



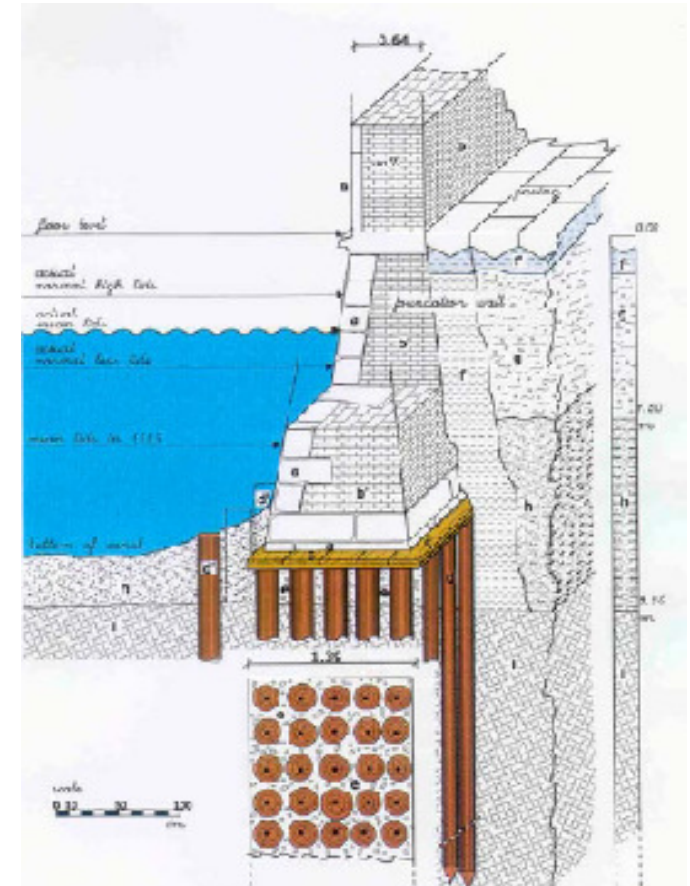
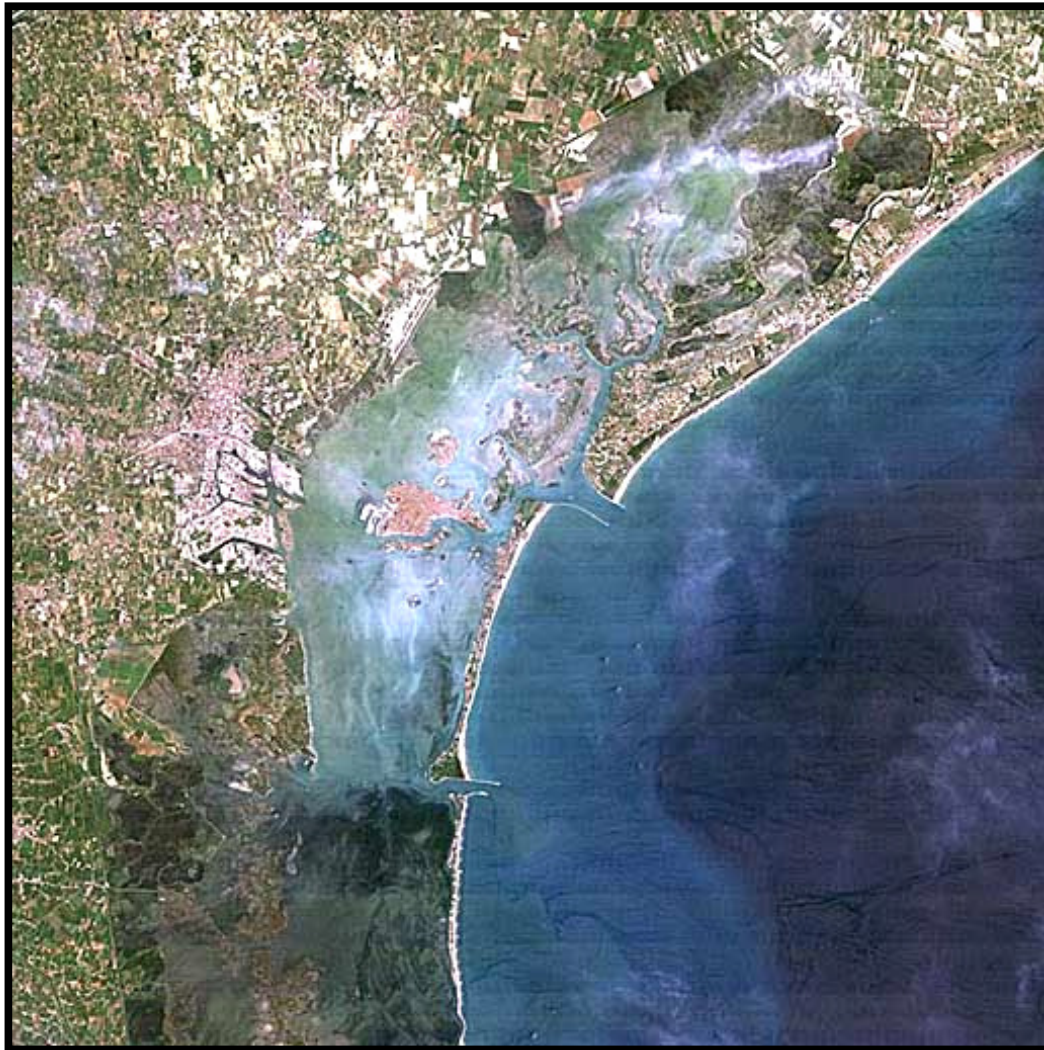
CTU in Prague
Faculty of Civil Engineering
Department of Building Structures

