# COUNTY OF LOS ANGELES
**DEPARTMENT OF PUBLIC WORKS**
**BUILDING AND SAFETY DIVISION**

**NON-RESIDENTIAL**
*PLAN REVIEW LIST*

## GENERAL PROJECT INFORMATION

PLAN CHECK NO. _____ DISTRICT NO _____ INITIAL VALUATION _____
JOB ADDRESS _____ CITY _____ ZIP _____
OWNER _____ TELEPHONE ( ) _____
ARCHITECT _____ TELEPHONE ( ) _____
ENGINEER _____ TELEPHONE ( ) _____
APPLICANT _____ TELEPHONE ( ) _____
ADDRESS _____ CITY _____ ZIP _____

## PROJECT INFORMATION

USE ZONE _____ CLIMATE ZONE _____ VHFHSZ: ☐YES ☐NO FLOOD ZONE: ☐YES ☐NO

| BUILDING ELEMENT | SQ. FT. | NO. OF STORIES | CONSTR. TYPE | OCC. GROUP | $ / SQ. FT. | $ VALUE |
|---|---|---|---|---|---|---|
| | | | | | | |
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| | | | | | | |
| | | | | | | |
| | | | | **New Valuation:** | | |

## FIRE SPRINKLER AND CONSTRUCTION INFORMATION

SPRINKLER USED FOR HEIGHT INCREASE? ☐YES ☐NO
SPRINKLER USED IN LIEU OF ONE-HOUR CONSTRUCTION? ☐YES ☐NO
SPRINKLER USED FOR AREA INCREASE? ☐YES ☐NO
BUILDING FRONTAGE USED FOR AREA INCREASE? ☐YES ☐NO

## PLAN CHECK ENGINEER AND CORRECTION INFROMATION

REVIEWED BY _____ DATE _____ TELEPHONE _____
RECHECKED BY _____ DATE _____ TELEPHONE _____
RECHECKED BY _____ DATE _____ TELEPHONE _____
APPROVED BY _____ DATE _____ TELEPHONE _____

Your application for a permit, together with plans and specifications, has been examined and you are advised that the issuance of a permit is withheld for the reasons hereinafter set forth. The approval of plans and specifications does not permit the violation of any section of the Building Code, or other local ordinance or state law.

NOTE: Numbers in the parenthesis ( ) refer to sections of the 2014 edition of the County of Los Angeles Building Code (LACBC), Table (T), Plumbing Code (PC), Mechanical Code (MC), Electrical Code (EC), Fire Code (FC), or Building Code Manual (B.C.M.), 2010 National Design Specifications (NDS), 2008 AF&PA Special Design Provisions for Wind and Seismic (SDPWS), 2010 Minimum Design Loads for Buildings and Other Structures (3rd Printing) including Supplement No. 1 (ASCE 7).
For County of Los Angeles Building Code Amendments and B.C.M.s, visit www.dpw.lacounty.gov/bsd.

## INSTRUCTIONS

- Corrections with circled item numbers apply to this plan check.
- In the left-hand margin of the circled corrections, please indicate the sheet number and detail or note number on the plans where the corrections are made. Resubmit marked original plans and two corrected sets of plans, calculations and this plan review list.
- Incomplete, unclear, or faded drawings or calculations will not be accepted.
- The plan check engineer will be available for conference and telephone calls between the hours of _____and _____on the following days: _____. **Appointments are recommended**.
- Incorporate all comments as marked on checked set of plans and calculations and these correction sheets.

# GENERAL REQUIREMENTS

## APPLICATION AND PERMIT

1. Application will expire on _____/_____/_____. Permit needs to be obtained prior to expiration date. (106.4.1.1)
2. Valuation is low. It should be $_____. Pay a supplemental plan check fee of $_____ **at the time of re-submittal**. (107.2)
3. A separate application and permit(s) is/are required for: (106.1)
   a. Demolition work
   b. Retaining walls greater than four 4 feet in height measured from the bottom of the footing to the top of the wall OR supporting a surcharge.
   c. Each separate structure
   d. Fences greater than six (6) feet high
   e. Swimming Pool(s)
   f. Signs
   g. Fire sprinkler system
   h. Bridge
   i. Electrical work
   j. Mechanical work
   k. Plumbing work
   l. Storage Racks
   m. Mechanical Hood
   n. _____
4. Comply with protection of adjoining property by providing a written notice to the owners of adjoining buildings advising them that an excavation deeper than the foundation of the adjoining building and located less than excavation depth to the property line is to be made and that the adjoining buildings should be protected. Said notification shall be delivered not less than 10 days prior to the scheduled starting date of the excavations.(CA Civil Code Section 832, 3307.1)
5. The permit application must be signed by the property owner, or licensed contractor, or authorized agent at the time the permit is to be issued:
   a. For owner-builder permits: Owners' signature must be verified by notarization or personal identification.
   b. For contractor building permits: Prior to the issuance of a building permit, the contractor shall have the following:
      i. A certificate of workers Compensation Insurance made out to the Contractors State License Board.
      ii. Notarized letter of authorization for agents.
      iii. Copy of Contractors State License or pocket ID.

## REFERRALS

**ALL AGENCY APPROVALS are required prior to permit issuance. Please see the attached agency referral sheet for details.**

6. Submit a geology report and soils report to Building and Safety for review. (1803.2)
7. (Soil)(Foundation)(Geology) report(s) must be approved by the Geotechnical & Materials Engineering Division. Provide a copy of approved report and Department approval letter.
8. A Grading Permit may be / is required and a separate grading permit application may need to be processed. Contact Drainage & Grading Section of Building and Safety Division to determine if a grading permit is required. (Appendix J103)

   A grading permit is required for the following:
   a. All excavations equal to and exceeding 2-ft. in depth (except for footings, basements and retaining walls). Note: the placement of excess material from such excavations may require a grading permit.
   b. All fills:
      i. Intended to support structures.
      ii. That obstructs or diverts a drainage course.
      iii. One foot or more in depth placed on natural slopes steeper than 5 units horizontal to 1 unit vertical.
      iv. 3-ft. or more in depth at its deepest point and greater than 50 cubic yards.
      v. 5-ft. or more in depth at its deepest point and greater than 20 cubic yards.
   c. The grading of access roads or pads for exploratory excavations.
9. Rough grading approval is required before a building permit can be issued. (Appendix J105.7)

## SUPPLEMENTAL PLAN REVIEW COMMENTS/SHEETS

10. Refer to the attached sheets for supplemental plan review comments:
    a. Very High Fire Hazard Severity Zone Requirements
    b. Hillside Structures Plan Review (slope > 33.3%)
    c. Steel Moment Frame Plan Review
    d. Solid Waste Disposal
    e. Non-residential Green Building Standards Code Review
    f. Accessibility Requirements:
       i. General Accessibility Plan Review.
       ii. Accessible Plumbing Fixtures and Facilities.
       iii. Elevators and Platform Lifts.
       iv. Public Housing/Residential Facilities.
       v. Swimming pools, Wading pools, and Spas.
       vi. Transient Lodging Guest Rooms.
       vii. Recreation Facilities.
       viii. Correctional/Detention/Judicial Facilities.

ix. Privately Funded Housing.

11. Photocopy/blueprint the following on the plans: (Do NOT staple to the plans)
    a. Best Management Practice for Construction Activity (Attachment A) requirements
    b. Security Requirements
    c. Structural Observation Program

**ZONING**

12. Submit a copy of the approved CUP or plot plan to Building and Safety Division. Show compliance with all applicable conditions on the plans.
13. Clearly show on the plot plan a paved parking area and driveway of 3-1/2 in. of concrete or 1-1/2 in. of asphalt on a 4" decomposed granite base minimum.

