

Case Study

Installation of Ground Source Heat Pump System with Vertical Boreholes



At a glance

- GSHP system
- 39 vertical boreholes
- Grade I listed 20,000 sq ft property
- Cost savings
- Environmentally friendly long term solution
- Renewable energy
- High ground water levels providing increased optimisation of our system
- Experienced installer
- Nicholls Service & Maintenance

Objective

Our client wanted to create a Ground Source Heat Pump system using boreholes to create a long term fossil fuel free renewable solution. The house is a 20,000 sq ft Grade 1 listed private house built in 1598 and which was refurbished during 2015/2016 using LPG boilers for the heating and hot water.

About the project

In 2021 Nicholls designed, supplied and installed a 174kW GSHP system with 39 vertical boreholes to provide heating and hot water at our client's beautiful Grade I listed Elizabethan house, whose buildings are often used for commercial and domestic functions.

The borehole array is designed to sustain optimal efficiency for the GSHP system indefinitely. Our client sees it as a 100 year investment.

Using our expertise and knowledge of the geology of the area, we knew that the borehole array sees a naturally high volume throughput of ground water. The benefit of this is that it provides quick heat replenishment and optimises the system performance further.

The client benefits from a 7 year warranty and Nicholls Servicing and Maintenance.

“I am delighted with the quality of installation and the after sales service. I chose Nicholls because the drilling was likely to be the most unpredictable and complicated part of the installation and that is the core strength of Nicholls. As it happened, we experienced serious issues with artesian water sixty metres down and it might have created a real problem if the drilling was being undertaken by a sub contractor to a heat pump installer. Nicholls had the experience to solve the problem and were able to throw more resources into the project in order to complete on time.”

Private Client, Wiltshire