City of Fresno & City of Clovis

Building & Safety Symposium

Triennial Code Update: CBC 2022→CBC 2025

Introduction of Presentation Team

- **City of Clovis**
  - ***Jesse Newton*** *– Building Official – Plumbing & AB130*
  - ***Eric Smith*** *– Plans Examiner – Residential Energy & Green Building*
  - ***Donny Newton*** *– Plans Examiner – Residential & Comm. Mechanical*
- **City of Fresno**
  - ***Eric Frampton*** *– Licensed Engineer Manager/Building Official – AB306*
  - ***Robert Kern*** *– Licensed Professional Engineer – Structural Building*
  - ***Christian Mendez*** *– Senior Plan Examiner – Comm. & Multi-fam. Building & Green*
  - ***Kevin Rein*** *– Engineer II – Grading & Wildland-Urban Interface*
  - ***Joshua Lor*** *– Engineer II – Comm. & Multi-fam. Mechanical*
  - ***Zachary Rose*** *– Engineer II – Comm. & Multi-fam. Energy & Electrical*
  - ***Douglas Ediger*** *– Supervising Plans Examiner – Residential*

Symposium Overview

- Agenda
- Introduction of Team
- 2025 California Building Code Changes
  - Building
  - Green Building
  - Grading and 2025 California Wildland-Urban Interface Code
  - Structural
- 2025 California Energy Code Changes
- 2025 California Mechanical Code Changes
- 2025 California Electrical Code Changes
- 2025 California Plumbing Code Changes
- 2025 California Residential Code Changes
- Overview of AB 306 & AB 130
- Q & A

Agenda

Time	Duration	Topic/Session	Presenter(s)	Description
8:00 – 8:05 AM	5 min	Welcome & Introduction	Fresno/Clovis Building Dept. Building Official	Overview of symposium goals, 2025 code adoption timeline (effective Jan. 1, 2026), and local enforcement context.
8:05 – 9:45 AM	100 min	Key Changes in CBC 2022–2025: Commercial & Public Structures	Christian Mendez, Kevin Rein, Robert Kern, Felipe Padilla, Josh Lor, Jesse Newton, Zachary Rose	ASMEP-Energy: WUI code expansions, and EV readiness mandates.
9:45 – 9:55 AM	10 min	**Break 1**	—	Networking and refreshments.
9:55 – 10:55 AM	60 min	Key Changes in CRC 2022–2025: Residential Construction	Doug Ediger	Updates on two-unit dwelling separation, energy efficiency, accessibility, and Title 24 integration.
10:55 – 11:15 AM	20 min	Overview of AB 306 & AB 130	Eric Frampton/ Jesse Newton	Legislative impacts on residential standards, including housing cost reduction measures and ADU-related restrictions.
11:15 – 11:30 AM	15 min	Interactive Q&A: Applying 2025 Codes in Practice	All Presenters	Open floor for questions on CBC/CRC transitions, AB impacts, and local permitting.
11:30 – 11:45 AM	15 min	Closing Session: Resources, Next Steps & Local Support	Fresno/Clovis Building Dept. Staff	Preview of 2026 permitting changes, networking mixer, and feedback collection.

2025 California Building Code Changes

CBC Minor Revisions

CBC Chapter 2 – Definitions

Section 202 – Definitions Terms

- **2025 CBC:** Added new definitions for “Construction types,” “Equipment,” and “Flammable Gas.” See defined term section for additional new definitions.

CBC Chapter 6 – General Building Heights & Areas

Section 602.4.2 – Type IV-B

- **2025 CBC:** Revision to the Type IV-B Construction protected area (602.4.2.2.2) exceptions and floors (602.4.2.3).

CBC Chapter 7A – Omitted from CBC Now 2025 California Wildland-Urban Interface Code (CWUI)

2025 California Building Code Changes

CBC Minor Revisions

CBC Chapter 8 – Interior Finishes

803 Wall and Ceiling Finishes - Table 803.13 – Interior Wall and Ceiling Finish Requirements by Occupancy

- **2025 CBC:** For Group I-2, corrected footnote “n” to indicate footnote “o.”

CBC Chapter 9 – Fire Protection System Reviewed by Fire Department

2025 California Building Code Changes

CBC Chapter 3 – Occupancy Classification & Use

Section 304 – Business Group B - Section 304.1

- **2025 CBC:** Added Ambulatory care facilities, educational occupancies amended to include higher education laboratories, Lithium-ion or lithium metal battery testing, research and development.

Section 309 – Mercantile Group M - Section 309.1

- **2025 CBC:** Added markets.

Section 310 – Residential Group R – Sections 310.3 (R-2), 310.4 (R-3), & 310.4.2

- **2025 CBC:** Amended the model code.

Section 311 – Storage Group S – Sections 311.2 - Moderate-Hazard Storage, Group S-1

- **2025 CBC:** Amended Aerosol Products and Lithium-ion or lithium metal batteries. Added Vehicle repair garages for vehicles powered by lithium-ion or lithium metal batteries.

2025 California Building Code Changes

CBC Chapter 4 – Special Detailed Requirements

Section 404 – Atriums

- **Sections 404.6 - Enclosure of Atriums**
  - **2025 CBC**: Exceptions added for Group I-2 and R2.1 occupancies
- **Sections 404.10 - Exit Stairways in an Atrium**
  - **2025 CBC**: Added amendment.
- **Section 404.12 - -Group I and R 2.1 occupancy means of egress**
  - **2025 CBC**: Added treatment rooms to the egress requirements to clarify that patient sleeping rooms and patient treatment rooms are not permitted to pass through the atrium for means of egress. Aligns with the National Fire Protection Association 101 (NFPA 101).

Section 422 – Ambulatory Care Facilities

- **Sections 422.7 – Domestic Cooking**
  - **2025 CBC:** Added amendment.

2025 California Building Code Changes

CBC Chapter 5 – General Building Heights & Areas

Section 503 – General Building Height & Area Limitations

- **Section 503.1.4.1 – Enclosures Over Occupiable Roof Areas**
  - **2025 CBC**: Added exception #2: Elements or structures enclosing the occupiable roof areas where the roof deck is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

Section 508 – Mixed Use and Occupancy

- **Section 508.5 – Live/Work Units**
  - **2025 CBC**: Live/work units shall comply with one of the following:
    1. For a live/work unit located in a building constructed in accordance with this code, both the residential and nonresidential portions of the live/work unit shall comply with Sections 508.5 through 508.5.11.
    2. For a live/work unit located in a building constructed in accordance with the *California Residential Code*, the nonresidential portion of the live/work unit shall comply with Sections 508.5.1 through 508.5.11, and the residential portion of the live/work unit shall be constructed in accordance with the *California Residential Code* and Section 508.5.7.

2025 California Building Code Changes

CBC Chapter 5 – General Building Heights & Areas

- **Section 508.5.1 – Limitations**
  - **2025 CBC**: #4 amendment removed from code.
    4. Not more than five nonresidential workers or employees are allowed to occupy the nonresidential area at any one time
- **Section 508.5.7 – Fire Protection**
  - **2025 CBC**: Amendment expanded for clarity:

    Live/work units in buildings constructed in accordance with this code shall be provided with all of the following:
    1. An automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
    2. Smoke alarms in accordance with Section 907.2.11.
    3. Where required by Section 907.2.9.2, a manual fire alarm system.

    Live/work units in buildings constructed in accordance with the *California Residential Code* shall be provided with an automatic sprinkler system and smoke alarms. The automatic sprinkler system shall comply with *California Residential Code* Section R309, and smoke alarms shall comply with *California Residential Code* Section 310.

2025 California Building Code Changes

CBC Chapter 7 – Fire & Smoke Protection Features

Section 704 Fire-Resistance Rating of Structural Members

- **2025 CBC:** Section revised for clarity and guidance.

705 Exterior Walls - Section 705.6 – Continuity

- **2025 CBC: Added amendment:**

  The fire-resistance rating of exterior walls shall extend from the top of the foundation or floor/ceiling assembly below to one of the following:

1. The underside of the floor sheathing, roof sheathing, deck or slab above.
2. The underside of a floor/ceiling or roof/ceiling assembly having a fire-resistance rating equal to or greater than the exterior wall and the fire separation distance is greater than 10 feet.

   Parapets shall be provided as required by Section 705.12.

707 Fire Barriers - Section 707.3.11 – Horizontal Separation Offsets

- **2025 CBC:** Added amendment:

  The fire-resistance rating of a fire barrier serving as the vertical offset in a horizontal building separation shall comply with Section 510.2.

2025 California Building Code Changes

CBC Chapter 7 – Fire & Smoke Protection Features

717 Ducts & Air Transfer Openings - Section 717.2.4 – Mechanical, Electrical, and Plumbing Controls

- **2025 CBC:** Added amendment:
  Mechanical, electrical and plumbing controls shall not be installed in air duct systems.
  - **Exception:** Controls where the wiring is directly associated with the air distribution system. The wiring shall comply with the requirements of Section *601* of the *California Mechanical Code* and be as short as practicable.

  717.2.4.1 Controls Not Permitted to Be Installed Through Dampers
  Mechanical, electrical and plumbing controls shall not be installed through fire dampers, smoke dampers, combination fire/smoke dampers or ceiling radiation dampers unless otherwise permitted by the manufacturer and the listing.

718 Concealed Spaces - Section 718.2.1 – Fireblocking Materials

- **2025 CBC:** Added amendment **#10:**

10. One thickness of $^{19}/_{32}$-inch (15.1 mm) fire-retardant-treated wood structural panel complying with Section 2303.2.

2025 California Building Code Changes

CBC Chapter 10 – Means of Egress

1004 Occupancy Load - Table 1004.5 – Maximum Floor Area Allowances per Occupant

- **2025 CBC:** Add Information Technology Equipment Facilities to table with 300 gross occupancy load factor.

1009 Accessible Means of Egress – Section 1009.2.2 - Doors

- **2025 CBC:** Added amendment:

  Where doors are part of an accessible route to provide access to an exit, area of refuge or exterior area of assisted rescue, maneuvering clearances shall be provided at such doors as required by ICC A117.1 in the direction of egress. Where doors lead to an area of refuge or exterior area for assisted rescue and reentry to the floor is possible, door maneuvering clearances shall be provided on both sides of the door.

  Exception: Maneuvering clearances are not required at doors to exit stairways for levels above and below the level of exit discharge where the exit enclosure does not include an area of refuge.

2025 California Building Code Changes

CBC Chapter 10 – Means of Egress

1010 Doors, Gates and Turnstiles – Section 1010.2.3 – Hardware Height

- **2025 CBC:** Revised **exception:**
  Where the California Building Code requires restricting access to a pool, spa or hot tub, and where door and gate latch release mechanisms are accessed from the outside of the barrier and are not of the self-locking type, such a mechanism shall be located above the finished floor or ground surface not less than 52 inches (1219 mm) and not greater than 54 inches (1370 mm), provided that the latch release mechanism is not a self-locking type such as where the lock is operated by means of a key, electronic opener or the entry of a combination into an integral combination lock.

1010 Doors, Gates and Turnstiles – Table 1010.2.4 – Manual Bolts, Automatic Flush Bolts and Constant, Latching Bolts on the Inactive Leaf of Pair of Doors

- **2025 CBC:** Table Added to Code.

2025 California Building Code Changes

CBC Chapter 10 – Means of Egress

1011 Stairways – Section 1011.5.5.1 – Nosing Projection Size

- **2025 CBC:** Revised **exception:**
  When solid risers are not required, the nosing projection is permitted to exceed the maximum projection.

1013 Exit Signs – Section 1013.5.1 – Photoluminescent Exit Signs

- **2025 CBC:** Added amendment:
  Photoluminescent exit signs shall be provided with an illumination source to charge the exit sign in accordance with the manufacturer's instructions.

2025 California Building Code Changes

CBC Chapter 11A – Housing Accessibility

1101A Application – Section 1101A.1 – Scope

- **2025 CBC:** Amendment/Clarification.
  Newly constructed covered multifamily dwellings, which can also be defined as public housing, shall be subject to the requirements of Chapter 11B. [11A removed]

1102A Building Accessibility – Section 1102A.1 – Where Required

- **2025 CBC:** Amendment/Clarification.
  Public housing as defined in Chapter 2 of this code is subject to provisions of the Division of the State Architect (DSA-AC) in Chapter 11B. Newly constructed covered multifamily dwellings, which can also be defined as public housing, shall be subject to the requirements of Chapter 11B. [11A removed]

2025 California Building Code Changes

CBC Chapter 11B – Accessibility to Public Buildings, Public Accommodations, Commercial Buildings and Public Housing

Section 11B-106.5 – Defined Terms

- **2025 CBC:** Added new definitions for “destination-oriented elevator,” “housing at places of education,” and “EV charging station.” See defined term section for additional new definitions.

Section 11B-213.2.4 Multi-User All-Gender Toilet Facilities [new in 2022 CBC 07.01.2024 supplement]

- Where multi-user all-gender toilet facilities are provided, they shall comply with Section 11B-213.3.1.

Section 11B-213.3.1 Toilet Compartments and Urinal Compartments [revised]

- **2022 CBC 07.01.2024 Supplement:** Where only toilet compartments are provided, they shall comply with Section 11B-213.3.1.1. Where both toilet and urinal compartments are provided, they shall comply with Section 11B-213.3.1.2.

2025 California Building Code Changes

CBC Chapter 11B – Accessibility to Public Buildings, Public Accommodations, Commercial Buildings and Public Housing

Section 11B-213.3.1.2 Toilet Rooms with Toilet Compartments and Urinal Compartments

- **2022 CBC/07.01.2024 Supplement:** Where both toilet compartments and urinal compartments are provided, at least five percent of toilet compartments, but no fewer than one, shall comply with Section 11B-604.8.1 and at least ten percent of urinal compartments, but no fewer than one, shall comply with Section 11B-605.5. In addition to the toilet compartments required to comply with Section 11B-604.8.1 and urinal compartments required to comply with Section 11B-605.5, where the combination of urinals and water closets totals six or more fixtures, toilet compartments complying with Section 11B-604.8.2 shall be provided in the same quantity as the toilet compartments required to comply with Section 11B-604.8.1. At all compartments not required to comply with Section 11B-604.8 or Section 11B-605.5, compartment doors shall be in-swinging and self-closing. All individual compartments shall be identified with a sign complying with Section 11B-216.8.3.

