuation of any building fire alarm-initiating device shall initiate Phase I emergency recall operation on all fire service access elevators in accordance with the requirements in the Elevator Code. All other elevators shall remain in normal service unless Phase I emergency recall operation is manually initiated by a separate, required three-position, key-operated "Fire Recall" switch or automatically initiated by the associated elevator lobby, hoistway or elevator machine room smoke detectors. In addition, if the building also contains occupant evacuation elevators in accordance with Section 3008, an independent, three-position, key-operated "Fire Recall" switch conforming to the applicable requirements in the Elevator Code shall be provided at the designated level for each fire service.

91.3007.9.1. Protection of Wiring or Cables. Wires or cables that are located outside of the elevator hoistway and machine room and that provide normal or standby power, control signals, communication with the car, lighting, heating, air conditioning, ventilation and fire-detecting systems to fire service access elevators shall be protected by construction having a fire-resistance rating of not less than 2 hours, or shall be circuit integrity cable having a fire-resistance rating of not less than 2 hours.

Sec. 110. A new Section 91.3008 is added to the Los Angeles Municipal Code to read as follows:

SEC. 91.3008. OCCUPANT EVACUATION ELEVATORS.

91.3008.2. Phase I Emergency Recall Operation. An independent, three-position, key-operated "Fire Recall" switch complying with the Elevator Code shall be provided at the designated level for each occupant evacuation elevator.

91.3008.2.1. Operation. The occupant evacuation elevators shall be used for occupant self-evacuation only in the normal elevator operating mode prior to Phase I Emergency Recall Operation in accordance with the requirements in the Elevator Code and the building's fire safety and evacuation plan.

91.3008.7.6. Lobby Status Indicator. Each occupant evacuation elevator lobby shall be equipped with a status indicator arranged to display all of the following information:

1. An illuminated green light and the message, "Elevators available for occupant evacuation," when the elevators are operating in normal service and the fire alarm system is indicating an alarm in the building.

2. An illuminated red light and the message, "Elevators out of service, use exit stairs," when the elevators are in Phase I emergency recall operation in accordance with the requirements in the Elevator Code.

3. No illuminated light or message when the elevators are operating in normal service.

91.3008.8.1. Elevator Recall. The fire command center or an alternate location approved by the fire department shall be provided with the means to manually initiate a Phase I Emergency Recall of the occupant evacuation elevators in accordance with the Elevator Code.

91.3008.9.1. Protection of Wiring or Cables. Wires or cables that are located outside of the elevator hoistway and machine room and that provide normal or standby power, control signals, communication with the car, lighting, heating, air conditioning, ventilation and fire-detecting systems to fire service access elevators shall be protected by construction having a fire-resistance rating of not less than 2 hours, or shall be circuit integrity cable having a fire-resistance rating of not less than 2 hours.

Sec. 111. Section 91.3111 of the Los Angeles Municipal Code is renumbered as Section 91.3112.

Sec.112. Subsection 91.3401.1 of the Los Angeles Municipal Code is amended to read as follows:

91.3401.1. Scope. The provisions of this Chapter shall control the alteration, repair, addition and change of occupancy of existing buildings and structures. In addition to the requirements of Chapter 34 of the CBC, existing buildings and structures shall comply with the applicable regulations of Divisions 81, 82, 83, 84, 85, 86, 88, 89, 91, and CBC Appendix A1 and A2 of this Code and the voluntary earthquake hazard reduction standards of Divisions 92, 93, 94, 95 and 96 of this Code.

[DSA-AC] For applications listed in Section 1.9.1 regulated by the Division of the State Architect-access Compliance for accessibility requirements, See Chapter 11B, Section 11 B-202.

EXCEPTION: Existing bleachers, grandstands and folding and telescopic seating shall comply with ICC 300.

[HCD I] In addition to the requirements in this chapter, maintenance, alteration, repair, addition, or change of occupancy to existing buildings and accessory structures under the authority of the Department of Housing and Community Development, as provided in Section 1.8.2.1.1, shall comply with California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 1.

EXCEPTIONS:

1. Alterations, repair or addition to existing bleachers, grandstands and folding and telescopic seating shall comply with ICC 300.

2. **(HCD 2)** For moved buildings and maintenance, alteration, repair, addition, or change of occupancy to existing buildings and accessory structures in mobilehome parks or special occupancy parks as provided in Section 1.8.2.1.3., see California Code of Regulations, Title 25, Division 1, Chapters 2 and 2.2.

3. **(HCD 1)** Limited-density owner-built rural dwellings.

Sec. 113. Subsection 91.3401.3 of the Los Angeles Municipal Code is amended to read as follows:

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

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

Sec. 114. Subsection 91.3403.1.1 of the Los Angeles Municipal Code is renumbered as Subsection 91.3401.4.4 and amended to read as follows:

91.3401.4.4. Replacement, Retention and Extension of Original Materials. The replacement, retention and extension of original materials, and the use of original methods of construction, for any building or accessory structure may remain, provided the aggregate value of work in any one year does not exceed 10 percent of the replacement value, and provided further that no hazardous conditions and such building or structure complied with the building code provisions in effect at the time of original construction and the building or accessory structure does not become or continue to be a substandard building.

EXCEPTION: Replacement, retention and extension of unreinforced masonry walls is not permitted.

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

Sec. 115. A new Subsection 91.3403.4 is added to the Los Angeles Municipal Code to read as follows:

91.3403.4. Existing Structural Elements Carrying Lateral Load. Where the addition is structurally independent of the existing structure, existing lateral load-carrying structural elements shall be permitted to remain unaltered. Where the addition is not structurally independent of the existing structure, the existing structure and its addition acting together as a single structure shall be shown to meet the requirements of Sections 1609 and 1613.

EXCEPTION:

All, except Unreinforced Masonry Buildings (URM):

Any existing lateral load-carrying structural element whose demand-capacity ratio with the addition considered is no more than 10 percent greater than its demand-capacity ratio with the addition ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with Sections 1609 and 1613. For purposes of this exception, comparisons of

demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of additions and alterations since original construction.

Unreinforced Masonry (URM) Buildings:

Any existing lateral load-carrying structural element on an unreinforced masonry building whose demand-capacity ratio with the addition considered is less than 10 percent greater than its demand-capacity ratio without the addition, must comply with Appendix Chapter A1. When the demand-capacity ration with the addition considered is 10 percent or greater than its demand-capacity ratio with the addition ignored, shall be designed per Division 16.

Sec. 116. Subsection 91.3404.1.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 117. A new Subsection 91.3404.4 is added to the Los Angeles Municipal Code to read as follows:

91.3404.4. Existing Structural Elements Carrying Lateral Load. Except as permitted by Section 3404.5, where the alteration increases design lateral loads in accordance with Section 1609 or 1613, or where the alteration results in a structural irregularity as defined in ASCE 7, or where the alteration decreases the capacity of any existing lateral load-carrying structural element, the structure of the altered building or structure shall be shown to meet the requirements of Sections 1609 and 1613.

EXCEPTION:

All, except Unreinforced Masonry Building (URM):

Any existing lateral load-carrying structural element whose demand-capacity ratio with the addition considered is no more than 10 percent greater than its demand-capacity ratio with the addition ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with Sections 1609 and 1613. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of additions and alterations since original construction.

Unreinforced Masonry (URM) Buildings:

Any existing lateral load-carrying structural element on an unreinforced masonry building whose demand-capacity ratio with the

alteration considered is less than 10 percent greater than its demand-capacity ratio with the addition, must comply with Appendix Chapter A1. When the demand-capacity ratio with the addition considered is 10 percent or greater than its demand-capacity ratio with the addition ignored, shall be designed per Division 16.

Structural analysis per Appendix Chapter A1 is required for any alterations to crosswalls or diaphragms.

Sec. 118. Subsection 91.3405.1 of the Los Angeles Municipal Code is amended to read as follows:

91.3405.1. General. Buildings and structures, and parts thereof, shall be repaired in compliance with Section 3401.2 and 3405. Work on nondamaged components that is necessary for the required repair of damaged components shall be considered part of the repair and shall not be subject to the requirements for alterations in this chapter. Routine maintenance required by Section 3401.2, Division 81, Appendix A1 and A2 and ordinary repairs exempt from a permit in accordance with Section 106, and abatement of wear due to normal service conditions shall not be subject to the requirements for repairs in this Section.

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

Sec. 119. Subsection 91.3405.1.2 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 120. A new Subsection 91.3408.4 is added to the Los Angeles Municipal Code to read as follows:

91.3408.4. Seismic. Except for unreinforced masonry building, when a change of occupancy results in a structure being reclassified to a higher risk category, the structure shall conform to the seismic requirements for a new structure of the higher risk category.

EXCEPTIONS:

1. Specific seismic detailing requirements of Section 1613 for a new structure shall not be required to be met where the seismic performance is shown to be equivalent to that of a new structure. A demonstration of equivalence shall consider the regularity, overstrength, redundancy and ductility of the structure.

2. When a change of use results in a structure being reclassified from Risk Category I or II to Risk Category III and the structure is located where the seismic coefficient, SDS, is less than 0.33, compliance with the seismic requirements of Section 1613 are not required.

3. For change of occupancy of an existing commercial or industrial building to residential use, all existing buildings shall be analyzed for 75 percent of the design earthquake ground motion, as defined in Section 1613.5 of this Code, but in no event shall there be a reduction in the capacity of the seismic force resisting system where that system provides a greater level of protection than the minimum requirements established by this Code.