**SITE PLAN**

14. The address of the building, and the name and address of the owner(s), and person(s) preparing the plans are required on the first sheet of the plans. (106.4.3)
15. A complete plot plan showing property lines, lot dimensions, setbacks, street names and width, location of tanks and sewers, existing cesspools, septic tanks and sewage disposal systems. Proposed and existing buildings complete with their areas, occupancy groups, types of construction, distances between buildings, area separation walls, house number, north arrow, scale, parking layout, city/county boundary line, zone change boundary line, locations of all easements, highway dedication lines, street centerlines, storm drains, underground utilities, and overhead power lines are required. (106.4.3)
16. Show on site plans finish floor, finish surface, top of wall, and grade elevations, including contours and general drainage patterns. (106.4.3, 1804.3)
17. Construction in the Public Right Of Way and projection beyond the property lines or into the alleys shall comply with County of Los Angeles Building Code Chapter 32.
18. Note on the plans: "Pedestrians shall be protected during construction, remodeling and demolition activities as required by County of Los Angeles Building Code Chapter 33. (3306)
19. Maintain 5-ft. clearance between septic tank(s) and seepage pit(s) and minimum clearances to buildings and property lines of 5-ft. for the septic tank and 8-ft. for the seepage pit. (PC Appendix H T-H1.7)
20. Buildings adjacent to ascending or descending slopes shall maintain setback according to the requirements of Section 1808.7.
21. Provide temporary shoring plans for excavations that remove the lateral support from a public way or an existing building structure. Excavations adjacent to a public way require Public Works approval prior to issuance of a building permit. (3307)
22. Submit complete shoring plans for subterranean excavations, or provide a plan view and sections views showing temporary excavation slopes. (3304)
23. This site appears to contain high ground water, which must be lowered prior to construction. Provide plans showing the location of the proposed dewatering wells. (3303.5)
24. Show location and distance of active, abandoned or idle oil or gas wells with respect to building perimeters. Any wells within 300-ft. of the structure must have a report and plans prepared by a registered design professional approved by County of Los Angeles Department of Public Works Environmental Program Division. (110.4)

**AREA, OCCUPANCY, AND CONSTRUCTION**

25. Show on the plans the proposed number of stories, occupancy groups, type(s) of construction, area justification, occupancy separations, and fire walls for this structure. Vent shafts and courts do not count as area. The mezzanine floor area must be included in the area of the story in which it is located. A single basement that is not a story above grade plane need not be included in the total allowable area provided such basement does not exceed the area permitted for a building with no more than one story above grade plane. Specify the use of all rooms / areas on the floor plans. Provide an area breakdown by level.
26. Show maximum height of the structure on all elevation views and cross sections. (T-503)
27. Provide a wall schedule and differentiate between fire walls / fire barriers / fire partitions / party walls / fire areas / smoke barriers / smoke partitions. (Ch. 7)
28. Underground buildings having a floor level used for human occupancy more than 30-ft. below the lowest level of exit discharge shall comply with Section 405.
29. The building as shown is a mixed-occupancy building. The building or portion thereof shall comply with Sections 508.2 for accessory occupancies, 508.3 for nonseparated occupancies, or 508.4 for separated occupancies or a combination of these sections.(508.3)
30. Revise area modification calculations to comply with Section 506 for:
    a. Allowable area per floor (506.1)
    b. Allowable area for the entire building (506.4)
    c. Clearly identify whether accessory, separated, or nonseparated method is used.
31. Yard at _____ is not accessible. It may not be used when calculating the area increase factor due to frontage. (506.2.2)
32. Where a building has more than 25% of its perimeter on a public way or open space having a minimum width of 20-ft., the frontage increase shall be determined in accordance with the Section 506.2. Complete and return the attached yard letter as part of the area modification if needed. (506.2, BCM 506.2 A1)

33. Where a building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, the area limitation in Table 503 is permitted to be increased by an additional 200% ($I_s$=2) for buildings with two-stories or more and 300% ($I_s$=3) for one-story buildings. (506.3)

34. For high-rise buildings, Group A, E, H, I, L, and R occupancies, the allowable area increase due to the installation of an automatic sprinkler system is NOT allowed in addition to the height and story increases allowed per Section 504.2. (506.3)

35. Justify the allowable area per story, total building area and height for mixed occupancies separated in accordance with Section 508.4. (506.5)

36. For mixed occupancies separated in accordance with 508.4, a complete separation is required between Group _____ and Group _____ Occupancies. Separation shall be fire barriers and/or horizontal assemblies, so as to completely separate the occupancies. Provide construction details.

(508.4.4.1, T-508.4)

37. Incidental accessory occupancies shall be separated or protected, or both, in accordance with Table 508.2.5. Separation shall be fire barriers and/or horizontal assemblies, so as to completely separate the occupancies. Provide construction details.

(508.2.5, T-508.2.5)

38. Two or more buildings on the same lot shall be regulated as separate buildings or shall be considered as portions of one building if the height of each building and the aggregate area of buildings are within the limitations of Table 503. (503.1.2)

39. For the purposes of determining the required wall and opening protection and roof covering requirements, buildings on the same lot shall be assumed to have an imaginary line between them. The imaginary line must be shown clearly on the plot plan. (705.3)

40. An approved automatic sprinkler system shall be allowed to be substituted for 1-hr fire-resistance-rated construction, provided such system is not otherwise required by other provisions of the code or used for an allowable area increase per Section 506.3 or an allowable height increase per Section 504.2. The 1-hr substitution for the fire resistance of exterior walls shall not be permitted. (T-601 footnote d)

41. Exterior walls shall have a fire-resistance rating not less than that specified in Tables 601 and 602. Provide details of its construction. (602.1,705.5)

42. Projections beyond the exterior wall shall not extend any closer to the line used to determine the fire separation distance than shown in T-705.2. (Clearly show on elevations/cross section.)

(705.2)

43. No openings are permitted in any exterior wall located within _____ feet of the property line.(705.8)

44. The maximum area of unprotected or protected openings permitted in an exterior wall in any story shall not exceed the values set forth in Table 705.8. Where both unprotected and protected openings are permitted, the total area shall be determined by Equation 7-2. (704.8, T-705.8)

45. Openings in exterior walls required to have protected openings shall have fire protection rating of (1/3)/ (3/4) / (1-1/2) hr assemblies.(705.8.2, T-716.5, T-716.6)

46. Provide minimum 30-in. high parapet at _____ _____ wall(s). (705.11)

47. Openings in a fire barrier shall be protected in accordance with Section 716, limited to a maximum aggregate width of 25% and no opening shall exceed 156 sq. ft. (707.6)

48. This structure has an Atrium(s). Show that the requirements of Section 404 are satisfied.

49. An approved automatic sprinkler system is required for_____Occupancy. (903.2)

50. Note on plans: "This building must be equipped with an automatic fire extinguishing system." (903.2)

51. Show the locations on the plans of Class I, II, or III standpipe (dry, wet, combination) where required in this building. (905)

52. Specify total occupant load on plans as determined per Table A of the Plumbing Code. Per Table 422.1of the Plumbing Code, provide min. ____wc's, ____lavatories and ____urinals for men, and ____wc's and lavatories for women, and ____drinking fountains. (PC 422.0)

53. Each portion of a building separated by fire walls that comply with Section 706 may be considered a separate building. Fire walls shall not be considered to create separate buildings for the purpose of automatic fire sprinkler system requirements as set forth in Chapter 9. (706.1)

54. Clearly detail the (2) / (3) / (4) hour fire wall(s) to show compliance with Section 706.
    a. Detail how the fire wall(s) have sufficient structural stability under fire conditions to allow collapse of construction on either side without collapse of the wall. (706.2)
    b. Extend vertically from the foundation to a point 30 inches above both adjacent roofs. (706.6)
    c. Fire walls to be continuous from exterior wall to exterior wall, plus at least 18-in. beyond exterior surface of exterior walls. (706.5)
    d. Total width of all openings is limited to 25% of the wall length in each story. (706.8)
    e. Each opening through a fire wall shall be protected in accordance with Section 716.5 and shall not exceed 156 sq. ft. (706.8)
    f. Combustible framing in fire walls shall be clearly detailed and meet the requirements of Section 706.7.
    g. Ducts and air transfer openings shall not penetrate fire walls. (706.11)

55. The building as shown contains party wall(s). A party wall shall be constructed as a fire wall in accordance with Section 706 without openings. (706.1.1)

56. This structure is of a type _____ construction. Show on the plans the required _____ hour roof, _____ hour exterior wall, _____ hour structural frame protection, and _____ hour floor construction. Detail clearly and cross-reference from plans to details. (T-601)

57. Fireblocking shall be installed in combustible concealed locations in accordance with Section 718.2 in the following locations: (Provide Details)
    a. In concealed spaces of stud walls and partitions, including furred spaces, and parallel rows of studs or staggered studs, as follows:
        i. Vertically at the ceiling and floor levels.
        ii. Horizontally at intervals not exceeding 10-ft.
    b. At all interconnections between concealed vertical stud wall or partition spaces and concealed horizontal spaces created by an assembly of floor joists or trusses, and between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings, cove ceilings and similar locations.
    c. In concealed spaces between stair stringers at the top and bottom of the run. Enclosed spaces under stairs shall also comply with Section 1009.6.3.
    d. Where annular space protection is provided in accordance with 712.1.7 or 718.2.5.1, fireblocking shall be installed at openings around vents, pipes, ducts, chimneys and fireplaces with an approved material to resist the free passage of flame and the products of combustion.

