Rehabbing a Problematic Pool

by Dave Settlemyer

A new curved deck that steps down to water level is the centerpiece of this pool rehabilitation project, located in Longmont, Colo. The deck is framed with 1½-inch-by-5½-inch pressure-treated Pacific Woodtech LVL joists 12 inches on-center, while the bottom step that cantilevers out over the pool is framed with Trex Elevations steel joists.

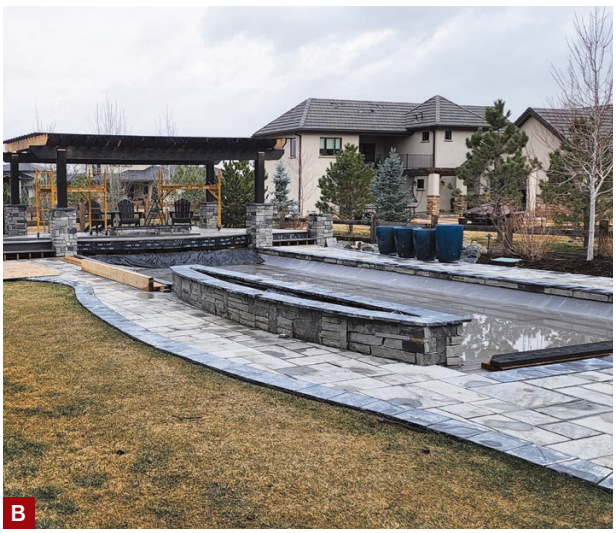
PHOTOS BY DAVE SETTLEMYER

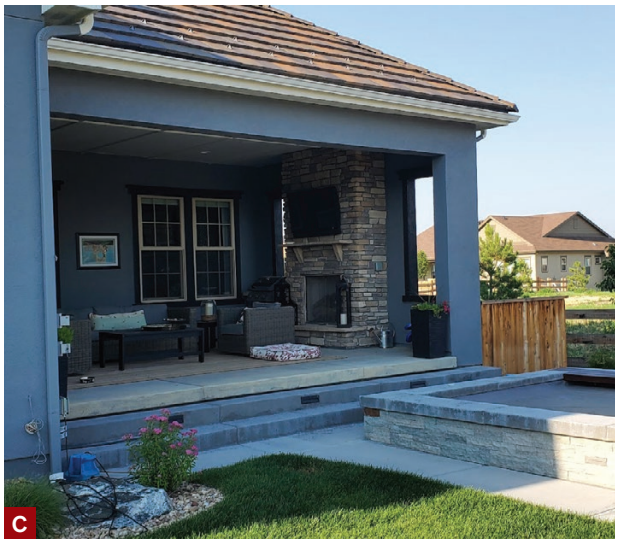
As a designer and builder of outdoor living spaces, my responsibility transcends aesthetics; it extends to foreseeing potential issues and crafting solutions that resonate with both form and function. One particular project that exemplifies this approach stands out—a new construction build less than a year old, teeming with issues that threatened to overshadow its potential. The original contractor who built the pool and pool deck abandoned the project at its conclusion and at the onset of apparent problems. My company was contacted to see if we could fix them.

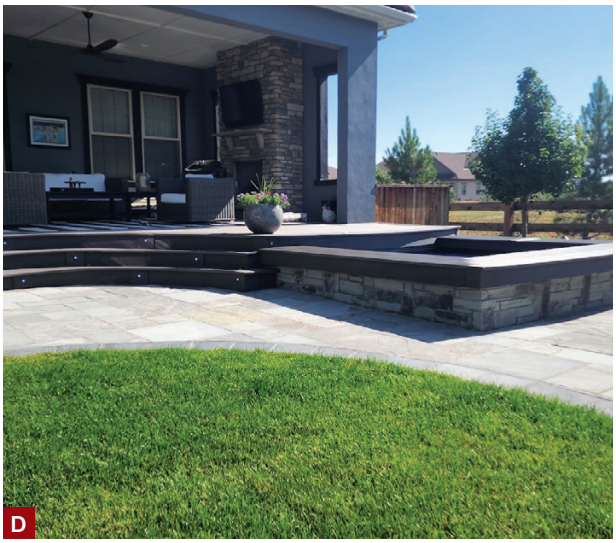
During our initial consultation, it was clear that this project was fraught with problems, from elevation discrepancies to improper watershed drainage. Standing water plagued the lawn, fostering mold and causing unsightly dying areas, while the flawed pitch of the poured concrete flat work surrounding the pool directed water runoff into the pool, bringing along debris and soil during heavy rains.

