



Graham Hill Road Water Treatment Plant/Slide Repair Santa Cruz, California

Civil and Structural Engineering



Client Reference:

Dawn Smithson, Associate Engineer
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Budget: \$500,000

A major slope failure occurred northwest of the City of Santa Cruz Water Treatment Plant in April of 2006 due to saturated soil conditions, additional rainfall, and unstable fill material. The slide was located down gradient of a level bench, from which unconsolidated fill had been placed over the years, leading to a steep soil profile and unstable soil conditions. The mud and debris from this slide washed down slope and partially onto a neighboring property threatening the treatment plant.

Mesity-Miller Engineering served as the prime professional for the design team on this slide repair project and was responsible for coordinating the efforts of the multidisciplinary team. The repair design work included a base keyway, grading, and a top to bottom storm drain system.

Due to historical drainage patterns, there was a second, older slide immediately adjacent to the western property line which was identified as requiring stabilization and repair. Due to its proximity to the property line, a steel soldier pier and lagging wall 12 feet high was used to stabilize the toe of the slide.

MME used alternative analysis software for the slope stabilization to arrive at the most cost effective repair solution. Our design's finishing touches included grading, drainage, and pavement improvements to the storage tank area.