

# 2019 – Commercial Building Plan Check Correction List

## COMMERCIAL STANDARD CORRECTION LIST

**These following lists are the most common items for Non- Residential projects.**

### GENERAL

1. Show the correct address of the building on application to correspond with plans.
2. All sheets of plans and cover sheet of any calculations must be wet signed and dated by person responsible for their preparation, who is licensed in California.
3. Submit a review letter by soils engineer and incorporate any requirements and recommendations into the plans.
4. A geological report/soil report is required. [CBC 1803.2]
5. Provide a Building Code Analysis on the title sheet. Include the following code information for each building proposed: Description of use, Occupancy, whether separated or un-separated, number of stories, type of construction, sprinklers, floor area, height, and allowable floor area.
6. The current design codes have changed. Please submit design and plans based on the 2019 CBC, CPC, CMC, CEC California Green Building Standard Code and California Energy Code.
7. Delete notes and details that do not apply to this project.
8. Grading permit may be / is required. Plans and permit for grading must be processed and issued separately from and prior to this building permit.
9. Provide an accurate and complete listing of required special inspections pursuant CBC 1705 specific to this project. This should appear in prominent position on the cover sheet of the plan. Alternatively, provide a clear note in a prominent position on the cover sheet which states what sheet of the plans the list of special inspections specific to this project may be found. Please be aware extensive changes in the required special inspections.
10. If this project is required to have structural observation pursuant CBC 1704.6 provide a prominent note on the cover sheet of the plans stating same. List the stages at which the architect or engineer of record is to perform structural observation, what is to be observed, when structural observation reports are to be submitted to the Building Official, and any other documentation or observation requirements. Alternatively, to noting this on the cover sheet, place a note in a prominent position on the cover sheet which states what sheet of the plans this information may be found.

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12. Health Department review and approval is required for food preparation and public pools.
13. Fire Department review and approval is required for A, E, H, I, L, R occupancies and high rises.
14. Add Notes on cover sheet of plans, "There shall be no trenches or excavations 5 feet or more in depth into which a person is required to descend, or obtain permit from State of California, Division of Occupational Safety and Health (Cal/OSHA). This permit and any other safety permit shall be obtained prior to commence of any work." Contact Cal/OSHA at 714-558-4451 for additional information.

### ARCHITECTURAL

1. A complete plot plan showing: Lot dimension, yard setbacks, street name(s), north arrow, existing building(s) to remain, distance between buildings and location of private sewage disposal system is required.
2. Indicate detail and section reference as to their appropriate location on plan views.
3. Provide existing and proposed contours, spot elevations to indicate general site slope and drainage pattern.
4. Specify finish floor elevation of first floor.
5. On site plan delineate all projecting elements, and show distance to property line or adjacent structures.
6. On Title Sheet, show justification to exceed the basic allowable floor area listed in Table 506.2.
7. On Title Sheet, show justification to exceed the number of stories or building height listed in Tables 504.3& 504.4.
8. Building height, number of stories and building area provisions shall be applied independently. [CBC 503.1]
9. Specify on Floor Plans uses of all rooms or areas.
10. Provide a note on the plans indicating if any hazardous materials will be stored and/or used within the building, which will exceed the quantities listed in CBC Tables 307.1(1) and 307.1(2).
11. Provide separate Floor Plans identifying hazardous material quantities, types and locations prepared by a qualified person in accordance with 414.1.3 CBC.

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12. The percentage of maximum allowable quantities of hazardous materials per control area for each floor and the total number of control areas shall comply with CBC Table 414.2.2.
13. On Site Plan dimension distances from building(s) to all property lines, street center lines, and adjacent existing or proposed structures on the site.
14. Show the size, use, occupancy, and type of construction of all existing buildings on the site.
15. On Site Plan show all interior assumed lot lines, any designated flood plains, open space easements or development restricted areas.
16. On Site Plan, clearly delineate any frontage used to justify allowable area increases per CBC 506.3.
17. Note on plans: “Frontage used for allowable area increases per CBC Section 506.3 shall be permanently maintained”.
18. The maximum area of exterior wall openings shall not exceed that allowed in CBC Table 705.8.
19. Exterior walls less than --- ft. to property line or assumed property line shall have a 30" parapet per CBC 705.11 Table 602, and Table 705.8.
20. Where protected and unprotected openings occur in the exterior wall in any story the total area of the openings shall comply with the unity formula (7-2) in CBC 705.8.4.
21. Fire-resistive exterior wall construction shall be maintained through crawl spaces, floor framing, and attic spaces in accordance with 706.6.
22. Fire Barrier continuity must be detailed in accordance with 707.5 CBC.
23. Fire Partition continuity must be detailed in accordance with 708.4 CBC.
24. Combustible projections extending to within 5’ of the line used to determine the fire separation distance shall be of not less than 1 hr fire-resistance-rated construction, heavy timber construction complying with section 2304.11, fire-retardant-treated wood or as permitted by Section 705.2.3.1.
25. Projections may not extend into yards more than permitted by CBC 705.2.

