

PROJECT DESCRIPTION

County Road 76 – Slope Failure



Location:
New Albion, New York

Client:
Cattaraugus County
Department of Public Works

Client Contact:
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View of Slope Failure Looking North

The Cattaraugus County Department of Public Works (CCDPW) has identified a landslide affecting County Road (CR) 76 (Lovers Lane Road) in the Town of New Albion, New York. The slide extends from an unnamed tributary to the South Branch of Cattaraugus Creek, across the road, and into property located on the east side of the road.

Based on conversations with local residents, aerial photographs dating back to the 1950's, and discussions with county officials, the slide began in the mid-1990's and has been moving since. A house located at 7334 Lovers Lane Road (right side of photo) incurred significant structural damage until it was purchased by the Federal Emergency Management Agency (FEMA) and demolished in 2006. The asphalt road within the slide zone has been damaged due to the movement. The asphalt has cracked and been resurfaced several times since the slide began.

MMCE made test borings and installed inclinometers and vibrating wire piezometers into the moving slope. The subsurface conditions consist of a sand and gravel layer underlain by a clayey silt deposit above a glacial till layer.

Our observations over a period of 8 months indicate the groundwater level in the till is confined by the clayey silt layer and is above the ground surface. The confined water pressure is pushing on the overlying soil causing it to move toward the creek. This is confirmed by our observation that the rate of movement of the slope is closely related to the water pressure in the till.

We are currently working with Cattaraugus County to install relief wells extending into the till and rock to lower the piezometric head in the till to reduce the slope movement.