

# All in the family

In leafy Elwood, urban consolidation is a family business **By Fiona Negrin**



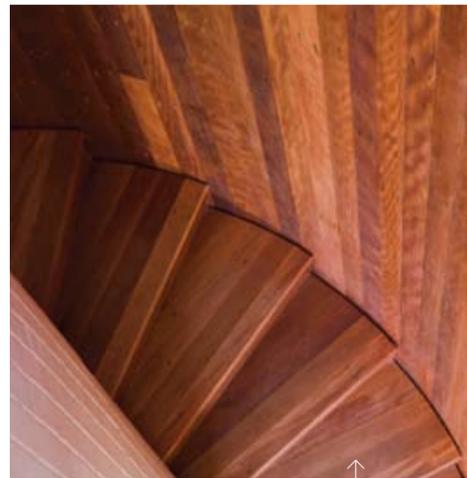
They say the acorn doesn't fall far from the tree, and this was certainly the case with the two sisters who pooled their resources to buy a block around the corner from their mother's home in Elwood, an inner bayside suburb of Melbourne. The existing house fronting the street was renovated for the younger sister, while the sisters' brother, registered builder Michael Palmer, was engaged to design a second dwelling in the roomy yard, fronting a creek, for elder sister Angela and her partner Johan.

The progressive local council was on side, but needed convincing about some aspects of the urban consolidation project. Council stipulated four carparks

(they ended up with two) and that stormwater must be managed conventionally (it's managed onsite). General issues of overlooking neighbouring properties had to be negotiated as well.

From the outset, everyone agreed that the mulberry tree in the middle of the site had to stay. Its gnarled branches had spread over the backyard for 80 years, so Michael's design, from inception, included the tree. "It would have been easier and cheaper to get rid of the tree, but we wanted to preserve it," says Angela. "Adversity creates more interesting outcomes," adds Johan. "We felt that keeping the tree would create a discipline which could inform the entire project." 

“The floor space of the house is 117 square metres, half the size of an average new home in Australia”



The stairwell is built from reclaimed timber from a gymnasium

The decision to keep the tree did indeed spark off a series of innovations. The driveway and all paving is made of permeable 'no fines' concrete, so rainwater remains onsite to water the garden. The ingenious use of geotextile fabric, as the path's reinforcing, is paper-thin and soft as a lamb's ear, yet it's as strong as steel and won't rust.

This discipline also extended to the design of the house. Johan and Angela are the sole inhabitants and they wanted a modest house with a small environmental footprint. The floor space of the house is 117 square metres, half the size of an average new home in Australia. At the same time, they wanted the space to have disability access, and

to be flexible enough to expand in size to fit their large extended family when required.

The front of the house is oriented north-east, both to give privacy to the neighbouring flats and to provide maximum sunlight to the mulberry tree. Some solar gain is sacrificed with this orientation, but it's counterbalanced by sound passive design. Concrete was used as the foundation because of its ability to store and release heat. Warmed by the winter sun, the slab heats the air in the northeast facing living areas, diffusing through the house and keeping it cosy into the evening. If the temperature falls below 18 degrees, the gas-boosted hydronic heating kicks in. At first Angela and Johan were anxious about the

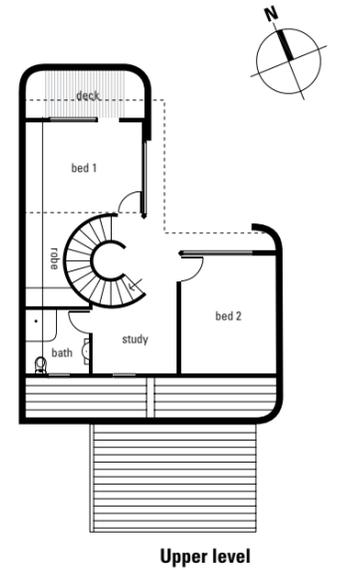


lack of heating upstairs, but **Michael convinced them to go through a winter without it to see how they would fare. Needless to say they have decided they don't need supplementary upstairs heating after all; the heat rising through the stairwell from the thermal slab downstairs is enough to keep upstairs cosy through winter.** Double-glazed windows and insulation in the walls, floor and ceiling act as a barrier to heat loss.

