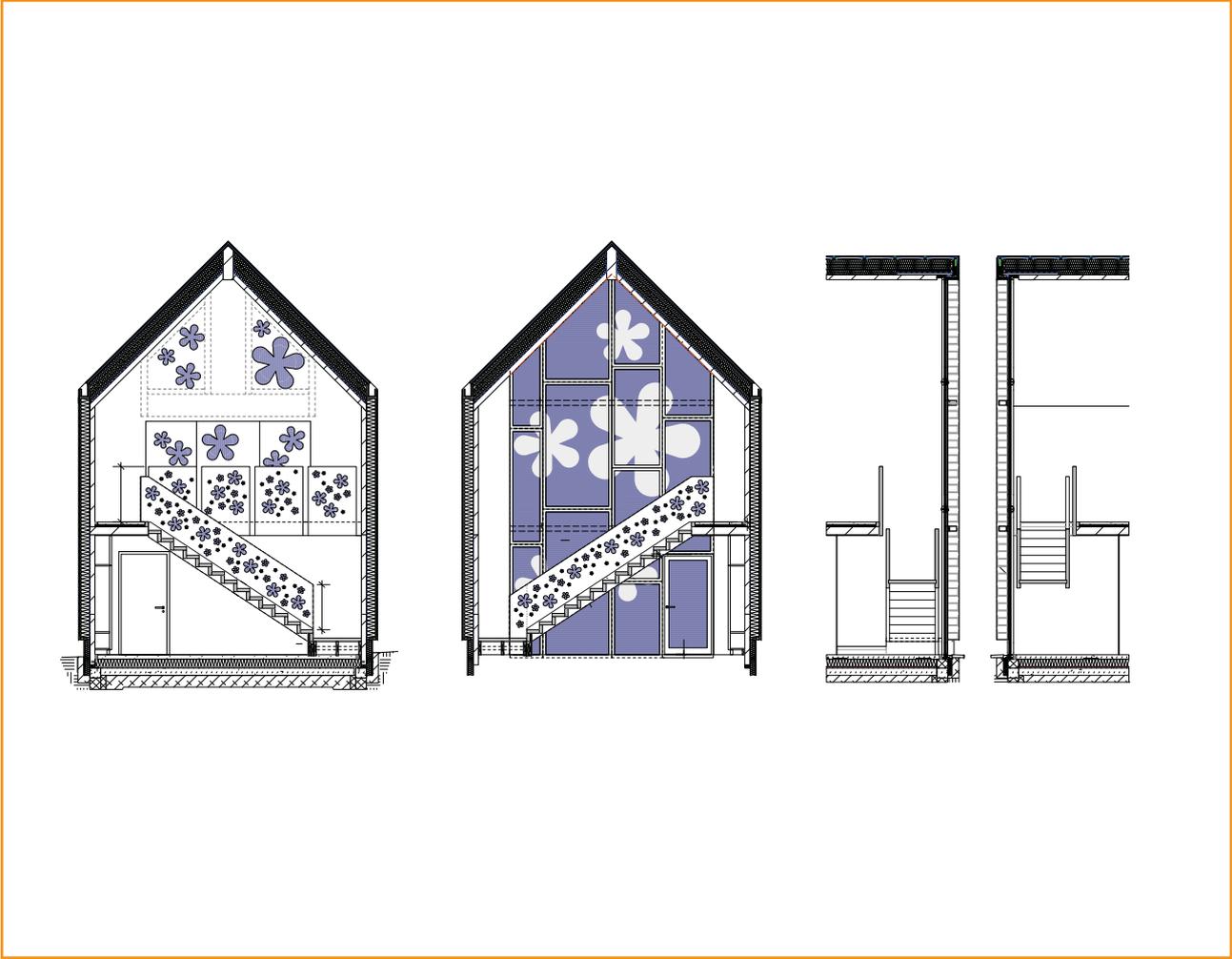


**CASE STUDY**  
**THE FLOWER HOUSE**







With thanks to Ewen Weatherspoon and Aaron Sheddon for photography.

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### Timber technologies

The shell of the house is formed using a cross-laminated and highly insulated 'Pavatherm' wood fibre panel system from Austria, precisely fabricated in the factory so that the house can be built quickly and accurately on site. The insulation has a latex impregnated breathable outer layer providing a secondary waterproofing layer.

The house is clad with horizontal timber boarding, designed to be turned at 120 degrees to form the large daisy motifs.

An innovative under-floor heating system is supplied by a wood-burning stove, and solar panels provide domestic hot water, topped up by heat from the stove during the coldest part of the year. Triple-glazed windows and prefabricated solid timber panel construction provide high levels of air-tightness, while energy-efficient light fittings and a whole-house ventilation system with heat recovery all work to minimise energy loss.

### Special timber-related features

An extensive consultation and selection process was carried out with Edinburgh Napier University Centre for Timber Technologies to specify timber which satisfied the various, and conflicting, demands of durability, sustainability and price. The roof had demanding technical requirements and needed to be more resistant to both moisture and fire. This led to an alternative timber selection for the roof which was Scottish larch and fire retardant-treated Platowood, both locally sourced, which is a thermally-modified timber. The cladding has open joints allowing moisture to pass through the timber rainscreen, but also air to circulate freely and allow the construction to dry more readily.

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# CASE STUDY

## THE FLOWER HOUSE

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### **Name of building**

The Flower House

### **Date completed**

2010

### **Building type**

Residential

### **Location**

Scotland's Housing Expo, Milton of Leys, Inverness

### **Architect**

A&J Burridge

### **Client**

Highland Housing Alliance / O'Brien Homes

### **Main contractor / timber supplier**

O'Brien Homes

Russwood Ltd

Mayr Meinhof Kaufmann Gaishorn GmbH

### **Background to building**

The Flower House is a two-storey building which is entered through a bright and welcoming (two-storey) sun space. The living accommodation on the first floor maximises daylight from the roof lights and provides panoramic views to the Moray Firth, while the ground floor bedrooms take advantage of the south-east aspect.

The south-west facing sun space acts as a flexible extension to the living room allowing residents to enjoy the views on bright, but less clement days. Equally, the space can be closed down and used as a buffer to the outside in the winter. It also acts as a solar collector.

The design of the space has been refined through computer thermal modelling. This allowed the area, aspect and specification of the glass to be modified and the original louvres were omitted as a result, in order to optimise the benefits of solar gain and heat loss throughout the year.

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### **Material Considerations**

A Natural Factory

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