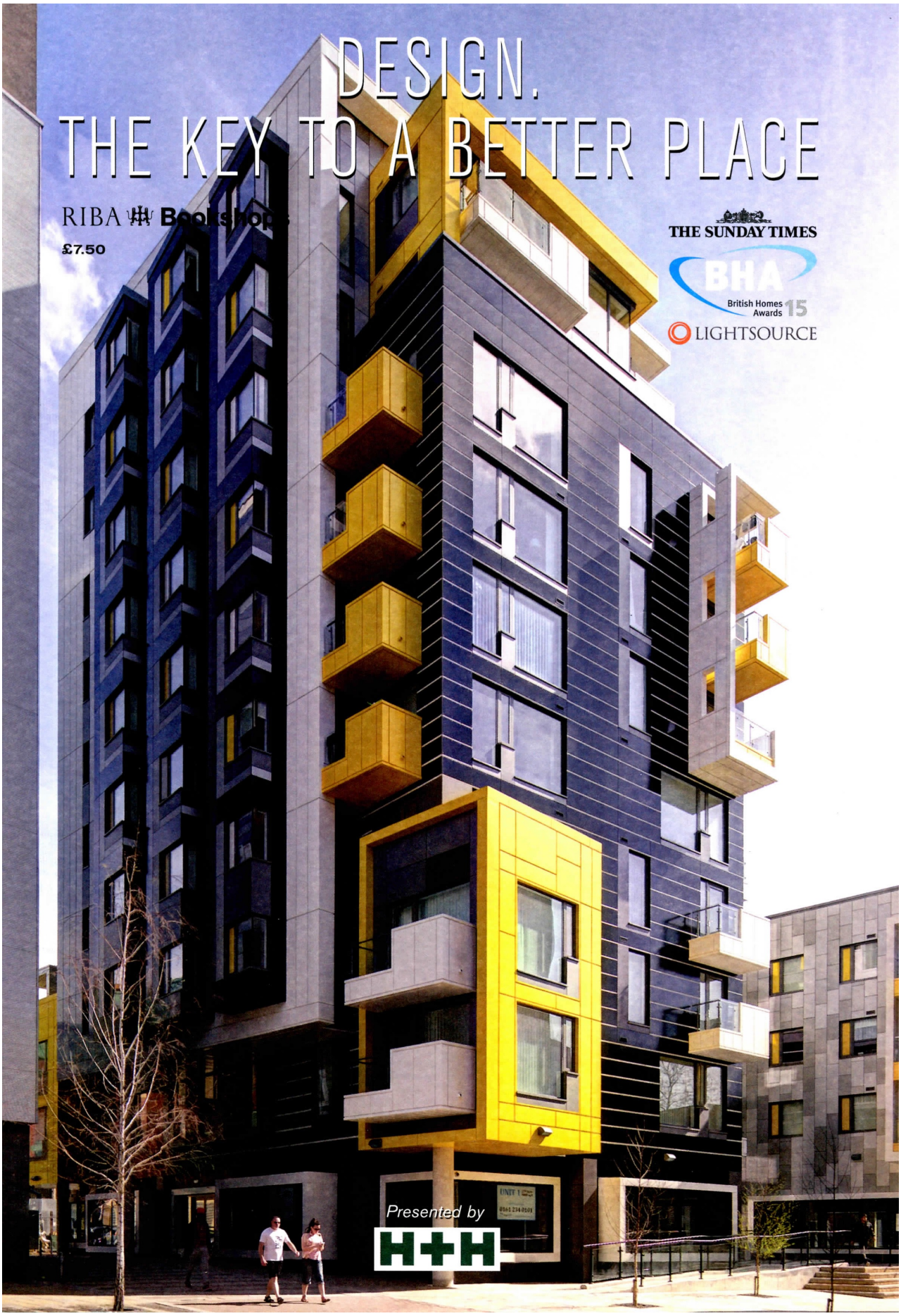


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5

CONVERSION, RESTORATION OR REFURBISHMENT

JOINT WINNER

# Dairy delight

■ The home resembles a group of agricultural buildings

The Barns at Lynch Farm

The Barns at Lynch Farm represent the second phase of an ongoing project to convert a redundant former dairy farm into a single family house. Located in an Area of Outstanding Natural Beauty, the site consists of four original farm buildings - farmhouse, threshing barn, calving shed and milking parlour - arranged around an agricultural courtyard. The farmhouse, threshing barn and calving shed each have grade 2 listed status.

The brief for Jeremy King Architects - working with Emery of Bath - was to convert the three farm buildings into habitable accommodation and link them back to the original farmhouse. Initially, this was a difficult concept for the local planning and conservation department. However planning approval was won through open dialogue and an understanding that the buildings would be sympathetically conserved and restored to appear as a collection of 'working' agricultural buildings, close to their original appearance.

The first phase of the building work, involving conversion of the unlisted milking parlour, was carried out in 2012/13. This second phase has involved the restoration of the two barns: the threshing barn and calving shed. Both buildings posed profound challenges in terms of conservation and repair, and the sensitive responses have made this project a joint winner.

Both buildings are all timber structures, but the threshing barn - the most complete and intact of the two - was found to be on the point of near collapse, being held up by a single telegraph pole inside the building, propping up a broken main truss. As a result, the building had become 'kink'-shaped in form, with parts of the external wall undulating and leaning precariously out of plumb. In giving consent for the project, the planning and conservation department insisted that these visual characteristics should be preserved. Furthermore they insisted that all the internal timbers were to remain visible in the new interior. This posed a technical conundrum: how to maintain these timbers while complying with up-to-date structural loading requirements.

The solution was to overclad the original building with a laminated and glued timber shell structure - similar in concept to papier mache construction - using

■ The carefully restored structure of the threshing barn

small, thin, sections of timber, to follow the shape of the original building. The first layer consisted of three layers of 6.5mm thick birch face plywood bonded together using PVA glue. On top of that, a series of 200mm deep by 50mm wide timber 'ribs' were built, spaced at 600mm centres (with insulation fitted in-between) which were formed from 25mm thick sections of Douglas Fir timber bonded together using two-part epoxy glue. With the ribs in place, the original structure was pinned back to the new frame, so capturing every nuance of the semi-collapsed form and locking it in place. This structural solution enabled the building's original timber cladding to be kept in situ and form the interior wall lining of the new space. The restored building now houses a single space containing the kitchen, dining and sitting room areas.

For the calving shed, a more conventional approach was adopted. Many of the original timbers were found to be less precious and not worthy of preservation. The entire building was found to be a hybrid of a number of former, cannibalised timber structures, with most timbers dating from the 1970s and 1980s. The structural solution, therefore, was to introduce a new Douglas Fir timber frame, built around a number of carefully selected historical timbers, which were to remain in place. The calving shed now houses a suite of bedrooms and sitting room space for the owner's family.

The third element of the build was to link to the two buildings together. Within the overall masterplan for the property, small discrete extensions are placed in the two corners of the courtyard. The first of these extensions has been built in this second phase of the build, linking the two barns and incorporating delicately glazed link structures that plug into former doorways to the original buildings. This extension provides additional vestibule and cloakroom spaces and acts a 'front door' to a new driveway created away from the historical courtyard.

The project has high sustainability credentials: a high degree of airtightness to the building envelope, insulation with a U value that exceeds the requirements of current Building Regulations, and a ground source heat pump feeding an underfloor heating system throughout the buildings.

Also working on the project are: structural engineer, Mark Lovell Design Engineers; services engineer, WG Environmental Services; quantity surveyor, George Brownlee and Partners; and conservation consultant Heritage Planning Practice.

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