

# RESIDENTIAL DECK CONSTRUCTION GUIDE

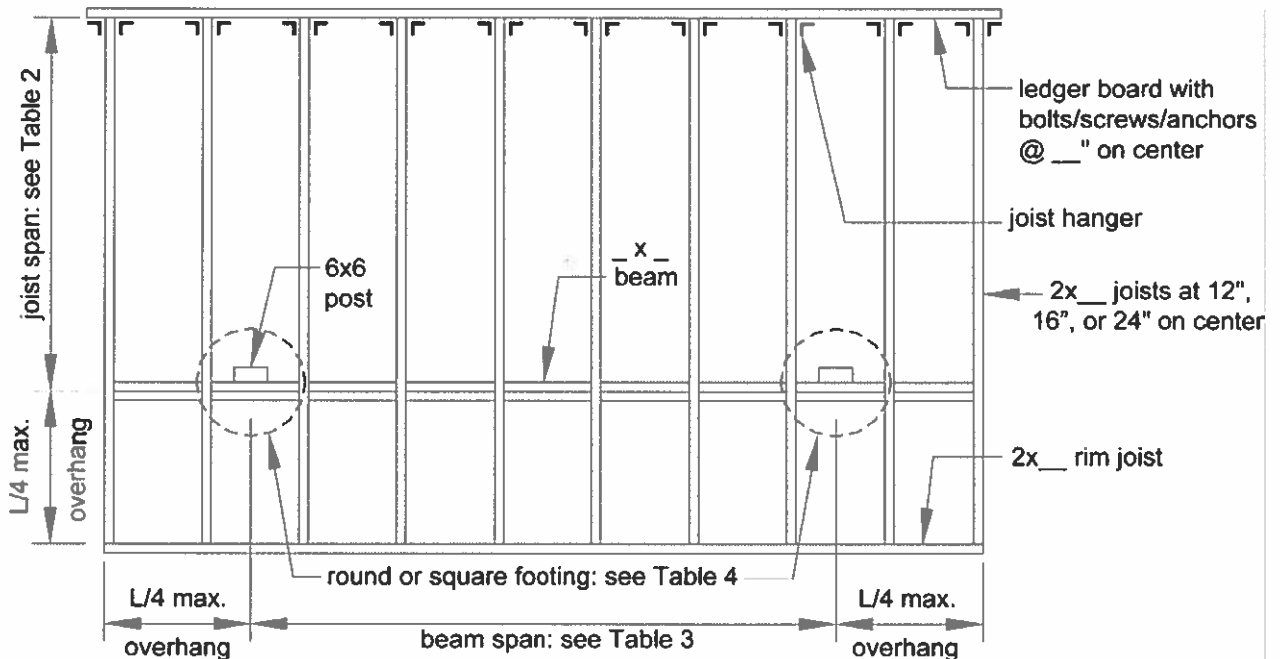
NORTH STRABANE DEPARTMENT OF BUILDING AND CODE ENFORCEMENT

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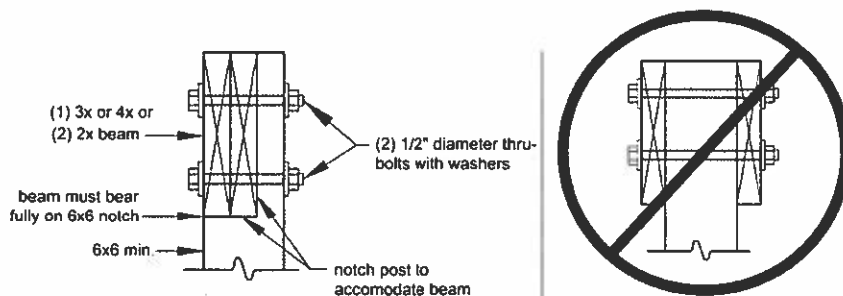
The information below is intended for use as a **guide only**. Provisions and details contained in this document are based on the 2009 International Residential Code (IRC) this guide is not intended to preclude the use of other construction method; however it is the responsibility of the builder to insure that construction is consistent with good industry practices. Where differences occur between good industry practices and the IRC, the provisions of the IRC shall apply.

