



# Showcasing Excellence

## The Honingham Earth Sheltered Social Housing Scheme



As the world faces a rapidly dwindling store of natural resources, environmental issues are a top priority for the British Government. With the low carbon economy an inevitability, the social housing industry is under increasing pressure to provide comfortable, commercially viable and environmentally friendly housing solutions.

Against this backdrop, Peddars Way Housing Association and Broadland District Council, in association with Sustainable Ecological Architecture Ltd (Search), set about creating a ground breaking solution. Using innovative, environmentally friendly construction methods, they have created a four unit housing scheme, which now stands as the first earth sheltered social housing scheme to be provided in the UK.

### Objectives:

- To promote environmental best practice.
- To design a commercially viable solution in addressing the environmental housing issues facing the construction industry.
- To demonstrate the values implicit in a low carbon lifestyle, anticipating the consequences of diminishing natural resources.
- To prove that it is possible to live in buildings with zero CO2 emissions with no loss of comfort.
- To reduce the need for mechanical space heating, diminishing the threat of fuel poverty to those who can least afford it.
- To enhance and protect the natural environment on a local and global level.

“The bungalows are very simple to build. The quantity of materials required for their construction is significantly reduced in comparison with the construction of conventional homes. Fewer tradesmen are required due to the absence of plastering, skirting boards, stud work, lintels, foundations or embedded services. The design of the buildings is commercially viable and could therefore be used by other forward looking housing associations across the UK.”

Jerry Harrall, Managing Director, Search Architects Ltd





### The environmental benefits of the scheme's design:

Collectively, the scheme is enhancing and protecting the natural environment on both a local and global level. Through the design and construction process it has achieved the following:

#### *Streamlining the construction process*

- Carbon emissions were minimised through the reduction of subterranean excavation and the reduction of trades.
- 80% of materials used during construction contained varying degrees of recycled ingredients. These included bottom furnace ash, woodchip and pulverised fuel ash.
- The design of the building has dispensed with the need for conventional house foundations. Extensive use of cavity walls, skirting boards, architraves, stud walls, plasterboard, plastering and roof voids ensures a faster, more cost effective construction process.

#### *Use of specific energy saving techniques*

- Orientating the buildings around the path of the sun has guaranteed maximum solar gains and enhanced daylight.
- Each building is one room deep ensuring all rooms take advantage of maximum solar gains.
- The buildings are adapted for the use of renewable energy resources.
- Each building is equipped with energy efficient task lighting that can be adjusted to suit individual requirements.

#### *Minimal environmental impact*

- Each building is landscaped into its natural environment.
- Zero carbon emissions are produced by the buildings on a net basis.
- The scheme enhances the local and global environment.

“We do not have any heating on at all in the winter and the building still stays at 72 degrees. The light comes in through the full-length windows in winter but in the summer the sun's heat does not penetrate so you stay cool. Now it's warm outside but cool inside. We currently pay energy bills of just £4 per week. Before coming here we hadn't heard of anything like this at all, it has really opened our eyes. This is the future of environmentally friendly living.”

Current resident of one of the four new bungalows.

## How does your project measure up?

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