Restoration of foundings

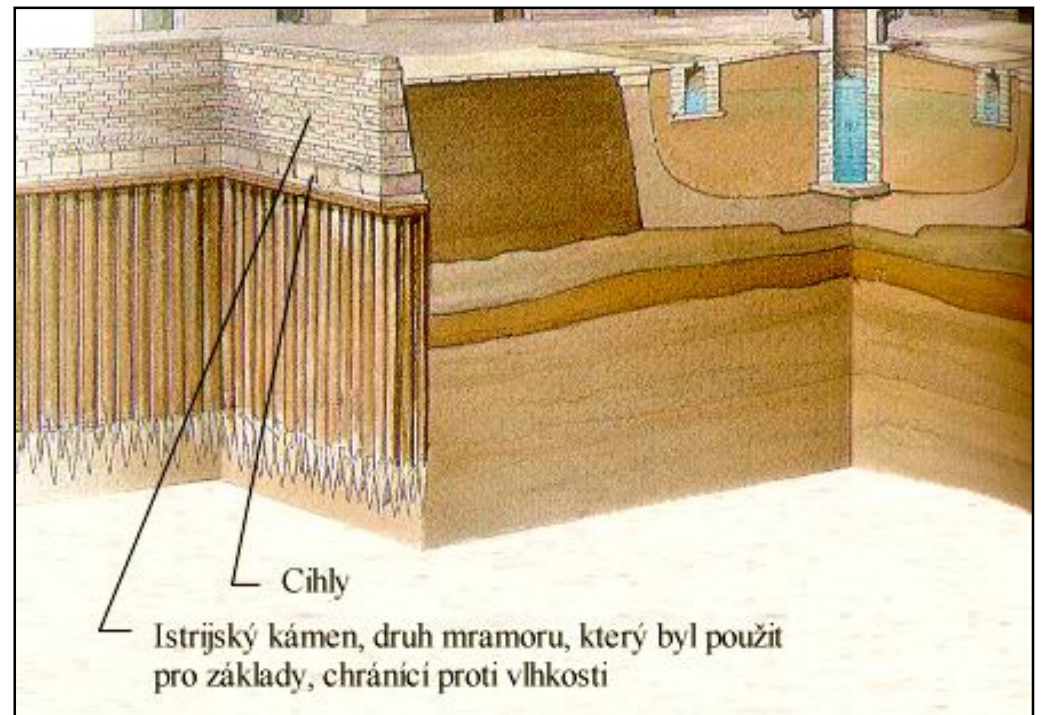
Santa Maria Dei Frari in Venice

Presentation was created with the kind support of Ministry of Education Grant FRVŠ
2960/2011.

