



Ohio Department of Transportation, OH-30W to OH-23S Interchange Wyandot County, Upper Sandusky, Ohio

The Geopier SRT® system offered a cost effective repair that required no earthwork.

Description: The Geopier SRT® system was selected by the Ohio Department of Transportation (ODOT) to stabilize three slides that occurred along the east and west sides of the OH-30W to OH-23 S interchange embankments in Wyandot County, Upper Sandusky, Ohio. The three slides had dimensions of: (1) 116 feet by 50 feet, (2) 120 feet by 72 feet, and (3) 84 feet by 60 feet. The slopes had inclinations ranging from 1.7H:1V to 2H:1V. Plate Piles were selected over traditional earthwork methods and soil nailing after a competitive bidding process.

Subsurface Conditions: The subsurface conditions beneath the slope consist primarily of lean clay fill (placed in 2004) overlying native sandy silt. The depth of sliding for the three slides ranges from 4 to 8.5 ft.

Geopier Solution: The Geopier SRT system utilizes the patented Plate Pile method to rapidly and economically stabilize landslides that occur on sites with difficult access, or sites that require minimal environmental disturbance. The Geopier SRT system is a slope stabilization method that consists of driving steel Plate Pile™ elements through an active slide mass or a potentially unstable soil layer to penetrate underlying stable materials. The piles consist of steel sections to which rectangular plates are welded.



At the ODOT Slope Stabilization project, the installation of 766 Plate Piles to depths of 12 ft was completed in June and July of 2016. Prior to Plate Pile installation, the embankment was track-rolled to form the final slope contours; no major grading was required. The Plate Piles were installed with a 3-man crew and two pieces of equipment (a mini-excavator and 300 series Caterpillar excavator). Because of the small, mobile equipment, installation could occur directly on the embankment slopes; no benching or lane closure was required. This project demonstrated that SRT system can successfully be installed along roadways, while decreasing construction time and earthwork operations.

PROJECT TEAM

Owner:

Ohio Department of Transportation

Geotechnical Engineer:

Ohio Department of Transportation

General Contractor:

Trucco Construction

Geopier Installer:

Peterson Contractors, Inc.

Installation:

766 Plate Piles