2025 California Building Code Changes

CBC Chapter 11B – Accessibility to Public Buildings, Public Accommodations, Commercial Buildings and Public Housing

Section 11B-213.3.4 Lavatories

- **2022 CBC:** Where lavatories are provided, at least 10 percent but no fewer than one shall comply with Section 11B-606 and shall not be located in a toilet compartment.
- **2022 CBC 07.01.2024 Supplement:** Where lavatories are provided, at least 10 percent but no fewer than one shall comply with Section 11B-606 and shall not be located in a toilet or urinal compartment.

2025 California Building Code Changes

CBC Chapter 11B – Accessibility to Public Buildings, Public Accommodations, Commercial Buildings and Public Housing

Section 11B-216 Signs [new in 2022 CBC 07.01.2024 Supplement]

- **CBC 11B-216.5 Parking and Electric Vehicle Charging Facilities:** Signs identifying parking spaces and signs within parking facilities shall comply with Section 11B-216.5. Signs identifying electric vehicle charging spaces and signs within electric vehicle charging facilities shall comply with Section 11B-216.5.
- **CBC 11B-216.5.2 Electric Vehicle Charging Spaces:** Signs identifying electric vehicle charging spaces shall comply with Section 11B-812.8.
- **[revised] CBC 11B-216.5.3 Parking and Electric Vehicle Charging Facilities:** Signs within parking and charging facilities shall comply with Section 11B-216.5.3.

2025 California Building Code Changes

CBC Chapter 11B – Accessibility to Public Buildings, Public Accommodations, Commercial Buildings and Public Housing

Section 11B-216 Signs [new in 2022 CBC 07.01.2024 Supplement]

- **CBC 11B-216.8.2** Identification for All-Gender Multi-User Toilet Facilities: Geometric symbols complying with Section 11B-703.7.2.6.3 shall be provided at the entrance to all-gender multi-user toilet facilities. In addition, a sign complying with Sections 11B-703.1 through 11B-703.5 shall be provided stating "ALL-GENDER MULTI-USER".
- **CBC 11B-216.8.3 Signs at Toilet and Urinal Compartments:** Where both toilet compartments and urinal compartments are provided, each individual compartment shall be identified with a sign complying with Sections 11B-703.1 through 11B-703.5. Signs shall identify the type of fixture within the compartment, either "URINAL" or "TOILET". A pictogram identifying the fixture type within the compartment is not permitted.

  Exception: A sign with tactile characters shall be permitted on an in-swinging and self-closing door at compartments not required to comply with Section 11B-604 or Section 11B-605.5.

2025 California Building Code Changes

CBC Chapter 11B – Accessibility to Public Buildings, Public Accommodations, Commercial Buildings and Public Housing

Section 11B-605 Urinal Compartments [new in 2022 CBC 07.01.2024 Supplement]

- **CBC 11B-605.1:** Urinals not provided in urinal compartments shall comply with Sections 11B-605.1 through 11B-605.4. Urinals provided in urinal compartments shall comply with Sections 11B-605.1 through 11B-605.5.
- **CBC 11B-605.5:** Wheelchair accessible urinal compartments shall comply with Section 11B-605.5. Compartments containing more than one plumbing fixture shall comply with Section 11B-603.
- **CBC 11B-605.4:** Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with Section 11B-309 except that the flush control shall be mounted at a maximum height of 44 inches (1118 mm) above the finish floor. [added] Urinals provided in urinal compartments and with hand operated flush controls shall have the controls located on the open side of the urinal.

2025 California Building Code Changes

CBC Chapter 11B – Accessibility to Public Buildings, Public Accommodations, Commercial Buildings and Public Housing

Section 11B-705.1.2.5 – Blended Transition

- **2022 CBC:** Detectable warnings at blended transitions shall be 36 inches (914 mm) in width.
- **2025 CBC:** Detectable warnings at blended transitions shall be 36 inches (914 mm) in depth and extend the entirety of the transition separating the walk or sidewalk from the vehicular way.

Section 11B-809 – Residential Dwelling Units – Publicly Funded Multi-Family Projects

- **2022 CBC:** Limited guidance for accessible dwelling units.
- **2025 CBC:** Expanded technical requirements for kitchens, bathrooms, and sleeping areas in residential units.

Section 11B-902.2 – Clear Floor and Ground Space for Dining & Work Surface (11B-902)

- **CBC 2025: 11B-902.2.1 Overlap**
  The clear floor space at dining surfaces shall not overlap the accessible route.

2025 California Building Code Changes

CBC Chapter 12 – Interior Environment

1208 Interior Space Dimensions – Section 1208.3 – Dwelling Unit Size

- **2025 CBC: Added amendment:** Dwelling units shall have a minimum of 190 square feet of habitable space.

1210 Toilet and Bathroom Requirements – Section 1210.2.3 – Adult Changing Table Surround

- **2025 CBC: Added amendment:** Walls and partitions within 2 feet measured horizontally from each end of the adult changing table and to a height of not less than 72 inches above the floor shall have a smooth, hard, nonabsorbent surface, and except for structural elements, the materials used in such walls shall be of a type that is not adversely affected by moisture.

1211 UV Germicidal Irradiation System – Section 1211.1 – General

- **2025 CBC:** Added amendment: Where ultraviolet (UV) germicidal irradiation systems are provided, they shall be listed and labeled in accordance with UL 8802 and installed in accordance with their listing and the manufacturer's instruction.

2025 Cal-Green Building Standards Code Changes

CGBSC Chapter 2 – Definitions

Section 202 – Definitions Terms

- **2025 CGBSC:** Added new definitions for “Residential Long-Term Bicycle Parking”, “Residential Short-Term Bicycle Parking”, “Long-Term System Cost (LSC),” “Recovered Energy and Recovered Energy, On-Site,” and “Solar Pool Heating System.” Revised “Energy Budget”. See defined term section for additional new definitions.

CGBSC Chapter 4 – Residential Mandatory Measures

Section 4.106 – Site Development

- **Section 4.106.4.2.2 Multifamily dwellings – Hotels and Motels section 4.106.4.2.6**
  - Removed requirements for hotels and motels from Section 4.106.4.2.2 and created new **Section 4.106.4.2.6 Hotels and motels** for electric vehicle (EV) charging requirements for those occupancies.

2025 Cal-Green Building Standards Code Changes

CGBSC Chapter 4 – Residential Mandatory Measures

Section 4.106 – Site Development

- **Section 4.106.4.3 - Electric vehicle charging for additions and alterations of parking facilities serving existing multifamily buildings, hotels and motels**
  - Modified existing requirements for EV capable spaces to include a requirement for either a low-power Level 2 EV charging receptacle or a Level 2 EV charger. Removed the EV capable spaces percentage requirements and added that each parking space being added or altered will be required to be equipped with a Low Power Level 2 EV charging receptacle or a Level 2 EV charger.
- **Section 4.106.4.4 - Bicycle parking**
  - Made previously voluntary measures mandatory for newly constructed multifamily buildings, hotels, and motels. Amended to clarify the type of long-term bicycle parking enclosures and anchoring required for hotels and motels.

2025 Cal-Green Building Standards Code Changes

Section 4.303 – Indoor Water Use

- **Section 4.303.1.4.5 Pre-rinse spray valves**
  - Replaced references to and reprints from California Code of Regulations, Title 20, Appliance Efficiency Regulations with reference to the California Plumbing Code (Part 5 of Title 24), Section 420.3. Coordinated with the Building Standards Commission (BSC), California Energy Commission (CEC), and the Division of the State Architect (DSA) with no intended change in regulatory effect.

2025 Cal-Green Building Standards Code Changes

CGBSC Chapter 5 – Nonresidential Mandatory Measures

Section 5.106 – Site Development

- **Section 5.106.4.1.1 Short-term bicycle**
  - Amended to provide a new compliance method based on the number of anticipated "peak daily visitors" instead of the number of vehicle parking spaces used by customers. Removed the exception for additions or alterations that add nine or fewer visitor vehicular parking spaces.
- **Section 5.106.4.1.2 Long-term bicycle parking (general)**
  - Relocated bicycle parking requirements from Section 5.106.4.1.5 into main paragraph using existing code section. Review requirements for new buildings, addition or alterations, and new shell buildings in a phased project.
- **Section 5.106.5.3 Electric vehicle (EV) charging (exceptions)**
  - Amended existing Exception #2 for parking spaces accessible only by automated mechanical car parking systems to align with HCD requirements for residential occupancies.

2025 Cal-Green Building Standards Code Changes

CGBSC Chapter 5 – Nonresidential Mandatory Measures

Section 5.106 – Site Development

- **Table 5.106.5.3.1 Electric vehicle (EV) charging**
  - Amended by adding a title and creating separate columns for “Other than Office and Retail” and “Office and Retail.” Increased number of required Electric Vehicle Charging Stations. Amended table Footnote #2.
- **Section 5.106.5.3.2.1 Receptacle configurations**
  - Added to allow use of NEMA receptacle configuration types.
- **Section 5.106.5.3.2.2 EV charger connectors**
  - Added to specify that EV chargers shall be equipped with SAE J1772 with a maximum output 240 Volts AC or SAE J3400 connectors.
- **Section 5.106.5.3.2.4.1 Raceway capacity requirements**
  - Added to allow for future upgrades to the electrical conductors serving Low Power Level 2 charging receptacles 208/240-volt 20-ampere to a dedicated 208/240-volt 40-ampere branch circuit.

2025 Cal-Green Building Standards Code Changes

CGBSC Chapter 5 – Nonresidential Mandatory Measures

Section 5.106 – Site Development

- **Table 5.106.5.3.6 EVCS–Power allocation method**
  - Amended by adding a title and creating separate columns for “Other than Office and Retail” and “Office and Retail.”
  - Amended Footnote #3 to specify that the maximum allowed kVA to be utilized for EV capable spaces is 50 percent (reduced from 75 percent).
  - Added new Footnote #5 to set the maximum kVA power allowed in column 4 for EV capable spaces to 25 percent. This change leaves 75 percent of the available kVA required to be used for EVCS which may increase the number of EVCS.
- **Section 5.106.5.3.6 Electric vehicle charging stations (EVCS)–Power allocation method**
  - Added new subsections with similar amendments found in Section 5.106.5.3.2 Electric vehicle charging stations (EVCS):
    - Section 5.106.5.3.6.1 Receptacle Configurations
    - Section 5.106.5.3.6.2 EV Charger Connectors
    - Section 5.106.5.3.6.3 Raceway Capacity Requirements

2025 Cal-Green Building Standards Code Changes

CGBSC Chapter 5 – Nonresidential Mandatory Measures

Section 5.106 – Site Development

- **Section 5.106.5.4.2 Existing buildings or parking areas with previously installed EV capable infrastructure**
  - Amended to promote more installed chargers by requiring that all existing EV capable spaces, panel capacity and conduit at a site must be built out before any new EV capable spaces are added.

Section 5.303 – Indoor Water Use

- **Section 5.303.3.4.6 Pre-rinse spray valve**
  - Replaced references to and reprints from California Code of Regulations, Title 20, Appliance Efficiency Regulations with reference to the California Plumbing Code (Part 5 of Title 24), Section 420.3. Added “Commercial Pre-Rinse Spray Valves” to clarify application.

2025 Cal-Green Building Standards Code Changes

CGBSC Chapter 5 – Nonresidential Mandatory Measures

Section 5.409 – Lifecycle Assessment

- **Effective January 1, 2026:**
  - Combined floor area ≥ 50,000 sq. ft.
- **Shall provide plan reviewer:**
  - Whole building life cycle assessment 5.409.2
    - Summary of GWP analysis
    - Worksheet WS-4
  - Prescriptive path 5.409.3
    - Calculations
    - Type 3 EPDs
    - Worksheet WS-5

2025 California Building Code Changes for Grading

CBC Chapter 18 – Soils and Foundations

Section 1807 – Foundation Walls, Retaining Walls and Embedded Post and Poles

- **Section 1807.2.5 – Guards at Retaining Walls**
  - Guards required if:
    - Walking surface is within 36 inches of the wall and
    - Vertical drop exceeds 30 inches.

    Exception: Not required if area is **not accessible to the public**.

Clarification of what a **walking surface** is: refers to any horizontal or accessible area where people walk, like floors, aisles, stairs, ramps, landings, sidewalks, and decks.

2025 California Building Code Changes for Grading

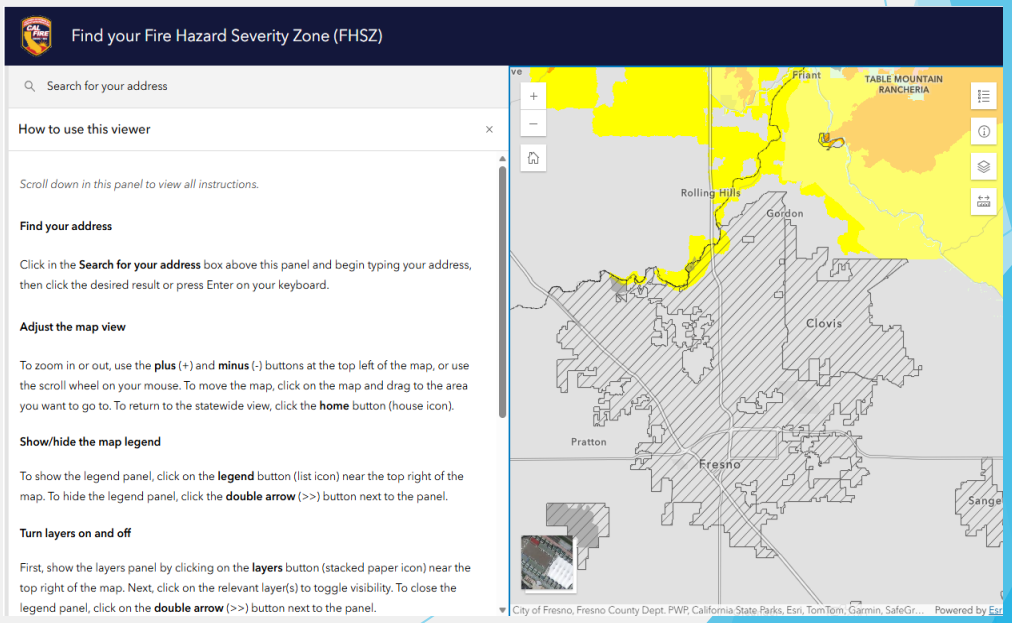
CBC 2025 Sections Remaining Consistent w/2022 CBC

Section	Topic	Summary
1804.4	Site Grading	Maintain 5% slope away from foundations for 10 ft. If 10 feet of horizontal distance isn't possible (due to lot lines or obstructions), 2% into swales and drainage inlets out to approved drainage area.
1804.5	Flood Hazard Areas	Restrictions on grading unless mitigated by engineering.
1804.6	Compacted Fill	Requires geotechnical evaluation and compaction standards.
1808.7	Foundations Near Slopes	Setback and embedment rules preserved.
1808.7.3	Pools	Maintain setbacks from slopes.
1808.7.4	Foundation Elevation	Elevate 12" + 2% above adjacent gutter/inlet.
Appendix J	Grading	No major changes noted.

