

Town of Kent  
25 Sybil's Crossing  
Kent Lakes NY 10512



## **NYS-Building Code Requirements for RESIDENTIAL DECKS, PORCHES and STAIRS**

The following information sheet contains important excerpts from the 2010 NYS Residential Code

**R502.2.2 Decks.** 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. Such attachment shall not be accomplished by the use of toenails or nails subject to withdrawal. Where positive connection to the primary building structure cannot be verified during inspection, decks shall be self-supporting. For decks with cantilevered framing members, connections to exterior walls or other framing members, shall be designed and constructed to resist uplift resulting from the full live load specified in Table R301.5 acting on the cantilevered portion of the deck.

**R312.1 Guards.** Porches, balconies, ramps or raised floor surfaces located more than **30 inches above the floor or grade below** 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.

Porches and decks which are enclosed with insect screening shall be equipped with guards where the walking surface is located more than 30 inches above the floor or grade below.

**R312.2 Guard opening limitations.** Required guards on open sides of stairways, raised floor areas, balconies and porches shall have intermediate rails or ornamental closures which do not allow passage of a sphere 4 inches or more in diameter.

Exceptions:

1. 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 cannot pass through.
2. Openings for required guards on the sides of stair treads shall not allow a sphere  $4\frac{3}{8}$  inches to pass through.

## **R311.5 Stairways.**

**R311.5.1 Width.** 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. Handrails shall not project more than 4.5 inches on either side of the stairway and the minimum clear width of the stairway at and below the handrail height, including treads and landings, shall not be less than 31.5 inches where a handrail is installed on one side and 27 inches where handrails are provided on both sides.

Exception: The width of spiral stairways shall be in accordance with Section R311.5.8.

**R311.5.2 Headroom.** The minimum headroom in all parts of the stairway shall not be less than 6 feet 8 inches measured vertically from the sloped plane adjoining the tread nosing or from the floor surface of the landing or platform.

### **R311.5.3 Stair treads and risers.**

**R311.5.3.1 Riser height.** The maximum riser height shall be **8<sup>1</sup>/<sub>4</sub> inches**. The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than <sup>3</sup>/<sub>8</sub> inch.

**R311.5.3.2 Tread depth.** The minimum tread depth shall be **9 inches**. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than <sup>3</sup>/<sub>8</sub> inch. Winder treads shall have a minimum tread depth of 10 inches (54 mm) measured as above at a point 12 inches from the side where the treads are narrower. Winder treads shall have a minimum tread depth of 6 inches at any point. Within any flight of stairs, the largest winder tread depth at the 12 inch walk line shall not exceed the smallest by more than <sup>3</sup>/<sub>8</sub> inch.

**R311.5.3.3 Profile.** The radius of curvature at the leading edge of the tread shall be no greater than <sup>9</sup>/<sub>16</sub> inch. A nosing not less than <sup>3</sup>/<sub>4</sub> inch but not more than **1<sup>1</sup>/<sub>4</sub> inch** shall be provided on stairways with solid risers. The greatest nosing projection shall not exceed the smallest nosing projection by more than <sup>3</sup>/<sub>8</sub> inch between two stories, including the nosing at the level of floors and landings. Beveling of nosing shall not exceed <sup>1</sup>/<sub>2</sub> inch. Risers shall be vertical or sloped from the underside of the leading edge of the tread above at an angle not more than 30 degrees (0.51 rad) from the vertical. Open risers are permitted, provided that the opening between treads does not permit the passage of a **4-inch diameter sphere**.

#### **Exceptions:**

1. A nosing is not required where the tread depth is a minimum of 11 inches.
2. The opening between adjacent treads is not limited on stairs with a total rise of 30 inches or less.

**R311.5.4 Landings for stairways.** There shall be a floor or landing at the top and bottom of each stairway.

**Exception:** A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided a door does not swing over the stairs.

A flight of stairs shall not have a vertical rise larger than 12 feet between floor levels or landings.

The width of each landing shall not be less than the width of the stairway served. Every landing shall have a minimum dimension of 36 inches measured in the direction of travel.

**R311.5.5 Stairway walking surface.** The walking surface of treads and landings of stairways shall be sloped no steeper than one unit vertical in 48 inches horizontal (2-percent slope).

**R311.5.6 Handrails.** Handrails shall be provided on at least one side of each continuous run of treads or flight with four or more risers.

**R311.5.6.1 Height.** 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.

**R311.5.6.2 Continuity.** Handrails for stairways 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 or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 1½ inch (38 mm) between the wall and the handrails.

**Exceptions:**

1. Handrails shall be permitted to be interrupted by a newel post at the turn.
2. The use of a volute, turnout, starting easing or starting newel shall be allowed over the lowest tread.

**R311.5.6.3 Handrail grip size.** All required handrails shall be of one of the following types or provide equivalent graspability.

**1. Type I.** Handrails with a circular cross section shall have an outside diameter of at least  $1\frac{1}{4}$  inches (32 mm) and not greater than 2 inches. If the handrail is not circular it shall have a perimeter dimension of at least 4 inches and not greater than  $6\frac{1}{4}$  inches with a maximum cross section of dimension of  $2\frac{1}{4}$  inches.

**2. Type II.** Handrails with a perimeter greater than  $6\frac{1}{4}$  inches shall provide a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of  $\frac{3}{4}$  inch measured vertically from the tallest portion of the profile and achieve a depth of at least  $\frac{5}{16}$  inch (8 mm) within  $\frac{7}{8}$  inch below the widest portion of the profile. This required depth shall continue for at least  $\frac{3}{8}$  inch to a level that is not less than  $1\frac{3}{4}$  inches below the tallest portion of the profile. The minimum width of the handrail above the recess shall be  $1\frac{1}{4}$  inches to a maximum of  $2\frac{3}{4}$  inches. Edges shall have a minimum radius of 0.01 inch.

**\*\*\* Decks built adjacent to a pool must comply with the barrier requirements for a pool (48 inches high) barrier with outward opening, self closing, self latching lock gates and/or door alarm for any door that allows direct entry into the pool area. \*\*\***

**Required inspection:**

**Footing** – The inspection is conducted after the holes are dug and prior to the pour. Footing depth is 42 inches. Footing must be provided unless the deck is self-supporting (not attached to a building).

**Framing inspection** – for decks that are located too close to the ground to allow the inspector to check the framing and porch roof prior to concealment.

**Certificate of Occupancy (CO) inspection** – Final inspection prior to the issuance of a CO. the inspector will check the framing, guards, handrails, metal brackets, ledge bolts and other applicable items