

Making the Most of a Sloped Site

by Jason Varney



This lakeside building site drops 100 feet from the road to the waterfront. To optimize the lot, the author created three level tiers with a series of retaining walls and connected the tiers to each other with stone steps and pathways.

One of the most interesting deck building challenges I've had to face had nothing to do with my clients or my business. I'm talking about what happened when it was time to design a backyard space for my own family. After decades in the outdoor living industry, I can design and build a dream project for a client in my sleep—but designing my own project turned out to be a different story.

The project started when I broke ground on my family's current home in Knoxville a few summers ago. The house itself came together beautifully—however, our local terrain is full of hills, and this property was no exception. We were faced with a steep hillside, with an elevation change of about 100 feet between the driveway of the house and the waterfront level in the backyard. This presented a significant logistical prob-

lem since there were homes on either side of ours, and we would need to transport all of our materials and building equipment in and out by barge.

While we were short on horizontal square footage, we weren't short on design inspiration. A few years earlier, our family vacationed to a resort in Cabo San Lucas, and we've been reminiscing about it ever since. I knew I wanted to go all out and bring that "resort" feeling into our own space. We love to host family and friends for gatherings and holidays, too, so it needed to be suitable for that. Most of all, I wanted to replicate the amazing infinity pool we swam in.

Re-creating a Resort

To break up the steep elevation and introduce the incline more gradually, my solution was to section the backyard into three tiers by using a lot of retain-

ing walls and different levels. I designed each tier to include multiple entertainment zones that would serve a variety of functions and connected the tiers to each other with a few sets of stairs and some stone-paver pathways to help guide the flow of foot traffic.

The highest tier of the backyard features the infinity edge pool, with a hot tub and spillover waterfall. We went with a travertine hardscape and incorporated Baja shelving and lots of LED lighting into the pool to make it swimmable at night. Past the hot tub, we installed a grilling area for cooking and barbecues. There's a big fire feature on the corner of the pool—when it comes to pool design, I really think that fire and water go hand in hand.

We created a lounging area on the second tier, with plenty of seating options thanks to built-in benches that were



Site work began while the house was still under construction (A). After the infinity edge pool was formed and poured (B), workers began the process of building the retaining walls and backfilling them with gravel and soil to create the two lower terraced levels (C). Here, the crew is installing the stone steps that connect the lowest tier to the dock system (D).

crafted using Deckorators Voyage decking, the same material that we used for the rest of the deck space. Matching furniture material with the deck material like this helps tie a design together and make everything feel cohesive.

Closer to the water are a miniature golfing area and a section of turf with some Adirondack chairs, followed by a boardwalk that leads to a covered dock. The dock itself is a full boathouse that can fit two jet skis, a small watercraft

boat, and a large, 30-foot boat slip. On the rooftop of the dock, we added a 20-by-32-foot deck, again finishing it with Voyage decking. It's a great place to hang out and take in the view.

My company builds many projects in and around the water and, in our experience, Deckorator's Voyage decking is able to resist the wear and tear that comes with that challenging environment. Made with crushed limestone, this decking offers excellent traction,

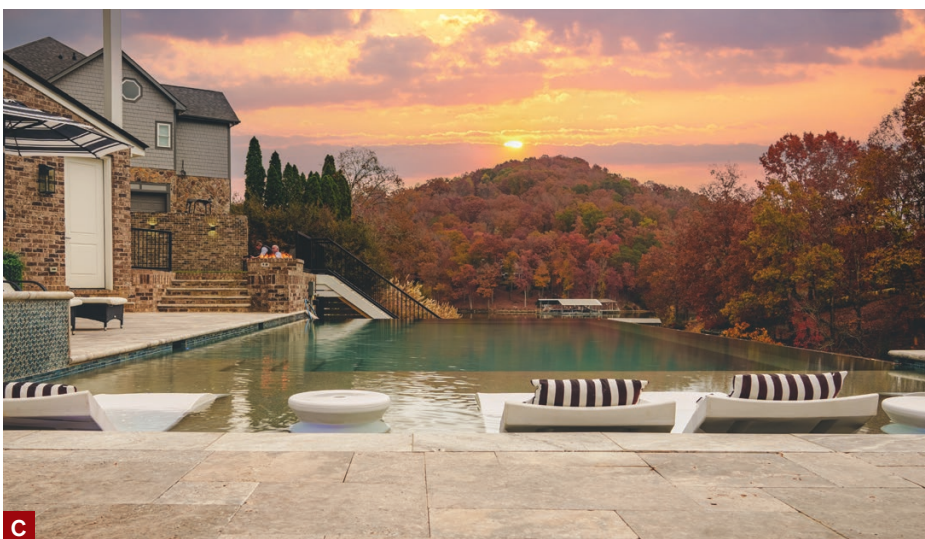
doesn't get too hot in the sun, and won't thermally expand or contract.

Terraces Are Key

The only way to deal with such a dramatic drop in grade at such a short distance is to terrace everything. To maximize usable space, we built retaining walls at each level and then built the ground up to get the levels flat.

Stabilization is crucial on hillsides like this, and settlement issues can be

PHOTOS: A, C, D: JASON VARNEY; B: COURTESY DOCK & DECK



Though nestled into a hillside above a Tennessee lake, the infinity edge pool was designed to capture the feel of a seaside resort (A, B). For reduced maintenance, the landscape features artificial turf instead of natural grass, the extensive use of natural stone pavers, and—where appropriate, such as on the dock system—composite decking. At the end of the day, the author and his family can relax by the pool and take in the view as the sun sets behind the hills that surround the lake (C).

completely devastating. To keep everything in place and make sure the house wouldn't slide right down the hill, we installed helical piers throughout the backyard to reinforce the system of retaining walls.

With the lot being so steep, we had to make some adjustments to the construction process. For example, we pumped—rather than poured—the concrete all the way from the street level—11 times. We had to look into alternative methods to transport gravel down the hill and ended up using a gravel slinger. I'd never been around one before. It's essentially a mas-

sive conveyor belt that loads the gravel up at the top of the hill and throws it down to the next level. In total, we used 330 yards of concrete and 3,600,000 pounds of gravel on this project.

And that was just the beginning. Since the house sits so close to neighboring lot lines, we needed to bring the rest of the building materials in and out by barge. We loaded up materials at the nearest boat ramp, transported them by water, and then offloaded them onto the land below the house. The same went for debris removal: Anything that needed to go to a landfill had to be hauled off

on the barge. It was a necessary evil that significantly increased our total cost and stretched out the time frame of the whole project.

All in all, the backyard took about a year to complete. In addition to struggles with the steep grade, we dealt with water traffic, weather setbacks, and issues with product availability. Despite all the challenges, this backyard oasis is everything I could have imagined for my family and more. ❖

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