For an existing unreinforced masonry building, structural analysis per Division 16 is required, if the Risk Category is changed to III or IV per CBC table 1604.5. Structural analysis per Appendix Chapter A1 is required, if Rating Classification per Division 88, table 88-A is changed to I or II.

For unreinforced masonry buildings with an approved occupant load greater than 100, the occupant load may be increased by a maximum of 10 percent without changing the Rating Class or Risk Category.

The most restrictive requirement of Section 3403, 3404 or 3408 shall apply.

Sec. 121. Section 91.6109 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.6109. SWIMMING POOLS AND OTHER BODIES OF WATER – PROTECTIVE DEVICES REQUIRED.

(a) **Fences.** Every swimming pool, fish pond or other body of water, which contains water 18 inches or more in depth, shall be enclosed by a fence, the height of which, including gates, shall be not less than four and one-half feet above the ground. Gates shall be self-latching with the latch located four and one-half feet minimum above the ground. However, for new swimming pools or spas, the height and construction of the fence and gate shall comply with the requirements of Division 31, whichever is more restrictive and provide greater safety.

Where the ground surface on the side of the fence away from the body of water slopes upward, four and one-half feet clearance shall be maintained between the fence and the face of the slope.

EXCEPTION: The provisions of this section shall not apply to oceans, lakes, rivers, streams and similar bodies of water, which are publicly owned

over which the State of California, the City, or County of Los Angeles has control and jurisdiction.

(b) **Existing Body of Water.** The provisions of this section shall also apply to all existing bodies of water.

Sec. 122. Section 91.6202 of the Los Angeles Municipal Code is amended by the addition of the definition of Code, in alphabetical order, to read as follows:

CODE. As used in Division 62 of Article 1, Chapter IX of the LAMC, Code shall mean the Los Angeles Building Code and Article 4.4, Chapter I of the LAMC. This is a clarification of and not a change to existing law.

Sec. 123. The third unnumbered Paragraph of Subsection 91.6302.3 of the Los Angeles Municipal Code is amended to read as follows:

Ducts penetrating a ceiling or floor shall be enclosed in a shaft enclosure conforming to the requirements of CBC Section 708. Where a shaft enclosure is not required by CBC Section 708, ducts that convey grease vapors shall be enclosed in a one-hour fire-resistive shaft. The shaft shall be separated from the duct by a minimum 6-inch air space vented to the outside air.

Sec. 124. Paragraph 3 of Subsection 91.6302.4 of the Los Angeles Municipal Code is amended to read as follows:

3. **Privacy.** Toilet rooms shall be so arranged or equipped with view screens as to protect users of toilets and urinals from view from outside the room when the door to the toilet room is open.

EXCEPTION: View screen is not required if the toilet room is only for single accommodation, unisex and a bathroom is provided.

Entrances to the toilet rooms for different sexes shall be properly separated by a space of at least 10 feet or by view screens.

Sec. 125. The Exception in Subsection 91.6302.5 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 126. Subsection 91.6304.3 of the Los Angeles Municipal Code is amended to read as follows:

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

1. A permit is obtained from the Department of Building and Safety and a fee is paid as required in Subsection 91.107.4.5 of this Code. Any permit so issued shall be valid for a period of 90 days from its issuance. The Department may allow a "certified installer" to be used, in lieu of obtaining a permit, in accordance with Section 91.1704.

2. Any person who willfully or knowingly, with the intent to deceive, makes a false statement or representation, or knowingly fails to disclose a material fact in any documentation required by the Department to ascertain facts relative to this Section, Subsection 91.107.4.5 or to Section 91.1704 of this Code, including any oral or written evidence presented, shall be guilty of a misdemeanor.

Sec. 127. Subsection 91.7005.2 of the Los Angeles Municipal Code is amended to read as follows:

91.7005.2. Building Foundations. Building foundations and temporary shoring shall be designed and constructed as specified in Division 4 of the Residential Code or in Division 18 and Division 33 of this Code.

Sec. 128. A new Subsection 91.7006.7.4 of the Los Angeles Municipal Code is added to read as follows:

91.7006.7.4. Baseline Hillside Ordinance Conditions. All conditions of import and export imposed in the approval of the project with respect to the Baseline Hillside Ordinance shall be made a part of the grading permit.

Sec. 129. Subsection 91.7006.7.4 of the Los Angeles Municipal Code renumbered as Subsection 91.7006.7.5.

Sec. 130. The Title of Figure B of Subsection 91.7015.7 of the Los Angeles Municipal Code is amended to read as follows:

DIVERTER TERRACE
For top of cut and/or fill slopes

Sec. 131. Section 91.7200 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.7200. PURPOSE.

These Fire District Regulations were formerly found in Division 61.

Sec. 132. Section 91.7208 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.7208. PROHIBITED VEHICLES.

No vehicle in Fire District No. 1 shall be used except as permitted for a mobilehome, travel trailer or camp car in a park designed for that use or for an industrial catering truck as defined in Section 91.202 of this Code. However, no person shall park an industrial catering truck continuously at any location on private property for the purpose of dispensing food or drink for a period of time exceeding one hour, and regardless of the length of time parked at any location, no person after departure from that location shall again park an industrial catering truck at that location, or at any location on private property within 500 feet of that location or private property, for the purpose of dispensing food or drink within a period of four hours after departure.

Sec. 133. A new Subsection 91.8101.2 is added to the Los Angeles Municipal Code to read as follows:

91.8101.2. Scope. The provisions of this chapter shall apply to all or portions of existing buildings, structures or premises.

EXCEPTIONS:

1. Historical buildings may comply with Section 8119 of this Code.

2. Existing commercial or industrial buildings, for which a building permit was issued prior to April 1, 1994, may be converted to "joint living and work quarters" provided the existing building complies with Chapter 85 of this Code and any other applicable section of the Los Angeles Municipal Code.

Sec. 134. Section 91.8107 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 135. Section 91.8110 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.8110. UNREINFORCED MASONRY BEARING WALL BUILDINGS.

Existing unreinforced masonry bearing wall buildings constructed or under construction prior to October 6, 1933, shall conform to the requirements of Division 88 of this Code. For other than full compliance to Division 88, all alterations, repairs, additions, Change of Occupancy, change in Class Rating per table 88A, change in Occupancy Category, and increase in occupant load shall comply with the requirements of Division 34.

Sec. 136. Section 91.8201 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.8201. GENERAL.

Every change of occupancy, use and rating classification in any existing building or structure shall conform to the construction requirements for the group occupancy to be housed in the building or structure or for the use to which the building or structure is to be put, as set forth in CBC Chapter 34, Division 34 and 82.

Sec. 137. Section 91.8202 of the Los Angeles Municipal Code is amended to read as follows:

SEC. 91.8202. CHANGE OF RATING CLASSIFICATION.

An existing building within the scope of Division 88 of this Code shall not be changed from one rating classification, as described in Section 91.8804, to another higher risk rating classification unless the building meets or is altered to meet the requirements of CBC Appendix Chapter A1 for the proposed rating classification and the building meets or is altered to meet the other requirements of this Code for the use or occupancy change.

EXCEPTION: An existing building within the scope of Division 88 of this Code shall not be changed from one occupancy category as defined in Subsection 91.1604.5 to another higher occupancy category unless the building meets or is altered to meet the other requirements of this Code.

Sec. 138. Section 91.8203 of the Los Angeles Municipal Code is amended to read as follows:

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

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

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

Sec. 139. The second unnumbered Paragraph of Section 91.8204 of the Los Angeles Municipal Code is amended to read as follows:

Any assembly occupancy in a building constructed prior to October 6, 1933, shall not be expanded or arranged to accommodate a larger number of occupants than that for which it was previously authorized by the Department unless the entire building conforms to the provisions of Division 16.

Sec. 140. Subdivision B of Subsection 91.8501.2 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 141. Subdivision C of Subsection 91.8501.2 of the Los Angeles Municipal Code is renumbered as Subdivision B and amended to read as follows:

B. **Structural Requirements for all Existing Buildings.** For all existing buildings, the change of occupancy or use of any portion of an Existing Building to a Joint Living and Work Quarters may be permitted provided the entire building complies or is made to comply with all the structural requirements in Section 91.8502.12 of this division.

Sec. 142. The definitions of FEMA 351,"RECOMMENDED SEISMIC EVALUATION AND UPGRADE CRITERIA FOR EXISTING WELDED STEEL MOMENT FRAME BUILDINGS" and FEMA 356, "PRESTANDARD AND COMMENTARY FOR THE SEISMIC REHABILITATION OF BUILDINGS" in Subsection 91.8501.3 of the Los Angeles Municipal Code are deleted in their entirety.

Sec. 143. The first unnumbered Paragraph of Subsection 91.8502.1.2 of the Los Angeles Municipal Code is amended to read as follows:

91.8502.1.2. Emergency Escape. Every room below the fourth story where occupants sleep in Joint Living and Work Quarters shall be provided with an emergency escape or rescue window or door, which complies with the requirements of CBC Section 1029.

Sec. 144. The third unnumbered Paragraph of Subsection 91.8502.3.2 of the Los Angeles Municipal Code is amended to read as follows:

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

Sec. 145. The first unnumbered paragraph of Subsection 91.8502.5 of the Los Angeles Municipal Code is amended to read as follows:

91.8502.5. Fire Alarm System. If a fire alarm system is required by CBC Section 907.2.9 or 403.4.2 for a new building of the same type of construction and occupancy,

or installed at the option of the owner, then the entire building shall have fire alarm systems that are in full compliance with CBC Section 907.2.9. In a high-rise building, the fire alarm systems shall be supplied by a generator used as an emergency system in accordance with CBC Section 403.4.8. For all other buildings, an alternate source of power may be used provided it is approved by both the Fire Department and the Department.

