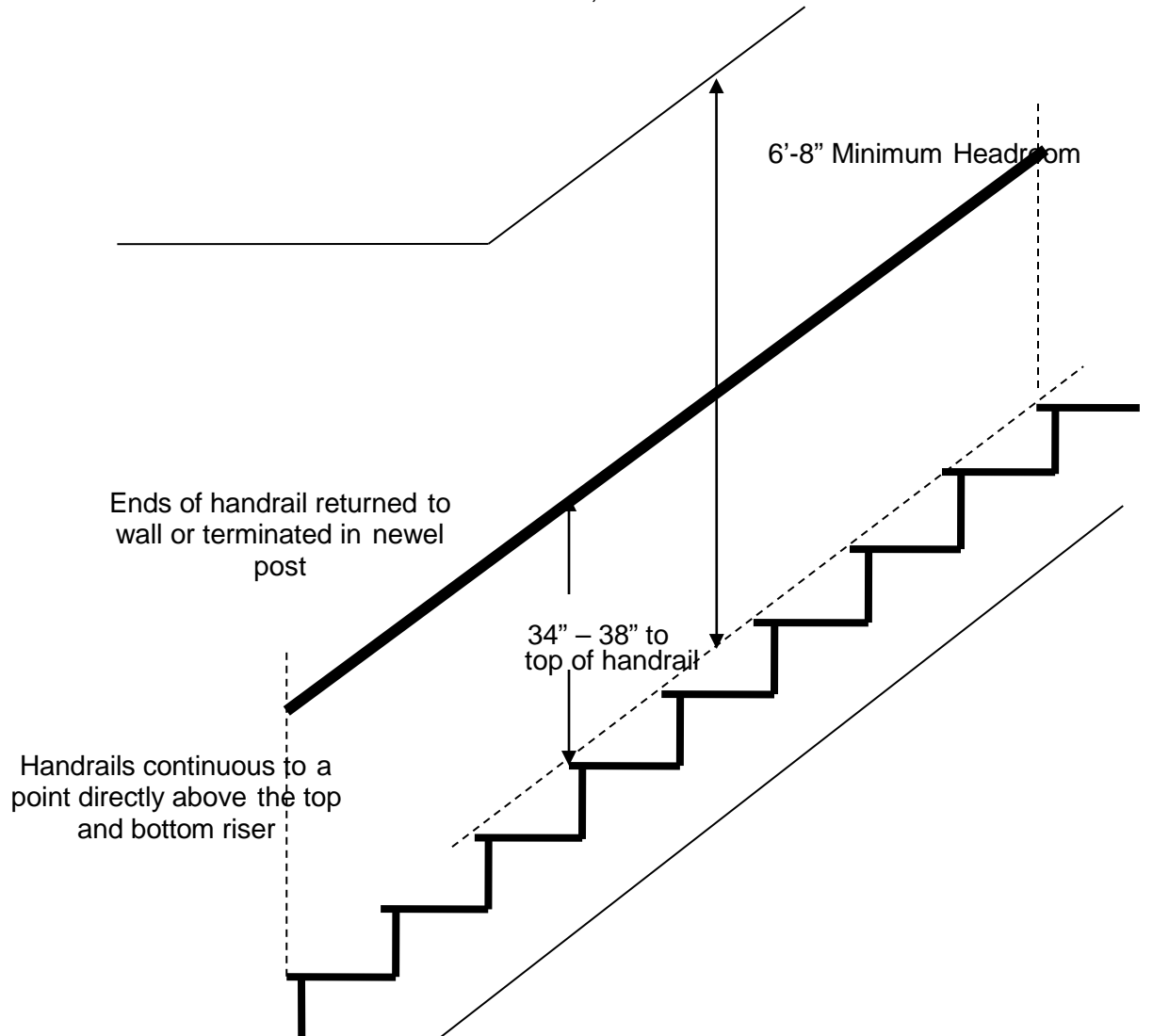


RESIDENTIAL STAIRS

# STAIRS & RAILINGS

One & Two Family Dwellings

**REFERENCE:** 2018 International Residential Code, Section R311 & R312.



## WIDTH

- Minimum width of 36 inches.
- Handrails shall not project more than 4.5 inches on either side of the stairway.

