BEST USE OF TIMBER 2015 WINNER

AS PART OF THE ANNUAL RIAS AWARDS SCHEME, FORESTRY COMMISSION SCOTLAND AND WOOD FOR GOOD HAVE COMBINED TO SPONSOR A NEW AWARD AIMED AT ENCOURAGING INNOVATIVE AND CREATIVE USE OF TIMBER IN NEW BUILDINGS IN SCOTLAND

Wood for Good
Challenge your perceptions.

RIAS

Forestry Commission Scotland
Coimisean na Coilltearachd Alba

Architecture & Design Scotland
Ailtearachd is Dealbhadh na h-Alba

ARCADIA NURSERY

Location: Edinburgh
Date Completed: August 2014
Building Type: Nursery
Architect: Malcolm Fraser Architects
Landscape Architect: erz

Client: The University of Edinburgh
Main Contractor: Balfour Beatty
Timber Supplier: Cross Laminated Timber Supplied by Eurban and manufactured by Stora Enso, Wood fibre insulation supplied by Natural Building Technologies, Cladding supplied by Russwood

THE PROJECT

Arcadia Nursery was created to provide early-years education for children of University staff, students and the general public; catering for up to 113 children aged from six weeks to five years of age, at the King's Buildings Campus. The building brings together two existing University nurseries into one purpose-built facility with an extensive outdoor play area.

The proposal was designed around the 'free-play' concept, which helps develop children's confidence, independence and creativity by encouraging them to choose the activities they would like to participate in, and whether they would like to be inside or outside. The layout of the nursery has been designed to facilitate this, whilst ensuring the children are safe and easily supervised. Externally the pavilions holding each age group's playroom are clearly identifiable as welcoming, contemporary domestic forms which create a sense of belonging and ownership. These three pavilions are then linked together by a single storey building, with large rooflights offering views up to the tree canopy above. A desire to respect the façade of an adjacent building led to a more compact footprint with raised mezzanines and a first floor area for offices, staff and family room. Each of the three playrooms opens out to a covered terrace to allow outdoor time all year round, and then out into three distinct garden spaces.

The nursery has been designed to be a very low-energy building, it is connected to the central University Combined Heat and Power network, uses no mechanical cooling or ventilation and has highly efficient lighting and equipment installed. The specification of all materials was carefully considered, with materials being chosen that are renewable, have low embodied energy and a minimal carbon footprint.

USE OF TIMBER

Arcadia nursery uses timber in many ways throughout the project: forming the main structure and interior with Cross Laminated Timber; timber acoustic ceilings providing a softening of the sound and aesthetic in each playroom; external timber cladding of the building envelope including breathable wood fibre insulation throughout; and extensive use throughout the garden to form decks, walkways, feature fences and play features.

An early challenge presented to the project was the extensive tree cover on the site and a desire to retain as many healthy trees as possible. This led to requirement for a floating, lightweight structure which could be built within a restricted site compound. It was also of foremost importance that a healthy, calm environment was created. Cross Laminated Timber answered many of the needs of the project, providing the perfect combination of a warm, tactile interior, whilst also using a natural, sustainable product that could structurally achieve the clear roof volumes required to ensure the mezzanine spaces were not compromised.

Scotland has very few buildings created using this material and technology which presented many challenges to the design and construction team, but ultimately it uses recyclable materials that enable a vapour open, breathable building fabric with extremely high air tightness credentials, whilst also creating a calm and warm internal environment. The design team also went to great lengths to avoid the use of fire retardants and varnishes to ensure good air quality enabled by the construction methodology was not compromised by the use of products emitting low level toxicity.

Photography: Angus Bremner