Sec. 146. Paragraph 2 of Subsection 91.8502.7.1 of the Los Angeles Municipal Code is amended to read as follows:

2. Existing doors between the corridor and the Joint Living and Work Quarters that are part of the historic fabric of a Qualified Historical Building may be allowed to remain provided approved smoke gaskets and self-closing and latching devices to prevent smoke penetration are installed on the door, or the existing door shall be replaced with a door conforming to the requirements of CBC Section 715.4.

Sec. 147. Subsection 91.8502.12 of the Los Angeles Municipal Code is amended to read as follows:

91.8502.12. Structural Design Requirements (Seismic Provision). The conversion of any portion of an Existing Building to a Joint Living and Work Quarters shall be analyzed for 75 percent of the Design Earthquake Ground motion, as defined in CBC Section 1613.2 and as specified in CBC Section 1613.5, but in no event shall there be a reduction in the capacity of the seismic force resisting system where that system provides a greater level of protection than the minimum requirements established by this division.

EXCEPTION: Unreinforced Masonry Bearing Wall Buildings (URM). The conversion of any portion of an existing URM building shall comply with of Appendix Chapter A1 of Part 10 of the California Code of Regulations Title 24 (California Existing Building Code).

Performance-based engineering analysis and design procedures may be used to evaluate the existing structure and the design of strengthening elements when approved by the Superintendent of Building. All structural elements of the building shall be strengthened to meet the minimum design analysis as specified in Subsections 91.8502.12.1 through 91.8502.12. 3 of this Code or new structural elements shall be added when required. All new structural elements shall meet current detailing requirements of CBC Section 1604.

For other types of buildings not mentioned in this section, such as Steel Frame Buildings with Semi-Rigid Beam-Column Connections, Dual Systems with Steel Moment Frames and Concrete Shear Walls, or Steel Frame Buildings with Steel Bracing, shall comply with the standards developed by the Department.

Sec. 148. Subsection 91.8502.12.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 149. Subsection 91.8502.12.2 of the Los Angeles Municipal Code is renumbered as Subsection 91.8502.12.1 and amended to read as follows:

91.8502.12.1. Reinforced Concrete Buildings and Concrete Frame Buildings With and Without Masonry Infill Walls. Reinforced concrete buildings or concrete frame buildings with or without masonry infill walls and that are within the scope of Section 91.9502 of this article, shall comply with all the provisions of Division 95 of this article.

EXCEPTION: When approved by the Superintendent of Building, the Guidelines for Seismic Retrofit of Existing Buildings may be permitted as an alternate standard to strengthen reinforced concrete buildings and concrete frame buildings with and without masonry infill walls.

Sec. 150. Subsection 91.8502.12.3 of the Los Angeles Municipal Code is renumbered as Subsection 91.8502.12.2 and amended to read as follows:

91.8502.12.2. Steel Frame Buildings with Masonry Infill Walls. Steel frame buildings with masonry infill walls shall be made to comply with the standards as developed by the Department and all the provisions of Division 95 of this article except for the following: Item A of Subsection 91.9509.6 of this Article, Items 1 and 2 of Subsection 91.9509.7.2 of this Article, and Subsections 91.9509.9 and 91.9511.5.1 of this Article.

Sec. 151. Subsection 91.8502.12.4 of the Los Angeles Municipal Code is renumbered as Subsection 91.8502.12.3.

Sec. 152. The first unnumbered Paragraph of Section 91.9305.2 of the Los Angeles Municipal Code is amended to read as follows:

91.9305.2. Scope. This Division requires the alteration, repair, replacement or addition of structural elements and their connections to meet the strength and stiffness requirements of this Code. The lateral load path analysis shall include the resisting elements and connections from the wood diaphragm above any soft, weak or open front wall lines to the foundation soil interface or reinforced concrete slab or masonry wall supporting elements below. The top story of any building need not be analyzed. The lateral load path analysis for added structural elements shall also include evaluation of the allowable soil bearing and lateral pressures in accordance with Section 1806 of this Code.

Sec. 153. Subsection 91.9305.3 of the Los Angeles Municipal Code is amended to read as follows:

91.9305.3. Design Base Shear. The design base shear shall be 75 percent of the value from Section 12.8.1 of ASCE 7. The value of R used in the design of the strengthening of any story shall not exceed the lowest value of R used in the same direction at any story above. The system overstrength factor, Ω_0, and the deflection amplification factor, C_d, shall not be less than the largest respective value corresponding to the R factor being used in the direction under consideration.

EXCEPTIONS:

1. For structures assigned to Seismic Design Category B, value of R, Ω_0, and C_d, shall be permitted to be based on the seismic force-resisting system being used to achieve the required strengthening.

2. For structures assigned to Seismic Design Category C or D, value of R, Ω_0, and C_d, shall be permitted to be based on the seismic force-resisting system being used to achieve the required strengthening, provided that when the strengthening is complete, the strengthened structure will not have an extreme weak story irregularity defined as Type 5b in ASCE 7 Table 12.3-2.

3. For structures assigned to Seismic Design Category E, value of R, Ω_0, and C_d, shall be permitted to be based on the seismic force-resisting system being used to achieve the required strengthening, provided that when the strengthening is complete, the strengthened structure will not have an extreme soft story, a weak story, or an extreme weak story irregularity defined, respectively, as Type 1b, 5a and 5b in ASCE 7 Table 12.3-2.

Sec. 154. The first unnumbered Paragraph of Subsection 91.9305.6 of the Los Angeles Municipal Code is amended to read as follows:

91.9305.6. Story Drift Limitation. The calculated story drift for each retrofitted level shall not exceed the allowable deformation compatible with all vertical load-resisting elements and 0.025 times the story height. The calculated story drift shall not be reduced by the effects of horizontal diaphragm stiffness but shall be increased when these effects produce rotation. Drift calculations shall be in accordance with the Building Code.

Sec. 155. Subsection 91.9305.7 of the Los Angeles Municipal Code is amended to read as follows:

91.9305.7. P-Delta Effect. The requirements of the Building Code shall apply, except as modified herein. All structural framing elements and their connections not required by the design to be part of the lateral force resisting system shall be designed and/or detailed to be adequate to maintain support of design dead plus live loads when subject

to the expected deformations caused by seismic forces. The stress analysis of cantilever columns shall use a buckling factor of 2.1 for the direction normal to the axis of the beam.

Sec. 156. Subsection 91.9305.8 of the Los Angeles Municipal Code is amended to read as follows:

91.9305.8. Ties and Continuity. All parts of the structure included in the scope of Subsection 91.9305.2 shall be interconnected and the connection shall be capable of resisting the seismic force created by the parts being connected. Any smaller portion of a building shall be tied to the remainder of the building with elements having a strength of C_s times the tributary dead load of the smaller portion. A positive connection for resisting a horizontal force acting parallel to the member shall be provided for each beam, girder or truss included in the lateral load path. This force shall not be less than 0.08 times the combined tributary dead and live loads or as required by the lateral load path transfer, whichever is greater.

Sec. 157. Subsection 91.9305.9 of the Los Angeles Municipal Code is amended to read as follows:

91.9305.9. Collector Elements. Collector elements shall be provided which can transfer the seismic forces originating in other portions of the building to the elements within the scope of Section 91.9305.2 that provide resistance to those forces as defined in Section 91.9305.3.

Sec. 158. Subsection 91.9305.11 of the Los Angeles Municipal Code is amended to read as follows:

91.9305.11. Wood-Framed Shear Walls. Shear walls shall have sufficient strength and stiffness to resist the tributary seismic loads and shall conform to the special requirements of this section.

Sec. 159. Subsection 91.9305.11.2.1 of the Los Angeles Municipal Code is amended to read as follows:

91.9305.11.2.1. Drift Limit. Wood structural panel shear walls shall meet the story drift limitation of Subsection 91.9305.6. Conformance to the story drift limitation shall be determined by approved testing or calculation or analogies drawn from there and not the use of an aspect ratio. Calculated deflection shall be in accordance with Division 23 of this Code, **"Calculation of Shear Wall Deflection"** and 25 percent shall be added to account for inelastic action and repetitive loading. Contribution to the deflection from the anchor or tie down slippage shall also be included. The slippage contribution shall include the vertical elongation of the metal, the vertical slippage of the connectors and compression or shrinkage of the wood elements. The vertical slippage shall be multiplied by the aspect ratio and added to the total horizontal deflection. Individual

shear panels shall be permitted to exceed the maximum aspect ratio provided the story drift and allowable shear capacities are not exceeded.

Sec. 160. Subsection 91.9305.11.2.2 of the Los Angeles Municipal Code is amended to read as follows:

91.9305.11.2.2. Openings. Shear walls are permitted to be designed for continuity around openings in accordance with the Building Code. Blockings and steel strapping shall be provided at corners of the openings to transfer forces from the discontinuous boundary elements into adjoining panel elements. Alternatively, perforated shear wall provisions of the Building Code are permitted to be used.

Relocated and altered openings shall comply with the emergency escape requirements in Division 10 of this Code. Relocated and altered openings shall comply with the light and ventilation requirements in Division 12 of this Code unless otherwise approved by the Superintendent of Building.