To me, however, the most alarming problem was the compromised transition from the back porch to the concrete walkway leading to the pool deck. Here, an in-ground hot tub was located, and while it was convenient to the house, the spa interrupted drainage, causing a puddle of water to form over a large area. Even worse, in colder months, any standing water would freeze into ice, creating a safety risk for our retired client.

While the client contemplated a complete overhaul, the notion of discarding a newly constructed pool seemed impractical and economically unfeasible. Armed with a background in landscape architecture, I was confident that we could come up with a transformative solution that would address the







Drainage problems plagued the existing pool (A), which the author addressed with a new stone overlay pitched away from the pool, new drain lines, and re-grading (B). The existing spa interrupted travel between the house and the pool (C), and water tended to pool around its base, freezing in winter and creating a safety issue. The author expanded the patio and porch deck to provide better access and corrected the pitch when installing the stone overlay (D).

project's challenges without resorting to drastic measures.

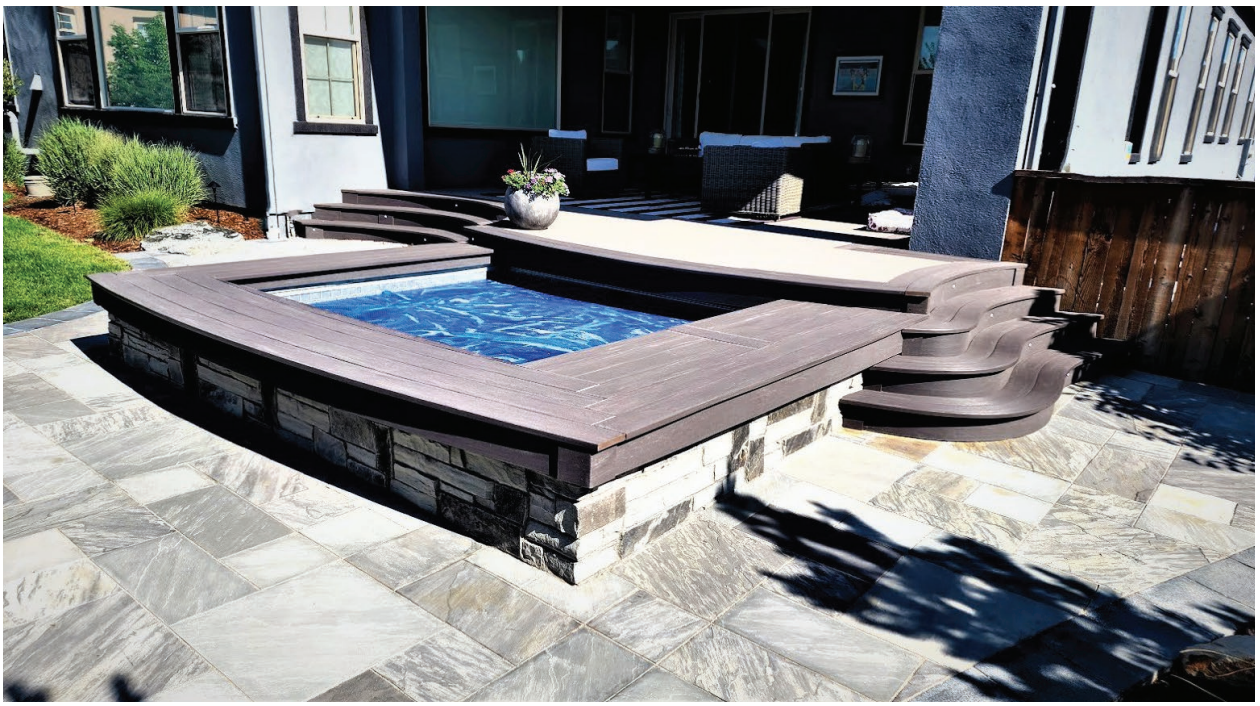
The property's constraints, including setback requirements and unalterable travel paths, necessitated a strategic approach. Instead of starting from scratch, we leveraged the existing layout, maximizing its impact while minimizing excavation and removal efforts. The result was a design that integrated a deck shaped like a half-moon nestled amidst a grove of aspens and Bosnian pines, offering a serene oasis that defied the property's limitations.

