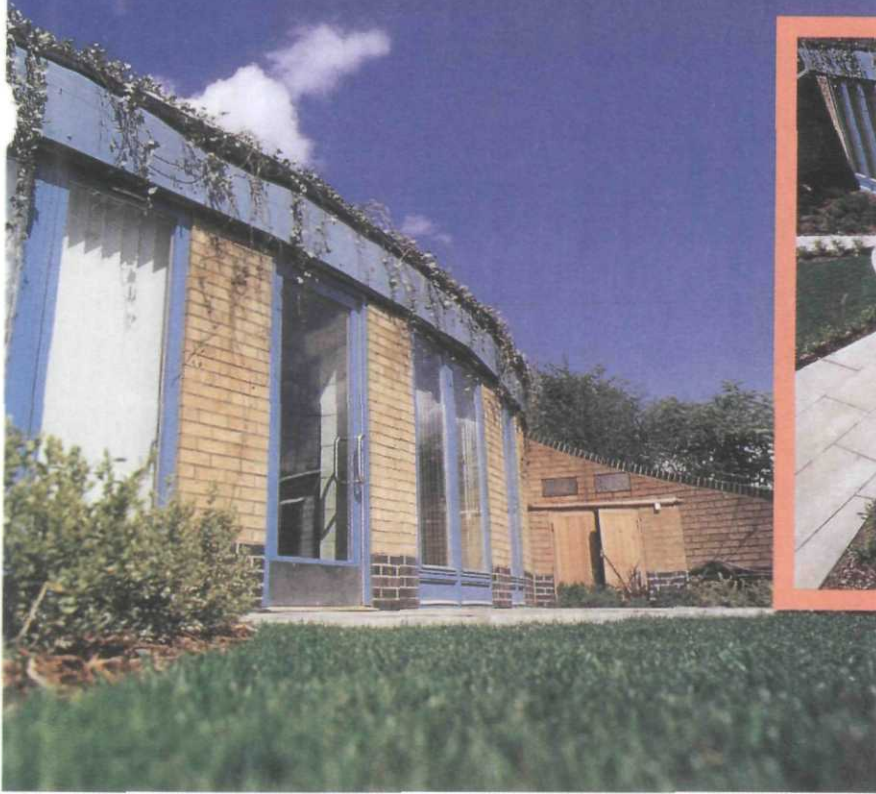
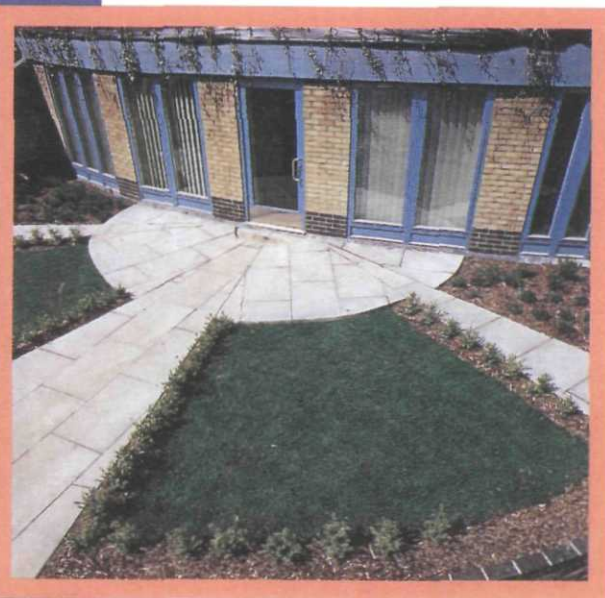
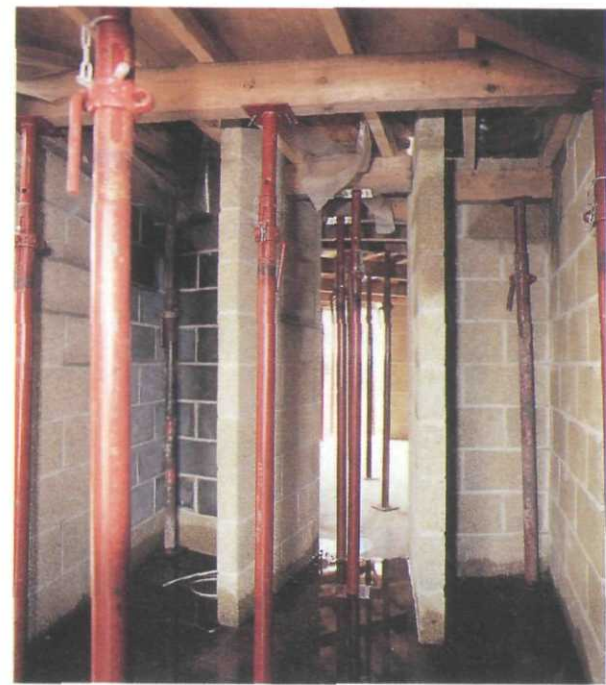




ABOVE LEFT AND RIGHT: The 54 m² office building is oriented south-south east. The south elevation is a curving convex shape, with full height glazing, including the main entrance door which is also fully glazed.



LEFT AND ABOVE: Work on the house continues. The doorway above is designed to aid air flow through the house from the warm south-facing side to the cooler north side. Passive ventilation is the main form of cooling for the building.

system consisting of low grade cable. The cables are interwoven with the underfloor metal mesh. This takes longer to install – days rather than hours – but gives an amplification of the heating process, making it more efficient." Laying the underfloor heating cables beneath the mesh also has the practical purpose of protecting them when the concrete is poured in. However, Harrall points out that the heating system has only been used for five days prior to occupation of the office. It is there purely as back-up in extreme low temperatures but it is not anticipated that it will be needed again.

After that, the office (and the dwelling once complete) relies on solar gain for heating and on the earth covering to retain the heat, and maintain a stable internal temperature.

Harrall says: "Weather in the Lincolnshire marshes is very humid. But between 150 mm and 450 mm below ground, we have found that the temperature is relatively stable. The theory of earth sheltering is that we can use this characteristic to stabilise temperatures inside the property. Harrall suggests that the 22 temperature monitors built into the office building superstructure may make the building the UK's

most temperature monitored office building. Delta-T Devices of Cambridge supplied the monitors and monitoring software with indefinite monitoring in mind.

Naturally, with solar gain playing so important a part in the heating of the dwelling, there is the issue of temperatures rising too high in summer months. The orientation and design of the buildings mean that passive cooling is the main cooling method. "The office, for example, has a south east orientation. The office is also open-plan. On the north elevation we have high windows for north light, but they can also be