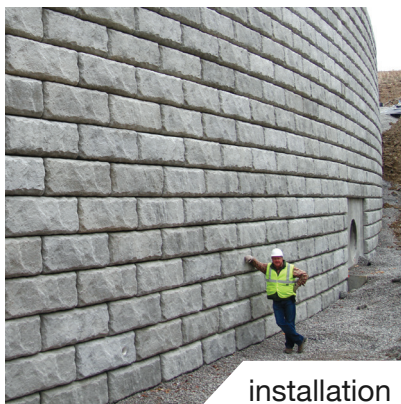




installation



installation



after

Park System Chooses Redi-Rock for Multiple Phases

THE CHALLENGE

Creating a 21-mile (33.8 kilometers) long park system that encompasses more than 3,800 acres (1538 hectares) is no small task. But that's just what 21st Century Parks set out to do in 2010. Linking the parks required construction of several new roadways, and the significant grade changes on site required extensive retaining walls to make it happen.

THE SOLUTION | PHASE 1

For a solution, the Parklands turned to Redi-Rock®, produced locally by Redi-Rock of Kentuckiana. "It was chosen for a couple reasons," explained Joe Daley, Architect and Project Manager for 21st Century Parks. "One was the aesthetics; it had to fit in with the stone being used in the park. Also the cost and the time frame were big considerations. We were under a fairly tight time-frame to get it built and this product lent itself to being put up fairly quickly," he said.

Curt Derichs, PE of Civil Design Professionals designed Phase 1 of the project and added: "With the wall heights

that were proposed on site, a gravity structure was simply not feasible for the entire wall and we needed to look at reinforcement," he explained. "We thought the Redi-Rock PC [Positive Connection] System would save on geogrid and help the connection issue that would exist with other systems."

The Redi-Rock PC System:

- Utilizes a corrosion-free reinforcement system without special connection components
- Increases wall height with reduced geosynthetic reinforcement requirements
- Provides superior seismic performance over other geosynthetic reinforced wall systems

"To save on backfill materials and geogrid, we decided to make the wall a gravity wall for all sections possible," Derichs explained. Redi-Rock gravity and PC blocks combined seamlessly to create an efficient, custom solution for the park. The first phase of this project included a total of four Redi-Rock walls encompassing just over 7,000 square



installation

feet (650 square meters). The tallest wall stood 13.5 feet (4.1 meters) tall with an additional 60 inches (1.5 meters) maximum of exposed freestanding blocks on top of the retaining wall.

THE SOLUTION | PHASE 3A

The next retaining wall phase of the Parklands project required three separate walls, totaling 21,000 square feet (1,951 square meters). To keep bikers out of traffic at this site, the design included a tunnel, switchbacks, and vertical retaining walls to make the whole design fit together properly.

Clint Hines, Principal of JC Hines & Associates LLC, designed phase 3A of the Parklands project, including the 41 foot (12.5 meter) Positive Connection system wall that was completed in January 2013.

“The high efficiency really made it possible to design tiered walls with those loads at that height,” Hines said. “Why was the PC System necessary? The short answer is that it was AASHTO design and tall tiered walls. It would be hard to make it work with anything else.”

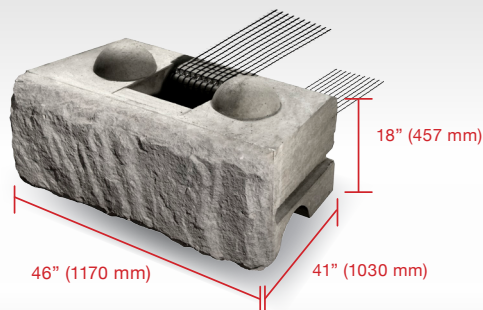
Some unique challenges faced the design team, including tall

back-to-back walls, soft soil, vertical walls faces, and large pipe penetrations. This phase is now complete, and the Parklands couldn't be happier with how the project turned out.

“This project really showcases the flexibility and the range that Redi-Rock has,” Hines explained.

To learn more about the Parklands project, watch the case study video at redi-rock.com/parklands

Project: Parklands At Floyds Fork #153 **Customer:** 21st Century Parks **Specifying Architects:** Wallace, Roberts & Todd/Bravura Architects **Specifying Engineers:** HNTB/QK4 **Retaining Wall Engineers:** Civil Design Professionals/JC Hines & Associates **Manufacturer:** Redi-Rock of Kentuckiana **Installers:** MAC Construction/Redi-Rock of Kentuckiana **Location:** Louisville, Kentucky **Year Built:** 2010–2012



5.75 square feet of face - 1520 pounds
(0.5 square meters - 690 kilograms)
28 INCH (710 MILLIMETER) MIDDLE PC BLOCK

Positive Connection blocks:

- Feature a vertical core in the center of the block, through which 12-inch (300 millimeter) wide strips of geogrid are installed
- Utilize a corrosion-free reinforcement system without special connection components
- Increase wall height with highly-efficient use of geosynthetic reinforcement requirements.
- Allow convex and concave radii due to trapezoidal shape
- Come in colors that can be formulated based upon local region