Site Work

To correct the drainage issues, we did some grading work in the yard. We also installed additional drainage lines, using water catch basins and underground corrugated piping.

To divert water away from the pool, we added a stone overlay with the proper pitch to the pool deck. By locating thicker stones in the lower areas and thinner stones in the higher areas of the original flat work, we were able to resolve the patio grade without having to rely on an extra-thick mortar bed under the stones.

We also expanded the existing footprint of the pool deck by adding flat work to accommodate curved lines and



Access to the spa was improved by extending the porch with new TimberTech decking installed over sleepers fastened to the concrete and adding wider curved steps on either side of the spa.

seamless transitions across the project. This required excavating all the top soil to an 8-inch subgrade, adding 4 inches of compacted 3/4-inch road base, and pouring new, 4-inch-thick slabs doweled into the existing patio.

The stone overlay expands on the existing concrete and bridges these additions, hiding them from view with the pattern of the random ashlar layout of the stone.

Curved Pool Deck

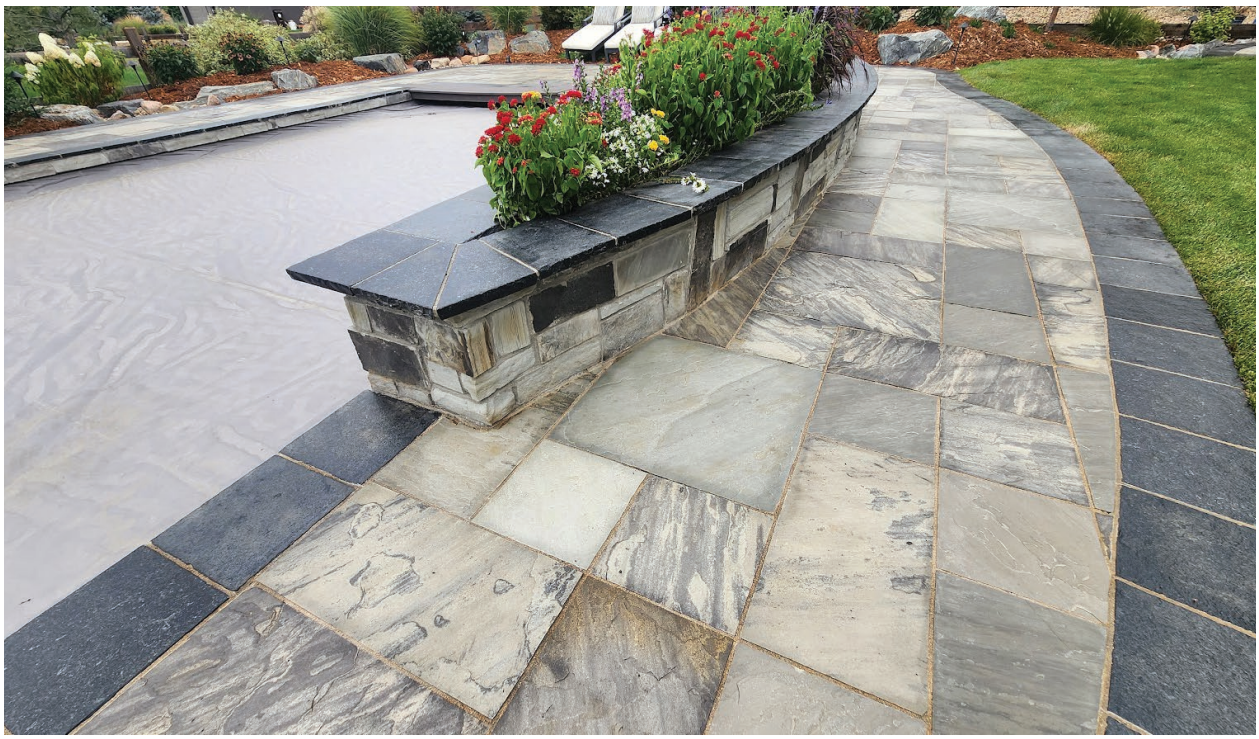
The new curved pool deck is the central element in our redesign. Supported by strategically located deck piers, the curved deck features a cantilevered step transition down into the pool and required an engineered design.

