

Peters Road Landslide

By

Wayne Adams¹, Dave Findley², and Steve Lowell³

Abstract

The purpose of this paper is to describe the occurrence, investigation and mitigative measures at the site of an ancient landslide (Peters Road Landslide). This landslide reactivated during heavy rains in November 1994 causing a debris flow that covered State Route 12 (SR 12), about one mile west of Randle, Washington, with a thickness of up to 40 feet of rock and mud. The initial 1994 slope failure occurred as a debris/colluvium slide along a NNE striking fault structure that resulted in a 1800 feet long, 200 feet wide debris slide track. SR 12 is located along the southern (downslope) end of this debris slide track. Several conditions ultimately lead to a massive bearing-type failure of a rock mass contained by two undetermined structural features on January 1996. The western bedrock escarpment delivered at least 200,000 yd³ to the slide. The conditions causing mobilization included debris/colluvium movement, intense rainfall and rock degradation. It was determined by the project team that the most effective mitigative measures were to move SR 12 farther away from the toe of the slope and include a catchment area in the highway design.