

**AGENDA
CITY COUNCIL MEETING**

Tuesday, October 08, 2019

6:30 PM

**City Hall Council Chambers
232 W. Sierra Madre Boulevard
Sierra Madre, California 91024**

*John Harabedian, Mayor
John Capoccia, Mayor Pro Tem
Rachelle Arizmendi, Council Member
Denise Delmar, Council Member
Gene Goss, Council Member*

*Sue Spears, City Clerk
Michael Amerio, City Treasurer*



CALL TO ORDER/ROLL CALL MEMBERS OF THE CITY COUNCIL:

Mayor Harabedian, Mayor Pro Tem Capoccia, Council Member Arizmendi, Council Member Delmar, and Council Member Goss.

PLEDGE OF ALLEGIANCE AND INSPIRATION:

Council Member Denise Delmar.

APPROVAL OF MEETING AGENDA:

Vote of the Council to proceed with City business.

APPROVAL OF CITY COUNCIL MEETING MINUTES:

Approval of the City Council meeting minutes from September 24, 2019.

MAYOR AND CITY COUNCIL REPORTS:

Reporting of Council Member activities related to City business.

PUBLIC COMMENT:

The Council will listen to the public on any item on the agenda. Under the Brown Act, Council is prohibited from taking action on items not on the agenda, but the matter may be referred to staff or to a subsequent meeting. Each speaker will be limited to three continuous minutes, which may not be delegated. These rules will be enforced but may be changed by appropriate City Council action.

ACTION ITEMS

CONSENT

- 1. AWARD THE PROFESSIONAL SERVICES CONTRACT TO SA ASSOCIATES FOR THE DESIGN OF THE 2020 WATER MAIN REPLACEMENT PROJECT**
- 2. CONSIDERATION OF NOVEMBER AND DECEMBER CITY COUNCIL MEETING SCHEDULE**
- 3. REVIEW OF WARRANTS**

PUBLIC HEARINGS

1. 2019 CALIFORNIA BUILDING CODE ADOPTION

Staff recommends Alternative No. 1 that the City Council introduce for first reading by title only, recommending adoption of Ordinance 1416 pursuant to the 2019 California Building Standards Code amendments

2. 2019 FIRE CODE ADOPTION

Staff recommends Alternative No. 1 that the City Council introduce for first reading Ordinance No. 1417 reading by title only, recommending adoption of Ordinance 1417 pursuant to the 2019 California Fire Code amendments.

DISCUSSION

1. CONSIDERATION OF APPOINTMENT TO FILL A VACANCY ON THE SENIOR COMMUNITY COMMISSION

It is recommended that the City Council provide staff with direction regarding the appointment to the Senior Community Commission to fill a full-term vacancy

2. AUTHORIZATION TO PAY EXPENDITURES RELATED TO THE NOVEMBER 5, 2019 SPECIAL ELECTION

It is recommended that the City Council approve an increase to the fiscal year 2019-2020 budget to include estimated expenditures in the amount of \$110,000 related to the November 5, 2019 Special Election.

3. INTERCONNECTION WHEELING AGREEMENT BETWEEN THE CITY OF ARCADIA AND THE CITY OF SIERRA MADRE

Staff recommends the City Council approve the interconnection wheeling agreement between the City of Arcadia and the City of Sierra Madre and authorize staff to work with the San Gabriel Valley Municipal Water District and Arcadia on the joint establishment, location, and operation of a well in the main basin.

4. MANAGEMENT COMPENSATION STUDY

Staff recommends the Council discuss and provide direction.

ACTION ITEMS

Regardless of staff recommendation on any agenda item, the City Council will consider such matters, including action to approve, conditionally approve, reject, or continue such item.

AVAILABILITY OF AGENDA MATERIALS

Materials related to items on this agenda are available for public inspection on the City's website at www.cityofsierramadre.com, and during normal business hours at City Hall, 232 W. Sierra Madre Blvd. and at the Sierra Madre Public Library, 440 W. Sierra Madre Blvd.

LIVE BROADCASTS

Regular City Council meetings are broadcasted live on Cable Channel 3 and rebroadcast on Wednesday and Saturday at 5:30 p.m.

MEETING ASSISTANCE

If you require special assistance to participate in this meeting, please call the City Manager's office at (626) 355-7135 at least 48 hours prior to the meeting.

ADJOURNMENT

The City Council will adjourn to a Public Hearing at this same place on October 22, 2019.



CITY OF SIERRA MADRE
CITY COUNCIL REGULAR MEETING MINUTES

SIERRA MADRE CITY COUNCIL
SUCCESSOR AGENCY AND
PUBLIC FINANCE AUTHORITY

Tuesday, September 24, 2019 - 6:30 pm

Sierra Madre City Hall Council Chambers
232 W. Sierra Madre Blvd., Sierra Madre, CA 91024

CALL TO ORDER/ROLL CALL MEMBERS OF THE CITY COUNCIL:

Mayor John Harabedian called the meeting to order at 6:34 p.m. City Clerk Sue Spears called the roll.

Present: Mayor John Harabedian, Mayor Pro Tem John Capoccia, and Council Members Rachele Arizmendi, Denise Delmar and Gene Goss

Absent: None

Also Present: Gabe Engeland, City Manager
Aleks Giragosian, Deputy City Attorney
Laura Aguilar, Assistant City Clerk
James Carlson, Management Analyst
Chris Cimino, Director of Public Works
Miguel Hernandez, Human Resources Manager
Jim Hunt, Interim Police Chief
Colby Konisek, Finance Director
Kurt Norwood, Interim Fire Chief
Jose Reynoso, Utility Services Director
Christine Smart, City Librarian
Rebecca Silva-Barrón, Community Services Manager
Sue Spears, City Clerk

PLEDGE OF ALLEGIANCE:

Council Member Arizmendi led the Pledge of Allegiance.

APPROVAL OF MEETING AGENDA:

Mayor Harabedian asked for a motion to approve the agenda as presented.

Council Member Delmar moved to approve the agenda as presented.

Mayor Pro Tem Capoccia seconded the motion.

Ayes: Mayor John Harabedian, Mayor Pro Tem John Capoccia, and Council Members Rachele Arizmendi, Denise Delmar, and Gene Goss

Noes: None

Absent: None
Abstain: None

The motion to approve the agenda as presented was passed by a unanimous vote.

REPORT ON THE CLOSED SESSION – SEPTEMBER 24, 2019:

Deputy City Attorney Giragosian reported that the City Council met regarding real property negotiations related to the City poles located at 611 E. Sierra Madre Blvd. (in Sierra Vista Park) and that direction was provided to the property negotiator.

APPROVAL OF MINUTES:

Mayor Harabedian asked for the approval of the Minutes of the Regular Council Meeting of September 10, 2019.

Mayor Pro Tem Capoccia noted that the word “legal” should be stricken from his Council Member Report. There were no other corrections noted.

Mayor Pro Tem Capoccia moved to approve the Minutes of the Regular City Council Meeting of September 10, 2019 as amended.

Council Member Goss seconded the motion.

Ayes: Mayor John Harabedian, Mayor Pro Tem John Capoccia, and Council Members Denise Delmar and Gene Goss
Noes: None
Absent: None
Abstain: Council Member Rachelle Arizmendi

The motion to approve the Minutes of the Regular City Council Meeting of September 10, 2019 as amended was passed by a vote of four (4) yes and one (1) abstain.

MAYOR AND CITY COUNCIL REPORTS:

- A. Mayor John Harabedian agreed that (1) the Sierra Madre Kiwanis Club Pancake Breakfast was great & well attended and (2) the “Pooch Parade” was fun and he was happy to be involved with it. He expressed kudos to the Sierra Madre Kiwanis Club on an excellent Pancake Breakfast.
- B. Mayor Pro Tem John Capoccia (1) reported that he met with the Senior Community Commission this afternoon at a productive meeting, (2) relayed that comments made by Chairperson Joanne Williams and Vice-Chair Anita Thompson were very effusive in their praise of City Staff members, Rebecca Silva-Barrón, Rosemary Garcia, Lawren Heinz, and Clarissa Lowe, (3) expressed that it is great to hear how well they work together, get things done, and enjoy themselves while doing so, (4) said that it is one of the many reasons that he is proud to live in Sierra Madre and serve on the City Council, and (5) congratulated Staff on the great job that they are doing.
- C. Council Member Rachelle Arizmendi (1) recognized that there were many amazing community activities in Sierra Madre this past summer and thanked Staff and all those who contributed to those events and (2) reported that she and Mayor Harabedian attended the Sierra Madre Kiwanis Club Pancake Breakfast, which was a lot of fun and included a “Pooch Parade”, and (3) congratulated the Sierra Madre Kiwanis Club on a successful event.

- D. Council Member Denise Delmar did not make a report.
- E. Council Member Gene Goss reported that he was invited as a guest and attended last week's Sierra Madre Library Foundation Board Meeting and is looking forward to hearing tonight's presentation.

PUBLIC COMMENT ON NON-AGENDA ITEMS:

Mayor Harabedian opened the meeting for Public Comment on items not on the agenda.

- Leslie Ziff, Sierra Madre, spoke about the Friends of the Sierra Madre Library's "Harvest Festival" on September 27, 2019 and encouraged people to buy tickets, as the ticket sales monies are used to support programs at the SM Public Library.
- Deborah Taylor Clapp, Sierra Madre, said that (1) she lives in Sierra Court Cottage, (2) residents were given eviction notices by the new property owners to move out by 11-22-19, and (3) she is requesting that the City Council implement a rent control ordinance in Sierra Madre.
- Deborah Taylor Clapp, Sierra Madre, read a statement written by Sophie Kessler (who was in attendance), Sierra Madre, regarding her love of Sierra Madre and Sierra Court Cottages and the stress of being forced to move.
- Dennis Burton, Sierra Madre, said that he is upset with being forced to move and is requesting that the City Council create ordinances regarding rent control and relocation fees for those being evicted in this manner.
- Diane Burton, Sierra Madre, spoke about her love of Sierra Madre and is requesting that the City Council create ordinances regarding rent control and relocation fees.
- Michael Gittelman, Sierra Madre, requested that the City Council adopt ordinances regarding rent control and relocation fees.
- Carol Canterbury, Sierra Madre, thanked City Staff for showing "Invasion of the Body Snatchers" and said that the event was very successful.
- Shirley Moore, Sierra Madre, provided a written statement to Staff (prior to the meeting, not read at the meeting, and which will be included as part of Public Record) requesting that the City Council adopt ordinances regarding rent control and relocation fees.

Mayor Harabedian asked if anyone else would like to come forward to speak on items not on the agenda. Seeing no one come forward, Mayor Harabedian closed Public Comment.

PRESENTATIONS:

P1 - PRESENTATION ON AIR QUALITY FROM THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (AQMD) GOVERNING BOARD:

Michael Cacciotti, South Coast AQMD Governing Board Member and City of Sierra Madre representative, delivered a presentation on air quality that included a PowerPoint titled, "*Air Quality Update for the City of Sierra Madre September 24, 2019*", with the following topics:

- South Coast AQMD Background
- South Coast AQMD Air Monitoring
- The Challenges to Meeting Air Quality Health Standards
- Health Impacts
- Volkswagen Settlement (2019)
- Voucher Incentive Program (VIP)
- South Coast AQMD Incentive Programs
- South Coast AQMD's Main Incentive Programs
- Residential EV Charger Incentive Program
- Commercial Electric Lawn & Garden Equipment Incentive & Exchange Program
- Residential Electric Lawn Mower Rebate Program
- Furnace Rebate Program
- Clean Air Investments in the City of Sierra Madre
- South Coast AQMD's Mobile APP

Mayor Harabedian asked if any Member of the Council had questions of Mr. Cacciotti.

In response to a question from Mayor Pro Tem Capoccia regarding when lawn blower rebates would apply for residential use, Mr. Cacciotti invited MPT Capoccia to speak at any South Coast AQMD Board Meeting.

In response to a question from Mayor Harabedian regarding vehicle replacement and who gets the old car, Mr. Cacciotti said that the vehicles are usually scrapped, unless the vehicle is worth selling.

In response to a question from Council Member Goss regarding the SCAQMD paying a maximum of \$60,000 to replace a diesel truck and whether that pays the total cost of a new truck, Mr. Cacciotti said that he was not exactly sure, as it depends on the type of vehicle.

In response to a question from Council Member Goss regarding the electric blower charging time, Dan Mabe, President of American Green Zone Alliance, said that it takes about three hours to charge the battery, but that it can be charged off and on throughout the day.

Mayor Harabedian thanked Mr. Cacciotti for his presentation and expressed that the City of Sierra Madre is fortunate to have him as its representative on the SCAQMD Board.

P2 – ANNUAL REPORT ON THE SIERRA MADRE PUBLIC LIBRARY

City Librarian Smart presented the “*Sierra Madre Public Library 2018-2019 Library Report*”, commenting that “throughout a year of significant change in the Library, its use and presence remains constant, and the love the Library thrives”. The PowerPoint included the following topics:

- Timely and Informative Programming
- Great Team of Staff and Volunteers, including Teen Volunteers
- Slogan – “Read – Discover – Connect”
- Grants/Donations totaling \$99,000+
- Statistics Overview
- 2018-2019 Successes
- 2019-2020 Goals

City Librarian Smart introduced Leila Regan, the City's newest Associate Librarian, who is serving as the SMPL's Youth Services Librarian and comes to Sierra Madre from the City of Monrovia.

P3 – PRESENTATION FROM THE SIERRA MADRE LIBRARY FOUNDTION

Patricia Hall, Sierra Madre, made a presentation about the “Sierra Madre Library Foundation (SMLF) www.sierramadrelibraryfoundartion.org”:

- August 2018 - Meeting to determine the documents needed to establish a foundation. Committee members included Tony Buckner, Bart Doyle, Patricia Hall, Rich Proctor, Rob Stockly, & Fred Wesley. A request was made to the Friends of the Sierra Madre Library for a loan of \$20,000 to cover the costs related to establishing the SMLF, which was granted.
- October 2018 - The Mission Statement, By-Laws, Articles of Incorporation, and all application to the appropriate CA State and Federal Authorities, including the 501(c)(3) determination, were completed. As part of the process, the IRS requires officers be named on the application. As a result, interim SM Library Foundation officers were appointed until such time as a SMLF Board can be in place.
- January 2019 –Periscope Designs was contracted to create a SMLF website, logo, brochures, and response cards. Conflict of Interest document was drawn and signed by all.
- April 2019 - An event was held at the Sierra Madre Public Library to introduce the SMLF to the community and the website: www.sierramadrelibraryfoundation.org went live on-line.
- Community meetings/presentations have been held and others are scheduled to make people aware of issues facing the SM Library and talk about possible solutions, including a new library. The priority for the community meetings/presentations are the Sierra Madre schools, followed by Sierra Madre community groups, organizations, and service clubs.
- May 2019 – Approval from the IRS was received of the Sierra Madre Library Foundation’s status as a 501(c)(3) non-profit organization.
- June 2019 – A Request for Proposal (RFP) was written for the Library design to be sent to recommended architectural firms, with three firms responding.
- July 2019 – Interviews of the three architectural firms were conducted by a committee that included, Library Board Trustee Rod Spears, a member of the SM Library Foundation, a member of the Friends of the SM Library, among others. The firm PBWS was chosen, with the cost for their services totaling \$120,000.
- The Friends of the SM Library voted to allocate \$120,000 plus \$10,000 for possible overrides or additional expenses. The Friends of the SM Library have contracted with PBWS for the design of the SM Library. City Librarian Smart and representatives from the SML Foundation and Friends of the SM Library have been meeting with the PBWS architects to help plan the design. Public meetings have been scheduled for community input into the design.
- The SML Foundation’s plan is to continue outreach programs in the community and start raising funds when a decision has been made into how the Library’s various problems will be solved.
- No matter what the decision is, the SM Library must have a Foundation.
- The community input meetings are not a Foundation project nor a Friends project, it is a community project to meet the needs of the people of this community for adults as well as children. That is why the input from members of the community is invaluable. The SM Library is a space for the community.

- October 12, 2019 – is the date of the next Library Public Forum to receive community input and the public is invited.

Mayor Harabedian asked if any Member of the Council had questions on the presentation.

In response to a question by Mayor Pro Tem Capoccia regarding how the community meetings are being publicized, City Librarian Smart said that notices are just now going on-line and will include a social media push, articles in the Mt. View News, flyers posted around town, posted on the Library's website, and notices to individual groups in Sierra Madre.

In response to a question by Mayor Pro Tem Capoccia whether the community meetings will include input into the Library design, City Librarian Smart said that, with the help of the Friends, Foundation, and Library Staff, who are on the Client Team working directly with PBWS to coalesce into what will be a great idea and a plan, but nothing will move forward without the input and feed back from the community and the group wants to make sure that everyone has a moment to take a look at the plan, including the Planning Commission, who will be invited to attend the community meetings as well.

Mayor Pro Tem Capoccia asked what will happen in the future when the design is determined, with the goal of replacing the current Library with a new Library and coming to the City Council with a very specific proposal. Ms. Hall said that (1) the original purpose of the Library Foundation is to raise money to equip the new Library, including technology, etc., (2) the process takes a feasibility study to determine how much the Library Foundation can raise, (3) the reason there is no current Foundation Board is that you cannot ask people to be on a Foundation Board unless they know why they are there, (4) the criteria to be on the SM Library Foundation Board is \$10,000, by either paying or raising the \$10,000.

In response to a question by Mayor Pro Tem Capoccia regarding who is putting together the formal proposal/presentation for the new Library, Ms. Hall said that the Library Trustees, Library Foundation Board, and Friends of the SM Library have made the decision of the need to build a new Library. Rob Stockly added that the Friends of the SM Library are hiring the architect so that they can bring before the City Council the proposed new Library project, because we cannot ask for community financial support without a project. Ms. Hall continued that the architects are doing a design of the layout of the floorplan/space, but not the exterior building design. Mr. Stockly said that (1), from the layout design, an estimated cost of the new Library can be determined and (2) their plan is to come to the City Council in January 2020 with the amount of money to be raised through a parcel tax vote in November 2020.

Council Member Arizmendi suggested that, in addition to Town Hall Forums, that presentations are done at existing community groups and organizations.

Council Member Goss commented that top-flight people are making a huge commitment of their time and reputations for the new Library, it is being taken very seriously and professionally, with a fantastic work product so far, and expressed confidence that the project plan will be something special, because they are doing it the right way and something we can all be proud of.

Mayor Harabedian emphasized that someone from the group needs to step up and take the lead (to be the quarterback) to move this forward to hit timelines in a really efficient way. He said that he would like to see the Library proposal brought to the City Council in December 2019, to get a parcel tax vote on the November 2020 ballot

AGENDA ACTION ITEMS:

1. CONSENT CALENDAR

City Clerk Spears gave the following reports under the Consent Calendar:

- a) ADOPTION OF RESOLUTION 19-48 APPROVING CERTAIN DEMANDS - It is recommended that the City Council approve Resolution 19-48 for approval of payment of City warrants in an aggregate amount of \$248,838.56; Library warrants in an aggregate amount of \$8,429.64; and payroll transfer in the aggregate amount of \$332,279.82 for the fiscal year ending June 30, 2020.
- b) SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT 2018 WATER DELIVERY PAYMENT - It is recommended that the City Council approve the expenditure of \$518,400 for 1,296 acre-feet of water delivered to Sierra Madre Spreading Grounds for the calendar year 2018.
- c) CONSIDERATION OF APPROVAL TO ISSUE AN RFP FOR FISCAL YEAR 2019-2020 STREET IMPROVEMENT PROJECT - It is recommended that the City Council authorize a Request for Proposals for the Fiscal Year 2019-2020 Street Improvement Project
- d) CONSIDERATION OF RESOLUTION 19-52 AMENDING THE TERMS AND CONDITIONS OF EMPLOYMENT FOR FULL-TIME FIRE DEPARTMENT EMPLOYEES - It is recommended that the City Council adopt Resolution 19-52 amending the Terms and Conditions of Employment for full-time employees.

Mayor Harabedian asked if any Member of the Council had questions on Consent Items 1a – 1d.

Mayor Harabedian opened the meeting for Public Comment on the Consent Items. Seeing no one, Mayor Harabedian closed Public Comment and brought the matter back to the Council for discussion. No additional discussion occurred.

Council Member Delmar made a motion to approve Consent Items 1a – 1d as presented.

Council Member Arizmendi seconded the motion.

Ayes: Mayor John Harabedian and Council Members Rachelle Arizmendi, Denise Delmar, and Gene Goss

Noes: None

Absent: None

Abstain: Mayor Pro Tem John Capoccia

The motion to approve Consent Items 1a – 1d as presented was passed by a vote of four (4) yes and one (1) abstain.

DISCUSSION:

2a. CONSIDERATION OF APPOINTMENT TO FILL A PARTIAL TERM ON THE PLANNING COMMISSION

Assistant City Clerk Aguilar reported on this item regarding the appointment to the Planning Commission to fill the current vacancy for a term ending on June 30, 2021, from the two applications received.

Mayor Harabedian invited the applicants, in alphabetical order, to make a statement to the City Council and each did so:

- Cole Butler
- Margaret (Peggy) Dallas

Mayor Harabedian opened this item for Public Comment. Seeing no one, Mayor Harabedian closed Public Comment and brought the matter back to the Council for discussion.

Discussion occurred and there was consensus that both candidates were extremely well qualified to serve on the Planning Commission. Mayor Harabedian asked for the City Council members to state their vote, which resulted in the following tally:

- Mayor Pro Tem Capoccia – Cole Butler
- Council Member Arizmendi – Margaret Dallas
- Council Member Delmar – Margaret Dallas
- Council Member Goss – Cole Butler
- Mayor Harabedian – Cole Butler

Mayor Harabedian made a motion to appoint Cole Butler to the Planning Commission to fill the vacancy for a term ending June 30, 2021.

Council Member Goss seconded the motion.

Ayes: Mayor John Harabedian and Council Members Rachelle Arizmendi, Denise Delmar, and Gene Goss
 Noes: None
 Absent: None
 Abstain: None

The motion to appoint Cole Butler to the Planning Commission to fill the vacancy for a term ending June 30, 2021 was passed by a unanimous vote.

Cole Butler then addressed the City Council and said that she would like to postpone her appointment to the Planning Commission for now and stated that she would apply to serve on the Planning Commission the next time there is an advertised vacancy.

Mayor Pro Tem Capoccia made a motion to appoint Margaret Dallas to the Planning Commission to fill the vacancy for a term ending June 30, 2021.

Council Member Delmar seconded the motion.

Ayes: Mayor John Harabedian, Mayor Pro Tem Capoccia, and Council Members Rachelle Arizmendi, Denise Delmar, and Gene Goss
 Noes: None
 Absent: None
 Abstain: None

The motion to appoint Margaret Dallas to the Planning Commission to fill the vacancy for a term ending June 30, 2021 was passed by a unanimous vote.

2b. DISCUSSION – CONSIDERATION OF CITY COUNCIL SUPPORT OF ASSEMBLY BILL 1093, AUTHORED BY ASSEMBLYMEMBER BLANCA RUBIO

Management Analyst Carlson reported on this item with the recommendation that the City Council discuss and consider supporting AB 1093, as Mayor Harabedian and Mayor Pro Tem Capoccia requested that this item be placed on the agenda for discussion.

Mayor Harabedian credited and thanked Mayor Pro Tem Capoccia and Management Analyst Carlson for continuing to bring this issue forward, which is the acute cost burden, particularly for disadvantaged communities, of compliance with the municipal separate storm sewer system permits.

Mayor Harabedian asked if any Member of the Council had questions on this item, with the only question being why this has not been done sooner.

Deputy City Attorney Giragosian added that this legislation was passed by the Legislature and is currently enrolled so that it is before the CA Governor and the CA Governor can choose to veto it or sign it, with a deadline to do so of October 13, 2019.

Mayor Harabedian opened this item for Public Comment. Seeing no one, Mayor Harabedian closed Public Comment and brought the matter back to the Council for discussion.

Discussion occurred and there was consensus to support AB 1093, authored by Assembly Member Blanca Rubio.

Mayor Pro Tem Capoccia made a motion to send a letter to the CA Governor in support of AB 1093.

Council Member Delmar seconded the motion.

Ayes: Mayor John Harabedian, Mayor Pro Tem John Capoccia, and Council Members Rachelle Arizmendi, Denise Delmar, and Gene Goss

Noes: None

Absent: None

Abstain: None

The motion to send a letter to the CA Governor in support of AB 1093 was passed by a unanimous vote.

2c. CONSIDERATION OF APPOINTMENT TO CLEAN POWER ALLIANCE BOARD

Mayor Harabedian said that he has served as the City's appointed representative on the Clean Power Alliance (CPA) Board for the last two years and is seeking the appointment of other City Council Members to serve in his place. The current alternate is Management Analyst Carlson. Mayor Harabedian is recommending that the 1st alternate be a City Council Member instead.

Mayor Harabedian asked if any Member of the Council had questions on this item.

In response to a question by Council Member Goss as to whether the representative must be a City Council Member, Mayor Harabedian said that the Joint Power Authority says that the Board Member must be a City Council Member and that the alternate can be Staff Member, but that two City Council Members are preferred.

Mayor Pro Tem Capoccia volunteered to serve as the lead representative. Council Member Arizmendi said that she would serve as an alternate, along with Management Analyst Carlson.

Mayor Harabedian made a motion to appoint to the CPA Board Mayor Pro Tem Capoccia as the lead representative, Council Member Arizmendi as the 1st alternate, and Mr. Carlson as the 2nd alternate.

Council Member Delmar second the motion.

Mayor Harabedian opened this item for Public Comment.

- Robert Parkhurst, Sierra Madre, spoke about the importance of the CPA and expressed appreciation that the City Council is taking this issue seriously and making it a priority.

Mayor Harabedian asked if anyone else would like to speak on this item. Seeing no one, Mayor Harabedian closed Public Comment and brought the matter back to the Council for vote on the motion.

Ayes: Mayor John Harabedian, Mayor Pro Tem Capoccia, and Council Members Rachelle Arizmendi, Denise Delmar, and Gene Goss

Noes: None

Absent: None

Abstain: None

The motion to appoint to the CPA Board Mayor Pro Tem Capoccia as the lead representative, Council Member Arizmendi as the 1st alternate, and Mr. Carlson as the 2nd alternate was passed by a unanimous vote.

2d. CONSIDERATION OF RESOLUTION 19-49 PLANNING FOR CLIFORNIA MINIMUM WAGE AND AMENDING PART-TIME AND CONFIDENTIAL-EXEMPT CLASSIFICATION PLAN AND SALARY MATRIX

Human Resources Manager Hernandez reported on this item with the recommendation that the City Council adopt Resolution 19-49 modifying the part-time hourly wages in the City's Classification Plan and Salary Matrix – (1) for 2019 increasing the hourly rate for the part-time dispatcher position and (2) for 2020 to reflect the upcoming California minimum wage increase, and (3) the Confidential-Exempt salary matrix increasing positions, which were inadvertently not included in the previous COLA adjustment of 2.1%, approved by the City Council at the June 26, 2018 Council Meeting.

Mayor Harabedian asked if any Member of the Council had questions on this item. No questions were asked.

Mayor Harabedian opened this item for Public Comment. Seeing no one, Mayor Harabedian closed Public Comment and brought the matter back to the Council for discussion.

Discussion occurred and there was consensus to support approval of Resolution 19-49.

Mayor Harabedian made a motion to approve Resolution 19-49 as presented.

Council Member Delmar seconded the motion.

Ayes: Mayor John Harabedian, Mayor Pro Tem Capoccia, and Council Members Rachelle Arizmendi, Denise Delmar, and Gene Goss
Noes: None
Absent: None
Abstain: None

The motion to approve Resolution 19-49 as presented was passed by a unanimous vote.

NEW ITEMS PLACED FOR FUTURE AGENDAS:

Mayor Harabedian asked the members of the City Council if there are any new items for future meeting agendas.

Mayor Pro Tem Capoccia asked if an application for the Senior Community Commission had been received. Assistant City Clerk Aguilar said that no application to serve on the Senior Community Commission has been received.

Council Member Delmar proposed that the City Council consider changing the policy that required that three applications must be received before the appointment selection comes before the City Council.

ADJOURNMENT:

Mayor Harabedian asked for a motion to adjourn.

Mayor Harabedian made a motion to adjourn the meeting.

The motion was seconded by Council Member Goss.

Ayes: Mayor John Harabedian, Mayor Pro Tem John Capoccia, and Council Members Rachelle Arizmendi, Denise Delmar, and Gene Goss
Noes: None
Absent: None
Abstain: None

The motion to adjourn was passed by a unanimous vote.

THIS SIERRA MADRE CITY COUNCIL REGULAR MEETING WAS ADJOURNED at 8:28 p.m. to a Regular meeting to be held on Tuesday, October 8, 2019, in the Sierra Madre City Hall Council Chambers.

John Harabedian, Mayor

Minutes taken and prepared by:

Sue Spears, City Clerk



City of Sierra Madre Agenda Report

John Harabedian, Mayor
John Capoccia, Mayor Pro Tem
Rachelle Arizmendi, Council Member
Denise Delmar, Council Member
Gene Goss, Council Member

Sue Spears, City Clerk
Michael Amerio City Treasurer

TO: Honorable Mayor and Members of the City Council

FROM: Chris Cimino, Director of Public Works

REVIEWED BY: Gabriel Engeland, City Manager

DATE: October 8, 2019

SUBJECT: **AWARD THE PROFESSIONAL SERVICES CONTRACT TO SA ASSOCIATES FOR THE DESIGN OF THE 2020 WATER MAIN REPLACEMENT PROJECT**

STAFF RECOMMENDATION

Staff recommends that the City Council award a professional services contract to SA Associates for water main replacement design in the amount of \$105,000 and authorize the Public Works Director to execute the Professional Services Agreement with said firm.

ALTERNATIVES

- 1.) The City Council may award a contract to SA Associates in an amount not-to-exceed \$105,000 for professional civil engineering services for the 2020 Water Main Design Project.
- 2.) The City Council may ask staff to negotiate the contract to split the design into two phases to defer half into next fiscal year's budget.
- 3.) The City Council may defer award of a design contract for the 2020 Water Main Design Project.

SUMMARY

The Public Works Department received proposals for professional civil engineering services associated with the preparation of plans, specifications and estimates (PS&E) for the 2020 Water Main Design Project. Staff recommends that the City Council award a contract to SA Associates in an amount not-to-exceed \$105,000 for professional civil engineering services for the 2020 Water Main Design Project.

ANALYSIS

September 2017 the City Council approved new water rates that include an infrastructure charge for the improvements to the water system infrastructure. Since then the Public Works Department has been able to replace over 5,000 lineal feet of water main in FY 2018-19 and another 5,000 LF with a project that is continuing today. To continue the aggressive water main replacement program, staff is recommending to design four sections. The four sections will allow staff to separate areas for replacement based on FY budgeting. If the budget allows the project could include more than one section per year.

The Request for Proposal, (RFP) for an Engineering firm to design four phases of eighteen total

segments (blocks) of water mains for replacement. This will allow staff to have readily designed plans and specifications for water main replacement, shovel ready projects for the next couple years. The RFP came back with favorable bid amounts for the city.

Staff sent a RFP to 13 Engineering Firms and an additional 2 downloaded it from our website. Staff received proposals from six firms for this project.

SA & Associates	\$105,000
NV5	\$105,750
West & Associates	\$110,000
CWE	\$119,989
ERSC	\$136,374
RKA	\$240,230

SA Associates was the lowest bidder and the favorable bidder through the qualification evaluation process. All the RFP's were evaluated and scored by staff determining their corporate qualifications, project approach and fee schedule. SA Associates has worked in Sierra Madre before on Water and Sewer Plans and Specification and most recently they completed the Water System Management Plan for the city. SA Associates is capable of completing the current project in a timely manner. Staff therefore recommends utilizing SA Associates for the design of the 2020 Water Main Replacement Project.

FINANCIAL REVIEW/SOURCE OF FUNDING

Approved funding for water main design in the FY 2019-20 Capital Improvement Budget is \$120,000. The remaining funds will be carried over to FY 2020-21.

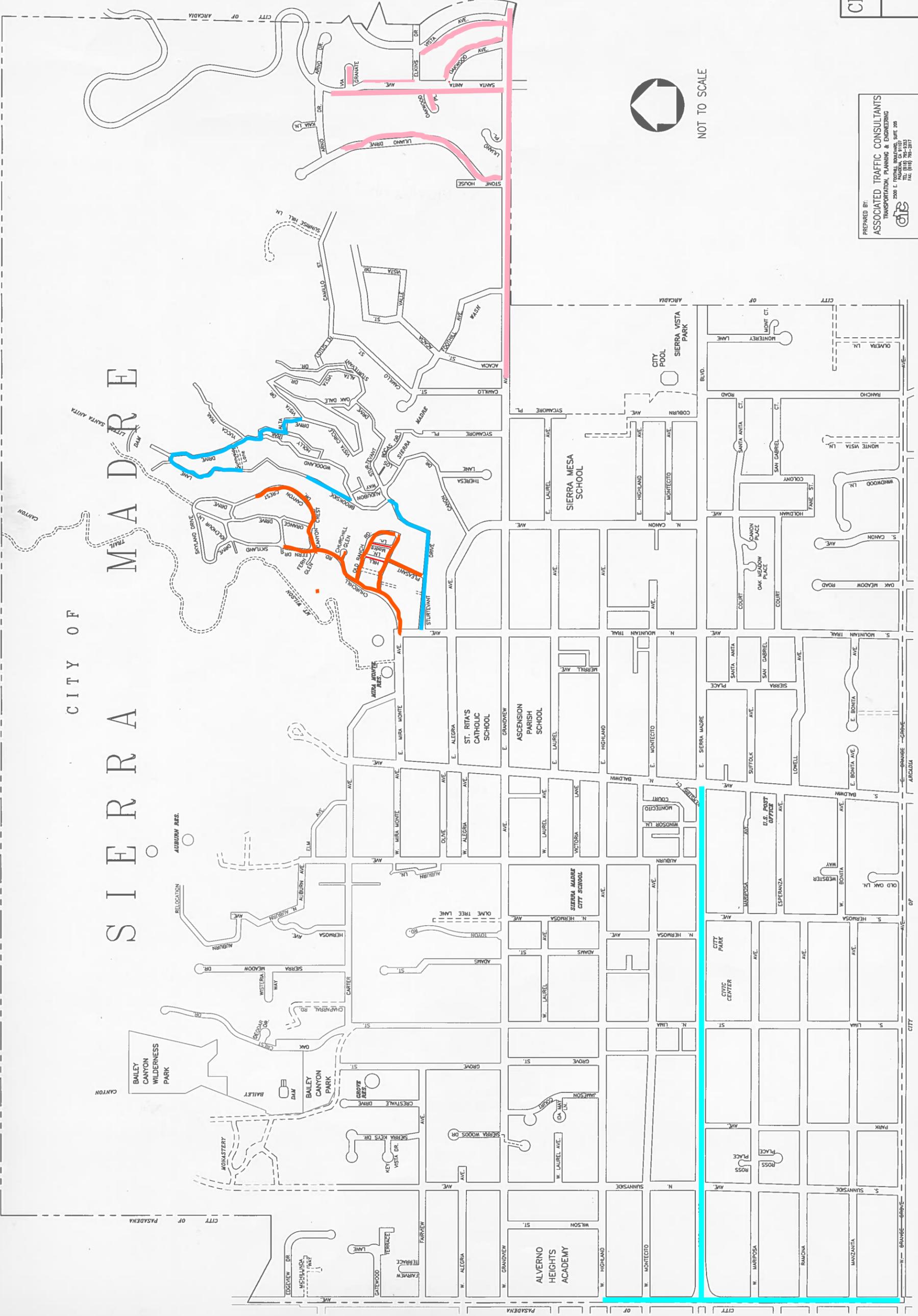
PUBLIC NOTICE PROCESS

This item has been noticed through the regular agenda notification process. Copies of this report are available at the City Hall public counter, at the Sierra Madre Public Library, and can be accessed on the City's website at www.cityofsierramadre.com.

Attachments

Area map

CITY OF SIERRA MADRE



NOT TO SCALE

CITY OF SIERRA MADRE
DEPARTMENT OF PUBLIC WORKS

CITY MAP

C.C. SCALE:

PREPARED BY:
ASSOCIATED TRAFFIC CONSULTANTS
TRANSPORTATION, PLANNING & ENGINEERING
2500 E. FORTAL BOULEVARD, SUITE 200
SAN ANTONIO, TEXAS 78217
TEL: (512) 752-1133
FAX: (512) 752-2817
www.atsc.com

DESIGNED BY: J.F. LEE, P.E.
DRAWN BY: J.F. LEE, P.E.



City of Sierra Madre Agenda Report

*John Harabedian, Mayor
John Capoccia, Mayor Pro Tem
Rachelle Arizmendi, Council Member
Denise Delmar, Council Member
Gene Goss, Council Member*

*Sue Spears, City Clerk
Michael Amerio City Treasurer*

TO: Honorable Mayor and Members of City Council

FROM: Jennifer Peterson, Administrative Analyst

REVIEWED BY: Gabe Engeland, City Manager

DATE: October 8, 2019

SUBJECT: **CONSIDERATION OF NOVEMBER AND DECEMBER CITY COUNCIL MEETING SCHEDULE**

STAFF RECOMMENDATION

It is recommended that the City Council approve the cancellation of the regular City Council meeting of November 26, 2019 and December 24, 2019 and direct staff to pay all necessary expenses during that time.