Description of the object



► foundation of the wooden piles



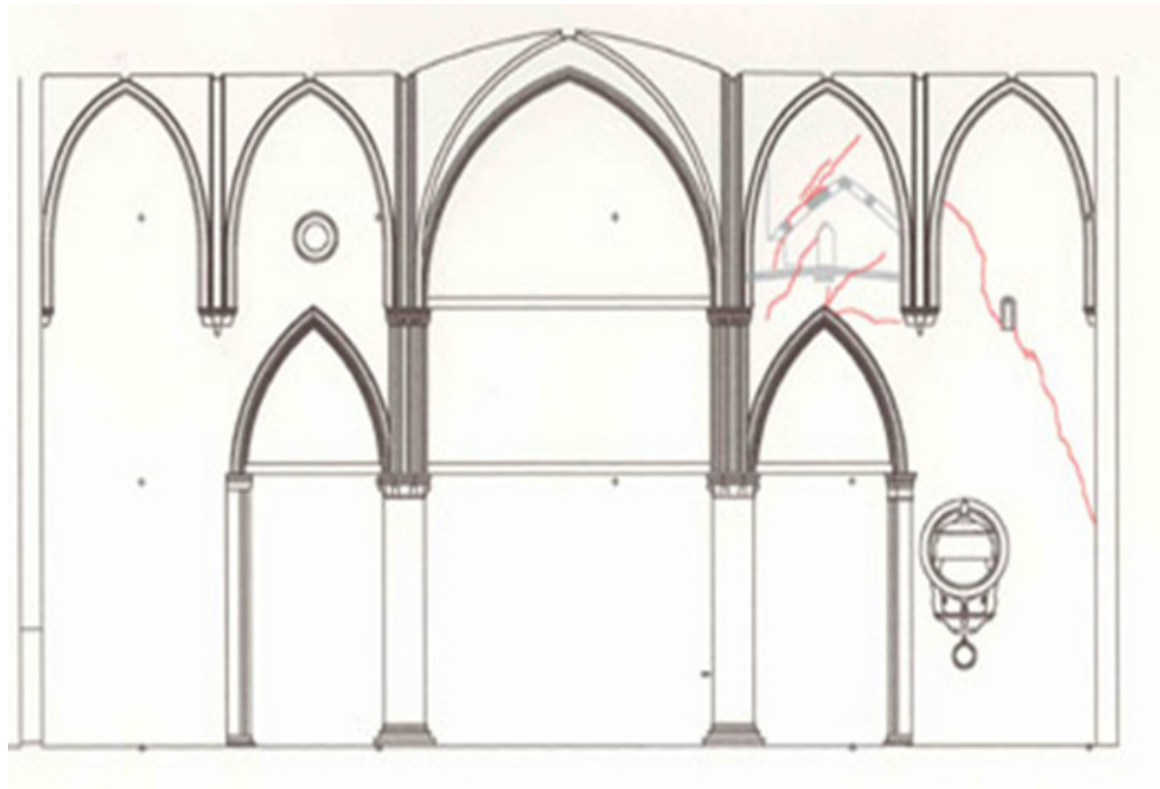
History of the object

- ▶ Franciscan church in the area called San Polo
- ▶ built in 1228
- ▶ 1250 – rebuilt
- ▶ 1330 - Construction of a new basilica (current version)
- ▶ second largest church in Venice (after San Marco)
- ▶ cross ground plan, three-aisle, tower (campanile)
- ▶ made of bricks and marble



