



Source: www.operaparkfonden.dk

Project report
GEROthem[®] DUPLEX geothermal systems

The Opera Park
Copenhagen, Denmark



Image 1: Operaparken construction site
Source: www.operaparkfonden.dk

Climate compatibility and the ecological and economic cycle

Thousands of people visit the opera in Copenhagen every year, many of them travelling by public transport or bicycle. That said, there are also many who arrive by car and park under the heritage-protected cranes north of the opera.

Improved parking facilities are needed to make it easier to arrive and leave. There is also a need for green spaces on the waterfront – where visitors can take a breather. Given all the major construction work going on in Copenhagen, nature is starting to feel the strain. That’s why the South Island needs to be transformed into a green space that will benefit Copenhagen’s residents and tourists. The provisional parking area under the cranes on the North Island is to be abolished and replaced by a permanent underground car park on the South Island. A private and publicly accessible park is being created above this new multi-storey car park – to complement the harbour’s existing recreational spaces.

The project also includes a greenhouse with a café, which will be heated using nine geothermal probes, each measuring 200 m. The underground car park and the park above it form a sustainable and cost-efficient

cycle. Rainwater is reused for irrigation, while the parking revenues fund operation and maintenance of the park. What’s more, solar panels on the roof of the opera house ensure a climate-neutral power supply for car parks, cafes and parks.

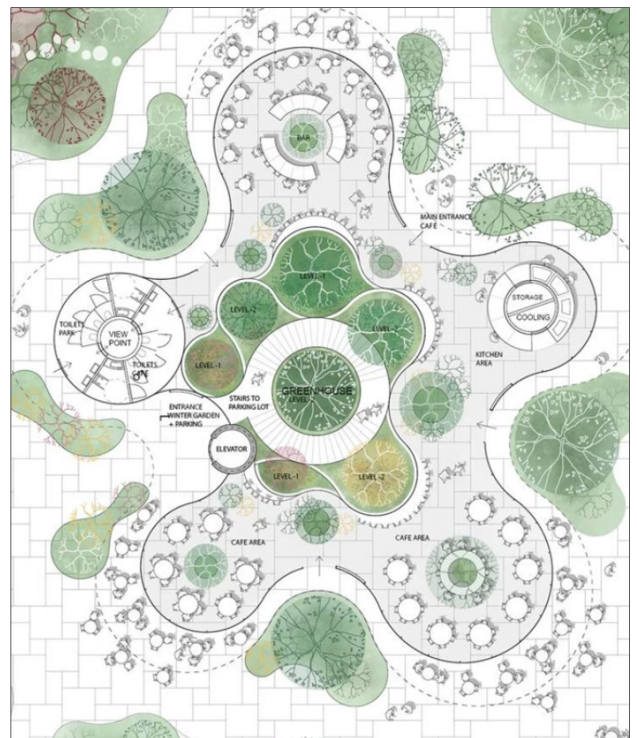


Image 2: Sketch of Operaparken from above
Source: www.operaparkfonden.dk



Image 3: Drilling rig
Photo: Varup



Image 4: Drilling rig with opera in the background
Photo: Varup

GEROthem® DUPLEX

The standard geothermal probe that has already proven itself time and time again.

The probe foot (U-bend) is the most important component in the GEROthem® geothermal probe. It is subjected to the greatest stresses during installation and operation. HakaGerodur has therefore further refined and patented its tried-and-tested GEROthem® probe foot (32 mm and 40 mm).



Image 5: Greater load resistance and stability thanks to Reinforced walls on probe foot; PN25
Low hydraulic resistance due to large cross-sections and welded coupler sockets

Features

- + Greater safety due to nubbed design
- + Greater load resistance and stability thanks to reinforced walls on probe foot; PN25
- + Mounting for GEROthem® weights and reinforcement brace for the GEROthem® PUSH-FIX and UNI-FIX. Multifunctional holder for weights
- + Low hydraulic resistance due to large cross-sections and welded coupler sockets
- + Proven mud container in the probe foot with two new ribs that make it easier to use a measuring float.
- + No need for welding on site
- + DIN EN 12201-2
- + Patent No. EP 2 395 301
- + SKZ certified and monitored. SKZ certificate No. A278
- + Certified and monitored by KIWA KOMO. Certificate No.: K84665/01



Image 6: Current image May 2023
Source: www.operaparkfonden.dk

Project details

Construction site

Operaparken
DK-1438 København K
www.operaparkfonden.dk



Operaparken

Drilling company

Varup Termiske Boringer
Enghavevej 10, 3400 Hillerød
www.varuptermiskeboringer.dk



Termiske Boringer
Varup

Products used

9 × GEROtherm® DUPLEX double-U
geothermal probes PE100-RC,
PN16, ø40 mm 200 m



GEROtherm®

Planner for energy and building technology

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