Sec. 161. Subsection 91.9305.11.2.3 of the Los Angeles Municipal Code is amended to read as follows:

91.9305.11.2.3. Wood Species of Framing Members. Allowable shear values for wood structural panels shall consider the species of the framing members. When the allowable shear values are constructed of other species of lumber, the allowable shear values for wood structural panels shall be determined in accordance with Division 23 of this Code.

Sec. 162. Subsection 91.9306.2 of the Los Angeles Municipal Code is amended to read as follows:

91.9306.2. Allowable Foundation and Lateral Pressures. Allowable foundation and lateral pressures shall be permitted to use the values from CBC Table 1806.2. For soil that supports embedded vertical elements, Subsection 91.9305.6 shall apply.

Sec. 163. The definition of FOUNDATION EXTENDING IN THE DOWNHILL-DIRECTION in Section 91.9403 of the Los Angeles Municipal Code is amended to read as follows:

FOUNDATION EXTENDING IN THE DOWNHILL-DIRECTION is a descending foundation and approximately perpendicular to the slope contours.

Sec. 164. Subsection 91.9406.1.2 of the Los Angeles Municipal Code is amended to read as follows:

91.9406.1.2. Design Base Shear. The design base shear shall be that required at the time of the original building permit, or not less than 75 percent of the currently required by Section 12.8.1 of ASCE 7, but in no case not less than the following:

V= 0.133 W.

Where:

V= The total design lateral force or shear at the base.

W= The total seismic dead load defined in Section 12.7.2 of ASCE 7.

Sec. 165. Subsection 91.9406.5.8 of the Los Angeles Municipal Code is amended to read as follows:

91.9406.5.8. Seismic Load Factor. Steel elements of the diaphragm anchorage systems and continuity ties shall be designed by the allowable stress design method using a load factor of 1.7. The strength design specified in Section 91.1912.1 using a load factor of 2.0 in lieu of 1.4 for earthquake loading shall be used for the design of embedment in concrete.

Sec. 166. Item 4 of Subsection 91.9406.7.2 of the Los Angeles Municipal Code is amended to read as follows:

4. The design lateral forces shall be distributed to lateral force resisting elements of varying heights in accordance with the stiffness of each individual element. The stiffness of a stepped wood structural panel shear wall may be determined by dividing the wall into adjacent rectangular elements, subject to the same top of wall deflection. Deflections of shear walls may be estimated by Sections 91.2305.3.2 and 91.2305.3.8.2.9 or other equivalent methods. Sheathing and fastening requirements for the stiffest section shall be used for the entire wall. Each section of wall shall be anchored for shear and uplift at each step as an independent shear wall.

Sec. 167. Subsection 91.9408.3 of the Los Angeles Municipal Code is amended to read as follows:

91.9408.3. Structural Observation by the Engineer or Architect of Record. The owner shall employ the engineer or architect of record, or other engineer or architect designated by the engineer or architect of record, to perform structural observations as required by Section 91.1710 of the Los Angeles Building Code.

Sec. 168. Subsection 91.9516.3 of the Los Angeles Municipal Code is amended to read as follows:

91.9516.3. Engineer's Statement. The responsible engineer shall state on the approved plans, the following:

1. "I am responsible for this building's seismic strengthening design in compliance with the minimum seismic resistance standards of Chapter 95 of the Los Angeles Building Code."

or when applicable:

2. "The Registered Deputy Inspector, required as a condition of the use of structural design stresses requiring continuous inspection, will be responsible to me as required by Section 91.1704 of the Los Angeles Building Code."

Sec. 169. The first unnumbered Paragraph of Section 91.9603 of the Los Angeles Municipal Code is amended to read as follows:

For the purposes of this Division, the applicable definitions in Division 2, Sections 1602, 1613.2, 1902 and 2302 of this Code; Sections 1.2, 3.1, 4.1 and 11.2 of ASCE 7, and the following shall apply:

Sec. 170. The first unnumbered Paragraph of Subsection 91.9604.3 of the Los Angeles Municipal Code is amended to read as follows:

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

Sec. 171. Subdivision (3) of Subsection (b) of Section 98.0719 of the Los Angeles Municipal Code is amended to read as follows:

(3) Whether any of the exceptions set forth in Section 98.0716(a)(3)(A) through (C) have been met.

Sec. 172. **Urgency Clause.** The City Council finds and declares that this Ordinance is required for the immediate protection of the public peace, health and safety for the following reason: In order for the City of Los Angeles to facilitate a seamless transition with the State of California and its Building Code and maintain predictability and streamlined case processing for the benefit of economic development during distressed times, it is necessary to immediately adopt the foregoing exceptions, modifications and additions to the California Building Code. Additionally, the California Building Code becomes effective on January 1, 2014 and the amendments to that code as reflected herein must be adopted by the City Council and become effective as soon as possible. The Council, therefore, with the Mayor's concurrence, adopts this ordinance to become effective upon publication pursuant to Los Angeles City Charter Section 253.

Sec. 173. The City Clerk shall certify to the passage of this ordinance and have it published in accordance with Council policy, either in a daily newspaper circulated in the City of Los Angeles or by posting for ten days in three public places in the City of Los Angeles: one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall; one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall East; and one copy on the bulletin board located at the Temple Street entrance to the Los Angeles County Hall of Records.

I hereby certify that this ordinance was passed by the Council of the City of Los Angeles, **by a vote of not less than three-fourths** of all of its members, at its meeting of DEC 17 2013.

HOLLY L. WOLCOTT, Interim City Clerk

By _____
Deputy

DEC 23 2013

Approved _____

_____
Mayor

ACTING

Approved as to Form and Legality

MICHAEL N. FEUER, City Attorney

By _____
KIM RODGERS WESTHOFF
Deputy City Attorney

Date 12/11/13

File No. CF13-1214

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BUILDING STANDARDS COMMISSION
2525 Natomas Park Drive, Suite 130
Sacramento, California 95833-2936
(916) 263-0916 FAX (916) 263-0959

September 21, 2016

Frank M. Bush
General Manager
City of Los Angeles
201 North Figueroa Street
Los Angeles, CA 90012

RE: Ordinance #184248

Dear Mr. Bush:

This letter is to advise you of our determination regarding the referenced ordinance with express findings received from your agency on August 17, 2016.

Our review finds the submittal to contain one ordinance modifying provisions of the 2013 California Building Standards Code in Title 24, California Code of Regulations (code), and express findings complying with Health and Safety Code Sections 17958.7 and 18941.5. The code modification is accepted for filing and is enforceable. This letter attests only to the satisfaction of the cited law for filing of local code amendment supported by an express finding with the California Building Standards Commission (CBSC). CBSC is not authorized by law to evaluate the merit of the code modification or the express finding.

Local modifications to the code are specific to a particular edition of the code. They must be readopted and filed with CBSC in order to remain in effect when the next triennial edition of the code is published.

On a related matter, should your city receive and ratify Fire Protection District ordinances making modifications to the code, be advised that Health and Safety Code Section 13869.7(c) requires such ratified ordinances and express findings to be filed with the Department of Housing and Community Development, Division of Codes and Standards, State Housing Law Program, rather than CBSC. Also, ordinances making modifications to the energy efficiency standards of the code may require approval from the California Energy Commission pursuant to Public Resources Code Section 25402.1(h)(2).

If you have any questions or need any further information, you may contact me at (916) 263-0916.

Sincerely,

Enrique M. Rodriguez
Associate Construction Analyst

cc: CBSC Chron
Local Filings

Maeda, Pamela@DGS

From:	Marvelli, Mia@DGS
Sent:	Wednesday, August 17, 2016 9:35 AM
To:	Maeda, Pamela@DGS; Rodriguez, Enrique (CBSC)@DGS; O'Brien, Laurie@DGS; Hunter, Alexander@DGS
Cc:	Nearman, Michael@DGS
Subject:	FW: Water conservation Ordinance - LA City
Attachments:	Signed letter.pdf; WATER_CONSERVATION_ORDINANCE_ORD_184248_6-6-16 (1).pdf; Findings and Determinations for 2016 Water Conservation Ordinance (2).doc

Please process this ordinance as necessary. Osama sent it directly to me, so I am forwarding it along to you all for processing. As his email indicates, LA will be sending a hard copy in the mail.
I have not read the ordinance, but am curious what's contained in their water conservation measures.

Mia Marvelli, Executive Director
California Building Standards Commission
www.BSC.ca.gov
916.263.0916

From: Osama Younan [mailto:osama.younan@lacity.org]
Sent: Tuesday, August 16, 2016 2:05 PM
To: Marvelli, Mia@DGS
Subject: Water conservation Ordinance - LA City

Hi Mia,

Hope all is well.

I have attached a copy of our recently adopted water conservation ordinance along with the justification and the transmittal letter. Actual copies will be mailed to your office.

Please let me know if I can provide you with further information.

Thank you!!

CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

FRANK M. BUSH
INTERIM GENERAL MANAGER

August 16, 2016

Council File No. 15-0458

Mia Marvelli, Executive Director
California Building Standards Commission
2525 Natomas Park Drive, Suite 130
Sacramento, CA 95833-2936

FILING OF EXPRESS FINDINGS AND DETERMINATION PERSUANT TO SECTION 17958.7 OF THE HEALTH AND SAFETY CODE

On April 22, 2016, the Los Angeles City Council adopted an ordinance to amend the Los Angeles Municipal Code (LAMC) by establishing citywide water efficiency standards and requiring water-saving systems and technologies in buildings necessary due to local climatic, geological or topographical conditions.

