

Target Store Landslide Stabilization Raleigh, North Carolina



Description: The fill slope that was up to 65 feet high with slope angles ranging from 27 to 34 degrees. The landslide encroached on a large commercial superstore at the crest and a roadway at the toe.

Subsurface Conditions: The compacted slopes consisted of residual silty sand and sandy silt.

Design Details: A solution, consisting of *Geopier*[®] soil reinforcement installed to intersect the slope failure plane, and supporting a gabion-faced MSE wall as a toe buttress combined with a low H-pile and concrete lagging wall at the crest of the 2.5(H): 1(V) slope was accepted. This solution replaced the conventional solution of excavating and backfilling the buttress. The *Geopier* construction eliminated the need for staged construction, shoring and significant overexcavation.

Geopier Designer & Installer: GeoStructures, Inc.; GeoConstructors, Inc.

General Contractor: Ashland Construction

Owner: Target Stores, Inc.

Geotechnical Consultants: Langan Engineering
GeoTechnologies, Inc.