New 2025 Wildland-Urban Interface Code

CWUIC effective January 1, 2026

- **Purpose**: Consolidates fire safety provisions for structures in wildfire-prone areas.
- **Key Topics**: Fire spread prevention, defensible space, water supply, and accessibility.
- **Retroactive Provisions**: Some requirements apply to **existing structures**.
- **Retroactive Provisions**:
  - Some fire safety measures, such as defensible space, vegetation management, and accessibility for emergency response, are retroactively required for existing structures.
  - These provisions aim to reduce wildfire risk in already developed areas, not just new builds.
- **Mapping Tool**: Fire Hazard Severity Zones – OSFM



2025 California Building Code Changes for Structural

Structural updates CBC 2022/IBC 2021/ASCE 7-16 to CBC 2025/IBC 2024/ASCE 7-22 updates.

Since the current California Building Code, 2025 (CBC 25) is adopting data from the ASCE standards (i.e., ASCE 7-22, Minimum Design Loads and Associated Criteria for Buildings and Other Structures), a brief overview of the relevant chapters is given below. The changes for this code cycle are quite extensive (i.e., a lot more changes than previous code cycles).

For study purposes, it is recommended to follow the overview of changes in ASCE 7-22 by S.K. Ghosh (recorded webinar). For example, the 10-part series should cover the topics needed to get an overall introduction for the code changes. Table 1 below summarizes the topics covered in these webinars. Most of the items in the ASCE 7 standard are adopted by the CBC/IBC and correlate to chapter 16 (Structural Design) of the CBC25/IBC24.

Note for this discussion, only a few key elements are addressed. Again, the design professional is encouraged to review the 10-part series by S.K. Ghosh or other literature to ensure that the design professional is current with the latest industry standard knowledge.

2025 California Building Code Changes for Structural

Table 1:

S.K. Ghosh Series	ASCE 7-22 Chapter	ASCE 7-22 Title	Comments
Part 1	Chapter 1-5	General, Load Combinations, Dead Loads, Soil Loads, Live Loads, and Flood Loads	Not addressed in this discussion
Part 2	Chapter 7-8	Snow Loads, Rain Loads	Not addressed in this discussion
Part 3	Chapter 11	Seismic Design Criteria	See discussion and example
Part 4	Chapter 12	Seismic Design Requirements for Building Structures	Limited discussion
Part 5	Chapter 13	Seismic Design Requirements for Non-Strutural Components	Limited discussion
Part 6	Chapter 15 Chapter 14	Seismic Desing Requirements for Non-Building Structures Material Specific Requirements	Limited discussion Not addressed in this discussion
Part 7	Chapter 6	Tsunami	Not addressed in this discussion
Part 8	Chapter 8 & 10	Rain & Atmospheric Ice Loads	Not addressed in this discussion
Part 9	Chapter 26-31	Wind Loads	Limited discussion
Part 10	Chapter 32	Tornado Loads	Not addressed in this discussion

2025 California Building Code Changes for Structural

Chapter 11, ASCE 7-22: Seismic Design Criteria

The design response spectrum acceleration values can be substantially higher in ASCE 7-22 compared to ASCE 7-16. For example, if we look at the site here (Fresno, City Hall) the value for the 5% damped design spectral acceleration with site class D could increase by 40%! If we assume that our building period is 0.5 seconds, the increase would be about 27%.

A 40% increase is significant. A closer look at the differing response spectrum acceleration values for the site at Fresno City Hall is summarized in Figure 1 and some key data points are shown in Table 2.

So, we might ask ourselves why do we have all these changes and substantial increase in earthquake forces? Let us take a closer look.

- New scientific data and advanced mapping are available that provide more accurate data.
- A better understanding of soil-structure interactions and incorporation of more site-specific seismic responses. For example, the added site classifications added to ASCE 7-22 (BC, CD, DE) provide smoother transition and more refined seismic hazard which in turn allows for a more accurate seismic design.

2025 California Building Code Changes for Structural

Chapter 11, ASCE 7-22: Seismic Design Criteria

ASCE 7-22 has now two approaches to obtain the spectral acceleration values used to calculate the earthquake forces acting on a building. Also, additional site classifications were added.

- **Two approaches:**
  - Method 1: Multi-period design response spectrum (Sa). This is new in ASCE 7-22. Note that if the multi-period response spectrum is not available from the USGS Seismic Design Geodatabase, then only method 2 can be used.
  - [(i)]Method 2: Two-period design response spectrum (S_{DS} & S_{D1}). This is the same procedure as presented ASCE 7-16. However, the values are larger (i.e., see values for S_{DS} in Table 2).
    (i) Note that this method can only be used if the multi-period spectrum is not available or if a site-specific spectrum is used per section 21.3 in ASCE 7.
- More site classifications have been added. The site classifications depend on the shear wave velocities. So, on one end we have site class A (i.e., hard rock) which has high shear wave velocities, and on the other end we have site class E (soft clay soil) which has low shear wave velocities. The default value is site class D (stiff soil). Typically, site class D is used here in Fresno, CA.
  - ASCE 7-16: Site Class A, B, C, D, E, and F.
  - ASCE 7-22: Site Class A, B, BC, C, CD, D, DE, E, and F.

2025 California Building Code Changes for Structural

Chapter 11, ASCE 7-22: Seismic Design Criteria

Re-evaluating some of our design response spectrum acceleration values for our site (for example, utilize site class CD, instead of site class D), the results can look a lot different.

Now the maximum increase would be 27% and at a building period of 0.5 seconds, the increase is only 4%.

2025 California Building Code Changes for Structural

Chapter 11, ASCE 7-22: Seismic Design Criteria

Table 2:

Site Class	Response Spectrum Acceleration Value	ASCE 7 Standard	Increase	Comments
D	S_{DS}=0.529	ASCE 7-16	-	2-Period Spectrum
D	$S_{a\ max}$=0.740	ASCE 7-22	39.9%	Method 1: Multi-Period Spectrum (at max.)
CD	$S_{a\ max}$=0.670	ASCE 7-22	26.6%	Method 1: Multi-Period Spectrum (at max.)
D	$S_{a\ @T=0.5s}$=0.670	ASCE 7-22	26.6%	Method 1: Multi-Period Spectrum (for case where T=0.5 sec.)
CD	$S_{a\ @T=0.5s}$=0.550	ASCE 7-22	3.9%	Method 1: Multi-Period Spectrum (for case where T=0.5 sec.)
D	S_{DS}=0.670	ASCE 7-22	26.6%	(i) Method 2: 2-Period Spectrum

(i): Method 2 should not be used for our site because a multi-period spectrum is available. Except if a site-specific response spectrum is utilized per section 21.3 in ASCE 7.

2025 California Building Code Changes for Structural

Chapter 11, ASCE 7-22: Seismic Design Criteria

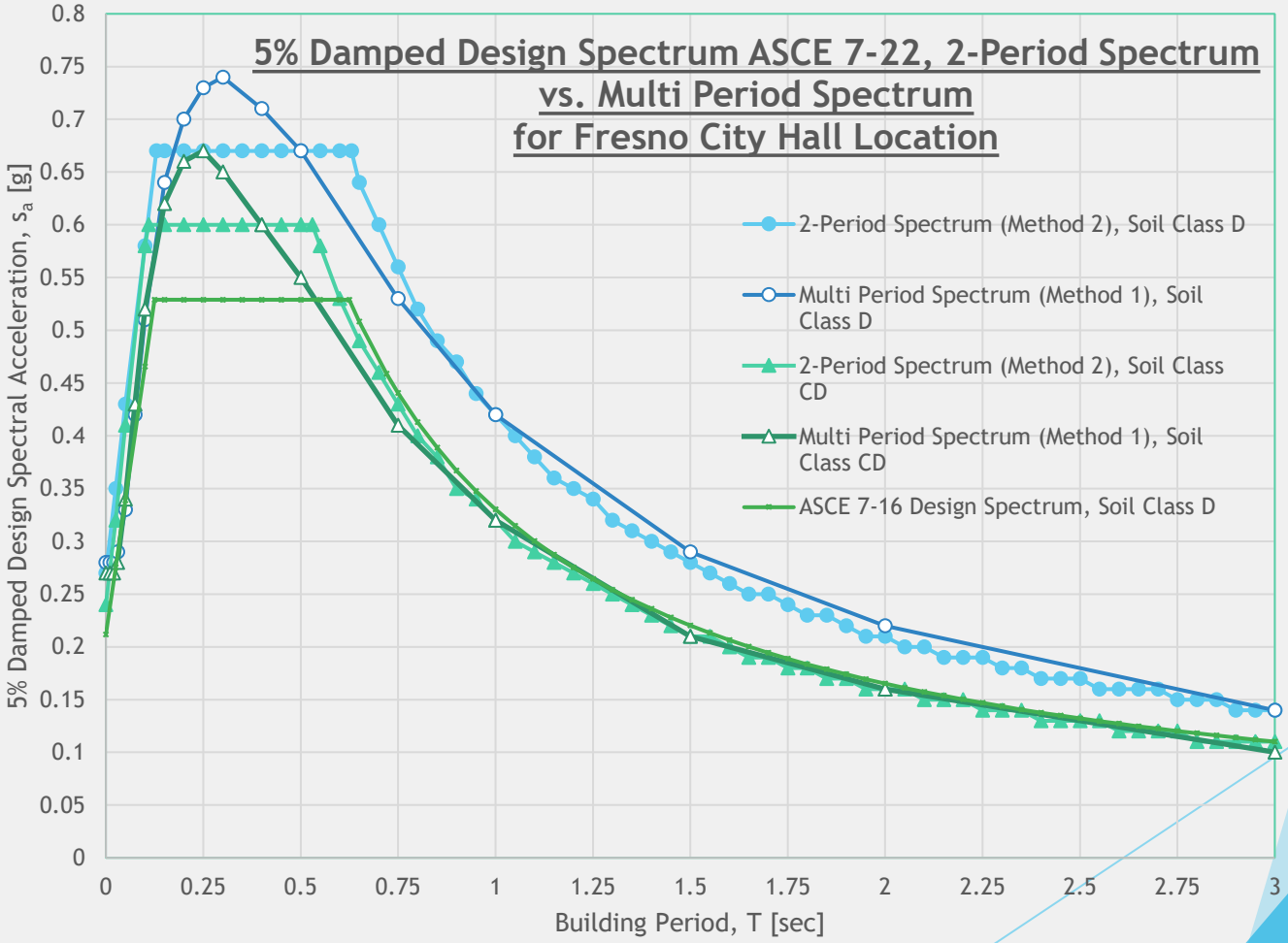


Figure 1: Values for 5% Damped Design Spectrum for Fresno City Hall Location.

2025 California Building Code Changes for Structural

Chapter 11, ASCE 7-22: Seismic Design Criteria

Note that ASCE Hazard Tool is now free. Values of the response spectrum accelerations for a site can be easily exported into excel spread sheet and graphed with the multi period spectrum and 2-period spectrum. This will allow the engineer to select data for the most economical design. Coordination & collaboration with the Geotechnical Engineer is ever more important to use the applicable site soil class to ensure an economical design.

Conclusion comparing ASCE 7-22 to ASCE 7-16 (for Fresno City Hall site):

- If default site class value (site class, D) is used, the increase in seismic forces is significant (i.e., about 40% at maximum and 27% at T=0.5 sec.) compared to ASCE 7-16.
- If the site class is refined (i.e., use site class CD), the increase in the seismic force is moderate (i.e., about 27% at maximum and 4% at T=0.5 sec.) compared to ASCE 7-16.

Note that the above comparison is for two arbitrary points on the response spectrum (i.e., the maximum at approximately 0.3 seconds, and another value at 0.5 seconds). Depending on the actual period(s) of our building, which depends on the height, mass, and type of lateral resisting system used, the comparative values could be different. Generally, the multi period spectrum approach is more sensitive to the building response.

2025 California Building Code Changes for Structural

Chapter 11, ASCE 7-22: Seismic Design Criteria

Note that ASCE Hazard Tool is now free. Values of the response spectrum accelerations for a site can be easily exported into excel spread sheet and graphed with the multi period spectrum and 2-period spectrum. This will allow the engineer to select data for the most economical design. Coordination & collaboration with the Geotechnical Engineer is ever more important to use the applicable site soil class to ensure an economical design.

Conclusion comparing ASCE 7-22 to ASCE 7-16 (for Fresno City Hall site):

- If default site class value (Site class, D) is used, the increase in seismic forces is significant (i.e., about 27%) compared to ASCE 7-16.
- If the site class is refined (i.e., use Site class CD), the increase in the seismic force is moderate, comparable to ASCE 7-16 (i.e., about 13%).

Note the above comparison is for the short period response spectrum acceleration (S_{DS}) using the 2-period spectrum. If the multi period spectrum is used the seismic forces could be even higher or potentially lower. The multi period spectrum approach is more sensitive to the building response (i.e., height, mass, and type of lateral resisting system used).

Additional changes (additions) to Chapter 11:

Section 11.9: Optional vertical ground motions (i.e., in lieu of Section 12.4.2.2 (Ev) for SDC C through F.

2025 California Building Code Changes for Structural

Chapter 12, ASCE 7-22: Seismic Design Requirements for Building Structures

Seismic forces:

- The design spectrum acceleration values were introduced in chapter 11. These values are used to establish our lateral forces that act on a structure, utilizing the equivalent lateral force (ELF) procedure (used in ASCE 7). New in ASCE 7-22, is that there are two methods now to calculate the seismic response coefficient (Cs). Method 1 is based on the multi-period spectrum new in ASCE 7-22 and method 2 which is based on the traditional 2-period spectrum. See section 12.8, equivalent lateral force (ELF) procedure.