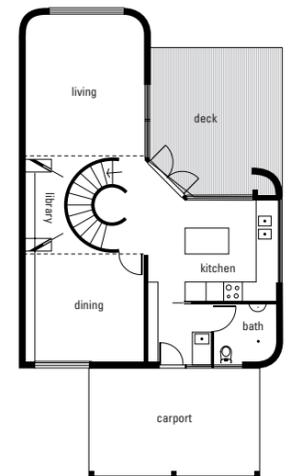
The owners are yet to spend a Melbourne summer in their house, but they hope the shade from the mulberry tree will contribute to keep it cool; they'll wait and see if they need external blinds on the northerly aspect. Floor to ceiling windows and

doors can be slid open to let warm air out of the house during cool summer nights, and Michael has installed industrial-grade ventilators which sit on the apex of the roof to expel summer heat in the roof.

A philosophy of 'reduce, re-use, recycle' guided Michael's choice of building materials. The decorative eave lining is made from slats of recycled Victorian yellow stringybark. The kitchen cabinet, made from strong Oregon wood, was once an office pigeon hole and the timber stair treads and walls are reclaimed from a suburban gymnasium. (Much of the carpentry was done by James, another brother.) The exterior ground floor walls are made from insulated, double thick, secondhand bricks,



Upper level



Ground level



“When you think of sustainability, you have to think in spans of hundreds of years”

Cross-ventilation helps cool the house during summer



An easy-to-clean bathroom means fewer chemicals and less work

which were then rendered. All the internal doors are secondhand, as are the doorstops. Angela jokes that “the kids love fiddling around with the door knobs – they’re from an old sixties bank!”

“When you think of sustainability, you have to think in spans of hundreds of years,” Johan says. For this reason, certain sections of the downstairs exterior – namely, sections where there is plumbing or windows – were built with removable cement sheet panels rather than double brick. In years to come, when plumbing or windows need to be upgraded, those sections can easily be refitted, thus reducing waste.

Angela and Johan have been stunned to discover how little energy lights can consume, with 275 watts

of electricity required to illuminate the entire house. The main rooms are lit with 30 watt circular fluorescent oysters, while ancillary spaces and external lights use compact fluorescent bulbs ranging from seven to 11 watts. The high stairwell ceiling is fitted with three long-life LEDs (Light-Emitting Diodes) of three watts each.

Solar hot water contributes to smaller electricity bills, as does a small fridge, using only cold water in the washing machine, and going without a dishwasher. Food scraps are composted for the garden and a 7000 litre water tank beneath the carport feeds the toilets and the garden tap. It was plumbed in by Tony – you guessed it – another of Angela’s brothers.



The mulberry tree provides a lovely shady spot to sit in summer; the deck has been built to allow rain to pass straight down to its root zone



Michael is pleased with his work on this house, and says he learned a lot from the experience. “Each building is a culmination of what’s come before. I always want to take a leap forward.” Meanwhile Angela and Johan love their home. **They’re planning on installing a cool cupboard on the south-side of the house, so they can store perishables without needing to buy a larger fridge.** And just last week, Angela’s son made the happy discovery that the dining room floor is the perfect temperature for germinating seeds – news that he was delighted to be able to tell his aunt, right next door. 🍀

- Designer:** Michael Palmer [www.michaelpalmer.com.au](http://www.michaelpalmer.com.au)
  - Builder:** Michael Palmer
  - Location:** Elwood, VIC
  - Photographer:** Rhiannon Slater
- Features:**
- Insolar solar hot water
  - 7000L Ausdrain underground tank
  - Euro ‘thermal break’ double glazed aluminium windows
  - Unpainted timber joinery is protected with Organoil
  - Timber and concrete floors finished with Livos Meldos
  - Minimum 4-stars WELS-rated water fixtures
  - Austech underslab insulation
  - Tontine walls and ceiling insulation batts
  - Recycled timbers include brushbox stairwell and treads from Urban Salvage
  - Chemical free termite protection
  - Natural cross-ventilation
  - Readymix permeable ‘no fines’ concrete driveway and paths