Enclosed with this transmittal is a copy of the findings along with the modifications (the ordinance) to the Los Angeles Plumbing and Green Building Codes. The Department of Building and Safety, City of Los Angeles will consider this as complying with Section 17958.7 of the Health and Safety Code.

If you have any questions regarding this matter, please contact Osama Younan via email at Osama.Younan@lacity.org or by phone at (213)482-7407.

Frank M. Bush
General Manager

Attachment

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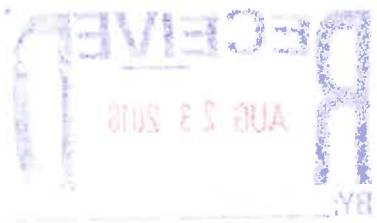
AUG 23 2016
BY:

EMAILED 8/16/2016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BY:

FINDINGS AND DETERMINATIONS

Findings and Determinations to support the proposed amendments regarding certain provisions of Articles 4 and 9 of Chapter IX of the Los Angeles Municipal Code to establish citywide water efficiency standards and require water-saving systems and technologies in buildings and landscapes to conserve and reduce water usage.

WHEREAS, on January 17, 2014, under the provisions of section 8625 of the California Emergency Services Act ("CESA"), Governor Jerry Brown proclaimed a State of Emergency throughout the State of California ("California") due to severe drought conditions and called upon local municipalities to implement local water shortage contingency plans immediately; and

WHEREAS, on April 25, 2014, under the provisions of sections 8558(b), 8567, and 8571 of CESA, Governor Brown proclaimed a Continued State of Emergency to exist throughout California due to the ongoing drought; and

WHEREAS, on October 14, 2014, Mayor Eric Garcetti issued Mayoral Executive Directive No. 5, which called upon the Department of Building and Safety, in collaboration with the Department of Water and Power and the Bureau of Sanitation, to propose building code changes to require water-saving technologies in buildings and landscapes; and

WHEREAS, on April 1, 2015, Governor Brown issued Executive Order B-29-15 that, in part, directs the State Water Resources Control Board to implement mandatory restrictions on water suppliers to achieve a statewide 25 percent reduction in potable urban water usage through February 2016; and

WHEREAS, Executive Order B-29-15 also ordered implementation of new statewide initiatives to increase enforcement against wasteful water use, invest in new water-saving technologies, and streamline the response of local governments; and

WHEREAS, on April 14, 2015, the Metropolitan Water District of Southern California—of which Los Angeles is a member agency—voted to reduce regional deliveries by 15%; and

WHEREAS, on June 17, 2015, the City Council of the City of Los Angeles adopted a Resolution to establish the City's support for Executive Order B-29-15, which will help Los Angeles and California endure historic drought conditions; and

WHEREAS, on November 13, 2015, Governor Brown issued Executive Order B-36-15 that, in part, ordered Executive Order B-29-15 and prior State of Emergency Proclamations to remain in full force and effect, and the State Water Board to extend its restrictions concerning urban potable water usage until October 31, 2016 if drought conditions persist through January 2016; and

WHEREAS, on February 2, 2016, the State Water Board found that drought conditions continue to exist, and extended water use restrictions pursuant to Executive Order B-36-15; and

WHEREAS, California is in the fifth year of a drought, with rainfall significantly below normal, the Sierra snowpack below its historic average, and many of California's reservoirs below their seasonal averages; and

WHEREAS, a distinct possibility exists that the current drought will stretch into a sixth straight year in 2017 and beyond; and

WHEREAS, the statewide drought has led the City of Los Angeles to increase its use of imported water to over 80% and its supply of imported water is at immediate and long-term risk, due to climate change, the high likelihood of damage to levees and aqueducts during a major earthquake, and state regulatory cuts in water allocation; and

WHEREAS, outdoor water use accounts for more than half of all residential water use in Los Angeles; and

WHEREAS, it is critical that California and Los Angeles ensure that enough water remains available for human health and safety, growing food, fighting wildfires, and protecting fish and wildlife; and

WHEREAS, Los Angeles has been a leader in reducing water consumption, consuming less water than it did in 1970, and will continue to lead California towards a more sustainable future; and

NOW, THEREFORE, in order to provide adequate protection under the local climatic, environmental, geological and topographical conditions set forth above, the City of Los Angeles makes the following findings and determinations:

Section 94.210.0 is an **administrative amendment** necessary to add definitions to the Los Angeles Municipal Code.

Section 94.221.0 is an **administrative amendment** necessary to add a definition to the Los Angeles Municipal Code.

Section 94.610.4.1 is an **environmental and climatic amendment** necessary due to Local Climatic and Drought Conditions – Los Angeles receives below average rainfall and is suffering from continued drought conditions. This amendment reduces indoor water use.

Section 99.02.201.4 is an **administrative amendment** necessary to make reference to the *Webster's Third New International Dictionary of the English Language, Unabridged.*

Section 99.02.202 is an **administrative amendment** to add definitions into the Los Angeles Municipal Code.

Section 99.04.303 is an **administrative amendment** necessary to add a title of the section to the Los Angeles Municipal Code.

Section 99.04.303.3 and 99.04.303.4 are **environmental and climatic amendments** necessary due to Local Climatic and Drought Conditions – Los Angeles receives below average rainfall and is suffering from continued drought conditions. The proposed amendments will help reduce indoor water use.

Section 99.04.304 is an **administrative amendment** necessary to add a title of the section to the Los Angeles Municipal Code.

Section 99.04.304.1 and 99.04.304.2 are **administrative amendments** necessary so that the Los Angeles Municipal Code is consistent with CALGreen.

Section 99.04.304.3 through 99.04.304.5 are **environmental and climatic amendments** necessary due to Local Climatic and Drought Conditions - Los Angeles receives below average rainfall and is suffering from continued drought conditions. The proposed amendments will help reduce outdoor water use.

Section 99.04.305 is an **administrative amendment** necessary to add a title of the section to the Los Angeles Municipal Code.

Section 99.04.305.1 through 99.04.305.4 are **environmental and climatic amendments** necessary due to Local Climatic and Drought Conditions – Los Angeles receives below average rainfall and is suffering from continued drought conditions. The proposed amendments make it easier to install future graywater systems, reduce the amount of potable water used, and make use of city-recycled and groundwater where available.

Section 99.05.303 is an **administrative amendment** necessary to add the title of the section to the Los Angeles Municipal Code.

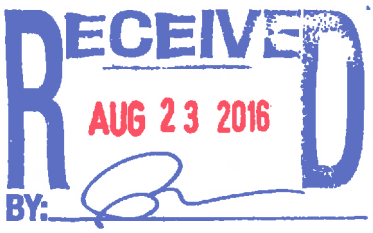
Section 99.05.303.1.1 and 99.05.303.2 are **environmental and climatic amendments** necessary due to Local Climatic and Drought Conditions – Los Angeles receives below average rainfall and is suffering from continued drought conditions. The proposed amendments will help reduce indoor water use.

Section 99.05.304.1 and 99.05.304.2 are **administrative amendments** necessary so that the Los Angeles Municipal Code is consistent with CALGreen.

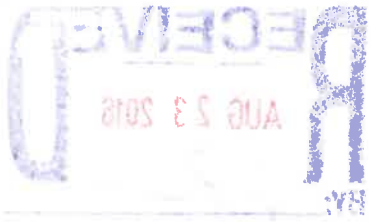
Section 99.05.304.3 through 99.05.304.5 and subsections are **environmental and climatic amendments** necessary due to Local Climatic and Drought Conditions – Los Angeles receives below average rainfall and is suffering from continued drought conditions. The proposed amendments will help reduce outdoor water consumption.

Section 99.05.305 is an **administrative amendment** necessary to add the title of the section to the Los Angeles Municipal Code.

Section 99.05.305.1 through 99.05.305.4 are **environmental and climatic amendments** necessary due to Local Climatic and Drought Conditions – Los Angeles receives below average rainfall and is suffering from continued drought conditions. The proposed amendments make it easier to install future graywater systems, reduce the amount of potable water used, and make use of city-recycled and groundwater where available.



EMAILED 8/16/2016


RECEIVED
AUG 23 2016
BY:

ORDINANCE NO. 184248

An ordinance amending certain provisions of Articles 4 and 9 of Chapter IX of the Los Angeles Municipal Code to establish citywide water efficiency standards and require water-saving systems and technologies in buildings and landscapes to conserve and reduce water usage.

