

Profiles in Decorative Concrete

Three decorative projects showcase concrete in the service of recreation.

By Gary Henry

Splash Pad, Bithlo, Fla.

For kids cooling off on a triple-digit summer day, it's the spraying, fountaining streams of fresh water that are likely the main attraction at the community park splash pad in the Central Florida town of Bithlo.

But it's the precise red, blue and tan designs on the splash pad's concrete overlay that impress project manager Andrew Cramer, Sun Surfaces of Orlando, and helped it win an award from the Decorative Concrete Council. His team installed the 4,200-square-foot (390-square-meter) rectangular overlay on a newly poured slab in May and June 2013.

"It's one thing to do a drawing," Cramer says of the overlay's crisp, curving colored patterns. "It's something else to reproduce that drawing exactly on the ground."

The crew began their finish-work in May, after the slab, poured by another company, had cured about 45 days, Cramer says. Surface prep consisted of a pressure-wash and etch with a 50 percent mix of muriatic acid and water to clean and profile the concrete.

After taping over the open control joints, they spent about two days spray-applying the surface with a blended polymer base coat mixed with an adhesive resin. The crew used long-handled trowels to smooth the base coat and fill minor imperfections in the slab.

Kids play and water splashes on the Bithlo, Fla., splash pad surfaced in an award-winning cementitious overlay. Photo courtesy of Sun Surfaces of Orlando.



Applying the cementitious finish over the base coat only took a day, Cramer says. Two teams covered the slab with a one-eighth-inch coating. Each two-man team had a man spray-applying and another “knocking down” the finish with a hand trowel to level and texture the finish coat.

After application, they carefully pulled the tape, which was covered in the overlay materials, from the joints. The crew took two days, Cramer says, to smooth the rough edges of the joints with hand-scrappers, before filling them level with urethane.

Applying two coats of acrylic color took nearly a week, Cramer says. They used airless sprayers to paint large central areas but carefully hand-painted around all the design edges and control joints.

“The guys took the time to make sure the colors matched the drawing all the way through,” he said.

The color coats added slip protection along with aesthetics, Cramer says, as the crew added 40-grit sand to the paint.

They topped off the overlay with a clear water-based sealer to protect against the wear and tear from thousands of little feet, body and tanning oils, weather and UV-exposure, and the endless water from the splash pad’s nozzles and fountains. Nevertheless, Cramer says, that level of wear requires an annual recoat.

While the splash pad is a hit with kids according to local news reports, it also made a splash in the Decorative Concrete Council’s 2014 Project Awards. The project garnered a second place award for overlays under one-quarter inch.

Radiant Park, Fort Collins, Colo.

The glass-encrusted concrete flatwork was unlike anything concrete construction company Colorado Hardscapes had done before.

The circular 1,400-square-foot (130-square-meter) concrete plaza is a centerpiece of Fort Collins’ Radiant Park, constructed in 2013. The plaza features a 20-foot-diameter flame design, hand-seeded in blue, red, orange and yellow pea-sized crushed tumbled glass.

The on-site work only took about a week, says Karen Van Heukelem, the company’s business development and marketing manager. Figuring out exactly how to do it, however, took several weeks beforehand. Using that time to plan played a big part in the project’s success, she says.

The challenge stemmed partly from the glass, Van Heukelem explains. The 450 pounds of glass had to be embedded in the concrete by hand, while the freshly poured concrete remained wet. That time-consuming process was unlikely to be completed across the entire span of the installation before the concrete grew too dry, even in the relatively cool April temperatures.

The team solved the problem, Van Heukelem says, with two pours. With the plaza half-poured and the concrete troweled, the crew laid down their template and placed half of the glass design. They took care to create subtle blends that enabled the flames to transition from blue to red to orange to yellow. They troweled the glass in right to the edge of where the cold joint would be from the next pour.

