

EARTHENERGY™



Dunston Innovation Centre



The innovation Centre, developed by Chesterfield Borough Council, is designed for start-up companies and is subdivided into a number of self contained units, with common conference and meeting room facilities. Heating and cooling is provided in most of the rooms using reverse cycle, water to air, console units. These are coupled directly to the ground loop array. The conference room, situated in the rotunda above the main entrance, is serviced by a COSFI water to water heat pump, supplying recessed fan coil units.

The ground loop array comprises 32 boreholes, installed behind the building in a landscaped garden area. Each borehole is fitted with a u-tube of high density, polyethylene pipe, grouted in place. The boreholes are manifolded together on to flow and return lines that are connected to the main ground loop circulating pumps, located in a small ground floor plant room. Risers take the ground loop water and distribute it on the three floors of the building. Tenants are simply metered for their heating and cooling, using standard meters in each unit.

Chesterfield Borough Council have arranged for the centre to be supplied with electricity derived from renewable energy sources. Thus, the heating and cooling of this innovative building, is achieved with no overall CO₂ emissions.

Ground Loop	<i>Boreholes</i>
Heat Pump	<i>80 x 2.5 kilowatt ClimateMaster</i>
Distribution System	<i>Ducted Air</i>
Client	<i>Chesterfield Borough Council</i>
Mechanical & Electrical	<i>Beavers Limited</i>
Commissioned	<i>October 2002</i>