  Note: If a multi-period spectrum is available for our site, Method 1 must be used unless a site-specific spectrum is produced for the site.

  The other exception to use Method 2 is if a multi-period spectrum is not available for our site.

Analysis:

- Changes to two-stage analysis for vertical combination of systems (Section 12.2.3.2).
- Two-stage analysis procedure for one-story structures with flexible diaphragms and rigid vertical elements (Section 12.2.3.4).
- ***Analysis procedure selection (Section 12.6) has changed. For example, Table 12.6-1 in ASCE 7-16 has been removed.***

2025 California Building Code Changes for Structural

Chapter 12, ASCE 7-22: Seismic Design Requirements for Building Structures

Displacement and drift determination:

- Displacements due to diaphragm deformations are added (Sections 12.8.6.3 & 12.8.6.4).

Structural Irregularities:

- Irregular and regular classifications were modified (Section 12.3.2).
- Table 12.3-1: Horizontal irregularity information has been changed.
- Table 12.3-2: Vertical irregularity information was modified.
- Changes for redundancy factor, r (Section 12.3.4).

Diaphragm Design:

- Diaphragms in hillside light-frame structures (Section C12.3.1.4 [new]).
- Alternative diaphragm design provisions for one story structures with flexible diaphragms and rigid vertical elements (Section 12.10.4 [new]).

2025 California Building Code Changes for Structural

Chapter 12, ASCE 7-22: Seismic Design Requirements for Building Structures

Loading:

- Changes to minimum upward forces for horizontal cantilevers for seismic design categories D through F (Section 12.4.4).
- Changes to direction of loading (Section 12.5.4).

Shear Walls:

- Major revisions to coupled shear walls (Table 12.2-1).

2025 California Building Code Changes for Structural

Chapter 13, ASCE 7-22: Seismic Design Requirements for Non-Strutural Components

Summarizing the major changes (ref. S.K. Ghosh):

1. Changes in the design provisions for heavy nonstructural components (Section 13.2.9).
2. ***Changes in the determination of horizontal seismic force (Fp) on nonstructural components (Section 13.3.1).***
3. New section on penthouse and roof top structures (Section 13.5.11).
4. New section on equipment support structures and platforms (Section 13.6.4.6).
5. New section on distribution system supports (Section 13.6.4.7).

2025 California Building Code Changes for Structural

Chapter 15, ASCE 7-22: Seismic Desing Requirements for Non-Building Structure

1. New section on nonbuilding structures connection by nonstructural components to other adjacent structures (Section 15.2).
2. Revisions to non-building structures supported by other structures (Section 15.3).
3. Expanded P-Delta effects (ASCE 7-16, Section 15.4.5 was expanded is now in Section 15.4.6).
4. Reinforced concrete tabletop structures for rotation equipment and process vessels or drums (Table 15.4-2 & Section 15.6.9).
5. ***Clarification for trussed towers, chimneys, and stacks (Table 15.4-2 & Section 15.6.2).***
6. New section on steel lighting system support pole structures (Table 15.4-2 & Section 15.6.10).
7. ***Revisions to ground-supported storage tanks for liquids (Section 15.7.6).***
8. New section on corrugated steel liquid storage tanks (Section 15.7.7.4 & 15.7.8.4).
9. New section on reinforced thermoset plastic and fiber-reinforced plastic tanks (Section 15.7.8.5).

2025 California Building Code Changes for Structural

Chapters 26-32, ASCE 7-22: Wind Loads

Summarizing the major changes (ref. S.K. Ghosh):

1. The wind maps and geodatabase for contiguous US are updated (Section 26.5.1).
2. Determination of topographic factor (Kzt) is updated (Section 26.8.1).
3. **Determination of velocity pressure coefficient (Kz) is revised (Section 26.10).**
4. "Simple Diaphragm Building" is deleted, and two simplified methods applicable to simple diaphragm buildings are also deleted (i.e., Chapter 27, Part 2, Chapter, 30, Part 4, Chapter 28, Part 2, and Chapter 30, Part 2 of ASCE 7-16 have all been removed).
5. ***New provisions for "Elevated Buildings" are added (Section 27.3.1.1).***
6. New chapter 32 on tornado loads is added.
7. ***New provisions added for ground mounted fixed-tilt solar panel systems (Section 29.4.5).***
8. ***Revised external pressure coefficients for components and cladding on gable and hip roof of low-rise building (Updates to Figures 30.3-2B, 30.3-2C, and 30.3.2D & deleted section for overhangs per Section 30.7).***

2025 California Building Code Changes for Structural

Typical Plan Check Comments

Please note that the plan check items listed below are some most common plan-check comments that we see here in the City of Fresno. Typically, these are smaller plan checks like tenant improvements (TI's) that should not take more than one round of back check(s) for the structural step. Obviously, each project is unique, and the plan check comments differ from job to job. However, these plan check comments should give some reference to what is typically required. Ultimately, the list is intended to provide our applicants with some guidance to minimize the time to obtain a building permit.

General Items:

- Always add scope of work.

2025 California Building Code Changes for Structural

Typical Plan Check Comments

Retaining Walls and Fence Walls (i.e., CMU):

- Provide design criteria:
  - Earth Desing Pressures (i.e., active pressure, passive pressure, surcharge, coefficient of friction).
  - Wind (i.e., wind speed, exposure factor, pressure coefficients for typical conditions and end zones).
  - Seismic (i.e., R, S_{DS}, Wo, and C_d).
- Provide typical material properties (i.e., f'_c, f'_m, f_y, etc.).
- Provide waterproofing and drainage information.
- Structural calculations are required (Stamped and signed by a licensed Civil or Structural Engineer) for:
  - CMU fence wall exceeding 6 feet height and retaining more 8” of soil.
  - CMU wall retaining more than 2’-6” soil.
- Special inspection is required for:
  - CMU fence wall exceeding 6 feet height and retaining more 8” of soil.
  - CMU wall retaining more than 2’-6” soil.

2025 California Building Code Changes for Structural

Typical Plan Check Comments

Roof Solar:

- Provide design criteria (wind & seismic).
- Provide loading criteria (originally assumed dead load, live load, new average load from solar).
- Show approximate existing roof framing.
- Show layout of rails and attachment points and attachment hardware from rails to roof. For attachments, show the type, quantity, diameter, and embedment of the screws.
- Stamp and sign (by a Licensed Civil or Structural Engineer) drawing sheets that include design criteria, rail layout, attachment layout, and attachment connection.

2025 California Building Code Changes for Structural

Typical Plan Check Comments

Typical TI's:

- Provide documentation to verify that the addition/alteration does not increase the lateral load by more than 10% or the entire structure shall be evaluated for lateral stability. Section 502.5/503.4, 2022 Ca. Exist. Bldg. Code.
- Interior non-bearing walls:
  - Bottom connection (wood sill plate or metal track to slab on grade). For example, show type, spacing, shank diameter, and embedment of shot pins.
  - Top connection (full height wall to existing roof or floor utilizing a slip track or partial height walls with diagonal kickers to existing framing). Ensure all screws or nails are clearly defined (size, embedment, spacing etc.). If a typical nailing schedule is applicable for the connection, add the schedule to the drawings.
  - Call out type, size, and spacing of wall studs. Also, indicate wood grade or metal gauge for the framing members.
  - Provide typical header and jamb sizes and show a typical connection detail from header to jamb. Ensure that nails, screws, and any hardware (i.e., clips, angles, etc.) is shown on the detail
  - Interior pony walls (knee walls): Provide detailing that can resolve cantilever moment and shear force at base. You may use your own engineered system, or some pre-engineered system (i.e. by Simpson, or similar).

2025 California Building Code Changes for Structural

Typical Plan Check Comments

Typical TI's:

- Ceiling framing:
  - Call out type, size, and spacing of ceiling studs. Also, indicate wood grade or metal gauge the framing members. If no sheathing occurs at top of joists (i.e., only gypboard below), provide blocking at the center and quarter points (i.e., used flat blocking).
  - Provide typical connection details from ceiling studs to walls. Ensure all screws or nails are clearly defined (size, embedment, spacing etc.). If a typical nailing schedule is applicable for the connection, add the schedule to the drawings.
- Soffit framing: Provide typical "hanging" type connection. Provide screw size, spacing and embedment, or call out hardware (i.e., clips, angles, etc.).

2025 California Building Code Changes for Structural

Typical Plan Check Comments

Typical TI's:

- Hoods:
  - On the roof plan, specify the weight of hood and the layout of the rods. Note that depending on the weight of the hood, the existing framing might have to be checked to ensure that the new loads can be accommodated.
  - Provide connection details from hood rods to existing framing. If added framing or blocking is needed, show the size of these members. For all connections, provide screw size, spacing and embedment, or call out hardware (i.e., clips, angles, etc.).
  - Show how hood is laterally braced. Ensure to show all relevant connection detailing from the hood assembly to the existing structure.

2025 California Building Code Changes for Structural

Typical Plan Check Comments

Typical TI's:

- New or replaced roof-supported mechanical equipment:
  - On the roof plan, clearly indicate if the mechanical units are new or existing.
  - Provide weight for all new or replaced mechanical equipment on roof plan.
  - For new mechanical units, verify if the added load increase is more than 5% of the original assumed gravity loading. If the 5% rule is exceeded, the structural elements (i.e., existing roof framing) shall be analyzed and strengthened as required. Section 502.4/503.3, 2022 Ca. Exist. Bldg. Code.
  - For a replaced mechanical unit, verify if the load does not exceed to original unit (i.e., add a note to the roof plan). If the gravity loads increase by more than 5%, the structural elements (i.e., existing roof framing) shall be analyzed and strengthened as required. Section 502.4/503.3, 2022 Ca. Exist. Bldg. Code.
  - If an existing roof curb is being re-used, add note to roof plan. Otherwise, provide new support/curb detail. See plan check item below for additional information.
  - For all new mechanical units, provide support/curb detail. Ensure that connections from curb to existing roof and connections from unit to curb are clearly defined.
  - If strengthening of the existing roof is required, clearly show new framing members and connection needed to support the new loads.

2025 California Building Code Changes for Structural

Typical Plan Check Comments

Typical TI's:

- For water heaters:
  - On the plan view of drawing, show the location and weight of the water heater.
  - Provide vertical support detail and show seismic strapping (i.e., strapping to wall).

EV-Chargers:

- Call out the weight of the charger.
- Provide a concrete foundation pad for the charger (foundation size, minimum concrete strength (f'c)). Also, indicated rebar information in foundation pad (size, spacing, rebar strength (fy)).
- Show attachment from EV-Charger to concrete pad (i.e., type, quantity, diameter, and embedment of anchors).

2025 California Building Code Changes for Structural

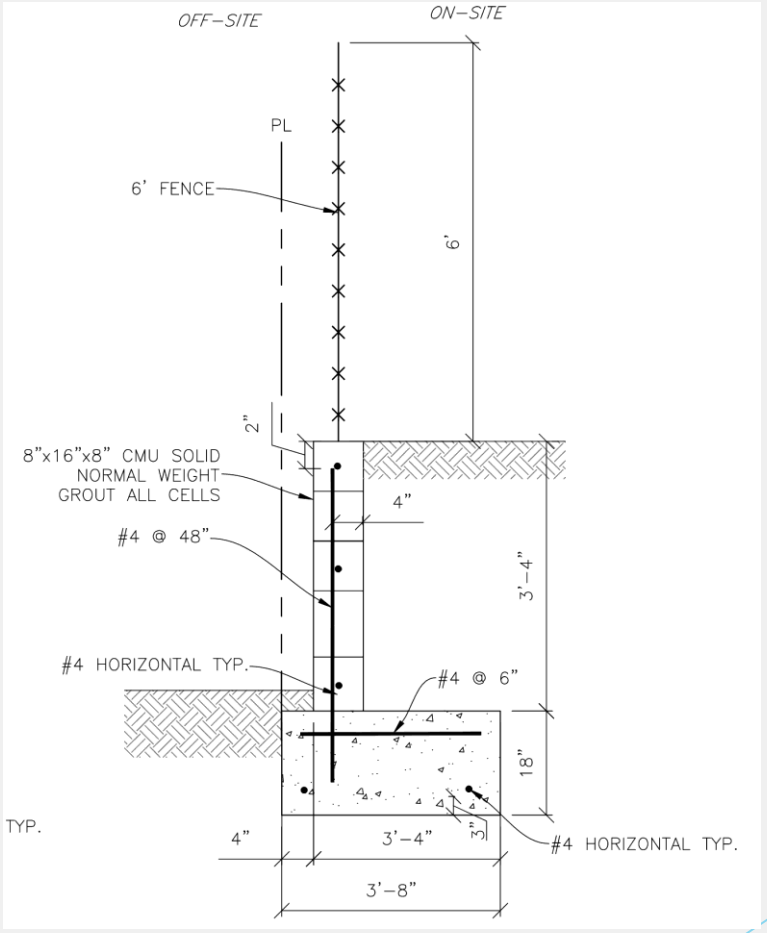
Typical Plan Check Comments

Signage:

- Wall mounted signs: Provide attachments from sign to wall (i.e., type, quantity, size, and embedment of screws or bolts). Ensure all connection information is provided (i.e., welding, bolting, etc.).
- Monuments signs:
  - Provide framing supporting the sign (i.e., vertical steel posts and horizontal steel beams).
  - Provide foundation supporting the vertical steel post (size of footing, rebar information, concrete strength etc).
  - Provide connection from vertical post to foundation (i.e., type, quantity, size, and embedment of anchor bolts).