## MINIMUM REQUIREMENTS

- This document applies to single level residential decks only. Decks with roofs shall show continuous bearing of the roof to the ground ore be engineered design.
- Decks supporting large concentrated loads such as hot tubs are beyond the scope of this document and must be sealed by a design professional
- **Decking**, wood or composite, shall be of sufficient size and specification for the design use. Joist for composite decking shall be space according to manufacturer's instructions.
- **Joist and Beam sizing** shall be in accordance with IRC span table recommendations. (A general guide is attached)

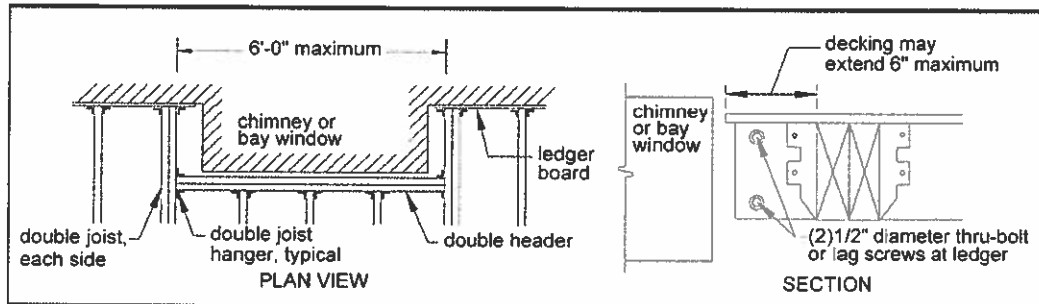
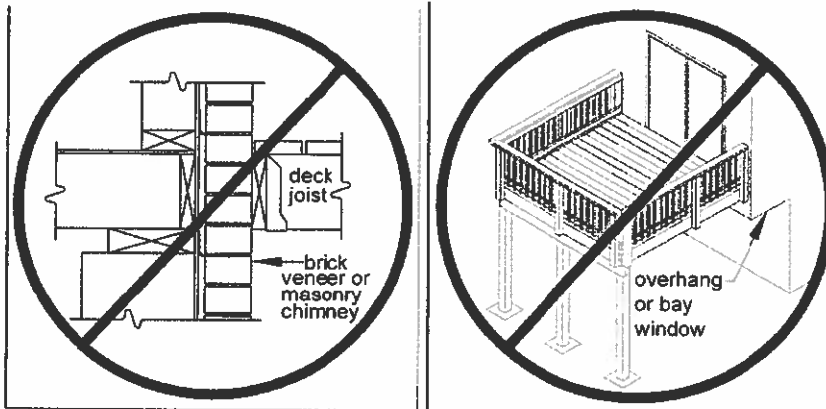


- Beams shall bear on post and joists shall bear on beams or approved hangers.



