

# Super E<sup>®</sup> Social Housing

## Bognor Regis, UK

### Description

The first Super E<sup>®</sup> social housing unit was originally planned as a traditional British brick and block house. The UK Super E<sup>®</sup> Member, a Housing Association, wanted to determine the value of switching to wood frame. Thus, the home is surrounded by brick and block houses of the same appearance.



### Setting

Bognor Regis is a resort town on the south coast of England. Bognor Regis has an oceanic climate, although it records the most sunshine of any British weather station. Its location moderates temperatures all year, and winters are cool (average about 3C) and summers warm (average about 20C).

### Super E<sup>®</sup> UK Member

Kelsey Housing Association was the first Housing Association to become a Super E<sup>®</sup> Member. At the time of construction of this house, Kelsey was seeking innovation. They turned to Super E<sup>®</sup> because of the technical support offered, as the group was not accustomed to building in wood frame. Kelsey was later amalgamated with another housing association.

### Super E<sup>®</sup> Canadian Member

Alouette Homes, based in Quebec, has built more Super E<sup>®</sup> homes in the UK than any other Canadian builder. Alouette was the ideal company for this project because of the high level of technical support it could provide locally.

# Member Commentary

The Bognor Regis unit presented a couple of major challenges. First, the unit had originally been designed as a brick and block house, so some adaptations had to be made to the design. Second, as a social housing unit, there were cost considerations. Careful cost comparisons were made between the Super E® frame house and the adjacent brick homes.

The cost comparison was satisfactory enough for Kelsey to choose Alouette and Super E® to make a submission for the UK Government's "£60,000 Challenge," a contest for Housing

Associations to design and build a home for £60,000 or less.

"We were impressed with the speed of build of Super E®," said Kelsey's Jane Porter, "And the running cost savings were definitely a factor."

Ms. Porter also cited the flexibility of the system. "It was already meeting upgraded energy requirements in the Building Regulations, and we could see the system could quickly adapt to new Regulations."

## House Performance

Energy consumed for space heating is approximately 45 kWh/m<sup>2</sup>/yr. Total electricity consumption is 5,580 kWh/yr, which works out to 47 kWh/m<sup>2</sup>/yr. In addition, the house uses 1,070 cubic meters of natural gas per year. Although it is difficult to give a precise conversion of cubic meters of natural gas to kWh, a rough estimate would be approximately 10 kWh per cubic meter. Total energy use in the house is therefore roughly 135 kWh/m<sup>2</sup>/yr. By comparison, PassivHouse is 120 kWh/m<sup>2</sup>/yr, if all energy is taken into account.

## Unique Factors

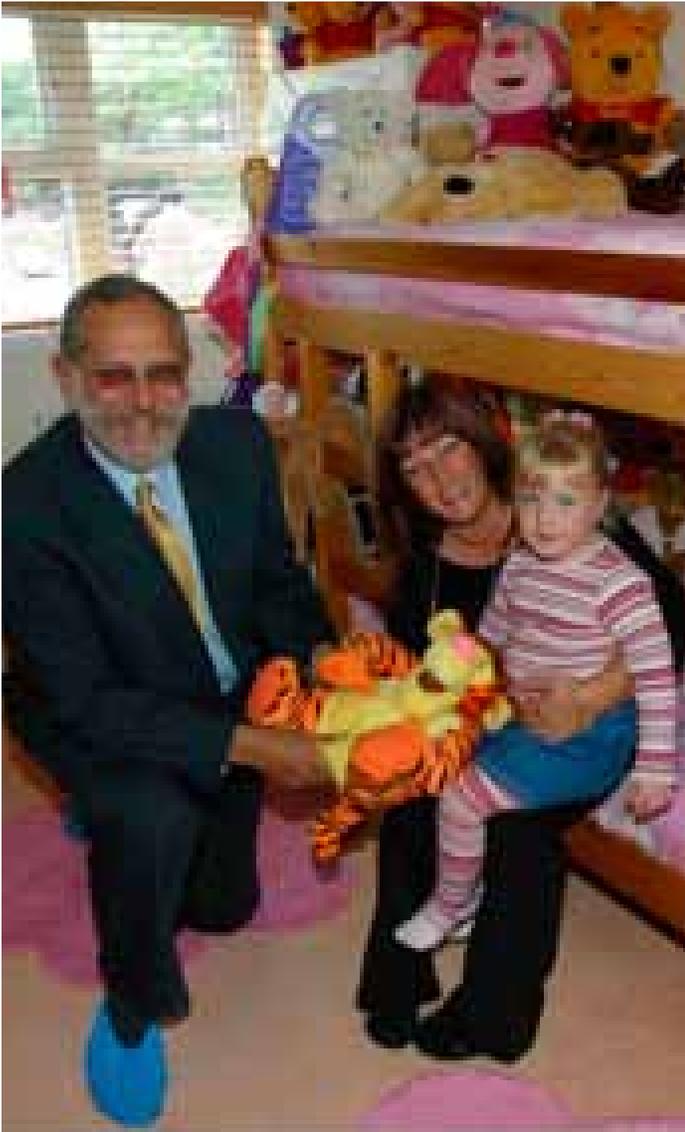
While always a factor, social housing units in particular must be especially concerned about outdoor noise penetration. This house is located very near a main road, and traffic noise is a problem. Since Super E® is air tight, it is also sound tight from outdoor noise. Sound requires a medium to be transmitted – that medium is air.

In addition, the HRV system ensures fresh air, even with closed windows. The family which moved into the home kept the windows closed and the HRV running. This kept it quiet inside, but had the added benefit of making the indoor air healthier.

## Home Owners Speak

Beverley Stanley and her family were the first occupants of the home. Her six year old daughter Ella was so ill with asthma she could barely break into a run without using her nebulizer. That was before she moved into a Super E® home.

"We have only had to use her nebulizer once in the three years since we moved into this house," Mrs. Stanley said. "What's more, I've only had to put the heating on a couple of times since we moved in – my heating bills are practically zero."



**At the official opening of the Bognor Regis House, L to R; Canadian High Commissioner at the time, His Excellency Mel Cappe, Beverley Stanley and daughter Ella.**



**Mr. Stanely with High Commissioner Cappe review the instructions for theHRV, pictured in the background.**

## Services Provided by Super E<sup>®</sup>

The Super E<sup>®</sup> Office and CMHC International did considerable work at the front end of this project, explaining the benefits of Super E<sup>®</sup>, and outlining how panelized wood frame systems work. After construction, CMHC International sponsored a house opening event, that was also supported by the Super E<sup>®</sup> Office and the Canadian High Commission.