ALTERNATIVES

The City Council has the following options:

1. Approve the cancellation of the regularly scheduled meetings on November 26, 2019 and December 24, 2019 and direct staff to pay all necessary expenses during that time,
2. Chose to modify the meeting schedule for the month of November and December 2019, amending staff's recommendation herein,
3. Proceed with all meetings as scheduled,

SUMMARY

Sierra Madre Municipal Code section 2.04.010 requires that meetings of the City Council shall be held at 6:30 pm on the second and fourth Tuesdays of each calendar month unless and until the City Council establishes another regular meeting time by resolution.

During 2019, the second Council meeting in November will fall during the week of Thanksgiving. It is also important to note that the second meeting in December is scheduled for Christmas Eve. It is recommended that the City Council approve the cancellation of the second regular City Council meeting in November and December and direct staff to pay all necessary expenses during that time.

ANALYSIS

Although it is not formally addressed in the Municipal Code, traditionally in December of each year the Sierra Madre City Council has cancelled the second meeting of each month, for holiday observances.

This year, the second Tuesday of November falls during the week of Thanksgiving, and the second Tuesday in December falls on Christmas Eve. Therefore, it is recommended that the City Council

approve the cancellation of the regular City Council meeting of November 26, 2019 and December 24, 2019 and direct staff to pay all necessary expenses during that time.

There are no items currently scheduled for the November 26, or December 24th meetings so the cancellation of the meeting would not adversely affect the scheduling of items.

FINANCIAL REVIEW/SOURCE OF FUNDING

There is no financial impact with this item.

PUBLIC NOTICE PROCESS

This item has been noticed through the regular agenda notification process. Copies of this report are available at the City hall public counter, at the Sierra Madre Public Library, and at the City's website at www.cityofsierramadre.com

RESOLUTION NUMBER 19-53

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SIERRA MADRE
APPROVING CERTAIN DEMANDS**

WHEREAS, the following demands have been reviewed and approved by the Finance Director; and,

WHEREAS, the Finance Director has verified that appropriated funds are available for payment thereof; and,

WHEREAS, the register of audited demands has been submitted to the City Council for approval; and

WHEREAS, City Warrants are the payment of bills, invoices and contractual obligations incurred by the City of Sierra Madre during the period enumerated therein, based on the approved fiscal year budget and existing budgetary authority, Municipal Code authority, or prior policy direction by the City Council; and

WHEREAS, Payroll Transfer is the transfer of funds to cover the payroll costs for all City employees for the period enumerated therein.

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Sierra Madre does hereby ratify payment of City Warrants in the aggregate amount of **\$685,273.12**; Sierra Madre Library Warrants in the aggregate amount of **\$5,272.91**; and Payroll Transfer in the aggregate amount of **\$353,696.90** for the fiscal year ending June 30, 2020.

APPROVED AND ADOPTED this 8th day of October, 2019.

Mayor, City of Sierra Madre, California

I hereby certify that the foregoing Resolution Number **19-53** was adopted by the City Council of the City of Sierra Madre at a regular meeting held on the 8th day of October, 2019.

AYES:

NOES:

ABSTAIN:

ABSENT:

City Clerk, City of Sierra Madre, California

**City of Sierra Madre
Department of Finance
Warrant Register Recap
City Council Meeting of October 8, 2019**

CITY OF SIERRA MADRE AND SIERRA MADRE LIBRARY

City of Sierra Madre Warrants\$685,273.12

Sierra Madre Library Warrants.....\$5,272.91

Payroll
Transfer.....\$353,696.90



City of Sierra Madre Agenda Report

John Harabedian, Mayor
John Capoccia, Mayor Pro Tem
Rachelle Arizmendi, Council Member
Denise Delmar, Council Member
Gene Goss, Council Member

Sue Spears, City Clerk
Michael Amerio City Treasurer

TO: Honorable Mayor Harabedian and Members of the City Council

FROM: James Guerra, Building Official

REVIEWED BY: Gabriel Engeland, City Manager

DATE: October 8, 2019

SUBJECT: **2019 CALIFORNIA BUILDING CODE ADOPTION**

STAFF RECOMMENDATION

Staff recommends Alternative No. 1 that the City Council introduce for first reading by title only, recommending adoption of Ordinance 1416 pursuant to the 2019 California Building Standards Code amendments

ALTERNATIVES

1. Introduce Ordinance 1416 for first reading by title only.
2. Direct staff to revise Ordinance 1416 and conduct first reading as amended by title only.

SUMMARY

The California Building Standards Code (Title 24, California Code of Regulations) serves as the basis for the design and construction of buildings in California. All parts of the Code are updated every three years with the goal of improved safety, sustainability, maintaining consistency, new technology and construction methods, and reliability.

On January 1, 2020, the updated California Building Code will be become effective statewide. Subsequently, the City of Sierra Madre is required to adopt and enforce the same code with local amendments. Currently, the City is enforcing the 2017 California Buildings Laws with local amendments.

Ordinance 1416 has been written to amend the Sierra Madre Municipal Code relating to the adoption and amendment of the 2019 California Building Laws to meet State requirements.

ANALYSIS

Ordinance 1416 amends Title(s): 15.04, 15.06, 15.08, 15.16, 15.20, 15.26, 15.30, 15.34 and 15.36 as follows:

Section 1 Adoption of the California Building Code with specific amendments.

Section 15.04.010 is amended to adopt the 2019 California Building Code with specific amendments applicable to the City of Sierra Madre as the amendments developed by the Los Angeles County Regional Uniform Code Program.

Section 2 Adoption of the California Residential Code with specific amendments.

Section 15.06.010 is amended to adopt the 2019 California Residential Code with specific amendments applicable to the City of Sierra Madre as the amendments developed by the Los Angeles County Regional Uniform Code Program.

Section 3 Adoption of the California Mechanical Code with specific amendments.

Section 15.08.010 is amended to adopt the 2019 California Mechanical Code with specific amendments applicable to the City of Sierra Madre.

Section 4 Adoption of the California Electrical Code with specific amendments.

Section 15.16.010 is amended to adopt the 2019 California Electrical Code with specific amendments applicable to the City of Sierra Madre.

Section 5 Adoption of the California Plumbing Code with specific amendments.

Section 15.20.010 is amended to adopt the 2019 California Plumbing Code with specific amendments applicable to the City of Sierra Madre.

Section 6 Adoption of the Existing Building Code.

Section 15.26.010 is amended to adopt the 2019 International Existing Building.

Section 7 Adoption of the California Green Building Code

Section 15.030.010 is amended to adopt the 2019 California Green Building Code with specific amendments applicable to the City of Sierra Madre as the amendments developed by the Los Angeles County Regional Uniform Code Program Code.

Section 8 Adoption of the California Energy Code.

Section 15.34.010 is amended to adopt the 2019 California Energy Code with specific amendments applicable to the City of Sierra Madre as the amendments developed by the Los Angeles County Regional Uniform Code Program Code.

Section 9 Adoption of the California Referenced Standards Code.

Section 15.36.010 is amended to adopt the 2019 California Referenced Standards Code.

Section 10 Reference to pervious code adoptions and continuing legal effect.

- Section 11** Continuity of previous codes.
- Section 12** Enforceability of code.
- Section 13** Supplementary of existing law.
- Section 14** Modifications of California Building Code.
- Section 15** Severability.
- Section 16** Effective Date.
- Section 17** CEQA exemption.
- Section 18** Publication.
- Section 19** Certification.

FINANCIAL REVIEW/SOURCE OF FUNDING

There is no fiscal impact related to the adoption of Ordinance 1416. Staff time was incurred in the preparation of the report and draft ordinance.

ENVIRONMENTAL (CEQA)

The project qualifies for an exemption from the California Environmental Quality Act review pursuant to Title 14, Section 15061(b)(3) of the California Code of Regulations as it can be seen with certainty that there is no possibility the adoption of the Ordinance may have a significant effect on the environment, because it will enforce the California Building Standards Code (Title 24 California Code of Regulations) that serve as the basis for the design and construction of buildings in California to improve safety, sustainability, maintaining consistency, new technology and construction methods, and reliability.

PUBLIC NOTICE PROCESS

This item has been noticed through the regular agenda notification process. This item has been noticed through the regular agenda notification process. Notice of the hearing was published consistent with the requirements of Government Code Section 65090, including publication of a summary notice of public hearing in the local adjudicated newspaper. Copies of this report are available at the City Hall public counter, at the Sierra Madre Public Library, and can be accessed on the City's website at www.cityofsierramadre.com.

Attachments

Attachment 1: City Council Ordinance 1416

Exhibit A - Sierra Madre 2019 California Building Code Findings

Exhibit B - Los Angeles Region Uniform Code Program Recommended Code
Amendments

ORDINANCE NO 1416

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SIERRA MADRE AMENDING THE MUNICIPAL CODE TO ADOPT BY REFERENCE THE 2019 CALIFORNIA BUILDING STANDARDS CODES WITH CERTAIN EXCEPTIONS, MODIFICATIONS AND ADDITIONS

WHEREAS, the City Council of the City of Sierra Madre does hereby find that there is a need to enforce the most current editions of the California Building Standards Code, with the local amendments recited herein for regulating and controlling the design, erection, construction, enlargement, installation, alteration, repair, relocation, removal, use, occupancy, demolition, conversion, height, area, location, maintenance, and quality of materials of all buildings and structures and plumbing, mechanical, electrical and fire suppression systems and certain equipments within the City;

WHEREAS, pursuant to sections 17922, 17958, 17958.5 and 17958.7 of the California Health & Safety Code, the City may adopt the provisions of the Building, Residential, Green Building Standards, Energy, Referenced Standards Plumbing, Mechanical and Electric Codes, with certain amendments to the provisions of the codes which are reasonably necessary to protect the health, wealth and safety of citizens of Sierra Madre because of local climatic, geological and topographical conditions;

WHEREAS, the City Council of the City of Sierra Madre made the factual findings outlined in Exhibit 1 attached hereto relating to the amendments to the uniform codes recited herein in accordance with Health & Safety Code section 18941.5;

WHEREAS, the city City Council also finds that areas within the City are hazardous fire areas that have only limited fire suppression forces and facilities available for the protection of life and property;

WHEREAS, the City Council does hereby further find that the southern California region, which includes the City, is within a very active seismic area and local soil conditions can be highly expansive and subject to local topographic considerations including extensive hillside construction that is prone to erosion;

WHEREAS, the City Council does hereby further find that in accordance with section 15061(b)(3) of the California Code of Regulations, the adoption of local amendments to the California Building Standards Code, and amending the Sierra Madre Municipal Code are exempt from the provisions of the California Environmental Quality Act.

THE CITY COUNCIL OF THE CITY OF SIERRA MADRE DOES ORDAIN AS FOLLOWS:

SECTION 1. Amendments to Chapter 15.04, entitled “Building Code and Permits.”

The following sections of the Municipal Code are hereby amended or added to provide as follows:

15.04.010 Adoption of the 2019 California Building Code.

Subject to the additions, deletions and amendments specified in this chapter, the rules, regulations, provisions and conditions set forth in that certain code entitled 2019 California Building Code based on the “International Building Code 2018 edition,” promulgated by the International Code Council and referred to and by this reference expressly incorporated herein and made part hereof as fully and for all intents and purposes as though set forth at length, and said 2019 California Building Code is made part of this code and the same shall be designated, known and referred to as the “building code” of and for the city.

15.04.030 Amendment to Section 702 Very High Fire Hazard Severity Zone.

A. The definition of “Very high fire hazard severity zone” in Section 702A of the 2019 California Building Code is amended to provide as follows.

Fire hazard severity zones are geographical areas designated pursuant to California Public Resources Code sections 4201 through 4204 and classified as very high, high, or moderate in state responsibility areas or as local agency very high fire hazard severity zones designated pursuant to California Government Code sections 51175 through 51189. See California Fire Code Article 86.

The California Code of Regulations Title 14 Sections 1280 entitles the maps of these geographical areas as “maps of the fire hazard severity zones in the state responsibility area of California.”

For the purposes of this code, the entire city of Sierra Madre is hereby established as a Fire District and shall contain within it an area designated as a very high fire hazard severity zone, and shall include such territories or portions of said city as outlined in Chapter 15.04 of the Sierra Madre Municipal Code. Whenever in this code, reference is made to any fire zone; it shall be construed to mean the fire zone created by this chapter.

B. Section 704A 2019 California Building Code is revised to add:

Building or structures hereafter erected, constructed, moved within or into the very high fire hazard severity zone shall meet the requirements of this section as follows:

1. Exterior walls of all buildings shall be of one-hour, fire-resistive construction. Exterior glass in such walls shall be double-glazed. Wood shake shingles being used as an exterior wall covering shall be treated with an approved fire retardant chemical.
2. Roof soffits (including eaves), open patios, carports, porches, unenclosed underfloor areas and all open structures, attached or detached, shall be protected on the under side with materials as approved for one-hour fire-resistive construction or shall be of incombustible materials throughout.

Exceptions:

- a. Asphalt composition shingles with Class "B" rating.
- b. When in the opinion of the Building Official, no material increase in fire hazard will occur, additions not exceeding twenty-five percent (25%) of the existing square footage over the life of the building, may be covered with the same materials used on the existing building.
- c. Any roof covering conforming to the specifications of the Underwriters Laboratory (UL) for Class "A" roof covering as published in the Underwriters Laboratory "List of Fire Protection Equipment and Materials" shall be considered a "fire-retardant" roof covering".

15.04.090 Amendment to Section 1505 Roofs – Fire Classifications.

The 2019 California Building Code Section is amended to add the following to Sections 1505:

- A. Any building alteration, replacement or repair, which does not exceed twenty-five percent of the area of the existing roof, over the life of the structure, may use existing like materials on said roof.
- B. Any building alteration, replacement or repair, which exceeds fifty percent of the area of the existing roof, over the life of the structure, shall be made with fire retardant covering as specified in the California Building Code.
- C. Any building alteration, replacement or repair, which exceeds fifty percent of the area of the existing roof, over the life of the structure, shall be made with fire retardant covering as specified in the 2019 California Building Code.
- D. Any building addition, which does not exceed twenty-five percent of the area of the existing roof, over the life of the structure, may use existing like material on the roof addition, and any alteration, replacement or repairs to the existing roof, required by such addition may also use existing like materials.

E. Any building addition, which exceeds twenty-five percent of the area of the existing roof, over the life of the structure, shall be made with fire retardant covering as specified in the 2019 California Building Code, and any alterations, replacements or repairs to the existing roof, required by such addition, shall also be made with such fire retardant roof covering.

F. Wood roofs shall not be considered a Class A covering regardless of the rating of an assembly.

15.04.100 Amendment – Section 202 – Additions, alterations or repairs.

A. The following is added to the end of Section 202 of the 2019 California Building Code:

The phrase “additions, alterations and repairs” as used in this section, and all subsections thereof, shall not be construed to apply to the remodeling of an existing building to provide new facades or other aesthetic embellishments or accouterments which do not modify the structural support or members of such building.

B. Section 3403 of the 2019 California Building Code is amended to include and read as follows:

Section 3403 Buildings or structures to which additions, alterations or repairs are made shall comply with all requirements of this code for new facilities except as specifically provided in this section. See section 907 of the Building Code for provisions requiring installation of smoke detectors in existing Group R, Division 3 Occupancies.

15.04.110 Amendment – Section 109.4 Work commencing before permit issuance.

The following is added to the end of Section 109.4 of the 2019 California Building Code:

Where the work for which permit is required by this code is started or proceeded prior to obtaining said permit, the building permit fee shall be doubled, but the payment of such double fee shall not relieve any persons from fully complying with the requirements of this Code in the execution of the work nor from any penalties prescribed herein.

15.04.115 – Section 105.7 Demolition Permits.

The following is added to Section 105 of the 2019 California Building Code.

Section 105.7 Demolition Permits.

- A. No permit for the demolition of all or any substantial portion of any building in the city shall be issued for a period of thirty days after such application is made. For the purposes of this chapter, demolition shall be considered the alteration, reconstruction, or elimination of 50% or more, of the floor area or monetary value. Projects that involve less than 50% of the alteration, reconstruction, or elimination of the floor area or monetary value may still be subject to requirements of Chapter 8.13 and/or 12.20 of this code.
- B. There is a 30 day wait period after the application is submitted.
- C. Within 10 days of the application, the applicant should submit a mitigation plan for vermin, noise, dust, asbestos, salvage, trash removal, air pollution, historic preservation, and neighborhood peace and enjoyment. Failure to submit such mitigation report may be grounds for denying such permit.
- D. Notice of the application for a demolition permit shall be made available within three days to every city councilmember and city official. Copies of the applicant's mitigation report shall also be made in similar fashion.
- E. Prior to the release of the demolition permit, the applicant shall demonstrate that notification of, and compliance with, the following:
 - 1. South Coast Air Quality Management District (AQMD);
 - 2. Electricity provider;
 - 3. Natural gas provider; and
 - 4. City Department of Public Works (Chapters 8.13 and 12.20.)
- F. Prior to the issuance of a demolition permit, the applicant shall file (in general terms) his/her intended reuse of the property with development services department. Such plan shall indicate the intended use and condition of the property after the demolition of structures requested within the demolition permit is concluded.
- G. Notwithstanding any other provision of this chapter, in the event of an immediate threat to the public health, safety and welfare, the thirty-day "wait" period for the issuance of a demolition permit may be waived. Evidence of such an immediate threat shall be submitted by the applicant to the director of development services. Upon receipt of such information, the director of development services shall determine if an immediate threat to the public

health, safety and welfare exists.

- H. The filing of any notice or report, as called for herein, is not intended to vest any discretion (under CEQA or otherwise) in the building official to deny such application. Instead, at the end of the thirty-day period, such permit shall be issued unless such issuance is contrary to any law or regulation applicable at that date.
- I. To the extent, if any, that this Section 115 differs from the 2019 California Building Code (CBC), the city council finds that there are conditions unique to this city that justify such change, including high fire danger, steep hillsides, vermin infestation, wildlife and asbestos levels, the issuance of a demolition permit shall be considered a ministerial duty under the provisions of CEQA Section 15268 except for historical and unique archeological resources as outlined in CEQA Section 15064.5. If the demolition permit is for a historic structure, a cultural resources report shall be prepared at the property owner's expense.
- J. Any person, firm or corporation demolishing a structure without a permit shall be guilty of a misdemeanor, and upon conviction of any such person shall be punishable by a fine of not more than one thousand dollars or by imprisonment in the city jail for not more than one hundred eighty days, or by both such fine and imprisonment.
- K. Demolitions of Historic Structure.
 - 1. If a structure that is deemed to be a historic resource is demolished without a permit:
 - a) The violator shall within one year completely rebuild the demolished structure to pre-existing condition and shall submit a surety bond that shall be in amount equal to the replacement value as calculated by the department of development services;
 - b) The city may rebuild it within said one-year period placing the costs thereof as a lien on the property which shall indemnify the city against all costs so incurred and all liabilities arising there from; or
 - c) No building or construction related permits shall be issued, and no permits or use of the property shall be allowed, from the date of demolition for a specified time period, as follows: for five years, if the structure was listed or deemed eligible for listing on the local, state, or Federal Registry of Historic Resources. In addition, for a historic structure, a cultural resources report shall be prepared at the property owner's expense. For the purposes of this section, the demolition shall be presumed to have occurred on the date the city has actual knowledge of the demolition. The owner shall have the burden of

proving a different date if one is claimed. Such waiting period shall be for the purpose of consideration of rebuilding, relocation, grants, etc., for replacement.

2. The Director Planning and Community Preservation services shall cause notice that this section is applicable to property to be served by mail on the person shown as the owner on the rolls of the tax assessor, and on any other person known to have an interest in the property, as soon as practicable after having knowledge that the provisions of this section are applicable to property. The date the city first had actual knowledge of the demolition shall be stated in the notice. The provisions of this subsection are directory only.
3. The decision of the Director that this section is applicable may be appealed by the property owner to the city council. The city council may grant relief from the requirements of this section if the demolition in violation of this section was not done to any of the following:
 - a) A building or structure deemed eligible for landmark status;
 - b) A building or structure listed or deemed eligible for listing in the National Register of Historic Places;
 - c) A building or structure listed or deemed eligible for listing in the California Register of Historical Resources;
 - d) Any cultural resource determined to have historic significance.

15.04.117 Section 105.2 Work Exempt from Permits.

Section 105.2 Building Exception 2 is hereby deleted and the following is added at the end of Section 105.2 of the 2019 California Building Code:

“All walls, retaining walls and fences regardless of type or height shall require building permits.”

15.04.118 Amendment – Section 903 Automatic Fire Sprinklers.

The following sections within section 903 of the 2019 California Building Code, entitled, “Automatic Sprinkler Systems” are revised to provide as follows:

903.2.1.1 Group A-1. An automatic sprinkler system shall be provided for Group 1 occupancies in accordance with Sierra Madre Municipal Code section 15.24.120.

903.2.1.2 Group A-2. An automatic sprinkler system shall be provided for Group A-2 occupancies in accordance with Sierra Madre Municipal Code section 15.24.120.

903.2.1.3 Group A-3. An automatic sprinkler system shall be provided for Group A-3 occupancies in accordance with Sierra Madre Municipal Code section 15.24.120.

903.2.1.4 Group A-4. An automatic sprinkler system shall be provided for Group A-4 occupancies in accordance with Code Sierra Madre Municipal section 15.24.120.

903.2.1.5 Group A-5. An automatic sprinkler system shall be provided for Group A-5 occupancies in the following areas: concession stands, retail areas, press boxes, and other accessory use areas in accordance with Code section 15.24.120.

903.2.2 Group B ambulatory health care facilities. An automatic sprinkler system shall be provided throughout all buildings containing Group B ambulatory health care occupancy in accordance with Sierra Madre Municipal Code section 15.24.120.

903.2.3 Group E. Except as provided for in Sections 903.2 .2 .1 for a new public school campus and 907.2.3.6.1 (fire alarm and detection) for modernization of an existing public school campus building(s), an automatic sprinkler system shall be provided for Group E occupancies in accordance with Code section 15.24.120.

903.2.4 Group F-1. An automatic sprinkler system shall be provided throughout all buildings containing a Group F-1 occupancy in accordance with Sierra Madre Municipal Code section 15.24.120.

903.2.5 Group H. Automatic sprinkler systems shall be provided in high-hazard occupancies as required in Sections 903.2.5.1 through 903.2.5.3.

903.2.5.1 General. An automatic sprinkler system shall be installed in Group H occupancies in accordance with Code section 15.24.120.

903.2.6 Group I. An automatic sprinkler system shall be provided throughout buildings with a Group I in accordance with Sierra Madre Municipal Code section 15.24.120.

903.2.7 Group M. An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy in accordance with Sierra Madre Municipal Code section 15.24.120.

903.2.8 Group R. An automatic sprinkler system installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R in accordance with Sierra Madre Municipal Code section 15.24.110.

903.2.9 Group S-1. An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 in accordance with Code section 15.24.120.

903.2.9.1 Repair garages. An automatic sprinkler system shall be provided throughout all buildings used as repair garages in accordance with the California Building Code.

903.2.9.2 Bulk storage of tires. Buildings and structures with an area for the storage of shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

903.2.10 Group S-2. An automatic sprinkler system shall be provided throughout buildings classified as enclosed parking garages in accordance with Section 409.4 of the California Building Code or where physically located beneath other occupancy groups.

903.2.10.1 Commercial parking garages. An automatic sprinkler system shall be provided throughout buildings used for storage of commercial trucks or buses.

15.04.120 Adoption of Los Angeles Regional Code Program – Los Angeles Basin Chapter 2019 Technical Amendments.

The 2019 California Building, Code is hereby amended by adopting by reference the Technical Amendments as published on May 29, 2019 by the Los Angeles Regional Uniform Regional Code Program – International Code Council – Los Angeles Basin Chapter.

SECTION 2. Amendments to Chapter 15.06, entitled “California Residential Code.”

The following sections of the Municipal Code are hereby amended or added to provide as follows:

15.06.010 Adoption of the 2019 California Residential Code.

Subject to the additions, deletions and amendments specified in this chapter, the rules, regulations, provisions and conditions set forth in that certain code entitled 2019 California Residential Code based on the “International Residential Code 2018 edition,” promulgated by the International Code Council of Whittier, California. and referred to and by this reference expressly incorporated herein and made part hereof as fully and for all intents and purposes as though set forth at length, and said 2019 California Residential Code is made part of this code and the same shall be designated, known and referred to as the “Residential Code” of and for the city.

15.06.020 Amendment - Section R105.2 Work Exempt from Permits.

Section R102.2 Building Exception 2 is hereby deleted and the following is added to the end of Section R105.2 of the 2019 California Residential Code:

“All walls, retaining walls and fences regardless of type or height shall require building permits.”

15.06.030 Amendment - Section R108.6 Work commencing before permit issuance.

The following is added to the end of Section R108.6 of the 2019 California Residential Code:

Where the work for which permit is required by this code is started or proceeded prior to obtaining said permit, the building permit fee shall be doubled, but the payment of such double fee shall not relieve any persons from fully complying with the requirements of this Code in the execution of the work nor from any penalties prescribed herein.

15.06.040 Amendment - Townhouse automatic fire sprinkler systems.

Section R313.1 of the California 2019 Residential Code is amended to provide as follows:

“An automatic residential fire sprinkler system shall be installed in townhouses in accordance with accordance with Sierra Madre Municipal code section 15.24.110.”

15.06.050 Amendment - One and two family dwellings automatic fire systems.

The following is added to the end of Section R313.2 of the 2019 California Residential Code:

“An automatic residential fire sprinkler system shall be installed in one- and two-family dwellings in accordance with accordance with Sierra Madre Municipal code section 15.24.110.”

15.06.060 Amendment – Required sprinkler locations, exception 4.

Section R313.3.1.1, of the California 2019 Residential Code exception 4 is amended to read as follows:

“Detached garages and carports in accordance with Sierra Madre Municipal code section 15.24.110.”

15.06.070 Water flow detector alarm.

A new section R313.3.3.5 of the California 2019 Residential Code is added to the Residential code and shall be entitled “Water flow detector alarm.” That section shall provide:

“Water supply.”

“The flow of one sprinkler shall activate a water flow detector alarm that shall be audible on the exterior of the building.”

15.06.080 Adoption of Los Angeles Regional Uniform Code Program Technical amendments to the 2019 California Residential Code.

The 2019 California Residential Code is hereby amended by adopting by reference the Technical Amendments as published by the Los Angeles Regional Uniform Regional Code Program – International Code Council – Los Angeles Basin Chapter published May 29, 2019.

SECTION 3. Amendments to Chapter 15.08, entitled “California Mechanical Code.”

The following sections of the Municipal Code are hereby amended or added to provide as follows:

The following sections of the 2019 California Mechanical Code are amended or added to provide as follows:

15.08.010 Adoption of the California Mechanical Code.

The 2019 California Mechanical Code which is based on the Uniform Mechanical Code, 2018 Edition,” published by the International Association of Plumbing and Mechanical Officials is adopted by reference, together with all indexes and appendixes therefore, except as herein amended in this chapter and said 2013 California Mechanical Code is made part of this code and this chapter shall be designated, as known and referred to as the “mechanical code” of and for the city.

15.08.030 Amendment – Section 110.0 Violation.

Section 110.0 of the 2019 California Mechanical code is amended to include the phrase:

“In addition to the penalties herein above provided, any condition caused or permitted to exist in violation of any of the provisions of this code shall be deemed a public nuisance and may be abated in the manner provided by law as

such. Every day such condition continues shall be regarded as a new separate offense.”

SECTION 4. Amendments to Chapter 15.16, “California Electrical Code.”

A. The following sections of the Municipal Code are hereby amended or added to provide as follows:

15.16.010 Adoption of the 2019 California Electrical Code.

Subject to the additions, deletions, and amendments specified in this chapter, the rules regulations, provisions and conditions set forth in those certain codes entitled, 2019 California Electrical Code which is based “National Electrical Code, 2017 Edition,” therein contained, published by the National; Fire Protection Association is adopted by reference, together with all indexes and appendixes therefore, except as herein amended in this chapter and said 2019 California Electrical Code is made part of this code and this chapter shall be designated, as known and referred to as the “electrical code” of and for the city.

B. Section 15.16.015 is added to the municipal code to provide as follows:

15.16.015 Amendment - Annex H: Administration Section 80.27 Inspectors Qualifications.

Section 80.27 of the 2019 California Electrical Code is amended to provide the phrase “The Building Official is exempt from requiring certification as an electrical inspector.”

SECTION 5. Amendments to Chapter 15.20, entitled “California Plumbing Code.”

The following sections of the Municipal Code are hereby amended or added to provide as follows:

Chapter 15.20.10 Adoption of the 2019 California Plumbing Code and Appendixes.

The 2019 California Plumbing Code which is based on The Uniform International Plumbing Code, 2018 Edition, is adopted. That certain document “International Plumbing Code, 2018 Edition,” published by International Association of Plumbing and Mechanical Officials is adopted by reference, together with all indexes and appendixes thereof and therefore, except as herein amended in this chapter and said 2019 California Plumbing code is made part of this code and this chapter shall be referred to as the “plumbing code” of and for the city.

15.20.060 Section 710.1 Drainage of fixtures located below the next upstream manhole or below the main sewer level.

Section 710.1 of the 2019 California Plumbing Code shall be amended to read as follows:

Sewage backflow. Where the flood level rims of plumbing fixtures are below the elevation of the manhole cover of the next upstream manhole in the public sewer, such fixtures shall be protected by a backwater valve installed in the building drain, branch of the building drain or horizontal branch serving such fixtures. Plumbing fixtures having flood rim levels above the elevation of the manhole cover of the next upstream manhole in the public sewer shall not discharge through a backwater valve.

SECTION 6. Amendments to Chapter 15.26, entitled “Existing Building Code.”

The following sections of the Municipal Code are hereby amended or added to provide as follows:

15.26.010 Adoption of the 2018 Existing Building Code.

Subject to any additions, deletions and amendments that may exist in this chapter, the rules, regulations, provisions and conditions set forth in that certain code entitled "Existing Building Code 2018 Edition," promulgated by the International Code Conference and referred to and by this reference expressly incorporated herein and made a part thereof as fully and for all intents and purposes as though set forth at length, and said Existing Building Code is made a part of this code and the same shall be designated, known and referred to as the "existing building code" of and for the city.

SECTION 7. Amendments to Chapter 15.30, entitled “Green Building Standards Code.”

The following sections of the Municipal Code are hereby amended or added to provide as follows:

Section 15.30.010 – Adoption of 2019 California Green Building Standards Code.

Subject to any additions, deletions and amendments that may exist in this chapter, the rules, regulations, provisions and conditions set forth in that certain code entitled "California Green Building Standards Code 2019 Edition," and referred to and by this reference expressly incorporated herein and made a part thereof as fully and for all intents and purposes as though set forth at length, and said California Green Building Standards Code is made a part of this code and

the same shall be designated, known and referred to as the "green building code" of and for the city.

15.30.030 Adoption of Los Angeles Regional Uniform Code Program Technical Amendments to the 2019 California Green Building Standards Code.

The 2019 California Green Buildings Standards Code is hereby amended by adopting all of the Technical Amendments as published by the Los Angeles Regional Uniform Regional Code Program – International Code Council – Los Angeles Basin Chapter published on May 29, 2019.

SECTION 8. Amendments to Chapter 15.34, entitled “CALIFORNIA ENERGY CODE.”

The following sections of the Municipal Code are hereby amended or added to provide as follows:

15.34.010 – Adoption of 2019 California Energy Code.

Subject to any additions, deletions and amendments that may exist in this chapter, the rules, regulations, provisions and conditions set forth in that certain code entitled "California Energy Code 2019 Edition," and referred to and by this reference expressly incorporated herein and made a part thereof as fully and for all intents and purposes as though set forth at length, and said California Energy Code is made a part of this code and the same shall be designated, known and referred to as the "energy code" of and for the city.

SECTION 9. Amendments to Chapter 15.36, entitled “REFERENCED STANDARDS CODE.”

The following sections of the Municipal Code are hereby amended or added to provide as follows:

15.36.010 Adoption of the 2019 California Referenced Standards Code.

Subject to any additions, deletions and amendments that may exist in this chapter, the rules, regulations, provisions and conditions set forth in that certain code entitled "California Referenced Standards Code 2019 Edition," promulgated by the International Code Conference and referred to and by this reference expressly incorporated herein and made a part thereof as fully and for all intents and purposes as though set forth at length, and said California Referenced Standards Code is made a part of this code and the same shall be designated, known and referred to as the "referenced standards" of and for the city.

SECTION 10. References in Documents and Continuing Legal Effect. References to prior versions of any portion of the Building Standards Code, or of the Sierra Madre Municipal Code that are amended or renumbered in this Municipal Code, that are cited on notices issued by the City or other documents of ongoing or continuing legal effect, including resolutions adopting or imposing fees or charges, until converted, are deemed to be references to the new counterpart part of the Building Standards Code or amended Municipal Code sections for the purposes of notice and enforcement. The provisions adopted hereby shall not in any manner affect deposits, established fees or other matters of record which refer to, or are otherwise connected with, ordinances which are specifically designated by number, code section or otherwise, but such references shall be deemed to apply to the corresponding provisions set forth in the code sections adopted or amended hereby.

SECTION 11. Continuity. To the extent the provisions of this Ordinance are substantially the same as previous provisions of the Sierra Madre Municipal Code, these provisions shall be construed as continuations of those provisions and not as amendments of the earlier provisions.

SECTION 12. No Effect on Enforceability. The repeal of any sections of the Municipal Code, shall not affect or impair any act done, or right vested or approved, or any proceeding, suit or prosecution had or commenced in any cause before such repeal shall take effect; but every such act, vested right, proceeding, suit, or prosecution shall remain in full force and effect for all purposes as if the applicable provisions of the Municipal Code, or part thereof, had remained in force and effect. No offense committed and no liability, penalty, or forfeiture, either civil or criminal, incurred prior to the repeal or alteration of any applicable provision of the 2019 Code as amended, shall be discharged or affected by such repeal or alteration but prosecutions and suits for such offenses, liabilities, penalties or forfeitures shall be instituted and proceed in all respects as if the applicable provisions of the 2019 Code, as amended, had not been repealed or altered.

SECTION 13. Supplementary of Existing Law. The City Council intends this Ordinance to supplement, not to duplicate or contradict, applicable state and federal law and this Ordinance shall be construed in light of that intent.

SECTION 14. Modifications to California Building Standards Code. All inconsistencies between the Building Standards Code as amended and adopted by this ordinance, and Parts 2, 2.5, 3, 4, 5, 6, 8, and 10 of Title 24 the California Code of Regulations are changes, modifications, amendments, additions or deletions thereto authorized by California Health and Safety Code Sections 17858 and 17858.7.

SECTION 15. Severability. Should any section, subsection, clause, or provision of this Ordinance for any reason be held to be invalid or

unconstitutional, such invalidity or unconstitutionality shall not affect the validity or constitutionality of the remaining portions of this Ordinance; it being hereby expressly declared that this Ordinance, and each section, subsection, sentence, clause, and phrase hereof would have been prepared, proposed, approved, and ratified irrespective of the fact that any one or more sections, subsections, sentences, clauses, or phrases be declared invalid or unconstitutional.

SECTION 16. Effective Date. This Ordinance shall be effective January 1, 2020.

SECTION 17. CEQA. This Ordinance has been determined to be exempt from the California Environmental Quality Act pursuant to State Guidelines §15061 (b) (3) as a project that has no potential for causing a significant effect on the environment, because any changes caused by this ordinance would be speculative, and do not have any significant impact on the environment.

SECTION 18. Publication. The City Clerk shall certify to the adoption of this ordinance and shall cause the same to be processed in the manner required by law.

SECTION 19. Certification. The City Clerk shall file a certified copy of this Ordinance with the California Building Standards Commission.

PASSED, APPROVED AND ADOPTED this ____ day of _____, 2019 by the following roll call vote:

- AYES:
- NOES:
- ABSTAIN:
- ABSENT:

Mayor

ATTEST:

Sue Spears, City Clerk

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) SS:
CITY OF SIERRA MADRE)

I, _____, City Clerk of the City of Sierra Madre, hereby certify that the foregoing Ordinance was introduced at a regular meeting of the City Council of the City of Sierra Madre held on the ____ day of October 2019, and was approved and adopted by said Council at its regular meeting held on the ____ day of _____ 2019.

SIERRA MADRE BUILDING DEPARTMENT

2019 BUILDING CODE FINDINGS

This report contains the “Findings” to support this ordinance to amend the California Building Standards Code. Each of the proposed amendments to the non-administrative provisions of the building standards code are based on local climatic, geologic and topographical conditions and cause the new code to be more restrictive in nature than the underlying California Building Standards Code.

The amendments address the building problem(s), concern(s), and future direction(s), by which the City can establish and maintain an environment which will afford an adequate level of building and life safety protection to its citizens and guests.

Section 1 of this Exhibit sets forth the various finding.