58. Draftstopping shall be installed in combustible concealed locations in accordance with Section 718.3 and 718.4, respectively, at the following locations: (Provide Details)
    a. In floor-ceiling assemblies so that horizontal floor areas not exceed 1,000 sq. ft. (718.3.3)
    b. In attics and concealed roof spaces, such that any horizontal area does not exceed 3,000 sq. ft. (718.4.3)
    c. Show draft-stop construction on the plans. Draft-stopping materials shall not be less than 0.5-inch gypsum board, 0.375-in. wood structural panel, 0.375-in. particleboard, 1-in. nominal lumber, cement fiberboard, batts or blankets of mineral wool or glass fiber, or other approved materials adequately supported. (718.3.1)
    d. Openings in the partitions shall be protected by self-closing doors with automatic latches constructed as required for the partitions. (718.4.1.1)

59. Envelope ceilings cannot be used to provide fire protection for members of the primary structural frame supporting more than two floors or one floor and roof, or supporting a load-bearing wall or a nonload-bearing wall more than two stories high. (704.3)

60. Columns must be individually fire protected. (704.2)

61. Where the fire protective covering of a structural member is subject to impact damage from moving vehicles, the handling of merchandise or other activity, the fire protective covering shall be protected by corner guards or by a substantial jacket of metal or other noncombustible material to a height adequate to provide full protection, but not less than 5-ft. from the finished floor. (704.9)

62. Combustible members framed into hollow fire- walls or fire walls of hollow units, hollow spaces shall be solidly filled for the full thickness of the wall and for a distance not less than 4-in. above, below and between the structural members, with noncombustible materials approved for fireblocking. (706.7)

63. Penetrations of fire resistance-rated horizontal assemblies shall comply with Section 714.4. Through penetrations shall comply with Section 714.4.1.1.1 or 714.4.1.1.2, or as noted below: (714.4.1.1)
    a. Steel, ferrous or copper conduits may penetrate a single fire-resistance-rated floor assembly when the annular space is protected with material that meets ASTM E 119 or UL 263. (714.4.1.1 Ex. # 1)
    b. Penetrating items, as noted above, with a maximum 6-in. nominal diameter shall not be limited to the penetration of a single concrete floor, provided that the area of the openings through each floor does not exceed 144 sq. in. (714.4.1.1 Ex. #2)
    c. Penetrations shall be fire-stopped by a system installed as tested in accordance with ASTM E 814 or UL 1479. The system shall have an F rating and T rating of not less than 1-hr. but not less than the required rating of the floor penetrated. (714.4.1.1.2)
    d. Membrane penetrations by listed electrical outlet boxes are permitted provided such boxes have been tested for use in fire-resistance-rated assemblies, and the space between the ceiling membrane and the box does not exceed 1/8-in. unless listed otherwise. (714.4.1.2 Ex. #4)
    e. A fire sprinkler shall be permitted to be unprotected provided such space is covered by a metal escutcheon plate. (714.4.1.2 Ex. #5)

64. Penetrations in fire-resistance-rated walls shall comply with Section 714.3. Through penetrations shall comply with Section 714.3.1.1 or 714.3.1.2, or as noted below: (713.3.1)
    a. Steel, ferrous or copper pipes may penetrate fire-resistance-rated walls, provided the opening is protected as follows: (714.3.1 Exceptions)
        i. Item penetrating concrete or masonry walls is a maximum 6-in. nominal diameter and the area of the opening through the wall does not exceed 144 sq. in., concrete, grout or mortar is permitted where it is installed the full thickness of the wall or the thickness required to maintain the fire-resistance rating; or
        ii. When the annular space is protected with material that meets ASTM E 119 or UL 263.

b. Penetrations shall be fire-stopped by a system installed as tested in accordance with ASTM E 814 or UL 1479, and shall have an F rating of not less than the required fire-resistance-rating of the wall penetrated. (714.3.1.2)

c. Membrane penetrations of maximum two-hour fire-resistance-rated walls by steel electrical boxes are permitted, provided that each does not exceed 16 sq. in. in area and the total area of such openings does not exceed 100 sq. in. for any 100 sq. ft. of wall area, and the space between the wall membrane and the box does not exceed 1/8-in. Additionally, outlet boxes on opposite sides of the wall shall be separated by a horizontal distance of not less than 24-in. (714.3.2 Ex. #1)

d. Membrane penetrations by listed electrical boxes of any material are permitted provided such boxes have been tested for use in fire-resistance-rated assemblies, and the space between the wall membrane and the box does not exceed 1/8-in. unless listed otherwise. Additionally, outlet boxes on opposite sides of the wall shall be separated by the horizontal distance specified in the listing of the boxes. (714.3.2 Ex. #2)

e. A fire sprinkler shall be permitted to be unprotected provided such space is covered by a metal escutcheon plate. (714.3.2 Ex. #5)

f. Where walls are penetrated by other materials or openings larger than those mentioned above, they must be qualified by tests in accordance with Section 703.2.

65. This building is of Type IA construction and requires special fire and life safety features. Provide complete plans and specs. (602-603)

**MEANS OF EGRESS**

66. Clearly indicate occupancy groups and occupancy loads throughout the structure(s) and tabulate on the front sheet of the plans. Where occupants from accessory areas egress through a primary space, the calculated occupant load for the primary space shall include the total occupant load of the primary space plus the number of occupants egressing through it from the accessory area. (1004.1)

67. The gross or net floor area is to be used in the occupant load calculation per Table1004.1.2.

68. Yards, patios, courts, and similar outdoor areas accessible to and usable by the building occupants shall be provided with means of egress as required by Chapter 10. Where outdoor areas are used by persons in addition to the occupants of the building, and the path of egress travel from the outdoor areas passes through the building, means of egress requirements for the building shall be based on the sum of the occupant loads of the building plus the outdoor areas. (1004.5)

69. For areas without fixed seats, the occupant load shall not be less than the number determined by dividing the floor area under consideration by the occupant per unit of area factor assigned to the occupancy as set forth in Table 1004.1.2. (1004.1.2)

70. For areas having fixed seating without dividing arms, the occupant load shall not be less than one person for each 18-in. of seating length. The occupant load of seating booths shall be based on one person for each 24-in of booth seat length measured at the backrest of the seating booth. (1004.4)

71. Every room or space that is an assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place, near the main exit or exit access doorway. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or authorized agent. (1004.3)

72. A manual fire alarm system shall be installed in Group A occupancies having an occupant load of 300 or more. (907.2.1)

73. Based on the occupant load, travel distance, use, and/or number of stories provide _____ exits from _____ room located on the _____ floor. (T-1015.1, T-1021.2(1), T-1021.2(2))

74. Where two or more exits or exit-access doorways are required, at least two must have a minimum separation of one-half of the overall maximum diagonal dimension of the building or area served measured in a straight line between the exit doors or exit access doorways. Two exits, separated by _____ feet at the floor and/or roof are required. (1015.2.1)

75. Two exits are required from: (1015.1, 1021.2)

    a. Space with occupant load exceeding the values in T-1015.1.

    b. Space where the common path of egress travel exceeds the limitations of Section 1014.3.

    c. Areas specified by Section 1015.3, 1015.4, and/or 1015.5.

    d. Stories exceeding the values specified in T-1021.2(1) & T-1021.2(2).

    e. Building with number of stories, number of occupants, and/or travel distance exceeding the maximums specified in T-1016.2.