2025 California Building Code Changes for Structural

An example of "Things" not to submit:



2025 California Building Code Changes for Structural

Here is an example that we would like to see:

Design Criteria:

Earth Design Pressures:

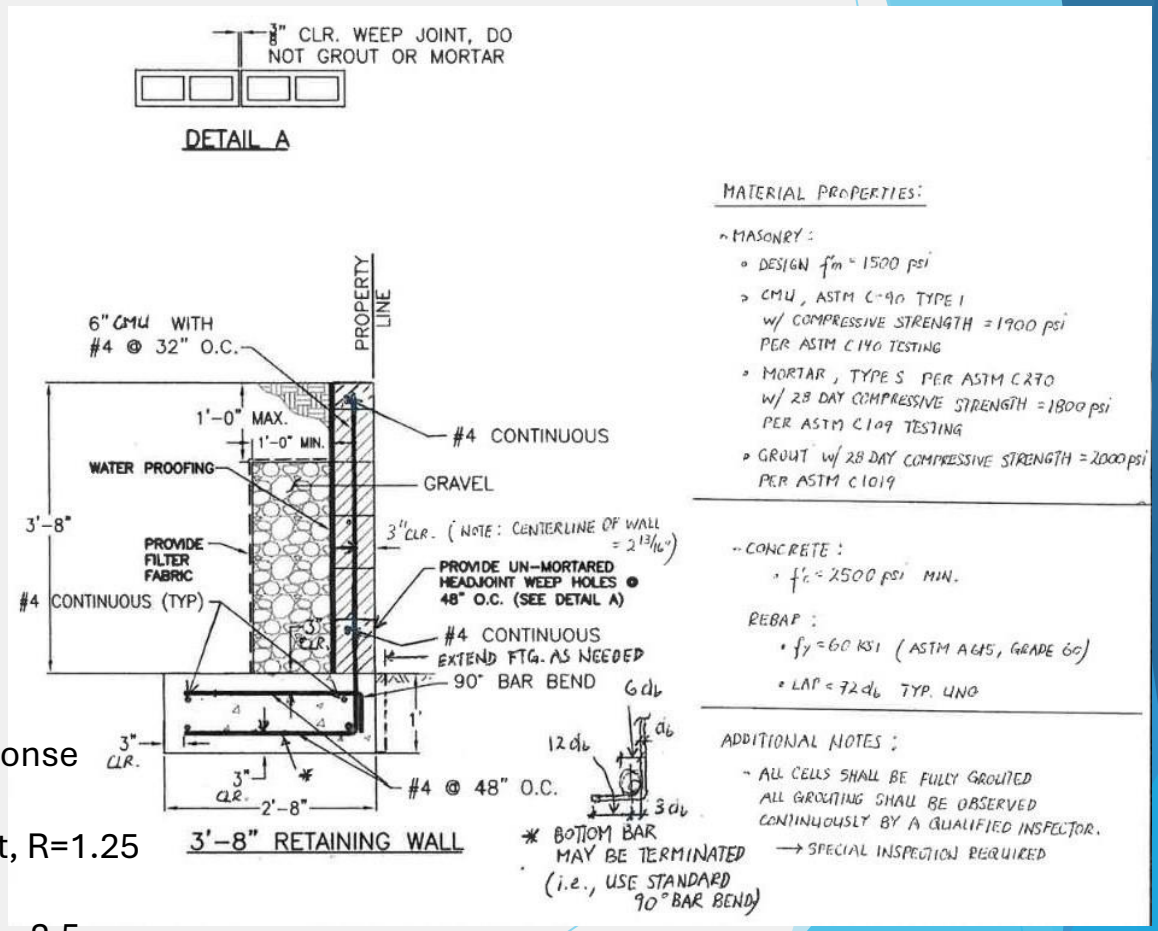
Bearing=1500 psf
Active Pressure=40 psf/ft
Passive Pressure=330 psf/ft
Surcharge: N.A.
Coefficient of Sliding=0.35

Wind Criteria:

Basic Wind Speed V_{ULT}=95 mph
Exposure=C
Wind Force Coefficient
Cf=1.4 (at typical conditions)
Cf=2.8 (at end zones)

Seismic Criteria:

Soil Site Class=D
Short Period Design Spectral Response Acceleration Factor, S_{DS}=0.53
Response Modification Coefficient, R=1.25
Overstrength Factor, W_o=2.0
Deflection Amplification Factor, C_d=2.5



2025 California Energy Code Changes

CEnC Subchapter 1 – All Occupancies – General Provisions

- **Section 100.2 – Calculation of Energy Budgets**
  - **Performance method based on:**
    - Long-Term System Cost (LSC)
    - Source Energy
  - **New construction**
    - Must meet LSC and Source Energy requirements
  - **Additions and alterations**
    - Must meet LSC requirements

2025 California Energy Code Changes

CEnC Subchapter 2 – All Occupancies Mandatory Requirements for Manufacture, Construction and Installation of Systems, Equipement and Building Components

Section 110.3 – Mandatory Requirements for Service Water-Heating Systems and Equipment

- **Section 110.3(c)(7) – Air-Source Heat Pump Water Heaters (HPWH)**
  - **(A) Backup heat required**
    - Unconditioned inlet air
    - Compressor cutoff temp > winter median of extremes
  - **(B) Additional ventilation requirements:**
    - Per manufacturer, to meet or exceed the following
    - Air volume ≥ 100ft3/kBtu/hr or per manufacturer, whichever is greater

2025 California Energy Code Changes

CEnC Subchapter 3 – Nonresidential, Hotel/Motel Occupancies, and Covered Processes – Mandatory Req.

Section 120.6 – Mandatory Requirements for Covered Processes

- **§120.6(k) Mandatory requirements for commercial kitchens.** ***(NEW)***
  - Electric Readiness for Newly Constructed Commercial Kitchens shall meet the following requirements:
    1. Quick-service commercial kitchens and institutional commercial kitchens shall include a dedicated branch circuit wiring and outlet that would be accessible to cookline appliances and shall meet all of the following requirements:
       A. The branch circuit conductors shall be rated at 50 amps minimum.
       B. The electrical service panel shall have a minimum capacity of 800 connected amps.
    2. The electrical service panel shall be sized to accommodate an additional either 208v or 240v 50-amp breaker.

    Exception 1 to Section 120.6(k): healthcare facilities.
    Exception 2 to Section 120.6(k): all-electric commercial kitchens.

2025 California Energy Code Changes

CEnC Subchapter 3 – Nonresidential, Hotel/Motel Occupancies, and Covered Processes – Mandatory Req.

Section 120.6 – Mandatory Requirements for Covered Processes

§120.6(k) Mandatory requirements for commercial kitchens. ***(NEW)***

- Applies to
  - Quick-service commercial kitchens (fast food, coffee shops, etc.)
  - Institutional commercial kitchens (schools, day care, hotels, etc.; kitchens that provide meals where care or supervision is provided)
- Does **NOT** apply to
  - Full service (table service by waitstaff)
  - Healthcare facilities
  - All-electric kitchens (not including a gas hookup)
- Provide ONE 50A outlet to cookline appliance area
  - 240V or 208V
  - Fully wired, but no receptacle is required
- Service panel rated for **800A minimum**
  - Electrical load calcs need to factor in this 50A load, whether used or not "…sized to accommodate an additional… 50A breaker"
  - Panel must have 50A minimum breaker or space for one.

2025 California Energy Code Changes

Envelope Changes

CEnC Subchapter 3 – Nonresidential, Hotel/Motel Occupancies, and Covered Processes – Mandatory Requirements

Section 120.7 – Mandatory Requirements for Building Envelopes

- All exterior windows / vertical fenestration to have a maximum U-factor of 0.47; 2025 §120.7(d)
  - This makes default values of Table 110.6-A obsolete for new buildings.
  - Alterations have different requirements based on area of fenestration; §141.0(b)1E

CEnC Subchapter 5 – Nonresidential, Hotel/Motel Occupancies – Performance and Prescriptive Compliance Approaches for Achieving Energy Efficiency

Section 140.3 – Prescriptive Requirements for Building Envelopes

- **Table 140.3-B** (envelope insulation) has been completely restructured & U-factors reduced.

2025 California Energy Code Changes

Mechanical Ventilation Changes

CEnC Subchapter 3 – Nonresidential, Hotel/Motel Occupancies, and Covered Processes – Mandatory Requirements

Section 120.1 – Requirements for Ventilation and Indoor Air Quality

- Minimum ventilation requirement is now calculated as the larger of: (**equation 120.1-F**):
  - [floor area] X [ventilation factor from Table 120.1-A]
  - [number of occupants] X [15 CFM]
- In 2022, the above calc was only used if an exception was taken to use “expected number of occupants” but these equations are now used for ALL scenarios.
- Cannot use CMC for ventilation calcs - it has different ventilation factors → different results.
- (NEW) added ventilation factors for animal rooms

2025 California Energy Code Changes

HVAC System Alterations

CEnC Subchapter 6 – Nonresidential, Hotel/Motel Occupancies, – Additions, Alterations and Repairs

Section 141.0 – Table 141.0-E-1 – New or Replacement Single Zone Air Conditioner or Heat Pump Requirement

- Applies to retail, grocery, schools, office, financial, & libraries
- New or replacement single zone packaged RTU with direct expansion cooling <65 MBH has new requirements in **Table 141.0-E-1**:
  - (SZHP) Single Zone Heat Pump + economizer
  - (SZAC1) Single zone A/C with furnace + variable speed fan + economizer
  - (SZAC1) Dual fuel heat pump + variable speed fan + economizer

Building Type	Retail & grocery	School	Office & financial institution	Library
Climate Zone 13	SZHP or SZAC1	SZHP or SZAC1	SZHP or SZAC1	SZHP or SZAC1

2025 California Energy Code Changes

Pipe Insulation

CEnC Subchapter 3 – Nonresidential, Hotel/Motel Occupancies, and Covered Processes – Mandatory Requirements

Section 120.3 –Requirements for Pipe Insulation

- 2022 Table 120.3-A is split into two tables:
  - 2025 Table 120.3-A-1: Hot water pipes
  - 2025 Table 120.3-A2: Refrigeration & process cooling
- Now applies to process heating/cooling systems unrelated to space conditioning.
  - Ex: Refrigerant suction, chilled water, brine water, steam, hot water

2025 California Energy Code Changes

Lighting Changes

CEnC Subchapter 4 – Nonresidential, Hotel/Motel Occupancies - Mandatory Requirements for Lighting Systems and Equipment, and Electrical Power Distribution.

Section 130.1 – Mandatory Indoor Lighting Controls

- Indoor lighting
  - Daylighting controls now triggered at 75W instead of 120W; §130.1(d)
- Outdoor Lighting
  - Lighting zone now determined by 2020 census
- Sign Lighting
  - Removed: Metal halide, CFL, Fluorescent, etc
  - Can only use LED or neon now, per §140.8(b)

2025 California Energy Code Changes

Solar & Battery

CEnC Subchapter 5 – Nonresidential, Hotel/Motel Occupancies – Performance & Prescriptive Compliance Approaches for Achieving Energy Efficiency

Section 140.10 – Prescriptive Requirements for Photovoltaic and Battery Energy Storage Systems

- Applies to **new buildings** only (**including shells** which have never been occupied)
- Show PV system capacity calc (kW_{PVdc})
- If battery is required:
  - Show energy capacity calc (kWh_{batt})
  - Show power capacity calc (kW_{batt})
- Submit solar plans concurrently with building plans. No “deferred” submittals.

kW_{PVdc}	PV System Capacity
kWh_{batt}	Battery Energy Storage
kW_{batt}	Battery Power Storage

2025 California Energy Code Changes

Solar & Battery

CEnC Subchapter 5 – Nonresidential, Hotel/Motel Occupancies – Performance & Prescriptive Compliance Approaches for Achieving Energy Efficiency

Section 140.10(a) – Photovoltaic Requirements - *PV System Capacity (KW_{PVdc})*

2022

$$kW_{PVdc} = \frac{CFA \times A}{1000}$$

OR

$$SARA \times 14$$

2025

$$kW_{PVdc} = \frac{CFA \times A}{1000}$$

OR

$$SARA \times 18$$

(steep-sloped roofs)

OR

$$SARA \times 14$$

(low-sloped roofs)

SARA: Entire roof area capable of structurally supporting a PV system

- Including car ports and other structures
- Excluding areas described in §140.10(a)2

kW_{PVdc}	PV System Capacity
kWh_{batt}	Battery Energy Storage
kW_{batt}	Battery Power Storage

2025 California Energy Code Changes

Solar & Battery

CEnC Subchapter 5 – Nonresidential, Hotel/Motel Occupancies – Performance & Prescriptive Compliance Approaches for Achieving Energy Efficiency

Section 140.10(a) – Photovoltaic Requirements - *PV System Capacity (KW_{PVdc})*

Table 140.10-A		
Building Type	**Factor "A" for Climate Zone 13**	
	2022	**2025**
Events & Exhibits *(previously "auditorium, convention, & theater")*	-	4.95
Religious Worship	-	5.78
Sports & Recreation	-	2.72
Library	0.39	3.79
Hotel/Motel	0.39	2.30
Office, Financial Institution, Unleased Tenant Space	2.59	3.13
Medical Office Building/Clinic	0.39	
Restaurants	0.39	10.69
Retail, Grocery	2.91	3.99
School	1.27	1.63
Warehouse	0.39	0.44
Multifamily > 3 stories	2.91	2.21

Red = New

$$kW_{PVdc} = \frac{CFA \times A}{1000}$$

CFA: Conditioned Floor Area

kW_{PVdc}	PV System Capacity
kWh_{batt}	Battery Energy Storage
kW_{batt}	Battery Power Storage

2025 California Energy Code Changes

Solar & Battery

CEnC Subchapter 5 – Nonresidential, Hotel/Motel Occupancies – Performance & Prescriptive Compliance Approaches for Achieving Energy Efficiency

Section 140.10(a) – Photovoltaic Requirements - *PV System Capacity (KW_{PVdc})*

- **Exception 2:** <4kW = no PV required
- **Exception 5 has changed.** Tenant space can be omitted from calculation if ALL are true:
  - Under 2,000sf
  - HVAC does not serve another tenant
  - Electric meter does not include energy usage of another tenant

kW_{PVdc}	PV System Capacity
kWh_{batt}	Battery Energy Storage
kW_{batt}	Battery Power Storage

2025 California Energy Code Changes

Solar & Battery

CEnC Subchapter 5 – Nonresidential, Hotel/Motel Occupancies – Performance & Prescriptive Compliance Approaches for Achieving Energy Efficiency

Section 140.10(b) – Battery Energy Storage System (BESS) Requirements

- Battery Energy Capacity (KWh_{batt})

2022

- All calculations:

$$kWh_{batt} = \frac{CFA \times B}{1000 \times C^{0.5}}$$

2025

- General Equation:

$$kWh_{batt} = \frac{CFA \times B}{1000 \times C^{0.5}}$$

- Only if SARA was used for PV capacity calc

$$kWh_{batt} = \frac{CFA \times B}{1000 \times C^{0.5}} \times \frac{KW_{PVdc,SARA}}{KW_{PVdc}}$$

$$KW_{PVdc,SARA} = SARA \times 18$$

$$KW_{PVdc} = \frac{CFA \times A}{1000}$$

kW_{PVdc}	PV System Capacity
kWh_{batt}	Battery Energy Storage
kW_{batt}	Battery Power Storage