Section 2 of this Exhibit explains which findings apply to which amendments.

Section 1. General Findings

The following findings apply in the City of Sierra Madre, and explain why the changes to the Building Standards Code are necessary because of climatic, geological and/or topographical condition is in the city.

A. Climatic Conditions

1. Normal rainfall averages 15 inches annually. During the summer and fall months, temperatures average approximately 85 degrees and can exceed 100 degrees for a period of days. Dry winds remove the moisture from vegetation. During late summer and fall, winds can move a fire quickly across the foothills or through residential areas of Sierra Madre. Winter rains often cause floods and the threat of damage due to water runoff.

B. Geologic Conditions

1. The beautiful mountains that border the north of Sierra Madre create a unique hazard. The foothills have become prime sites for residential development because of their scenic beauty. The steep, narrow canyons create narrow winding roads that lengthen response time of emergency vehicles due to the increase in grade. Also, due to the hills and mountainous terrain, it is difficult to ensure proper fence and wall heights and footing depths without requiring inspections and permits.

2. The city is a densely populated area having buildings and structures over and near major fault systems capable of producing major earthquakes. Thus there are proposed modifications to emphasize designs with seismic-force-resisting elements.

C. Topographic Conditions

1. The topographic element of this report is associated closely with the geologic element noted above. While the geologic features create the topographic conditions, the areas of findings in this Section are, for the most part, a result of the construction and design of Sierra Madre.
2. Sierra Madre has areas that are in high fire hazard zones. As stated above, due to topography, access to structures in these fire hazard zones increases response time and delays fire suppression efforts. Extended response times allow fires to grow beyond the control of initial attack resources. Additionally, large structure fires in the hillside areas have a greater likelihood of starting wild land fires, which exposes additional structures to fire.
3. Clarification of the design parameters for projects subject to the Building Code is necessary to assure that appropriate development is constructed in accordance with the scope and objectives of the International Building Code, as applied in the city of Sierra Madre.

D. Administrative

1. These amendments are necessary for administrative clarification and do not modify any building standards. They establish standards to effectively enforce building standards and therefore need to be incorporated into the code to assure that new building and structures and additions or alteration to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the California Building Standards Code.

Section 2 – Which Findings Apply to Which Amendments

The following amendments to the 2019 Edition of the California Building Standards Code are found reasonably necessary based on the climatic, geologic and/or topographic conditions cited in Section 1 of this Exhibit:

California Building Code Sections	Applicable Findings
Chapter 7	A-1, B-1, C-2
202, 3403	C-3
109.4	D-1
105.2	B-1, D-1

Section 903 (903.2.1.1; 903.2.1.2; 903.2.1.3; 903.2.1.4; 903.2.1.5; 903.2.2; 903.2.3; 903.2.4; 903.2.5; 903.2.5.1; 903.2.6; 903.2.7; 903.2.8; 903.2.9; 903.2.9.1; 903.2.9.2; 903.2.10; 9; 903.2.10.1)	A-1, B-1, C-2
Section 1505 (1505.1; 1505.1.1; 1505.1.2; 1505.1.3; 1505.1.4; 1505.2)	A-1; B-1; C-1; C-2
Technical Amendments	A-1, B-1, B-2, C-1, C-2, D-1
2013 California Residential Code	Applicable Findings
R105.2	B-1, D-1
R108.6	D-1
R313.1	A-1, B-1, C-2
R313.2	A-1, B-1, C-2
R313.3.1.1 exception 4	A-1, B-1, C-2
R313.3.3.5	A-1, B-1, C-2
Technical Amendments	A-1, B-1, B-2, C-1, C-2, D-1
2013 California Mechanical Code	Applicable Findings
110.0	D-1
2013 California Electrical Code	Applicable Findings
Annex H	D-1
2013 California Plumbing Code	Applicable Findings
710.1	B-1, C-1, D-1
2012 Existing Building Code	Applicable Findings
SMMC 15.26.020	D-1
2013 California Green Building Code	Applicable Findings
SMMC 15.30.020	D-1
Technical Amendments	A-1, B-1, B-2, C-1, C-2, D-1
2013 California Energy Code	Applicable Findings
SMMC 15.34.020	D-1
2013 California Referenced Standards Code	Applicable Findings
SMMC 15.36.020	D-1



**2019 EDITION OF THE
LOS ANGELES REGION UNIFORM CODE PROGRAM**



**RECOMMENDED CODE AMENDMENTS TO THE
2019 EDITION OF THE CALIFORNIA BUILDING CODE,
CALIFORNIA RESIDENTIAL CODE, AND
CALIFORNIA GREEN BUILDING STANDARDS CODE**

PREPARED BY:

**ICC LOS ANGELES BASIN CHAPTER'S
ADMINISTRATION COMMITTEE
STRUCTURAL COMMITTEE**

Final Version: May 29, 2019

PREFACE

In 1957 our founding members established one of the earliest chapters of the International Conference of Building Officials. Today the Chapter has grown to over eighty-nine Southern California jurisdictions, plus consulting firms and other members of the construction industry. ICBO merged with two other building official organizations to create the International Code Council. The Los Angeles Basin Chapter officially became an ICC Chapter in December 2002.

The Los Angeles Basin Chapter has been very active throughout the years in leading an effort to create uniformity of building codes and regulations in the greater Los Angeles region as well as addressing policy issues of interest to building officials and the construction industry.

One such effort to promote uniformity of building regulations is through the Los Angeles Regional Uniform Code Program ("LARUCP"). The LARUCP program began in July 1999 with the purpose of developing uniform interpretations and handouts to serve as guidelines for building officials, contractors, engineers and architects in the consistent application of the codes. The mission of the program was to minimize the number of and to develop uniformity in local code amendments to the California codes for adoption by jurisdictions in the greater Los Angeles region and beyond.

Leading the efforts to creating uniformity of building codes and regulations within the region are the dedicated members of the Los Angeles County Building and Safety Division, City of Los Angeles Department of Building and Safety, City of Long Beach Building and Safety Bureau, and other jurisdictional members and partners in the greater Los Angeles region. Through the coordination of the ICC Los Angeles Basin Chapter's Structural Code Committee and Administration Committee (herein collectively referred to as "ICC-LABC Committees"), the following regulatory streamlining tasks to be completed are:

1. Create uniformity of building standards code that can be adopted by jurisdictions in the greater Los Angeles region;
2. Reduce the total number of local amendments to the California codes in the greater Los Angeles region;
3. Receive support from many, if not all, of the 89 jurisdictions in the greater Los Angeles region;
4. Obtain active participation from jurisdictions in the greater Los Angeles region in formulating and implementing the LARUCP program; and
5. With construction valuation of over \$5 billion in the region, conservatively assuming that the program produces a 1% construction cost savings, achieve an estimated cost saving of \$50 million per year in the greater Los Angeles region.

DISCUSSION

Sections 13145.3, 17922, 17958 and 18941.5 of the California Health and Safety Code requires that the latest California Building Standards Codes apply to local construction 180 days after they become effective at the State level. The California Building Standards Commission will be adopting (or has adopted) the 2019 Edition of the California Building Code, California Residential Code, and California Green Building Standards Code. State Law requires that these Codes become effective at the local level on January 1, 2020.

Sections 17958.5 and 17958.7 of the California Health and Safety Code requires that local amendments to the California Building Standards Codes and other regulations, including but not limited to, green building standards, be enacted only when an express finding is made that such modifications or changes are reasonably necessary because of local climatic, geological, or topographical conditions.

The ICC-LABC Committees are recommending that the 2019 Edition of the LARUCP Recommended Code Amendments contained in this document, some of which continues amendments enacted during the previous code adoption cycle, be considered for local code adoption for the following reasons:

1. To protect the community within the greater Los Angeles region from a vast array of fault systems capable of producing major earthquakes and/or climate systems capable of producing major winds, fire and rain related disaster.
2. To ensure and encourage energy efficiency and sustainable practices are incorporated into building designs and constructions.

The 2019 Edition of the LARUCP Recommended Code Amendments have been widely circulated and discussed over the past several months with various jurisdictional members, Structural Engineers Association of Southern California's technical committees, design professionals in the construction industry, and other interested groups or individuals. The proposed code language along with the reasons and findings are detailed in this document for each of the recommended code amendments to the 2019 Edition of the California Building Standards Code.

STATEMENT ON USE OF DOCUMENT

The primary purpose of the ICC-LABC Committees is to serve and benefit its members. To this end, the ICC-LABC Committees provide a forum for the exchange, consideration, and discussion of ideas and proposals that are relevant to the construction industry and the consensus of which forms the basis for the proposed amendments contained in this document.

By making available the recommendations in this document, the ICC-LABC Committees do not ensure any jurisdiction using the information it contains against any liability arising from that use. The Committees disclaims liability for any injury to persons or to property, or other damages of any nature whatsoever, whether special, indirect, consequential or compensatory, directly or indirectly resulting from the publication, use of, or reliance on this document. The ICC-LABC Committees makes no guaranty or warranty as to the accuracy or completeness of any information provided herein. Any jurisdiction using this document should rely on their own independent judgment and exercise reasonable care in any given circumstances. Each jurisdiction adopting the proposed amendments contained in this document should make an independent, substantiating investigation of the validity of that information for their particular use.

ACKNOWLEDGEMENT

The ICC Los Angeles Basin Chapter would like to express its gratitude and appreciation to all the participating ICC-LABC Committees and correspondents that spent countless hours over the past several months assisting in the review, discussion, evaluation and drafting of the proposed recommended code amendments to the 2019 Edition of the California Building Code, California Residential Code and California Green Building Standards Code. Special thanks go out members of the Administration Committee and Structural Code Committee and specifically to the following individuals without whose support and effort the recommendations presented herein would not be possible.

Albert Lopez, City of Burbank, Building and Safety Division
Allen Manalansan, City of Los Angeles, Building and Safety Department
Eugene Barbeau, City of Los Angeles, Building and Safety Department
Giancarlo Moral, City of Long Beach, Building and Safety Bureau
Gregory Bowser, City of Long Beach, Building and Safety Bureau
Joshua Hussey, County of Los Angeles, Building and Safety Division
Kristin Norman, County of Los Angeles, Building and Safety Division
Miroslav Lhotsky, City of Glendale, Building and Safety Division



Mostafe Kashe, County of Los Angeles, Building and Safety Division
Philip Yin, City of Long Beach, Building and Safety Bureau
Razmig Shamim, County of Los Angeles, Building and Safety Division
Shahen Akelyan, City of Los Angeles, Building and Safety Department
Stephanie Hsaio, City of Los Angeles, Building and Safety Department
Truong Huynh, City of Long Beach, Building and Safety Bureau

EXPRESS TERM LANGUAGE

LOCAL GOVERNMENT AMENDMENTS UNDER THE CALIFORNIA BUILDING STANDARDS LAW:

Pursuant to Sections 18941.5, 17958.7 and 17958.5 of the Health and Safety Code, the California Building Standards Law permits local amendments under the following conditions:

- The governing body of the local government must make express findings that amendments to the building standards, including green building standards but excluding residential, historic or energy standards, contained in the California Codes of Regulation Title 24 are reasonably necessary because of local climatic, geological, or topographical conditions.
- The local government amendments must provide more restrictive building standards than that contained in California Codes of Regulation Title 24.
- The amendments are not effective until copies of both the express findings and the amendments, with the amendments expressly marked and identified as to the applicable findings, have been filed with the California Building Standards Commission.

LOCAL GOVERNMENT AMENDMENTS UNDER THE STATE HOUSING LAW:

Pursuant to Sections 17958.7, 17958.5 and 17958 of the Health and Safety Code, the State Housing Law permits local amendments are permitted under the following conditions:

- The governing body of the local government must make express findings that amendments to the building standards, including green building standards, for residential occupancies contained in the California Codes of Regulation Titles 24 or 25 are reasonably necessary because of local climatic, geological, or topographical conditions.
- The local government amendments must provide equivalent or more restrictive building standards than that contained in California Codes of Regulation Titles 24 or 25.
- The amendments are not effective until copies of both the express findings and the amendments, with the amendments expressly marked and identified as to the applicable findings, have been filed with the California Building Standards Commission.

LEGEND FOR PROPOSING AMENDMENTS TO PROPOSED BUILDING STANDARDS:

1. Existing California amendments or code language being modified: *All such language shown in italics, modified language is underlined or shown in ~~strikeout~~.*
2. Model code language with new California amendments: Model code language shown in Arial 10 fonts; California amendments to the model code texts shown *underlined and in italics*.
3. Proposed amended or adopted text: All language shown in underline.
4. Repealed text: All language shown in ~~strikeout~~.



TABLE OF CONTENT

<u>TITLE/DESCRIPTION</u>	<u>PAGE</u>
Preface	2
Discussion	2
Statement on Use of Document	3
Acknowledgement	3
Express Term Language	5
Table of Content	6
 PART I	 8
Summary of Recommended LARUCP Amendments to the 2019 CBC	9
2019 LARUCP 15-01 Amend CBC Section 1507.3.1 Deck Requirements	10
2019 LARUCP 16-01 Add CBC Sections 1613.4 and 1613.4.1 Amendments to ASCE 7	11
2019 LARUCP 16-02 Add CBC Section 1613.4.2 Wood Diaphragms	12
2019 LARUCP 16-03 Add CBC Section 1613.4.3 Structural Separation	13
2019 LARUCP 16-04 Add CBC Section 1613.5 Seismic Design Provisions for Hillside Buildings	14
2019 LARUCP 16-05 Add CBC Section 1613.6 Suspended Ceilings	20
2019 LARUCP 17-01 Amend CBC Section 1704.6 Structural Observations	22
2019 LARUCP 17-02 Amend CBC Section 1704.6.2 Structural Observations for Seismic Resistance	24
2019 LARUCP 17-03 Amend CBC Section 1705.3 Concrete Construction	25
2019 LARUCP 17-04 Amend CBC Section 1705.12 Special Inspections for Seismic Resistance	26
2019 LARUCP 18-01 Amend CBC Section 1807.1.4 Permanent Wood Foundation Systems	28
2019 LARUCP 18-02 Amend CBC Section 1807.1.6 Prescriptive Design of Concrete and Masonry Foundation Walls	29
2019 LARUCP 18-03 Amend CBC Section 1807.2 Retaining Walls	30
2019 LARUCP 18-04 Amend CBC Section 1807.3.1 Limitations	31
2019 LARUCP 18-05 Amend CBC Section 1809.3 Stepped Footings	32
2019 LARUCP 18-06 Amend CBC Section 1809.7 and Table 1809.7 Prescriptive Footings for Light-Frame Construction	33
2019 LARUCP 18-07 Amend CBC Section 1809.12 Timber Footings	34
2019 LARUCP 18-08 Amend CBC Section 1810.3.2.4 Timber	35
2019 LARUCP 19-01 Amend CBC Section 1905.1.7 ACI 318, Section 14.1.4	36
2019 LARUCP 19-02 Amend CBC Section 1905.1 and Add Sections 1905.1.9 thru 19.05.1.11 General	38
2019 LARUCP 23-01 Amend CBC Section 2304.10.1 Fastener Requirements	40
2019 LARUCP 23-02 Add CBC Section 2304.10.2.1 Quality of Nails	41
2019 LARUCP 23-03 Amend CBC Section 2304.12.5 Wood Used in Retaining Walls and Cribs	42
2019 LARUCP 23-04 Add CBC Section 2305.4 Hold-Down Connectors	43
2019 LARUCP 23-05 Amend CBC Section 2306.2 Wood-Frame Diaphragms	44
2019 LARUCP 23-06 Amend CBC Section 2306.3 Wood-Frame Shear Walls	46
2019 LARUCP 23-07 Add CBC Section 2307.2 Wood-Frame Shear Walls	48
2019 LARUCP 23-08 Amend CBC Table 2308.6.1 Wall Bracing Requirements	49
2019 LARUCP 23-09 Amend CBC Sections 2308.6.5, 2308.6.5.1 and 2308.6.5.2, and Figures 2308.6.5.1 and 2308.6.5.2 Alternative Bracing	51
2019 LARUCP 23-10 Amend CBC Section 2308.6.8.1 Foundation Requirements	54
2019 LARUCP 23-11 Amend CBC Section 2308.6.9 Attachment of Sheathing	56
2019 LARUCP 31-01 Amend Section 202, Section 3101.1 and Chapter 35 and add CBC Section 3114 Intermodal Shipping Containers	57
 PART II	 65
Summary of Recommended LARUCP Amendments to the 2019 CRC	66
2019 LARUCP R3-01 Amend CRC Section R301.1.3.2 Woodframe Structures	67



<u>TITLE/DESCRIPTION</u>	<u>PAGE</u>
2019 LARUCP R3-02 Add CRC Section R301.1.4 Seismic Design Provisions for Buildings on Slopes Steeper than 33%	68
2019 LARUCP R3-03 Amend CRC Section R301.2.2.6 Irregular Buildings	69
2019 LARUCP R3-04 Add CRC Section R301.2.2.11 Anchorage of Mechanical, Electrical, or Plumbing Components and Equipment	71
2019 LARUCP R4-01 Amend CRC Section R401.1 Application	72
2019 LARUCP R4-02 Amend CRC Sections R403.1.2, R403.1.3.6, R403.1.5 General Footings	73
2019 LARUCP R4-03 Amend CRC Section R404.2 Wood Foundation Walls	75
2019 LARUCP R5-01 Amend CRC Section R501.1 Application	76
2019 LARUCP R5-02 Add CRC Section R503.2.4 Openings in Horizontal Diaphragms	77
2019 LARUCP R6-01 Amend CRC Table R602.3(1) Fastening Schedule	79
2019 LARUCP R6-02 Amend CRC Section R602.3.2 and Table R602.3.2 Top Plate	81
2019 LARUCP R6-03 Amend CRC Table R602.3(2) Alternate Attachments to Table R602.3(1)	82
2019 LARUCP R6-04 Amend CRC Section R602.10.2.3 Minimum Number of Braced Wall Panels	83
2019 LARUCP R6-05 Amend CRC Table R602.10.3(3) Bracing Requirements Based on Seismic Design Category	84
2019 LARUCP R6-06 Amend CRC Table R602.10.4 Bracing Methods	87
2019 LARUCP R6-07 Amend CRC Table R602.10.5 Minimum Length of Braced Wall Panels	90
2019 LARUCP R6-08 Amend CRC Figure R602.10.6.1 Method ABW - Alternate Braced Wall Panel	92
2019 LARUCP R6-09 Amend CRC Figure R602.10.6.2 Method PFH - Portal Frame with Hold-downs at Detached Garage Door Openings	94
2019 LARUCP R6-10 Amend CRC Figure R602.10.6.4 Method CS-PF - Continuously Sheathed Portal Framed Construction	95
2019 LARUCP R6-11 Amend CRC Section R606.4.4 Parapet Walls	97
2019 LARUCP R6-12 Amend CRC Section R606.12.2.2.3 Reinforcement Requirements for Masonry Elements	98
2019 LARUCP R8-01 Add CRC Section R803.2.4 Openings in Horizontal Diaphragms	99
2019 LARUCP R9-01 Amend CRC Section R905.3.1 Deck Requirements	100
2019 LARUCP R10-01 Amend CRC Section R1001.3.1 Vertical Reinforcing	101
PART III	102
Summary of Recommended LARUCP Amendments to the 2019 CALGreen	103
2019 LARUCP G4-01 Amend CALGreen Section 4.106.4.2 EV for New Multifamily Dwellings	104
2019 LARUCP G4-02 Amend CALGreen Section 4.106.4.3 EV for New Hotels and Motels	105
2019 LARUCP G5-01 Amend CALGreen Section 5.106.5.3.3 EV for New Nonresidentials	106



PART I

LARUCP RECOMMENDED CODE AMENDMENTS TO THE 2019 EDITION OF THE CALIFORNIA BUILDING CODE



SUMMARY OF RECOMMENDED LARUCP AMENDMENTS TO THE 2019 CBC

(N) 2019 LARUCP NO.	TITLE/DESCRIPTION	STATUS ¹
15-01	Amend CBC Section 1507.3.1 Deck Requirements	E
16-01	Add CBC Sections 1613.4 and 1613.4.1 Amendments to ASCE 7	E
16-02	Add CBC Section 1613.4.2 Wood Diaphragms	E
16-03	Add CBC Section 1613.4.3 Structural Separation	E
16-04	Add CBC Section 1613.5 Seismic Design Provisions for Hillside Buildings	E
16-05	Add CBC Section 1613.6 Suspended Ceilings	E
17-01	Amend CBC Section 1704.6 Structural Observations	E
17-02	Amend CBC Section 1704.6.2 Structural Observations for Seismic Resistance	E
17-03	Amend CBC Section 1705.3 Concrete Construction	E
17-04	Amend CBC Section 1705.12 Special Inspections for Seismic Resistance	E
18-01	Amend CBC Section 1807.1.4 Permanent Wood Foundation System	E
18-02	Amend CBC Section 1807.1.6 Prescriptive Design of Concrete and Masonry Foundation Walls	E
18-03	Amend CBC Section 1807.2 Retaining Walls	N
18-04	Amend CBC Section 1807.3.1 Limitations	N
18-05	Amend CBC Section 1809.3 Stepped Footings	E
18-06	Amend CBC Section 1809.7 and Table 1809.7 Prescriptive Footings for Light-Frame Construction	E
18-07	Amend CBC Section 1809.12 Timber Footings	E
18-08	Amend CBC Section 1810.3.2.4 Timber	E
19-01	Amend CBC Section 1905.1.7 ACI 318, Section 14.1.4	E
19-02	Amend CBC Section 1905.1 and Add Sections 1905.1.9 thru 1905.1.11 General	E
23-01	Amend CBC Section 2304.10.1 Fastener Requirement	E
23-02	Add CBC Section 2304.10.2.1 Quality of Nails	E
23-03	Amend CBC Section 2304.12.5 Wood Used in Retaining Walls and Cribs	E
23-04	Add CBC Section 2305.4 Hold-down Connectors	E
23-05	Amend CBC Section 2306.2 Wood-Frame Diaphragms	E
23-06	Amend CBC Section 2306.3 Wood-Frame Shear Walls	E
23-07	Add CBC Section 2307.2 Wood-Frame Shear Walls	E
23-08	Amend CBC Table 2308.6.1 Wall Bracing Requirements	E
23-09	Amend CBC Sections 2308.6.5, 2308.6.5.1 and 2308.6.5.2, and Figures 2308.6.5.1 and 2308.6.5.2 Alternative Bracing	E
23-10	Amend CBC Section 2308.6.8.1 Foundation Requirements	E
23-11	Amend CBC Section 2308.6.9 Attachment of Sheathing	E
31-01	Amend CBC Section 202, Section 3101.1 and Chapter 35 and add CBC Section 3114 Intermodal Shipping Containers	N

FOOTNOTE:

1. N = New amendment proposed
E = Existing amendment updated as necessary



2019 LARUCP 15-01. Section 1507.3.1 of the 2019 Edition of the California Building Code is amended to read as follows:

1507.3.1 Deck requirements. Concrete and clay tile shall be installed only over solid sheathing ~~or spaced structural sheathing boards~~.

Exception: Spaced lumber shall be permitted in Seismic Design Categories A, B, and C.

RATIONALE:

Section 1507.3.1 is amended to require concrete and clay tiles to be installed only over solid sheathing. The change is necessary because there were numerous observations of tile roofs pulling away from wood framed buildings following the 1994 Northridge Earthquake. The SEAOSC/LA City Post Northridge Earthquake committee findings indicated significant problems with tile roofs was due to inadequate design and/or construction. Therefore, the amendment is needed to minimize such occurrences in the event of future significant earthquakes.

FINDINGS:

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 1987 Whittier Narrows Earthquake, the 1971 San Fernando Earthquake and the 1933 Long Beach Earthquake. This amendment will reduce the failure of concrete and clay tile roofs during a significant earthquake and is in accordance with the scope and objectives of the California Building Code.

2019 LARUCP 16-01. Sections 1613.4 and 1613.4.1 are added to Chapter 16 of the 2019 Edition of the California Building Code to read as follows:

1613.4 Amendments to ASCE 7. The provisions of Section 1613.4 shall be permitted as an amendment to the relevant provisions of ASCE 7.

1613.4.1 Values for vertical combinations. Modify ASCE 7 Section 12.2.3.1 Exception 3 as follows:

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

RATIONALE:

Observed damages to one- and two-family dwellings of light frame construction after the Northridge Earthquake may have been partially attributed to vertical irregularities common to this type of occupancy and construction. In an effort to improve quality of construction and incorporate lesson learned from studies after the Northridge Earthquake, the proposed modification to ASCE 7-16 Section 12.2.3.1 Exception 3 by limiting the number of stories and height of the structure to two stories will significantly minimize the impact of vertical irregularities and concentration of inelastic behavior from mixed structural systems. This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

FINDINGS:

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 limit mixed structural system to two stories is intended to improve quality of construction by reducing potential damages that may result from vertical irregularities of the structural system in buildings subject to high seismic load 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 California Building Code.

2019 LARUCP 16-02. Section 1613.4.2 is added to Chapter 16 of the 2019 Edition of the California Building Code to read as follows:

1613.4.2 Wood diaphragms. Modify ASCE 7 Section 12.11.2.2.3 as follows:

12.11.2.2.3 Wood diaphragms. The anchorage of concrete or masonry structural walls to wood diaphragms shall be in accordance with AWC SDPWS 4.1.5.1 and this section. Continuous ties required by this section shall be in addition to the diaphragm sheathing. Anchorage shall not be accomplished by use of toenails 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 for providing the 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.

RATIONALE:

A joint Structural Engineers Association of Southern California (SEAOSC), Los Angeles County and Los Angeles City Task Force investigated the performance of concrete and masonry construction with flexible wood diaphragm failures after the Northridge earthquake. It was concluded at that time that continuous ties are needed at specified spacing to control cross grain tension in the interior of the diaphragm. Additionally, there was a need to limit subdiaphragm allowable shear loads to control combined orthogonal stresses within the diaphragm. Recognizing the importance and need to continue the recommendation made by the task force while taking into consideration the improve performances and standards for diaphragm construction today, this proposal increases the continuous tie spacing limit to 40 ft in lieu of 25 ft and to use 75% of the allowable code diaphragm shear to determine the depth of the sub-diaphragm in lieu of the 300 plf and is deemed appropriate and acceptable. Due to the frequency of this type of failure during the past significant earthquakes, various jurisdictions within the Los Angeles region have taken this additional step to prevent roof or floor diaphragms from pulling away from concrete or masonry walls. This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

FINDINGS:

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 require special anchorage of the diaphragm to the wall and limit the allowable shear will address special needs for concrete and masonry construction with flexible wood diaphragm 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 California Building Code.

2019 LARUCP 16-03. Section 1613.4.3 is added to Chapter 16 of the 2019 Edition of the California Building Code to read as follows:

1613.4.3 Structural separation. Modify ASCE 7 Section 12.12.3 Equation 12.12-1 as follows:

$$\delta_M = \frac{C_d \delta_{\max}}{I_e} \quad (12.12-1)$$

RATIONALE:

The inclusion of the importance factor in this equation has the unintended consequence of reducing the minimum seismic separation distance for important facilities such as hospitals, schools, police and fire stations from adjoining structures. The proposal to omit the importance factor from Equation 12.12-1 will ensure that a safe seismic separation distance is provided. This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

FINDINGS:

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 1987 Whittier Narrows Earthquake, the 1971 San Fernando Earthquake and the 1933 Long Beach Earthquake. The proposed modification to omit the importance factor in the equation ensures that a safe seismic separation distance is maintained for important facilities from adjoining structures 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 California Building Code.

2019 LARUCP 16-04. Section 1613.5 is added to Chapter 16 of the 2019 Edition of the California Building Code to read as follows:

1613.5 Seismic design provisions for hillside buildings.

1613.5.1 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.

1613.5.2 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.

1613.5.3 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 1613.5.5 and 1613.5.7.3 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 1613.5.6 and 1613.5.7.4.

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.

1613.5.4 Analysis and design.

1613.5.4.1 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.

1613.5.4.2 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.

1613.5.4.2.1 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.

1613.5.4.2.2 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.

1613.5.5 Base shear resistance-primary anchors.

1613.5.5.1 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.

1613.5.5.2 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).

1613.5.5.3 Design of primary anchors and diaphragm struts. Primary anchors and diaphragm struts shall be designed in accordance with the requirements of Section 1613.5.8.

1613.5.5.4 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 2205.2.1.2 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.

1613.5.6 Base shear resistance-secondary anchors.

1613.5.6.1 General. In addition to the primary anchors required by Section 1613.5.5, 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.

1613.5.6.2 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) based on Allowable Stress Design (ASD) levels. The secondary anchors shall be uniformly distributed along the uphill diaphragm edge and shall be spaced a maximum of 4 feet (1219 mm) on center.

1613.5.6.3 Design. Secondary anchors and diaphragm struts shall be designed in accordance with Section 1613.5.8.

1613.5.7 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.

1613.5.7.1 Diaphragm defined. Every floor level below the base level diaphragm shall be designed as a diaphragm.

1613.5.7.2 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.

1613.5.7.3 Design force resistance-primary anchors. The design force described in Section 1613.5.7.2 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 1613.5.5.

1613.5.7.4 Design force resistance-secondary anchors.

1613.5.7.4.1 General. In addition to the primary anchors required in Section 1613.5.7.3, 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.

1613.5.7.4.2 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) based on Allowable Stress Design (ASD) levels. The secondary anchors shall be uniformly distributed along the uphill diaphragm edge and shall be spaced a maximum of 4 feet (1219 mm) on center.

1613.5.7.4.3 Design. Secondary anchors and diaphragm struts shall be designed in accordance with Section 1613.5.8.

1613.5.8 Primary and secondary anchorage and diaphragm strut design. Primary and secondary anchors and diaphragm struts shall be designed in accordance with the following provisions:

- 1. Fasteners.** All bolted fasteners used to develop connections to wood members shall be provided with square plate washers at all bolt heads and nuts. Washers shall be minimum 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 3 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 one-third 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.

1613.5.9 Lateral-force-resisting elements normal to the downhill direction.

1613.5.9.1 General. In the direction normal to the downhill direction, lateral-force-resisting elements shall be designed in accordance with the requirements of this section.

1613.5.9.2 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.

1613.5.9.3 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.

1613.5.9.4 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.

1613.5.9.5 Distribution of lateral forces.

1613.5.9.5.1 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.

1613.5.9.5.2 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 AWC 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).

1613.5.9.5.3 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.

1613.5.9.6 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 2205.2.1.2 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.

1613.5.10 Specific design provisions.

1613.5.10.1 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.

1613.5.10.2 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) based on Allowable Stress Design (ASD) levels 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.

1613.5.10.3 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.

1613.5.10.4 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) based on Allowable Stress Design (ASD) levels 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 2 galvanized nuts above the base plate.

1613.5.10.5 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.

RATIONALE:

Due to the difficulty of fire suppression vehicles accessing winding and narrow hillside properties and the probabilities for future earthquakes in the Los Angeles region, this technical amendment is required to address the special needs for buildings constructed on hillside locations. A joint Structural Engineers Association of Southern California (SEAOSC) and both the 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 both the City and County of Los Angeles for several years with much success. This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

FINDINGS:

Local Topographical and Geological Conditions – The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. Additionally, the topography within the Los Angeles region includes significant hillsides with narrow and winding access that makes timely response by fire suppression vehicles challenging and difficult. The proposed modification establishes design parameters to better mitigate and limit property damage that are the results of increased seismic forces which are imparted upon hillside buildings and structures 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 California Building Code.

2019 LARUCP 16-05. Section 1613.6 is added to Chapter 16 of the 2019 Edition of the California Building Code to read as follows:

1613.6 Suspended ceilings. Minimum design and installation standards for suspended ceilings shall be determined in accordance with the requirements of Section 2506.2.1 of this Code and this section.

1613.6.1 Scope. This part contains special requirements for suspended ceilings and lighting systems. Provisions of Section 13.5.6 of ASCE 7 shall apply except as modified herein.

1613.6.2 General. The suspended ceilings and lighting systems shall be limited to 6 feet (1828 mm) below the structural deck unless the lateral bracing is designed by a licensed engineer or architect.

1613.6.3 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. Sprinkler heads and other penetrations shall have a 2 inch (50mm) oversize ring, sleeve, or adapter through the ceiling tile to allow for free movement of at least 1 inch (25mm) in all horizontal directions. Alternatively, a swing joint that can accommodate 1 inch (25 mm) of ceiling movement in all horizontal directions is permitted to be provided at the top of the sprinkler head extension.

Sprinkler heads penetrating fire-resistance-rated floor/ceiling or roof/ceiling assemblies shall comply with Section 714 of this Code.

1613.6.4 Special requirements for means of egress. Suspended ceiling assemblies located along means of egress serving an occupant load of 30 or more shall comply with the following provisions.

1613.6.4.1 General. Ceiling suspension systems shall be connected and braced with vertical hangers attached directly to the structural deck 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.

1613.6.4.2 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.

1613.6.4.3 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 Section 1008.3 of this Code.

1613.6.4.4 Supports for appendage. Separate support from the structural deck shall be provided for all appendages such as light fixtures, air diffusers, exit signs, and similar elements.

RATIONALE:

The California Building Code has little to no information regarding the safe design and construction requirements for ceiling suspension systems subject to seismic loads. It is through the experience of prior earthquakes, such as the Northridge Earthquake, that this amendment is proposed so as to minimize the amount of bodily and building damage within the spaces in which this type of ceiling will be installed. This proposed amendment complements ASCE 7-16 Chapter 13 Section 13.5.6.2.2 and the cited reference to ASTM E580. The amended requirements retained herein are a continuation of portions of an amendment adopted during the previous code adoption cycles.



FINDINGS:

Local Geological Conditions – The greater Los Angeles region is a densely populated area having buildings 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 requiring safe design and construction requirements for ceiling suspension systems to resist seismic loads is intended to minimize the amount of damage within a building and therefore need to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the California Building Code.

2019 LARUCP 17-01. Section 1704.6 of the 2019 Edition of the California Building Code is amended to read as follows:

1704.6 Structural observations. Where required by the provisions of Section 1704.6.1, 1704.6.2 or 1704.6.3, the owner or the owner's authorized agent shall employ a ~~registered design professional structural observer~~ to perform structural observations. Structural observation does not include or waive the responsibility for the inspections in Section 110 or the special inspections in Section 1705 or other sections of this code. The structural observer shall be one of the following individuals:

1. The registered design professional responsible for the structural design, or
2. A registered design professional designated by the registered design professional responsible for the structural design.

Prior to the commencement of observations, the structural observer shall submit to the building official a written statement identifying the frequency and extent of structural observations.

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

The owner or owner's authorized agent shall coordinate and call a preconstruction meeting between the structural observer, contractors, affected subcontractors and special inspectors. The structural observer shall preside over the meeting. The purpose of the meeting shall be to identify the major structural elements and connections that affect the vertical and lateral load resisting systems of the structure and to review scheduling of the required observations. A record of the meeting shall be included in the report submitted to the building official.

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

RATIONALE:

The language in Section 1704.6 of the California Building Code permits the owner to employ any registered design professional to perform structural observations with minimum guideline. However, it is important to recognize that the registered design professional responsible for the structural design has thorough knowledge of the building he/she designed. By requiring the registered design professional responsible for the structural design or their designee who were involved with the design to observe the construction, the quality of the observation for major structural elements and connections that affect the vertical and lateral load resisting systems of the structure will greatly be increased. Additional requirements are provided to help clarify the role and duties of the structural observer and the method of reporting and correcting observed deficiencies to the building official. This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

FINDINGS:

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



require the registered design professional in responsible charge for the structural design to observe the construction will help ensure acceptable standards of workmanship is provided and to improve the quality of the observation 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 California Building Code.

2019 LARUCP 17-02. Section 1704.6.2 of the 2019 Edition of the California Building Code is amended to read as follows:

1704.6.2 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.
2. The structure ~~is assigned to Seismic Design Category E,~~ is classified as Risk Category I or II, and ~~is greater than two stories above the grade plane~~ a lateral design is required for the structure or portion thereof.

Exception: One-story wood framed Group R-3 and Group U Occupancies less than 2,000 square feet in area, provided the adjacent grade is not steeper than 1 unit vertical in 10 units horizontal (10% sloped), assigned to Seismic Design Category D.

RATIONALE:

With the higher seismic demand placed on buildings and structures in this region, the language in Section 1704.6.2 of the California Building Code would permit many low-rise buildings and structures with complex structural elements to be constructed without the benefit of a structural observation. By requiring a registered design professional to observe the construction, the quality of the observation for major structural elements and connections that affect the vertical and lateral load resisting systems of the structure will greatly be increased. An exception is provided to permit simple structures and buildings to be excluded. This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

FINDINGS:

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 require the registered design professional in responsible charge for the structural design to observe the construction will help ensure acceptable standards of workmanship is provided and to improve the quality of the observation 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 California Building Code.

2019 LARUCP 17-03. Section 1705.3 of the 2019 Edition of the California Building Code is amended to read as follows:

1705.3 Concrete construction. The special inspections and tests for concrete construction shall be performed in accordance with this section and Table 1705.3.

Exceptions: Special inspections and tests 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 , not more 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.
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 , not more 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.