WHEREAS, on January 17, 2014, under the provisions of section 8625 of the California Emergency Services Act ("CESA"), Governor Jerry Brown proclaimed a State of Emergency throughout the State of California ("California") due to severe drought conditions and called upon local municipalities to implement local water shortage contingency plans immediately;

WHEREAS, on April 25, 2014, under the provisions of sections 8558(b), 8567, and 8571 of CESA, Governor Brown proclaimed a Continued State of Emergency to exist throughout California due to the ongoing drought;

WHEREAS, on October 14, 2014, Mayor Eric Garcetti issued Mayoral Executive Directive No. 5, which called upon the Department of Building and Safety, in collaboration with the Department of Water and Power and the Bureau of Sanitation, to propose building code changes to require water-saving technologies in buildings and landscapes;

WHEREAS, on April 1, 2015, Governor Brown issued Executive Order B-29-15 that, in part, directs the State Water Resources Control Board to implement mandatory restrictions on water suppliers to achieve a statewide 25 percent reduction in potable urban water usage through February 2016;

WHEREAS, Executive Order B-29-15 also ordered implementation of new statewide initiatives to increase enforcement against wasteful water use, invest in new water-saving technologies, and streamline the response of local governments;

WHEREAS, on April 14, 2015, the Metropolitan Water District of Southern California—of which Los Angeles is a member agency—voted to reduce regional deliveries by 15%;

WHEREAS, on June 17, 2015, the City Council of the City of Los Angeles adopted a Resolution to establish the City's support for Executive Order B-29-15, which will help Los Angeles and California endure historic drought conditions;

WHEREAS, on November 13, 2015, Governor Brown issued Executive Order B-36-15 that, in part, ordered Executive Order B-29-15 and prior State of Emergency Proclamations to remain in full force and effect, and the State Water Board to extend its restrictions concerning urban potable water usage until October 31, 2016 if drought conditions persist through January 2016;

WHEREAS, on February 2, 2016, the State Water Board found that drought conditions continue to exist, and extended water use restrictions pursuant to Executive Order B-36-15;

WHEREAS, California is in the fifth year of a drought, with rainfall significantly below normal, the Sierra snowpack below its historic average, and many of California's reservoirs below their seasonal averages;

WHEREAS, a distinct possibility exists that the current drought will stretch into a sixth straight year in 2017 and beyond;

WHEREAS, the statewide drought has led the City of Los Angeles to increase its use of imported water to over 80% and its supply of imported water is at immediate and long-term risk, due to climate change, the high likelihood of damage to levees and aqueducts during a major earthquake, and state regulatory cuts in water allocation;

WHEREAS, outdoor water use accounts for more than half of all residential water use in Los Angeles;

WHEREAS, it is critical that California and Los Angeles ensure that enough water remains available for human health and safety, growing food, fighting wildfires, and protecting fish and wildlife; and

WHEREAS, Los Angeles has been a leader in reducing water consumption, consuming less water than it did in 1970, and will continue to lead California towards a more sustainable future.

NOW THEREFORE,

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

Section 1. Section 94.210.0. H. of the Los Angeles Municipal Code is amended by adding new definitions in alphabetical order to read as follows:

Hot Water Recirculation System. A hot water system that uses the hot water return line and/or supply line connected to a water heater to enable continuous delivery of hot water to fixtures.

Hot Water System. A system that distributes hot water, consisting of a water heater, piping, and related equipment and devices.

Sec. 2. Section 94.221.0. S. of the Los Angeles Municipal Code is amended by adding a new definition in alphabetical order to read as follows:

Smart Hot Water Recirculation System. A hot water recirculation system that is capable of monitoring and recording hot water usage patterns for optimal pump activation.

Sec. 3. A new Subsection 94.610.4.1 is added to the Los Angeles Municipal Code to read as follows:

94.610.4.1. Hot Water Delivery. Hot water systems shall comply with Subsection 94.610.4.1.1, 94.610.4.1.2, or 94.610.4.1.3.

EXCEPTIONS:

1. Multi-family buildings where each unit is sub-metered and where the building has a central hot water heating system.

2. Additions that are supplied by any portion of the existing water heating system.

3. Alterations that do not include replacing all of the potable water piping.

94.610.4.1.1. The hot water system shall not allow more than 0.6 gallons of water to be delivered to any fixture before hot water arrives.

94.610.4.1.2. Where a hot water recirculation or electric resistance heat trace wire system is installed, the branch from the recirculating loop or electric resistance heat trace wire to the fixture shall contain a maximum of 0.6 gallons. Hot water recirculation systems may include, but are not limited to, the following:

(1) Timer-initiated systems.

(2) Temperature sensor-initiated systems.

(3) Occupancy sensor-initiated systems.

(4) Smart hot water recirculation systems.

(5) Other systems acceptable to the Department.

94.610.4.1.3. Residential units having individual water heaters shall have a compact hot water system that meets all of the following:

(1) The hot water supply piping from the water heater to the fixtures shall take the most direct path;

(2) The total developed length of pipe from the water heater to farthest fixture shall not exceed the distances specified in Table 3.6.5 of the 2013 California Energy Code Residential Appendix; and

(3) The hot water supply piping shall be installed and insulated in accordance with Section RA3.6.2 of the 2013 California Energy Code Residential Appendix.

Sec. 4. Subsection 99.02.201.4 of the Los Angeles Municipal Code is amended to read as follows:

99.02.201.4. Terms Not Defined. Where terms are not defined as prescribed in this section, such terms shall have ordinarily accepted meanings such as context applies. The definitions in Webster's Third New International Dictionary of the English Language, Unabridged shall be considered as providing ordinarily accepted meanings.

Sec. 5. A new Section 99.02.202 of the Los Angeles Municipal Code is added to read as follows:

SEC. 99.02.202. DEFINITIONS.

Section 202 of the CALGreen Code is adopted by reference with the following amendments:

The following CALGreen Code definitions are not adopted:

CALIFORNIA BUILDING CODE

CALIFORNIA ELECTRICAL CODE

CALIFORNIA MECHANICAL CODE

CALIFORNIA PLUMBING CODE

CALIFORNIA RESIDENTIAL CODE

The following definitions are added:

ACCESSIBLE. Having access thereto, but which first may require the removal of an access panel door or similar obstruction.

AUTHORITY HAVING JURISDICTION. The Department of Building and Safety of the City of Los Angeles.

DEPARTMENT. The Department of Building and Safety of the City of Los Angeles.

HYBRID URINAL. A urinal that conveys waste into the drainage system without the use of water for flushing; and automatically performs a drain-cleansing action after a predetermined amount of time.

LOS ANGELES BUILDING CODE. The current version of the Los Angeles Building Code, Articles 1 and 8 of Chapter IX of the Los Angeles Municipal Code.

LOS ANGELES BUILDING STANDARDS CODE. The current version of the Los Angeles Building Standards Code, Articles 1 thru 9 of Chapter IX of the Los Angeles Municipal Code.

LOS ANGELES ELECTRICAL CODE. The current version of the Los Angeles Electrical Code, Article 3 of Chapter IX of the Los Angeles Municipal Code.

LOS ANGELES MECHANICAL CODE. The current version of the Los Angeles Mechanical Code, Article 5 of Chapter IX of the Los Angeles Municipal Code.

LOS ANGELES PLUMBING CODE. The current version of the Los Angeles Plumbing Code, Article 4, Chapter IX of the Los Angeles Municipal Code.

LOS ANGELES RESIDENTIAL CODE. The current version of the Los Angeles Residential, Article 1.5, Chapter IX of the Los Angeles Municipal Code.

The following terms are modified as follows:

POTABLE WATER. Water that is drinkable and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards. See definition in the Los Angeles Plumbing Code.

Sec. 6. A title for Section 99.04.303 of the Los Angeles Municipal Code is added to read as follows:

SEC. 99.04.303. INDOOR WATER USE.

Sec. 7. A new Subsection 99.04.303.3 is added to the Los Angeles Municipal Code to read as follows:

99.04.303.3. Water Submeters [N]. Multi-family dwellings not exceeding three stories and containing 50 units or less shall install a separate meter or sub-meter within each individual dwelling unit and within common areas, such as recreation and laundry rooms.

Sec. 8. A new Subsection 99.04.303.4 of the Los Angeles Municipal Code is added to read as follows:

99.04.303.4. Water Use Reduction. A 20 percent reduction in the overall use of potable water within the building shall be provided. The reduction shall be based on the maximum allowable water use per plumbing fixture and fittings as required by the Los Angeles Building Standards. The 20 percent reduction in potable water use shall be demonstrated by the following method:

99.04.303.4.1. Performance Method. A calculation demonstrating a 20 percent reduction in the building "water use baseline", as established in Table 99.04.303.4.1, shall be provided.

EXCEPTIONS:

1. Projects with plumbing fixtures and fittings that comply with the maximum flow rate values in Table 99.04.303.4.2.
2. Additions and alterations to buildings where the new fixtures and fittings comply with the maximum flow rate values in Table 99.04.303.4.2.
3. Buildings utilizing recycled water in accordance with Section 99.04.305.2.

4. Replacement of plumbing fixtures and fittings.

TABLE 99.04.303.4.1
WATER USE BASELINE[3]

FIXTURE TYPE	BASELINE FLOW RATE	DURATION	DAILY USES	OCCUPANTS[2]
Showerheads	2.0 gpm @ 80 psi	8 min.	1	X[2a]
Lavatory Faucets, Residential	1.5 gpm @ 60 psi	.25 min.	3	X
Lavatory Faucets, Common/Public Uses	0.5 gpm @ 60 psi	.25 min.	3	X
Kitchen Faucets	1.8 gpm @ 60psi	4 min.	1	X[2b]
Metering Faucets	0.25 gallons/cycle		3	X
Water Closets	1.28 gallons/flush	1 flush	1 male[1] 3 female	X
Urinals	0.125 gallons/flush	1 flush	2 male	X

Effective July 1, 2016, the maximum flow rate for residential lavatory faucets will be 1.2 gpm at 60 psi in accordance with Title 24 of the California Code of Regulations.

Fixture "Water Use" = Flow rate X Duration X Occupants X Daily uses

1. The daily use number shall be increased to three if urinals are not installed in the room.
2. Refer to Table A, Chapter 4 of the Los Angeles Plumbing Code, for occupant load factors.
    a. Shower use by occupants depends on the type of use of a building or portion of a building. For example, the total occupant load for a health club, but only a fraction of the occupants in an office building as determined by the anticipated number of users.
    b. Kitchen faucet use is determined by the occupant load of the area served by the fixture.
3. Use Worksheet WS-1 of the 2013 CALGreen Code to calculate baseline water.