76. Egress from a room or space shall not pass through adjoining or intervening rooms or areas which are not accessory to the area served or which are high-hazard occupancy areas. (1014.2)

77. Where more than one tenant occupies one floor, each tenant space shall be provided with access to the required exits without passing through adjacent tenant spaces. (1014.2.1)

78. In occupancies other than H-1, H-2, H-3, and I-3 the common path of egress travel shall not exceed 75-ft. In H-1, H-2, and H-3 occupancies, the common path of egress travel shall not exceed 25 -ft. For common path of egress travel in Group A occupancies having fixed seating, see Section 1028.8. (1014.3)

79. The path of egress travel along a means of egress shall not be interrupted by any building element other than a means of egress component as specified in Chapter 10. The required capacity of a means of egress system shall not be diminished along the path of egress travel. (1003.6)
80. The number of exits required from any story, basement, or individual space shall be maintained until arrival at grade or the public way. (1021.1)
81. Elevators, escalators, and moving walks shall not be used as a required means of egress component. (1003.7)
82. Egress shall not pass through kitchens, storage rooms, closets, and similar spaces. (1014.2)
83. Doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons or a Group H occupancy. (1008.1.2)
84. Space between two doors in a series shall be 48-in. minimum plus the width of a door swinging into the space. Doors in a series shall swing either in the same direction or away from the space between the doors. (1008.1.8)
85. The total width of means of egress in inches shall not be less than the total occupant load served by the means of egress multiplied by 0.3 inches per occupant for stairways and by 0.2 inches per occupant for other egress components. The width shall not be less than specified elsewhere in this code. Multiple means of egress shall be sized such that the loss of any one means of egress shall not reduce the available capacity to less than 50 percent of the required capacity. (1005.3,1005.3.2, & 1005.5)
86. Plans as shown exceed allowable travel distance. Justify and detail per Section 1016.1.
87. Aisles must meet Section 1017.1, clearly detail.
88. All means of egress doors shall comply with the requirements of Section 1008.1.
    a. Means of egress doors shall be readily distinguishable from the adjacent construction and finishes with no mirrors, curtains, drapes, decorations, or similar materials.
    b. Required exit doors shall have not less than 32-in. clear width, 80-in. clear height, and shall be capable of opening 90 degrees. The maximum swinging door leaf width is 48-in. nominal.
    c. Egress doors shall be of the pivoted or side-hinged swinging type.
    d. The force for pushing or pulling open interior swinging egress doors, other than fire doors, shall not exceed 5 pounds. For other swinging doors, as well as sliding and folding doors, the door latch shall release when subjected to a 15-pound force. The door shall be set in motion when subjected to a 30-pound force. The door shall swing to a full-open position when subjected to a 15-pound force. Revolving and sliding doors may be used in other than Group H occupancies as egress doors only if all of the requirements of Section 1008.1.4.1 and Section 1008.1.4.4, respectively, are met.
89. Show clearly that panic and fire exit hardware, where installed on doors in this building, satisfy the following: (1008.1.10)
    a. The actuating portion of the releasing device shall extend at least one-half of the door leaf width.
    b. The maximum unlatching force does not exceed 15-pounds.
    c. Pivoted or balanced doors shall be of the push-pad type where panic hardware is required, and the pad shall not extend across more than one-half of the door width, measured from the latch side.
    d. Panic hardware listed in accordance with UL 305
    e. Fire Exit hardware listed in accordance with UL 10C & UL305
90. Structural elements, fixtures, or furnishings shall not project horizontally from either side more than 4-in. over any walking surface between the heights of 27-in. and 80-in above the walking surface. Exception: Handrails serving stairs and ramps are permitted to protrude 4.5-in. from the wall. (1003.3.3)
91. The means of egress shall have a ceiling height of not less than 7-ft. 6-in. Protruding objects may not reduce the headroom below 80-in. above any walking surface and no more than 50% of the ceiling area of a means of egress may be reduced. (1003.2, 1003.3.1)
92. Corridors shall be fire-resistance rated as required by Table 1018.1. Provide referenced sections and details at all corridors. (1018.1)
93. Dead end corridors and egress balconies are limited to 20-ft. in length, where more than one exit or exit access doorway is required. (1018.4, 1019.1)
94. Fire-resistance rated corridors shall be continuous from the point of entry to an exit, and shall not be interrupted by intervening rooms. (1018.6)
95. The path of egress travel to exits and within exits in this building shall be identified by exit signs conforming to the requirements of Section 1011 and as noted below:
    a. Exit signs shall be readily visible from any direction of egress travel.
    b. Exit signs shall be located as necessary to clearly indicate the direction of egress travel.
    c. No point in a corridor shall be more than 100-ft. or the listed viewing distance for the sign, whichever is less, from the nearest visible exit sign.
96. Exit signs shall be internally or externally illuminated. Internally illuminated exit signs shall be listed and labeled in accordance with UL 924 and shall be installed in accordance with the manufacturer's instructions and Chapter 27. Externally illuminated exits signs shall comply with the graphics and power source requirements in Sections 1011.6.1 and 1011.6.3 respectively. When the face of an exit sign is illuminated from an external source, it shall have an intensity of not less than 5-foot-candles (54 lux).(1011.3)

97. Note on the plans: "Any time a building or a portion of a building is occupied, the means of egress serving the occupied portion shall be illuminated at an intensity of not less than 1-foot-candle (11 lux) at the walking surface level." (1006)

98. The power supply for means of egress illumination shall be provided by the premise's electrical supply. In the event of power supply failure, illumination shall be automatically provided from an emergency system for the following areas: (1006.3)
    a. Aisles and unenclosed egress stairways in rooms and spaces that require two or more means of egress.
    b. Corridors, interior exit stairways and ramps, and exit passageways in buildings required to have two or more exits.
    c. Exterior egress components at other than the level of exit discharge until exit discharge is accomplished for buildings required to have two or more exits.
    d. Interior exit discharge elements, as permitted in Section 1027.1, in buildings required to have two or more exits.
    e. Exterior landings, as required by Section 1008.1.6, for exit discharge doorways in buildings required to have two or more exits.

99. The emergency power system shall also be connected to an emergency electrical system which is to provide continued illumination for a duration of not less than 1-1/2 hr. in case of primary power loss. Continued illumination is to be provided from storage batteries, unit equipment, or an on-site generator and the installation of the emergency power system shall be installed in accordance with Chapter 27. (1006.3)

100. Emergency lighting facilities shall be arranged to provide initial illumination that is at least an average of 1-foot-candle (11 lux) and a minimum at any point of 0.1-foot-candle (1 lux) measured along the path of egress at floor level. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded. (1006.3.1)

101. Where key-operated locking devices are used, post a sign on or adjacent to the required main exit door with 1-in. lettering stating: "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED." (1008.1.9.3)

102. Egress doors or gates shall be openable from the egress side without the use of a key, special knowledge, or effort. Door handles, pulls, latches, locks, and other operating devices shall be installed 34 to 48 in. above the finished floor. Manually operated flush bolts or surface bolts are not permitted. The unlatching of any door or leaf shall not require more than one operation. (1008.1.9)

103. Plans must indicate / detail the floor or landing on each side of doors is not more than 1/2-in. lower than the threshold of the doorway. Raised thresholds and floor level changes greater than 1/4-in. at doorways shall be beveled with a slope not greater than one unit vertical in two units horizontal (50% slope). (1008.1.7)

104. Landings shall be provided on each side of doors and such landing shall be at the same elevation on each side of the door. Landings shall have a width not less than the width of the door and a length measured in the direction of travel of not less than 44-in. (1008.1.5, 1008.1.6)

105. Doors shall not project more than 7-in. into the required landing dimensions when fully opened or more than one half into the required landing width when open in any position if the landing serves 50 or more occupants. Provide details showing compliance. (1008.1.6)

106. Glass handrails and guardrails shall comply with Section 2407.

107. Provide tactile exit signs that comply with Section11B-216.4. Tactile exit signs shall be required at the following locations: (1011.3)
    a. Each grade-level exterior exit door shall be identified by "EXIT."
    b. Each exit door that leads directly to a grade-level exterior exit by means of a stairway or ramp with the following words as appropriate:
        i. "EXIT STAIR DOWN"
        ii. "EXIT RAMP DOWN"
        iii. "EXIT STAIR UP"
        iv. "EXIT RAMP UP"
    c. Each exit door that leads to an exit enclosure or an exit passageway identified by "EXIT ROUTE."
    d. Each exit access door from an interior room or area that is required to have a visual exit sign, shall be identified by "EXIT ROUTE."
    e. Each exit door through a horizontal exit shall be identified by "TO EXIT."

108. Interior exit enclosures connecting more than three stories above grade plane shall have an approved stairway sign indicating the floor level. Indicate whether or not there is roof access, the terminus of the top and bottom of the stair, and the identification of the stair. The sign shall be located approximately 5-ft. above the floor landing and shall be readily visible when the stair doors are in an open or closed position. (1022.8)

109. Provide tactile stair level identification sign that complies with 11B-216.4 at each floor level landing. (1022.8)

110. Provide details for all stairway showing the following: (1009, 1012)
    a. Maximum 7-in., minimum 4-in. rise and minimum 11-in. run (tread).
    b. The tolerance between the largest and smallest riser height and/or tread depth shall not exceed 0.375-in. in any flight of stairs.
    c. Minimum headroom over the stairs 6-ft. 8-in.
    d. Minimum 36-in. clear width where the occupant load is less than 50 and 44-in. otherwise.

e. Provide handrails at both sides. The handrail height shall be 34-in. to 38-in. above the nosing, with 1-1/2-in. clearance to the wall, and ends returned to the wall. Open handrails shall have intermediate rails or an ornamental pattern such that a 4-in. sphere in diameter cannot pass through.

f. Handgrip portion of handrails shall not be less than 1-1/4-in. nor more than 2-in. in cross-sectional dimension having a smooth surface with no sharp corners.

g. At least one handrail shall extend 12-in. beyond the top riser and one tread depth beyond the bottom riser.

h. Stairway framing, connections, bracings, and footings.

i. One-hour construction for the enclosed usable space under the stairs.

j. Stairway landing(s) (36-in.) (44-in.) (48-in.).

k. 12-ft. maximum vertical rise without floor/landing.

