

Manta Ray® Earth Anchoring System used on Guanella Pass road-widening project in Colorado

Project Owner: Federal Highway Administration, Central Federal Lands Division

General Contractor: SEMA Construction

Shoring Contractor: Advanced Foundation Systems

Shoring Design: Printz Engineering Services, LLC

Project Description: Guanella Pass is located between I-70 and HWY 285, between the towns of Georgetown and Grant. This was the third phase of a paving and road widening project over the pass.

Shoring Design and Construction: Advanced Foundation Systems, along with Printz Engineering Services, LLC., decided to use a mechanical anchoring system consisting of Manta Ray® (MR-2) earth anchors, which will be used to attach the facing. Manta Ray® Earth Anchors resist the active earth pressure imposed by unstable soil and surcharge loading from construction activities. The Manta Ray® earth anchor system is an active system. The facing load produces tension in the wire mesh to retain the earth between the anchors.

The Manta Ray® drive-type tipping-plate earth anchor system has been successful when used in roadway fill materials, however in bedrock material, rock bolts are being used to provide the same resistance that the Manta Ray® earth anchor system offers.