2025 California Energy Code Changes

Solar & Battery

CEnC Subchapter 5 – Nonresidential, Hotel/Motel Occupancies – Performance & Prescriptive Compliance Approaches for Achieving Energy Efficiency

Section 140.10(b) – Battery Energy Storage System (BESS) Requirements

- Battery Power Capacity (KW_{batt})

2022	2025
$kW_{batt} = \frac{KWh_{batt}}{4}$	No Change

kW_{PVdc}	PV System Capacity
kWh_{batt}	Battery Energy Storage
kW_{batt}	Battery Power Storage

2025 California Energy Code Changes

Solar Readiness

CEnC Subchapter 2 – All Occupancies Mandatory Requirements for the Manufacture, Construction and Installation of System, Equipment and Building Components

Section 110.10 – Mandatory Requirements for Solar Readiness

- No significant changes
- Only required on new buildings if a PV system is not installed; §110.10(a)
- Show the Solar Zone on the plans; §110.10(b)
  Solar Zone = 15% of (total roof area – skylight areas)
  - Total roof area includes overhangs, structures within 250ft, and covered parking.
  - Does not include obstructions (vents, chimneys architectural features, HVAC, etc.)
  - Solar Zone to be shown on plans. Can be made up of multiple areas but no single area shall be less than 80sf or have any dimension less than 5ft.
- Show interconnection pathways and spaces reserved for future equipment (inverters, batteries, etc.); §110.10(c)

2025 California Mechanical Code Changes

CMC Chapter 4 - Ventilation Air

Section 402 – Ventilation Air

- **Section 402.4.1 Location**
  - Outdoor air intakes (including openings that are required as part of a natural ventilation system) shall be located such that the shortest distance from the intake to any specific potential outdoor contaminant source listed in Table 402.4.1 shall be equal to or greater than the following:
    (1) The separation distance in Table 402.4.1 or
    (2) The calculation methods in ASHRAE 62.1 Normative Appendix B and shall comply with all other requirements of this section. [ASHRAE .162.1:5.5.1]

2025 California Mechanical Code Changes

CMC Chapter 4 - Ventilation Air

TABLE 402.4.1
AIR INTAKE MINIMUM SEPARATION DISTANCE
[ASHRAE 62.1:TABLE 5-1]

OBJECT	MINIMUM DISTANCE (feet)
Class 2 air exhaust/relief outlet	10
Class 3 air exhaust/relief outlet	15
Class 4 air exhaust/relief outlet	30
Cooling tower exhaust	25
Cooling tower intake or basin	15
Driveway, street, or parking place	5
Garage entry, automobile loading area, or drive-in queue	15
Garbage storage/pick-up area, dumpsters	15
Plumbing vents terminating at least 3 feet above the level of the outdoor air intake	3
Plumbing vents terminating less than 3 feet above the level of the outdoor air intake	10
Roof, landscaped grade, or other surface directly below intake	1
Thoroughfare with high traffic volume	25
Truck loading area or dock, bus parking/idling area	25
Vents, chimneys, and flues from combustion appliances and equipment	15

For SI units: 1 foot = 304.8 mm

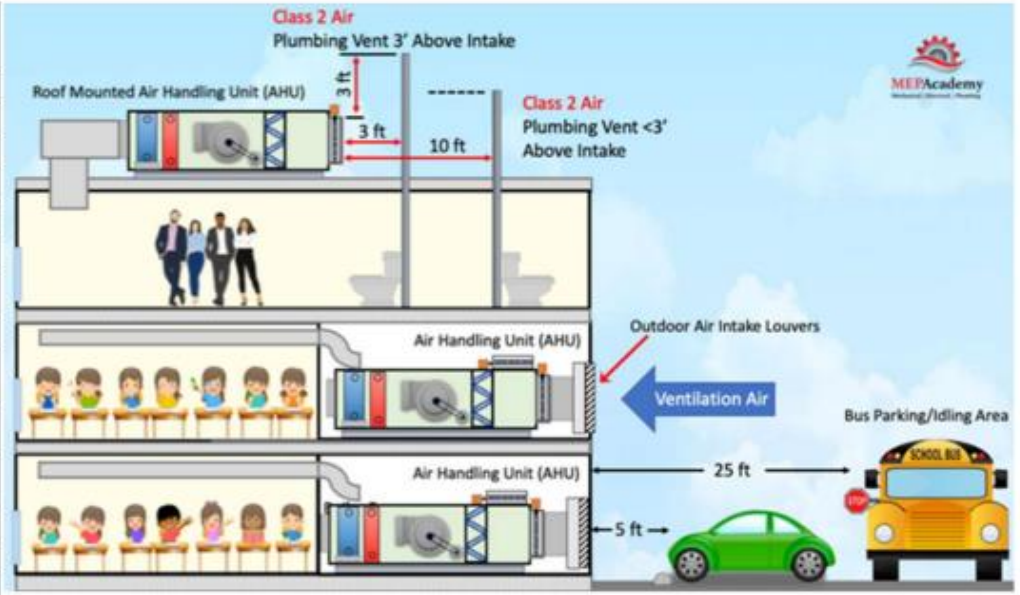


Image retrieved 04/07/2025 from: https://mepacademy.com/outdoor-air-intake-locations-air-classifications/

2025 California Mechanical Code Changes

CMC Chapter 4 - Ventilation Air

Section 403 – Ventilation Rates

- **Section 403.10 - Air Balance**
  - All mechanical ventilation systems shall be tested, balanced, and operated to demonstrate that the installation and performance of the systems are in accordance with the design intent. All testing and balancing shall be performed by a technician certified by the Associated Air Balance Council(AABC), the National Environmental Balancing Bureau (NEBB), the Testing , Adjusting and balancing Bureau (TABB), or other equivalent approved agencies.

    Exception: For single family residential, compliance with Section 403.10 shall not be required.

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2025 California Mechanical Code Changes

CMC Chapter 4 - Ventilation Air

Section 405 – Ventilation for Residential Occupancies

- **405.4 Kitchen Exhaust**
  - A mechanical exhaust system that discharges directly to the outdoors shall be provided in each kitchen. The fan shall run intermittently (on demand) or continuously. A readily accessible manual control designed to be operated as needed or an automatic control shall be provided for intermittent operations.

    Exception: Recirculating systems installed in accordance with Section 516.0 and the manufacturer's installation instructions.
- **405.4.1 Exhaust Rate**
  - For intermittent-controlled operations, the exhaust rate shall be not less than 100 ft3/min (47.2 L/s) for rangehoods or 300 ft3 /min (142 L/s) for mechanical exhaust fans including downdraft appliances. For continuous operated ventilation, the exhaust rate shall be not less than 5 air changes per hour based on kitchen volume for enclosed kitchens 50 ft3 /min (23.6 L/s).

2025 California Mechanical Code Changes

CMC Chapter 5 – Exhaust Systems

Section 502 – Terminations

- **502.2 Termination of Exhaust Ducts**
  - Exhaust ducts shall terminate in accordance with Section 502.2.1 through Section 502.2.34. Classes of air shall be as defined in Section 203.0 and classified in Section 403.9.
- **502.2.1 Environmental. Class 1, and Class 2 Air Ducts**
  - Environmental, Class 1, and Class 2 air duct exhaust shall terminate not less than 3 feet (914 mm) from a property line, 10 feet (3048 mm) from a forced air inlet, 10 feet (3048 mm) above a public walkway, and 3 feet (914 mm) from openings into the building, and the minimum separation distance from ventilation system outdoor air intakes determined in accordance with Section 402.4.1. The discharge of environmental dryer exhaust ducts shall not terminate over be directed onto a public walkway or over an area where condensate or vapor could create a nuisance or hazard.

2025 California Mechanical Code Changes

CMC Chapter 5 – Exhaust Systems

Section 502 – Terminations

- **502.2.2 Class 3 Air Ducts**
  - Class 3 air duct exhaust shall terminate not less than 10 feet (3048 mm) from a property line, 3 feet (914 mm) from exterior walls or roofs that are in the direction of the exhaust discharge, 10 feet (3048 mm) from openings into the building, 10 feet (3048 mm) above adjoining grade, and the minimum separation distance from ventilation system outdoor air intakes determined in accordance with Section 402.4.1.
- **502.2.2 502.2.3 Product Conveying, Flammable, and Class 4 Air Ducts**
  - Ducts conveying Class 4 air or explosive or flammable vapors, fumes, or dusts shall terminate not less than 30 feet (9144 mm) from a property line, 10 feet (3048 mm) from openings into the building, 6 feet (1829 mm) from exterior walls or roofs that are in the direction of the exhaust discharge, 30 feet (9144 mm) from combustible walls or openings into the building that are in the direction of the exhaust discharge, and 10 feet (3048 mm) above adjoining grade, and the minimum separation distance from ventilation system outdoor air intakes determined in accordance with Section 402.4.1.

2025 California Mechanical Code Changes

CMC Chapter 5 – Exhaust Systems

Section 502 – Terminations

- **502.2.2 502.2.3 Product Conveying, Flammable, and Class 4 Air Ducts**
  - Exception: Type I Hood exhaust termination shall be in accordance with Section 510.9.1. Other product-conveying outlets shall terminate not less than 10 feet (3048 mm) from a property line, 3 feet (914 mm) from exterior walls or roofs, 10 feet (3048 mm) from openings into the building, and 10 feet (3048 mm) above adjoining grade.
- **502.2.3 502.2.4 Commercial Kitchen Ducts**
  - Commercial kitchens exhaust ducts shall terminate in accordance with Section 510.9 for Type I exhaust systems or Section 519.5 for Type II exhaust systems.

Section 504 – Environmental Air Ducts

- **504.2 Independent Exhaust Systems**
  - Single or combined mechanical exhaust systems for environmental air shall be independent of other exhaust systems. Combined exhaust systems shall operate at negative pressure and shall terminate in accordance with Section 502.2.1. Clothes dryer exhaust systems shall be independent of all other exhaust systems except where permitted in Section 504.4.4.

2025 California Mechanical Code Changes

CMC Chapter 5 – Exhaust Systems

Section 504 – Environmental Air Ducts

- **504.4.6 Multistory Exhausting of Dryers**
  - Each vertical riser shall be provided with a means for cleanout or access door located at the bottom of the main exhaust shaft for lint removal.

Section 506 – Product-Conveying Ducts

- **506.9 Protection from Physical Damage.**
  - Ducts and exhaust equipment installed in locations where they are subject to physical damage shall be protected by guards.

Section 508 – Type I Hoods

- **508.4 Supports**
  - Hoods shall be secured in place to resist lateral loads [OSHPD 1, 1R, 2, 4 & 5] given in the California Building Code, Title 24, Part 2 by noncombustible supports. The supports shall be capable of supporting the expected weight of the hood and plus 800 pounds (362.9 kg).

2025 California Mechanical Code Changes

CMC Chapter 5 – Exhaust Systems

Section 508 – Type I Hoods

- **508.5.1.4 Medium-Duty Cooking Appliances**
  - The minimum net airflow for hoods used for cooking appliances such as electric and gas hot-top ranges, gas open-burner ranges (with or without oven), electric and gas flat griddles, electric and gas double-sided griddles, electric and gas fryers (including open deep fat fryers, donut fryers, kettle fryers, tortilla chip fryers, and pressure fryers), electric and gas smokers, and electric and gas conveyor pizza ovens shall be in accordance with Table 508.5.1.4.

Section 519 – Type II Hood Exhaust System Requirements

- **519.3 Type II Hood Exhaust System Net Airflow**
  - The net airflow for Type II hoods shall be in accordance with Section 508.5.1.5 for light-duty cooking appliances. The net airflow for Type II hoods serving dishwashing appliances shall comply with Section 519.3.1.
- **519.7 Independent Exhaust Duct System**
  - Single or combined Type II exhaust systems shall be independent of all other exhaust systems.

2025 California Mechanical Code Changes

CMC Chapter 6 – Duct Systems

Section 603 – Installation of Ducts

- **603.9.2 Duct leakage test [not adopted by HCD]**
  - Ductwork shall be leak-tested bin accordance with the SMACNA HAAC Air Duct Leakage Test Manual. Duct leakage tests shall be performed by a technician certified by the Associated Air Balance Council (AABC),), the National Environmental Balancing Bureau (NEBB), the Testing , Adjusting and balancing Bureau (TABB), or other equivalent approved agencies.

2025 California Electrical Code Changes

CEC Chapter 2 – Wiring and Protection

Section 210 – Branch Circuits Not Over 1000 Volts AC, 1500 Volts DC, Nominal

- **Article 210.8 -** Ground-fault protection isn't just for kitchens and bathrooms anymore.

  The 2025 code expands GFCI (Ground-Fault Circuit Interrupter) requirements to include:
  - All 125V–250V receptacles in residential areas
  - Crawl spaces and unfinished basements
  - Outdoor outlets, regardless of cover or location.
  - for dwelling and other than dwelling units: elect ranges, wall mounted ovens, counter mounted ovens , clothes dryer, and microwaves.

- **Article 210.12 -** The 2025 updates expand AFCI coverage to:
  - All 125V–250V receptacles in residential areas
  - Kitchens (even for dedicated appliance outlets)
  - Laundry rooms
  - All 120V, 15- and 20-amp circuits supplying dwelling areas

2025 California Electrical Code Changes

CEC Chapter 2 – Wiring and Protection

Section 215 – Feeders & Section 225 Outside Branch Circuits and Feeders

- **Article 215.18 & 225.42 -** Now require Surge Protection Device (SPD) when you replace panels in dwelling, dormitory, and guest rooms.

Section 240 – Overcurrent Protection

- **Article 240.24(2)(E) –** This new code does not allow panels to be located in any bathrooms; this includes commercial restrooms.

CEC Chapter 3 – Wiring Methods & Materials

Section 315 – Medium Voltage Conductors, Cable, Cable Joints, and Cable Terminations

- **New Article to the CEC –** Previously located in Article 311; expanded markings for Type MV cables.

