



## **Boulderscape Mimics Nature in Every Detail with Arizona Highway Project**

by Julie Taylor

In an area just outside Sedona, Arizona is one of the state's most scenic roadways – SR89A. Travelers will find the rugged beauty of age-old pines, gorgeous skylines and the unique outcroppings of Coconino Sandstone formations as they drive along. This particular stretch of highway winds through a forest, which is part of the Department of Agriculture, US Forest Service.

Boulderscape was hired by DBM Contracting of Federal Way, WA to assist in the completion of a 4,300 sf solid face retaining wall project. The Arizona Department of Transportation (DOT) was concerned about rock slides along SR89A. DBM used a tie back system to reinforce the walls and the hillside in the designated area, but it was the finish that required the artistic expertise of Boulderscape. The challenge was gaining the confidence of the Forestry Department that the final look of the retaining walls would tie in naturally with the surrounding Coconino Sandstone. "The aesthetics were everything in this project and we knew the job wouldn't be a go if we couldn't match our walls to the existing sandstone," says Steve Jimenez, Senior Vice President of Commercial Sales for Boulderscape. "In fact, the Forestry Department hired an outside designer who literally spent years coming up with drawings and a system to create authentic-looking Coconino Sandstone finish."

The artist's extensive plans called for the use of piano wire to emulate cracks and crevices in the sandstone. "It was our job, along with the artist to drill in dowels at various depths and locations so we could attach up to five miles of criss-crossing wire to create the exact look the Forestry Department required," says Jimenez. "We would complete one area of the wall with piano wire, and then shoot it with shotcrete, while gaining approvals every step of the way," he says.

Once the shotcrete was applied, the wires were pulled out and the dowels snapped off before the shotcrete dried. At that point, the Boulderscape team applied additional texturing and padding to the walls. Because shotcrete is typically made with gravel and is too coarse to recreate the Coconino Sandstone finish desired, Boulderscape applied a special, very fine texture coat that first required hand mixing with a Tommy Gun. "Color was also added by hand and was sprayed on like a very fine mortar mix to give it that very fine, natural sandstone finish," says Jimenez. "Special equipment and a lot of patience was part of our success in this project," he adds.

Another challenge to the Boulderscape team was cold, winter weather in Northern Arizona. "Most mornings the temperature was 19 or 20 degrees and so we had to wait until temperatures reached the 40s before we could start shooting," says Jimenez. "Once we earned the confidence of the client and the designer, we were able to move more quickly and not rely so heavily on the wire and dowel system," he says. "The outcome is extremely satisfying."

"It was fantastic working with Boulderscape," says John Bickford, a project manager at DBM. "We knew that Boulderscape could do the job because of our past experience working with them and the care they put into creating initial test panels to gain the confidence of our client," he says. "Pre-construction meetings with Steve showed how responsive and service-oriented Boulderscape is to work with," says Bickford. "The crew itself was terrific and the crew leader knew how to communicate very effectively with everyone involved and that was extremely valuable to us."

Astrid Potter, a Resident Engineer for the Arizona DOT knew how important it was to ensure that the walls blended well with the natural surroundings. "It was my first time working with shotcrete and I'm very impressed with the results we achieved," she says. "We called in the Forestry for their blessing and it was evident that Boulderscape had created a handcrafted look without having to use traditional and expensive forms to construct the final product. We basically took out two very substantial steps in the process by not having to use forming material. Ultimately, that saved money and made a major difference in the project," she says. "I believe Boulderscape came up with a process that is at least as good as and possibly better than a traditional form relief process and the result is just great."

For more information call: 949-661-5087 or visit [www.boulderscape.com](http://www.boulderscape.com).