



# CANNAMASCA DAM

## Italy, 1991

### PROJECT CHARACTERISTICS

**Works:** Earthfill dam and spillway

**Purpose:** irrigation

#### Dimensions:

- height: 38.6 m
- embankment volume: 495 000 m<sup>3</sup>
- storage: 2 200 000 m<sup>3</sup>
- crest length: 297 m

**Watertightness:** Impervious clay core

#### Materials:

- foundation: over-consolidated illite clay
- embankment: clay, sand, conglomerate and rock blocks



### PROFESSIONAL SERVICES PERFORMED

Analysis of instabilities produced shortly after excavation, modification of the tender design, construction drawings and assistance during construction,

*Cannamasca dam is located on Tumarrano Creek, some 30 km from Agrigento, in Sicily. The central clay core, 4 m wide at the top, ends 1 m below the dam's crest and reaches the foundation grade with steep slopes: 0.3H/1V upstream and 0.72H/1V downstream. The core is separated from the shells with sand filters 2.5 m wide.*

*The upstream slope, set at 2.5H/1V and 3.5H/1V, is protected with a 1.0 to 1.5 m thick layer of rock laid over a 0.3 m thick layer of alluvial material.*

*The crest is 8.6 m wide and is set at 443.6 m a.s.l. The downstream slope, set at 2H/1V and 3.5H/1V with a berm at el. 434.6 m, is protected with a 0.6 m thick layer of vegetated soil.*

*Seepage discharges are collected by several drain pipes, placed on the downstream portion of the foundation, which converge in 3 weir chambers.*

*Rainfall is collected by ditches placed on the berm and at the dam's toe.*

*The tender design was modified with the aim of avoiding local instabilities of the excavations and of improving the drainage system.*