111. Where alternative stairways are used, provide sufficient details to show compliance with Sections 1009.6, 1009.11, 1009.12, and/or 1009.13.

112. Spiral stairways shall meet the following: (1009.12)

a. May not serve as the required exit for an area exceeding 250 sq. ft. or more than five occupants.

b. Drawings submitted showing compliance with Section 1009.11.

c. Details clearly showing column top and base connection / footing.

113. This structure contains exit enclosures (interior exit stairways or interior exit ramps). Show compliance with the following: (1022)

a. Exit enclosures shall NOT be used for any purpose other than means of egress.

b. Openings limited to those necessary for egress from normally occupied spaces, only.

c. Provide 1-hr. / 2-hr. construction details.

d. Exit enclosure opening protection shall be in accordance with the requirements of Section 716.

e. Penetrations into and openings through an exit enclosure are prohibited except for required exit doors, equipment and ductwork necessary for independent ventilation or pressurization, sprinkler piping, standpipes, electrical raceway for fire department communication systems, and electrical raceway serving the exit enclosure and terminating at a steel box not exceeding 16 sq. in. Such penetrations shall be protected in accordance with Section 714.

114. Where means of egress from an upper floor and a lower floor converge at an intermediate floor, the width of the exit from the intermediate floor shall be based on the sum of the occupant loads of such upper and lower floors. (1005.6)

115. A barrier in the exit enclosure is required to prevent accidental entry into the levels below the level of exit discharge. (1022.8)

116. Buildings four or more stories in height shall be provided with approved roof hatches openable to the exterior having an area of not less than 16 sq. ft. and a minimum dimension of 2-ft. (1009.16)

117. Exterior exit balconies, stairways, and ramps shall be located at least 10-ft. 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. (1019.4 & 1026.4)

118. The exit passageway must meet the following requirements: (1023)

a. Exit passageway shall NOT be used for any purpose other than means of egress.

b. Openings limited to those necessary for egress from normally occupied spaces.

c. Provide 1-hr. / 2-hr. construction details. Exit passageways shall be constructed as fire barriers in accordance with Section 707.

d. Exit passageway opening protection shall be in accordance with the requirements of Section 716.

e. Penetrations into and openings through an exit passageway are prohibited except for required exit doors, equipment and ductwork necessary for independent pressurization, sprinkler piping, standpipes, electrical raceway for fire department communication systems, and electrical raceway serving the exit enclosure and terminating at a steel box not exceeding 16 sq. in. Such penetrations shall be protected in accordance with Section 714.

119. The gate located at _____ is a component in a means of egress system. Show compliance with Section 1008. (1008.2)

120. Where elevation changes of less than 12-in. occur along the means of egress, sloped surfaces shall be used. Where the slope is greater than 1:20 (5%), ramps complying with Section 1010 shall be used. Where the difference in elevation is 6-in. or less, the ramp shall be equipped with either handrails or floor finish materials that contrast with adjacent floor finishes. (1003.5)

121. This structure has ramps. Provide enough detail to show that the width, slope, landings, and handrails satisfy the requirements of Section 1010. Ramps required for the physically disabled must be min. 4-ft. wide. (1010,11B-405)

122. Exterior exit ramps and stairways shall be open a minimum of 35 sq. ft. on at least one side. The open area shall be located not less than 42-in. above the adjacent floor or landing level. (1026.3)

## COURTS, SHAFTS, MEZZANINES AND ELEVATORS

123. This plan contains _____ courts. Provide details of the proposed wall construction, opening protection and stair protection. (202,1206.3,1203.4.3,1027.4.2)

124. The width of courts shall meet the following: (1206.3)

a. Not less than 3-ft in width

b. Not less than 6-ft in width where openings occur on opposite sides

125. Courts shall not be less than 10-ft in length unless bounded on one end by a public way or yard. (1206.3)

126. Courts located in buildings more than 2-stories in height shall be shall be increased: (1206.3)
    a. 1-ft in width for each additional story
    b. 2-ft in length for each additional story

127. Access shall be provided at the bottom of courts for cleaning purposes. (1206.3.1)

128. Courts more than 2-stories shall be provided with horizontal air intake at the bottom not less than 10 sq. ft. in area and leading to the exterior of the building. (1206.3.2)

129. Courts shall be properly graded and drained to an approved disposal system. (1206.3.3)

130. Openings through a floor/ceiling assembly shall be protected by a shaft enclosure unless the opening meets one or more exceptions listed in Section 712.

131. Provide wall construction and opening protection details for shaft enclosures showing appropriate fire-resistive ratings. (713.1, 713.4, T-716.6)

132. Refuse and/or linen chutes, termination rooms and openings shall be separated from the remainder of the building as per shaft requirements. (713.13.1)

133. Openings into refuse and/or linen chutes shall not be located in corridors. Refuse and/or linen chutes shall not terminate in an incinerator room. (713.13.1,713.13.4)

134. Sprinkler heads are required in trash and linen chutes. Chute sprinklers shall be accessible for servicing. Provide a section view through the shaft. (903.2.11.2)

135. Provide an elevator lobby at each floor. The lobby shall be constructed as a fire partition equal to the fire-resistance rating of corridors and the required opening protection. (713.14.1)

136. Provide notes on Plan Sheet _____ stating all the provisions of Chapter 30 that the elevators in this structure must satisfy. Reference to Code sections alone is not acceptable. (713.14)

137. Hoistways of elevators and dumbwaiters penetrating more than three stories shall be provided with venting. The area of the vents shall not be less than 3-1/2% of the area of the hoistway nor less than 3 sq. ft. for each elevator car. (3004.1, 3004.3)

138. An independent ventilation system shall be installed in the elevator machine room in accordance with Section 3006.2. (3006.2)

139. Elevator machine rooms shall be enclosed with fire barriers per Section 707 and/or horizontal assemblies per Section 711. (3006.4)

140. The mezzanine(s) on Plan Sheet(s) _____ does not/do not satisfy the definition given in Section 502.1 and 505. This is a story.
    a. Mezzanines within a room shall not exceed one-third of the floor area of that room or space in which they are located. (505.2)
    b. The area of the mezzanine shall be included in determining the fire area defined in Section 902. (505.2)
    c. A mezzanine shall be open and unobstructed to the room in which such mezzanine is located. (505.2.3)

141. This plan contains a pedestrian walkway. Clearly identify it on the plans. Show rated or non-rated wall construction between the building and the walkway. (3104)

**A-3 Occupancy**

142. Provide illumination in accordance with Section 1205.

143. The common path of egress travel shall not exceed 30-ft. from any seat to a point where an occupant has a choice of two paths of egress travel to two exits. (1028.8)

144. Provide two (2) exits from assembly rooms separated by (1/2) / (1/3) the overall diagonal distance when the occupant load exceeds 49. (1015.2.1, T-1015.1)

145. Three exits or exit access doorways shall be provided from any space with an occupant load of 501-1,000. Four exits or exit access doorways shall be provided from any space with an occupant load greater than1,000. (1015.1.1)

146. Show that the exit hardware in the doors from the room and building satisfy Section 1008.1.9.

147. Provide automatic sprinkler system where any of the following occur: (903.2.1.3)
    a. The fire area exceeds 12,000 sq. ft.
    b. The occupant load exceeds 300
    c. The fire area is located on a floor other than the level of exit discharge

**Garage (S-2 or U Occupancy)**

148. Group U occupancies storing private or pleasure-type motor vehicles, shall not exceed 1000 sq. ft. or one-story in height. The allowable area may be increased to 3000 sq. ft. when no repair work is completed or fuel is dispensed within the Group U occupancy when the provisions of Section 406.3.2 are met. (406.3.1)

149. For Group S-2 occupancy, the wall fire-resistance rating shall be _____hr. and opening protection shall be (3/4-hr.) / (1-1/2-hr.) based on fire separation distance of _____ft.(T-601, T-602, T-716.5,T-716.6 )

150. Group S-2 occupancy shall be separated from _____ occupancy(s) with a separation of _____hr., fire doors of _____hr., and glazing of _____hr. Separation shall be fire barriers and/or horizontal assemblies. Provide construction details. (508.2, 508.4)