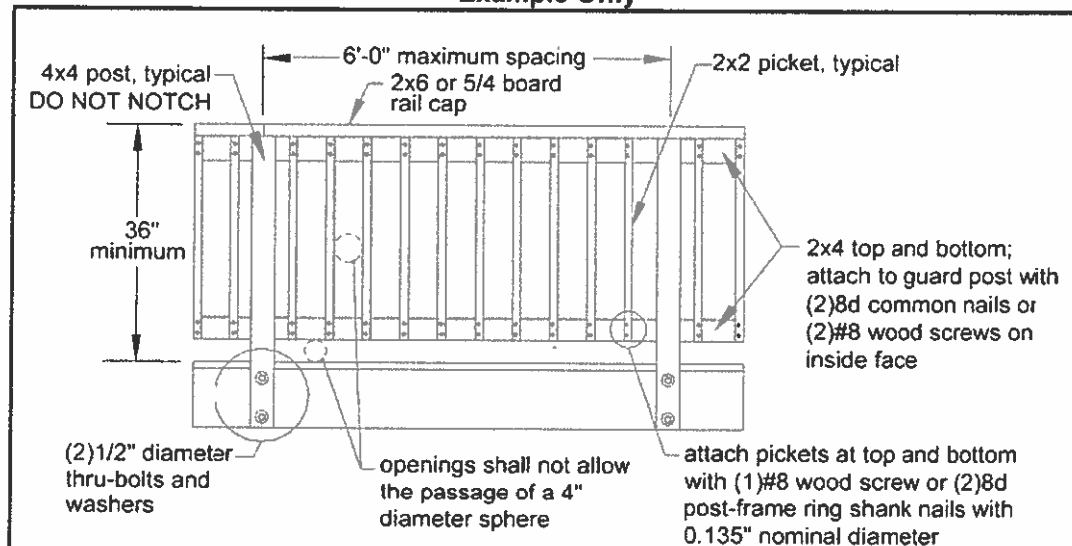
- **Footing depth** is 36" and shall be sized in accordance with the IRC. (Min. 12" round X 6" thick)

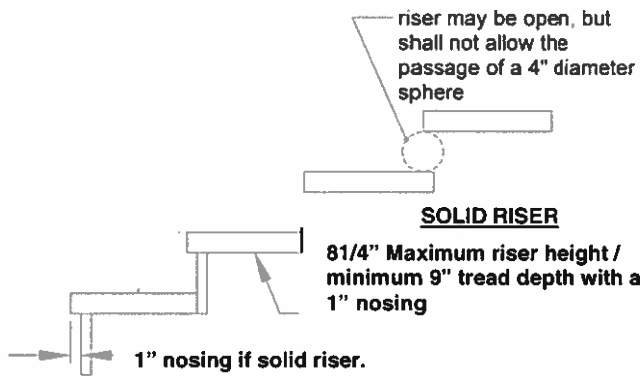
- **Ledgers** shall be positively anchored to the primary structure and designed for both vertical and lateral loads as applicable. Such attachment shall not be accomplished by the use of toenails or nails subject to withdrawal. (See Bracing and Lateral Loads)
- **Attachment of the ledger** to exterior veneers (brick, masonry, stone) and to cantilevered floor overhangs or bay windows are prohibited. In such cases the deck shall be free standing.



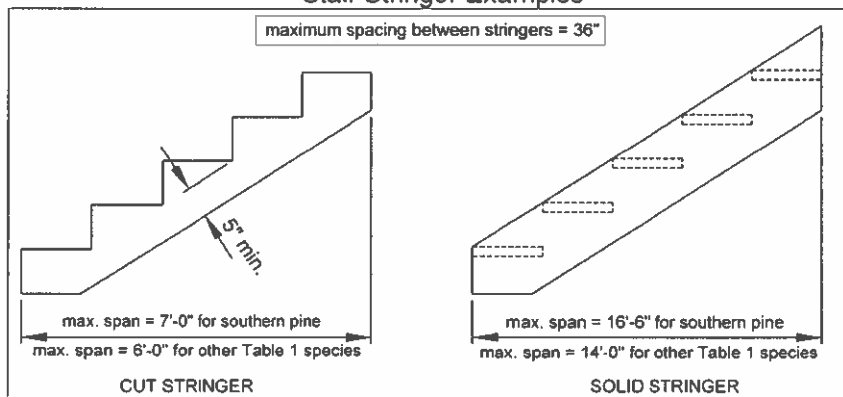
- Ledgers shall be attached with 1/2" through bolts, lag screws or other approved fastener and spaced accordingly.
- **Free Standing** decks greater than 2 feet above grade shall be provided with diagonal bracing or be attached to the exterior wall of the house.
- **Guards** are required on all decks greater than 30" above grade and meet the minimum requirements as shown below.
  - Guards adjacent to fixed seating shall be measured from the top of seat
  - Stairs with 4 or more risers

