



DECKS, STAIRS, HANDRAILS, GUARDRAILS & LANDINGS

Please make sure that you provide all the following construction documents for your permit application to be complete. Please do not hesitate to contact us regarding what may be required for your project.

- **Site Plan** showing existing building footprint and the location of new/reconstructed deck/porch/stair with distances to property lines. The site plan shall also contain project information [i.e., title block, project address, owner's information, and scope of work statement].
- **Framing Plan** showing size, spacing, and span of floor joists and supporting beams/ girders.
- **Foundation Plan** showing location, size, and depth of supporting individual footings/ piers. Foundation and framing plans can be combined if the clarity is maintained.
- **Construction Sections/Details** of footings/piers, framing, connections, floor transitions, stairs, guardrails, and handrails. Materials used must be provided.
- **Code Compliance** statement on your cover page of the plans, that states your project complies with **either the 2022 California Building Code OR the 2022 California Residential Code**. If your plan is not drawn per the current California Residential Code, an engineer's Calculations are required. If you do use the CRC, provide the sizing tables for the joists, posts, and footings used within your plans (CRC §R507).

Decks:

1. Deck framing shall be positively anchored to the primary structure for both vertical and lateral loads. Such attachment shall not be accomplished by the use of toenails or nails subject to withdrawal. Where the positive connection to the primary structure cannot be provided, decks shall be self-supporting. [CRC §R311.5 and §R507.8].
2. Ledger shall be attached as set forth in CRC Table R507.9.1.3(1) and Table R507.9.1.3(2) with 1/2-inch minimum lag screws or bolts with washers, all hot-dip galvanized or stainless steel. Lag screws or bolts shall be placed 2" in from the bottom and top of the deck ledger and shall be staggered. [Table R507.9.1.3(2) footnote a].
3. Deck framing shall have positive tension tie connections with floor framing. Hold-down tension devices shall be installed in not less than two locations per deck, and each device shall have an allowable design capacity of not less than 1500 pounds. [CRC §R507.9.2, Figure R507.9.2(1)].
4. Ledgers shall be flashed in accordance with CRC §R703.4 to prevent water from contacting the house band joist.
[CRC Table R507.9.1.3(1) footnote a].
5. Deck ledger shall be sized per Table R507.5(1). Deck ledgers shall be a minimum 2-inch by 8-inch nominal, pressure-preservative-treated Southern pine, incised pressure-preservative-treated hem-fir, or approved, naturally durable, No. 2 grade or better lumber [CRC §R507.9.1.1].
6. Spacers are recommended between the face of the ledger and the face of the band joist.
7. Ledger connections not conforming to the above requirements shall be designed in accordance with accepted engineering practice.

8. Deck framing [e.g., girders, joists, beams, decking, posts, poles, columns, etc.] shall be of approved naturally durable lumber or pressure-preservative-treated wood materials. [CRC §R507.2.1, §R317].

Stairs:

1. Stairways shall not be less than 36 inches in clear width at all points above the permitted handrail height and below the required headroom height. Handrail projections are limited to not more than 4 ½ inches on either side of the stairway. [CRC §R311.7.1]
2. Headroom shall not be less than 6 feet 8 inches measured vertically from the sloped line adjoining the tread nosings. [CRC R311.7.2]
3. Riser height shall not exceed 7 ¾ inches. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch. [CRC §R311.7.5.1]
4. Tread depth [measured between the nosings] shall be at least 10 inches. The largest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch. [CRC §R311.7.5.2]
5. Nosings not less than ¾ inch but not more than 1 ¼ inch shall be provided on stairways with solid risers if the tread depth is less than 11 inches. The radius of curvature at the nosing shall be not greater than 9/16 inch. [CRC §R311.7.5.3]
6. Open risers are permitted, provided that the openings located more than 30 inches, as measured vertically, to the floor or grade below do not permit the passage of a 4-inch diameter sphere. [CRC §R311.7.5.1]
7. A flight of stairs shall not have a vertical rise greater than 12 feet 7 inches (3835 mm) between floor levels or landings. [CRC §R311.7.3]

Handrails:

1. Handrails shall be provided on at least one side of each continuous run of treads or flight with four or more risers. [CRC §R311.7.8]
2. Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or finish surface of ramp slope, shall be not less than 34 inches and not more than 38 inches. [CRC §R311.7.8.1].
3. Handrails shall not project more than 4 ½ inches on either side of the stairway. Handrails adjacent to a wall shall have a space of not less than 1 ½ inches between the wall and the handrails. [CRC §R311.7.8.2, §R311.7.8.3]
4. Handrails shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned toward a wall, guard walking surface continuous to itself, or terminate to a post. [CRC §R311.7.8.4].
5. Handrails shall be grippable and shall be of one of the following types, or provide equivalent graspability:
 - a. Type I: Handrails with a circular cross-section shall have an outside diameter of not less than 1 ¼ inches and not greater than 2 inches. If the handrail is not circular, it shall have a perimeter of not less than 4 inches and not greater than 6 ¼ inches and a cross-section of not more than 2 ¼ inches. Edges shall have a radius of not less than 0.01 inch.
 - b. Type II: Handrails with a perimeter greater than 6 ¼ inches shall have a graspable finger recess area on both sides of the profile. The finger recess shall begin within ¾ inch measured vertically from the tallest portion of the profile and have a depth of not less than 5/16 inch within 7/8 inch below the widest portion of the profile. This required depth shall continue for not less than 3/8 inch to a level that is not less than 1 ¾ inches below the tallest portion of the profile. The width of the handrail above the recess

shall be not less than 1 ¼ inches and not more than 2 ¾ inches. Edges shall have a radius of not less than 0.01 inch.

Guardrails:

1. Guards shall be provided for those portions of open-sided walking surfaces, including floors, stairs, ramps, and landings that are located more than 30 inches measured vertically to the floor or grade below at any point within 36 inches horizontally to the edge of the open side. [CRC §R312.1.1]
2. Required guards at open-sided walking surfaces, porches, balconies, or landings, shall be not less than 42 inches in height as measured vertically above the adjacent walking surface or the line connecting the nosings. [CRC §R312.1.2]
3. Guards on the open sides of stairs shall have a height of not less than 34 inches measured vertically from a line connecting the nosings. Where the top of the guard serves as a handrail on the open sides of stairs, the top of the guard shall be not less than 34 inches and not more than 38 inches as measured vertically from a line connecting the nosings. [CRC §R312.1.2]
4. Guards shall not have openings from the walking surface to the required guard height which allow passage of a sphere 4 inches in diameter. Guards on the open sides of stairs shall not have openings that allow passage of a sphere 4-3/8 inch in diameter. [CRC §R312.3]
5. Guards and handrails shall be capable to withstand a single concentrated load of 200 pounds applied in any direction at any point along the top of the rail. [CRC Table R301.5]
6. Guard in-fill components, balusters, and panel fillers shall be designed to withstand a horizontally applied normal load of 50 pounds on an area equal to 1 square foot. This load need not be assumed to act concurrently with any other live load requirement. [CRC Table R301.5, footnote (f)]

Landings

1. There shall be a landing or floor on each side of each exterior door. The width of each landing shall be not less than that of the door served. Landings shall have a dimension of not less than 36 inches measured in the direction of travel. The slope at exterior landings shall not exceed 2 percent. [CRC §R311.3]
2. Landings or finished floors at the required egress door shall be not more than 1½ inches lower than the top of the threshold. [CRC §R311.3.1]
3. The landing or floor on the exterior side shall be not more than 7 ¾ inches below the top of the threshold provided that the door does not swing over the landing or floor. [CRC §R311.3.1]
4. Doors other than the required egress door shall be provided with landings not more than 7-3/4 inches below the top of the threshold. [CRC §R311.3.2]

Exception: A landing is not required where a stairway of two or fewer risers is located on the exterior side of the door, provided the door does not swing over the stairway.

WUI Zone Decking: The walking surface material of decks, porches, balconies, and stairs shall be of one of the following: [CRC §R337.9.3]:

1. Material that complies with the performance requirements of §R337.9.4 when tested in accordance with both ASTM E2632 and ASTM E2726.
2. Ignition-resistant material that complies with the performance requirements of §R337.9.4.
3. Material that complies with the performance requirements of both SFM Standard 12-7A-4 and §R337.4.3.

4. Exterior fire-retardant-treated wood.
5. Noncombustible material.
6. Any material that complies with the performance requirements of SFM Standard 12-7A-4A when the attached exterior wall covering is also composed of non-combustible or ignition-resistant material.

Exception: Wall material shall be permitted to be of any material that otherwise complies with this chapter when the decking surface material complies with the performance requirements ASTM E84 with a Class B flame spread index.

7. Any material that complies with the performance requirements of Section R337.9.5 when tested in accordance with ASTM E2632 and when the attached exterior wall covering is also composed of only non-combustible or ignition-resistant materials.

Exception: Wall material shall be permitted to be of any material that otherwise complies with this chapter when the decking surface material complies with the performance requirements ASTM E84 with a Class B flame spread index.