151. For Group S-2 occupancies, a mechanical ventilation system shall be provided in accordance with the. County of Los Angeles Mechanical Code. Where a mechanical system is used, provide plans and show how and where it exhausts to the outside. Submit to the Mechanical Section for plan check. Approval is required prior to permit issuance. (406.6.2)

152. This occupancy requires an automatic fire extinguishing system. (903.2.10, 903.2.18)

153. For parking garages provide/show the following:
    a. Minimum headroom of 7-ft. 0-in., except as required per accessible requirements. (406.4.1)
    b. Guards in accordance with Section 1013, where the vertical distance to the ground or surface directly below exceeds 30-in. (406.4.2)
    c. 2-ft. 9 in, high vehicle barriers designed in accordance with Section 1607.8.3 where the difference in adjacent floor elevation is greater than 1-ft. (406.4.3)
    d. Vehicle ramps may not serve as exits. (406.4.4)
    e. Vehicle ramps as well as parking shall not exceed a slope of 1:15 (6.67%). (406.4.4)
    f. Provide a vestibule providing a two-doorway separation with any room in which there is a fuel-fired appliance. (406.4.7)
    g. Parking surfaces shall be of concrete or similar noncombustible and nonabsorbent materials. Asphalt is only permitted at ground level. (406.4.5)
    h. A floor system adequate to support a wheel load of 3,000 lbs or greater. (T-1607.1 & 1607.7)

**Solid Waste Disposal**

154. Provide Solid Waste Disposal per the attached sheet, or obtain approval from Environmental Programs Division.
    a. On site plan, show location and size of solid waste storage enclosure.
    b. Show dimensioned layout, including clear width and depth

155. Provide details for the wall and roof construction enclosing the bin.

156. Commercial dumpsters and containers with an individual capacity > 1.5 cubic yards shall not be stored or placed within 5-ft. of combustible walls, openings or combustible roof eave lines unless the trash area is protected by an approval automatic sprinkler system. (F.C. 304.3.3)

157. A fire barrier/horizontal assembly of 1-hr. is required between the trash enclosure and other occupancies where trash enclosure is classified as incidental use. Detail wall and ceiling construction. Provide 3/4-hr. opening protection. (509.4.1, T-509, T-716.5, T-716.6)

**FIRE DAMPERS, DUCTS AND RETURN AIR PLENUMS**

158. Materials exposed within ducts or plenums shall be noncombustible or shall have a flame spread index < 25, and a smoke developed index < 50. Note on the plans. (MC 602.2)

159. Required fire rated corridors (including the space above the non-rated dropped ceiling) shall not be used as a return air plenum. (MC 602.1)

160. No mechanical duct penetrations are permitted (except for those independent systems serving the interior exit stairway or ramp) through walls or ceilings. (1022.5)

161. Fire dampers are required at ducts and air transfer openings that penetrate fire walls, fire barriers, fire partitions, shaft enclosures, corridors,_____. Show all dampers and their required ratings on the mechanical plan.

(T-717.3.2.1, 717.5)

162. Smoke dampers to be installed at penetrations in the following locations: (717.5)
    a. Corridors.
    b. Smoke barriers.
    c. Fire walls or fire barriers that serve as a horizontal exit.
    d. Smoke partition.

163. Fire dampers to be installed at penetrations in the following locations: (717.5)
    a. Fire walls.
    b. Fire barriers in other than high-rise buildings, Group A, E, H, I, L and R occupancies.
    c. Fire partitions.
    d. Exterior walls required to have protected openings.

164. Combination fire and smoke dampers to be installed at penetrations in the following locations: (717.5)
    a. Fire barriers in high-rise buildings, Group A, E, H, I, L and R occupancies.
    b. Shaft enclosures.

**GENERAL REQUIREMENTS**

165. Cement, fiber-cement or glass mat gypsum backers in compliance with ASTM C1178, C1288 or C1325 shall be used as a base for wall tile in tub and shower areas and wall and ceiling panels in shower areas. Water-resistance gypsum backing board shall be used as a base for tile in water closet compartment walls when installed in accordance with GA-216 or ASTM C840. Regular gypsum wallboard is permitted under tile or wall panels in other wall and ceiling areas when installed in accordance with GA-216 or ASTM C840. Water-resistant gypsum board shall NOT be used in the following locations: (2509.2)
    a. Over a vapor retarder.
    b. In areas subject to continuous high humidity, such as saunas, steam rooms or gang shower rooms.

c. On ceilings where frame spacing exceeds 12-in. O.C. for 1/2-in. thick and more than 16-in. O.C. for 5/8-in. thick.

166. All shower compartments, regardless of shape, shall have a minimum finished interior area of not less than 1024 sq. in. and shall be capable of encompassing a 30-in. circle. The minimum area and dimensions shall be maintained to a point 70-in. above the shower drain outlet. Shower doors shall open so as to maintain a minimum 22-in. unobstructed opening for egress. (PC 408.5, PC 408.6)

167. Each pane of safety glazing installed in hazardous locations shall be identified by a manufacturer's designation specifying who applied the designation, the manufacturer or installer and the safety-glazing standard. The following shall be considered specific hazardous locations for the purposed of safety glazing. Glazing in: (2406)
    a. Swing doors.
    b. Fixed and sliding panels of sliding door assemblies and panels in sliding and bi-fold closet door assemblies.
    c. Storm doors.
    d. Unframed swinging doors.
    e. Doors and enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs, and showers.
    f. Fixed or operable panels adjacent to a door where the nearest exposed edge of the glazing is within 24-in. arc of either vertical edge of the door in a closed position and where the bottom exposed edge of the glazing is less than 60-in. above the walking surface.
    g. Fixed or operable panel, other than described in items e and f, which meets all of the following conditions:
        i. Exposed area of an individual pane greater than 9 sq. ft.
        ii. Exposed bottom edge less than 18-in. above the floor.
        iii. Exposed top edge greater than 36-in above the floor.
        iv. One or more walking surfaces within 36-in horizontally of the plane of the glazing.
    h. Guards and railings regardless of area or height above a walking surface. Included are structural baluster panels and nonstructural in-fill panels.
    i. Walls and fences enclosing indoor and outdoor swimming pools and spas where all of the following conditions are present:
        i. The bottom edge of the glazing is less than 60-in. above a walking surface on the pool or spa side of the glazing.
        ii. The glazing is within 60-in of a swimming pool or spa water's edge.
    j. Adjacent to stairways, landings and ramps within 36-in horizontally of a walking surface; when the exposed surface of the glass is less than 60-in. above the plane of the adjacent walking surface.
    k. Adjacent to stairways within 60-in. horizontally of the bottom tread of a stairway in any direction when the exposed surface of the glass is less than 36-in above the nose of the tread.

168. Detail guards when located along open-sided walking surfaces, mezzanines, industrial equipment platforms, stairways, ramps and landings that are located more than 30-in above the floor or grade below. (1013.1)
    a. Have a minimum height of 42-in.
    b. Have intermediate rails or an ornamental pattern such that a 4-in. diameter sphere cannot pass through. (1013.4)
    c. Shall be designed for 50-plf applied in any direction at the top and to transfer the load through the supports of the structure. (1607.8.1)
    d. Shall be designed for a 200 lb concentrated load applied in any direction at any point along the top. (1607.8.1.1)
    e. Glass panel guardrail shall design for a factor of safety equal to 4.0 minimum. Specify approved report number and manufacturer of glass panel guardrail on plans and/or detail. (2407)

169. Provide a detail through the medicine cabinets and/or fire hose cabinets, when installed in a 1-hour construction.

170. Each building shall be provided with sanitary facilities. The required number of fixtures shall comply with Table 422.1 of the Plumbing Code.