## HEADROOM

The minimum headroom in the stairway shall not be less than 6 feet, 8 inches measured vertically from the sloped plane of the tread nosing or from the floor surface of the landing or platform.

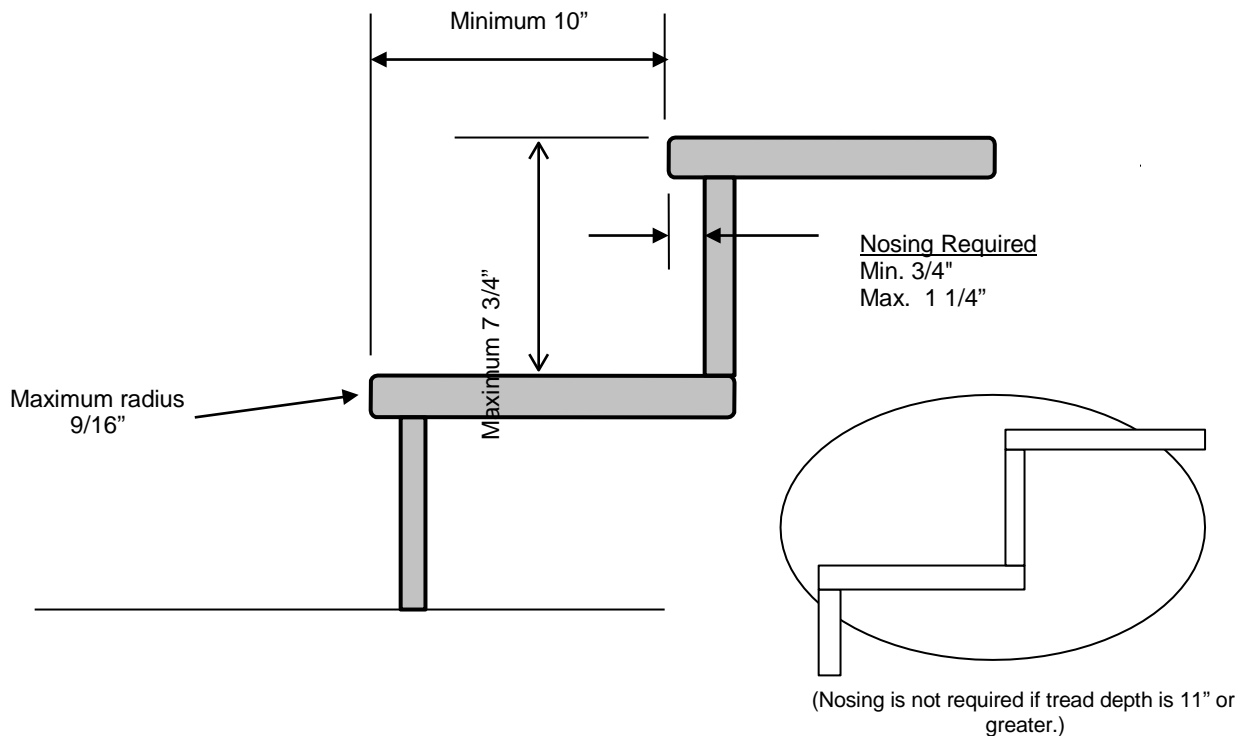
## HANDRAILS

- A handrail is required on at least one side of stairways. It shall be continuous the full length of the flight of stairs with four or more risers from a point directly above the top riser of a flight to a point directly above the lowest riser of the flight.
- Ends shall be returned to the wall or terminate in newel posts or safety terminals.
- Handrail height shall be between 34 and 38 inches measured from the nosing of the tread. The handgrip portion of handrails shall have a circular cross section of 1 ¼" minimum to 2" maximum. Other shapes that provide an equivalent grasping surface are permissible. Edges are to have a minimum radius of 1/8".

## RESIDENTIAL STAIRS

# TREAD DETAIL

One & Two Family Dwellings



## TREADS & RISERS

- Maximum riser is 7-3/4" and the minimum tread depth is 10".
- The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8".
- The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8".
- Open risers are permitted provided the opening between treads does not permit the passage of a 4" ball.

