

EARTHENERGY™



Metropolitan Housing Trust Headquarters Raleigh Sq, Nottingham



This new, three storey office building close to the centre of Nottingham, has been fitted with a borehole based EarthEnergy system.

A 30 borehole array was installed in the 30m x 25m car parking area located behind the building. The boreholes are drilled in drained, fractured sandstone, fitted with 32mm HDPE U-tubes and grouted in place. The header pipes from the ground loop array are taken in risers to the plant room in the roof. The system is based on two water-to-water Cosfi heat pumps. One is for cooling and one for heating. The heat pump outputs supply conventional four pipe fan coil circuits running throughout each floor of the building. The source sides of each heat pump are connected to a 1000 litre buffer tank which is also connected to the ground loop array. The heat pumps exchange energy with each other through the buffer tank. When additional heating is required it is extracted from the ground, and when there is high cooling demand, excess heat is rejected to the ground. Stairwells and corridors are heated with conventional, low temperature radiators.

Ground Loop	<i>30 x 70 metre boreholes</i>
Heat Pump	<i>2 x 180 kW Cosfi water-to-water</i>
Distribution System	<i>4 pipe fan coil + low temperature radiators</i>
Client	<i>Metropolitan Housing Trust</i>
Mechanical & Electrical	<i>PWP Building Services Limited</i>
Commissioned	<i>July 2001</i>