

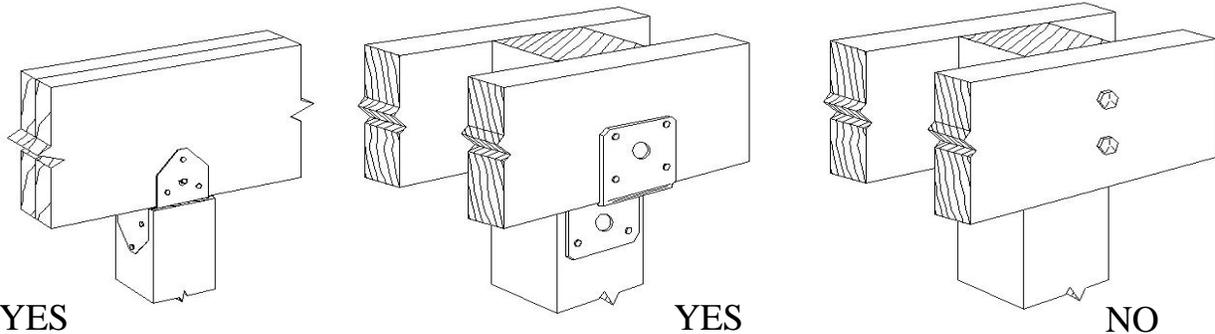
Residential Deck Construction

Residential decks are required to have zoning approval and a building permit if they are in excess of 30” above the surrounding grade. Decks below 30” are required to obtain zoning approval prior to being constructed but do not require a building permit. Decks contribute to the total lot coverage of a property and must meet setback requirements.

Provide a site plan indicating the existing property and the proposed deck location with distances from the property lines for zoning approval. Provide framing plans indicating member size and spacing, post locations and footing sizes and depth. Indicate location of railings and stairs and provide details for same.

Decks shall be designed for a live load (people) of 40 psf and a dead load (framing and decking) of 10 psf with a max deflection of L/360 (L = length in inches). Decks connected to the house shall be provided with footings with a minimum depth of 42” below the adjacent grade. Soil is assumed to provide 2000 psf of bearing.

Beams must have a minimum of 1 1/2” of bearing on wood (bearing on top of posts or incised 4 x 6 or 6 x 6 posts) or metal, 3” on masonry or concrete. Through bolted connections not approved unless engineered-approved hardware connections (example - deck to joist connector DJT 14 – 1250 lbs per connector) are approved. Joists shall be similarly supported on ledgers or be provided with hangers or bear on beams.



Decks with a finished elevation in excess of 30” above the adjacent grade shall be provided with a guardrail with a 36” minimum height and installed such that it will withstand a 200 pound force applied to the top of the rail at any point in any direction. Openings in the guardrail shall be such that a 4” sphere cannot pass through at any point. The height of the deck shall be considered from any point 36” out from the deck perimeter.

Ledger board to house connection

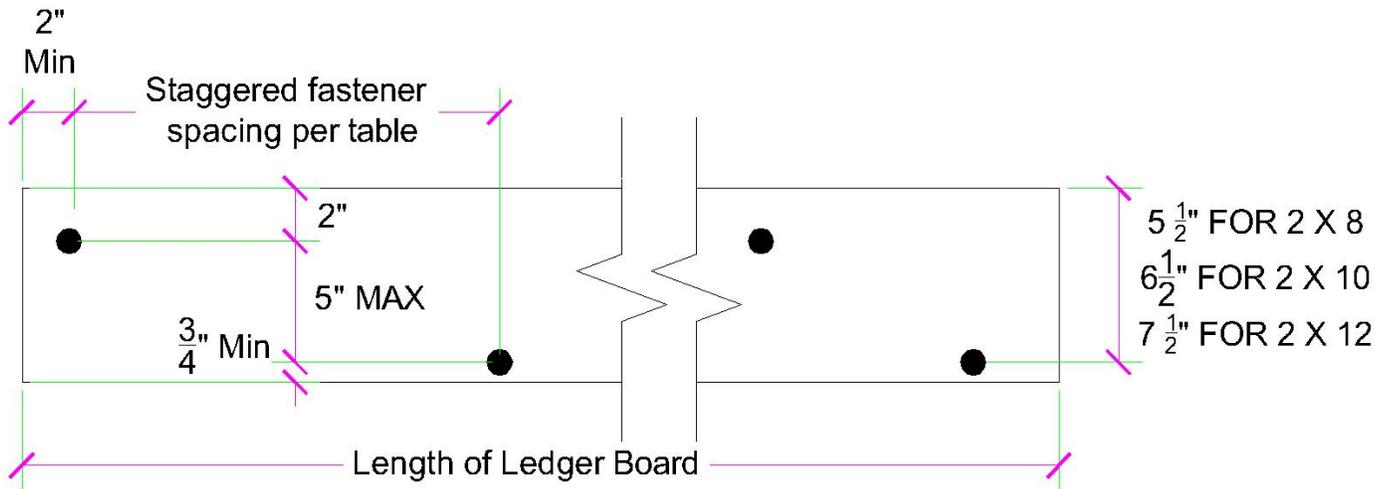
Joist span	6' and less	6'1" to 8'	8'1" to 10'	10'1" to 12'	12'1" to 14'	14'1" to 16'	16'1" to 18'
Connection Details							
1/2" dia lag screw with 15/32" max sheathing	30" o.c.	23" o.c.	18" o.c.	15" o.c.	13" o.c.	11" o.c.	10" o.c.
1/2" dia bolt with 15/32" max sheathing (through bolt)	36" o.c.	36" o.c.	34" o.c.	29" o.c.	24" o.c.	21" o.c.	19" o.c.
1/2" dia bolt with 15/32" max sheathing and 1/2" stacked washers (through bolt)	36" o.c.	36" o.c.	29" o.c.	24" o.c.	21" o.c.	18" o.c.	16" o.c.