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26. When two or more buildings are on the same property and they are not analyzed to comply as one building, the building shall have an assumed property line between them for determining wall and opening protection, and roof cover requirements or treated as a single building per CBC 705.3.
27. When a new building is constructed adjacent to an existing building, the required wall and opening protection requirements for the existing building will be maintained per CBC Sections 503.1.2, 705.3, and Tables 508.4, 705.8.
28. Structural elements in exterior walls required to be fire-resistive construction shall have fire-resistive protection equal to or greater than that required for an exterior bearing wall. CBC Table 602.
29. In fire resistive exterior wall construction, the fire resistive construction shall be maintained passing through attic and other similar areas.
30. Each portion of a building shall be individually classified in accordance with Section 302.1. [CBC 508.1]
31. For buildings with mixed occupancies, the allowable area per story shall be based on the most restrictive provisions for each occupancy when the mixed occupancies are treated according to CBC 508.3 (unseparated). If treated per CBC 508.4. (separated) the maximum total building area shall be such that the sum of the ratios for each of the actual to allowable are does not exceed 1.
32. Unless considered a separate story, the floor area of a mezzanine shall be considered a part of the story in which it is located. CBC 505.1
33. Clearly show the maximum height of the building as defined in CBC 202.
34. Clearly show if the lower level is a basement based on the definitions in CBC 202.
35. Provide details, notes and specifications for the fire protection of building elements as required for the type of construction. [CBC Table 601 and Section 602]
36. Clearly label and identify on plans fire-resistive corridors, exit enclosures, exit passageways, horizontal exits, occupancy separation walls and floors, fire resistive shafts, and fire walls, along with their fire-resistive ratings.
37. Detail furred or dropped ceilings as noncombustible construction or fire retardant treated wood (if allowed) per Section 803 if ceilings are required to be fire-resistance-rated or noncombustible.
38. Indicate interior finish compliance with 803.1 flame spread provisions.

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39. On site plan and floor plans, clearly show location of all firewalls as defined in CBC 706.
40. Construct a Firewall (sometimes party wall) at property lines or when separating a building into two or more separate areas per 706.1 CBC.
41. No openings are allowed in the Party Wall per 706.1.1 when a wall is constructed on or near a property line.
42. Firewall/Party Wall ratings must comply with Table 706.4. Future occupancy changes may impact the required rating. Consider future intended use.
43. Provide detail of making and identifications for firewalls and smoke barriers per Sec 706.3
44. Fire Walls in other than Type V construction must be non-combustible per 706.3.
45. Party Walls/Firewalls must be structurally independent of collapse under fire per 706.2.
46. Openings in Firewalls which are not party walls shall be protected per section 716.5 and shall comply with 706.8.
47. Firewalls terminating at exterior walls must comply with 706.5.1.
48. Provide the design and details for a shaft as required by CBC 713.2.
49. Openings into shaft enclosure shall be protected with smoke and fire dampers per CBC 713.7
50. Elevator, dumbwaiter, and other hoistway enclosures shall be constructed in accordance with Section 713 and Chapter 30.
51. Specify the fire rating of 1 or 2 hours for the shaft enclosure accordance with CBC 713.4 and detail envelop continuity as required by CBC 713.5
52. Openings in shaft enclosure shall be protected with section 716 as required for fire barriers in accordance with CBC 713.7.
53. Detail water heater vents inside fire-resistive wall construction, or within fire resistive shafts.
54. Draft stop floor ceiling assemblies per CBC 718.3 and for attics per CBC 718.4.
55. In fire resistive walls, detail through penetrations and membrane penetrations per CBC 714.3.

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56. In fire resistive floors and ceilings detail fire resistive penetrations per CBC 714.4.
57. A ---- hr. fire barrier is required between occupancy----- and the occupancy-----, CBC 508.4, Table 508.4 and 707.3.9.
58. Provide a Fire Barrier in accordance with 707 CBC for the:
- a. Shaft enclosure per 713.4.
  - b. Interior exit stairway and Ramp per 1023.2.
  - c. Enclosures for exit access stairways per 713.4
  - d. Exit passageway per 1024.3.
  - e. Horizontal exit per 1026.2.
  - f. Atrium per 404.6.
  - g. Incidental use area at the \_\_\_\_\_ per Table 509
  - h. Control areas per 414.2.4.
  - i. Occupancy separation per 508.4.
  - j. Fire area separation per 707.3.10.
59. The proposed project is located within a Wildland-Urban Interface Fire Area as defined in Section 702A. Provide material and construction details showing compliance with Chapter 7A [CBC]
60. The fire barrier or horizontal assembly, or both, separating a single occupancy into different fire areas shall have a fire resistance rating of not less than that indicated in Table 707.3.10.
61. Provide ---- hr. door assemblies in ---- hr. fire barrier. [CBC 707.6 and Table 716.1(2)]
62. Glazing and openings in fire barriers shall be limited to 25% of the length of wall and no larger than 156 square feet with unless tested to match wall rating. [CBC 707.6]
63. All structural elements supporting a fire barrier must have the same fire resistive ratings as the required occupancy separation. [CBC 707.5.1]
64. Provide a Fire Partition in accordance with CBC 708.1 for:
- a. Separation walls as required by section 420.2 for groups R-1, R-2, R2.1, R-2.2, R-3, R-3.1, and R-4.
  - b. Walls separating tenant spaces in covered and open mall buildings as required by Section 402.4.2.1.
  - c. Corridor walls as required by section 1020.1.
  - d. Elevator lobby separation as required by Section 3006.2.
  - e. Egress balconies as required by section 1021.2.

