

Backyard Builders Announces Guidance on Deck Footings and Site Grade

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Homeowners across the Piedmont often assume that red clay soil threatens a deck by swelling and shrinking beneath its footings. Federal soil records indicate otherwise, and Backyard Builders Decks and Outdoor Living has outlined which site conditions actually govern footing decisions on sloped residential lots.

The dominant soil across the South Carolina Piedmont is the Cecil series, mapped on upland ridges and side slopes throughout the region. The official series description published by the United States Department of Agriculture records Cecil as very deep and well drained, with kaolinitic clay and low shrink-swell potential. Its mapped slope range runs from level ground to twenty-five percent, and mean annual precipitation across the series is roughly forty-eight inches.

That combination matters because it separates two conditions homeowners frequently treat as one. South Carolina soils references distinguish the low shrink-swell Piedmont soils, including Cecil and Appling, from higher shrink-swell soils such as Iredell and Brewback that occur elsewhere in the state. Soil expansion is a genuine structural concern in some regions. Across most of the Upstate, it is not the primary one.

What governs footing performance in this landscape is water movement across a graded site. Cecil soils carry medium surface runoff, and the region's clay subsoil slows infiltration relative to sandy ground. On a lot that falls away from the house, water travels rather than soaking in evenly, and the resulting erosion and concentrated flow act on a structure differently than uniform soil movement would.

"People ask about the clay swelling, and what actually shows up on site is where the water goes," said Jason White, owner of Backyard Builders Decks and Outdoor Living. "A yard that drops away from the back of the house moves water toward one corner every time it rains. That is the condition worth planning around."

The region has documented history on this point. Spartanburg County was the site of the first Soil Erosion

Service erosion control project undertaken in the southeastern United States, established in 1933 in response to severe erosion across Piedmont farmland. The gullying that prompted that work reflected the same relationship between slope, clay subsoil and runoff that shapes residential sites in the region today.

Grade also changes how loads reach the ground. A deck built across a falling yard carries posts of differing heights, and taller posts transmit lateral forces differently than shorter ones. Framing on those sites distributes load across members sized and spaced for varying support conditions rather than to a uniform pattern. Framing material selection follows from the same assessment, with wood, steel, aluminum and composite each suited to different structural requirements.

Site evaluation precedes specification. Reviewing grade, drainage patterns and how water leaves a property establishes the conditions a structure will face before footing locations are set. Traditional concrete footings remain the primary method, sized and positioned according to what the assessment finds rather than to a single standard applied across every lot. Permitting and site preparation follow, with footing specifications settled before construction begins.

Design documentation supports that sequence. Three-dimensional models and two-dimensional plans are produced before material is ordered, which allows post placement and footing locations to be reviewed against the grade of the property while changes remain straightforward.

Deck styles respond to the same conditions. Platform decks suit level ground close to the house, raised decks answer a back door sitting well above the yard, and multi-level structures work where the grade falls enough that a single surface would sit wrong. Freestanding and cantilevered designs exist for related reasons, and the style a property receives is often determined by its terrain rather than by preference alone.

Existing structures reflect these conditions over time. Decks built without regard to how a site handles water tend to show it first at the connections and at grade level, where soil contact and drainage meet the frame. Repair work on older structures frequently traces back to those points rather than to the decking surface above them.

Inspection after construction remains part of long-term performance. Observing a completed structure through a full cycle of wet and dry seasons indicates whether drainage is behaving as anticipated, and a qualified inspection determines whether any observed movement warrants attention.

"The frame and the footings are the parts nobody looks at once the boards go down," White said. "Getting those right against the actual site is what decides how the deck holds up."

Backyard Builders Decks and Outdoor Living is a deck and outdoor living builder serving the Upstate of South

Carolina. The company offers deck design and consultation, deck installation, deck framing, deck railing, deck repair and deck maintenance, and builds platform, raised, multi-level, freestanding, covered and screened structures.

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Backyard Builders Decks and Outdoor Living

Backyard Builders Decks and Outdoor Living designs and builds custom decks for homeowners in Lyman, South Carolina and the surrounding Upstate.

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