#### Example Only



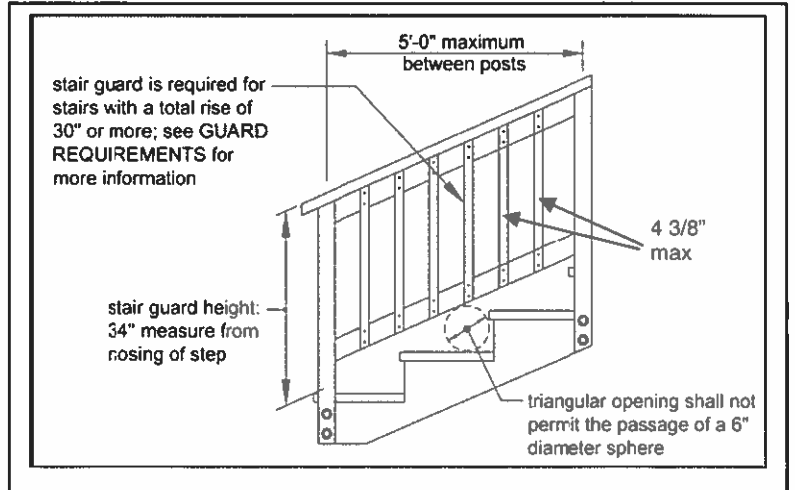
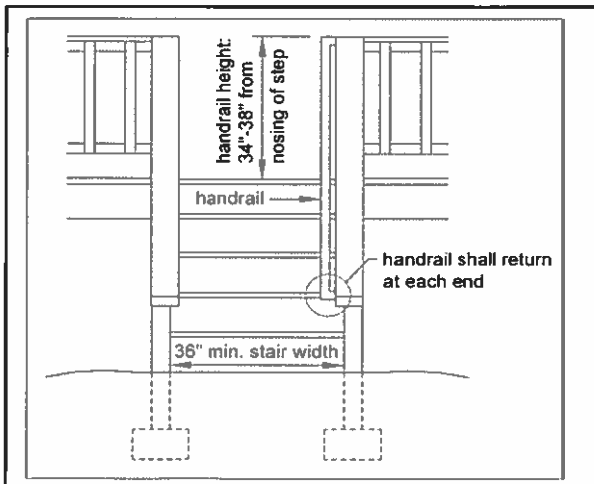


### Stair Stringer Examples



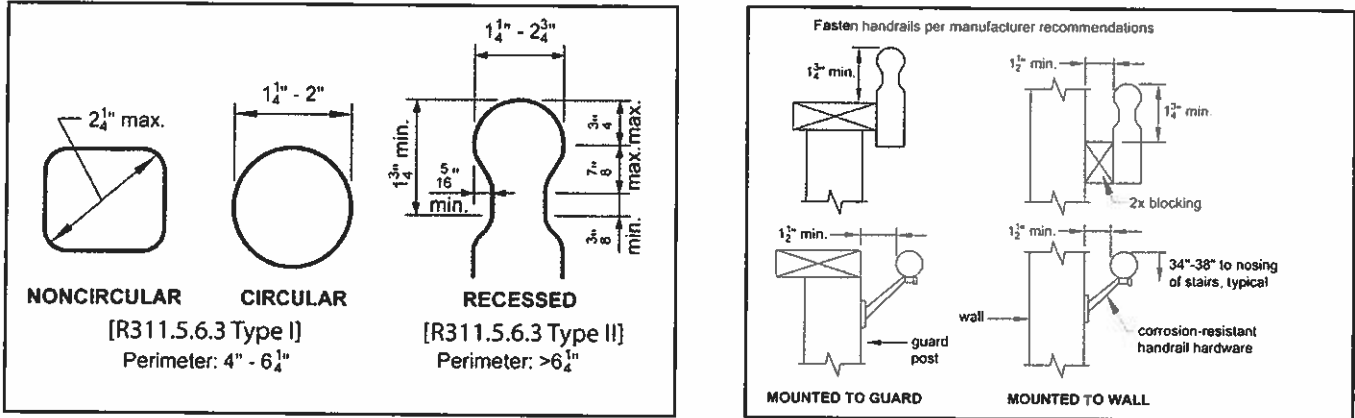
### STAIR HANDRAIL REQUIREMENTS:

All stairs with 4 or more risers shall have a handrail on at least one side. The handrail height measured vertically from the sloped plane adjoining the nosing shall not be less than 34 inches. Handrails shall be graspable and shall be composed of decay-resistant and corrosion resistant material handrail shall be Type I, Type II, or provide equivalent graspability.