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- f. Walls separating enclosed tenant spaces in high-rise buildings.
65. Openings protectives in firewalls must comply with CBC 716 and Table 716..1(2).
66. Penetrations in fire partitions must comply with CBC 716. 67. Fire-Resistant Joint Systems shall be tested in accordance with Section CBC 715.3.
68. Ducts penetrating Fire Partitions must comply with 717.5.4 CBC.
69. A smoke barrier complying with CBC 709 is required in accordance with 407.5, 408.6.
70. Doors in smoke partitions must comply with CBC 710.5
72. Corridor walls shall be constructed as fire partitions in I-2 occupancies per CBC 407.3.
73. Combination smoke and fire dampers shall be required where a fire and smoke barrier or wall is required. [CBC 717.3.3.3]
74. Address the specific occupancy related provisions for the \_\_\_\_\_-occupancy areas in accordance with Section 401.1 CBC.
75. For mixed use occupancy, where a building contains more than one occupancy group, the building or portion there of shall comply with the applicable provisions of Section CBC 508, and Table 508.4.
76. Provide fire separation for incidental accessory occupancy in the \_\_\_\_\_ in accordance with CBC 509 and Table 509.
77. Gas rooms shall be separated from other areas by not less than 1- hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both. [CBC 415.10.2]
78. A class roof covering is required CBC 1505.1 and Table 1505.1.
79. For roof covering specify: CBC 1505.1
- Manufacturer and ICC/UL/SFM number.
  - Roof slope(s) of all areas on the roof plan.
  - Note on Plans: “Installation of roofing shall be in accordance with manufacturer’s specifications.”



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80. Roof slope is not adequate for type of roof covering specified. [CBC Table 1507.1.1(2)]
81. Show sizes/locations of the roof/deck drains and overflows. [CBC 1502.1, 1502.2 and CPC 1102]
82. Specify minimum ¼ inch per foot roof slope for drainage along flow lines or design to support accumulated water. [CBC 1611.3]
83. Specify approved weatherproof walking surface material at decks and balconies.
84. Provide specifications for roofing material and application. [CBC 1506]
85. Roof drainage shall not flow over public property, or adjacent properties.
86. Provide a minimum 20" x 30" attic access. [CBC 1208.2]
87. Provide and detail access to equipment in under-floor areas, in attic spaces, and on roofs per California Mechanical Code. [CBC 1208.3]
88. Provide attic ventilation per CBC 1202.2.
89. Draft stop attics and mansards per CBC 718.4.
90. Provide smoke, heat venting, or smoke removal system in F-1 or S-1 occupancies with undivided floor areas greater than 50,000 sq. Ft . Skylights do not meet vent standards unless specifically tested and labeled. [CBC 910.2.1]
91. Provide detail of skylights to show compliance with CBC Chapter 2606 and Section 2610.1, or show on plans ICC or other approval number.
92. Plastic skylights shall be separated from each other by not less than 4 feet. [CBC 2610.6]
93. Where exterior wall openings are required to be protected in accordance with Section 705, a skylight shall not be installed within 6 feet of such exterior wall. [CBC 2610.7]
94. Provide fire sprinklers for this project in accordance with CBC 903.2 .
95. An automatic fire sprinkler shall be installed in all occupancies when the total building area as defined in Section 202, exceeds 5000 sqf or more than two stories in height, regardless of fire areas or allowable area. Group R-3 shall comply with CBC 903.2.8. [County of Orange, Ordinance No. 19-006]



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96. Additional sprinkler provisions apply for this project based on CBC, Table 903.2.11.6.
97. Fire sprinklers are required for any story including basement greater than 1,500 sq ft, where there is not provided at least 20 sq ft of opening entirely above grade in each 50 lineal feet or fraction thereof of exterior wall on at least one side or two sides when opposite wall is more than 75 feet from such openings CBC 903.2.11.1.
98. Provide sprinklers at rubbish and linen chutes and terminating rooms. CBC 903.2.11.2
99. Provide sprinklers throughout buildings that have one or more stories with an occupant load of 30 or more located 55 feet or more above the lowest level of fire department access, measured to the finished floor. [CBC 903.2.11.3]
100. Provide a Class ---- Standpipe per CBC 905. Show hose cabinet locations or outlets on each floor plan and roof plan.
101. Provide a fire alarm system in accordance with 907.2 for the \_\_\_ occupancy area.
102. Elevators shall comply with the requirements of CBC Chapter 30 and 11B-206.6. State amendments require a gurney-size elevator for any number of stories.
103. Note on plans or finish schedule: “Wall, floor and ceiling shall not exceed the flame spread classifications in CBC Section 803.1.2.
104. Detail furred or dropped finishes at fire resistive walls or ceilings as required by CBC 602.1, 603.1 and 805.1.
105. The width of the perimeter supporting closure angel or channel for Acoustical tile or lay- in panel ceilings shall be not less than 2” unless qualified supporting clips are used. Where perimeter supporting clips are used, they shall qualify in accordance with approved test criteria. In each orthogonal horizontal direction, one end of the ceiling grid shall be attached to the closure angle or channel. The other end in each horizontal direction shall have a 0.75” clearance from the wall. For ceiling areas exceeding 2500 sqf, a seismic separation joint or full height partition that breaks the ceiling up to areas less than 2500 shall be provided. Otherwise, provide a structural design in conformance with CBC 803.11 and 1613.1. [ASCE 7-16, 13.5.6.2]
106. Provide a section view of all new interior partitions, including:
- A. Type, size and spacing of studs. Provide gauge and ICC number for metal studs.
  - B. Method of attaching top and bottom plates to structure. (NOTE: Top of partition must be secured to roof or floor framing, unless suspended ceiling has been designed for lateral load of partition.
  - C. Wall sheathing material and details of attachment (size and spacing of fasteners).

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D. Height of partition and suspended ceiling and distance from ceiling to structure above.

107. Glazing within 24" of a doorway and less than 60 inches above a walkway shall be safety glazing. [CBC 2406.4.2]

108. Provide damp proofing details for basement or other walls below finish grade in accordance with CBC 1805.

109. Fasteners for preservative treated and fire treated wood shall be of hot dipped zinc coated galvanized steel, stainless steel, and silicon bronze or copper. The coating weights for zinc coated fasteners shall be in accordance with ASTM A 153. CBC 2304.10.5.1.