171. Toilet and bathing room floors shall have a smooth, hard, nonabsorbent surface that extends upward onto the walls at least 4-in. (1210.2.1)

172. Walls within 2-ft. of urinals and water closets shall have a smooth, hard, nonabsorbent surface, to a height of 4-ft. above the floor, and except for structural elements, the materials used in such walls shall be of a type that is not adversely affected by moisture. (1210.2.2)

173. Public toilet rooms shall be provided with a mechanical exhaust system capable of providing a minimum 50 CFM per each water closet and urinal and a minimum 70 CFM for heavy use application such as theater, school, etc. (MC T-403.7)

174. Shower compartments and walls above bathtubs with installed shower heads shall be finished with a smooth, nonabsorbent surface to a height not less than 70-in. above the drain inlet. (1210.2.3)

175. Occupied spaces shall be provided with natural ventilation by means of readily controllable exterior openings with an area not less than 4% of the total floor area. Such exterior openings shall open directly to the outdoors or to a yard or court that complies with Section 1206. Clearly specify on plans how the building is provided with the required ventilation. Where natural ventilation is not provided, submit to the Mechanical Section for compliance with the County of Los Angeles Mechanical Code. (1203.1, 1203.4, 1203.5)

176. Occupancies and operations involving flammable or combustible hazards or other contaminant sources shall submit to the Mechanical Section for compliance with the County of Los Angeles Mechanical Code. (1203.5)

177. In Group S-2 parking garages, other than open parking garages, used for storing or handling automobiles operating under their own power shall submit to the Mechanical Section for compliance with the County of Los Angeles Mechanical Code. (406.6.2)

178. In Group S-2 parking garages with an area used for charging electric vehicles, ventilation shall be provided in accordance with County of Los Angeles Electrical and Mechanical Code. Please submit to the Electrical and Mechanical Section for compliance. (406.9.3)

179. Clearly indicate on the plans and provide details, properly referenced, of the curtain boards and smoke and heat vents required for Groups F-1 and S-1 occupancies, having more than 50,000 sq. ft. in undivided area. (910.2)

180. Indicate on plans that interior finish materials applied to wall and ceilings shall be tested as specified in Section 803. In addition, provide details showing application in accordance with Section 803.1 and Table 803.9.

181. The flame-spread index of interior wall and ceiling finish within the corridor, lobby and exit enclosure must be class_____. Clearly indicate on the plans. (803.9)

182. Specify the ICC number, manufacturer, and model number for skylights and clearly indicate on the plans if they are glass or plastic. Show that the requirements of Chapter 24 or 26 are satisfied.

## ROOF AND ATTICS

183. The minimum roof coverings installed on buildings shall comply with T-1505.1 based on the type of construction of the building. (1505.1)

184. Identify on the plans the fire-retardant roof classification, manufacturer's name, and ICC/UL report number.

185. Show roof slope(s), drain(s), and secondary roof drain(s)/scupper(s) on the roof plan. Roof drainage system shall comply with the following requirements:
    a. System shall comply with Chapter 11 of the Plumbing Code.
    b. System shall be sized for minimum rain intensity of 3 inches per hour.
    c. Secondary roof drains having the same size as the primary roof drains shall be installed with the inlet flow line located a minimum 2 inches above the low point of the roof.
    d. Scuppers through parapet walls adjacent to the low point of the roof may be used as secondary roof drainage. Scupper openings shall be a minimum of 4 inches high and have a width equal to the circumference of the roof drain required for the area served.

186. The minimum roof slope for _____ roof is _____. (1507)

187. An opening not less than 20-in. by 30-in. shall be provided to any attic area having a clear height of over 30-in. 30-in. minimum clear headroom in the attic space shall be provided at or above the access opening. (1209.2)

188. Access to mechanical appliances in under-floor areas, in attic spaces, and on roofs or elevated structures shall be in accordance with the County of Los Angeles Mechanical Code. (1209.3, MC 904.10)

189. In buildings located four or more stories in height above grade plane, one stairway shall extend to the roof surface, unless the roof has a slope steeper than 4 units vertical in 12 units horizontal (33-%). (1009.16)

190. Where a stairway is provided to a roof, access to the roof shall be provided through a penthouse complying with Section 1509.2. (1009.16.1)

191. The net free ventilating area in enclosed attics and enclosed rafter spaces shall not be less than 1/150 of the area of the space ventilated. Show calculations, size and location on the plans. (1203.2)

192. A 30-in. parapet is required at the location marked on the plans. Provide details complying with minimum construction requirements. (705.11.1)

193. In combustible construction, provide draftstopping to subdivide attic spaces and concealed roof spaces, such that any horizontal area does not exceed 3,000 sq. ft. Provide details of draft stops, which are properly referenced. (718.4.3)

194. Show that the penthouse and/or roof structures satisfy the requirements of Section 1509.2.

195. Clay and concrete tile attachment shall comply with Table 1507.3.7. Note and/or show compliance on plans. (T-1507.3.7, 1507.3.7)

## STRUCTURAL REQUIREMENTS

196. Allowable values for structural design shall be per the 2014 County of Los Angeles Building Code, including all call outs and references.

197. The required ground snow load for this area is _____ psf. The tributary live load reduction in section 1607.10 is not permitted.

198. For the design wind load in this area, use basic wind speed of _____ mph (1609, ASCE 7 Ch. 26

199. Delete notes and details on sheets _____ that do not apply to this project. (106.4.3)

200. Key or identify all sections and details as to their location on the plan or elevation views. (106.4.3)

201. Structures and all portions thereof shall resist the most critical effects from the basic load combinations specified in Section 1605 of the Building Code.

202. Indicate the grade and species of framing lumber, treated mudsills, strength of concrete, mix of mortar and grout, grade and weight of masonry units, grades of reinforcing steel, pipes, tubes and framing steel, design soil pressures, and _____ _____.

203. NOTE ON THE PLANS: "The use of rolled steel sections and/or bolts manufactured outside the United States will require verification that the products comply with applicable ASTM Standards. Mill certificates will be required for all steel. Steel grades other than ASTM-A36 will require testing by an approved laboratory. All foreign bolts must be approved by County of Los Angeles Building and Safety prior to their use."

204. Submit design and details of trussed rafters with a layout plan, complete calculations and connector plate design. Submit attached "Certificate of Approval" to building inspector prior to framing inspection. (2303.4)

205. Plywood roof panels shall be bonded with exterior glue. (2304.7.2)

206. For wood structural panel roofs and floors, specify panel index no._____, panel thickness, grades, nailing schedule and panel layout pattern. Note on the plans "Roof diaphragm nailing to be inspected before covering". Face grain of plywood shall be perpendicular to supports. Floors shall have tongue and groove or blocked panel edges. Wood structural panel spans shall conform to T-2304.7(3) & T-2304.7(5).

207. Studs in bearing walls are limited to 10-ft. in height unless an approved design is submitted. (T-2308.9.1).

208. Provide details for the header support at the corner window(s) at _____(106.4.3)

209. Studs supporting two floors, roof and ceiling, must be 3x4 or 2x6 studs at 16-in. O.C. max (T-2308.9.1). Submit calculations showing that the allowable stress in compression perpendicular to grain is not exceeded in the plates at the proposed stud spacing.

210. Provide details of the lateral support for the top and bottom of the interior non-bearing walls. (1607.14)

211. Clearly indicate on the plans all wood structural panel and drywall shear walls. All shear panels shall conform to the height width ratio per SDPWS T-4.3.4. Provide complete nailing schedule for each, including connectors.

212. Provide shear transfer connection details, properly referenced at the top and bottom of all shear walls.

213. Note on the plans that hold-down connector bolts shall be tightened to finger tight plus one half wrench turn prior to covering the wall framing. (2305.5)

214. Where allowable shear values exceed 350 pounds per foot, foundation sill plates and all framing members receiving edge nailing from abutting panels shall be not less than a single 3-in. nominal or larger member. (2306.3, AF &PA T-4.3A & T-4.3B)

215. Portland cement plaster (stucco), gypsum lath and gypsum wallboard shear walls are not permitted below the top level in a multi-level building for structures assigned to Seismic Design Category D. (2306.3 (5))

216. Narrow shear panels, not meeting the height to width ratio of SPDPWS T-4.3.4 shall meet the following criteria:
    a. All installations shall use the respective manufacturer's anchor bolt template, and otherwise be installed per the manufacturer's installation instructions and specifications.
    b. The use of narrow shear panels in line with other types or widths of panels requires justification by a rigorous engineering analysis. The analysis must account for the nonlinear force displacement behavior of each panel assembly and the distribution of the lateral forces shall be in accordance with the relative rigidities of the panels at the design load.
    c. The listed values of the panels shall be based on tests conducted in accordance with AC120.

217. Provide referenced calculations showing the over-turning moments in all shear wall segments. (SDPWS 4.3.6.4.2)

218. Show size, location and embedment length of hold-down anchors on the foundation plan. Note on the plans that hold-down hardware must be secured in place prior to foundation inspection. (108.4)

219. Provide details showing positive connection between beam ends, walls and supporting posts. (106.4.3)

220. Light frame cold-formed steel shear walls and diaphragms that are part of the lateral load resisting system shall be designed in accordance with AISI S213. (2210.6)

221. Horizontal diaphragms shall not exceed a span to width ratio of 4 to 1. (SDPWS T-4.2.4)

222. Provide a diaphragm analysis to show diaphragm adequacy. Specify if diaphragms are to be blocked or unblocked per AF&PA T-4.2A, T-4.2B & 4.2C. (2306.2)

223. Masonry veneer details, anchors, backing, footings and support over openings are required. (2101.2.6)

224. This structure has exterior veneer on wood studs. Provide details complying with Section 1405 & Chp. 6 of TMS402/ACI530 .