To execute the plan, we needed to core-drill through the existing concrete patio and carefully excavate to avoid damaging the buried pool utility lines when we were installing new piers. In a couple of cases, we had to adjust the pier locations to avoid those utilities, and we ended up adding a pier to the original plans.

Framing. We used Pacific Woodtech(pwtewp.com) treated LVL engineered lumber to frame the flowing curves of the deck itself, but providing a 30-inch cantilever over the pool edge required the use of steel. Here, we used Trex Elevations steel joists, which were the right dimension to provide the 2-inch drop down below the pool's coping edge (just above the elevation of the automatic pool cover) to provide a proper step down into the pool. Although Elevations has been discontinued by Trex, we were able to source the material through our supplier's discontinued material pile.

To provide solid support for the deck's cantilever, we bolted a 2-by pressure-treated resting plate to the pool apron using 1/2-by-7-inch wedge anchors. The distance of the cantilever support required us to bolt to the existing concrete patio surround. The step depth needed to be 5 feet overall to have a 20-inch cantilever, per engineering. Cutting, welding, and shaping the hard material allowed us to make sure the pool's auto cover would still be able to operate under the stair edge.

The pool deck's design focal point is a symmetrical arrangement of fire features. The linear fire pit, centrally positioned, serves as an inviting gathering spot. A pair of flickering stone fire bowls flank either side of the deck on top of raised stone columns and contrast with the lush backdrop to create a visually striking yet harmonious structure. Together, the fire features extend the space's usability into the cooler evening hours.



The author widened the existing concrete patio around the pool to make room for this curved planter, then installed a natural stone overlay in a random ashlar pattern, using a combination of different thicknesses of stone set in a mortar bed to correct the pitch so that water now drains away from the pool instead of into it.

Similar stone columns and carefully selected black-stained 8x8 western red cedar posts support the 20-foot-dead-span pergola. We used 5 1/8-by-16-inch Alaskan yellow cedar for the beams and red cedar for the rafters.

Material selections. We used TimberTech decking in the company's coastline hue, harmonizing its warm undertones with the TimberTech dark-hickory accents to create a cohesive transition between the deck and adjacent pool area.

For the pool deck's stone overlay, we used three colors of a natural stone imported from India and supplied by Stone Universe (suistone.com). The main colors are ebony (the swirled-color stone) and grey mist (the light gray stone), while the dark gray border stone is called dark slate (see photo, above). To correct the pitch in the existing pool deck (as described earlier), the stone ranged from 1 inch to 2 inches in thickness. In addition to correcting the pitch as we installed the stone, we tried to blend appealing tones in a random pattern encompassed by a solid-color border to mimic the appearance showcased in the deck.

The natural stone veneer that we used for the columns is called "dark horse" by our supplier. It comes from an unnamed Oklahoma bluestone quarry (our supplier renames all of its sourced stone).

Porch and Spa

At the house, we bridged the existing raised concrete patio to the spa with the same TimberTech decking used on the pool deck. We fastened the decking to Deckorators sleepers screwed to the concrete with 1/4-by-4-inch Tapcons. We also built an elegant curved staircase using heat-bent deck boards. This improved accessibility to the built-in spa and echoes the flowing curves of the pool deck.

As day transitions into evening, the space undergoes a subtle transformation, revealing new layers of ambiance and functionality. The meticulously crafted stonework, flickering fire bowls, and black-stained cedar pergola columns enhance the space's aesthetic appeal, fostering unity and harmony. By addressing complex challenges with creativity and expertise, we transformed a problematic space into a harmonious oasis that resonates with beauty, functionality, and enduring appeal. ❖

Dave Settlemyer owns LS Underground in Longmont, Colo.