

Lamezia Terme - Italy

NICASTRO CASTLE

Construction design of stabilization works

Client: Eng. Claudio Soccodato

2002 - 2004



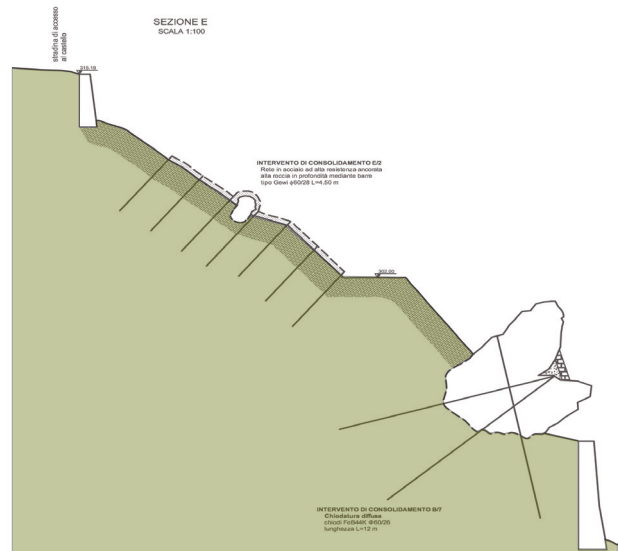
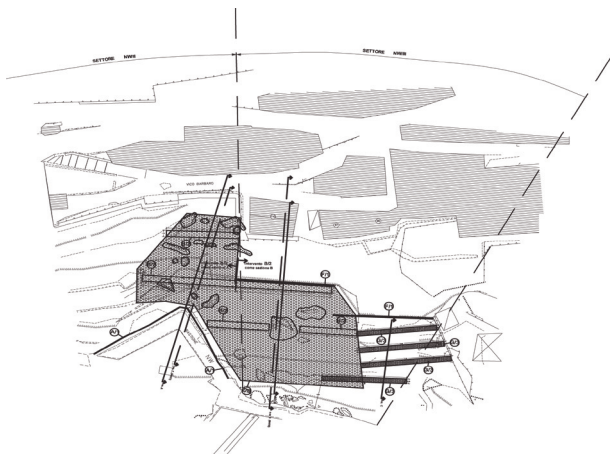
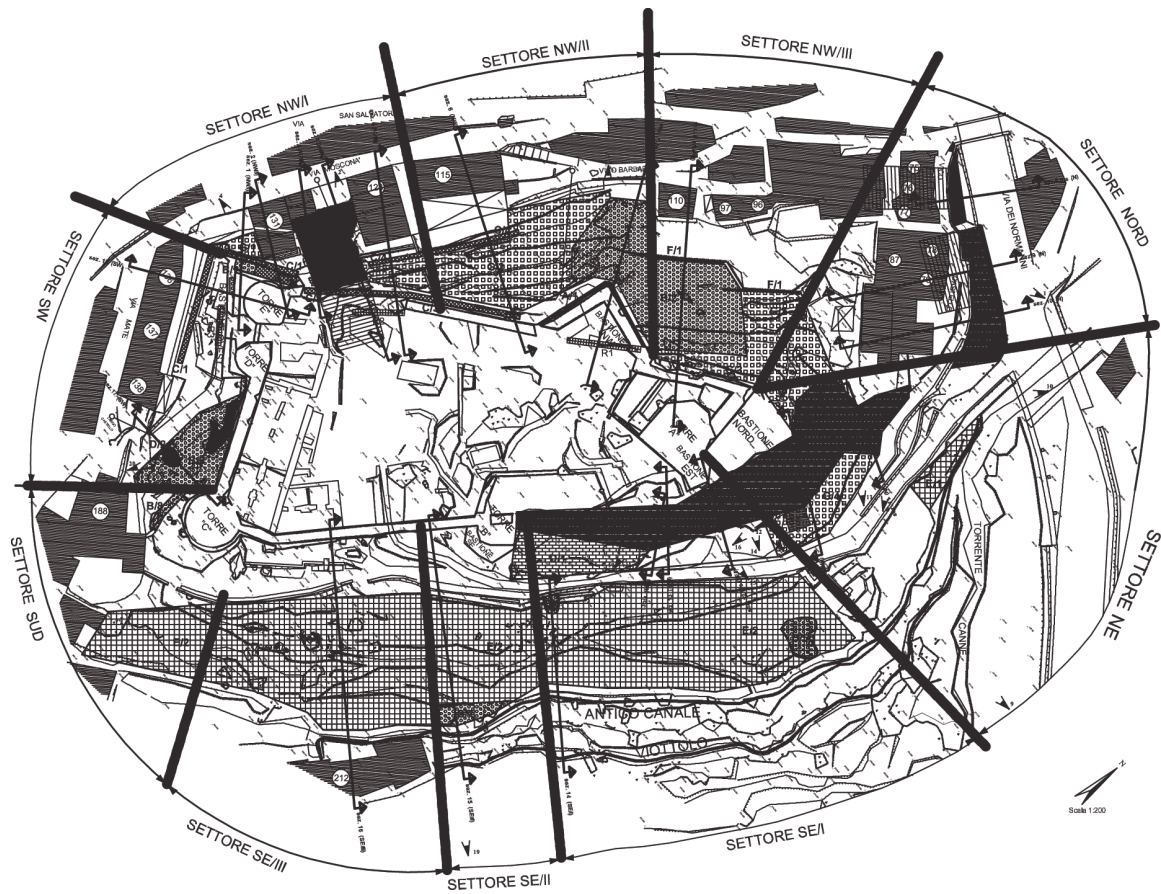
The ancient castle of Nicastro was built from XI to XV century. It is located at the top of a rocky hill near Lamezia Terme (Catanzaro, Italy), at an elevation of about 320 m a.s.l.. The area occupied by the structures of the castle (walls and towers) spans about 100x40 m.

The slope angles of the hill are variables, ranging from about 20° up to 50°; the rock formation is mainly constituted by fyllades characterized by very different degrees of weathering and fracturing.

Instability phenomena are essentially superficial, being related to failures of rock wedges or to landslides of superficial debris or of isolated blocks of rocks.

In the design of reinforcements adequate safety coefficients for slope failure in both static and seismic conditions were re-

Rock Stabilization



quired. Special care was devoted to the areas in which landslides may affect civil buildings existing at the base of the hill. Furthermore, attention was focused on the selection of reinforcement techniques characterized by a low environmental impact. In detail, the stabilization techniques involved anchors, nailing, underpinning and superficial drainage systems. effects of the significant self-weight of the structure.