110. Show location of project on seismic maps to identify seismic design coefficients to be used. You may also chose to use <https://earthquake.usgs.gov/hazards/designmaps/> and print out the design values and submit a copy with your resubmittal.

111. Provide structural details and calculations for light pole footings.

112. Provide structural details and calculations for equipment and components per:

ASCE 7-16, Chapters 13, 15, and 26.

a. For seismic/wind connections.

b. For gravity support.

113. For Seismic Design Category D & E, provide 3 x 3 x .229" plate washers. [CBC 2308.3.1.1].

114. The soil report requires foundation excavations to be reviewed by soils engineer. Note on the foundation plan "Prior to requesting a Building Department foundation inspection, the soils engineer shall inspect and approve the foundation excavations".

115. Soil bearing pressure is limited to 1500 lbs/sq ft unless soil is classified per CBC 1806.2, or a soils report recommends otherwise. [CBC Table 1806.2]

116. Thickness of concrete floor slabs supported directly on the ground shall not be less than 3 ½". A 6-mil polyethylene vapor retarder with joints lapped not less than 6" shall be provided. [CBC 1907.1]

117. Call out anchor bolt size and spacing on foundation plan. Provide 5/8" diameter imbedded 7" minimum at 6' o.c. maximum spacing. If an engineer's report justifies that it is not in Seismic Design Category E, ½" bolts may be used. [CBC 2308.3.1]

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118. Show 8" min distance from grade to wood sill, framing and sheathing. [CBC 2304.12.1.2. ]
119. Specify size, spacing, and ICC number and manufacturer of power-driven pins. (Not permitted on perimeter footings.)
120. If required by structural calculations, show size, location and embedment length of hold down anchors on foundation plan.
121. Show continuous reinforcement in footings with #4 T & B or by an exception in accordance with 1905.1.7.CCBC.
122. Note on plan that holddown hardware must be secured in place prior to foundation inspection.
123. Detail the shear transfer connections which transfer lateral forces from horizontal diaphragms through intermediate elements and shear walls to the foundation. [CBC 2305.1]
124. Provide complete details and specifications for the installation of glass block. [CBC 2110]
125. Air moving systems in excess of a combined volume of 2000 cfm are required to be equipped with an automatic shutoff interlocked with a smoke detector located in the supply ducting of air moving system. [CMC 203 and 608.1]
126. Air for combustion, ventilation, and dilution of flue gases for gas utilization equipment installed in buildings shall be obtained by application of one of the methods covered in CMC 701. Provide calculations to justify compliance.
127. At restrooms, provide hard non-absorbent wall and floor finishes per CBC1209.2.1
128. Provide separate toilet facilities for men and women. [CPC 422.2 with exceptions]
129. Privacy at water closets and urinals shall be provided in accordance with Sections 1209.3.1 & 1209.3.2.
130. Provide plumbing fixtures count analysis per CPC Table 422.1.
131. Show elevations of finish floor and nearest upstream manhole. Show that finish floor is above upstream manhole or provide backwater valve per CPC 710.1. Note that fixtures above such elevation shall not discharge through the backwater valve.
132. Provide and detail grease interceptor as required by CPC 1014.1. Show location per CPC 1014.3.4 and sizing per CPC 1014.3.6 and Table 1014.3.6.

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133. Provide condensate line as required by CPC 814 collected and discharged to an approved plumbing fixture or disposal area.

### EGRESS

1. Submit an exit plan that labels and clearly shows compliance with all required egress features such as, but not limited to, common path of travel, required number of exits, occupant load, required width, continuity, travel distance, etc. [CBC 1001.1]
2. Two exits or exit access doorways from any space shall be provided where the design occupant load or the common path of egress travel distance exceeds the values listed in Table 1006.2.1. [CBC 1006.2]
3. The number of exits shall comply with CBC Table 1006.3.2.
4. Three exits or exit access doorways shall be provided from any space with an occupant load of 501 to 1,000. Four exits or exit access doorways shall be provided from any space with an occupant load of 1,000 and greater.
5. Vehicle ramps shall not be considered as an exit access ramp unless pedestrian facilities are provided. [CBC 1006.2.2.5]
6. When two exits are required from a building or area they shall be placed a distance apart equal to not less than one-half (one third if sprinklered throughout ) of the length of the maximum overall diagonal dimension of the building or area served measured in a straight line between them. [CBC 1007.1.1]
7. Exit width shall be not less than permitted by CBC 1005.1. The net dimension (Clear width) shall be used in determining exit width.
8. The Path of egress travel to an exit shall not pass through more than one adjacent story. [CBC 1006.3.1]
9. A single exit shall be permitted when either of conditions in CBC, section 1006.3.3 exits.
10. Travel distance to reach an exit shall not exceed that allowed in CBC Table 1017.2. Measure shall be from the most remote point of each room, area or space along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to and exit. [CBC 1017.3]
11. Two exits or exit access doors of egress shall be provided from boiler, incinerator, or furnace rooms which exceed 500 square feet and any fuel fired equipment exceeding 400,000 BTU input capacity. One exit is permitted to

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be a fixed ladder or alternating tread device. Exit access doorways shall be separated by a horizontal distance equal to one-half the length of the maximum overall diagonal dimension of the room. [CBC 1006.2.2.1]

12. Each leaf of door in the means of egress shall provide 32 inches clear opening and a minimum height of 6'-8", but in no case shall any single door leaf exceed 48 inches. [CBC 1010.1.1]

13. Provide specifications for the door hardware to comply with disabled access requirements. (Lever type, push-pull, panic, etc) [CBC 11B-309.4] [CBC 11B-404]

