

## Groningen and DIANA

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### ABSTRACT

DIANA will be used for a project at Groningen (Netherlands). Design calculations will be made for the interaction between the building under ground level and above.

In normal practice two complete different design teams are making the studies. Beneath ground level the geotechnical advisor is making calculations and above ground level the construction engineer is making his calculations. The design programs used are not compatible.

The prestigious project should become “a warm chamber” within the city of Groningen. A lot of cultural aspects will be joined within the building. A central atrium should give an open structure from which several cultural aspects can be discovered.

The project will be made in the centre of the city Groningen just behind the big central market.

Technically it is an project with a building under the ground and a building on top. Both are deeper and higher than the buildings surrounding the project.

The 5 level parking house will be approximately 12 m deep and the building on top will be 50 m.

For design purposes the building pit is calculated with deepwalls, underwaterconcrete and construction slabs. The moment of releasing the struts and forcing all the horizontal forces in the slabs is a very important moment for the construction. This especially because a big vide is situated in the centre of the parking house over the length of the building pit.