RATIONALE:

Results from studies after the 1994 Northridge Earthquake indicated that a lot of the damage was attributed to a lack of quality control during construction resulting in poor performance of the building or structure. Therefore, the proposed amendment requires special inspection for concrete with a compressive strength greater than 2,500 pounds per square inch. This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

FINDINGS:

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 require special inspection for concrete with a compressive strength greater than 2,500 psi to improve quality of control during construction 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 California Building Code.

2019 LARUCP 17-04. Section 1705.12 of the 2019 Edition of the California Building Code is amended to read as follows:

1705.12 Special inspections for seismic resistance. Special inspections for seismic resistance shall be required as specified in Sections 1705.12.1 through 1705.12.9, unless exempted by the exceptions of Section 1704.2.

Exception: The special inspections specified in Sections 1705.12.1 through 1705.12.9 are not required for structures designed and constructed in accordance with one of the following:

1. The structure consists of light-frame construction; the design spectral response acceleration at short periods, S_{DS} , as determined in Section 1613.2.4, does not exceed 0.5; and the building height of the structure does not exceed 35 feet (10 668 mm).
2. The seismic force-resisting system of the structure consists of reinforced masonry or reinforced concrete; the design spectral response acceleration at short periods, S_{DS} , as determined in Section 1613.2.4, does not exceed 0.5; and the building height of the structure does not exceed 25 feet (7620 mm)
3. The structure is a detached one- or two-family dwelling not exceeding two stories above grade plane, is not assigned to Seismic Design Category D, E or F, and does not have any of the following horizontal or vertical irregularities in accordance with Section 12.3 of ASCE 7:
 - 3.1 Torsional or extreme torsional irregularity.
 - 3.2 Nonparallel systems irregularity.
 - 3.3 Stiffness-soft story or stiffness-extreme soft story irregularity.
 - 3.4 Discontinuity in lateral strength-weak story irregularity.

RATIONALE:

In Southern California, very few detached one- or two-family dwellings not exceeding two stories above grade plane are built as “box-type” structures, especially those in hillside areas and near the oceanfront. Many steel moment frames or braced frames and/or cantilevered columns within buildings can still be shown as “regular” structures by calculations. With the higher seismic demand placed on buildings and structures in this region, the language in Section 1705.12 Exception 3 of the California Building Code would permit many detached one- or two-family dwellings not exceeding two stories above grade plane with complex structural elements to be constructed without the benefit of special inspections. By requiring special inspections, the quality of major structural elements and connections that affect the vertical and lateral load resisting systems of the structure will greatly be increased. The exception should only be allowed for detached one- or two-family dwellings not exceeding two stories above grade plane assigned to Seismic Design Category A, B and C.

FINDINGS:

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 require special inspections for detached one- or two-family dwellings not exceeding two stories above grade plane assigned to Seismic Design Category D, E and F will help ensure that acceptable standards of workmanship and quality of construction are provided and therefore needs 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 California Building Code.

2019 LARUCP 18-01. Section 1807.1.4 of the 2019 Edition of the California Building Code is amended to read as follows:

1807.1.4 Permanent wood foundation systems. Permanent wood foundation systems shall be designed and installed in accordance with AWC PWF. Lumber and plywood shall be treated in accordance with AWPA U1 (Commodity Specification A, Special Requirement 4.2) and shall be identified in accordance with Section 2303.1.9.1. Permanent wood foundation systems shall not be used for structures assigned to Seismic Design Category D, E or F.

RATIONALE:

No substantiating data has been provided to show that wood foundation systems are effective in supporting buildings and structures during a seismic event while being subject to deterioration caused by the combined detrimental effects of constant moisture in the soil and wood-destroying organisms. Wood foundation systems not properly treated and protected against deterioration, have performed very poorly and have led to slope failures. 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 events and wet applications. The proposed amendment takes the precautionary steps to reduce or eliminate potential problems that may result in using wood foundation systems that experience relatively rapid decay due to the fact 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.

FINDINGS:

Local Climatic and Geological Conditions – The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. In addition, the region is within a climate system capable of producing major winds, fire and rain related disasters, including but not limited to those caused by the Santa Ana winds and El Nino (or La Nina) subtropical-like weather. This region is especially susceptible to more active termite and wood attacking insects and microorganisms. The proposed modification to prohibit the use of wood foundation systems as well as limit prescriptive design provisions in an effort to mitigate potential problems or deficiencies due to the proliferation of wood-destroying organisms and therefore needs 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 California Building Code.

2019 LARUCP 18-02. Section 1807.1.6 of the 2019 Edition of the California Building Code is amended to read as follows:

1807.1.6 Prescriptive design of concrete and masonry foundation walls. Concrete and masonry foundation walls that are laterally supported at the top and bottom shall be permitted to be designed and constructed in accordance with this section. Prescriptive design of foundation walls shall not be used for structures assigned to Seismic Design Category D, E or F.

RATIONALE:

With the higher seismic demand placed on buildings and structures in this region, it is deemed necessary to take precautionary steps to reduce or eliminate potential problems that may result by following prescriptive design provisions that does not take into consideration the surrounding environment. Plain concrete performs poorly in withstanding the cyclic forces resulting from seismic events. In addition, no substantiating data has been provided to show that under-reinforced foundation walls are effective in resisting seismic loads and may potentially lead to a higher risk of failure. It is 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 proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

FINDINGS:

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 California Building Code.

2019 LARUCP 18-03. Section 1807.2 of the 2019 Edition of the California Building Code is amended to read as follows:

1807.2 Retaining walls. Retaining walls shall be designed in accordance with Section 1807.2.1 through 1807.2.3. Retaining walls assigned to Seismic Design Category D, E or F shall not be partially or wholly constructed of wood.

RATIONALE:

No substantiating data has been provided to show that wood foundation systems are effective in supporting buildings and structures during a seismic event while being subject to deterioration caused by the combined detrimental effects of constant moisture in the soil and wood-destroying organisms. Wood foundation systems not properly treated and protected against deterioration, have performed very poorly and have led to slope failures. 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 events and wet applications. The proposed amendment takes the precautionary steps to reduce or eliminate potential problems that may result in using wood foundation systems that experience relatively rapid decay due to the fact 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.

FINDINGS:

Local Climatic and Geological Conditions – The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. In addition, the region is within a climate system capable of producing major winds, fire and rain related disasters, including but not limited to those caused by the Santa Ana winds and El Nino (or La Nina) subtropical-like weather. This region is especially susceptible to more active termite and wood attacking insects and microorganisms. The proposed modification to prohibit the use of wood foundation systems as well as limit prescriptive design provisions in an effort to mitigate potential problems or deficiencies due to the proliferation of wood-destroying organisms and therefore needs 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 California Building Code.

2019 LARUCP 18-04. Section 1807.3.1 of the 2019 Edition of the California Building Code is amended to read as follows:

1807.3.1 Limitations. The design procedures outlined in this section are subject to the following limitations:

1. The frictional resistance for structural walls and slabs on silts and clays shall be limited to one-half of the normal force imposed on the soils by the weight of the footing or slab.
2. Posts embedded in earth shall not be used to provide lateral support for structural or nonstructural materials such as plaster, masonry or concrete unless bracing is provided that develops the limited deflection required.

Wood poles shall be treated in accordance with AWP A U1 for sawn timber posts (Commodity Specification A, Use Category 4B) and for round timber posts (Commodity Specification B, Use Category 4B). Wood poles and posts embedded in direct contact with soil shall not be used for structures assigned to Seismic Design Category D, E or F.

Exception: Wood poles and posts embedded in direct contact with soil may be used to support nonhabitable, nonoccupiable structures such as fences when approved by the building official.

RATIONALE:

No substantiating data has been provided to show that wood foundation systems are effective in supporting buildings and structures during a seismic event while being subject to deterioration caused by the combined detrimental effects of constant moisture in the soil and wood-destroying organisms. Wood foundation systems not properly treated and protected against deterioration, have performed very poorly and have led to slope failures. 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 events and wet applications. The proposed amendment takes the precautionary steps to reduce or eliminate potential problems that may result in using wood foundation systems that experience relatively rapid decay due to the fact 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.

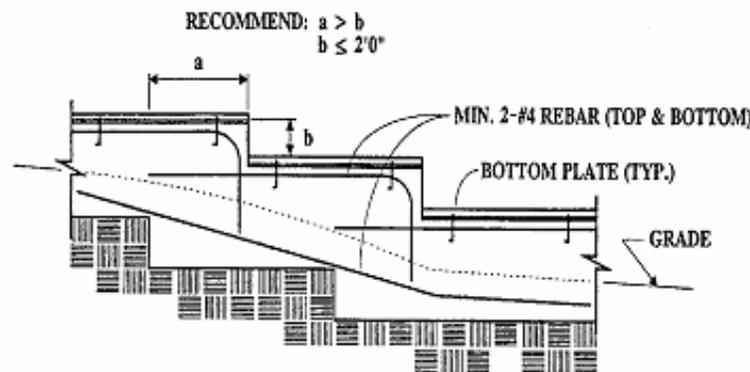
FINDINGS:

Local Climatic and Geological Conditions – The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. In addition, the region is within a climate system capable of producing major winds, fire and rain related disasters, including but not limited to those caused by the Santa Ana winds and El Nino (or La Nina) subtropical-like weather. This region is especially susceptible to more active termite and wood attacking insects and microorganisms. The proposed modification to prohibit the use of wood foundation systems as well as limit prescriptive design provisions in an effort to mitigate potential problems or deficiencies due to the proliferation of wood-destroying organisms and therefore needs 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 California Building Code.

2019 LARUCP 18-05. Section 1809.3 of the 2019 Edition of the California Building Code is amended to read as follows:

1809.3 Stepped footings. The top surface of footings shall be level. The bottom surface of footings shall be permitted to have a slope not exceeding one unit vertical in 10 units horizontal (10-percent slope). Footings shall be stepped where it is necessary to change the elevation of the top surface of the footing or where the surface of the ground slopes more than one unit vertical in 10 units horizontal (10-percent slope).

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



STEPPED FOUNDATIONS

FIGURE 1809.3
STEPPED FOOTING

RATIONALE:

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 for under reinforced footings located on sloped surfaces. Requiring minimum reinforcement for stepped footings is intended to address the problem of poor performance of plain or under-reinforced footings during a seismic event. This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to require minimum reinforcement in stepped footings is intended to improve performance of buildings and structures 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 California Building Code.

2019 LARUCP 18-06. Section 1809.7 and Table 1809.7 of the 2019 Edition of the California Building Code are amended to read as follows:

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

TABLE 1809.7
PREScriptive FOOTINGS SUPPORTING WALLS OF
LIGHT-FRAME CONSTRUCTION ^{a, b, c, d, e}

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

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

- Depth of footings shall be in accordance with Section 1809.4.
- The ground under the floor shall be permitted to be excavated to the elevation of the top of the footing.
- ~~Interior stud bearing walls shall be permitted to be supported by isolated footings. The footing width and length shall be twice the width shown in this table, and footings shall be spaced not more than 6 feet on center. Not Adopted.~~
- See Section 1905 for additional requirements for concrete footings of structures assigned to Seismic Design Category C, D, E or F.
- For thickness of foundation walls, see Section 1807.1.6.
- Footings shall be permitted to support a roof addition to the stipulated number of floors. Footings supporting roof only shall be as required for supporting one floor.
- ~~Plain concrete footings for Group R-3 occupancies shall be permitted to be 6 inches thick.~~

RATIONALE:

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.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to limit the use of the prescriptive design provisions and under-reinforced or plain concrete is 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 California Building Code.

2019 LARUCP 18-07. Section 1809.12 of the 2019 Edition of the California Building Code is amended to read as follows:

1809.12 Timber footings. Timber footings shall be permitted for buildings of Type V construction and as otherwise approved by the Building Official. Such footings shall be treated in accordance with AWP A 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 on treated piles shall not exceed 70 percent of the allowable stresses for the species and grade of timber as specified in the ANSI/AWC NDS. Timber footings shall not be used in structures assigned to Seismic Design Category D, E or F.

RATIONALE:

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 fact 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.

FINDINGS:

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

2019 LARUCP 18-08. Section 1810.3.2.4 of the 2019 Edition of the California Building Code is amended to read as follows:

1810.3.2.4 Timber. Timber deep foundation elements shall be designed as piles or poles in accordance with ANSI/AWC NDS. Round timber elements shall conform to ASTM D 25. Sawn timber elements shall conform to DOC PS-20. Timber deep foundation elements shall not be used in structures assigned to Seismic Design Category D, E or F.

RATIONALE:

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 fact 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.

FINDINGS:

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

2019 LARUCP 19-01. Section 1905.1.7 of the 2019 Edition of the California Building Code is amended to read as follows:

1905.1.7 ACI 318, Section 14.1.4. Delete ACI 318, Section 14.1.4, and replace with the following:

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

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

(a) ~~Structural plain concrete basement, foundation or other walls below the base as defined in ASCE 7 are permitted in detached one- and two-family dwellings three stories or less in height constructed with stud-bearing walls. In dwellings assigned to Seismic Design Category D or E, the height of the wall shall not exceed 8 feet (2438 mm), the thickness shall not be less than 7½ inches (190 mm), and the wall shall retain no more than 4 feet (1219 mm) of unbalanced fill. Walls shall have reinforcement in accordance with 14.6.1. Concrete used for fill with a minimum cement content of two (2) sacks of Portland cement or cementitious material per cubic yard.~~

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

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

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

Exceptions:

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

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

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

RATIONALE:

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. 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.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to require minimum reinforcement to address the problem of poor performance of plain or under-reinforced footings during a seismic event 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 California Building Code.

2019 LARUCP 19-02. Section 1905.1 is amended and Sections 1905.1.9 thru 1905.1.11 are added to Chapter 19 of the 2019 Edition of the California Building Code to read as follows:

1905.1 General. The text of ACI 318 shall be modified as indicated in Sections 1905.1.1 through ~~1905.1.8~~ 1905.1.11.

1905.1.9 ACI 318, Section 18.7.5. Modify ACI 318, Section 18.7.5, by adding Section 18.7.5.7 and 18.7.5.8 as follows:

18.7.5.7 Where the calculated point of contraflexure is not within the middle half of the member clear height, provide transverse reinforcement as specified in ACI 318 Sections 18.7.5.1, Items (a) through (c), over the full height of the member.

18.7.5.8 – At any section where the design strength, ϕP_n , of the column is less than the sum of the shears V_e computed in accordance with ACI 318 Sections 18.7.6.1 and 18.6.5.1 for all the beams framing into the column above the level under consideration, transverse reinforcement as specified in ACI 318 Sections 18.7.5.1 through 18.7.5.3 shall be provided. For beams framing into opposite sides of the column, the moment components are permitted to be assumed to be of opposite sign. For the determination of the design strength, ϕP_n , of the column, these moments are permitted to be assumed to result from the deformation of the frame in any one principal axis.

1905.1.10 ACI 318, Section 18.10.4. Modify ACI 318, Section 18.10.4, by adding Section 18.10.4.6 as follows:

18.10.4.6 – Walls and portions of walls with $P_u > 0.35P_o$ shall not be considered to contribute to the calculated shear strength of the structure for resisting earthquake-induced forces. Such walls shall conform to the requirements of ACI 318 Section 18.14.

1905.1.11 ACI 318, Section 18.12.6. Modify ACI 318, by adding Section 18.12.6.2 as follows:

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

RATIONALE:

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.



FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to increase confinement in critical columns, limiting the use of highly gravity loaded walls, and increase concrete coverage in thin slabs will have to prevent failure of the structure 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 California Building Code.

2019 LARUCP 23-01. Section 2304.10.1 of the 2019 Edition of the California Building Code is amended to read as follows:

2304.10.1 Fastener requirements. Connections for wood members shall be designed in accordance with the appropriate methodology in Section 2302.1. The number and size of fasteners connecting wood members shall not be less than that set forth in Table 2304.10.1. Staple fasteners in Table 2304.10.1 shall not be used to resist or transfer seismic forces in structures assigned to Seismic Design Category D, E or F.

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

RATIONALE:

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 limit the use of staple fasteners in resisting or transferring seismic forces. In September 2007, limited cyclic testing data was provided to the ICC Los Angeles Chapter Structural Code Committee showing that stapled wood structural shear panels do not exhibit the same behavior as the nailed wood structural shear panels. The test results of the stapled wood structural shear panels appeared much lower in strength and drift than the nailed wood structural shear panel test results. Therefore, the use of staples as fasteners to resist or transfer seismic forces shall not be permitted without being substantiated by cyclic testing. This proposed amendment is a continuation of a similar amendment adopted during previous code adoption cycles.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to limit the use of staple fasteners to resist or transfer seismic load improve the performance of buildings and structures during a seismic event 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 California Building Code.

2019 LARUCP 23-02. Section 2304.10.2.1 is added to Chapter 23 of the 2019 Edition of the California Building Code to read as follows:

2304.10.2.1 Quality of nails. In Seismic Design Category D, E or F, mechanically driven nails used in wood structural panel shear walls shall meet the same dimensions as that required for hand-driven nails, including diameter, minimum length and minimum head diameter. Clipped head or box nails are not permitted in new construction. The allowable design value for clipped head nails in existing construction may be taken at no more than the nail-head-area ratio of that of the same size hand-driven nails.

RATIONALE:

The overdriving of nails into the structural wood panel still remains a concern when pneumatic nail guns are used for wood structural panel shear wall nailing. Box nails were observed to cause massive and multiple failures of the typical 3/8-inch thick plywood during the 1994 Northridge Earthquake. The use of clipped head nails as allowed in Table A1 of AFPA SDPWS footnote referencing to ASTM F1667, continues to be restricted from being used in wood structural panel shear walls where the minimum nail head size must be maintained in order to minimize nails from pulling through sheathing materials. Clipped or mechanically driven nails used in wood structural panel shear wall construction were found to perform much less in previous wood structural panel shear wall testing done at the University of California Irvine. The existing test results indicated that, under cyclic loading, the wood structural panel shear walls were less energy absorbent and less ductile. The panels reached ultimate load capacity and failed at substantially less lateral deflection than those using same size hand-driven nails. 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.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to require mechanically driven nails to have the same dimensions as hand-driven nail will result in improved quality of construction and performance of wood structural panel shear walls 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 California Building Code.

2019 LARUCP 23-03. Section 2304.12.5 of the 2019 Edition of the California Building Code is amended to read as follows:

2304.12.5 Wood used in retaining walls and cribs. Wood installed in retaining or crib walls shall be preservative treated in accordance with AWPA U1 for soil and fresh water use. Wood shall not be used in retaining or crib walls for structures assigned to Seismic Design Category D, E or F.

RATIONALE:

No substantiating data has been provided to show that wood used in retaining or crib walls are 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. Wood used in retaining or crib walls, 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 wood in retaining or crib walls that experience relatively rapid decay due to the fact 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.

FINDINGS:

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

2019 LARUCP 23-04. Section 2305.4 is added to Chapter 23 of the 2019 Edition of the California Building Code to read as follows:

2305.4 Hold-down connectors. In Seismic Design Category D, E or F, hold-down connectors shall be designed to resist shear wall overturning moments using approved cyclic load values or 75 percent of the allowable seismic load values that do not consider cyclic loading of the product. Connector bolts into wood framing shall require steel plate washers on the post on the opposite side of the anchorage device. Plate size shall be a minimum of 0.229 inch by 3 inches by 3 inches (5.82 mm by 76 mm by 76 mm) in size. Hold-down connectors shall be tightened to finger tight plus one half (1/2) wrench turn just prior to covering the wall framing.

RATIONALE:

ICC-ES AC 155 Acceptance Criteria for Hold-downs (Tie-Downs) Attached to Wood Members is widely used to establish allowable values for hold-down connectors in evaluation reports. AC 155 uses monotonic loading to establish allowable values. Yet, cyclic and dynamic forces imparted on buildings and structures by seismic activity cause more damage than equivalent forces that are applied in a monotonic manner. However, the engineering, regulatory and manufacturing industries have not reached consensus on the appropriate cyclic or dynamic testing protocols. This condition is expected to continue for some time. In the interim, this proposed amendment continues to limit the allowable capacity to 75% of the evaluation report value to provide an additional factor of safety for statically tested anchorage devices. Steel plate washers will reduce the additional damage that can result when hold-down connectors are fastened to wood framing members. 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 with additional editorial revisions for clarification.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to establish minimum performance requirements for hold-down connectors will reduce failure of wood structural panel shear walls due to excessive deflection 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 California Building Code.

2019 LARUCP 23-05. Section 2306.2 of the 2019 Edition of the California Building Code is amended to read as follows:

2306.2 Wood-frame diaphragms. Wood-frame diaphragms shall be designed and constructed in accordance with AWC SDPWS. Where panels are fastened to framing members with staples, requirements and limitations of AWC SDPWS shall be met and the allowable shear values set forth in 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 diaphragms are 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.

RATIONALE:

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.

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 D, E and F unless it can be substantiated by cyclic testing.

Furthermore, the cities and county within the Los Angeles region has taken extra measures to maintain the structural integrity of the framing of shear walls and diaphragms designed for high levels of seismic forces by requiring wood sheathing be applied directly over the framing members and prohibiting the use of panels placed over gypsum sheathing. This proposed amendment is intended to prevent the undesirable performance of nails when gypsum board softens due to cyclic earthquake displacements and the nail ultimately does not have any engagement in a solid material within the thickness of the gypsum board.

This proposed amendment continues the previous amendment adopted during the 2010 code adoption cycle.



FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to place design and construction limits on staples as fasteners used in wood structural panel or diaphragms not substantiated with cyclic testing will help to maintain minimum quality of construction and performance standards of structures 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 California Building Code.

2019 LARUCP 23-06. Section 2306.3 of the 2019 Edition of the California Building Code is amended to read as follows:

2306.3 Wood-frame shear walls. Wood-frame shear walls shall be designed and constructed in accordance with AWC SDPWS. For structures assigned to Seismic Design Category D, E, or F, application of Tables 4.3A and 4.3B of AWC 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 3/8 inch wood structural panels resisting seismic forces in structures assigned to Seismic Design Category D, E or F is 400 pounds per linear foot (plf).

Exception: Other nominal unit shear capacities may be permitted if such values are substantiated by cyclic testing and approved by the building official.
3. 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.
4. 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 AWC SDPWS shall not be used below the top level in a multi-level building.

Where panels are fastened to framing members with staples, requirements and limitations of AWC 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 AWC SDPWS.

RATIONALE:

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 stapled nails 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.

In September 2007, limited cyclic testing was conducted by a private engineering firm to determine if wood structural panels fastened with stapled nails would exhibit the same behavior as the wood structural panels fastened with common nails. The test result revealed that wood structural panel fastened with stapled nails

appeared to be much lower in strength and stiffness than wood structural panels fastened with common nails. It was recommended that the use of stapled nail as fasteners for wood structural panel shear walls or diaphragms not be permitted to resist seismic forces in structures assigned to Seismic Design Category D, E and F unless it can be substantiated by cyclic testing.

Furthermore, the cities and county within the Los Angeles region has taken extra measures to maintain the structural integrity of the framing of shear walls and diaphragms designed for high levels of seismic forces by requiring wood sheathing be applied directly over the framing members and prohibiting the use of panels placed over gypsum sheathing. This proposed amendment is intended to prevent the undesirable performance of nails when gypsum board softens due to cyclic earthquake displacements and the nail ultimately does not have any engagement in a solid material within the thickness of the gypsum board.

This proposed amendment continues the previous amendment adopted during the 2010 code adoption cycle.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to place design and construction limits on stapled nail fasteners used in wood structural panel shear walls or diaphragms not substantiated with cyclic testing will help to maintain minimum quality of construction and performance standards of structures 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 California Building Code.

2019 LARUCP 23-07. Section 2307.2 is added to the 2019 Edition of the California Building Code to read as follows:

2307.2 Wood-frame shear walls. Wood-frame shear walls shall be designed and constructed in accordance with Section 2306.3 as applicable.

RATIONALE:

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 stapled nails 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.

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

Furthermore, the cities and county within the Los Angeles region has taken extra measures to maintain the structural integrity of the framing of shear walls and diaphragms designed for high levels of seismic forces by requiring wood sheathing be applied directly over the framing members and prohibiting the use of panels placed over gypsum sheathing. This proposed amendment is intended to prevent the undesirable performance of nails when gypsum board softens due to cyclic earthquake displacements and the nail ultimately does not have any engagement in a solid material within the thickness of the gypsum board.

This proposed amendment continues the previous amendment adopted during the 2010 code adoption cycle.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to place design and construction limits on stapled nail fasteners used in wood structural panel shear walls or diaphragms not substantiated with cyclic testing will help to maintain minimum quality of construction and performance standards of structures 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 California Building Code.

2019 LARUCP 23-08. Table 2308.6.1 of the 2019 Edition of the California Building Code is amended to read as follows:

TABLE 2308.6.1^a
WALL BRACING REQUIREMENTS

SEISMIC DESIGN CATEGORY	STORY CONDITION (SEE SECTION 2308.2)	MAXIMUM SPACING OF BRACED WALL LINES	BRACED PANEL LOCATION, SPACING (O.C.) AND MINIMUM PERCENTAGE (X)			MAXIMUM DISTANCE OF BRACED WALL PANELS FROM EACH END OF BRACED WALL LINE
			Bracing method ^b			
			LIB	DWB, WSP	SFB, PBS, PCP, HPS, GB ^{c,d}	
A and B		35'- 0"	Each end and ≤ 25'- 0" o.c.	Each end and ≤ 25'- 0" o.c.	Each end and ≤ 25'- 0" o.c.	12'- 6"
		35'- 0"	Each end and ≤ 25'- 0" o.c.	Each end and ≤ 25'- 0" o.c.	Each end and ≤ 25'- 0" o.c.	12'- 6"
		35'- 0"	NP	Each end and ≤ 25'- 0" o.c.	Each end and ≤ 25'- 0" o.c.	12'- 6"
C		35'- 0"	NP	Each end and ≤ 25'- 0" o.c.	Each end and ≤ 25'- 0" o.c.	12'- 6"
		35'- 0"	NP	Each end and ≤ 25'- 0" o.c. (minimum 25% of wall length) ^e	Each end and ≤ 25'- 0" o.c. (minimum 25% of wall length) ^e	12'- 6"
D and E ^{f, g, h}		25'- 0"	NP	$S_{DS} < 0.50$: Each end and ≤ 25'- 0" o.c. (minimum 21% of wall length) ^e	$S_{DS} < 0.50$: Each end and ≤ 25'- 0" o.c. (minimum 43% of wall length) ^e	8'- 0"
				$0.5 \leq S_{DS} < 0.75$: Each end and ≤ 25'- 0" o.c. (minimum 32% of wall length) ^e	$0.5 \leq S_{DS} < 0.75$: Each end and ≤ 25'- 0" o.c. (minimum 59% of wall length) ^e	
				$0.75 \leq S_{DS} \leq 1.00$: Each end and ≤ 25'- 0" o.c. (minimum 37% of wall length) ^e	$0.75 \leq S_{DS} \leq 1.00$: Each end and ≤ 25'- 0" o.c. (minimum 75% of wall length)	
				$S_{DS} > 1.00$: Each end and ≤ 25'- 0" o.c. (minimum 48% of wall length) ^e	$S_{DS} > 1.00$: Each end and ≤ 25'- 0" o.c. (minimum 100% of wall length) ^e	

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

NP = Not Permitted.

a. This table specifies minimum requirements for braced wall panels along interior or exterior braced wall lines.

b. See Section 2308.6.3 for full description of bracing methods.

c. For Method GB, gypsum wallboard applied to framing supports that are spaced at 16 inches on center.

d. The required lengths shall be doubled for gypsum board applied to only one face of a braced wall panel.

e. Percentage shown represents the minimum amount of bracing required along the building length (or wall length if the structure has an irregular shape).

f. DWB, SFB, PBS, and HPS wall braces are not permitted in Seismic Design Categories D or E.

g. Minimum length of panel bracing of one face of the wall for WSP sheathing shall be at least 4'-0" long or both faces of the wall for GB or PCP sheathing shall be at least 8'-0" long; h/w ratio shall not exceed 2:1. Wall framing to which sheathing used for bracing is applied shall be nominal 2 inch wide factual 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.

h. WSP 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.

RATIONALE:

This proposed amendment specifies minimum sheathing thickness and 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 placed on buildings or structure in this region. 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 previous code adoption cycles.

FINDINGS:

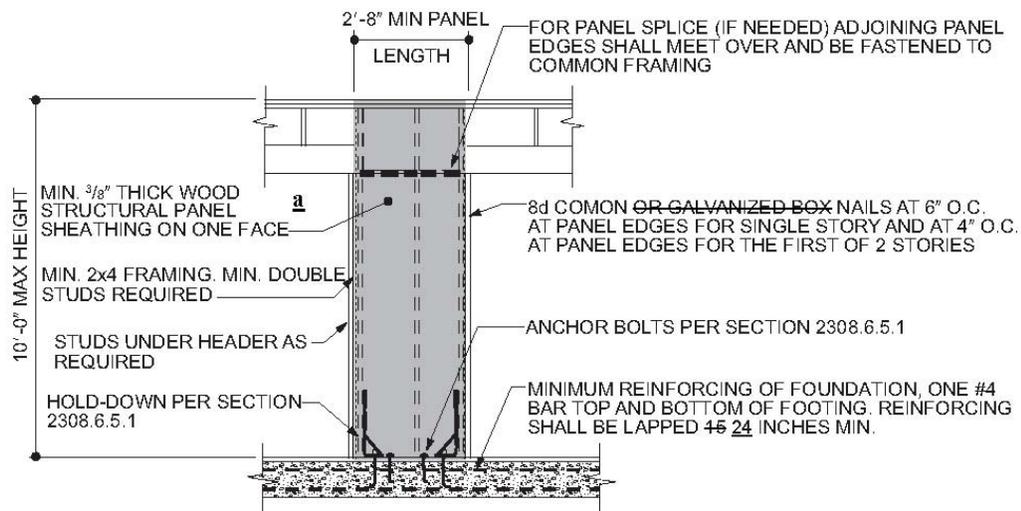
Local Geological Conditions – The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. Conventional framing does not address the need for a continuous load path, critical shear transfer mechanisms, connection-ties, irregular and flexible portions of complex shaped structures. The proposed modification to provide specific detailing requirements will improve the performance of buildings and structures and therefore needs to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the California Building Code.

2019 LARUCP 23-09. Sections 2308.6.5, 2308.6.5.1 and 2308.6.5.2 and Figures 2308.6.5.1 and 2308.6.5.2 of the 2019 Edition of the California Building Code are amended to read as follows:

2308.6.5 Alternative bracing. An alternate braced wall (ABW) or a portal frame with hold-downs (PFH) described in this section is permitted to substitute for a 48-inch (1219 mm) braced wall panel of Method DWB, WSP, SFB, PBS, PCP or HPS. For Method GB, each 96-inch (2438 mm) section (applied to one face) or 48-inch (1219 mm) section (applied to both faces) or portion thereof required by Table 2308.6.1 is permitted to be replaced by one panel constructed in accordance with Method ABW or PFH.

2308.6.5.1 Alternate braced wall (ABW). An ABW shall be constructed in accordance with this section and Figure 2308.6.5.1. In one-story buildings, each panel shall have a length of not less than 2 feet 8 inches (813 mm) and a height of not more than 10 feet (3048 mm). Each panel shall be sheathed on one face with 3/8-inch (3.2 mm) minimum-thickness wood structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Table 2304.10.1 and blocked at wood structural panel edges. For structures assigned to Seismic Design Category D or E, each panel shall be sheathed on one face with 15/32-inch-minimum-thickness (11.9 mm) wood structural panel sheathing nailed with 8d common nails spaced 3 inches on panel edges, 3 inches at intermediate supports. Two anchor bolts installed in accordance with Section 2308.3.1 shall be provided in each panel. Anchor bolts shall be placed at each panel outside quarter points. Each panel end stud shall have a hold-down device fastened to the foundation, capable of providing an approved uplift capacity of not less than 1,800 pounds (8006 N). The hold-down device shall be installed in accordance with the manufacturer's recommendations. The ABW 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 ~~45 24~~ inches (384 610 mm) with the reinforcement required in the continuous foundation located directly under the braced wall line.

Where the ABW is installed at the first story of two-story buildings, 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 be not less than 3,000 pounds (13 344 N).



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

a. For structures assigned to Seismic Design Category D or E, sheathed on one face with 15/32-inch-minimum-thickness (11.9 mm) wood structural panel sheathing.

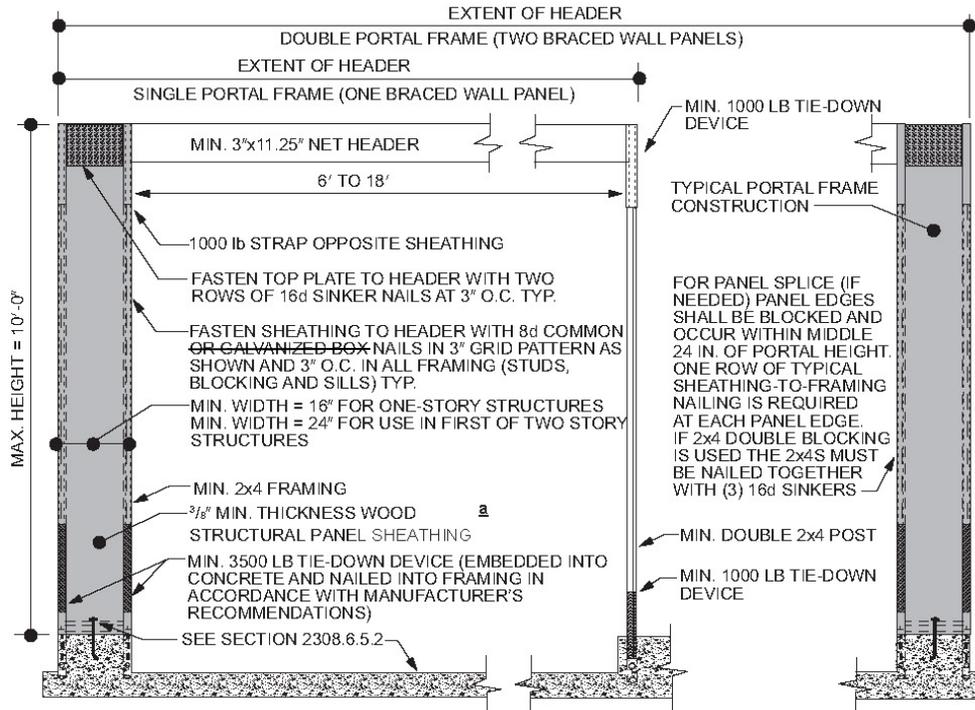
**FIGURE 2308.6.5.1
ALTERNATE BRACED WALL PANEL (ABW)**

2308.6.5.2 Portal frame with hold-downs (PFH). A PFH shall be constructed in accordance with this section and Figure 2308.6.5.2. The adjacent door or window opening shall have a full-length header.

In one-story buildings, each panel shall have a length of not less than 16 inches (406 mm) and a height of not more than 10 feet (3048 mm). Each panel shall be sheathed on one face with a single layer of 3/8-inch (9.5 mm) minimum-thickness wood structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Figure 2308.6.5.2. For structures assigned to Seismic Design Category D or E, each panel shall be sheathed on one face with 15/32-inch-minimum-thickness (11.9 mm) wood structural panel sheathing nailed with 8d common nails spaced 3 inches on panel edges, 3 inches at intermediate supports and in accordance with Figure 2308.6.5.2. The wood structural panel sheathing shall extend up over the solid sawn or glued-laminated header and shall be nailed in accordance with Figure 2308.6.5.2. A built-up header consisting of at least two 2-inch by 12-inch (51 mm by 305 mm) boards, fastened in accordance with Item 24 of Table 2304.10.1 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 2308.3.1 shall be provided in the center of each sill plate. The studs at each end of the panel shall have a hold-down device fastened to the foundation with an uplift capacity of not less than 3,500 pounds (15 570 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 hold-down device fastened to the foundation with an uplift capacity of not less than 1,000 pounds (4400 N). The hold-down devices shall be an embedded strap type, installed in accordance with the manufacturer's recommendations. The PFH 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~~ 24 inches (~~384~~ 610 mm) with the reinforcement required in the continuous foundation located directly under the braced wall line.

Where a PFH is installed at the first story of two-story buildings, each panel shall have a length of not less than 24 inches (610 mm).



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound = 4.448 N.

a. For structures assigned to Seismic Design Category D or E, sheathed on one face with 15/32-inch-minimum-thickness (11.9 mm) wood structural panel sheathing.

**FIGURE 2308.6.5.2
PORTAL FRAME WITH HOLD-DOWNS (PFH)**

RATIONALE:

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.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification requiring minimum sheathing thickness and nailing type and size will help to maintain minimum quality of construction and performance standards of structures and therefore needs to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the California Building Code.

2019 LARUCP 23-10. Section 2308.6.8.1 of the 2019 Edition of the California Building Code is amended to read as follows:

2308.6.8.1 Foundation requirements. Braced wall lines shall be supported by continuous foundations.

Exception: For structures with a maximum plan dimension not more than 50 feet (15240 mm), continuous foundations are required at exterior walls only for structures assigned to Seismic Design Category A, B, or C.

