

Client Contact:
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- Services Provided:**
- **Geotechnical Study**
 - **Global Stability Analysis**
 - **Design and Field Observation Services**
 - **Review and Approval of Design Documents**
 - **Field Observation and Testing Services**

Project Summary:

Cesare, Inc. (Cesare) conducted a geotechnical study of post-construction distress of mechanically stabilized earth (MSE) block retaining walls in Castle Rock, Colorado. Localized settlement of the wall subgrade and backfill, resulted in distress to the walls and to the pavement, exterior concrete, and structures behind the wall. Cesare also conducted a global stability analysis of the “as constructed” retaining wall slope. The results of the Cesare study were used to develop remedial recommendations for the site.

Remedial work performed included compaction grouting of the retaining wall subgrade, installation of a post-tensioned tie-back system, relocation of existing storm sewer lines, and repairs to exterior flatwork and asphalt. Cesare provided design and field

observation services of the compaction grouting program performed by Hayward Baker, Inc. The installation of the tie-back system was performed as a design/build project by Yenter Companies. Cesare acted as owner's representative during the installation of the tie-back system. Duties included review and approval of design

documents, field observation and testing services, and review and approval of payments.



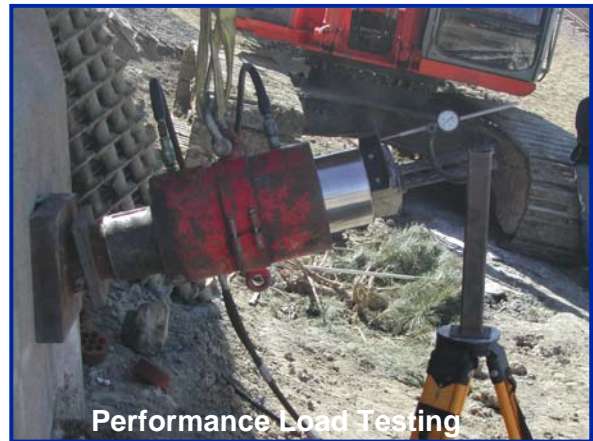
Precast Panel w/ Tendons



Compaction Grouting



Drill Rig



Performance Load Testing