The crew made their template by cutting the design, provided by Fort Collins’ park planners, into old carpet left over from a recent remodel of Colorado Hardscapes’ offices, Van Heukelem recalls. By using a carpet remnant large enough to cover the entire 1,400-square-foot plaza, they answered the challenges of centering and precisely joining the two halves of the design from each pour.

With the first half of the glass placed, the crew applied a surface retarder, then pressure-washed the concrete the next day with fresh water at low psi to expose the aggregate. Once the concrete was hard enough to walk on, they spray-applied a lithium-based sealer/hardener.



(Top) Concrete artisans hand-seed and trowel blue, red, orange and yellow tumbled glass into concrete. (Lower) A year after installation, the hand-installed flame design of tumbled glass embedded in concrete at Fort Collins’ Radiant Park shows little evidence of wear, other than the dust of foot traffic. Photos courtesy of Colorado Hardscapes.

They repeated the process with the second pour, then camouflaged the cold joint with artfully placed expansion joints throughout the plaza. Except for the use of a truck to pour the plaza's 30 cubic yards of concrete, the entire project was finished by hand, Van Heukelem says.

And while skill, attention to detail, and taking the time to think through and plan out the project in advance was crucial to its success, she adds, that old carpet came in handy, too.



Palm fronds and other native Florida plants were embedded into this decorative concrete walkway during the stamping process, then later removed, to create these fossil-like imprints. Photo courtesy of Edwards Concrete.

Mini-Golf Course, Grand Beach Resort, Orlando, Fla.

Golf enthusiasts sometimes jokingly refer to their pastime as “a good walk spoiled.”

But even if your game doesn't go as planned at the 18-hole mini-golf course at Diamond Resort's Grand Beach in Orlando, Fla., there's enough decorative concrete artistry on display to make the visit worthwhile — at least for concrete enthusiasts.

Edwards Concrete, Winter Garden, Fla., placed and finished the mini-golf course's approximately 100 cubic yards of concrete to create stamped concrete walkways, decorative curbing around the putting greens and other features, says George Hultin, the company's architectural superintendent.

They began in June, placing the concrete for the angular, sand-colored curbing around the putting greens. With the forms still up, Hultin and his crew seeded the green concrete with coquina shells throughout the curbing.

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Though it looks like sand, these imitation sea turtles are emerging from a nest made of decorative concrete, including the two unhatched eggs. Photo courtesy of Edwards Concrete.

"We just tossed the shells in like we were feeding chickens," he says.

The idea, says Hultin, the project's supervisor and lead artist, was to make the concrete look shot through with shells, like old concrete architecture from the Florida of long ago. Embedding the shells in the sides of the curbs after the forms came off was harder, he says. Crewmembers placed those by hand.

After the curbs, the team turned its attention to the putting greens. Though not decorative, since these slabs were to be covered by a simulated green turf covering, the greens still presented a challenge.

The concrete, while having to be somewhat level, had to be subtly laid out with flows going in various ways so golf balls won't go straight to the holes, Hultin says. The crew straight-edged the concrete based on surveyors' information to get the precise grades required.

"It just adds a little difficulty to playing the game," he points out.

Next, the crew poured the concrete walkways, coloring them with a shake-on beige-cream color-hardener, and seeded it with sand before throwing on the release powder for stamping.

Along with creating the walkways' sandy profile and texture, the stamping also embedded palm fronds and other native plants, later pulled out to make unique fossil-like imprints.

A solvent-based protective treatment added weather-resistance and a touch of gloss, Hultin says.

One of the mini-golf course features he says he most enjoyed creating is a sea turtle nest with baby sea turtles emerging. Though someone else placed the metal turtles, Hultin and his crew made what looks like a sandy nest out of concrete, about 6 by 8 feet (1.8 by 2.4 meters) and about 8 inches (20 centimeters) high, complete with "unhatched" concrete turtle eggs.

"That's what I like about this work," Hultin says. "Every job has something different. You have to be versatile, and you get to use your imagination." **D+D**

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