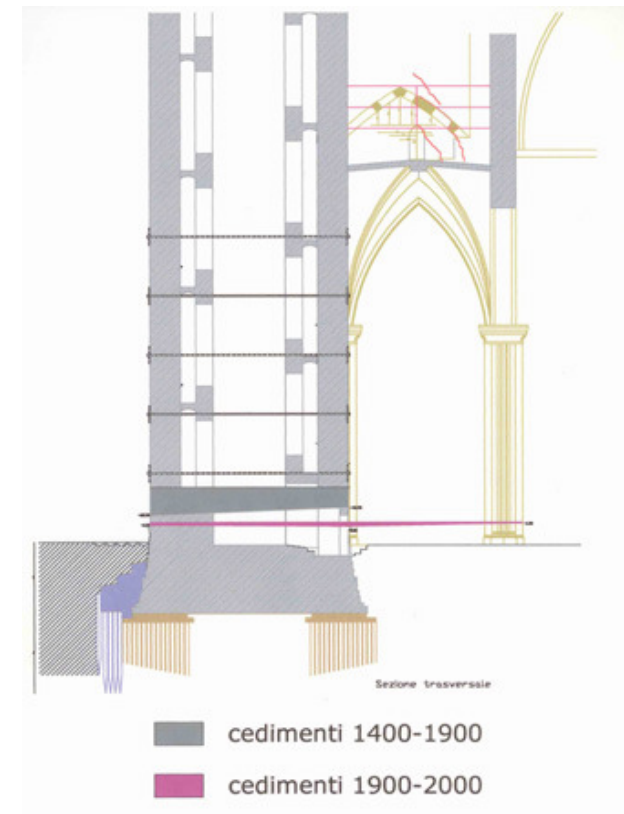
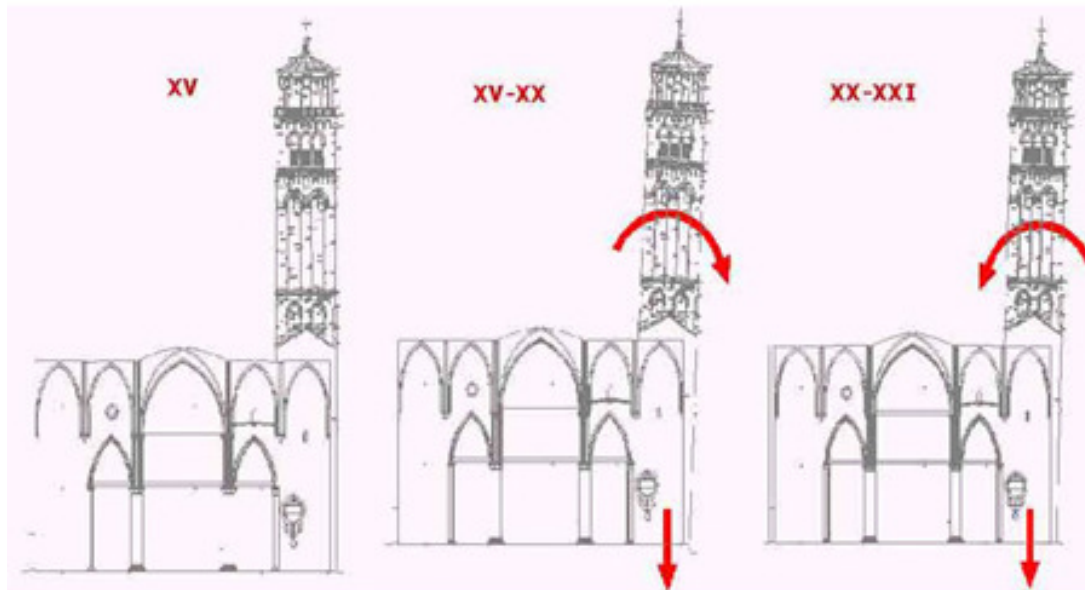
Description of defects