## ACCEPTABLE HAND RAIL DESIGNS

- Type I shall have a perimeter dimension of at least 4" and not greater 6-1/4"
- Type II handrail with a perimeter greater than 6-1/4" shall provide a graspable finger recess area on both sides of the profile

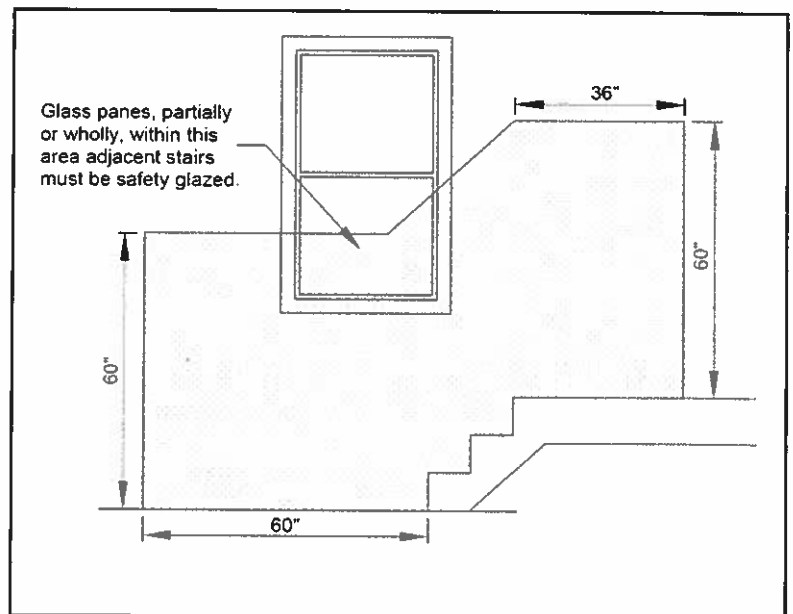


All shapes shall have a smooth surface with no sharp corners. Handrails shall run continuously from a point directly over the lowest riser to a point directly over the highest riser and shall return to the guard at each end. Handrails may be interrupted by guard posts at a turn in the stair

### SAFETY GLAZING:

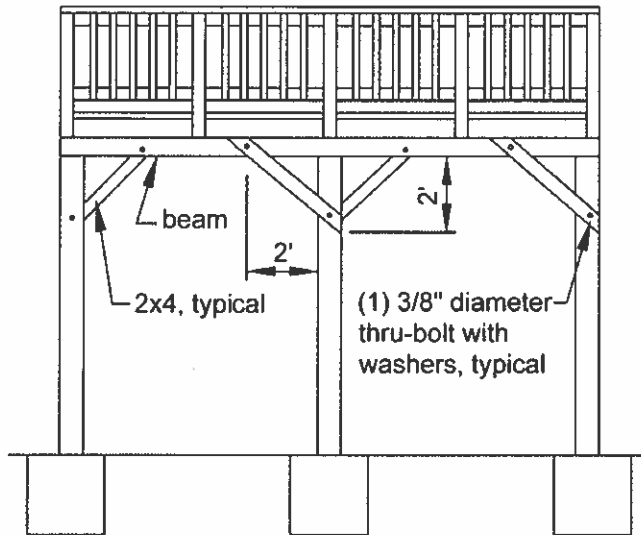
Safety glazing is required when a window is adjacent to stairways, landings and ramps within 36 inches horizontally of the walking surface when the exposed glazing is less than 60 inches above the plane of the adjacent surface