For structures in Seismic Design Categories D and E, exterior braced wall panels shall be in the same plane vertically with the foundation or the portion of the structure containing the offset shall be designed in accordance with accepted engineering practice and Section 2308.1.1.

Exceptions:

- ~~1. Exterior braced wall panels shall be permitted to be located not more than 4 feet (1219 mm) from the foundation below where supported by a floor constructed in accordance with all of the following:
 - ~~1.1. Cantilevers or setbacks shall not exceed four times the nominal depth of the floor joists.~~
 - ~~1.2. Floor joists shall be 2 inches by 10 inches (51 mm by 254 mm) or larger and spaced not more than 16 inches (406 mm) on center.~~
 - ~~1.3. The ratio of the back span to the cantilever shall be not less than 2 to 1.~~
 - ~~1.4. Floor joists at ends of braced wall panels shall be doubled.~~
 - ~~1.5. A continuous rim joist shall be connected to the ends of cantilevered joists. The rim joist is permitted to be spliced using a metal tie not less than 0.058 inch (1.47 mm) (16 galvanized gage) and 1 1/2 inches (38 mm) in width fastened with six 16d common nails on each side. The metal tie shall have a yield stress not less than 33,000 psi (227 MPa).~~
 - ~~1.6. Joists at setbacks or the end of cantilevered joists shall not carry gravity loads from more than a single story having uniform wall and roof loads nor carry the reactions from headers having a span of 8 feet (2438 mm) or more.~~~~
- ~~2. The end of a required braced wall panel shall be allowed to extend not more than 1 foot (305 mm) over an opening in the wall below. This requirement is applicable to braced wall panels offset in plane and braced wall panels offset out of plane as permitted by Exception 1. Braced wall panels are permitted to extend over an opening not more than 8 feet (2438 mm) in width where the header is a 4-inch by 12-inch (102 mm by 305 mm) or larger member.~~

RATIONALE:

With the higher seismic demand placed on buildings and structures in this region, interior walls can easily be called upon to resist over half of the seismic loading imposed on simple buildings or structures. Without a continuous foundation to support the braced wall line, seismic loads would be transferred through other elements such as non-structural concrete slab floors, wood floors, etc. The proposed change is to limit the use of the exception to structures assigned to Seismic Design Category A, B or C where lower seismic demands are expected. Requiring interior braced walls be supported by continuous foundations is intended to reduce or eliminate the poor performance of buildings or structures. This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

FINDINGS:

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 recent 1994 Northridge Earthquake. Conventional framing does not address the need for a continuous load path, critical shear transfer mechanisms, connection-ties, irregular and flexible portions of complex shaped structures. The proposed modification to require continuous footings under braced wall lines will improve performance of buildings or structure during a seismic event and therefore need to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the California Building Code.

2019 LARUCP 23-11. Section 2308.6.9 of the 2019 Edition of the California Building Code is amended to read as follows:

2308.6.9 Attachment of sheathing. Fastening of braced wall panel sheathing shall not be less than that prescribed in Tables 2308.6.1 or 2304.10.1. Wall sheathing shall not be attached to framing members by adhesives. Staple fasteners in Table 2304.10.1 shall not be used to resist or transfer seismic forces in structures assigned to Seismic Design Category D, E or F.

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

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

RATIONALE:

This proposed amendment is intended to improve the performance level of buildings and structures that are subject to the higher seismic demands placed on buildings or structure in this region. 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 previous code adoption cycles.

FINDINGS:

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 recent 1994 Northridge Earthquake. Conventional framing does not address the need for a continuous load path, critical shear transfer mechanisms, connection-ties, irregular and flexible portions of complex shaped structures. The proposed modification to provide specific detailing requirements will improve the performance of buildings and structures and therefore needs to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the California Building Code.

2019 LARUCP 31-01. Section 3114 is added to and Section 202, Section 3101.1 and Chapter 35 of the 2019 Edition of the California Building Code is amended to read as follows:

SECTION 202 DEFINITIONS

INTERMODAL SHIPPING CONTAINER. A six-sided steel unit originally constructed as a general cargo container used for the transport of goods and materials.

SECTION 3101 GENERAL

3101.1 Scope. The provisions of this chapter shall govern special building construction including membrane structures, temporary structures, pedestrian walkways and tunnels, automatic vehicular gates, awnings and canopies, marquees, signs, towers, antennas, relocatable buildings, swimming pool enclosures and safety devices, ~~and solar energy systems,~~ and intermodal shipping containers.

SECTION 3114 INTERMODAL SHIPPING CONTAINERS

3114.1 General. The provisions of Section 3114 and other applicable sections of this code shall apply to intermodal shipping containers that are repurposed for use as buildings or structures or as a part of buildings or structures.

Exceptions:

1. Intermodal shipping containers previously approved as existing relocatable buildings complying with Chapter 14 of the California Existing Building Code.
2. Stationary storage battery arrays located in intermodal shipping containers complying with Chapter 12 of the California Fire Code.
3. Intermodal shipping containers that are listed as equipment complying with the standard for equipment, such as air chillers, engine generators, modular datacenters, and other similar equipment.
4. Intermodal shipping containers housing or supporting experimental equipment are exempt from the requirements of Section 3114 provided they comply with all of the following:
 - 4.1. Single-unit stand-alone intermodal shipping containers shall be supported at grade level and used only for occupancies as specified under Risk Category I in Table 1604.5;
 - 4.2. Single-unit stand-alone intermodal shipping containers shall be located a minimum of 8 feet from adjacent structures and are not connected to a fuel gas system or fuel gas utility; and
 - 4.3. In hurricane-prone regions and flood hazard areas, single-unit stand-alone intermodal shipping containers are designed in accordance with the applicable provisions of Chapter 16.
5. Intermodal shipping containers approved as temporary structures complying with Section 3103.

6. Single-unit stand-alone intermodal shipping containers used as temporary storage or construction trailer on active construction sites. Construction support facilities for uses and activities not directly associated with the actual processes of construction, including but not limited to, offices, meeting rooms, plan rooms, other administrative or support functions shall not be exempt from Section 3114.

3114.2 Construction documents. The construction documents shall contain information to verify the dimensions and establish the physical properties of the steel components, and wood floor components, of the intermodal shipping container in addition to the information required by Sections 107 and 1603.

3114.3 Intermodal shipping container information. Intermodal shipping containers shall bear the manufacturer's existing data plate containing the following information as required by ISO 6346 and verified by an approved agency. A report of the verification process and findings shall be provided to the building owner.

1. Manufacturer's name or identification number
2. Date manufactured
3. Safety approval number
4. Identification number
5. Maximum operating gross mass or weight (kg) (lbs)
6. Allowable stacking load for 1.8G (kg) (lbs)
7. Transverse racking test force (Newtons)
8. Valid maintenance examination date

Where approved by the building official, the markings and manufacturer's existing data plate are permitted to be removed from the intermodal shipping containers before they are repurposed for use as buildings or structures or as part of buildings or structures.

3114.4 Protection against decay and termites. Wood structural floors of intermodal shipping containers shall be protected from decay and termites in accordance with the applicable provisions of Section 2304.12.1.1.

3114.5 Under-floor ventilation. The space between the bottom of the floor joists and the earth under any intermodal shipping container, except spaces occupied by basements and cellars, shall be provided with ventilation in accordance with Section 1202.4.

3114.6 Roof assemblies. Intermodal shipping container roof assemblies shall comply with the applicable requirements of Chapter 15.

Exception: Single-unit stand-alone intermodal shipping containers not attached to, or stacked vertically over, other intermodal shipping containers, buildings or structures.

3114.7 Joints and voids. Joints and voids that create concealed spaces between intermodal shipping containers, that are connected or stacked, at fire-resistance-rated walls, floor or floor/ceiling assemblies and roofs or roof/ceiling assemblies shall be protected by an approved fire-resistant joint system in accordance with Section 715.

3114.8 Structural. Intermodal shipping containers that conform to ISO 1496-1 and are repurposed for use as buildings or structures, or as a part of buildings or structures, shall be designed in accordance with Chapter 16 and this section.

3114.8.1 Foundations. Intermodal shipping containers repurposed for use as a permanent building or structure shall be supported on foundations or other supporting structures designed and constructed in accordance with Chapters 16 through 23.

3114.8.1.1 Anchorage. Intermodal shipping containers shall be anchored to foundations or other supporting structures as necessary to provide a continuous load path for all applicable design and environmental loads in accordance with Chapter 16.

3114.8.2 Welds. All new welds and connections shall be equal to or greater than the original connections.

3114.8.3 Openings in containers. Where openings are made in container walls, floors, and roofs for doors, windows and other similar openings:

1. The openings shall be framed with steel elements that are designed in accordance with Chapter 16 and Chapter 22.
2. The cross section and material grade of any new steel element shall be equal to or greater than the steel element removed.

3114.8.4 Detailed structural design procedure. A structural analysis meeting the requirements of this section shall be provided to the building official to demonstrate the structural adequacy of the intermodal shipping containers.

Exception: Intermodal shipping containers that meet the limitation of Section 3114.8.5.1 and designed in accordance with the simplified procedure in Section 3114.8.5.

3114.8.4.1 Material properties. Structural material properties for existing intermodal shipping container steel components shall be established by material testing where the steel grade and composition cannot be identified by the manufacturer's designation as to manufacture and mill test.

3114.8.4.2 Seismic design parameters. The seismic force-resisting system shall be designed and detailed in accordance with one of the following:

1. Where all or portions of the intermodal shipping container sides are considered to be the seismic force-resisting system, design and detailing shall be in accordance with the ASCE 7 Table 12.2-1 requirements for light-frame bearing-wall systems with shear panels of all other materials,
2. Where portions of intermodal shipping container sides are retained, but are not considered to be the seismic force-resisting system, an independent seismic force-resisting system shall be selected, designed and detailed in accordance with ASCE 7 Table 12.2-1, or
3. Where portions of the intermodal shipping container sides are retained and integrated into a seismic force-resisting system other than as permitted by Section 3114.8.4.2 Item 1, seismic design parameters shall be developed from testing and analysis in accordance with Section 104.11 and ASCE 7 Section 12.2.1.1 or 12.2.1.2.

3114.8.4.3 Allowable shear value. The allowable shear values for the intermodal shipping container side walls and end walls shall be demonstrated by testing and analysis accordance with Section 104.11. Where penetrations are made in the side walls or end walls designated as part of the lateral force-resisting system, the penetrations shall be substantiated by rational analysis.

3114.8.5 Simplified structural design procedure of single-unit containers. Single-unit intermodal shipping containers conforming to the limitations of Section 3114.8.5.1 shall be permitted to be designed in accordance with Sections 3114.8.5.2 and 3114.8.5.3.

3114.8.5.1 Limitations. Use of Section 3114.8.5 is subject to all the following limitations:

1. The intermodal shipping container shall be a single stand-alone unit supported on a foundation and shall not be in contact with or supporting any other shipping container or other structure.
2. The intermodal shipping container's top and bottom rails, corner castings, and columns or any portion thereof shall not be notched, cut, or removed in any manner.
3. The intermodal shipping container shall be erected in a level and horizontal position with the floor located at the bottom.

3114.8.5.2 Structural design. Where permitted by Section 3114.8.5.1, single-unit stand-alone intermodal shipping containers shall be designed using the following assumptions for the side walls and end walls:

1. The appropriate detailing requirements contained in Chapters 16 through 23.
2. Response modification coefficient, $R = 2$.
3. Over strength factor, $\Omega_o = 2.5$.
4. Deflection amplification factor, $C_d = 2$, and
5. Limits on structural height, $h_n = 9.5$ feet (2900 mm).

3114.8.5.3 Allowable shear value. The allowable shear values for the intermodal shipping container side walls (longitudinal) and end walls (transverse) for wind design and seismic design using the coefficients of Section 3114.8.5.2 shall be in accordance with Table 3114.8.5.3, provided that all of the following conditions are met:

1. The total linear length of all openings in any individual side walls or end walls shall be limited to not more than 50 percent of the length of that side walls or end walls, as shown in Figure 3114.8.5.3(1).
2. Any full height wall length, or portion thereof, less than 4 feet (305 mm) long shall not be considered as a portion of the lateral force-resisting system, as shown in Figure 3114.8.5.3(2).
3. All side walls or end walls used as part of the lateral force-resisting system shall have an existing or new boundary element on all sides to form a continuous load path, or paths, with adequate strength and stiffness to transfer all forces from the point of application to the final point of resistance, as shown in Figure 3114.8.5.3(3).
4. A maximum of one penetration not greater than a 6-inch (152 mm) diameter hole for conduits, pipes, tubes or vents, or not greater than 16 square inches (10 322mm²) for electrical boxes, is permitted for each individual 8 feet length (2438 mm) lateral force resisting wall. Penetrations located in walls that are not part of the wall lateral force resisting system shall not be limited in size or quantity. Existing intermodal shipping container's vents shall not be considered a penetration, as shown in Figure 3114.8.5.3(4).

- End wall door or doors designated as part of the lateral force-resisting system shall be welded closed.

TABLE 3114.8.5.3
ALLOWABLE SHEAR VALUES FOR INTERMODAL SHIPPING CONTAINER
SIDE WALLS AND END WALLS FOR WIND OR SEISMIC LOADING

CONTAINER DESIGNATION ²	CONTAINER DIMENSION (Nominal Length)	CONTAINER DIMENSION (Nominal Height)	ALLOWABLE SHEAR VALUES (PLF) ^{1,3}	
			Side Wall	End Wall
1EEE	45 feet (13.7 M)	9.5 feet (2896 mm)	75	843
1EE		8.6 feet (2591 mm)		
1AAA	40 feet (12.2 M)	9.5 feet (2896 mm)	84	
1AA		8.5 feet (2592 mm)		
1A		8.0 feet (2438 mm)		
1AX		<8.0 feet (2483 mm)		
1BBB	30 feet (9.1 M)	9.5 feet (2896 mm)	112	
1BB		8.5 feet (2591 mm)		
1B		8.0 feet (2438 mm)		
1BX		<8.0 feet (2438 mm)		
1CC	20 feet (9.1 M)	8.5 feet (2591 mm)	168	
1C		8.0 feet (2438 mm)		
1CX		<8.0 feet (2438 mm)		

- The allowable strength for the side walls and end walls of the intermodal shipping containers are derived from ISO 1496-1 and reduced by a factor of safety of 5.
- Container designation type is derived from ISO 668.
- Limitations of Sections 3114.8.5.1 and 3114.8.5.3 shall apply.

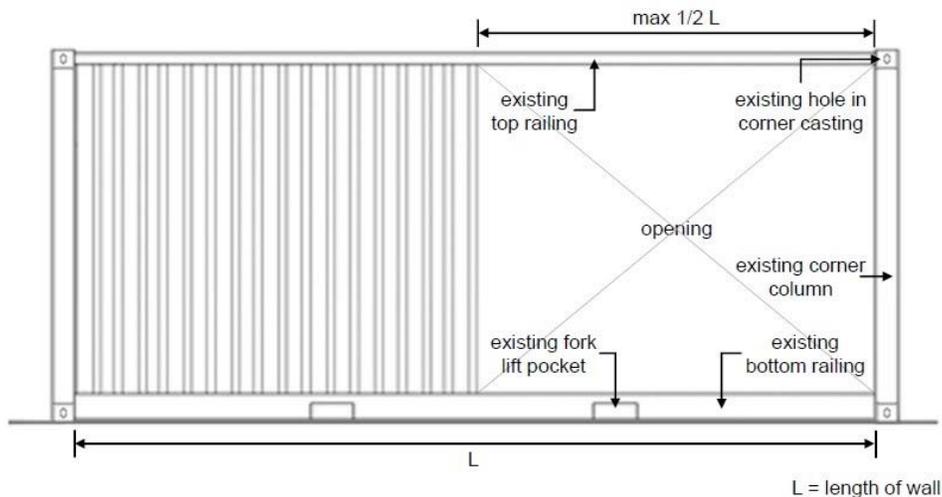


FIGURE 3114.8.5.3(1)
Bracing Unit Distribution – Maximum Linear Length

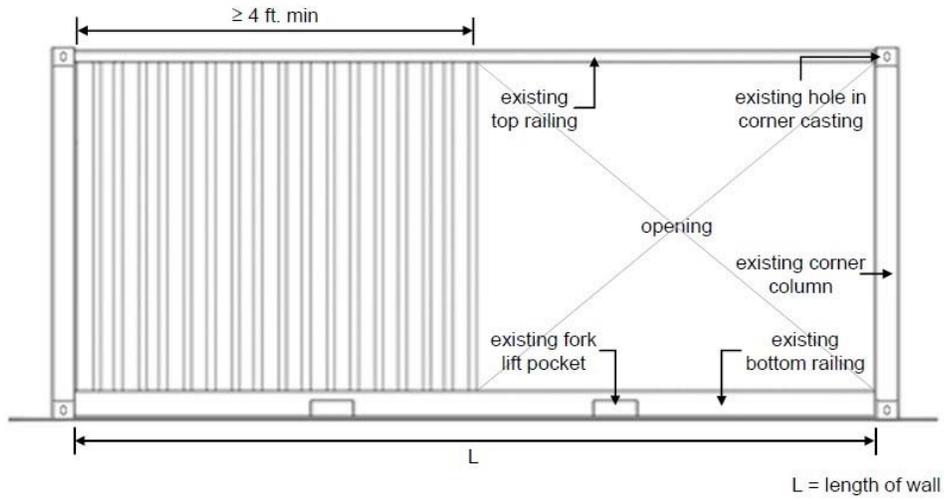


FIGURE 3114.8.5.3(2)
Bracing Unit Distribution – Minimum Linear Length

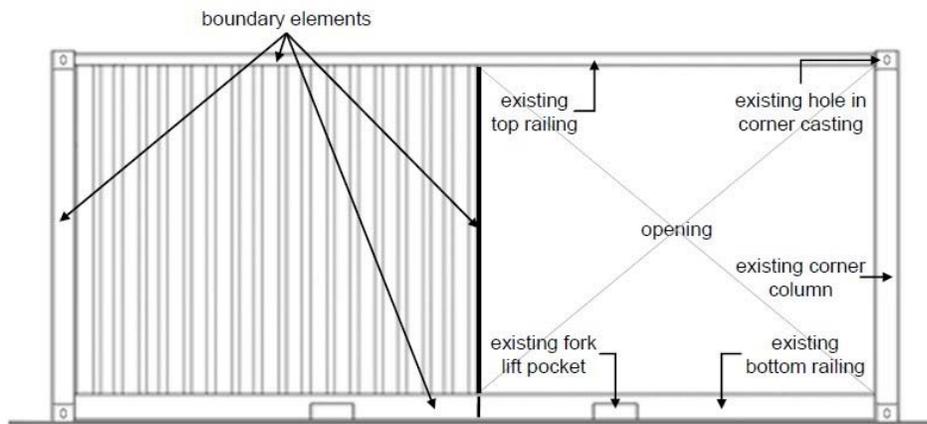


FIGURE 3114.8.5.3(3)
Bracing Unit Distribution – Boundary Elements

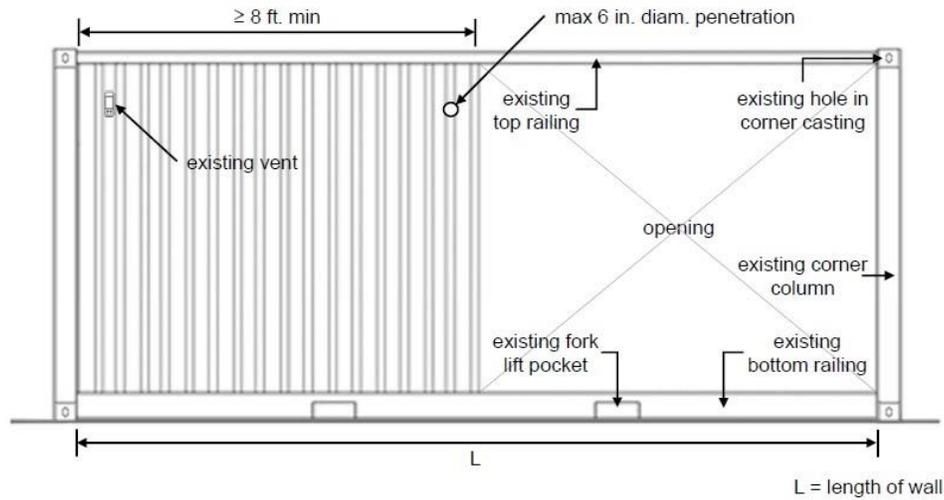


FIGURE 3114.8.5.3(4)
Bracing Unit Distribution – Penetrating Limitations

CHAPTER 35
REFERENCED STANDARDS

ISO	International Organization for Standardization ISO Central Secretariat 1 ch, de la Voie-Creuse, Casa Postale 566 CH-1211 Geneva 20, Switzerland	
Standard Reference Number	Title	Referenced in code section number
ISO 1496-1:2013	Series 1 Freight Containers – Specification and Testing – Part 1: General Cargo Containers for General Purposes	3114.8, Table 3114.8.5.3
ISO 6346:1995, with Amendment 3: 2012	Freight Containers – Coding, Identification and marking	3114.3
ISO 668:2013	Series 1 Freight Containers – Classifications, dimensions and ratings.	Table 3114.8.5.3

RATIONALE:

Due to the US trade deficit with other countries, there is an abundant supply of unused intermodal shipping containers, particularly in jurisdictions that have ports, that have created negative impacts on the environment. This results in more materials that are not recycled and increases energy consumption required to melt down and recycle others that are. The repurposing of existing intermodal shipping containers will help to reduce the environmental impact and improve the sustainability of the community by being less reliant on traditional construction material.

This amendment is based on a similar code provision adopted into the 2021 Edition of the International Building Code. It is intended to assist code officials address the environmental impact of unused materials, reduce consumption of traditional raw materials, minimize non-industrial wastes, and ensure minimum

design and safety standards associated with the repurposing of existing intermodal shipping containers as buildings or structures or component of buildings and structures are achieved.

FINDINGS:

Local Climatic and Geological Conditions – The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. The region is further impacted by construction of buildings and structures utilizing traditional construction materials that impact the amount of energy, air quality, greenhouse gas emission and construction waste in the area. The proposed amendment addresses structural designs specific to intermodal shipping containers, reduce environmental impact of unused and unrecycled intermodal shipping containers, and increase sustainability by reducing consumption of traditional construction materials. The proposed modification needs to be incorporated into the code to assure that new buildings and additions to existing buildings utilizing intermodal shipping containers are designed and constructed in accordance with the scope and objectives of the California Building Code and California Green Building Standards Code.



PART II

LARUCP RECOMMENDED CODE AMENDMENTS TO THE 2019 EDITION OF THE CALIFORNIA RESIDENTIAL CODE



SUMMARY OF RECOMMENDED LARUCP AMENDMENTS TO THE 2019 CRC

(N) 2019 LARUCP NO.	TITLE/DESCRIPTION	STATUS ¹
R3-01	Amend CRC Section R301.1.3.2 Woodframe Structures	E
R3-02	Add CRC Section R301.1.4 Seismic Design Provisions for Buildings on Slopes Steeper than 33%	E
R3-03	Amend CRC Section R301.2.2.6 Irregular Buildings	E
R3-04	Add CRC Section R301.2.2.11 Anchorage of Mechanical, Electrical, or Plumbing Components and Equipment	E
R4-01	Amend CRC Section R401.1 Application	E
R4-02	Amend CRC Sections R403.1.2, R403.1.3.6, R403.1.5 General Footings	E
R4-03	Amend CRC Section R404.2 Wood Foundation Walls	E
R5-01	Amend CRC Section R501.1 Application	E
R5-02	Add CRC Section R503.2.4 Openings In Horizontal Diaphragms	E
R6-01	Amend CRC Table R602.3(1) Fastening Schedule	E
R6-02	Amend CRC Section R602.3.2 and Table R602.3.2 Top Plate	E
R6-03	Amend CRC Table R602.3(2) Alternate Attachments to Table R602.3(1)	E
R6-04	Amend CRC Section R602.10.2.3 Minimum Number of Braced Wall Panels	E
R6-05	Amend CRC Table R602.10.3(3) Bracing Requirements Based on Seismic Design Category	E
R6-06	Amend CRC Table R602.10.4 Bracing Methods	E
R6-07	Amend CRC Table R602.10.5 Minimum Length of Braced Wall Panels	E
R6-08	Amend CRC Figure R602.10.6.1 Method ABW - Alternate Braced Wall Panel	E
R6-09	Amend CRC Figure R602.10.6.2 Method PFH - Portal Frame with Hold-downs at Detached Garage Door Openings	E
R6-10	Amend CRC Figure R602.10.6.4 Method CS-PF - Continuously Sheathed Portal Framed Construction	E
R6-11	Amend CRC Section R606.4.4 Parapet Walls	E
R6-12	Amend CRC Section R606.12.2.2.3 Reinforcement Requirements for Masonry Elements	E
R8-01	Add CRC Section R803.2.4 Openings in Horizontal Diaphragms	E
R9-01	Amend CRC Section R905.3.1 Deck Requirements	N
R10-01	Amend CRC Section R1001.3.1 Vertical Reinforcing	E

FOOTNOTE:

1. N = New amendment proposed
E = Existing amendment updated as necessary

2019 LARUCP R3-01. Section R301.1.3.2 of the 2019 Edition of the California Residential Code is amended to read as follows:

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

The building official shall require construction documents to be approved and stamped by a California licensed architect or engineer for all dwellings of woodframe construction more than one story in height or with a basement located in Seismic Design Category D₀, D₁, or D₂.

RATIONALE:

After the 1994 Northridge Earthquake, the Wood Frame Construction Joint Task Force recommended that the quality of wood frame construction need to be greatly improved. One such recommendation identified by the Task Force is to improve the quality and organization of structural plans prepared by the engineer or architect so that plan examiners, building inspectors, contractors and special inspectors may logically follow and construct the presentation of the seismic force-resisting systems in the construction documents. For buildings or structures located in Seismic Design Category D₀, D₁, or D₂ that are subject to a greater level of seismic forces, the requirement to have a California licensed architect or engineer prepare the construction documents is intended to minimize or reduce structural deficiencies that may cause excessive damage or injuries in wood frame buildings. Structural deficiencies such as plan and vertical irregularities, improper shear transfer of the seismic force-resisting system, missed details or connections important to the structural system, and the improper application of the prescriptive requirements of the California Residential Code can be readily addressed by a registered design professional.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to require construction documents for wood frame construction greater than one story in height or with a basement to be approved and stamped by a California licensed architect or engineer is intended to assure that both the structural design and prescriptive requirement of the code are properly utilized and presented 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 California Residential Code.

2019 LARUCP R3-02. Section R301.1.4 is added to Chapter 3 of the 2019 Edition of the California Residential Code to read as follows:

R301.1.4 Seismic design provisions for buildings constructed on or into slopes steeper than one unit vertical in three units horizontal (33.3 percent slope). The design and construction of new buildings and additions to existing buildings when constructed on or into slopes steeper than one unit vertical in three units horizontal (33.3 percent slope) shall comply with Section 1613.5 of the California Building Code.

RATIONALE:

Due to the difficulty of fire suppression vehicles accessing winding and narrow hillside properties and the probabilities for future earthquakes in the Los Angeles region, this technical amendment is required to address the special needs for buildings constructed on hillside locations. A joint Structural Engineers Association of Southern California (SEAOSC) and both the 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 both the City and County of Los Angeles for several years with much success. This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles.

FINDINGS:

Local Topographical and Geological Conditions – The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. Additionally, the topography within the Los Angeles region includes significant hillsides with narrow and winding access that makes timely response by fire suppression vehicles challenging and difficult. The proposed modification establishes design parameters to better mitigate and limit property damage that are the results of increased seismic forces which are imparted upon hillside buildings and structures 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 California Residential Code.

2019 LARUCP R3-03. Items 1, 3 and 5 of Section R301.2.2.6 of the 2019 Edition of the California Residential Code are amended to read as follows:

1. **Shear wall or braced wall offsets out of plane.** Conditions where exterior shear wall lines or braced wall panels are not in one plane vertically from the foundation to the uppermost story in which they are required.

Exception: For wood light frame construction, floors with cantilevers or setbacks not exceeding four times the nominal depth of the wood floor joists are permitted to support braced wall panels that are out of plane with braced wall panels below provided that all of the following are satisfied:

- ~~1. Floor joists are nominal 2 inches by 10 inches (51 mm by 254 mm) or larger and spaced not more than 16 inches (406 mm) on center.~~
 - ~~2. The ratio of the back span to the cantilever is not less than 2 to 1.~~
 - ~~3. Floor joists at ends of braced wall panels are doubled.~~
 - ~~4. For wood frame construction, a continuous rim joist is connected to ends of cantilever joists. When spliced, the rim joists shall be spliced using a galvanized metal tie not less than 0.058 inch (1.5 mm) (16 gage) and 1 1/2 inches (38 mm) wide fastened with six 16d nails on each side of the splice or a block of the same size as the rim joist of sufficient length to fit securely between the joist space at which the splice occurs fastened with eight 16d nails on each side of the splice; and~~
 - ~~5. Gravity loads carried at the end of cantilevered joists are limited to uniform wall and roof loads and the reactions from headers having a span of 8 feet (2438 mm) or less.~~
3. **Shear wall or braced wall offsets in plane.** Conditions where the end of a braced wall panel occurs over an opening in the wall below, and ends at a horizontal distance greater than 1 foot (305 mm) from the edge of the opening. This provision is applicable to shear walls and braced wall panels offset in plane and to braced wall panels offset out of plane as permitted by the exception to item 1.

Exception: For wood light frame wall construction, one end of a braced wall panel shall be permitted to extend more than one foot (305 mm) over an opening not more than 8 feet (2438 mm) in width in the wall below provided that the opening includes a header in accordance with all of the following:

- ~~1. The building width, loading condition and framing member species limitations of Table R602.7(1) shall apply.~~
 - ~~2. The header is composed of:
 - 2.1 Not less than one 2x12 or two 2x10 for an opening not more than 4 feet (1219 mm) wide.
 - 2.2 Not less than two 2x12 or three 2x10 for an opening not more than 6 feet (1829 mm) in width.
 - 2.3 Not less than three 2x12 or four 2x10 for an opening not more than 8 feet (2438 mm) in width.~~
 - ~~3. The entire length of the braced wall panel does not occur over an opening in the wall below.~~
5. **Floor level offset.** Conditions where portions of a floor level are vertically offset.

Exceptions:

- ~~1. Framing supported directly by continuous foundations at the perimeter of the building.~~

- ~~2. For wood light frame construction, floors shall be permitted to be vertically offset where the floor framing is lapped or tied together as required by section R502.6.1.~~

RATIONALE:

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 limiting the type of irregular conditions specified in the California Residential Code. Such limitations are intended to reduce the potential structural damage expected in the event of an earthquake. The cities and county of the Los Angeles region has taken extra measures to maintain the structural integrity of the framing of the shear walls and all associated elements when designed for high levels of seismic loads.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed amendment limits the type of irregular conditions within buildings that may lead to higher structural damage during a seismic event and therefore needs 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 California Residential Code and consistent with the requirements in the ASCE 7-16.

2019 LARUCP R3-04. Section R301.2.2.11 is added to Chapter 3 of the 2019 Edition of the California Residential Code to read as follows:

R301.2.2.11 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 California 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.

RATIONALE:

There is no limitation for weight of mechanical and plumbing fixtures and equipment in the California Residential Code. Requirements from ASCE 7 and the California 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.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to limit the equipment weight is intended to reduce injuries, save lives, and minimize structural damages and therefore needs 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 California Residential Code.

2019 LARUCP R4-01. Section R401.1 of the 2019 Edition of the California Residential Code is amended to read as follows:

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

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

1. In buildings that have no more than two floors and a roof.
2. When interior basement and foundation walls are constructed at intervals not exceeding 50 feet (15 240 mm).

Wood foundations in Seismic Design Category D₀, D₁, or D₂ shall ~~be designed in accordance with accepted engineering practice~~ not be permitted.

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

RATIONALE:

No substantiating data has been provided to show that wood 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. Wood foundation, when they are not properly treated and protected against deterioration, have performed very poorly and have led to slope failures. 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 in using wood foundation that experience relatively rapid decay due to the fact that the region does not experience temperatures cold enough to destroy or retard the growth and proliferation of wood-destroying organisms. However, an exception is made for non-occupied, single-story storage structures that pose significantly less risk to human safety and may utilize the wood foundation guidelines specified in this Chapter. This proposed amendment is a continuation of an amendment adopted during previous code adoption cycles for the California Residential Code.

FINDINGS:

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

2019 LARUCP R4-02. Sections R403.1.2, R403.1.3.6 and R403.1.5 of the 2019 Edition of the California Residential Code are amended to read as follows:

R403.1.2 Continuous footing in Seismic Design Categories D₀, D₁ and D₂. Exterior walls of buildings located in Seismic Design Categories D₀, D₁ and D₂ shall be supported by continuous solid or fully grouted masonry or concrete footings. ~~Other footing materials or systems shall be designed in accordance with accepted engineering practice.~~ All required interior braced wall panels in buildings located in Seismic Design Categories D₀, D₁ and D₂ with plan dimensions greater than 50 feet (15 240 mm) shall be supported by continuous solid or fully grouted masonry or concrete footings in accordance with Section R403.1.3.4, except for two-story buildings in Seismic Design Category D₂, in which all braced wall panels, interior and exterior, shall be supported on continuous foundations.

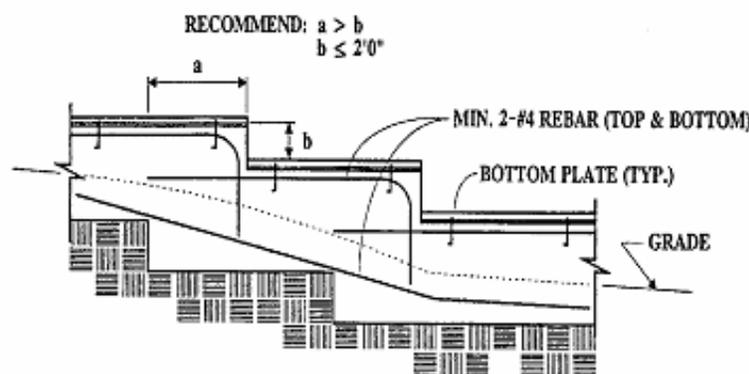
Exception: ~~Two-story buildings shall be permitted to have interior braced wall panels supported on continuous foundations at intervals not exceeding 50 feet (15 240 mm) provided that:~~

- ~~1. The height of cripple walls does not exceed 4 feet (1219 mm).~~
- ~~2. First floor braced wall panels are supported on doubled floor joists, continuous blocking or floor beams.~~
- ~~3. The distance between bracing lines does not exceed twice the building width measured parallel to the braced wall line.~~

R403.1.3.6 Isolated concrete footings. In detached one- and two-family dwellings located in Seismic Design Category A, B, or C, that are three stories or less in height, and constructed with stud bearing walls, isolated plain concrete footings supporting columns or pedestals are permitted.

R403.1.5 Slope. The top surface of footings shall be level. The bottom surface of footings shall not have a slope 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 footings or where the slope of the bottom surface of the footings will exceed one unit vertical in 10 units horizontal (10-percent slope).

For structures assigned to Seismic Design Categories D₀, D₁ or D₂, stepped footings shall be reinforced with four No. 4 rebar. Two bars shall be placed at the top and bottom of the footings as shown in Figure R403.1.5.



STEPPED FOUNDATIONS

**FIGURE R403.1.5
STEPPED FOOTING**

RATIONALE:

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 for under-reinforced footings located on sloped surfaces. Requiring minimum reinforcement for stepped footings is intended to address the problem of poor performance of plain or under-reinforced footings during a seismic event. Furthermore, interior walls can easily be called upon to resist over half of the seismic loading imposed on simple buildings or structures. Without a continuous foundation to support the braced wall line, seismic loads would be transferred through other elements such as non-structural concrete slab floors, wood floors, etc. The proposed change is to limit the use of the exception to structures assigned to Seismic Design Category A, B or C where lower seismic demands are expected. Requiring interior braced walls be supported by continuous foundations is intended to reduce or eliminate the poor performance of buildings or structures. This proposed amendment is consistent with an amendment adopted during previous code adoption cycles for the California Residential Code.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to require continuous footings under braced wall lines, require reinforcement in one- and two-family dwelling, and minimum reinforcement in stepped footings will improve performance of buildings or structure during a seismic event and minimize potential problems or deficiencies and therefore need to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the California Residential Code.

2019 LARUCP R4-03. Section R404.2 of the 2019 Edition of the California Residential Code is amended to read as follows:

R404.2 Wood foundation walls. Wood foundation walls shall be constructed in accordance with the provisions of Sections R404.2.1 through R404.2.6 and with the details shown in Figures R403.1(2) and R403.1(3). Wood foundation walls shall not be used for structures located in Seismic Design Category D₀, D₁ or D₂.

RATIONALE:

No substantiating data has been provided to show that wood foundation wall 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. Wood foundation walls, when they are not properly treated and protected against deterioration, have performed very poorly and have led to slope failures. 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 in using wood foundation walls that experience relatively rapid decay due to the fact 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 consistent with an amendment adopted during previous code adoption cycles for the California Residential Code.