- The tip of the lag screw shall fully extend beyond the inside face of the band joist
- The maximum gap between the face of the ledger board and the face of the wall for **bolted connections** shall be 1/2". Wood structural panel, gypsum board or foam sheathing not exceeding 1" in thickness shall be permitted.
- Rim joist must bear on the foundation wall – no connections to cantilevered rim joists shall be permitted
- Ledgers shall be nominal 2 x 8 pressure treated #2 or better with fasteners staggered. Fasteners shall not be located in the outer 2" of the ledger board.
- Provide proper flashing of the ledger board at the connection to the rim joist.
- Ledgers shall only support floor joists – beams carrying joists may not be supported by the ledger board

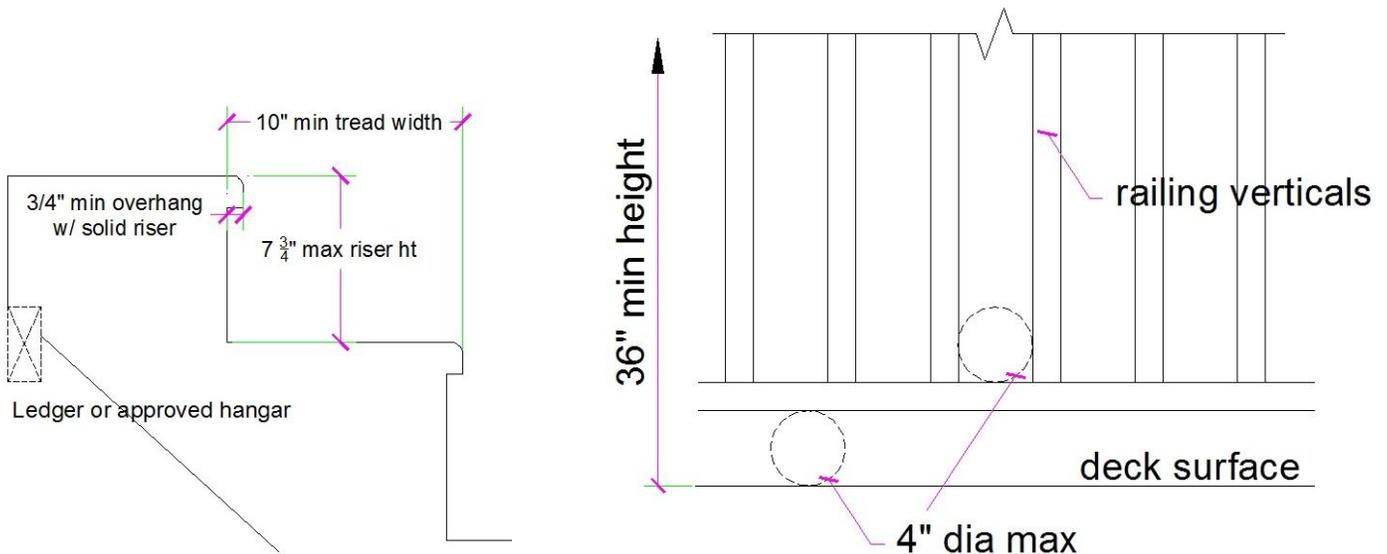
Cantilever length shall not exceed 24"

Stairs shall have a maximum riser height of 7-3/4" and a minimum tread width of 10" (10-3/4" if closed risers are provided - see diagram). Stairs shall be attached to the deck by means of approved connectors or a 1 1/2" ledger board. Risers shall be uniform in height – the difference in height of all risers shall not exceed 3/8" (example – if the highest riser height is 7 3/4" then every other individual riser would have to have a height within 3/8" of the 7 3/4" mark to be compliant). Stairs shall be 36" minimum in width and shall be able to support a 300 lb concentrated load applied over a 4 sq inch area.

Typical Deck Details



Ledger Board Attachment



Stair Detail

Railing Detail