

CASE STUDY

Andrew Charleson

School of Architecture, Victoria University of Wellington,
Wellington, New Zealand

Small and beautiful - timber structure at domestic scale by Andrew Charleson, Senior Lecturer, School of Architecture, Victoria University of Wellington.

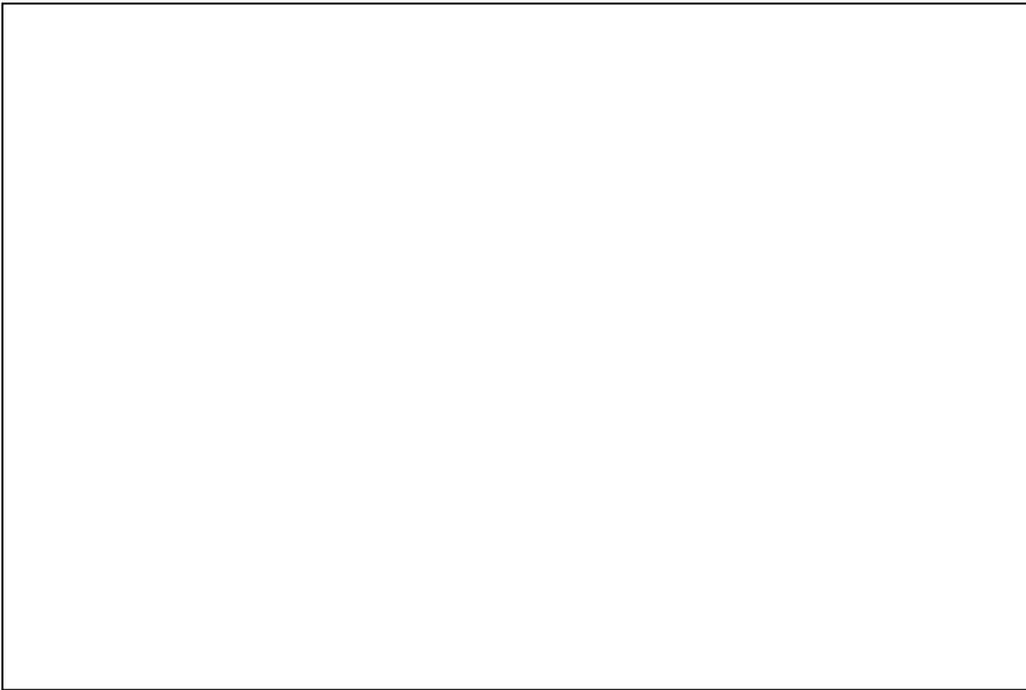
The architectural brief was challenging: a steep narrow site, admittedly with a northern aspect, a restricted budget, a high stud height and no gibboard! The client also needed a spacious area in which to play her violin, and was keen to use natural materials wherever possible. After years of living in a house at various stages of completion she could not bear to paint another wall. The solution, an exquisite timber house that treats the senses.

Upon entry, the distinctive fragrance of macrocarpa reinforces the visual delight of the main space. In plan, only 3.9 m wide by 10 m long, the space is subdivided into central four equal bays of 2.7 m by vertical trusses rising from the concrete slab floor to the ply roof diaphragm above the second storey. Although the space is subdivided, the openness of the timber trusses allows the whole space to be experienced from anywhere inside. The structure contributes architecturally in several ways. As well as cantilevering to resist lateral transverse loads, trusses modulate or subdivide the ground floor plan. Bays between trusses have been put to specific uses; an area for lounge furniture, the dining room table, a kitchen, bookshelves, and so on. Along the northern wall the trusses support the double glazing, while opposite, they project out from the macrocarpa diagonally sarked wall to carry a mezzanine walkway above. To allow for circulation the top half of the trusses are transformed to function as portal frames. The trusses are interesting and attractive elements in their own right given the geometry of their structural form, the golden mellowness of the timber, and attention to detail.

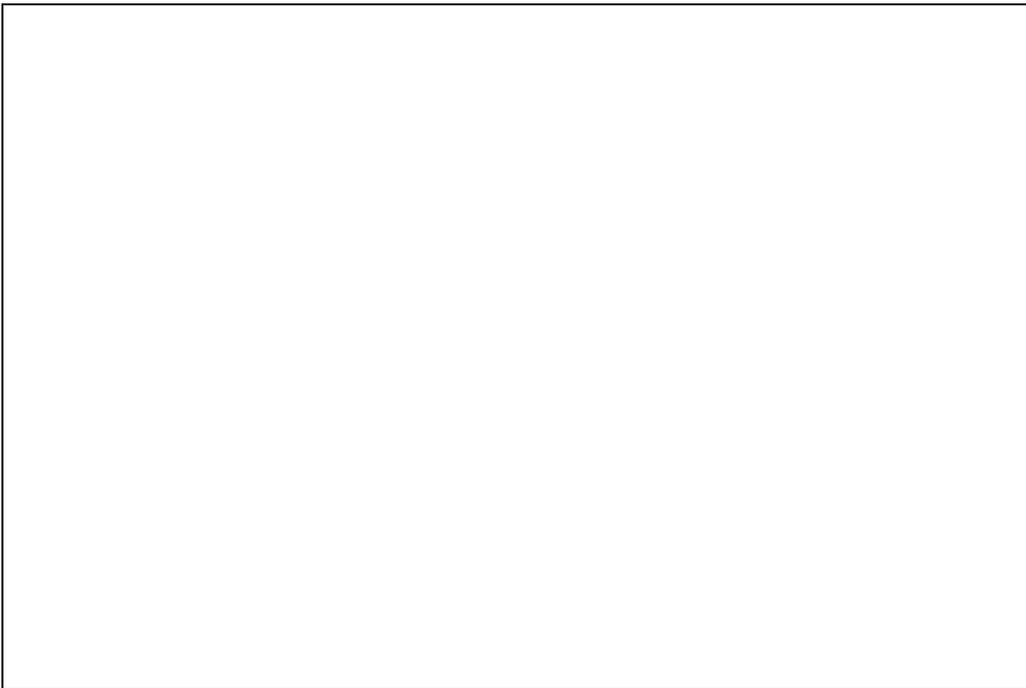
Construction details have been carefully attended to. With no internal linings and all studs exposed, detailing is all important. The trusses have bolted connections, and to achieve the required refinement, concealed nail-plates have allowed a single bolt per chord-web member connection. Elsewhere, detailing is to a similarly high standard. Some delightful touches are afforded by the exposed studs. Consider for example the towel rails and shelving set between studs. In such a narrow house not one millimetre of width is wasted.

Essentially the house is box-like in form. However, front and back doors at each end are signified by recesses in plan and two freestanding trusses at right angles to each other. Again, trusses are doing far more than load bearing. Not only do they provide a visual link between exterior form and interior space, add visual richness to the exterior composition, they also function as latticework for climbing plants.

This house is an example of excellent timber design. With a combination of innovative conceptual design, and considerable refinement of details, Melling:Morse Architects with Martin Meyers Structural Engineer, have exceeded the expectations of a delighted client. In so doing the designers have shown the potential for structure to make a significant architectural contribution in a domestic context.



Photograph 1. View along the house with the glazed wall to the left and two vertical trusses in the foreground.



Photograph 2. Interior view showing how the vertical trusses modulate the interior space