TABLE 99.04.303.4.2
WATER REDUCTION FIXTURE FLOW RATES

FIXTURE TYPE	MAXIMUM ALLOWABLE FLOW RATE
Lavatory Faucets, Residential	1.2 gpm @ 60 psi
Kitchen Faucets*	1.5 gpm @ 60 psi
Metering Faucets	0.2 gallons/cycle
Showerheads	1.8 gpm @ 80 psi
Clothes Washers	ENERGY-STAR certified
Dishwashers	ENERGY-STAR certified

** Kitchen faucets may temporarily increase the flow to 2.2 gpm at 60psi, and must default to 1.5gpm at 60psi. This requirement does not apply to a faucet in commercial kitchens or in buildings that have water closets with a maximum flush rate of 1.06 gpf installed throughout.*

Sec. 9. A title for Section 99.04.304 of the Los Angeles Municipal Code is added to read as follows:

SEC. 99.04.304. OUTDOOR WATER USE.

Sec. 10. Subsection 99.04.304.1 of the Los Angeles Municipal Code is amended to read as follows:

99.04.304.1. Outdoor Potable Water Use in Landscape Areas. On or after June 1, 2015, a water budget shall be developed for landscape irrigation use that conforms to the local water efficient landscape ordinance or to the California Department of Water Resources' Model Water Efficient Landscape Ordinance, whichever is more stringent.

The following factors shall be effective until subsequent revision of the MWELO by the California Department of Water Resources (DWR).

1. ET Adjustment Factor (ETAF) - 0.55.

2. Special Landscape Areas (SLA) - 0.45. (The resulting total ETAF for SLA shall be 1.0).

Notes:

1. Prescriptive measures to assist in compliance with the water budget are available in the Model Water Efficient Landscape Ordinance which may be found at: http://www.water.ca.gov/wateruseefficiency/docs/WaterOrdSec492.cfm

2. The water budget calculator for use with the 0.55 ETAF is available at: http://www.water.ca.gov/wateruseefficiency/landscapeordinance/

99.04.304.1.1. Methods to Reduce Potable Water Use. Other methods to reduce potable water use in landscape areas include but are not limited to:

1. Use of captured rainwater, recycled water, or graywater designed per the *Los Angeles Plumbing Code*.

a. The use of potable water may be used as a back-up water supply for on-site water recycling and/or reuse systems may be allowed by the Authority Having Jurisdiction (AHJ), provided that it can be demonstrated to the AHJ that the amount of potable water used as back-up in the water recycle or reuse system is less than that which would have been used by other means authorized by the AHJ.

2. Water treated for irrigation purposes and conveyed by a water district or public entity.

99.04.304.1.2. Authorized Potable Water Use. The use of potable water shall be authorized where necessary to address an immediate health and safety need or to comply with a term or condition in a permit issued by a state or federal agency.

Sec. 11. A new Subsection 99.04.304.2 is added to the Los Angeles Municipal Code to read as follows:

99.04.304.2. Irrigation Controllers. In new residential construction or building addition or alteration over 500 square feet of cumulative landscaped area, install irrigation controllers and sensors which include the following criteria, and meet manufacturer's recommendations:

1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.

2. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.

Note: More information regarding irrigation controller function and specifications is available from the Irrigation Association.

Sec. 12. A new Subsection 99.04.304.3 is added to the Los Angeles Municipal Code to read as follows:

99.04.304.3. Metering Outdoor Water Use. A landscape water meter provided by the City of Los Angeles Department of Water and Power shall be installed for landscape irrigation for the following:

1. New construction projects, as defined by the California Department of Water Resources Model Water Efficient Landscape Ordinance, with aggregate landscape area over 500 square feet.

2. When required by the California Department of Water Resources Model Water Efficient Landscape Ordinance.

3. Additions and alterations, with a valuation of $200,000 or more, where the entire potable water system is replaced, including all underground piping to the existing meter.

Sec. 13. A new Subsection 99.04.304.4 is added to the Los Angeles Municipal Code to read as follows:

99.04.304.4. Exterior Faucets. Locks shall be installed on all publicly accessible exterior faucets and hose bibs.

EXCEPTION: Single family dwellings.

Sec. 14. A new Subsection 99.04.304.5 is added to the Los Angeles Municipal Code to read as follows:

99.04.304.5. Swimming Pool Covers. For one- and two-family dwellings, any permanently installed outdoor in-ground swimming pool or spa shall be equipped with a cover having a manual or power-operated reel system. For irregular-shaped pools where it is infeasible to cover 100 percent of the pool due to its irregular shape, a minimum of 80 percent of the pool shall be covered.

EXCEPTION: Additions or alterations to existing swimming pools and spas with a building valuation not exceeding $25,000.

Note: Safety pool covers installed pursuant to the exception to Section 91.3109.4 of the Los Angeles Building Code shall meet the requirements of ASTM F 1346.

Sec. 15. A new Section 99.04.305 is added to the Los Angeles Municipal Code to read as follows:

SEC. 99.04.305. WATER REUSE SYSTEMS.

99.04.305.1. Graywater Ready. Alternate waste piping shall be installed to permit the discharge from the clothes washer, bathtub, showers, and bathroom/restroom wash basins to be used for a future graywater irrigation system. The flow from the fixtures shall be piped separately. The point of connection between the graywater piping and other waste piping shall be accessible (as defined in Section 99.02.202) and provided with signage that is satisfactory to the Department.

EXCEPTIONS:

1. Buildings with a graywater system or water reuse system.

2. Sites with landscape areas not exceeding 500 square feet.

3. Projects where graywater systems are not permitted due to geological conditions.

4. Additions and alterations that use the existing building drain.

99.04.305.2. Recycled Water Supply to Fixtures. When City-recycled water is available for use within 200 feet of the property line, 100 percent of water for water closets, urinals, floor drains, and process cooling and heating in that building shall come from City-recycled water. Recycled water systems shall be designed and installed in accordance with the Los Angeles Plumbing Code.

EXCEPTIONS:

1. Additions that use any part of the existing plumbing piping system.

2. Alterations that do not include replacing all of the potable water piping.

3. Where City-recycled water quality has been deemed non-suitable for a particular fixture or equipment, connection to the city is not required. The fixture and/or equipment shall be dual-plumbed to allow for future connection.

99.04.305.3. Cooling Towers [N]. Cooling towers shall comply with Section 99.04.305.3.1 or 99.04.305.3.2.

99.04.305.3.1. Buildings 25 Stories or Less. Buildings of 25 stories or less shall comply with one of the following:

1. Cooling towers shall have a minimum of 6 cycles of concentration (blowdown); or

2. A minimum of 50 percent of makeup water supply to cooling towers shall come from non-potable water sources, including treated backwash.

99.04.305.3.2. Buildings Over 25 Stories. Buildings over 25 stories shall comply with all of the following:

1. Cooling towers shall have a minimum of 6 cycles of concentration (blowdown); and

2. 100 percent of makeup water supply to cooling towers shall come from non-potable water sources, including treated backwash.

EXCEPTION: Where the amount of graywater produced by the plumbing system is insufficient to meet the total makeup water demand, as determined by the Department, potable water can be used to compensate for the deficiency.

99.04.305.4. Groundwater Discharge [N]. Where groundwater is being extracted and discharged, a system for onsite reuse of the groundwater shall be developed and constructed. Alternatively, the groundwater may be discharged to the sewer.

Sec. 16. A title for Section 99.05.303 of the Los Angeles Municipal Code is added to read as follows:

SEC. 99.05.303. INDOOR WATER USE.

Sec. 17. Subsection 99.05.303.1.1 of the Los Angeles Municipal Code is amended to read as follows:

99.05.303.1.1. New Buildings or Additions in Excess of 50,000 Square Feet. Separate submeters or meters shall be installed as follows:

1. For each individual leased, rented, or other tenant space within the building projected to consume more than 100 gallons per day (380 L/day).

2. Where potable water is used for industrial/process uses, for water supplied to the following subsystems:

a. Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s).

b. Makeup water for evaporative coolers greater than 6 gpm (0.04 L/s).

c. Steam and hot-water boilers with energy input more than 500,000 Btu/h (147 kW).

3. For each building that uses more than 100 gallons per day on a parcel containing multiple buildings.

Sec. 18. Subsection 99.05.303.2 of the Los Angeles Municipal Code is amended to read as follows:

99.05.303.2. Water Reduction. Each building shall demonstrate a 20-percent overall reduction in potable water use. The reduction shall be based on the maximum allowable water use per plumbing fixture and fittings as required by the Los Angeles Building Standards Code. To comply with this subsection, a calculation demonstrating a 20-percent reduction in the building "water use baseline," as established in Table 99.05.303.2.2, shall be provided.

EXCEPTIONS:

1. New buildings having a 2" or less water supply and having fixtures and fittings that comply with the maximum flow rate values shown in Table 99.05.303.2.3.

2. Additions and alterations to buildings with fixtures and fittings complying with the maximum flow rate values shown in Table 99.05.303.2.3. This provision shall apply only to new fixtures.