14. Doors serving an occupant load of 50 or more or Group H occupancy shall swing in the direction of exit travel. [CBC 1010.1.2.1]

15. All exit doors and gates from an \_\_\_ occupancy shall not be provided with a latch or lock, unless it is panic hardware or fire exit hardware. [CBC 1010.1.10]

16. Every assembly area shall have the occupant load posted in a conspicuous place near the main exit of the room. CBC 1004.9

17. Egress doors shall be of the pivoted or side-hinged swinging type. [CBC 1010.1.2]

18. Show that power operated doors are capable of being manually opened to permit exit travel in the event of a power failure. [CBC 1010.1.4.2]

19. When additional doors are provided, they shall conform to the provisions for exit doors. [CBC 1010.1]

20. Landings or floor level at doors shall not be less than ½ inch below the threshold. Raised thresholds and floor level changes greater than 1/4 inch at doorways shall be beveled with a slope not greater than one unit vertical in two units horizontal. [CBC 1010.1.7]

21. The bottom 10 inches of all doors on the push side except sliding shall have a smooth, uninterrupted surface. [CBC 11B-404.2.10]

22. Corridor width shall be not less than 44 inches and shall comply with Table 1020.2. [CBC 1020.2]

23. Doors opening into the path of egress travel shall not reduce the required width to less than one half during the course of swing. When fully open, the door shall not project more than 7" into the required width. [CBC 1005.7.1]

24. Dead end corridors shall not exceed 20 ft in length. [CBC 1020.4]

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25. Provide a complete architectural section of one-hour corridor detailing fire-resistive construction of the walls and ceilings. Detail all duct and other penetrations. [CBC 1020.1, 708.1, 716.1, and Tables 716.3 & 716.5]
26. Doors and their frames opening into a one-hour corridor shall be labeled 20-minute assemblies with tight fitting smoke and draft control assemblies with self or automatic closers. [CBC 716.2.2.1 and Table 716.1(2)]
27. Provide fire/smoke dampers at duct penetrations of 1 hr corridor walls. [CBC 717.5.4.1]
28. Glazed openings into one hour corridors shall be protected per CBC Table 716.1(3). Glazing material shall be tested in accordance with NFPA 257 or UL 9. [CBC 716.2.1.3]
29. Corridor walls may terminate at the ceiling, only if the entire ceiling is an element of one hour floor or roof assembly. [CBC 708.4, Exception 3]
30. One hour corridors and any enclosed ceilings within them shall not be used as an integral part of the duct system. [CBC 1020.5]
31. At rooms with exhaust fans adjacent to corridors including toilet rooms, bathrooms, dressing rooms, and janitor closets, show how make up air is provided for the corridor with the outdoor air at a rate greater than the rate of makeup air taken from the corridor. Doors opening into corridors cannot be undercut and no louvers provided. [CBC 1020.5, Exception 1]
32. Non-rated drop ceilings in rated corridors must be of noncombustible construction.
33. In fully sprinklered office buildings, corridors may lead through enclosed elevators lobbies, provided all areas of the building have access to an exit, without passing through on elevator lobby. [CBC 1020.6. Exception 3]
34. Stairs shall have a minimum width of 44 inches unless for the stairways serving an occupant load less than 50, minimum width can be 36 inches. [CBC 1011.2]
35. Stair exits from an area of refuge require a minimum of 48 inches between handrails. [CBC 1009.7.4]
36. A minimum of 2 areas of refuge with one at an elevator must be provided in accordance with Section 1009.1, 1009.2.1, 1009.4 and 1009.6 CBC since your project is four or more stories above a level of exit discharge.
37. Provide section and details of interior/exterior stairway showing:
- A. Maximum rise 7 inches (4" min) and minimum run (tread) of 11 inches. [CBC 1011.5.2]
  - B. Minimum head room of 6 feet 8 inches. [CBC 1011.3]
  - C. Provide details and notes showing framing (stringer) size, bracing, connections, footings.

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- D. Enclosed usable under stairway requires one-hour construction on enclosed side. [CBC 1011.7.4]  
E. Provide visual striping per CBC 11B.504.4.1.
38. Provide connection details of guardrail and/or handrail on open side of landings or stairs adequate to support 50 pounds per lineal foot at a right angle to the top rail. [CBC 1607.8.1]
39. Design intermediate components of guardrails for a concentrated load of 50 lb lateral load. [CBC 1607.8.1.2]
40. Handrails shall satisfy the following: [CBC 1014]  
A. Provide continuous handrail.  
B. Handrail shall be 34-38 inches above the nosing of treads.  
C. Intermediate balusters shall be spaced so as to prevent the passage of a 4-inch-diameter sphere on open side(s).  
D. The handgrip portion of handrail shall comply with CBC 11B-505.7.  
E. The handgrip shall extend 12" beyond the top and 12" + tread width beyond bottom tread and return the handrail to newel post or wall. [CBC 11B-505.10.2& 11B-505.10.3]
41. Provide 42 inch high protective guardrail for decks, porches, balconies and raised floors, (more than 30 inches above grade or floor below) and open side(s) of stair landings. Openings between balusters/rails shall be less than 4 inches. [CBC 1015.1 & 1015.3]
42. Guards shall be provided where the roof hatch opening or mechanical equipment is located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a 21-inch-diameter (533 mm) sphere. [CBC 1015.7]
43. Where elevation changes less than 12 inches occur in the means of egress, sloped surfaces shall be used. [CBC 1003.5]
44. Ramps greater than 1 in 20 or 5 percent with a rise greater than 6" shall have handrails on both sides. [CBC 1003.5]
45. Door swinging over landing shall not reduce the width by more than seven inches when fully open. When serving 50 or more, the door in any position shall not reduce the required width to less than one-half. [CBC 1010.1.6]
46. Provide a barrier at the level of exit discharge from upper stairs, and stairs leading to the basement to prevent persons from continuing into the level bellows. [CBC 1023.8]
47. Stairs shall be enclosed with fire barriers per CBC 1023.1. Enclosure shall conform to the following:



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- A. 2 hour resistive construction in all buildings over 4 stories one hour for all other buildings less than 4 stories.
  - B. Only exit doors can open into exit enclosures.
  - C. Doors opening into exit enclosures shall be protected per CBC 716.
  - D. Exit enclosures shall include a corridor of the same fire-resistive construction as the enclosure leading to the outside of the building, including openings.
  - E. Useable space is not allowed under the stairs.
  - F. Exterior stairs shall be separated from the interior of the building with the same rating required for interior stairs. [CBC 1027.6]
48. In buildings 4 or more stories:
- A. One stair must extend to the roof. [CBC 1011.12]
  - B. Access to the roof shall be provided through a pent house. [CBC 1011.12.2]
49. Where an egress court serving a building or portion thereof is less than 10 feet (3048 mm) in width, the egress court walls shall have not less than 1-hour-fire-resistance-rated construction for a distance of 10 feet (3048 mm) above the floor of the court. Openings within such walls shall be protected by opening protectives having a fire protection rating of not less than 3/4 hour. [CBC 1028.4.2 with exceptions]
50. Exterior balconies, stairways and ramps shall be located at least 10 feet (3048 mm) from adjacent lot lines and from other buildings on the same lot unless the adjacent building exterior walls and openings are protected in accordance with Section 705 based on fire separation distance. [CBC 1027.5]
51. Balconies used for egress purposes shall conform to the same requirements as corridors for width, required capacity, headroom, dead ends and projections. [CBC 1021.1]
52. Exterior egress balconies shall be separated from the interior of the building by walls and opening protection as required by corridors. [CBC 1021.2 with exceptions]
53. Exitways shall be illuminated with at least one foot candle at the floor level. [CBC 1008.2.1]
54. Provide a separate source of power for exit illumination. [CBC 1013.6.3]
55. Exit signs are required when 2 or more exits are required. Show location of all exit signs. [CBC 1013.1]
56. Show conformance for low level exit signs and exit path marking in A, E, I, R-1, R-2 and R-2.1 occupancies per CBC 1013.7 and 1013.8 as enforced by the State Fire Marshall.
57. Show two sources of power for exit signs. [CBC 1008.3]

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### DISABLED ACCESS

1. Design site to provide at least one accessible route within the site from accessible parking spaces and accessible passenger loading zones; public streets and sidewalks; public transportation stops to the accessible building or facility entrances. Where more than one route is provide, all routes must be accessible. Accessible route shall be the most practical direct route feasible and may incorporate pedestrian ramps, curbs ramps, etc... All accessible routes shall comply unless there is an approved exception Section 11B-206.
2. Place a sign at every public entrance and at every major junction along or leading to an accessible path of travel displaying the international symbol of accessibility. Signs shall indicate the direction to accessible facility entrances and comply with Section 11B.216.6.
3. Provide accessible parking per Section 11B-208 in each lot or parking structure where parking is provided for the public or employees.
4. Parking spaces must be located so that the disabled are not compelled to walk or wheel behind parked cars other than their own. CBC Section 11B-502.7.1
5. In buildings with multiple accessible entrances with adjacent parking, accessible parking spaces shall be dispersed and located closest to the accessible entrances. CBC Section 11B-208.3.1.
6. Revise the drawings to show van accessible parking spaces loading/unloading aisle on the passenger side. CBC Section 11B-502.3.4.
7. Provide parking space identification in accordance with CBC Section 11B-502.6.4 and 11B-502.8.
8. Detail accessible drinking fountain per CBC 11B-602.1
9. Detail accessible ATM machine per CBC 11B-707.1
10. For accessible restrooms, detail per CBC 11B-603. A clear space measured from the floor to a height of 27 inches (686 mm) above the floor, within the sanitary facility room, of sufficient size to inscribe a circle with a diameter not less than 60 inches (1524 mm in size. Other than the door to the accessible water closet compartment, a door, in any position, may encroach into this space by not more than 12 inches (305 mm).
  - A. Doors shall not swing into the clear floor space required for any fixture. [CBC 11B-603.2.3]
  - B. Accessible water closet compartments shall comply with the following:

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- i. The compartment shall be a minimum of 60 inches (1524 mm) wide. [CBC 11B-604.3.1]
- ii. If the compartment has a side-opening door, a minimum 60-inches-wide (1524 mm) and 60 inches-deep (1524 mm) clear floor space shall be provided in front of the water closet. [CBC 11B-604.8.1.1.2]
- iii. If the compartment has an end-opening door (facing the water closet), a minimum 60-inches-wide (1524 mm) and 48-inches-deep (1219 mm) clear floor space shall be provided in front of the water closet. the door shall be located in front of the clear floor space and diagonal to the water closet, with a maximum stile width of 4 inches (102 mm). [CBC 11B-604.8.1.2]
- iv. The water closet compartment shall be equipped with a self-closing door, and shall have a clear, unobstructed opening width of 32 inches (813 mm) when located at the end and 34 inches (864 mm) when located at the side with the door positioned at an angle of 90 degrees from its closed position. [CBC 11B-404.2.3, 11B-604.8.1.2]
- v. Maneuvering space at the compartment door shall comply with Sections 11B-604.8.1.1.1 and 11B-604.8.1.1.2, except that the space immediately in front of a water closet compartment shall not be less than 48 inches (1219 mm) as measured at right angles to the compartment door in its closed position.

