



# Residential Wood Deck Stair Stringer Attachment Details

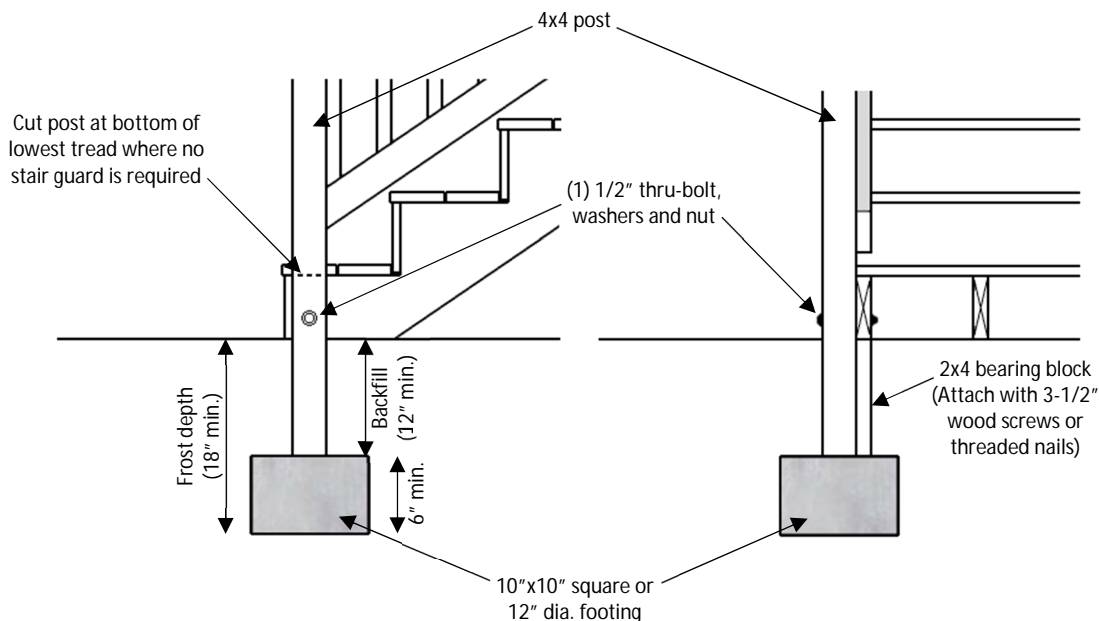
Below are acceptable residential deck stair stringer attachment details approved by the Henrico County Building Inspections Department. Other alternate means of attachment may be acceptable but must be submitted to the individual county plan reviewer for approval. Stair stringer attachment details shall be attached to the building permit application for approval.

## Stair Stringer to Footing Details

Footings shall be at least frost depth (unless part of a freestanding deck). There shall be at least 12" of soil backfill, or a mechanical post base, to laterally restrain the post. The footing shall be minimum 10" square or 12" diameter round, at least 6" thickness.

Stair post shall be minimum 4x4, treated for ground contact, with the uncut end below grade. Where no stair guard is present or required, the post shall be cut at the bottom edge of the lowest tread.

The stair stringer shall be attached to the post with a 1/2" diameter through-bolt, with washers and a nut. Carriage bolts are prohibited, bolts must be hex-head to ensure they can be tightened as the wood dries out. A 2x4 bearing block shall be added vertically along the post, creating a continuous bearing point from the top of the footing to the bottom of the stringer. The bearing block shall be attached with 3-1/2" screws or threaded nails.



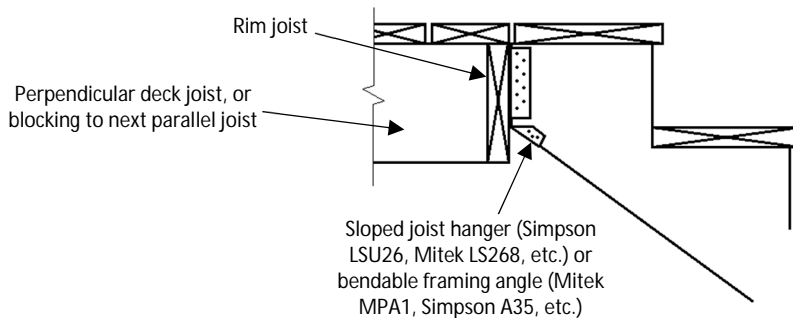


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## Stair Stringer to Deck Details

The top of the stair stringers may be either attached directly to the deck framing, or framed separately and attached as an assembly. Regardless of method, the top of the stair stringers shall be secured with a sloped joist hanger (Simpson LSU26, Mitek LS268, etc.) or a bendable framing angle (Mitek MPA1, Simpson A35, etc.).

Where the stringers are attached directly to the deck rim joist, the top of the stair tread shall be flush with the top of the deck boards. If attaching to the rim joist that runs parallel to the deck joists, the rim joist must be blocked back to the next joist.



Where the stair stringers are framed and assembled independently from the main deck, the drop from the deck to the top tread shall match the riser height for the rest of the stairs. The band at the top of the stringers shall be a minimum 2x8 board.

The stringer band shall be attached to the deck rim board or end joist with face-mounted 2x6 connectors at each stringer. Where the 2x6 connectors lap the stringer band and deck framing, the lap shall be attached with a 1/2" diameter thru-bolt with washers and a nut, and with four 3" screws or nails. Carriage bolts are prohibited.