2025 California Electrical Code Changes

CEC Chapter 6 – Special Equipment

Section 690 – Solar Photovoltaic (PV) Systems

- **Article 690 -** Key changes for photovoltaic (PV) systems and battery storage:
  - Rapid shutdown systems must now be integrated directly into modules or arrays
  - Battery systems (like Tesla Powerwall) need better spacing, labeling, and fire safety design
  - AC-coupled systems must include transfer switches or microgrid interconnection devices (MIDs)

CEC Chapter 7 – Special Conditions

Section 700 – Emergency Systems

- **Article 700.12 -** Supply duration (emergency system) increased from 90 min to 2hrs.

Section 760 – Fire Alarm Systems

- **Article 760.33 -** Requires a listed Surge Protection Device (SPD) on the supply side of a fire alarm control panel.

2025 California Green Building Code Changes

CAL Green Chapter 4 – Residential Mandatory Measures

Section 4.106 – Site Development

- **CALGreen 4.106.4 -** All new residential construction must be EV-ready. That includes:
  - Electrical capacity for a 40-amp Level 2 charger
  - Space in the panel
  - Conduit paths to the garage or driveway

2025 California Plumbing Code Changes

CPC Chapter 3 – General Regulations

Section 310.0 – Prohibited Fittings and Practices

- **310.9 Female Plastic Connections.**
  - Female plastic tapered (NPT) threaded connections shall not be allowed to be used when threaded onto a male metallic connection.
    Exception: Female plastic parallel (straight) threaded connections shall be permitted.
- **Section 310.10 – ABS and PVC Transition Joints**
  - Except as provided in Section 705.9.4, PVC and ABS pipe and fittings shall not be solvent welded to dissimilar material.

2025 California Plumbing Code Changes

CPC Chapter 4 – Plumbing Fixtures & Fixture Fittings

Section 408.0 – Showers

- **Section 408.4.3 - Temperature-Actuated, Flow-Reduction Devices for Individual Fixture Fittings**
  - Temperature-actuated, flow-reduction devices, where installed for individual fixtures fittings, shall comply with ASSE 1062. Such devices shall not be used alone as a substitute for the balanced pressure, thermostatic or combination shower valves requirements or as a substitute for bathtub or whirlpool tub water temperature-limiting valves requirements.
    - Was permitted to serve as a temperature limiting for showerheads.

415.0 Drinking Fountains

- **415.1 Application**
  - Added bottle filling stations to comply with NSF/ANSI/CAN 61.

2025 California Plumbing Code Changes

CPC Chapter 4 – Plumbing Fixtures & Fixture Fittings

Section 417.0 – Faucets and Fixture Fittings

- **Section 417.7 – Head Shampoo Sink Faucets**
  - Head shampoo sink faucets shall be supplied with hot water that is limited to not more than 120°F Each faucet shall have integral check valves to prevent crossover flow between the hot and colde water supply connections that means for regulating the maximum temperature shall be in accordance with:
    - A limiting device confirming to ASSE 1070/ASME A112.1070/CSA B125.70.
    - A water heater conforming to ASSE 1084
    - A temperature-actuated, flow-reduction device conforming to ASSE 1062.

2025 California Plumbing Code Changes

CPC Chapter 4 – Plumbing Fixtures & Fixture Fittings

Section 422.0 – Minimum Number of Required Fixtures

- **Table 422.1 – Footnote #6 & #7**
  - **#6** Service sinks not required for non-residential with occupant load of 15 or less for all occupancies.
  - **#7** For business and mercantile occupancies, one common service sink shall be permitted when accessible to all businesses and mercantile within 300 feet and within the same story.
- **Section 422.1.1 – Fixture Calculations**
  - Added text: For toilet facilities designed for use by all genders, the minimum number of fixtures shall be the aggregate calculated at 50 percent female and 50 percent male in accordance with Table 422.1. Where all-gender fixtures are provided in addition to separate men's and women's facilities, those fixtures shall be included in determining the number of fixtures provided in an occupancy.

2025 California Plumbing Code Changes

CPC Chapter 4 – Plumbing Fixtures & Fixture Fittings

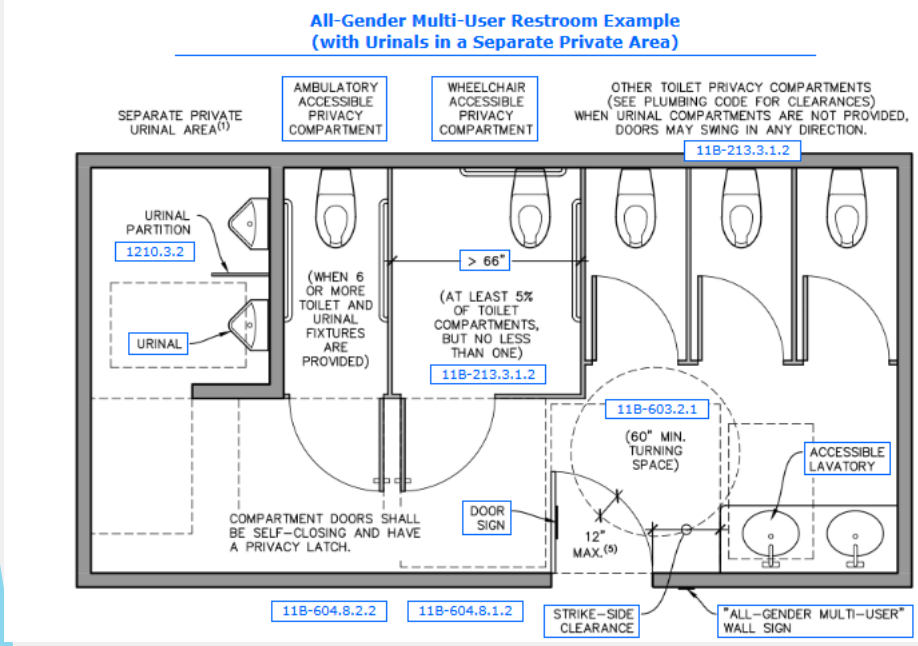
Section 422.0 – Minimum Number of Required Fixtures

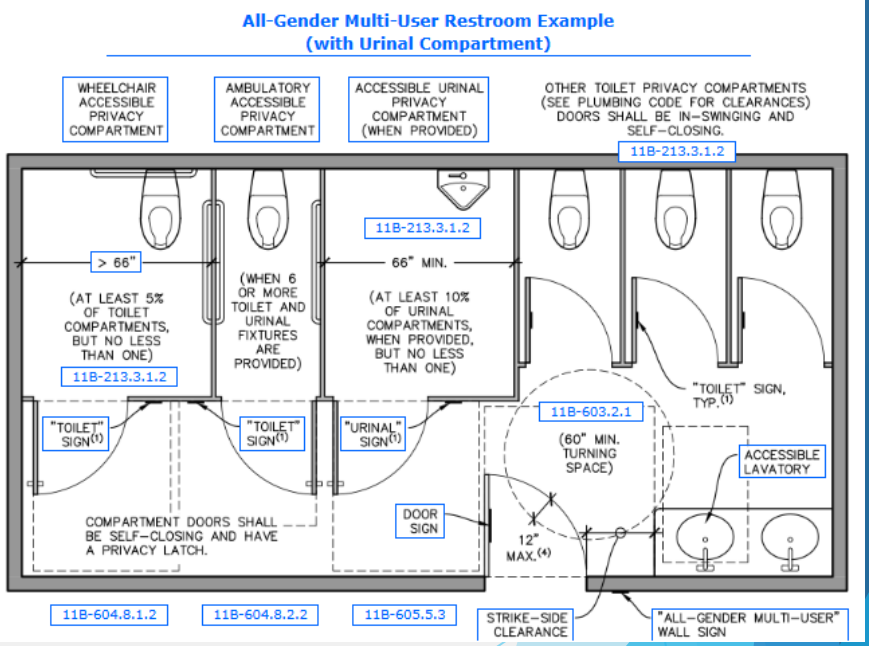
- **Section 422.2 – Separate Facilities**
  - Separate facilities shall not be required be required where rooms have fixtures designed for use by both sexes and water closets are installed in privacy compartments.
- **Section 422.6 – Water Closet Compartment**
  - Compartments for water closets located in all-gender multi-user bathrooms shall be privacy compartments, as defined.
- **Section 422.7 – Urinal Partitions**
  - Urinals in all gender toilet rooms not located in separate private area shall be privacy compartments, as defined.
- **Privacy compartments provided to be floor to ceiling.**
  - Exhaust in each per CMC
  - 1” gap at door per AHJ.
  - Potential floor drain in each required if no gap.

2025 California Plumbing Code Changes

CPC Chapter 4 – Plumbing Fixtures & Fixture Fittings

Examples of All-Gender Restrooms



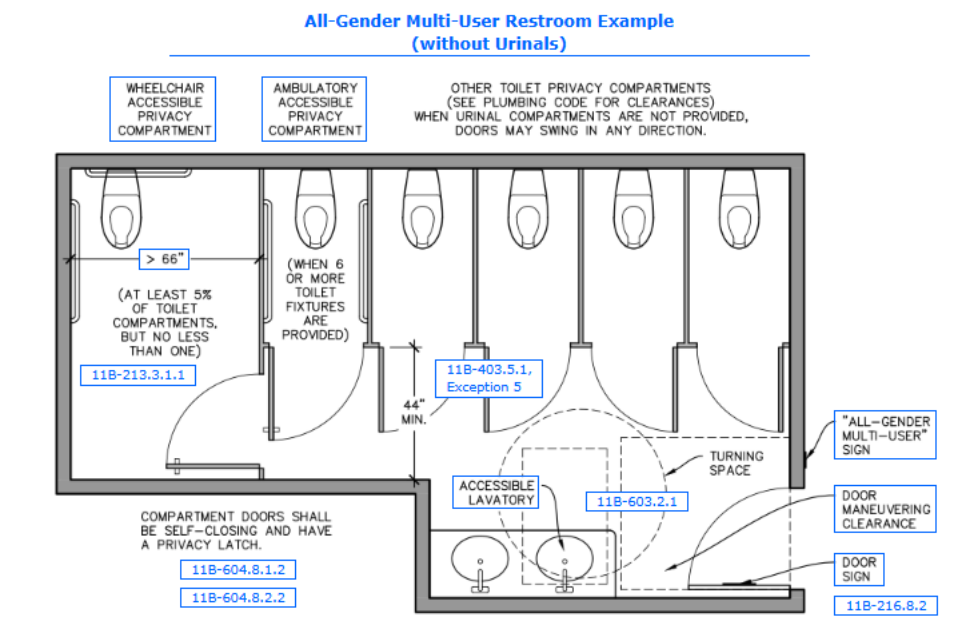


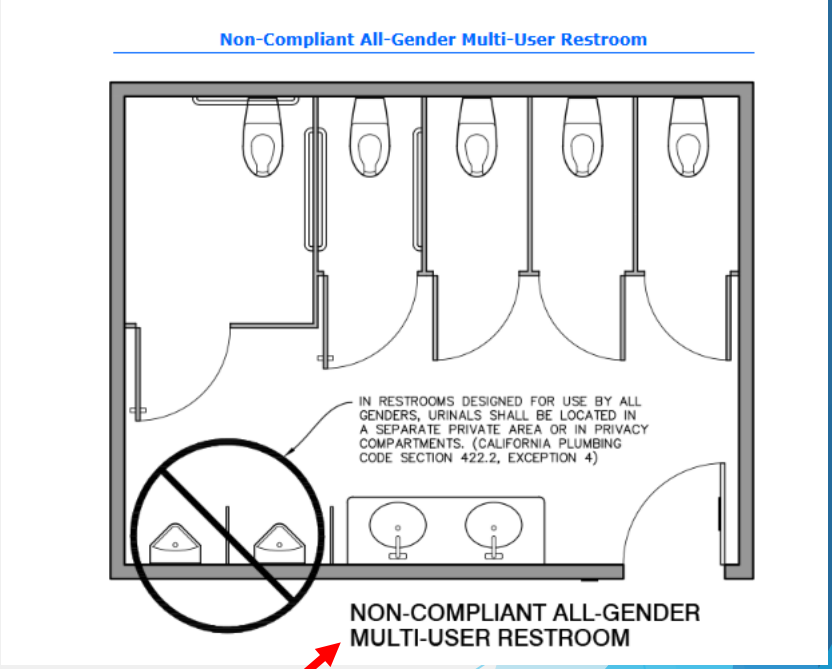
Images from Access Tookit

2025 California Plumbing Code Changes

CPC Chapter 4 – Plumbing Fixtures & Fixture Fittings

Examples of All-Gender Restrooms





Images from Access Tookit

2025 California Plumbing Code Changes

CPC Chapter 5 – Water Heaters

Section 507.0 – Appliance and Equipment Installation Requirements

- **Section 507.25 – Accessibility for Service**
  - Minimum 30”x30”x30” of clearance required for water heater servicing, unless otherwise specified by manufacturer.
  - Heat pump water heater minimum space requirement per manufacturer.

CPC Chapter 6 – Water Supply and Distribution

Section 603.0 – Cross-Connection Control

- **Section 603.5.12 - Beverage Dispensers**
  - Potable water supply to carbonated beverage dispensers shall be protected by an air gap or a vented backflow preventer that complies with ASSE 1022. Non-carbonated beverage dispenser backflow, such as ice makers and coffee machines shall be protected by an air gap or ASSE 1032 or 1024 backflow.

2025 California Plumbing Code Changes

CPC Chapter 7 – Sanitary Drainage

Section 703.0 – Size of Drainage Piping

- **Table 703.2 – Maximum Unit Loading and Maximum Length of Drainage and Vent Piping**
  - Footnote #4
    - 3-inch sanitary sewer permits 6 water closets.

2025 California Residential Code Changes

CRC Chapter 3 – Building Planning

Section R302 – Fire-Resistant Construction

- **Section R302.1 – Exterior Walls: (Modification)**
  - For purposes of determining fire separation distance, dwellings and townhouses on the same lot shall be assumed to have an imaginary line between them. Where a new dwelling or townhouse is to be erected on the same lot as an existing dwelling or townhouse, the location of the assumed imaginary line with relation to existing dwellings or townhouses shall be such that the existing dwelling or townhouse meets the requirements of this section.
- **Section R302.3.5 – Vertically Stacked Dwelling Units**
  - Where one dwelling unit in a two-family dwelling is located above the other and an automatic sprinkler system complying with Section R309 is not provided in both dwelling units, both of the following shall apply:
    1) Horizontal and vertical assemblies separating the dwelling units, including an interior stairway serving as the means of egress for the upper dwelling unit, shall be constructed in a manner that limits the transfer of smoke.
    2) A notification appliance connected to smoke alarms in the other dwelling unit shall be provided in each dwelling unit.