C. Where toilet compartments are provided, at least 5% of the toilet compartments, but no fewer than one toilet compartment shall comply with CBC, Section 11B-604.8.1. Where six or more toilet compartments are provided, 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. [CBC 11B-213.3.1]

D. In other than dwelling units, toilet room floors shall have a smooth, hard, nonabsorbent surface such as Portland cement, concrete, ceramic tile or other approved material which extend upward onto the walls at least 5 inches (127 mm). Walls within water closet compartments and walls within 24 inches (610 mm) of the front and sides of urinals shall be similarly finished to a height of 48 inches (1219 mm) and, except for structural elements; the materials used in such walls shall be type which is not adversely affected by moisture.

E. Where water closets are provided, at least 5%, but no fewer than one shall comply with Section 11B-604 & 11B-213.3.2.

F. The centerline of the water closet fixture shall be 17 inches minimum to 18 inches maximum from the side wall or partition. Water closets shall be arranged for a left-hand or right-hand approach. [CBC 11B-604.2]

G. A minimum 60 inches (1524 mm) wide and 48 inches (1219 mm) maneuvering space shall be provided in front of the water closet. [CBC 11B-604.3.1]

H. The height of accessible water closets shall be a minimum of 17 (432 mm) and a maximum of 19 inches (483 mm) measured to the top of a maximum 2-inch (51 mm) high toilet seat.[CBC 11B-604.4]

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I. Grab bar shall be provided on the side wall closet to the water closet and on the rear wall. The side grab bar shall be 42 inches long minimum, located 12 inches maximum from the rear wall and extending 54 inches minimum from the rear wall with the front end positioned 24 inches minimum in front of the water closet. [CBC 11B-604.5.1]

11. Affix an international accessibility symbol on all accessible entrances 11B-216.6 & 11B-703.7.2.1.

12. Provide a level landing on each side of a door extending 60" on direction of door swing and 48" in opposite direction of door swing, measured with door closed. [CBC 11B-404.2.4.1]

13. Maneuvering clearance at swing doors and gates shall comply with Section 11B-404.2.4.1 and Table 11B-404.2.4.1. Maneuvering clearance at sliding doors, folding doors and doorways without doors shall comply with section 11B-404.2.4.2. Recessed doors and gates shall comply with Section 11B-404.2.4.3.

14. Provide seats/spaces for people using wheelchairs in accordance with Table 11B-221.2.1.1. Specialty seating areas and integration shall comply with Sections 11B-221.2.1.6 & 11B-221.2.2.

15. Where provided, at least one of each type of sales and/or service counter shall comply with Section 11B-904.4 & 11B-227.3.

16. Where fitting or dressing rooms are provided for male or female customers, patients, employees, or the general public, 5% but never less than one, of dressing rooms for each type of use in each cluster of dressing rooms shall be accessible in accordance with Section 11B-222 & 11B-803.

17. Detail accessible check stand and show required number per CBC 11B-227.2 and 11B-904.3.

18. Accessible check stands shall always be open to customers with disabilities and shall be identified by a sign clearly visible to those in wheelchairs. The sign shall display the International Symbol of Accessibility in white on a blue background and shall be a minimum of 4 inches by 4 inches. [CBC 11B- 227.2, 11B- 904.3.4]

19. At exits and elevators serving a required accessible space but not providing an approved accessible means of egress, signage shall be installed indicating the location of accessible means of egress. Signs shall comply with Section 11B-703.5 as applicable. [CBC 1009.10]

20. Provide and detail raised character and Braille exit signage per CBC 1013.4 and 11B-703.1, 703.2, 703.3 and 703.4.

21. If a walk crosses or adjoins a vehicular way, and the walking surfaces are not separated by curbs, railings or other elements between the pedestrian areas and vehicular areas; detectable warning shall be provided in accordance with Section 11B-247 and 11B-705.

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### ENERGY

1. T-24 energy calculations used must be by one of the Energy Commission approved computer programs. Please see <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency>
2. The following compliance documents shall be attached to plan:
  - 2.1 Certificate of Compliance Documents
  - 2.2 Mandatory Features Summary
3. Proposed fenestration U-Factor does not conform with Defaults values from Table 110.6-A. Specify on plan NFRC rated products are required for all fenestration with Non-Default U-Factors.
4. The Solar Heat Gain Coefficient (SHGC) for proposed glazing does not conform with Defaults values from Table 110.6-B. Specify on plan NFRC rated products are required for all fenestration with Non-Default SHGC.
5. The conditioned floor area shown on CF-1R form does not match with plans submitted. Revise calculation(s) accordingly.
6. The window area (at \_\_\_\_\_ facing wall) shown on CF-1R-\_\_\_\_\_ form does not match with plans submitted. Revise calculation(s) accordingly.
7. Incorporate the fenestration SHGC and U-factors required as per CF-1R form with window schedule.
8. Provide construction details for all energy insulation assemblies. Show type of insulation on sections.
9. Show building orientation with respect to North direction.
10. Provide copies of required compliance forms such as PRF, ENV, MECH, ELC, LTI, LTO, etc... on the plans.
11. Prescriptive requirement for building envelope:
  - 11.1. Cool Roof coating is required in all non-residential low-slope applications. Note on plan all Cool Roof product shall have a clearly visible packaging label that lists the emittance and the initial and 3-year aged solar reflectance, or a CRRC approved accelerated aged solar reflectance tested in accordance with CRRC-1. [10-113, 140.2, 140.3(a)1, 141.0(b)2B, 150.1(c)11, 150.2(b)1H, 150.2(b)2]
  - 11.2. Skylight(s) are required for building over 5,000 ft<sup>2</sup>, ceiling heights over 15'-0", and lighting power density over 0.5 W/ft<sup>2</sup>. [140.3(c)]
  - 11.3. Combined total of at least 75 percent of the floor area shall be in the primary Sidelight Daylight Zone in accordance with Section 130.1(d)1B, or Skylight Daylight Zone in accordance with Section 130.1(d)1A. All Skylight Daylight Zones and Primary Sidelight Daylight Zones shall be shown on building plans [140.3(c)1].

