Rockfall Protection

Product: Maccaferri 3000 kJ Rockfall Barrier

Problem
Early morning in February 2011, falling rock from the hill above hit the Maintenance Building at the Zion National Park. The rock produced a hole in the roof and wall, destroying a sign making machine valued at $35,000. Fortunately, workers had not yet arrived, so there were no injuries.

The National Park Service decided to solicit the install and design of a rockfall barrier system to protect the building from future rockfall events.

Solution
After thorough review of the site conditions, on-site measurements, and a detailed design rockfall analysis, Maccaferri proposed a 3000 kJ Rockfall Barrier System. This system provided protection from future rockfall events, was easy to install, and cost effective. In addition, the Barrier was painted with a powder coating to blend with the natural surroundings, making it aesthetically appealing. The Rockfall Barrier System was manufactured in the United States.

Rock Solid Solutions, an experienced contractor from Colorado, was selected to perform the installation of the Rockfall Barrier System. One limitation of the project was that vegetation could not be removed because it was part of the National Park area.

Total installation took six weeks. The first week was utilized for mobilization and soil testing. The following two weeks were dedicated to cleaning and preparing the job site, constructing the post foundations, and installing the anchors. The last three weeks were spent assembling and installing the Rockfall Barrier. The project utilized 180 workable hours per week, averaging 6 to 8 hours of labor time per day. The installation was completed shortly before the arrival of winter, when the freeze and thaw effect on the rock produces potential rockfall events.
Client
NATIONAL PARK SERVICES

Main Contractor
ROCK SOLID SOLUTIONS

Designer
ROCK SOLID SOLUTIONS

Products Used
MACCAFERRI 3000 KJ ROCKFALL BARRIER

Date of Construction
SEPTEMBER 2011