2025 California Residential Code Changes

CRC Chapter 3 – Building Planning

Section R315 – Sleeping Loft (Addition)

- **Definition: <u>Sleeping Loft:</u>** A space designed for sleeping on an intermediate level or levels between the floor and the ceiling of a story. Open on one or more sides of the room in which the space is located and in accordance with section R315.
  - R315 has been added to provide guidance on smoke alarms within sleeping lofts of a minimum of 35 and 70 square feet, and the ceiling height cannot exceed 7 feet in half of its area. (Tiny Homes or similar rooms in Homes.)

2025 California Residential Code Changes

CRC Chapter 4 – Floors

Section R403 – Footings

- **Table R403.1.2 - Continuous Footing in Seismic Design Categories D_0, D_1 & D_2**

BUILDING PLAN DIMENSIONS	1-STORY						2-STORY						3-STORY	
	50 feet or less			> 50 feet			50 feet or less			> 50 feet			Any	
SDC	D_0	D_1	D_2	D_0	D_1	D_2	D_0	D_1	D_2	D_0	D_1	D_2	D_0	D_1
Continuous footings supporting exterior walls	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Continuous footings supporting required interior braced wall panels	NR	NR	NR	R[a]	R[a]	R[a]	NR	NR	R[a]	R[a]	R[a]	R[a]	R	R

2025 California Residential Code Changes

CRC Chapter 5 – Floors

Section R502 – Wood Floor Framing

- **R502.11-Floor Framing support guards: (New)**
  - R502.11.1 Conventional edge Framing. Where a roll brace is aligned with each guard post, the faming at the edge of the floor shall consist of a solid or built-up member of lumber, structural glued-laminated timer of structural composite lumber having a minimum net width of 3 inches and a net depth of not less than 9 ¼ inches and shall be braced to resist rotation by roll bracing as described in Section R502.11.3
  - R502.11.2 Tumber edge framing. Where a roll brace is not aligned with each guard post, the framing at the edge of the floor shall consist of a minimum 6-inch by 10-inch sawn lumber or a minimum 5 1/8-inch by 9 1/4-inch structural glued-laminated timber and shall be braced to resist rotation by roll bracing as described in Section R502.11.3 at intervals of 48 inches or less.

2025 California Residential Code Changes

CRC Chapter 5 – Floors

Section R502 – Wood Floor Framing

- **R502.11-Floor Framing support guards: (New) – Cont.**
  - R502.11.3 Each roll brace shall be a joist or blocking matching the depth of the edge member and extending perpendicular to the edge member not less than 16 inches from the edge. Blocking shall have end connections with not fewer than six 16d common nails. Floor sheathing shall be continuous for not less than 25 inches from the edge and shall be fastened to each roll brace with no fewer than 12 (twelve) 10d common nails and shall be fastened to the edge member with a minimum of 12 (twelve) 10d common nails within 12 inches of the roll bracing.
  - The 2025 California Residential significant changes have great details on the bracing requirements.

2025 California Mechanical Code Changes

CMC Chapter 3 – General Regulations

Section 305.0 – Location

- **305.1 Installation in Residential Garages**
  - Appliances in residential garages and in adjacent spaces that open to the garage and are not part of the living space of a dwelling unit shall be installed so that all heating elements, switches, burners, and burner-ignition devices are located not less then 18inches (457 mm) above the floor.

    Exception: Listed flammable vapor ignition resistant (FVIR) appliances {NFPA 54:9.1.10.1}

2025 California Energy Code Changes

Envelope Changes

CEnC Subchapter 7 – Single-Family Residential Buildings – Mandatory Features & Devices

Section 150.0 – Mandatory Features and Devices

- **Section 150.0(q) – Fenestration Products**
  - **Mandatory U-Factor**
    - U-factor ≤ 0.40

CEnC Subchapter 8 – Single-Family Residential Buildings – Performance & Prescriptive Compliance Approaches

Section 150.1 – Performance and Prescriptive Compliance Approach for Single Family Residential Buildings

- **Table 150.1-A – Component Package Single-Family Standard Building Design**
  - **Prescriptive Ceiling insulation – Climate Zone 13**
    - Cathedral ceiling: R-38
    - Vented attic ceiling: R-38

2025 California Energy Code Changes

Envelope Changes

CEnC Subchapter 7 – Single-Family Residential Buildings – Mandatory Features & Devices

Section 150.0 – Mandatory Features and Devices

- **Section 150.0(c) – Wall Insulation**
  - **Mandatory Wall Insulation**
    - 2x4 framing: U-factor ≤ 0.095 or R-15*
    - 2x6 framing: U-factor ≤ 0.069 or R-21*

CEnC Subchapter 8 – Single-Family Residential Buildings – Performance & Prescriptive Compliance Approaches

Section 150.1 – Performance and Prescriptive Compliance Approach for Single Family Residential Buildings

- **Table 150.1-A – Component Package Single-Family Standard Building Design**
  - **Prescriptive U-Factor – Climate Zone 13**
    - U-factor ≤ 0.27

2025 California Energy Code Changes

Water Heater Changes

CEnC Subchapter 7 – Single-Family Residential Buildings – Mandatory Features & Devices

Section 150.0 – Mandatory Features and Devices

- **Section 150.0(n) – Water Heating Systems**
  - **150.0(n)1A**
    - HPWH-ready requires a dedicated 30A circuit

CEnC Subchapter 8 – Single-Family Residential Buildings – Performance & Prescriptive Compliance Approaches

Section 150.1 – Performance and Prescriptive Compliance Approach for Single Family Residential Buildings

- **Section 150.1(c)8 – Prescriptive Requirement**
  - Removed exception allowing gas water heaters

Process Flow - Plan Review Cycle

Top 5 Residential Items Missed on Plans

- **Aging in Place, door sizes are not correct.**
- **Title 24 documents- note provided or have an error in the documents, or do not match the plan set.**
- **Minimum required solar is not calculated correctly or does not match the Title 24 energy documents.**
- **The truss packet is not provided at the time of submitting the plan. Roof framing plans do not indicate the fasteners and labels for the truss package.**
- **Proper calculations on water, sewer, electric, & gas are not provided on the plan set.**

Code Change Topic

AB-306

- AB 306 is a temporary “code-change moratorium” focused on residential building standards. In general, it freezes most new state and local changes to building standards that apply to residential units for a defined period (commonly described as running into June 1, 2031), while allowing narrow exceptions (notably emergencies and wildfire/home-hardening items).

Code Change Topic

AB-306

- **Key provisions:**

1. **State-level restrictions**
   - State agencies (including CBSC and adopting agencies) are largely barred from considering/approving/adopting new residential building standards during the moratorium window unless an exception applies (e.g., emergency health and safety; home hardening/wildfire mitigation).
   - Legislative analyses describe this as pausing additional state building-standards changes affecting residential construction for several years, with limited exceptions.

Code Change Topic

AB-306

- **Key provisions:**

2. **Local government restrictions**
    - Cities and counties are largely prohibited from adopting new local amendments/modifications to building standards applicable to residential units during the moratorium period, again with limited exceptions (including emergencies and home-hardening/wildfire mitigation).
    - The moratorium is specifically described by code-official stakeholders as applying to residential amendments, not non-residential.
3. **CBSC authority (California Building Standards Commission)**
    - CBSC is directed to reject a city/county-filed residential modification unless it meets the allowed exception conditions (notably emergency standards needed to protect health and safety).
    - CBSC is also described as having a required review timeline (e.g., review within 45 days for certain submittals).

Code Change Topic

AB-306

- **Implications for industry**

1. **Predictability**
   - A multi-year freeze means builders, designers, and jurisdictions can plan around a stable residential code baseline, reducing the need to retool details every cycle.
2. **Cost control**
   - By limiting new residential code changes (and many local “reach” amendments), the bill is intended to stem incremental code-driven cost increases during the moratorium period.
3. **Permitting**
   - Permitting is expected to become more consistent across time (fewer midstream rule changes), but also more constrained locally because jurisdictions generally cannot add new residential amendments unless they qualify under an exception.

Code Change Topic

AB-130

- With the passage of AB 130, the conditions under which local governments may modify the state building standards for residential construction have narrowed. Local governments may only do so if the amendment has findings that also meet one of six specified criteria.
- The City of Clovis has not added any new amendments since 2014, nor does it plan on adding any new ones.

Code Change Topic

AB-130

- **The Six Specific Requirements for Amendments Approval:**

1. The modifications are **substantially equivalent** to changes previously filed by the city or county and were in effect as of September 30, 2025.

2. The California Building Standards Commission (CBSC) deems the changes or modifications necessary as **emergency standards to protect health and safety**.

3. The changes relate to **home hardening**, such as fire prevention measures.

4. The changes are necessary to implement a local code amendment to align with a **general plan approved on or before June 10, 2025.**

5. The changes are **administrative** in nature, such as those that reduce the time for post-entitlement permits, change fee schedules, or modernize permitting software.

6. The changes are part of building standards necessary to incorporate minimum **federal accessibility requirements.**

Code Change Topic

HSC 18938.5

- HSC 18938.5 applies to all future residential dwellings following the approved **model home** design in the same jurisdiction, unless the design changes significantly or 10 years pass since the permit was approved, whichever comes first.
- **Question:** This issue seems to impact only model homes in subdivision developments. What about custom homes? The City of Clovis will require custom homes, as well as all other accessory structures, to comply with the 2025 California Code of Regulations, Title 24.

Code Change Topic

HSC 18938.5 - Significant Changes

- Any model home plan submitted before December 31, 2025, will be suitable for use within the jurisdiction for a period of ten years. The exception to this is that no substantial changes are made to the plans.* Examples:
  - **A significant alteration to the building envelope,** such as changes to the home's size, square footage, or height.
  - **The creation of new fire protection risks** or changes that do not align with existing fire protection standards.
  - **Changes to the core layout,** such as the addition or removal of principal rooms or the reconfiguration of interior or exterior spaces.
  - **Alterations to the structural framing, foundation, or other core load-bearing elements** that require new engineering.

    - ***As determined by the Building Official**

Code Change Topic

HSC 18938.5 - Significant Changes – Cont.

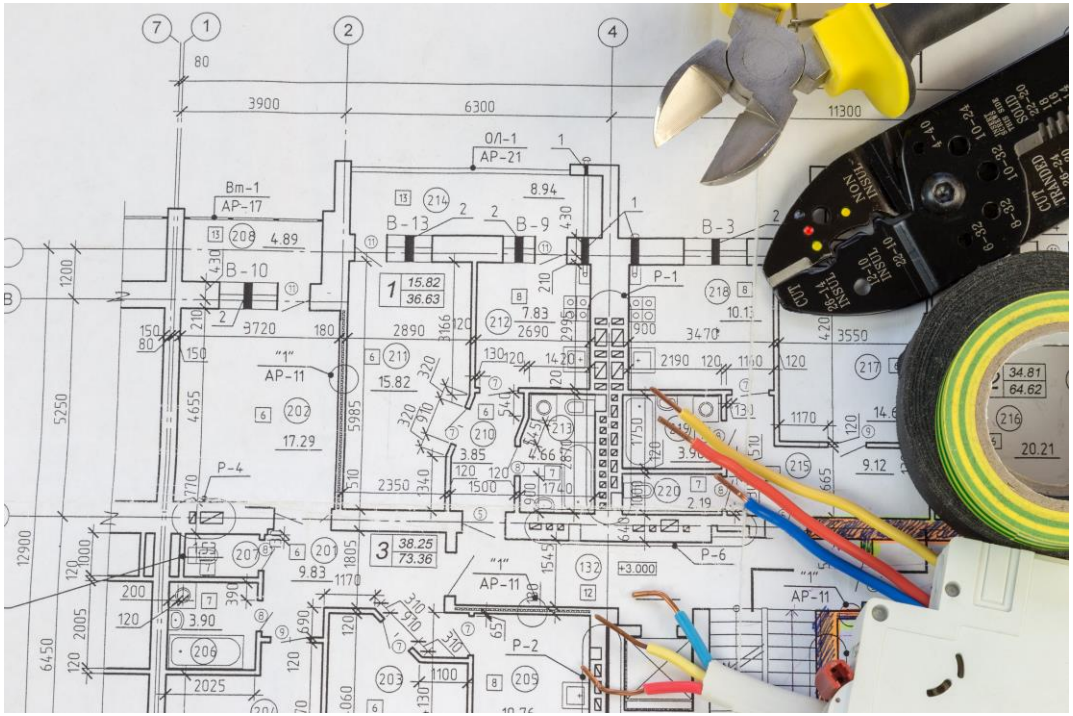
- Any model home plan submitted before December 31, 2025, will be suitable for use within the jurisdiction for a period of ten years. The exception to this is that no substantial changes are made to the plans. Examples:
  - **Modifications that would make the design inconsistent with local general plans or zoning ordinances** at the time the model home was approved.
  - **Changes that violate statewide standards for safety and building integrity.**
  - **When the issued plans become expired for work not commencing within the twelve (12) months of issuance. HSC 18938.5 (c)**

Process Flow - Plan Review Cycle

Top 5 Commercial Items Missed on Plans

- **CBC 1010.2.9.2 Rooms with Electrical Equipment**
  - This correction pertains to the provision of Panic hardware on required egress doors. I have them show the hardware in the door schedule.
- **CEC110.16 Arc-Flash Hazard Warning**
  - This label is required for equipment rated at 1200amps or more. I have them add a note to the electrical plan.
- **CEC609.1 Air-Moving Systems and Smoke Detectors**
  - This is the requirement for a smoke detector for systems over 2000 CFMs. Typically, I have them add a note.
- **CPC 801.3.2 Walk-in Coolers**
  - This pertains to the display of indirect discharge from walk-in coolers and similar facilities. I have them provide details on the plumbing plan showing the minimum required air gap.
- **CPC Table 422.1 Note #3**
  - Note three is the requirement to add a women's water closet for each additional Urinal provided. I have them show their calculations, including the additional water closets.

Q & A



Thank you for Attending

City of Fresno &
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Building & Safety Symposium

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