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12. Insulation must be installed in direct contact with a continuous roof or ceiling that is sealed to limit infiltration and exfiltration including but not limited to placing insulation either above or below roof deck or on top of the finished ceiling. [Section 120.7(a)A]

13. When insulation is installed at the roof, fixed vents or openings to the outdoors or to unconditioned spaces shall be installed and the space between the ceiling and the roof is either directly or indirectly conditioned space and shall not be considered an attic. [Section 120.7(a) B].

14. Insulation should not be placed on top of a suspended ceiling with removable ceiling panels, except for limited applications. [Section 120.7(a) C]

15. Demand Control Ventilation is required for HVAC systems that have an air economizer or modulating outside air control or design outdoor air flow rate more than 3000 cfm and serve a space with occupant load factor greater than or equal to 25 people per 1000 square feet or less. [Section 120.1 (c) 3].

15.1 For each system with demand control ventilation, CO<sub>2</sub> sensors shall be installed in each room that meets the criteria of section 120.1© 3 with no less than one sensor per 10,000 square feet.

15.2 . Show sensor locations on plans. They must be located between 3 and 6 feet above floor.

15.3 . The ventilation must be maintained that will result in a concentration of CO<sub>2</sub> at or below 600 ppm above ambient level.

15.4. The CO<sub>2</sub> sensors must be factory certified to have an accuracy of no less than 75 ppm over a five-year period without calibration in the field.

16. Duct efficiency. Air ducts conveying heated or cooled air located in either outdoors; space between the roof and insulated ceiling; space directly under a roof with fixed vents; and unconditioned spaces shall be insulated with a minimum level of R-8. [Section 120.4(a)].

17. Prescriptive approach requires duct sealing with field verification in new buildings and in existing buildings when space conditioning equipment is to be installed or replaced [Section 120.5(a)3 & 141.0(b)2D].

18. Mechanical heating and cooling equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building. [Section 140.4(a)]

19. The supply of heating and cooling energy shall be controlled by an individual thermostatic control that responds to temperature within the zone. An energy management control system (EMCS) may be installed to comply with the requirements of one or two thermostatic controls if it complies with all applicable requirements for each thermostatic control. [Section 120.2(a)]



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20. Indoor Lighting. All luminaires shall be functionally controlled with manual ON and OFF lighting controls. Each area enclosed by ceiling-height partitions shall be indecently controlled. [Section 130.1(a)]
21. Indoor Lighting. The general lighting of any enclosed area 100 sqf. or larger, with a connects lighting load that exceeds 0.5 watts per square foot shall provide multilevel lighting controls. [Section 130.1(b)]
22. Indoor Lighting. All installed indoor lighting shall be equipped with controls able to automatically reduce lighting power when the space is typically unoccupied. [Section 130.1(c)]
23. Outdoor lighting. All outdoor shall comply with Sections 130.2(a) through 130.2(c) sensor. [Section 130.2]
24. All outdoor luminaries of 6,200 initial luminaire lumens or greater,, shall comply with backlight, uplight, and glare. [Section 130.2(b)]
25. All installed outdoor lighting shall be controlled by a photocontrol or outdoor astronomical time-switch control, or other control capable of automatically shutting OFF the outdoor lighting when daylight is available. [Section 130.2(c) Exception 2]
26. Prescriptive envelope Criteria: Window Wall Ratio (WWR), the ratio of the total window area of the total building to the total gross exterior wall area of the entire building is limited to 40%. [Table 140.3-B &C]
27. Mandatory Requirements for Exterior wall insulation: [Section 120.7(b)]
- 27.1 Metal Building: Weighted average U-factor of U-0.113 (single layer of R-13 batt insulation).
- 27.2 Metal-Framed: Weighted average U-factor of U-0.151 (R-13 batt insulation between studs and ½” of continuous rigid insulation of R-2)
- 27.3 Wood- Framed: Weighted average U-factor of U-0.110 (R-11 batt insulation).
28. Demising walls, separating conditioned space from enclosed unconditioned space, must be insulated with a minimum of R-13 insulation. [Section 120.7(b)7]
29. Variable air volume change over systems must be designed to ensure that no zone is shut off for more than 30 minutes at a time and that ventilation rates are increased during the remaining time to compensate.
30. Provide method of manual override for space conditioning system. The building shall be divided into isolation areas not exceeding 25,000 ft<sup>2</sup>. [Section 120.2(g)]
31. When taking compliance credit in the energy calculations for \_\_\_\_\_, please detail and document compliance on plans.



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32. Provide an automatic time switch, occupant sensors or other method of manual override of lighting. [Section 110.9]
33. Lighting requirements for exterior signs: [Section 140.8]
- A. Internally illuminated signs may have 12 W/sf (only one side of 2 sided sign).
  - B. Externally illuminated may have 2.3W/sf of sign.
34. For each enclosed space, alterations that consist of either removing and reinstalling a total 10% or more of the existing luminaires; or replacing or adding entire luminaires; or adding, removing, or replacing walls or ceilings along with any redesign of the lighting system, shall meet the lighting power allowance in Section 140.6, and the altered luminaires shall meet the applicable requirements in Table 141.0-F [section 141.0(b)2I] .