**DRAWINGS  
ARE FOR  
REFERENCE  
ONLY**

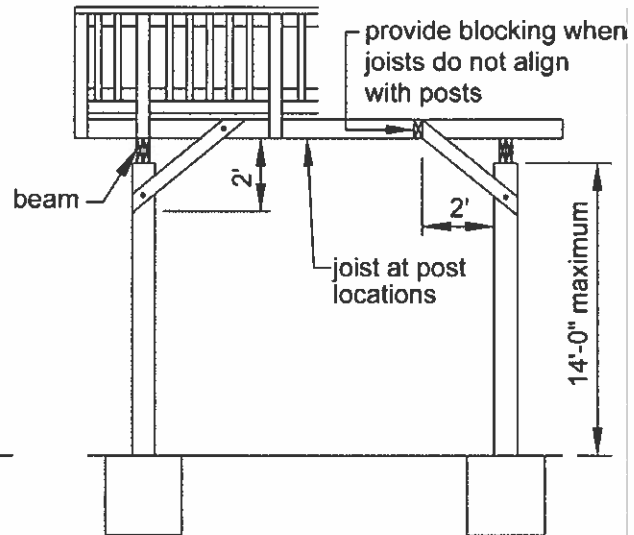


## DECK STABILITY

- Decks greater than 2 feet above grade shall be provided with diagonal bracing both parallel and perpendicular to the beam at each post.



BRACING PARALLEL TO BEAM



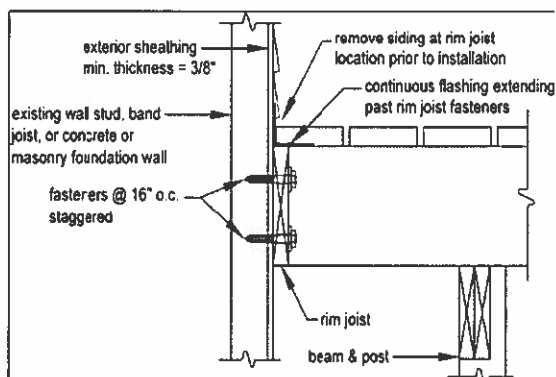
BRACING PERPENDICULAR TO BEAM

### Free-standing Deck - Attachment to House:

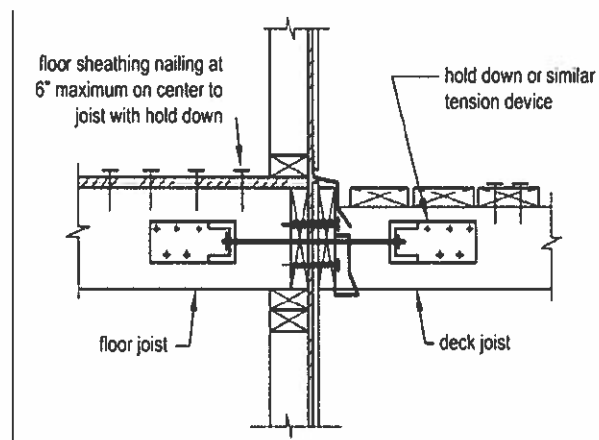
Attach the deck rim joist to the existing house exterior wall as shown below for a free-standing deck. The wall must be sheathed with minimum 3/8" wood structural panel sheathing. Use lag screws or thru-bolts when fastening to an existing band joist or wall stud; use expansion anchors or epoxy anchors when fastening to concrete or masonry. **DO NOT ATTACH TO BRICK VENEERS. VERIFY THIS CONDITION IN THE FIELD PRIOR TO UTILIZING THIS METHOD.**

### Deck Supported by Ledger - Attachment to House:

Where supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads as applicable [R502.2.2]. The lateral load connection required shall be permitted to be hold down tension devices and shall be provided in **not less than two** locations per deck. Each device shall have an allowable stress design capacity of not less than 1,500 lb [R502.2.2.3]. See below.



FREE STANDING



ATTACHED TO HOUSE