## TREAD PROFILE

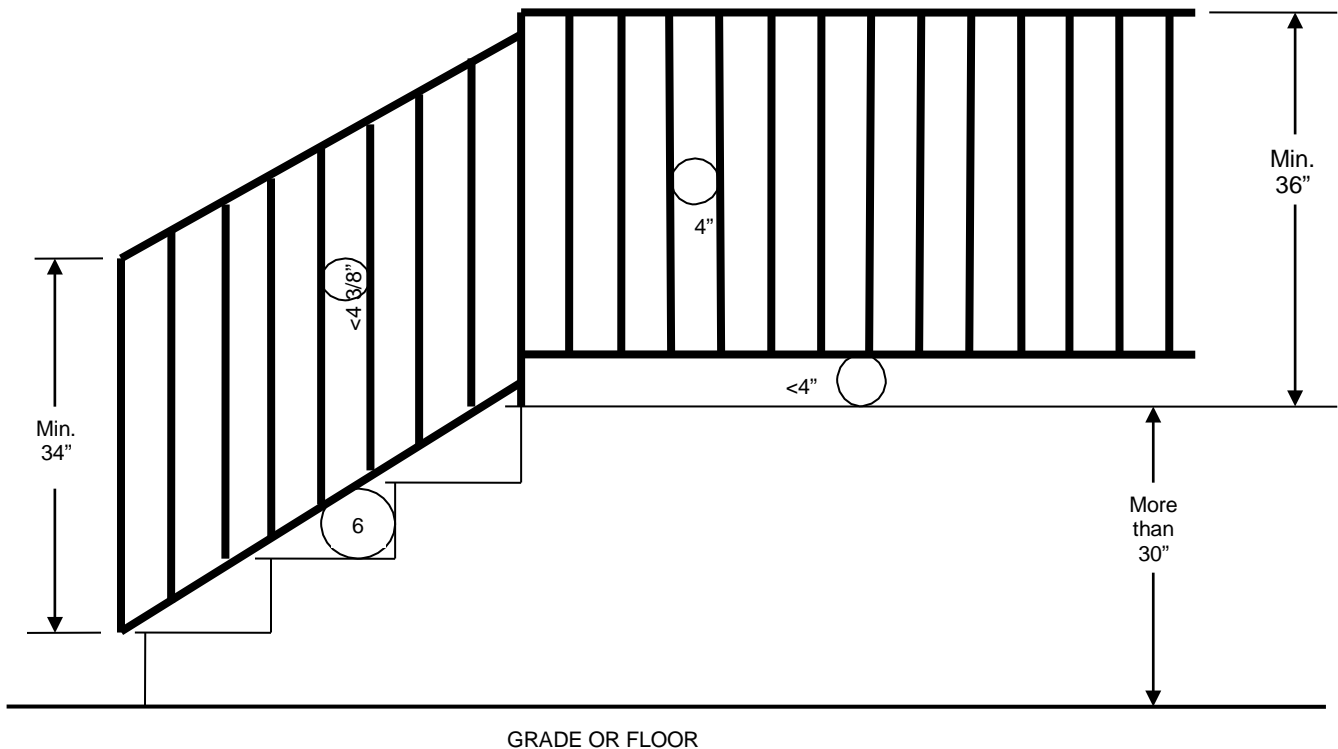
- A nosing not less than ¾" but not more than 1-1/4" is required on stairways with solid risers less than 11" in width.
- The greatest nosing projection shall not exceed the smallest by more than 3/8".
- Open risers are permitted if the opening between the treads does not permit the passage of a 4" diameter sphere.
- (A nosing is not required where the tread depth is a minimum of 11".)

# RESIDENTIAL GUARDS

## One and Two Family Dwellings

### GUARDS REQUIRED

- Porches, decks, or raised floor surfaces located more than 30 inches above the floor or grade shall have guards not less than 36 inches in height.
- Open sides of stairs with a total rise of more than 30 inches above the floor or grade below shall have guards not less than 34 inches in height measured vertically from the nosing of the treads.
- Required guards shall have intermediate rails or ornamental closures that do not allow passage of a sphere 4 inches in diameter. Required guards shall not be constructed with horizontal intermediate rails or other ornamental pattern that results in a ladder effect.
- Stairway required guards
  - The triangular openings formed by the riser, tread, and bottom rail of a guard at the open side of a stairway are permitted to be of such a size that a sphere 6 inches in diameter cannot pass through.
  - Stairway guard openings shall not allow a sphere  $4 \frac{3}{8}$ " to pass through.



# HANDRAILS

One & Two Family Dwellings