FINDINGS:

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

2019 LARUCP R5-01. Section R501.1 of the 2019 Edition of the California Residential Code is amended to read as follows:

R501.1 Application. The provisions of this chapter shall control the design and construction of the floors for buildings, including the floors of attic spaces used to house mechanical or plumbing fixtures and equipment. Mechanical or plumbing fixtures and equipment shall be attached or anchored to the structure in accordance with Section R301.2.2.11.

RATIONALE:

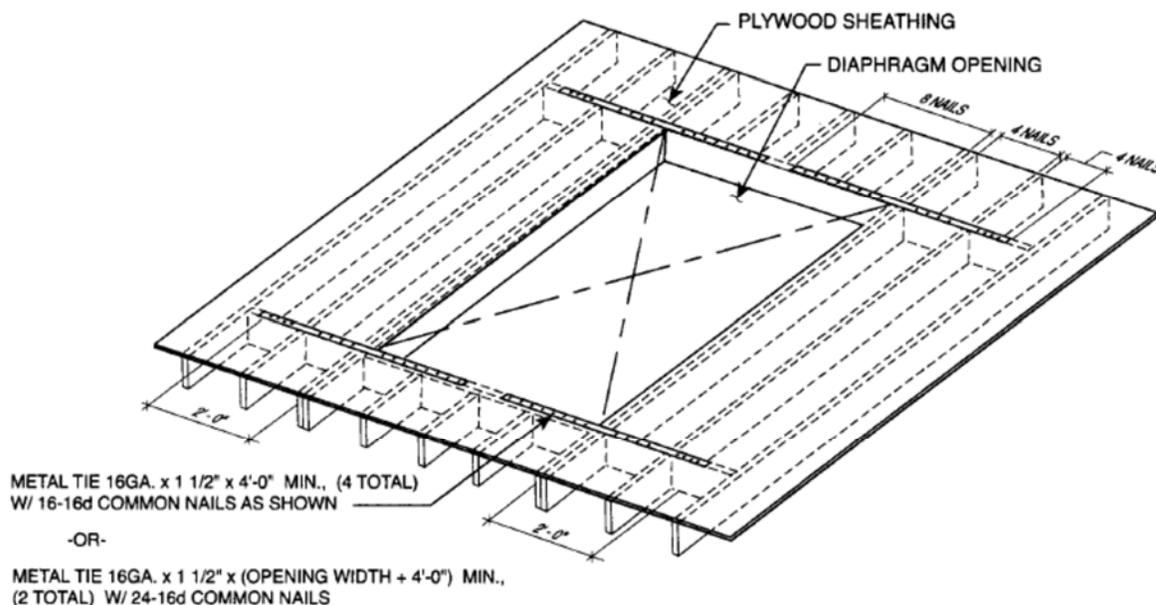
There is no limitation for weight of mechanical and plumbing fixtures and equipment in the California Residential Code. Requirements from ASCE 7 and the California Building Code would permit equipment weighing up to 400 lbs. when mounted at 4 feet or less above the floor or attic level without engineering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

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to limit the equipment weight is intended to reduce injuries, save lives, and minimize structural damages and therefore needs 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 California Residential Code.

2019 LARUCP R5-02. Section R503.2.4 is added to Chapter 5 of the 2019 Edition of the California Residential Code to read as follows:

R503.2.4 Openings in horizontal diaphragms. Openings in horizontal diaphragms with a dimension perpendicular to the joist that is greater than 4 feet (1.2 m) shall be constructed in accordance with Figure R503.2.4.



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

- Blockings shall be provided beyond headers.
- Metal ties not less than 0.058 inch [1.47 mm (16 galvanized gage)] by 1.5 inches (38 mm) wide with eight 16d common nails on each side of the header-joist intersection. The metal ties shall have a minimum yield of 33,000 psi (227 MPa).
- Openings in diaphragms shall be further limited in accordance with Section R301.2.2.6.

FIGURE R503.2.4
OPENINGS IN HORIZONTAL DIAPHRAGMS

RATIONALE:

Section R502.10 of the Code does not provide any prescriptive criteria to limit the maximum floor opening size nor does Section R503 provide any details to address the issue of shear transfer near larger floor openings. With the higher seismic demand placed on buildings and structures in this region, it is important to ensure that a complete load path is provided to reduce or eliminate potential damages caused by seismic forces. Requiring blocking with metal ties around larger floor openings and limiting opening size is consistent with the requirements of Section R301.2.2.6.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to require specific detailing at large floor openings is intended to address the poor performance of floor diaphragms with openings and limit or reduce property damages during a seismic event and therefore



needs 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 California Residential Code.



2019 LARUCP R6-01. Lines 19, 20, 23, and 33 - 36 of Table R602.3(1) of the 2019 Edition of the California Residential Code are amended to read as follows:

TABLE R602.3(1)—continued FASTENING SCHEDULE

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER ^{a, b, c}	SPACING AND LOCATION	
19 ^k	1" × 6" sheathing to each bearing	3-8d box (2½" × 0.113"); or 2-8d common (2½" × 0.131"); or 2-10d box (3" × 0.128"); or 2 staples, 1" crown, 16 ga., 1¾" long	Face nail	
20 ^k	1" × 8" and wider sheathing to each bearing	3-8d box (2½" × 0.113"); or 3-8d common (2½" × 0.131"); or 3-10d box (3" × 0.128"); or 3 staples, 1" crown, 16 ga., 1¾" long	Face nail	
		Wider than 1" × 8" 4-8d box (2½" × 0.113"); or 3-8d common (2½" × 0.131"); or 3-10d box (3" × 0.128"); or 4 staples, 1" crown, 16 ga., 1¾" long		
Floor				
23 ^k	1" × 6" subfloor or less to each joist	3-8d box (2½" × 0.113"); or 2-8d common (2½" × 0.131"); or 3-10d box (3" × 0.128"); or 2 staples, 1" crown, 16 ga., 1¾" long	Face nail	
Other wall sheathing^g				
33 ^k	½" structural cellulosic fiberboard sheathing	1½" galvanized roofing nail, 7/16" head diameter, or 1¼" long 16 ga. staple with 7/16" or 1" crown	3	6
34 ^k	25/32" structural cellulosic fiberboard sheathing	1¾" galvanized roofing nail, 7/16" head diameter, or 1½" long 16 ga. staple with 7/16" or 1" crown	3	6
35 ^k	½" gypsum sheathing ^d	1½" galvanized roofing nail; staple galvanized, 1½" long; 1¼" screws, Type W or S	7	7
36 ^k	5/8" gypsum sheathing ^d	1¾" galvanized roofing nail; staple galvanized, 1½" long; 1½" screws, Type W or S	7	7

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.

TABLE R602.3(1)—continued FASTENING SCHEDULE

- a. 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 gage 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 R602.3(2).
- f. For wood structural panel roof sheathing attached to gable end roof framing and to intermediate supports within 48 inches of roof edges and ridges, nails shall be spaced at 6 inches on center where the ultimate design wind speed is less than 130 mph and shall be spaced 4 inches on center where the ultimate design wind speed is 130 mph or greater but less than 140 mph.
- g. Gypsum sheathing shall conform to ASTM C1396 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to ASTM C208.
- h. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at 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.
- i. 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.
- j. RSRs-01 is a Roof Sheathing Ring Shank nail meeting the specifications in ASTM F1667.
- k. Use of staples in braced wall panels shall be prohibited in Seismic Design Category D₀, D₁, or D₂.

RATIONALE:

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.

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 – as well as other sheathing materials - not be permitted to resist seismic forces in structures assigned to Seismic Design Category D₀, D₁, or D₂ unless it can be substantiated by cyclic testing.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to place design and construction limits on staples as fasteners used in wood structural panel or diaphragms not substantiated with cyclic testing will help to maintain minimum quality of construction and performance standards of structures 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 California Residential Code.

2019 LARUCP R6-02. Exception of Section R602.3.2 and Table R602.3.2 of the 2019 Edition of the California Residential Code is amended to read as follows:

Exception: A-In other than Seismic Design Category D₀, D₁ or D₂, a single top plate used as an alternative to a double top plate shall comply with the following:

1. The single top plate shall be tied at corners, intersecting walls, and at in-line splices in straight wall lines in accordance with Table R602.3.2.
2. The rafters or joists shall be centered over the studs with a tolerance of not more than 1 inch (25 mm).
3. Omission of the top plate is permitted over headers where the headers are adequately tied to adjacent wall sections in accordance with Table R602.3.2.

**TABLE R602.3.2
SINGLE TOP-PLATE SPLICE CONNECTION DETAILS**

CONDITION	TOP-PLATE SPLICE LOCATION			
	Corners and intersecting walls		Butt joints in straight walls	
	Splice plate size	Minimum nails each side of joint	Splice plate size	Minimum nails each side of joint
Structures in SDC A-C; and in SDC D ₀ , D ₁ and D ₂ with braced wall line spacing less than 25 feet	3" x 6" x 0.036" galvanized steel plate or equivalent	(6) 8d box (2 1/2" x 0.113") nails	3' x 12" x 0.036" galvanized steel plate or equivalent	(12) 8d box (2 1/2" x 0.113") nails
Structures in SDC D ₀ , D ₁ and D ₂ with braced wall line spacing greater than or equal to 25 feet	3" x 8" by 0.036" galvanized steel plate or equivalent	(9) 8d box (2 1/2" x 0.113") nails	3' x 16" x 0.036" galvanized steel plate or equivalent	(18) 8d box (2 1/2" x 0.113") nails

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

RATIONALE:

The cities and county of the Los Angeles region have taken extra measures to maintain the structural integrity of the framing of the shear wall system for buildings and structures subject to high seismic loads by eliminating single top plate construction. The performance of modern day braced wall panel construction is directly related to an adequate load path extending from the roof diaphragm to the foundation system. A single top plate is likely to be over nailed due to the nailing requirements at a rafter, stud, top plate splice, and braced wall panel edge in a single location. In addition, notching on a single top plate for plumbing, ventilation and electrical wiring may reduce the load transfer capacity of the plate without proper detailing. A majority of buildings and structures designed and built per the California Residential Code with a single top plate may not need structural observation and special inspections. The potential construction mistakes mentioned above could not be caught and corrected by knowledgeable engineers and inspectors, and could jeopardize structural performance of buildings and structures located in high seismic areas.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to eliminate the usage of a single top plate will help to maintain minimum quality of construction and performance standards of structures 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 California Residential Code.

2019 LARUCP R6-03. Footnote “b” of Table R602.3(2) of the 2019 Edition of the California Residential Code is amended to read as follows:

b. Staples shall have a minimum crown width of 7/16-inch on diameter except as noted. Use of staples in roof, floor, subfloor, and braced wall panels shall be prohibited in Seismic Design Category D₀, D₁, or D₂.

RATIONALE:

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.

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 – as well as other sheathing materials - 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.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to place design and construction limits on staples as fasteners used in wood structural panel or diaphragms not substantiated with cyclic testing will help to maintain minimum quality of construction and performance standards of structures 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 California Residential Code.

2019 LARCUP R6-04. Section R602.10.2.3 of the 2019 Edition of the California Residential Code is amended to read as follows:

R602.10.2.3 Minimum number of braced wall panels. Braced wall lines with a length of 16 feet (4877 mm) or less shall have not less than 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 not less than two braced wall panels. No braced wall panel shall be less than 48 inches in length in Seismic Design Category D₀, D₁, or D₂.

RATIONALE:

Plywood shear walls with high aspect ratio experienced many failures during the Northridge Earthquake. This proposed amendment specifies a minimum braced wall length to meet an aspect ratio consistent with other sections of the California Residential Code 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 consistent with an amendment adopted during previous code adoption cycles for the California Residential Code.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification reduces the aspect ratio help to maintain minimum quality of construction and performance standards of structures and therefore need to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the California Residential Code.

2019 LARUCP R6-05. Table R602.10.3(3) of the 2019 Edition of the California Residential Code is amended to read as follows:

TABLE R602.10.3(3)
BRACING REQUIREMENTS BASED ON SEISMIC DESIGN CATEGORY

<ul style="list-style-type: none"> • 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) ^c	Method LIB ^d	Method GB ^e	Methods DWB, SFB, PBS, PCP, HPS, CS-SFB ^g	Method WSP	Methods CS-WSP, CS-G, CS-PF
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	2.8 5.6	2.8 5.6	1.8	1.6
		20	NP	5.5 11.0	5.5 11.0	3.6	3.1
		30	NP	8.3 16.6	8.3 16.6	5.4	4.6
		40	NP	11.0 22.0	11.0 22.0	7.2	6.1
		50	NP	13.8 27.6	13.8 27.6	9.0	7.7
		10	NP	5.3 NP	5.3 NP	3.8	3.2
		20	NP	10.5 NP	10.5 NP	7.5	6.4
		30	NP	15.8 NP	15.8 NP	11.3	9.6
		40	NP	21.0 NP	21.0 NP	15.0	12.8
		50	NP	26.3 NP	26.3 NP	18.8	16.0
		10	NP	7.3 NP	7.3 NP	5.3	4.5
		20	NP	14.5 NP	14.5 NP	10.5	9.0
		30	NP	21.8 NP	21.8 NP	15.8	13.4
		40	NP	29.0 NP	29.0 NP	21.0	17.9
		50	NP	36.3 NP	36.3 NP	26.3	22.3

(continued)

TABLE R602.10.3(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, f}					
Seismic Design Category	Story Location	Braced Wall Line Length (feet) ^g	Method LIB ^e	Method GB ^g	Methods DWB, SFB, PBS, PCP, HPS, CS-SFB ^g	Method WSP	Methods CS-WSP, CS-G, CS-PF	
D ₁		10	NP	3-0 6.0	3-0 6.0	2.0	1.7	
		20	NP	6-0 12.0	6-0 12.0	4.0	3.4	
		30	NP	9-0 18.0	9-0 18.0	6.0	5.1	
		40	NP	12-0 24.0	12-0 24.0	8.0	6.8	
		50	NP	15-0 30.0	15-0 30.0	10.0	8.5	
		10	NP	6-0 NP	6-0 NP	4.5	3.8	
		20	NP	12-0 NP	12-0 NP	9.0	7.7	
		30	NP	18-0 NP	18-0 NP	13.5	11.5	
		40	NP	24-0 NP	24-0 NP	18.0	15.3	
		50	NP	30-0 NP	30-0 NP	22.5	19.1	
		10	NP	8-5 NP	8-5 NP	6.0	5.1	
		20	NP	17-0 NP	17-0 NP	12.0	10.2	
		30	NP	25-5 NP	25-5 NP	18.0	15.3	
		40	NP	34-0 NP	34-0 NP	24.0	20.4	
		50	NP	42-5 NP	42-5 NP	30.0	25.5	
D ₂		10	NP	4-0 8.0	4-0 8.0	2.5	2.1	
		20	NP	8-0 16.0	8-0 16.0	5.0	4.3	
		30	NP	12-0 24.0	12-0 24.0	7.5	6.4	
		40	NP	16-0 32.0	16-0 32.0	10.0	8.5	
		50	NP	20-0 40.0	20-0 40.0	12.5	10.6	
		10	NP	7-5 NP	7-5 NP	5.5	4.7	
		20	NP	15-0 NP	15-0 NP	11.0	9.4	
		30	NP	22-5 NP	22-5 NP	16.5	14.0	
		40	NP	30-0 NP	30-0 NP	22.0	18.7	
		50	NP	37-5 NP	37-5 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	NP	7.5	6.4
		20	NP	NP	NP	NP	15.0	12.8
		30	NP	NP	NP	NP	22.5	19.1
		40	NP	NP	NP	NP	30.0	25.5
		50	NP	NP	NP	NP	37.5	31.9

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa.

NP = Not Permitted.

- Linear interpolation shall be permitted.
- Wall bracing lengths are based on a soil site class "D." 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 1613.2 of the *California Building Code*.
- Where the braced wall line length is greater than 50 feet, braced wall lines shall be permitted to be divided into shorter segments having lengths of 50 feet or less, and the amount of bracing within each segment shall be in accordance with this table.
- Method LIB shall have gypsum board fastened to not less than one side with nails or screws in accordance with 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.
- Methods PFG and CS-SFB do not apply in Seismic Design Categories D₀, D₁ and D₂.
- Where more than one bracing method is used, mixing methods shall be in accordance with Section R602.10.4.1.
- Methods GB and PCP braced wall panel h/w ratio shall not exceed 1:1 in SDC D₀, D₁ and D₂. Methods CWD, SFB, PBS, and HPS are not permitted in D₀, D₁ and D₂.

RATIONALE:

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.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to increase the length and limit the location where shear walls sheathed with lath, plaster or gypsum board are used will help to ensure that multi-level building will reach its performance objective in resisting higher levels of seismic loads 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 California Residential Code.

2019 LARUCP R6-06. Table R602.10.4 of the 2019 Edition of the California Residential Code is amended to read as follows:

TABLE R602.10.4
BRACING METHODS ¹

METHODS, MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA ^a		
			Fasteners	Spacing	
Intermittent Bracing Methods	LIB Let-in-bracing	1 x 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 Metal strap: per manufacturer	Wood: per stud and top and bottom plates Metal: per manufacturer
	DWB Diagonal wood boards	3/4" (1" nominal) for maximum 24" stud spacing		2-8d (2 1/2" long x 0.113" dia.) nails or 2 - 1 3/4" long staples	Per stud
	WSP Wood structural panel (See Section R604)	3/8" 15/32"	8d common (2 1/2" x 0.131) nails 3/8" edge distance to panel edge	Exterior sheathing per Table R602.3(3)	6" edges 12" field
	BV-WSP^a Wood structural panels with stone or masonry veneer (See Section R602.10.6.5)	7/16"	See Figure R602.10.6.5	8d common (2 1/2" x 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 x 0.12" dia. (for 1/2" thick sheathing) 1 3/4" long x 0.12" dia. (for 25/32" thick sheathing) galvanized roofing nails	3" edges 6" field
	GB Gypsum board	1/2"		Nails or screws per Table R602.3(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 x 0.113" dia.) nails For 1/2", 8d common (2 1/2" long x 0.131" dia.) nails	3" edges 6" field
	PCP Portland cement plaster	See Section R703.7 for maximum 16" stud spacing		1 1/2" long, 11 gage, 7/16" dia. head nails or 7/8" long, 16 gage staples ²	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	3/8"		See Section R602.10.6.1	See Section R602.10.6.1

(continued)

TABLE R602.10.4—continued
BRACING METHODS¹

METHODS, MATERIAL		MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA*	
				Fasteners	Spacing
Intermittent Bracing Methods	PFH Portal frame with hold-downs	$\frac{3}{8}$ "		See Section R602.10.6.2	See Section R602.10.6.2
	PFG Portal frame at garage	$\frac{7}{16}$ "		See Section R602.10.6.3	See Section R602.10.6.3
Continuous Sheathing Methods	CS-WSP Continuously sheathed wood structural panel	$\frac{3}{8}$ " <u>15/32"</u>		8d common (2 1/2"x0.131) nails 3/8" edge distance to panel edge Exterior sheathing per Table R602.3(3)	6" edges 12" field
	CS-G^{h,c} Continuously sheathed wood structural panel adjacent to garage openings	$\frac{3}{8}$ " <u>15/32"</u>		8d common (2 1/2"x0.131) nails 3/8" edge distance to panel edge Interior sheathing per Table R602.3(1) or R602.3(2)	Varies by fastener 6" edges 12" field
	CS-PF Continuously sheathed portal frame	$\frac{7}{16}$ " <u>15/32"</u>		See Section R602.10.6.4	See Section R602.10.6.4
	CS-SFB^{d,f} Continuously sheathed structural fiberboard	$\frac{1}{2}$ " or $\frac{25}{32}$ " for maximum 16" stud spacing		1 1/2" long x 0.12" dia. (for 1/2" thick sheathing) 1 3/4" long x 0.12" dia. (for 25/32" thick sheathing) galvanized roofing nails	3" edges 6" field

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.0175 rad, 1 pound per square foot = 47.8 N/m², 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, D₀, D₁ and D₂.
- b. Applies to panels next to garage door opening where supporting gable end wall or roof load only. Shall only be used on one wall of the garage. In Seismic Design Categories D₀, D₁ and D₂, roof covering dead load shall not exceed 3 psf.
- c. Garage openings adjacent to a Method CS-G panel shall be provided with a header in accordance with Table R602.5(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 D₀, D₁ and D₂.
- e. Method applies to detached one- and two-family dwellings in Seismic Design Categories D₀ through D₂ only.
- f. Methods GB and PCP braced wall panel h/w ratio shall not exceed 1:1 in SDC D₀, D₁, or D₂. Methods LIB, DWB, SFB, PBS, HPS, and PFG are not permitted in SDC D₀, D₁, or D₂.
- g. Use of staples in braced wall panels shall be prohibited in SDC D₀, D₁, or D₂.

RATIONALE:

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.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to place design and construction limits on stapled nail fasteners used in wood structural panel shear walls not substantiated with cyclic testing and requiring minimum sheathing thickness and nailing type and size will help to maintain minimum quality of construction and performance standards of structures and therefore need to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the California Residential Code.



2019 LARUCP R6-07. Table R602.10.5 of the 2019 Edition of the California Residential Code is amended to read as follows:

**TABLE R602.10.5
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, ultimate design wind speed < 140 mph	28	32	34	38	42	48
	SDC D ₀ , D ₁ and D ₂ , ultimate design wind speed < 140 mph	32	32	34	NP	NP	
CS-G		24	27	30	33	36	Actual ^b
CS-WSP, CS-SFB	Adjacent clear opening height (inches)						Actual ^b
	≤ 64	24	27	30	33	36	
	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		
METHOD (See Table R602.10.4)		Portal header height					
		8 feet	9 feet	10 feet	11 feet	12 feet	
PFH	Supporting roof only	16 24	16 24	16 24	Note c	Note c	48
	Supporting one story and roof	24	24	24	Note c	Note c	
PFG		24	27	30	Note d	Note d	1.5 × Actual ^b
CS-PF	SDC A, B and C	16	18	20	Note e	Note e	1.5 × Actual ^b
	SDC D ₀ , D ₁ and D ₂	16 24	18 24	20 24	Note e	Note e	Actual ^b

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 where 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 shall be permitted to be increased to 12 feet with pony wall.
- d. Maximum header height for PFG is 10 feet in accordance with Figure R602.10.6.3, but wall height shall be permitted to be increased to 12 feet with pony wall.
- e. Maximum header height for CS-PF is 10 feet in accordance with Figure R602.10.6.4, but wall height shall be permitted to be increased to 12 feet with pony wall.

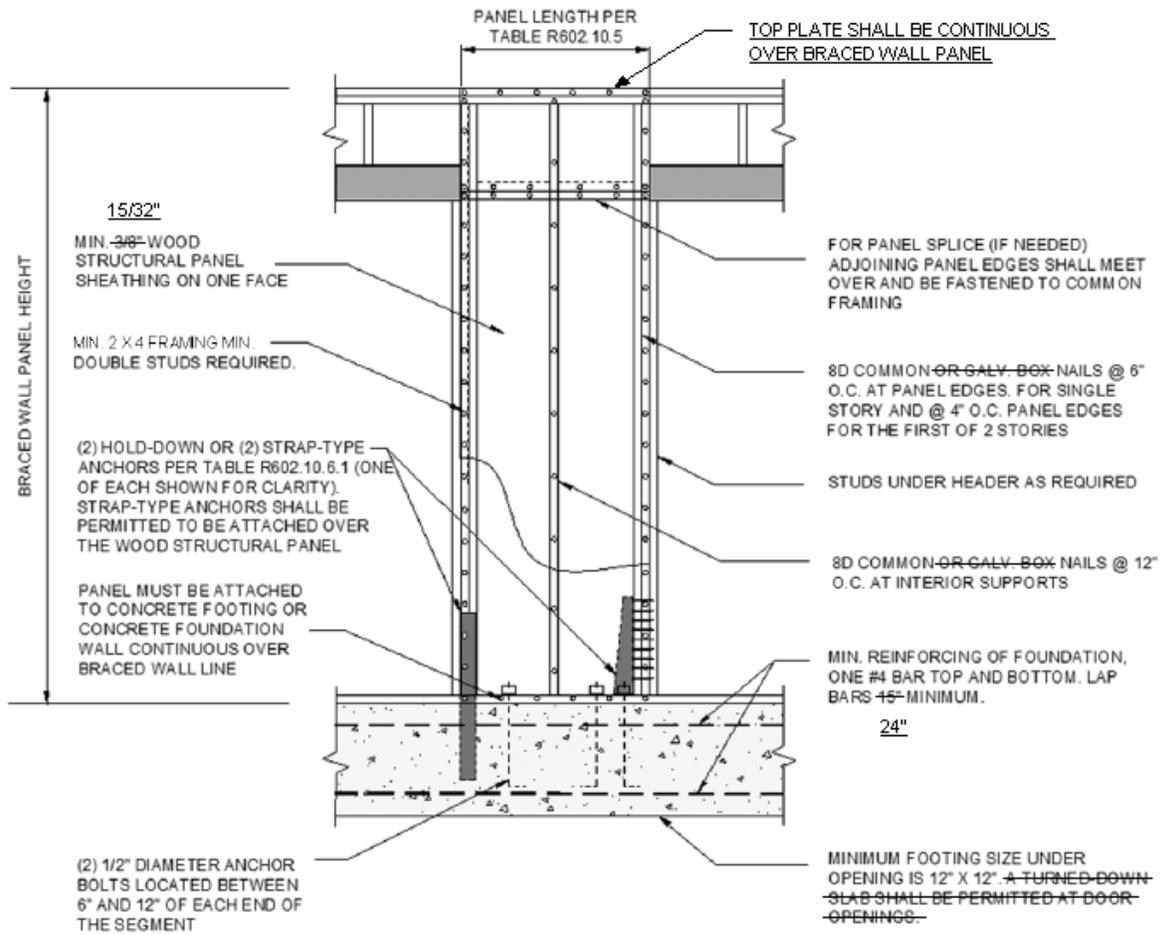
RATIONALE:

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.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification ensures that the structural integrity with respect to “maximum shear wall aspect ratios” is maintained, therefore need to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the California Residential Code.

2019 LARUCP R6-08. Figure R602.10.6.1 of the 2019 Edition of the California Residential Code is amended to read as follows:



**FIGURE R602.10.6.1
METHOD ABW—ALTERNATE BRACED WALL PANEL**

RATIONALE:

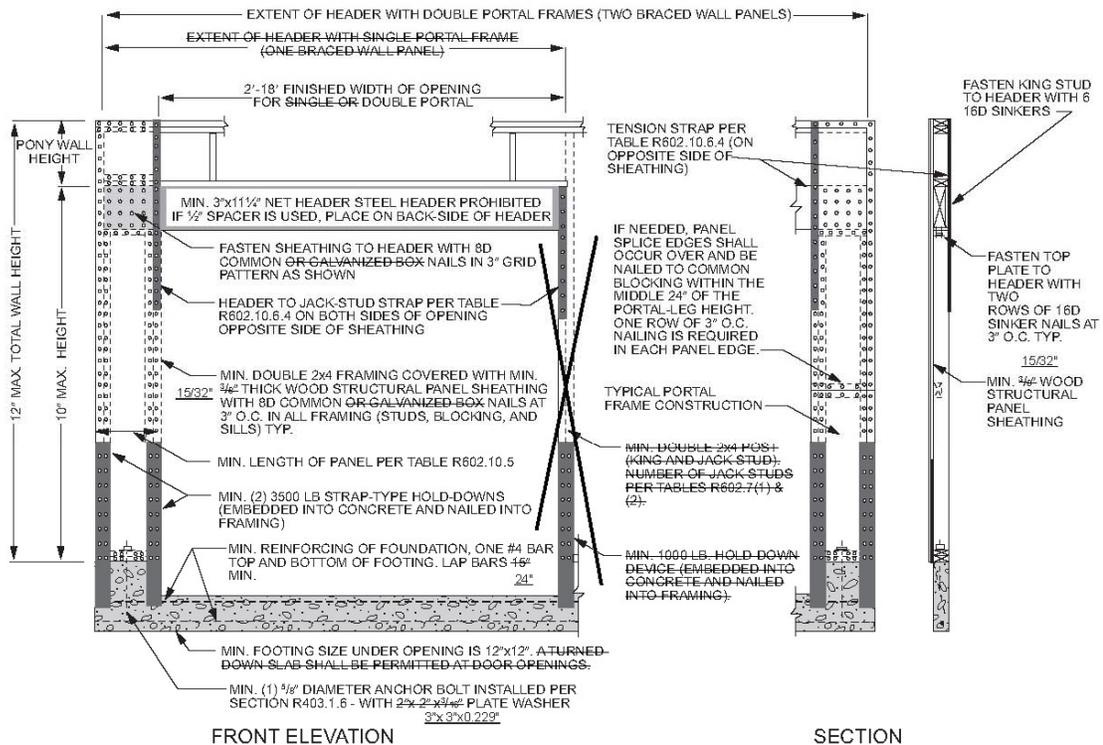
3/8" thick 3 ply-plywood shear walls experienced many failures during the Northridge Earthquake. Box nails were observed to cause massive and multiple failures of the typical 3/8" thick 3-ply plywood during the Northridge Earthquake. This proposed amendment specifies minimum sheathing thickness, nail 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.



FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification requiring minimum sheathing thickness and nailing type and size will help to maintain minimum quality of construction and performance standards of structures and therefore need to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the California Residential Code.

2019 LARUCP R6-09. Figure R602.10.6.2 of the 2019 Edition of the California Residential Code is amended to read as follows:



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

FIGURE R602.10.6.2
METHOD PFH—PORTAL FRAME WITH HOLD-DOWNS
AT DETACHED GARAGE DOOR OPENINGS

RATIONALE:

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.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification requiring minimum sheathing thickness and nailing type and size will help to maintain minimum quality of construction and performance standards of structures and therefore need to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the California Residential Code.

spacing 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.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification requiring minimum sheathing thickness and nailing type and size will help to maintain minimum quality of construction and performance standards of structures and therefore need to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the California Residential Code.

2019 LARUCP R6-11. Section R606.4.4 of the 2019 Edition of the California Residential Code is amended to read as follows:

R606.4.4 Parapet walls. Unreinforced solid masonry parapet walls shall not be less than 8 inches (203 mm) thick and their height shall not exceed four times their thickness. Unreinforced hollow unit masonry parapet walls shall be not less than 8 inches (203 mm) thick, and their height shall not exceed three times their thickness. Masonry parapet walls in areas subject to wind loads of 30 pounds per square foot (1.44 kPa) or located in Seismic Design Category D₀, D₁ or D₂, or on townhouses in Seismic Design Category C shall be reinforced in accordance with Section R606.12.

RATIONALE:

The addition of the word “or” will prevent the use of unreinforced parapets in Seismic Design Category D₀, D₁ or D₂, or on townhouses in Seismic Design Category C.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to not allow the use of unreinforced masonry is intended to prevent non-ductile failures and sudden structural collapses and therefore needs 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 California Residential Code.

2019 LARUCP R6-12. Section R606.12.2.2.3 of the 2019 Edition of the California Residential Code is amended to read as follows:

R606.12.2.2.3 Reinforcement requirements for masonry elements. Masonry elements listed in Section R606.12.2.2.2 shall be reinforced in either the horizontal or vertical direction as shown in Figure ~~R606.11(2)~~ R606.11(3) and in accordance with the following:

1. Horizontal reinforcement. Horizontal joint reinforcement shall consist of ~~at least two longitudinal W1.7 wires spaced not more than 16 inches (406 mm) for walls greater than 4 inches (102 mm) in width and at least one longitudinal W1.7 wire spaced not more than 16 inches (406 mm) for walls not exceeding 4 inches (102 mm) in width; or at least one No. 4 bar spaced not more than 48 inches (1219 mm). Where two longitudinal wires of joint reinforcement are used, the space between these wires shall be the widest that the mortar joint will accommodate.~~ Horizontal reinforcement shall be provided within 16 inches (406 mm) of the top and bottom of these masonry elements.
2. Vertical reinforcement. Vertical reinforcement shall consist of at least one No. 4 bar spaced not more than 48 inches (1219 mm). Vertical reinforcement shall be within ~~468 inches (406203 mm)~~ 468 inches (406203 mm) of the ends of masonry walls.

RATIONALE:

Reinforcement using longitudinal wires for buildings and structures located in high seismic areas are deficient and not as ductile as deformed rebar. Having vertical reinforcement closer to the ends of masonry walls help to improve the seismic performance of masonry buildings and structures.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to increase reinforcements will ensure that the ductility requirements for buildings in high seismic region meet the intent of the code and limit potential property damages 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 California Residential Code.

2019 LARUCP R8-01. Section R803.2.4 is added to Chapter 8 of the 2019 Edition of the California Residential Code to read as follows:

R803.2.4 Openings in horizontal diaphragms. Openings in horizontal diaphragms shall conform with Section R503.2.4.

RATIONALE:

Section R802 of the Code does not provide any prescriptive criteria to limit the maximum roof opening size nor does Section R803 provide any details to address the issue of shear transfer near larger roof openings. With the higher seismic demand placed on buildings and structures in this region, it is important to ensure that a complete load path is provided to reduce or eliminate potential damages caused by seismic forces. Requiring blocking with metal ties around larger roof openings and limiting opening size is consistent with the requirements of Section R301.2.2.6.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to require specific detailing at large roof openings is intended to address the poor performance of roof diaphragms with openings and limit or reduce property damages during a seismic event and therefore needs 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 California Residential Code.

2019 LARUCP R9-01. Section R905.3.1 of the 2019 Edition of the California Building Code is amended to read as follows:

R905.3.1 Deck requirements. Concrete and clay tile shall be installed only over solid sheathing ~~or spaced structural sheathing boards~~.

Exception: Spaced lumber shall be permitted in Seismic Design Categories A, B, and C.

RATIONALE:

Section R905.3.1 is amended to require concrete and clay tiles to be installed only over solid sheathing. The change is necessary because there were numerous observations of tile roofs pulling away from wood framed buildings following the 1994 Northridge Earthquake. The SEAOSC/LA City Post Northridge Earthquake committee findings indicated significant problems with tile roofs was due to inadequate design and/or construction. Therefore, the amendment is needed to minimize such occurrences in the event of future significant earthquakes.

FINDINGS:

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 1987 Whittier Narrows Earthquake, the 1971 San Fernando Earthquake and the 1933 Long Beach Earthquake. This amendment will reduce the failure of concrete and clay tile roofs during a significant earthquake and is in accordance with the scope and objectives of the California Building Code.

2019 LARUCP R10-01. Section R1001.3.1 of the 2019 Edition of the California Residential Code is amended to read as follows:

R1001.3.1 Vertical reinforcing. For chimneys up to 40 inches (1016 mm) wide, four No. 4 continuous vertical bars adequately anchored into the concrete foundation shall be placed between wythes of solid masonry or within the cells of hollow unit masonry and grouted in accordance with Section R606. Grout shall be prevented from bonding with the flue liner so that the flue liner is free to move with thermal expansion. For chimneys more than 40 inches (1016 mm) wide, two additional No. 4 vertical bars adequately anchored into the concrete foundation shall be provided for each additional flue incorporated into the chimney or for each additional 40 inches (1016 mm) in width or fraction thereof.

RATIONALE:

The performance of fireplace/chimney without anchorage to the foundation has been observed to be inadequate during major earthquakes. The lack of anchorage to the foundation can result in the overturning or displacement of the fireplace/chimney.

FINDINGS:

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 recent 1994 Northridge Earthquake. The proposed modification to anchor masonry chimneys into concrete foundation will reduce injuries, save lives, and minimize structural damages and therefore needs 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 California Residential Code.



PART III

LARUCP RECOMMENDED CODE AMENDMENTS TO THE 2019 EDITION OF THE CALIFORNIA GREEN BUILDING STANDARDS CODE

(MANDATORY REQUIREMENTS)



SUMMARY OF RECOMMENDED LARUCP AMENDMENTS TO THE 2019 CALGREEN

(N) 2019 LARUCP NO.	TITLE/DESCRIPTION	STATUS ¹
G4-01	Amend CALGreen Section 4.106.4.2 EV for New Multifamily Dwellings	N
G4-02	Amend CALGreen Section 4.106.4.3 EV for New Hotels and Motels	N
G5-01	Amend CALGreen Section 5.106.5.3.3 EV for New Nonresidentials	N

FOOTNOTE:

1. N = New amendment proposed
E = Existing amendment updated as necessary

2019 LARUCP G4-01. Section 4.106.4.2 of the 2019 Edition of the California Green Building Standards Code is amended to read as follows:

4.106.4.2 New multifamily dwellings. If residential parking is available, ~~ten (10)~~ twenty-five (25) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future EVSE and five (5) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging stations (EVCS). Calculations for the required number of EV spaces and EVCS shall be rounded up to the nearest whole number.

Notes:

1. Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.
2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

RATIONALE:

This proposed amendment requires a certain percentage of parking stalls to be provided with EV charging space capable of supporting future EVSE and EV charging station. Increasing the number of EV charging space or station will allow both the community and residents to benefit from reduced local air and noise pollution, combat climate change, and improve their health and lifestyle.