- ▶ Comparison between historical and present map of cracks – red cracks in 2000

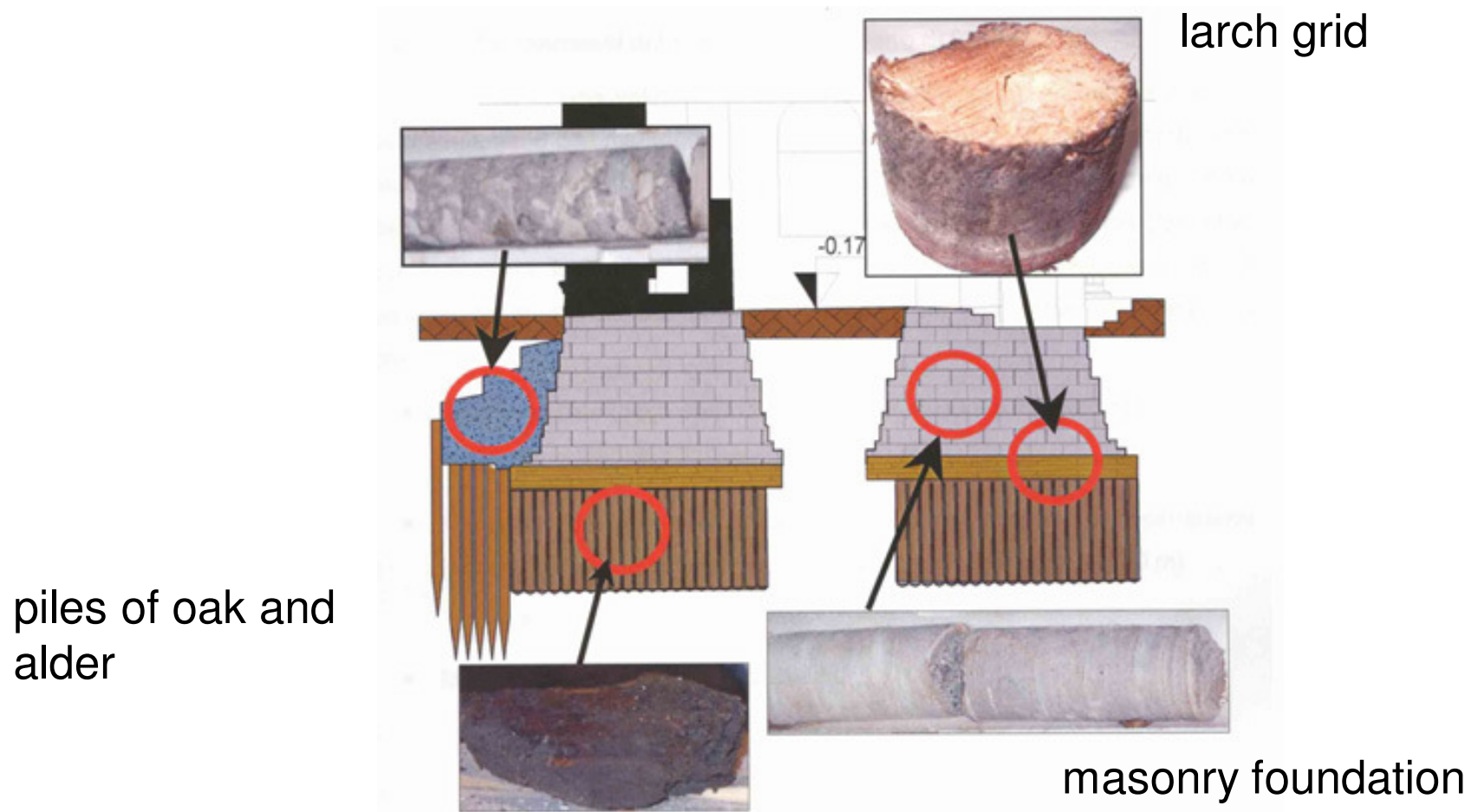


Analysis of defects

- ▶ change of movement due to settlement of tower

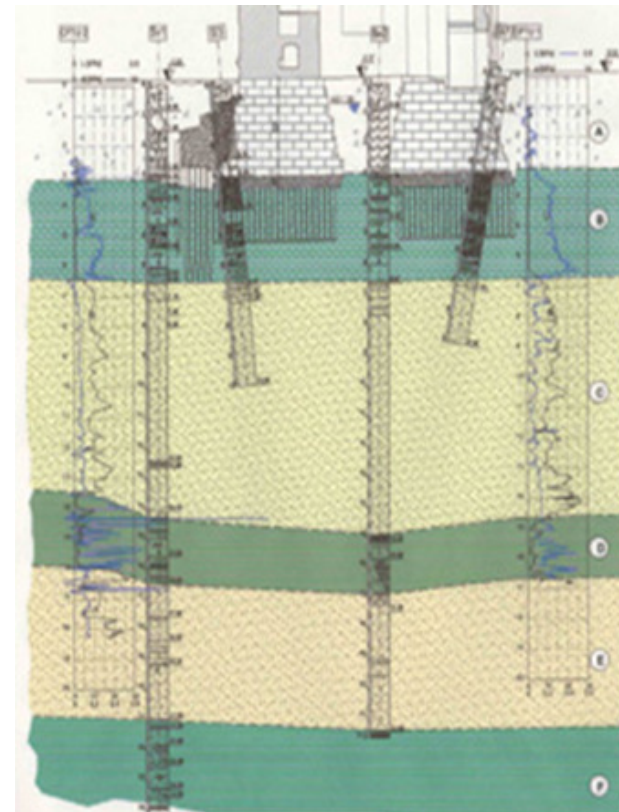


Foundations conditions



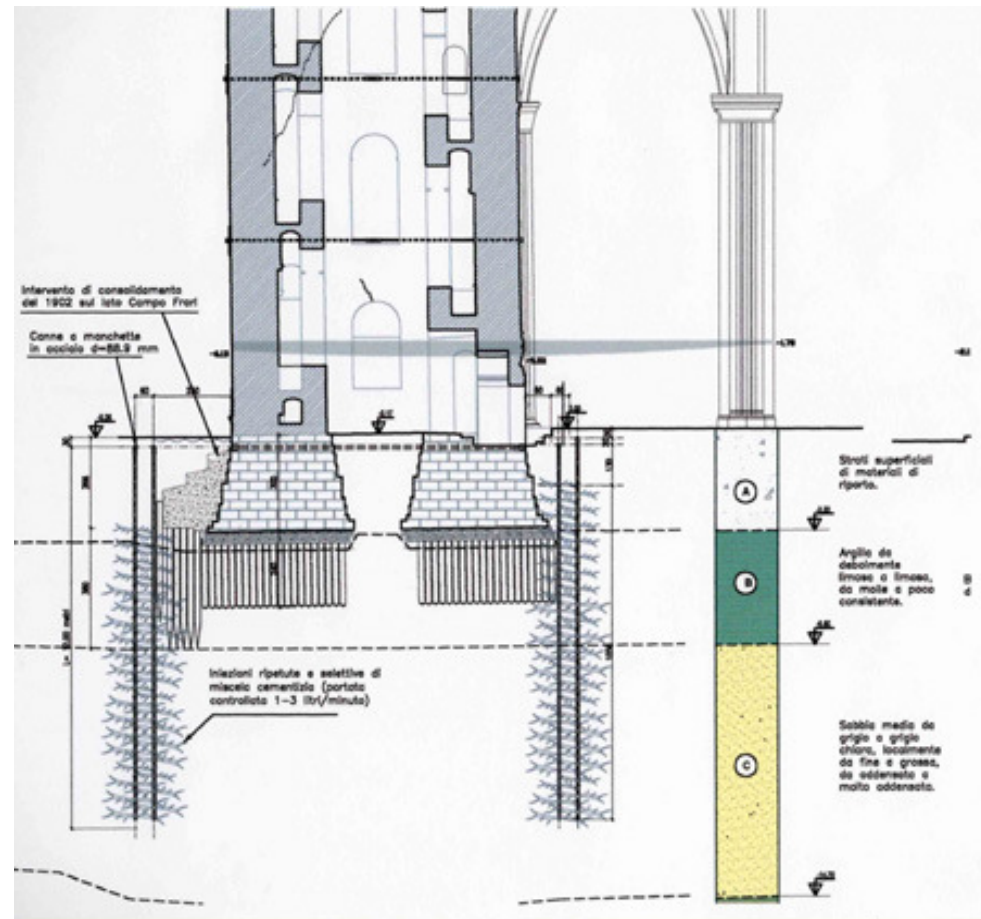
Foundations conditions

- ▶ A) 0-3 m backfilling material
- ▶ B) 3 - 6.8 m clay (low cohesion)
- ▶ C) 6.8 - 14.5 m of medium-grained sand (low plasticity)
- ▶ D) 14.5 - 16.8 m clay



Restoration of defects

► A) consolidation grouting



Restoration of defects

- ▶ B) activation of draw rods