225. Provide a vertical and longitudinal section through each glass block wall showing how it is supported at each edge and reinforced in each direction. Submit lateral calculations and show compliance with Chapter 7 of TMS 402/ACI 530/ASCE 5. (2110.1)

226. Precast panels, exterior non-bearing, non-shear wall panels, or elements that are attached to or enclose the exterior shall be designed to resist the forces and connections shall be in compliance with ASCE 7 Section 12.11.

227. Provide details, properly referenced, of the anchorage system between the wood roof and floor diaphragms and the concrete or masonry walls. Minimum design force shall be $0.2k_aI_eW_p$ . (1604.8, ASCE 7 12.11)

228. Provide calculations and details on the plans for the sub-diaphragm and continuous cross tie system required for all wood diaphragms providing lateral support to masonry or concrete walls. (1604.8.2)
    a. The wall anchorage shall provide a positive direction connection between the wall and floor or roof construction capable of resisting a horizontal force specified in Section 1604.8.2 & ASCE 7 12.11.2. In addition, a diaphragm to wall anchorage using embedded straps shall have the straps attached to or hooked around the reinforcing steel or otherwise terminated to effectively transfer forces to the reinforcing steel.
    b. Elements of the wall anchorage system shall be designed for the forces specified in Section ASCE7 12.11.2.1. The value of $F_p$ used for the design of the elements of the wall anchorage system shall not be less than $0.2k_aI_eW_p$. of wall substituted for E.
    c. When elements of the wall anchorage system are not loaded concentrically or are not perpendicular to the wall, the system shall be designed to resist all components of the forces induced by the eccentricity.
    d. When pilasters are present in the wall, the anchorage force at the pilasters shall be calculated considering the additional load transferred from the wall panels to the pilasters. However, the minimum anchorage force at a floor or roof shall be that specified in "b" above. (ASCE 7 12.11.2.2.7)
    e. The strength design forces for steel elements of the wall anchorage system, with the exception of anchor bolts and reinforcing steel, shall be 1.4 times the forces otherwise required above. (ASCE 7 12.11.2.2.2)
    f. Floor and roof diaphragms shall be designed to resist the forces per ASCE 7 Section 12.10.1.
    g. The maximum diaphragm shears used to determine the depth of the sub-diaphragm shall not exceed 75 % of the maximum diaphragm shear.
    h. The maximum length-to-width ratio of the wood structural sub-diaphragm shall be 2-1/2:1 per ASCE 7 Section 12.11.2.2.1.
    i. The wall anchorage shall not be accomplished by use of toenails or nails subject to withdrawal, wood ledgers or framing shall not be used in cross-grain bending or cross-grain tension.
    j. Connections of a diaphragm to the vertical elements in structures having horizontal & vertical irregularities of ASCE 7 Table 12.3-1 & 12.3-2 shall be designed per ASCE 7 12.3.3.4.
    k. The structures having a horizontal structural irregularity of Type 2 in ASCE 7 Table 12.3-1, diaphragm chords and drag members shall be designed considering independent movement of the projecting wings of the structure. Each of these diaphragm elements shall be designed for the more severe of the following two assumptions:
        i. Motion of the projecting wings in the same direction.
        ii. Motion of the projecting wings in opposing directions.
    l. When designing the diaphragm to comply with the requirements stated above, the return walls, and fins/canopies at entrances shall be considered. Seismic compatibility with the diaphragm by either seismically isolating the element or by attaching the element and integrating its load into the diaphragm.

229. Masonry shear walls designed per ASD method shall consider 1.5 times the required seismic force for Seismic Design Categories D, E, & F, and comply with the requirements of TMS 402/ACI 530/ASCE . (2106.1)

230. Provide an analysis of all tilt up panels with openings. Show that the reinforcing in the panels, on each side of the openings, is adequate. (106.4.3)

231. For each of the metal decks provide the manufacturer and designation, height, complete welding information, reinforcing and thickness and type of fill. (106.4.3)

232. Bracing members and connections in steel braced frames shall be designed per AISC 341.

233. Concrete shear walls must be designed based on the requirements of Section 1905 and ACI 318 § 21.9.

234. Concrete shear wall reinforcement shall be terminated with required development length per ACI 318 § 21.9 beyond the boundary reinforcing at the vertical and horizontal end faces of wall sections.

235. The applicant shall submit a statement of special inspections prepared by the registered design professional in responsible charge in accordance with Section 106.4.5 as a condition of permit issuance. The statement shall be in accordance with Section 1704.3 (1704.3)

236. The architect or engineer of record shall list all the deferred submittals on the plans and shall submit the deferred submittal documents to the building official, prior to installation. (106.4.4.2)
    a. Note on the plans: "The deferred submittal items shall be submitted to the architect or engineer of record who shall review and approve them, and forward them to the building official with a notation indicating that the deferred submittal documents have been reviewed and approved and that they have been found to be in general conformance with the design of the building. The deferred submittal items shall not be installed until their design and submittal documents have been approved by the building official. Provide ample time for the building official to review the documents."

237. Detail the proposed stepped footings. (1809.3)

238. Calculations are required for retaining walls over 4-ft. in height, measured from the bottom of the footing to the top of the wall, including walls less than 4-ft. high supporting a surcharge or sloping earth, or impounding Class I, II, or III-A liquids. (105.2)
239. Provide grade beam ties to interconnect individual pile caps and caissons. Ties shall be capable of resisting, in tension or compression, a force equal to the lesser of the product of the larger pile cap or column design gravity load times the seismic coefficient SDS divided by 10, and 25% of the smaller pile or column design gravity load Design per 1810.3.13.
240. For masonry or concrete walls below grade designed as restrained at top. NOTE ON THE PLANS: "The perimeter walls are not to be backfilled until the floor slabs are poured and cured."
241. Foundation walls enclosing a usable space below finished grade shall be waterproofed or damp-proofed in accordance with Section 1805.
242. Structural observation per Section 1704.5 is required for this project. The engineer of record shall prepare an inspection program, including the name(s) of the individuals or firms who will perform the work. The inspection program shall be shown on the first sheet of the structural drawings. (See attached sheet)
243. Note on the plans: “Compaction report shall be submitted to the Building Inspector prior to footing inspection.”
244. Specify on plans the soil bearing pressure used in the design. Submit copy of soils’ report to justify.(T-1806.2)
245. Structures assigned to Seismic Design Category C, D, E, or F shall not have elements of structural plain concrete. (1905.1.8)
246. For masonry structures, Type N mortar shall not be used as part of the vertical or lateral-load resisting system. (TMS402/ACI530 1.18.4.4.2.2)
247. The Architect or Engineer of record shall specify $S_s$ and $S_1$. (ASCE 7 11.4.1)
248. The seismic response coefficient, $C_s$, is permitted to be calculated using a value of 1.5 for $S_s$ for regular buildings five stories or less and with a period T≤0.5 second per ASCE 7 Section 12.8.1.3.
249. In case of discontinuity at any portion of the lateral load resisting system, concrete, masonry, steel, and wood elements supporting such discontinuous systems shall have the design strength to resist the maximum induced forces that can develop in accordance with the load combinations with overstrength factor of ASCE 7 Section 12.4.3.2.
250. Calculate story drift with $C_d$ and I factors based on deflections of each level. Strength level forces shall be used in accordance with ASCE 7 Section 12.8.6.
251. Cantilevered column systems resisting seismic forces shall be designed with an R and $C_d$ factor per ASCE 7 T-12.2-1. Foundation and other elements used to provide overturning resistance at the base of cantilever column elements shall be designed with the appropriate over strength factor set forth in Section 12.4.3.2. (ASCE 7 12.2.5.2)
252. Specify the header size at door, window, and other openings in bearing walls. (2304.3.2)
253. Suspended ceilings shall be designed per ASCE 7 Section 13.5.6. Provide details.
254. Detail the shear transfer connections which transfer lateral forces from horizontal diaphragms through intermediate elements and shear walls to the foundation. (106.4.3)
255. Where applicable, provide pre-engineered wall manufacturer’s detail sheets on the plan.
256. Have the consulting soils/geotechnical engineer review and approve the foundation plans. (106.4.3)
257. Cross-reference all calculations for columns, beams, shear walls, etc., from the calculations to the plans. (106.4.3)
258. Alteration, repair, addition and change of occupancy of existing structures shall comply with the provisions of Chapter 34 of the Building Code.
259. Please see additional comments on plans and calculations.

**ADDITIONAL COMMENTS**