3. Buildings utilizing recycled water in accordance with Section 99.05.305.2.

4. Replacement of plumbing fixtures and fittings.

TABLE 99.05.303.2.2
WATER USE BASELINE[3]

FIXTURE TYPE	BASELINE FLOW RATE	DURATION	DAILY USES	OCCUPANTS[2]
Showerheads	2.0 gpm @ 80 psi	5 min.	1	X[2a]
Lavatory Faucets, Non-Residential	0.5 gpm @ 60 psi	.25 min.	3	X
Kitchen Faucets	1.8 gpm @ 60psi	4 min.	1	X[2b]
Metering Faucets	0.25 gallons/cycle		3	X
Water Closets	1.28 gallons/flush	1 flush	1 male[1] 3 female	X
Urinals	0.125 gallons/flush	1 flush	2 male	X

Fixture "Water Use" = Flow rate X Duration X Occupants X Daily uses

1. The daily use number shall be increased to three if urinals are not installed in the room.
2. Refer to Table A, Chapter 4 of the Los Angeles Plumbing Code, for occupant load factors.
   a. Shower use by occupants depends on the type of use of a building or portion of a building. For example, the total occupant load for a health club, but only a fraction of the occupants in an office building as determined by the anticipated number of users.
   b. Kitchen faucet use is determined by the occupant load of the area served by the fixture.
3. Use Worksheet WS-1 of the 2013 CALGreen Code to calculate baseline water use.

TABLE 99.05.303.2.3
WATER REDUCTION FIXTURE FLOW RATES

FIXTURE TYPE	MAXIMUM ALLOWABLE FLOW RATE
Lavatory Faucets, Non-Residential*	0.4 gpm @ 60 psi
Kitchen Faucets**	1.50 gpm @ 60 psi
Showerheads	1.8 gpm @ 80 psi
Dishwashers	ENERGY-STAR certified
Clothes Washers	ENERGY-STAR certified

** Not required if using nonwater or hybrid urinals throughout the project*
*** Kitchen faucets may temporarily increase the flow to 2.2 gpm at 60psi, and must default to 1.5gpm at 60psi. This requirement does not apply to a faucet in commercial kitchens.*

Sec. 19. Subsection 99.05.303.2.1 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 20. Section 99.05.304 of the Los Angeles Municipal Code is amended to read as follows:

99.05.304.1. Outdoor Water Use in Landscape Areas 500 Square Feet or Greater. **[BSC]** When water is used for outdoor irrigation for landscape projects 500 square feet or greater, one of the following shall apply:

1. A local water efficient landscape ordinance that is, based on evidence in the record, at least as effective in conserving water as the updated model ordinance adopted by the Department of Water Resources per Government Code Section 65595 (c) including an evapotranspiration adjustment factor (ETAF) of 0.45 and an additional water allowance for special landscape areas (SLA) of 0.55.

2. The California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO) commencing with Section 490 of Chapter 2.7, Division 2, Title 23, California Code of Regulations including an evapotranspiration adjustment factor (ETAF) of 0.45 and an additional water allowance for special landscape areas (SLA) of 0.55.

Notes:

1. MWELO prescriptive measures are listed in Sections 492.4 through 492.8, 492.10 and 492.11 of the Chapter 2.7, Division 2, Title 23, available at the following link:
http://www.water.ca.gov/wateruseefficiency/docs/WaterOrdSec492.cfm

2. The Department of Water Resources (DWR) landscape ordinance webpage is available at the following link:
http://water.ca.gov/wateruseefficiency/landscapeordinance/

3. The water budget calculator for use with the 0.45 ETAF is available at the following link:
http://www.water.ca.gov/wateruseefficiency/landscapeordinance/

99.05.304.2. Methods to Reduce Potable Water Use. [BSC] Permitted methods to reduce potable water use in landscape areas include but are not limited to:

1. Use of captured rainwater, recycled water, or graywater designed per the Los Angeles Plumbing Code.

a. The use of potable water may be used as a back-up water supply for on-site water recycling and/or reuse systems may be allowed by the Authority Having Jurisdiction (AHJ), provided that it can be demonstrated to the AHJ that the amount of potable water used as back-up in the water recycle or reuse system is less than that which would have been used by other means authorized by the AHJ.

2. Water treated for irrigation purposes and conveyed by a water district or public entity.

99.05.304.2.1. Authorized Potable Water Use. The use of potable water shall be authorized where necessary to address an immediate health and safety need or to comply with a term or condition in a permit issued by a state or federal agency.

99.05.304.3. Outdoor Water Use in Landscape Areas over 500 Square Feet. [BSC] When water is used for outdoor irrigation for landscape projects over 500 square feet, the following shall apply:

99.05.304.3.1. Irrigation Controller and Sensor Application. In new nonresidential construction or building addition or alteration over 500 square feet of cumulative landscaped area, install irrigation controllers and sensors which include the following criteria, and meet manufacturer's recommendations.

99.05.304.3.2. Controllers. Automatic irrigation system controllers at the time of final inspection shall comply with the following:

1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.

2. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.

Note: More information regarding irrigation controller function and specifications is available from the Irrigation Association.

99.05.304.4. Outdoor Water Use Meters. For new water service or for addition or alteration requiring upgraded water service for landscaped areas of at least 1,000 square feet but not more than 5,000 square feet (the level at which Water Code § 535 applies), separate submeters or metering devices shall be installed for outdoor water use.

Sec. 21. A new Subsection 99.05.304.5 is added to the Los Angeles Municipal Code to read as follows:

99.05.304.5. Exterior Faucets. Locks shall be installed on all publicly accessible exterior faucets and hose bibs.

Sec. 22. A new Section 99.05.305 is added to the Los Angeles Municipal Code to read as follows:

SEC. 99.05.305. WATER REUSE SYSTEMS.

99.05.305.1. Graywater Ready. Alternate waste piping shall be installed to permit the discharge from the clothes washer, bathtub, showers, and bathroom/restroom wash basins to be used for a future graywater irrigation system. The flow from the fixtures shall be piped separately. The point of connection between the graywater piping and other waste piping shall be accessible (as defined in Section 99.02.202) and provided with signage that is satisfactory to the Department.

EXCEPTIONS:

1. Buildings with a graywater system or water reuse system.

2. Sites with landscape areas not exceeding 500 square feet.

3. Projects where graywater systems are not permitted due to geological conditions.

4. Additions and alterations that use the existing building drain.

99.05.305.2. Recycled Water Supply to Fixtures. When City-recycled water is available within 200 feet of the property line, 100 percent of water for water closets, urinals, floor drains, and process cooling and heating in that building shall come from City-recycled water. Recycled water systems shall be designed and installed in accordance with the Los Angeles Plumbing Code.

EXCEPTIONS:

1. Additions that use any part of the existing plumbing piping system.

2. Alterations that do not include replacing all of the potable water piping.

3. Where City-recycled water quality has been deemed non-suitable for a particular fixture or equipment, the fixture and/or equipment shall be dual-plumbed for future connection.

99.05.305.3. Cooling Towers [N]. Cooling towers shall comply with one of the following:

1. Cooling towers shall have a minimum of 6 cycles of concentration (blowdown); or

2. A minimum of 50 percent of makeup water supply shall come from non-potable water sources, including treated backwash.

99.05.305.4. Groundwater Discharge [N]. Where groundwater is being extracted and discharged, a system for onsite reuse of the groundwater, shall be developed and constructed. Alternatively, the groundwater may be discharged to the sewer.

Sec. 23. Subsection A4.305.2 of Section 99.11.102 of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 24. Subsection A5.303.5 of Section 99.12.102. of the Los Angeles Municipal Code is deleted in its entirety.

Sec. 25. The City Clerk shall certify to the passage of this ordinance and have it published in accordance with Council policy, either in a daily newspaper circulated in the City of Los Angeles or by posting for ten days in three public places in the City of Los Angeles: one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall; one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall East; and one copy on the bulletin board located at the Temple Street entrance to the Los Angeles County Hall of Records.

I hereby certify that this ordinance was passed by the Council of the City of Los Angeles, at its meeting of APR 2 2 2016.

HOLLY L. WOLCOTT, City Clerk

By _____
Deputy

Approved 4/25/16

_____
Mayor

Approved as to Form and Legality

MICHAEL N. FEUER, City Attorney

By _____
MONICA D. CASTILLO
Deputy City Attorney

Date 4/20/16

File No. CF 15-0458

RECEIVED
AUG 23 2016
BY:

EMAILED 8/16/2016

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DECLARATION OF POSTING ORDINANCE

I, JUAN VERANO, state as follows: I am, and was at all times hereinafter mentioned, a resident of the State of California, over the age of eighteen years, and a Deputy City Clerk of the City of Los Angeles, California.

Ordinance No.184248 – Amending certain provisions of Articles 4 and 9 of Chapter IX of the Los Angeles Municipal Code to establish citywide water efficiency standards and require water-saving systems and technologies in buildings and landscapes – a copy of which is hereto attached, was finally adopted by the Los Angeles City Council on **April 22, 2016**, and under the direction of said City Council and the City Clerk, pursuant to Section 251 of the Charter of the City of Los Angeles and Ordinance No. 172959, on **April 27, 2016** I posted a true copy of said ordinance at each of the three public places located in the City of Los Angeles, California, as follows: 1) one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall; 2) one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall East; 3) one copy on the bulletin board located at the Temple Street entrance to the Los Angeles County Hall of Records.

Copies of said ordinance were posted conspicuously beginning on **April 27, 2016** and will be continuously posted for ten or more days.

I declare under penalty of perjury that the foregoing is true and correct.

Signed this **27th** day of **April 2016** at Los Angeles, California.

Juan Verano, Deputy City Clerk

RECEIVED
AUG 23 2016
BY: EMAILED 8/16/2016

Ordinance Effective Date: June 6, 2016 **Council File No. 15-0458**