FINDINGS:

Local Climatic Condition – The greater Los Angeles region is a densely populated area having buildings and structures constructed within heavily traveled traffic corridors and highways, near and within the proximity of airports and/or ports, near the ocean, and within flood prone areas. This impacts the quality of the air, causes higher decibel noise level, and increases the risk of rising sea or flood levels. The proposed modification to increase the number of EV charging space and station will help to address and significantly reduce local air and noise pollutions, greenhouse gas emissions, and will improve the health and welfare of the region's residents, businesses and visitors and reduce the rise in sea or flood levels that could put at risk the region's homes and businesses, public facilities, airports and/or ports. Therefore, this amendment needs 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 California Green Building Standards Code.



2019 LARUCP G4-02. Section 4.106.4.3, Section 4.106.4.3.1 and Table 4.106.4.3.1 of the 2019 Edition of the California Green Building Standards Code are amended to read as follows:

4.106.4.3 New hotels and motels. All newly constructed hotels and motels shall provide EV spaces capable of supporting future installation of EVSE and EVCS. The construction documents shall identify the location of the EV spaces and EVCS.

Notes:

1. Construction documents are intended to demonstrate the project’s capability and capacity for facilitating future EV charging.
2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

4.106.4.3.1 Number of required EV spaces and EVCS. The number of required EV spaces and EVCS shall be based on the total number of parking spaces provided for all type of parking facilities in accordance with Table 4.106.4.3.1. Calculation for the required number of EV spaces and EVCS shall be rounded up to the nearest whole number.

TABLE 4.106.4.3.1

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED EV SPACES	NUMBER OF REQUIRED EVCS
0-9	0	<u>0</u>
10-25	<u>4</u> 3	<u>1</u>
26-50	<u>2</u> 7	<u>2</u>
51-75	<u>4</u> 13	<u>3</u>
76-100	<u>5</u> 19	<u>4</u>
101-150	<u>7</u> 26	<u>6</u>
151-200	<u>10</u> 38	<u>8</u>
201 and over	<u>6</u> 25 percent of total	<u>5</u> percent of total

RATIONALE:

This proposed amendment requires a certain percentage of parking stalls to be provided with EV charging space capable of supporting future EVSE and EV charging station. Increasing the number of EV charging space or station will allow both the community and residents to benefit from reduced local air and noise pollution, combat climate change, and improve their health and lifestyle.

FINDINGS:

Local Climatic Condition – The greater Los Angeles region is a densely populated area having buildings and structures constructed within heavily traveled traffic corridors and highways, near and within the proximity of airports and/or ports, near the ocean, and within flood prone areas. This impacts the quality of the air, causes higher decibel noise level, and increases the risk of rising sea or flood levels. The proposed modification to increase the number of EV charging space and station will help to address and significantly reduce local air and noise pollutions, greenhouse gas emissions, and will improve the health and welfare of the region’s residents, businesses and visitors and reduce the rise in sea or flood levels that could put at risk the region’s homes and businesses, public facilities, airports and/or ports. Therefore, this amendment needs 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 California Green Building Standards Code.



2019 LARUCP G5-01. Section 5.106.5.3.3 and Table 5.106.5.3.3 of the 2019 Edition of the California Green Building Standards Code are amended to read as follows:

5.106.5.3.3 EV charging space and charging station calculation. (N) Table 5.106.5.3.3 shall be used to determine if single or multiple charging space requirements apply for the future installation of EVSE and EVCS. Calculations for the required number of EV charging spaces and EVCS shall be rounded up to the nearest whole number.

Exceptions: On a case-by-case basis where the local enforcing agency has determined EV charging and infrastructure is not feasible based upon one or more of the following conditions:

1. Where there is insufficient electrical supply.
2. Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.

TABLE 5.106.5.3.3

TOTAL NUMBER OF ACTUAL PARKING SPACES	NUMBER OF REQUIRED EV CHARGING SPACES	NUMBER OF REQUIRED EVCS
0-9	0	0
10-25	1 3	1
26-50	2 7	2
51-75	4 13	3
76-100	5 19	4
101-150	7 26	6
151-200	10 38	8
201 and over	6 25 percent of total ¹	5 percent of total

¹. Calculation for spaces shall be rounded up to the nearest whole number.

RATIONALE:

This proposed amendment requires a certain percentage of parking stalls to be provided with EV charging space capable of supporting future EVSE and EV charging station. Increasing the number of EV charging space or station will allow both the community and residents to benefit from reduced local air and noise pollution, combat climate change, and improve their health and lifestyle.

FINDINGS:

Local Climatic Condition – The greater Los Angeles region is a densely populated area having buildings and structures constructed within heavily traveled traffic corridors and highways, near and within the proximity of airports and/or ports, near the ocean, and within flood prone areas. This impacts the quality of the air, causes higher decibel noise level, and increases the risk of rising sea or flood levels. The proposed modification to increase the number of EV charging space and station will help to address and significantly reduce local air and noise pollutions, greenhouse gas emissions, and will improve the health and welfare of the region’s residents, businesses and visitors and reduce the rise in sea or flood levels that could put at risk the region’s homes and businesses, public facilities, airports and/or ports. Therefore, this amendment needs 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 California Green Building Standards Code.



City of Sierra Madre Agenda Report

John Harabedian, Mayor
John Capoccia, Mayor Pro Tem
Rachelle Arizmendi, Council Member
Denise Delmar, Council Member
Gene Goss, Council Member

Sue Spears, City Clerk
Michael Amerio City Treasurer

TO: Honorable Mayor Harabedian and Members of the City Council

FROM: Richard Snyder, Fire Marshal

REVIEWED BY: Gabriel Engeland, City Manager

DATE: October 8, 2019

SUBJECT: 2019 FIRE CODE ADOPTION

STAFF RECOMMENDATION

Staff recommends Alternative No. 1 that the City Council introduce for first reading Ordinance No. 1417 reading by title only, recommending adoption of Ordinance 1417 pursuant to the 2019 California Fire Code amendments.

ALTERNATIVES

1. Introduce Ordinance 1417 for first reading by title only.
2. Direct staff to revise Ordinance No. 1417 and conduct first reading as amended by title only.

SUMMARY

On January 1, 2020, The State of California will be adopting a new fire code. Subsequently, the City of Sierra Madre is required to adopt and enforce the same code with local amendments. Currently, the City is enforcing the 2016 California Fire Code with local amendments.

Ordinance No. 1417 has been written to amend Title 15.24 of the Sierra Madre Municipal Code relating to the adoption and amendment of the 2019 California Fire Code to meet with State requirements. Additionally, this Ordinance amends current fire sprinkler requirements.

ANALYSIS

Ordinance 1417 amends Title 15.24 as follows:

Section 1. Section 15.24.010 is amended to adopt the 2019 California Fire Code.

Section 2. Section 15.24.020 is amended to replace the words “International Fire Code” with “California Fire Code”

Section 3. Section 15.24.070 Amendments to the California Fire Code.

Section 101.1 of the California Fire Code is amended to identify “this code” as the Sierra Madre Fire Code.

Section 110.4 identifies fire code violations and penalties as Administrative Citations as

defined in Sierra Madre Municipal Code Title 1.18 - Administrative Enforcement.

Section 112.4 identifies failure to comply penalties as Administrative Citations as defined in Sierra Madre Municipal Code Title 1.18 - Administrative Enforcement.

Section 307.4.2 of the California Fire Code is amended to allow the Fire Code Official to order recreational fires to be discontinued if such fires constitute a hazardous condition or if atmospheric conditions reach critical levels.

Section 503.2.1 of the California Fire Code is amended to require new fire access roads to have a minimum width of 26 feet within 25 feet of each side of a fire hydrant. This requirement will prevent the problem of an access road being blocked when a fire engine is utilizing a fire hydrant.

Sections 903.2.1.1, 903.2.1.2, 903.2.1.3, 903.2.1.4, 903.2.1.5, 903.2.2, 903.2.3, 903.2.4, 903.2.5, 903.2.6, 903.2.7, 903.2.8, 903.2.9, 903.2.9.1, 903.2.9.2, 903.2.10 and 903.2.10.1 of the fire code are amended in order to maintain the current fire sprinkler requirements as set forth in Section 15.24.120 of the Sierra Madre Municipal Code.

APPENDIX D-Fire Apparatus Access Roads is adopted and amended to require new fire access roads to have a minimum width of 26 feet within 25 feet of each side of a fire hydrant. This requirement will help prevent the problem of an access road being blocked when a fire engine is utilizing a fire hydrant.

Section 4. Section 15.24.110 is amended to include additional design options for residential fire sprinklers by adding "Section R313 of the California Residential Code"

Section 5. Section 15.24.120 is amended to remove the requirement for fire sprinklers in residential attics with light weight truss construction.

Sections 6-18. Repeal of Conflicting Ordinances and other legal Code Adoption language.

FINANCIAL REVIEW/SOURCE OF FUNDING

There is no fiscal impact related to this agenda item.

ENVIRONMENTAL (CEQA)

The project qualifies for an exemption from the California Environmental Quality Act review pursuant to Title 14, Section 15061(b)(3) of the California Code of Regulations as it can be seen with certainty that there is no possibility the adoption of this Ordinance may have a significant effect on the environment, because it will enforce the 2019 California Fire Code in compliance with State requirements.

PUBLIC NOTICE PROCESS

This item has been noticed through the regular agenda notification process. Copies of this report are available at the City Hall public counter, at the Sierra Madre Public Library, and at the City's website at www.cityofsierramadre.com

Attachments

Attachment 1 - City Council Ordinance 1417 - 2019 Fire Code Adoption

Exhibit A- Sierra Madre Fire Department 2019 Fire Code Findings

ORDINANCE 1417

**AN ORDINANCE OF THE CITY OF SIERRA MADRE
AMENDING TITLE 15.24 OF THE SIERRA MADRE
MUNICIPAL CODE RELATING TO THE ADOPTION
AND AMENDMENTS TO THE 2019 CALIFORNIA FIRE
CODE AND FIRE SPRINKLER REQUIREMENTS**

The City Council of the City of Sierra Madre does hereby ordain as follows:

SECTION 1. Municipal Code Amendment. Section 15.24.010 of the Sierra Madre Municipal Code is hereby amended to read as follows:

SECTION 15.24.010 ADOPTION OF THE CALIFORNIA FIRE CODE

There is hereby adopted by the City Council of the City of Sierra Madre for the purpose of prescribing regulations governing conditions hazardous to life and property from fire or explosion, that certain Code known as the 2019 Edition of the California Fire Code based on the 2018 Edition of the International Fire Code published by the International Code Council except such portions as are hereinafter deleted, modified or amended by Section 15.24.070 of the Sierra Madre Municipal Code and portions of the International Fire Code, From the date on which this ordinance shall take effect, the provisions of the 2019 California Fire Code shall be controlling within the limits of the City of Sierra Madre.

SECTION 2. Municipal Code Amendment. Section 15.24.020 of the Sierra Madre Municipal Code is hereby amended to read as follows:

15.24.020 - Establishment and duties of the bureau of fire prevention.

The California Fire Code shall be enforced by the bureau of fire prevention in the fire department of the city which is established and which shall be operated under the supervision of the chief of the fire department.

SECTION 3. Municipal Code Amendment. Section 15.24.070 of the Sierra Madre Municipal Code is hereby amended to read as follows:

SECTION 15.24.070 AMENDMENTS TO THE 2019 CALIFORNIA FIRE
CODE

A. Section 101.1 is amended to read as follows:

101.1 Title. These regulations shall be known as the *Fire Code* of the City of Sierra Madre, hereinafter referred to as "this code".

B. Section 110.4 is amended to read as follows:

110.4 Violation penalties. Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install alter, repair or do work in violation of the approved construction documents or directive of the fire code official, or of a permit or certificate used under provisions of this code, shall be guilty of an Administrative Violation in accordance with Sierra Madre Municipal Code Section 1.18.010.

C. Section 112.4 is amended to read as follows:

112.4 Failure to comply. Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to a fine in accordance with Sierra Madre Municipal Code Section 1.18.070.

D. Section 307.4.2 is amended to read as follows:

307.4.2 Recreational fires. Recreational fires shall not be conducted within 25 feet (760mm) of a structure or combustible material. Conditions which could cause a fire to spread within 25 feet (7620 mm) of a structure shall be eliminated.

Discontinuance. The fire code official or his representative is authorized to require that recreational fires be immediately discontinued if such fires are determined by the chief to constitute a hazardous condition or if atmospheric conditions reach critical levels as specified in the policies and procedures of the fire prevention bureau.

E. Section 503.2.1 is amended to read as follows due to local topographical conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm), except for approved security gates in accordance with section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115mm).

1. When fire hydrants are required, fire apparatus access roads shall have an unobstructed width of not less than 26 feet (4114 mm) within a linear distance of 25 feet (7620 mm) each side of the hydrant.

F. Section 903.2.1.1 is amended to read as follows due to local topographical, geological and climatic conditions as identified in

the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:

903.2.1.1 Group A-1. An automatic sprinkler system shall be provided for Group A-1 occupancies in accordance with Code section 15.24.120.

- G. Section 903.2.1.2 is amended to read as follows due to local topographical, geological and climatic conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:**

903.2.1.2 Group A-2. An automatic sprinkler system shall be provided for Group A-2 occupancies in accordance with Code section 15.24.120.

- H. Section 903.2.1.3 is amended to read as follows due to local topographical, geological and climatic conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:**

903.2.1.3 Group A-3. An automatic sprinkler system shall be provided for Group A-3 occupancies in accordance with Code section 15.24.120.

- I. Section 903.2.1.4 is amended to read as follows due to local topographical, geological and climatic conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:**

903.2.1.4 Group A-4. An automatic sprinkler system shall be provided for Group A-4 occupancies in accordance with Code section 15.24.120.

- J. Section 903.2.1.5 is amended to read as follows due to local topographical, geological and climatic conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:**

903.2.1.5 Group A-5. An automatic sprinkler system shall be provided for Group A-5 occupancies in the following areas: concession stands, retail areas, press boxes, and other accessory use areas in accordance with Code section 15.24.120.

- K. Section 903.2.2 is amended to read as follows due to local topographical, geological and climatic conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:**

903.2.2 Group B Ambulatory health care facilities. An automatic sprinkler system shall be provided throughout all buildings containing ambulatory health care facilities in accordance with Code section 15.24.120.

- L. Section 903.2.3 is amended to read as follows due to local topographical, geological and climatic conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:**

903.2.3 Group E. An automatic sprinkler system shall be provided throughout all buildings containing a Group E occupancy in accordance with Code section 15.24.120. (exception: For public school state-funded construction projects see Section 903.2.19)

- M. Section 903.2.4 is amended to read as follows due to local topographical, geological and climatic conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:**

903.2.4 Group F-1. An automatic sprinkler system shall be provided throughout all buildings containing a Group F-1 occupancy in accordance with Code section 15.24.120.

- N. Section 903.2.5 is amended to read as follows due to local topographical, geological and climatic conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:**

903.2.5 Group H. Automatic sprinkler systems shall be provided in high-hazard occupancies as required in Sections 903.2.5.1 through 903.2.5.3.

903.2.5.1 General, An automatic sprinkler system shall be installed in Group H occupancies. in accordance with Code section 15.24.120.

- O. Section 903.2.6 is amended to read as follows due to local topographical, geological and climatic conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:**

903.2.6 Group I. An automatic sprinkler system shall be provided throughout buildings with a Group I in accordance with Code section 15.24.120.

- P. Section 903.2.7 is amended to read as follows due to local topographical, geological and climatic conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:**

903.2.7 Group M. An automatic sprinkler system shall be provided throughout buildings containing a Group M occupancy in accordance with Code section 15.24.120.

- Q. Section 903.2.8 is amended to read as follows due to local topographical, geological and climatic conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:**

903.2.8 Group R. An automatic sprinkler system installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R fire area and in accordance with Code section 15.24.110.

- R. Section 903.2.9 is amended to read as follows due to local topographical, geological and climatic conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:**

903.2.9 Group S-1. An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 in accordance with Code section 15.24.120.

- S. Section 903.2.9.1 is amended to read as follows due to local topographical, geological and climatic conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:**

903.2.9.1 Repair garages. An automatic sprinkler system shall be provided throughout all buildings used as repair garages in accordance with Code section 15.24.120.

- T. Section 903.2.9.2 is amended to read as follows due to local topographical, geological and climatic conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:**

903.2.9.2 Bulk storage of tires. Buildings and structures with an area for the storage of shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

- U. Section 903.2.10 is amended to read as follows due to local topographical, geological and climatic conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:**

903.2.10 Group S-2. An automatic sprinkler system shall be provided throughout buildings classified as enclosed parking garages in accordance with Section 406.4 of the *California Building Code* or where located beneath other groups.

- V. Section 903.2.10.1 is amended to read as follows due to local topographical, geological and climatic conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:**

903.2.10.1 Commercial parking garages. An automatic sprinkler system shall be provided throughout buildings used for storage of commercial trucks or buses in accordance with Code section 15.24.120

- W. APPENDIX D-Fire Apparatus Access Roads is adopted and amended to read as follows due to local topographical conditions as identified in the 2019 Fire Code Findings of Fact as filed with the California Building Standards Commission:**

D103.1 Access road width with a fire hydrant. Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet (7925 mm), within a linear distance of 25 feet (7620 mm) each side of the hydrant, exclusive of shoulders.

SECTION 4. Municipal Code Amendment. Section 15.24.110 of the Sierra Madre Municipal Code is hereby amended to read as follows:

15.24.110 - Automatic life safety support sprinkler system.

An approved automatic life safety support sprinkler system shall be installed in all occupancies and locations as set forth in this section and shall meet all designated National Fire Protection Association (NFPA) code requirements, or Section R313 of the California Residential Code as Adopted by the State of California and the policies and procedures of the Sierra Madre Fire Prevention Bureau as currently specified and amended by the Sierra Madre Municipal Code:

SECTION 5. Municipal Code Amendment. Section 15.24.120 of the Sierra Madre Municipal Code is hereby amended to read as follows:

15.24.120 - Automatic fire extinguishing systems.

An automatic fire sprinkler systems shall be installed in the following occupancies:

- A. In all new buildings within the City of Sierra Madre except group U.
- B. All new Group U as classified in the International Fire Code, which are located within thirty five (35) feet of any exposure.
- C. All buildings classified as a Group A, B, E, F, H, I, M, S, U when renovated over seventy five percent (75%) of their existing square footage.
- D. All buildings classified as a Group A, B, E, F, H, I, M, S, U were an addition of fifty percent of their existing square footage is being accomplished.
- E. All Group R occupancies shall install an automatic life safety fire sprinkler system in accordance with Code Section 15.24.110.

SECTION 6. Repeal of Conflicting Ordinances. All existing ordinances or parts thereof conflicting or inconsistent with the provisions of this ordinance or the California Fire Code adopted are hereby repealed.

SECTION 7. References in Documents and Continuing Legal Effect. References to prior versions of the California Fire Code, or of the Sierra Madre Municipal Code that are amended or renumbered in this Municipal Code, that are cited on notices issued by the City or other documents of ongoing or continuing legal effect, including resolutions adopting or imposing fees or charges, until converted, are deemed to be references to the new counterpart 2019 Fire Code or amended Municipal Code sections for the purposes of notice and enforcement. The provisions adopted hereby shall not in any manner affect deposits, established fees or other matters of record which refer to, or are otherwise connected with, ordinances which are specifically designated by number, code section or otherwise, but such references shall be deemed to apply to the corresponding provisions set forth in the code sections adopted or amended hereby.

SECTION 8. Continuity. To the extent the provisions of this Ordinance are substantially the same as previous provisions of the Sierra Madre Municipal Code, these provisions shall be construed as continuations of those provisions and not as amendments of the earlier provisions.

SECTION 9. No Effect on Enforceability. The repeal of any sections of the Municipal Code, shall not affect or impair any act done, or right vested or approved, or any proceeding, suit or prosecution had or commenced in any cause before such repeal shall take effect; but every such act, vested right, proceeding, suit, or prosecution shall remain in full force and effect for all purposes as if the applicable provisions of the Municipal Code, or part thereof, had remained in force and effect. No offense committed and no liability, penalty, or forfeiture, either civil or criminal, incurred prior to the repeal or alteration of any applicable provision of the 2016 Code as amended, shall be discharged or affected by such repeal or alteration but prosecutions and suits for such offenses, liabilities, penalties or forfeitures shall be instituted and

proceed in all respects as if the applicable provisions of the 2016 Code, as amended, had not been repealed or altered.

SECTION 10. Supplementary of Existing Law. The City Council intends this Ordinance to supplement, not to duplicate or contradict, applicable state and federal law and this Ordinance shall be construed in light of that intent.

SECTION 11. Modifications to California Fire Code. All inconsistencies between the Municipal Fire Code, as adopted by this ordinance, and Part 9 of Title 24 the California Code of Regulations are changes, modifications, amendments, additions or deletions thereto authorized by California Health and Safety Code Sections 17858 and 17858.7.

SECTION 12. Findings. The City Council hereby adopts the findings attached hereto as Exhibit A by this reference fully incorporated herein. These modifications to the 2019 California Fire Code, incorporating the 2018 International Fire Codes are reasonably necessary due to the local climatic, geological, and topographical reasons set forth in Exhibit A.

SECTION 13. Severability. Should any section, subsection, clause, or provision of this Ordinance for any reason be held to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect the validity or constitutionality of the remaining portions of this Ordinance; it being hereby expressly declared that this Ordinance, and each section, subsection, sentence, clause, and phrase hereof would have been prepared, proposed, approved, and ratified irrespective of the fact that any one or more sections, subsections, sentences, clauses, or phrases be declared invalid or unconstitutional.

SECTION 14. Effective Date. This Ordinance shall take effect thirty days following its adoption as provided by Government Code Section 36937, or January 1, 2020 whichever is later.

SECTION 15. Copy with Clerk. The City Clerk shall maintain a copy of the California Fire Code, 2019 Edition, as amended by this ordinance, for use and examination by the public.

SECTION 16. CEQA. This Ordinance has been determined to be exempt from the California Environmental Quality Act pursuant to State Guidelines §15061 (b) (3) as a project that has no potential for causing a significant effect on the environment.

SECTION 17. Certification. The City Clerk shall certify to the adoption of this ordinance and shall cause the same to be processed in the manner required by law.

SECTION 18. Filing with State. The City Clerk shall file a certified copy of this Ordinance with the California Building Standards Commission.

PASSED, APPROVED AND ADOPTED, this ____ day of _____, 2019

AYES:
NOES
ABSTAIN:
ABSENT:

John Harabedian, Mayor

ATTEST:

Susan Spears, City Clerk

I, Susan Spears, City Clerk of the City of Sierra Madre, California, do hereby certify that the foregoing Ordinance was introduced at a regular meeting of the City Council of the City of Sierra Madre held on the ____ day of _____ 2019, and was adopted at its regular meeting of _____, 2019 by the following vote:

EXHIBIT A

2019 FIRE CODE FINDINGS

Pursuant to Section 13869.7 of the California Health and Safety Code, the report contained herein shall be the "Findings" document to support City of Sierra Madre Ordinance No. 1417 Under this adopting ordinance, specific amendments have been established which are more restrictive in nature than those sections adopted by the State of California (State Building Standards Code, and State Housing and Community Development Code) commonly referred to as Title 24 and Title 25 of the California Administrative Code.

The amendments to the 2019 California Fire Code have been recognized by the City of Sierra Madre. The amendments address the fire problem(s), concern(s), and future direction(s), by which the City can establish and maintain an environment which will afford an adequate level of fire and life safety protection to its citizens and guests.

Under the provisions of Section 13869.7 of the Health and Safety Code, local amendments shall be based on climatic, geographical, or topographical conditions. The "Findings" contained herein shall address each of these situations and shall present the local situation, which, either singularly, or in combination, cause the established amendments to be adopted.

SIERRA MADRE COMMUNITY PROFILE

The City of Sierra Madre was established in 1881. Sierra Madre encompasses an area of approximately 3.2 square miles at an elevation ranging from 700 to 800 feet above sea level. The residential population is approximately 10,800. The physical location of Sierra Madre is bordered by the city of Pasadena to the west, Arcadia to the south and east and the Angeles National Forest to the north.

The majority of Sierra Madre is residential housing, with a number of small businesses and light industrial, four elementary schools, a middle school, a high school and six churches.

Based on this profile of Sierra Madre, the Sierra Madre Fire Department established certain requirements to increase the level of fire safety to the citizens and guests of Sierra Madre, as well as the buildings within its boundaries. The following points were established as factors, which caused concern to the Sierra Madre Fire Department, and are herein established and submitted as its "Findings:"

1. CLIMATIC

Normal rainfall averages 15 inches annually. During the summer and fall months, temperatures average approximately 85 degrees and can exceed 100 degrees for a period of days. Dry winds remove the moisture from vegetation. During late summer and fall, winds can move a fire quickly across the foothills or through residential areas of Sierra Madre.

Because of periods of high temperatures, accompanied by low humidity and high winds each year. These conditions create an environment in which the Fire Department commits the majority of its fire fighting resources to the control and extinguishment of wildland fires. During such periods, the limited available firefighting resources may have great difficulty in controlling fires in structures with wood roofs and structures not having built-in fire protection.

2. GEOLOGICAL

Sierra Madre has within its boundaries active seismic hazards with respect to the San Andreas and Sierra Madre faults. While systems have been developed to study and monitor the activity of earthquakes, science has not yet been able to predict with reliability the potential for activity on these or on any other active fault.

While minor seismic activity within Sierra Madre occurs yearly without damage, the potential for severe damage does exist with these active faults, particularly with the Sierra Madre fault, which traverses the City.

The potential for earthquakes influences fire protection planning. A major seismic event would create a community-wide demand on fire protection services, which would be beyond the response capability of the Fire Department. This potential problem can be partially mitigated by requiring initial fire control through the installation of automatic fire protection systems.

Although the water system in Sierra Madre is rated Class 4 by the Insurance Services Offices, with the above noted hazard, it is possible that major fire flow requirements could be disrupted and automatic fire suppression systems requiring much less water would be the only means of extinguishment.

3. TOPOGRAPHICAL

The mountains that border the north of Sierra Madre create a beautiful backdrop, and at the same time, create a unique hazard. As one approaches the mountains, the elevation increases, and this lengthens the response time of emergency vehicles due to the increase in grade. Additionally, the steep, narrow canyons create narrow winding roads that also lengthen response times. The foothills have become prime sites for residential development because of their scenic beauty. These same scenic hills create barriers for accessibility by fire suppression forces.

The topographical layout of Sierra Madre's hillside areas creates hazardous conditions should a storm cause trees to fall and block roadways within Sierra Madre, again making accessibility difficult until properly cleared. These conditions have occurred in the past and have the potential to happen again.

During a fire, fire engines need to utilize the water from the many fire hydrants found in the canyons along these narrow roads. While using these hydrants, the access on the road is severely restricted. These conditions have occurred

in the past and have the potential to happen again. This potential problem can be partially mitigated by requiring new roads to have additional width to the roadway in the vicinity of fire hydrants.

Sierra Madre has areas that are in high fire hazard zones. As stated above, due to topography, access to structures in these fire hazard zones increases response time and delays fire suppression efforts. Extended response times allow fires to grow beyond the control of initial attack resources. Additionally, large structure fires in the hillside areas have a greater likelihood of starting wildland fires, which exposes additional structures to fire.

The value of the land in Sierra Madre is near the top in the County and maximum usage of the land is important to investors and developers. The multi-residential zones located within Sierra Madre encourage developers to seek maximum return on their investment. The most effective method of achieving this is to allow maximum density. This creates buildings that provide minimum required clearances between structures and maximum allowable height. This results in "barriers" that hinder fire-fighting operations, and restrict the movement of emergency personnel and equipment in the vicinity of the structure.

STATEMENT OF THE PROBLEM

The Fire Department is charged with the task of providing a reasonable degree of fire and life safety in Sierra Madre with minimum budget and staffing levels.

The City of Sierra Madre places a high value on protection of human life against hazards of fire. While smoke detectors are intended to give an early warning that allow occupants to escape or defend themselves from the hazard of fire, automatic sprinklers are meant to control or extinguish a developing fire to enable occupants to better escape. Sprinkler systems have been found to be highly effective systems for the protection of human life and should be used whenever feasible.

The water supply in Sierra Madre makes extensive use of automatic sprinkler systems feasible. Most of the City is ideally located below the 6 reservoirs, which supply the gravity flow water system with storage capacity in excess of 6 million gallons. Many of our fire service installations maintain static pressures in excess of 80 pounds per square inch. The City of Sierra Madre water distribution system is the major contributing factor toward the fire suppression capabilities of the Sierra Madre Fire Department. There are jurisdictions within the State, which have difficulty providing required water flows for automatic fire sprinkler systems, making the operation of such sprinkler systems less feasible than in the City of Sierra Madre.

The City of Sierra Madre is also subject to certain dangers, making the use of automatic sprinkler systems a more significant factor in fire suppression. The City of Sierra Madre is located in one of the most active earthquake fault systems in the United States. Major damage corresponding to magnitude 7 or higher earthquake can be expected. Severe seismic action would place extreme demands on the limited resources of our small fire department. Communications could be disrupted. Damage to gas and water mains is to be expected. As previously mentioned, the City

of Sierra Madre water system is the key to sprinkler supply. The City of Sierra Madre water system is constructed in a grid to reduce the effect of a single pipe or area of pipes breaking. Therefore, entire system failure due to earthquake is more unlikely than a partial failure. Automatic fire sprinkler systems will operate on much less pressure than normally available in Sierra Madre. Although sprinklers may only partially control a fire, this would be important in reducing the fire problem or delayed response that may be created by broken communications and obstructed access. Automatic fire sprinkler systems would therefore reduce demands on firefighting forces during emergency earthquake conditions.

The Sierra Madre Fire Department's first alarm assignment dependent on mutual aid companies from surrounding cities. Most jurisdictions consider three engine companies, two truck companies a rescue squad/ambulance, and a Chief Officer to be a minimum for a single-family structure fire.

Because Sierra Madre's Fire Department staffing is dependent upon mutual aid companies from other cities, it is imperative that developers and builders provide built-in fire protection within buildings covered by the City of Sierra Madre Sprinkler Ordinance. Unless fires are kept in their incipient stages, which automatic fire sprinkler systems achieve, the fire department, as presently staffed and equipped cannot function effectively against large or numerous fires. Large or numerous fires necessitate the immediate call for mutual aid, which if available, will be delayed.

Additionally, due to the winding narrow roads that are found in our canyon areas, it is imperative that access on these roads be maintained at all times, especially during a fire when the fire hydrants are being used.

While the adoption of regulations may not prevent incidents of fire, the implementation of the various regulations and/or requirements will reduce the severity and potential loss of life and property in our community.

The serious concerns based on these "Findings", support the imposition of built-in fire protection requirements greater than those set forth in the International Building and Fire Codes. Additionally, Sierra Madre Ordinance No. 1417 will provide effective protection of the populace and property, and help reduce the ravages of fire.

The Sierra Madre Fire Department submits these "Findings" and requests acceptance of same as defined under Section 13869.7 of the State of California Health and Safety Code.

Prepared and submitted by:

Captain Richard Snyder,
Sierra Madre Fire Marshal

Date _____



City of Sierra Madre Agenda Report

John Harabedian, Mayor
John Capoccia, Mayor Pro Tem
Rachelle Arizmendi, Council Member
Denise Delmar, Council Member
Gene Goss, Council Member

Sue Spears, City Clerk
Michael Amerio City Treasurer

TO: Honorable Mayor and Members of the City Council

FROM: Laura Aguilar, Administrative Services Manager / Assistant City Clerk 

REVIEWED BY: Gabe Engeland, City Manager

DATE: October 8, 2019

SUBJECT: CONSIDERATION OF APPOINTMENT TO FILL A VACANCY ON THE SENIOR COMMUNITY COMMISSION

STAFF RECOMMENDATION

It is recommended that the City Council provide staff with direction regarding the appointment to the Senior Community Commission to fill a full-term vacancy.

ALTERNATIVES

The alternatives are:

1. Upon receiving the Council's recommendations, the Mayor may make a recommendation for City Council consideration.
2. Take no action, and direct staff to continue to solicit applications for the vacant position.

SUMMARY

At the September 24, 2019 Council meeting Mayor Pro Tem Capoccia requested that staff return to the next meeting with an update on the vacancy in the Senior Community Commission. The Senior Community Commission currently has one vacancy which occurred with the completion of Commissioner Nina Bartolai's first term.

Members of the Senior Community Commission are appointed by the City Council to serve three-year terms and may serve up to two, consecutive full-terms. On June 30, 2019 Commissioner Nina Bartolai completed her term and did not request to be appointed to a second term. City staff has advertised the vacancy and has received one (1) application. The application from Mrs. Jacquie Pergola has been posted onto the City's website.

The City advertised the vacancy through e-Blast, the City's website, and in the City's electronic newsletter: Village View.

ANALYSIS

The term for this position is from July 2019 to June 30, 2022. Council is asked to provide staff with direction. A total of one (1) application was received for the single vacancy. The selection process is summarized below.

- All applications to fill Board or Commission vacancies are forwarded to the City Council for its review to make recommendations to the Mayor on the appointments. At a regular or special meeting the City Council may interview the applicant(s) and provide their recommendation(s) to the Mayor.
- At the same meeting, or at a subsequent meeting, the Mayor submits to the City Council, for its approval the names of the applicants proposed to fill each vacancy. The appointment requires a majority vote of approval of the Council. If the Council fails to approve a proposed appointment, any Council member may propose an alternative applicant.

FINANCIAL REVIEW/SOURCE OF FUNDING

There are no financial impacts associated with the appointment of Senior Community Commissioners.

ENVIRONMENTAL (CEQA)

n/a

PUBLIC NOTICE PROCESS

This item has been noticed through the regular agenda notification process. Copies of this report are available at the City Hall public counter, the Sierra Madre Public Library, and the City's website, www.cityofsierramadre.com.

Attachments

Application to the Senior Community Commission (Pergola)

Application for Commissions, Boards, and Committees



City of Sierra Madre

232 W. Sierra Madre Blvd.
Sierra Madre, CA 91024
626.355.7135 Fax 626.355.1254
www.cityofsierramadre.com

RECEIVED

SEP 30 2019

Please note: All information provided on this front page is subject to disclosure under the Public Records Act and will be posted on the City's website.

CITY OF SIERRA MADRE
CITY CLERK'S OFFICE

PERSONAL INFORMATION

NAME <i>JACQUE PERGOLA</i>	DATE <i>9-30-2019</i>
CITY OF RESIDENCE <i>SIERRA MADRE</i>	YEARS AS RESIDENT <i>26</i>

COMMISSION/COMMITTEE

COMMISSION/BOARD/COMMITTEE FOR WHICH YOU ARE APPLYING

SENIOR COMMISSION

Why are you interested in serving as a member of this commission / board / committee?

OUR SENIORS PLAY A LARGE ROLL IN SUPPORTING OUR CITY WITH THEIR EXPERTISE AND VOLUNTEERING. I FEEL IT IS IMPORTANT TO SUPPORT THEM THROUGH THE SERVICES THE SENIOR COMMISSION CAN PROVIDE FOR THEM.

What specific attitudes, skills, and expertise do you think you have to enhance the work of the commission / board / committee?

I HOPE TO OFFER LEADERSHIP & NEW IDEAS TO KEEP THE SENIORS AS A VITAL PART OF THE CITY. FOR EXAMPLE, I WOULD LOVE TO SEE BETTER ATTENDANCE AT THE DAILY LUNCH PROGRAM & WILL WORK TOWARD THAT GOAL IF ACCEPTED TO SERVE ON THE COMMISSION.

SERVICE HISTORY

Are you currently, or have you ever been a member of any City of Sierra Madre Commission, Board, or Committee?

Yes No

NAME OF COMMISSION, BOARD, OR COMMITTEE <i>SENIOR COMMISSION</i>	DATES OF SERVICE <i>2011-2016</i>
NAME OF COMMISSION, BOARD, OR COMMITTEE <i>GARDEN TOUR BOARD - CHAIRMAN OF BOARD</i>	DATES OF SERVICE <i>17 YRS</i>

You are invited to attach additional information or submit supplemental information which you feel may assist the City Council in its evaluation. Supplemental information is subject to disclosure under the Public Records Act.



City of Sierra Madre Agenda Report

John Harabedian, Mayor
John Capoccia, Mayor Pro Tem
Rachelle Arizmendi, Council Member
Denise Delmar, Council Member
Gene Goss, Council Member

Sue Spears, City Clerk
Michael Amerio City Treasurer

TO: Honorable Mayor and Members of the City Council

FROM: Laura Aguilar, Administrative Services Manager / Assistant City Clerk 

REVIEWED BY: Gabe Engeland, City Manager

DATE: October 8, 2019

SUBJECT: AUTHORIZATION TO PAY EXPENDITURES RELATED TO THE
NOVEMBER 5, 2019 SPECIAL ELECTION

STAFF RECOMMENDATION

It is recommended that the City Council approve an increase to the fiscal year 2019-2020 budget to include estimated expenditures in the amount of \$110,000 related to the November 5, 2019 Special Election.

ALTERNATIVES

The alternatives are:

1. The Council may request additional information and ask staff to return to a future Council meeting.
2. The Council may approve expenditures and direct staff to amend the fiscal year 2019-2020 budget to include a line item for the Special Election.

