

Trafford Hall's flat-roof Segal Bedrooms

The 42 'Segal' bedrooms in the gardens of Trafford Hall, with their timber-covered walkways and grass roofs, are built following the Walter Segal method of construction, using low cost, standard building materials. The bedrooms were built in 1994 by unskilled, unqualified, unemployed young people (age 17-19), supervised by Laings builders and a volunteer organiser from the Centre for Alternative Technology (CAT). Pat Borer, architectural adviser CAT, designed the first 24 Segals and the 18, added in 1997 on the other side of the sunken garden. He also designed the timber frame, timber clad stable, which was rebuilt on the footprint of the crumbling Victorian stable.

Walter Segal, an enlightened wartime architect whose home was bombed during the war, built a temporary timber and plaster board home for his family in the garden, while he gradually rebuilt the bombed house. We copied this method with advice from Pat Borer. Standard 4" x 4" posts created the frame for the structure. Each post stands on a small concrete plinth, sunk into the ground, so no major foundations are necessary. The posts are placed a standard (plasterboard) width apart so the walls can be simply made by nailing plaster board to both sides of the vertical posts with Warmcel insulation in between. The floors and roofs are similarly installed using strong ply board.

Shredded newspaper provides high value, low cost insulation between the outer and inner layers of walls, floors and ceilings. All the wall and ceiling joints are covered with pine strips 2" x 1", running up the walls and across the ceilings, giving a wood chalet feeling to the rooms.

Standard size windows and doors fit into spaces that match the distance between the posts. They are double glazed, insulated and draft proofed to minimise energy use. The bedrooms have very small radiators. Pipes and electrical wires run under the floors in the (insulated) spaces between the floor and the boards nailed under the joists. There is a two foot gap between the boards and the groundwork. Plants grow, tree roots are undisturbed, and wildlife can run through. All the Segals will be heated through the Centre's biomass boiler from winter 2011/12.

The roofs extend out to form a continuous wooden veranda running the length of the bedrooms on both sides of the garden. The floors extend out to form a walkway, so people can walk under cover from the Hall to the last Segal, bedroom 42. The roof then the bedrooms are covered with a heavy rubberised membrane, boxed in with wood edges, and laid with turf. This is both a form of insulation and a beautiful way to 'green' the chalets. Snow drops, daffodils and many other plants have self seeded on the roofs.

The Segal method offers many advantages:

- Highest quality insulation, with natural drainage under the buildings on wooden stilts and concrete plinths
- Trees to growing within a few feet of the windows
- A forest and garden vista from the bedrooms

The Segal bedrooms offer a unique model of sustainable self-help building and training – simple, enchanting and truly green.