Holborough Estates
Kent, UK

Description

Holborough Estates is a large development consisting of several hundred houses of varying types – ranging from low-rise apartments to terrace housing to single-family units. There are approximately 150 Super E® registered houses in the development, representing all the house types in the development.

Setting

Located near the village of Snodland, Kent the development was constructed on recovered land from an old quarry. Extensive wildlife protection measures were introduced prior to construction, and, in some cases, protected species were re-located from the site to enable the developer to fully landscape the project.

Kent is a county in the southwest of England, bordering on Greater London, so the development is close to commuter access routes. The climate is one of the hottest in Britain in the summer, but is quite cool during winter, with daytime highs ranging around 5Cdegrees in December, January and February. Precipitation is typical for the south of England, where it is quite wet, especially in the autumn.

Super E® UK Member

Berkeley Homes is one of the UK's best-known developers. Originally focused on larger, executive-style housing when it was founded in 1976, Berkeley Homes now covers a full range of housing in mid- to larger-scale developments.

The Holborough development was Berkeley's first large-scale development using timber frame construction, as most of their previous projects had used traditional British brick and block construction.

Super E® Canadian Member

The supplier of pre-engineered wood frame panels was Alouette Homes, based in Quebec. To help deliver the homes, Alouette partnered with British-based BSW Timber Systems, a roof truss manufacturer.

The Holborough development consists of several house types. Pictured are single detatched. The siding is wood to reflect Berkeley's "New England" styling for the community.

Member Commentary

There are about 150 Super E® registered houses in the Holborough development. To ensure speedy construction and consistent high quality, the homes are made from wood frame panels manufactured in Canada.

Alouette provided significant support and training to the local erectors, as they were not familiar working with timber frame systems. An extra challenge was constructing the well-insulated, air tight building envelope required by Super E®.

"Each of our Super E® packages have been designed to offer a well-insulated and draught-free exterior shell," explained Alouette President Bradley Berneche. "Together with energy efficient Canadian windows and a heat recovery ventilation system, Super E® provides homeowners with a comfortable, healthy and energy-efficient home."

House Performance

Every Super E® house must pass a series of stringent tests after completion before they can be registered. Given the large scale of the Holborough Estate, however, a number of houses, representing a variety of designs and configuration, were selected to undergo even more extensive testing for energy consumption. The results varied, depending on the home's configuration.

A mid-row terrace home, for example, showed an energy consumption level of 15.6 kWh/m2/yr – approximately PassivHaus standard.

A small mid-floor flat (i.e. a flat on the second floor of a four storey multi-unit residential building) that was tested showed energy consumption at an incredible 0.7 kWh/m2/yr.

The overall average for the development – for single family homes was 20.6 kWh/m2/yr; and for flats was 8.0 kWhr/m2/yr.

Unique Features

The Alouette wall system provided to Berkeley Homes has a higher insulation value than required by Super E®. It was the environmental advantages of the Alouette system that attracted Berkeley to the Super E® system in the first place. These houses were some of those considered by the HBOS Bank/World Wildlife Federation's One Million Sustainable Homes campaign, which was launched in 2002. HBOS/WWF studied leading UK developers to assess the sustainability of their housing. Berkeley Group (along with Crest Nicholson) led the pack.

The largest multi-unit building in the Holborough development boasts outstanding energy consumption numbers. The average for the units in this building is 8 kWh/m2/yr.

Homeowners Speak

Super E® conducted interviews with approximately 15 homeowners in the Holborough development. All commented on how easy and inexpensive the units are to heat:

"I don't really have to use the heating a lot, usually just the hot water and heating in the morning, and the house stays warm." (Ms. Beaney)

"The house heats up very quickly and retains the heat." (Mrs. South)

"The heat in the building is great. In the winter, the heating goes on twice a day – an hour in the morning, and an hour and a half in the evening. That's all it ever needs" (Mr. Riley)

"In three and a half years, the top floor radiators have never been on." (Mrs. Amschwand)

Many residents also noted how the whole-house ventilation system improved the comfort of their houses.

"The air seems fresher," noted Mrs. Riley, who was stranded after a holiday for an extra week because of the Icelandic volcano. "When we got back after so long away, I was expecting to find the house a bit musty. However, when I opened the front door, the house smelled as fresh as a new house – it's just remarkable."

Mr. Lineham summed up his experience this way: "The house is so good that the wife's parents have moved in across the road."

A huge range of support services was provided both during and after construction. Here, a trainer from CMHC International's International Training Team demonstrates air tightness detailing on the job site.

Services Provided by Super E®

CMHC International and the Super E® House Program provided extensive support for this project. At the time, it was the largest Super E® development in the world. CMHC International provided two experts on-site to provide hands-on training in air tightness detailing to work crews.

Training was also provided to site supervisors and management at Berkeley. Energy consumption data was assembled and provided to Berkeley's marketing department to assist them in providing sales literature on the development.

The Minister of Natural Resources Canada also made an official visit to the site, and the Super E® Office provided news release services to support this.

In addition, two experts from the Super E® Office provided training to sales professionals at Berkeley, followed by hands-on sales training. Berkeley promoted an "Open House" to show the homes, and the two Canadian experts stayed on site, explaining to the Berkeley sales team and prospective home buyers, the features of the houses.

A year after the Open House, the Super E® Office also sent an expert to provide a seminar to homeowners on the features of Super E®. The event was extremely well attended, drawing over 60 homeowners in two sessions.