SUMMARY

At the July 9, 2019 the Council authorized a Special Election on November 5, 2019 for a citizen initiative. The measure, Measure S, is the only item on the ballot.

The City has consolidated this election with Los Angeles County and has received an estimate cost of \$104,000. The remaining \$6,000 will be allocated to cover the costs of election consultant (MCA Direct), poll-worker training, and poll worker meals and supplies on election day.

ANALYSIS

At the July 9, 2019 staff estimated that costs of the Special Election to be between \$150,000 and \$200,000. The costs will include election services from Los Angeles County for conducting and certifying the election, election consultant services, poll center workers

and poll center inspectors, to name a few. The cost of the election was not budgeted in the previously approved fiscal year 2019-2020 City budget and will require City Council approval for expenditure from the General Fund.

FINANCIAL REVIEW/SOURCE OF FUNDING

The cost of the election was not budgeted in the previously approved fiscal year 2019-2020 City budget and will require City Council approval for expenditure from the General Fund.

ENVIRONMENTAL (CEQA)

n/a

PUBLIC NOTICE PROCESS

This item has been noticed through the regular agenda notification process. Copies of this report are available at the City Hall public counter, the Sierra Madre Public Library, and the City's website, www.cityofsierramadre.com.

Attachments

Letter from Los Angeles County Registrar-Recorder/County Clerk



Los Angeles County Registrar-Recorder/County Clerk

DEAN C. LOGAN
Registrar-Recorder/County Clerk

April 15, 2019

Laura Aguilar, Assistant City Clerk
City of Sierra Madre
232 West Sierra Madre Boulevard
Sierra Madre, CA 91024

ESTIMATED COST FOR THE NOVEMBER 5, 2019 LOCAL AND MUNICIPAL ELECTIONS

Dear Ms. Aguilar:

As requested, the estimated cost for the City of Sierra Madre to participate in the November 5, 2019 Local and Municipal Elections with one measure is \$104,000.

The estimated cost is based on the following voter counts: 8,125 registered voters and 4,350 permanent vote-by-mail voters. **Any changes in the election factors will impact the final costs for your jurisdiction.**

If you have any questions regarding this estimate, please contact Henrietta Willis-Kendall of my staff at (562) 462-2690.

Sincerely,

DEAN C. LOGAN
Registrar-Recorder/County Clerk

MARGARET PALACIOS, Manager
Fiscal Operations



City of Sierra Madre Agenda Report

John Harabedian, Mayor
John Capoccia, Mayor Pro Tem
Rachelle Arizmendi, Council Member
Denise Delmar, Council Member
Gene Goss, Council Member

Sue Spears, City Clerk
Michael Amerio City Treasurer

TO: Honorable Mayor and Members of the City Council

FROM: Jose Reynoso, Utilities Director
Gabriel Engeland, City Manager

DATE: October 8, 2019

SUBJECT: **INTERCONNECTION WHEELING AGREEMENT BETWEEN
THE CITY OF ARCADIA AND THE CITY OF SIERRA MADRE**

STAFF RECOMMENDATION

Staff recommends the City Council approve the interconnection wheeling agreement between the City of Arcadia and the City of Sierra Madre and authorize staff to work with the San Gabriel Valley Municipal Water District and Arcadia on the joint establishment, location, and operation of a well in the main basin.

ALTERNATIVES

1. The City Council may decline to approve the interconnection wheeling agreement.
2. The City Council may direct staff to further negotiate the terms in the recommended interconnection wheeling agreement.
3. The City Council may approve the agreement, or direct staff to modify the terms, while declining to authorize staff to work on the joint establishment, location, and operation of a well in the main basin.

SUMMARY

The City of Arcadia and the City of Sierra Madre jointly constructed and maintain a water interconnection between the two cities. The interconnection was established as a secondary source of water for Sierra Madre to be used in times of emergency. Since the establishment of the connection in 2002, Arcadia has, from time to time, delivered water to Sierra Madre. The recommended interconnection wheeling agreement would formalize this arrangement and also set parameters around the delivery and wheeling of water through Arcadia, using Arcadia's distribution system. Water delivered through the interconnection is water that Sierra Madre owns and stores in the main basin, or is available to the City as a party to the Main Basin agreement. This water does not affect Raymond Basin groundwater production. This proposed agreement would not alter the water rights of either City. Further, this agreement is intended to serve as the precursor to a larger agreement where the San Gabriel Valley Municipal Water District and Sierra Madre, work with Arcadia to jointly establish, locate, and operate a well in the main basin to the benefit of all parties.

ANALYSIS

Sierra Madre's primary water source is the East Raymond Basin. Sierra Madre has adjudicated water rights to extract 1,764 acre feet annually from the basin. However, Sierra Madre is currently limited to

an annual extraction of 940 acre feet annually due to the overdraft condition of the basin, and the long-term decline of the water level.

The City of Sierra Madre, along with the cities of Alhambra, Azusa, and Monterey Park, established the San Gabriel Valley Municipal Water District (District) in 1959. The District delivers untreated water to the Main San Gabriel Basin, where the cities of Alhambra, Azusa, and Monterey Park have decreed rights. As discussed above, the City of Sierra Madre has decreed rights in the Raymond Basin, not the Main Basin. However, Sierra Madre is a party to the Main Basin Judgment, through its connection to the District, and is allowed to extract water from the Main Basin.

In 2006, the District coordinated with the Metropolitan Water District (MET) on an emergency connection for water delivery to Sierra Madre from the District. In 2013, the emergency agreement was replaced and expanded with the current water exchange agreement. Under the terms of the current agreement the MET delivers treated imported water, in the amount of up to 2,500 acre feet of water to Sierra Madre annually, and the District provides the MET with up to 5,000 acre feet of water. Sierra Madre has used the water exchange agreement between the District and the MET to supplement the City's adjudicated water rights and meet the demand of Sierra Madre residents.

The proposed interconnection wheeling agreement, which is intended to transition to a jointly operated well with Arcadia, would provide Sierra Madre with a third source of water, further augmenting the amount of water available to Sierra Madre residents. The well is projected to be capable of delivering up to approximately 2,000 acre feet per year.

Sierra Madre currently has an annual water demand of approximately 2,300 acre feet. The adjudicated rights of Sierra Madre in the East Raymond Basin are 1,764 acre feet, which are currently reduced to 940 acre feet due to the overdraft condition of the East Raymond Basin. The water exchange agreement between the District and the MET allows Sierra Madre uninterrupted access to up to 2,500 acre feet of water annually. If approved, the proposed water interchange wheeling agreement, and location of a jointly operated well, would provide Sierra Madre with a third source of water, of up to 1,000 acre feet annually. The agreement with Arcadia is intended to supplement current agreements and increase the amount of water accessible to Sierra Madre residents. The agreement is not intended to supplant either the City's main source of water (East Raymond Basin) or its supplemental source of water (District). Direct access to the Main Basin will further diversify the City's water availability, provide redundancy of delivery options, and grant access to treated water which can be delivered directly to residents without the need to spread and pump the water at the spreading grounds.

FINANCIAL REVIEW/SOURCE OF FUNDING

If the proposed interconnection and wheeling agreement is approved Sierra Madre will pay Arcadia \$25,000 annually for access to the water distribution system and the actual costs incurred by Arcadia to deliver the water from the Main San Gabriel Basin to Sierra Madre through the interconnection. The delivery cost will be determined by an independent third party engineer to the satisfaction of both parties.

The establishment of a joint well with Arcadia is estimated to cost \$3,000,000, but final costs have not been determined. Sierra Madre would be responsible for 50% of all costs to locate and operate the well. Sierra Madre will work with the District to participate in Sierra Madre's portion.

ENVIRONMENTAL (CEQA)

This Agreement is categorically exempt from review under the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines 15301 because the interconnection is an existing facility.

PUBLIC NOTICE PROCESS

This item has been noticed through the regular agenda notification process. Copies of this report are available at City Hall, at the Sierra Madre Public Library, and can be accessed on the City's website at www.cityofsierramadre.com.

Attachments

Attachment 1: Proposed Interconnection and Wheeling Agreement

**INTERCONNECTION WHEELING AGREEMENT
BETWEEN THE CITY OF ARCADIA AND
THE CITY OF SIERRA MADRE**

This Agreement (“Agreement”) is entered into as of the ____ day of _____ 2019 by and between the City of Arcadia (“Arcadia”), a municipal organization organized under the laws of the State of California, and the City of Sierra Madre (“Sierra Madre”), a general law city organized under the laws of the state of California, hereinafter referred to individually as “Party” and collectively as “Parties”.

RECITALS

WHEREAS, beginning sometime in 2002, Arcadia and Sierra Madre informally agreed that Arcadia would wheel water from its system to Sierra Madre through a 12-inch interconnection near Santa Anita Avenue in Arcadia and Sierra Madre Boulevard in Sierra Madre (“Sierra Madre Boulevard Interconnection”);

WHEREAS, the Parties entered into a written agreement on July 3, 2002 (“2002 Agreement”) to construct the Sierra Madre Boulevard Interconnection, in addition to a 12-inch pipeline from the Sierra Madre Boulevard Interconnection to a settling basin in Sierra Vista Park in Sierra Madre;

WHEREAS, the purpose of the Sierra Madre Boulevard Interconnection is to provide Sierra Madre with a secondary source of water in case of earthquakes and other emergencies;

WHEREAS, in the 2002 Agreement, each Party agreed to maintain that portion of the Sierra Madre Boulevard Interconnection within its incorporated area in accordance with that Party’s ordinances, regulations, policies, and procedures; and

WHEREAS, the Parties now desire to formalize in writing their informal wheeling

agreement from 2002, as well as provide a general framework for Arcadia to wheel water to Sierra Madre from the Sierra Madre Boulevard Interconnection made available by a shared well that the Parties may develop and operate in the future;

NOW, THEREFORE, IN CONSIDERATION OF THE MUTUAL OBLIGATIONS SET FORTH HEREIN, THE PARTIES AGREE AS FOLLOWS:

1. PROVISION OF WATER. By and under the terms of this Agreement, Arcadia agrees to wheel water through its water system to be delivered to Sierra Madre at the Sierra Madre Boulevard Interconnection during the term of this Agreement in an amount not to exceed 1,200 gallons per minute (“GPM”), subject to those limitations set forth in Sections 7, 8, and 12 of this Agreement. All such water delivered shall come into the possession of Sierra Madre on the Sierra Madre side of the Sierra Madre Boulevard Interconnection.

2. WATER RIGHTS. The Parties agree that this Agreement does not create any additional rights to water than the Parties already possess. To the extent either Party is exercising any of its water rights by operation of this Agreement, the wheeling of the water associated with such water rights will be subject to this Agreement.

3. DEFINITIONS. When used in this Agreement, the following terms have the meanings set forth below:

- (a) “Emergency” will mean any condition that will result in Arcadia being unable to serve its respective customers. Conditions that may constitute an emergency include, but are not limited to, facility failure, drought conditions, contractual cutbacks of water supplies, or water quality failures.
- (b) “Maintenance” is the regular/predicted exercising, flushing and/or minor repairs of the Sierra Madre Boulevard Interconnection.

- (c) “Sierra Madre Boulevard Interconnection” means the pipeline interconnection, valves, meters and related facilities at Sierra Madre Boulevard in Sierra Madre near Santa Anita Avenue in Arcadia as described in greater detail in Exhibit “A” to this Agreement.
- (d) “Party Representative” means the person (and alternates) designated from time to time by Arcadia or Sierra Madre authorized to take actions under the Agreement, to the extent permitted by the governing body.
- (e) “Year” will mean the twelve-month period from July 1 through June 30, both dates inclusive.

4. TERM. The Agreement will be effective upon execution by both Parties and will last in perpetuity unless and until the Parties agree in writing to terminate it, or causes beyond the control of either Party render(s) it impractical or impossible for either Party to carry out their respective obligations under the Agreement, or until such a time that both parties jointly, or Sierra Madre individually, establish and operate a well in the Main San Gabriel Basin. The Parties agree to revisit this Agreement sometime on or before 2044.

5. PAYMENT. Sierra Madre agrees to pay \$25,000 per year to Arcadia for capacity in Arcadia’s water system that may be used to wheel water for Sierra Madre, and which water may be delivered through the Sierra Madre Boulevard Interconnection. Sierra Madre will pay the full amount of \$25,000 within 30 days following the first day of each Year, which payment will apply to the capacity of Arcadia’s water system, if any, for that Year.

6. COSTS. In addition to the payment set forth in Section 5 of this Agreement, Sierra Madre will pay Arcadia for costs associated with pumping

activities (“Pumping Costs”) that Arcadia incurs as a result of wheeling water for Sierra Madre during the Year, which amount will be determined by an engineering analysis that the Parties agree in good faith to have prepared in a fair and equitable manner. Consistent with the California Water Wheeling Statutes, Sierra Madre will also pay Arcadia for other costs Arcadia incurs as described in Water Code, section 1811(c) as determined in the sole but reasonable discretion of Arcadia (“Other Costs”). Arcadia will send Sierra Madre a written bill on or around the last day of each Year generally describing the Pumping Costs and Other Costs Arcadia incurred throughout the Year as a result of wheeling water for Sierra Madre, and Sierra Madre will pay Arcadia the amount stated within 30 days of receiving the bill. Sierra Madre will bear all costs it incurs relating to water delivered under this Agreement, unless otherwise specified herein.

7. CALL FOR WATER. If Sierra Madre desires to receive water wheeled through Arcadia’s water system at the Sierra Madre Boulevard Interconnection, it will provide Arcadia with written notice at least 72 hours before the requested delivery. The timely written notice must provide the amount of water Sierra Madre desires to have delivered through the Sierra Madre Boulevard Interconnection in GPM, not exceeding 1,200 GPM, and must specify the duration of the delivery. Arcadia agrees to work diligently and in good faith to satisfy Sierra Madre’s timely requests for water under this Agreement, but in no event will Arcadia become liable for failing to deliver the requested water if, in its sole discretion, Arcadia determines it is unable to do so for any reason. Arcadia will have no obligation to obtain or procure alternative water supplies to meet Sierra Madre’s requests other than a reasonable amount that Arcadia’s water system is able to make available at the time Sierra Madre provides Arcadia with written notice of its request, and provided that Arcadia determines, in its sole discretion, that it is able to meet Sierra Madre’s request. Within a reasonable time following receipt of a written request for water from Sierra Madre under this Agreement, Arcadia will provide Sierra Madre with notice that it will or will not be able to meet Sierra Madre’s request. In no event will Arcadia be liable for any damage or injuries

sustained by Sierra Madre or any other person, business, or entity as a result of not delivering water requested by Sierra Madre, or reducing flow through or shutting off the Sierra Madre Boulevard Interconnection. Sierra Madre agrees that if Arcadia determines it can deliver water to Sierra Madre through the Sierra Madre Boulevard Interconnection, it may elect to do so only during off-peak periods of demand, as determined solely by Arcadia. Sierra Madre also agrees that it will generally not seek wheeled water deliveries under this Agreement during the summer months, from June 1 to September 1 in any Year, unless otherwise agreed to by the Parties.

8. EMERGENCIES. In the event Arcadia determines, in its sole discretion, that an Emergency exists, Arcadia may reduce flows through the Sierra Madre Boulevard Interconnection, or may shut off the Sierra Madre Boulevard Interconnection completely. In no event will Arcadia be liable for any damage or injuries sustained by Sierra Madre or any other person, business, or entity as a result of reducing flow through or shutting off the Sierra Madre Boulevard Interconnection during an Emergency.

9. MEASUREMENT. The Parties agree that the meter measuring water flows through the Sierra Madre Boulevard Interconnection will be tested on or around [July 1] of each Year, and either Party may request to have the 8” meter tested, in addition to the annual meter test, at their own cost, provided the Party informs the other Party of their intent to do so in a timely manner.

10. MAINTENANCE. Each Party agrees that it will maintain, at its own cost and expense, the portion of the Sierra Madre Boulevard Interconnection within that Party’s incorporated area in accordance with its ordinances, regulations, policies, and procedures.

11. WATER QUALITY. Arcadia agrees to operate its pipelines in such a manner that any water which Arcadia delivers to Sierra Madre pursuant to this Agreement will not be diminished in quality as a result of being delivered. The

Parties agree that the water delivered by Arcadia to Sierra Madre will meet, at a minimum, the State of California's Department of Drinking Water standards for domestic use.

12. RESPONSIBILITIES FOR DELIVERY AND DISTRIBUTION OF WATER. Neither Arcadia nor its officers, agents or employees will be liable for the control, carriage, handling, use, disposal, or distribution of the water outside of facilities then being operated or maintained by Arcadia.

13. INDEMNIFICATION. Each Party will defend, indemnify, and hold harmless the other Party, its officers, agents, employees, and volunteers from and against all claims, damages, losses, and expenses, including attorney fees arising out of the performance of the work described herein, caused in whole or in part by any intentional or negligent act or omission of the other Party, save and except those matters arising from the sole, active negligence, or willful misconduct of that party or agent of that Party. This indemnity specifically includes, but is not limited to, claims or damages arising from or related to the quality, type, or character of the water delivered for wheeling, or the control, handling, carriage, use, distribution, disposal, or consumption of the water delivered to the applicable delivery point, or the construction or maintenance of the pipelines. The Parties intend that this paragraph be broadly construed to effectuate its purpose.

14. REMEDIES NOT EXCLUSIVE. The use by either Party of any remedy specified for the enforcement of this Agreement is not exclusive and does not deprive the Party using such remedy of, or limit the application of, any other remedy provided by California or federal law.

15. DISPUTE RESOLUTION. Any controversy or dispute between or among Arcadia and Sierra Madre concerning implementation, interpretation, application, performance or lack of performance of this Agreement or its breach will be addressed in joint consultation and negotiation with duly appointed

representatives of Arcadia and Sierra Madre and approved by the City Councils for Arcadia and Sierra Madre.

16. MEDIATION AND ARBITRATION.

(a) Any controversy or dispute between or among Arcadia and Sierra Madre concerning implementation, interpretation, application, performance or lack of performance of this Agreement, and any claim arising out of this Agreement or its breach that cannot be resolved pursuant to Section 15 above, will be resolved under this Section. Arcadia and/or Sierra Madre will provide each other with written notice of a demand for arbitration within ninety (90) days from the date of the occurrence giving rise to the controversy, dispute or claim that is the basis for the demand. The notice will state the facts that give rise to the demand for arbitration, the date of the occurrence, the parties to the arbitration and the remedy sought. The Parties will facilitate an effort to resolve the dispute through informal mediation on a voluntary basis during the thirty-day period following the demand for arbitration. Thereafter, if Arcadia and/or Sierra Madre have not agreed to a resolution of the dispute or an extension of time, the dispute will be resolved by binding arbitration under the California Arbitration Act (Code of Civil Procedure sections 1280 through 1294.2), except as otherwise provided herein. The Parties in the arbitration will select a single neutral arbitrator. If they cannot agree on one arbitrator, or an alternative selection process, Parties will request the presiding judge of the Los Angeles County Superior Court to select an arbitrator, under Section 1281.6 of the Code of Civil Procedure.

(b) A hearing on the matter to be arbitrated will take place before the arbitrator in the County of Los Angeles at a time and place selected by the arbitrator. However, the hearing will take place no later than thirty days after selection of the arbitrator, unless the parties unanimously agree to extend this time. The arbitrator will select the time and place for the hearing and will give each party written notice of the time and place at least twenty days before the date of the hearing. At the hearing, any relevant evidence may be presented by any party and the formal rules of evidence

applicable to judicial proceedings will not apply. Evidence may be admitted or excluded in the sole discretion of the arbitrator. The arbitrator will hear and determine the matter, and will resolve in writing the dispute among the parties. The decision of the arbitrator will be binding and conclusive.

(c) The ongoing costs of the arbitration, including the arbitrator's fees, and reasonable costs incurred by Arcadia and/or Sierra Madre to facilitate the mediation and the arbitration, will be borne equally by the Parties. At the conclusion of the arbitration, the prevailing party will be entitled to recover from the losing party the costs of arbitration (but not mediation costs), in addition to reasonable attorney's fees, expert witness fees and other costs as part of the arbitrator's decision.

17. CHOICE OF LAW. This Agreement and the rights of the Parties hereunder will be governed by and construed in accordance with the laws of the State of California, exclusive of conflict or choice of law rules.

18. WAIVER OF RIGHTS. Any waiver at any time by either Party of its rights with respect to a breach or default, or any other matter arising in connection with this Agreement, will not be deemed to be a waiver with respect to any other breach, default or matter.

19. CONTROLLING AGREEMENT. This Agreement supersedes any previous written, verbal, or other agreement, formal or informal, governing the Parties' conduct and obligations with respect to Arcadia wheeling water through its water system for Sierra Madre to be delivered to Sierra Madre through the Sierra Madre Boulevard Interconnection.

20. ASSIGNMENT. The provisions of this Agreement will apply to and bind the successors and assigns of the respective Parties, but no assignment or transfer of this Agreement, or any part hereof or interest herein, will be valid until and unless

approved by both Parties.

21. OPINIONS AND DETERMINATIONS. Where the terms of this Agreement provide for action to be based upon judgment, approval, review, or determination of either Party, such terms are not intended to be and will never be construed as permitting such opinion, judgment, approval, review, or determination to be arbitrary, capricious, or unreasonable.

22. NOTICES. All written notices that are required either expressly or by implication to be given by any Party to the other under this Agreement will only be signed by authorized personnel of the notifying Party. Except written calls for water, as set forth in Section 7 of this Agreement, any written notices to Parties required by this Agreement will be delivered or mailed, U.S. first class postage prepaid, addressed as follows:

<u>City of Sierra Madre (Sierra Madre)</u>	<u>City of Arcadia (Arcadia)</u>
Gabriel Engeland	NAME OF AGENT
City Manager	POSITION
City of Sierra Madre	CITY OF ARCADIA
232 W. Sierra Madre Blvd.	STREET ADDRESS
Sierra Madre, CA 91024	CITY, STATE, ZIP
GEngeland@CityofSierraMadre.com	EMAIL ADDRESS

Either Party may amend its address for notice by sending written notice to the other Party.

23. INSPECTION OF BOOKS AND RECORDS. The proper officers or agents of each Party will have full and free access at all reasonable times to the account books and official records of the other Party insofar as they pertain to the matters and things provided for in this Agreement, with the right at any time during office hours to make copies thereof at that Party's expense.

24. INTEGRATION. This is an integrated Agreement and contains

all of the terms, considerations, understanding and promises of the Parties. It will be read as a whole.

25. SEVERABILITY. The invalidity or unenforceability of any provisions of this Agreement will not affect the validity or enforceability of any other provision of this Agreement, which will remain in full force and effect.

26. ATTORNEY'S FEES. In any action brought by either Party to enforce the terms of this Agreement, the prevailing party will be entitled to recover its reasonable attorney's fees.

27. COUNTERPARTS. This Agreement may be executed in counterparts.

SIGNATURE PAGE TO INTERCONNECTION AGREEMENT

I HEREBY CERTIFY that the foregoing Agreement was duly executed pursuant to authorization by THE CITY OF SIERRA MADRE City Council, at a regular meeting thereof held on the _____ day of _____ 2019.

Title
City Council

Date

ATTEST:

Title

Date

APPROVED AS TO FORM:

Title

Date

SIGNATURE PAGE TO INTERCONNECTION AGREEMENT

I HEREBY CERTIFY that the foregoing Agreement was duly executed pursuant to authorization by CITY OF ARCADIA City Council, at a regular meeting thereof held on the _____ day of _____ 2019.

Title
City Council

Date

ATTEST:

Title

Date

“ATTACHMENT A”

WATER SYSTEM INTERCONNECTION POINT
AT SANTA ANITA AVENUE AND SIERRA
MADRE BOULEVARD

The installation of a new 12-inch waterline with an 8-inch water meter in a vault within Sierra Madre Boulevard that is to provide a secondary source of water from the City of Arcadia’s water distribution system to the City of Sierra Madre’s water system near Sierra Vista Park.



City of Sierra Madre Agenda Report

John Harabedian, Mayor
John Capoccia, Mayor Pro Tem
Rachelle Arizmendi, Council Member
Denise Delmar, Council Member
Gene Goss, Council Member

Sue Spears, City Clerk
Michael Amerio City Treasurer

TO: Honorable Mayor and Members of the City Council

FROM: Miguel Hernandez, Human Resources Manager
Gabriel Engeland, City Manager

DATE: October 8, 2019

SUBJECT: **MANAGEMENT COMPENSATION STUDY**

STAFF RECOMMENDATION

Staff recommends the Council discuss and provide direction.

SUMMARY

In December of 2018, the City Council directed staff to complete a compensation study on management positions for the City of Sierra Madre. Attachment A provides a summary of the completed management compensation study. In order to determine rate of pay as compared to the market place, peer cities were identified, as well as comparable jobs in the private sector, healthcare, and non-profit industries where applicable.

The City Council determines the rate and range of pay for all positions in the City of Sierra Madre. The following information is intended to provide the City Council with the current range of pay available to employees in the market place and assist the City Council in implementing the compensation philosophy which was approved on July 23, 2019. As noted in the compensation philosophy, range of pay is one piece of overall compensation, which also includes the quality of the organization, the type of work being completed, and traditional benefits such as healthcare and pension.

ANALYSIS

At the direction of City Council, staff completed a compensation study for management positions in the City of Sierra Madre. The positions used in the study were selected based on several criteria, but included the last time the position was advertised on the open market and internal similarity to other positions within the organization. The positions surveyed were Police Chief, Finance Director, Public Works Director, Human Resources Manager, and Community Services Manager.

In order to complete the compensation study, 11 peer cities were identified, and each city was assigned a "similarity score" to determine congruence with Sierra Madre. The scores were calculated based on population, general fund budget, services provided (police, fire, library), and geography. A score of 6 represents a city that is perfectly similar in scope of services, budget, and location as Sierra Madre, whereas a score of 0 would represent a city that does not share any of the defining characteristics of Sierra Madre. The following is a list of peer cities identified, with their similarity score: San Marino (5.5); Signal Hill (5); South Pasadena (4); Santa Fe Springs (3.5); Commerce (3); Westlake Village (3); La Canada (2.5); Hawaiian Gardens (2.5); Artesia (2.5); Claremont (2); San Dimas (1). In determining peer cities it was observed that cities providing the same services as Sierra Madre (police, fire, library) are general dissimilar in population and size of general fund budget, and cities that are similar in

population size and general fund budget typically do not provide the same services as Sierra Madre.

In addition to the 11 identified peer cities, non-public safety positions were also compared to private sector organizations, non-profit, healthcare, or contracted services (public sector contracting agency) to determine pay range. These positions included Finance Director, Public Works Director, Human Resources Manager, and Community Services Manager.

The compensation study determined the market midpoint, which is the arithmetic mean of the minimum and maximum rate of pay considered competitive in the market, and compared it to the midrange of Sierra Madre which is the “middle” of the minimum and maximum range of pay in Sierra Madre for a selected position. Comparing the midpoint of market with the midrange of pay in Sierra Madre allows for the calculation of pay as percent of market in Sierra Madre. The percent of market pay represents the dollar value Sierra Madre pays as compared to the value in the market place. As an example, a City that pays 80% of market midpoint would pay \$0.80 for every \$1.00 paid in the market place.

The compensation study for management positions shows Sierra Madre is currently paying 79.7% of the market place on average and 77.4% as a market place median. The following is a list of the positions surveyed and their current percent of market pay: Police Chief (75.9%); Finance Director (88.4%); Public Works Director (76%); Human Resources Manager (77.4%); and Community Services Manager (80.9%). Because the City determines the range and grade of all positions, the survey of the management positions can be extrapolated to positions which exist in the management and director level positions of the City. As an example, the market range of pay for the City Librarian can be determined using the market analysis for the Community Services Manager. It should also be noted the Finance Director pay range was increased during the most recent hiring process to the pay range of the position of Assistant City Manager which has been removed from the City’s Classification Plan. This is the primary reason for the higher percentage of market pay as compared to other Director level positions in the City.

Staff is seeking direction on the below outlined options which are available to the City Council. Based on the discussion, staff will bring back a recommendation to Council.

The City Council can discuss the following options, or discuss options which have not been listed.

- 1) The City Council may determine the current rate of pay is in-line with the City’s compensation philosophy, and make no changes to the current rates and range of pay.
- 2) The City Council may select a midpoint based on market for management compensation in Sierra Madre. As an example, Sierra Madre may set its market compensation rate at 85% of the market rate.
- 3) The City Council decide not to select a market rate, but direct staff to increase the range of management employees to increase the minimum, midrange, and maximum salary levels employees are offered based on the management compensation study presented. As an example, the Council could direct staff to increase the range of pay available to employees to a top step that is 10% higher than the current range of pay. Increasing the salary range would be similar to the actions Council recently took with the members of the POA and certain members of the CEA.

FINANCIAL REVIEW/SOURCE OF FUNDING

This item is for discussion only, and has no financial impact to the City.

ENVIRONMENTAL (CEQA)

N/A

PUBLIC NOTICE PROCESS

This item has been noticed through the regular agenda notification process. Copies of this report are available at City Hall, at the Sierra Madre Public Library, and can be accessed on the City's website at www.cityofsierramadre.com.

Attachments

Attachment A: Management Compensation Study Results

Attachment B: Management Compensation Presentation

Attachment C: Midpoint Comparison of Similar Cities

Attachment D: Similar/Peer City Identification

Attachment A: Management Compensation Study Results

Position	Current Range			Range Average			Percent of Market:
	Minimum	Midrange	Maximum	Minimum	Midpoint	Maximum	Midpoint, Current
Police Chief	\$ 108,628	\$ 122,145	\$ 135,662	\$ 141,248	\$ 160,850	\$ 180,452	75.9%
Finance Director*	\$ 118,707	\$ 133,080	\$ 147,453	\$ 130,973	\$ 150,469	\$ 167,495	88.4%
Public Works Director*	\$ 101,553	\$ 114,189	\$ 126,825	\$ 130,973	\$ 150,289	\$ 167,901	76.0%
HR Manager*	\$ 67,912	\$ 76,363	\$ 84,813	\$ 91,524	\$ 98,680	\$ 114,541	77.4%
Community Svcs Mgr*	\$ 63,962	\$ 71,921	\$ 79,879	\$ 82,282	\$ 88,894	\$ 104,840	80.9%
						Survey % of Market (Avg)	79.7%
						Survey % of Market (Median)	77.4%

*includes private sector comparison



Compensation Discussion



Background

- Council directs staff to complete management compensation survey in December 2018
- Council further directs staff to include peer cities, private sector, non-profit, and other relevant market place data



Terms

- **Minimum Rate of Pay:** The minimum of a pay range, and the lowest rate the City will pay an employee
- **Maximum Rate of Pay:** The maximum of a pay range, and the highest rate the City will pay an employee
- **Midrange:** The arithmetic mean of the minimum and maximum rate of pay, the “middle” of the range for the City’s pay scale
- **Midpoint:** The arithmetic mean of the minimum and maximum rate of pay as considered competitive in the market (market rate)



Terms

- Percent of Market: The percent of pay Sierra Madre provides as compared against the midpoint of the market
 - Ex) 80% of market means Sierra Madre pays \$0.80 for every \$1.00 in the competitive market place
- Increase at Midpoint: A proposed rate of pay increase as compared to the midpoint of the market (market rate)



Process

- Survey market to establish peers cities through “similarity scores”
- Survey market for comparable private, non-profit, and other relevant market place data
- Determine competitive market midpoint and compare to Sierra Madre midrange of pay
- Calculate current percent of market Sierra Madre pays



Process, Peer Cities

Peer City Identification (pop & geography as starting point):

KEY (Maximum of 6)		
Population	under 15,000	1
	15,000-25,000	0.5
	25,000+	0
Budget (GF)	\$15M less	1
	\$15M-\$25M	0.5
	\$25M+	0
Geography	LA County	1
	SoCal	0.5
	Other	0
Services Offered (Y/N)	Police	1
	Fire	1
	Library	1



Process, Peer Cities

Peer City Similarity Scores

- San Marino (5.5)
- Signal Hill (5)
- South Pasadena (4)
- Santa Fe Springs (3.5)
- Commerce (3)
- Westlake Village (3)
- La Canada (2.5)
- Hawaiian Gardens (2.5)
- Artesia (2.5)
- Claremont (2)
- San Dimas (1)

Most Similar Cities

- San Marino (5.5)
- Signal Hill (5)
- South Pasadena (4)



Process, Other Sectors

Position Comparison:

Community Svcs Mgr:	Public, private, and non-profit salaries
Finance Director:	Public, private, and non-profit salaries
Human Resources Mgr:	Public, private, and non-profit salaries
Police Chief:	Public sector only
Public Works Director:	Public, and contracted services



Process, Calculate Market Rate

Position	Current Range			Market Range Average		
	Minimum	Midrange	Maximum	Minimum	Midpoint	Maximum
Police Chief	\$ 108,628	\$122,145	\$135,662	\$141,248	\$160,850	\$180,452
Finance Director*	\$118,707	\$133,080	\$147,453	\$130,973	\$150,469	\$167,495
Public Works Dir*	\$101,553	\$114,189	\$126,825	\$130,973	\$150,289	\$167,901
HR Manager*	\$67,912	\$76,363	\$84,813	\$ 91,524	\$ 98,680	\$114,541
Community Svc Mgr*	\$63,962	\$71,921	\$79,879	\$ 82,282	\$ 88,894	\$104,840

*includes private sector comparison



Process, Calculate Market Rate

Position	Current Range	Market Range Average	Percent of Market:
	Midrange	Midpoint	Midpoint, Current
Police Chief	\$122,145	\$160,850	75.9%
Finance Director*	\$133,080	\$150,469	88.4%
Public Works Director*	\$114,189	\$150,289	76.0%
HR Manager*	\$76,363	\$ 98,680	77.4%
Community Svcs Mgr*	\$71,921	\$ 88,894	80.9%
		Market Percent (Avg)	79.7%
		Market Percent (Median)	77.4%

*includes private sector comparison



Process, Calculate Market Rate

	Sierra Madre	San Marino	Signal Hill	South Pasadena	Comparable City Avg.	Sierra Madre Average Difference
Position	Midpoint	Midpoint	Midpoint	Midpoint	Average	
Public Works Dir	\$ 114,189	\$ 148,974	\$ 161,565	\$ 137,430	\$ 149,323	\$ (35,134)
Finance Director	\$ 133,080	\$ 150,048	\$ 161,207	\$ 124,872	\$ 145,376	\$ (12,296)
Police Chief	\$ 122,145	\$ 168,936	\$ 180,973	\$ 143,652	\$ 164,520	\$ (42,375)
HR Manager	\$ 76,363	\$ 105,204	\$ 113,053	\$ 107,472	\$ 108,576	\$ (32,214)
Comm Serv Mgr	\$ 71,921	\$ 105,204	\$ 102,234	\$ 62,862	\$ 90,100	\$ (18,179)
					<i>Avg Difference</i>	\$ (28,040)



Discussion Points

- Option 1: Make No Changes to Pay Range, Determine Current Range is Compatible with Sierra Madre Compensation Philosophy
- Option 2: Set Market Rate Based on Midpoint of Market (ex. 85%)
- Option 3: Do Not Set Market Rate, but Increase Range Based on Market Data (ex. 2 Step Range Increase)



Thank You



Attachment C: Midpoint Comparison of Similar Cities

	Sierra Madre	San Marino	Signal Hill	South Pasadena	Comparable City Avg.	Sierra Madre Difference (Avg)
Position	Midpoint	Midpoint	Midpoint	Midpoint	Average	
Public Works Director	\$ 114,189	\$ 148,974	\$ 161,565	\$ 137,430	\$ 149,323	\$ (35,134)
Finance Director	\$ 133,080	\$ 150,048	\$ 161,207	\$ 124,872	\$ 145,376	\$ (12,296)
Police Chief	\$ 122,145	\$ 168,936	\$ 180,973	\$ 143,652	\$ 164,520	\$ (42,375)
HR Manager	\$ 76,363	\$ 105,204	\$ 113,053	\$ 107,472	\$ 108,576	\$ (32,214)
Comm. Serv. Manager	\$ 71,921	\$ 105,204	\$ 102,234	\$ 62,862	\$ 90,100	\$ (18,179)
					Average Difference	\$ (28,040)

Attachment D: Similar/Peer Cities Identification

City	Population	Budget	Police	Fire	Library	Geography	Total
San Marino	1	0.5	1	1	1	1	5.5
Signal Hill	1	1	1	0	1	1	5
South Pasadena	0	0	1	1	1	1	4
Santa Fe Springs	0.5	0	0	1	1	1	3.5
Commerce	1	0	0	0	1	1	3
Westlake Village	1	1	0	0	0	1	3
La Canada	0.5	1	0	0	0	1	2.5
Hawaiian Gardens	1	0.5	0	0	0	1	2.5
Artesia	0.5	1	0	0	0	1	2.5
Claremont	0	0	1	0	0	1	2
San Dimas	0	0	0	0	0	1	1

KEY (Maximum of 6)		
Population	under 15,000	1
	15,000-25,000	0.5
	25,000+	0
Budget (GF)	\$15M or less	1
	\$15M-\$25M	0.5
	\$25M+	0
Geography	LA County	1
	SoCal	0.5
	Other	0
Services Offered (Y/N)	Police	1
	Fire	1
	Library	1