

VILLAGE OF HOWARD

Department of Code Administration

GUIDELINES FOR WOOD DECK CONSTRUCTION

FOOTINGS All decks shall be supported on frost footings located a minimum of 48 inches below ground level. Footings shall be properly sized to carry imposed loads without exceeding the bearing capacity of the soil. Improperly sized footings can result in settling of the deck and eventual structural failure.

The clay soil common in most areas of Village has a bearing capacity of 3000 pounds per square foot (i.e. a footing one square foot in surface area can safely handle a 3000 pound load imposed from a deck support post). Loads on all support posts shall be calculated using a live and dead load total of 50 pounds per square foot on the deck surface. This uniform load factor must be multiplied by the area (in square feet) of deck surface carried by each post to arrive at the individual loading per post. For example, if the deck area carried by a single post is 5 feet wide by 10 feet long, the calculated load on the post is 2500 pounds (5 feet x 10 feet x 50 pounds per square foot = 2500#).

Once the total load on a post is calculated, the footing can be properly sized by dividing the soil bearing capacity (3000 p.s.f. in most areas) by the imposed load. Using the example from above, the minimum footing size required is 2500 pounds / 3000 pounds per square foot = 0.83 square feet. This example requires a footing with a minimum surface area of 0.83 square feet or 120 square inches. This can be accomplished with an 11" square or a 13" round footing.

WOOD COMPONENTS All wood components shall be pressure treated with preservative **or** shall be a naturally decay-resistant species (i.e. cedar or redwood) **or** shall be engineered to be decay resistant.

STAIR RISERS AND TREADS Stair risers shall not exceed 8 inches in height measured vertically from tread to tread. Stair treads shall have a minimum depth of 9 inches measured from nosing to nosing. Riser heights and tread widths shall be uniform and shall not vary by more than 3/16 inch. All stairs shall be at least 36 inches in width. Handrails and associated trim may not project more than 4½ inches into the required width on each side of the stairway. Openings between stair risers shall be protected in a manner which prevents an object 4 inches in diameter from passing through.

HANDRAILS All deck stairs with more than 3 risers shall have handrails installed. Handrails shall be a minimum of 30 inches but not more than 38 inches high measured vertically from the nosing of the stair tread. The clearance from the rail to the wall or adjacent surface shall be at least 1½ inches. Handrails shall be graspable and must have equal wrap-around for the thumb and fingers. Open sides of stairways shall have intermediate rails installed below the handrail, spaced close enough so that a spherical object 4 inches in diameter cannot pass through, and the triangular area formed by the tread, riser and lowest intermediate rail shall be protected in a manner which prevents an object 6 inches in diameter from passing through.

GUARDRAILS Deck surfaces more than 2 feet above adjacent ground level shall be protected by guardrails. Required guardrails must be installed at least 36 inches above the deck surface measured from the deck floor to the top edge of the rail. The space below required guardrails shall be protected by intermediate rails spaced close enough so that a spherical object 4 inches in diameter cannot pass through. All required guardrails shall be constructed to withstand a 200-pound load applied from any direction.