Case Study

Earth Stabilization Project
Santa Rosa

The Challenge

The Brighton Gardens Retirement Complex was experiencing severe earth movement at several locations on the Campus, threatening the infrastructure. The front of the the property sloping down to the boulevard below was a mix of weak soils and clay permeated with underground water. Several scarps had opened up and further slope failure was imminent. At the rear of the property, an existing 10ft. high masonry wall was starting to bulge.

Inspector watching tremieing operations with drilling going on in rear

**Continuous drilling and pouring operations.
Note continuous flight auger on ground and core barrel on drill rig.**

RWR Construction Inc. 200 Gary Place, San Rafael, CA 94901 (415) 457-5658 www.RWR-inc.com

Brighton Gardens Retirement Complex

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Action:
The repair plan for the front of the complex called for a tiered installation of piers and grade beams to retain the below grade portion of the slide. Because of excessive underground water and caving, the piers had to be drilled, the reinforcing cages installed and concrete placed via tremie all in one continuous operation. Above grade, a series of gravity walls using interlocking masonry units, pins and geofabric were installed. The saturated soils had to be left out and turned in order to bring the moisture content down a level where 90% compaction could be achieved.

The back wall was stabilized by excavating behind the wall and installing a drainage system to relieve hydrostatic pressure. Additionaly, series of tiebacks with steel plates were installed at the face of the wall to prevent any further movement.

Constructing interlocking walls. Wall drain cleanout pipes sticking up in background

Tieback rig bolted to face of rear wall

Partially completed interlocking wall with compacted native soils and drainrock behind

Results: The owner's investment in this large retirement complex is secure and the center is now a safe home to many of Santa Rosa's senior citizens.

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