

CASE STUDY

River Source Heat Pump System in Norwich



AT A GLANCE

- **435kW Open Loop Heat Pump System**
- **Retrofit to replace gas**
- **Renewable heat source**
- **86 apartments**
- **Heating and hot water**
- **Experienced installer**
- **Full service contract**




Plant Room

OBJECTIVE

Nicholls were approached to design, supply and install a Ground Source Heat Pump system with boreholes for a client in Norwich as part of their carbon saving strategy with a view to remove the existing gas boilers and replace 86 apartments with heating and hot water from renewables.

ABOUT THE PROJECT

During the design phase and after completing a test borehole at the site it became clear that the disruption to the residents and the groundworks required for the borehole installation would be too great as approximately 40 boreholes would be required to support the closed loop ground source system. Having installed other open loop systems Nicholls used their experience to offer an alternative heat source option as the site was adjacent to the Wensam River that runs through the city. It also enabled the client to save over £250,000 in comparison with a closed borehole array system.

 Nicholls Licensing and Consultancy team undertook all the permitting with the Environment Agency for the abstraction and discharge licences required along with the compliance work for the project. Nicholls in house design team undertook the complete system design including the bespoke self cleaning abstraction pump system and cage, right through to the water source heat Pump system within the plant room.

Nicholls experienced Engineers undertook all aspects of the river source system installation and commissioning. The main GSHP plant which consisted of 5 Stiebel Heat Pumps was preassembled on purpose built skids at our premises in Sussex to meet the programme.

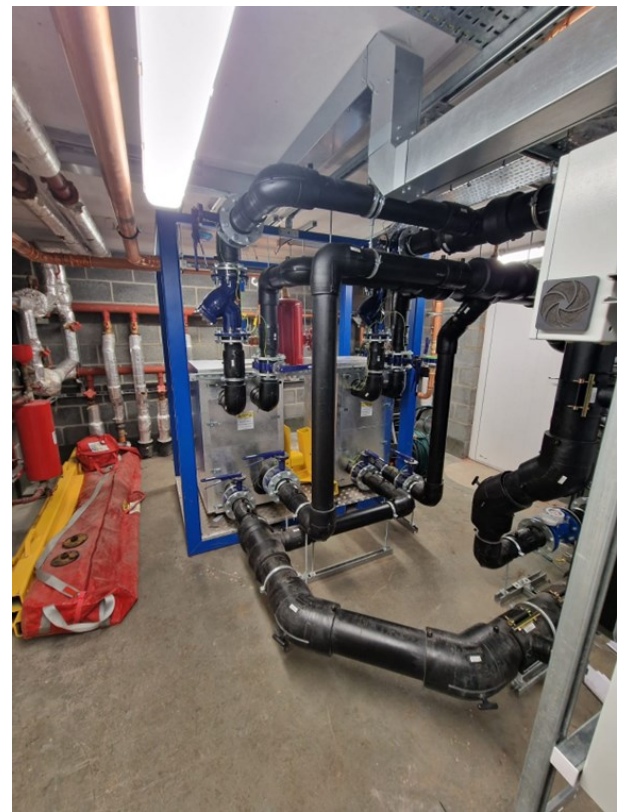
Nicholls Servicing and Maintenance continue to maintain the system, supported with online monitoring.

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Abstraction Pump Cages



Riverside Heat Exchangers



“This was a very exciting project to work on, as far as we’re aware one of the biggest water source heating systems for social housing in the UK. We are very proud of what has been achieved and believe this is the future for many inner city heating and cooling systems.”

Ben Nicholls, Owner/Director